



FILE NO:	COMPANY	LARAMIE ENERGY
API NO:	WELL	GUNDERSON 20-06W
05077103420000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.06	LOCATION:	OTHER SERVICES
	SHL: LAT:39.266836N;LONG:107.795317W	RAL
	BHL: LAT:39.265806N;LONG:107.797721W	
	SEC 20 TWP 9S RGE 93W	

PERMANENT DATUM	GL	ELEVATION	7144 FT
LOG MEASURED FROM	KB	30 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		
		ELEVATIONS:	
		KB	7176 FT
		DF	7176 FT
		GL	7146 FT

DATE	25-AUG-2017
RUN	1
TRIP	1
SERVICE ORDER	US126639
DEPTH DRILLER	7502 FT
DEPTH LOGGER	7431 FT
BOTTOM LOGGED INTERVAL	7431 FT
TOP LOGGED INTERVAL	2106 FT
TIME STARTED	3:00
TIME FINISHED	09:00
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	52 FT
LOGGED CEMENT TOP	1027 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	15 FMN
MAX. RECORDED TEMP.	243 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	25-AUG-2017
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	LSINICKIS,YASSA
WITNESSED BY	MR. CHUCK MALLARY

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 1: *2 OPERATIONS IN WELL*

OPERATION 2: RPM/GR/CCL/TEMP RUN IN COMBINATION

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 5550' - 5568'

SJ: 6540' - 6558'

CREW: D.HUTCHINSON, J.PENA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	TELEMETRY	8250EA/8248EA	10185091/10323398	FREE
2	1	GAMMA RAY	8262XA	10485470	FREE
2	1	RPM	8281EA	10387162	FREE
2	1	RPM	8283PA	10184883	FREE
2	1	RPM	8281FA	10315572	FREE
2	1	TEMP	8255XA	120516	FREE

G SAND PNC-3D MODE

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

Updates: 1 Patches: 9

Plotted: Fri Aug 25 09:09:13 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_20_06W/RPM3D03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2095.250 ft BOTTOM DEPTH: 2742.750 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	7.88	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 25 08:21:38 2017	CASING COLLAR LOCATOR
F1:GR	Aug 25 08:21:38 2017	GAMMA RAY
F1:ISS	Aug 25 08:21:38 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 25 08:21:38 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 25 08:21:38 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 25 08:21:38 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 25 08:21:38 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 25 08:21:38 2017	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

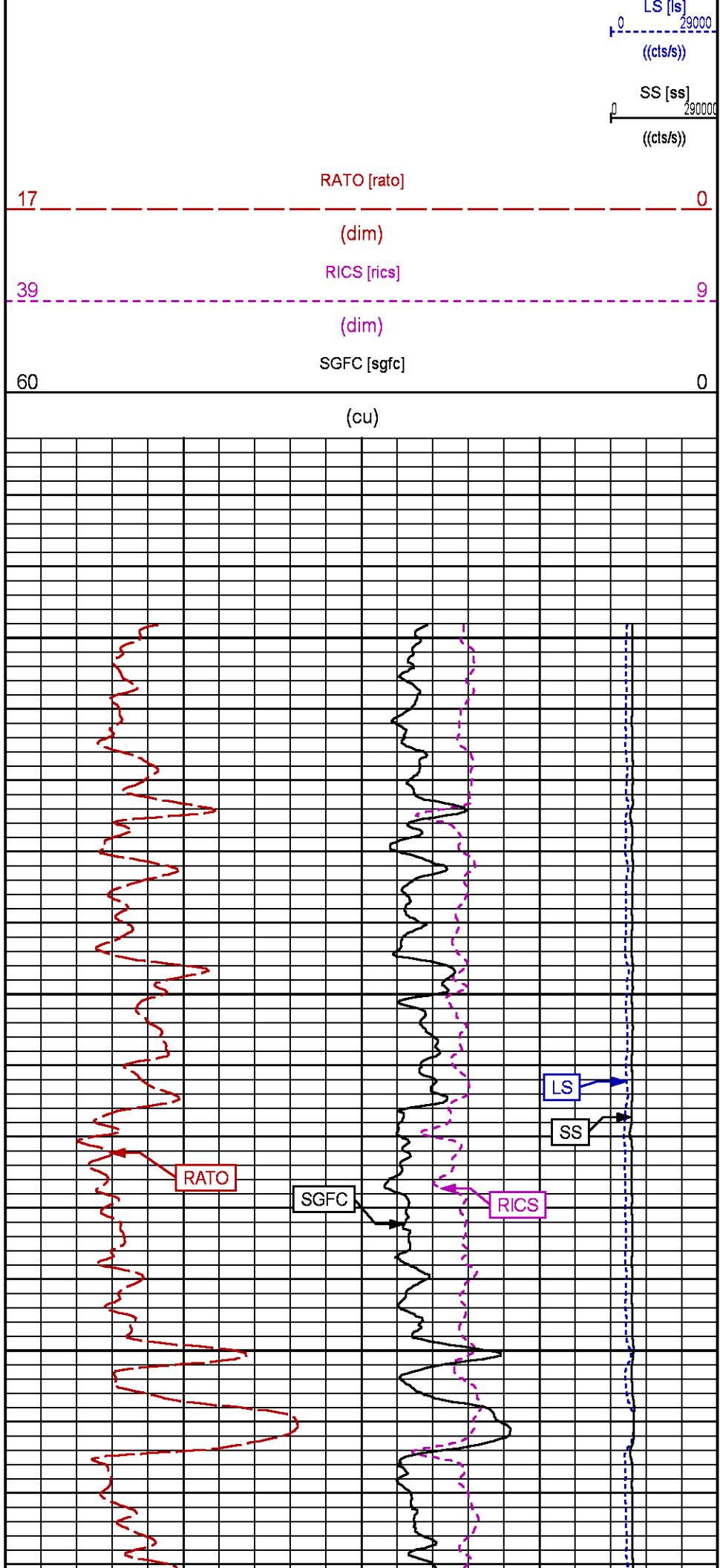
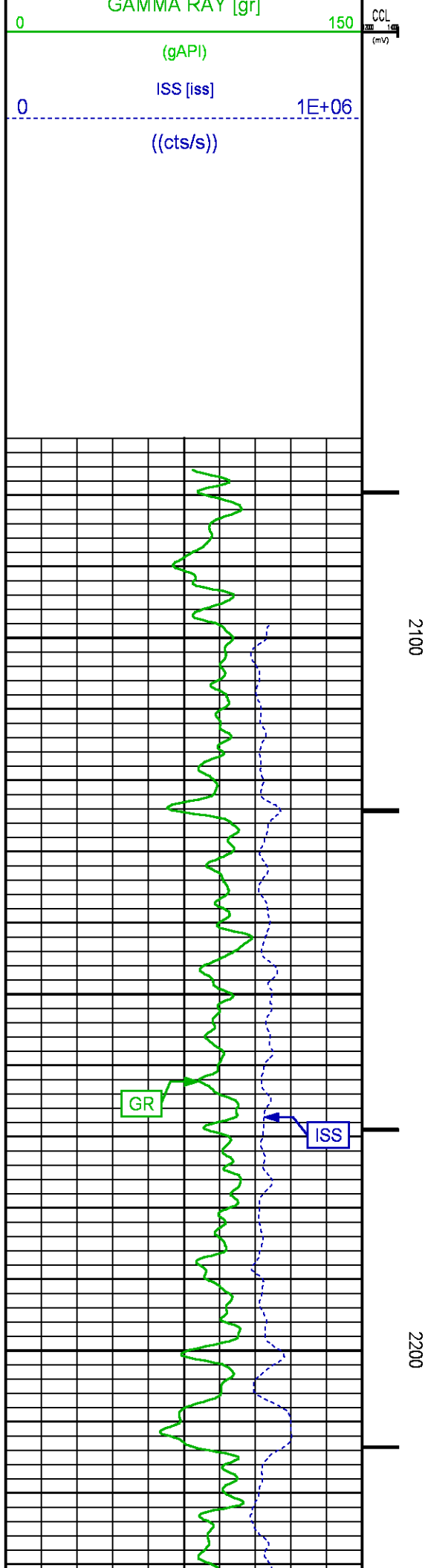
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

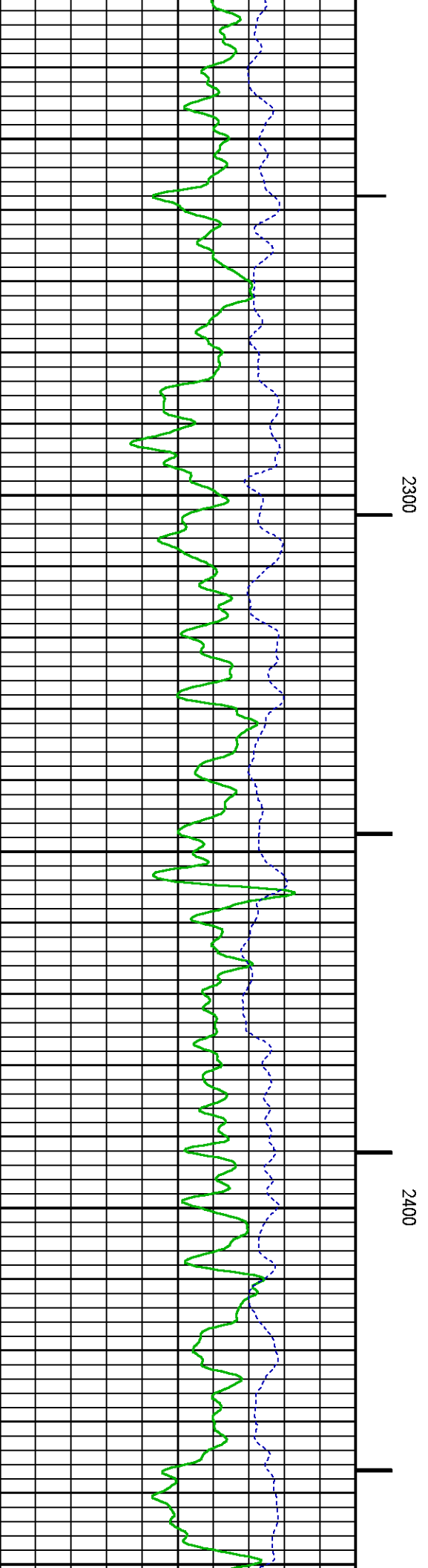
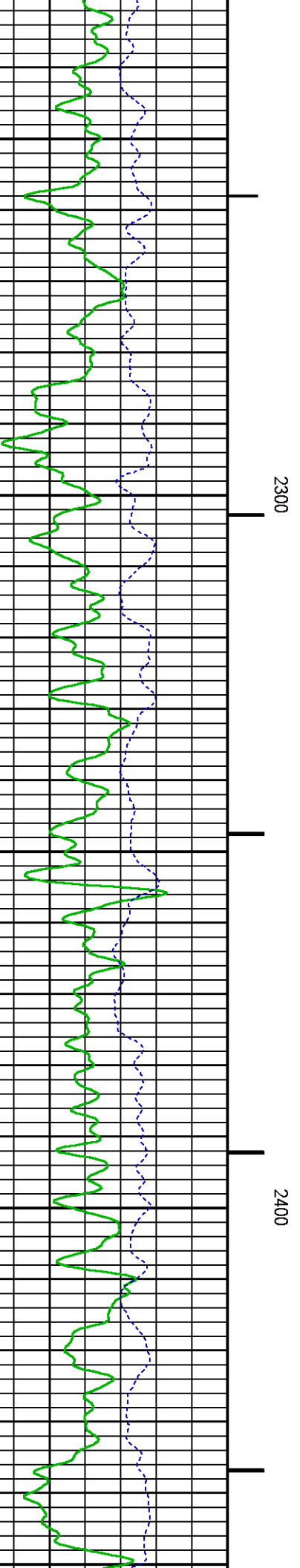
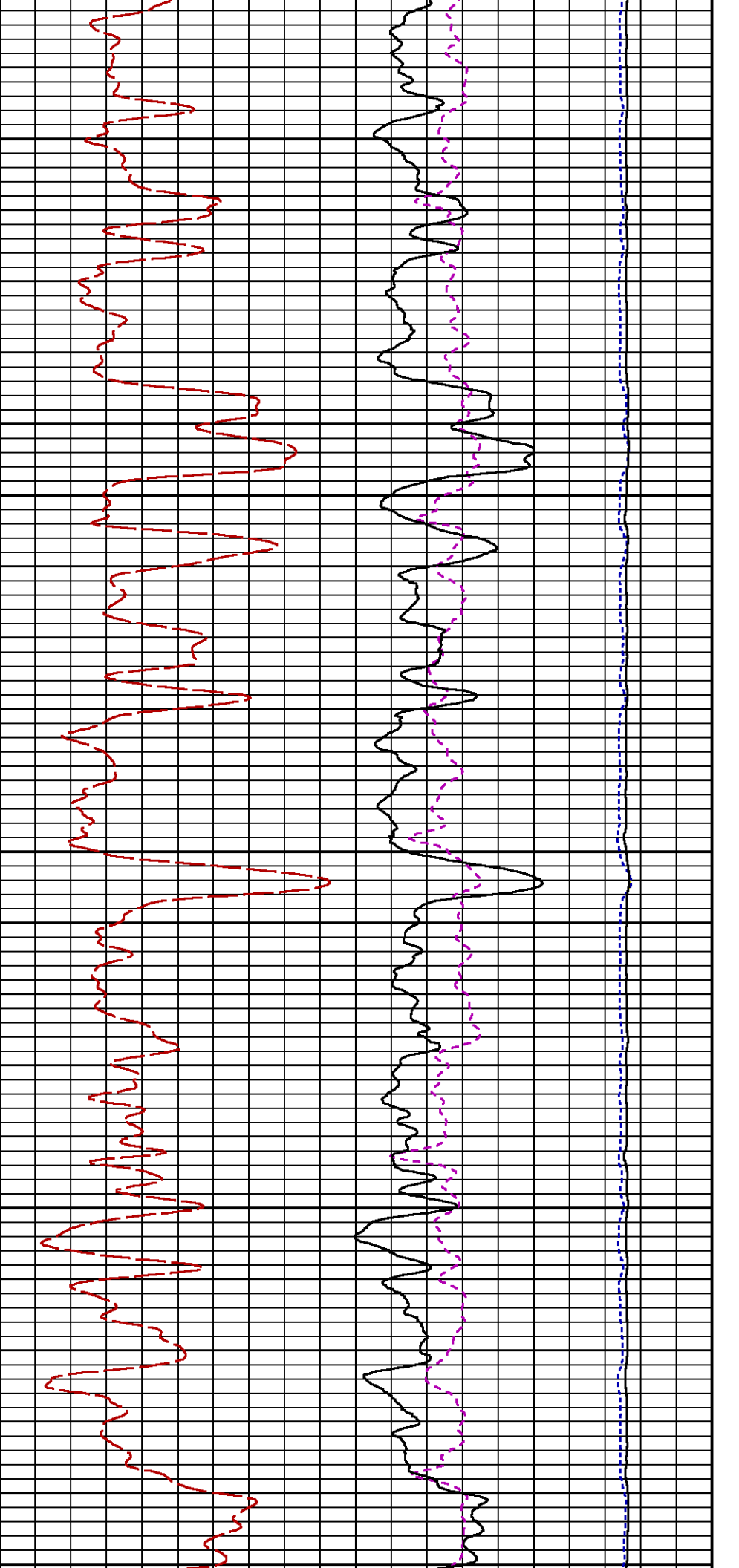
Presentation : cpu100:GUNDERSON_20_06W_RPM_GSAND.fvpdf [5"/100' Scale]
Plot Interval : 2072.25 - 2735.75 Feet

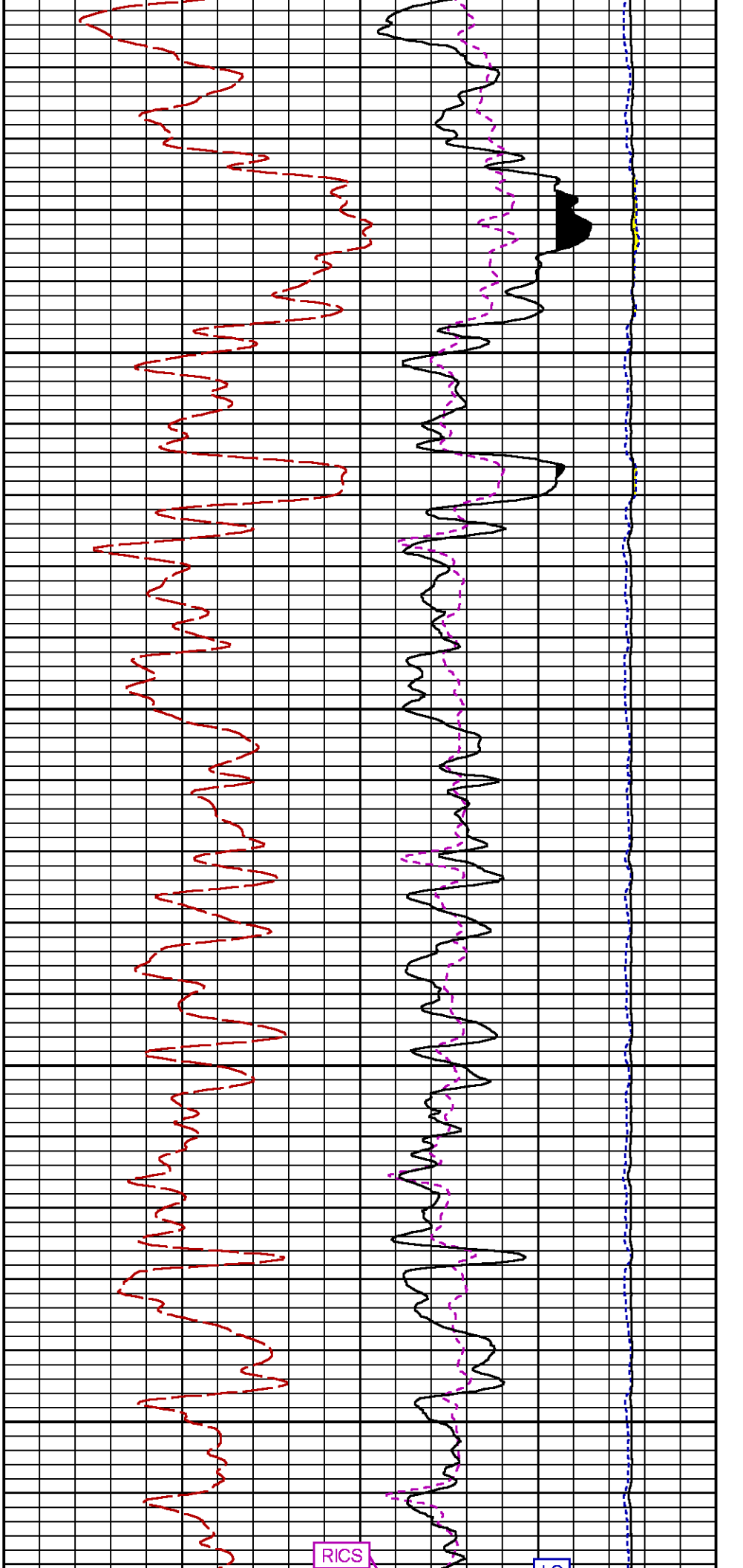
Data File 1 : F1 : cpu100:/dat1a/LARAMIE_GUNDERSON_20_06W/GUNDERSON_20_06W_RPM_GSAND.xtf
Created On : Aug 25 08:21:38 2017
Company : LARAMIE ENERGY
Well : GUNDERSON 20-06W
Field : VEGA
File Interval : 2071.5 - 2744.5 Feet
OCT : RPM3D

GR BACKUP

FEET







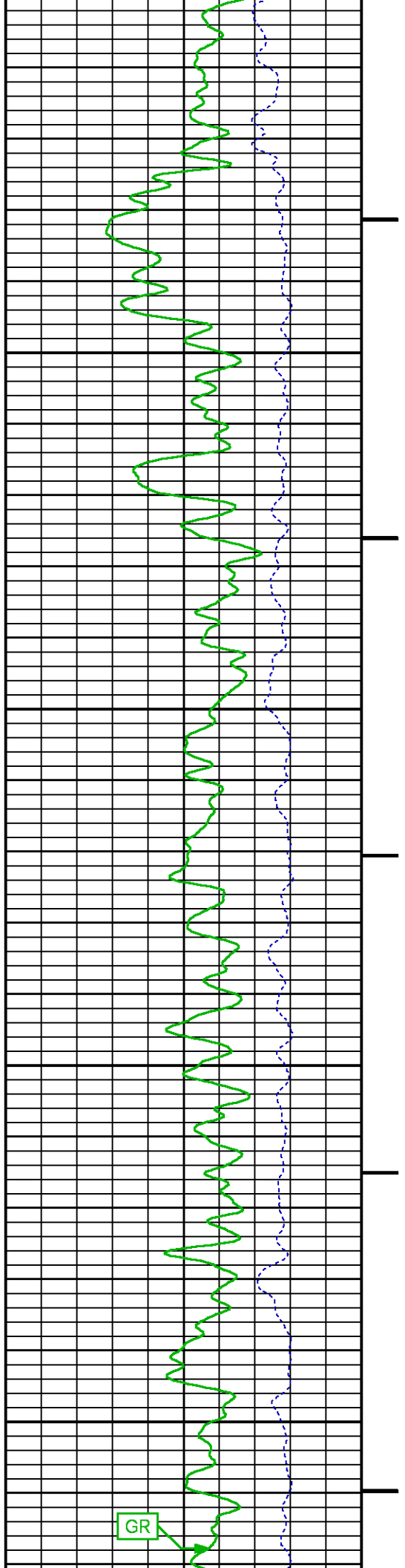
12

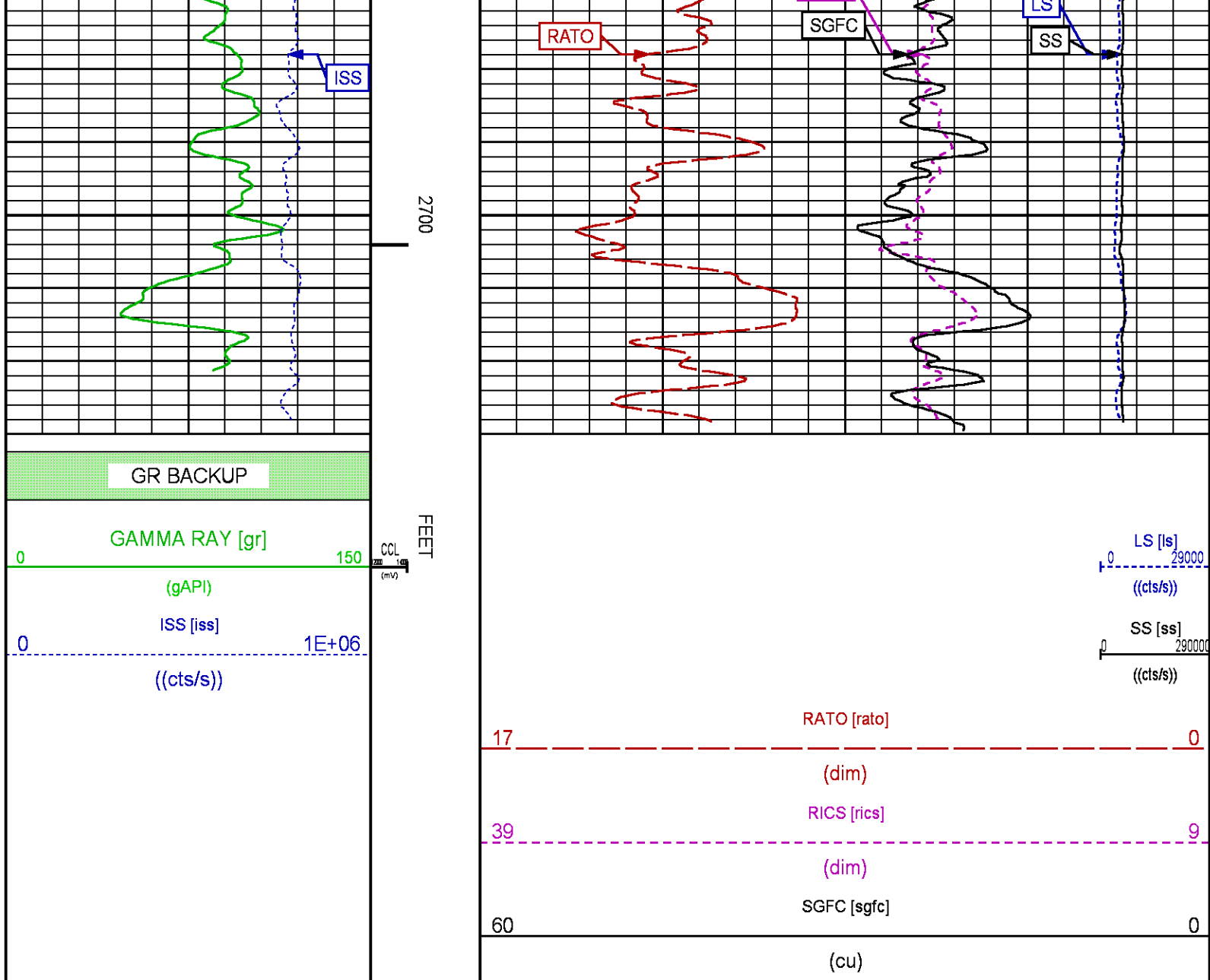
RICS

2500

2600

GR





MAIN PASS PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 9

Plotted: Fri Aug 25 08:24:13 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_20_06W/RPM3D02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 3824.500 ft BOTTOM DEPTH: 7434.250 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

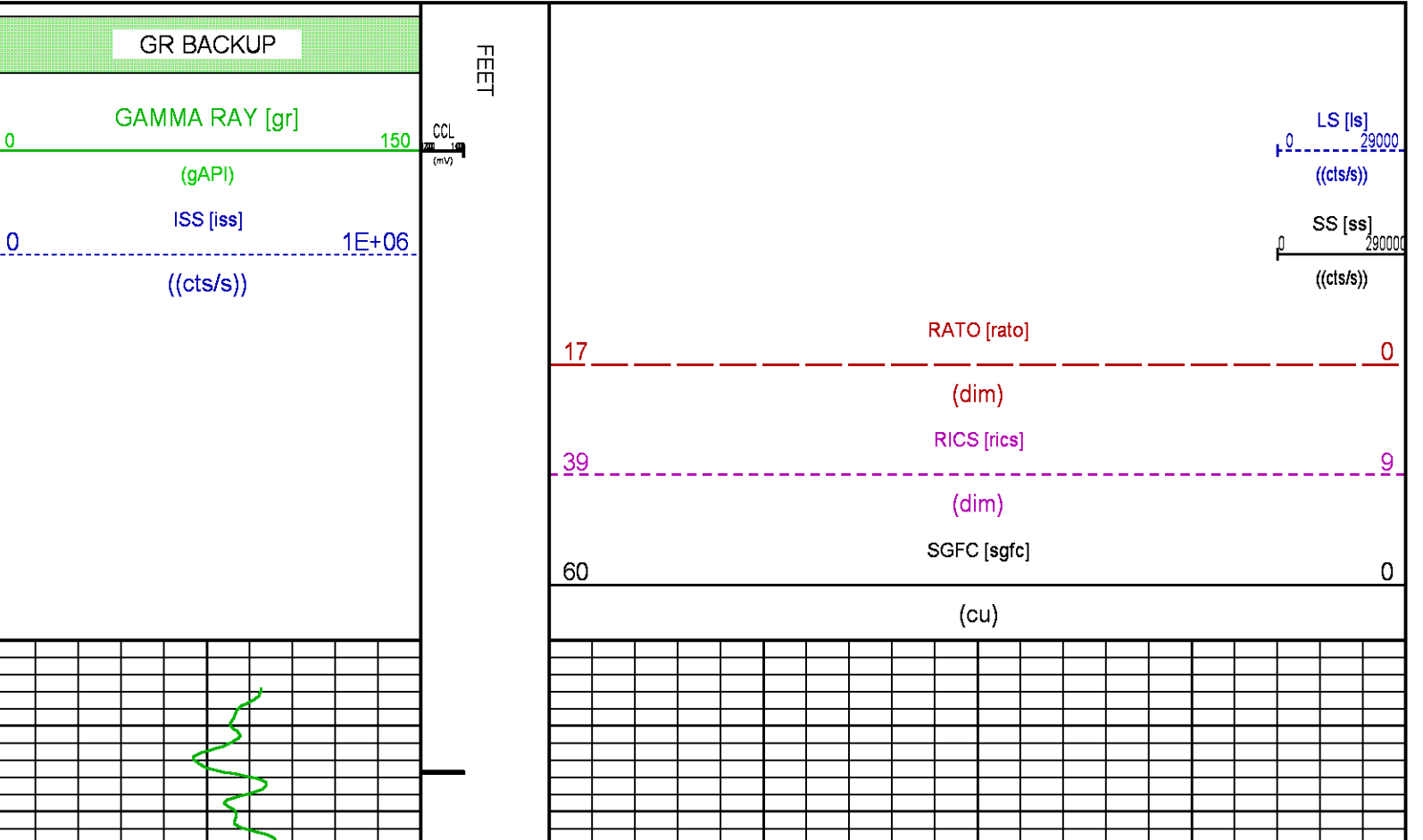
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 25 04:24:53 2017	CASING COLLAR LOCATOR
F1:GR	Aug 25 04:24:53 2017	GAMMA RAY
F1:ISS	Aug 25 04:24:53 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 25 04:24:53 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 25 04:24:53 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 25 04:24:53 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 25 04:24:53 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 25 04:24:53 2017	SHORT SPACE COUNT RATE

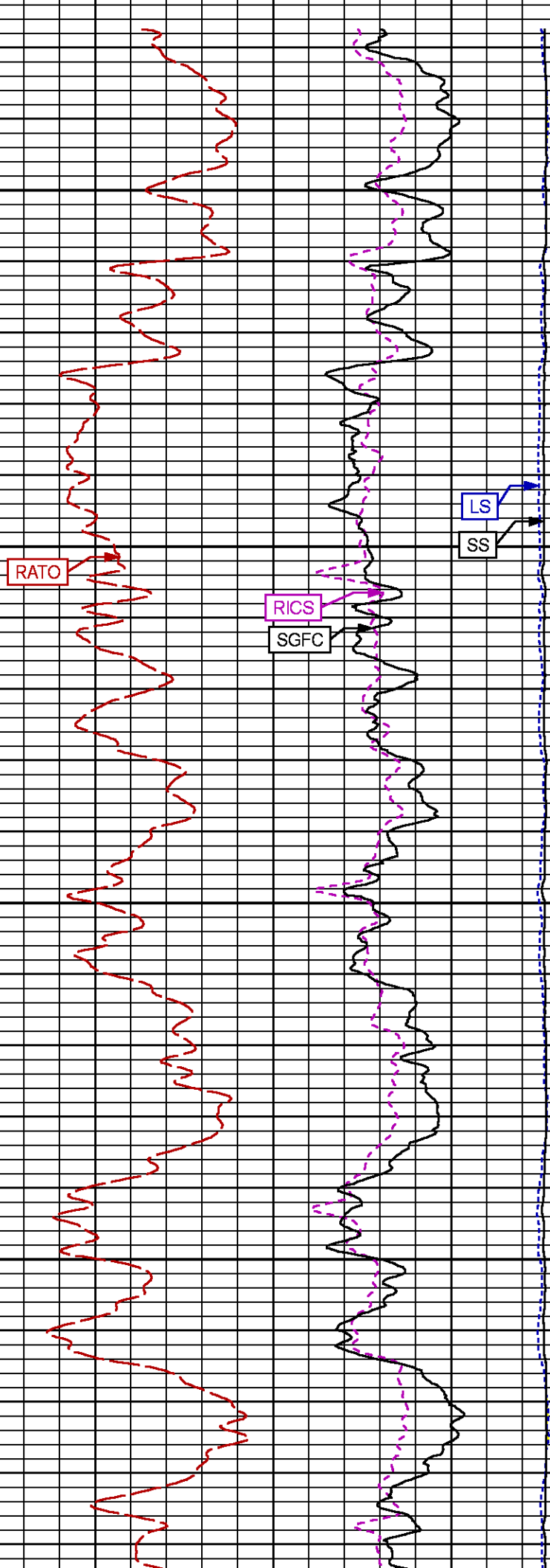
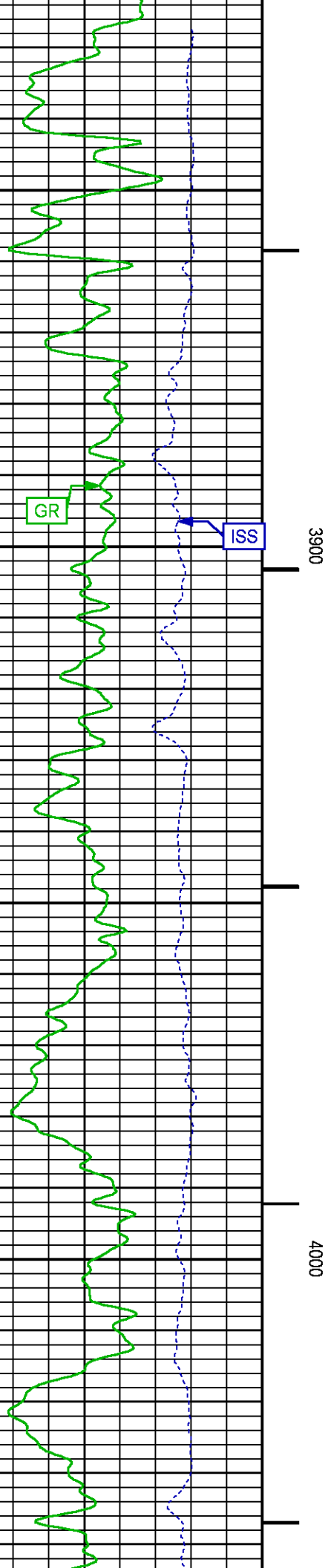
CURVE MEASURE POINT OFFSET

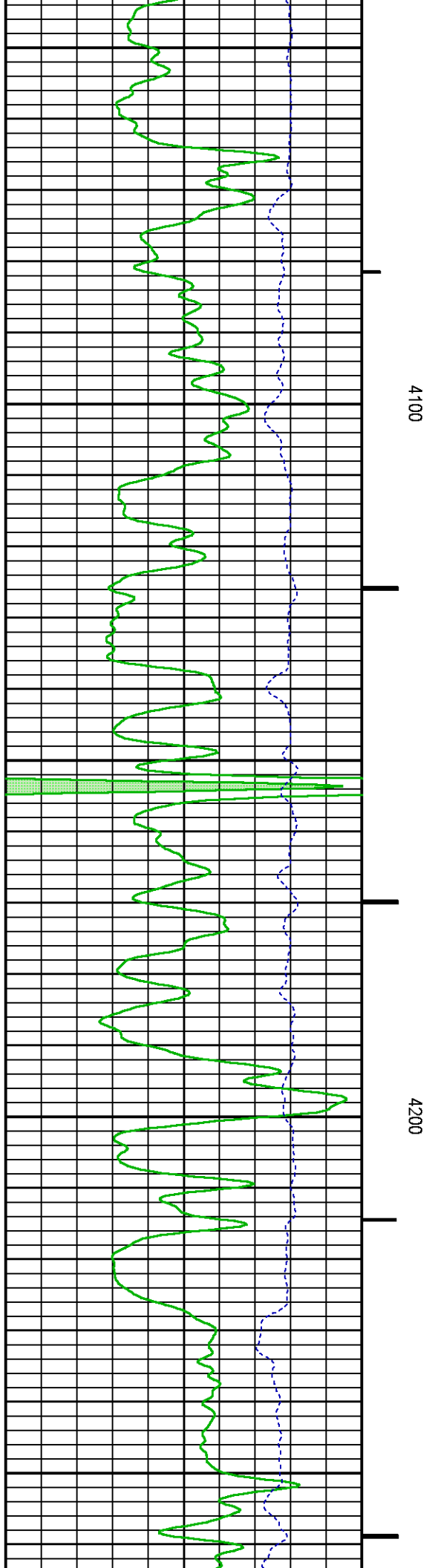
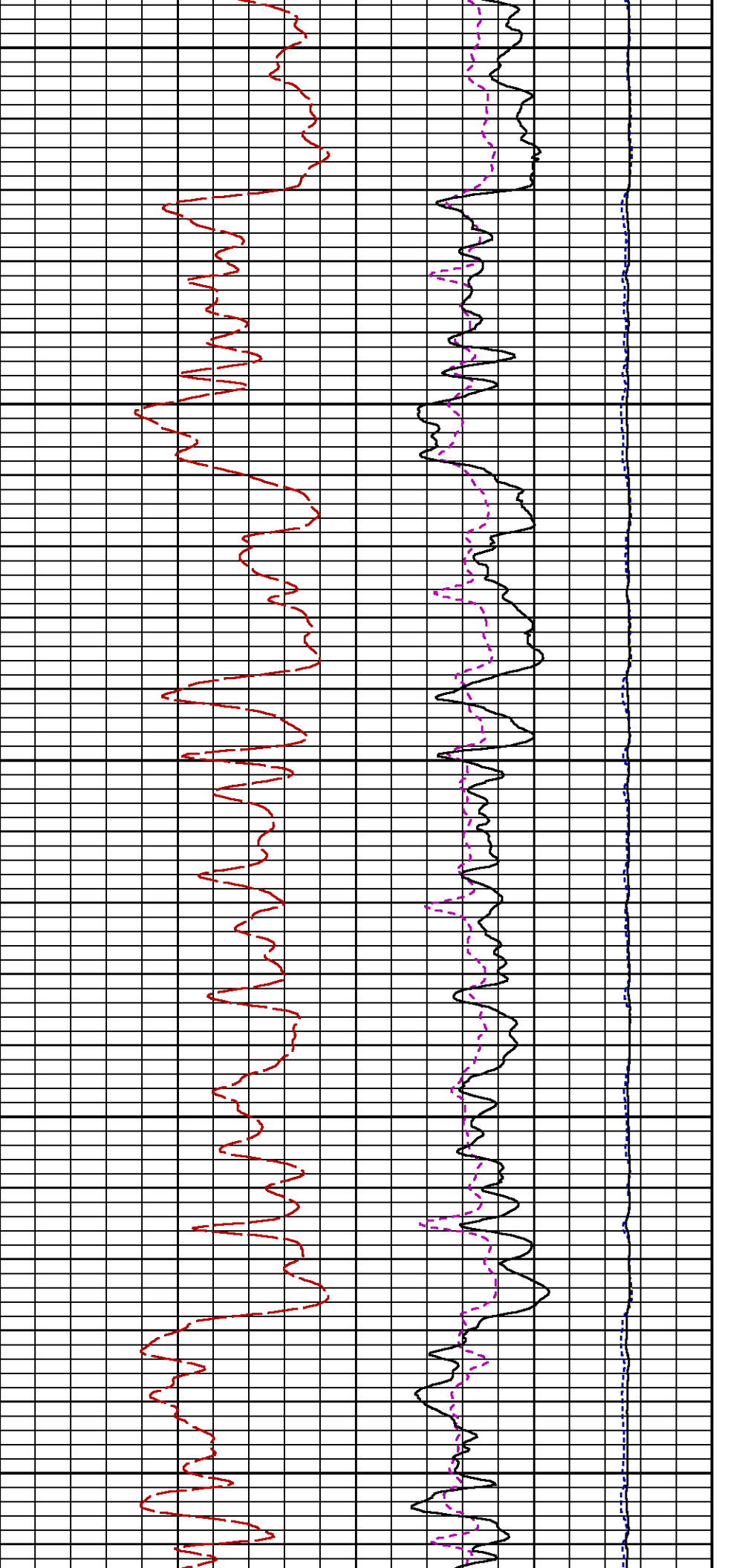
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

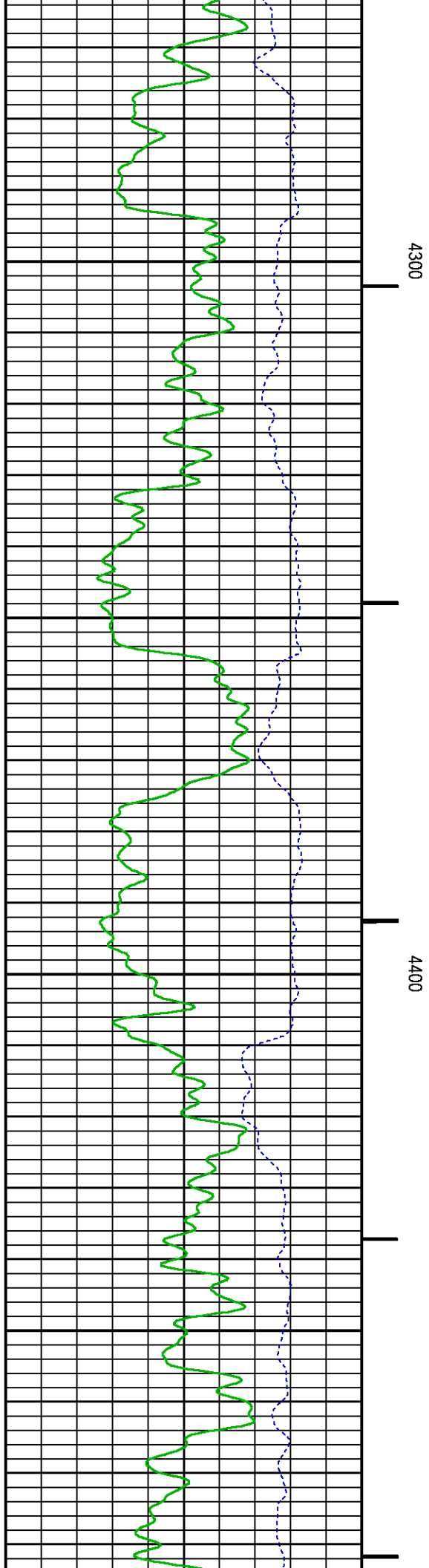
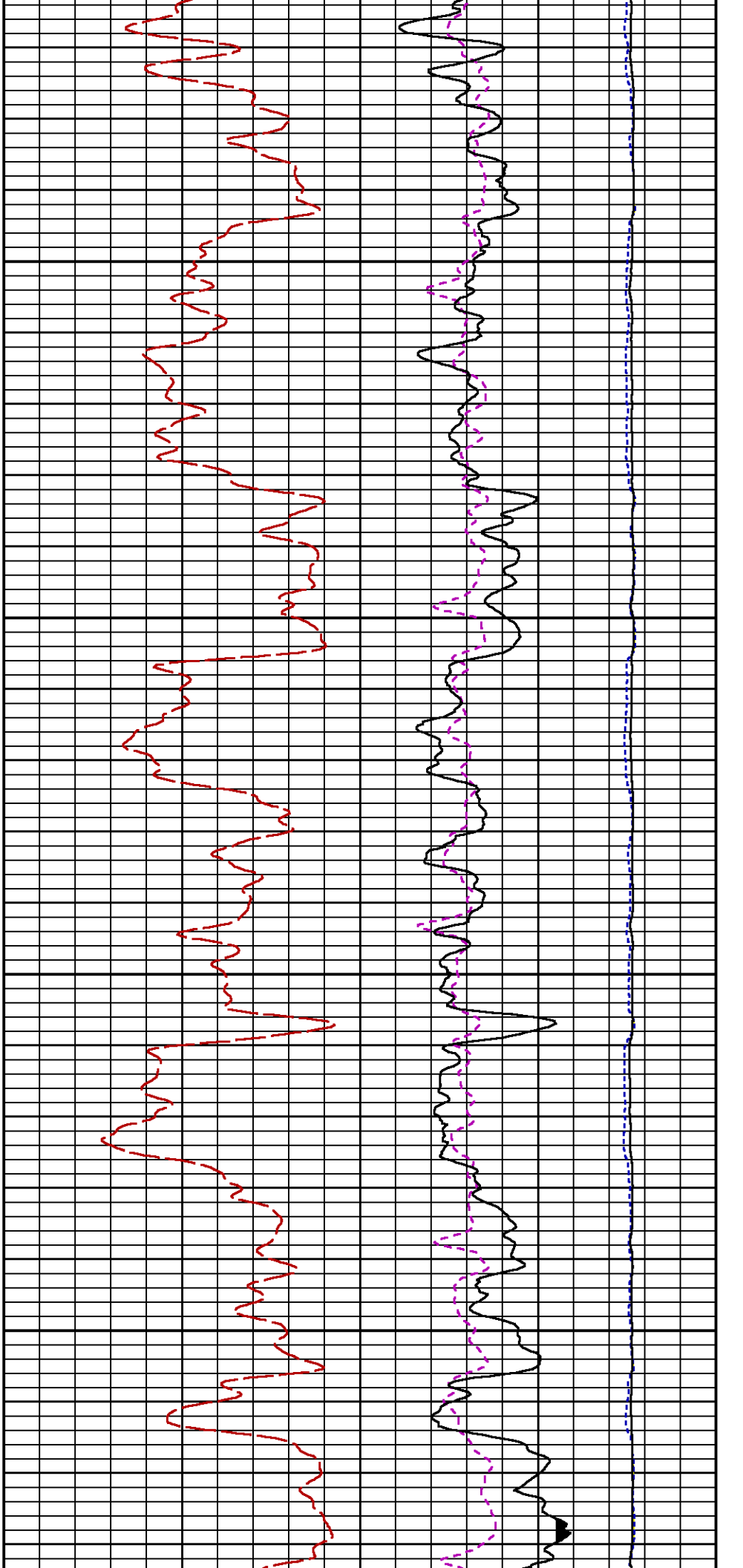
Presentation : cpu100:GUNDERSON_20_06W_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 3801.5 - 7450 Feet

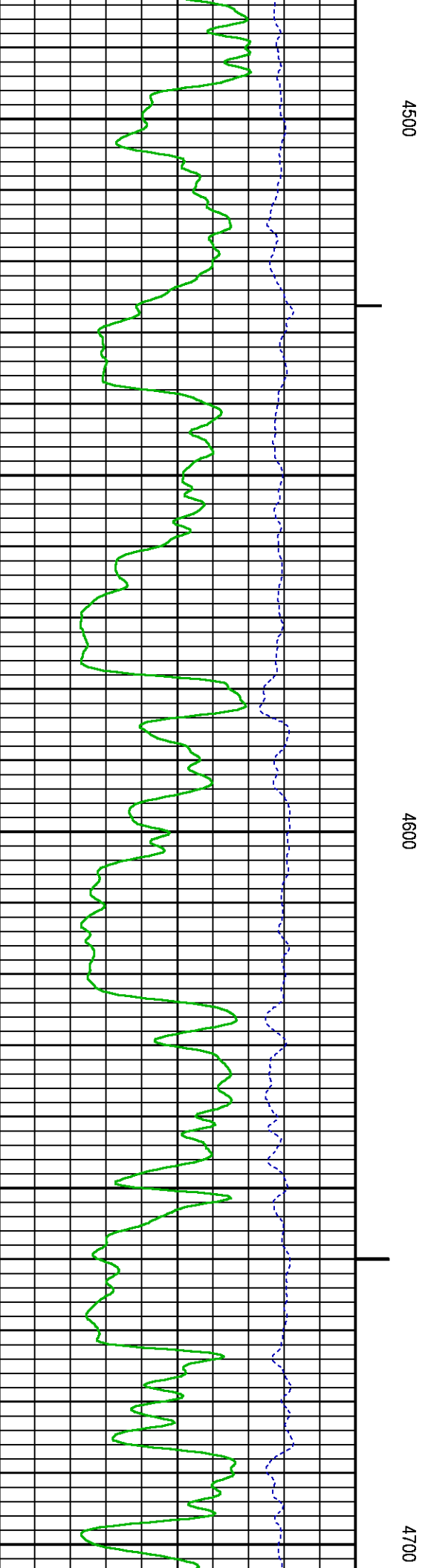
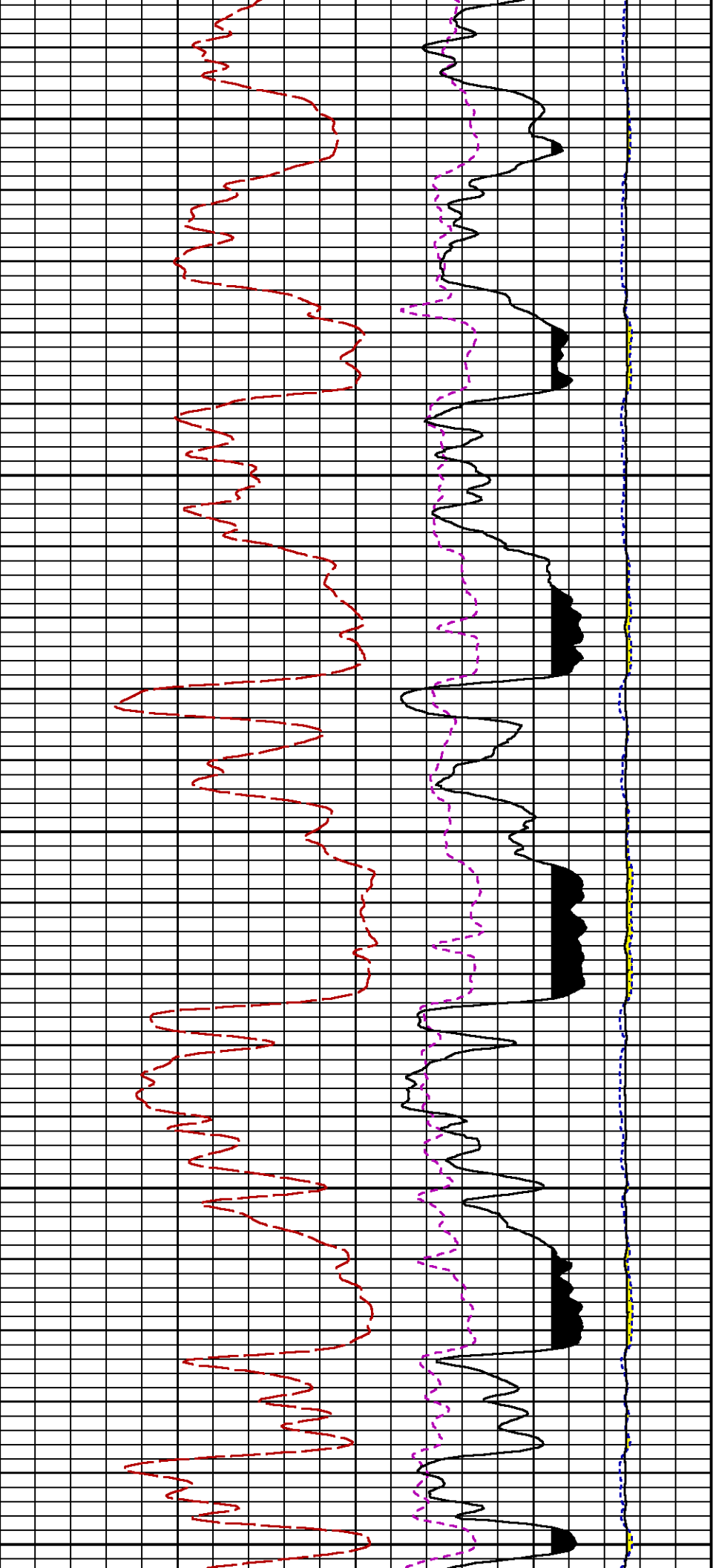
Data File 1 : F1 : cpu100:/dat1a/LARAMIE_GUNDERSON_20_06W/GUNDERSON_20_06W_RPM_MAIN.xtf
Created On : Aug 25 08:19:51 2017
Company : LARAMIE ENERGY
Well : GUNDERSON 20-06W
Field : VEGA
File Interval : 3800.75 - 7436 Feet
OCT : RPM3D

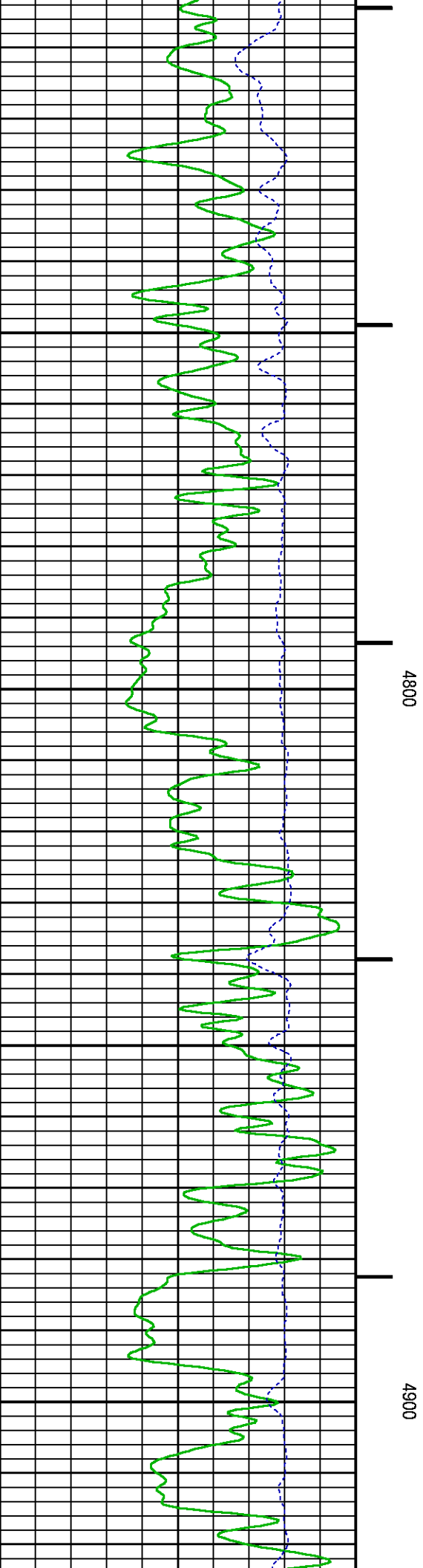
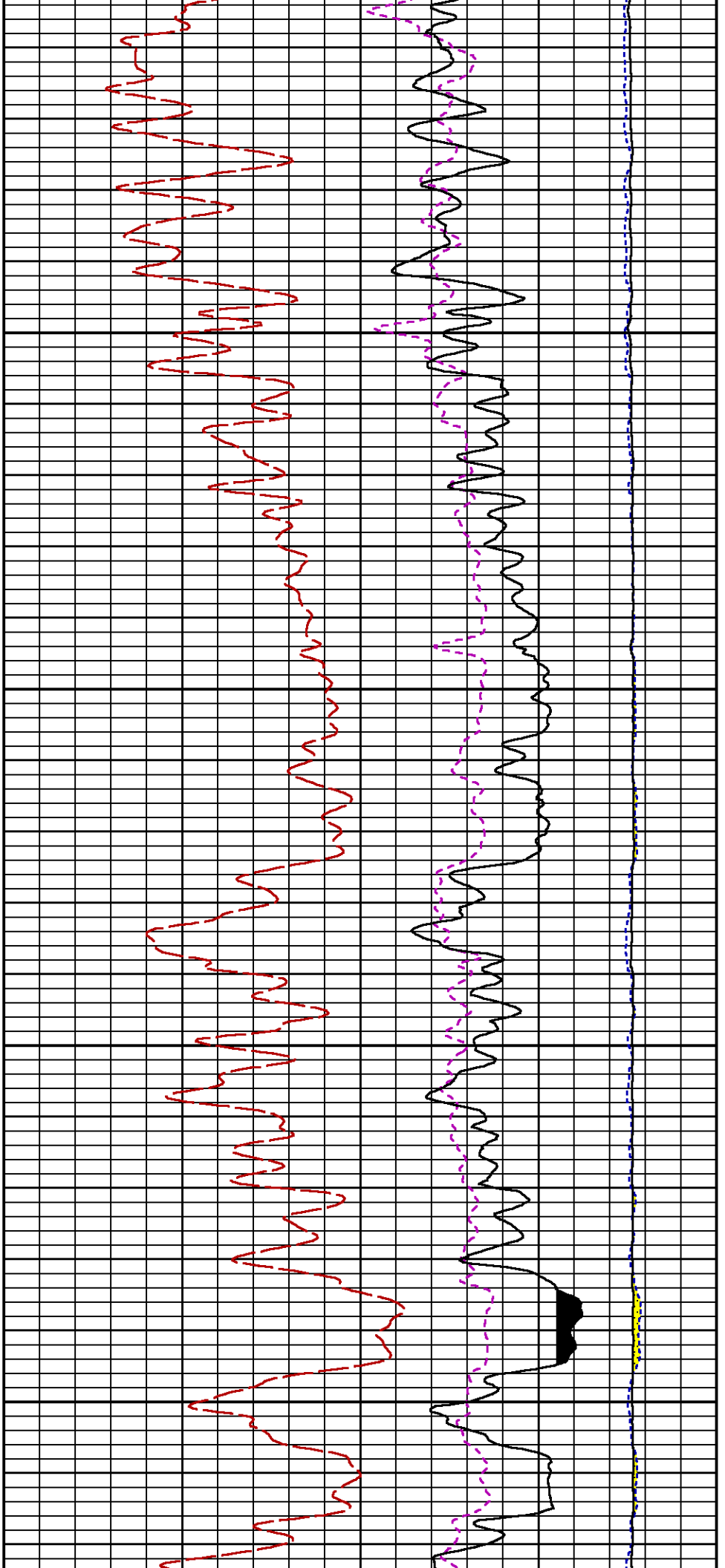


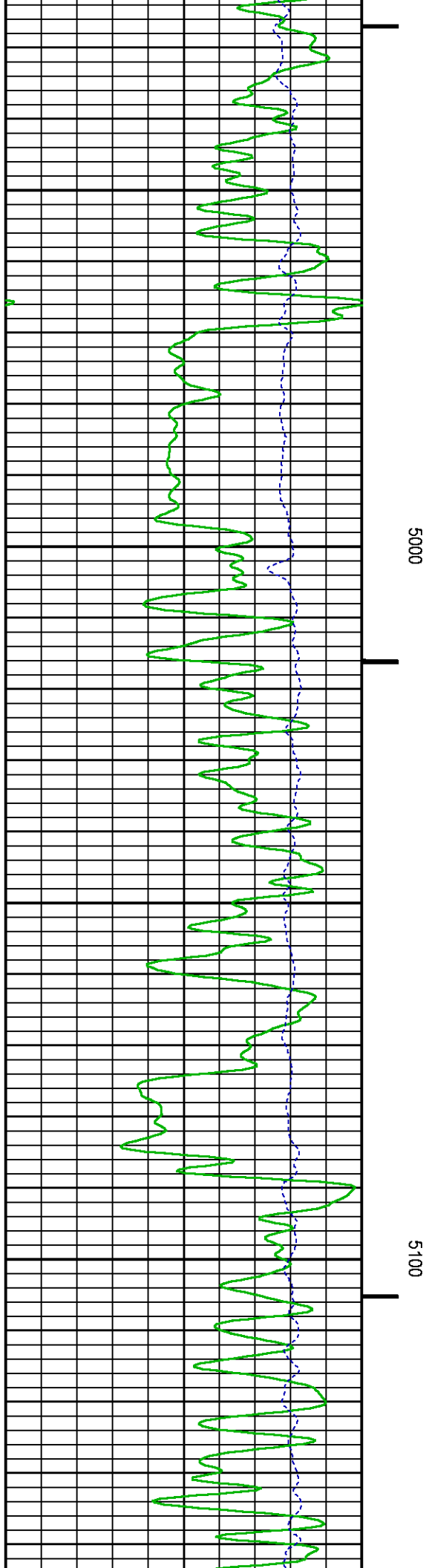
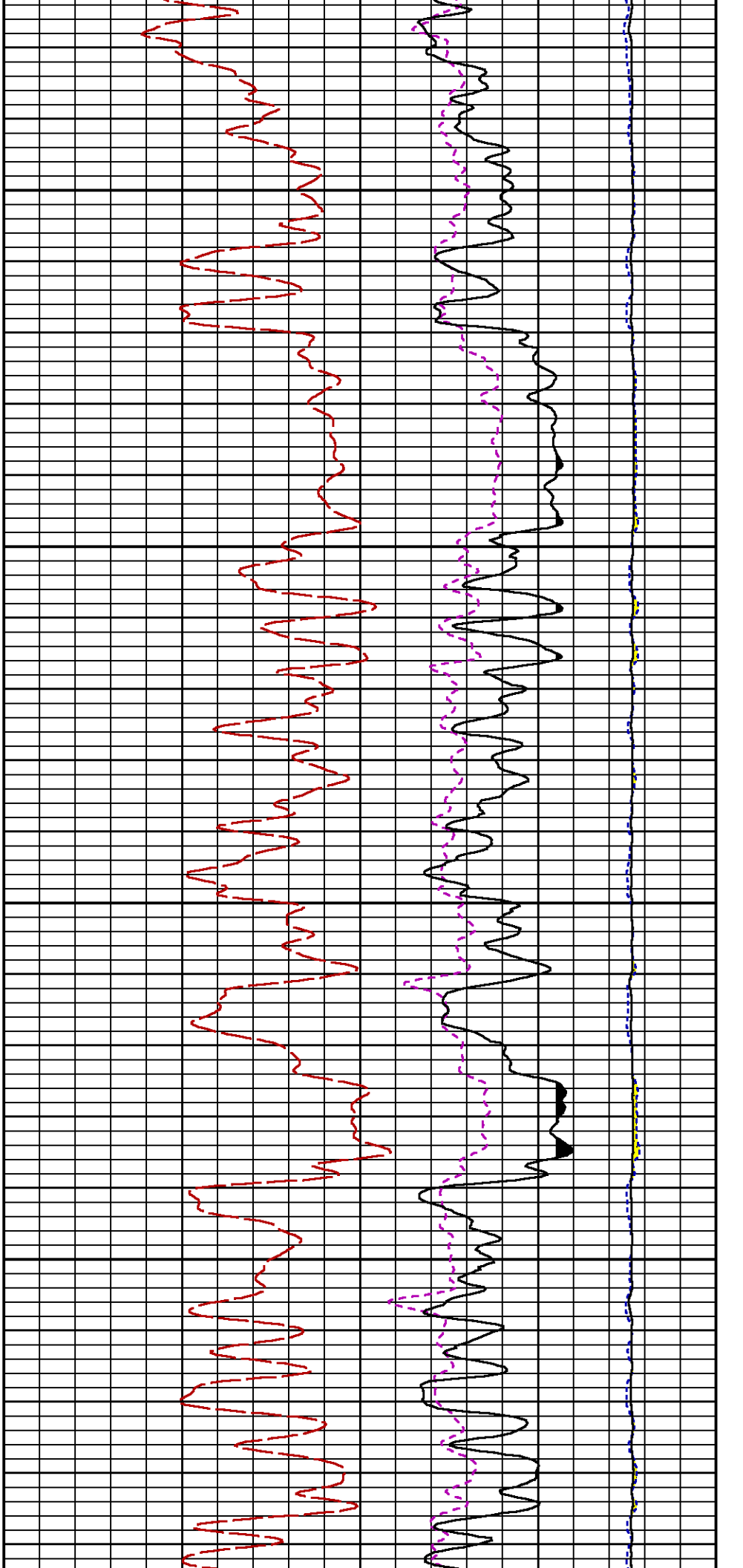


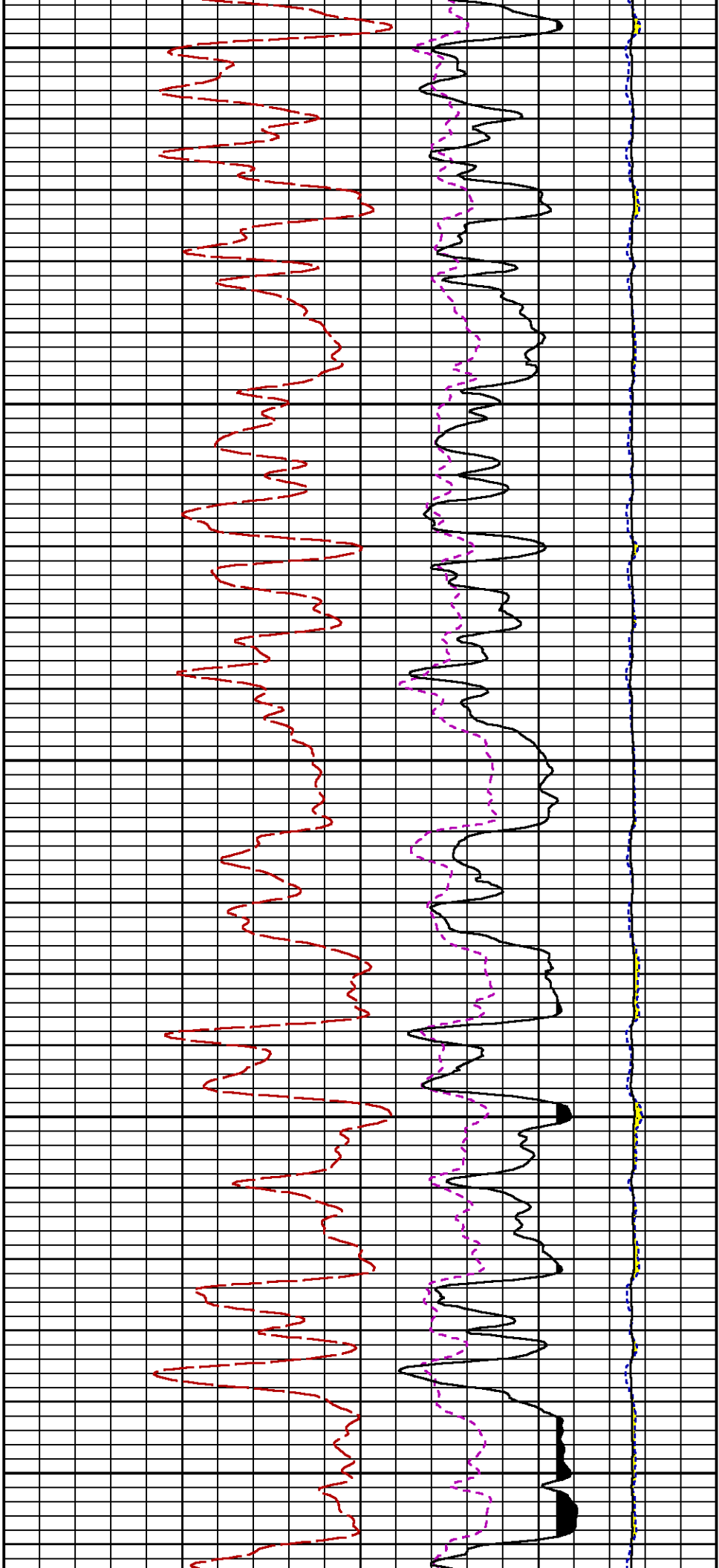






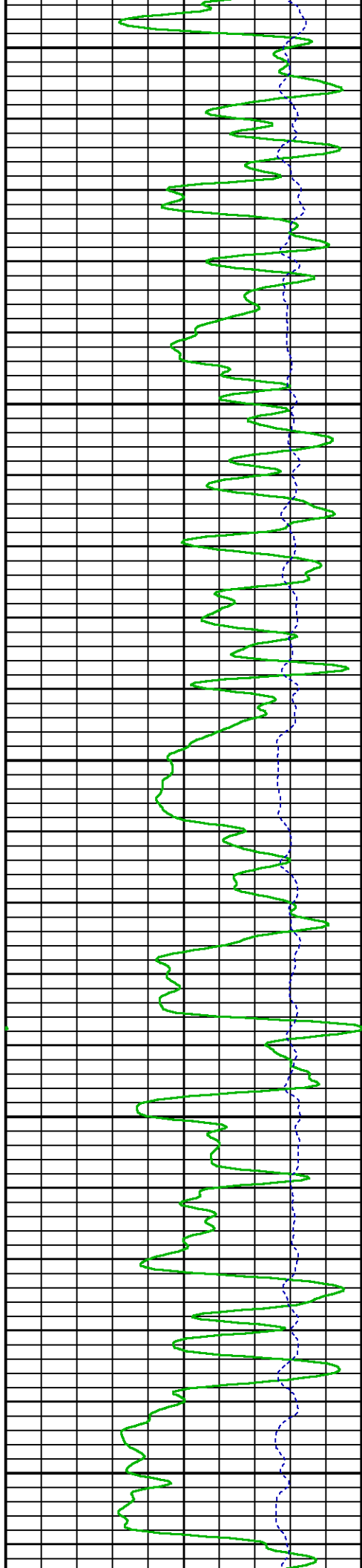


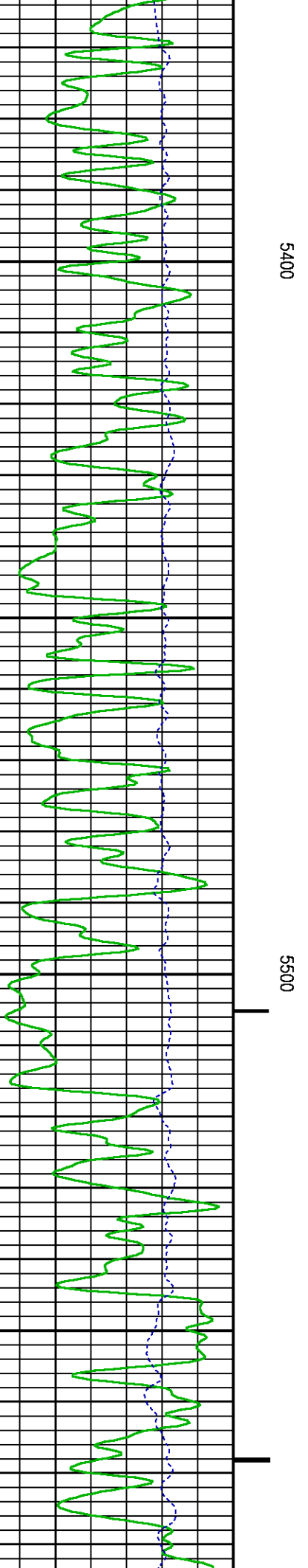
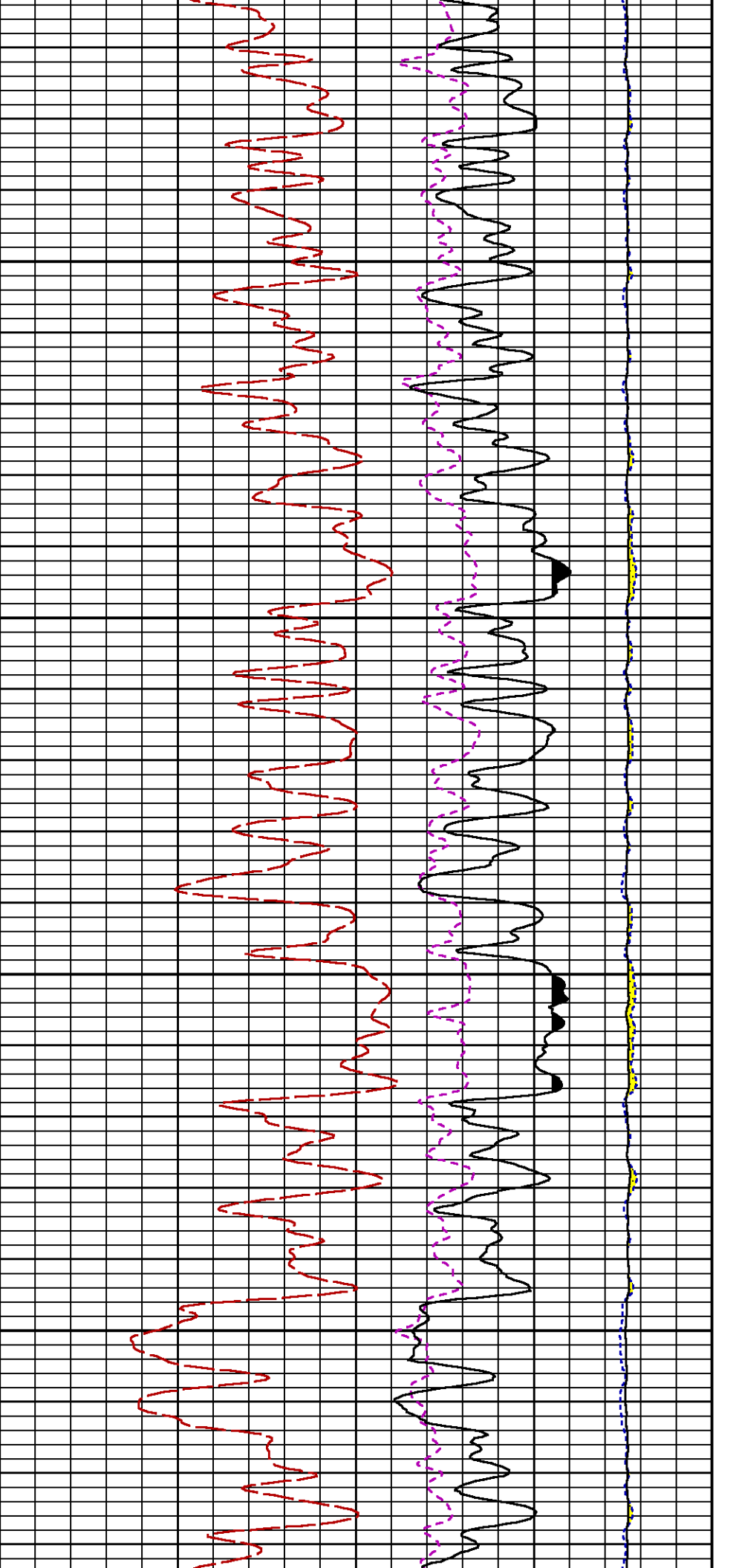


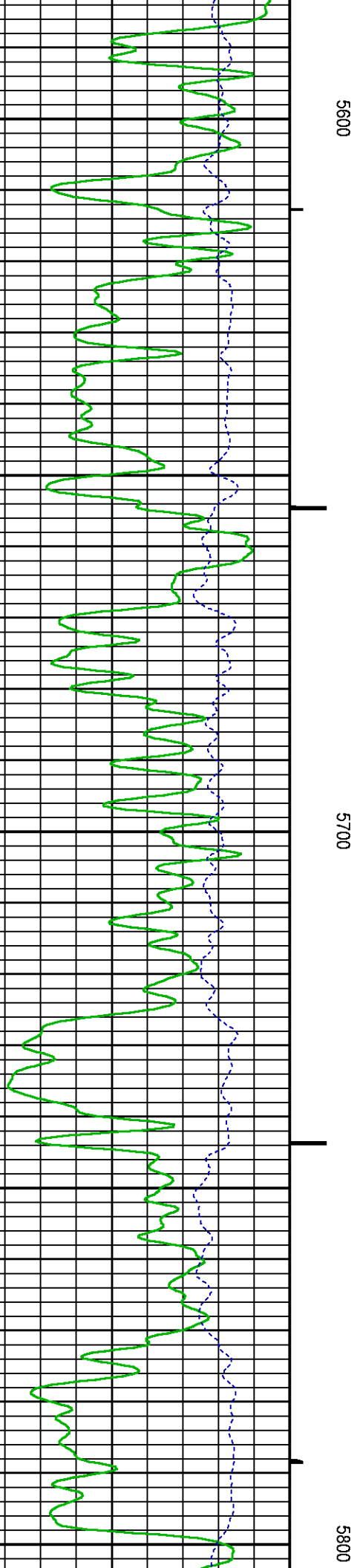
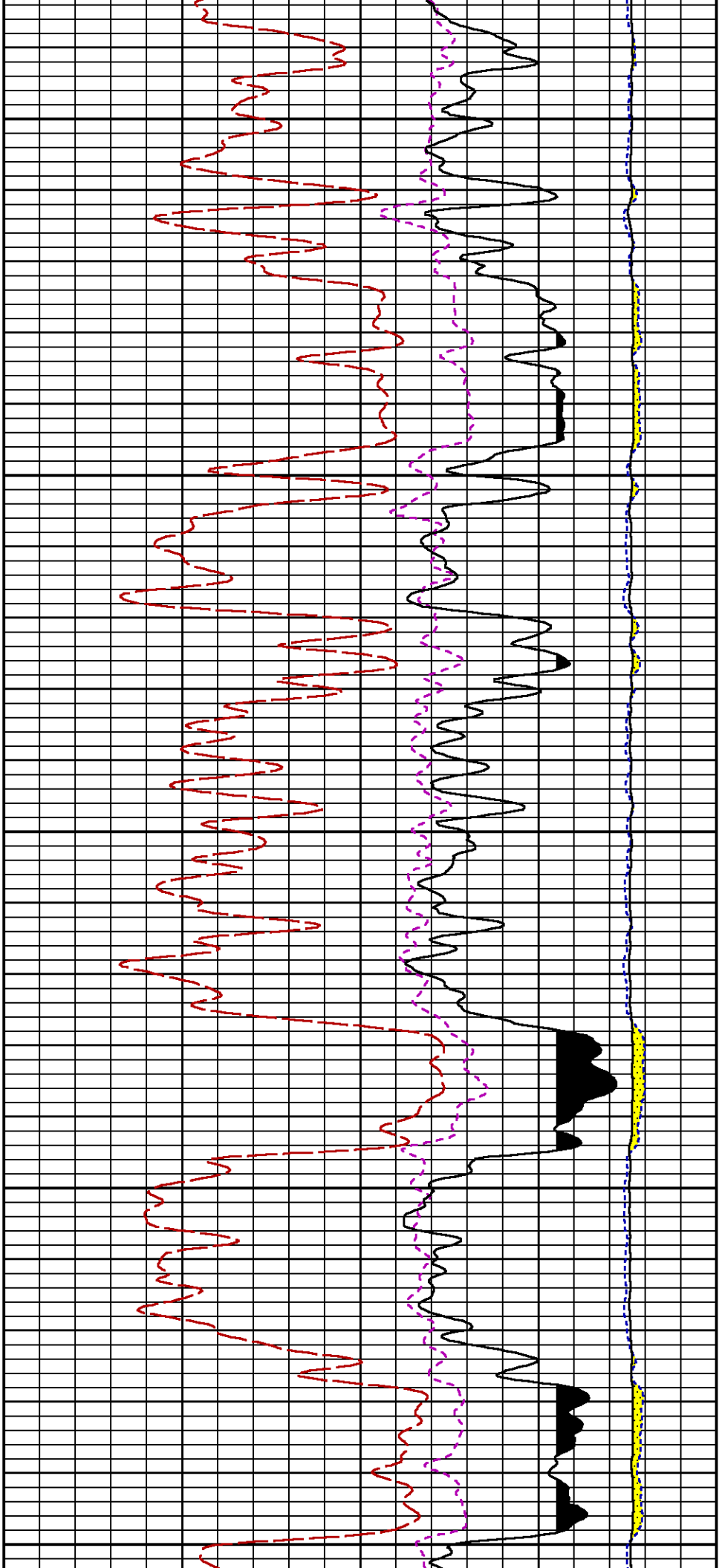


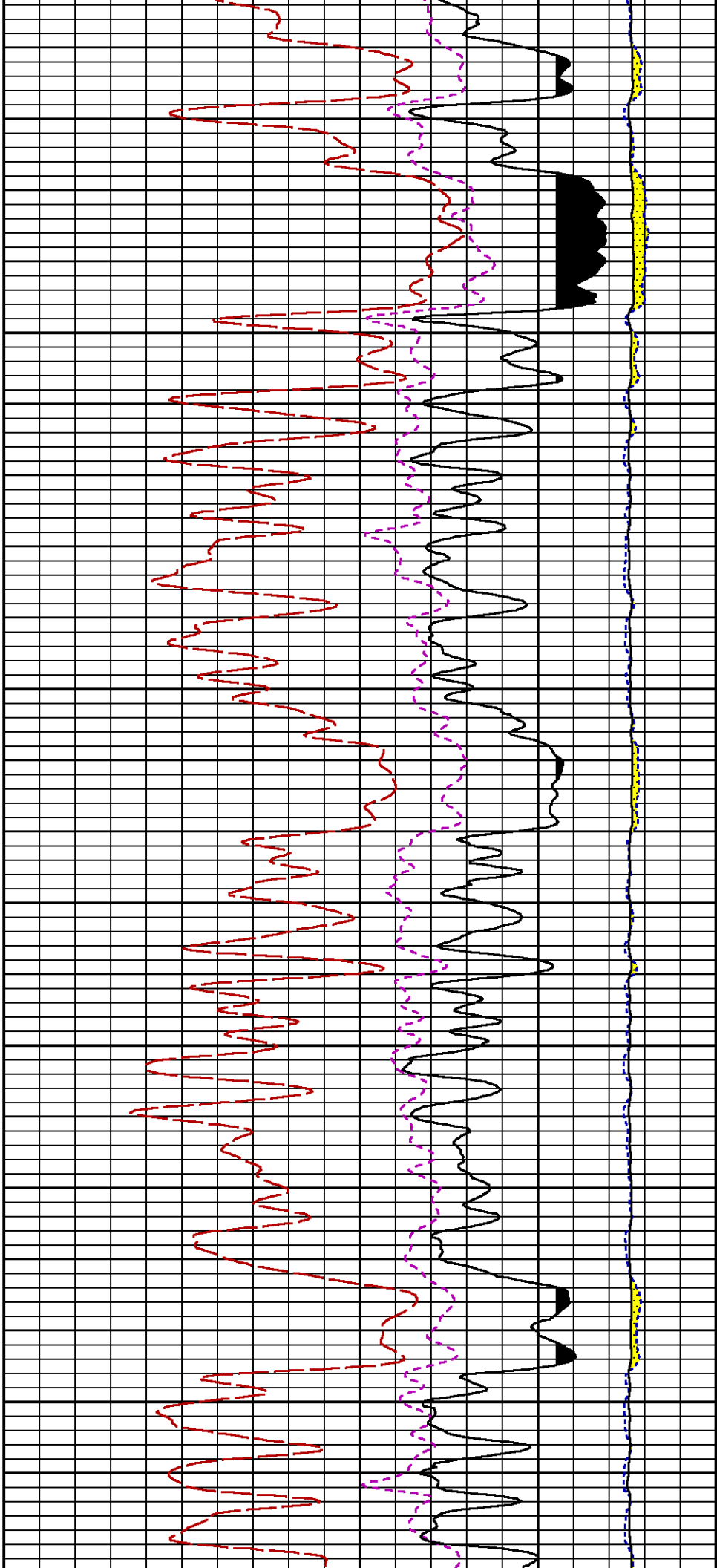
5200

5300



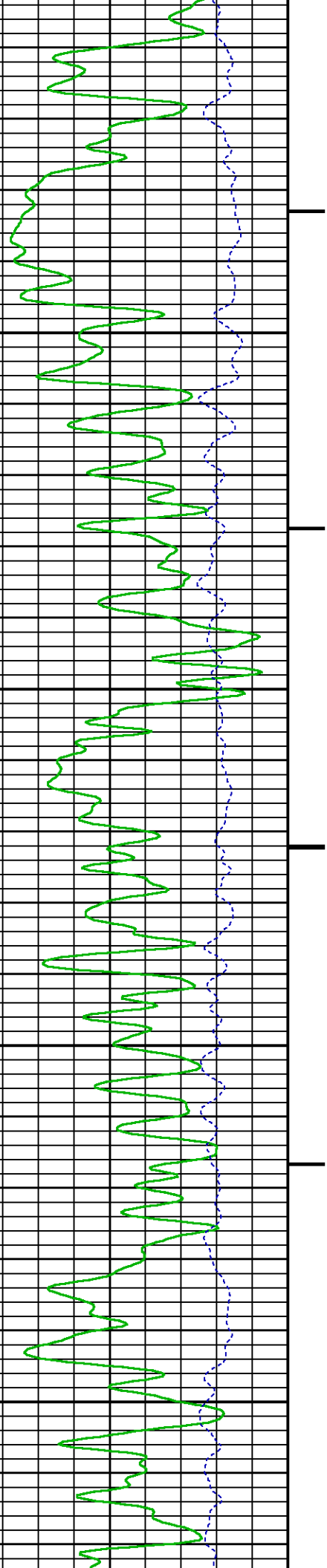


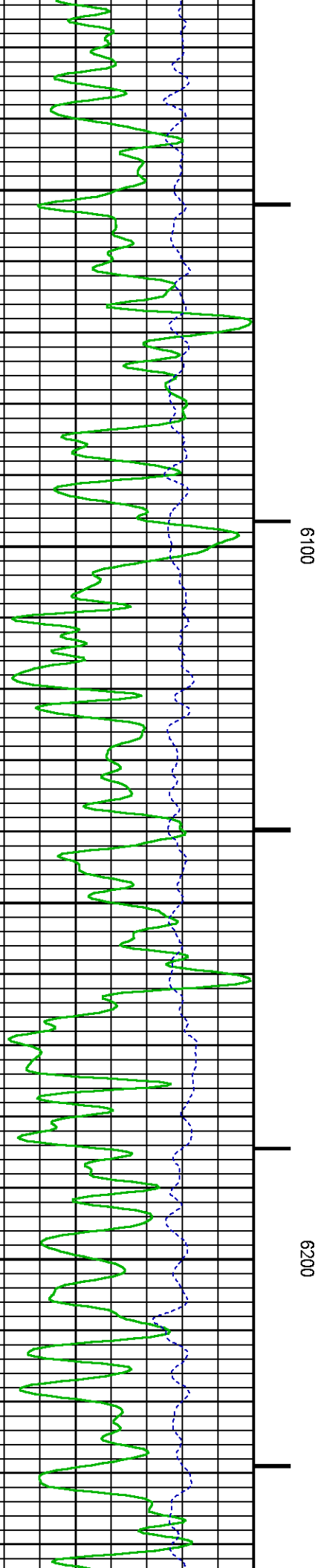
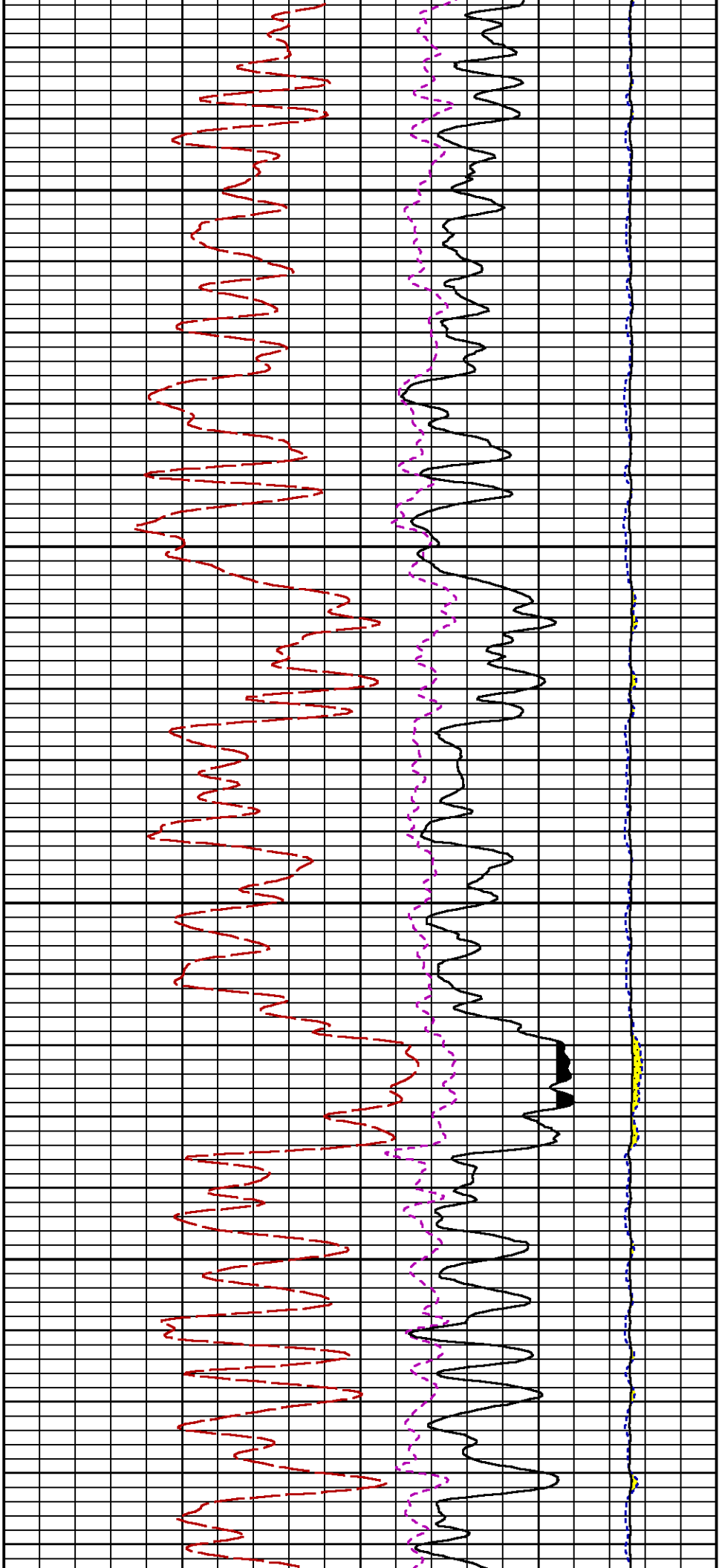


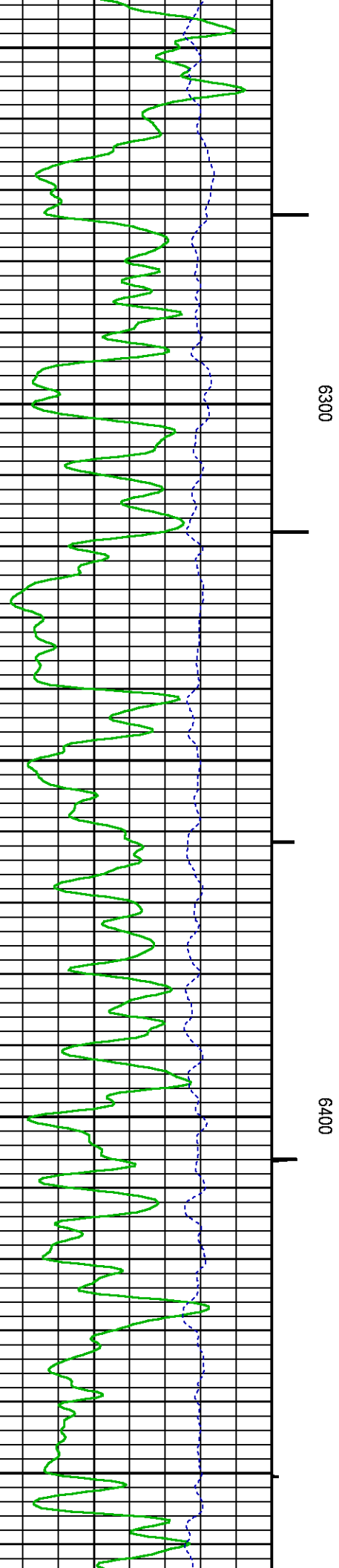
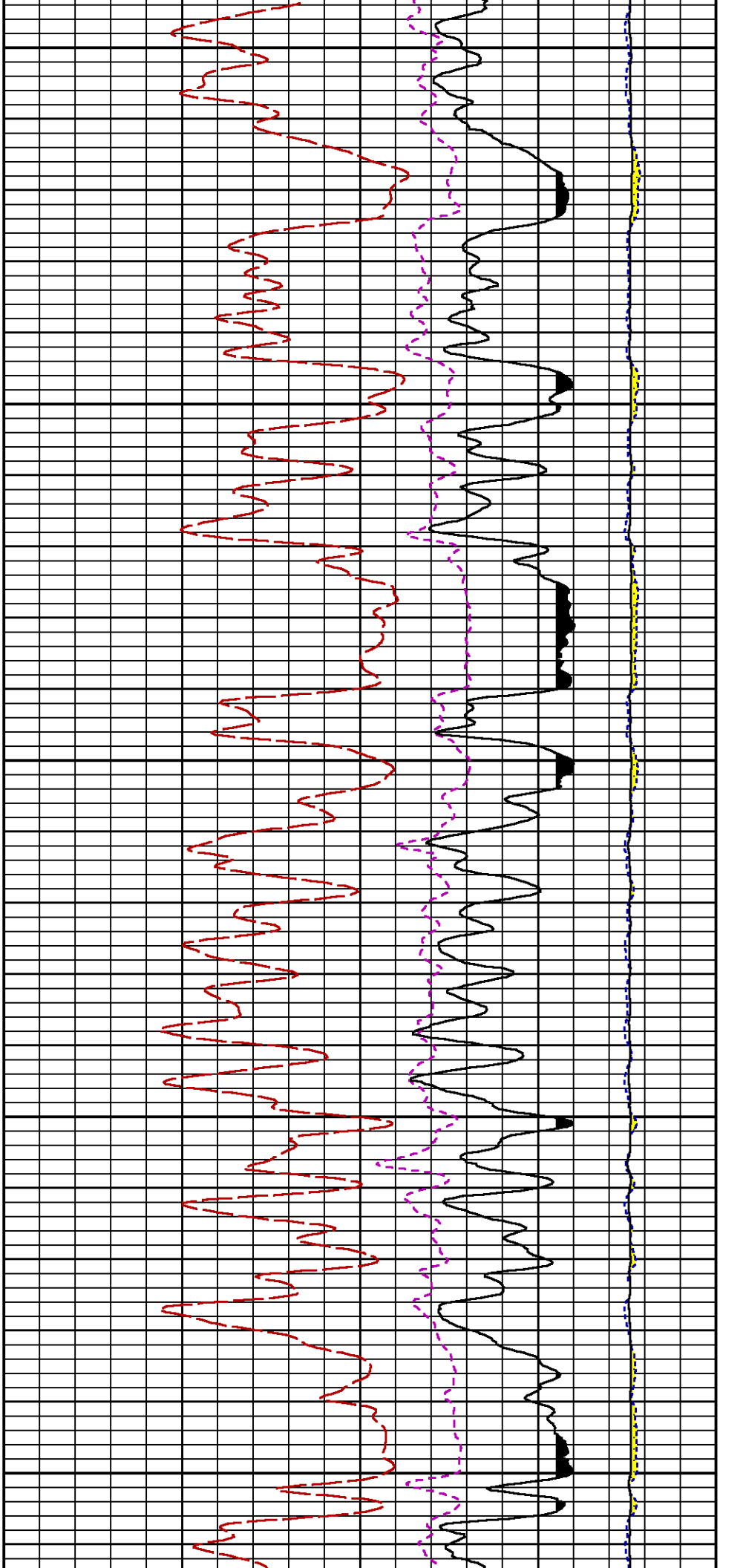


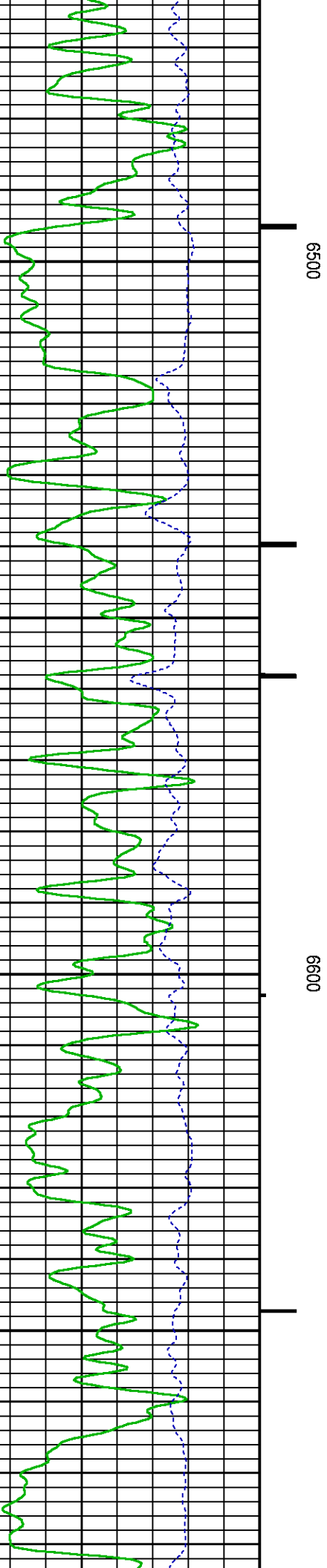
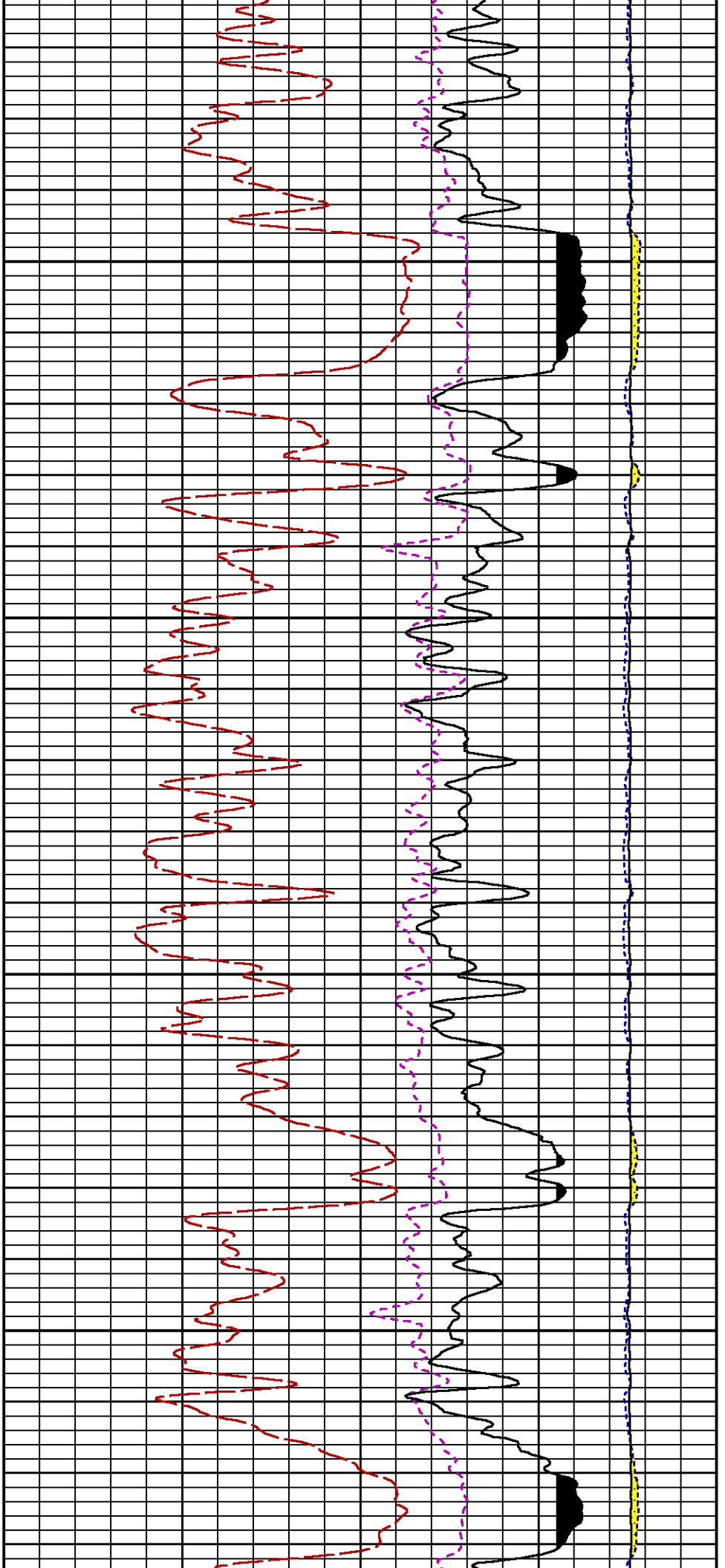
5900

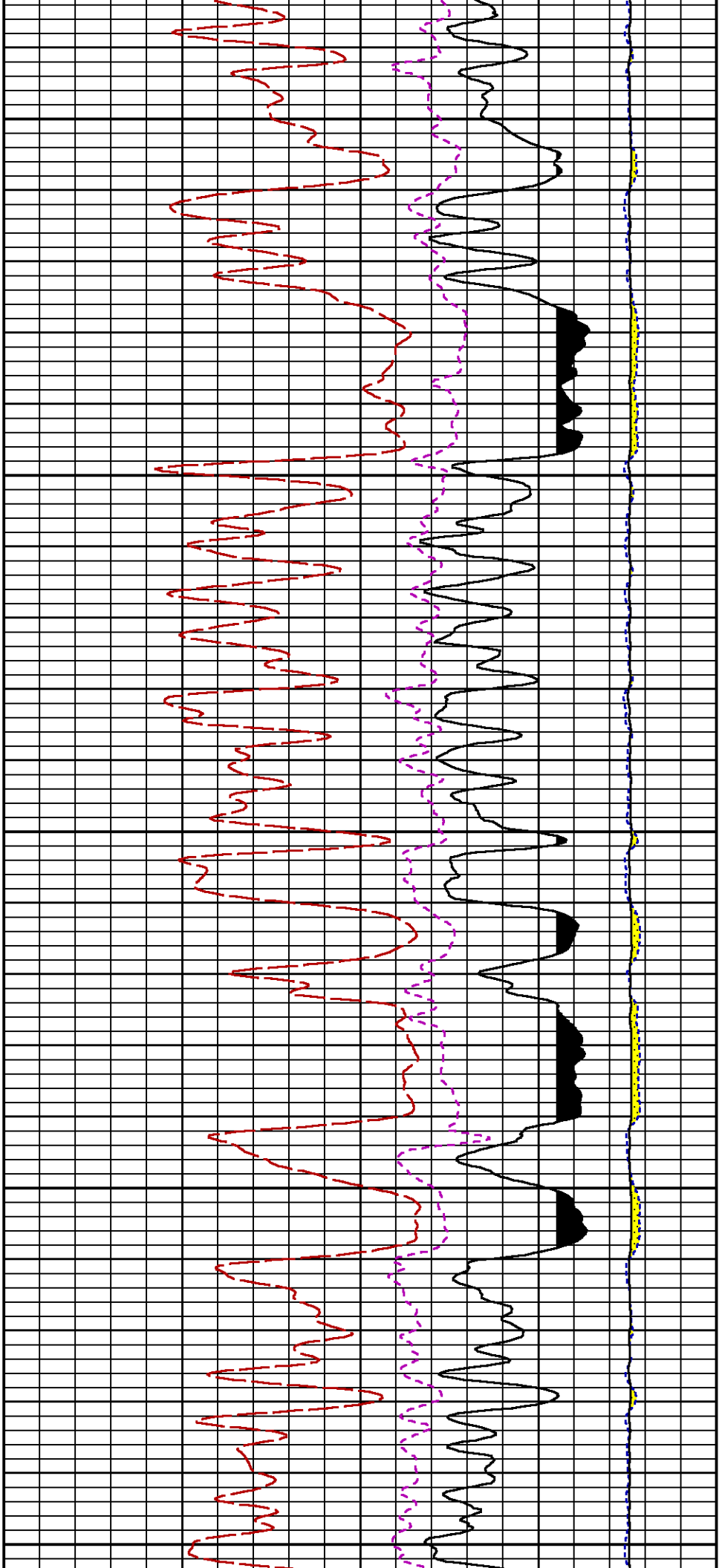
6000







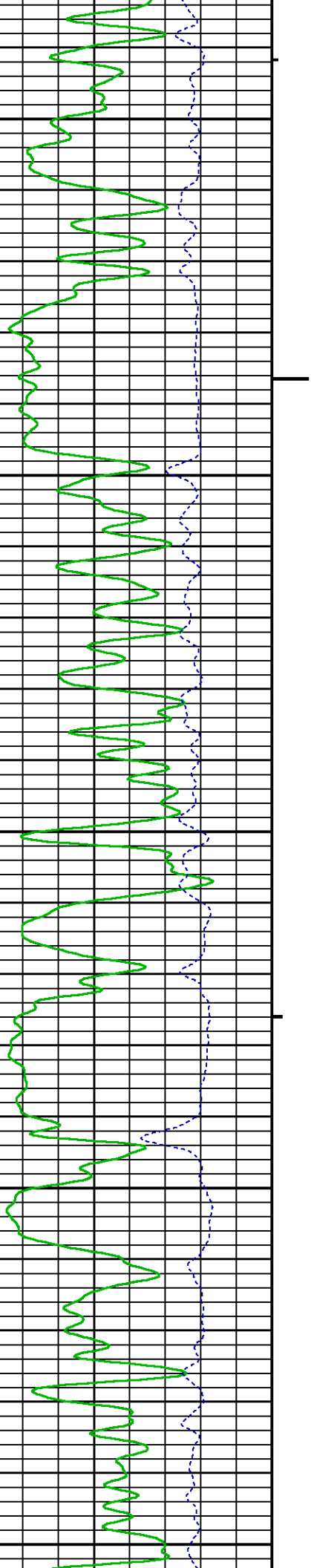


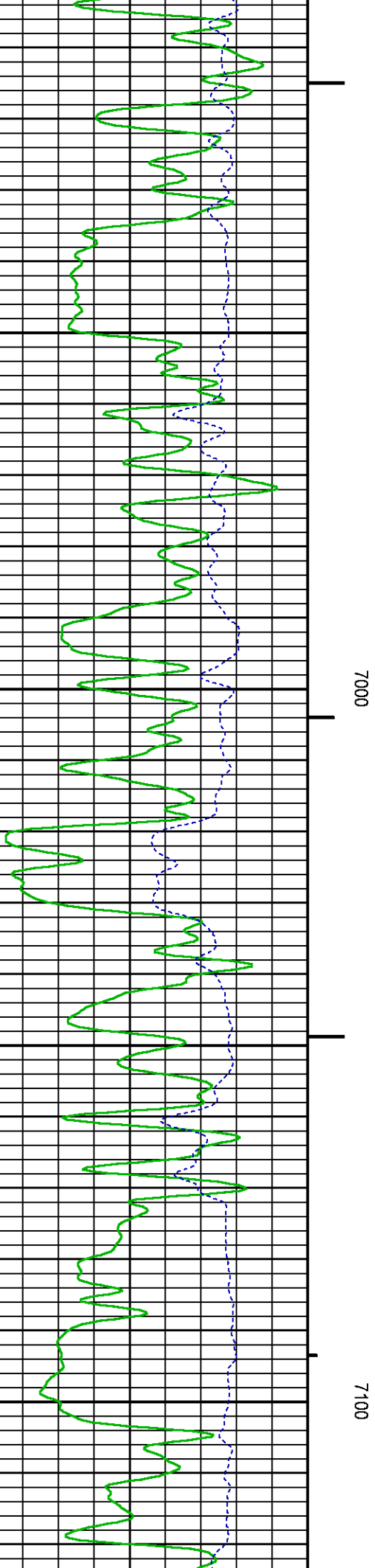
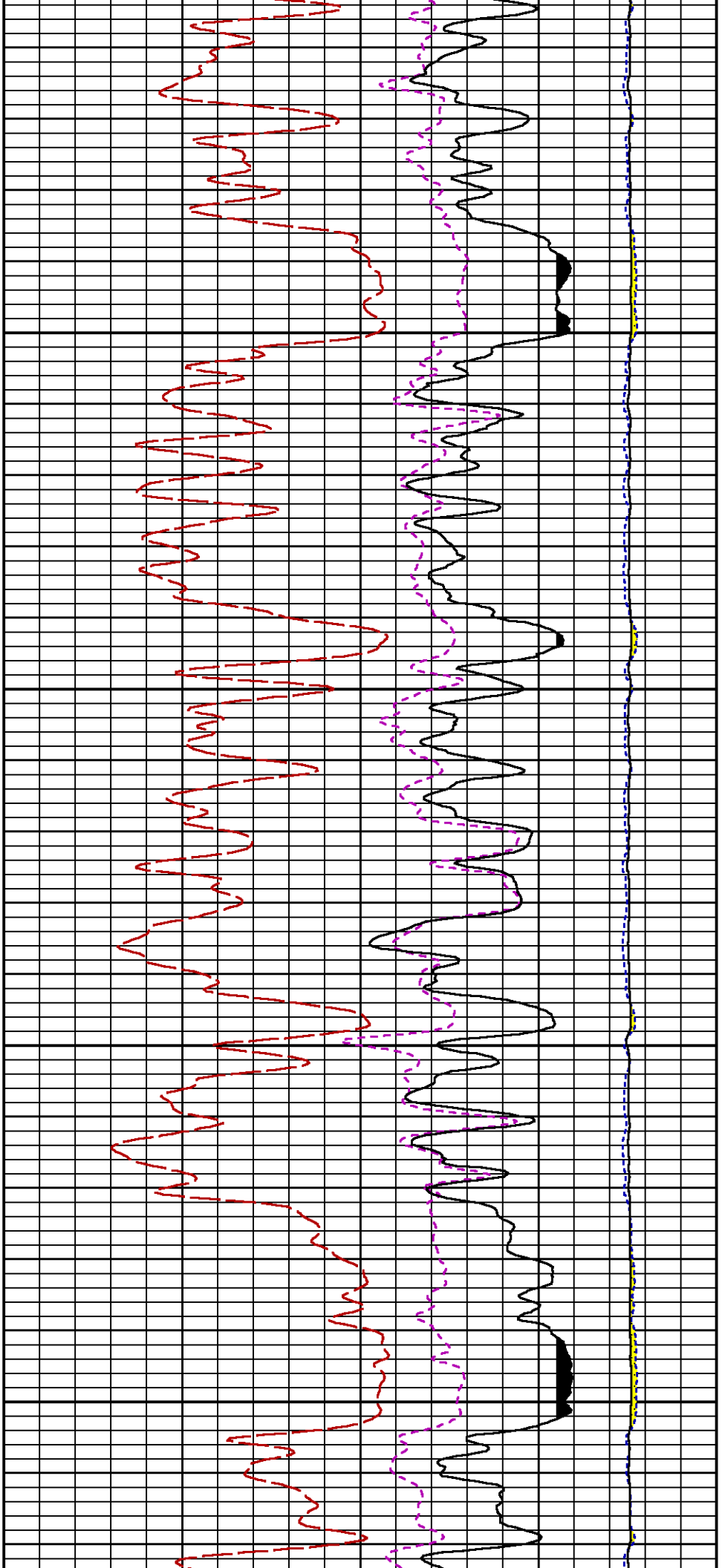


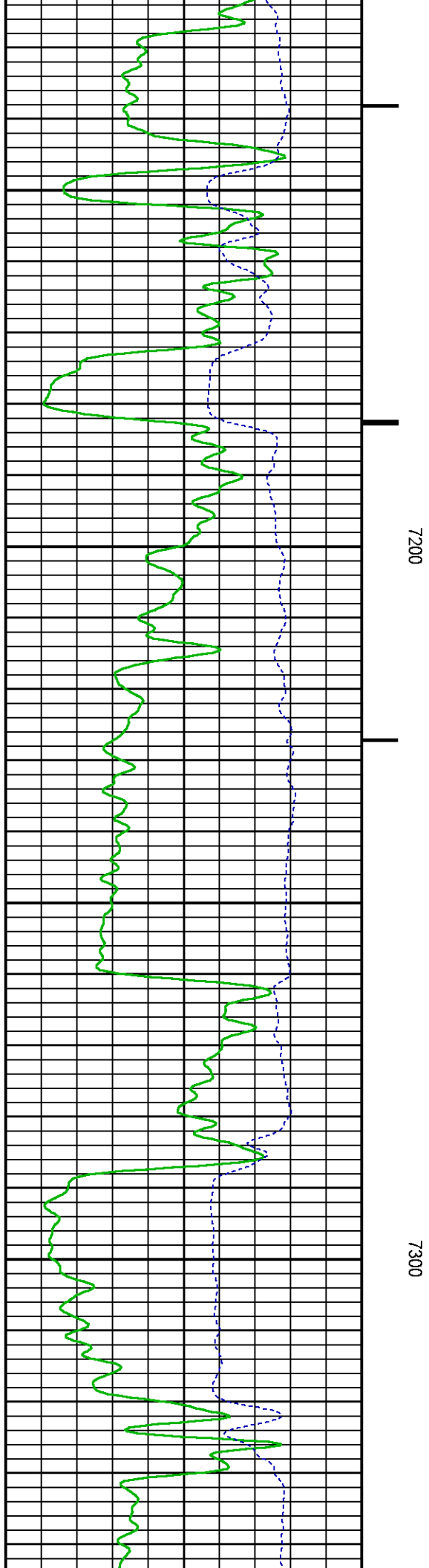
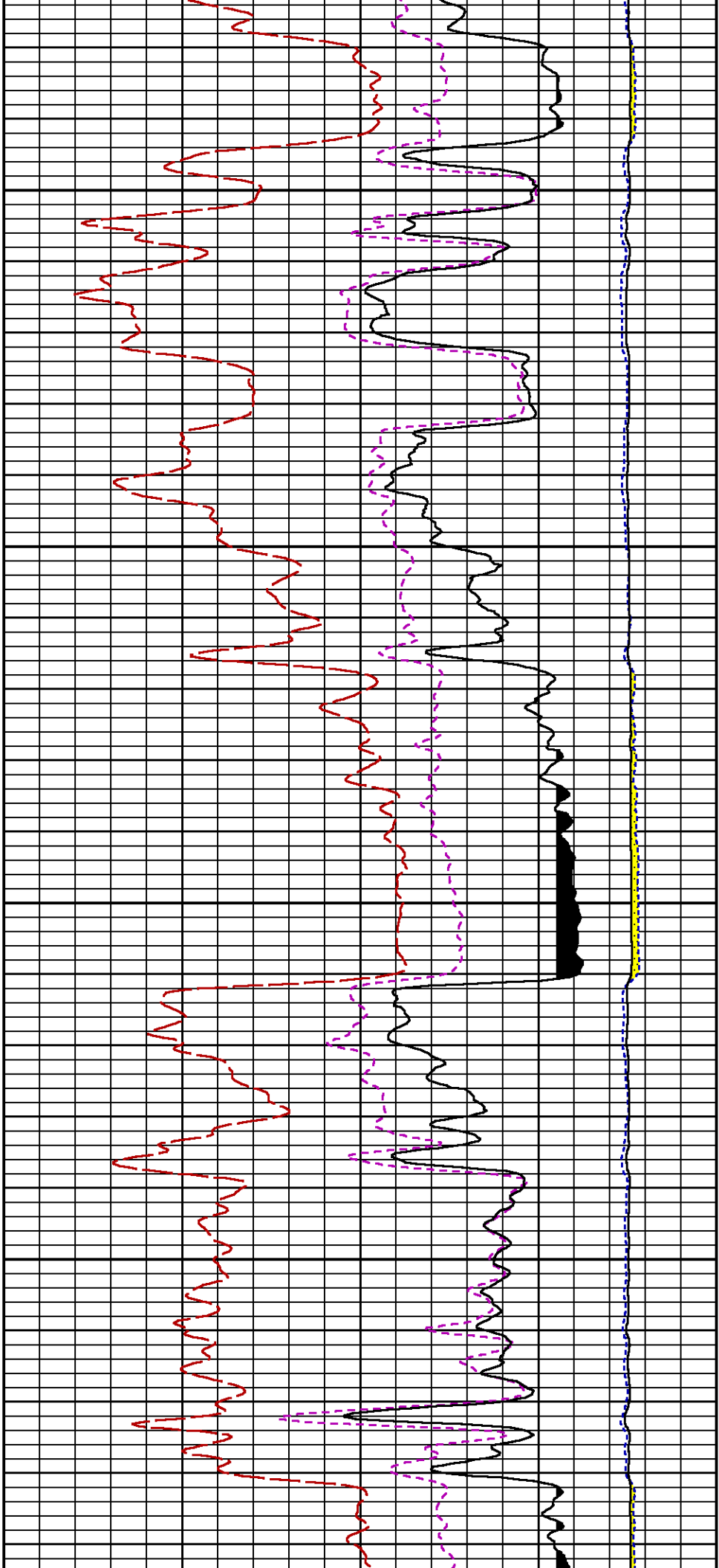
6700

6800

6900







REPEAT PASS PNC-3D MODE

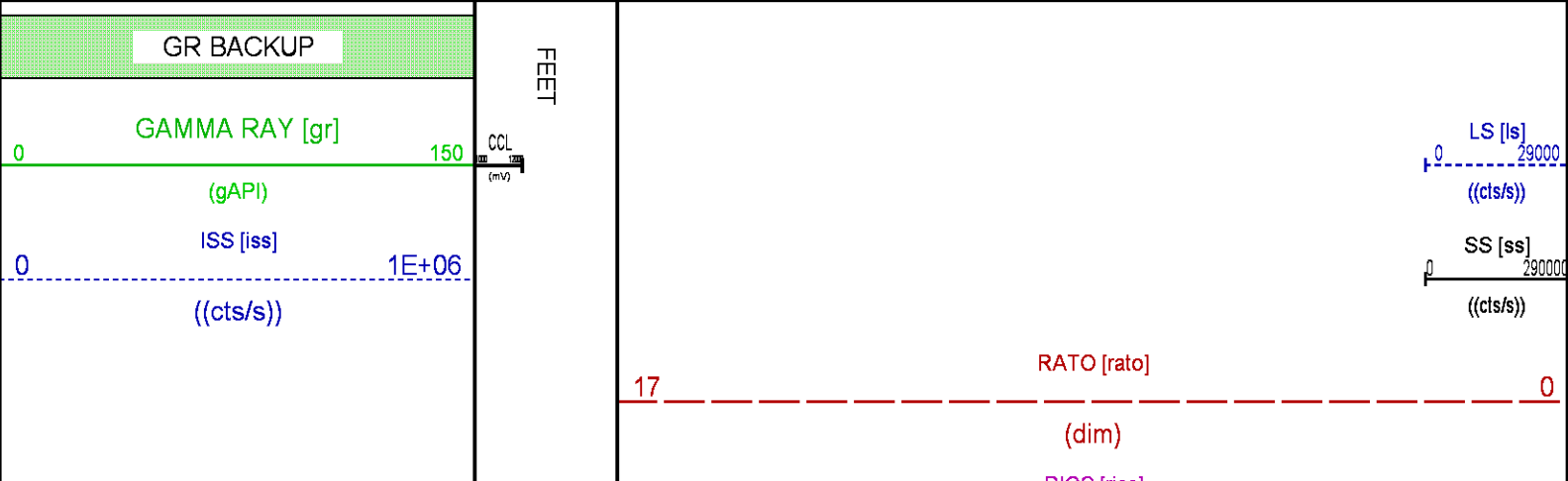
Plotted: Fri Aug 25 04:14:42 2017

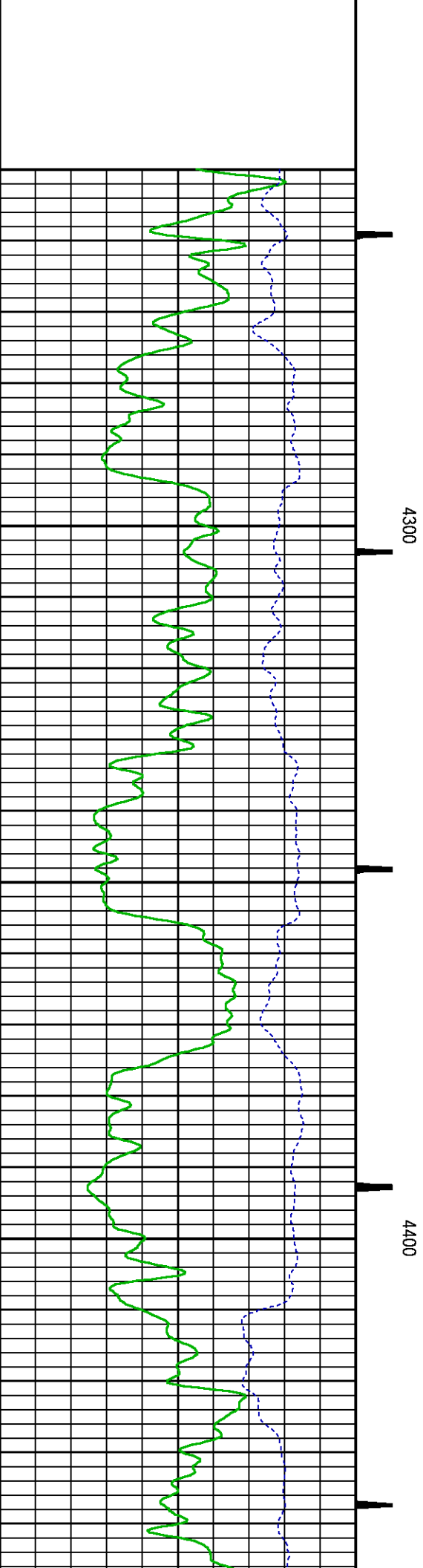
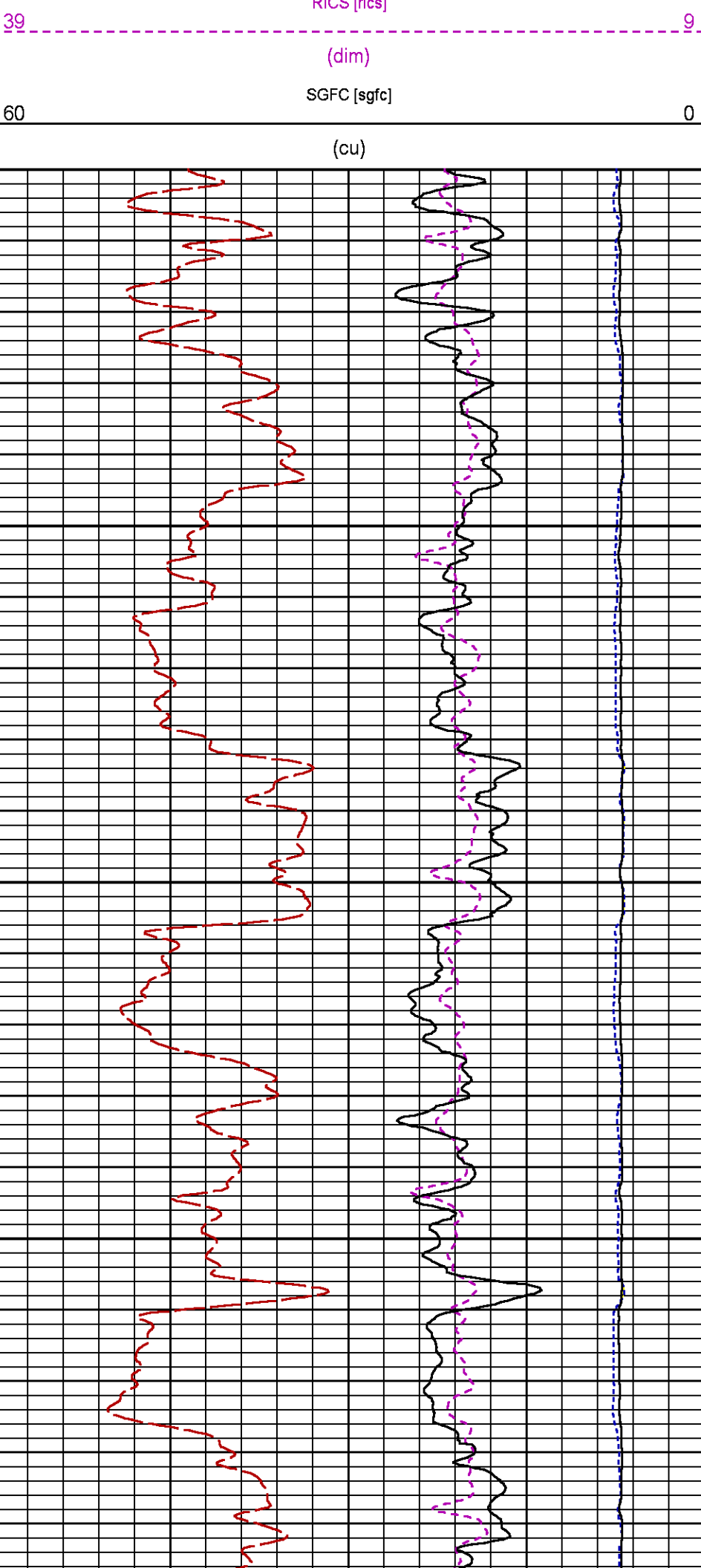
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/LARAMIE_GUNDERSON_20_06W/RPM3D01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 4221.250 ft BOTTOM DEPTH: 4511.500 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM
RPM PROCESSING				
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		" "

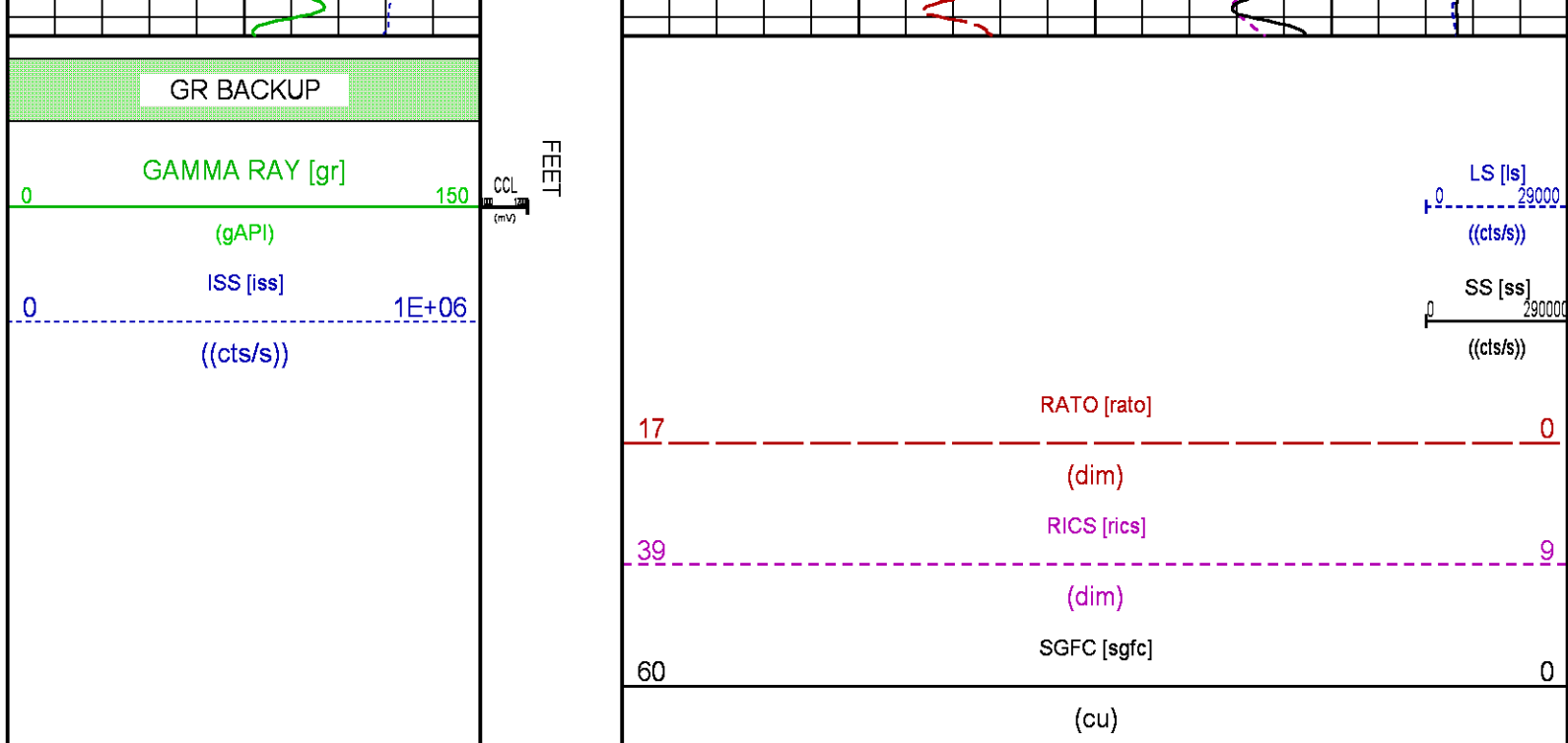
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 25 03:52:08 2017	CASING COLLAR LOCATOR
F1:GR	Aug 25 03:52:08 2017	GAMMA RAY
F1:ISS	Aug 25 03:52:08 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 25 03:52:08 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 25 03:52:08 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 25 03:52:08 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 25 03:52:08 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 25 03:52:08 2017	SHORT SPACE COUNT RATE

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

Presentation	: cpu100:/dat1a/LARAMIE_GUNDERSON_20_06W/RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 4250 - 4450 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_GUNDERSON_20_06W/RPM3D01_REPEAT.xtf
Created On	: Aug 25 03:52:08 2017
Company	: LARAMIE ENERGY
Well	: GUNDERSON 20-06W
Field	: VEGA
File Interval	: 4195.75 - 4511.75 Feet
OCT	: RPM3D







CALIBRATION / VERIFICATION SUMMARY

Source File: Adat1aL.ARAMIE_GUNDERSON_20_08MRPM3D.jp1

GR PRIMARY CALIBRATION SUMMARY						
TOOL #:	8262XA10485470	DATE/TIME PERFORMED:	Tue Jan 17 13:32:11 2017			
UNIT #:	3882ML ML4352	CALB JIG #:	4702NK DA_228			
	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	GR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)
GR	63.76	399.13	335.4	0.552	35.17	220.17
						185
GR PRIMARY VERIFICATION SUMMARY						
TOOL #:	8262XA10485470	DATE/TIME PERFORMED:	Tue Jan 17 13:34:45 2017			
UNIT #:	3882ML ML4352	VERI JIG #:	4702NK DA_228			
	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	63.44	394.18	0.552	35.00	217.44	182.44
						115.00 196.00

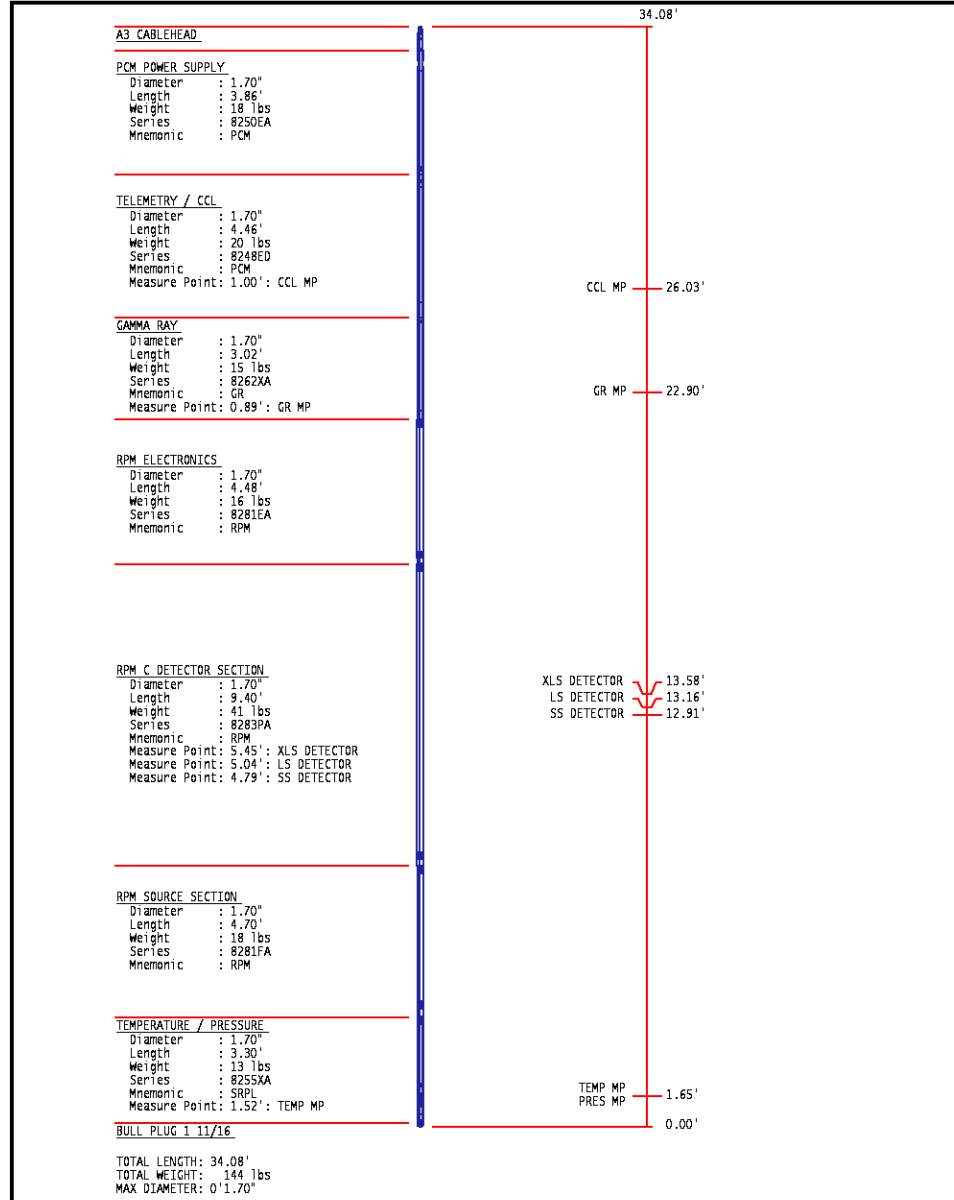
RPM_PNC_3D PRIMARY CALIBRATION SUMMARY								
TOOL:	8283PA10184883	DATE/TIME PERFORMED:	Thu Jul 13 15:06:49 2017					
UNIT:	3882TD HL6728	CALIBRATOR:	2437XB 120057	SOURCE:	8281AA 10160595	HOURS:	8281AA 228	
	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usac)	RCAL
Raw Data	807240	123	2232	2259	2285	137	9.0	0.9874
Interpolated	1300000	146	2216	2251	2283			
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	807240	6543	1352	236	25.88	0.15	24.03	0.34
					25.90 26.40	0.00 0.00	24.00 24.00	0.00 0.40
	ISS	ILS	IKS	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	RIN13	RICS	RATO	RTWO	RONE
		ISS/LS	ISS/XS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS	
Raw Data	807240	1.44	4.90	31.88	15.44	10.65	3.80	4.04
		1.42 1.45	5.00 5.02	22.20 32.10	15.90 16.34	10.00 11.10	3.59 3.86	3.76 4.22
Fit Quality %		0.052	0.128	0.117	0.144	0.021	0.011	0.031

Reduced

1232260	1.44	4.91	31.91	15.45	10.65	3.80	4.04							
	1.42	1.45	4.33	5.92	29.60	30.70	13.70	16.34	10.06	11.10	3.99	3.96	3.96	4.22

INSTRUMENT CONFIGURATION

Source File: /data/LARAMIE_GUNDERSON 20 06W/RPM-ldg



COMPANY
WELL
FIELD
COUNTY

LARAMIE ENERGY
GUNDERSON 20-06W
VEGA
MESA

STATE **COLORADO**

FILE NO:

API NO:

05077103420000

LOCATION:

SHL: LAT:39.266836N;LONG:107.795317W

BHL: LAT:39.265806N;LONG:107.797721W

SEC 20 TWP 9S RGE 93W

ELEVATIONS:

KB 7176 FT

DF 7176 FT

GL 7146 FT

DATE

25-AUG-2017

