



FILE NO: CH133065	COMPANY LARAMIE ENERGY LLC
API NO: 05077104810000	WELL BRUTON FEDERAL 30-18W
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10	LOCATION: SHL: 2631' FSL & 1863' FEL BHL: 908' FSL & 1307' FWL 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 ELEVATION 7643 FT 30 FT ABOVE P.D. KB KB KB	ELEVATIONS: KB 7673 FT DF GL 7643 FT
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DATE	02-Apr-2018
RUN	1
TRIP	1
SERVICE ORDER	US133065
DEPTH DRILLER	8262 FT
DEPTH LOGGER	8182 FT
BOTTOM LOGGED INTERVAL	8182 FT
TOP LOGGED INTERVAL	2665 FT
TIME STARTED	13:30
TIME FINISHED	19:00
OPERATOR RIG TIME	5.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	57 FT
LOGGED CEMENT TOP	1500 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	226 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	01-Apr-2018
EQUIP. NO.	ML-4291
LOCATION	GRAND JCT.
RECORDED BY	T. NEWELL
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: 6353' - 6371'
SJ: 7483' - 7502'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	11745584	FREE
1	1	TEL/CCL	8248ED	10183585	FREE
1	1	GR	8262XA	10485470	FREE
1	1	RPM	8281EA	10294755	FREE
1	1	RPM	8283PA	10066691	FREE
1	1	RPM	8281FA	10066992	FREE
1	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: Mon Apr 2 19:25:41 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/p353h03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2653.715 ft BOTTOM DEPTH: 3305.367 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

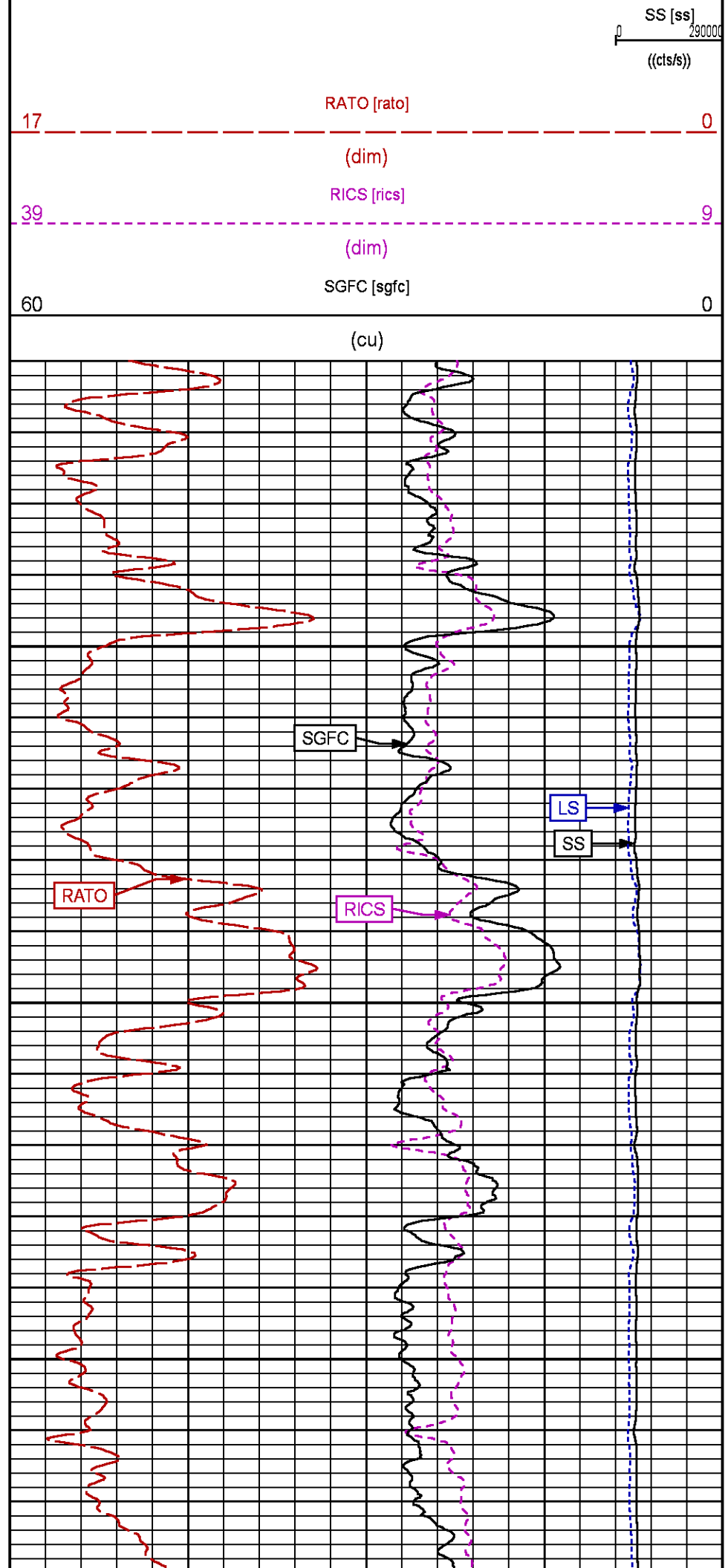
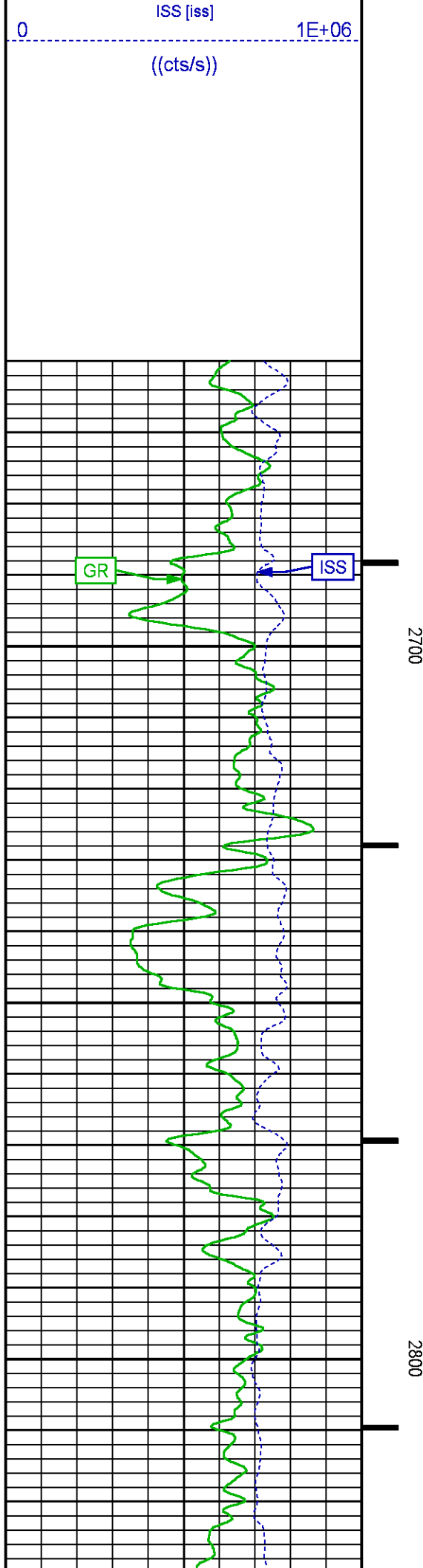
CURVE MEASURE POINT OFFSET

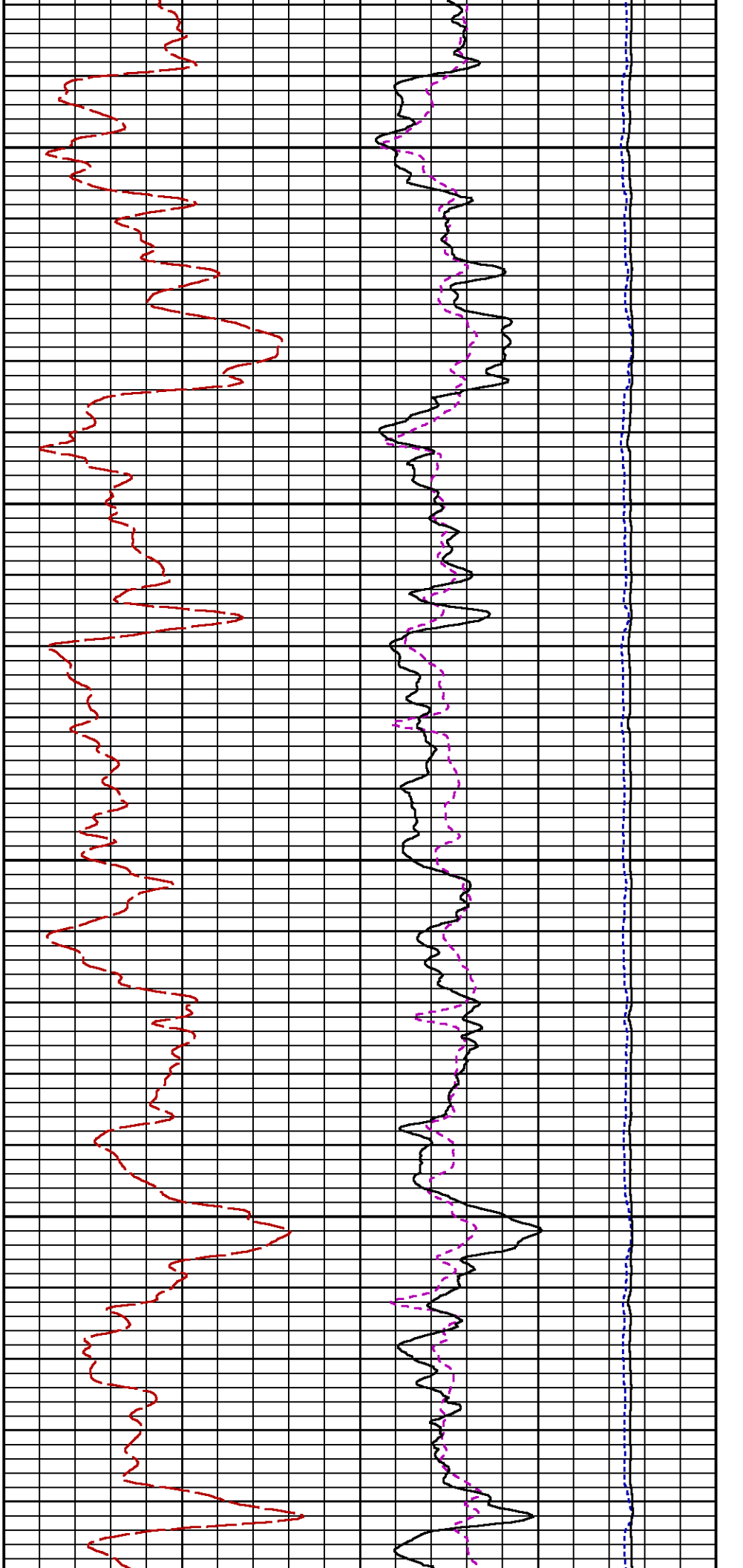
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/30-18W_RPM_GS.fvpdf [5"/100' Scale]
 Plot Interval : 2660 - 3270 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/30-18W_RPM_GS.xtf
 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : BRUTON FEDERAL 30-18W
 Field : VEGA
 File Interval : 2632 - 3307.5 Feet
 OCT : p353h

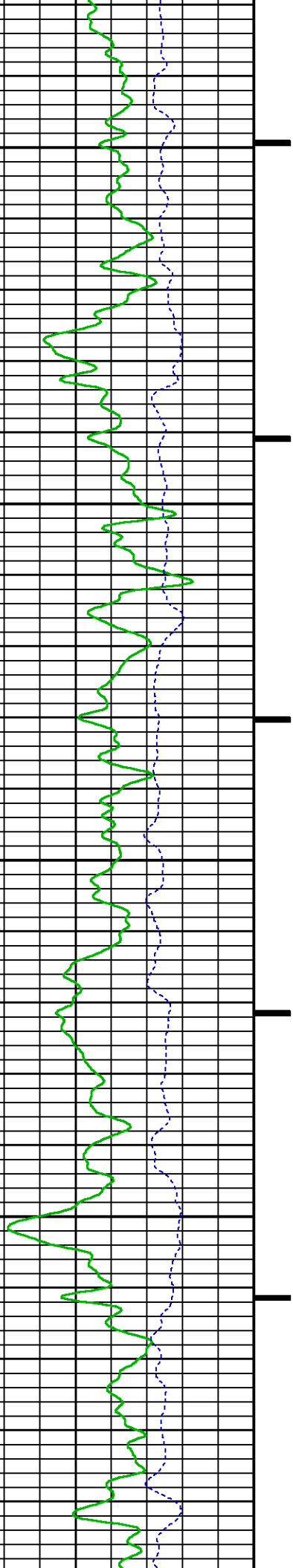


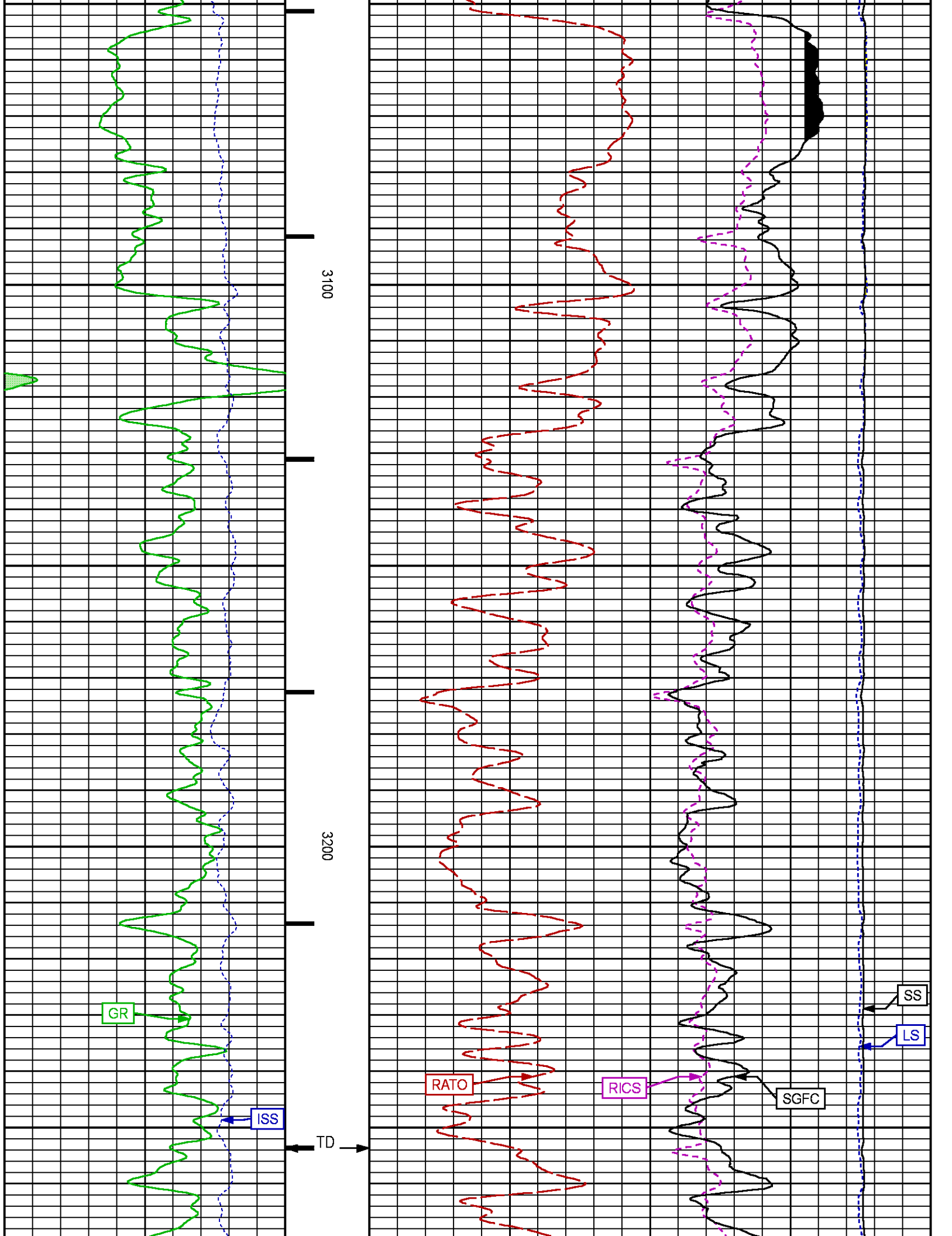


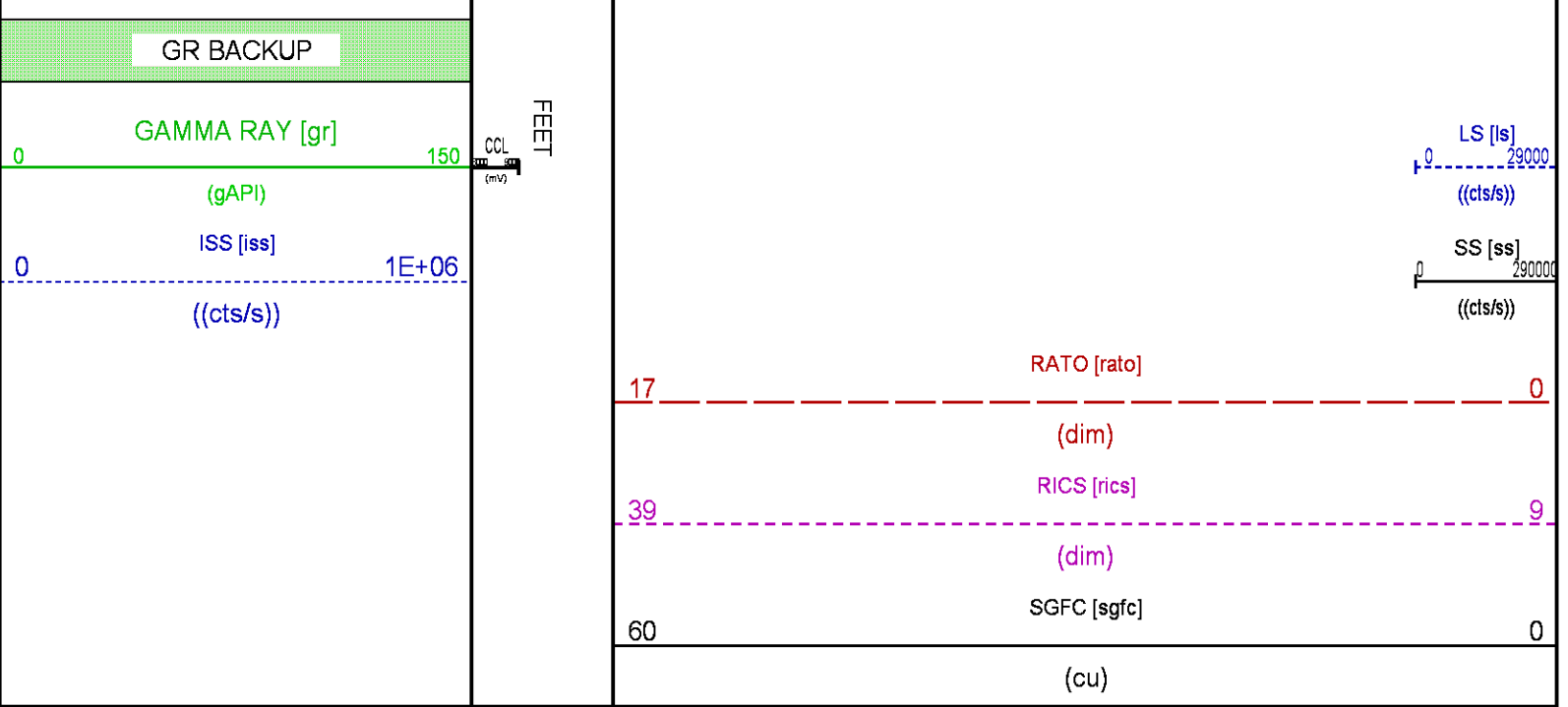


2900

3000







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: Mon Apr 2 18:41:20 2018

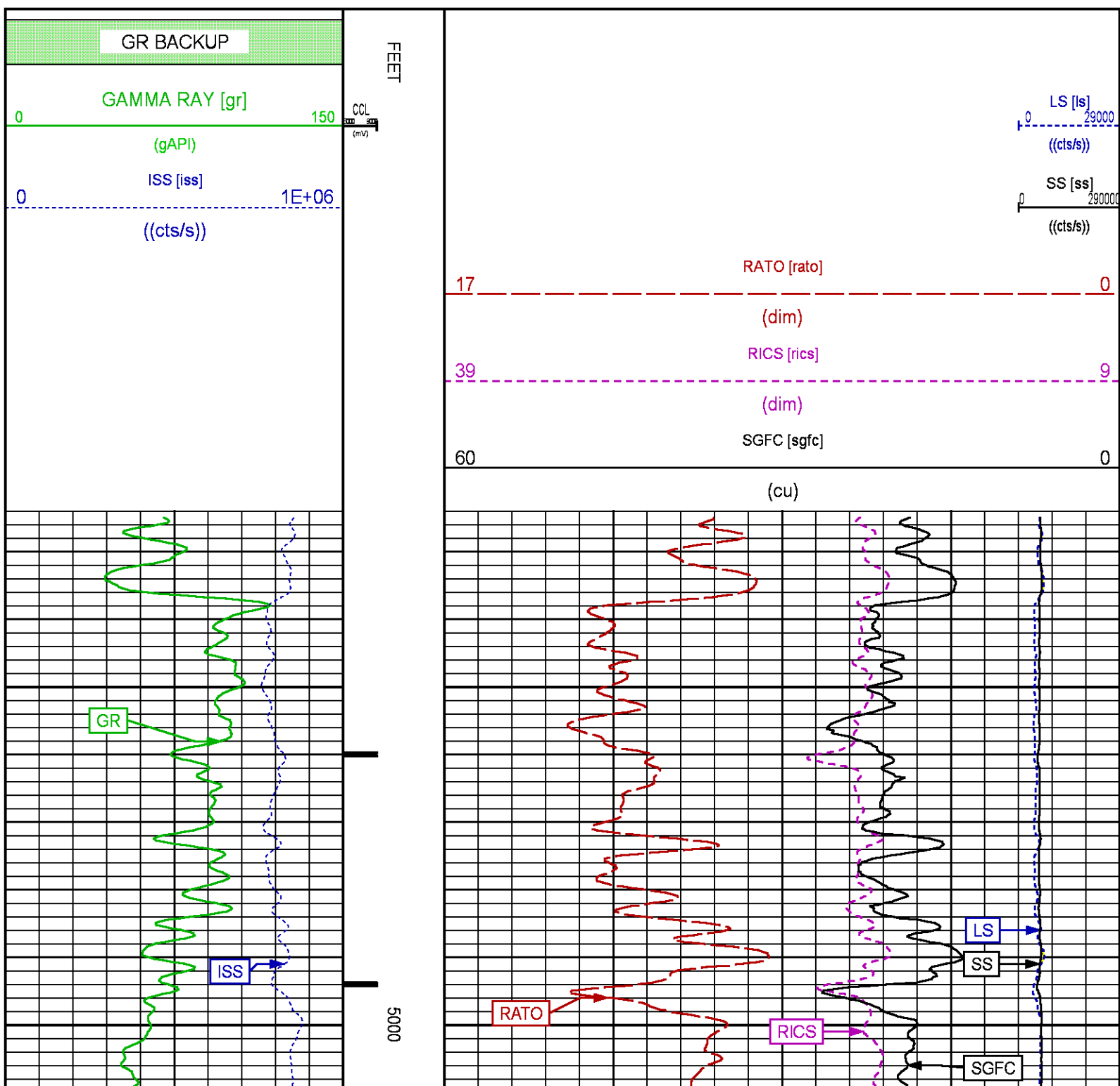
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/p353h02.prm				
LOGGING MODE: DEPTH DIRECTION: UP				
TOP DEPTH: 4917.892 ft BOTTOM DEPTH: 8192.283 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM
RPM 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		" "

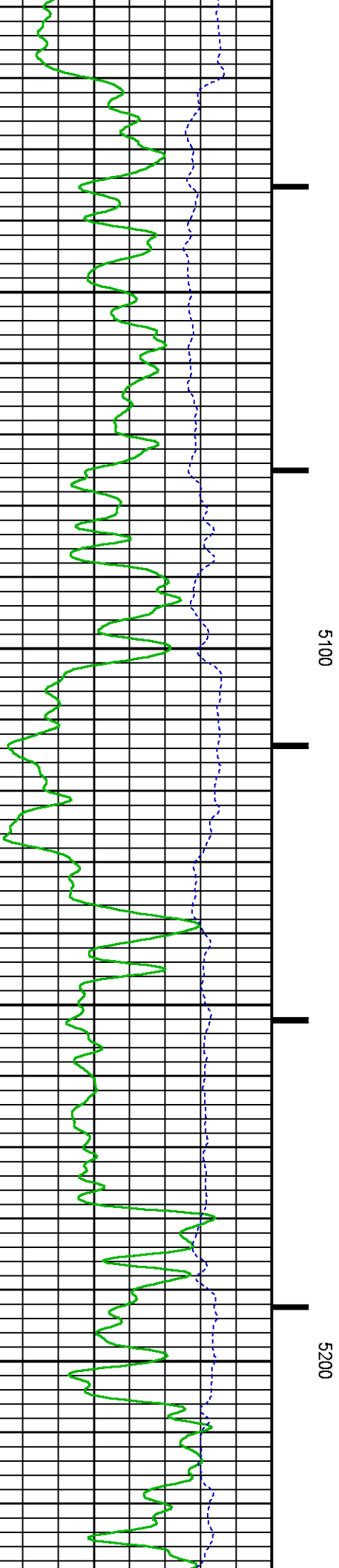
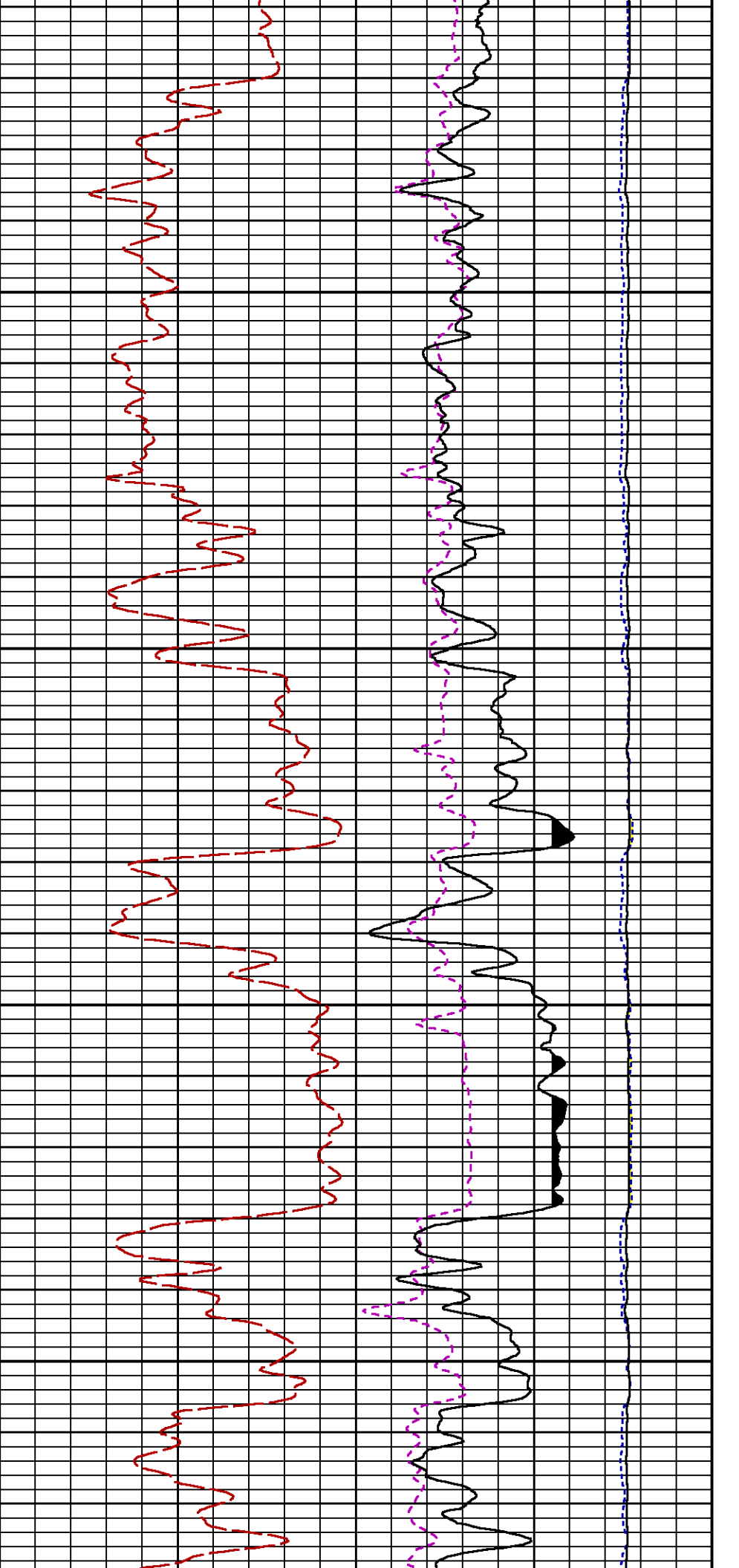
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE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

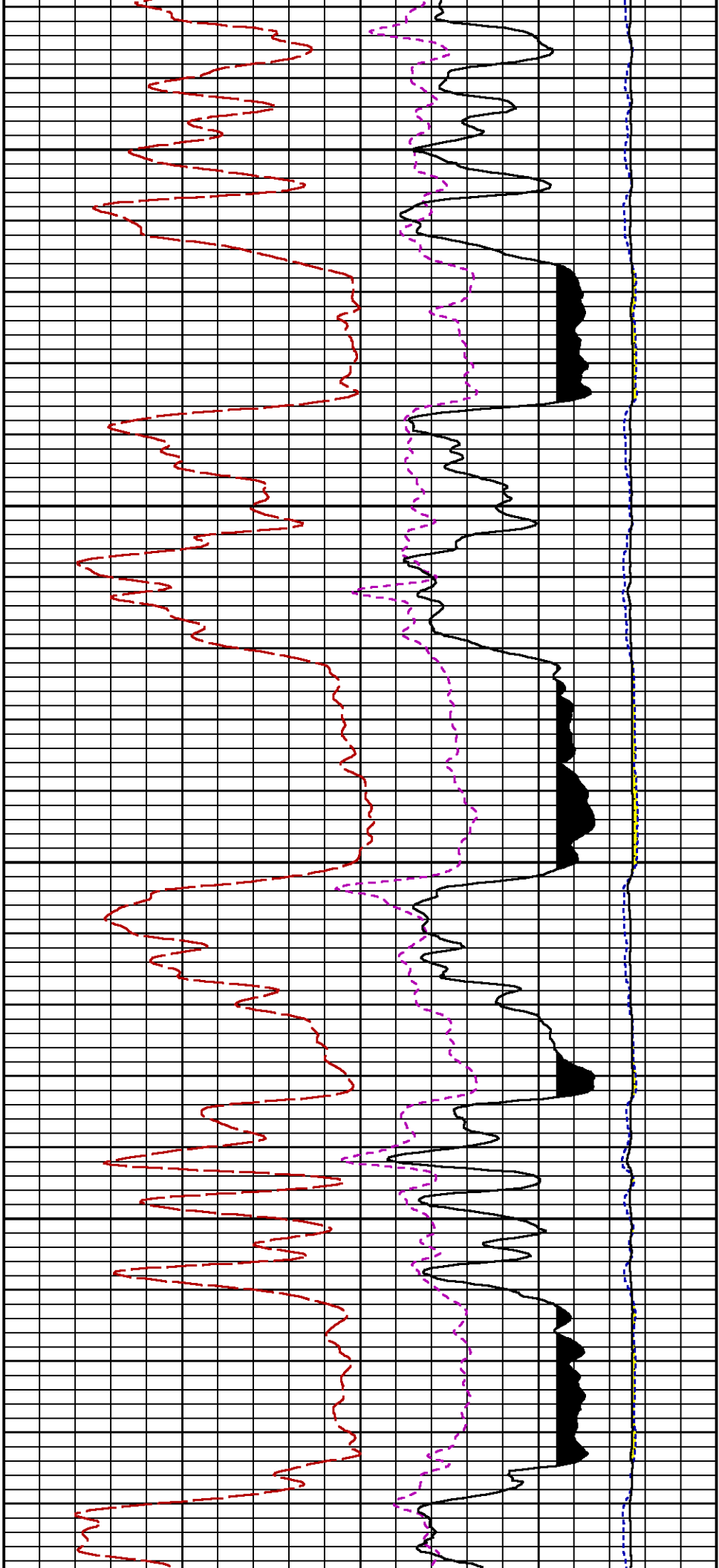
CURVE MEASURE POINT OFFSET

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_30-18W/30-18W_RPM_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4925 - 8195 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/30-18W_RPM_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON FEDERAL 30-18W
Field	: VEGA
File Interval	: 4895.25 - 8192 Feet
OCT	: p353h

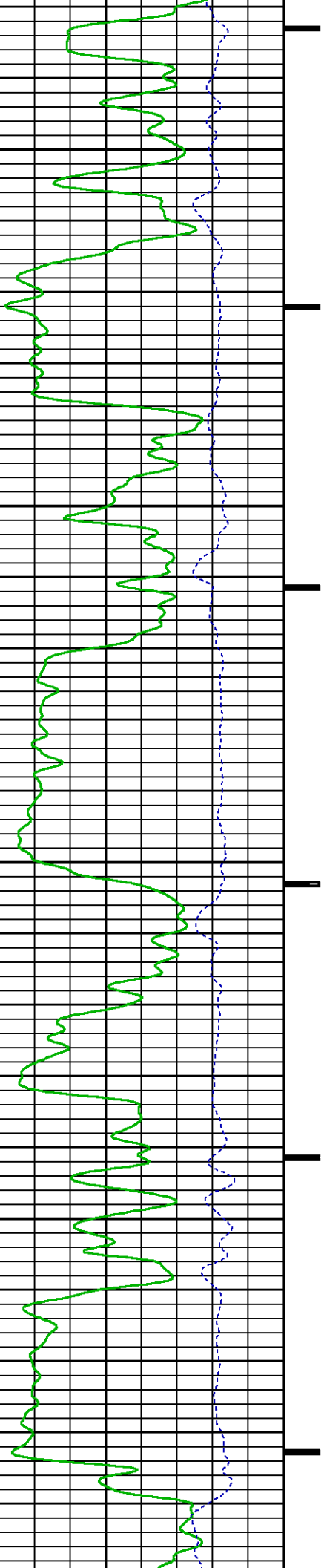


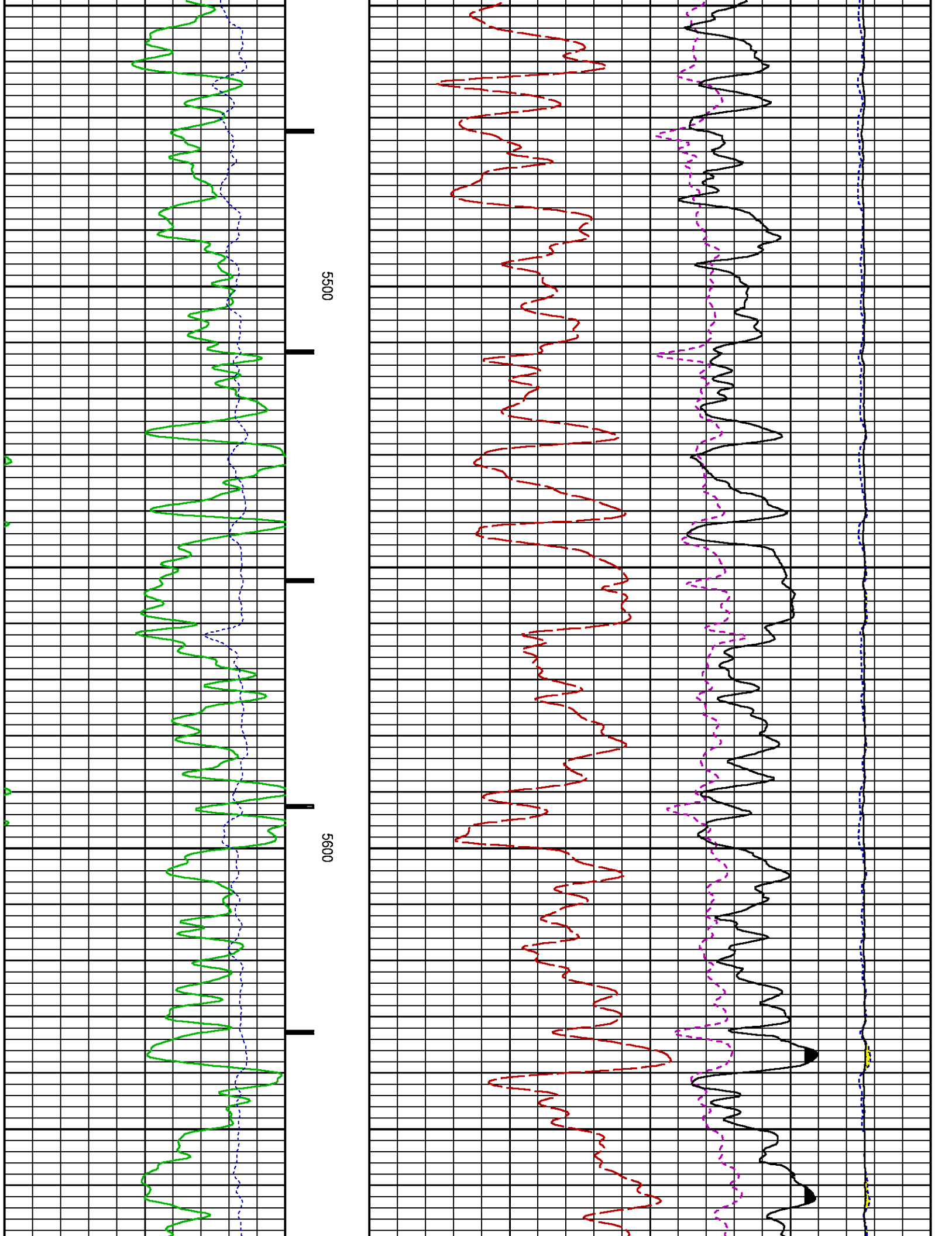


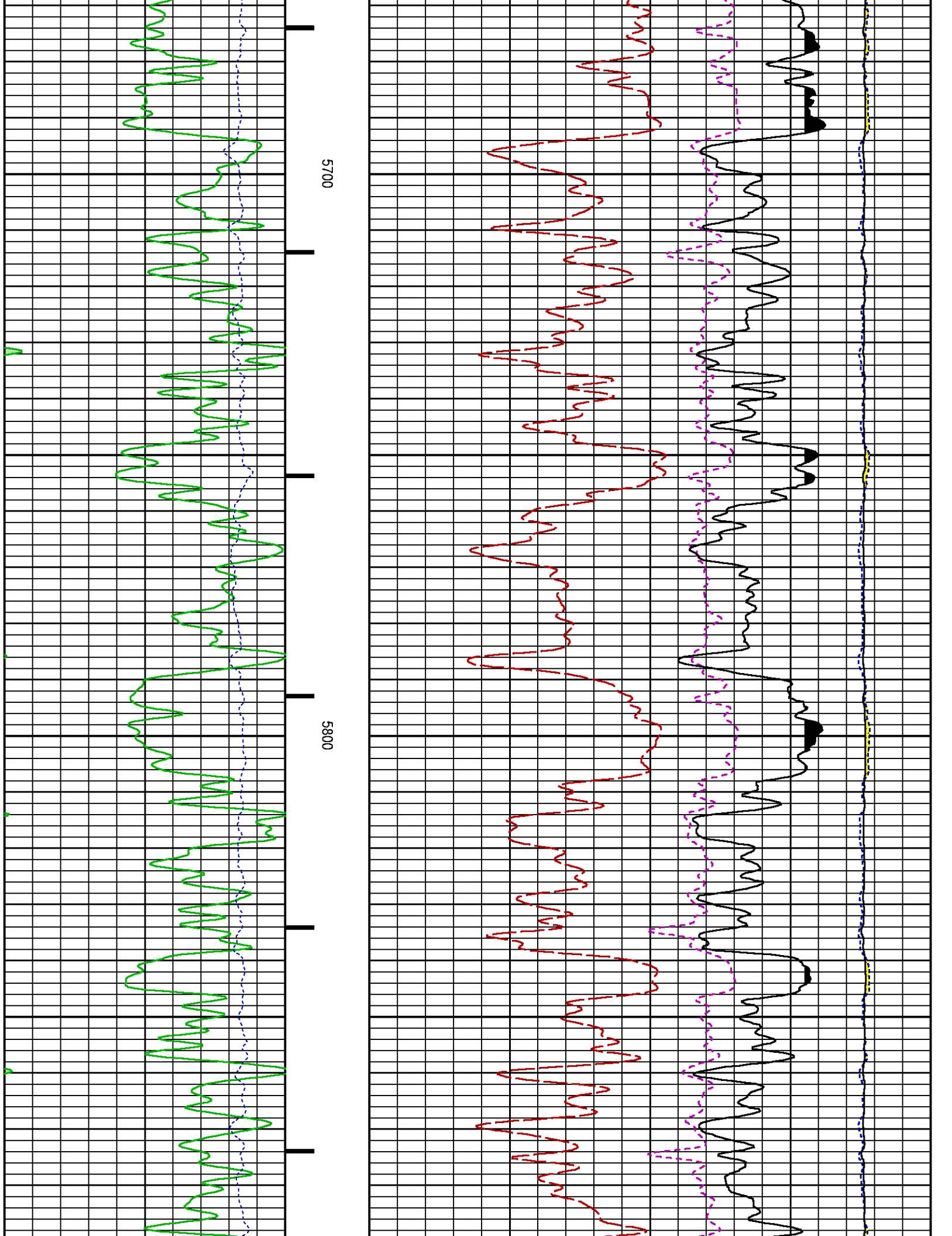


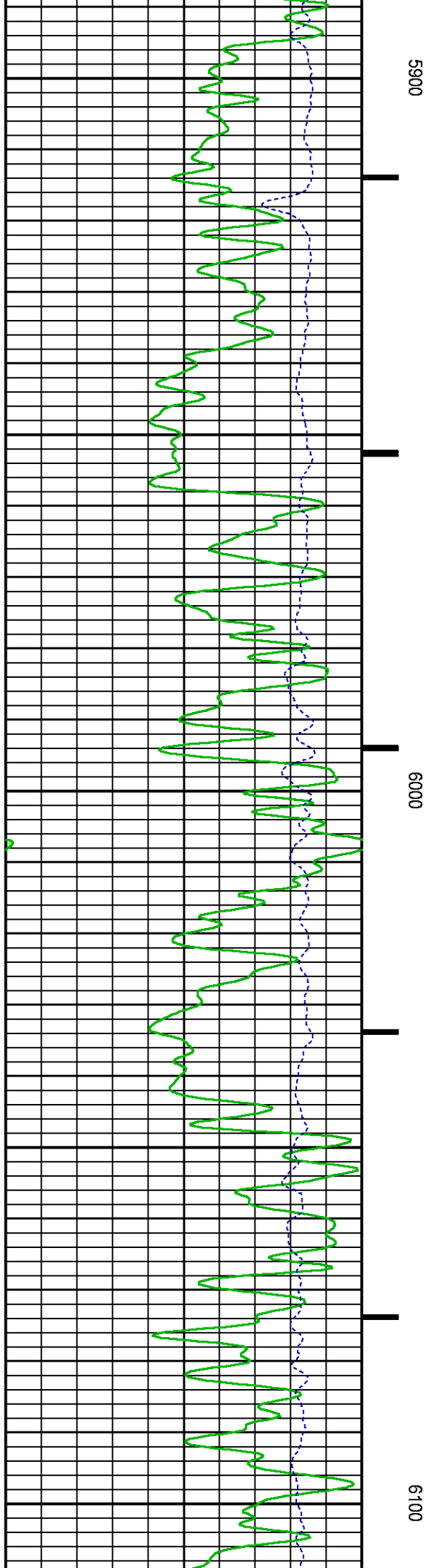
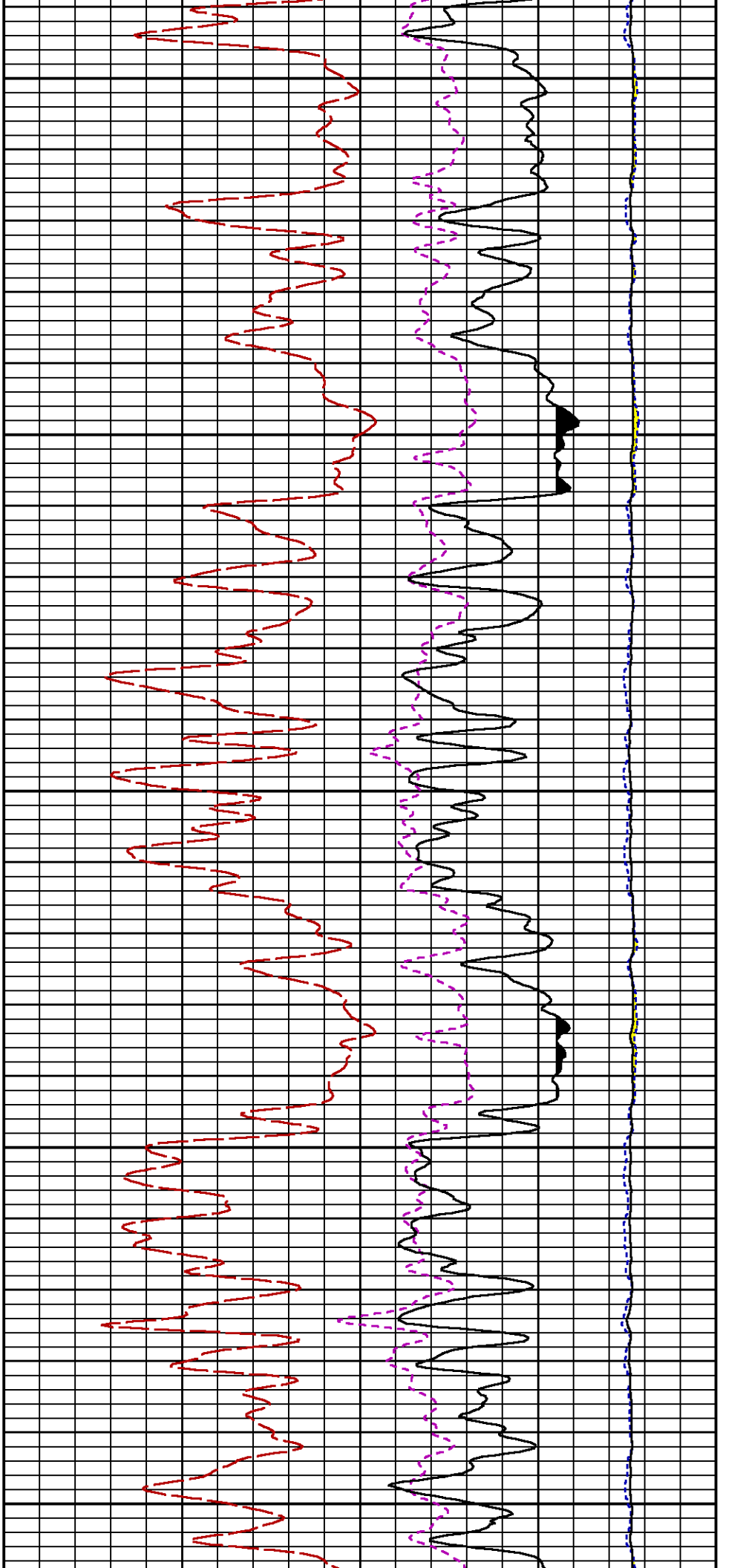
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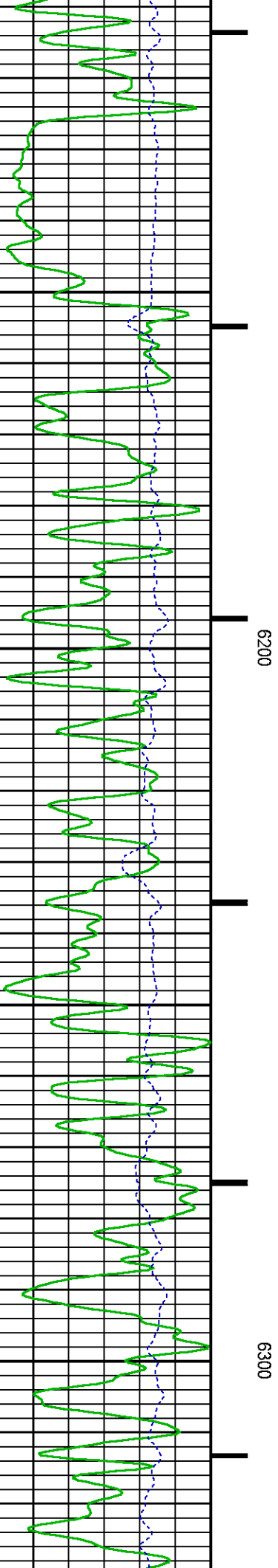
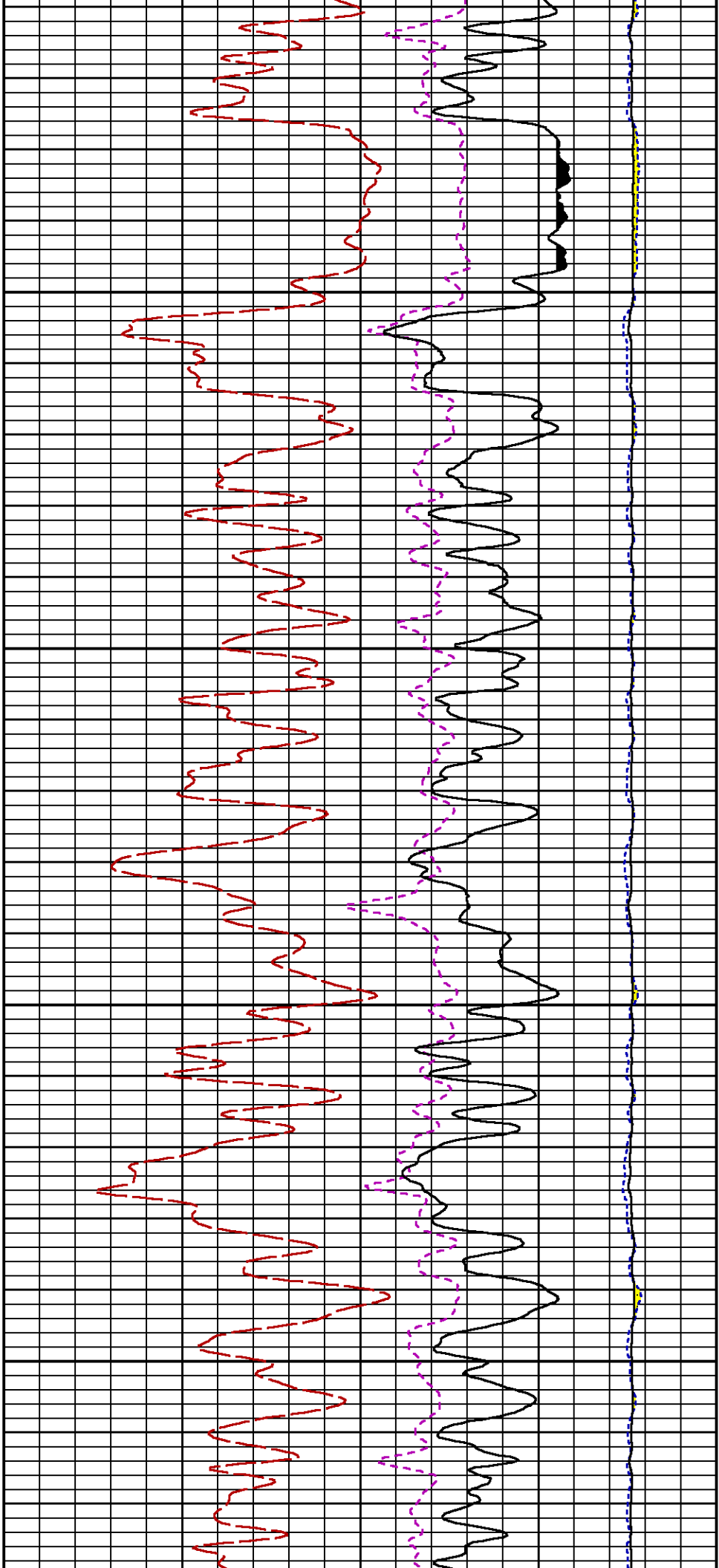
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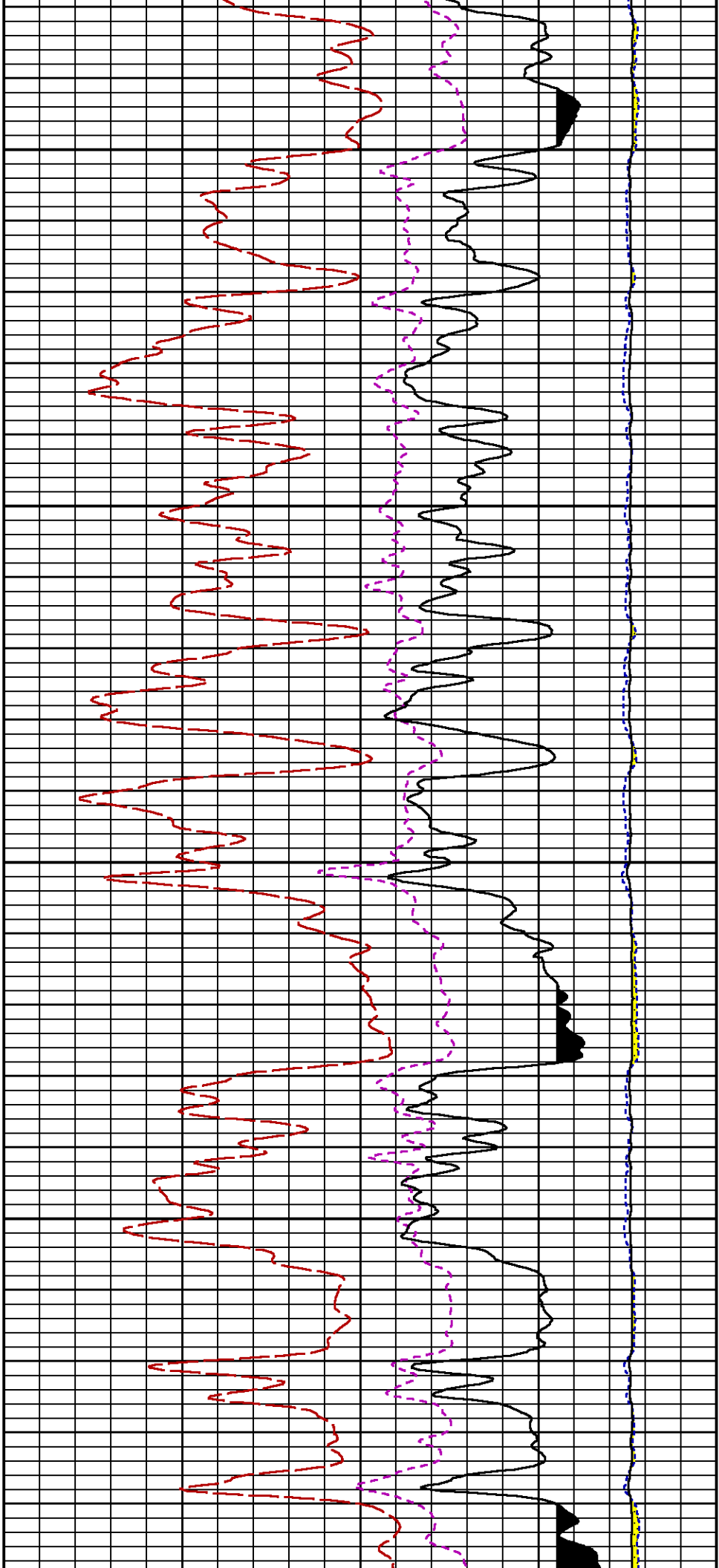






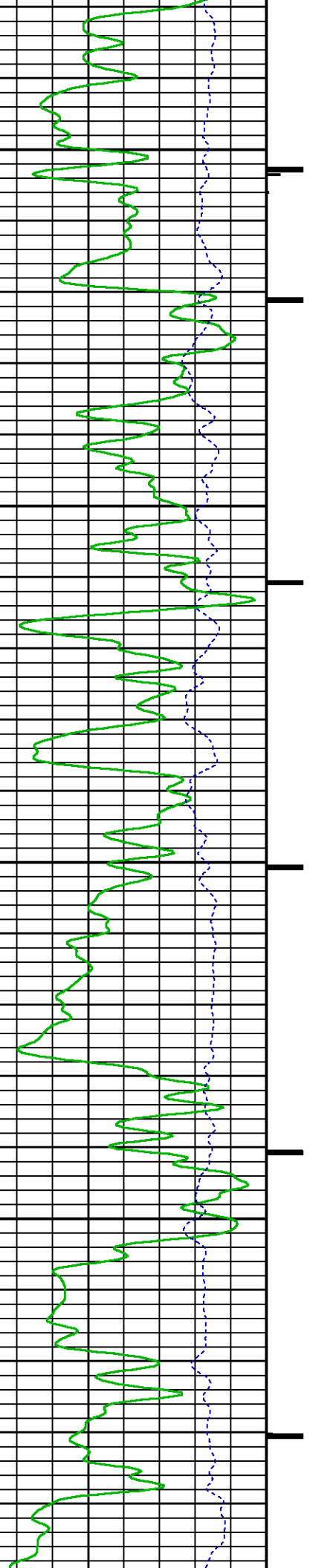


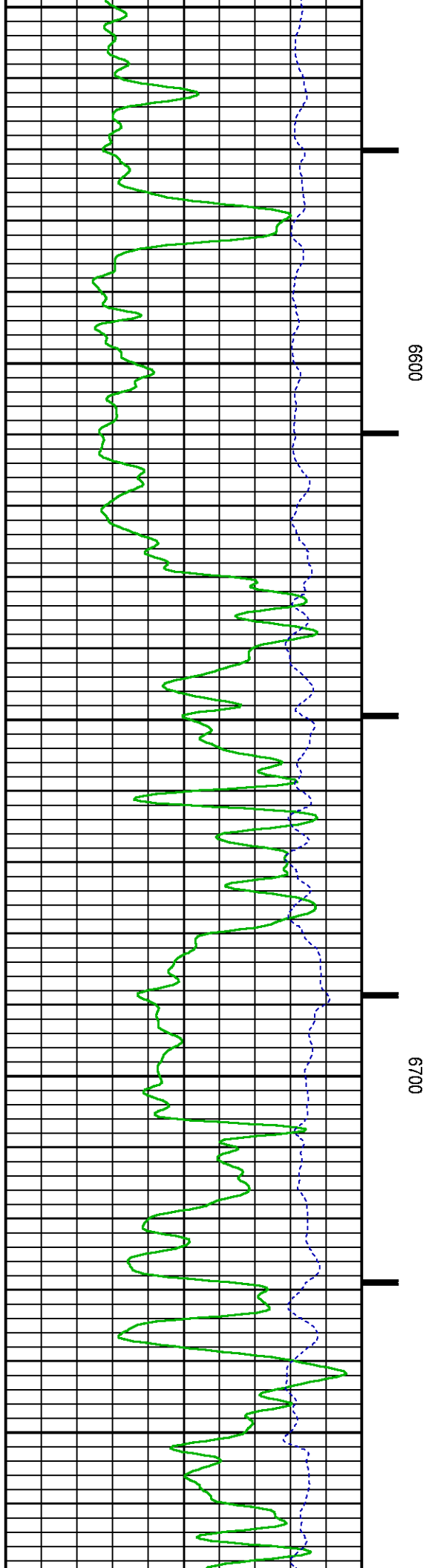
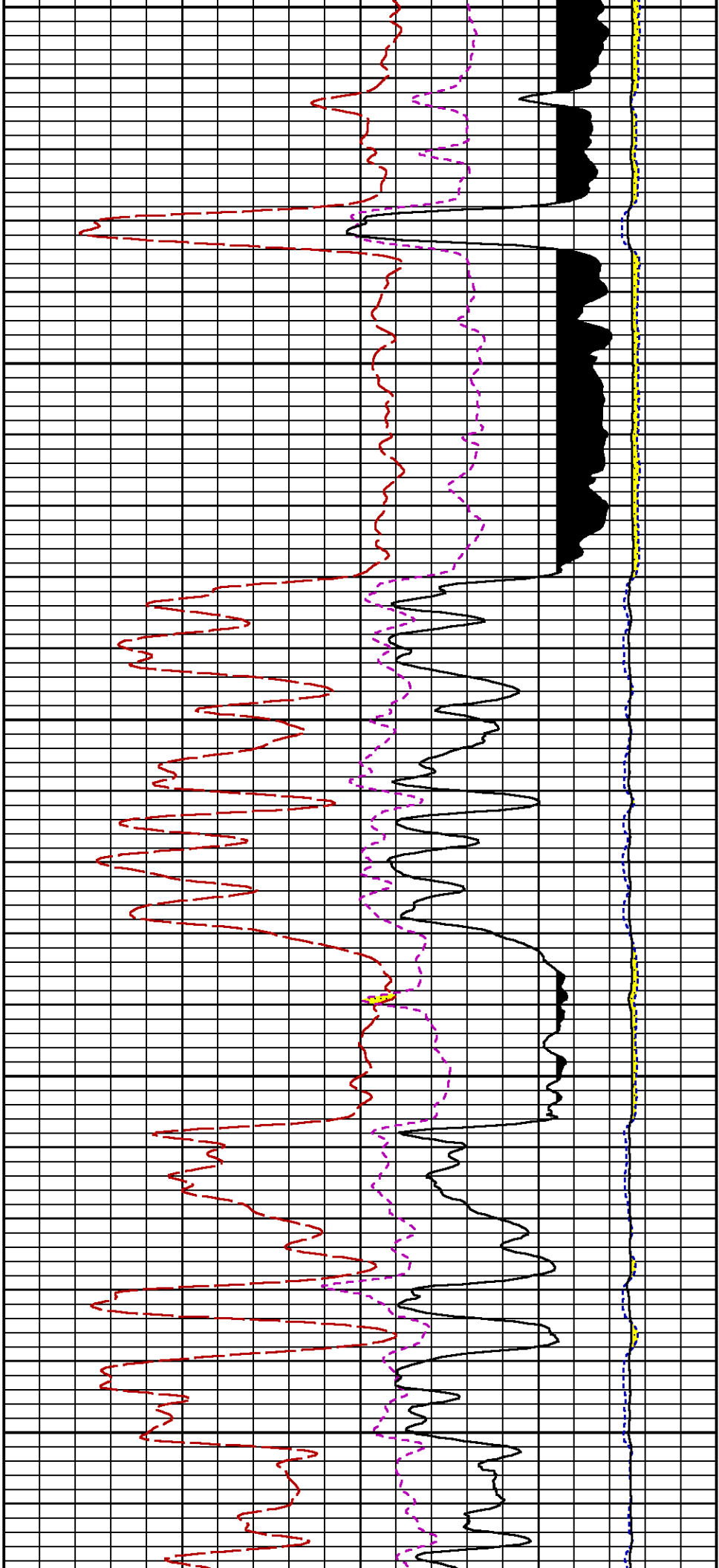


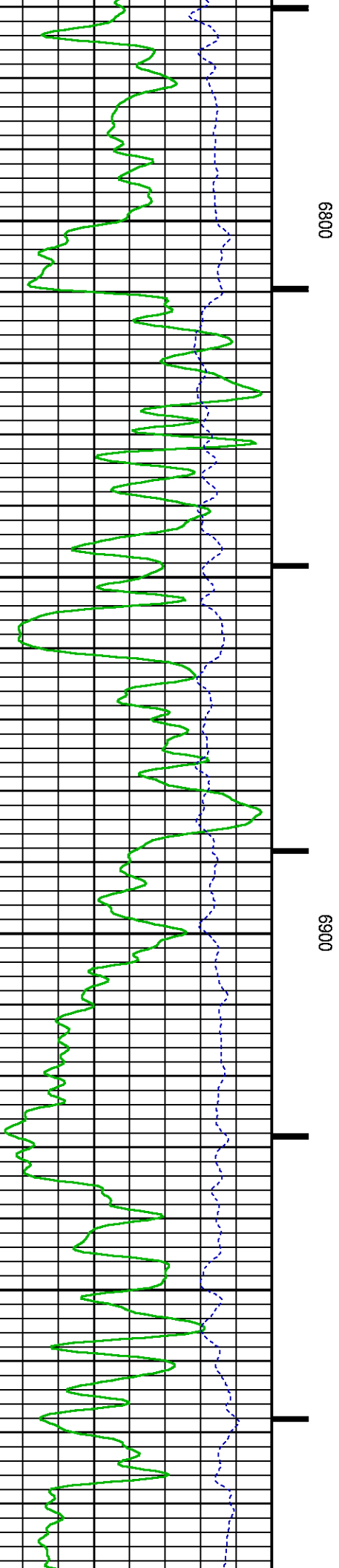
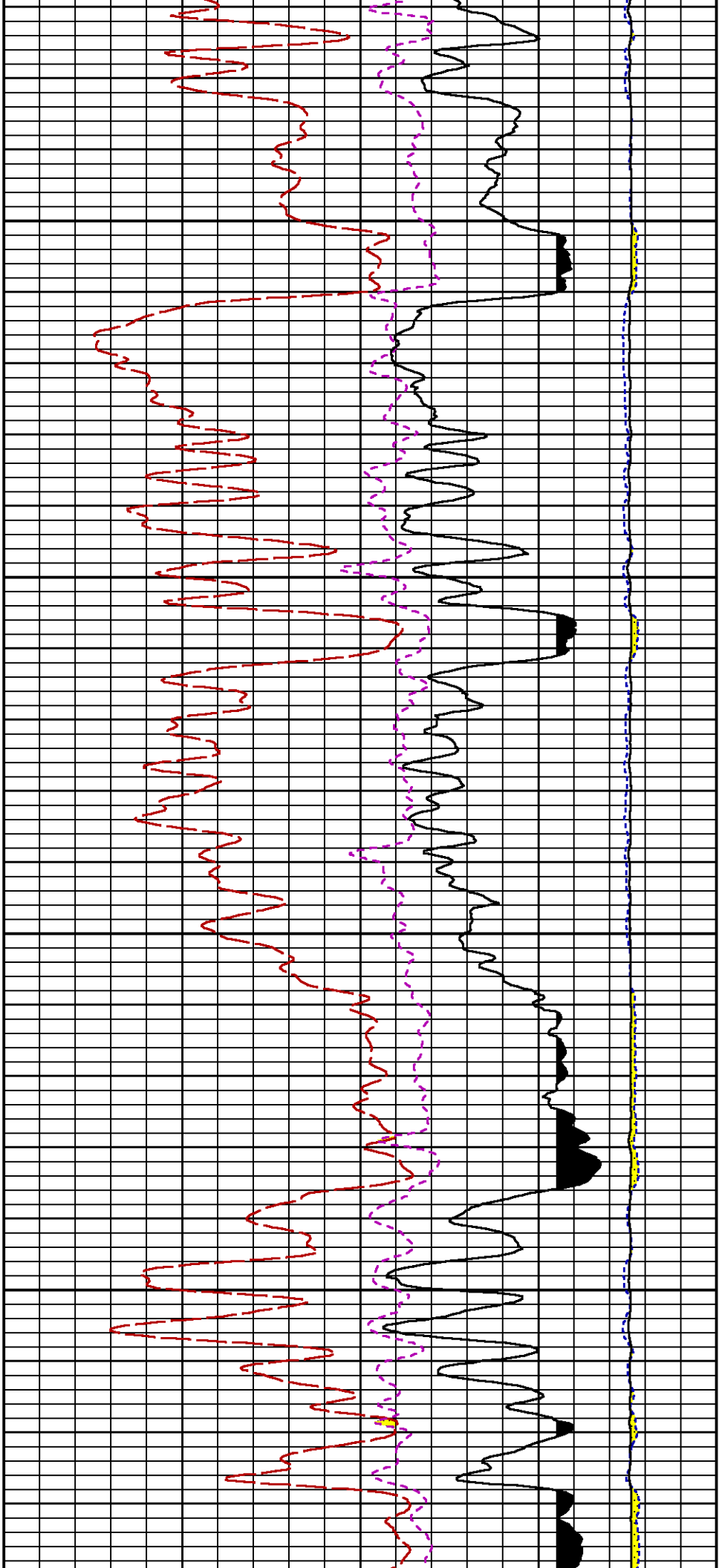


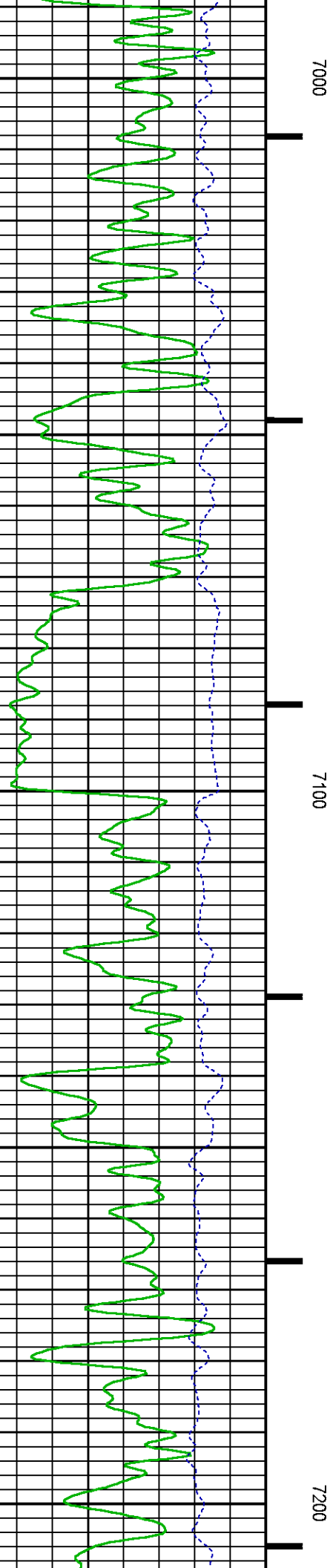
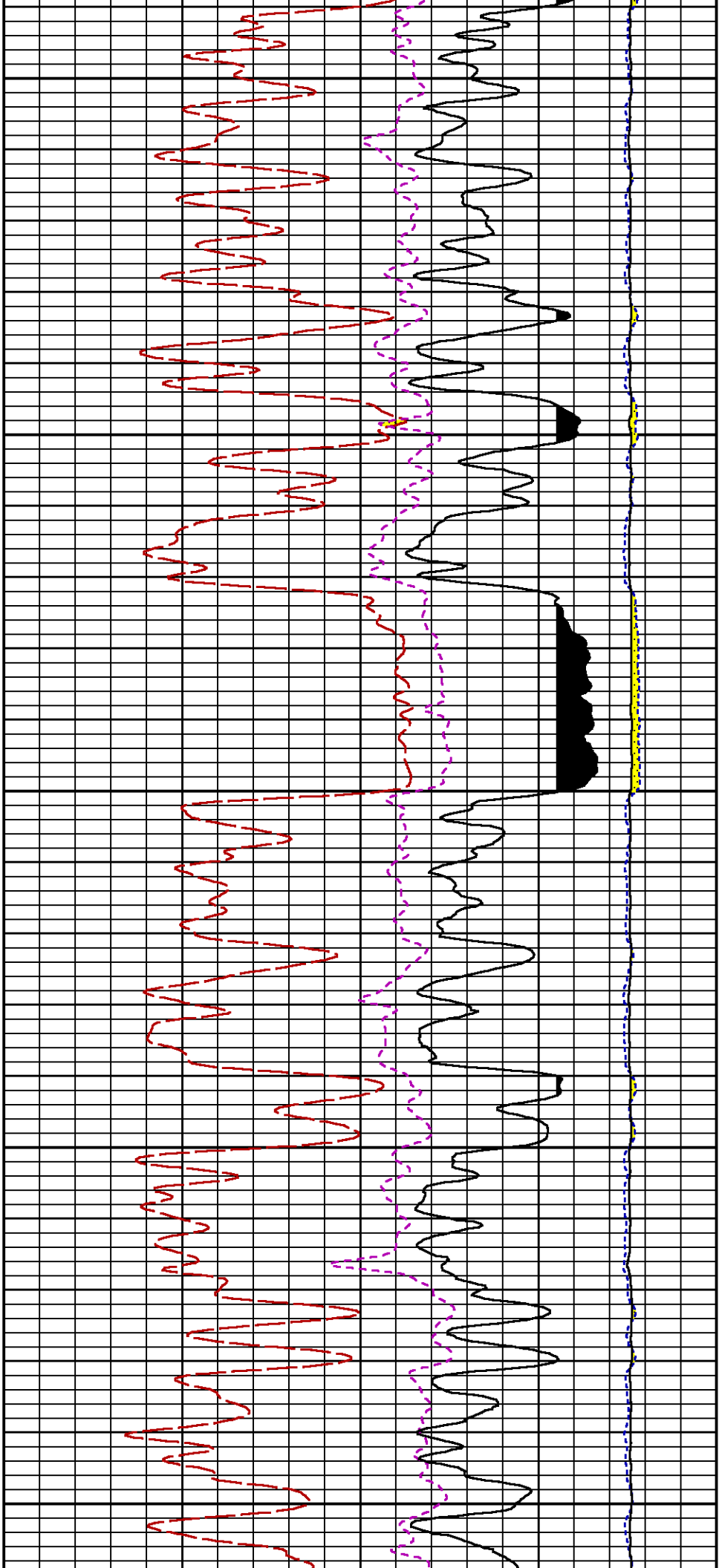
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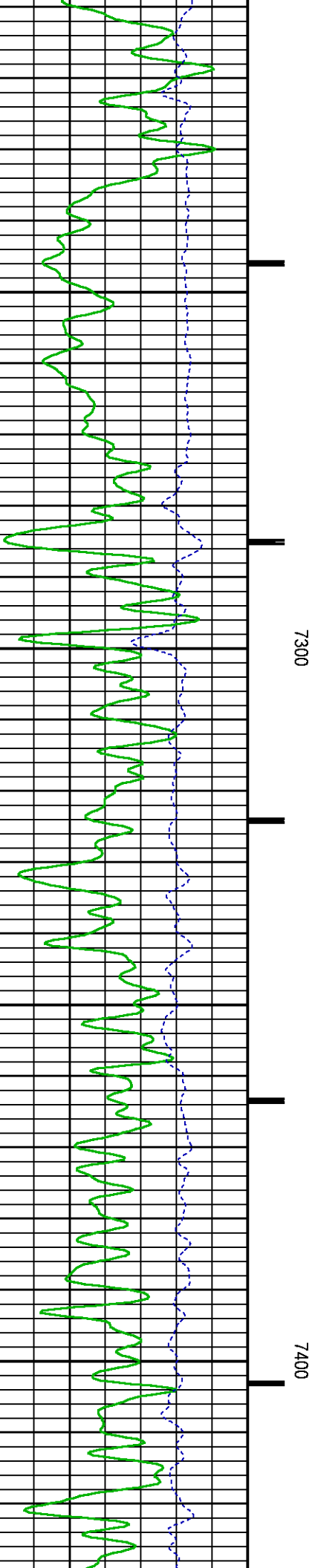
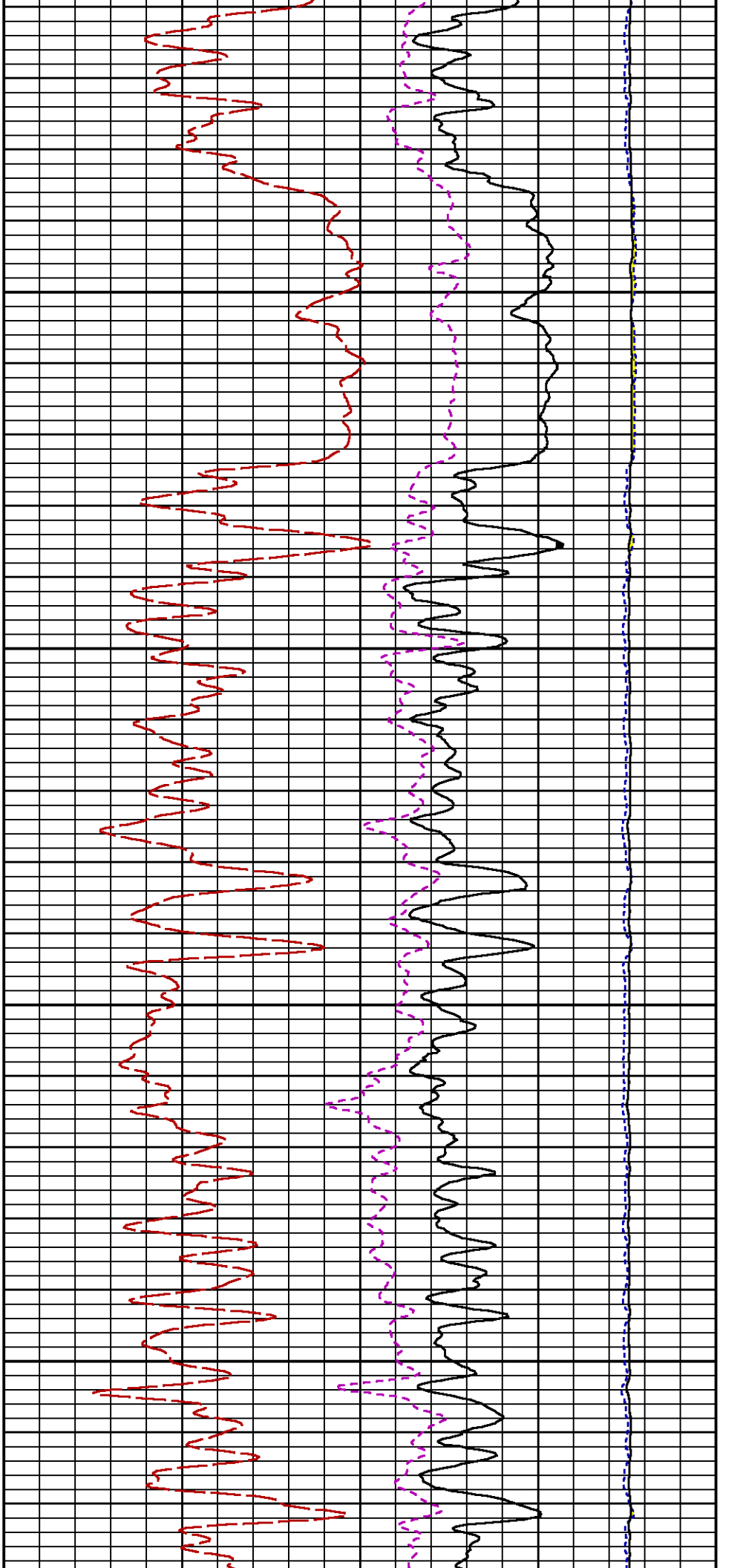
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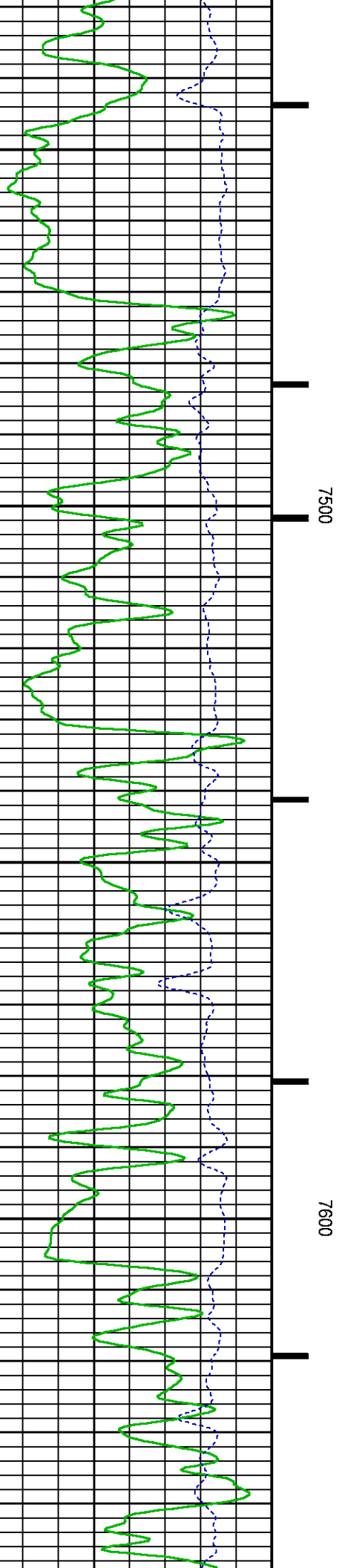
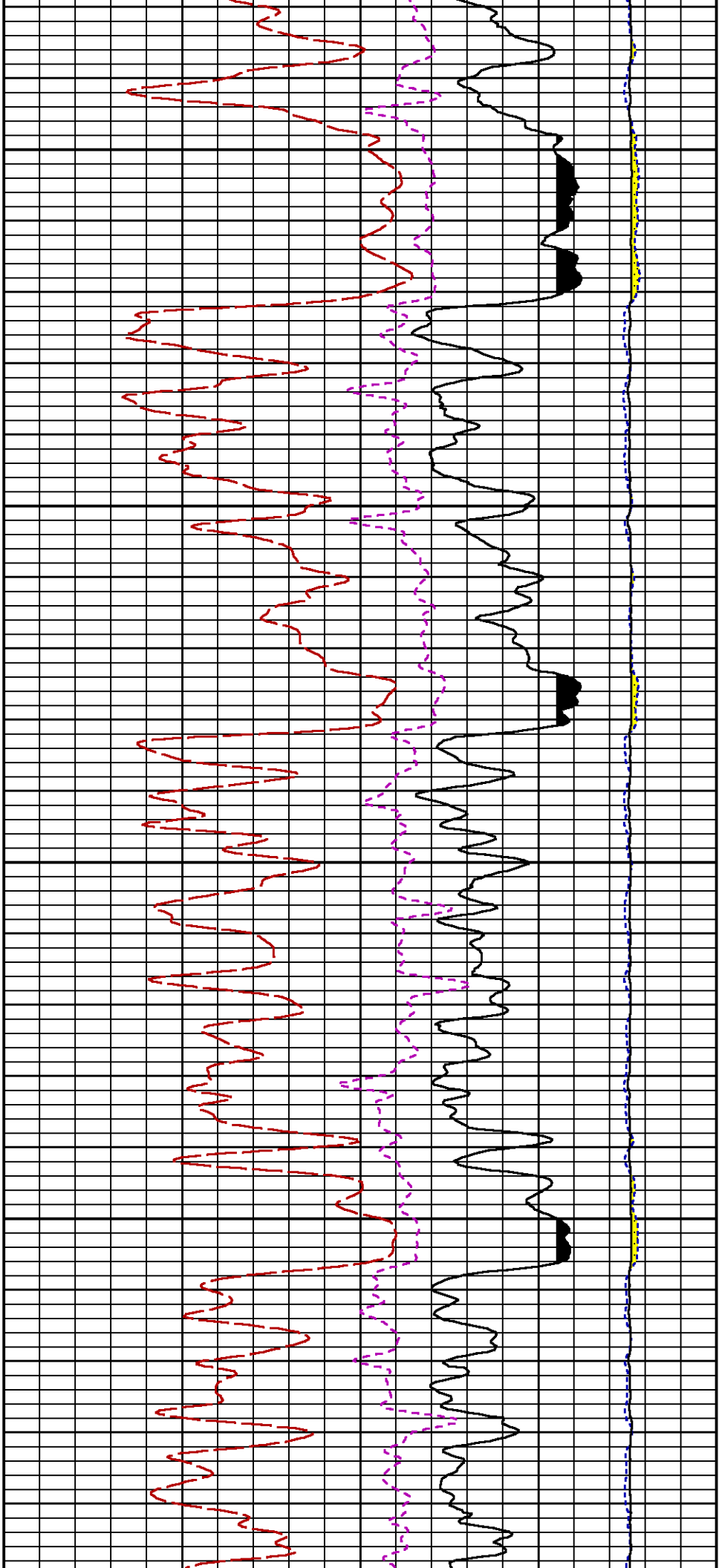


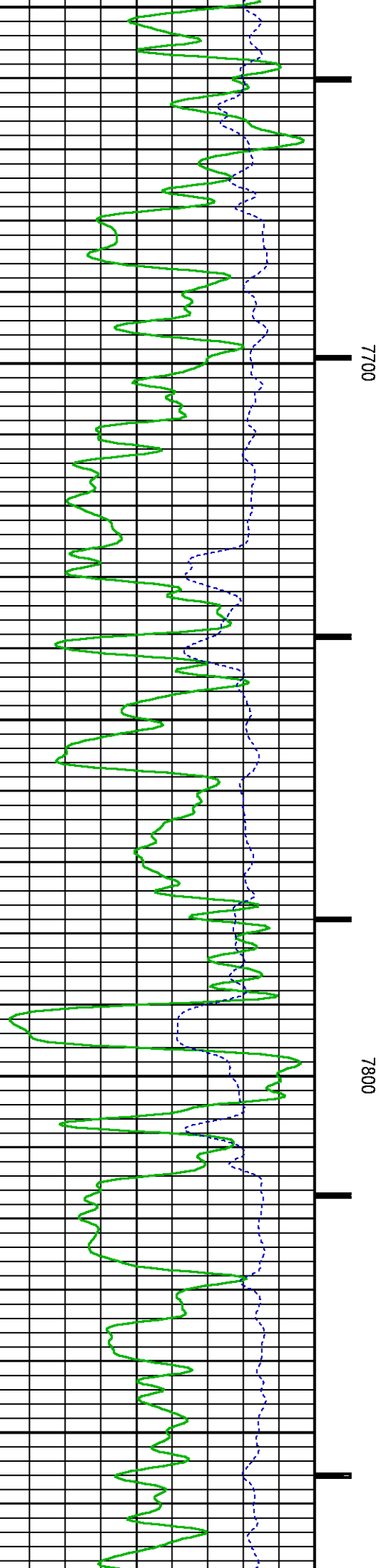
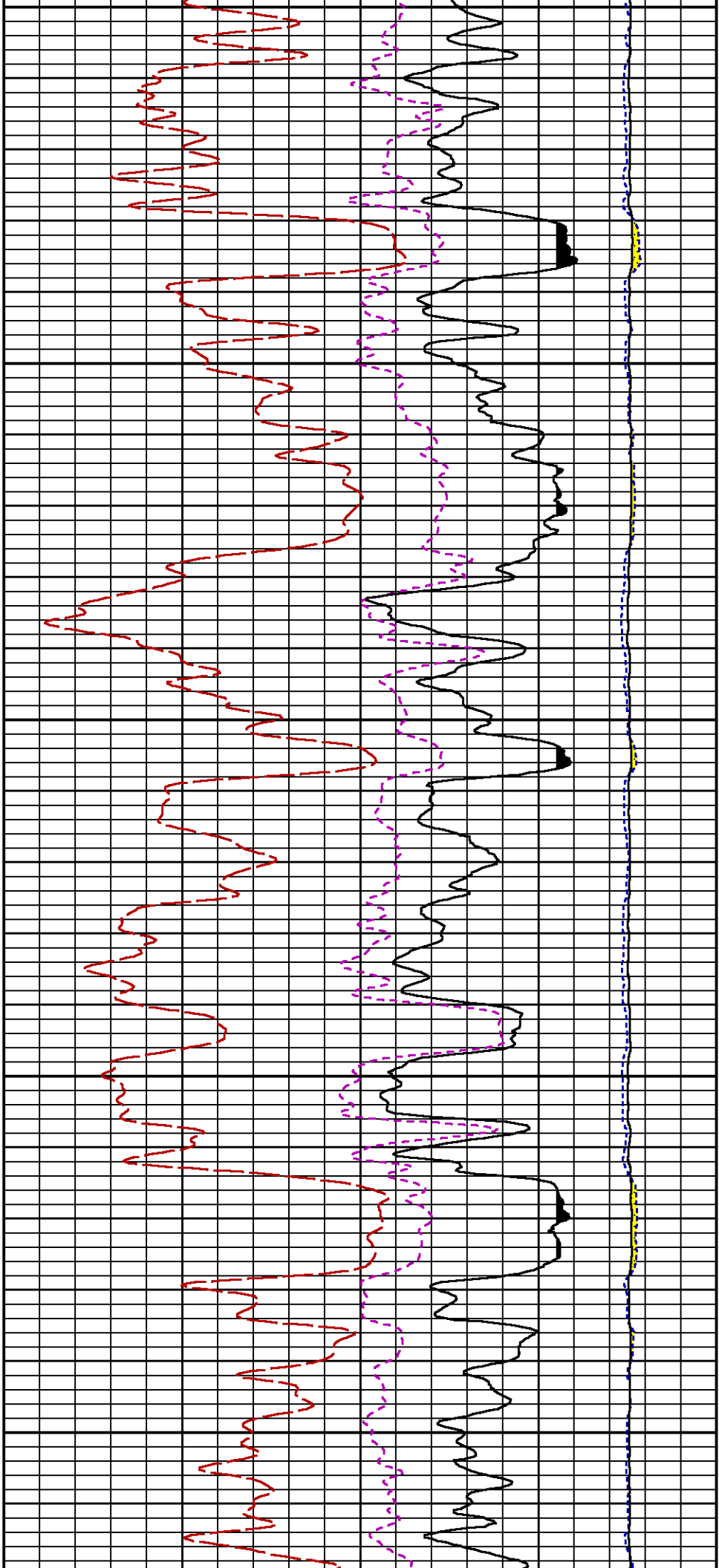


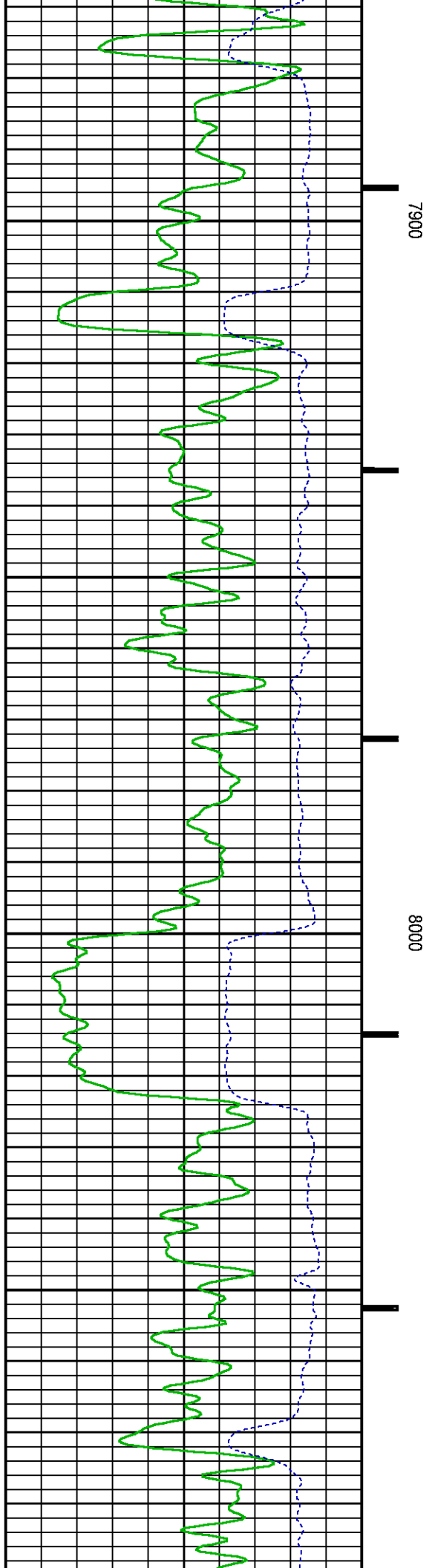
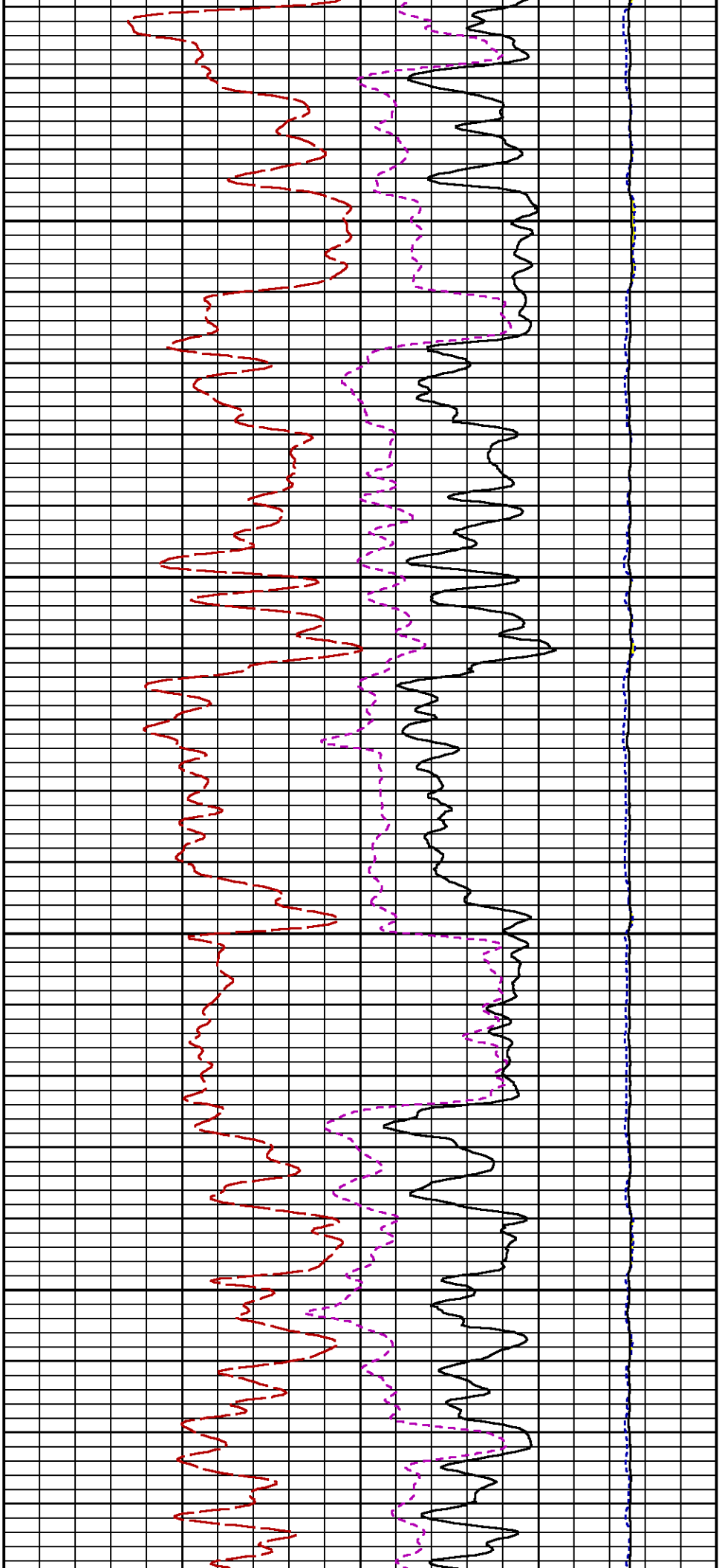


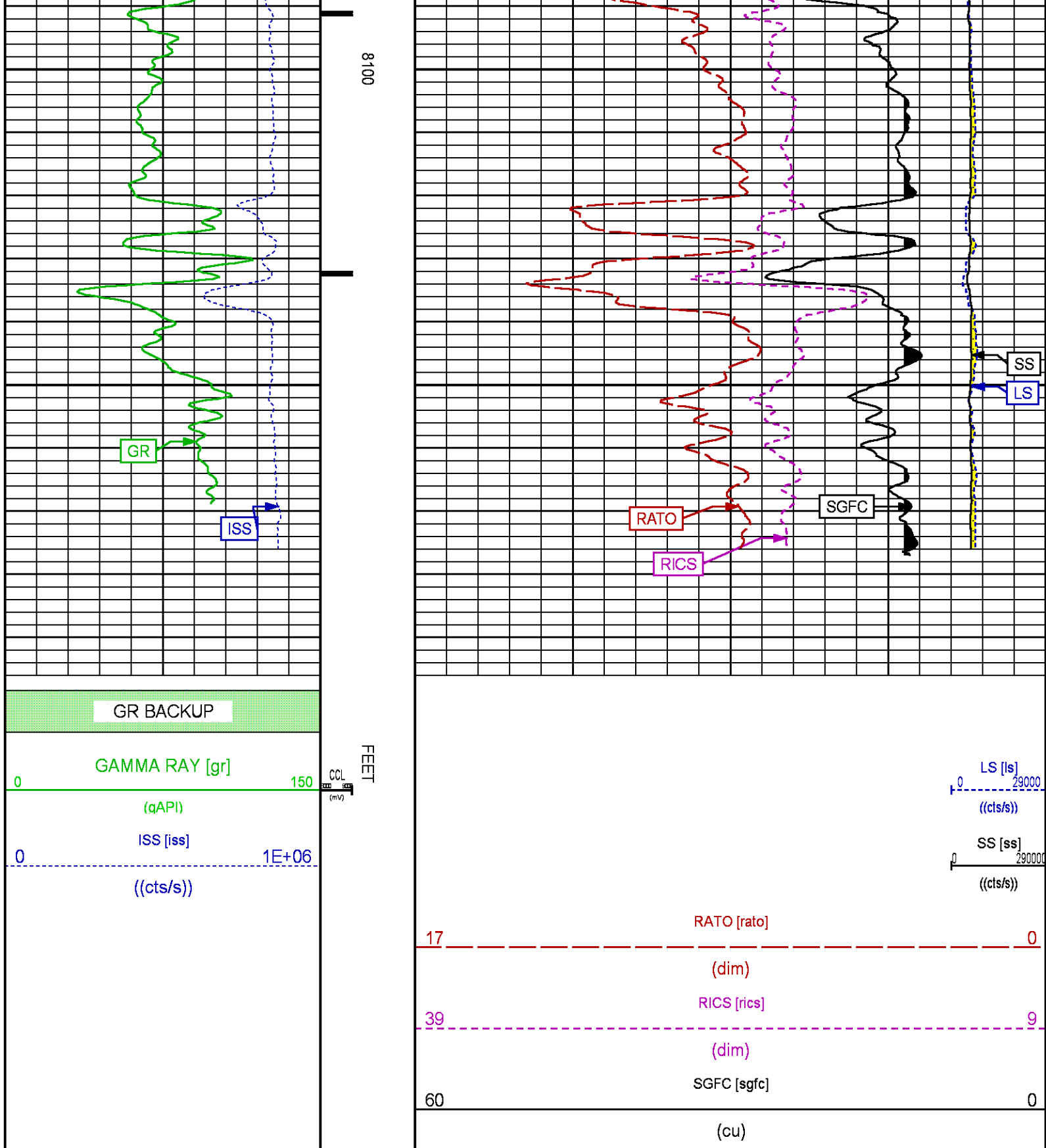












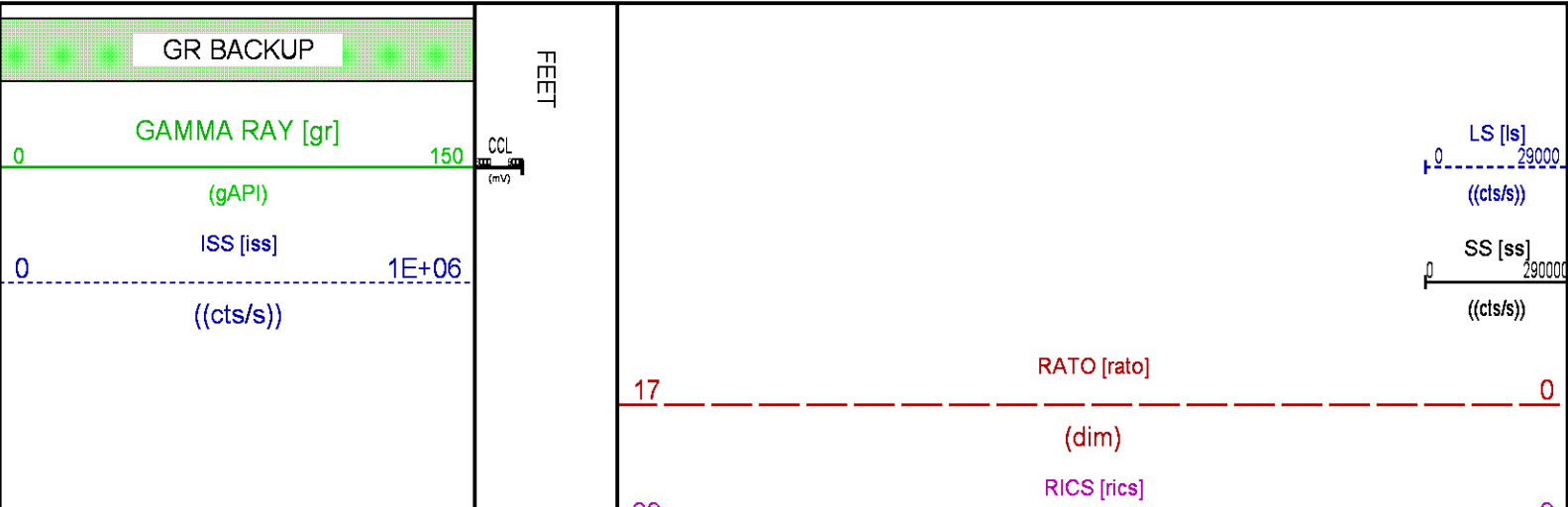
Plotted: Mon Apr 2 15:08:45 2018

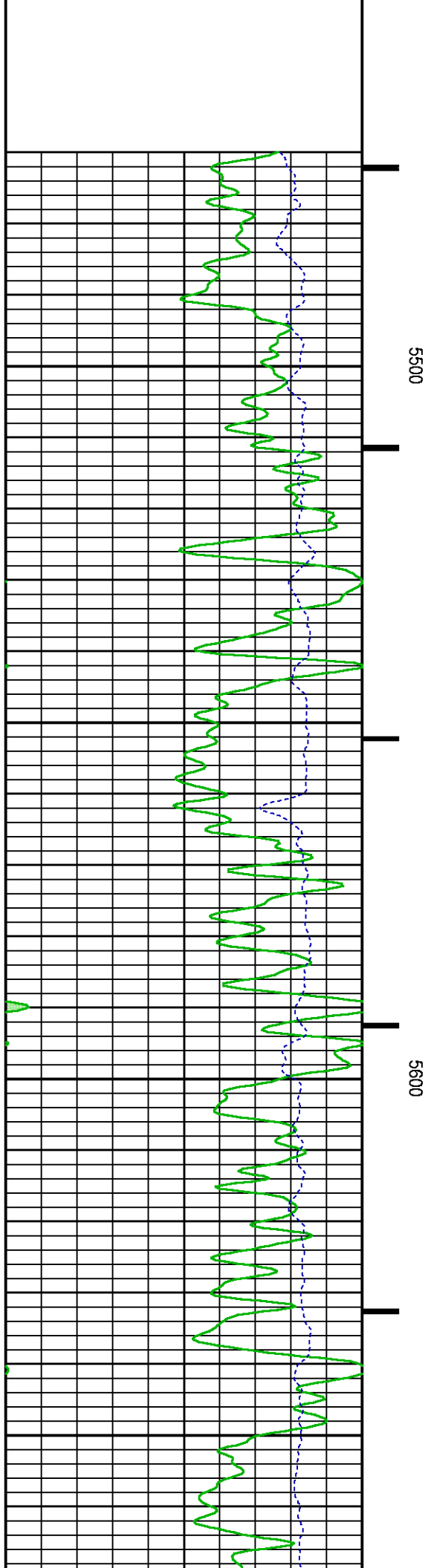
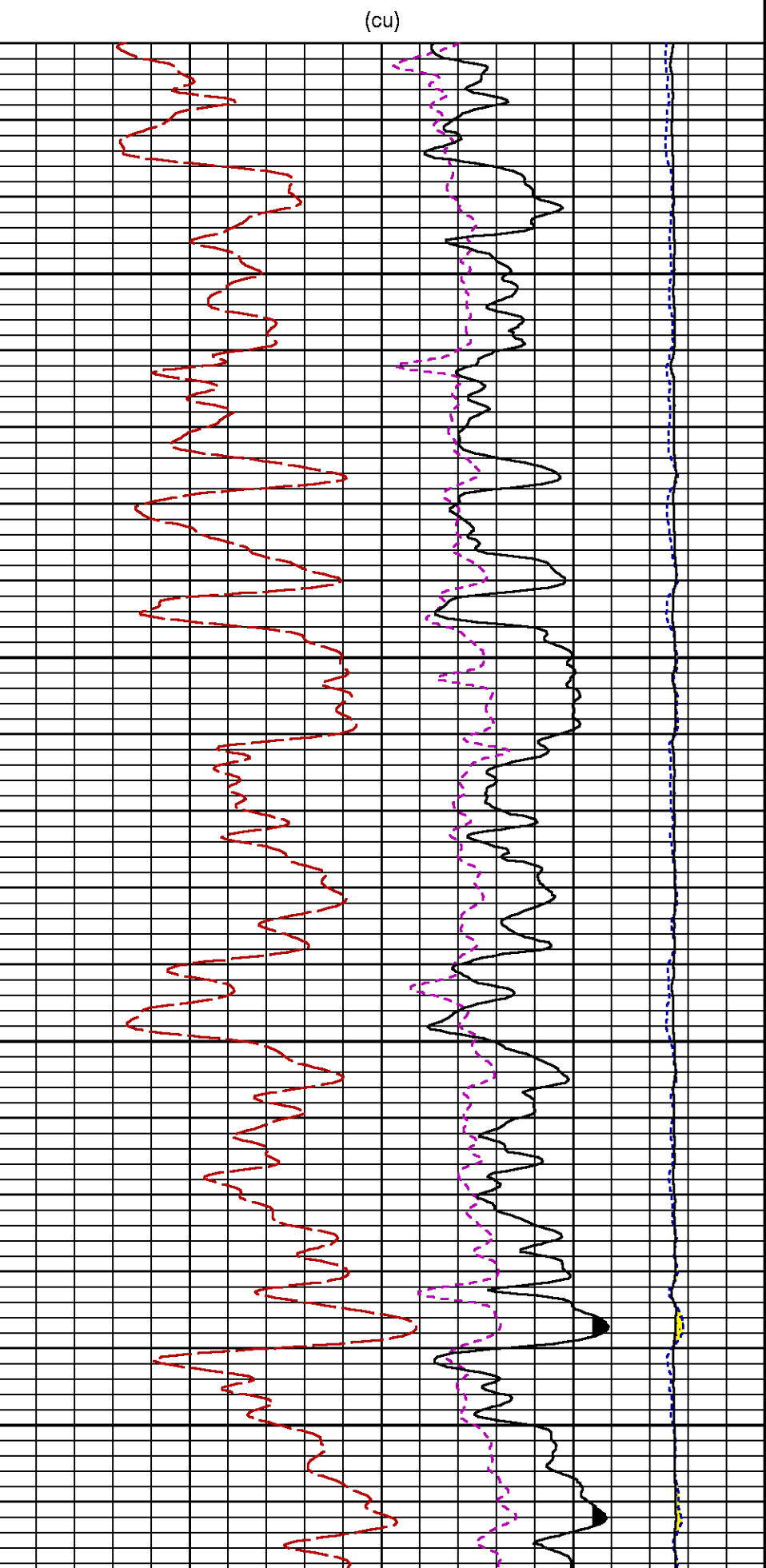
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/p353h01.prm				
LOGGING MODE: DEPTH DIRECTION: UP				
TOP DEPTH: 5457.587 ft BOTTOM DEPTH: 5700.341 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM
RPM 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		" "

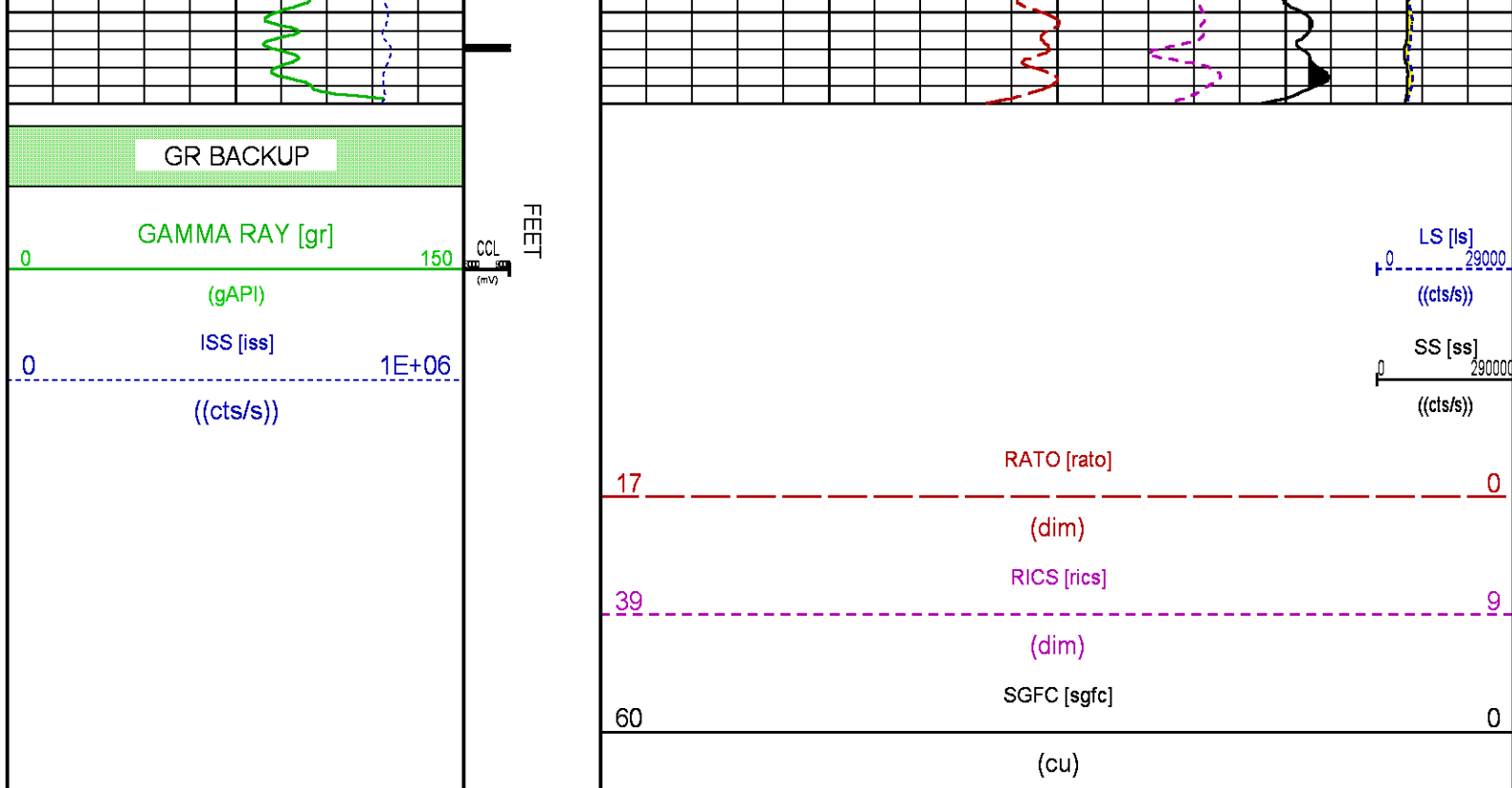
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE 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_30-18W/30-18W_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 5470 - 5680 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/30-18W_RPM_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON FEDERAL 30-18W
Field	: VEGA
File Interval	: 5436 - 5702.75 Feet
OCT	: p353h







CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/p353h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Thu Mar 29 14:35:15 2018

UNIT #: 4352 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	69.67	383.51	313.8	0.589	41.07	226.07	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Thu Mar 29 14:43:59 2018

UNIT #: 4352 ML4352

VERI JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	68.71	390.49	0.589	40.50	230.18	189.68
						175.00 195.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10430258

DATE/TIME PERFORMED: Wed Mar 28 19:08:19 2018

UNIT: 5753XD 111111

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 10430258

HOURS: 8281AA 19

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	809301	122	2198	2389	2242	108	8.0	0.9715

Raw Data	809301	122	2150	2381	2242	100	0.0	0.3715
Interpolated	1300000	143	2176	2381	2236			
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	809301	6008	943	130	26.12	0.15	24.24	0.32
					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	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	10.89 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

TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 166341 DATE/TIME PERFORMED: Fri Feb 9 11:57:12 2018

UNIT #: 5753XD 111111

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-1.865216E+01	1.008290E-01	4.283274E-07	1.750012E-11

TPSITEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 166341 DATE/TIME PERFORMED: Fri Feb 9 11:58:25 2018

UNIT #: 5753XD 111111

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Ptf's	-1.279033E+01	1.023596E-01	3.753687E-06	-5.745945E-10

TPSPRES PRIMARY CALIBRATION SUMMARY

GAUGE #: 8255XA 166341 DATE/TIME PERFORMED: Fri Feb 9 12:15:25 2018

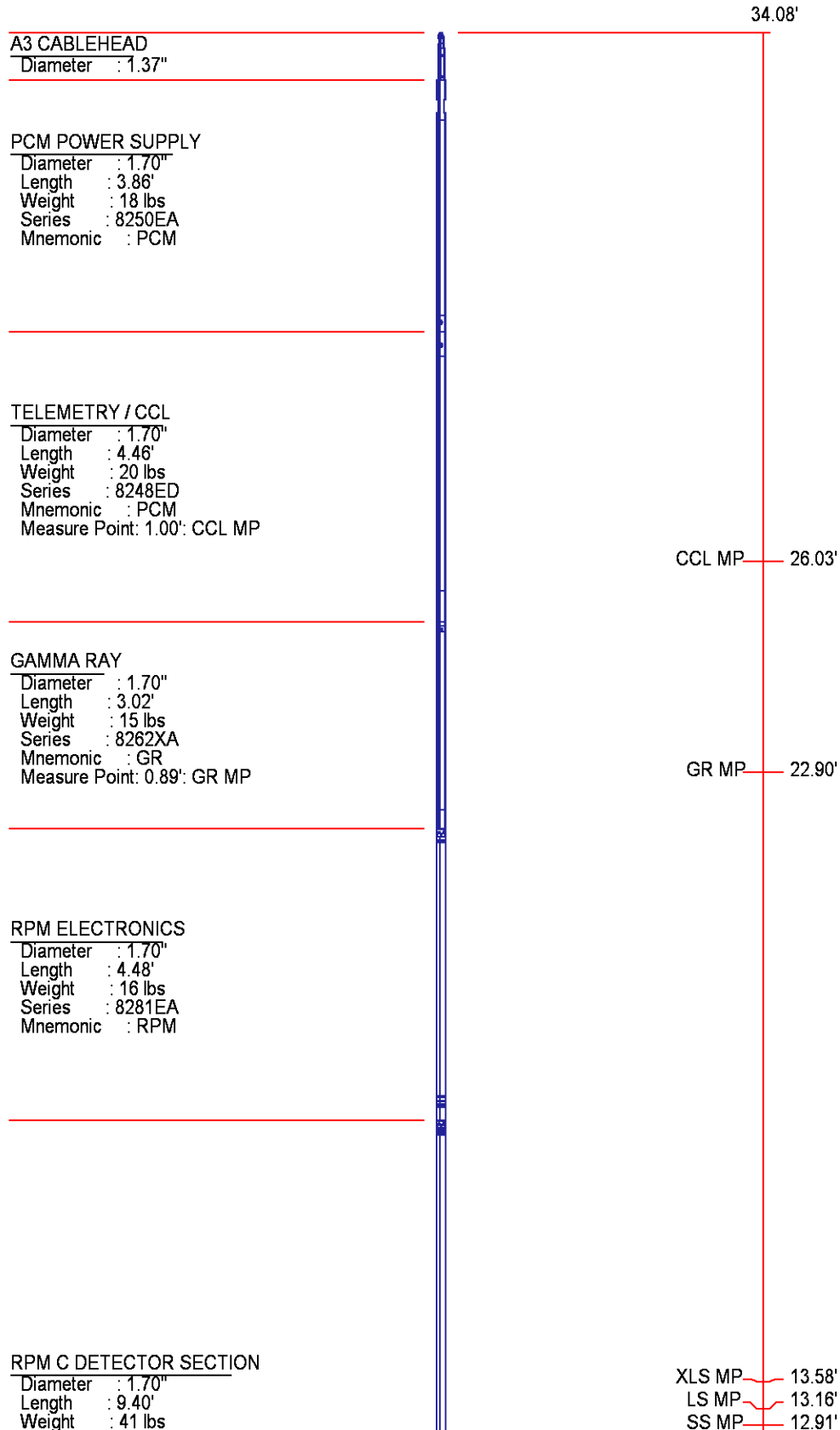
UNIT #: 5753XD 111111

	Temp	G	H	I	J
0		5.404341E+05	2.856945E+02	7.421320E-05	1.963967E-09
1		-2.525705E+02	2.896840E-02	7.709446E-07	-2.834983E-11
2		1.575603E+00	-2.390996E-04	-3.902487E-09	1.790438E-13
3		-3.156464E-03	5.410310E-07	6.600155E-12	-3.329160E-16
4		4.037484E-16	2.188692E-19	-8.807789E-24	3.671191E-26

Coef Test 200.0 5.276924E+05 2.862524E+02 1.251039E-04 7.924253E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_BRUTON_FEDERAL_30-18W/RPM-tdg



Series : 8283PA
Mnemonic : RPM
Measure Point: 5.45': XLS MP
Measure Point: 5.04': LS MP
Measure Point: 4.79': SS MP

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

0.00'

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

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY

LARAMIE ENERGY LLC

WELL

BRUTON FEDERAL 30-18W

FIELD

VEGA

COUNTY

MESA

STATE COLORADO

FILE NO:

CH133065

API NO:

05077104810000

LOCATION:

SHL: 2631' FSL & 1863' FEL

BHL: 908' FSL & 1307' FWL

ELEVATIONS:

KB 7673 FT

DF

GL 7643 FT

SEC 30 TWP 9S RGE 93W

DATE 02-Apr-2018