



FILE NO:	COMPANY	LARAMIE ENERGY
API NO:	WELL	BRUTON 19-20E
05077103780000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.06	LOCATION:	OTHER SERVICES
	SHL: LAT:39.255232N;LONG:107.806537W	RAL
	BHL: LAT:39.256513N;LONG:107.807083W	
	SEC 19 TWP 9S RGE 93W	

PERMANENT DATUM	GL	ELEVATION	7425 FT	KB	7449 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.	DF	7448 FT
DRILL. MEAS. FROM	KB			GL	7425 FT

DATE	20-JUL-2017
RUN	1
TRIP	1
SERVICE ORDER	US125410
DEPTH DRILLER	7663 FT
DEPTH LOGGER	7636 FT
BOTTOM LOGGED INTERVAL	7636 FT
TOP LOGGED INTERVAL	2297 FT
TIME STARTED	10:30
TIME FINISHED	17:45
OPERATOR RIG TIME	7.25 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	50 FT
LOGGED CEMENT TOP	1951 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	15 FMIN
MAX. RECORDED TEMP.	239 DEGF
REFERENCE LOG	NA
REFERENCE LOG DATE	NA
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	LSINICKI
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: 6734' - 6756'
SJ: 5738' - 5759'
CREW: D.HUTCHINSON, C.COFFELT

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TELEMETRY	8250EA/8248EA	110185091/10323398	FREE
1	1	GAMMA RAY	8262XA	10485470	FREE
1	1	RPM	8281EA	10309427	FREE
1	1	RPM	8283PA	10414345	FREE
1	1	RPM	8281FA	10401926	FREE
1	1	TEMP	8255XA	120516	FREE

G-SAND 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: Sat Jul 29 18:15:00 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LAREME_BRUTON_19_20E/RPM3D03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2284.000 ft BOTTOM DEPTH: 3002.471 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	Jul 29 17:12:47 2017	CASING COLLAR LOCATOR
F1:GR	Jul 29 17:12:47 2017	GAMMA RAY
F1:ISS	Jul 29 17:12:47 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 29 17:12:47 2017	LONG SPACE COUNT RATE
F1:RATO	Jul 29 17:12:47 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 29 17:12:47 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 29 17:12:47 2017	CORRECTED FORMATION SIGMA
F1:SS	Jul 29 17:12:47 2017	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

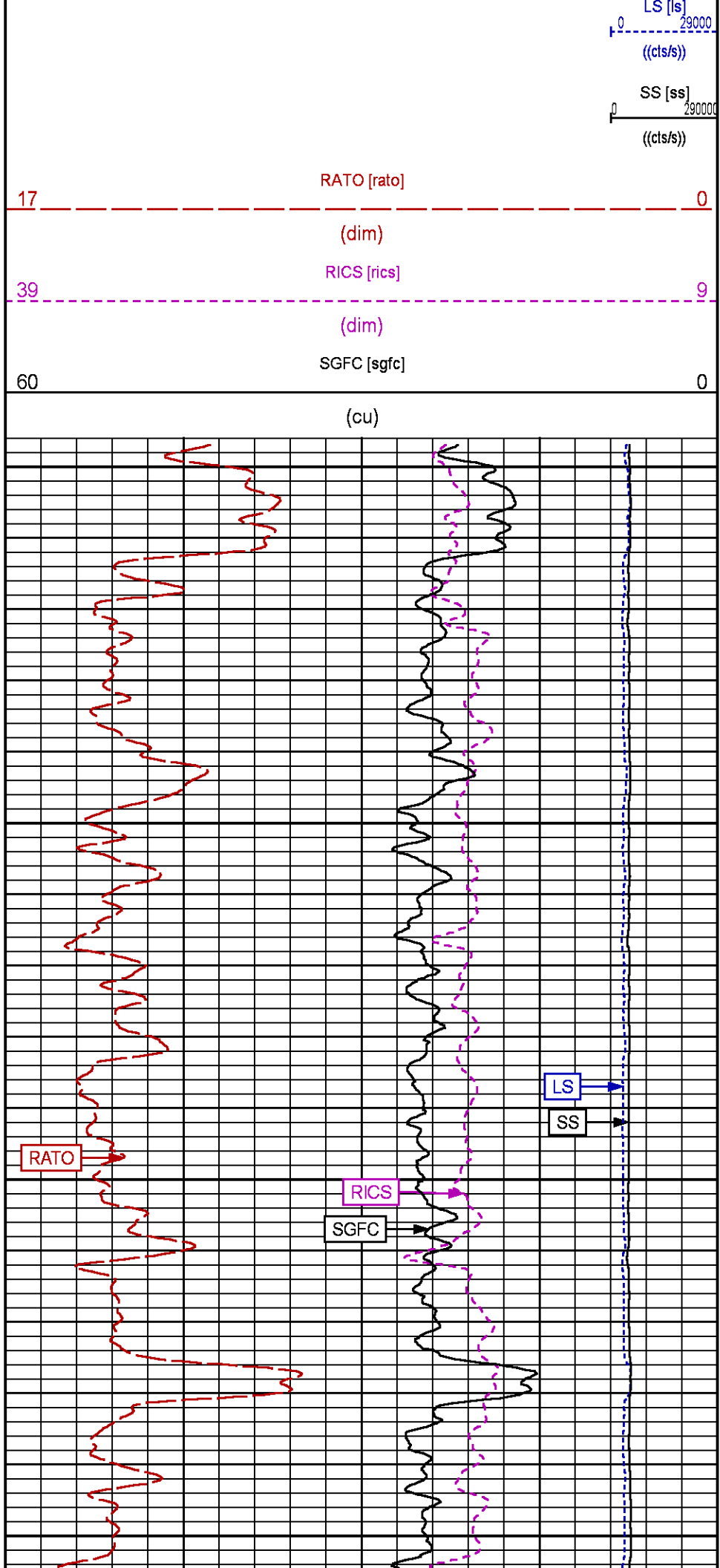
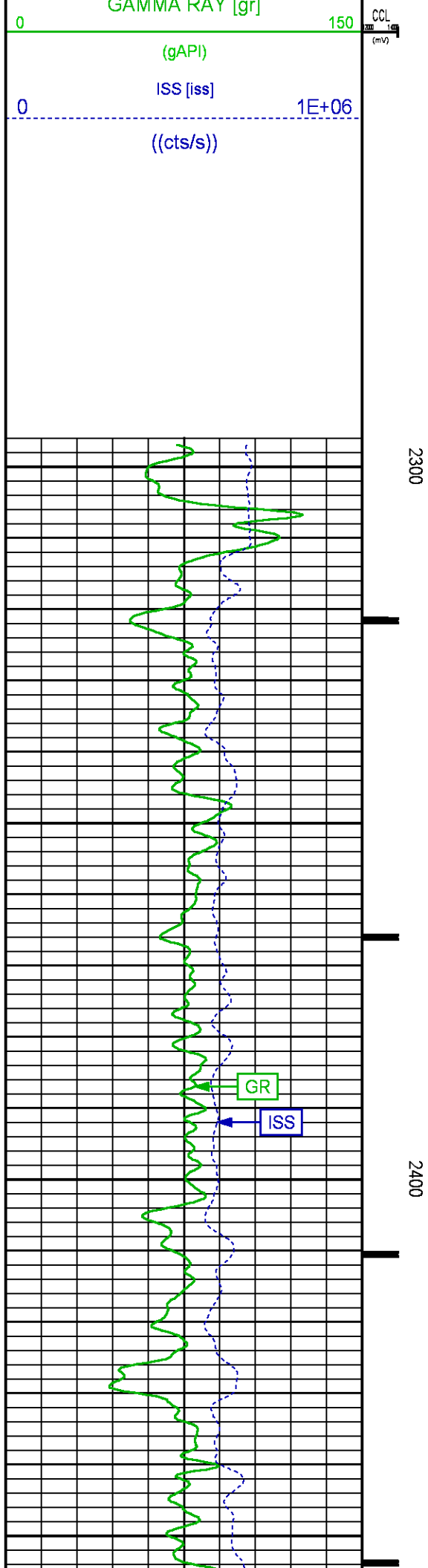
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

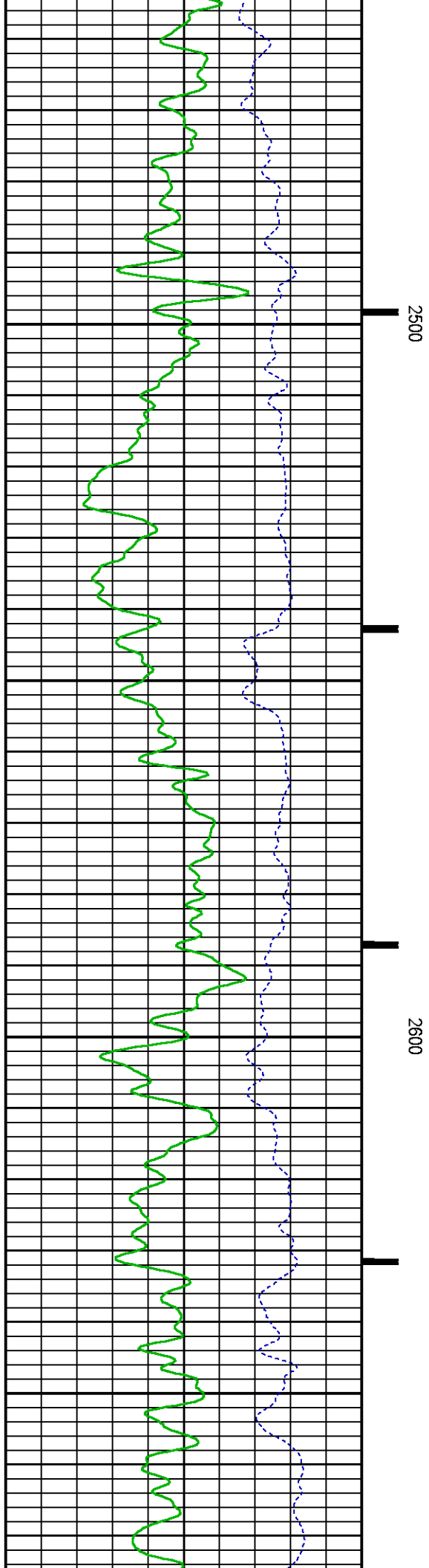
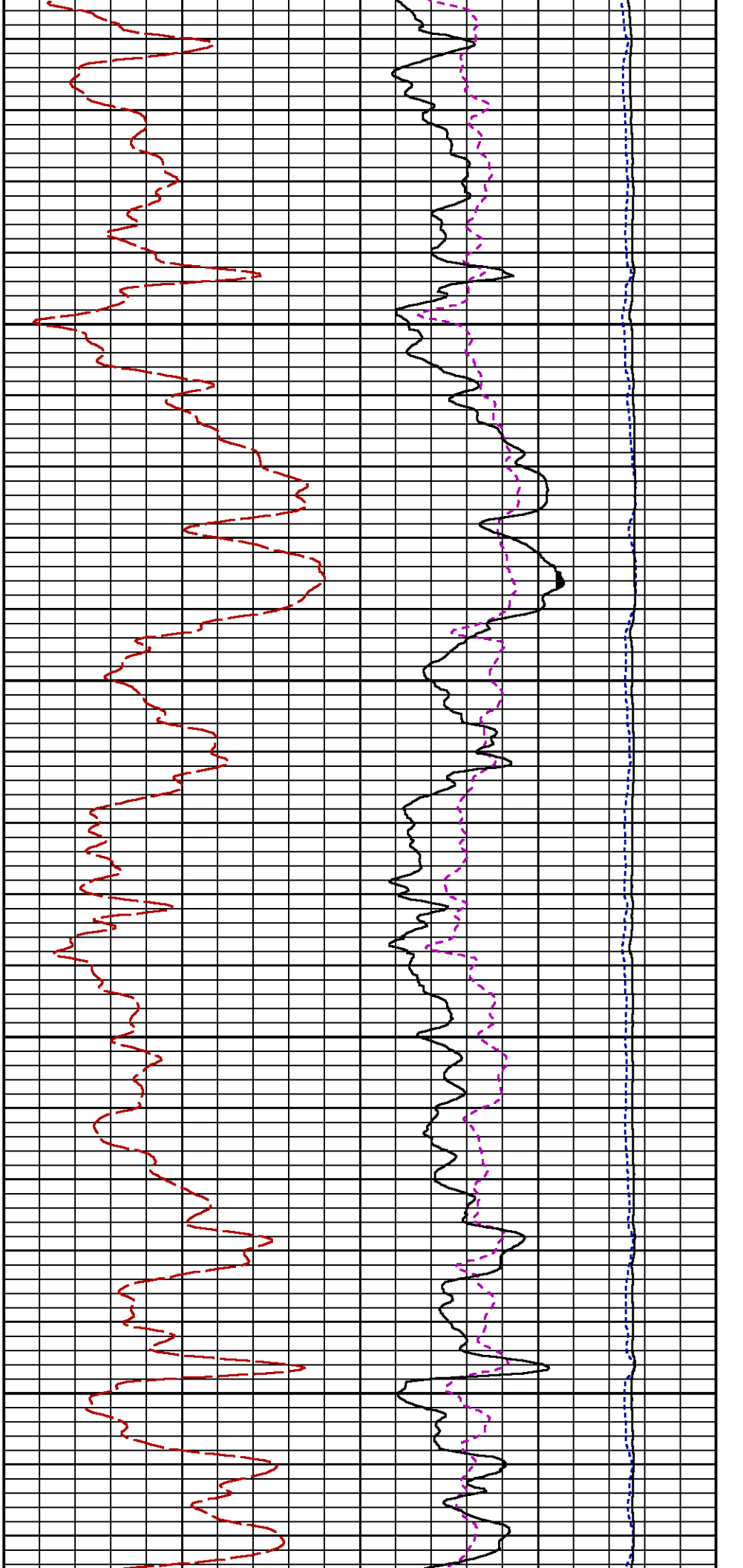
Presentation : cpu100:/dat1a/LAREME_BRUTON_19_20E/RPM_GSAND.fvpdf [5"/100' Scale]
Plot Interval : 2297 - 2897 Feet

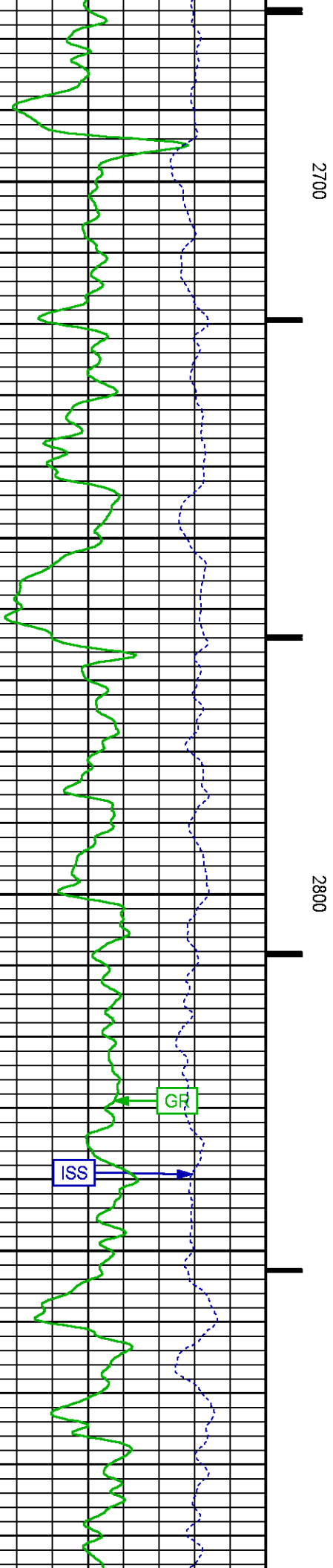
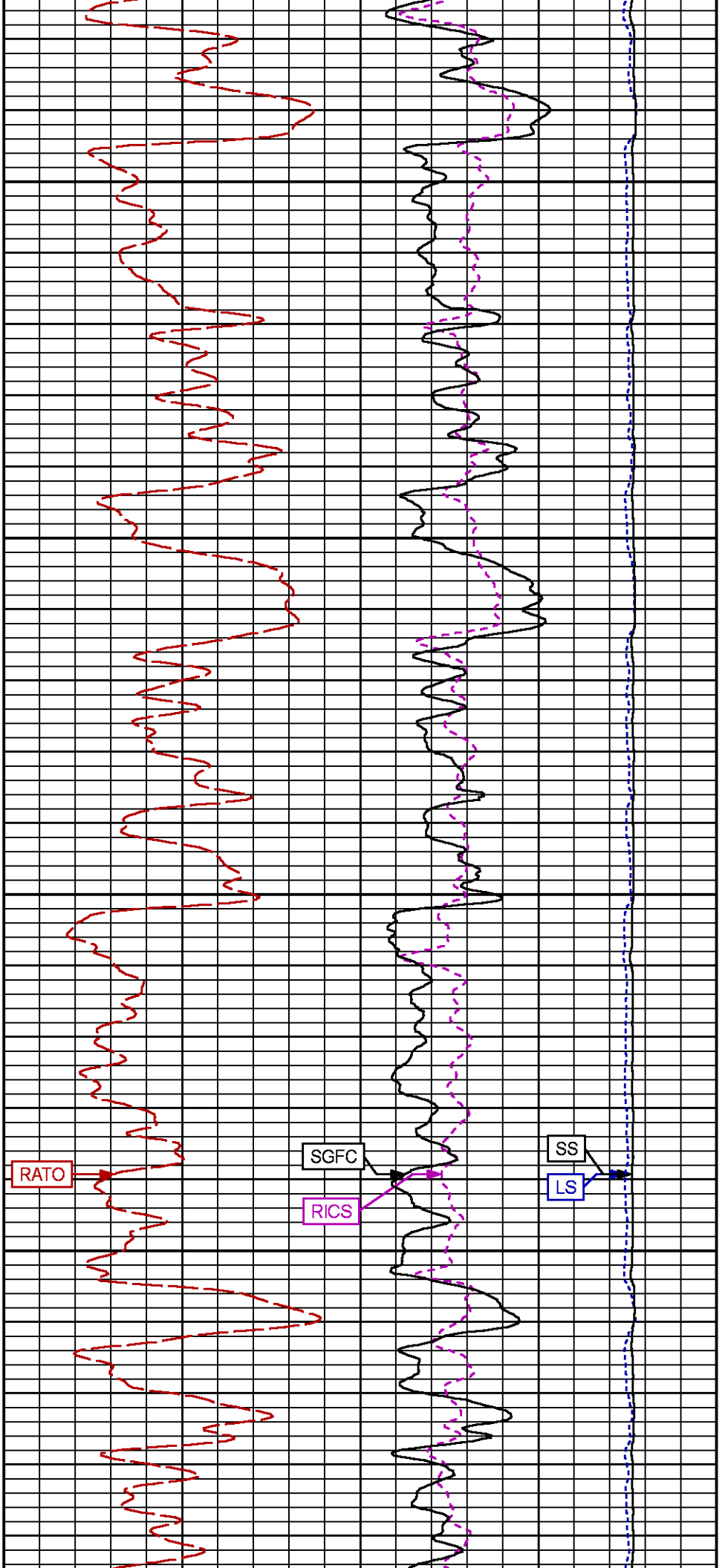
Data File 1 : F1 : cpu100:/dat1a/LAREME_BRUTON_19_20E/RPM3D03_GSAND.xtf
Created On : Jul 29 17:12:47 2017
Company : LARAMIE ENERGY
Well : BRUTON 19-20E
Field : VEGA
File Interval : 2297 - 2897 Feet
OCT : RPM3D

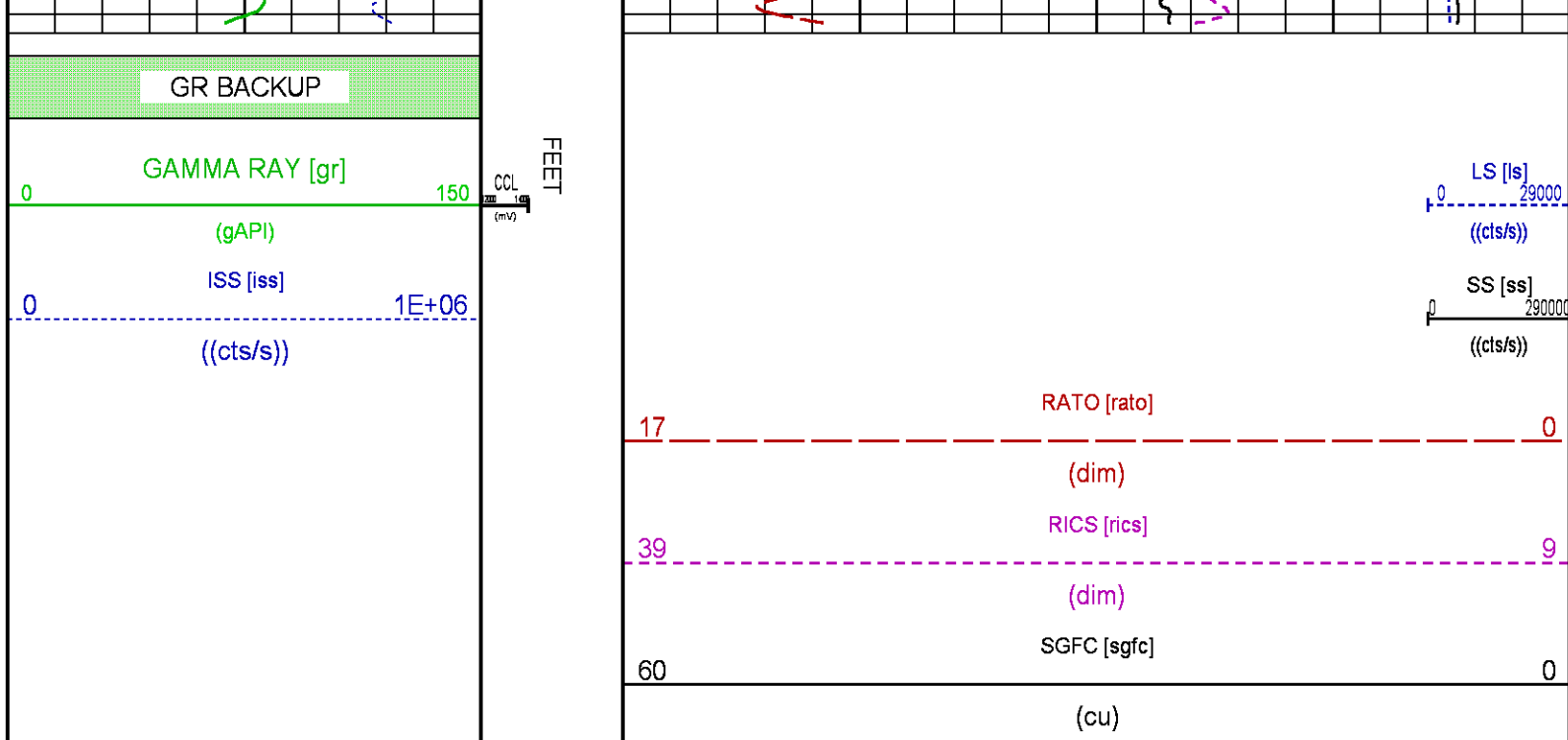
GR BACKUP

FEET









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: Sat Jul 29 17:37:48 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LAREME_BRUTON_19_20E/RPM3D02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 3946.250 ft BOTTOM DEPTH: 7641.750 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		" "

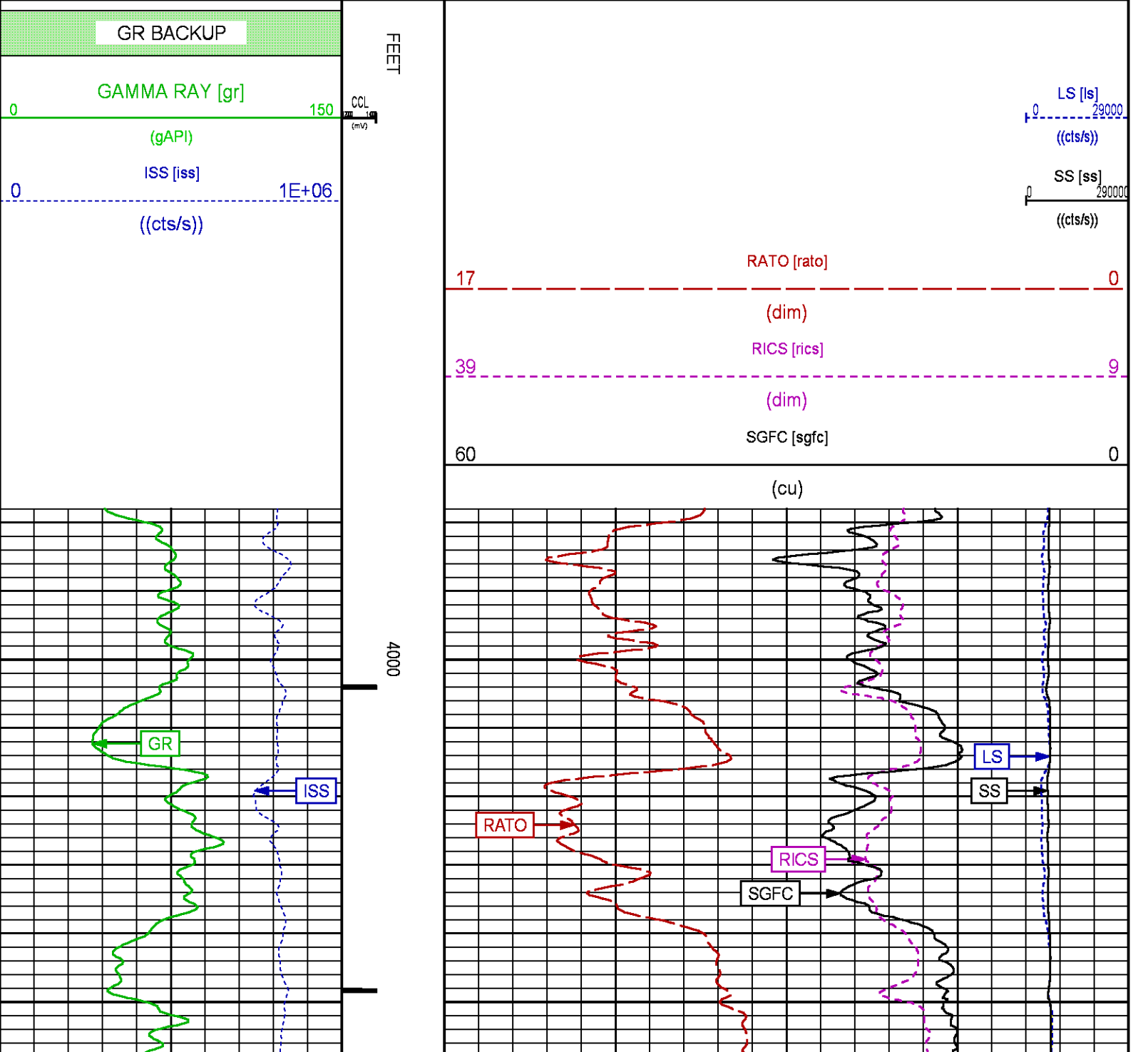
CURVE DESCRIPTION REPORT

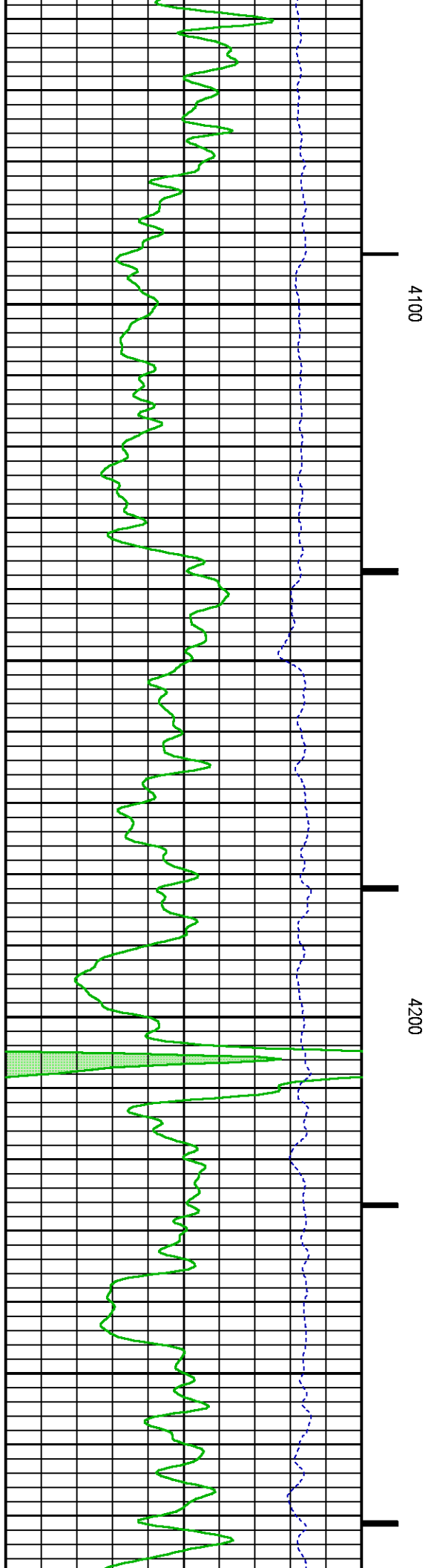
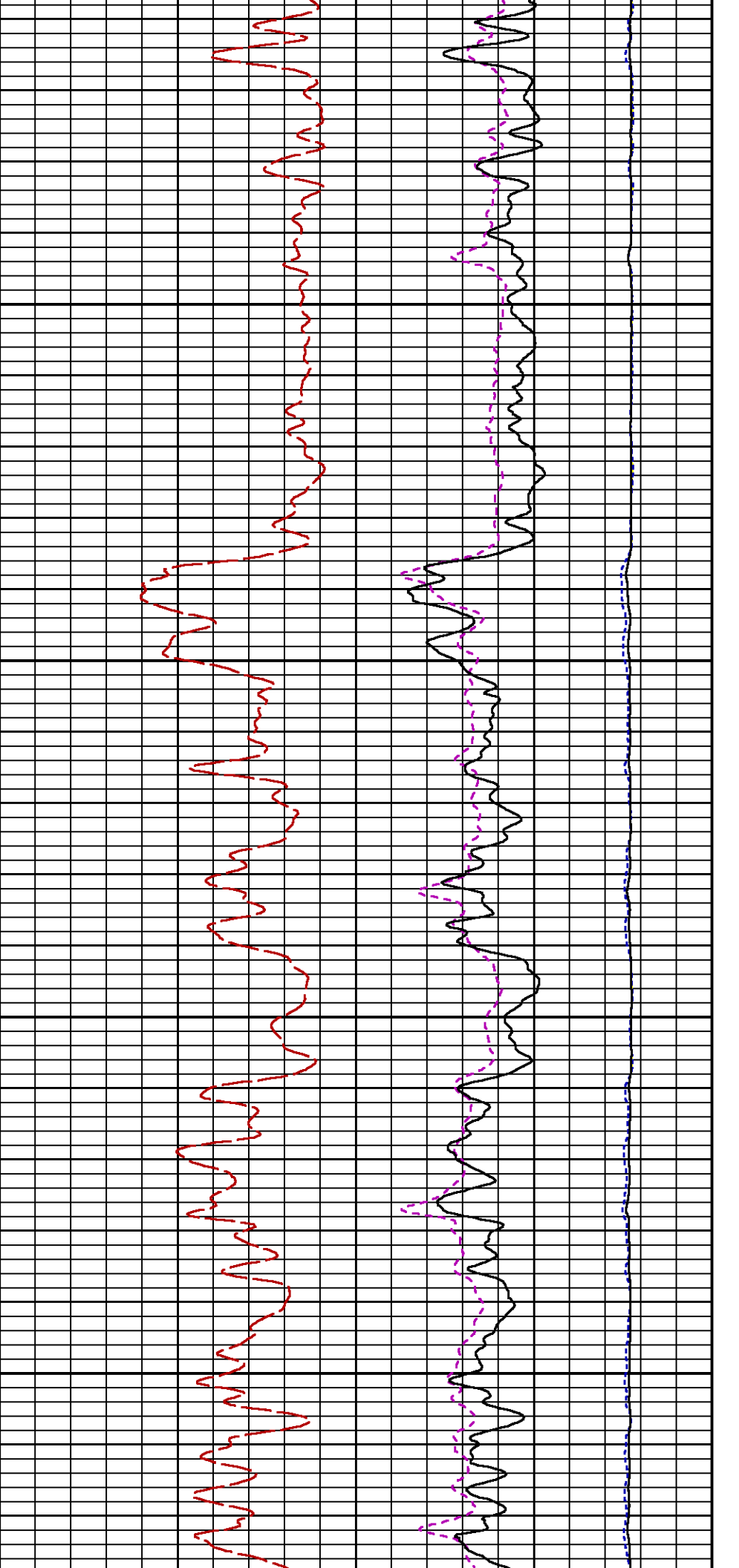
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 29 17:21:19 2017	CASING COLLAR LOCATOR
F1:GR	Jul 29 17:21:43 2017	GAMMA RAY
F1:ISS	Jul 29 17:21:43 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 29 17:21:44 2017	LONG SPACE COUNT RATE
F1:RATO	Jul 29 17:21:48 2017	SHORT/LONG SPACE COUNT RATE RATIO

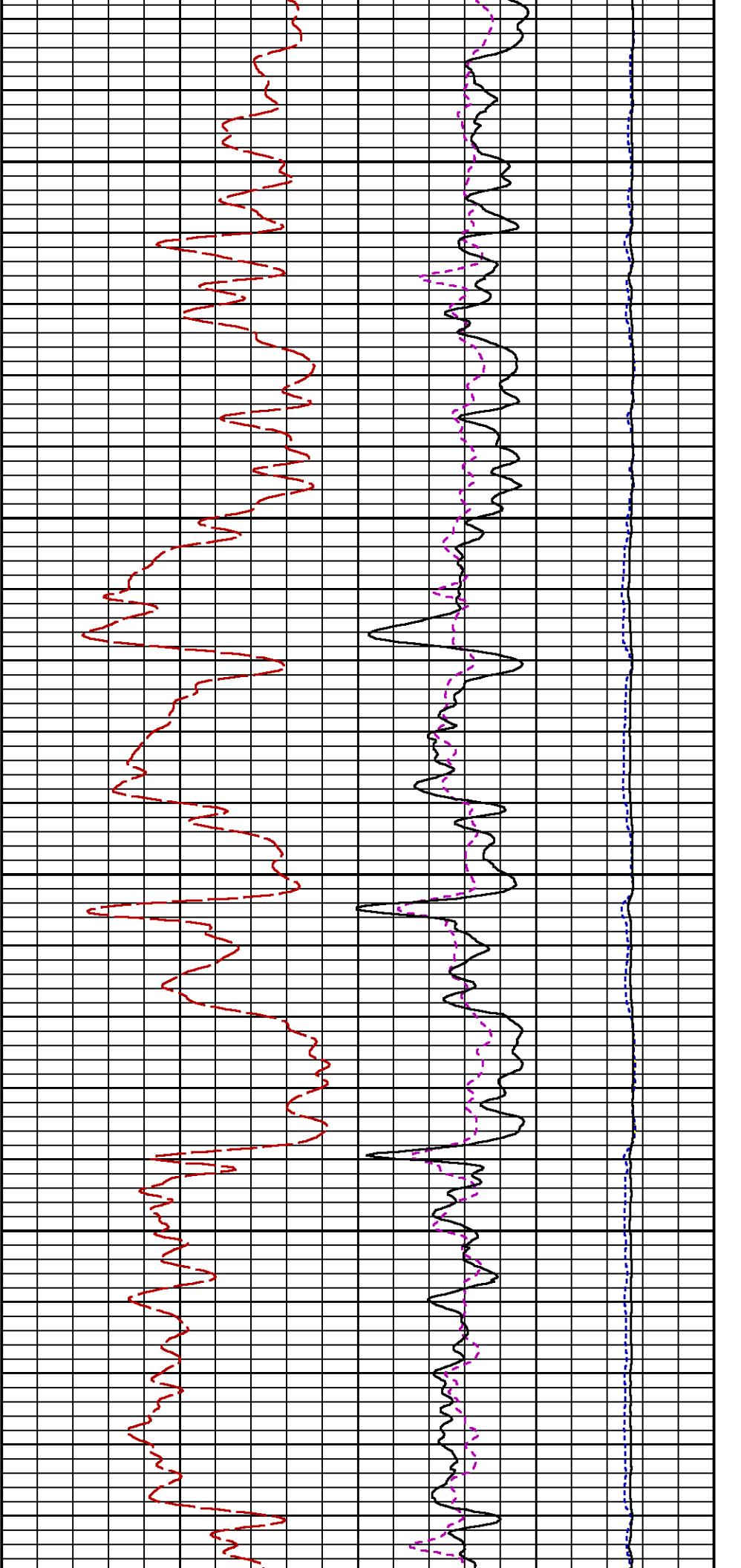
F1:RATO	Jul 29 17:21:49 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 29 17:21:52 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 29 17:21:53 2017	CORRECTED FORMATION SIGMA
F1:SS	Jul 29 17:21:54 2017	SHORT SPACE COUNT RATE

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:/dat1a/LAREME_BRUTON_19_20E/RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 3978 - 7646.5 Feet
Data File 1	: F1 : cpu100:/dat1a/LAREME_BRUTON_19_20E/RPM3D02_MAIN.xtf
Created On	: Jul 29 17:21:19 2017
Company	: LARAMIE ENERGY
Well	: BRUTON 19-20E
Field	: VEGA
File Interval	: 3923.5 - 7648 Feet
OCT	: RPM3D

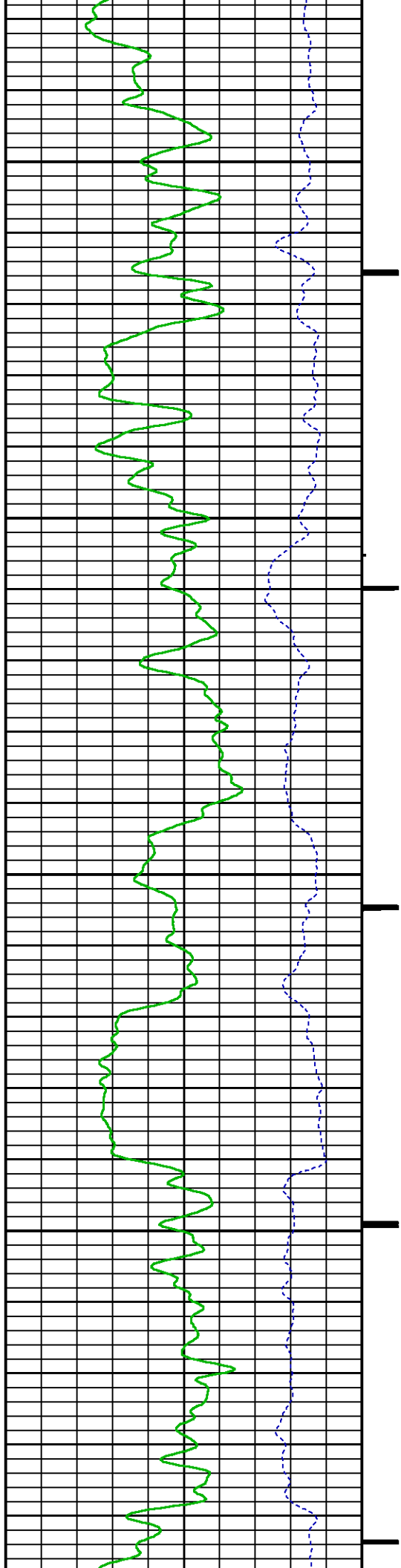


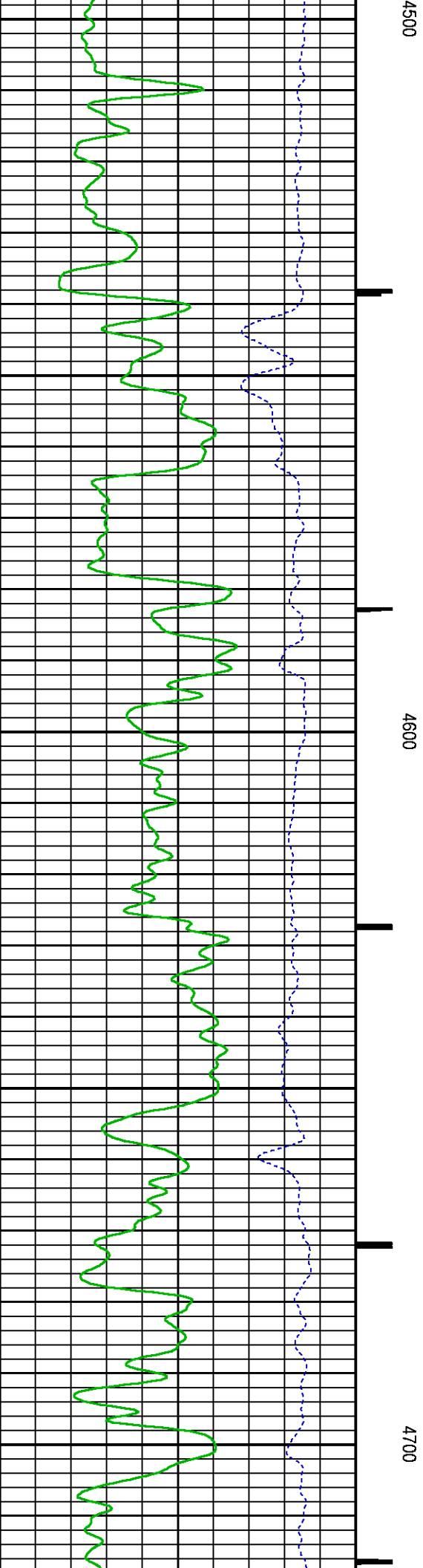
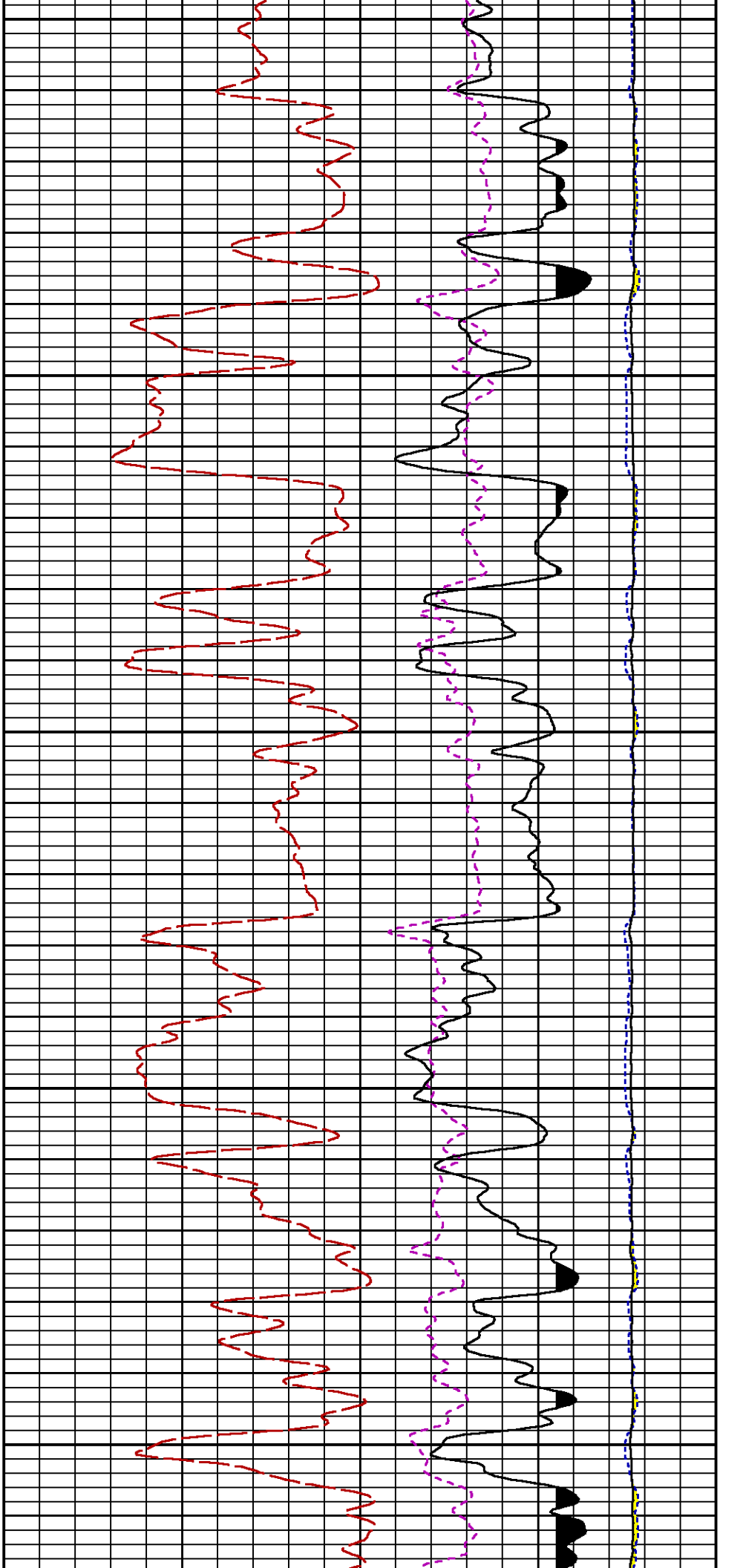


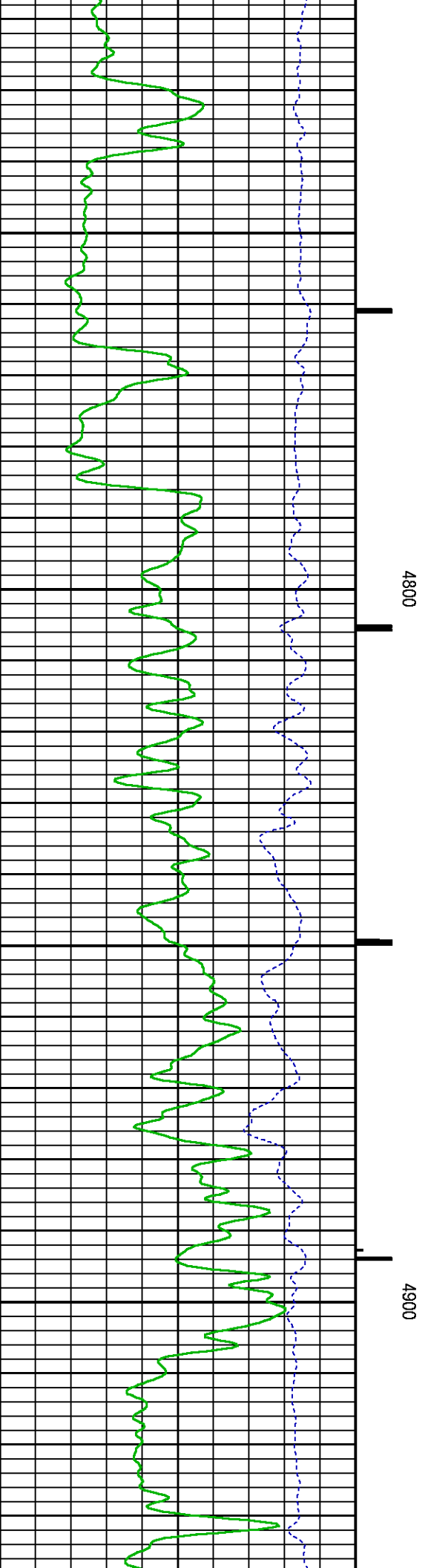
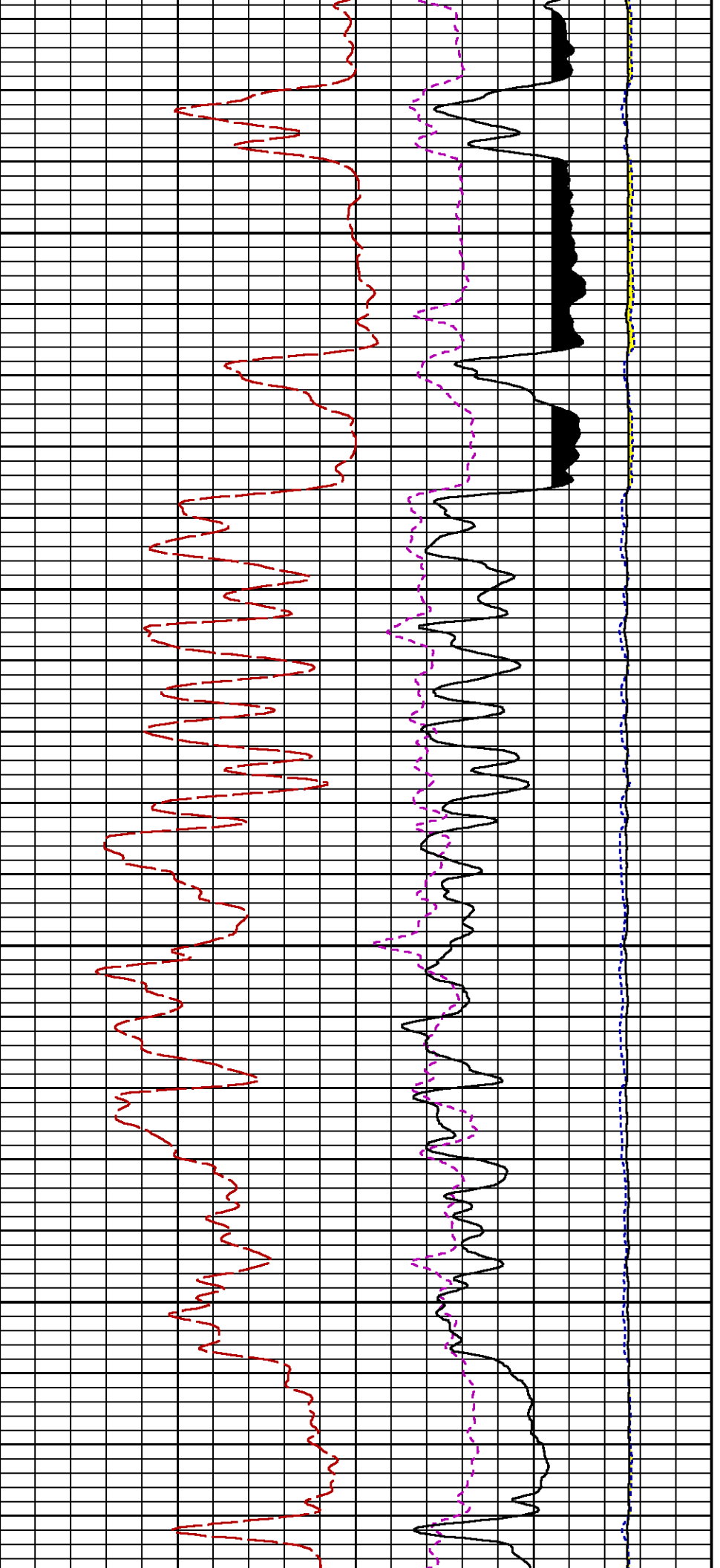


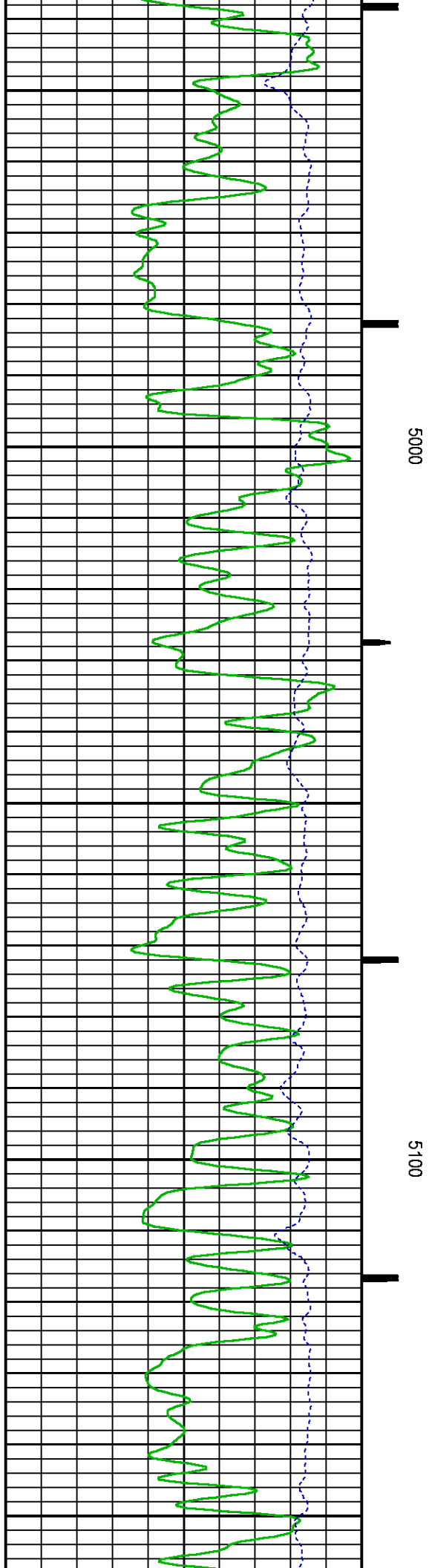
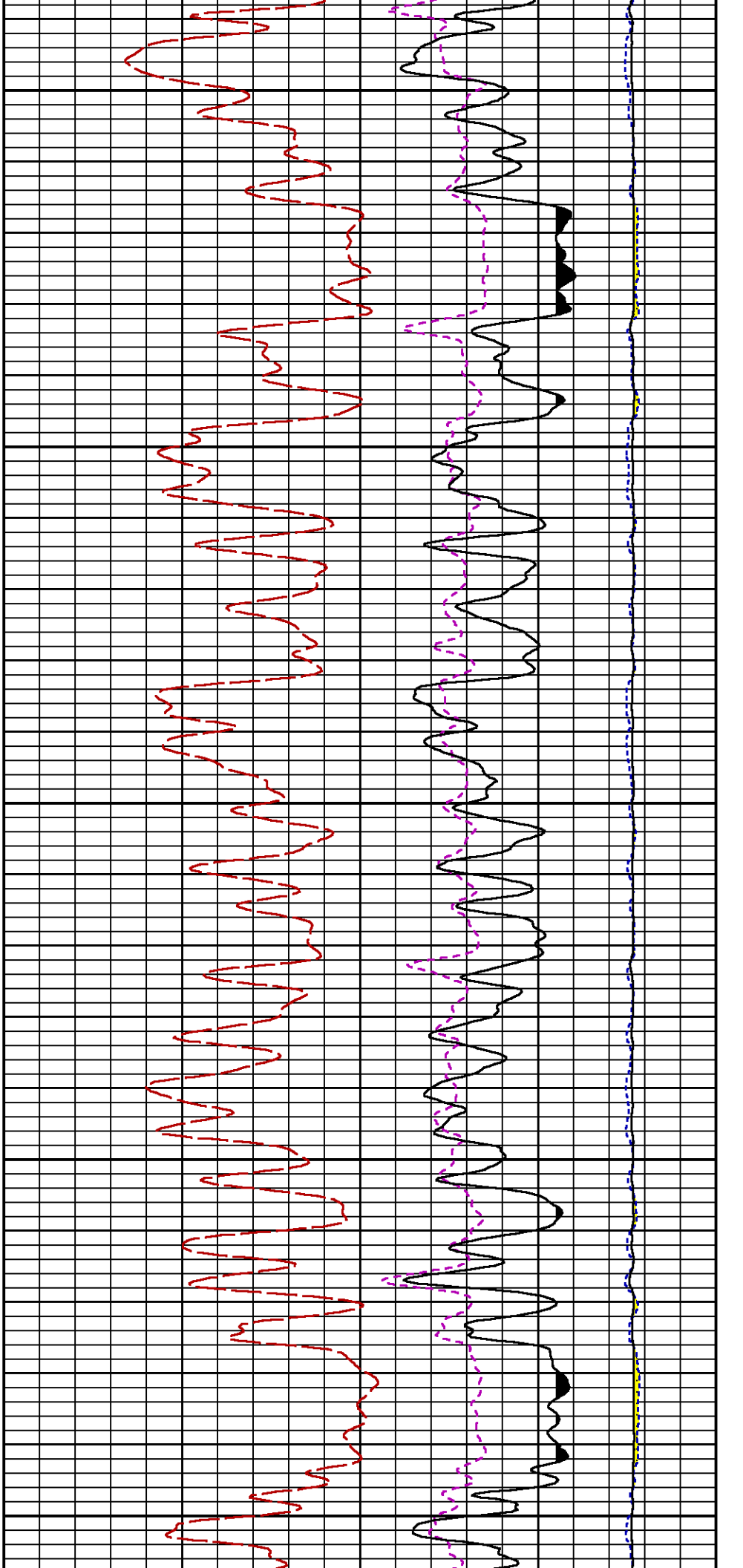
4300

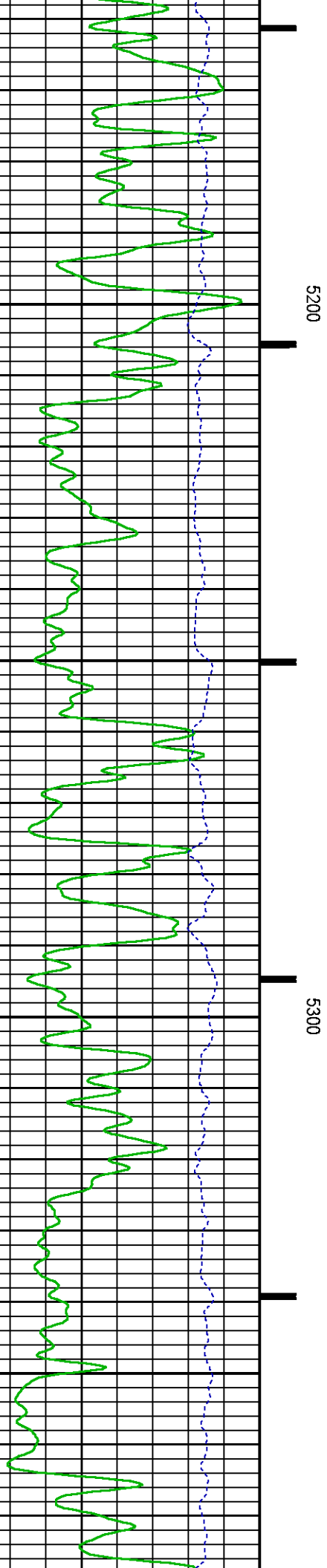
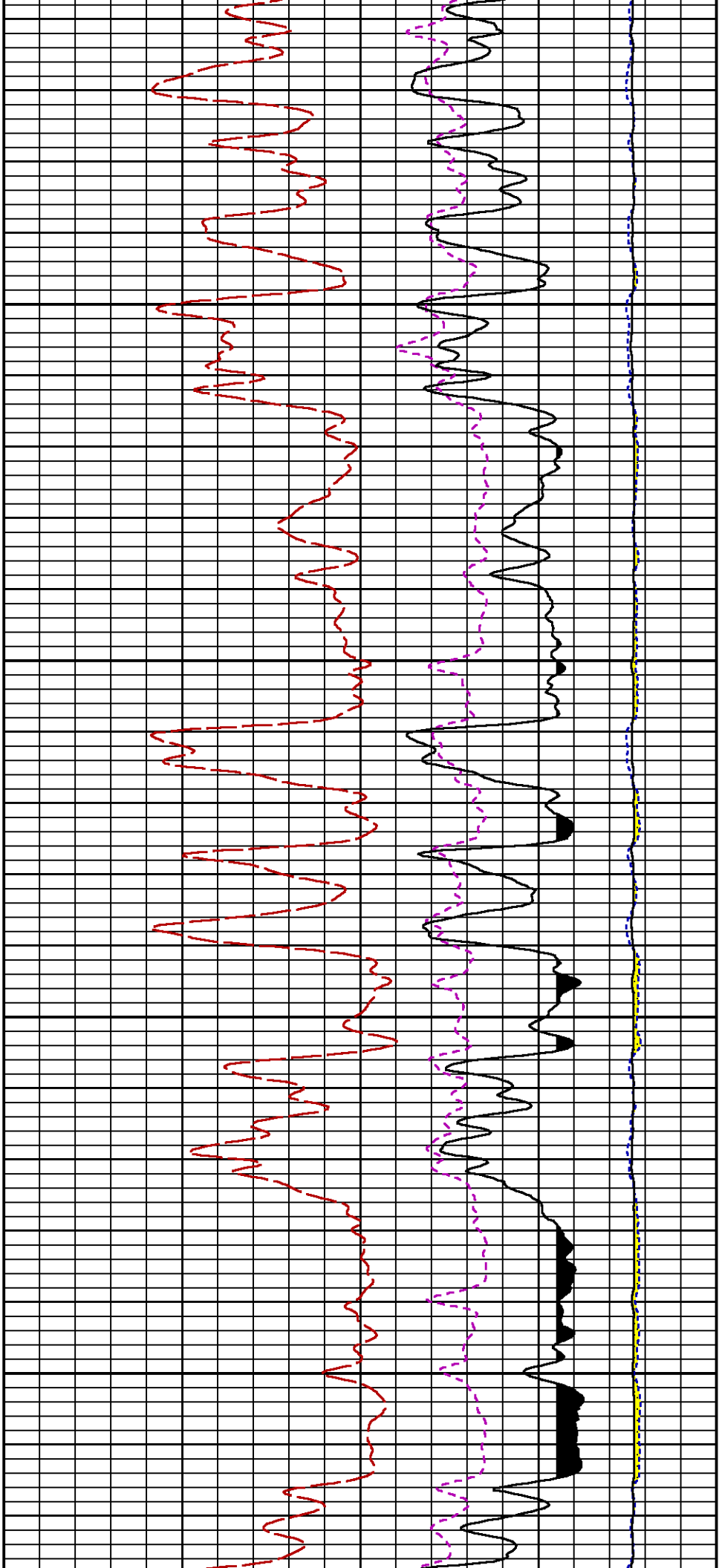
4400

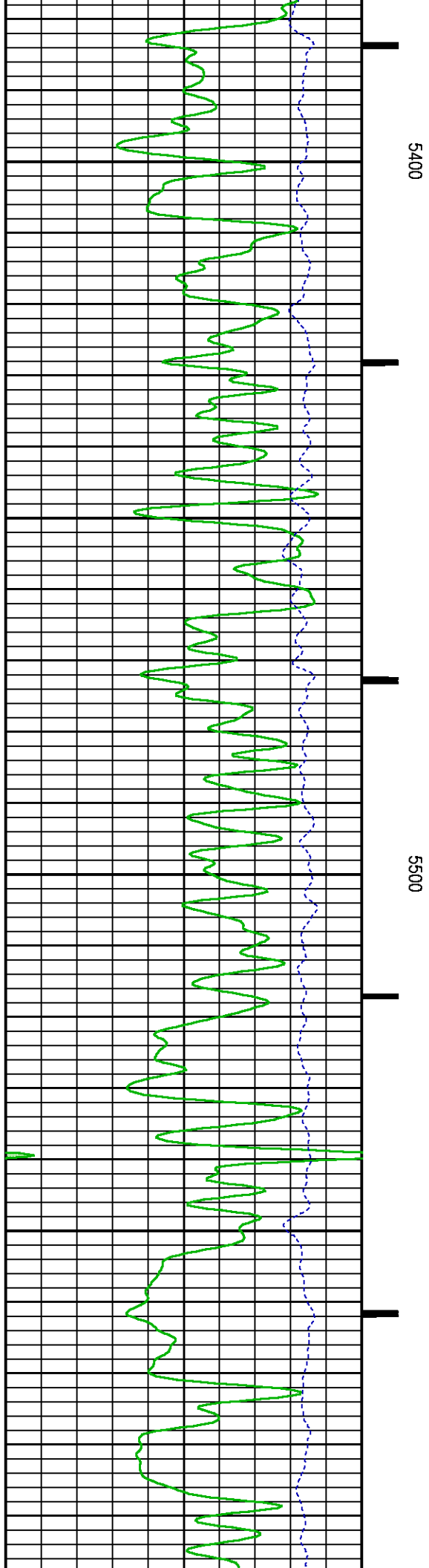
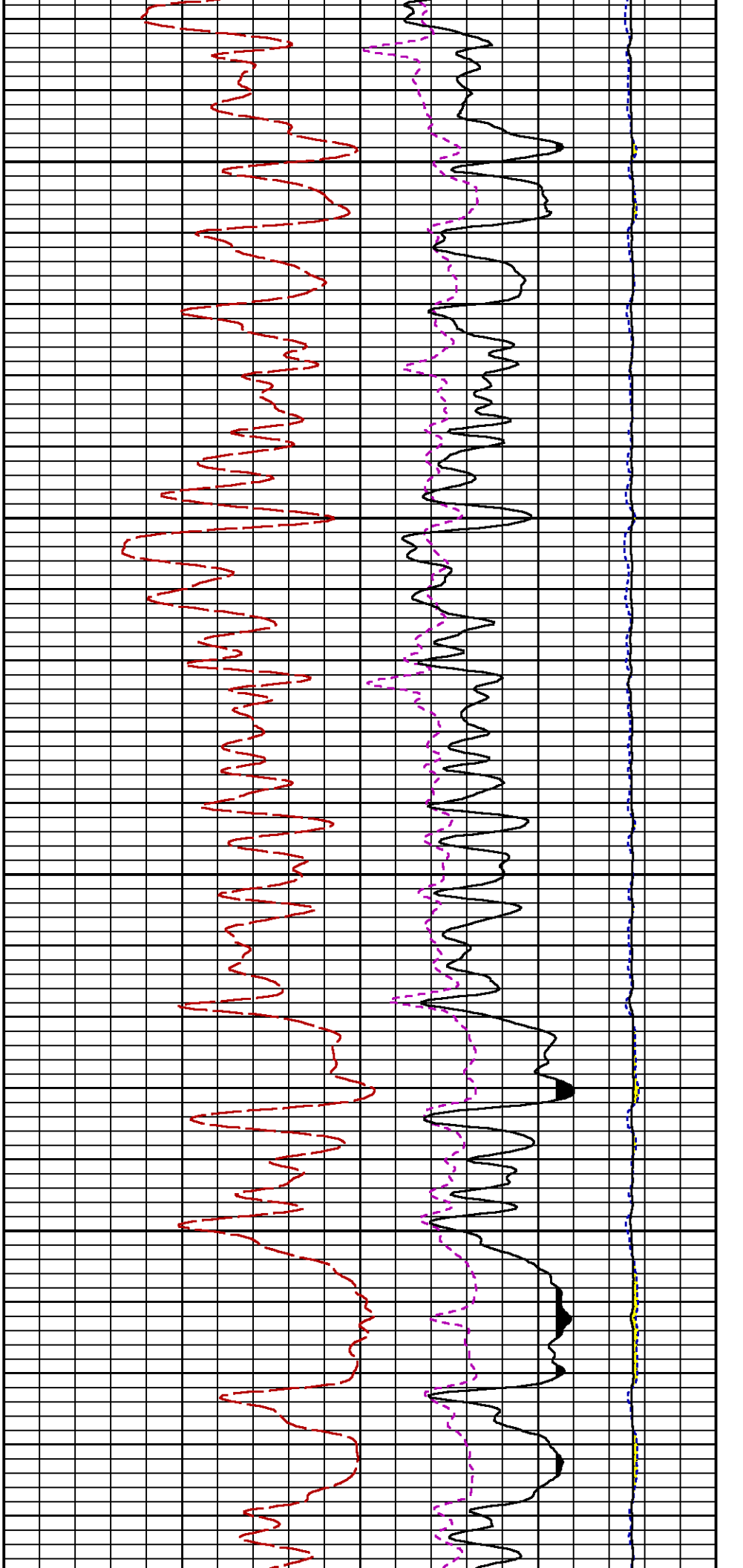


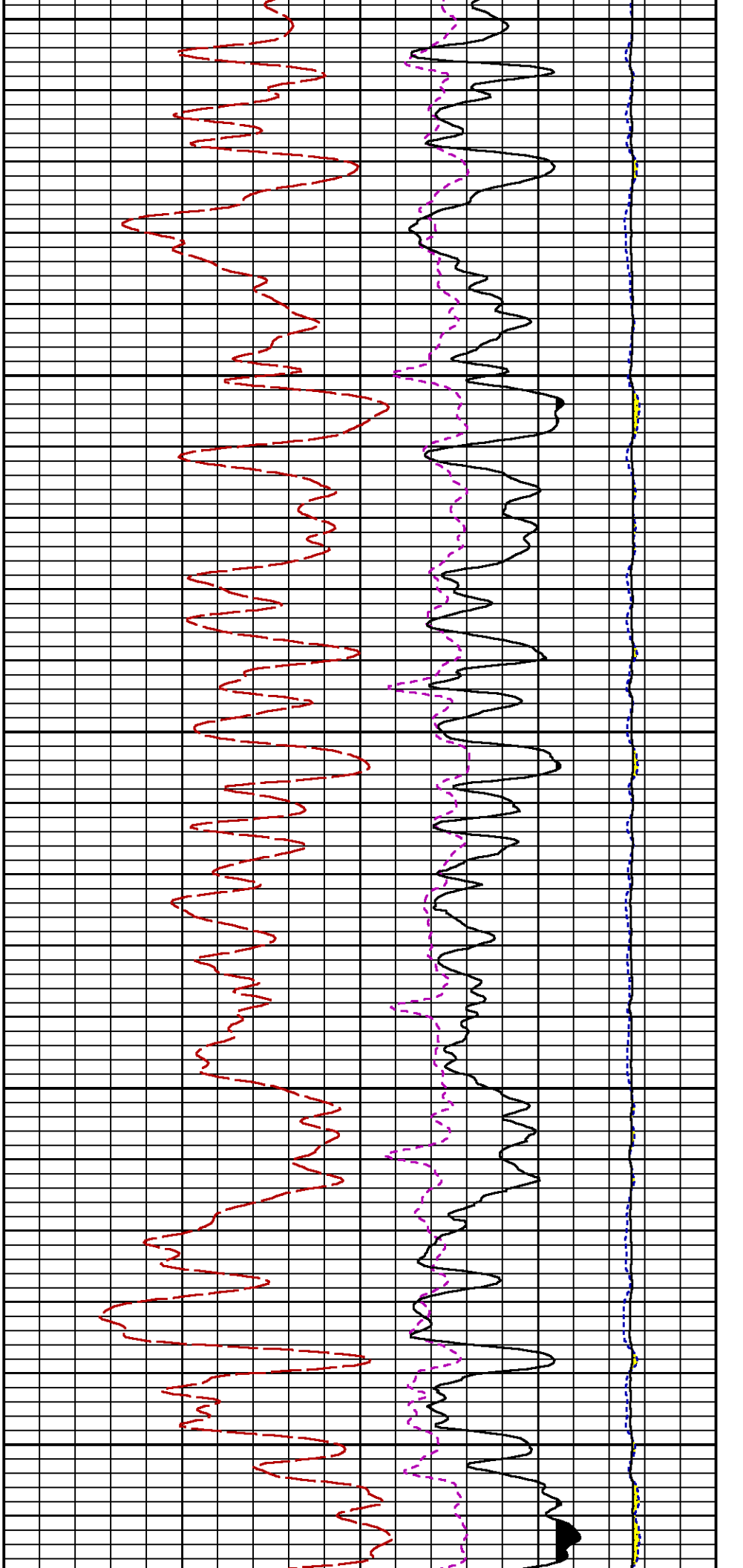








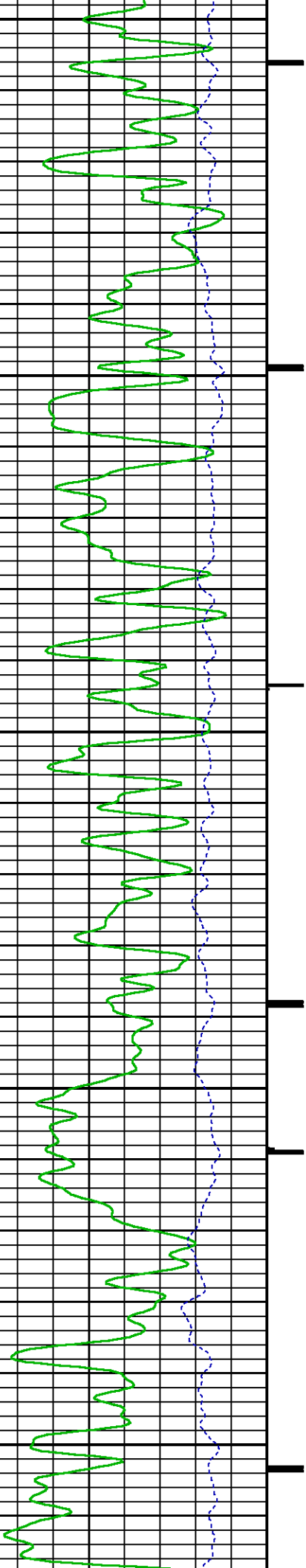


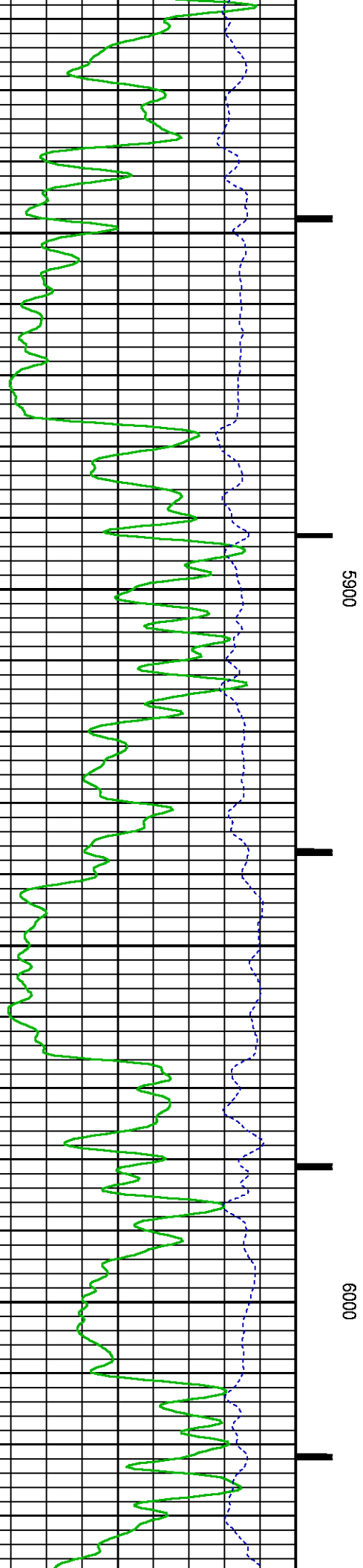
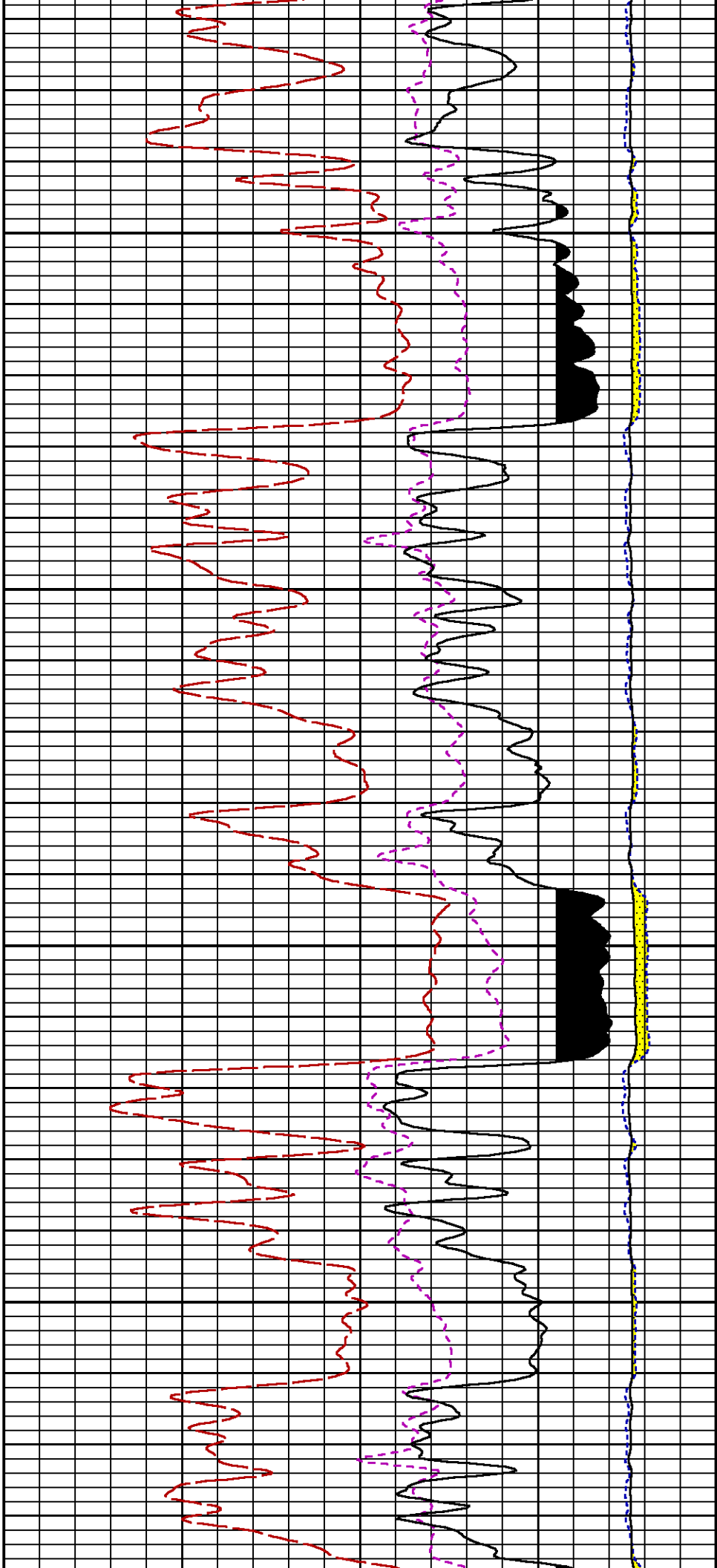


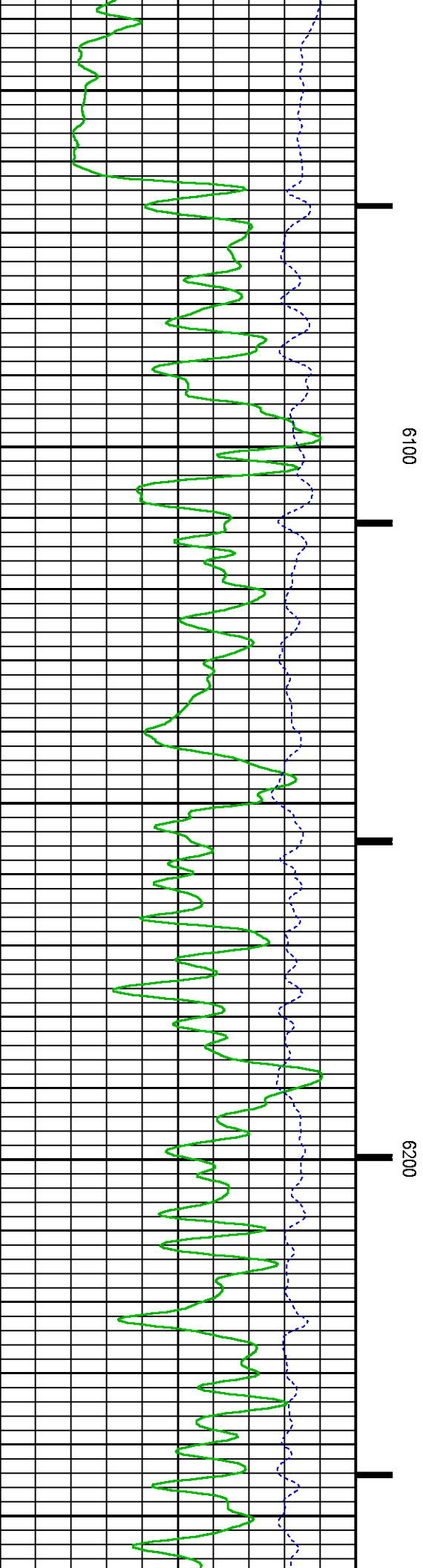
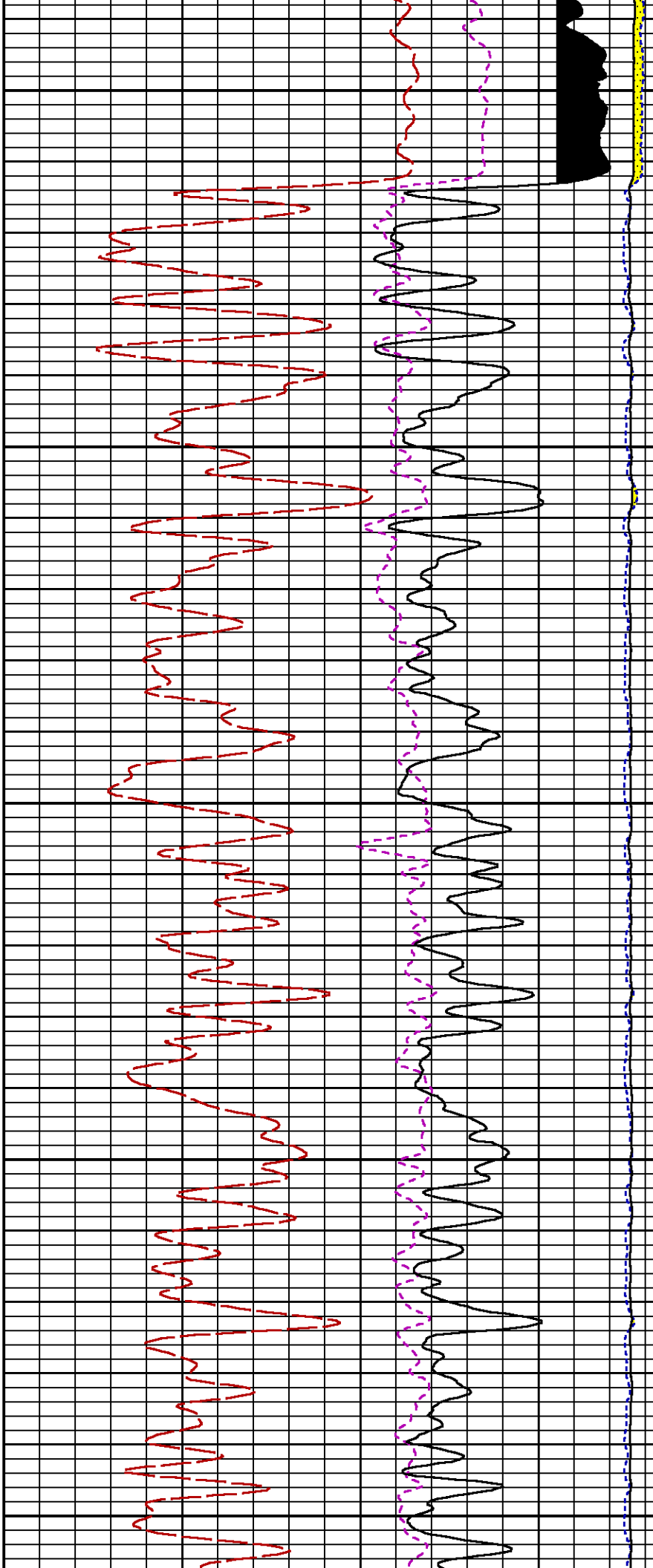
5600

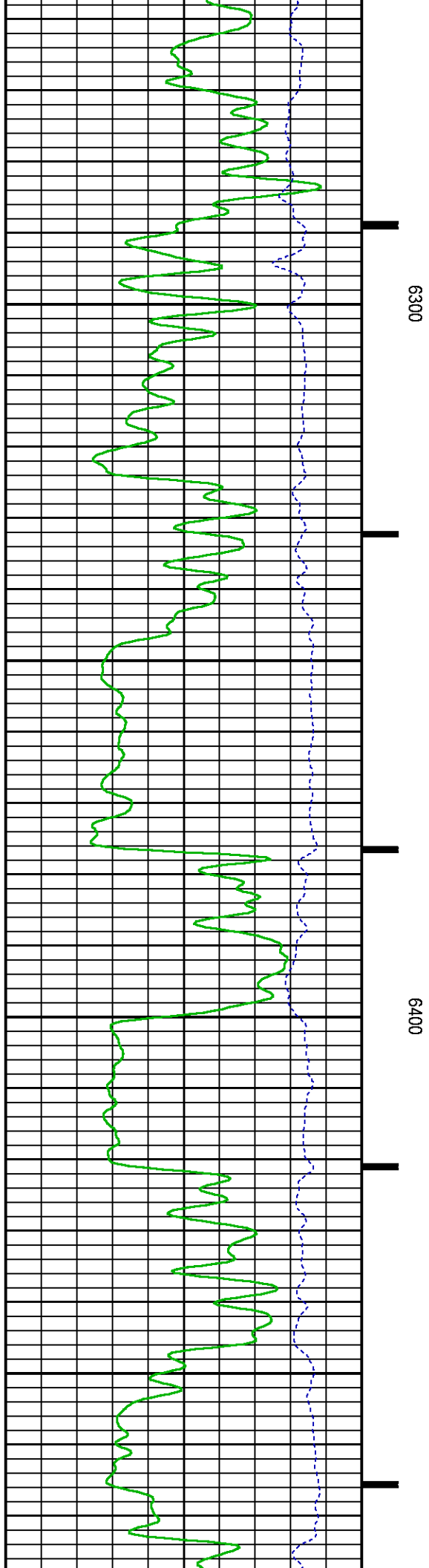
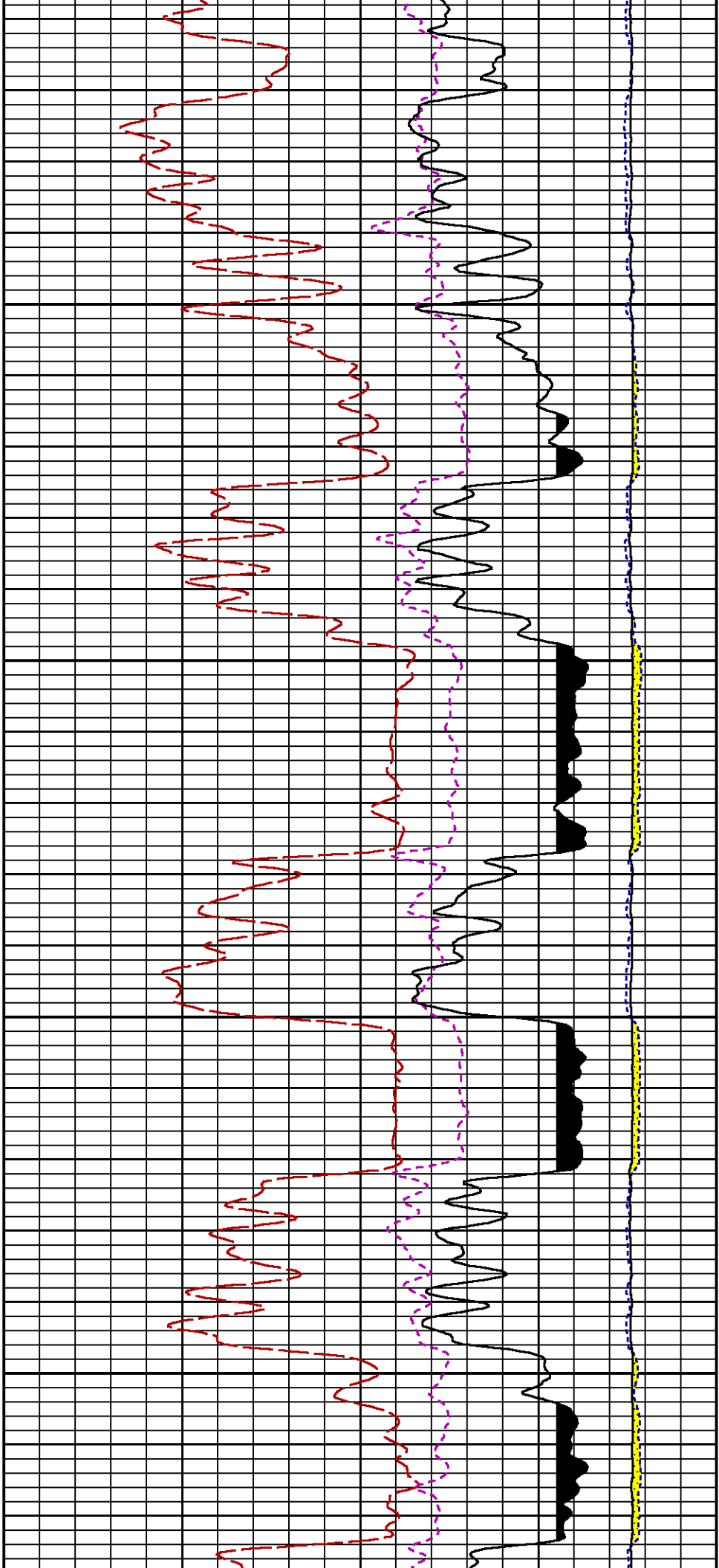
5700

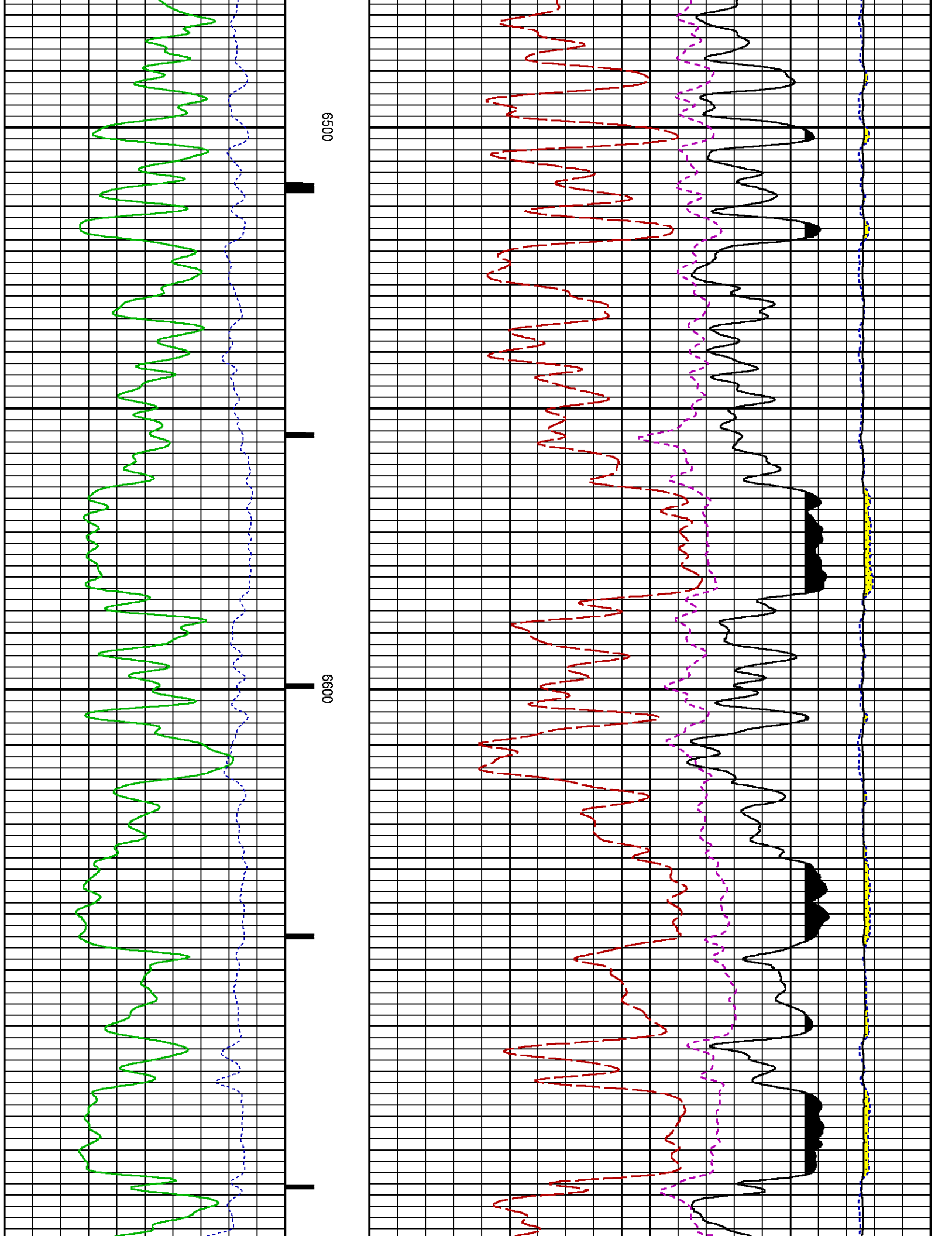
5800

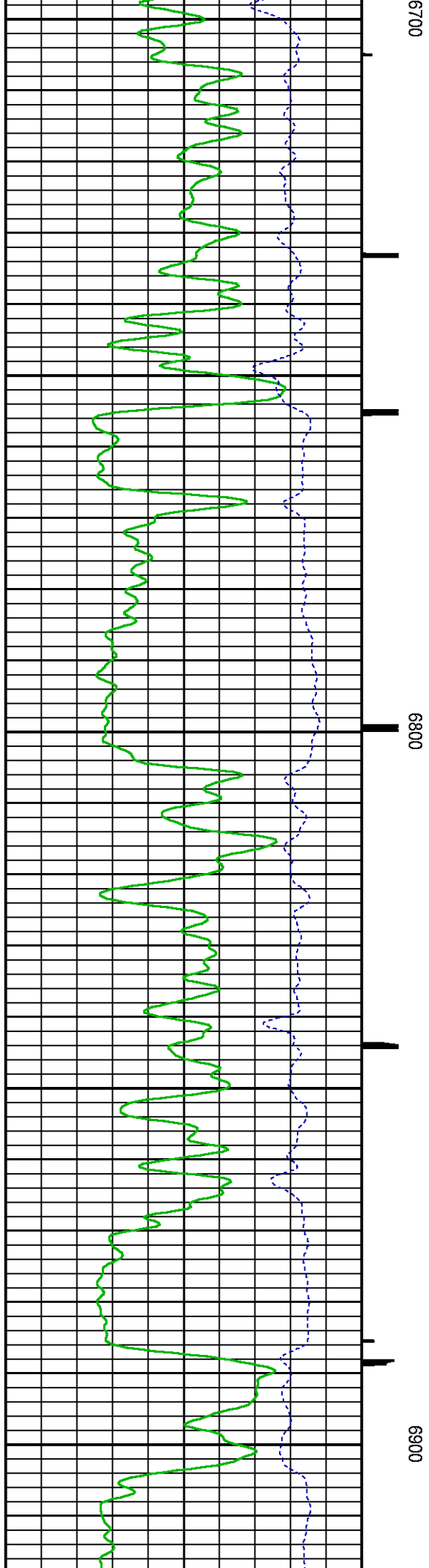
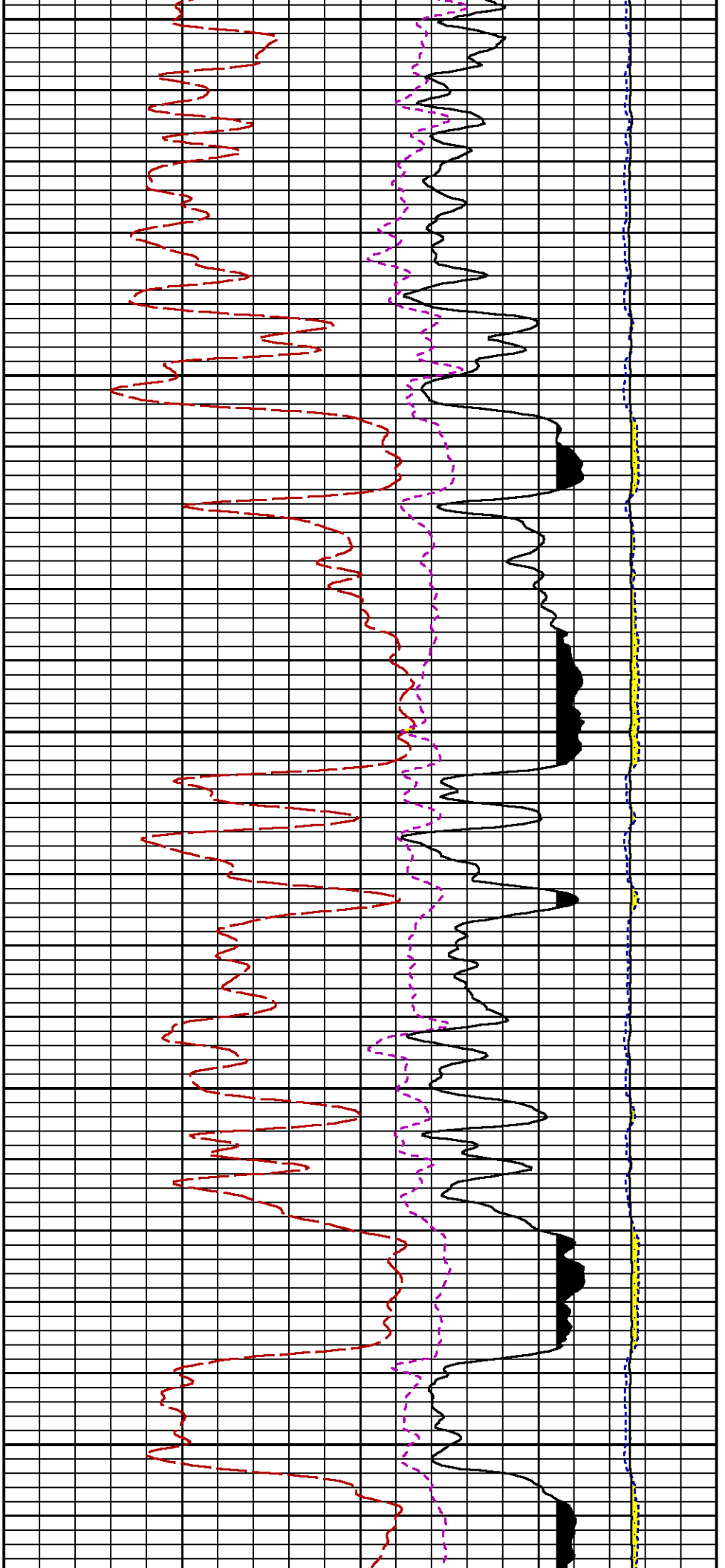


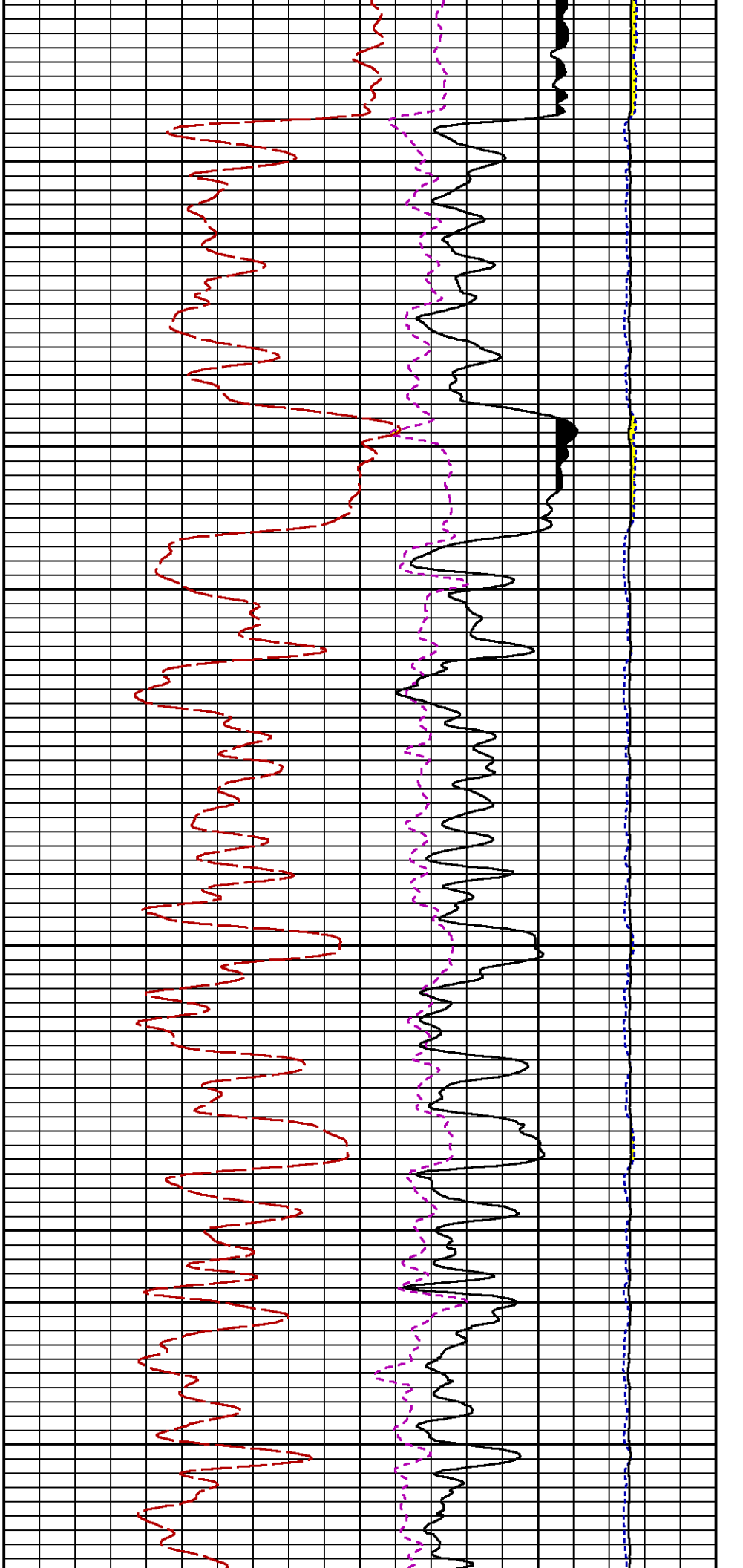






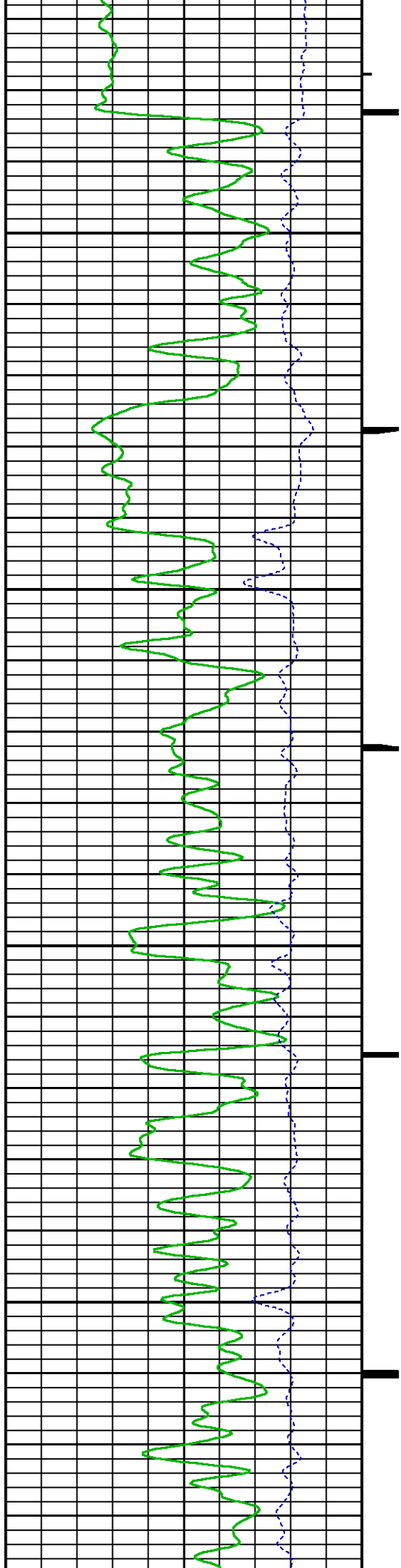


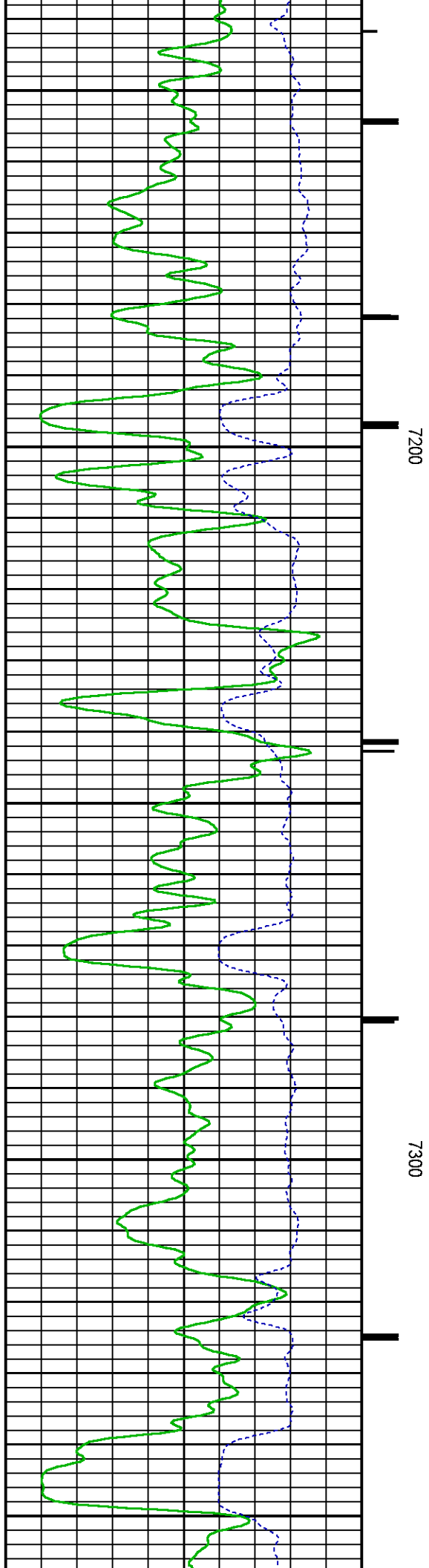
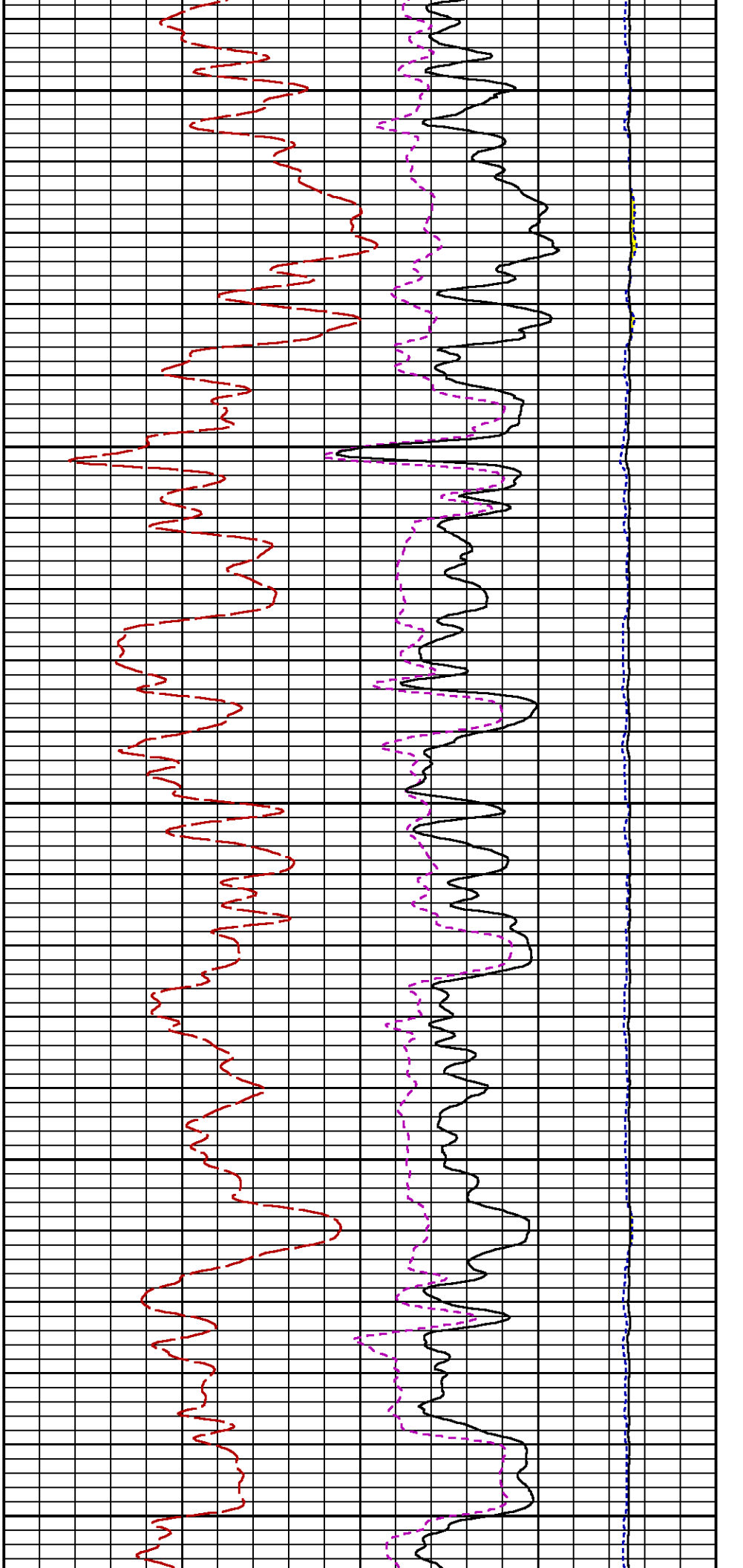


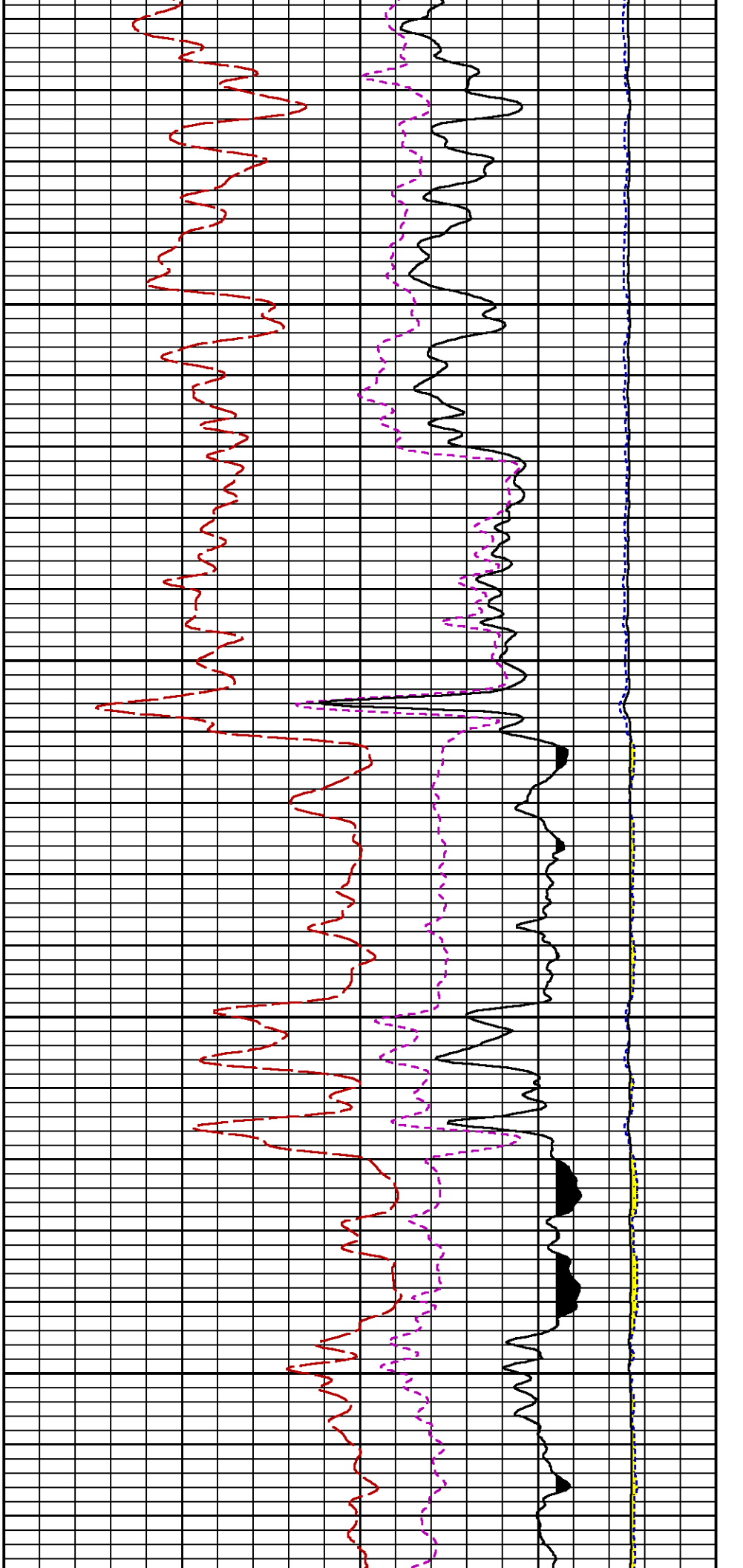


7000

7100

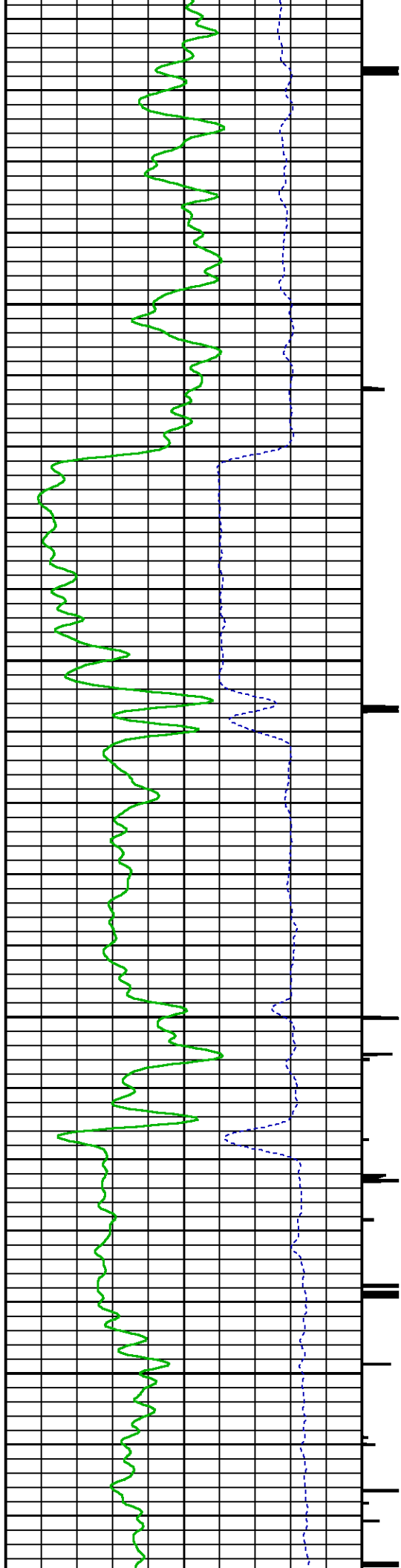


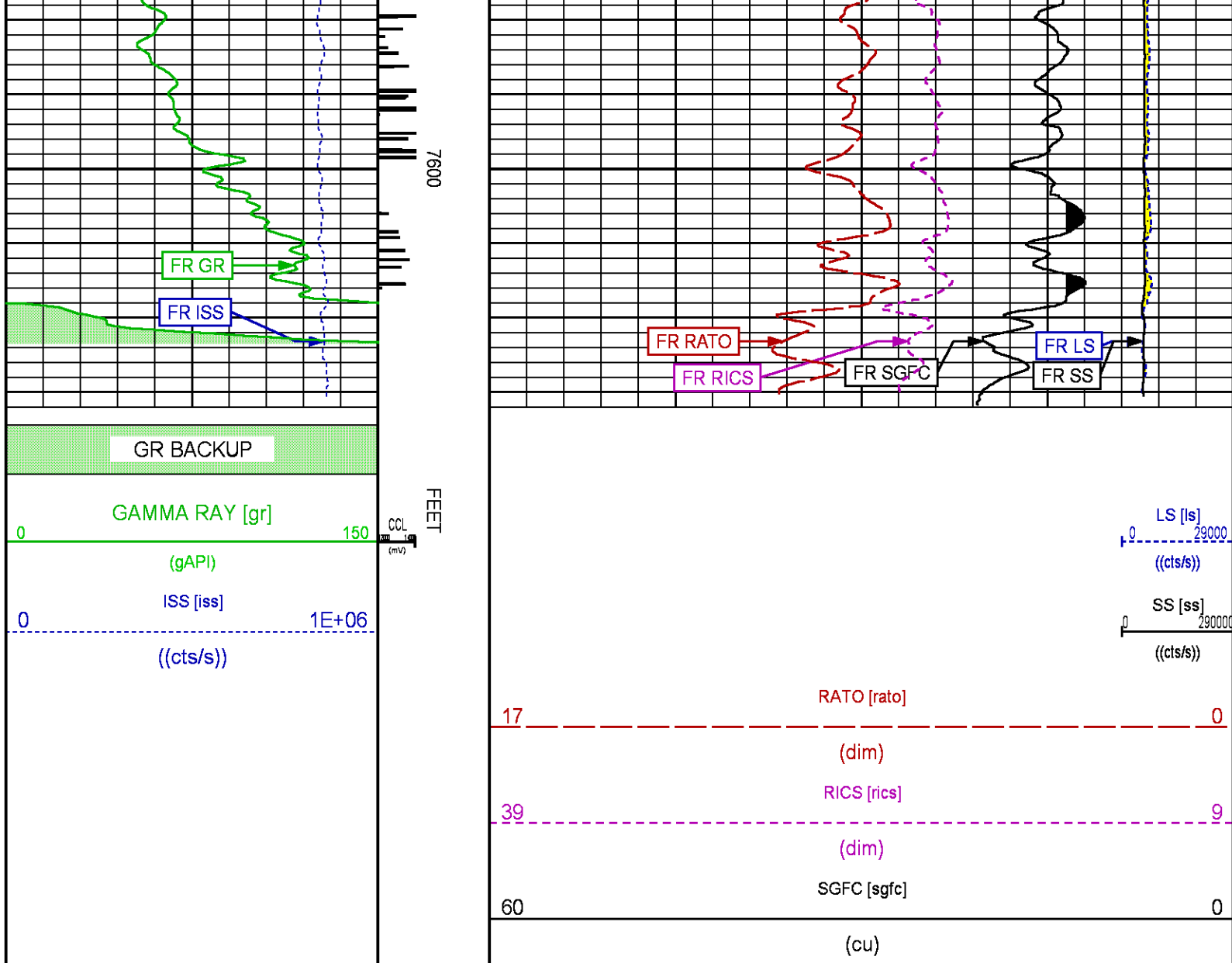




7400

7500





REPEAT 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: Sat Jul 29 17:38:03 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LAREME_BRUTON_19_20E/RPM3D01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4218.500 ft BOTTOM DEPTH: 4507.750 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		"	"

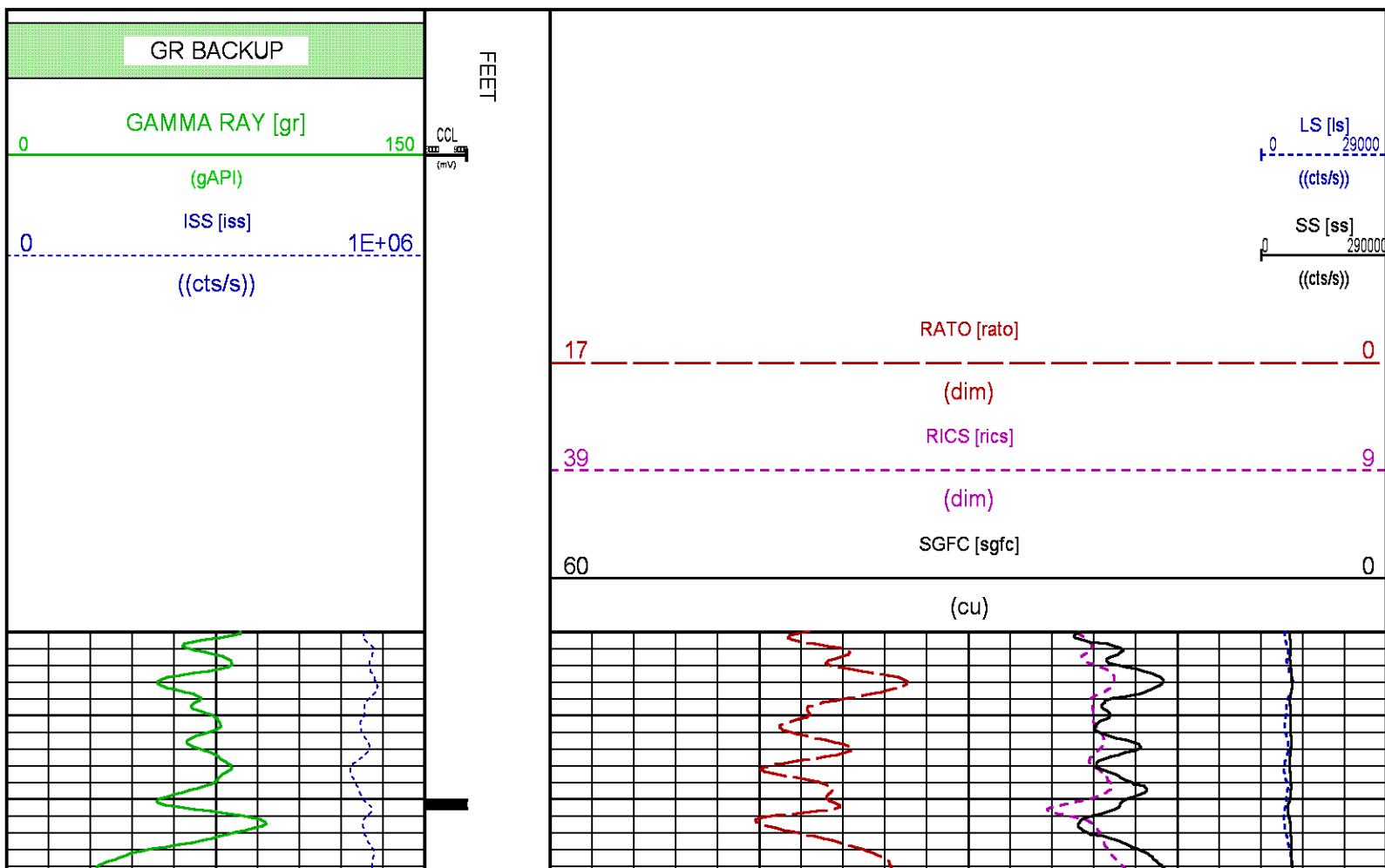
CURVE DESCRIPTION REPORT

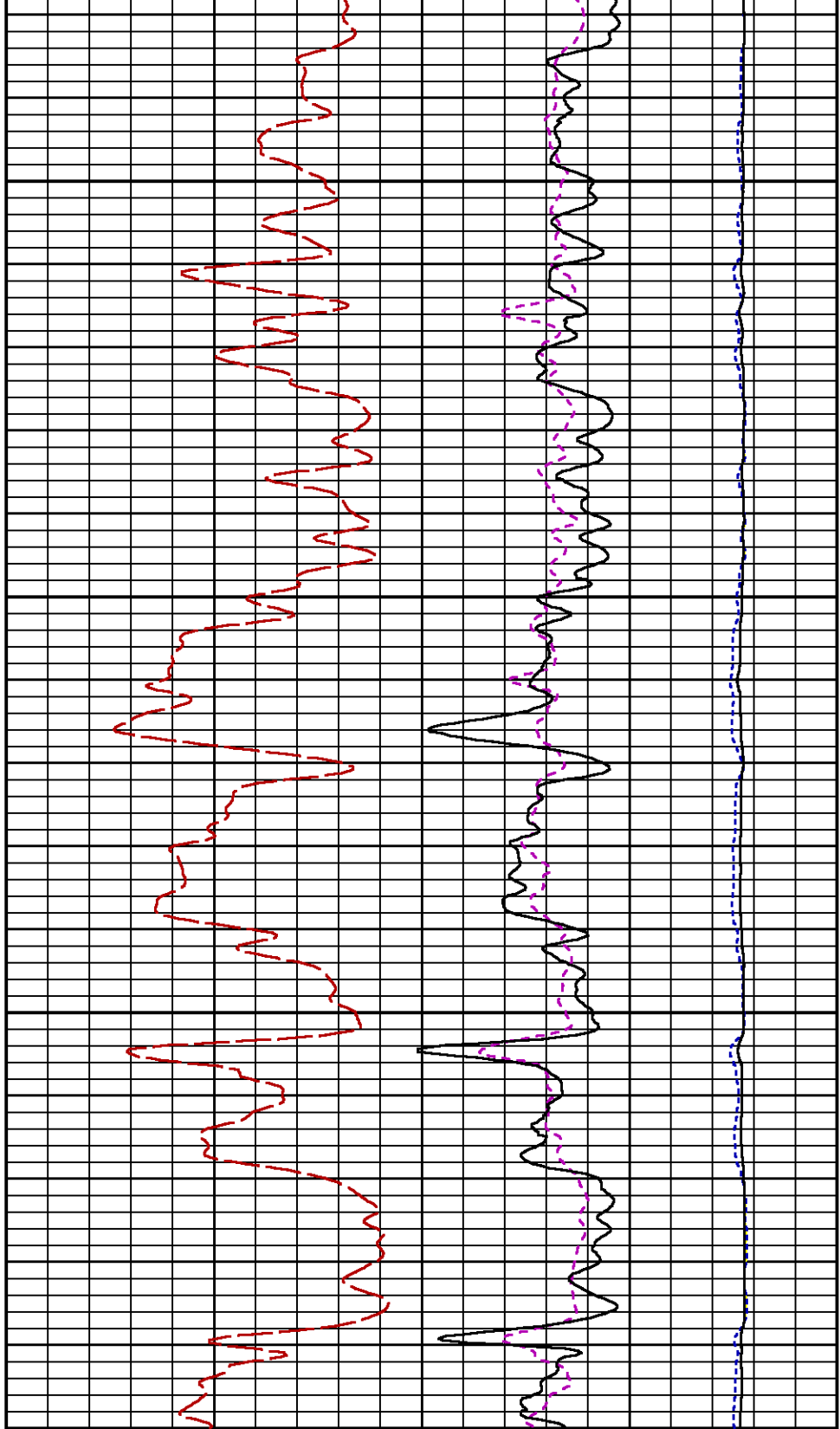
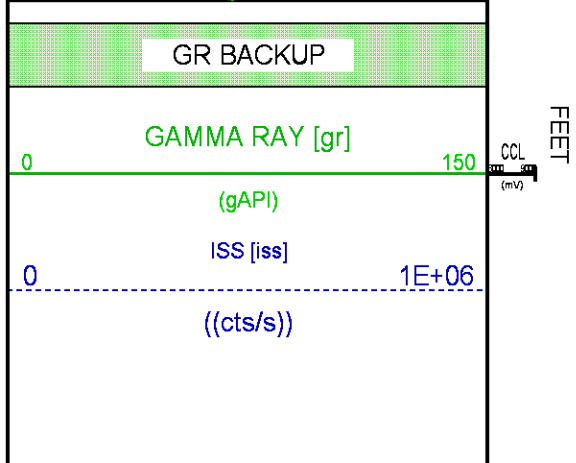
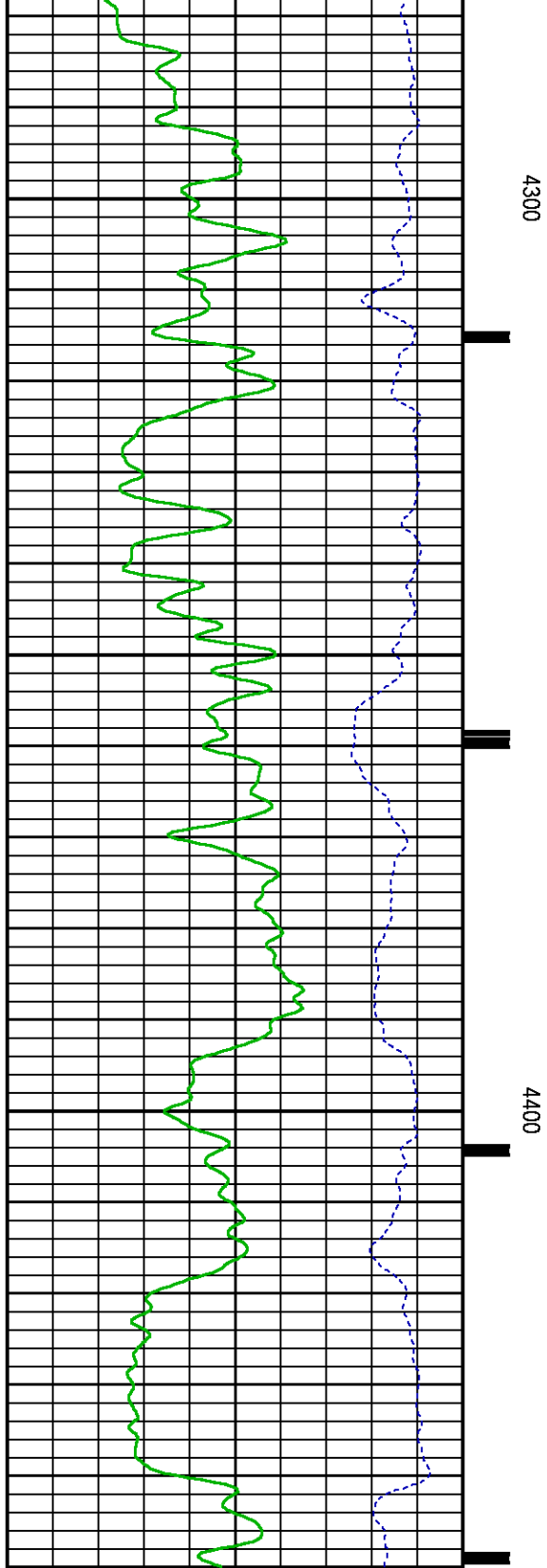
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 29 12:37:35 2017	CASING COLLAR LOCATOR
F1:GR	Jul 29 12:37:35 2017	GAMMA RAY
F1:ISS	Jul 29 12:37:35 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 29 12:37:35 2017	LONG SPACE COUNT RATE
F1:RATO	Jul 29 12:37:35 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 29 12:37:35 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 29 12:37:35 2017	CORRECTED FORMATION SIGMA
F1:SS	Jul 29 12:37:35 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:/dat1a/LAREME_BRUTON_19_20E/RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 4250 - 4450 Feet
Data File 1	: F1 : cpu100:/dat1a/LAREME_BRUTON_19_20E/RPM3D01_REPEAT.xtf
Created On	: Jul 29 12:37:35 2017
Company	: LARAMIE ENERGY
Well	: BRUTON 19-20E
Field	: VEGA
File Interval	: 4250 - 4450 Feet
OCT	: RPM3D





	RICS [rics]	9
39	(dim)	
60	SGFC [sgfc]	0
	(cu)	

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LAREME_BRUTON_19_20E/RPM3D.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10485470 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)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	63.76	399.13	335.4	0.552	35.17	220.17	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10485470 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
						175.00 195.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10414345 DATE/TIME PERFORMED: Thu Jul 13 12:34:15 2017

UNIT: 3882TD HL6728 CALIBRATOR: 2437XB 120057 SOURCE: 8281AA 10160601 HOURS: 8281AA 704

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	790764	126	2358	2261	2241	134	10.0	0.9777
Interpolated	1300000	148	2343	2251	2237			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	790764	6044	978	134	26.03	0.15	24.25	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	790764	160255	24559	87267	31044	8098	53011	12993

Fit Quality %		0.611	0.587	0.523	0.528	0.538	0.527	0.577
	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
			ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS
Raw Data	790764	1.44	4.93	32.21	14.92	10.78	3.84	4.08
		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 %		0.047	0.027	0.046	0.063	0.079	0.082	0.072
Reduced	1372844	1.44	4.93	32.15	14.90	10.77	3.83	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 120516

DATE/TIME PERFORMED: Mon Jul 11 10:30:57 2016

UNIT #: 3880TA HL6670

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-1.840167E+01	1.009373E-01	3.960064E-06	-4.985002E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/LAREME_BRUTON_19_20E/RPM3D~~tdg

A3 CABLEHEAD

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

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

34.08'

CCL MP 26.03'

GR MP 22.90'

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

TEMP MP 1.65'
 PRES MP 0.00'

BULL PLUG 1 11/16

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

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: _____
	WELL <u>BRUTON 19-20E</u>		API NO: _____
	FIELD <u>VEGA</u>	STATE <u>COLORADO</u>	<u>05077103780000</u>
	COUNTY <u>MESA</u>		
LOCATION: SHL: LAT:39.255232N;LONG:107.806537W BHL: LAT:39.256513N;LONG:107.807083W SEC <u>19</u> TWP <u>9S</u> RGE <u>93W</u>		ELEVATIONS: KB 7449 FT DF 7448 FT GL 7425 FT	
		DATE <u>20-JUL-2017</u>	