



FILE NO: CH136251	COMPANY <b>LARAMIE ENERGY LLC</b>
API NO: 05077103820000	WELL <b>NICHOLS 0994-24-12W</b>
	FIELD <b>VEGA</b>
	COUNTY <b>MESA</b> STATE <b>COLORADO</b>

Ver. 4.10	LOCATION: SHL: 2271' FNL & 2785' FWL BHL: 2299' FSL & 1491' FWL SEC <u>24</u> TWP <u>9 S</u> RGE <u>94 W</u>	OTHER SERVICES RAL
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7212 FT 24 FT ABOVE P.D. KB 7212 FT	ELEVATIONS: KB 7236 FT DF GL 7212 FT
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DATE	25-Apr-2018
RUN	1
TRIP	1
SERVICE ORDER	US136251
DEPTH DRILLER	7464 FT
DEPTH LOGGER	7412 FT
BOTTOM LOGGED INTERVAL	7412 FT
TOP LOGGED INTERVAL	2100 FT
TIME STARTED	11:00
TIME FINISHED	17:00
OPERATOR RIG TIME	6 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	48 FT
LOGGED CEMENT TOP	1850 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	15 FMIN
MAX. RECORDED TEMP.	224 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	25-Apr-2018
EQUIP. NO.	ML-4291
LOCATION	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 1 TRIP 1: \*2 OPERATIONS IN WELLBORE\*

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

SJ: 5667' - 5686'  
SJ: 6563' - 6582'

## 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	2812LA	10274385	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: Wed Apr 25 20:52:16 2018

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/p354h03.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 2098.135 ft BOTTOM DEPTH: 2757.992 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	7.87	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	-25.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:/dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/0994-24-12W\_RPM\_MAIN\_GS.fvpdf [5"/100' Scale]  
 Plot Interval : 2071 - 2752 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/0994-24-12W\_RPM\_MAIN\_GS.xtf  
 Created On : N/A  
 Company : LARAMIE ENERGY LLC  
 Well : NICHOLS 0994-24-12W  
 Field : VEGA  
 File Interval : 2070.25 - 2752.25 Feet  
 OCT : p354h

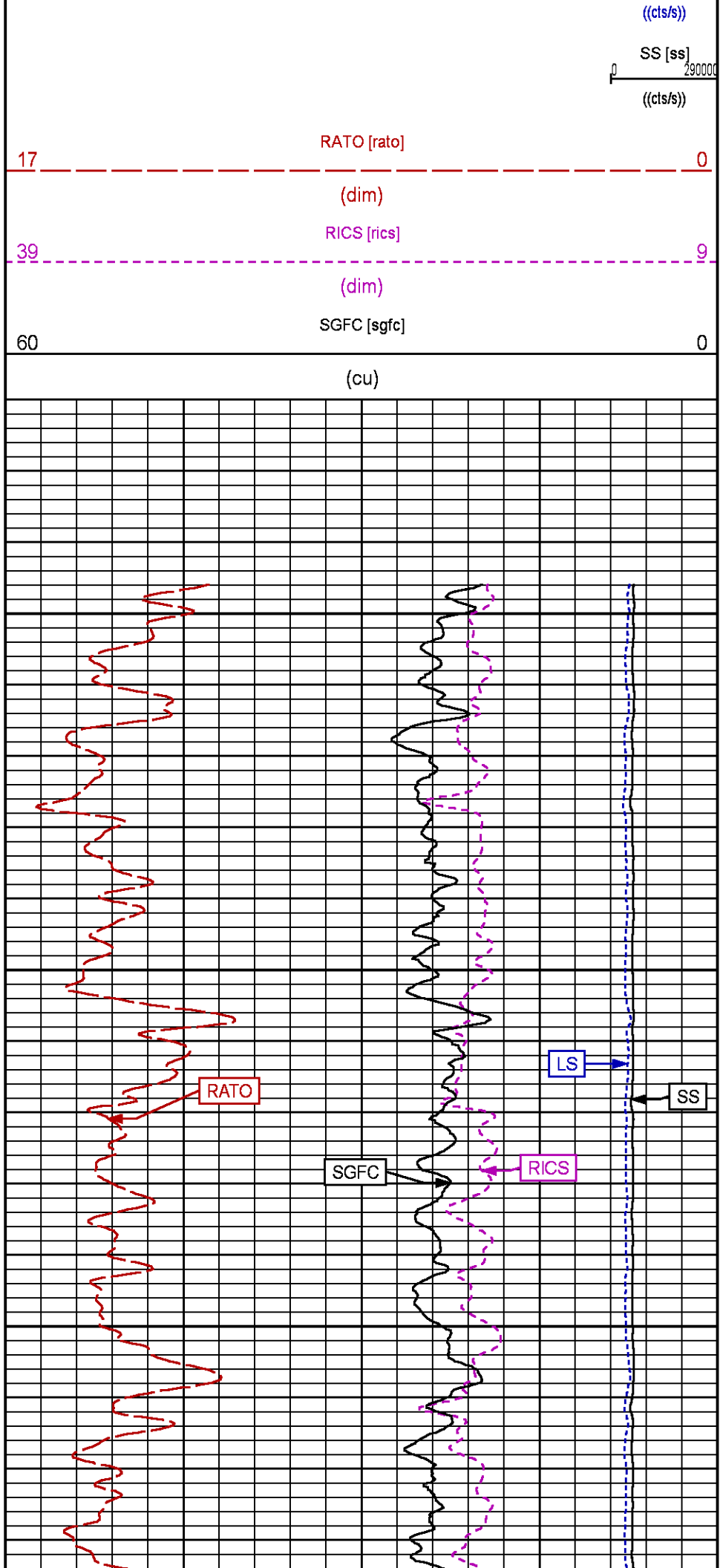
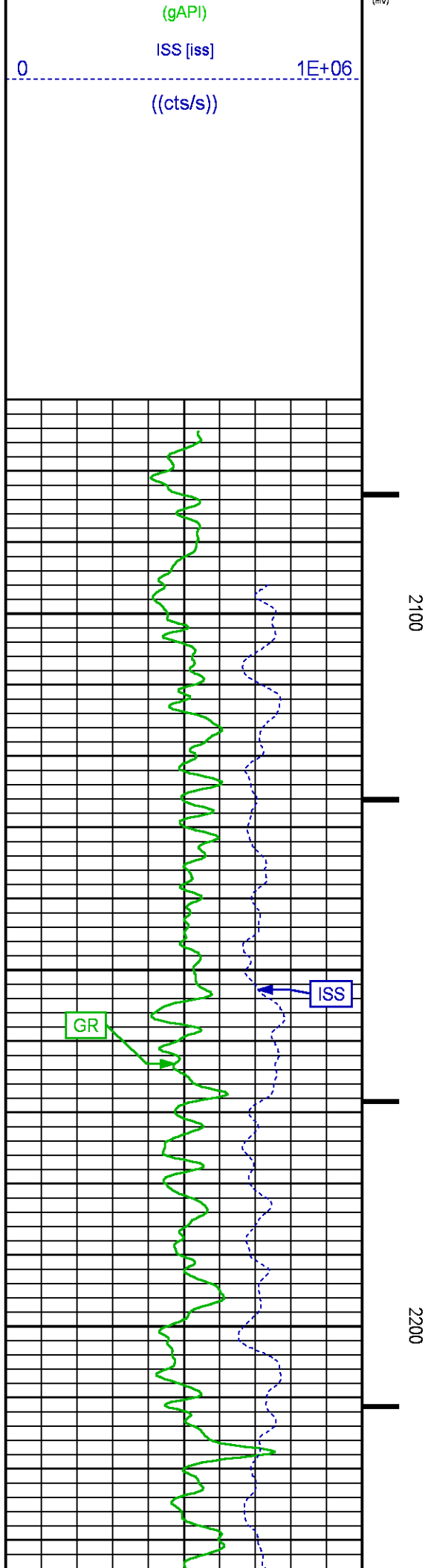
GR BACKUP

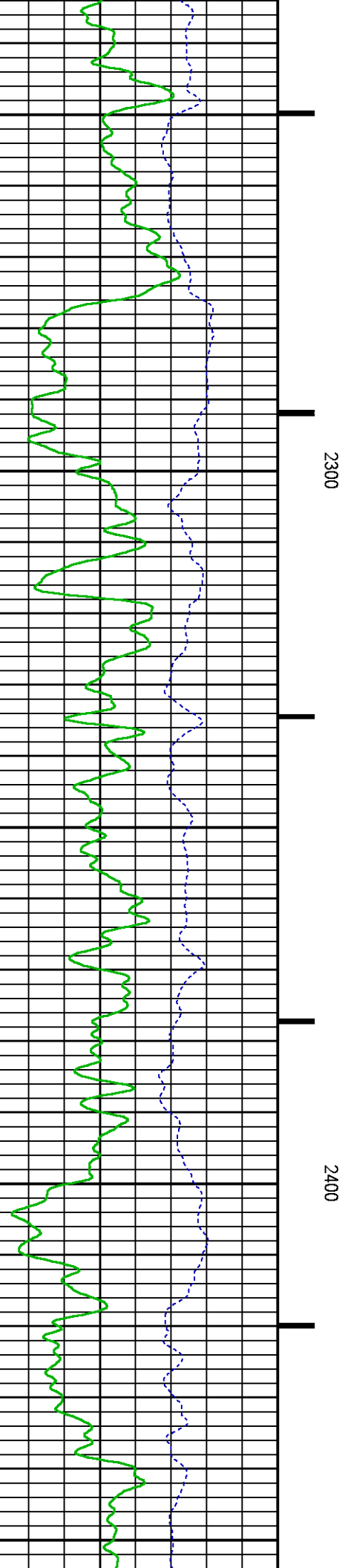
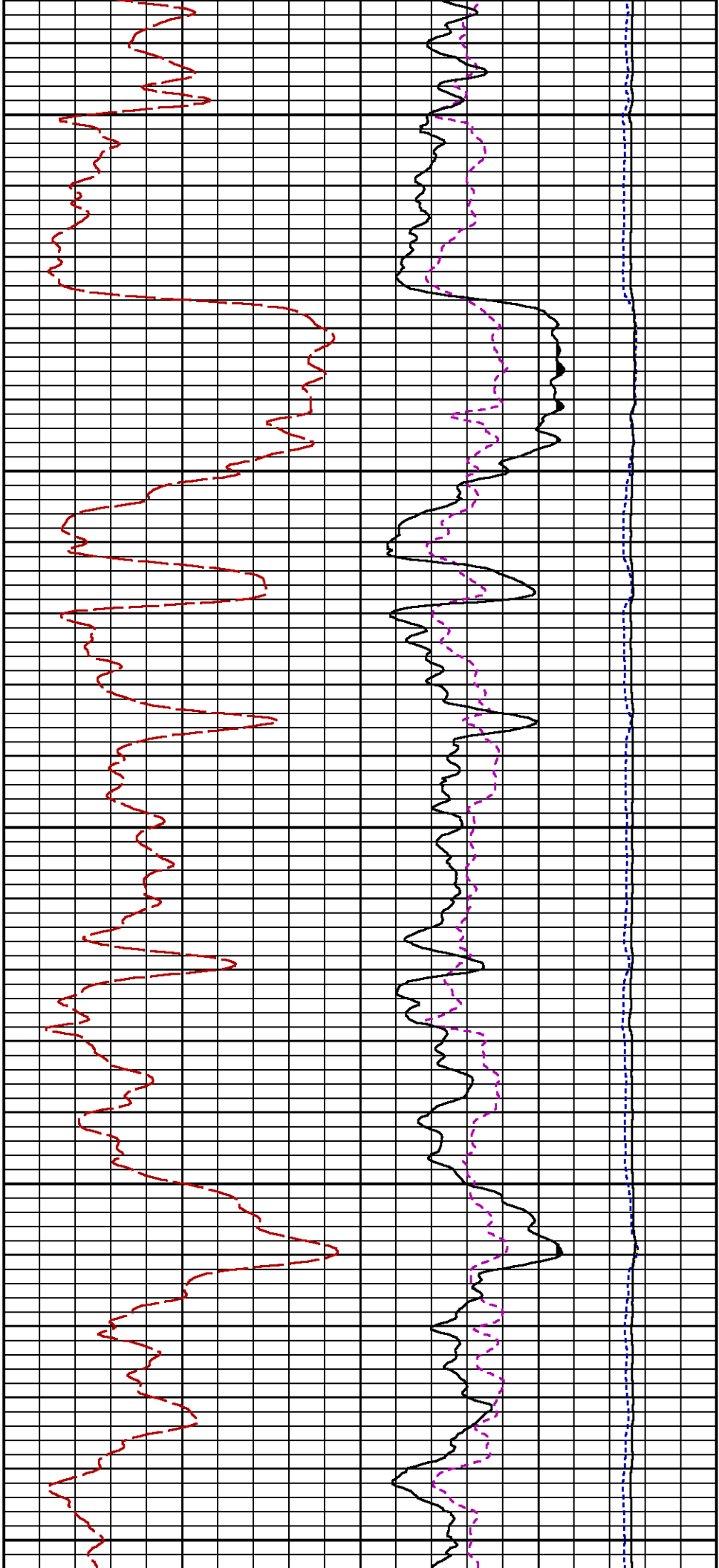
GAMMA RAY [gr]

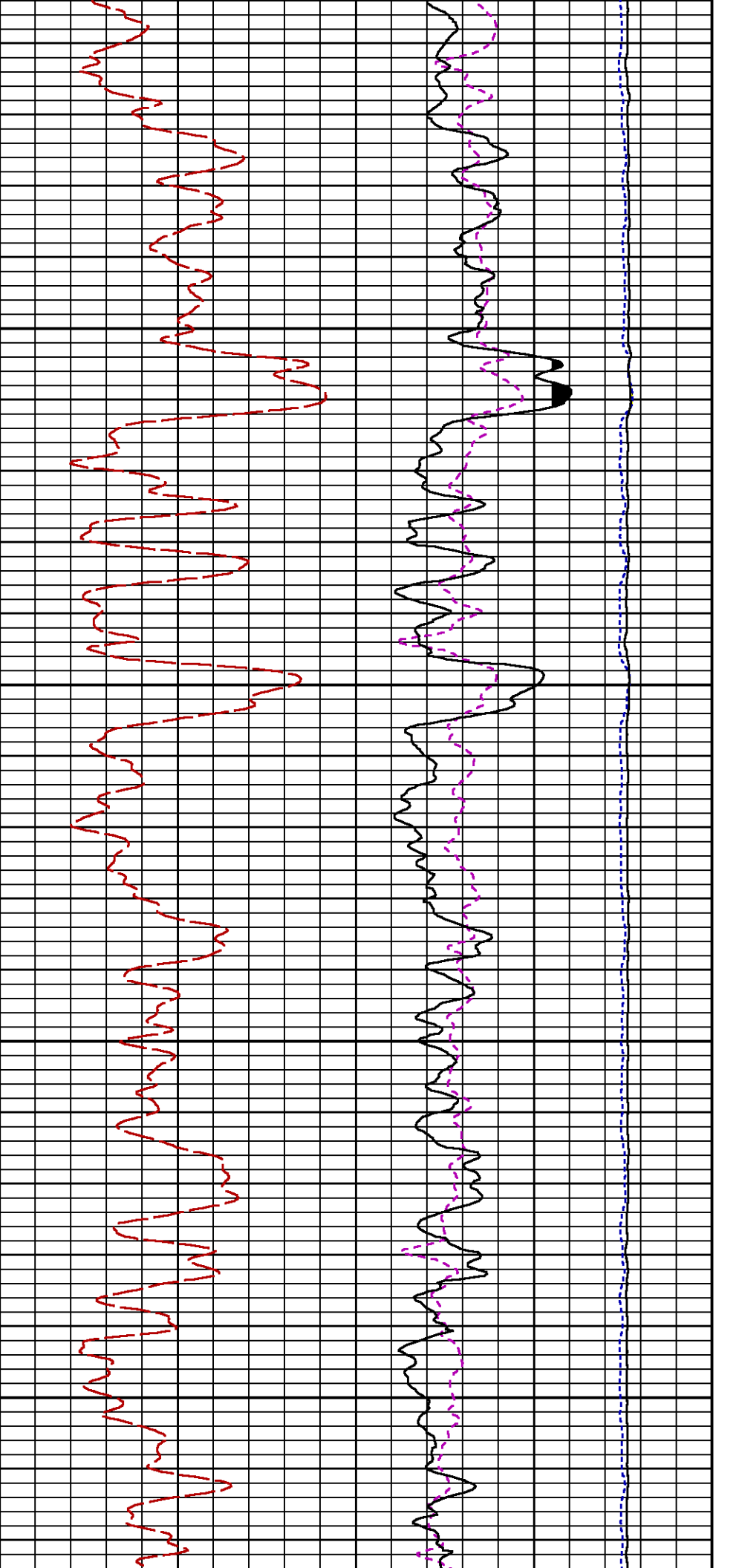
FEET

LS [ls]

29000

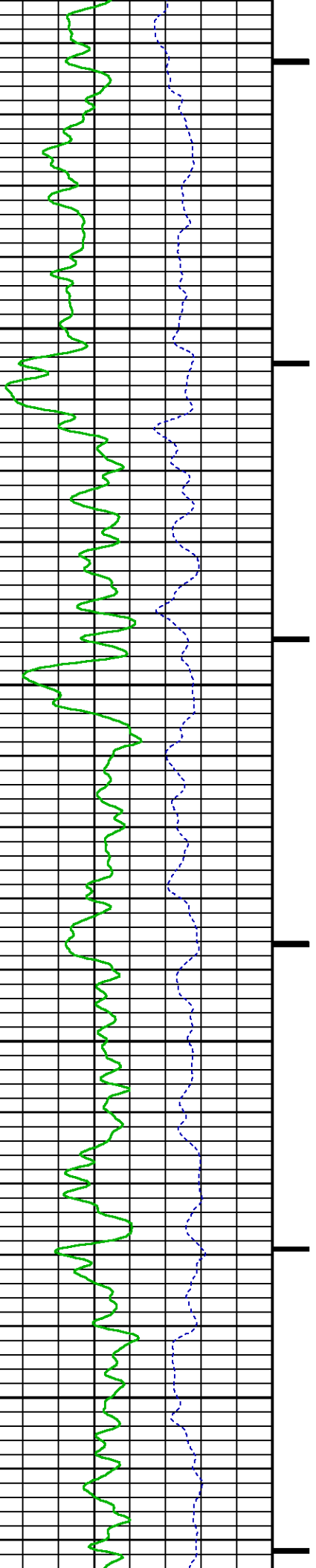


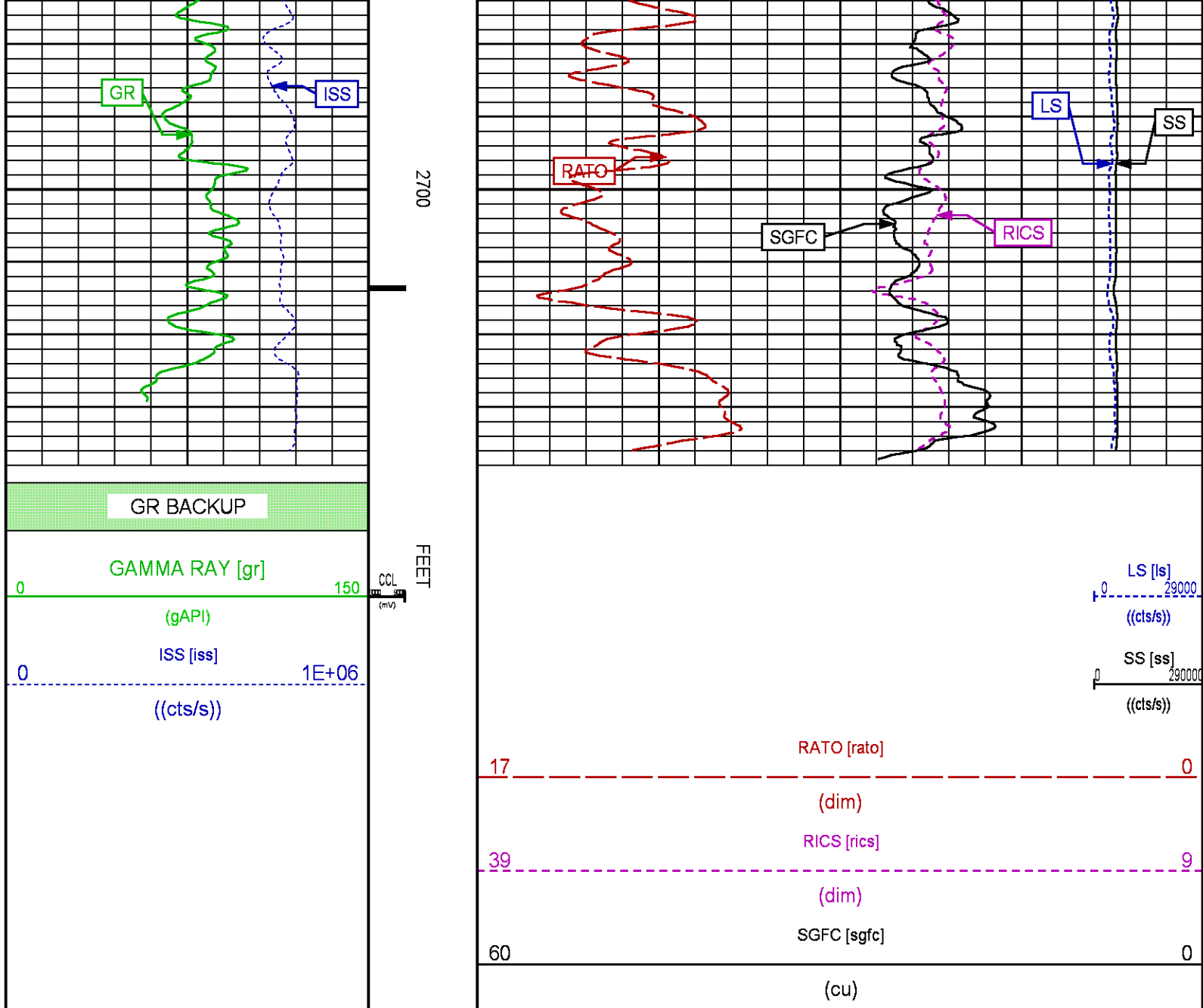




2500

2600





## 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: Wed Apr 25 21:01:01 2018

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/p354h02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 3938.543 ft BOTTOM DEPTH: 7441.442 ft

### SYMMETRIC FILTER

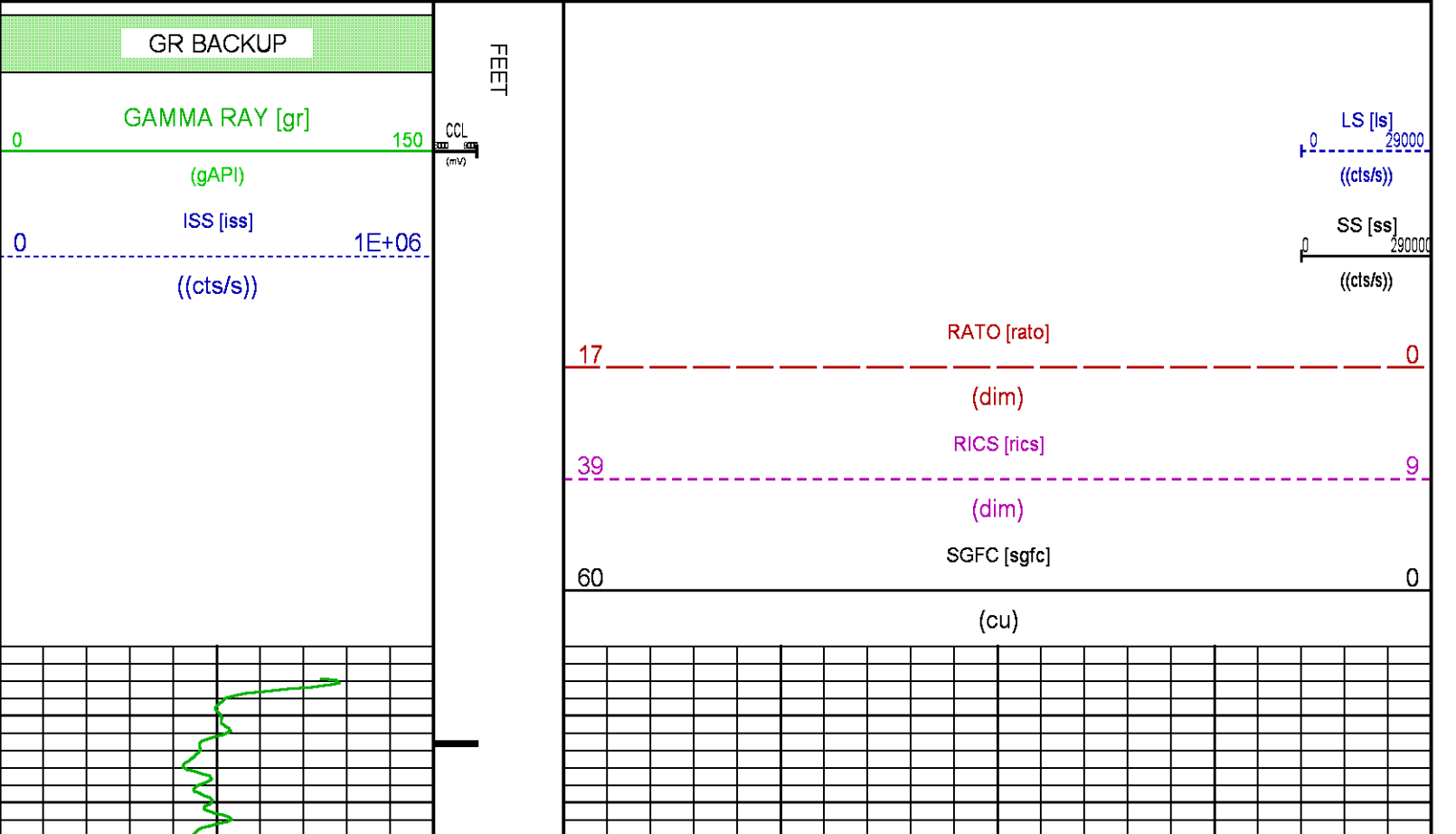
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
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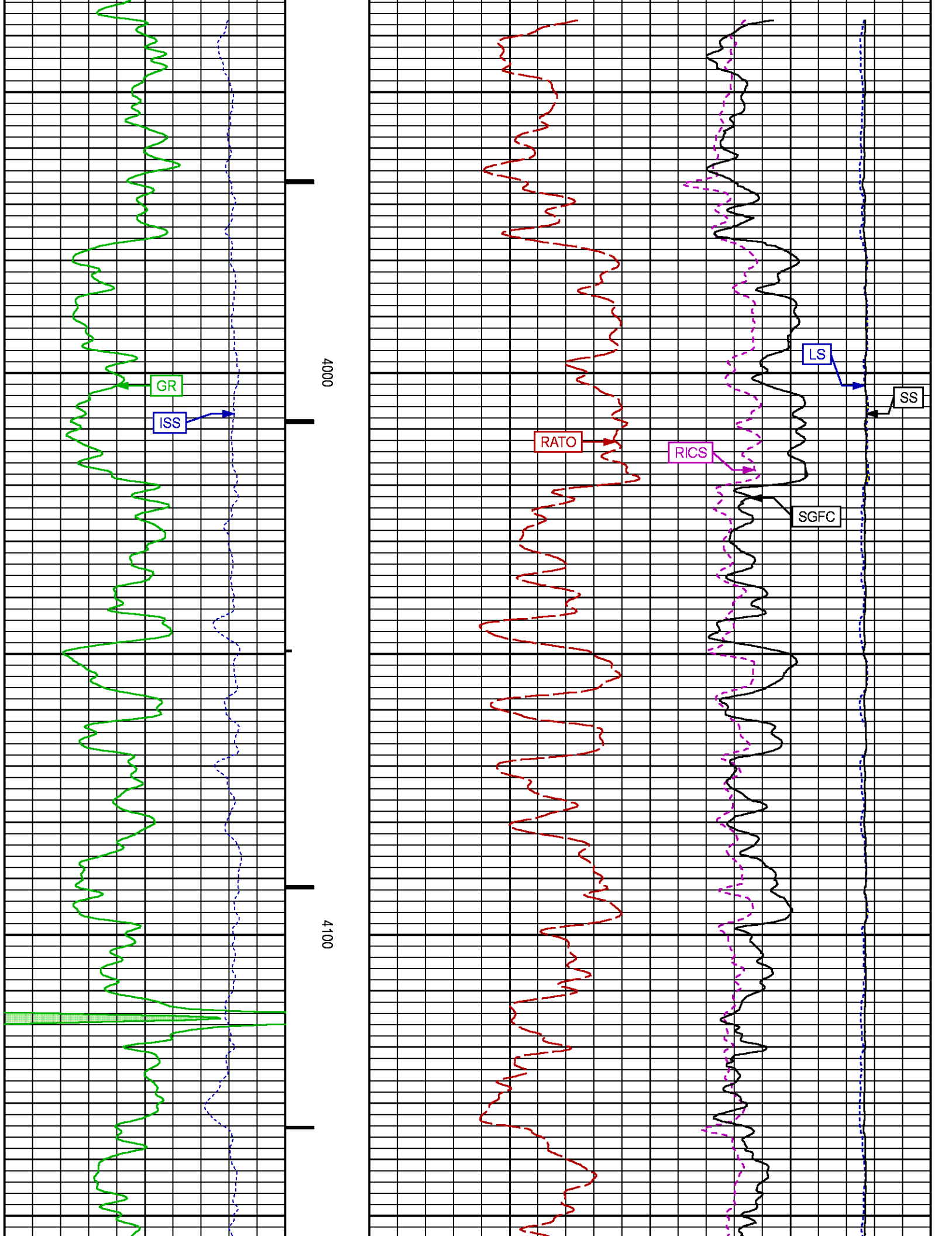
GR	FILTER ()	medium (1)	TOP	BOTTOM
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP
	OPEN/CASED HOLE	CASED HOLE		"
	BOREHOLE SIZE	7.87	in	"
	LARGEST CASING OD	4.50	in	"
	MATRIX	SANDSTONE		"

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

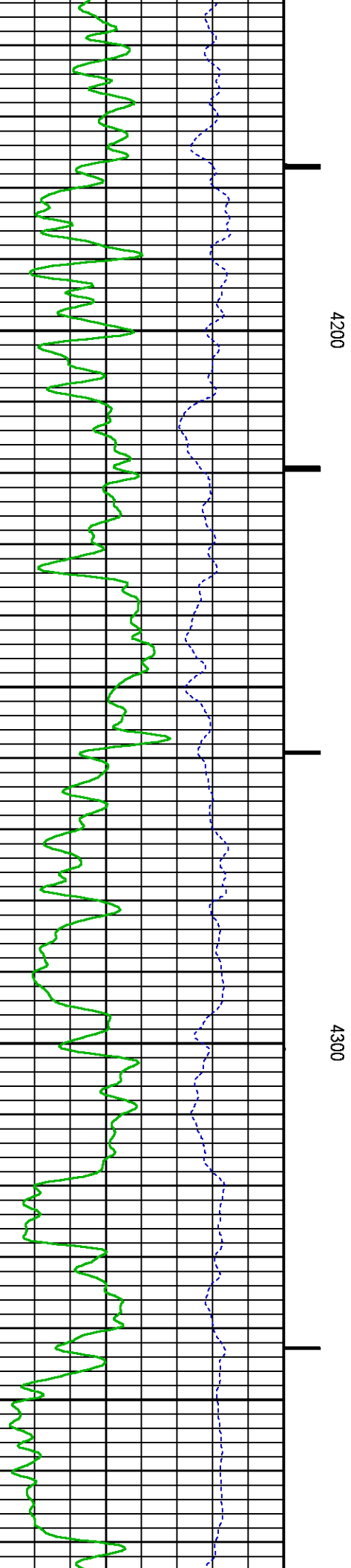
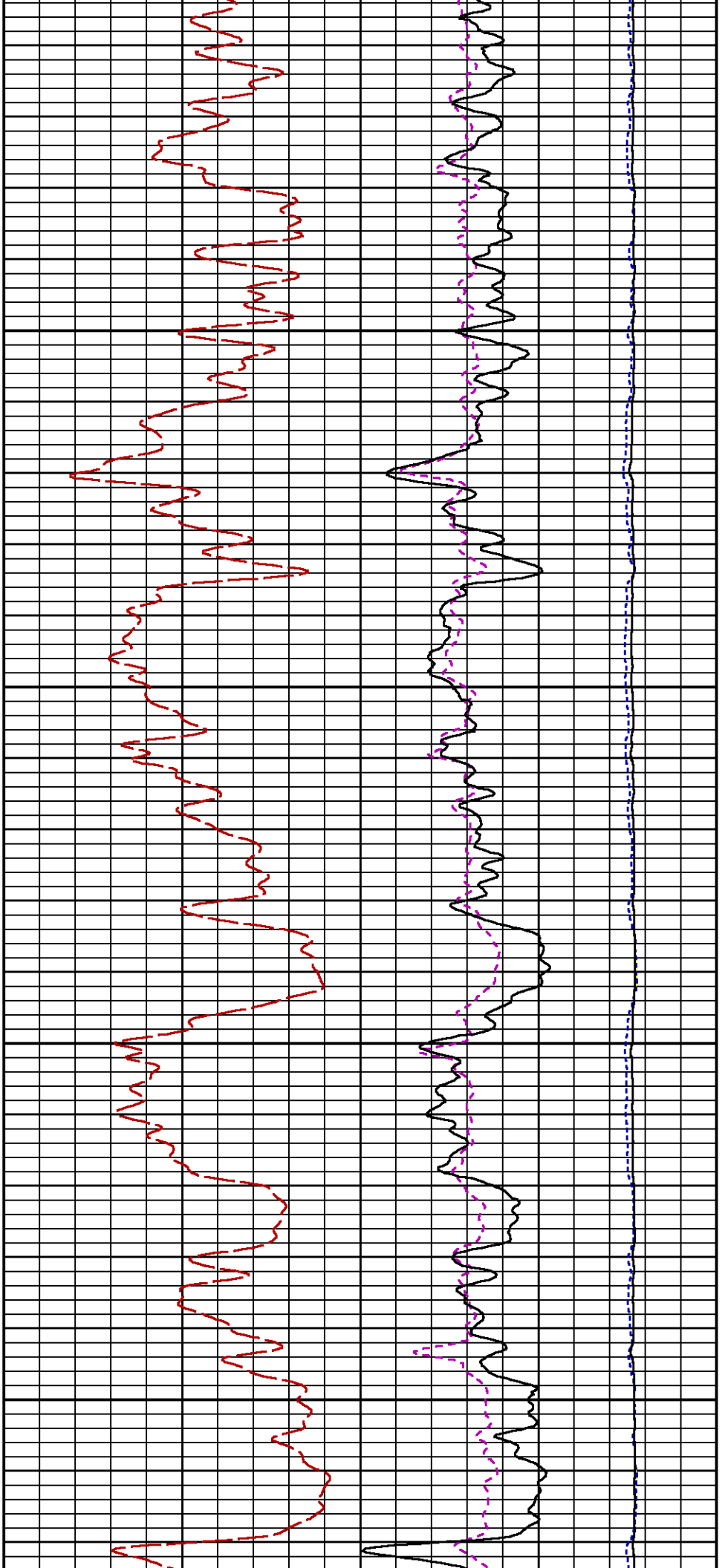
CURVE MEASURE POINT OFFSET					
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-25.00	ISS	-12.75	RATO	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75

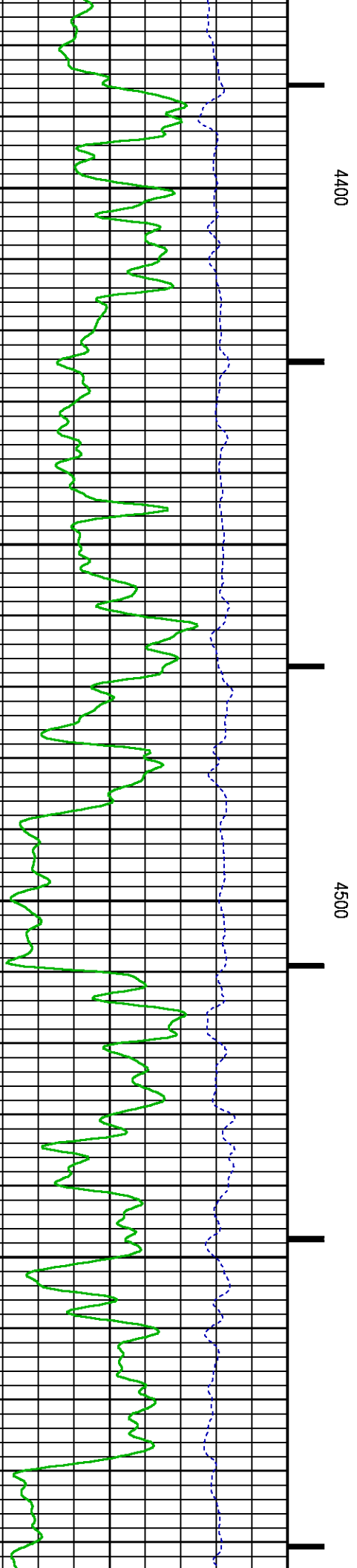
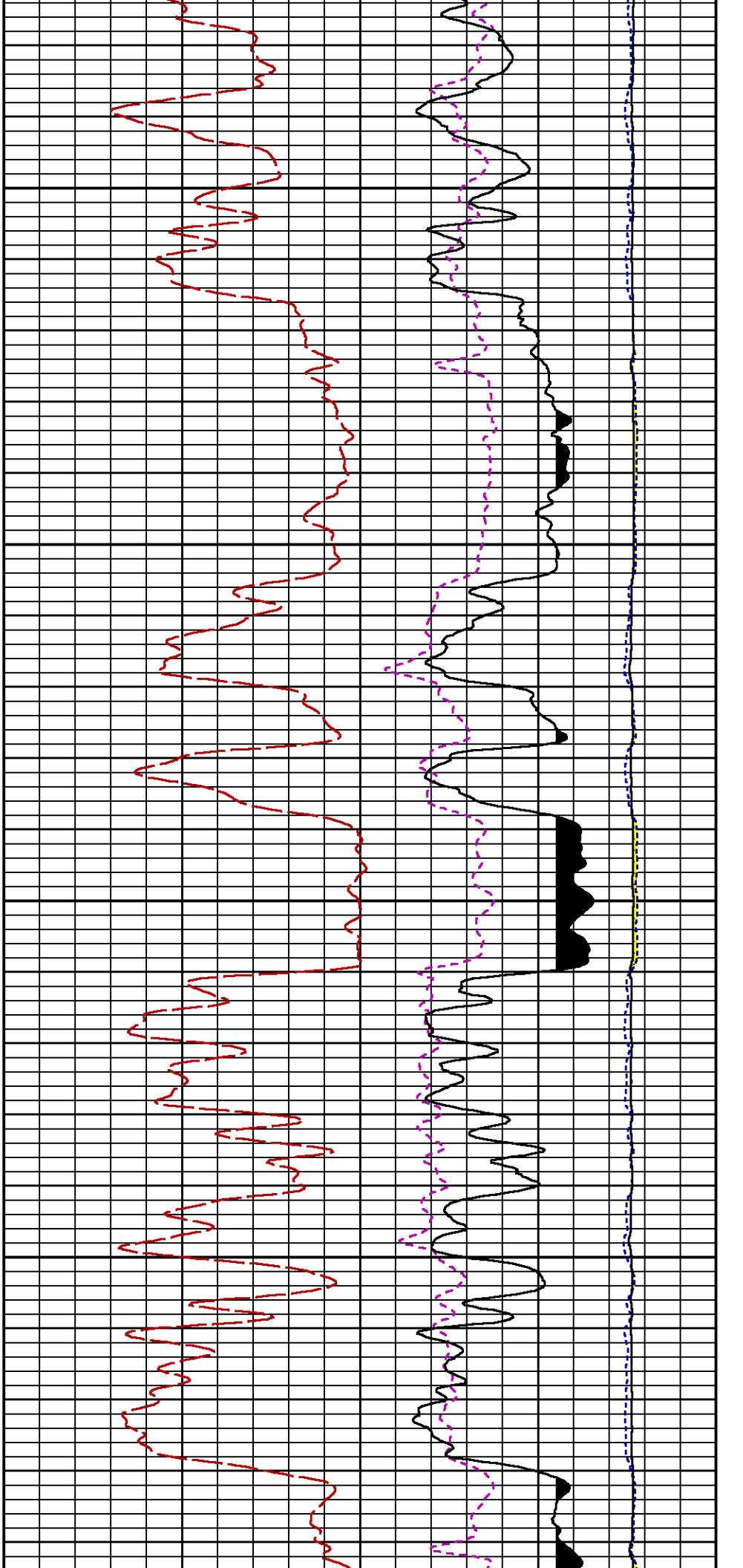
Presentation	: SysA:/dat1a/LARAMIE_NICHOLS_0994_24_12W/0994-24-12W_RPM_MAIN_WF.fvpdf [5"/100' Scale]
Plot Interval	: 3912.25 - 7434.5 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_12W/0994-24-12W_RPM_MAIN_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: NICHOLS 0994-24-12W
Field	: VEGA
File Interval	: 3911.5 - 7434.75 Feet
OCT	: p354h

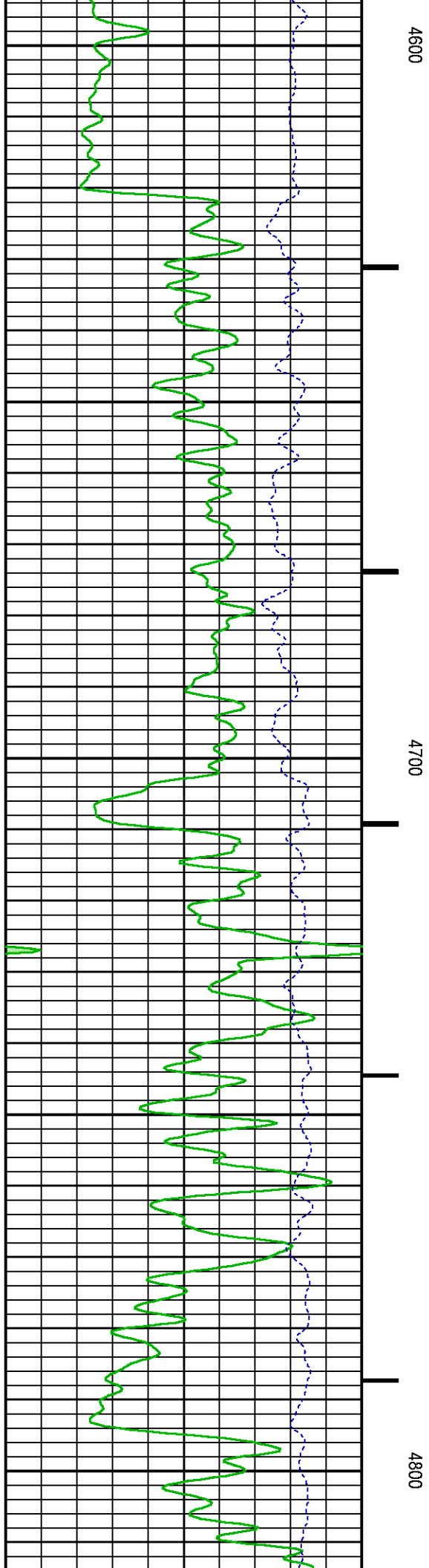
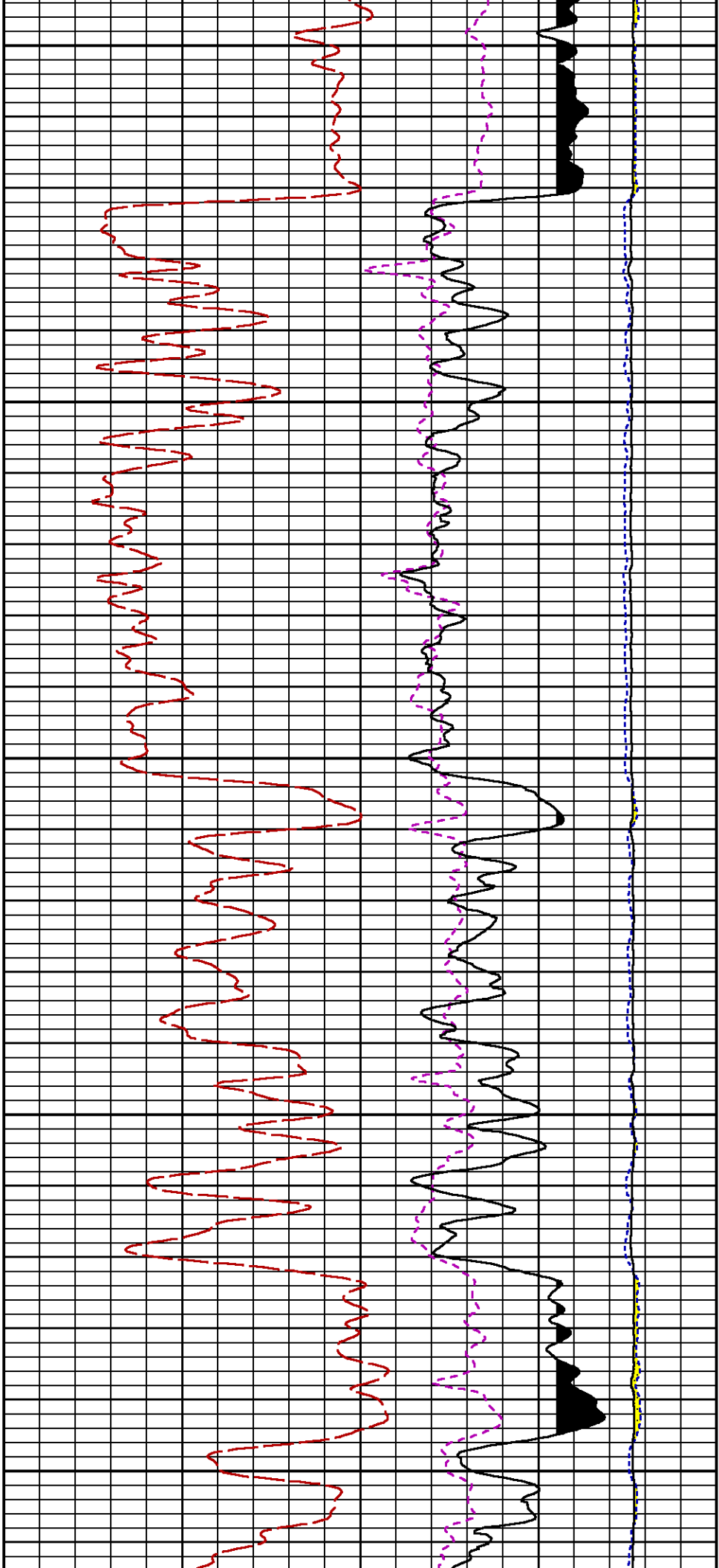


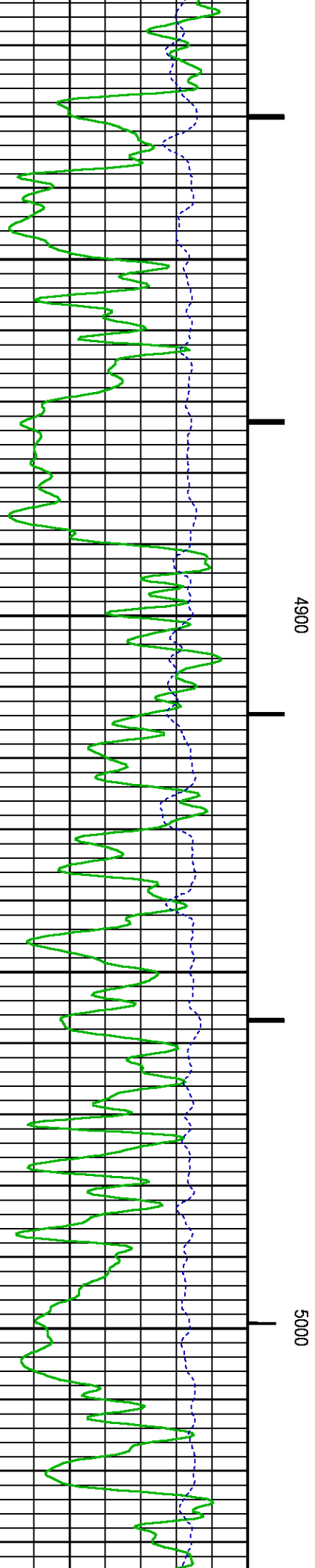
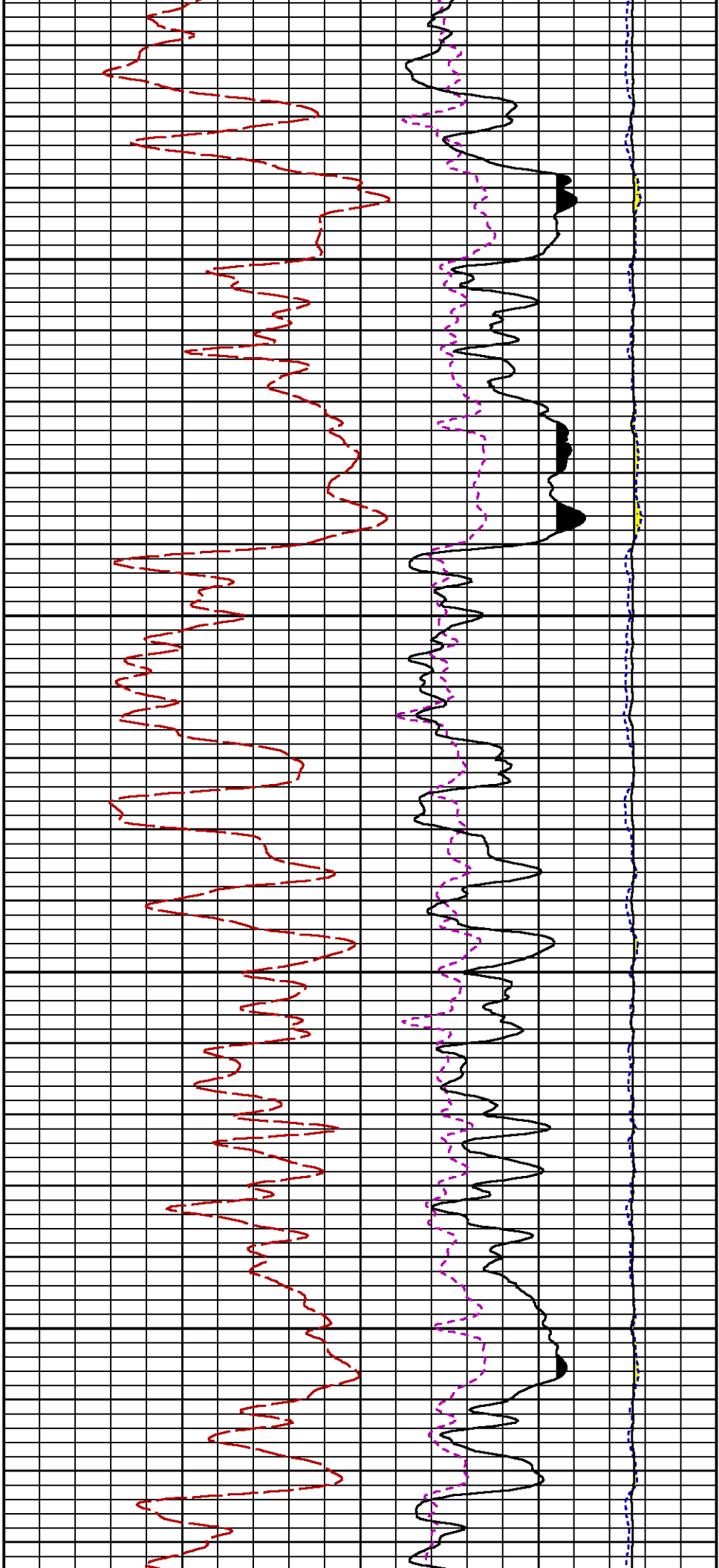


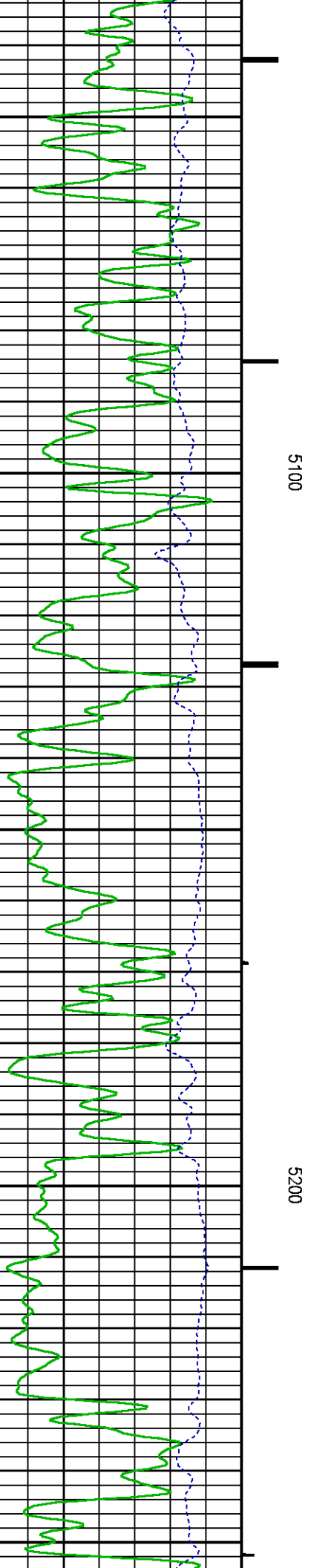
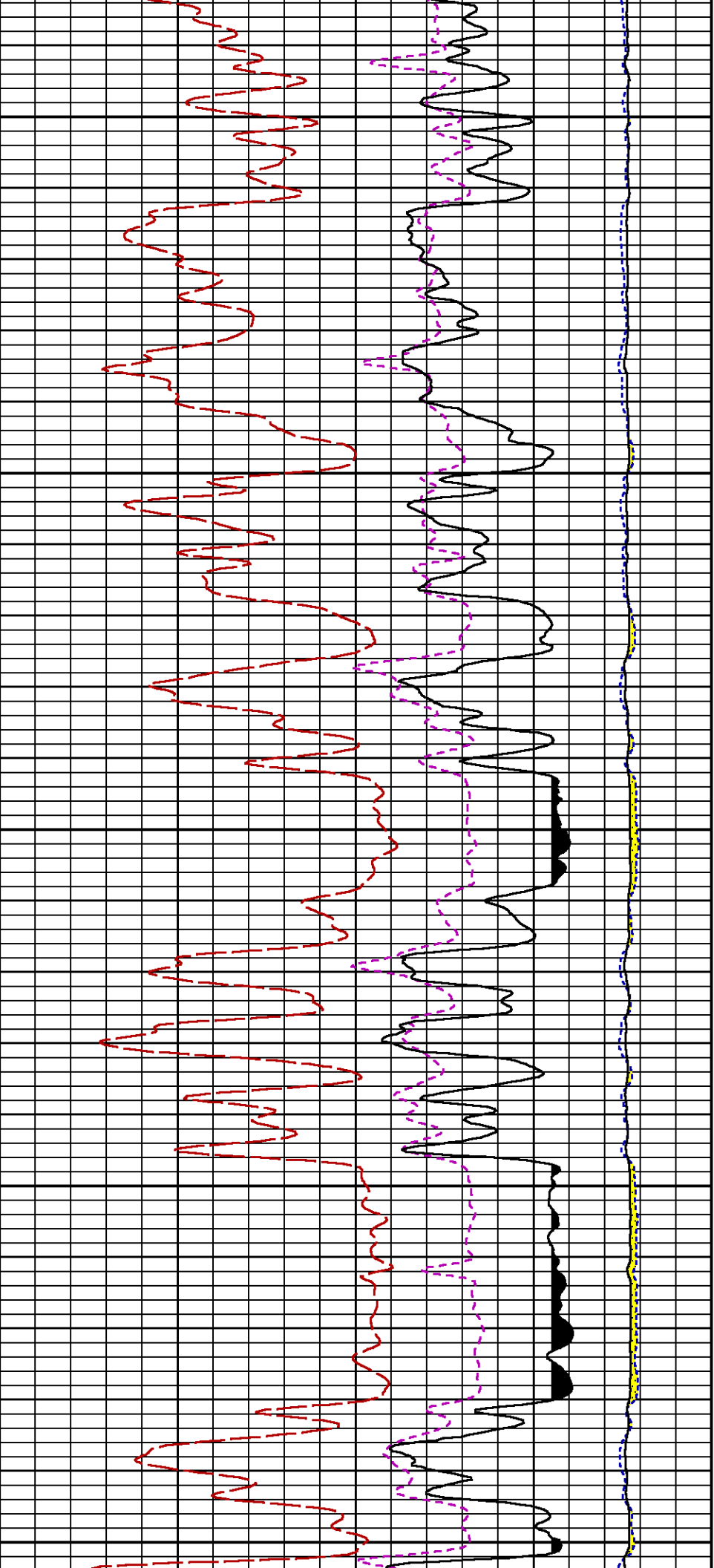


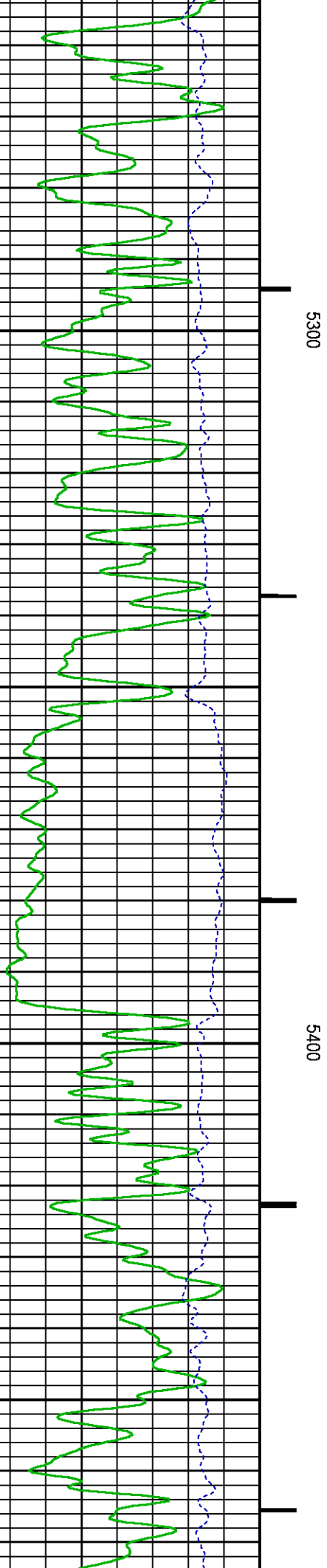
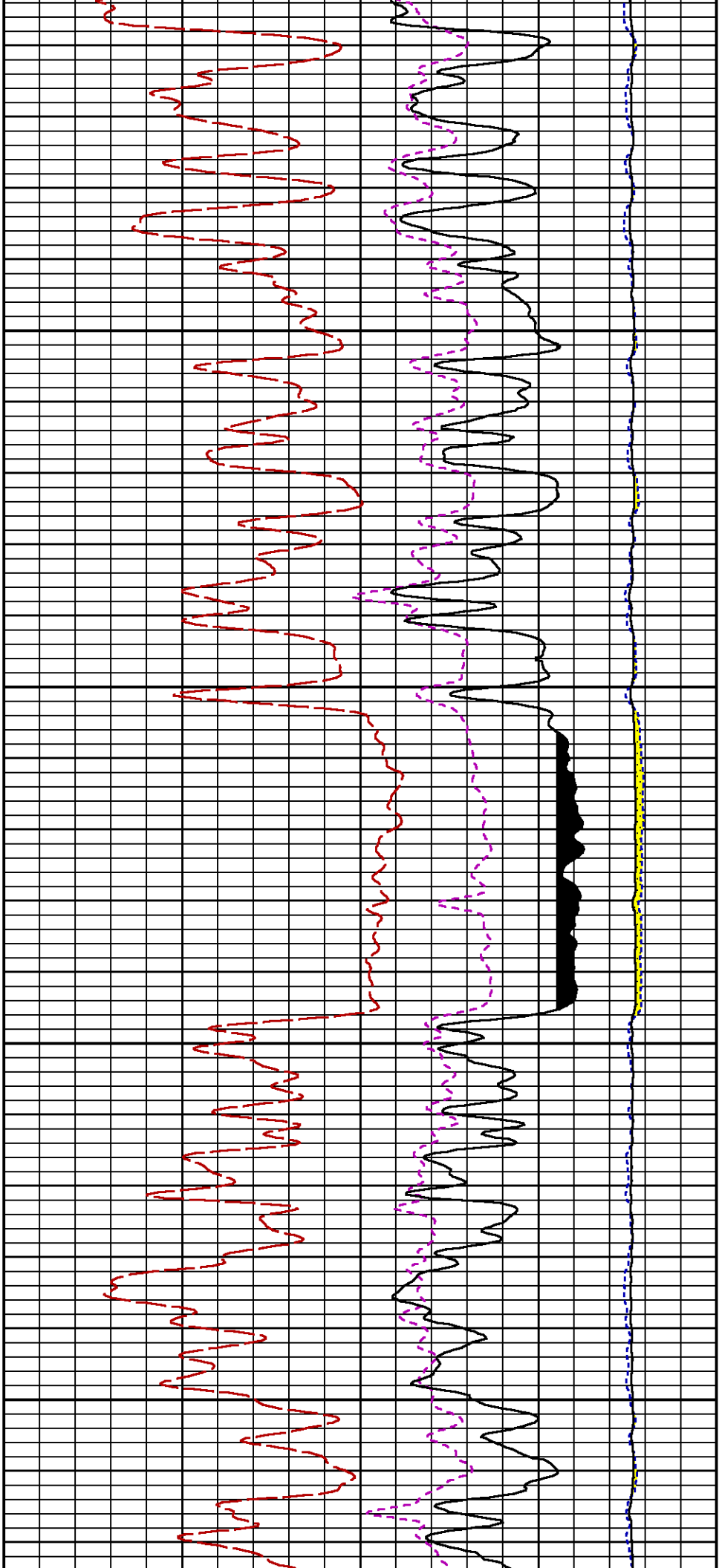


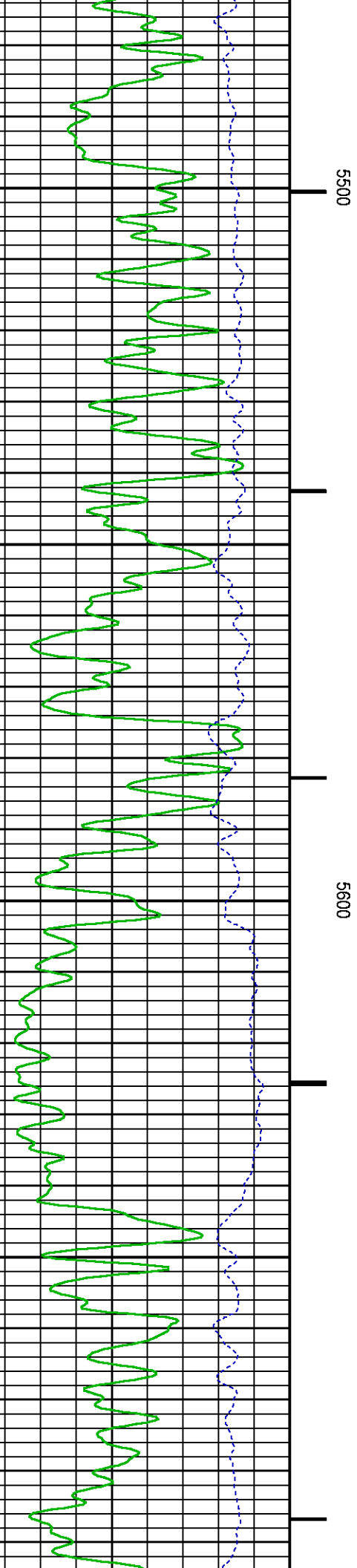
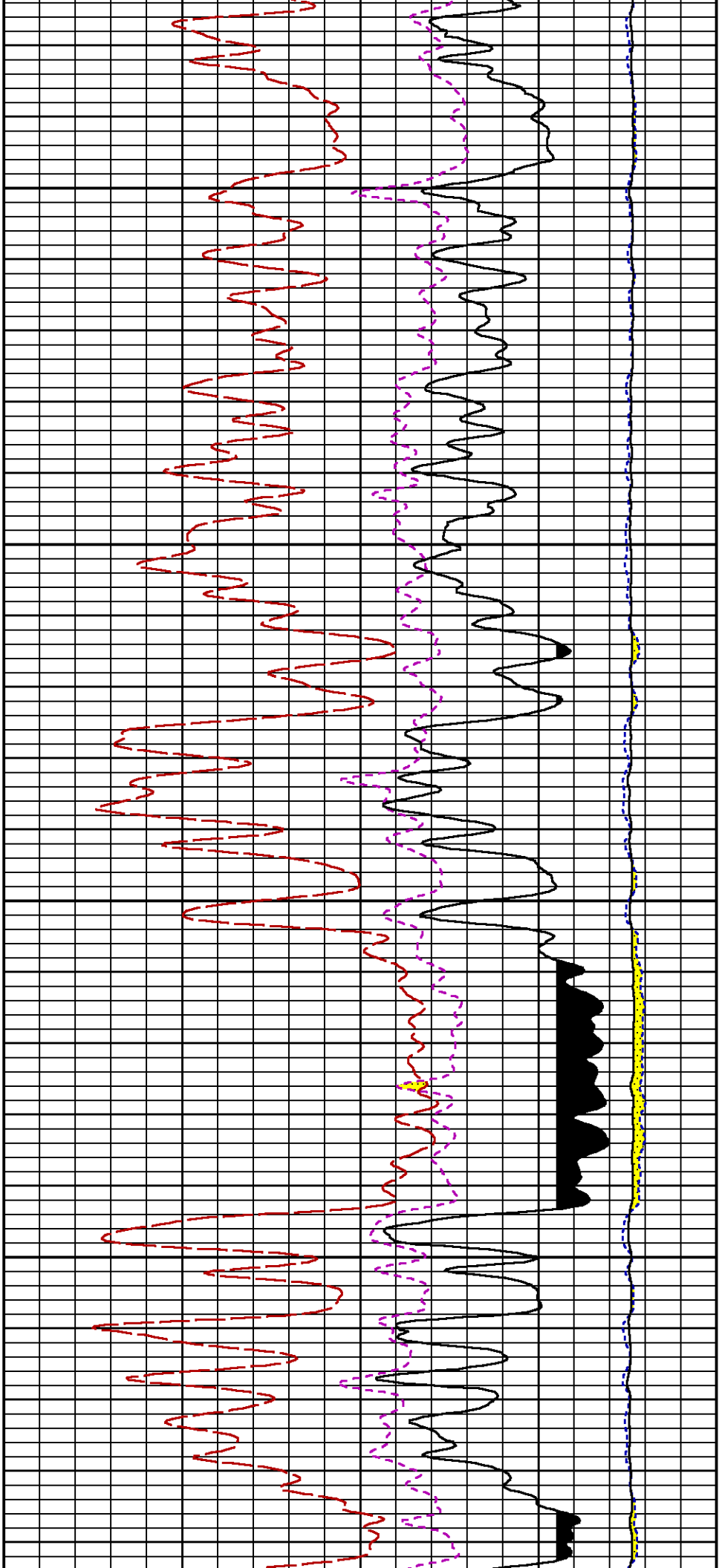


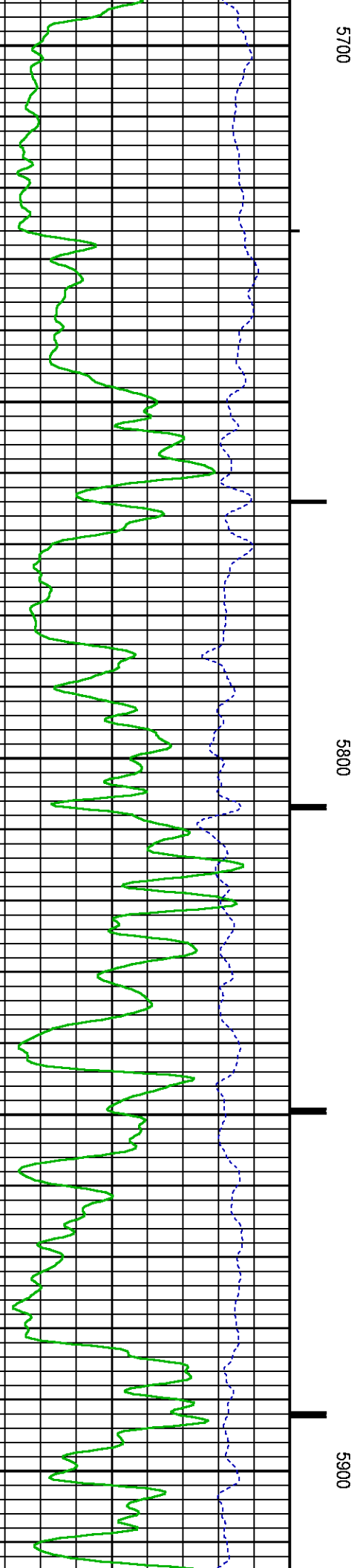
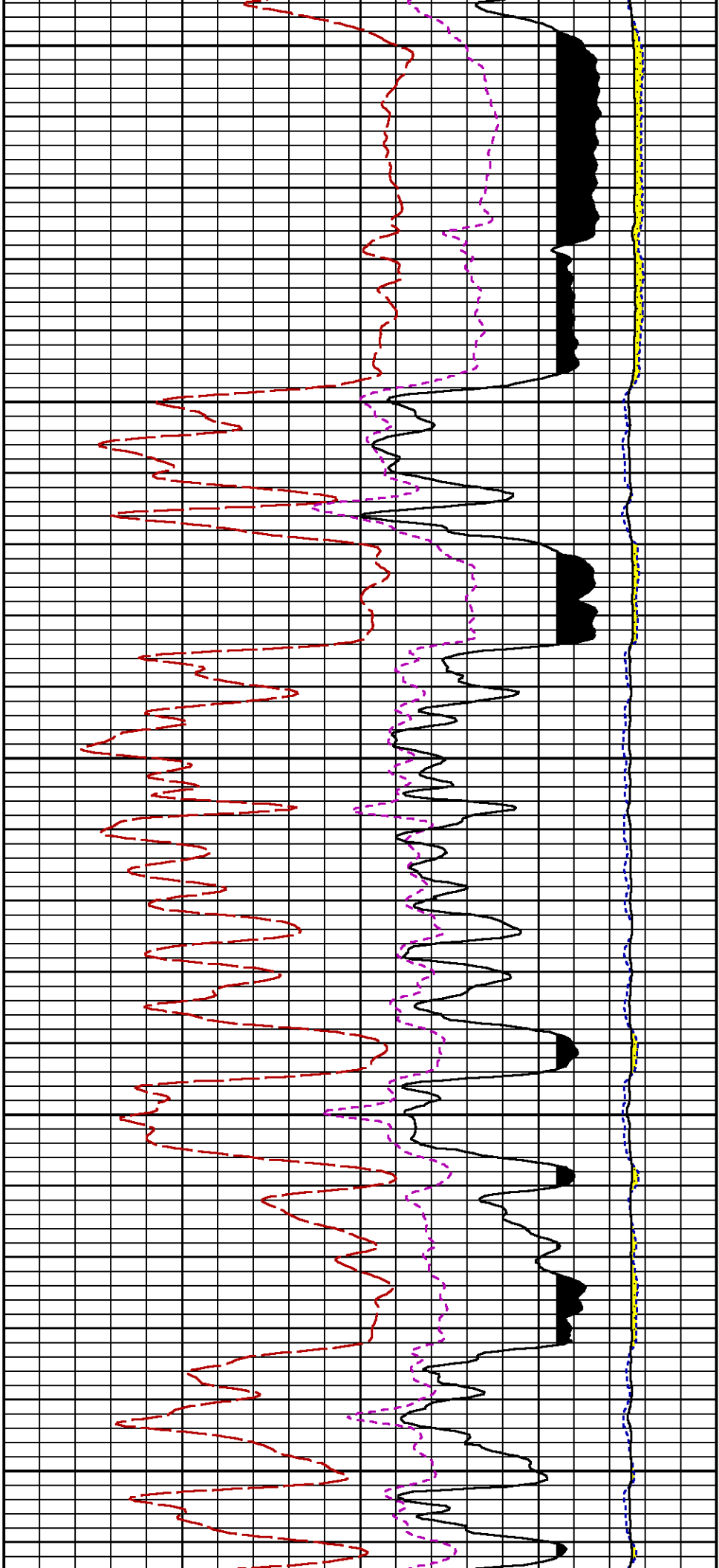




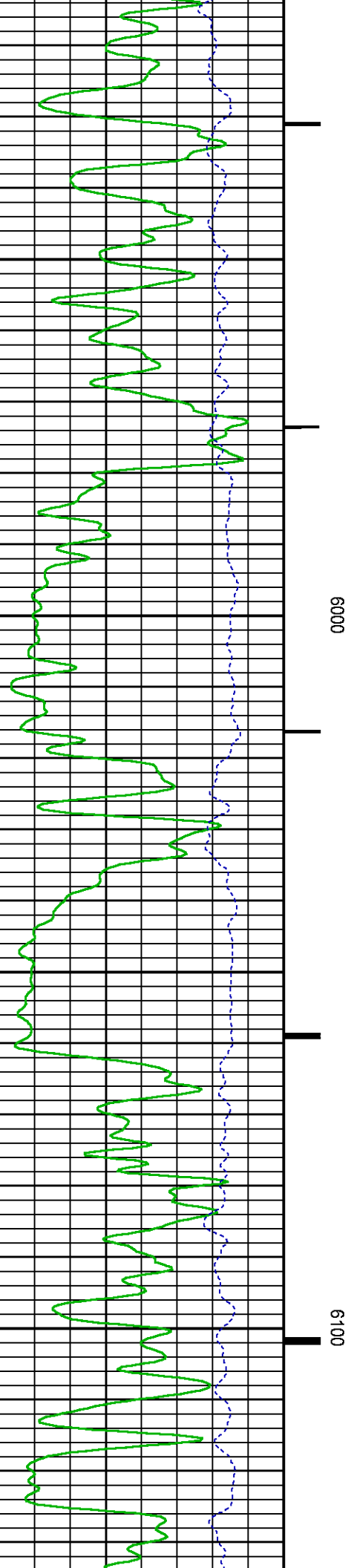
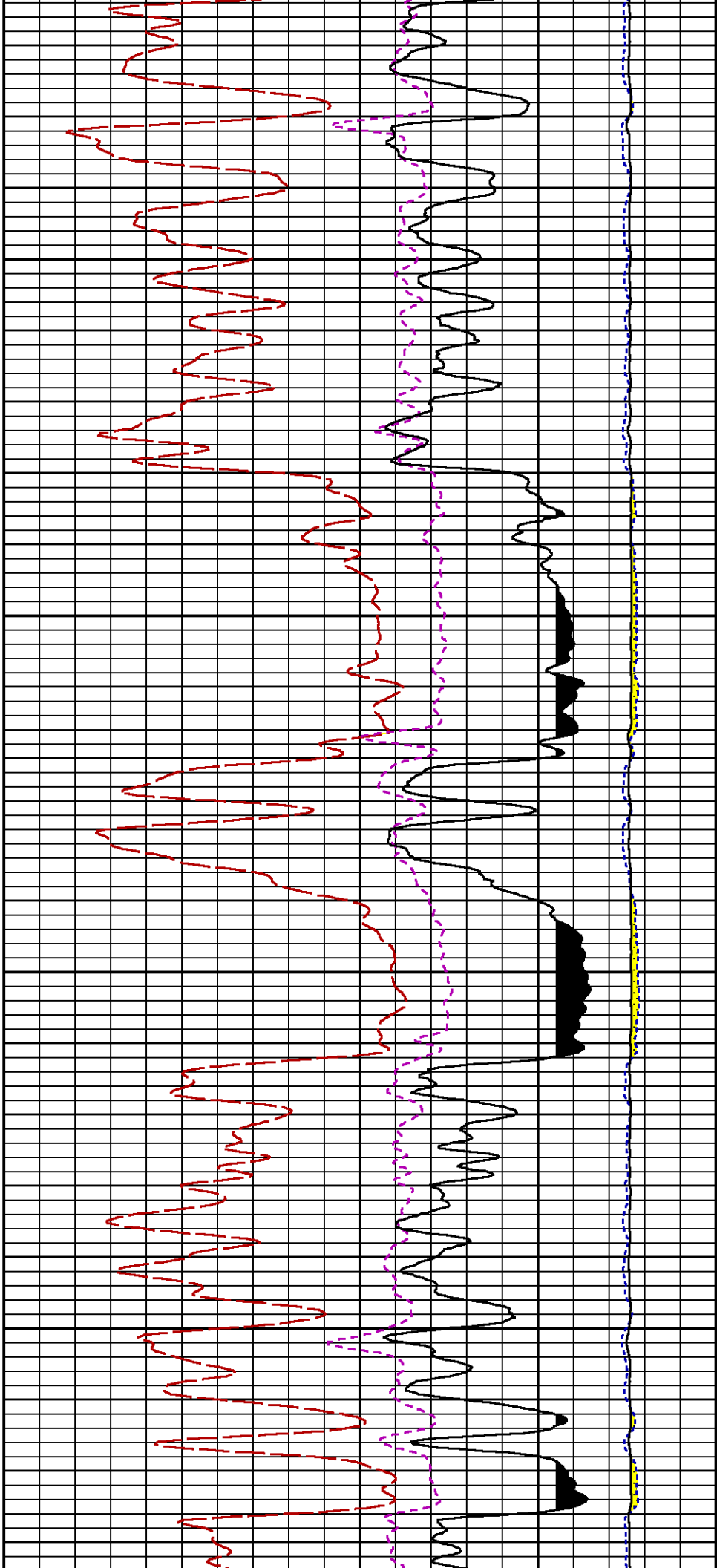


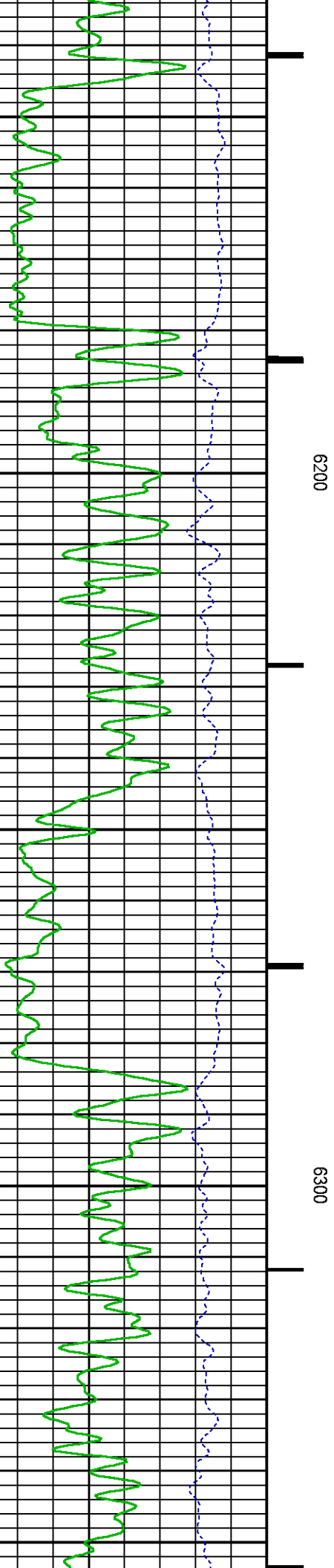
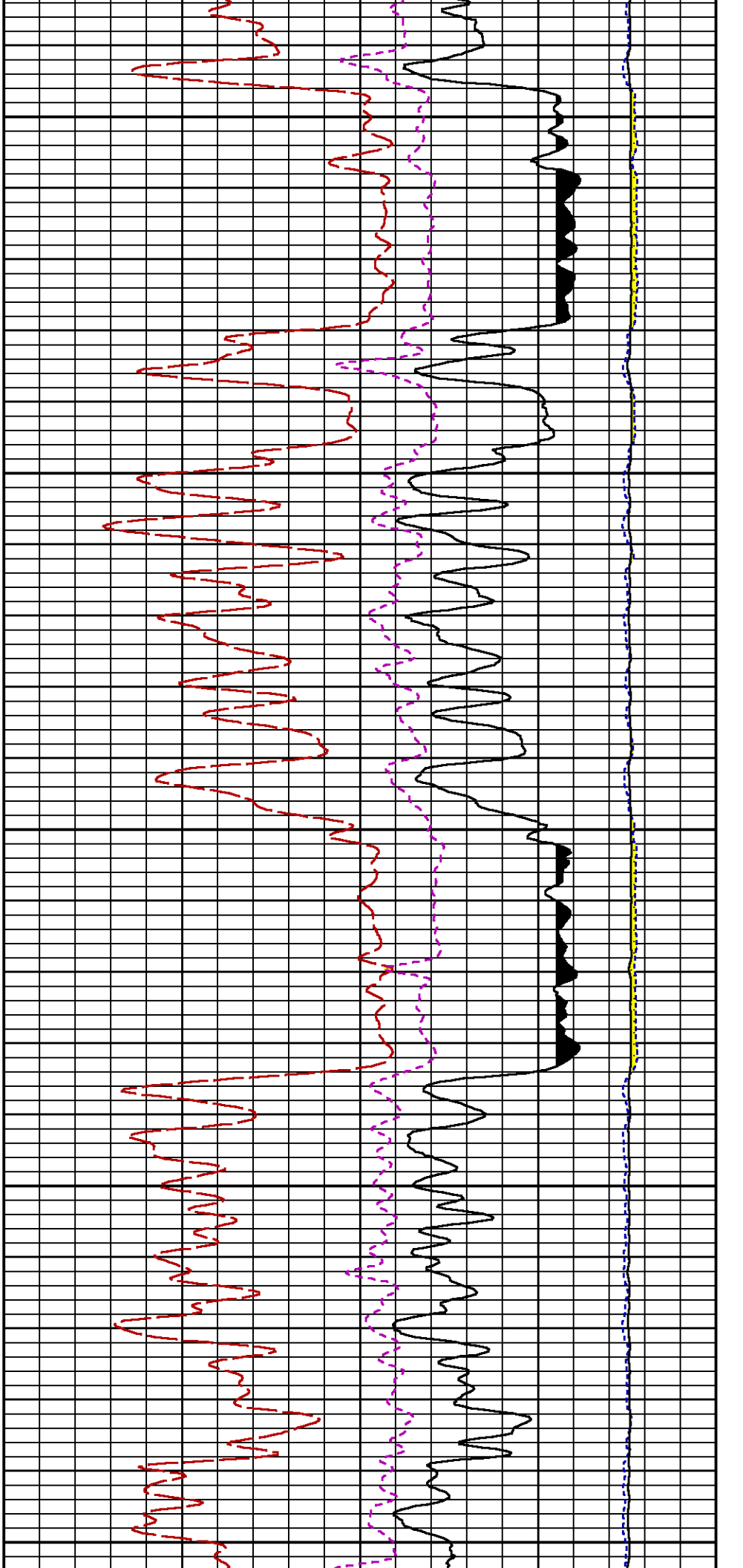


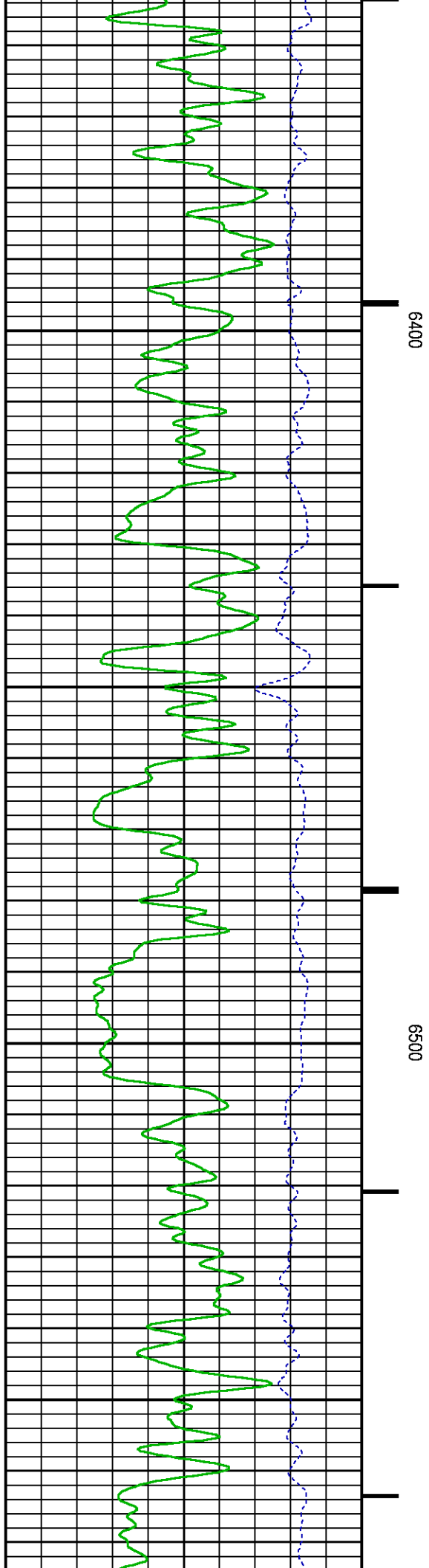
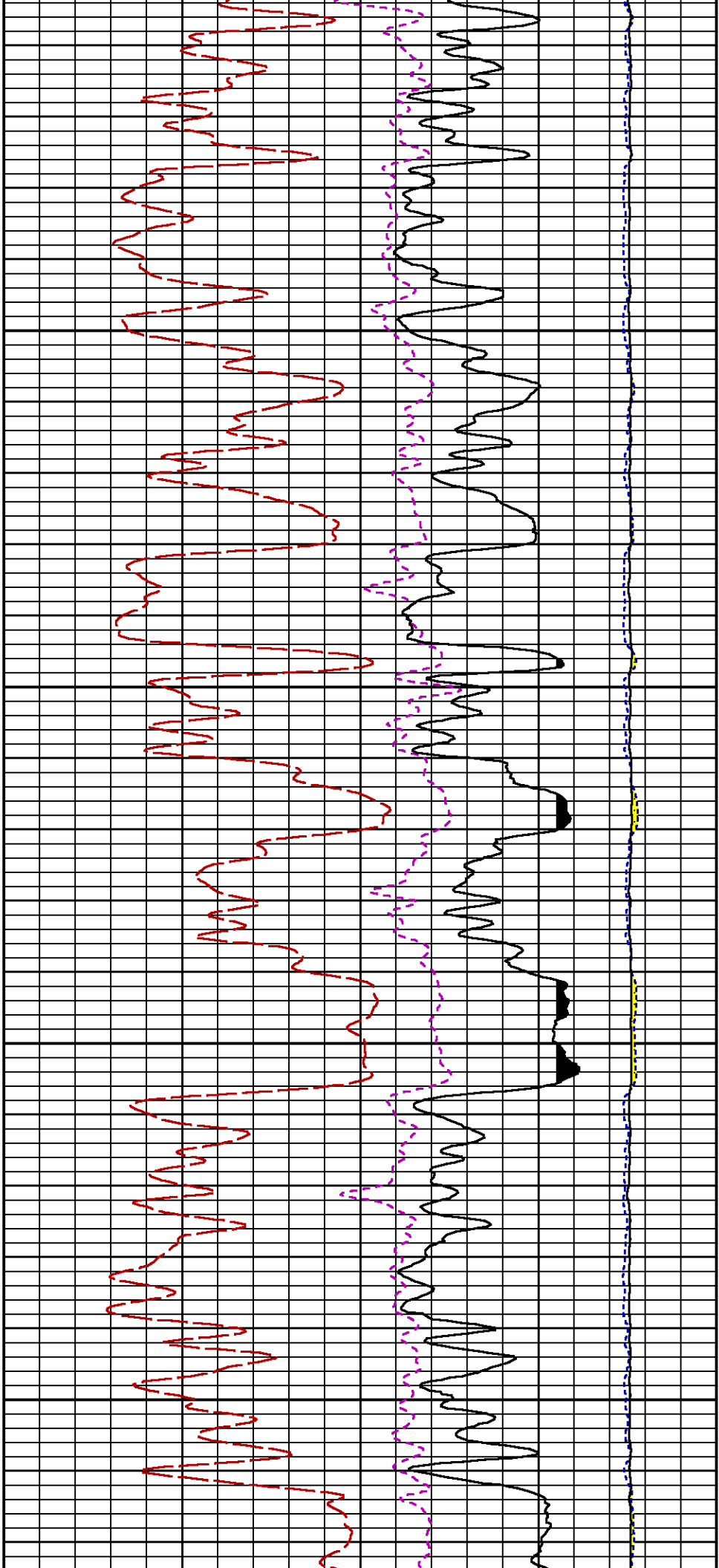


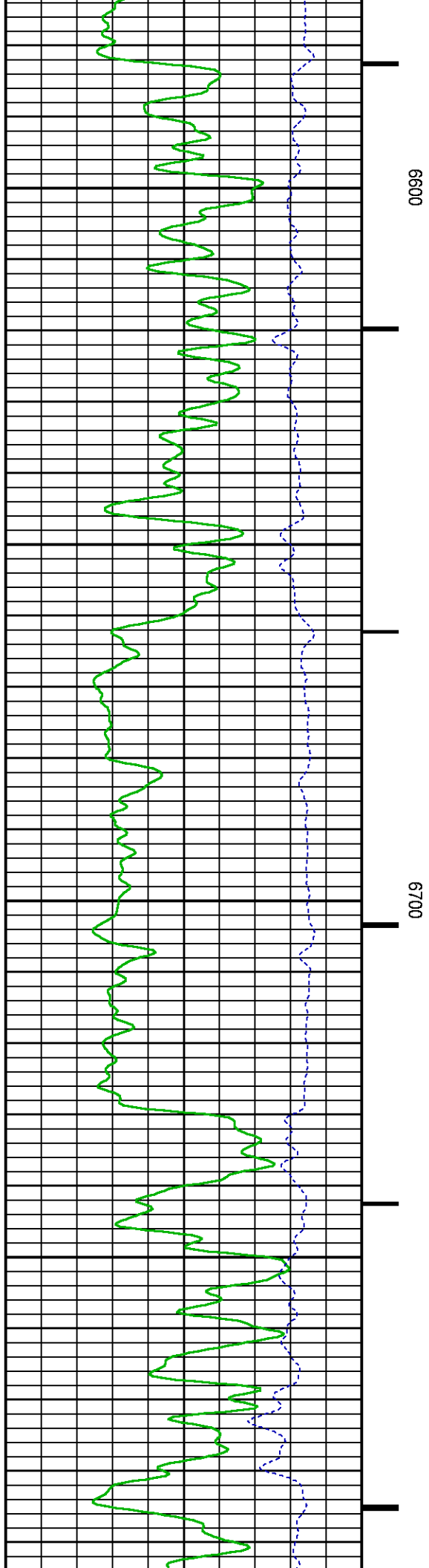
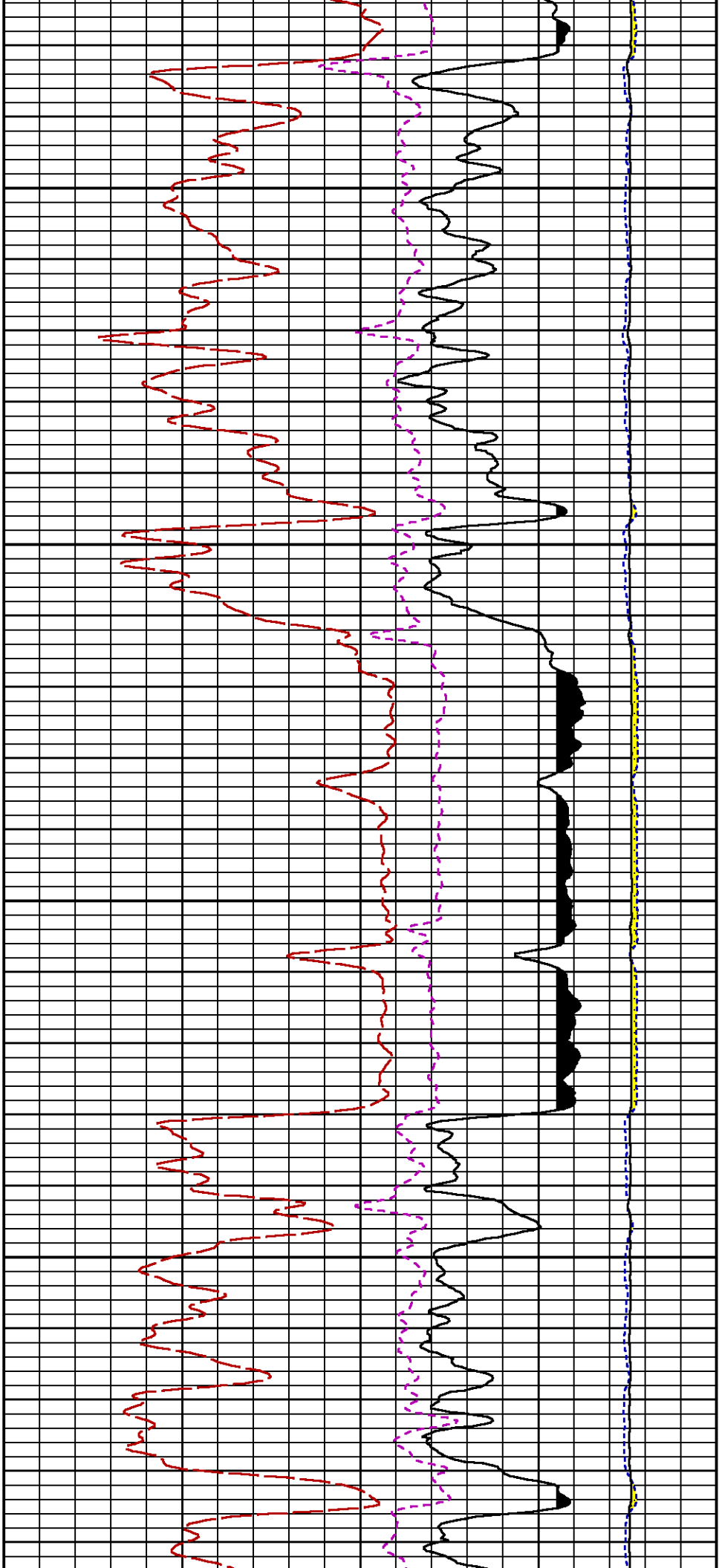


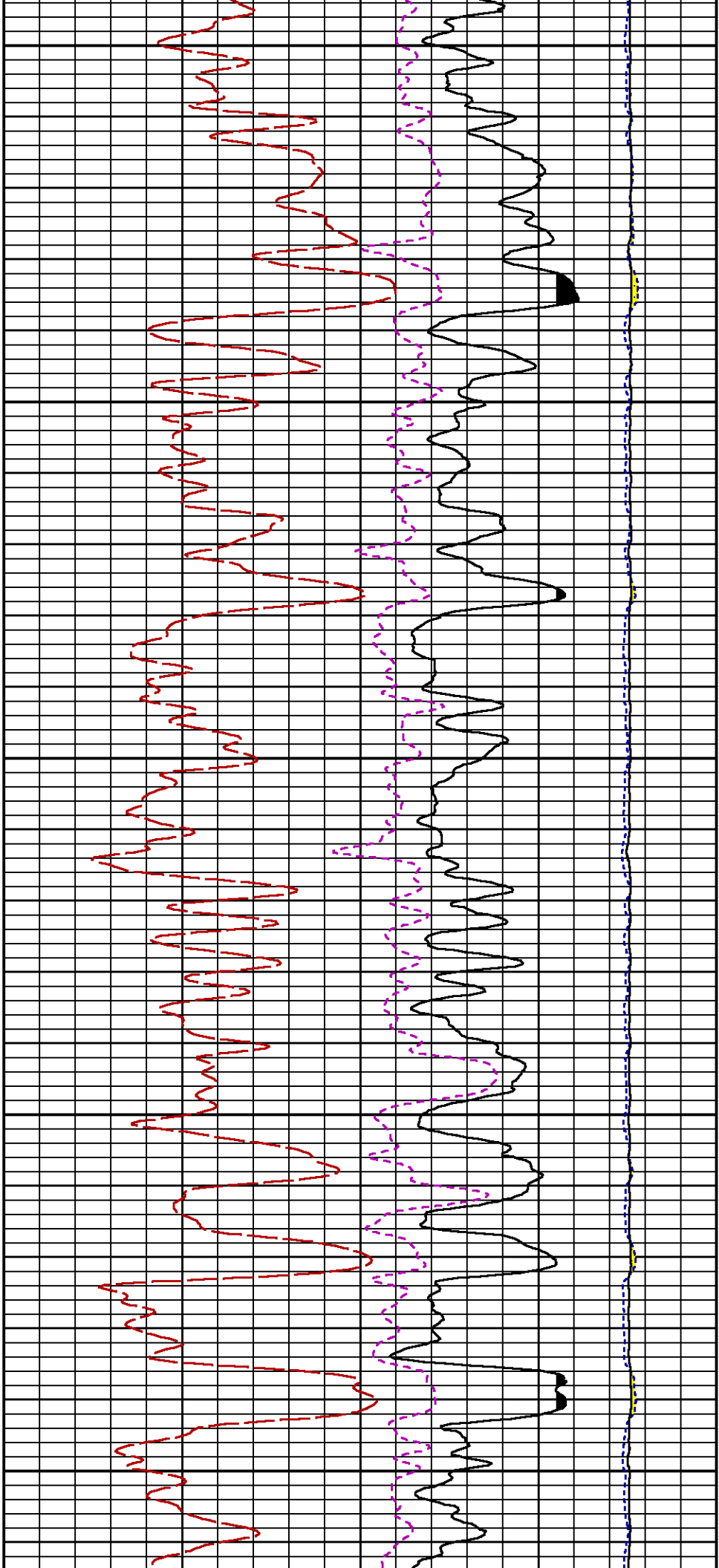








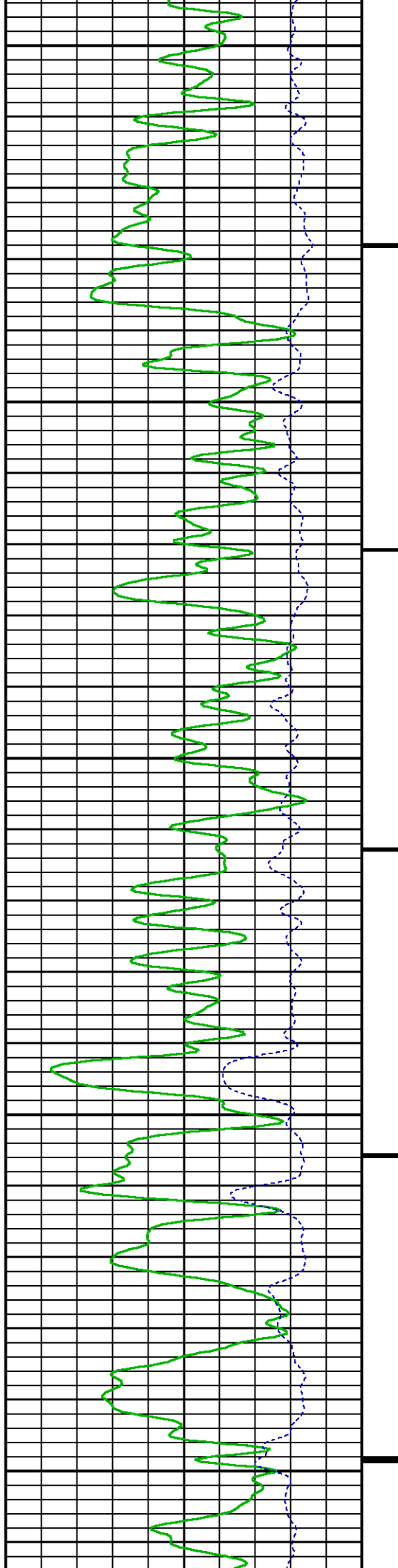


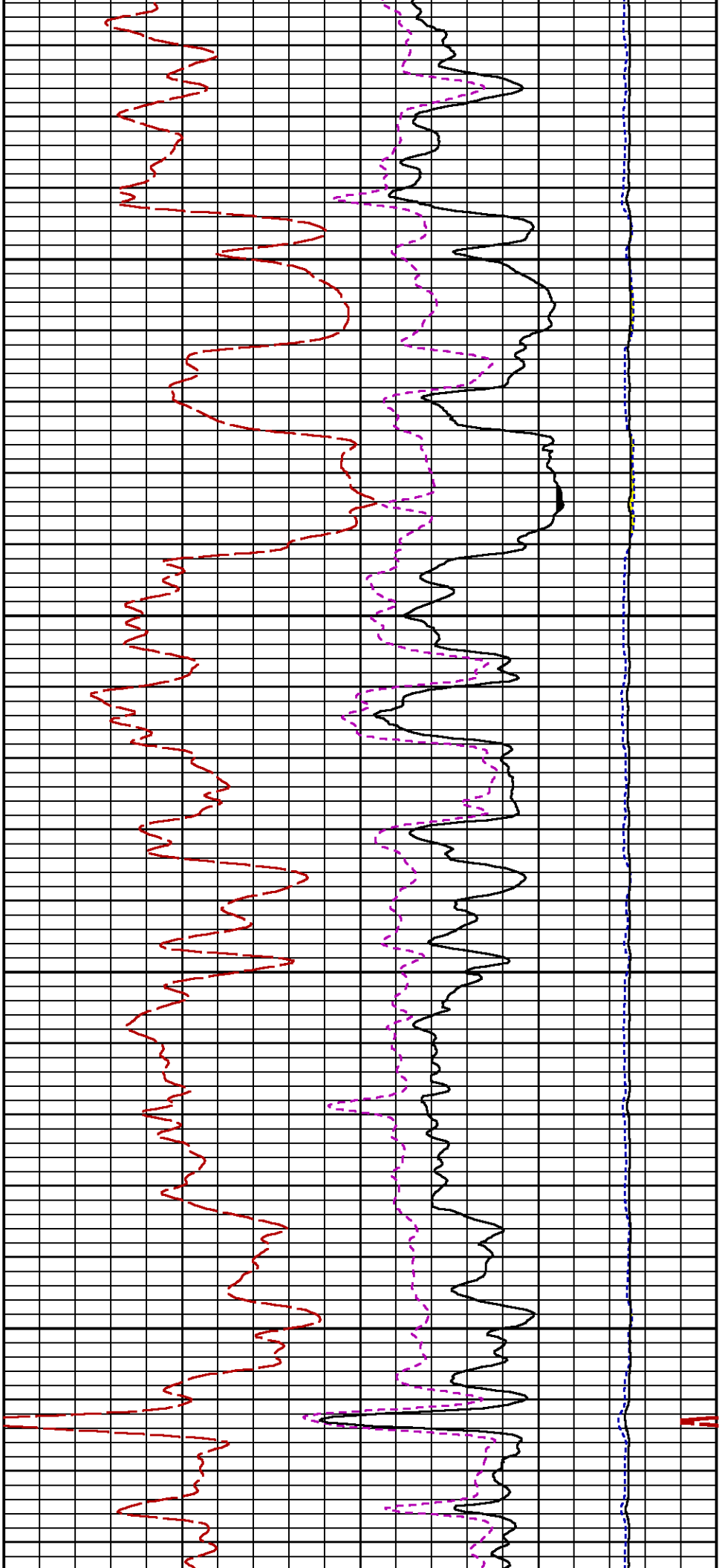


6800

6900

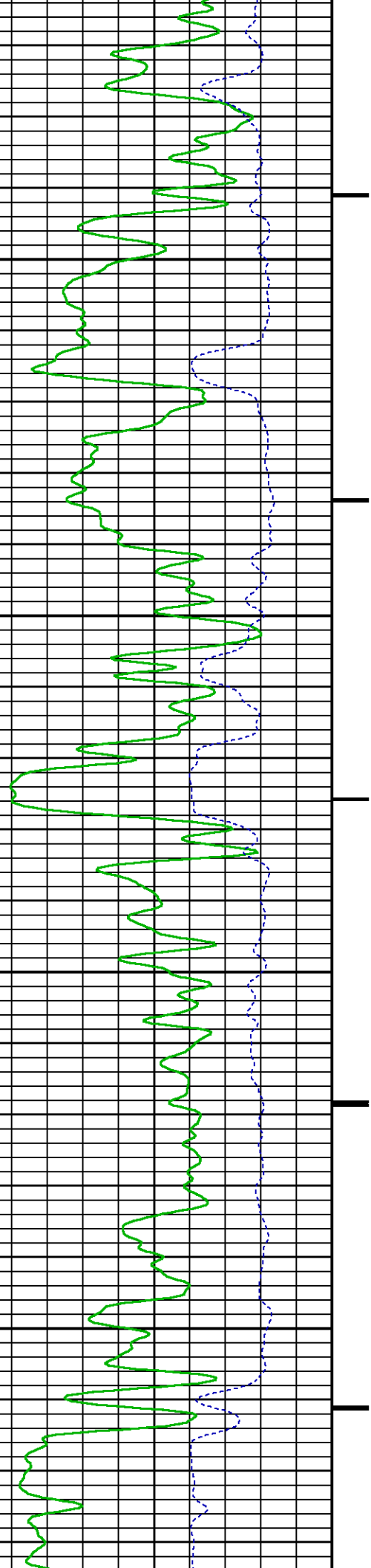
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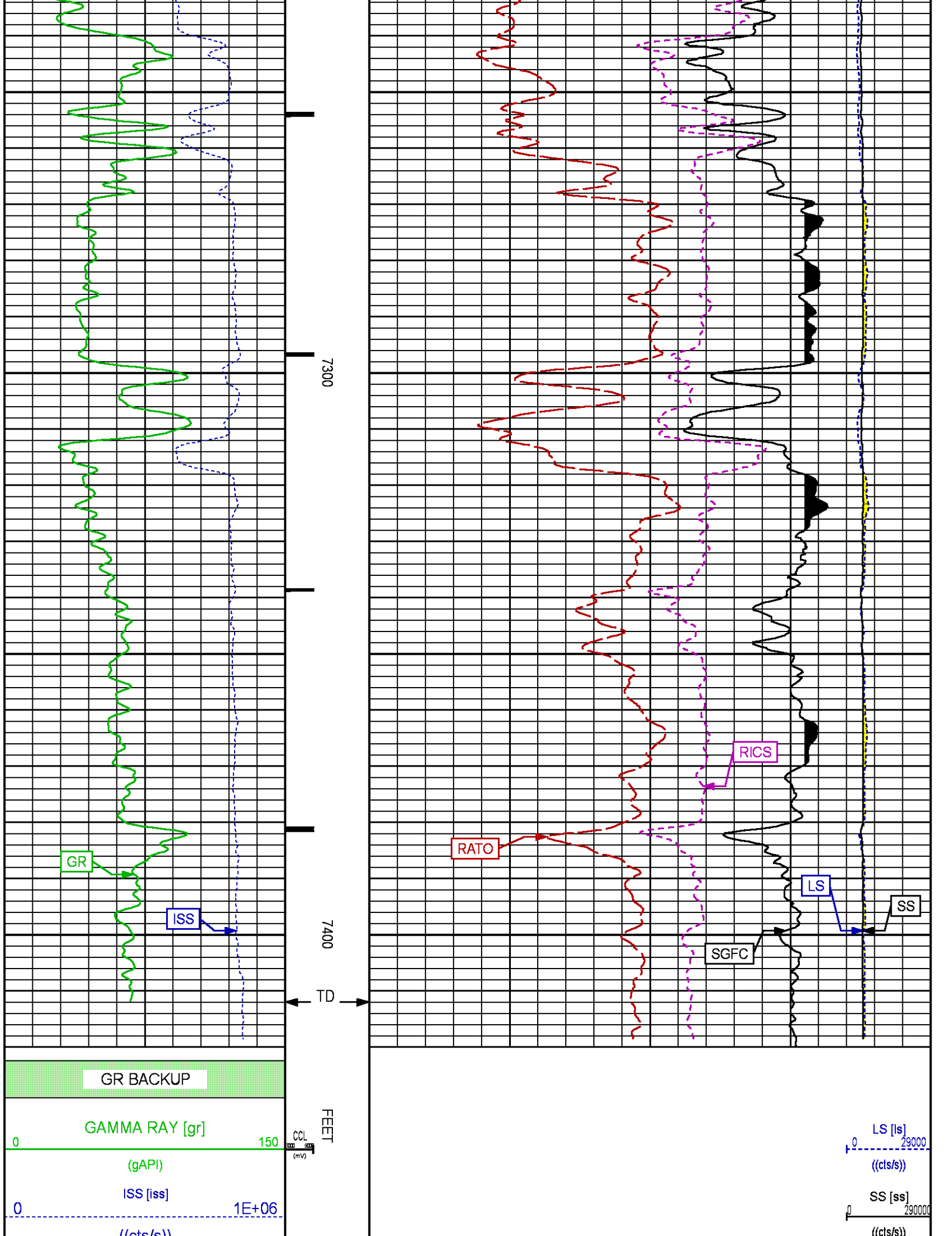




7100

7200





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

REPEAT PASS

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017  
Patches: 3

Plotted: Wed Apr 25 21:05:40 2018

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/p354h01.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 4477.665 ft BOTTOM DEPTH: 4744.079 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	7.87	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

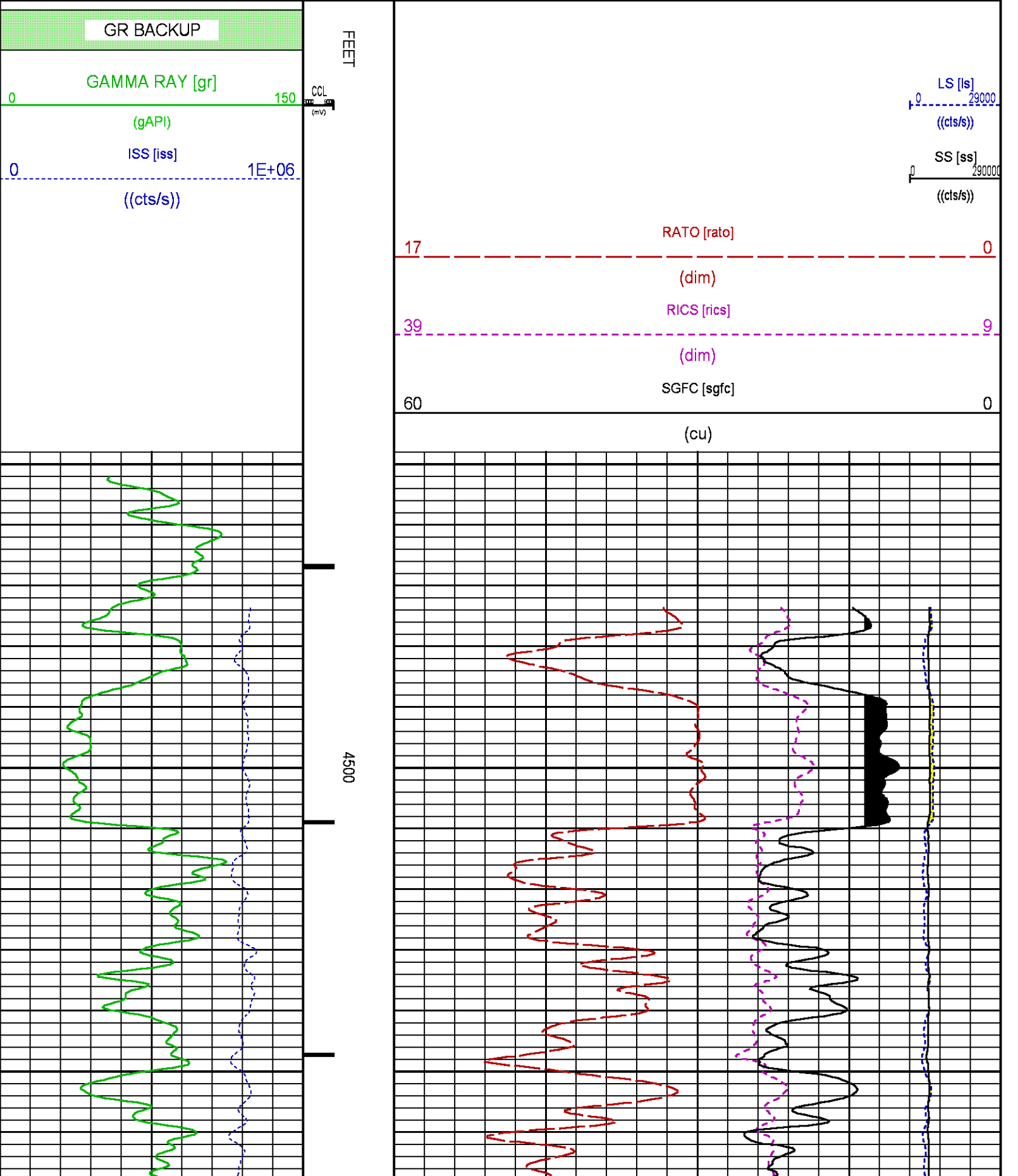
## CURVE MEASURE POINT OFFSET

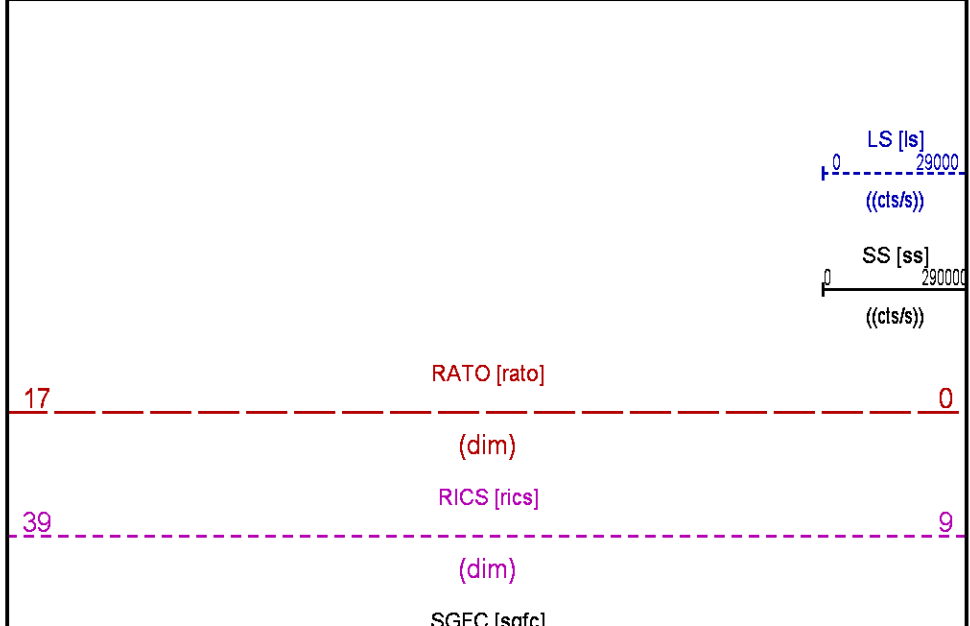
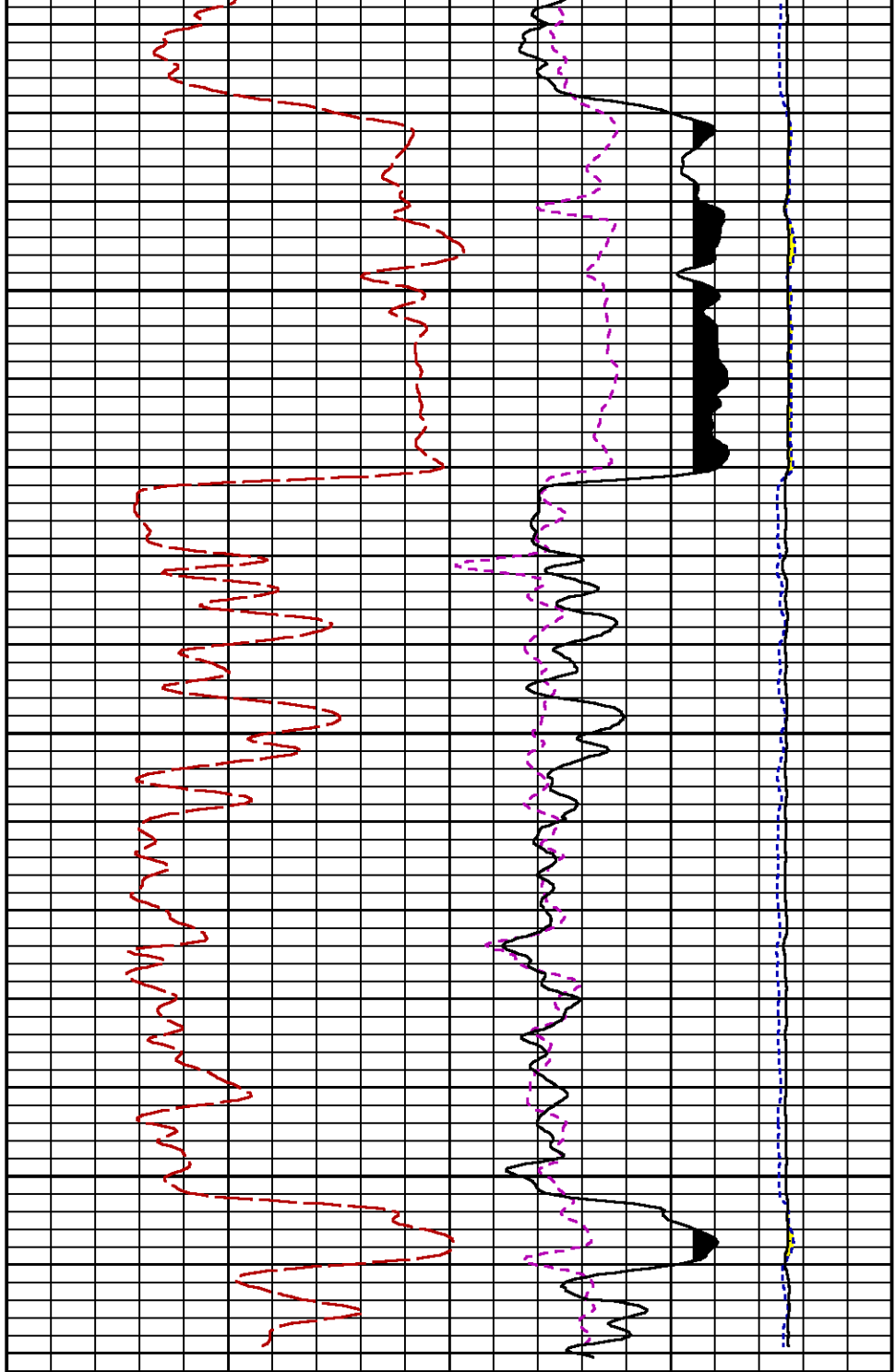
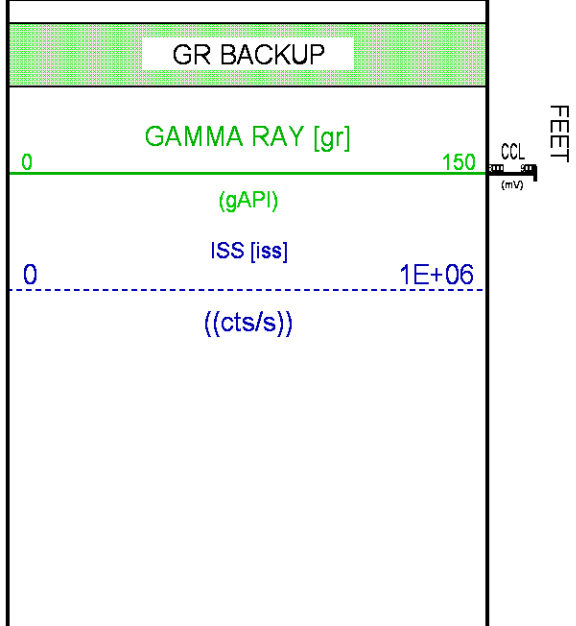
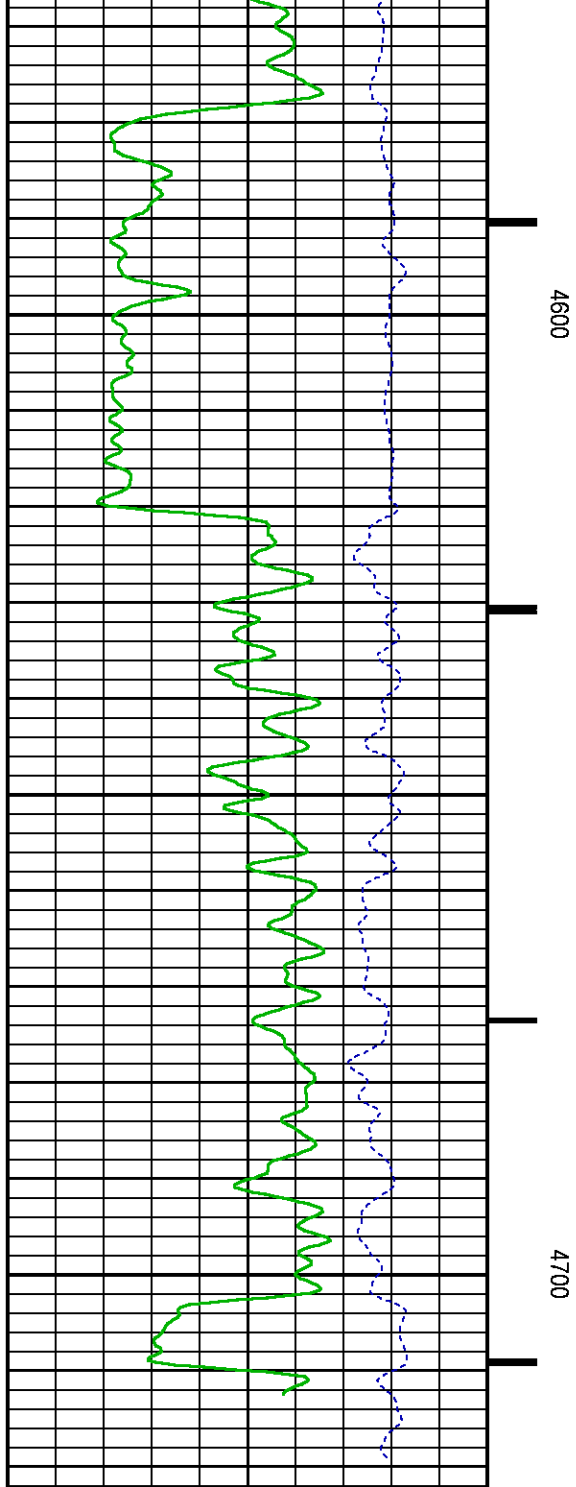
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-25.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:/dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/0994-24-12W\_RPM\_REPEAT.fvpdf [5"/100' Scale]  
Plot Interval : 4448.75 - 4735.25 Feet



Data File 1 : F1 : SysA:/dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/0994-24-12W\_RPM\_REPEAT.xtf  
Created On : N/A  
Company : LARAMIE ENERGY LLC  
Well : NICHOLS 0994-24-12W  
Field : VEGA  
File Interval : 4448 - 4735.5 Feet  
OCT : p354h





		60	0
		(cu)	

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE\_NICHOLS\_0994\_24\_12W/p354h.tp1

GR PRIMARY CALIBRATION SUMMARY

NOT IN DATABASE

GR PRIMARY VERIFICATION SUMMARY

NOT IN DATABASE

RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

NOT IN DATABASE



COMPANY LARAMIE ENERGY LLC  
WELL NICHOLS 0994-24-12W  
FIELD VEGA  
COUNTY MESA STATE COLORADO

FILE NO:  
CH136251  
API NO:  
05077103820000

LOCATION:

SHL: 2271' FNL & 2785' FWL  
BHL: 2299' FSL & 1491' FWL

ELEVATIONS:

KB 7236 FT  
DF  
GL 7212 FT

SEC 24 TWP 9 S RGE 94 W

DATE 25-Apr-2018