



FILE NO: CH135626	COMPANY LARAMIE ENERGY LLC
API NO: 05077104750000	WELL BRUTON FEDERAL 31-01E
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10	LOCATION: SHL: 2610' FSL & 1839' FEL BHL: 132' FSL & 1334' FEL SEC <u>30</u> TWP <u>9S</u> RGE <u>93W</u>	OTHER SERVICES RAL
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB KB KB	ELEVATION 7643 FT 30 FT ABOVE P.D.	ELEVATIONS: KB 7673 FT DF GL 7643 FT
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DATE	14-Apr-2018	
RUN	2	1
SERVICE ORDER	US135626	
DEPTH DRILLER	8327 FT	
DEPTH LOGGER	8240 FT	
BOTTOM LOGGED INTERVAL	8240 FT	
TOP LOGGED INTERVAL	2700 FT	
TIME STARTED	12:30	
TIME FINISHED	18:00	
OPERATOR RIG TIME	5.5 HRSA	
TYPE OF FLUID IN HOLE	WATER	
FLUID DENSITY	NA	
FLUID SALINITY	NA	
FLUID LEVEL	72 FT	
LOGGED CEMENT TOP	1550 FT	
WELLHEAD PRESSURE	0 PSI	
MAXIMUM HOLE DEVIATION	NA	
NOMINAL LOGGING SPEED	15 FMIN	
MAX. RECORDED TEMP.	229 DEGF	
REFERENCE LOG	BAKER HUGHES RAL	
REFERENCE LOG DATE	14-Apr-2018	
EQUIP. NO.	ML-4291	GRAND JCT.
RECORDED BY	M. BAUKA	
WITNESSED BY	NA	

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 2 TRIP 1: *2 OPERATIONS IN WELLBORE*

OPERATION 1: RPM/GR/CCL RUN IN PNC-3D

TD NOT TAGGED DUE TO WELLBORE CONDITIONS

SJ: 6412'- 6432'

SJ: 7494' - 7514'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	PCM	8250EA	11745584	FREE
2	1	TEL/CCL	8248ED	10183585	FREE
2	1	GR	8262XA	10196540	FREE
2	1	RPM	8281EA	10294755	FREE
2	1	RPM	8283PA	10066691	FREE
2	1	RPM	8281FA	10066992	FREE
2	1	TEMP	8255XA	166341	FREE

RPM MAIN PASS G-SAND

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017

Patches: 3

Plotted: Sat Apr 14 19:48:20 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/p353h04.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2695.500 ft BOTTOM DEPTH: 3408.498 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	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/31-01E_RPM_MAIN_GS.fvpdf [5"/100' Scale]
 Plot Interval : 2678.5 - 3413 Feet

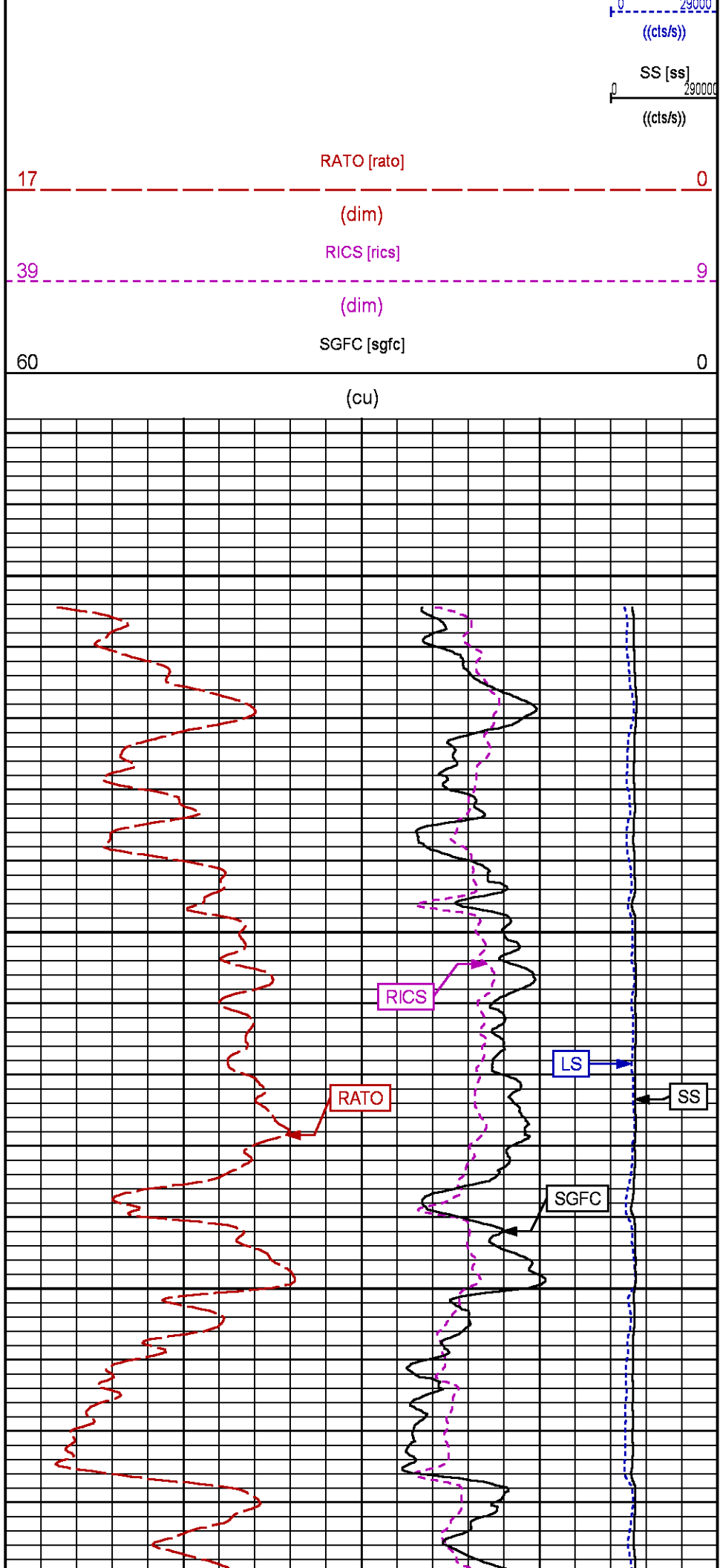
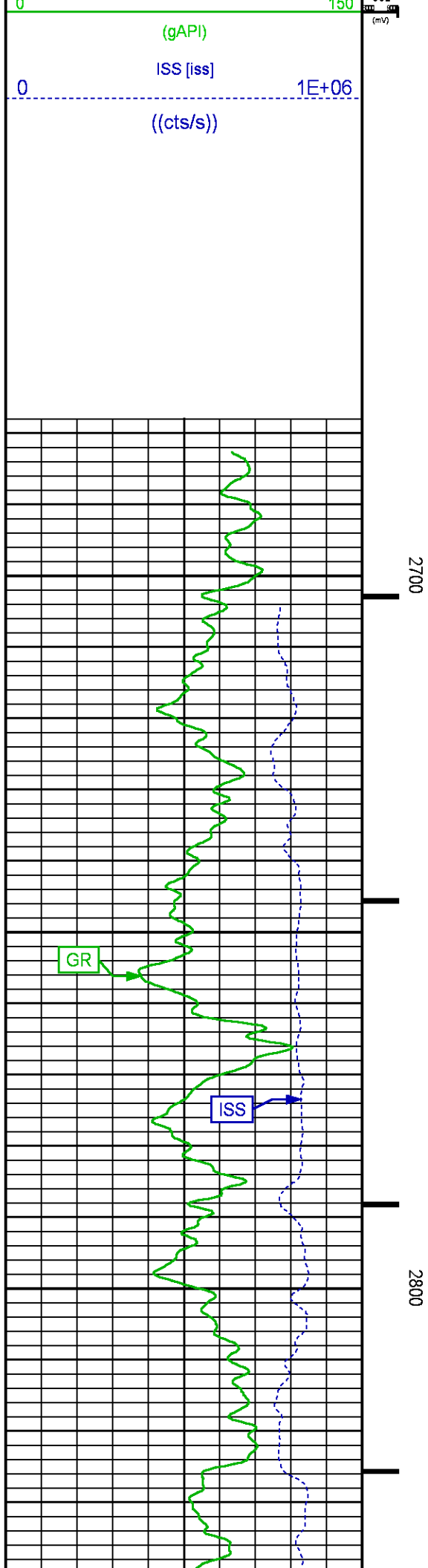
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 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : BRUTON FEDERAL 31-01E
 Field : VEGA
 File Interval : 2677.75 - 3413.25 Feet
 OCT : p353h

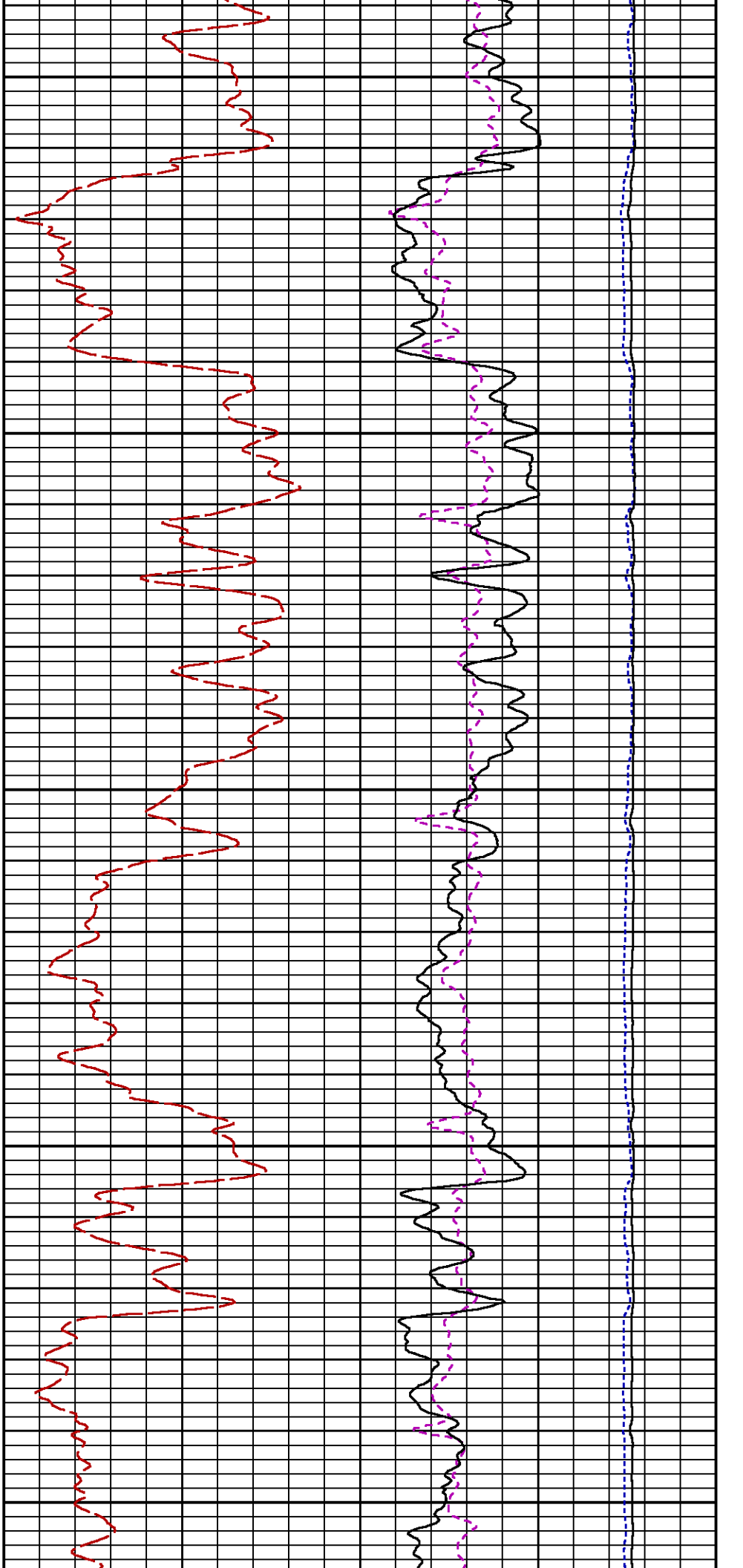
GR BACKUP

GAMMA RAY [gr]

FEET

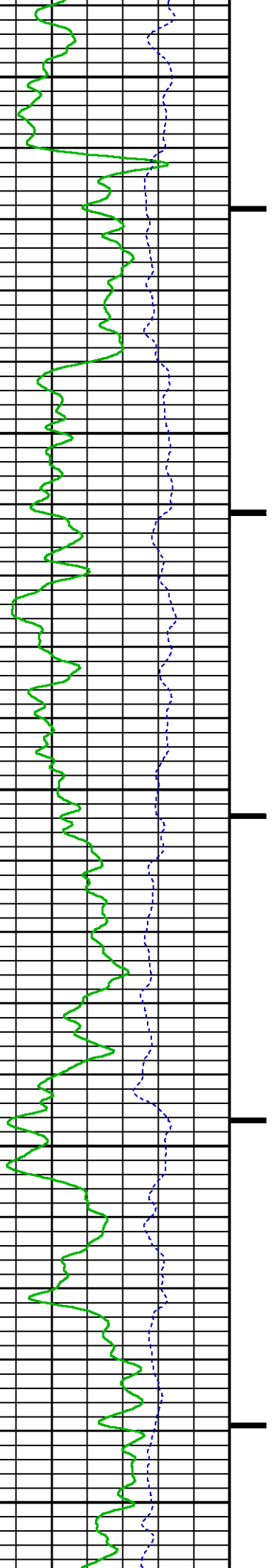
LS [ls]

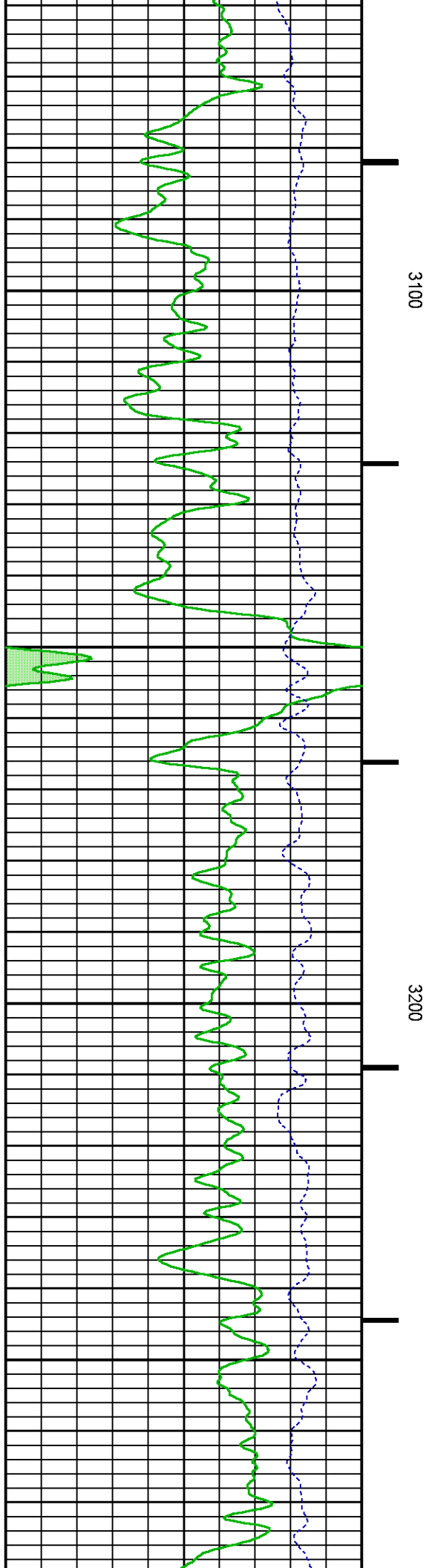
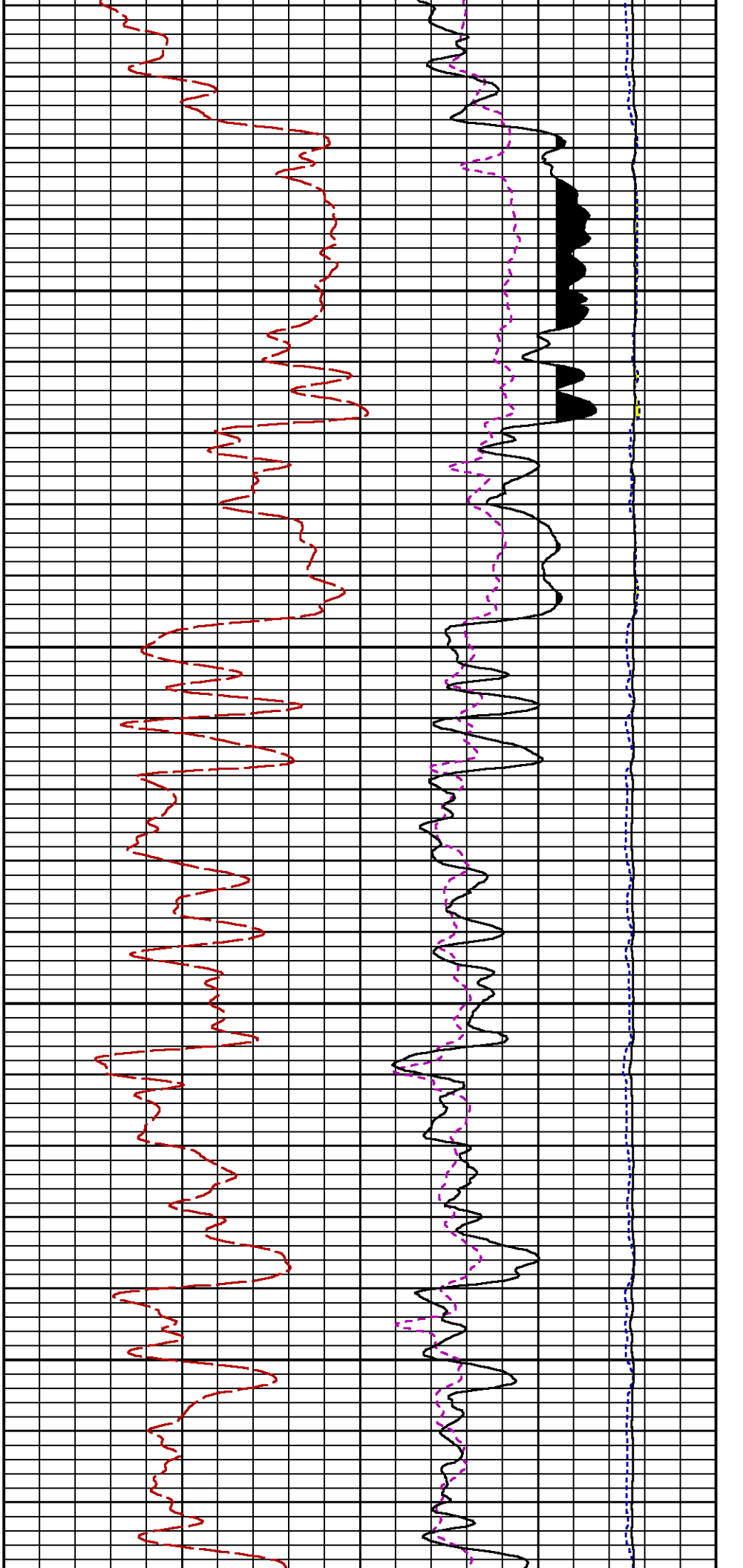


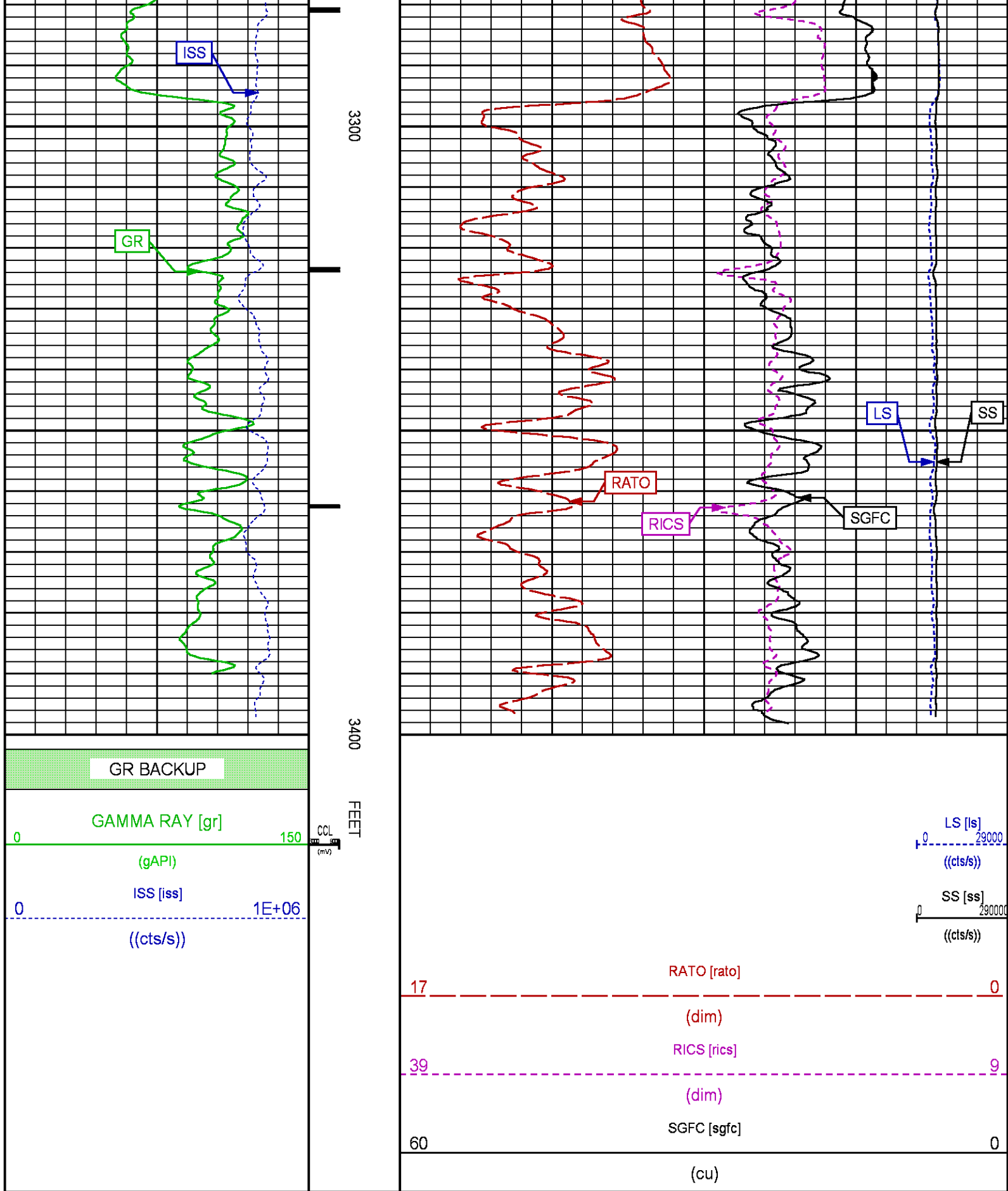


2900

3000







Plotted: Sat Apr 14 19:33:08 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE:	/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/p353h03.prm			
LOGGING MODE:	DEPTH	DIRECTION:	UP	
TOP DEPTH:	4995.074 ft	BOTTOM DEPTH:	6670.716 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

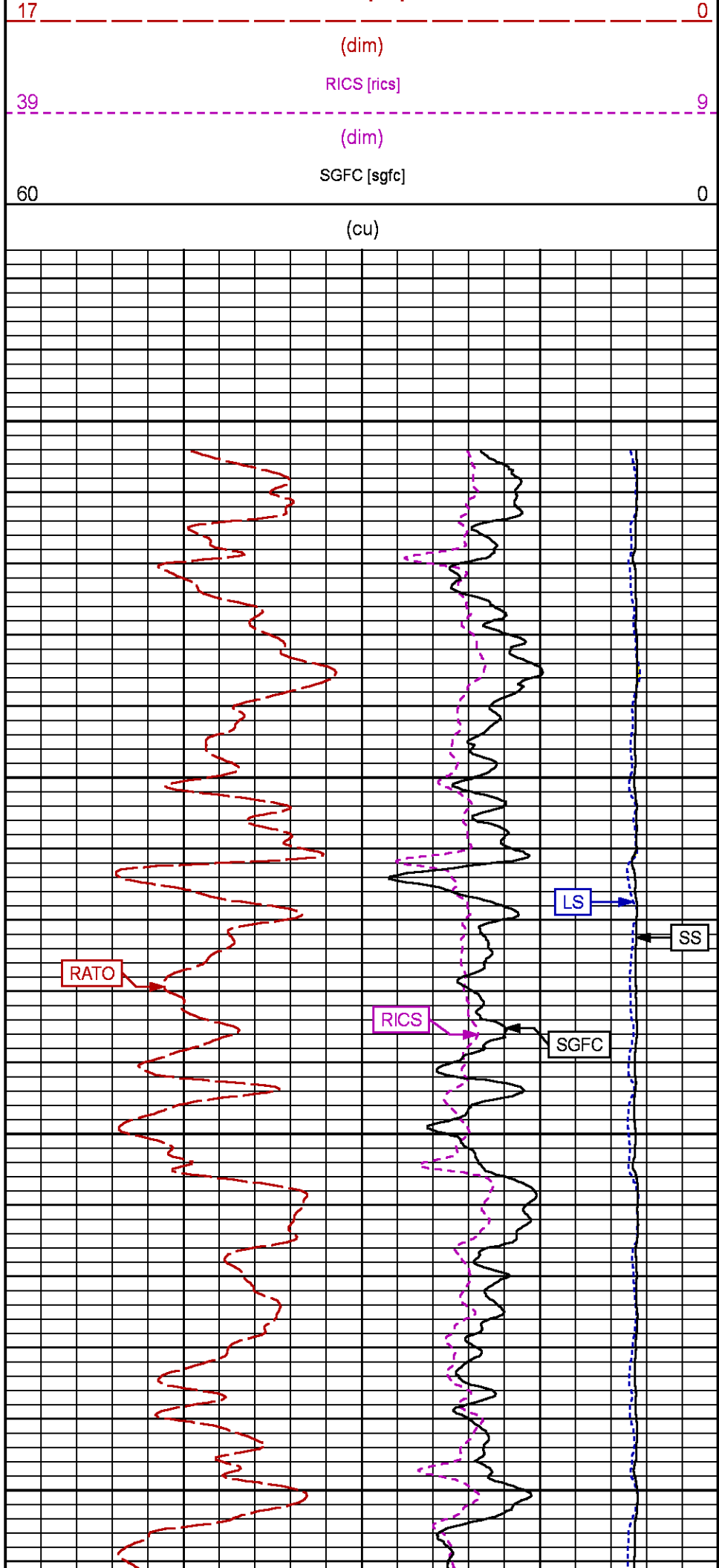
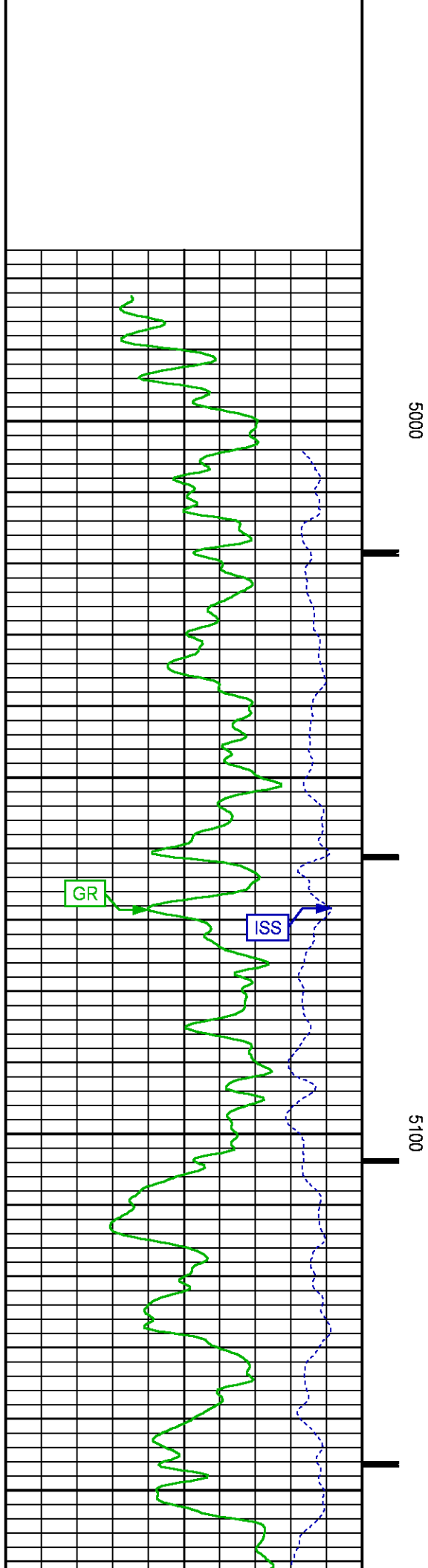
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A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

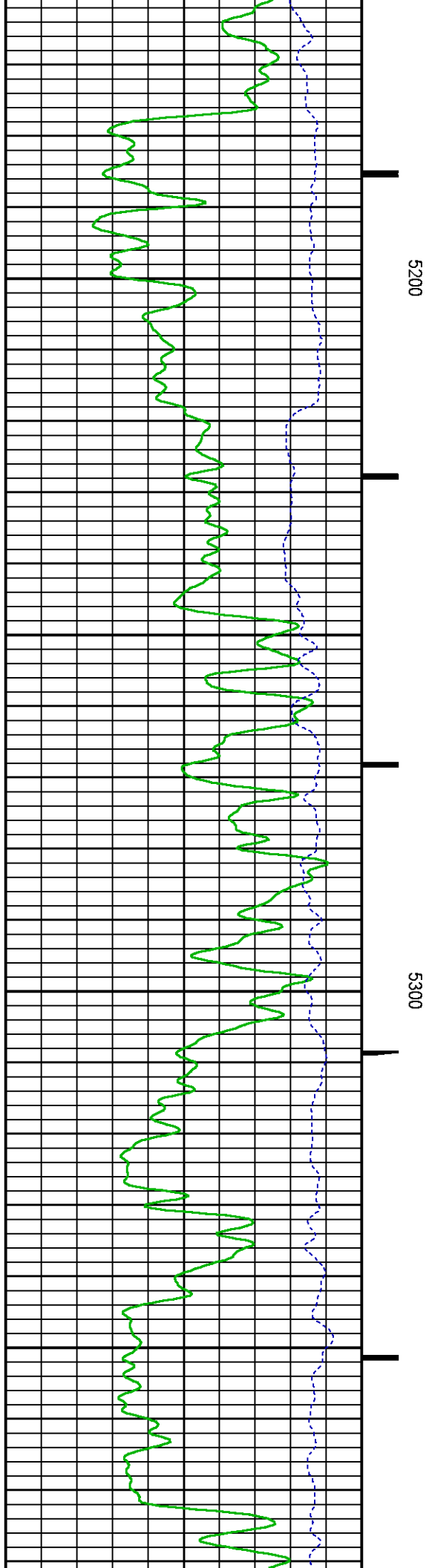
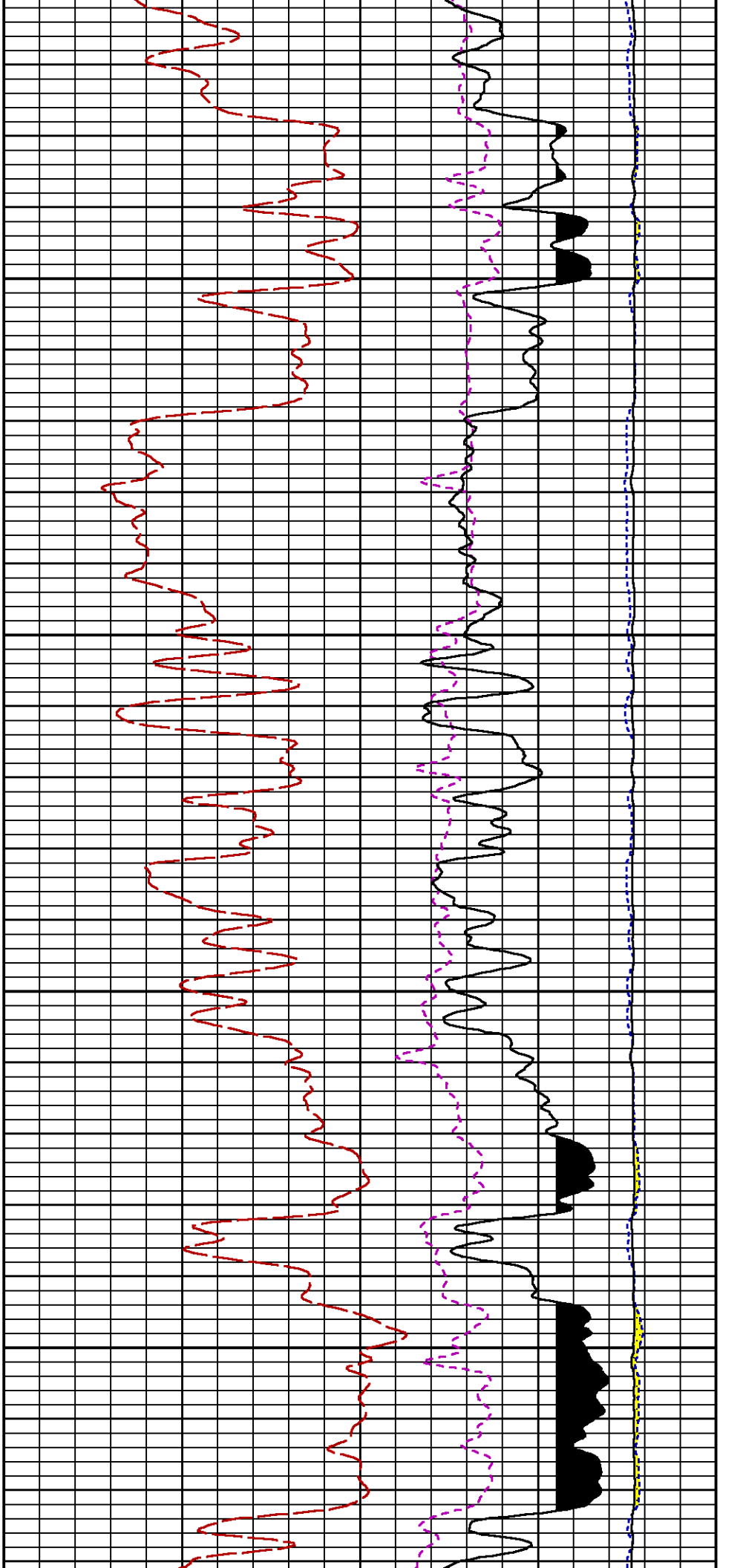
CURVE MEASURE POINT OFFSET

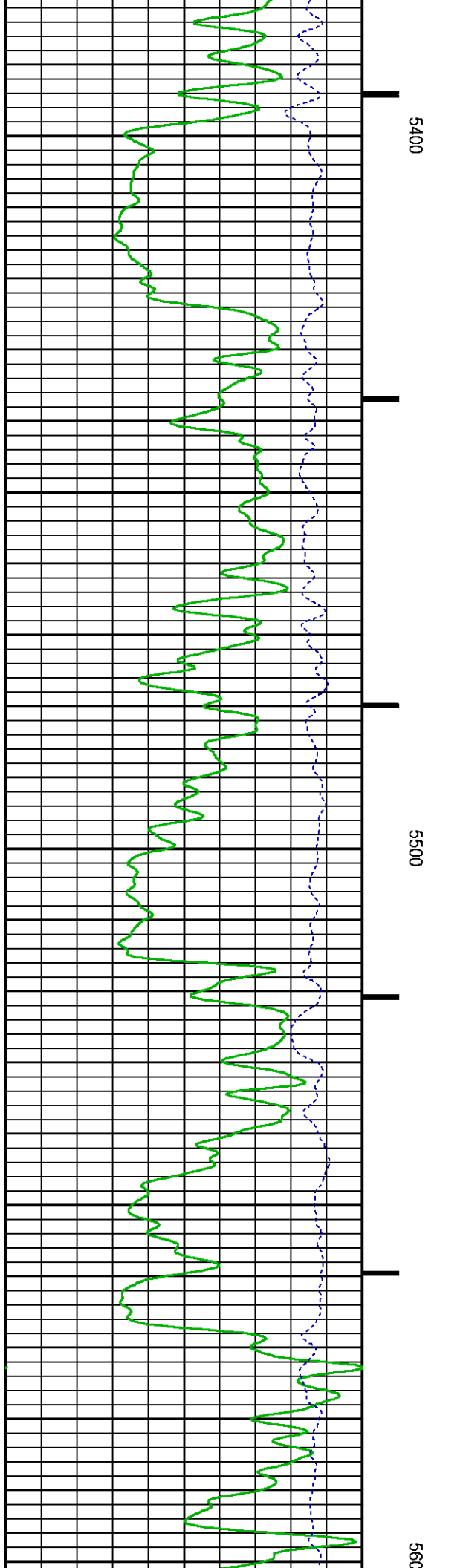
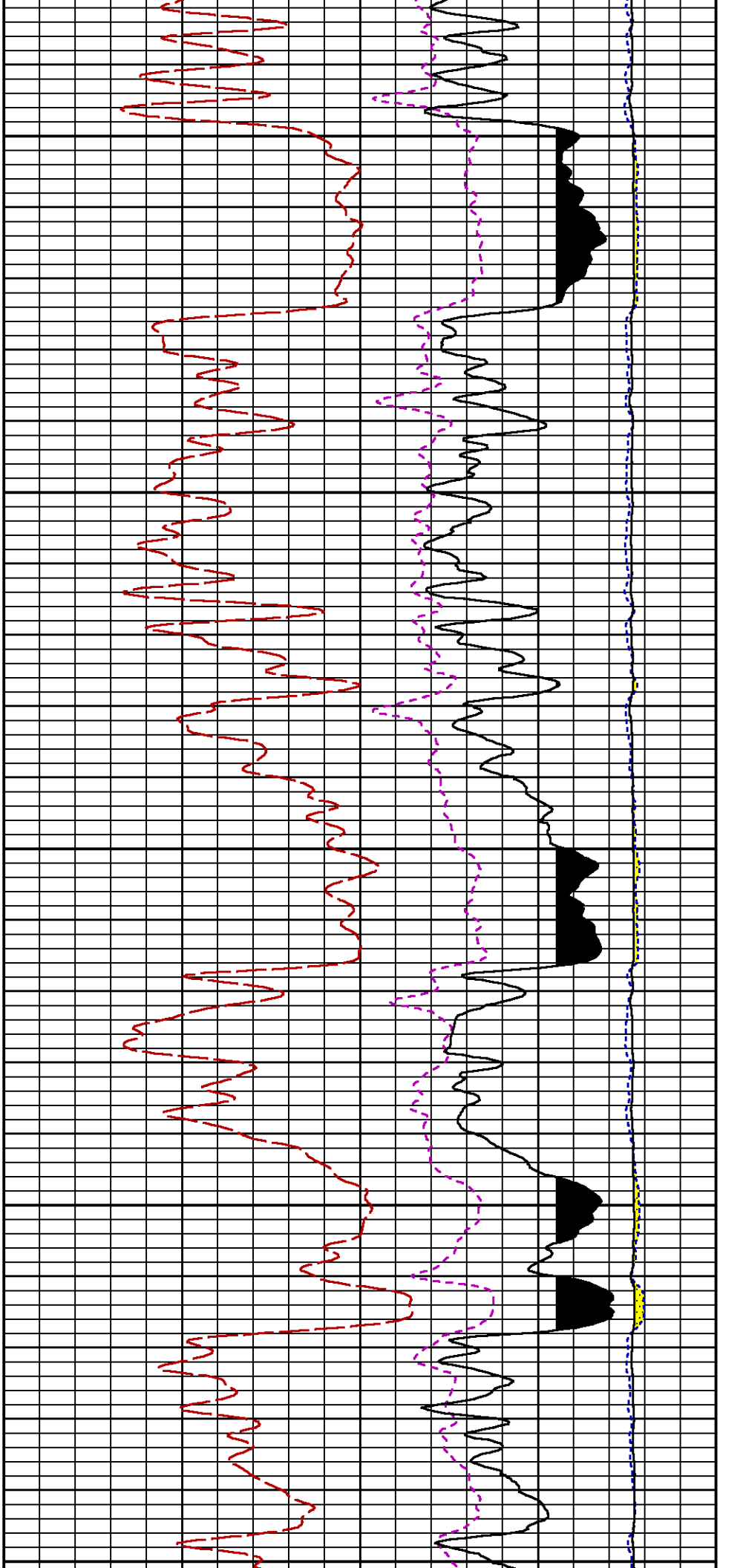
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

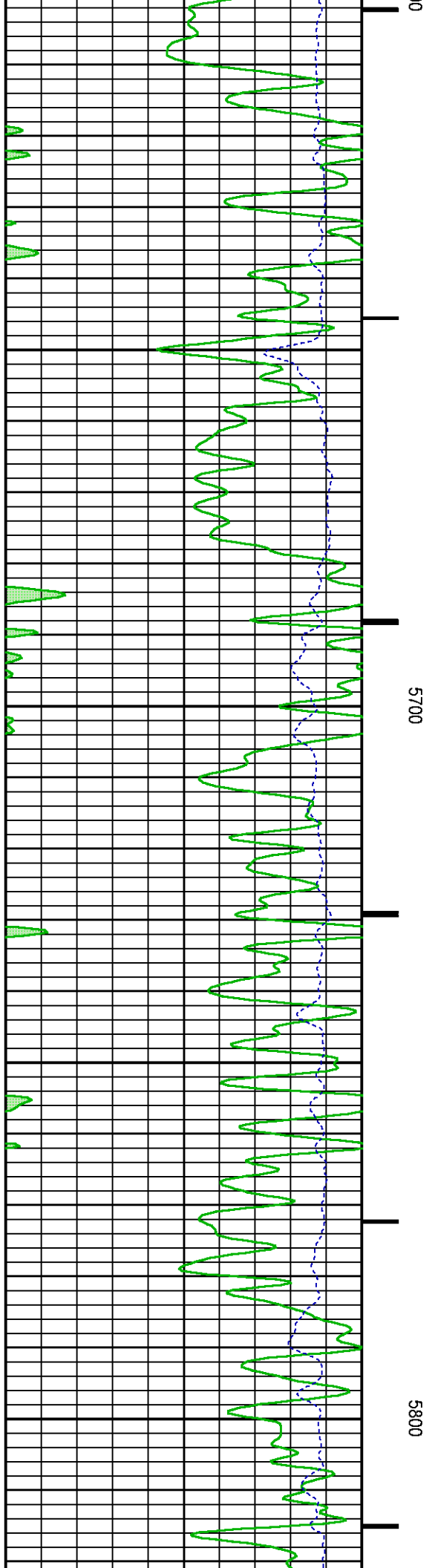
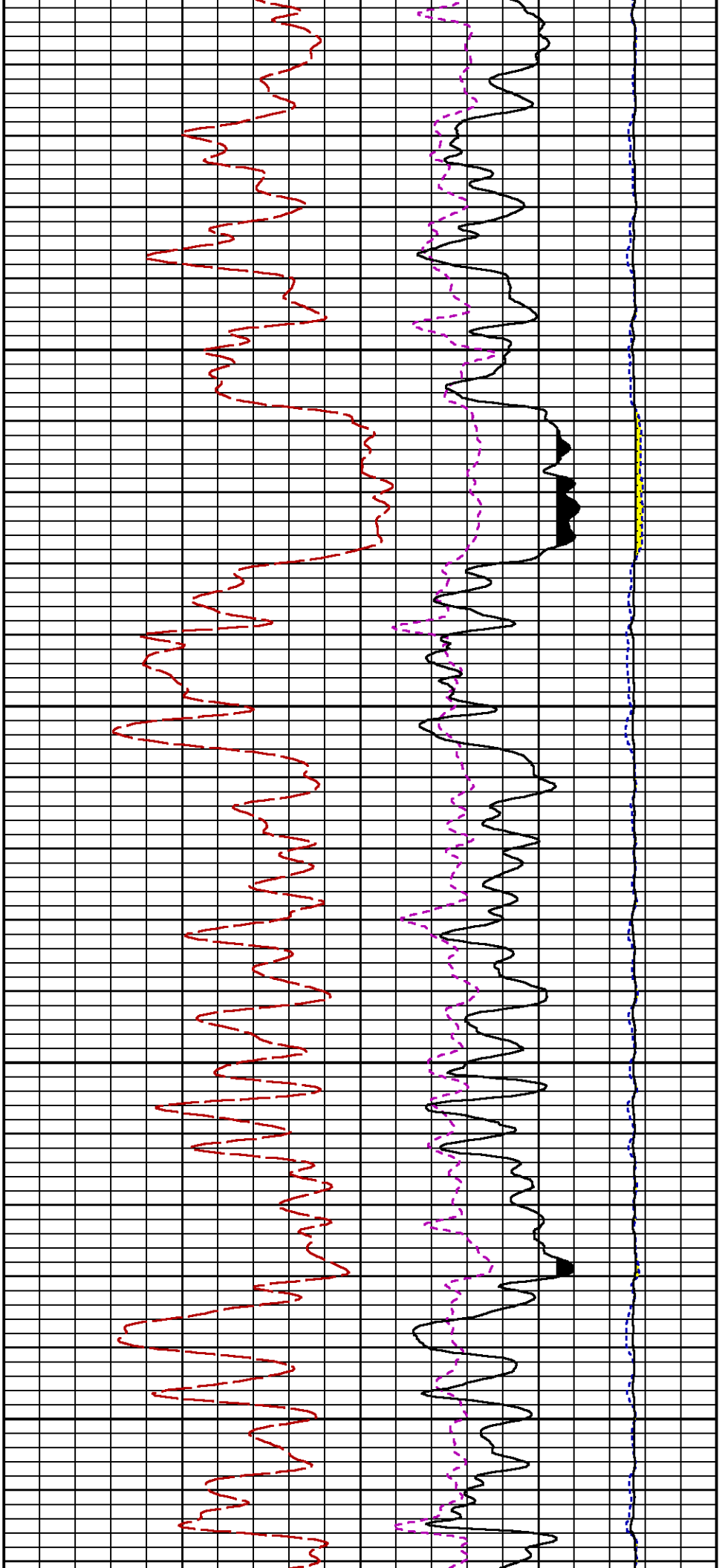
Presentation	: SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/31-01E_RPM_MAIN_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4977.5 - 8255.75 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/31-01E_RPM_MAIN_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON FEDERAL 31-01E
Field	: VEGA
File Interval	: 4977.5 - 8255.75 Feet
OCT	: p353h

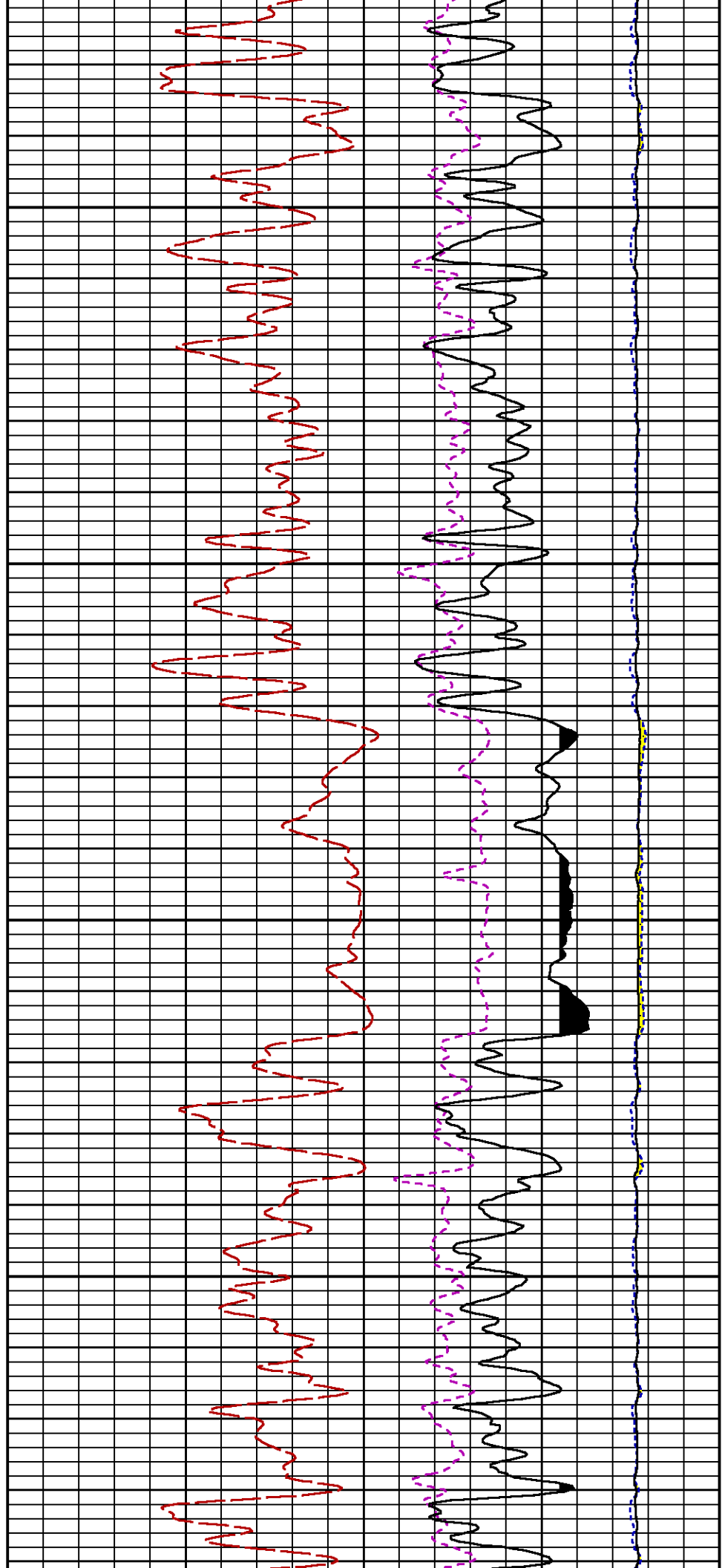
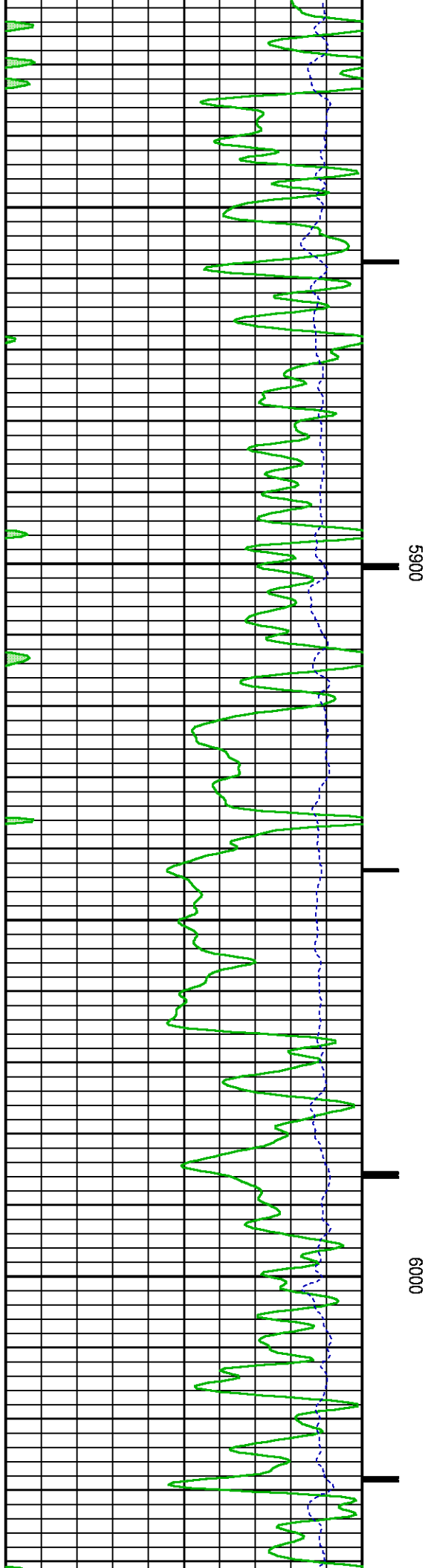


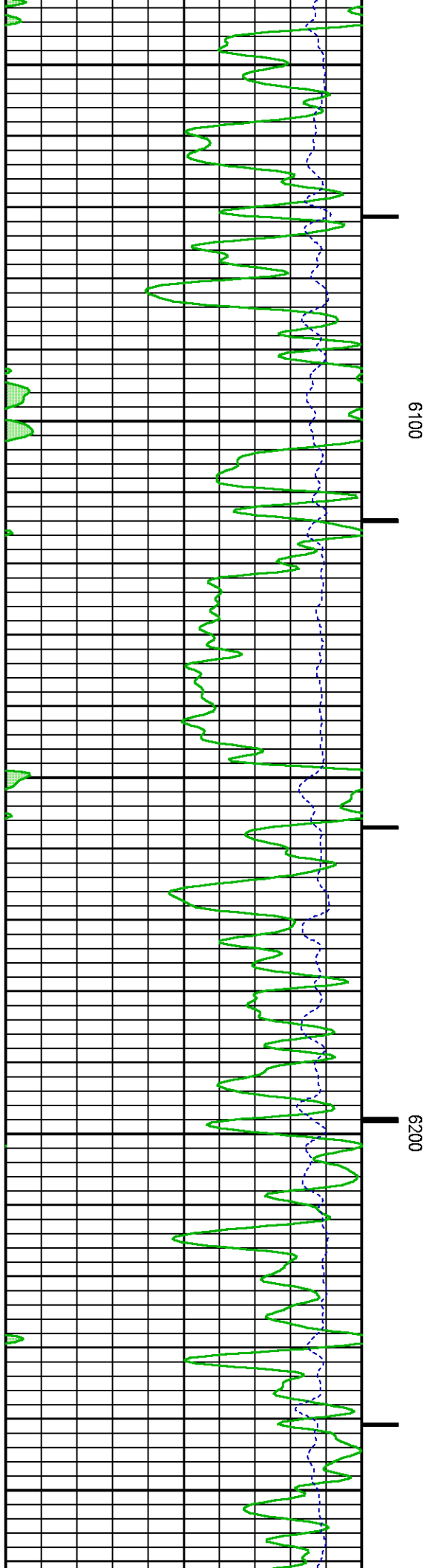
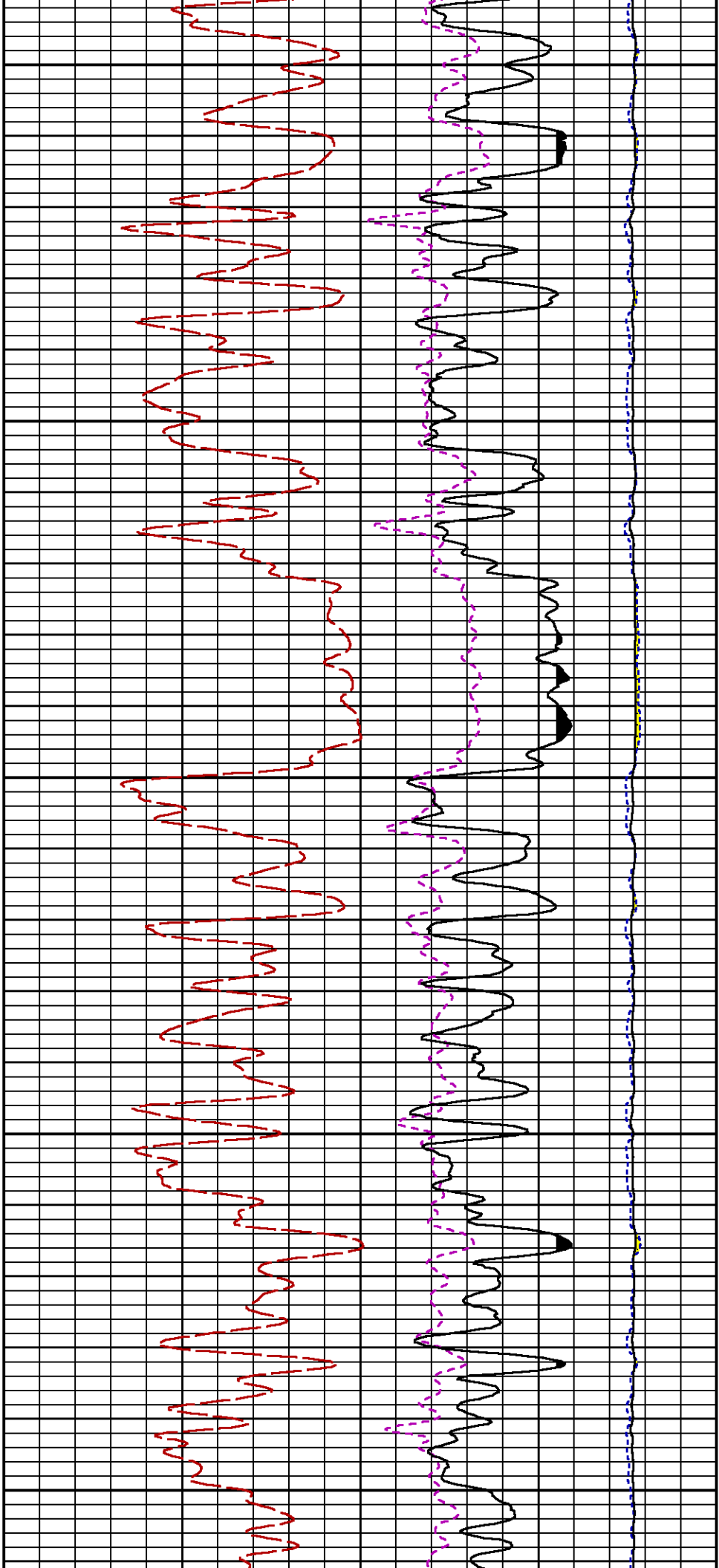


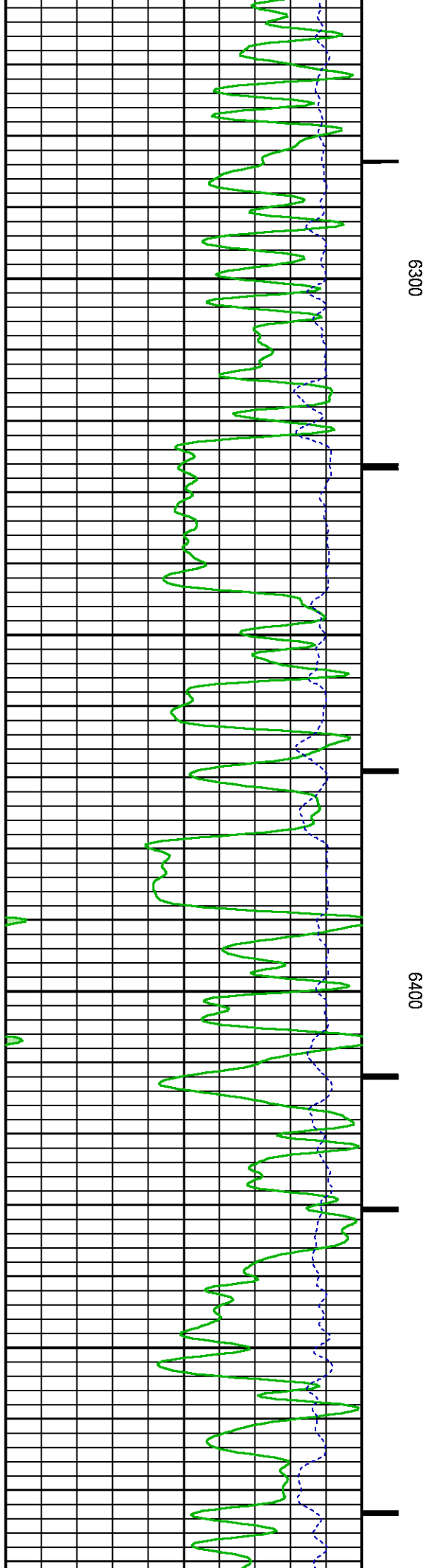
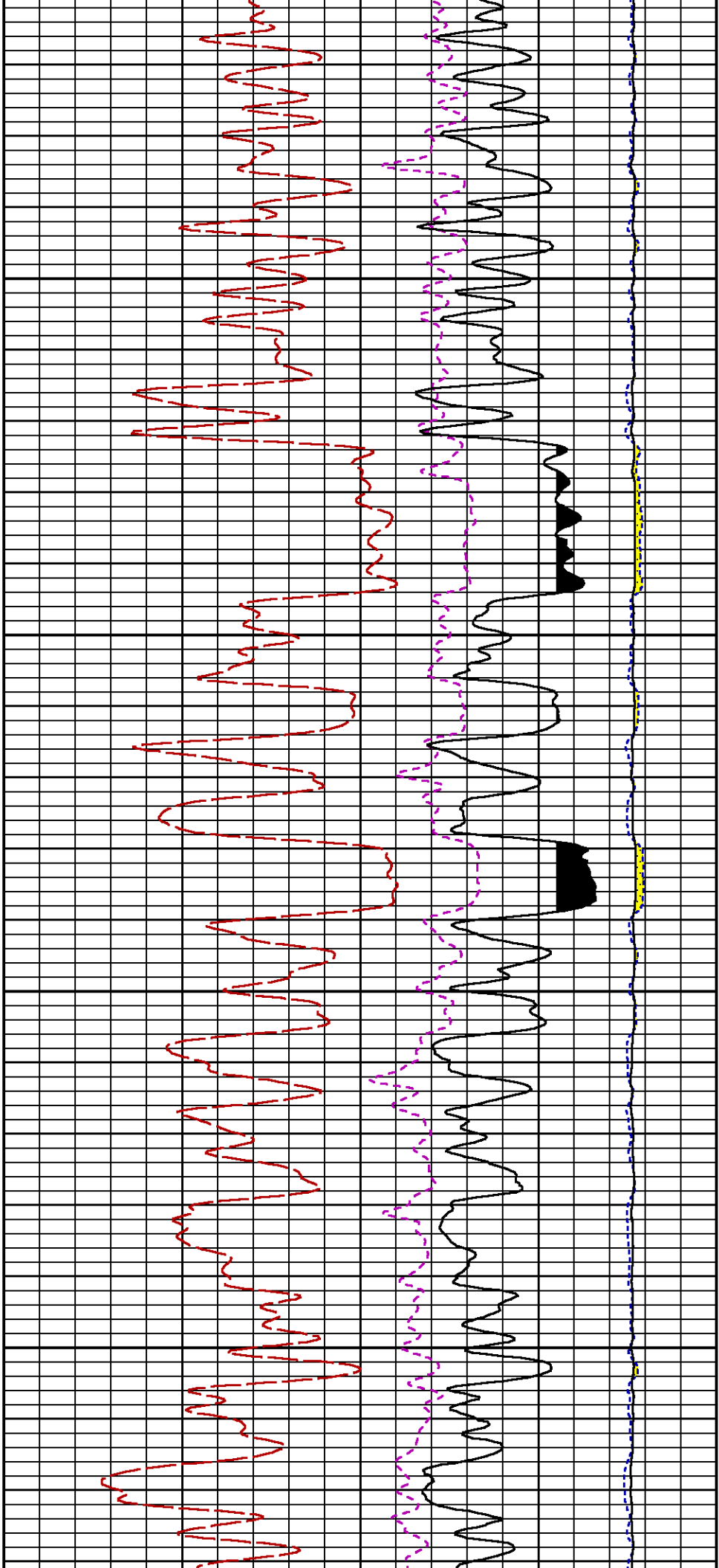


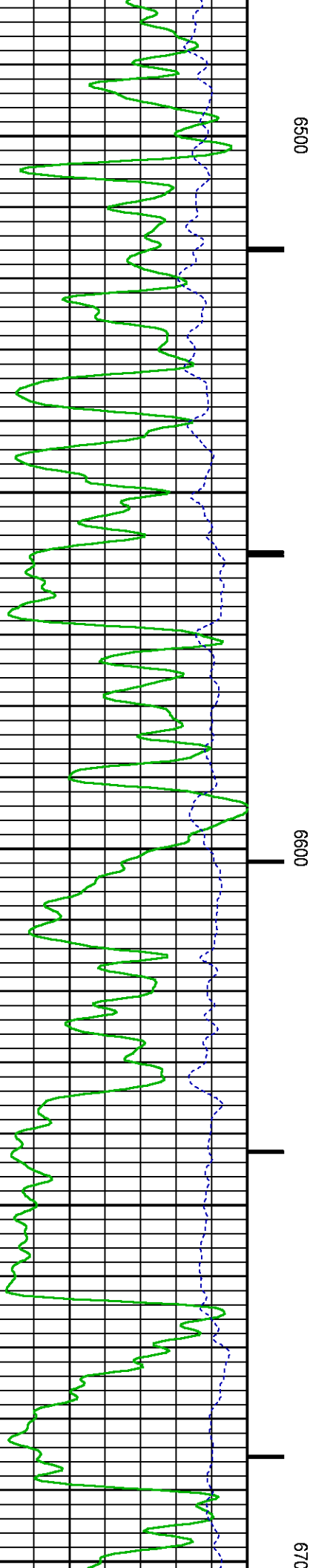
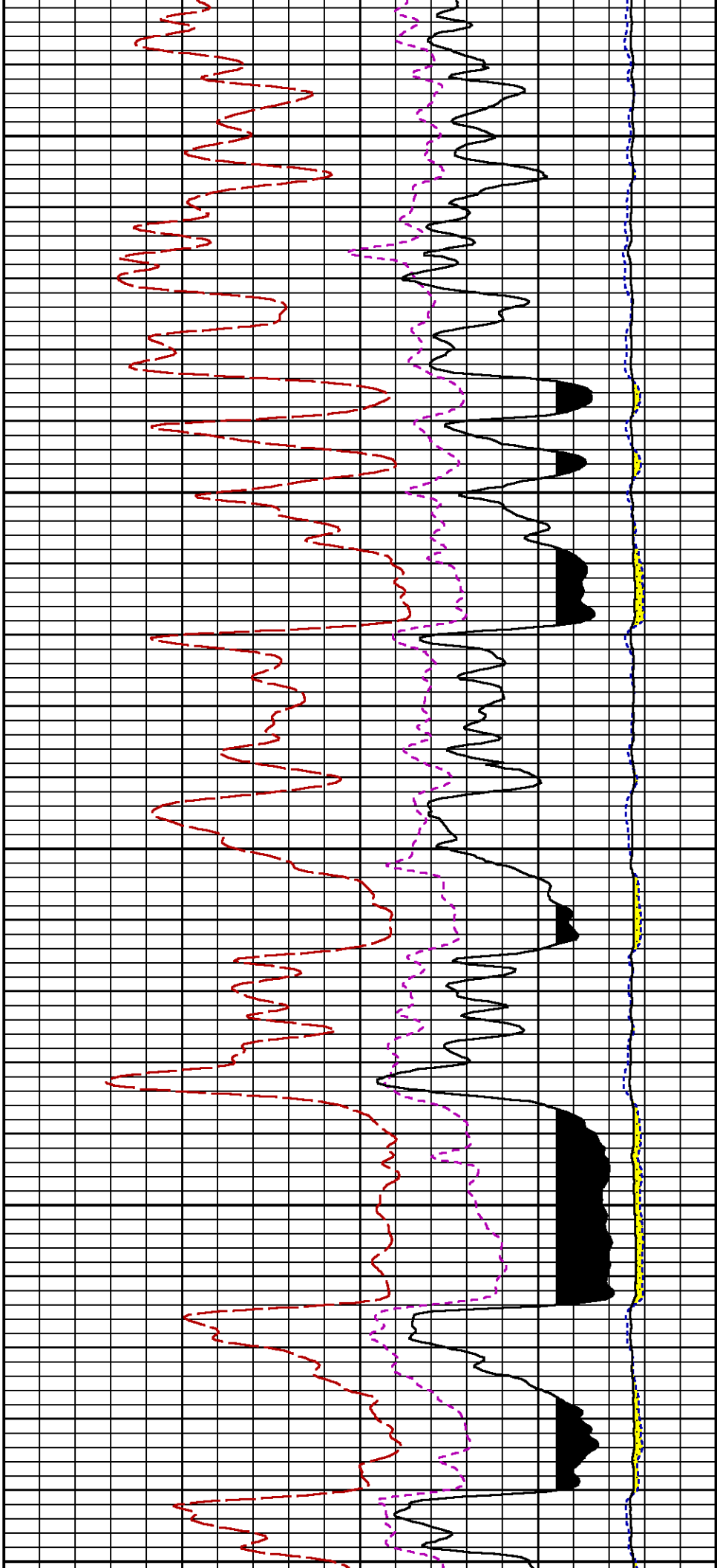


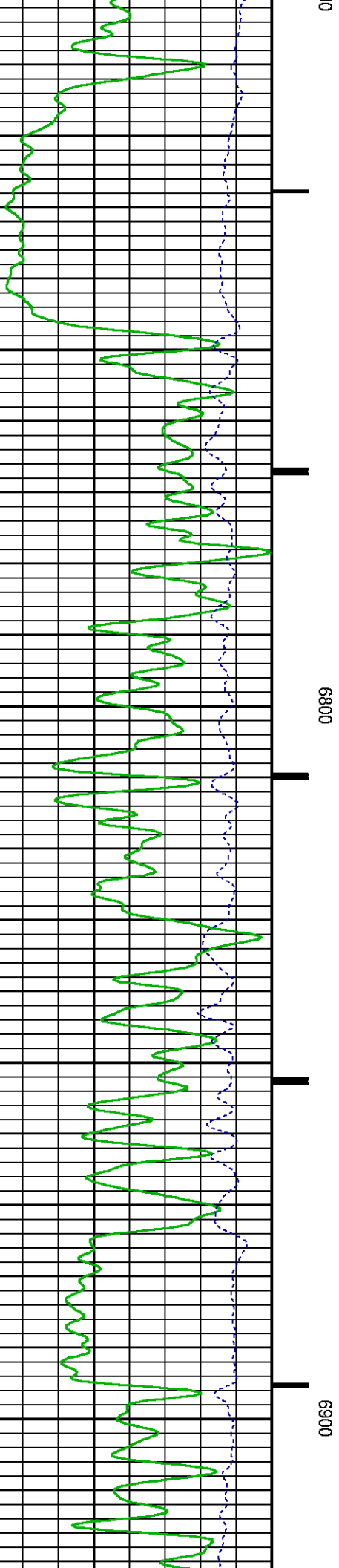
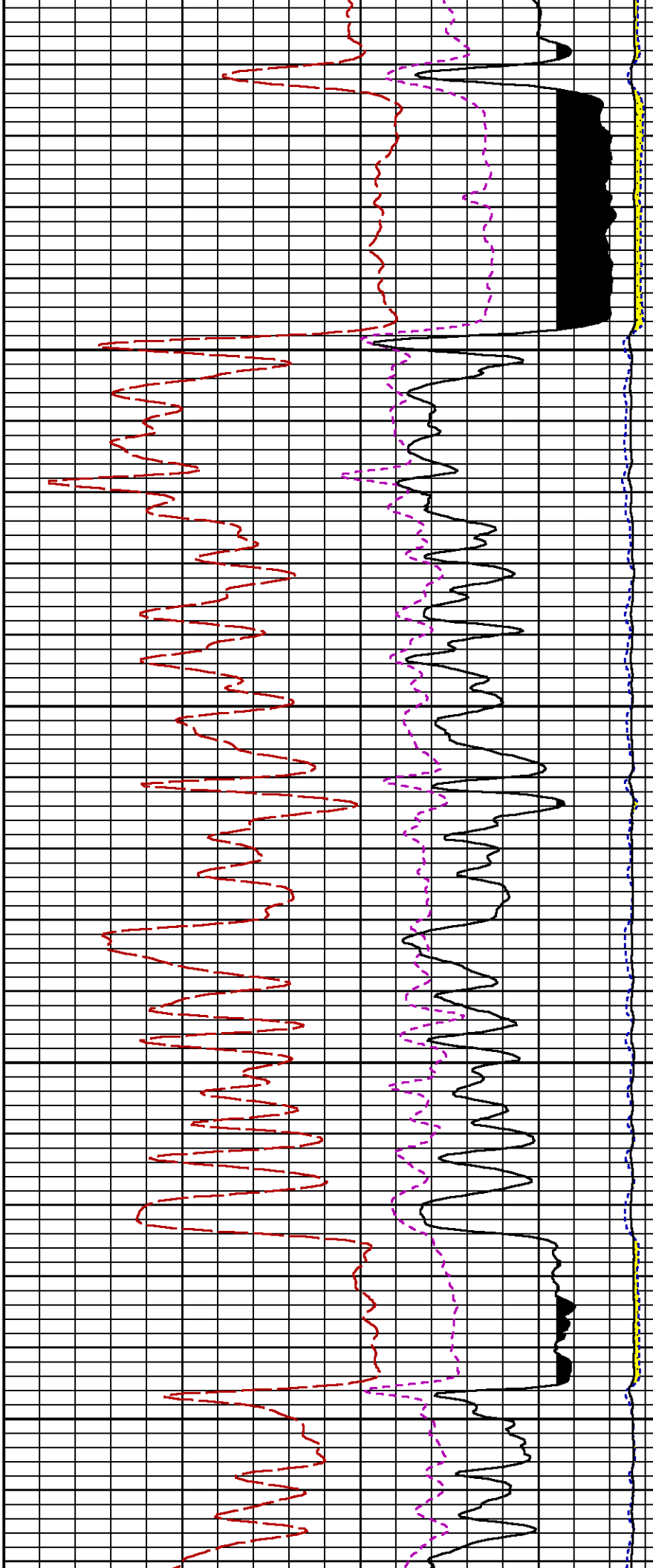


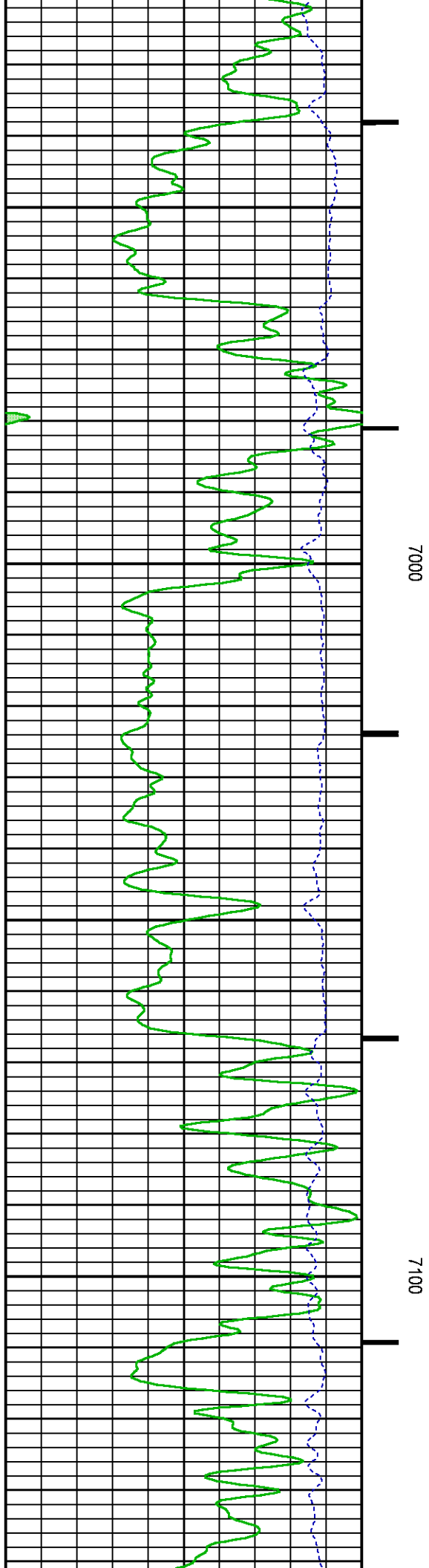
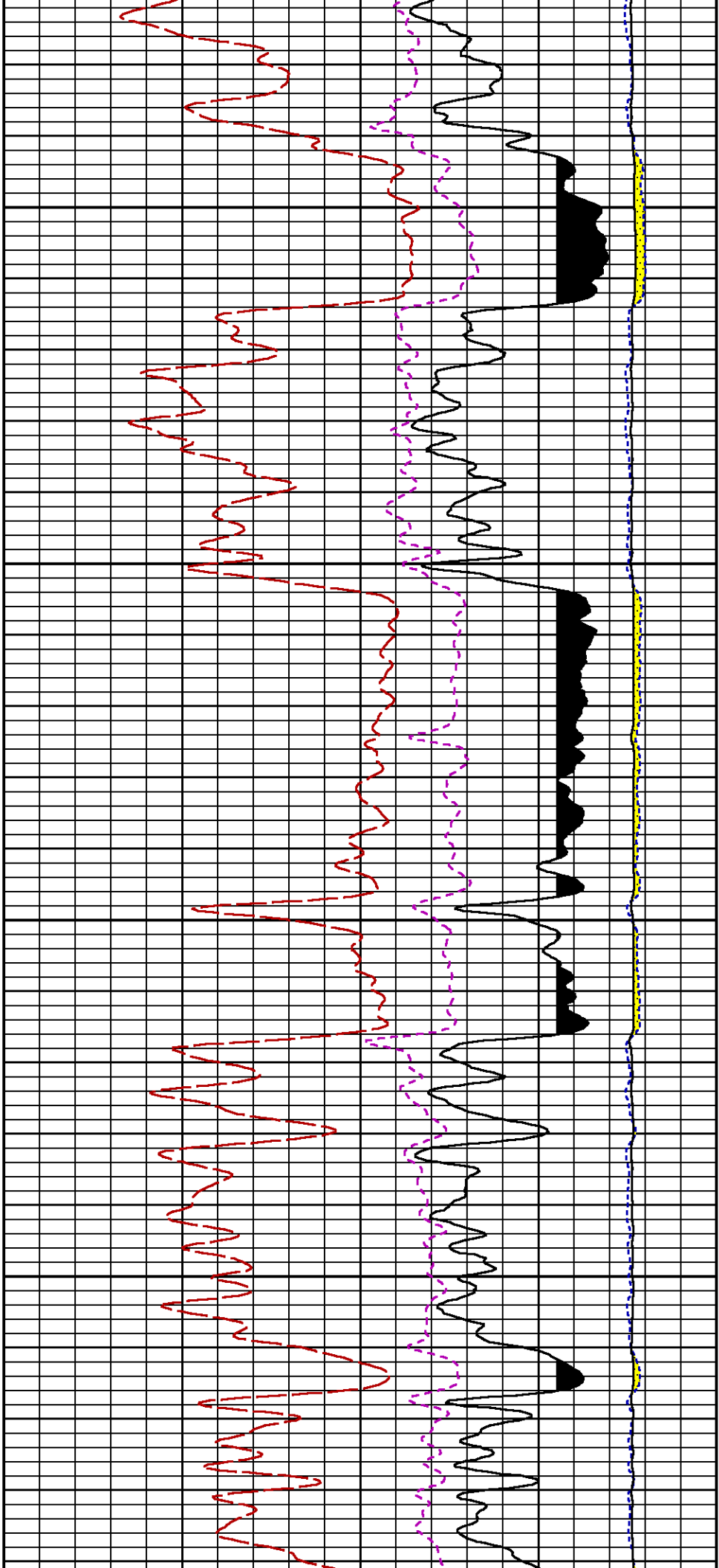


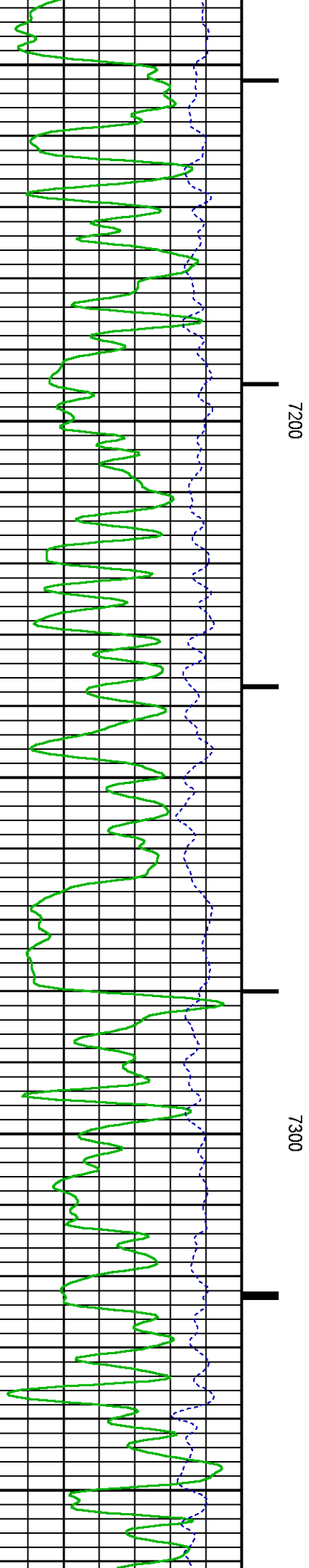
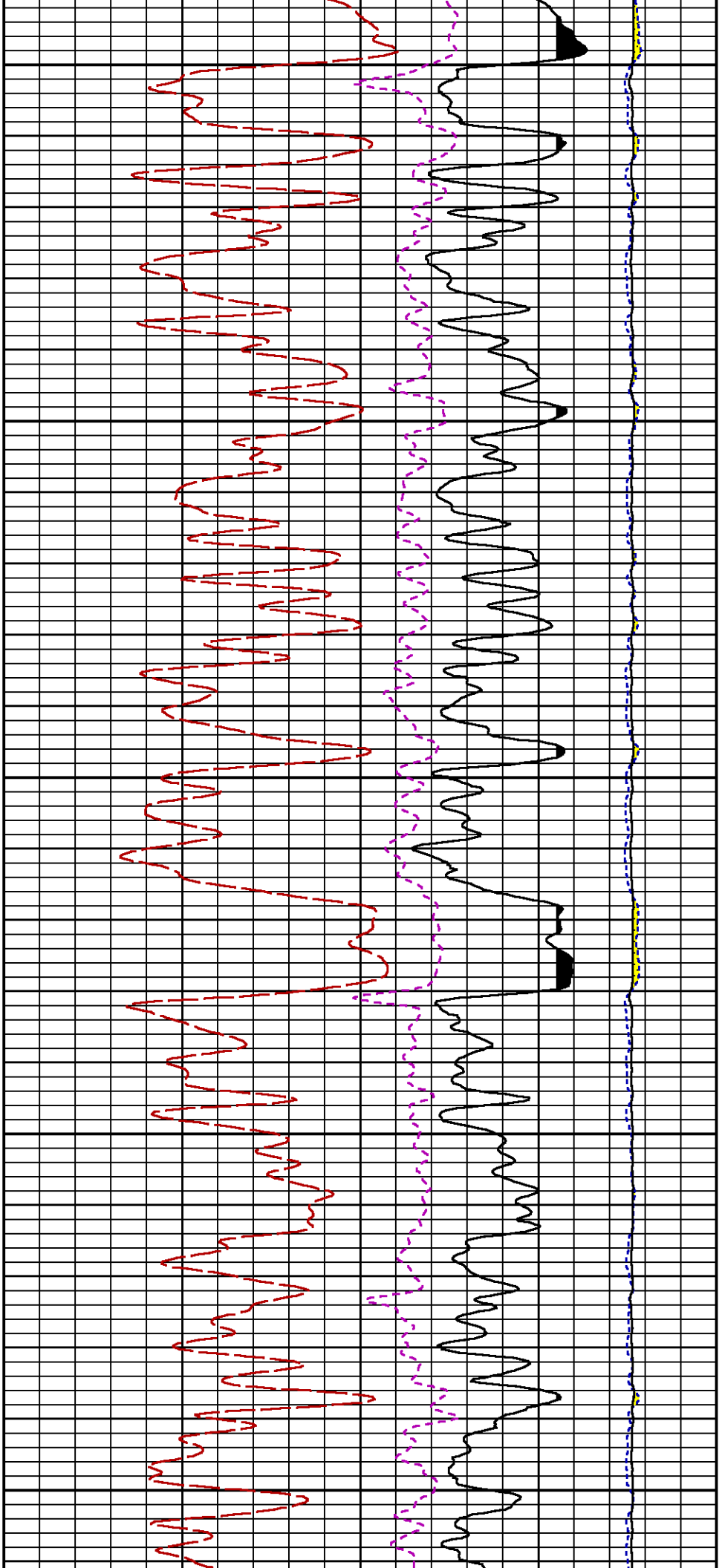


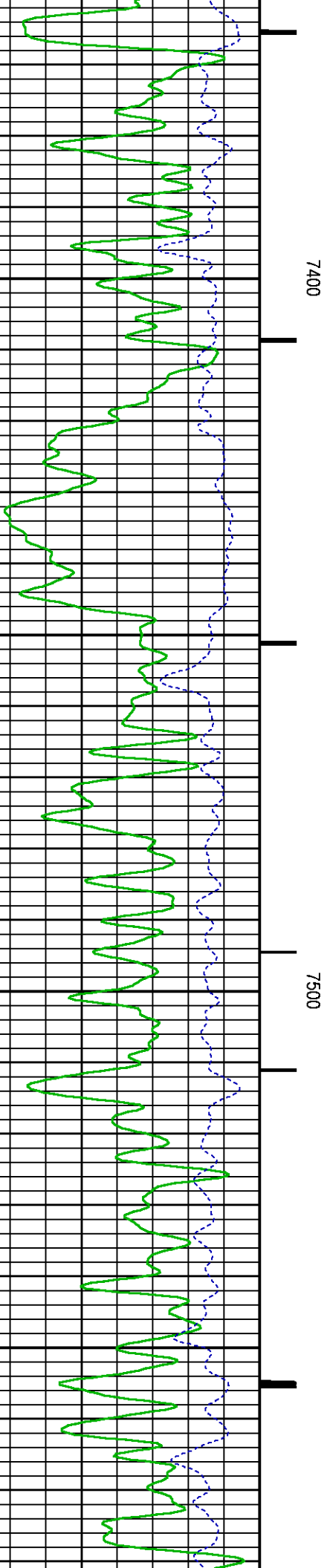
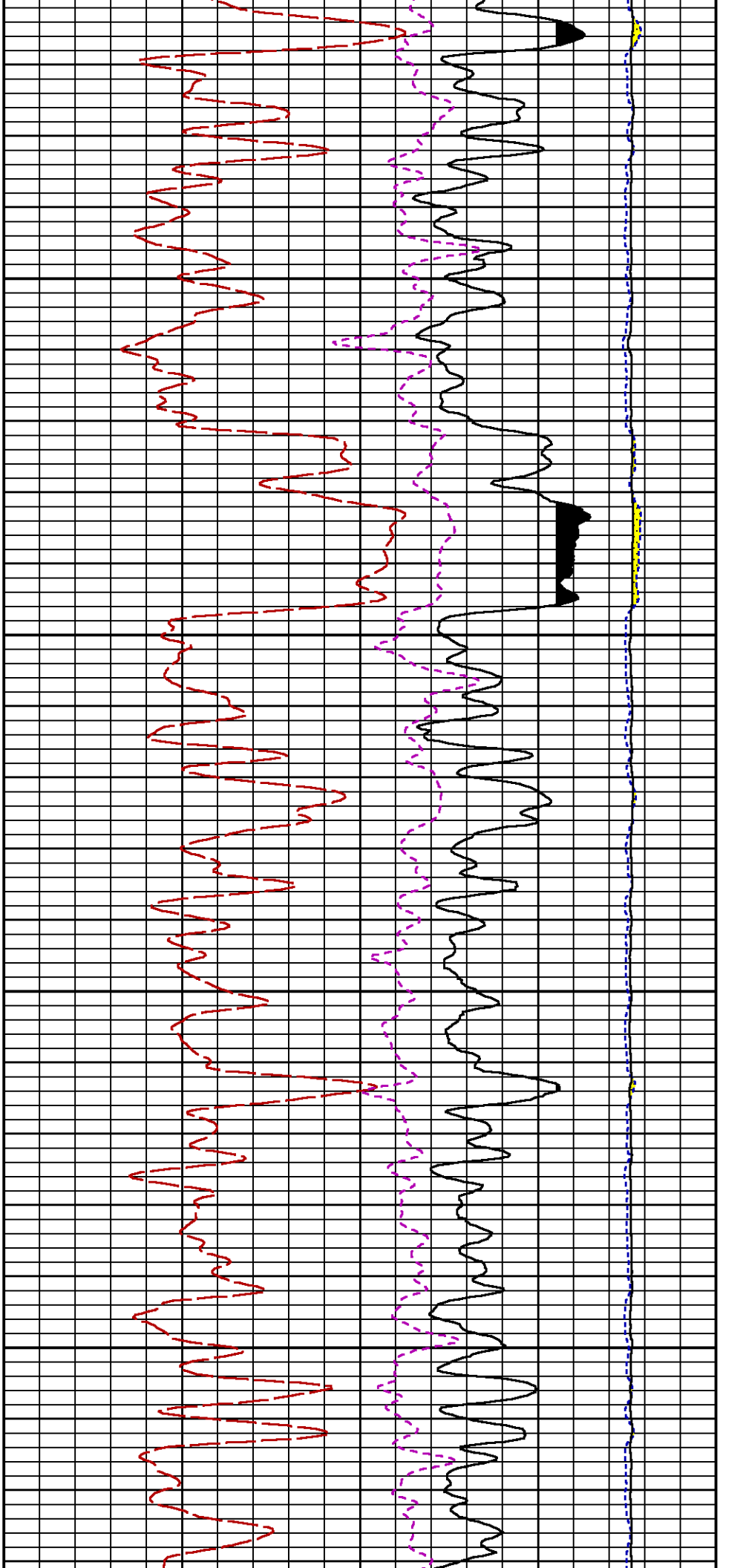


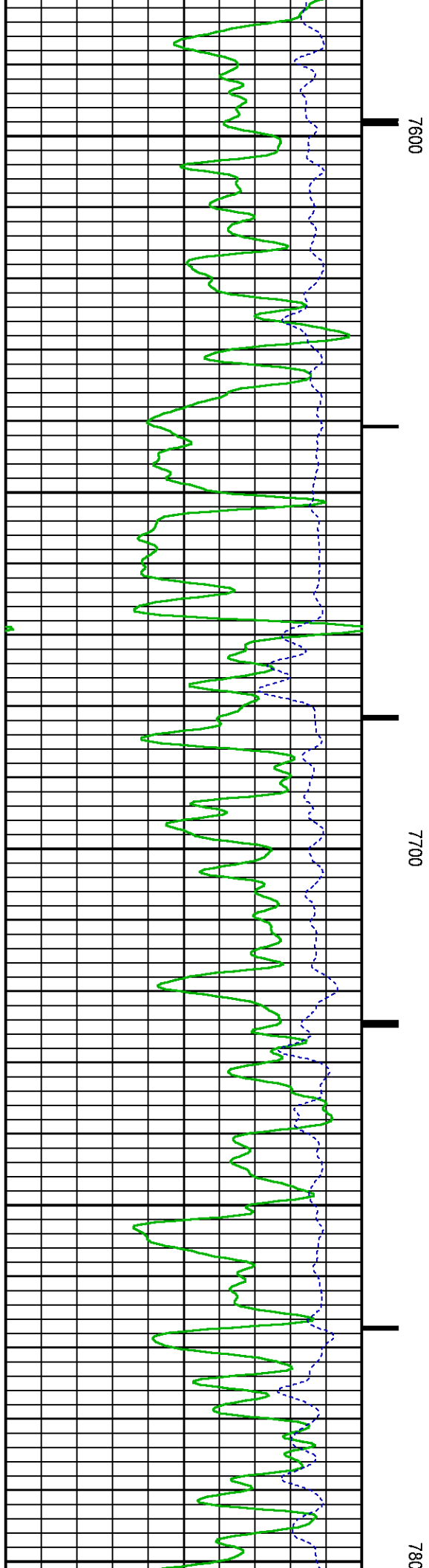
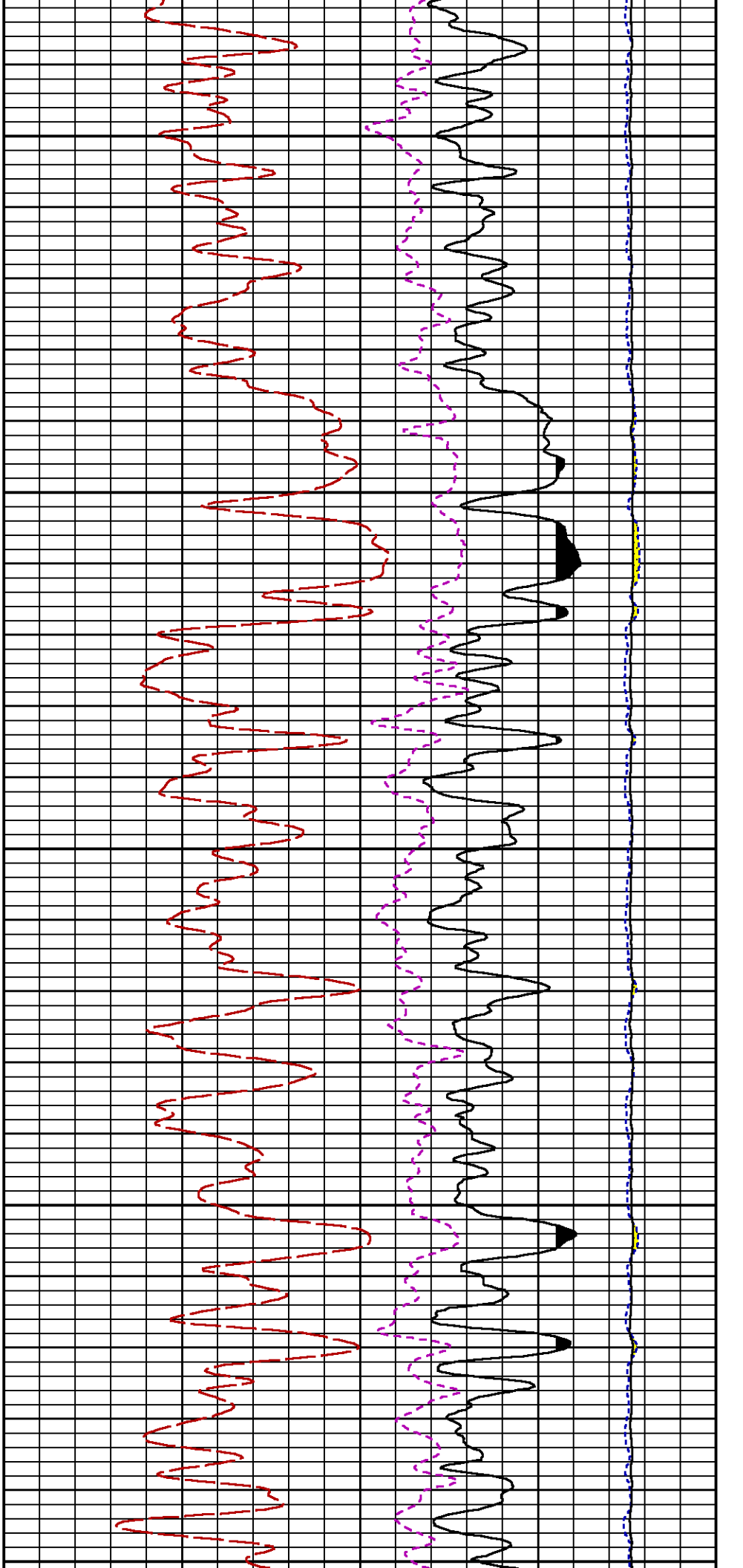


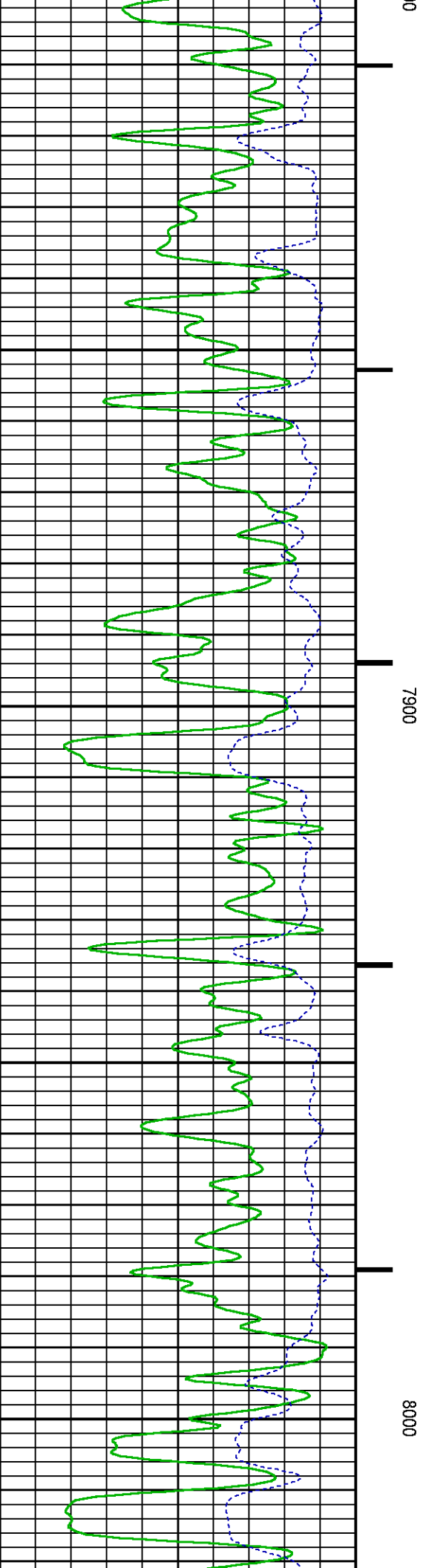
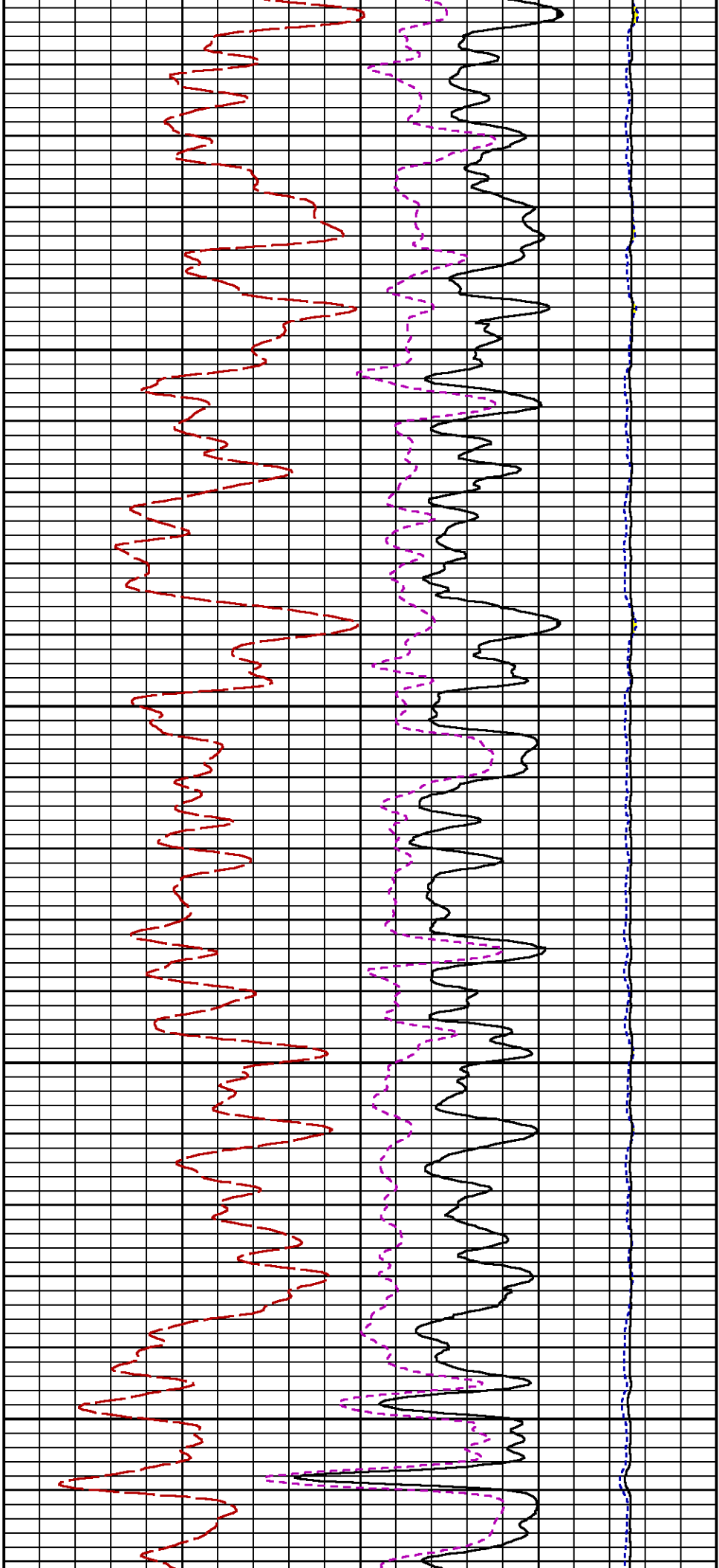


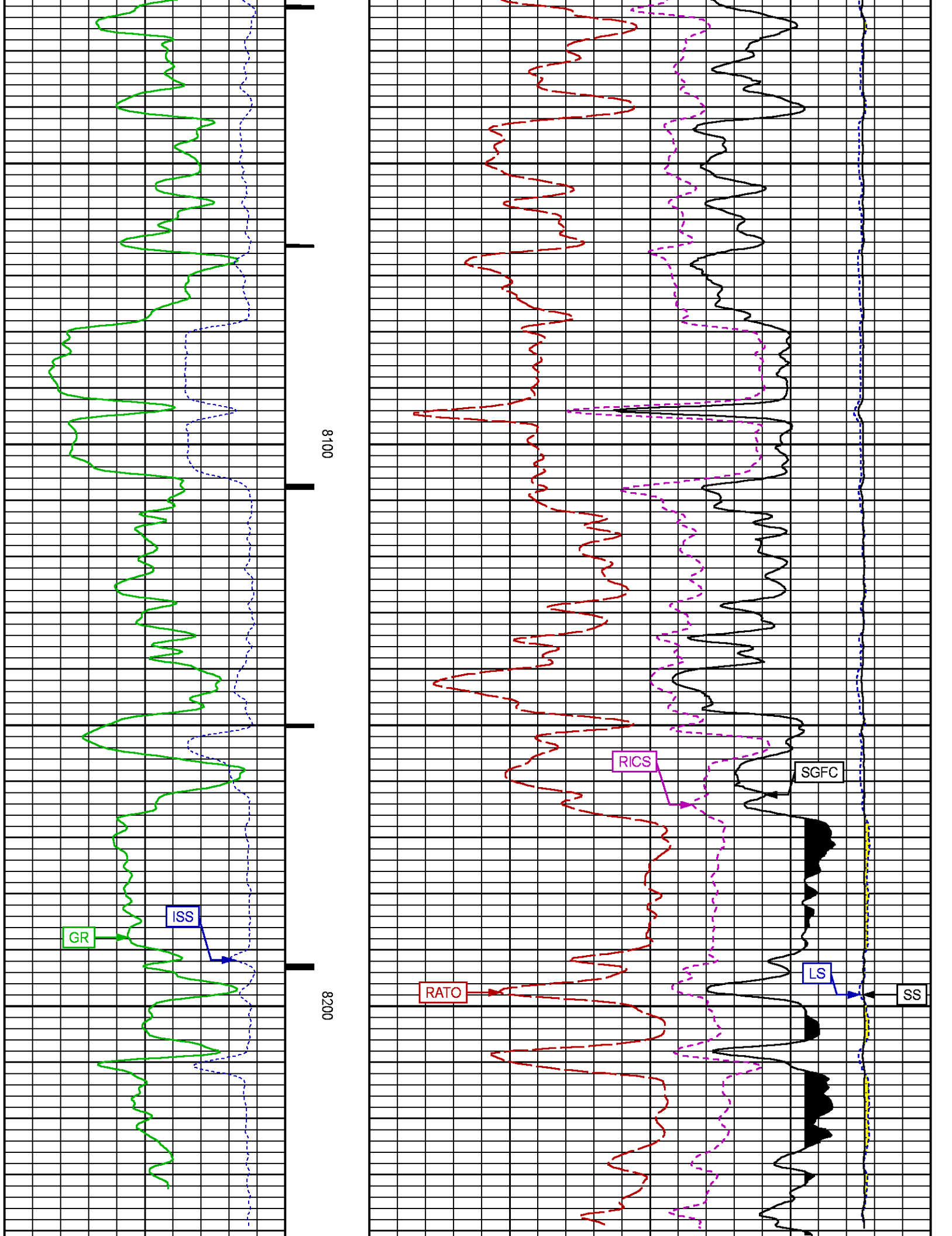












TD NOT TAGGED DUE TO WELLBORE CONDITIONS

GR BACKUP

GAMMA RAY [gr]

0 150

(gAPI)

ISS [iss]

0 1E+06

((cts/s))

FEET

CCL
(mV)

LS [ls]

0 29000

((cts/s))

SS [ss]

0 290000

((cts/s))

RATO [rato]

17 0

(dim)

RICS [rics]

39 9

(dim)

SGFC [sgfc]

60 0

(cu)

REPEAT PASS

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017

Patches: 3

Plotted: Sat Apr 14 19:53:44 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/p353h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5356.348 ft BOTTOM DEPTH: 5604.033 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

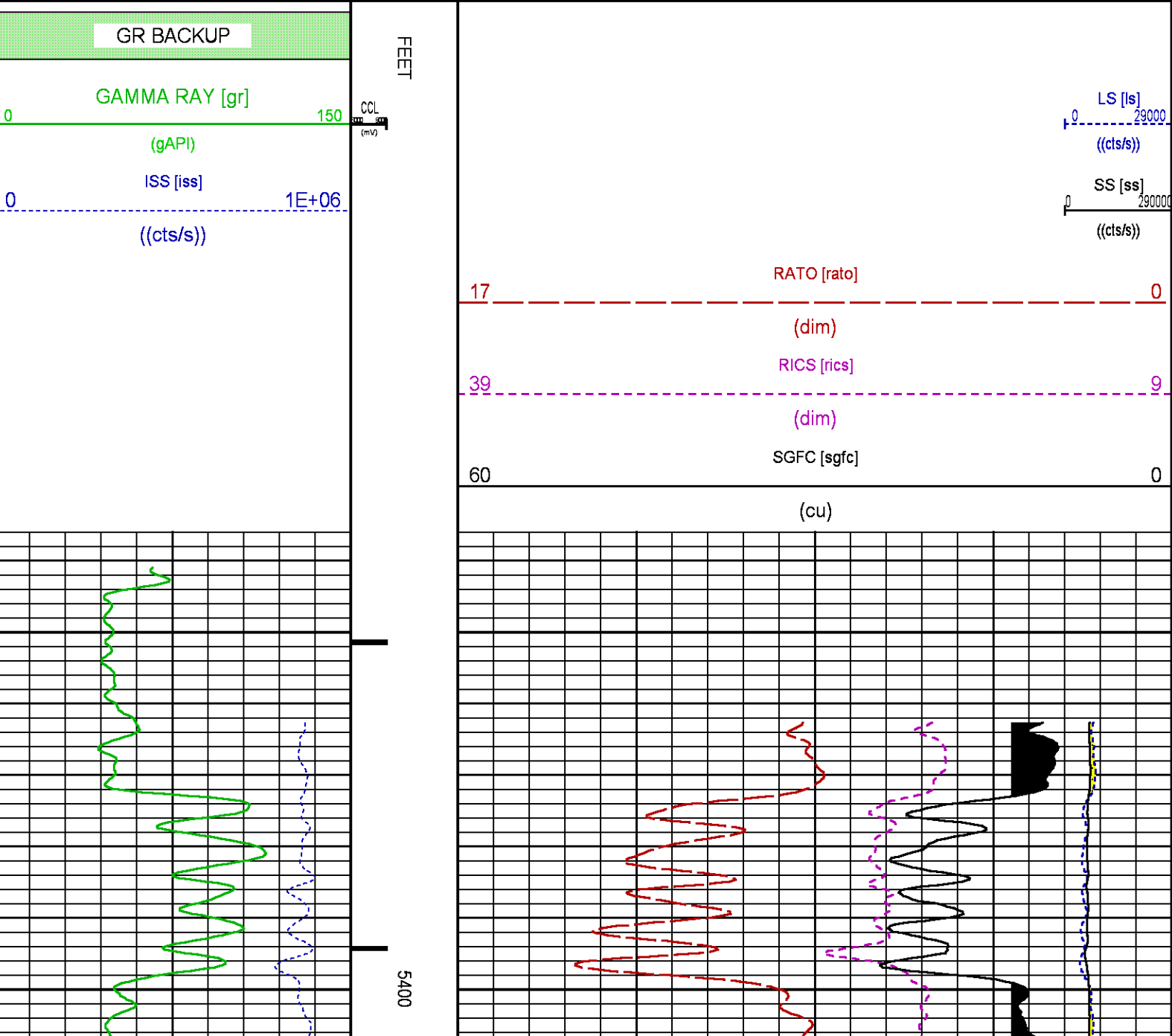
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

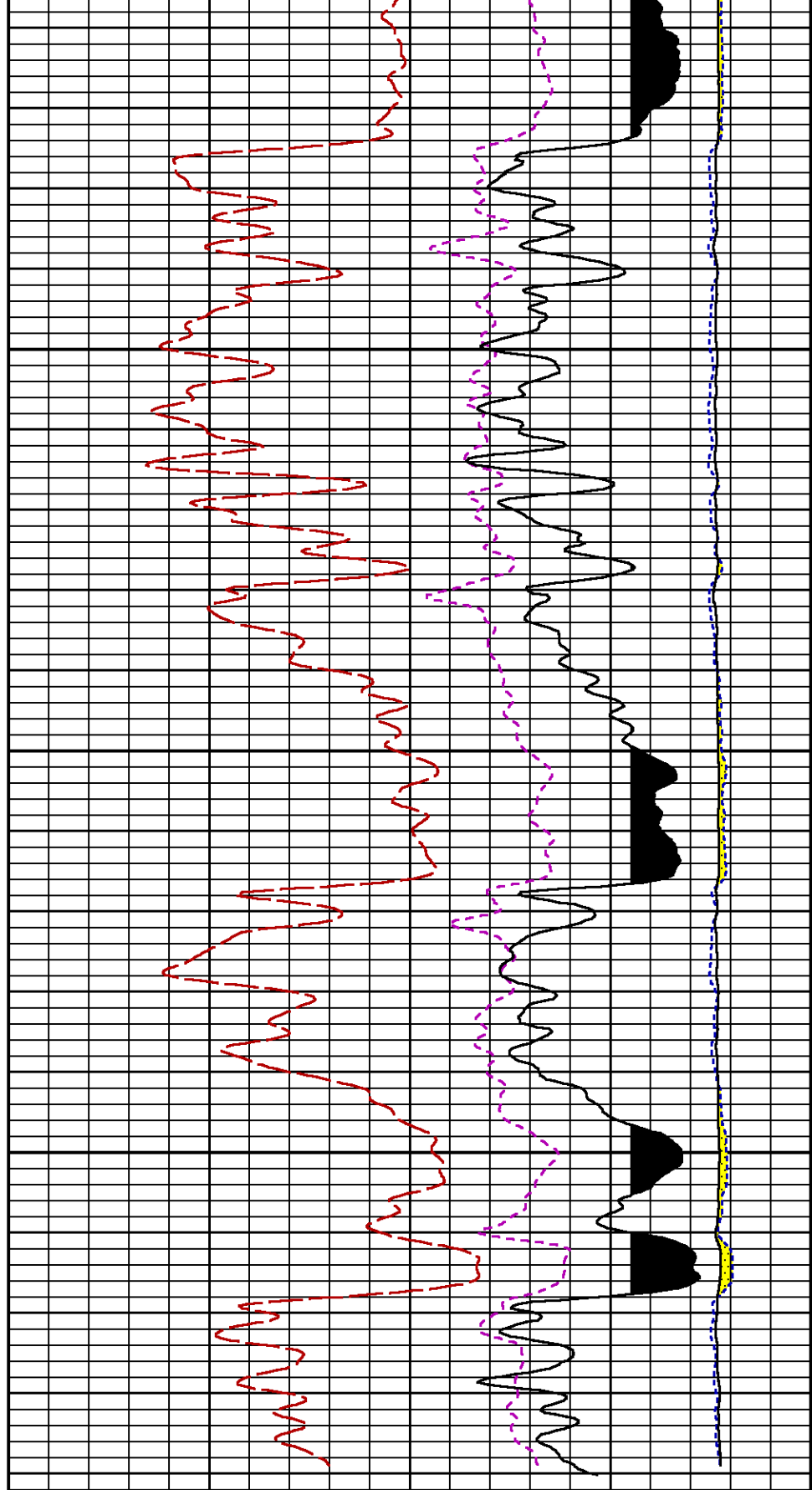
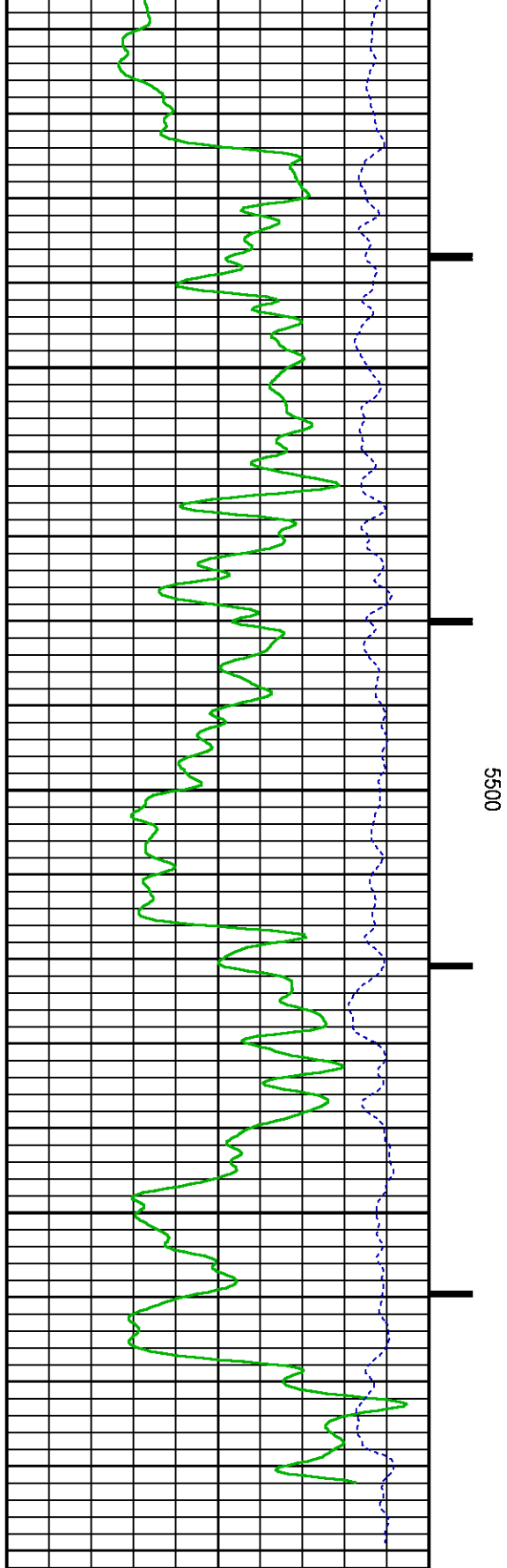
CURVE MEASURE POINT OFFSET

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

Presentation : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/31-01E_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 5336.75 - 5605 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_31-01E/31-01E_RPM_REPEAT.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : BRUTON FEDERAL 31-01E
Field : VEGA
File Interval : 5336 - 5605.25 Feet
OCT : p353h





CALIBRATION / VERIFICATION SUMMARY

GR PRIMARY CALIBRATION SUMMARY

GR PRIMARY VERIFICATION SUMMARY

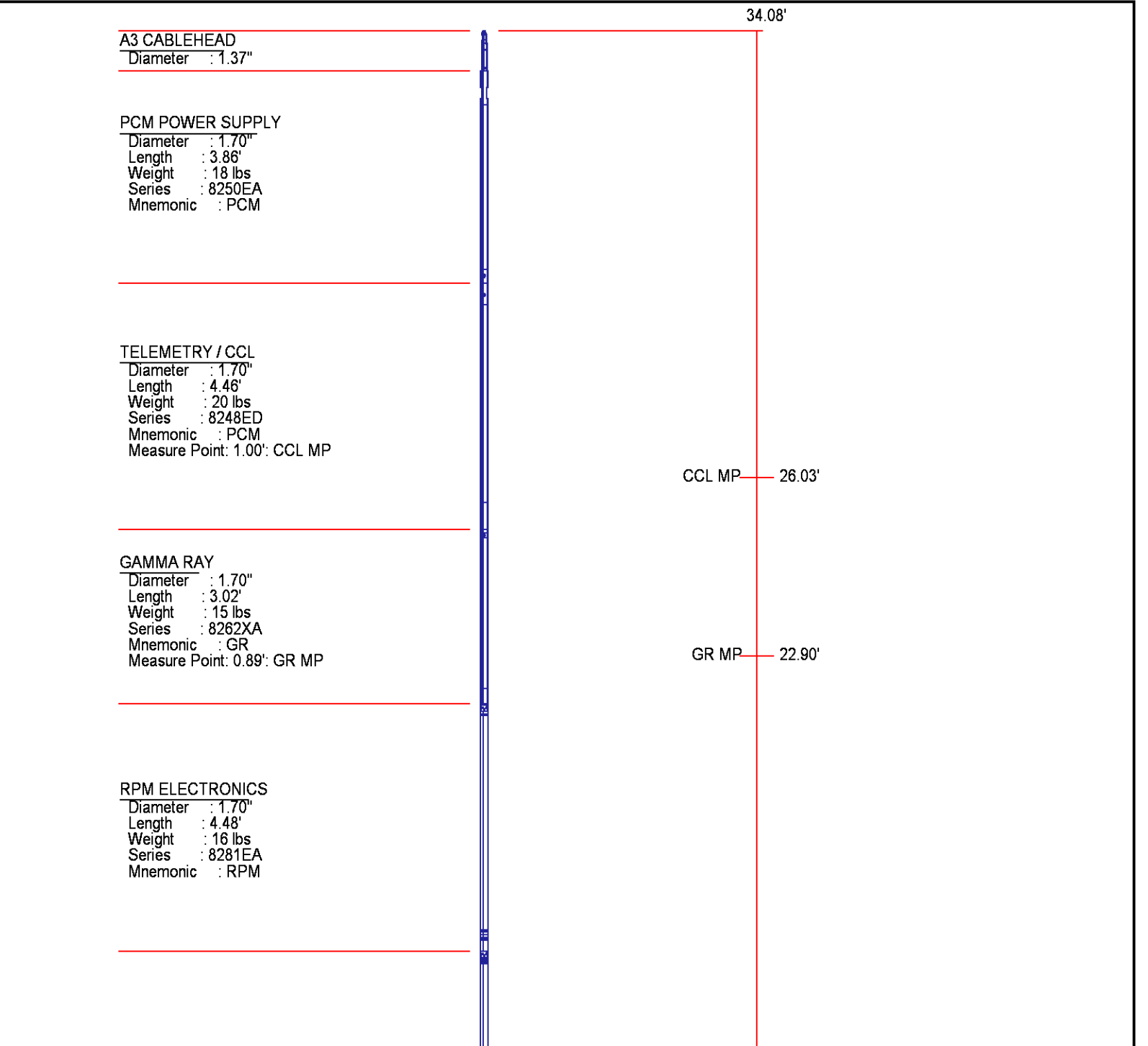
RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	809301	169224	26183	89244	31721	8211	54062	13165
Fit Quality %		0.813	0.977	0.775	0.776	0.762	0.739	0.755

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
	ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS		
Raw Data	809301	1.43	4.78	30.92	14.97	10.87	3.86	4.11
	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 %	0.043	0.140	0.095	0.134	0.015	0.022	0.029	
Reduced	1378034	1.43	4.80	31.03	15.01	10.87	3.86	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	

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_BRUTON_30_19W/RPM-tdg



RPM C DETECTOR SECTION

Diameter : 1.70"
 Length : 9.40'
 Weight : 41 lbs
 Series : 8283PA
 Mnemonic : RPM
 Measure Point: 5.45': XLS MP
 Measure Point: 5.04': LS MP
 Measure Point: 4.79': SS MP

XLS MP 13.58'
 LS MP 13.16'
 SS MP 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

BULL PLUG 1 11/16

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



COMPANY

LARAMIE ENERGY LLC

WELL

BRUTON FEDERAL 31-01E

FIELD

VEGA

COUNTY

MESA

STATE COLORADO

FILE NO:

CH135626

API NO:

05077104750000

LOCATION:

SHL: 2610' FSL & 1839' FEL

BHL: 132' FSL & 1334' FEL

ELEVATIONS:

KB 7673 FT

DF

GL 7643 FT

SEC 30

TWP 9S

RGE 93W

DATE

14-Apr-2018

