



FILE NO: CH133067	COMPANY LARAMIE ENERGY LLC
API NO: 05077104670000	WELL BRUTON 30-20E
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10	LOCATION: SHL: 2627' FSL & 1849' FEL BHL: 373' FSL & 820' 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	07-Apr-2018
RUN	1
TRIP	1
SERVICE ORDER	US133067
DEPTH DRILLER	8257 FT
DEPTH LOGGER	8171 FT
BOTTOM LOGGED INTERVAL	8171 FT
TOP LOGGED INTERVAL	2685 FT
TIME STARTED	12:30
TIME FINISHED	18:00
OPERATOR RIG TIME	5.50 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	54 FT
LOGGED CEMENT TOP	265 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	229 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	07-Apr-2018
EQUIP. NO.	ML-4291
LOCATION	GRAND JCT.
RECORDED BY	T. NEWELL / 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 1 TRIP 1: *2 OPERATIONS IN WELLBORE*

OPERATION 2: RPM/GR/CCL RUN IN PNC-3D MODE

SJ: 6260' - 6278'
SJ: 7312' - 7330'

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	10485470	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 7 18:24:27 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/p353h03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2668.922 ft BOTTOM DEPTH: 3313.948 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	" "
	LARGEST CASING OD	4.50	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

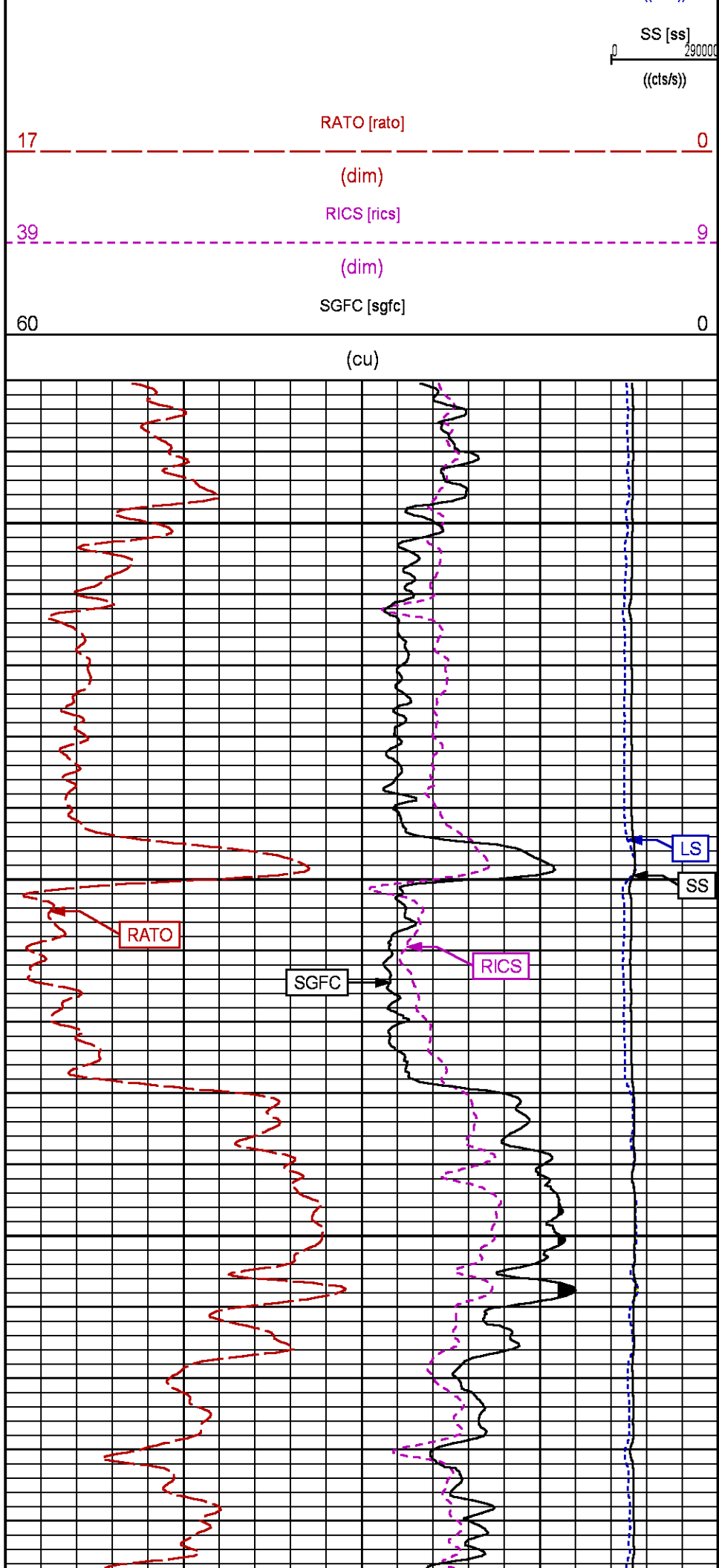
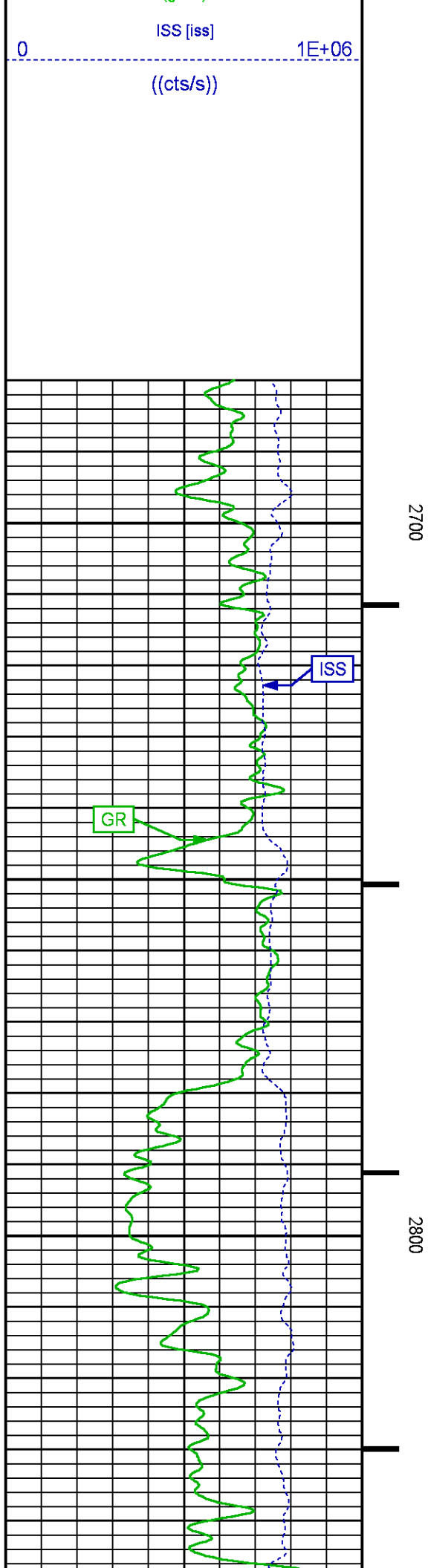
CURVE MEASURE POINT OFFSET

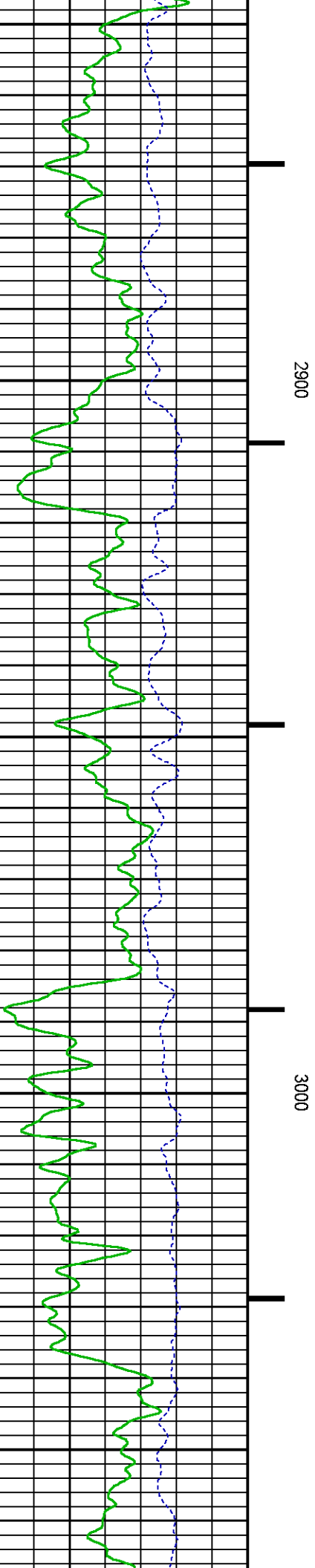
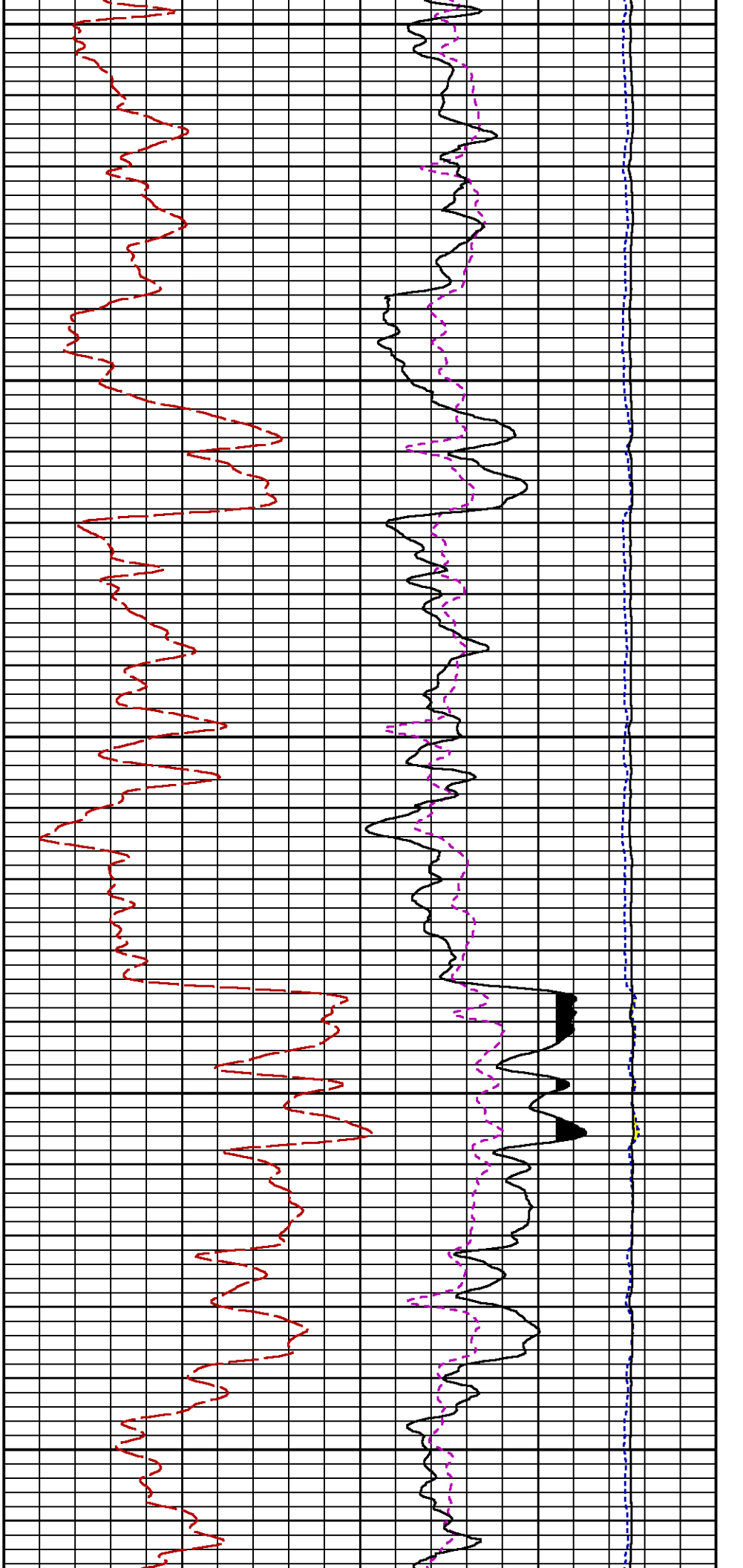
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

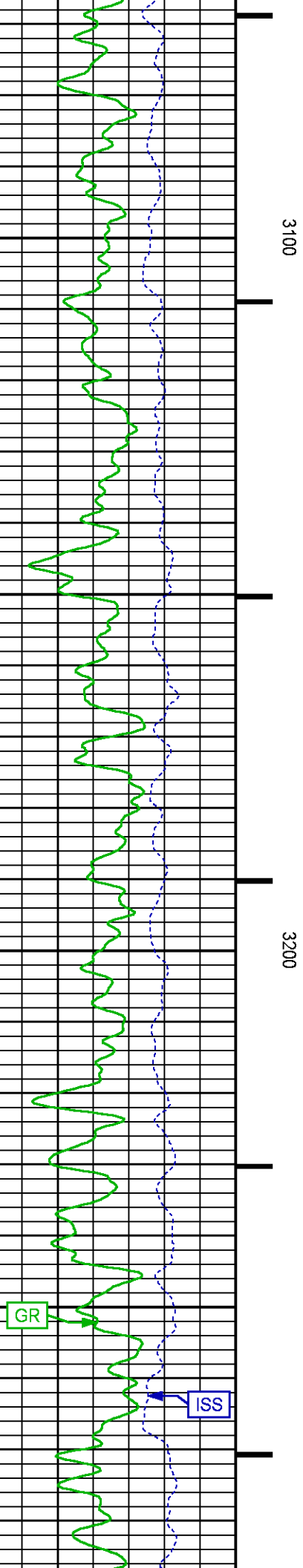
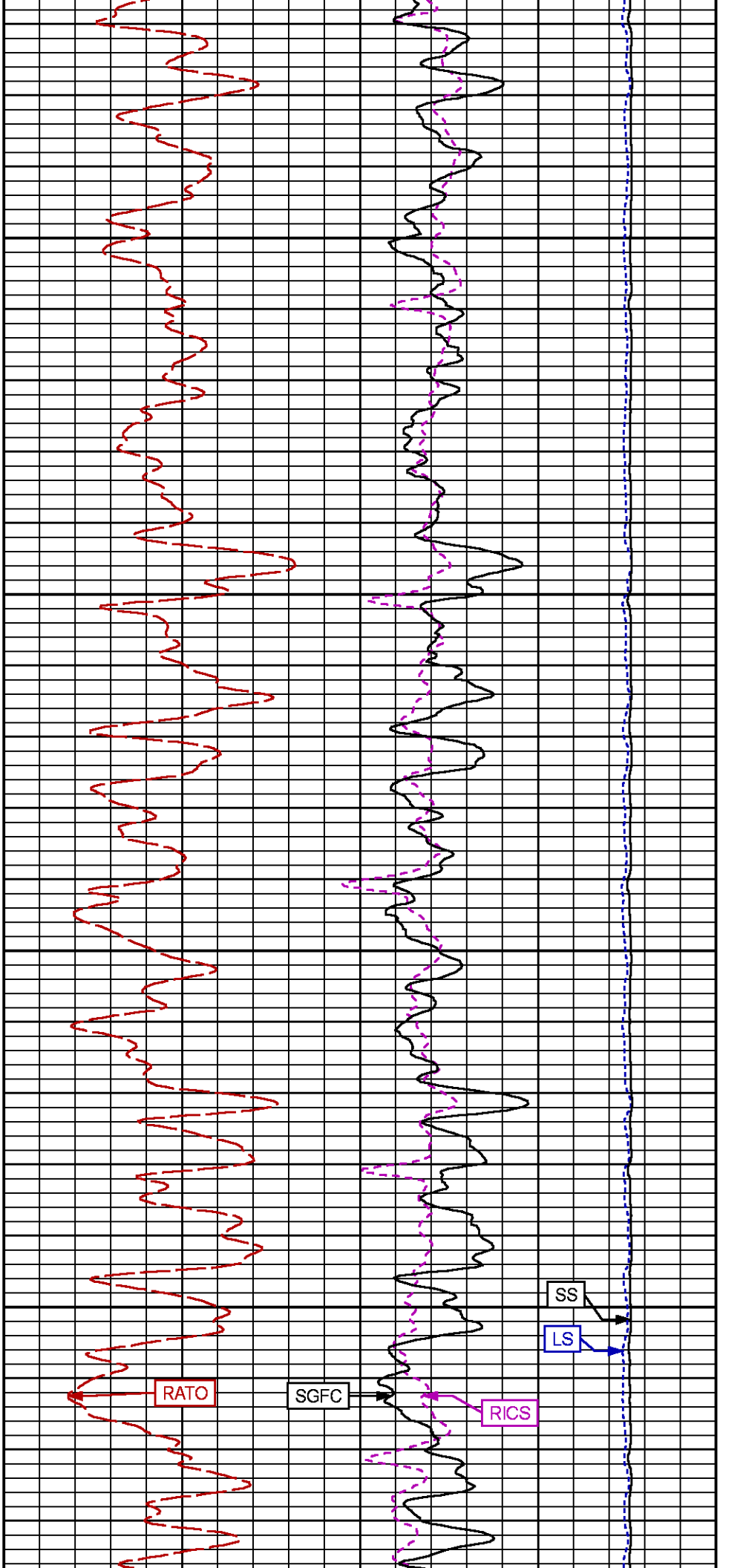
Presentation : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/30-20E_RPM_GS.fvpdf [5"/100' Scale]
 Plot Interval : 2680 - 3300 Feet

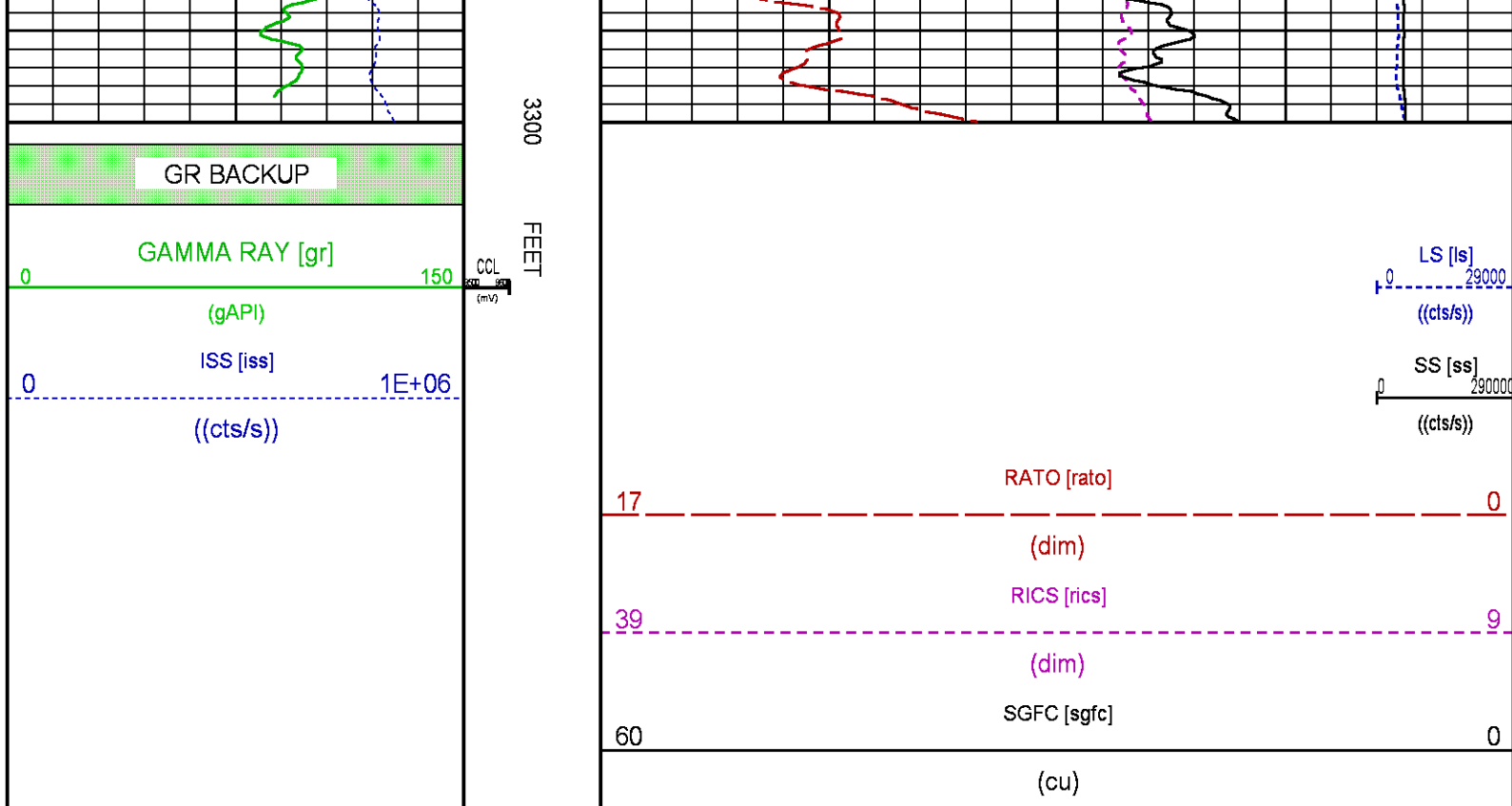
Data File 1 : F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/30-20E_RPM_GS.xtf
 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : BRUTON 30-20E
 Field : VEGA
 File Interval : 2653.75 - 3320.5 Feet
 OCT : p353h











RPM MAIN PASS WILLIAMS FORK

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

Patches: 3

Plotted: Sun Apr 8 12:00:22 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/p353h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5117.500 ft BOTTOM DEPTH: 8176.435 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	" "
	LARGEST CASING OD	4.50	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

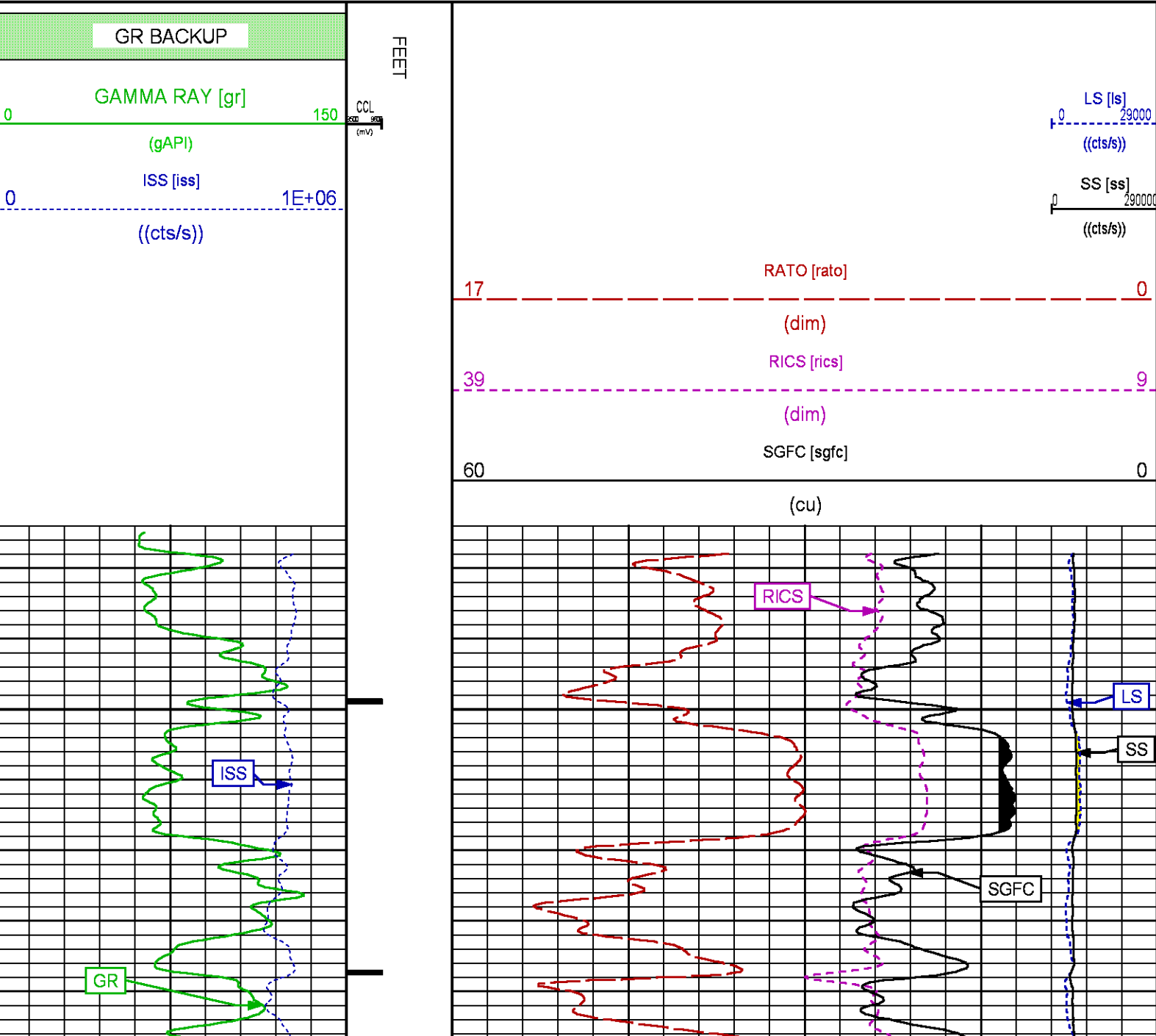
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

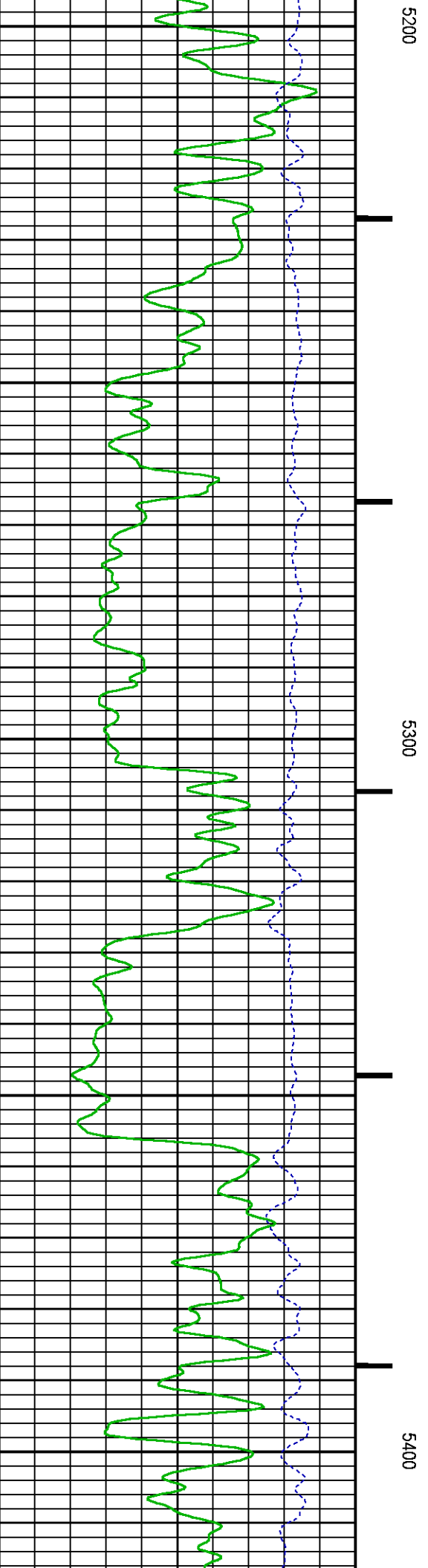
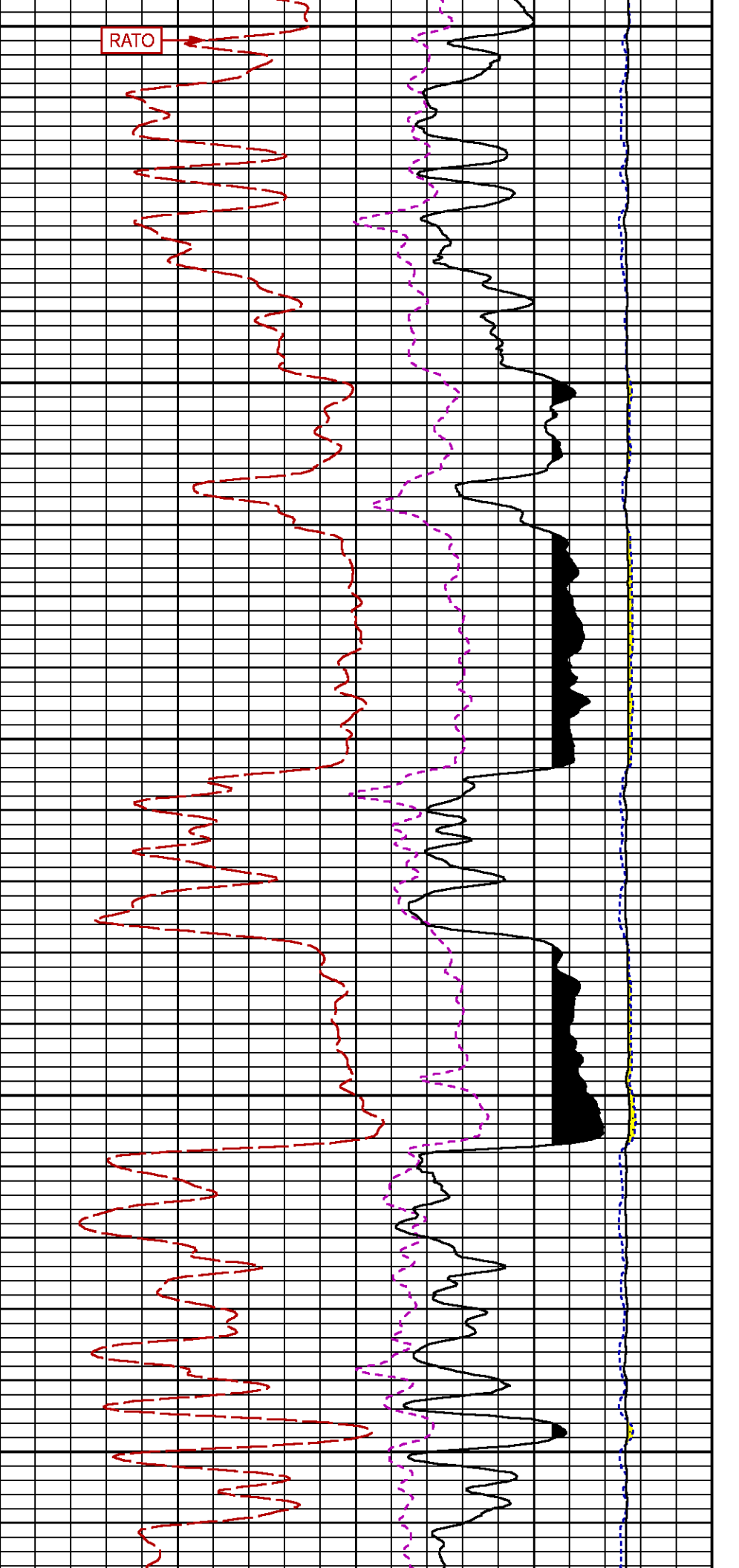
CURVE MEASURE POINT OFFSET

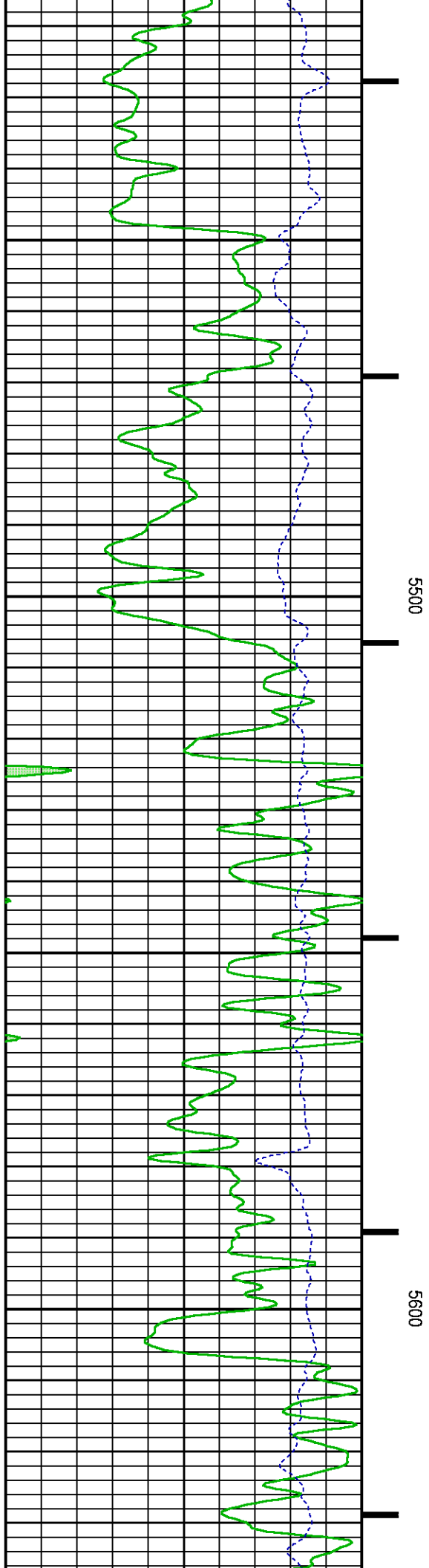
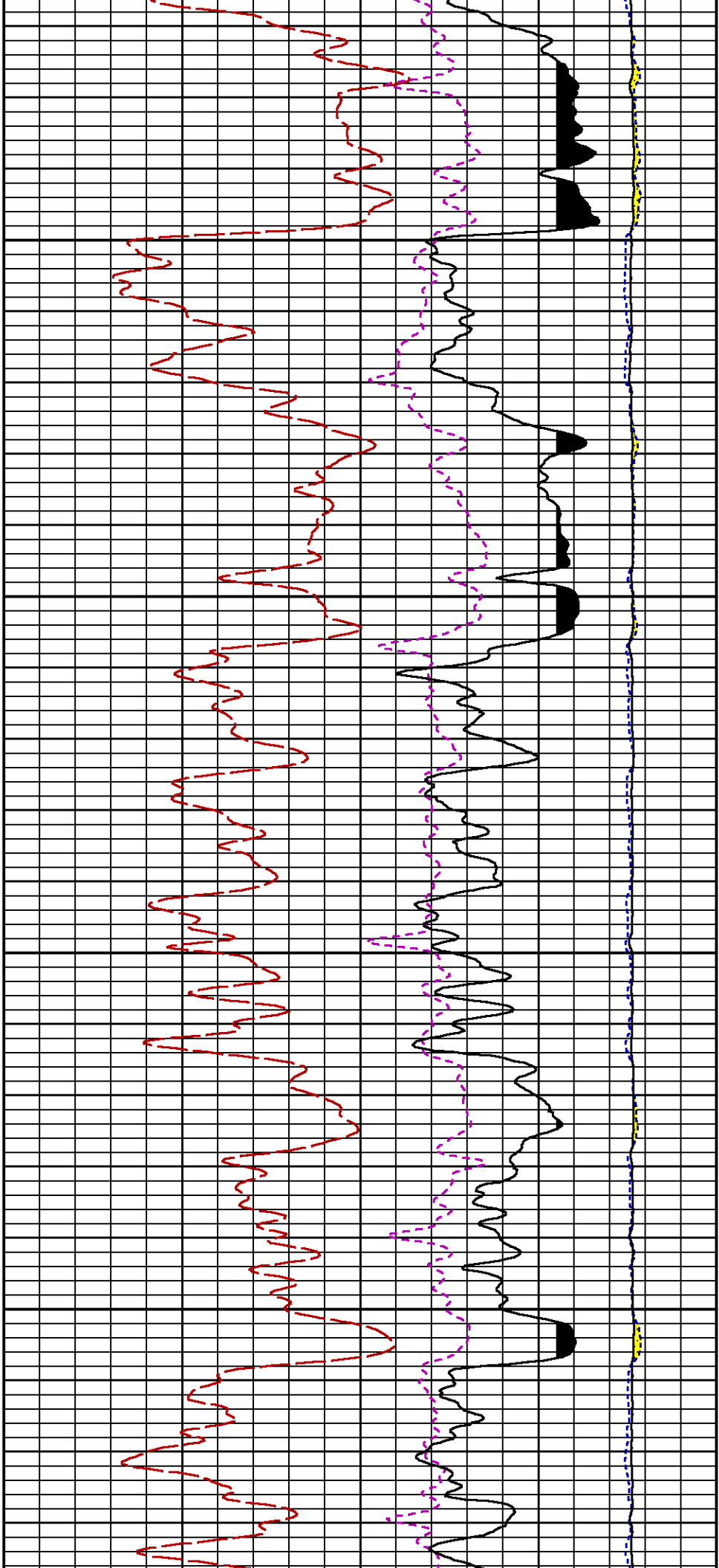
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

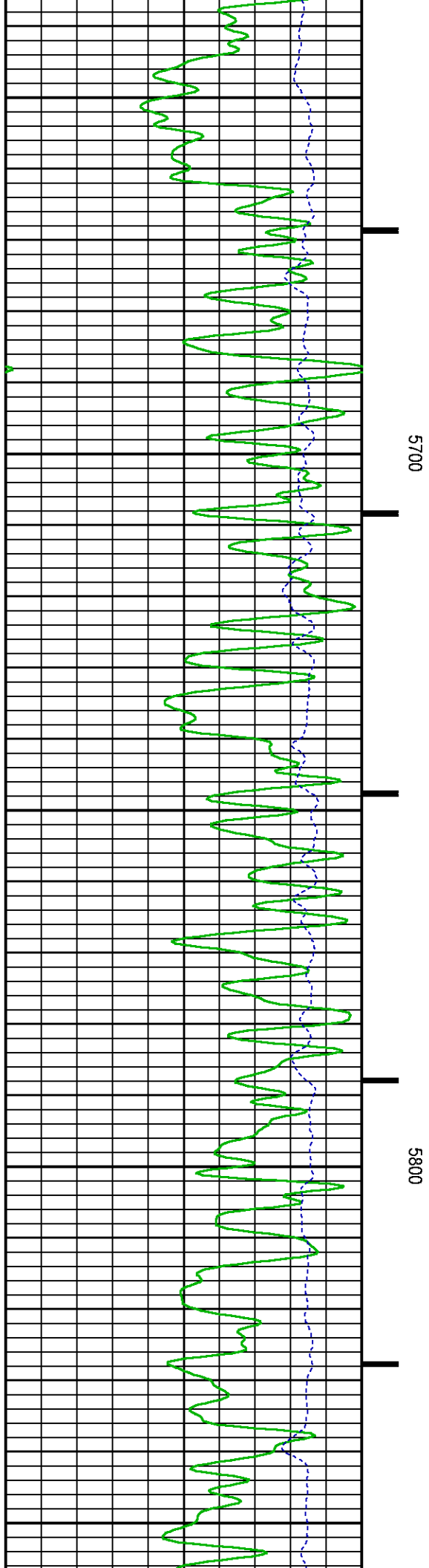
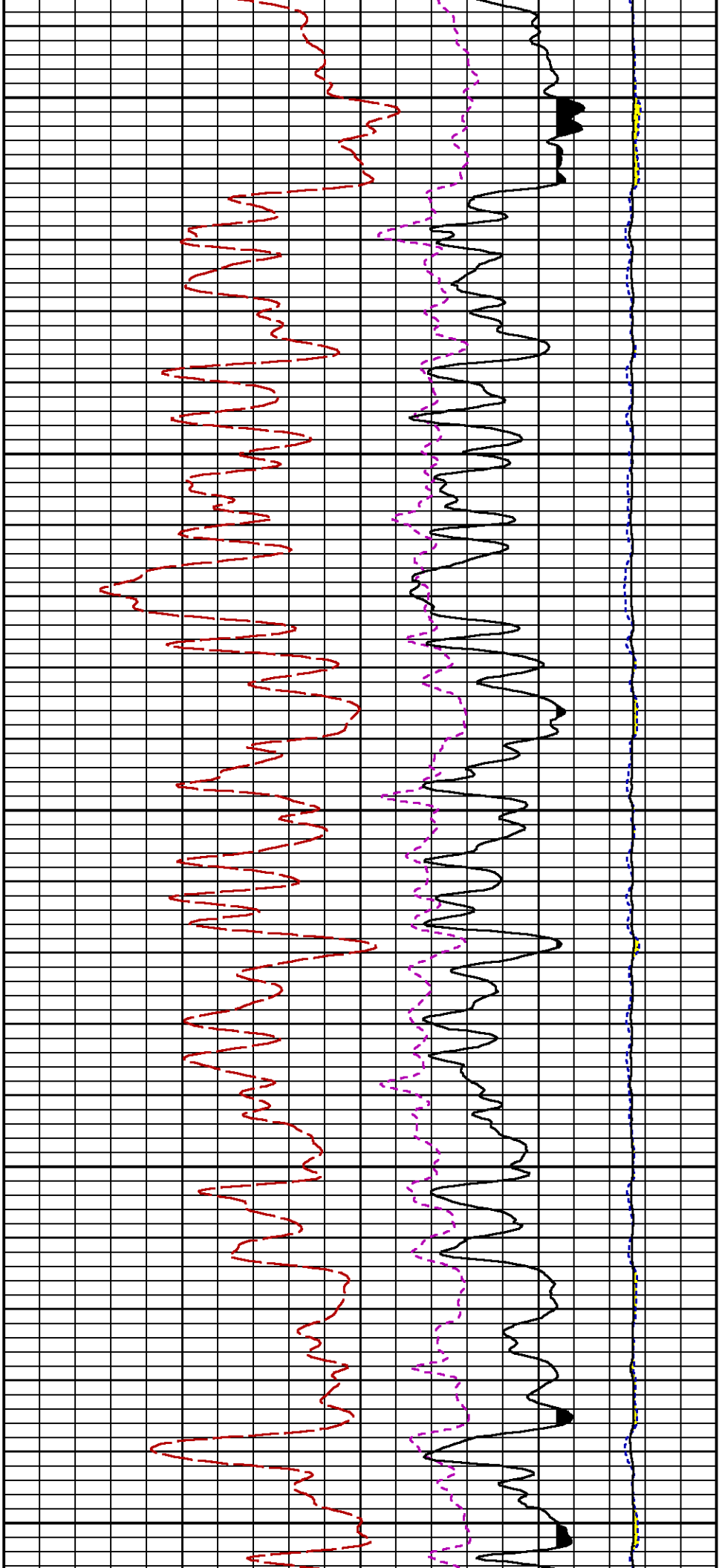
Presentation : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/30-20E_RPM_WF.fvpdf [5"/100" Scale]
Plot Interval : 5125 - 8185.25 Feet

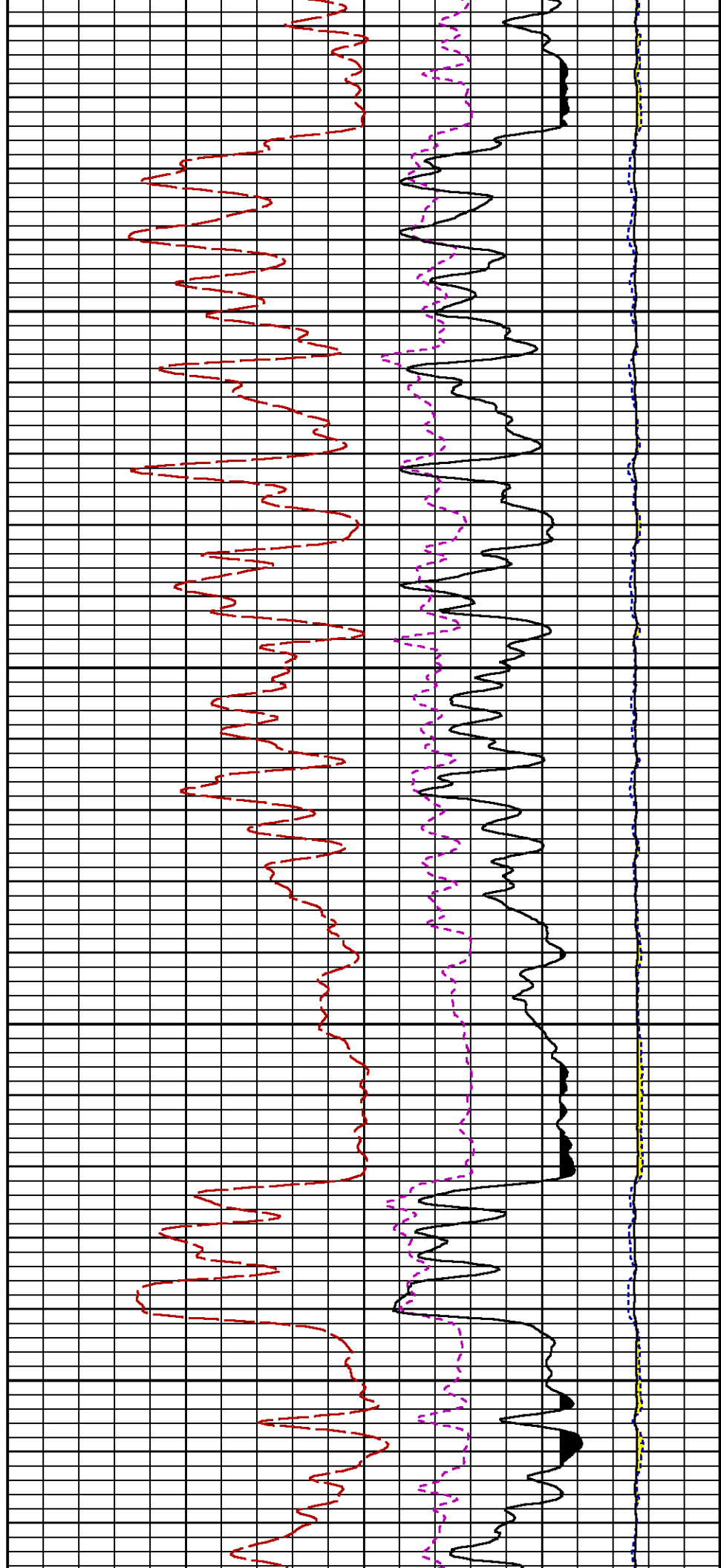
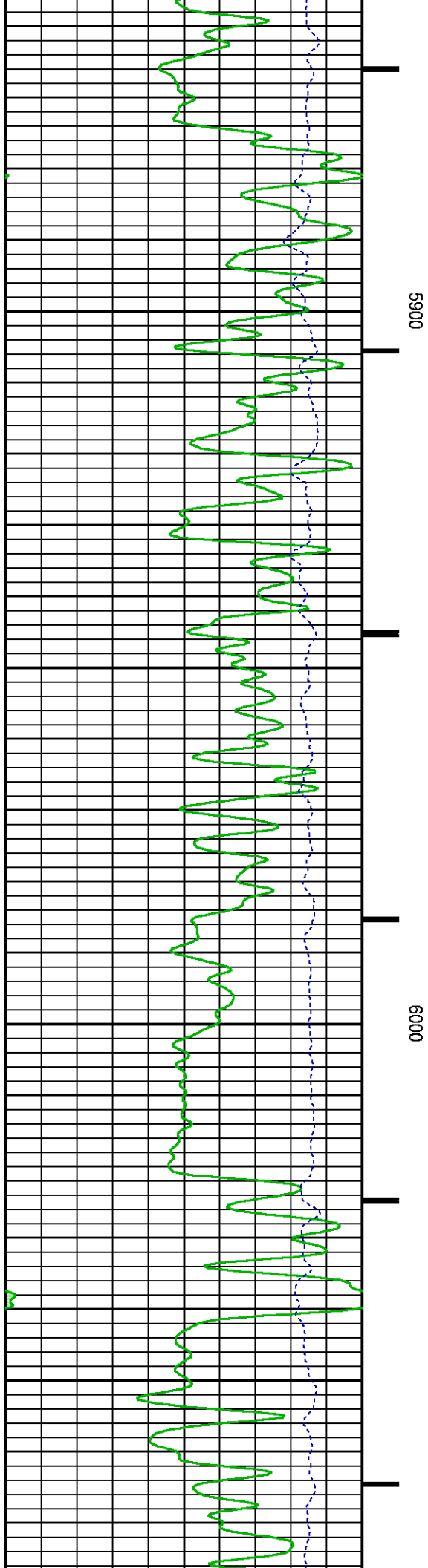
Data File 1 : F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/30-20E_RPM_WF.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : BRUTON 30-20E
Field : VEGA
File Interval : 5101.25 - 8185.5 Feet
OCT : p353h

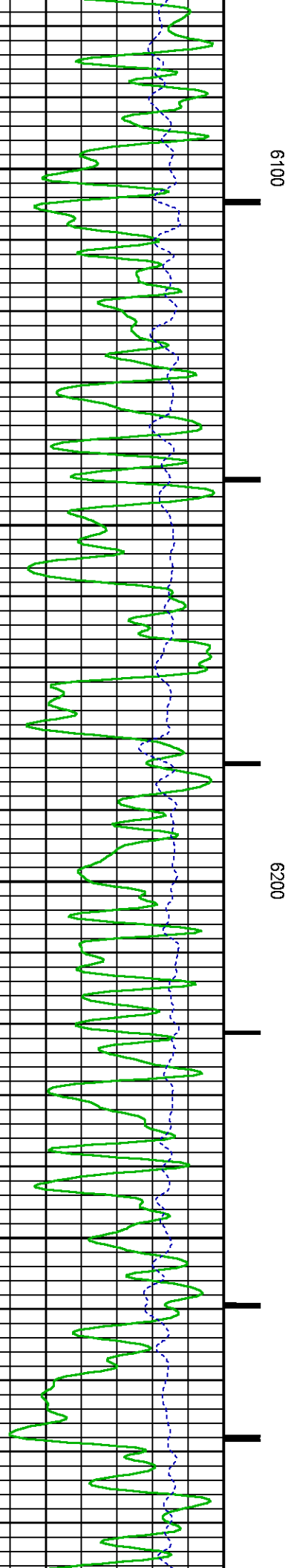
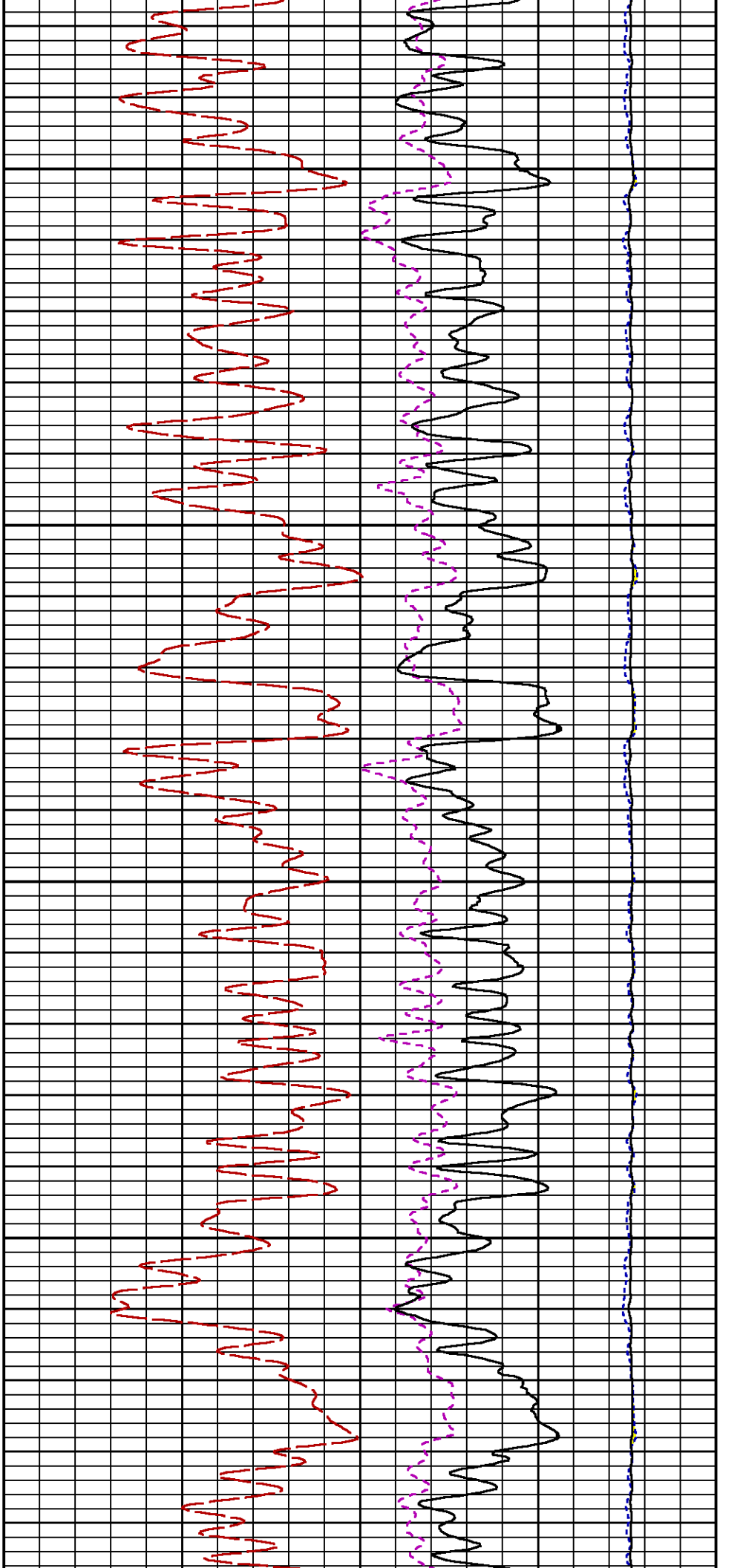


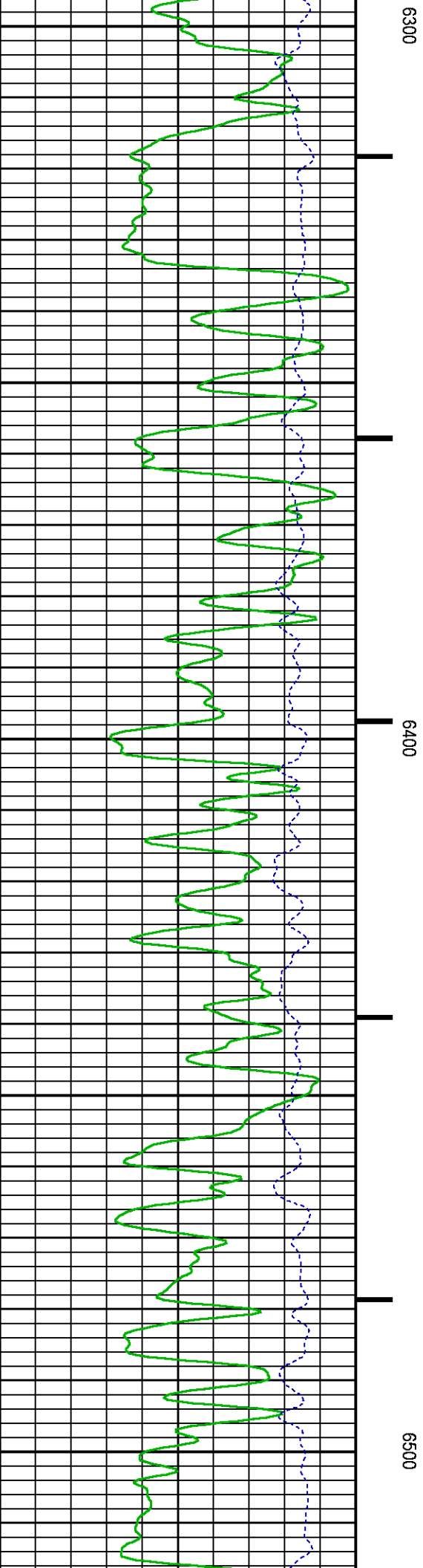
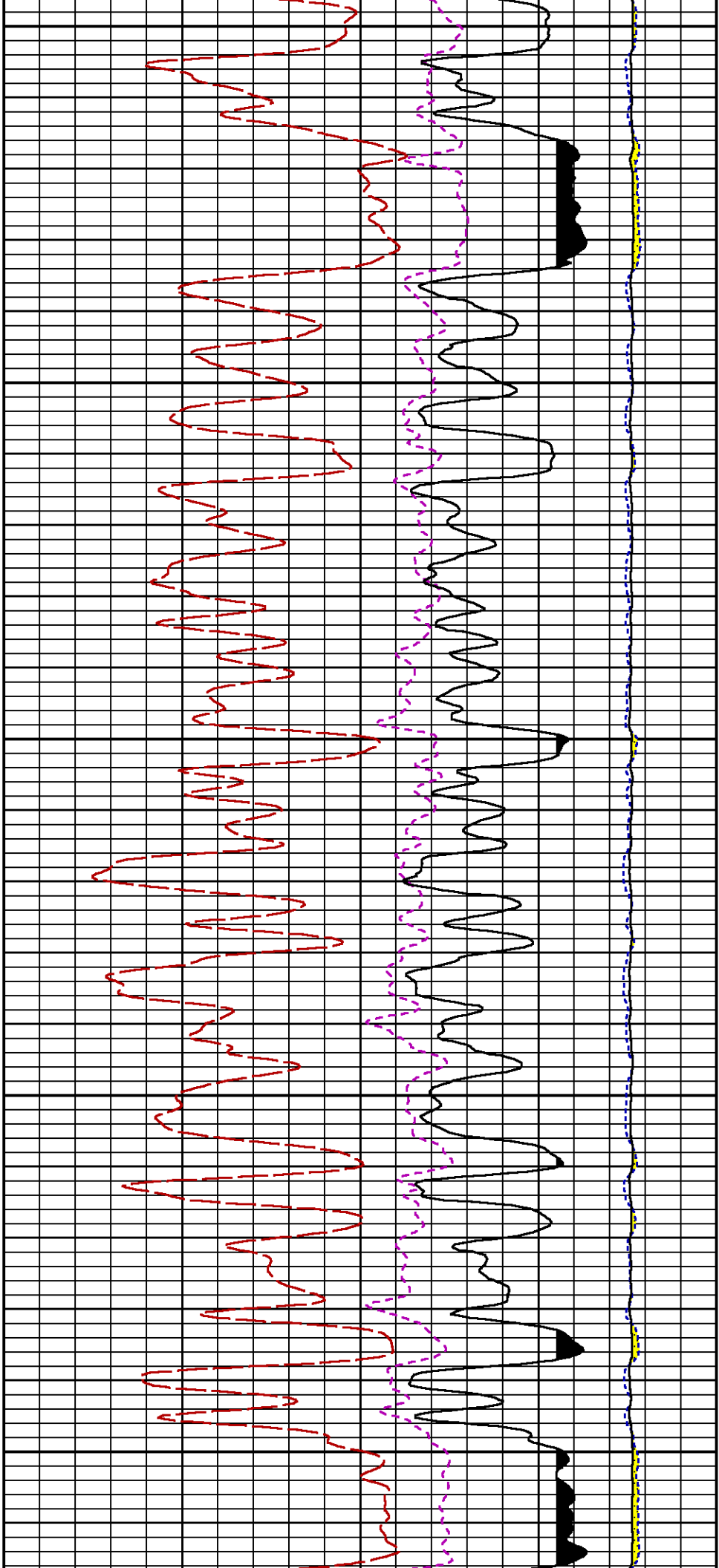


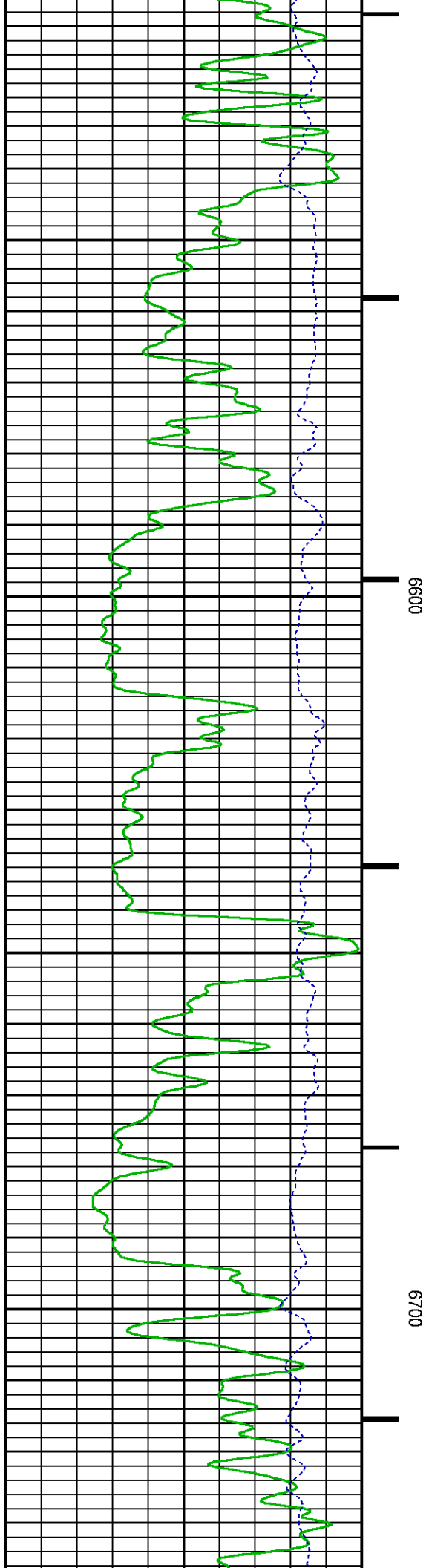
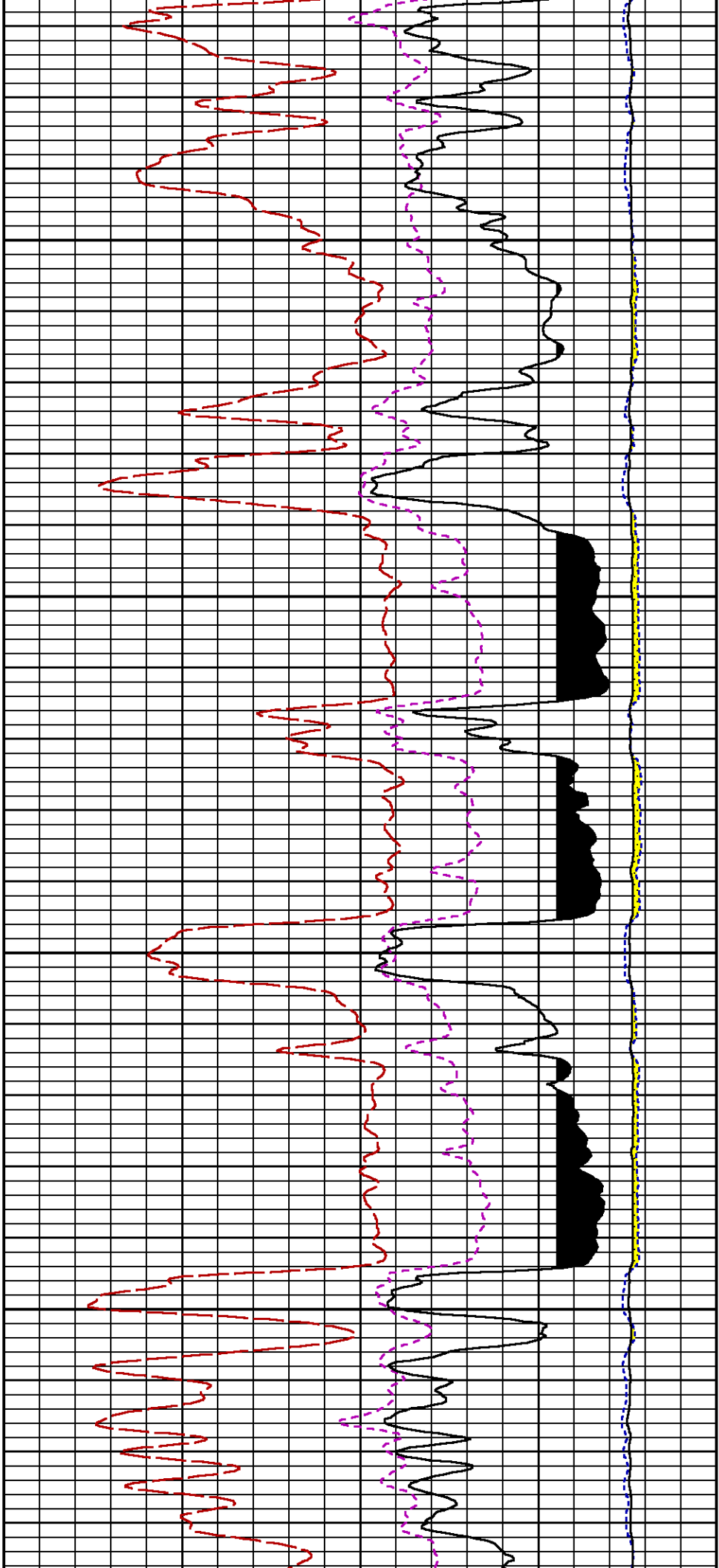


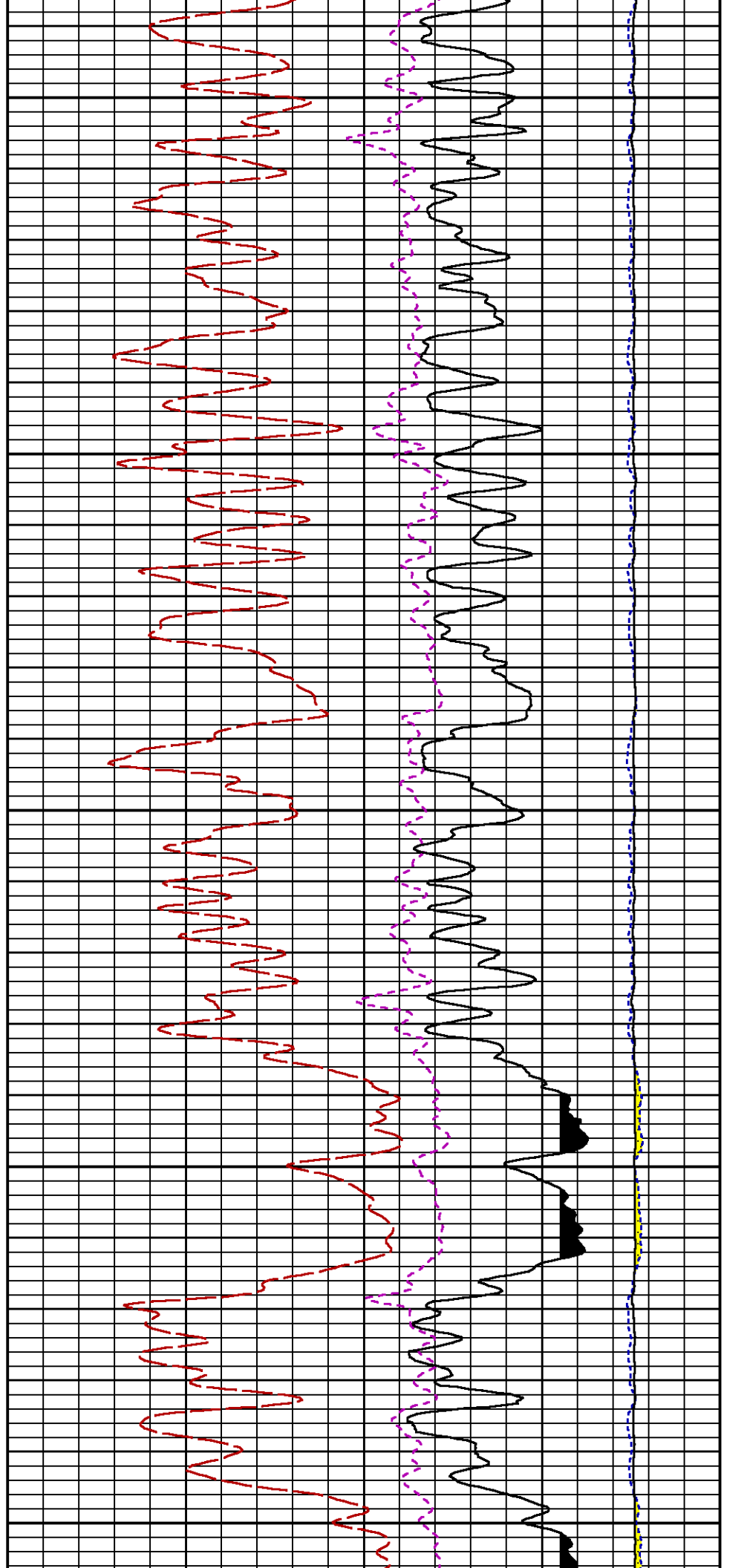
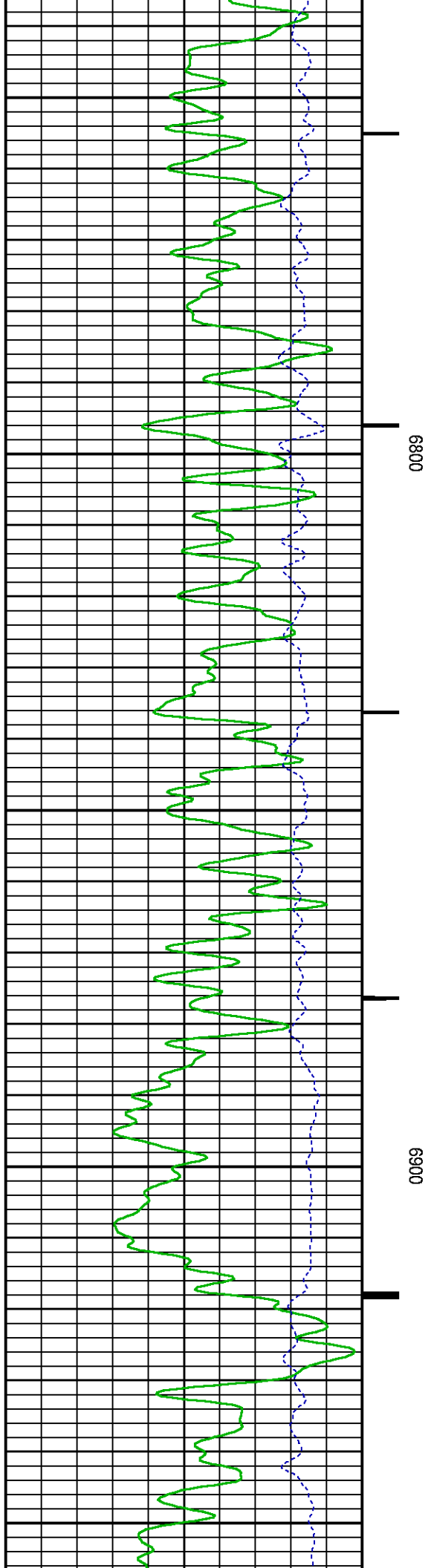


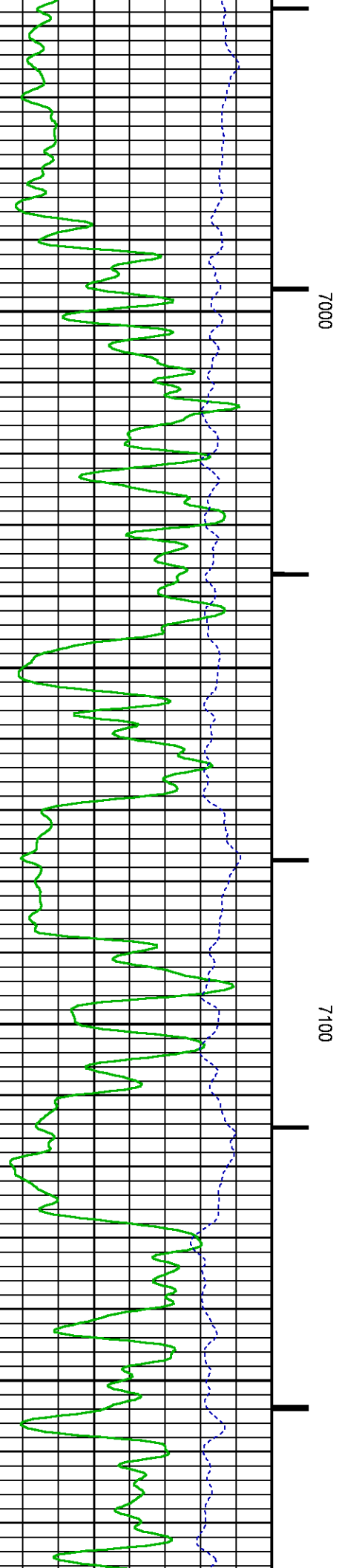
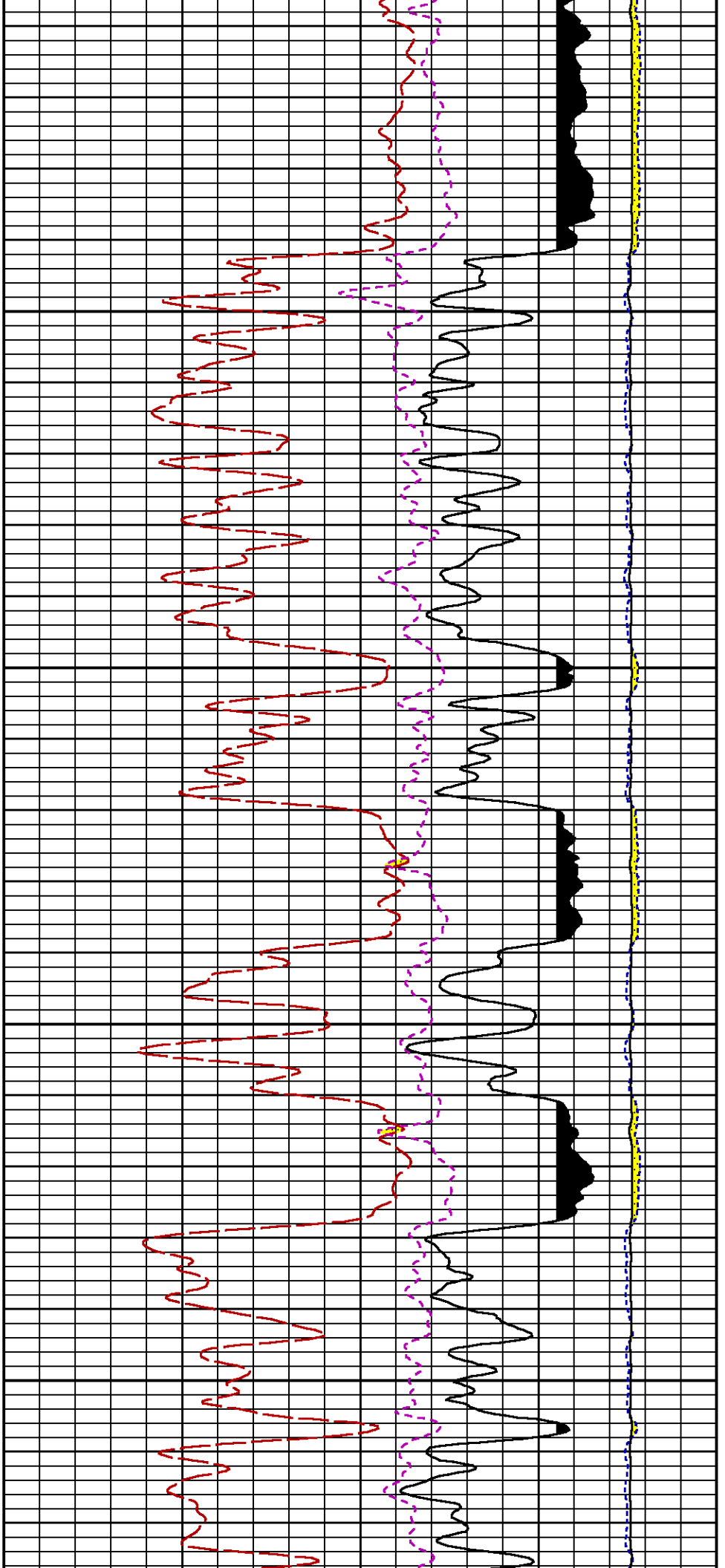


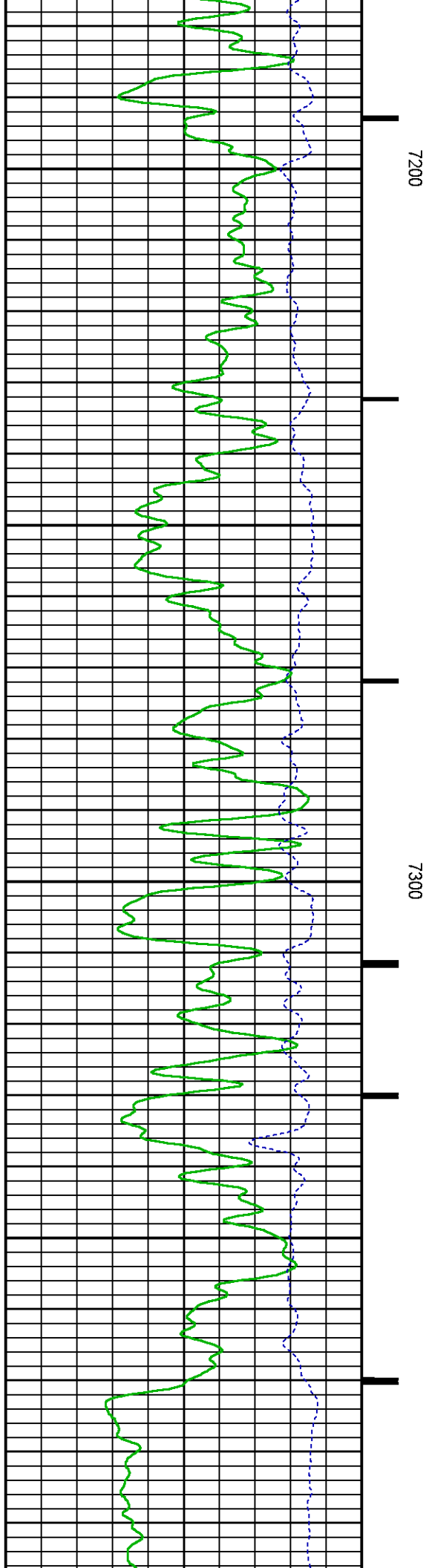
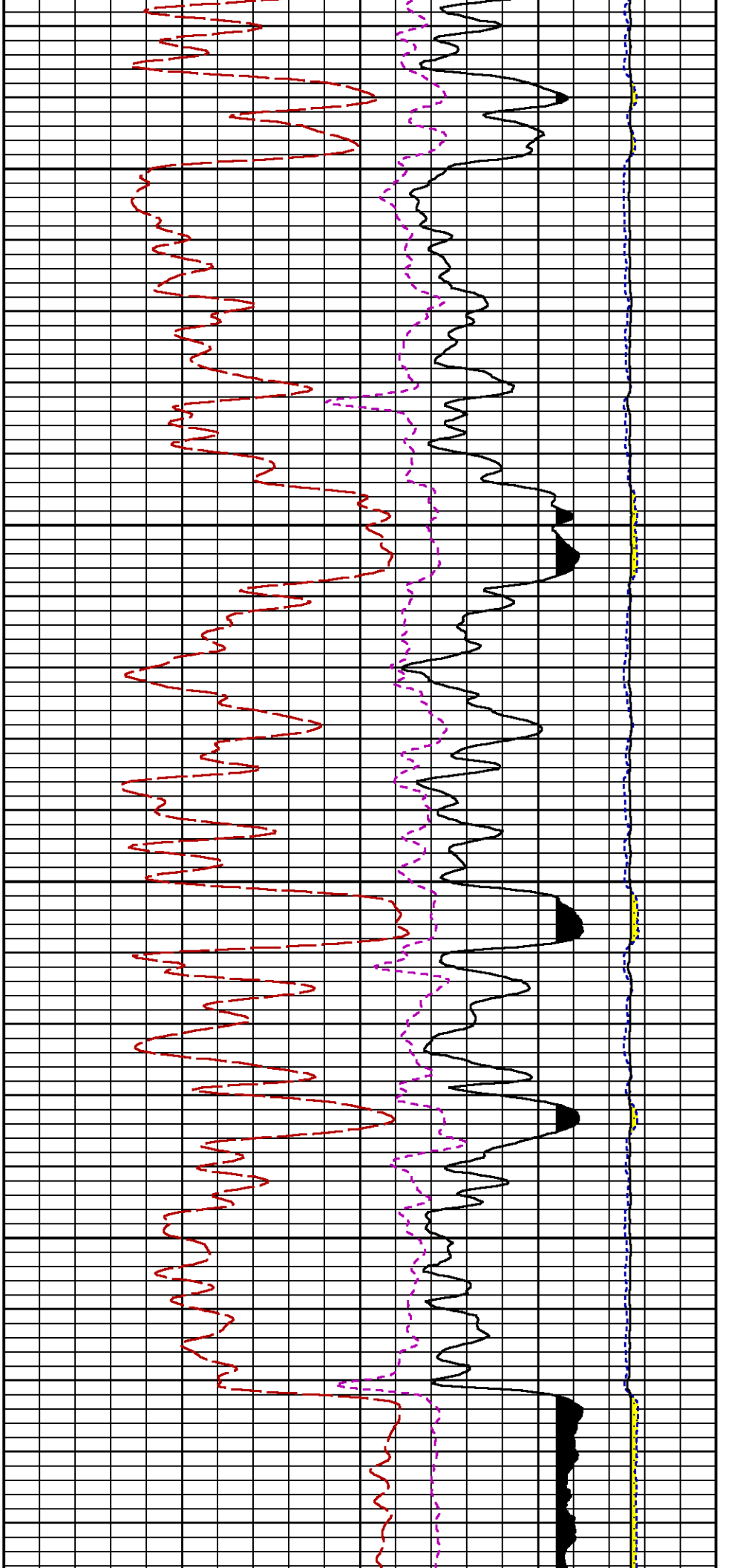


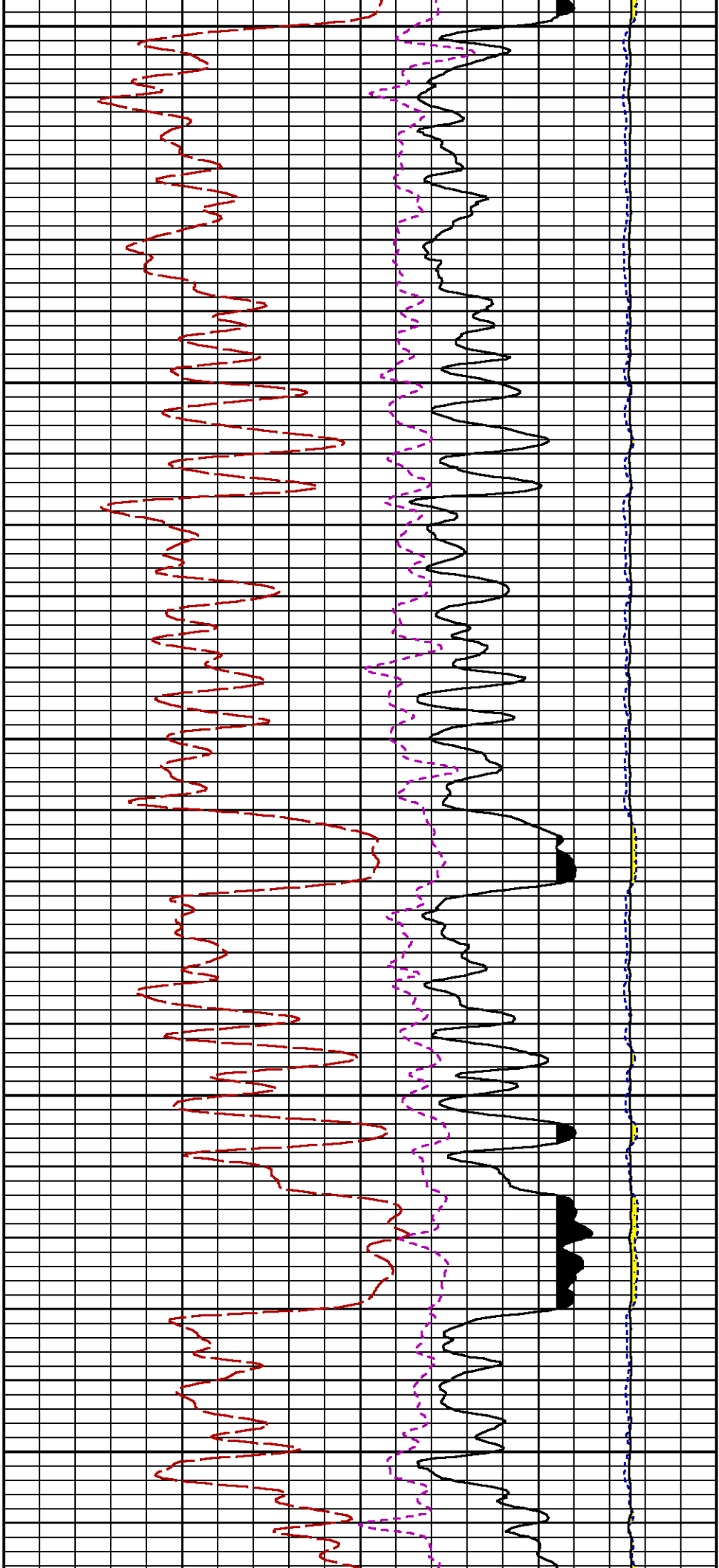








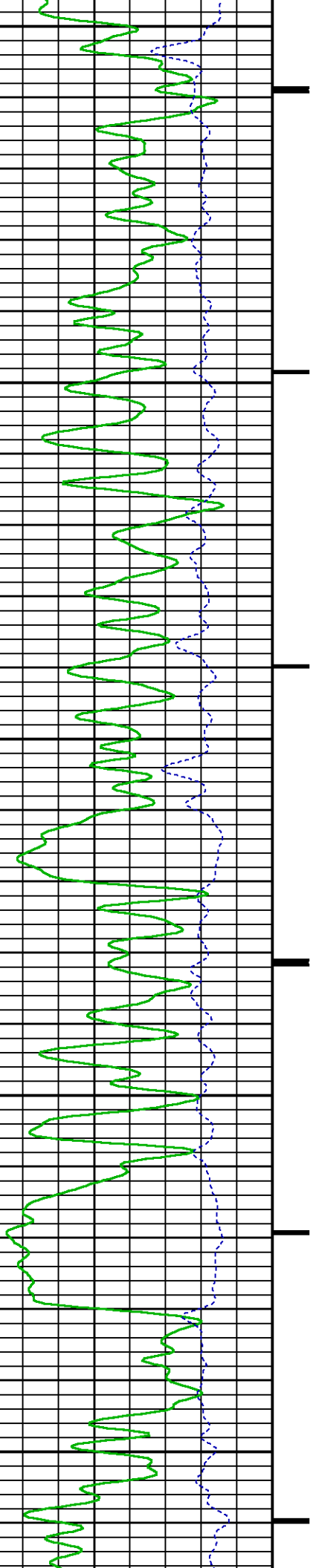


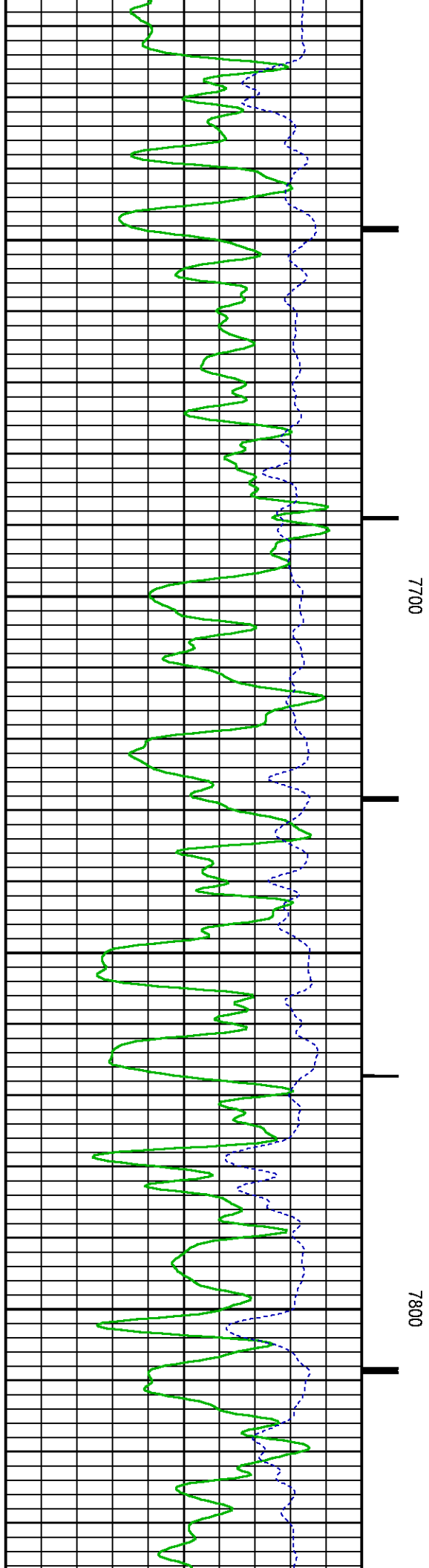
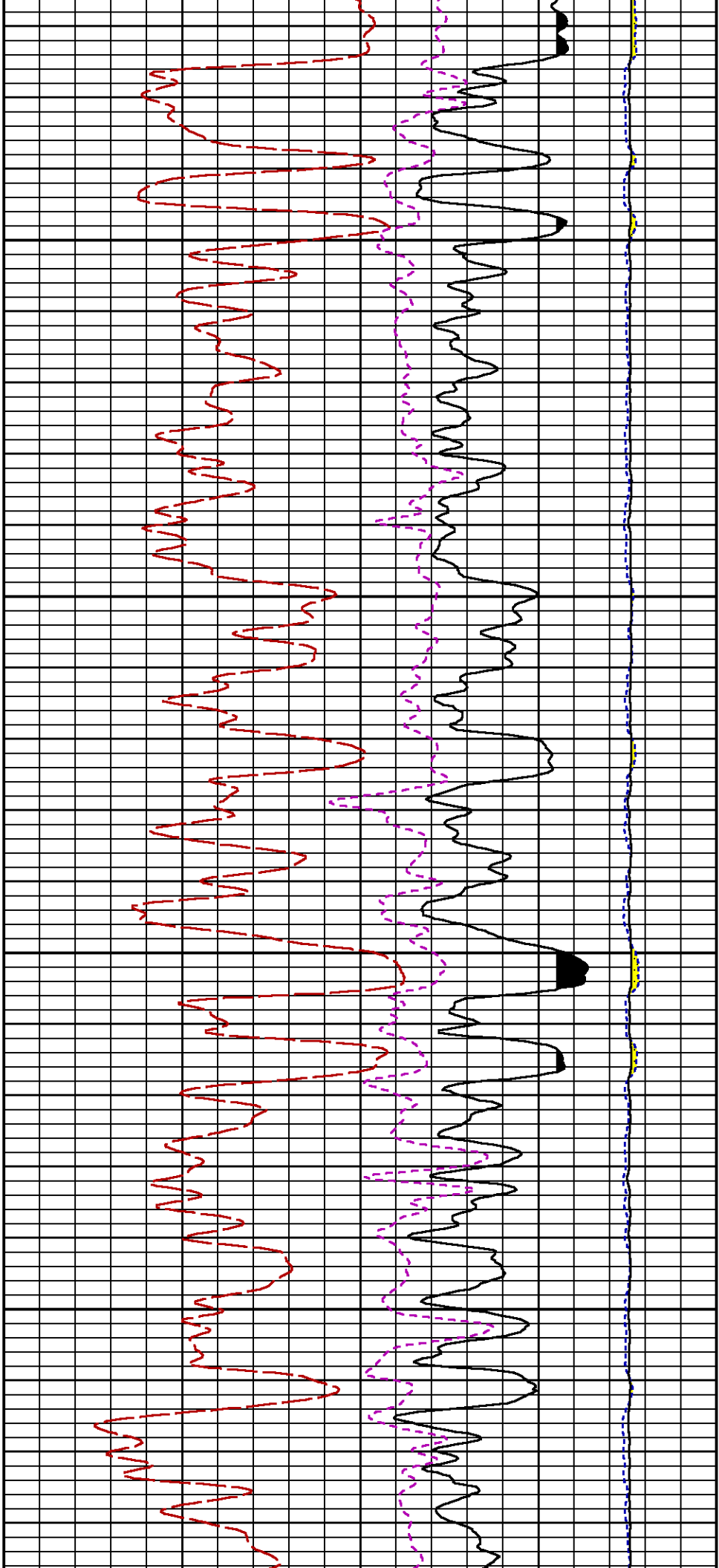


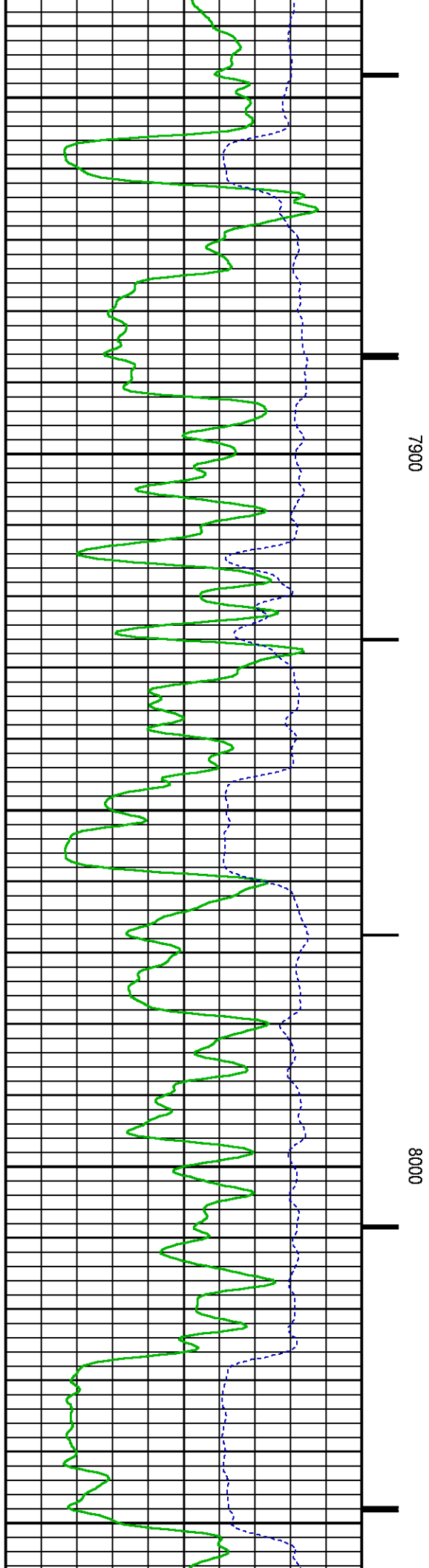
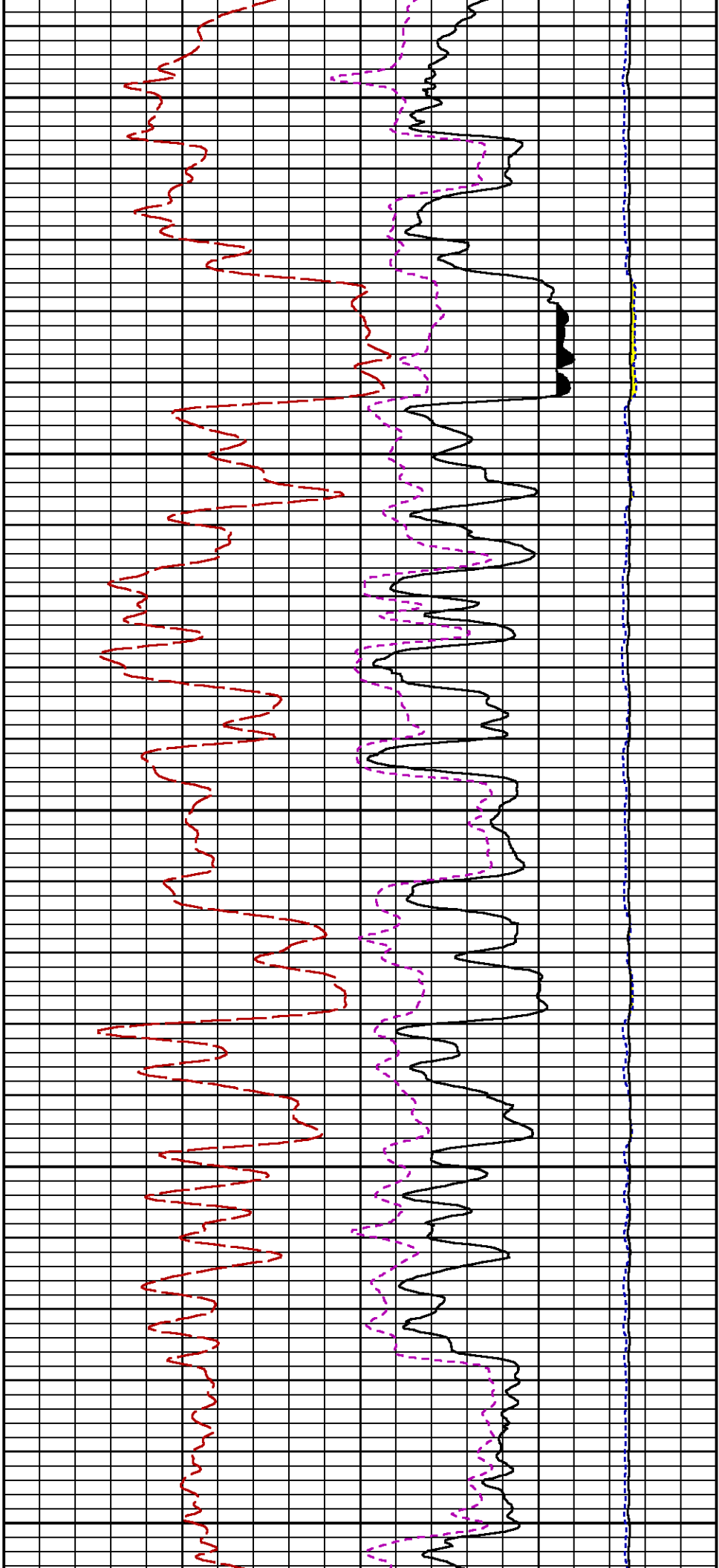
7400

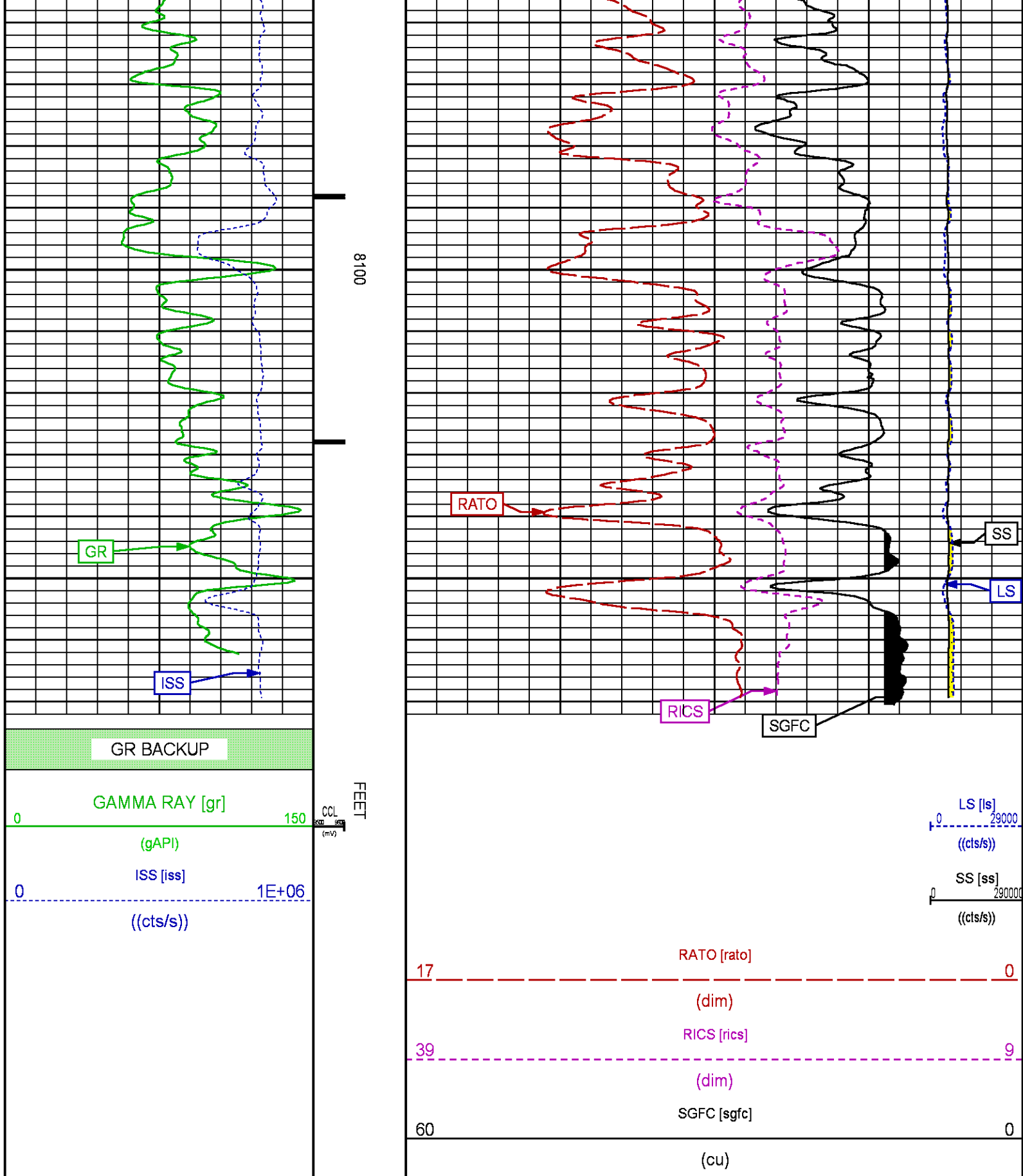
7500

7600









REPEAT PASS PNC 3D MODE

Plotted: Sat Apr 7 14:34:48 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/p353h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5426.368 ft BOTTOM DEPTH: 5680.685 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	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

CURVE DESCRIPTION REPORT

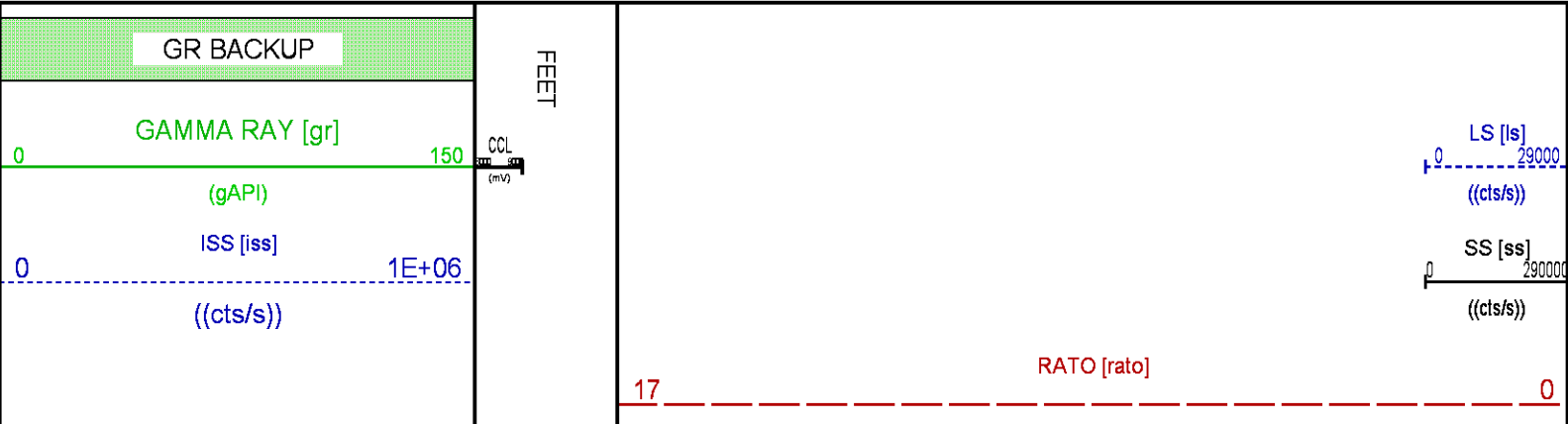
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A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

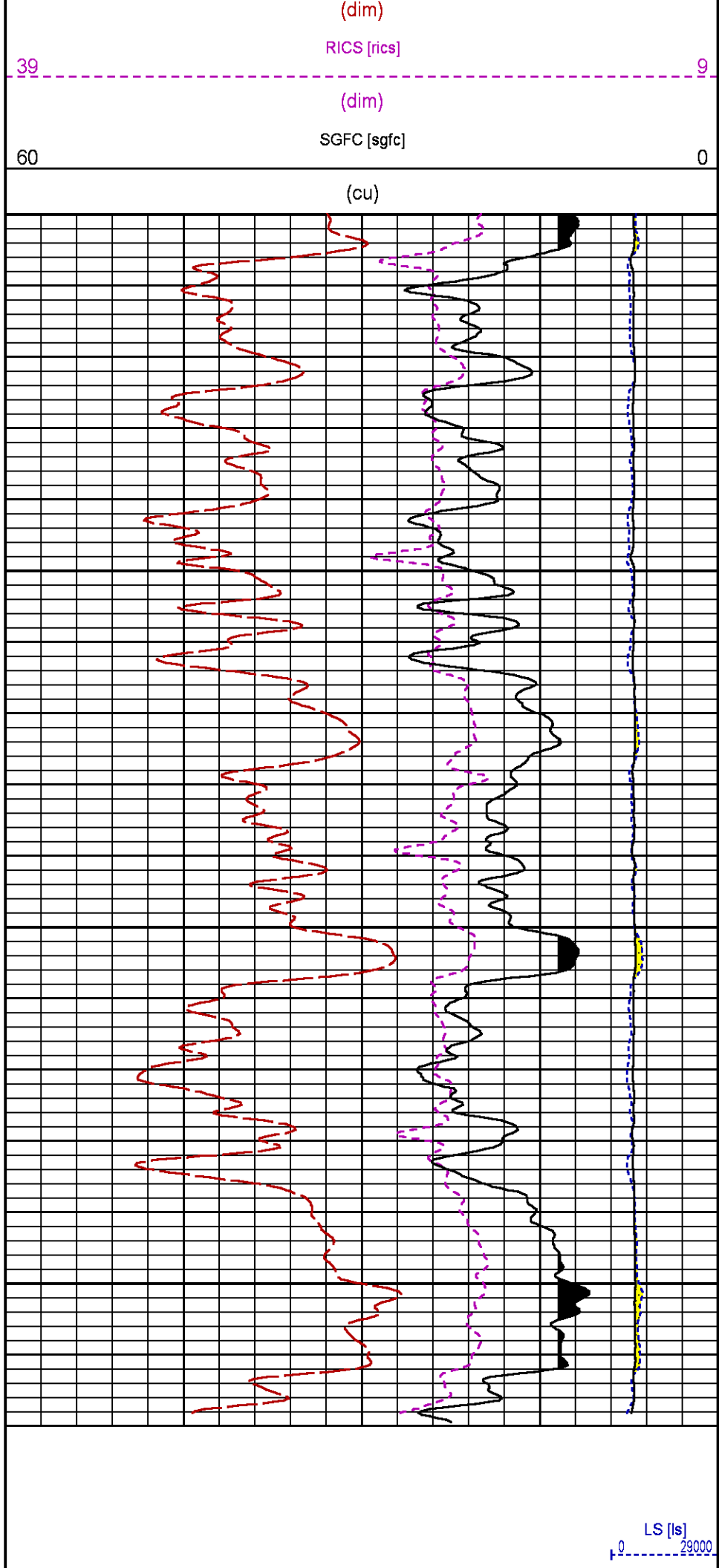
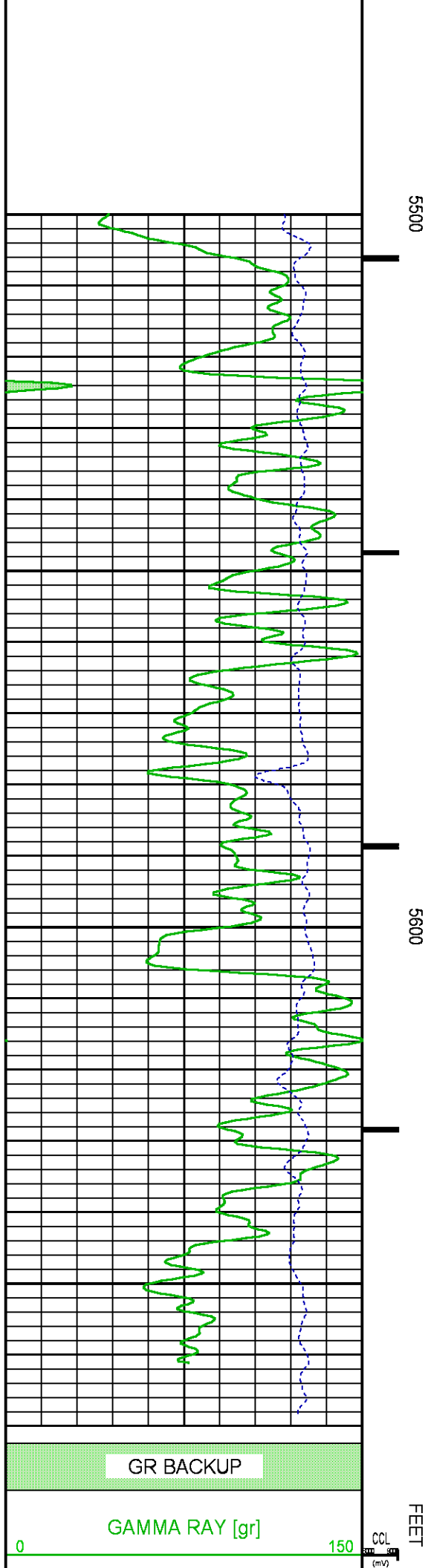
CURVE MEASURE POINT OFFSET

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_30-20E/30-20E_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 5500 - 5684.25 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-20E/30-20E_RPM_REPEAT.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : BRUTON 30-20E
Field : VEGA
File Interval : 5406.5 - 5684.5 Feet
OCT : p353h



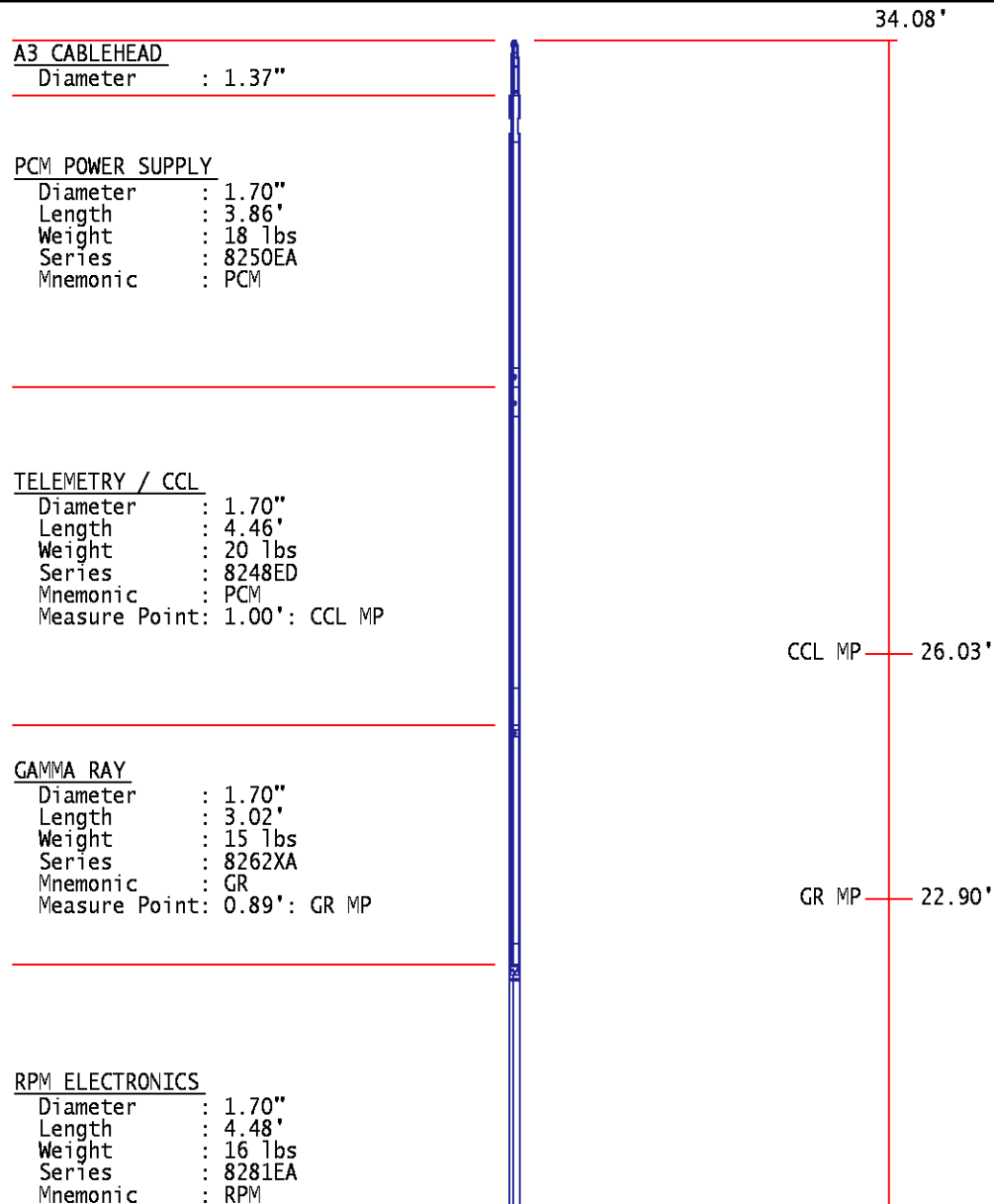


ISS ILS IXS SS SS2 LS CSS CLS

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_FEDERAL_30-20E/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

0.00'

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



COMPANY

LARAMIE ENERGY LLC

WELL

BRUTON 30-20E

FIELD

VEGA

COUNTY

MESA

STATE COLORADO

FILE NO:

CH133067

API NO:

05077104670000

LOCATION:

SHL: 2627' FSL & 1849' FEL

BHL: 373' FSL & 820' FEL

ELEVATIONS:

KB 7673 FT

DF

GL 7643 FT

SEC 30 TWP 9S RGE 93W

DATE 07-Apr-2018