



FILE NO:	COMPANY	LARAMIE ENERGY LLC
API NO:	WELL	NICHOLS 0994-24-06E
05077104050000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.10	LOCATION:	OTHER SERVICES
	SHL: 39.264586 N; 107.830603 W	RAL
	BHL: 39.266062 N; 107.826023 W	
	SEC 24 TWP 9 S RGE 94 W	

PERMANENT DATUM	GL	ELEVATION	7137 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:
KB 7161 FT
DF 7160 FT
GL 7137 FT

DATE	26-Jan-2018
RUN	1
TRIP	1
SERVICE ORDER	US132016
DEPTH DRILLER	7657 FT
DEPTH LOGGER	7440 FT
BOTTOM LOGGED INTERVAL	7440 FT
TOP LOGGED INTERVAL	2323 FT
TIME STARTED	23:30
TIME FINISHED	17:30
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	FRESH WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	48 FT
LOGGED CEMENT TOP	1928 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	237 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	25-Jan-2018
EQUIP. NO.	ML-4291
LOCATION	GRAND JUNCT
RECORDED BY	M.MENTZER
WITNESSED BY	MR. MATT SETTLES

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

RPM WILLIAMS FORK PASS WAS SPLICED AT 4638'

SJ: 5790' - 5810'

SJ: 6666' - 6688'

CREW: C.GOLOBY, J.PENA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	11175584	FREE
1	1	TEL/CCL	8248ED	10193585	FREE
1	1	GR	8262 XA	10317216	FREE
1	1	RPM	8281EA	10179238	FREE
1	1	RPM	8283PA	10190200	FREE
1	1	RPM	8281FA	10318654	FREE

1

1

TEMP

8255 XA

11774568

FREE

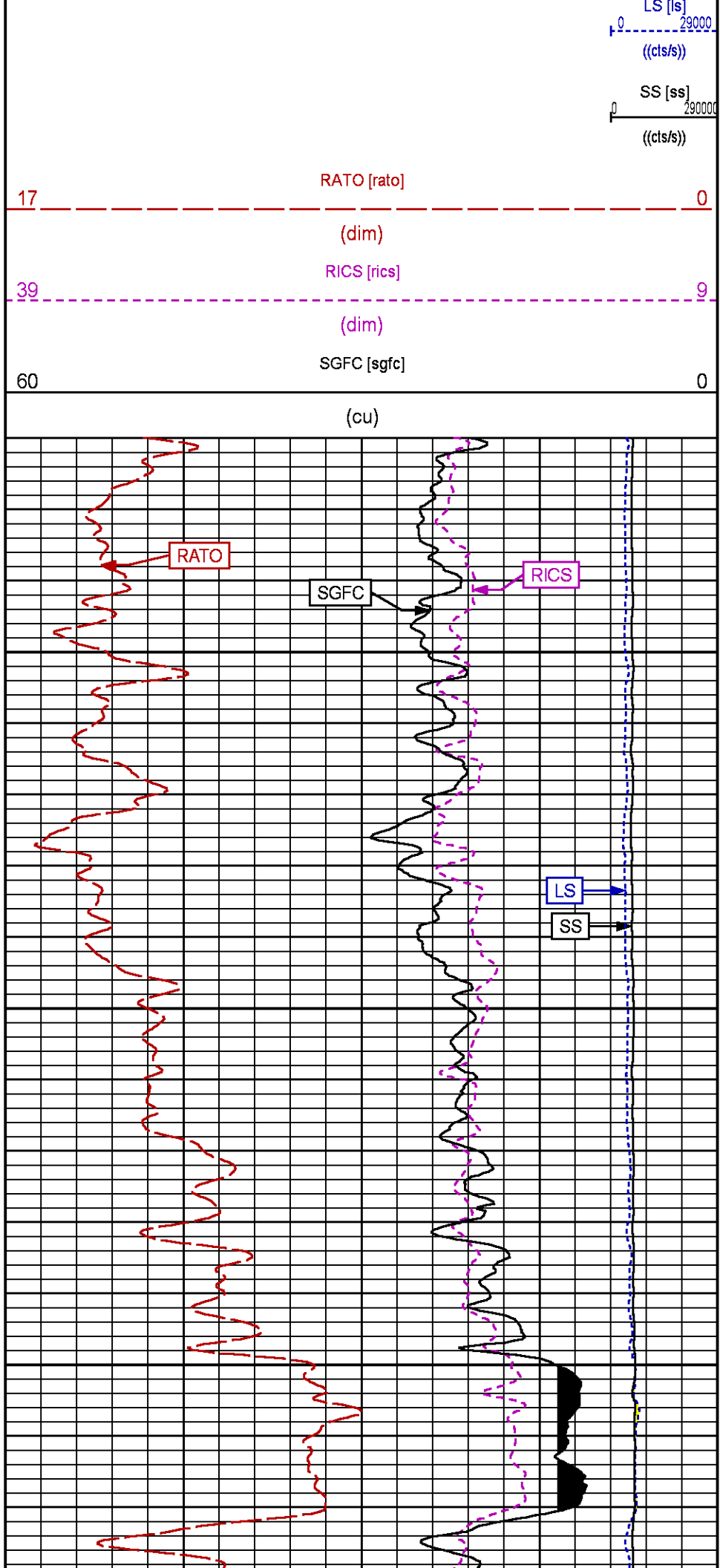
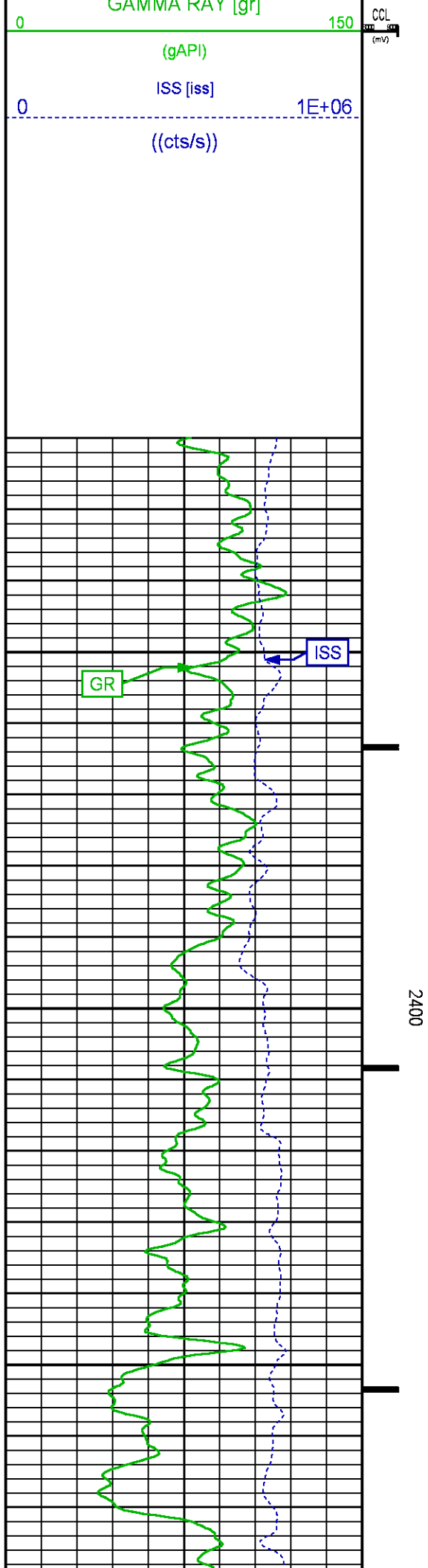
RPM MAIN PASS G-SAND

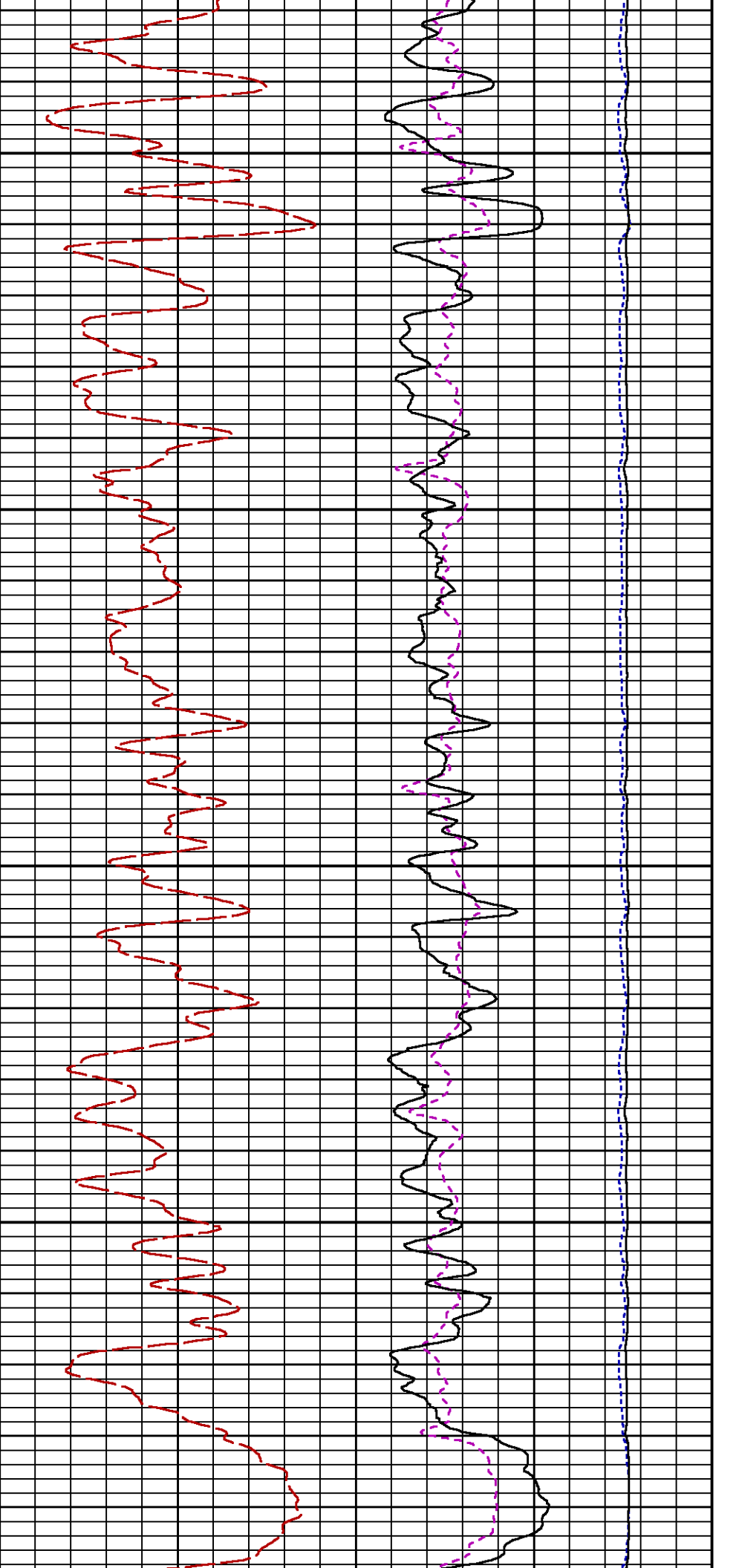
ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 2

Plotted: Fri Jan 26 06:12:13 2018

PARAMETER AND FILTER SUMMARY REPORT							
FILE:		/dat1a/LARAMIE_NICHOLS_0994_24_06E/p353h04.prm					
LOGGING MODE:		DEPTH		DIRECTION: UP			
TOP DEPTH:		2314.412 ft		BOTTOM DEPTH: 2951.021 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
<div><div>Presentation : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/24-06E_RPM_MAIN_GS.fvpdf [5"/100' Scale]</div><div>Plot Interval : 2320 - 2940 Feet</div><div>Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/24-06E_RPM_GS.xtf</div><div>Created On : N/A</div><div>Company : LARAMIE ENERGY LLC</div><div>Well : NICHOLS 0994-24-06E</div><div>Field : VEGA</div><div>File Interval : 2292.75 - 2953.25 Feet</div><div>OCT : p353h</div></div>							

GR BACKUP	FEET	
GAMMA RAY 1		

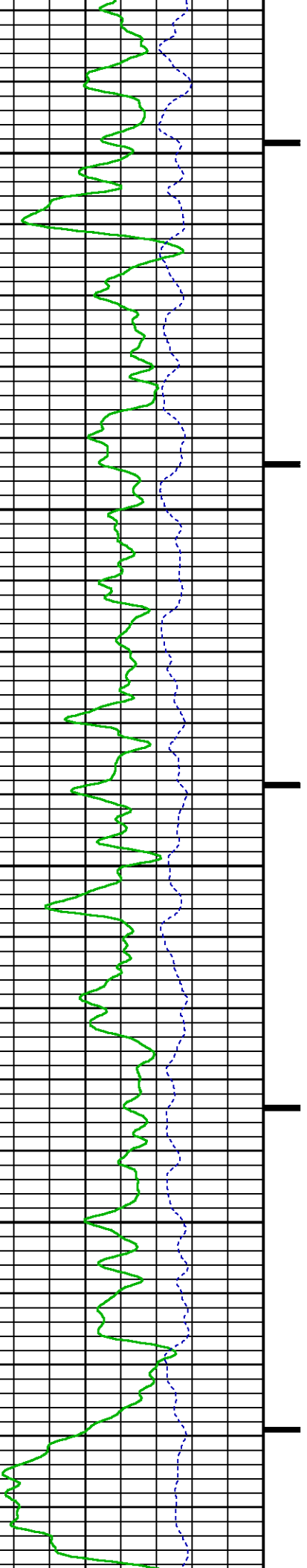


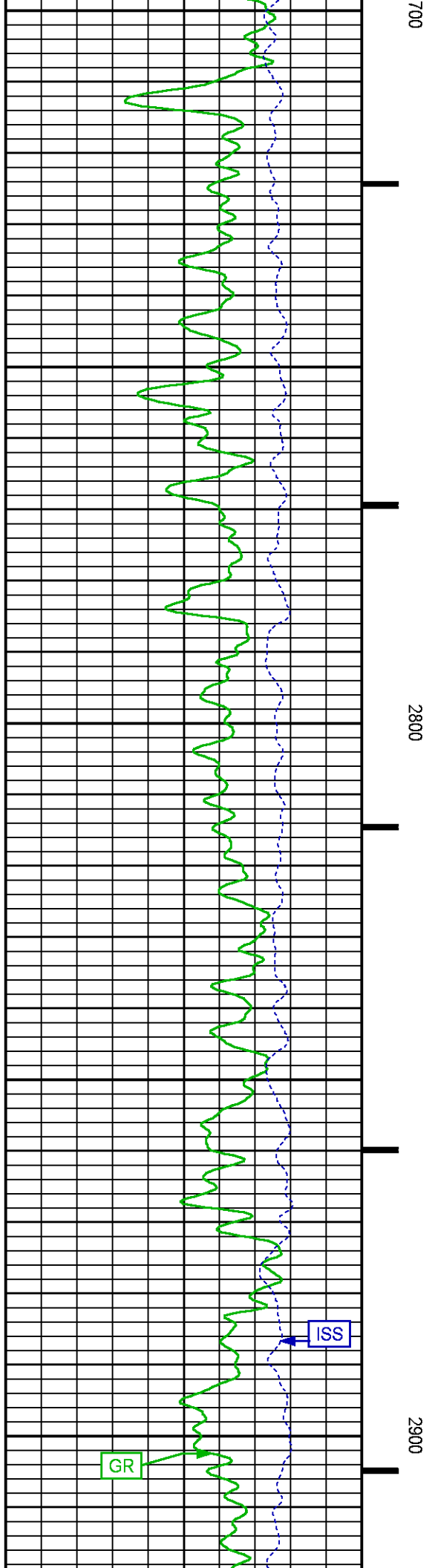
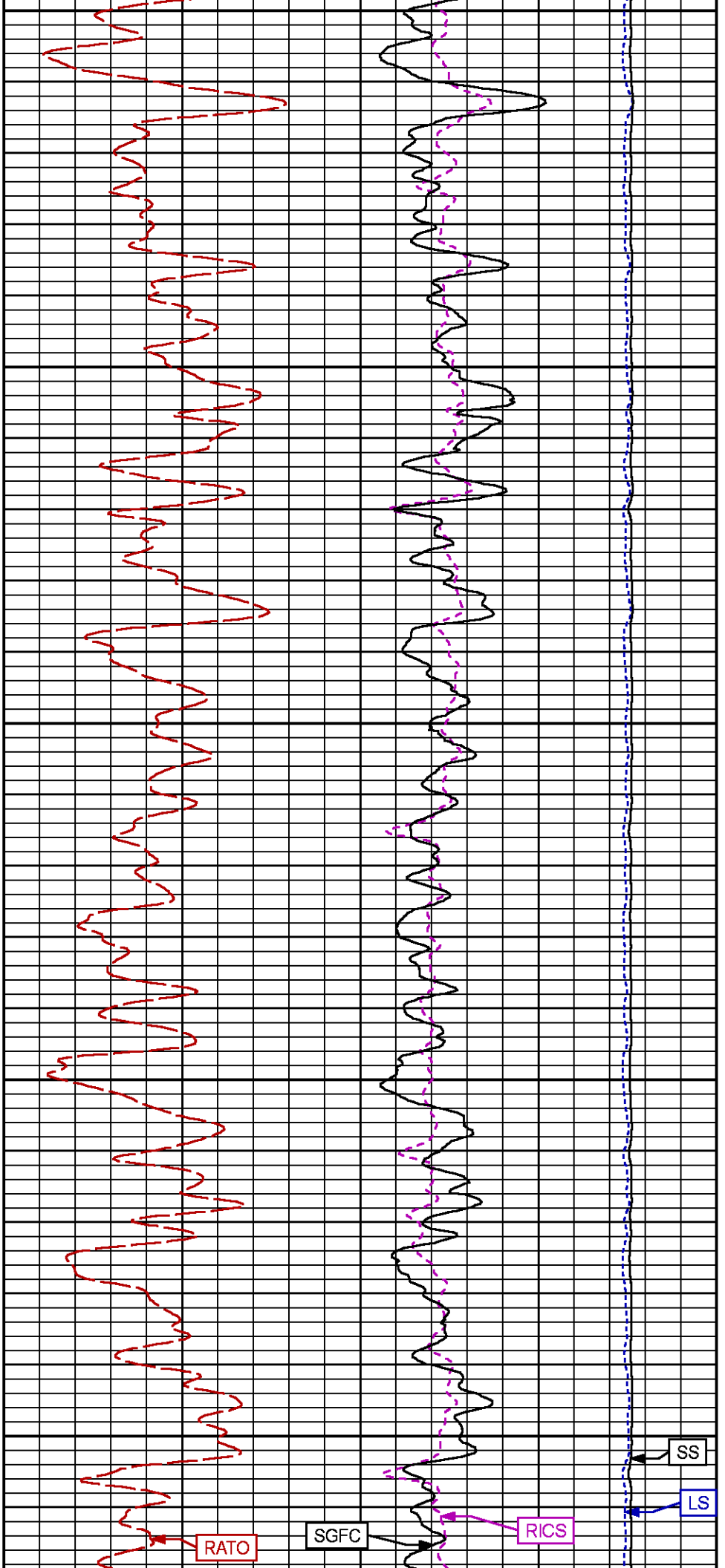


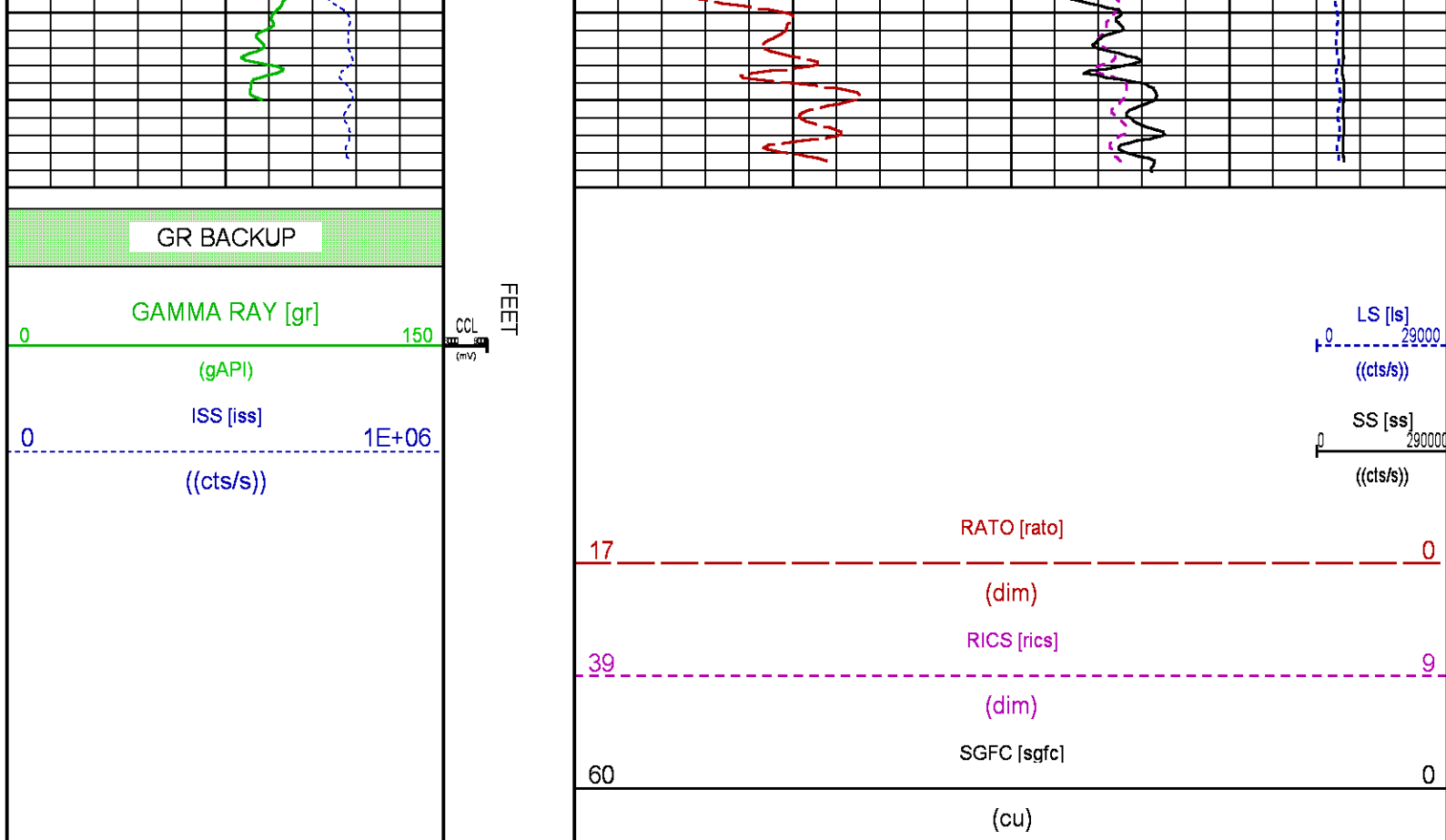
2500

2600

2







RPM MAIN PASS WILLIAMS FORK

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 2

Plotted: Fri Jan 26 05:38:29 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_06E/p353h03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4162.760 ft BOTTOM DEPTH: 4691.837 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

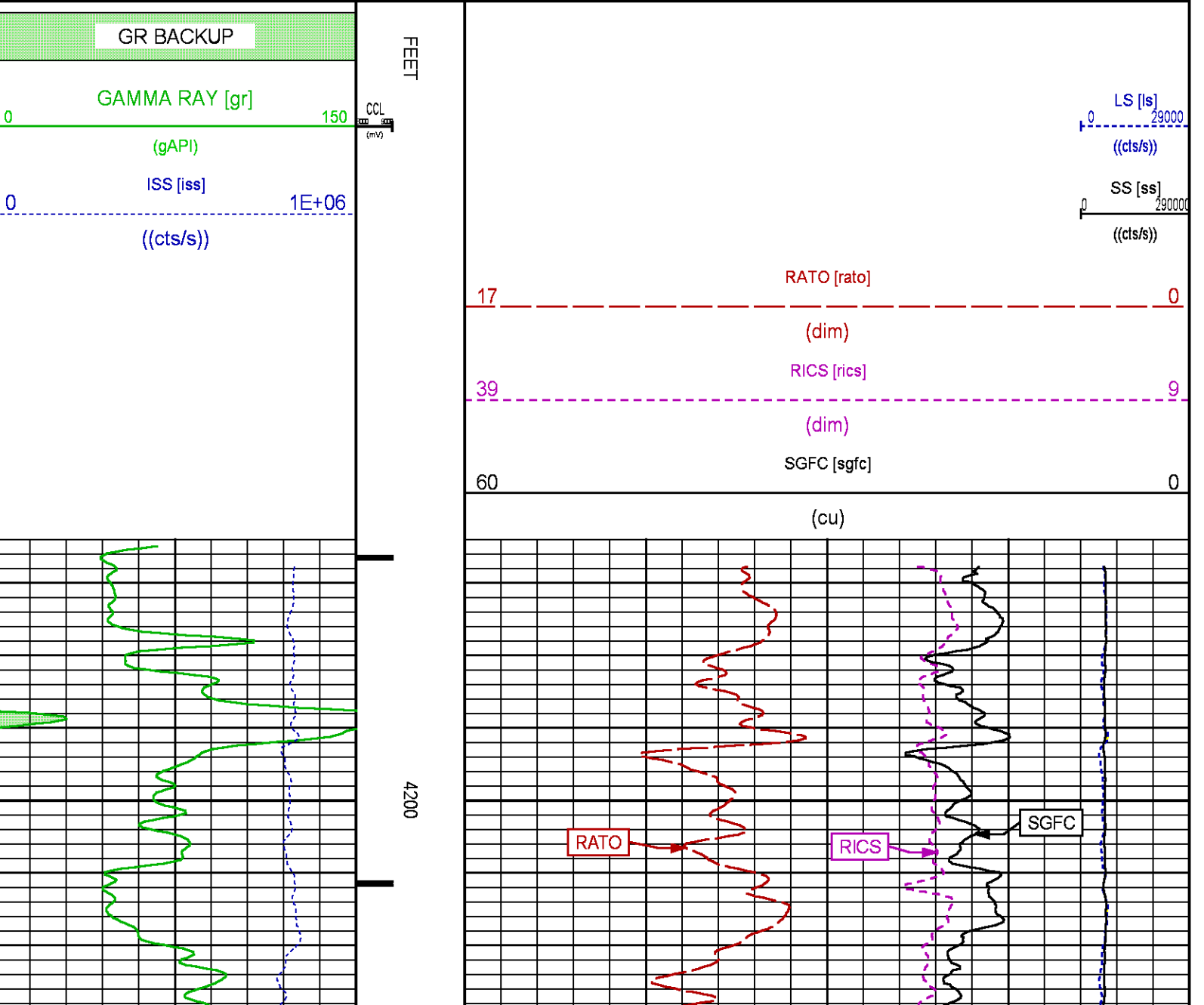
CURVE NAME CREATION DATE CURVE DESCRIPTION

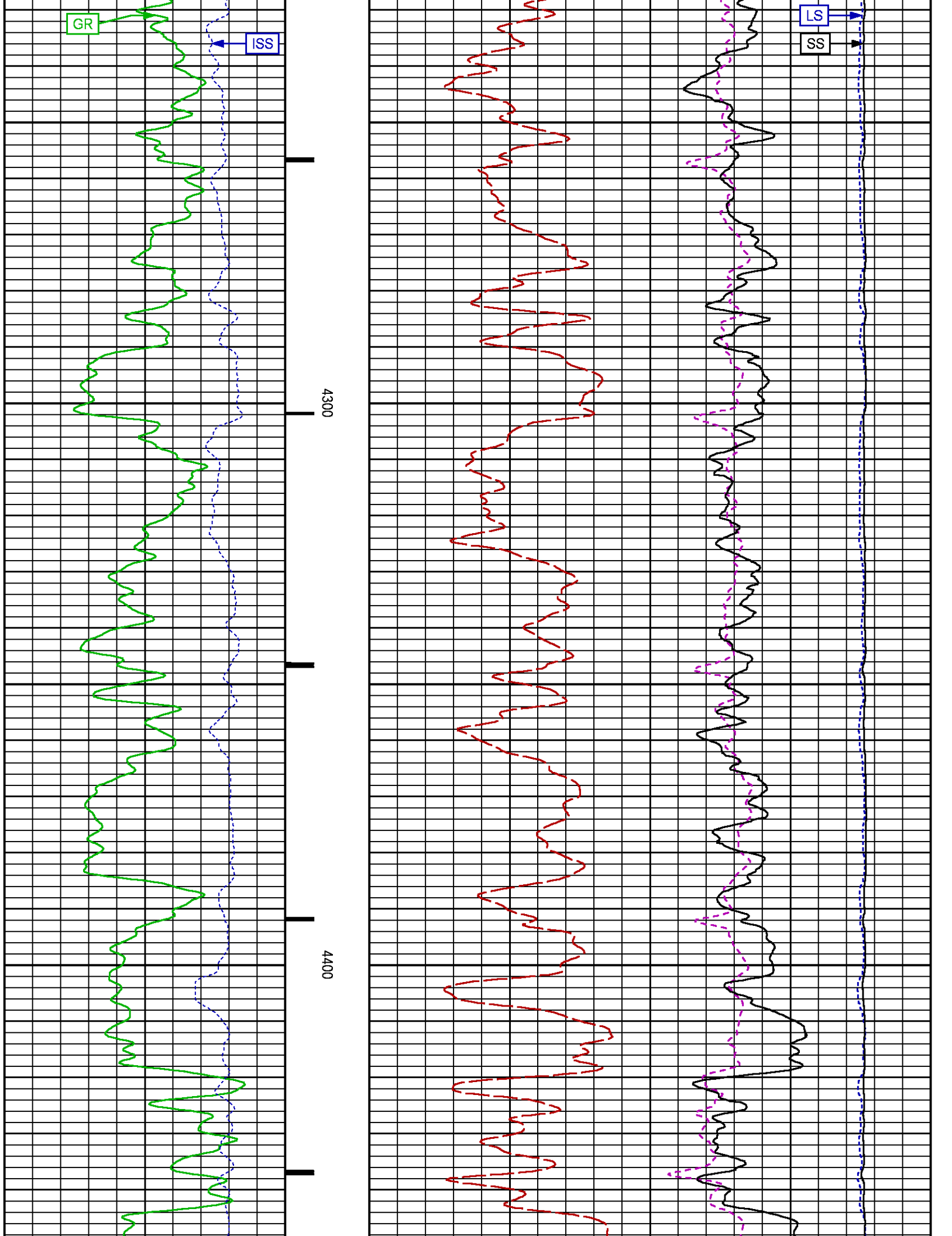
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS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

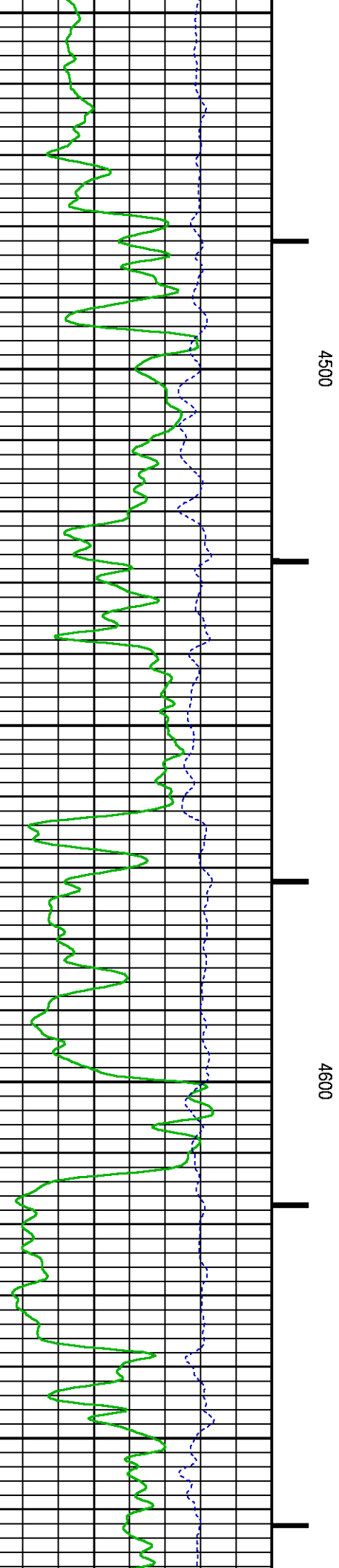
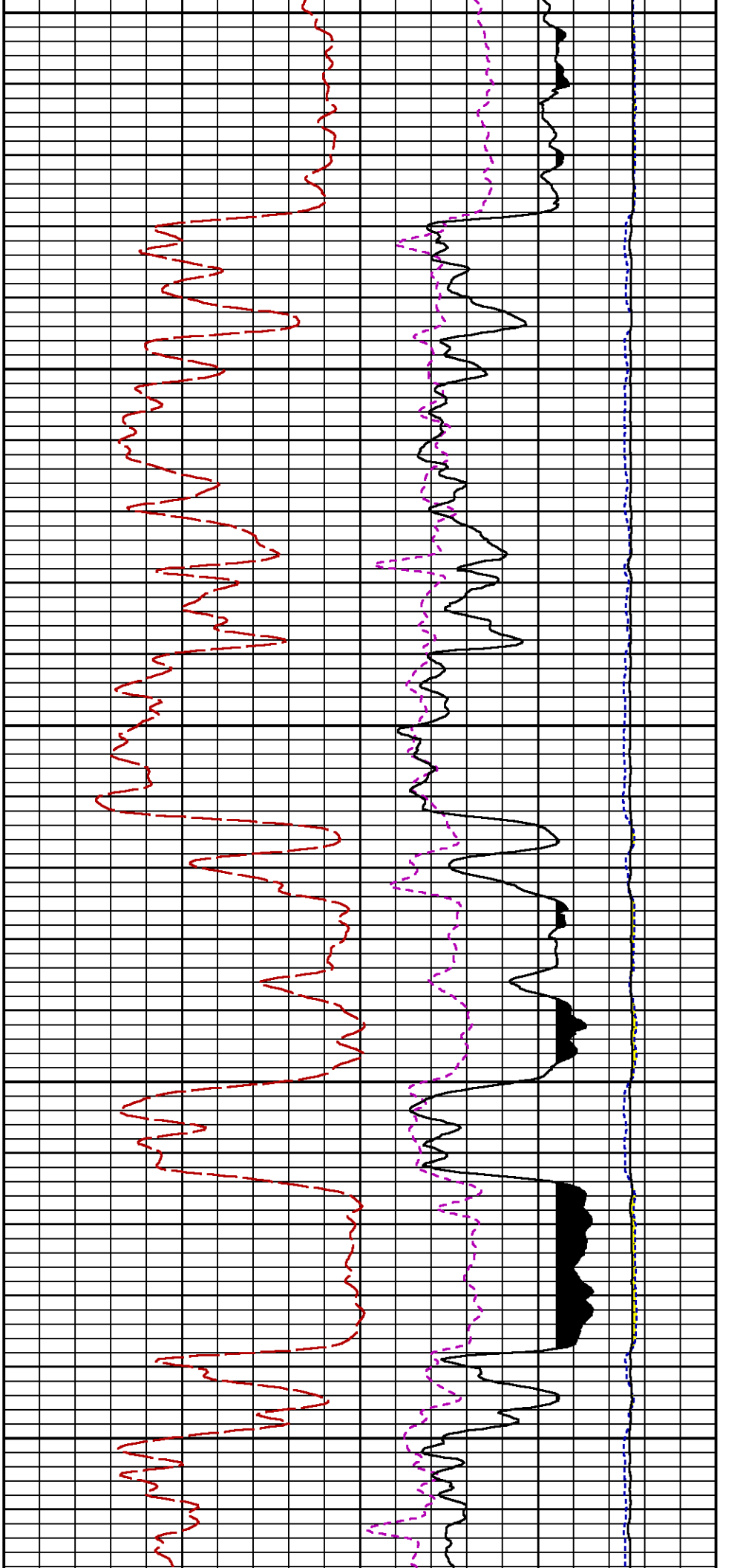
CURVE MEASURE POINT OFFSET

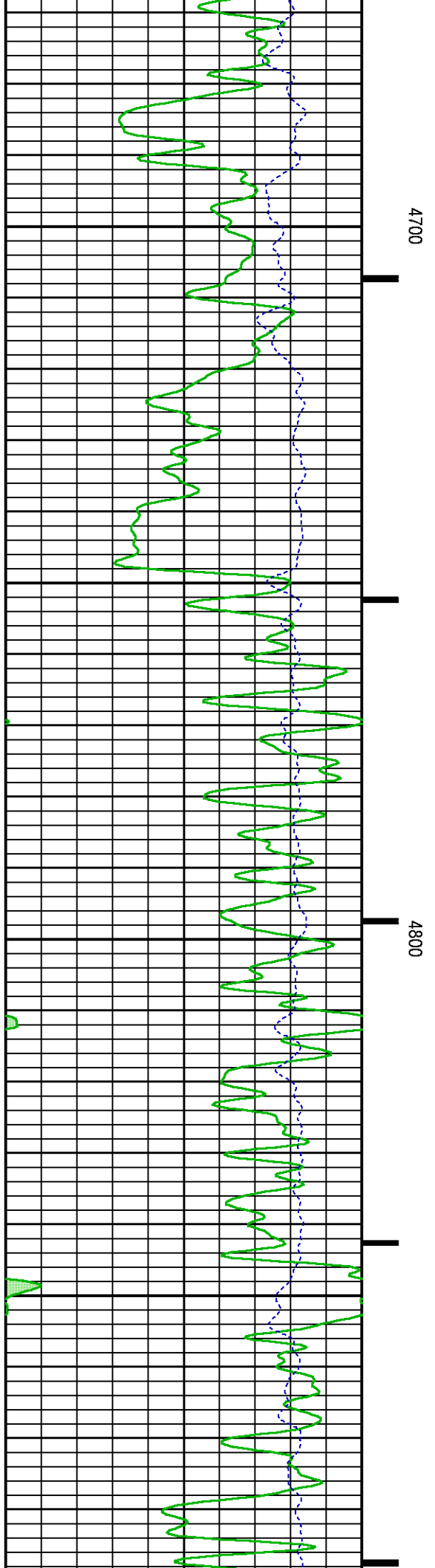
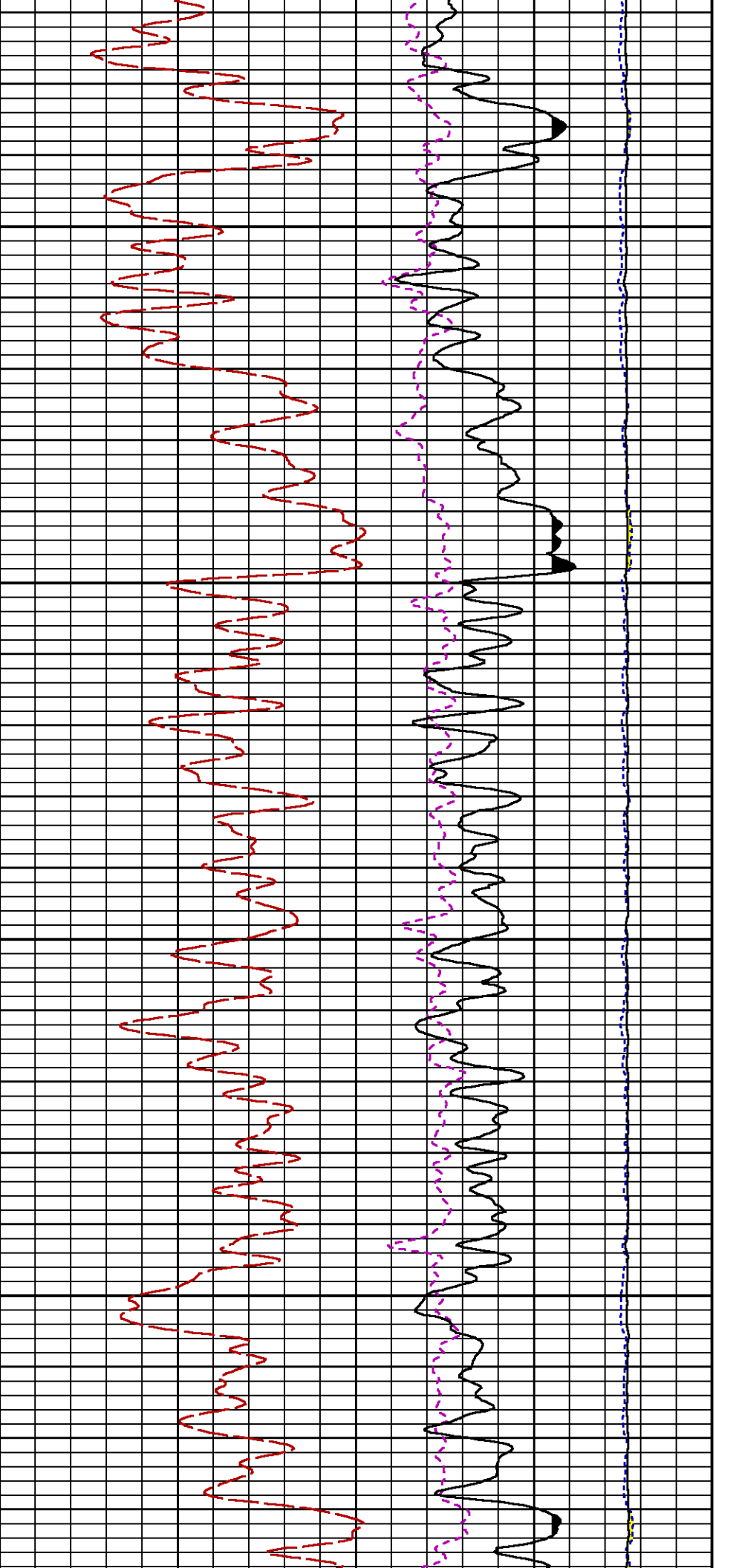
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

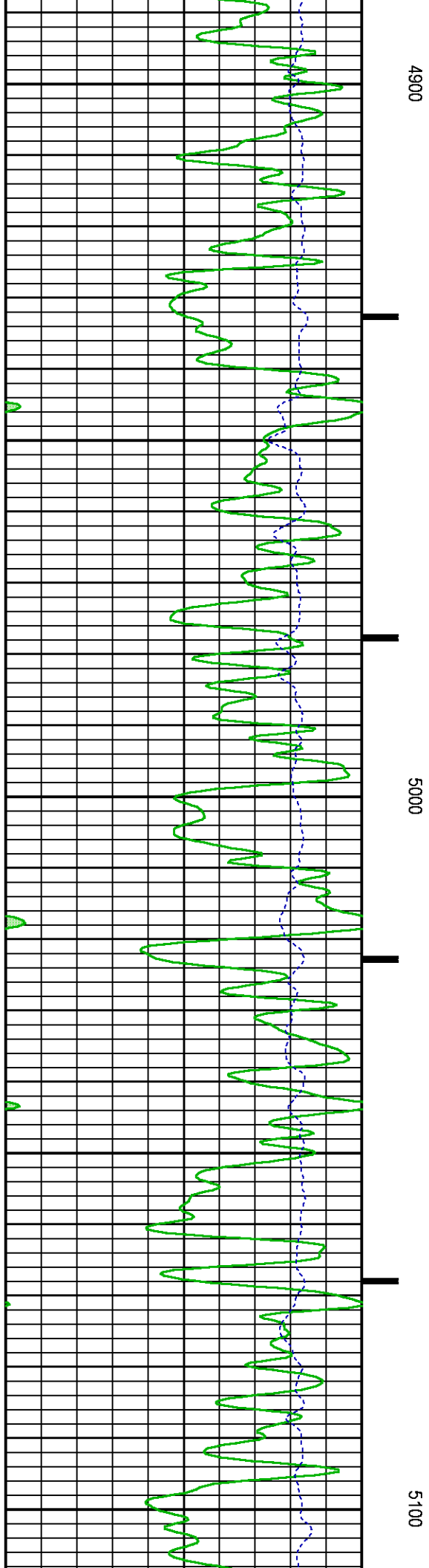
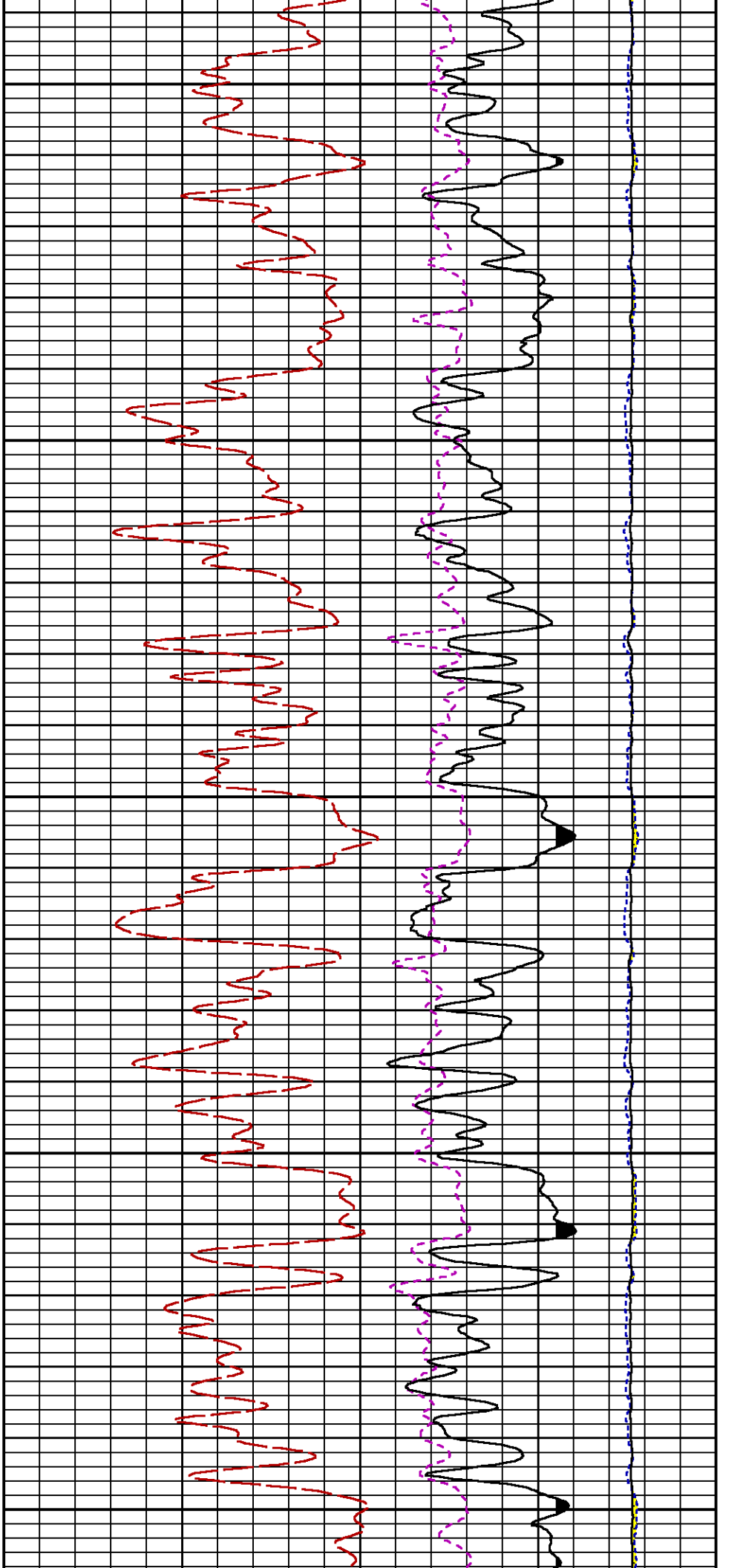
Presentation	: SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/24-06E_RPM_MAIN_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4165 - 7457.5 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/2406ERPMMMAINWF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: NICHOLS 0994-24-06E
Field	: VEGA
File Interval	: 4140.75 - 7457.5 Feet
OCT	: p353h

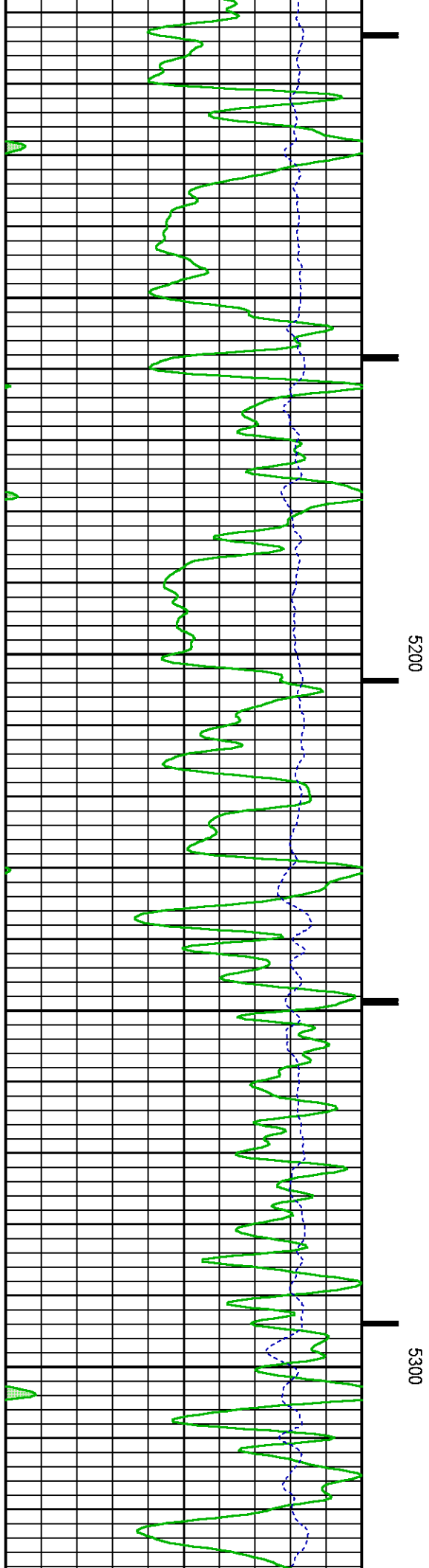
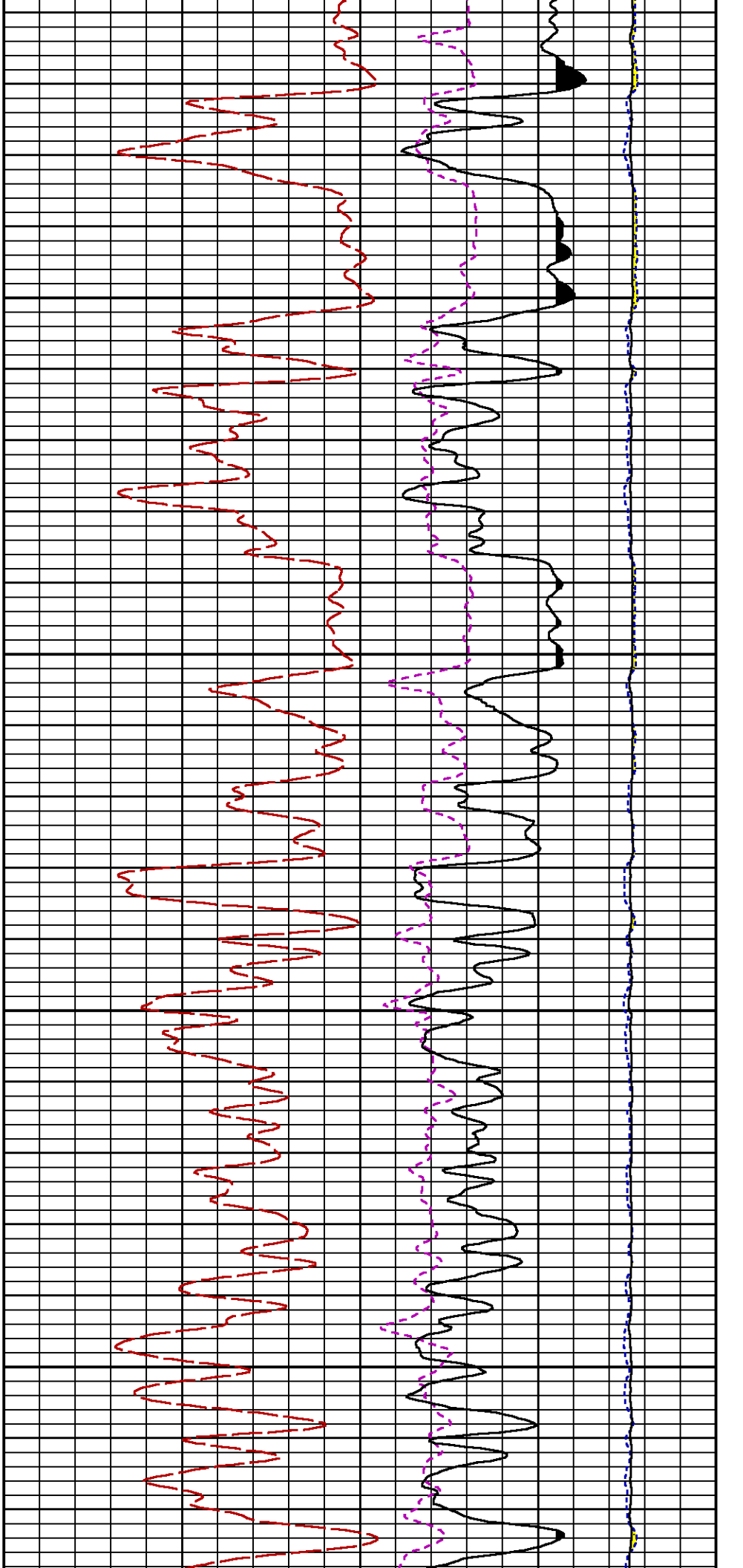


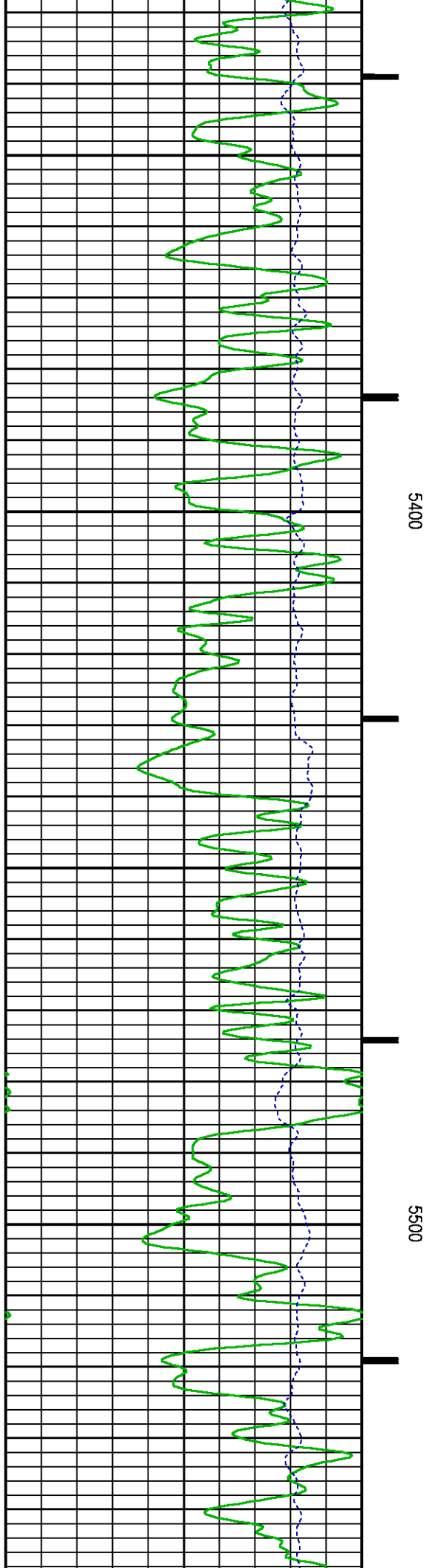
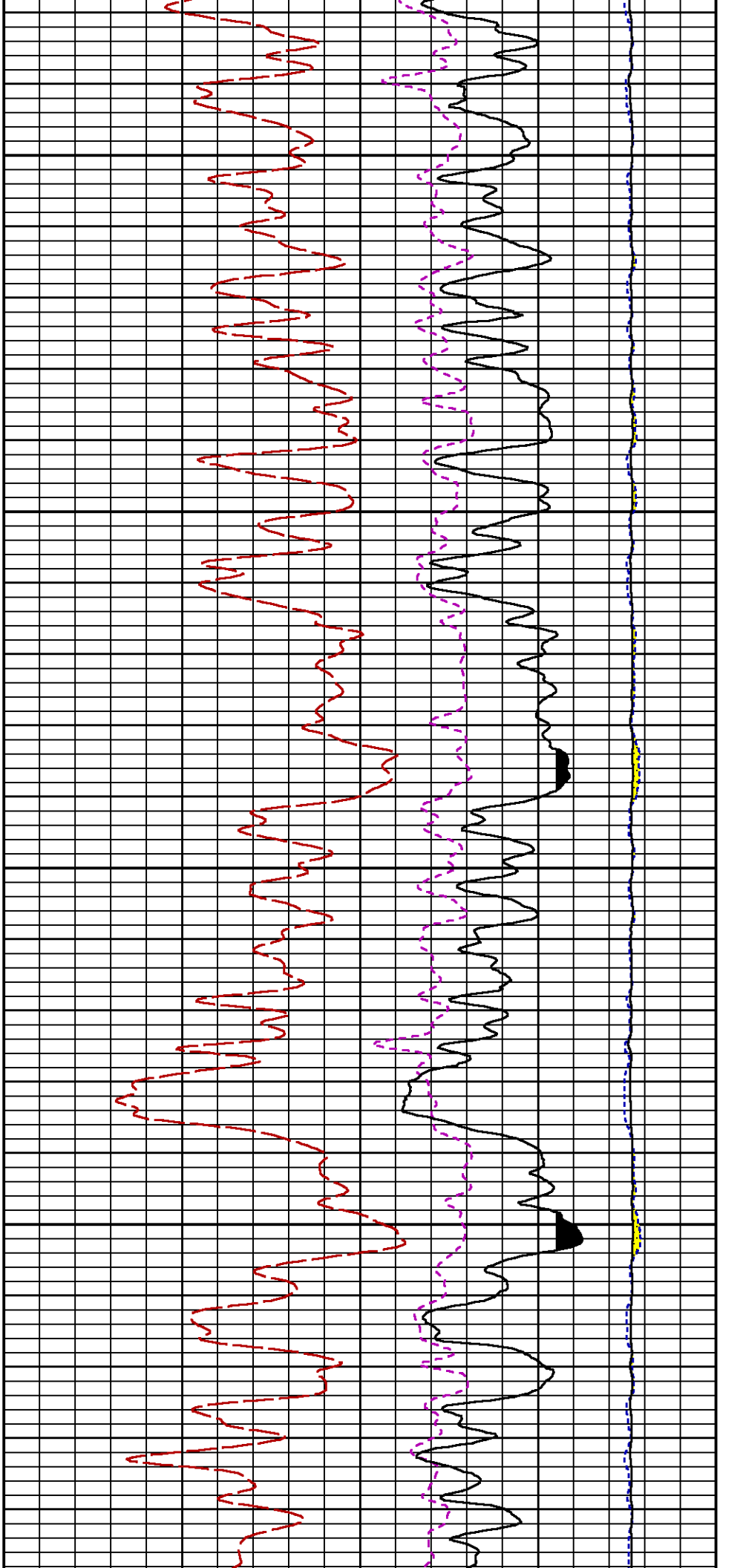


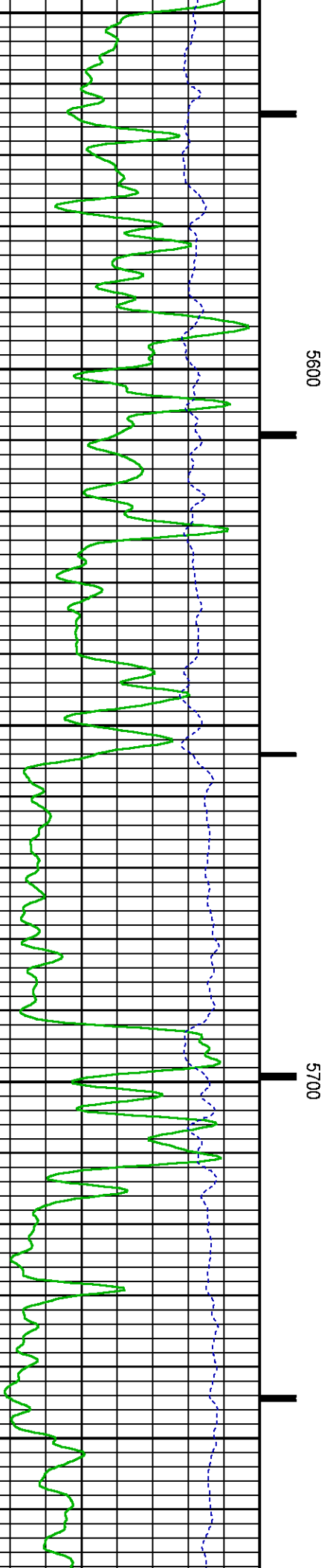
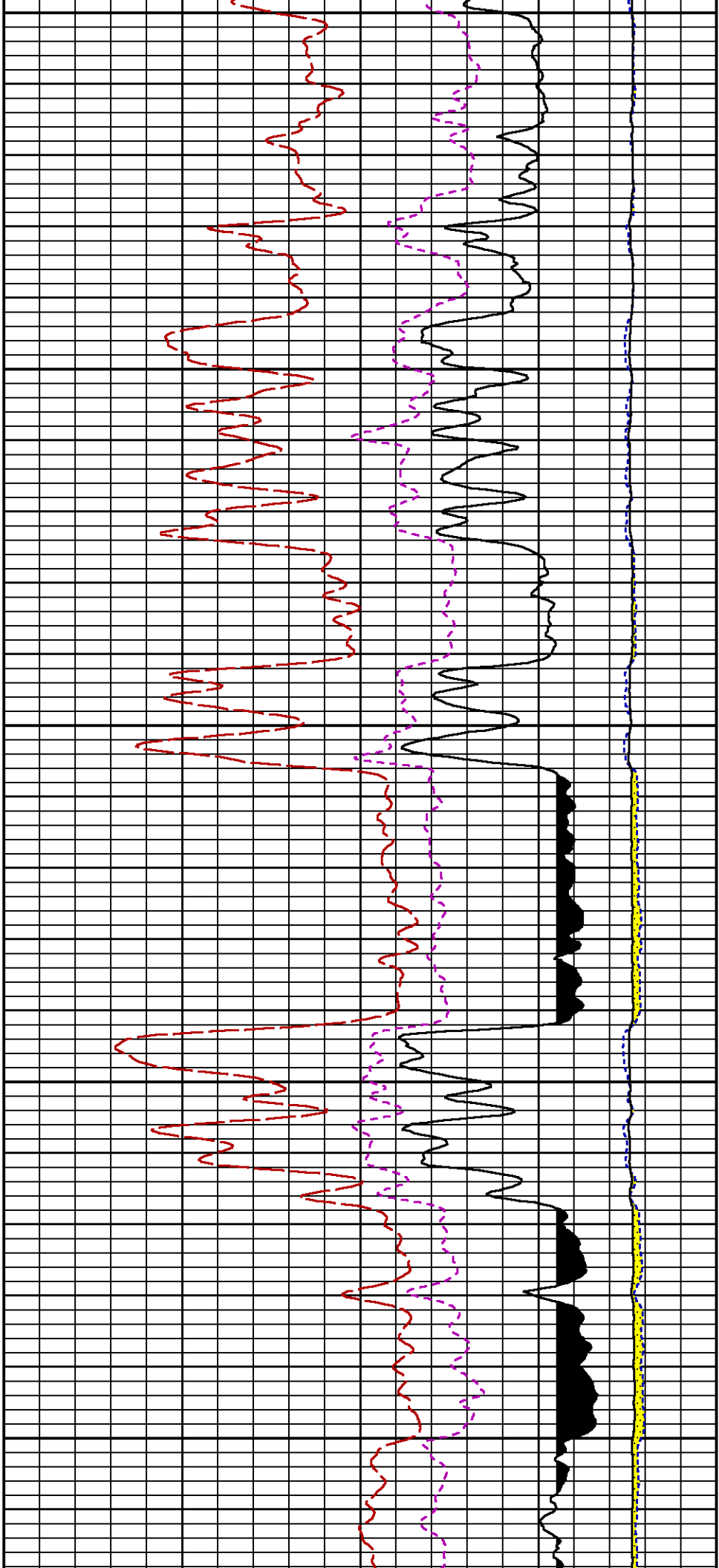


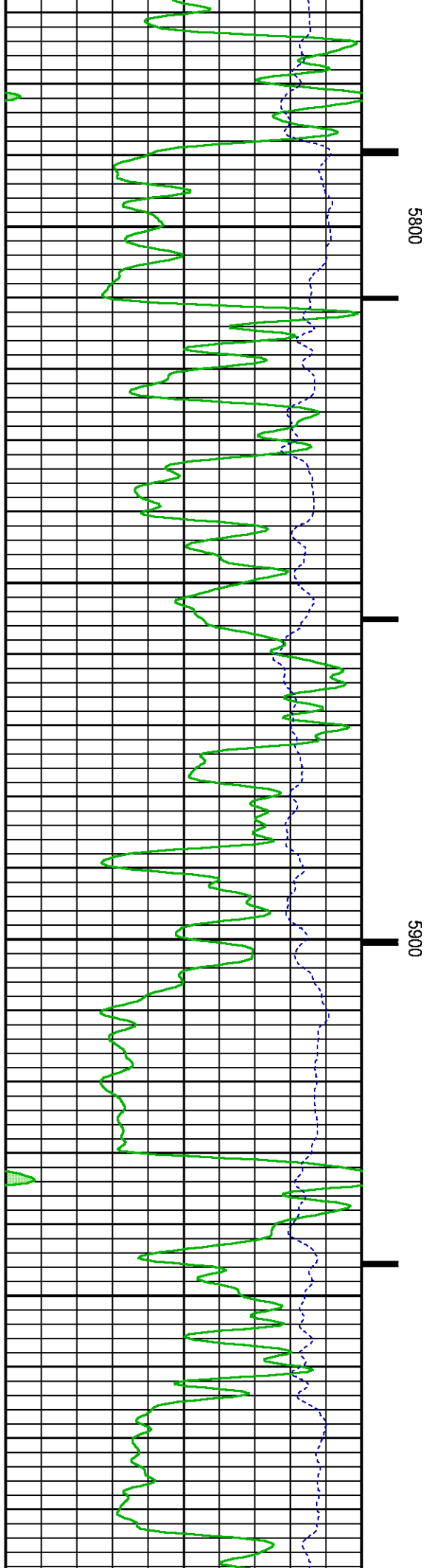
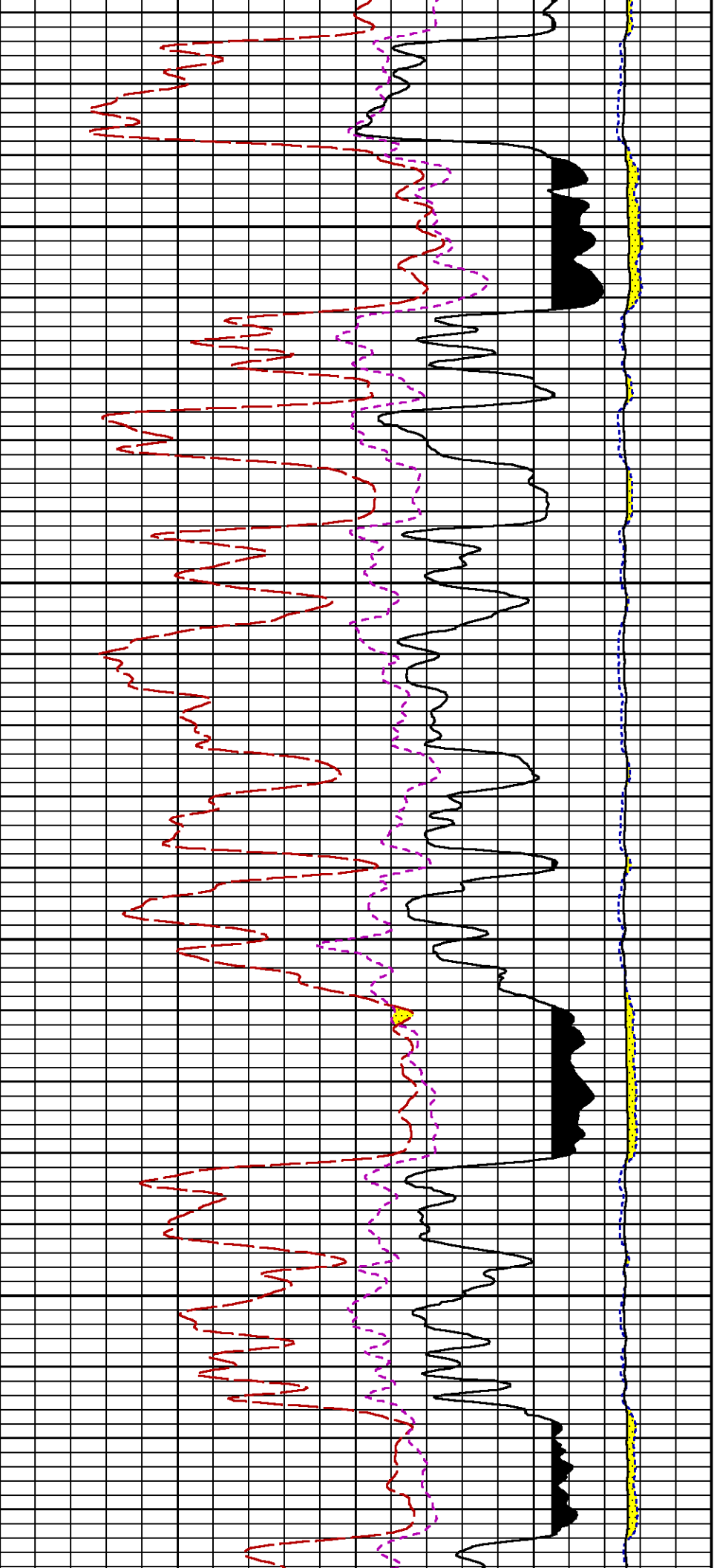


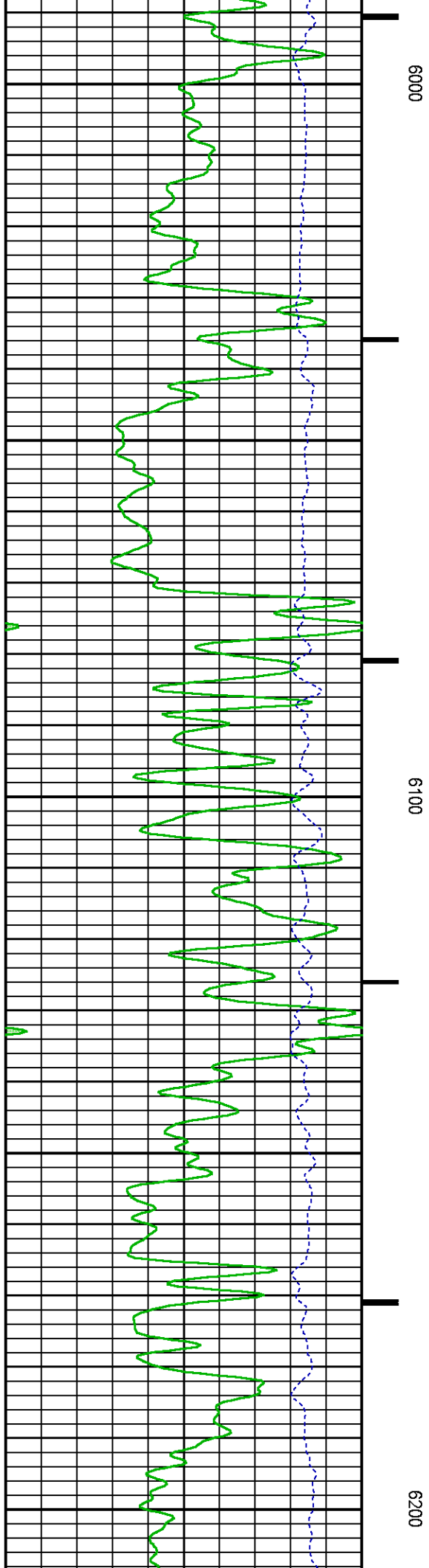
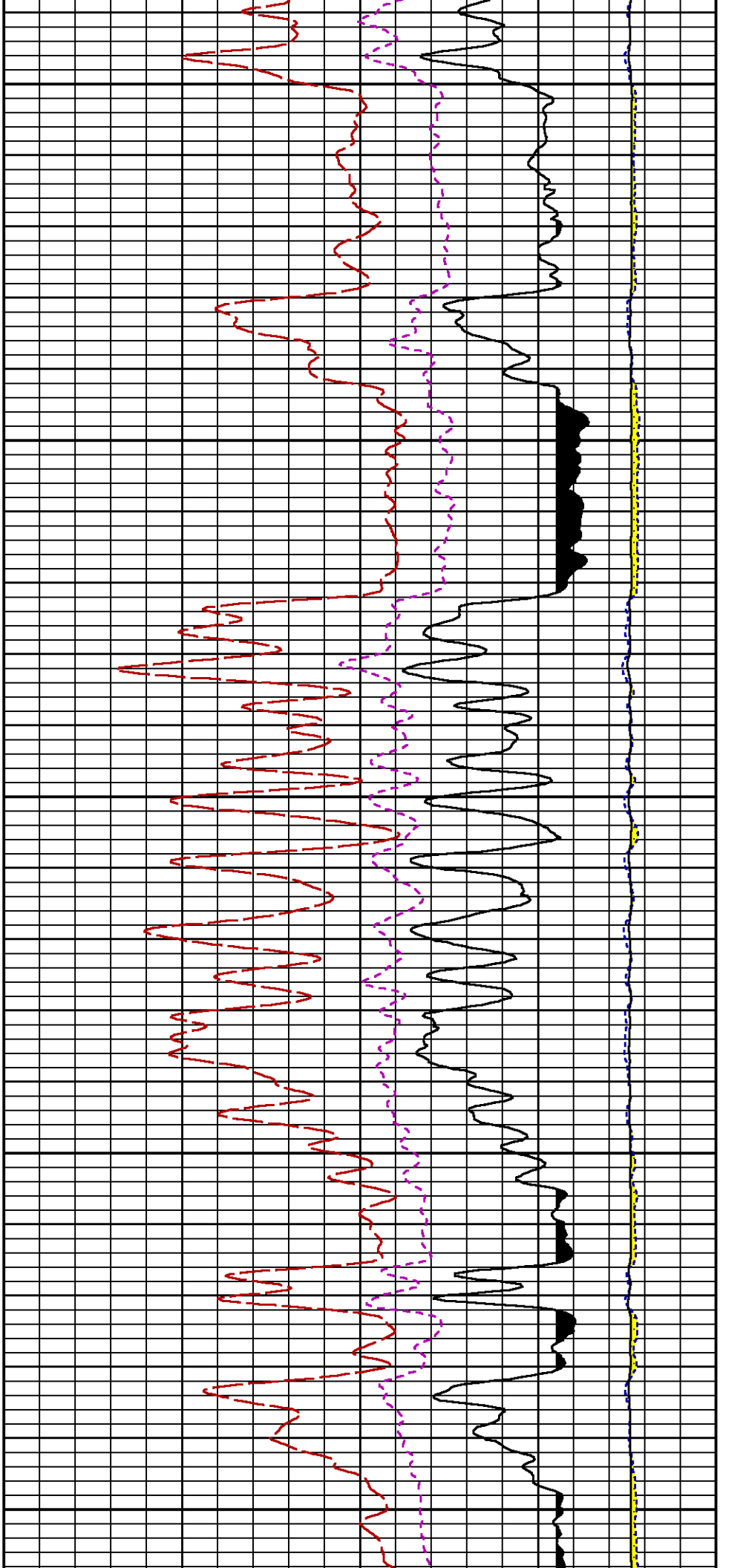


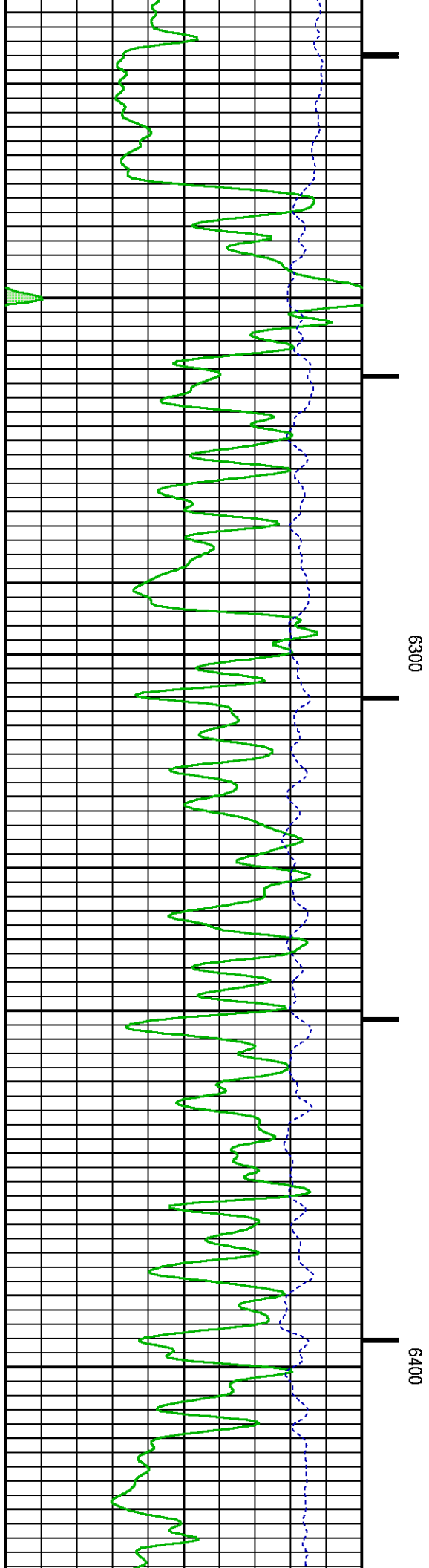
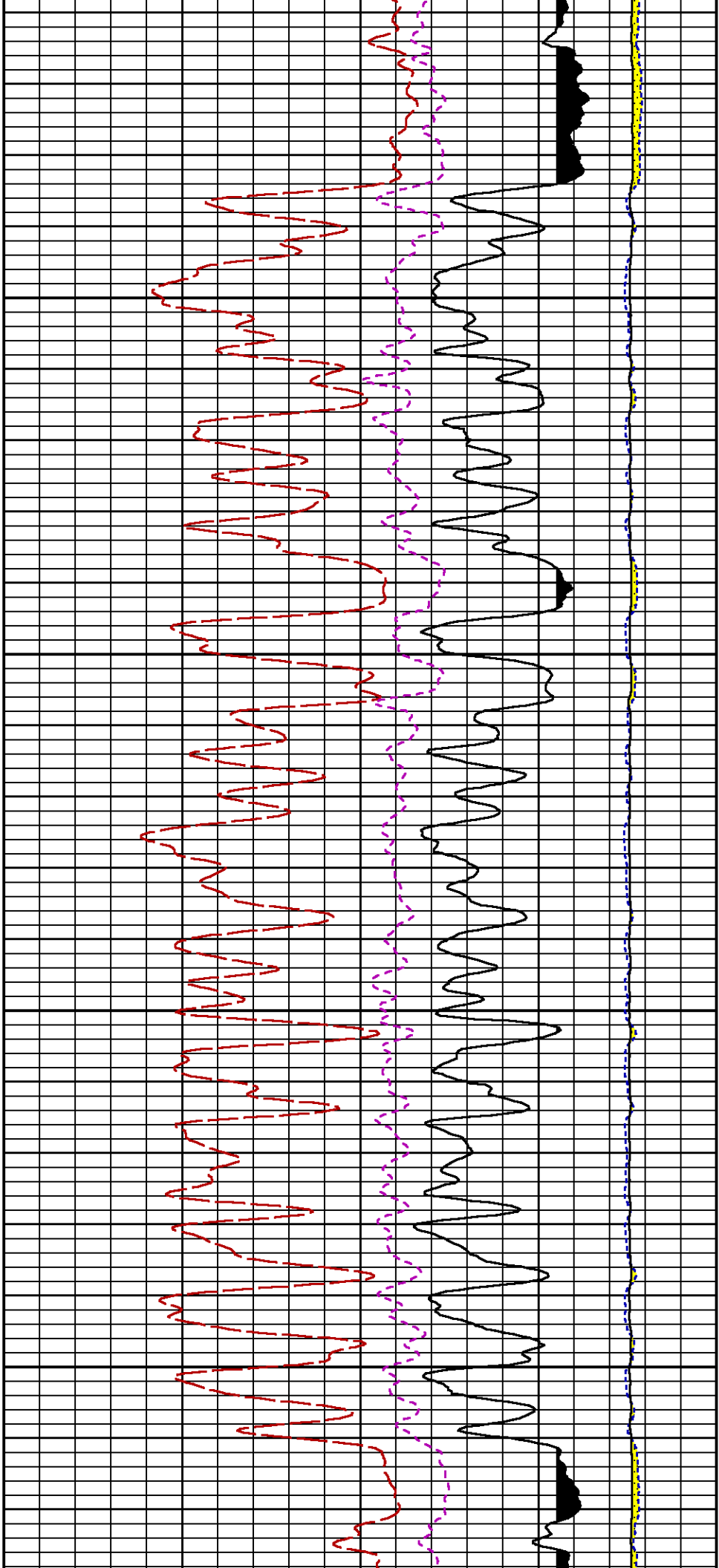


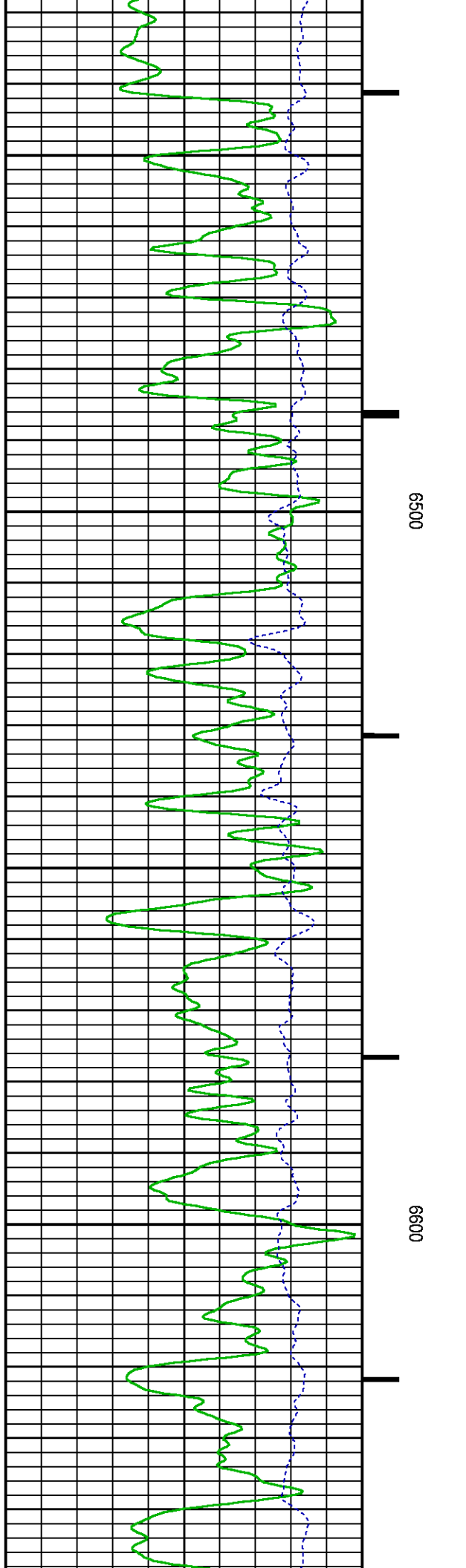
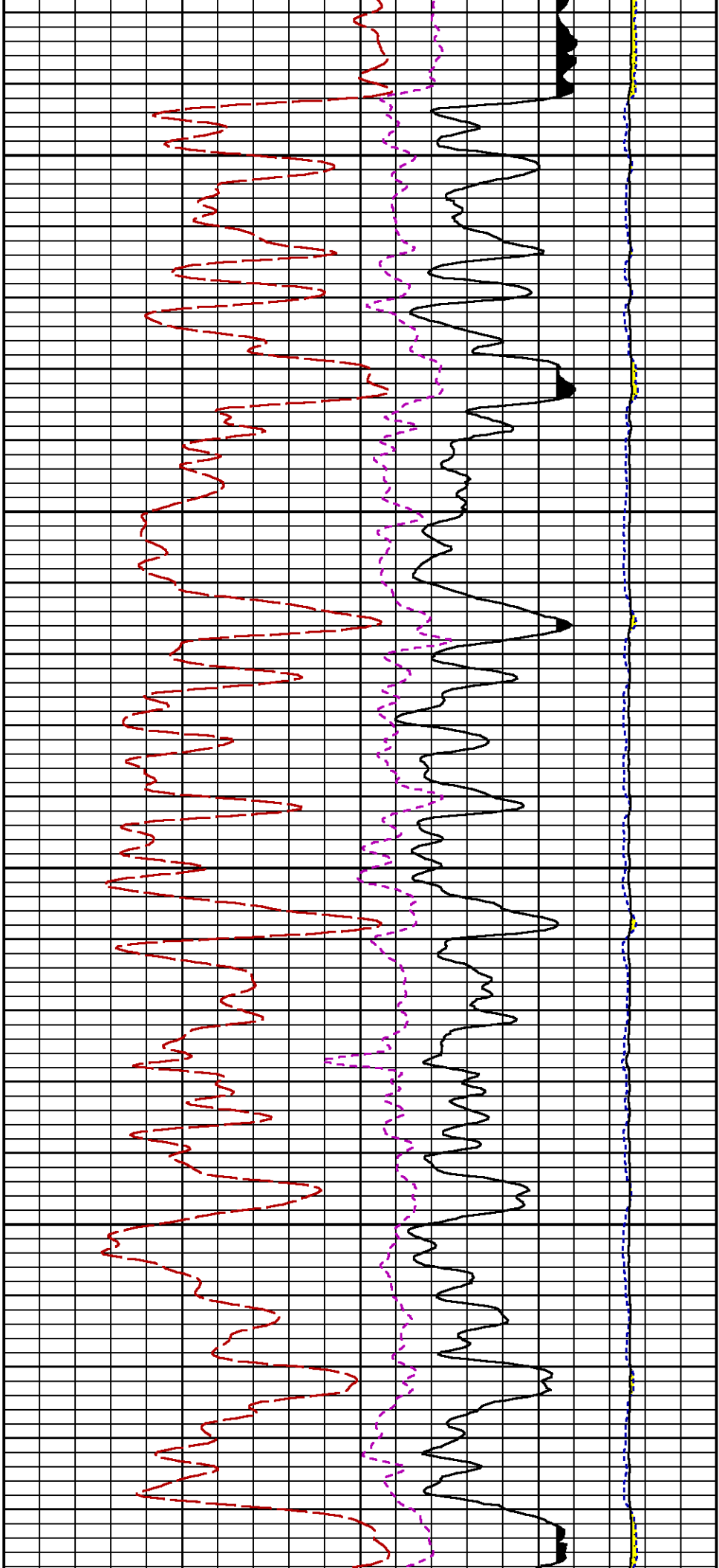


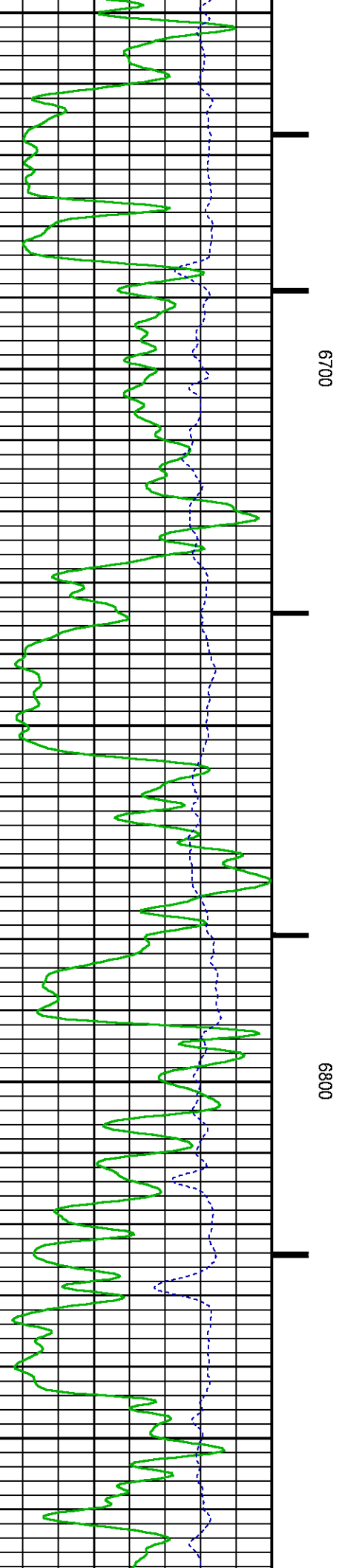
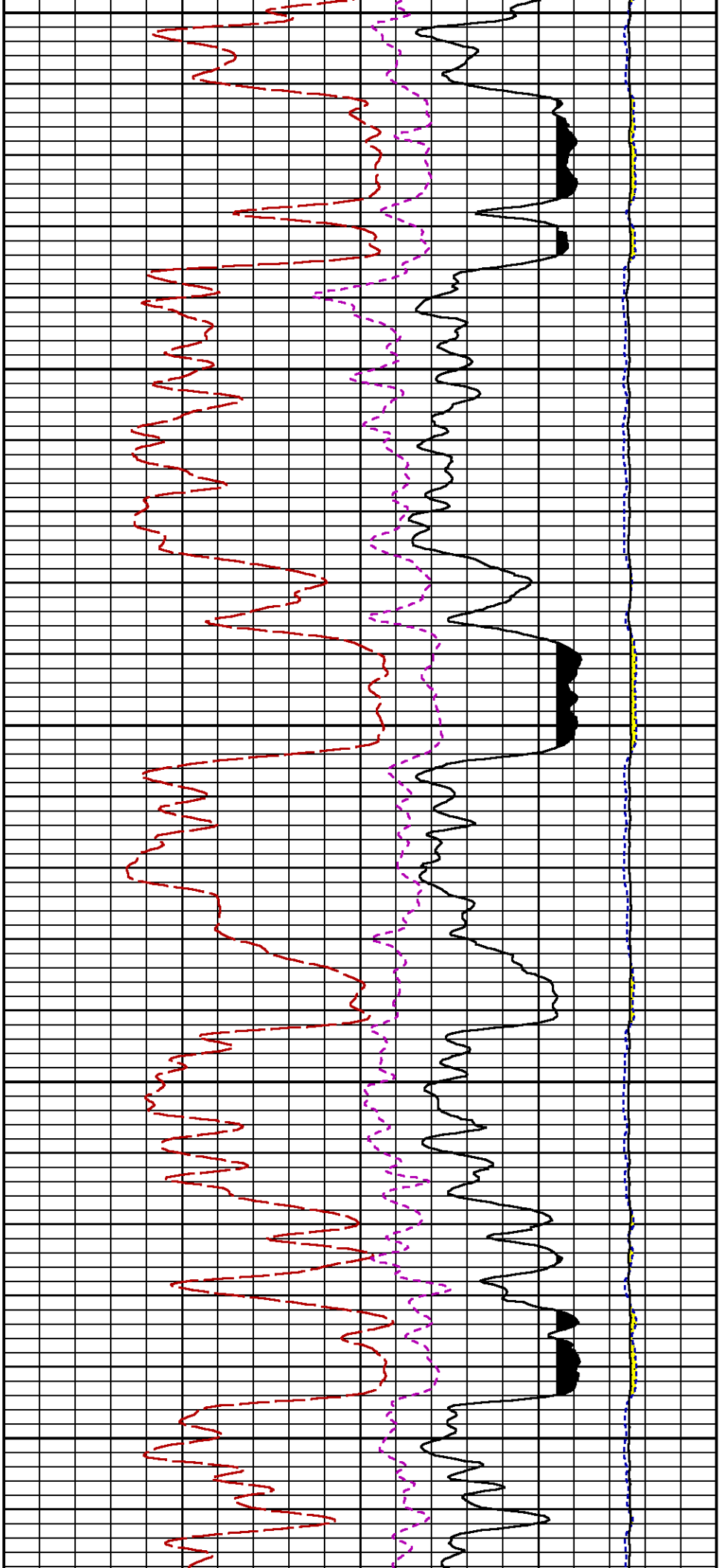


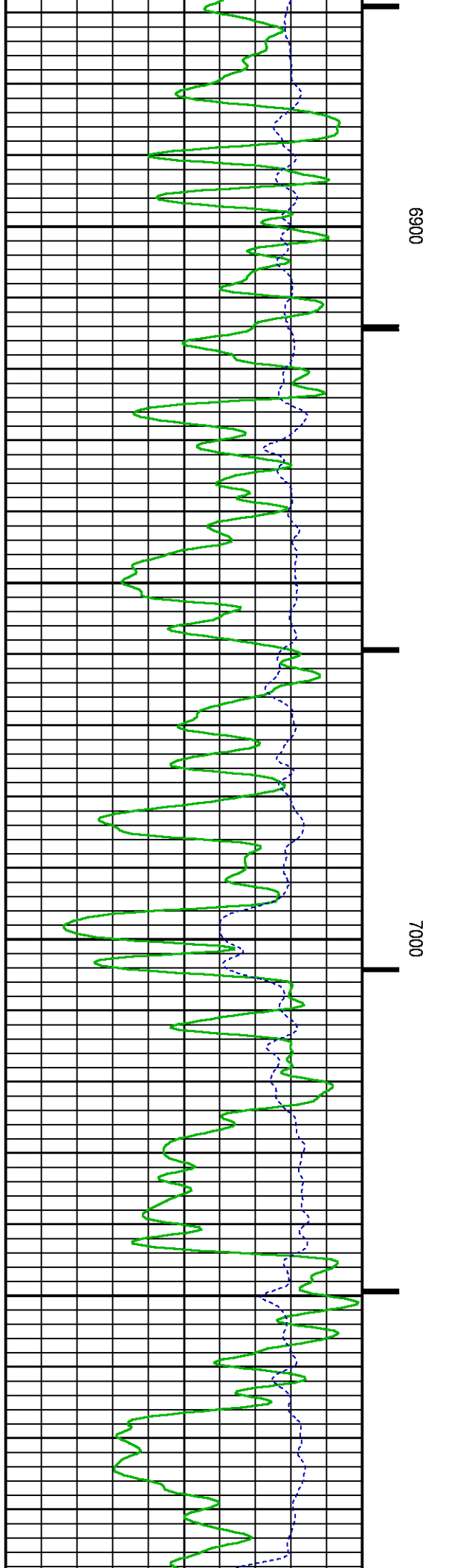
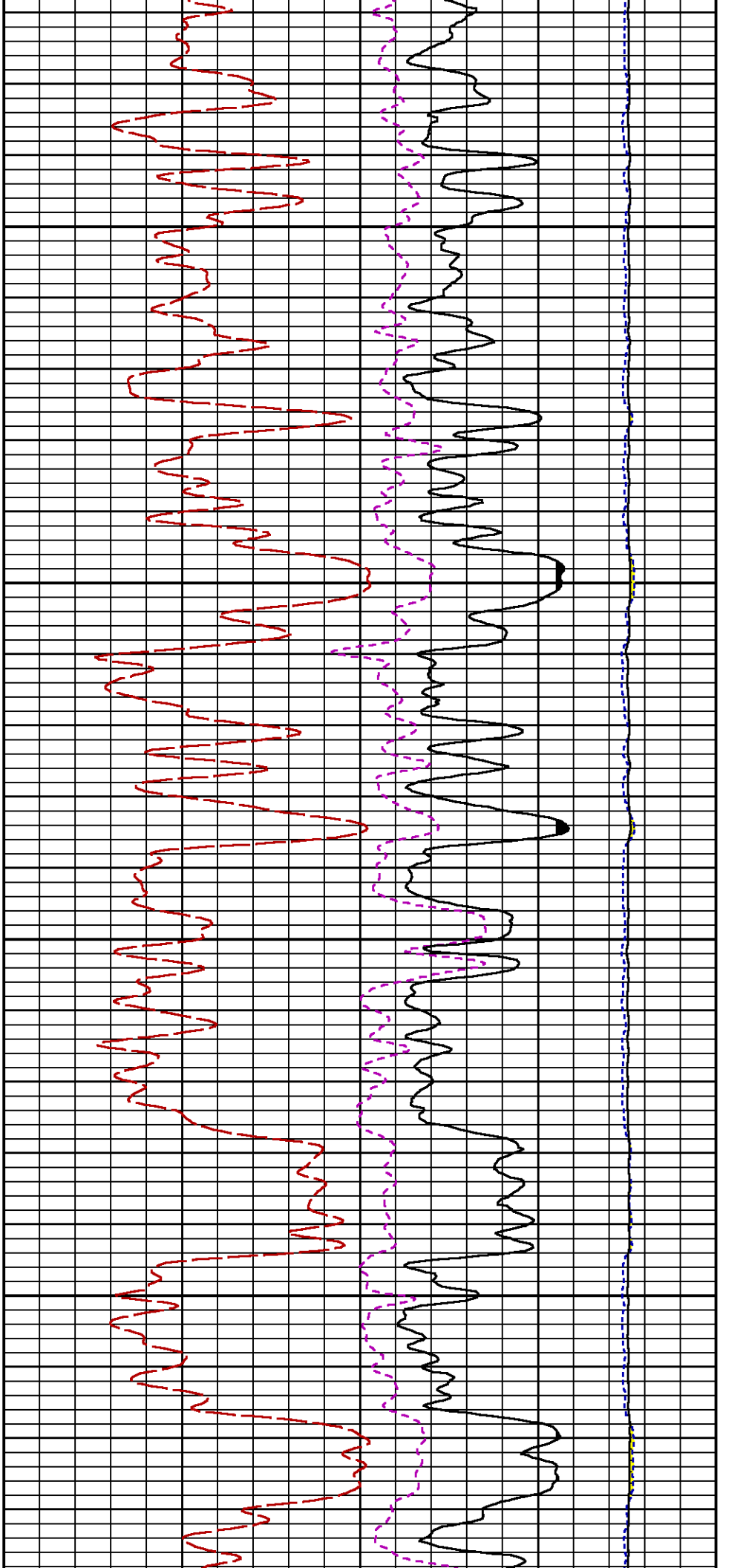


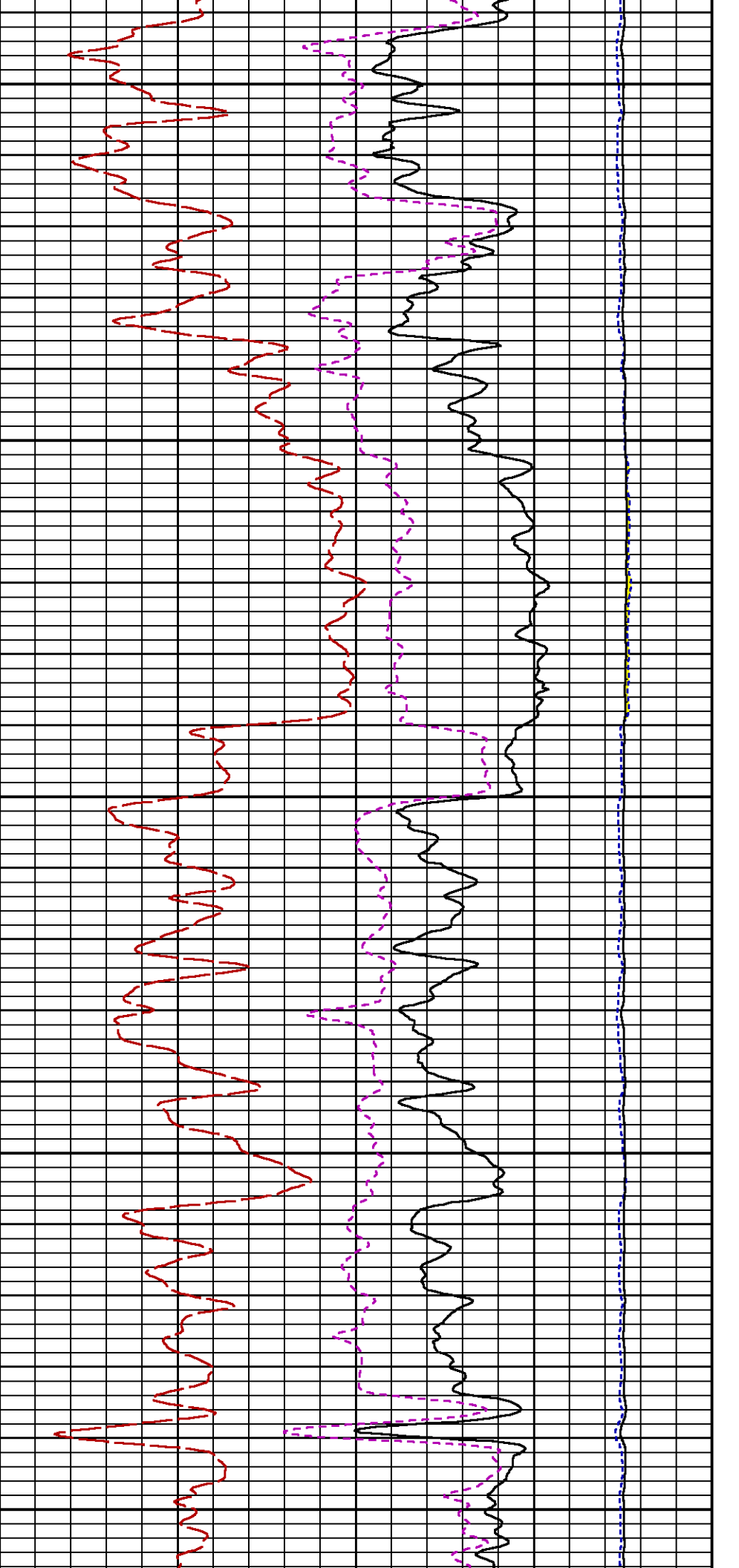








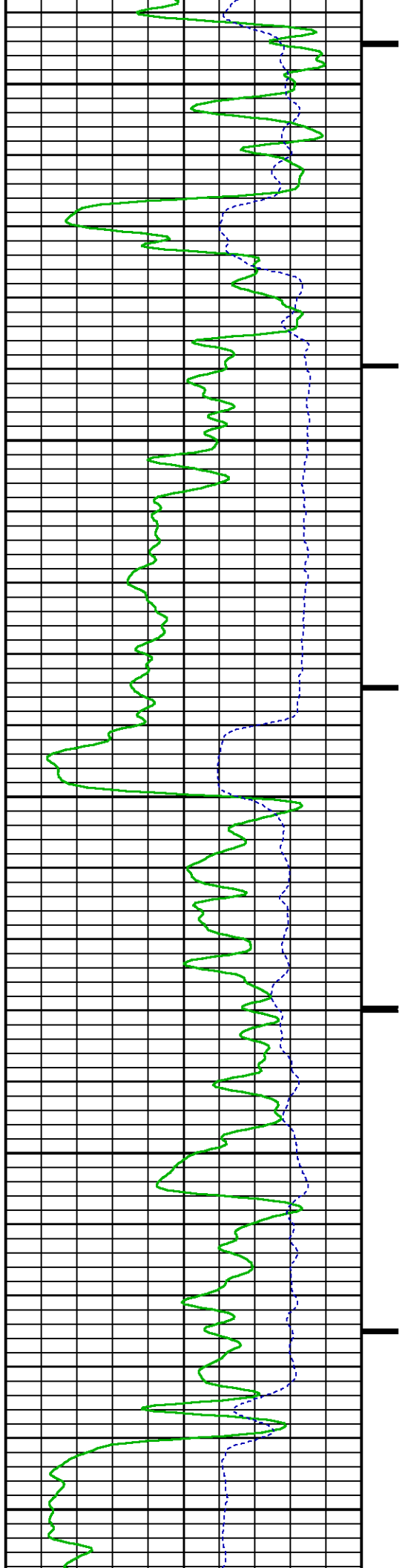


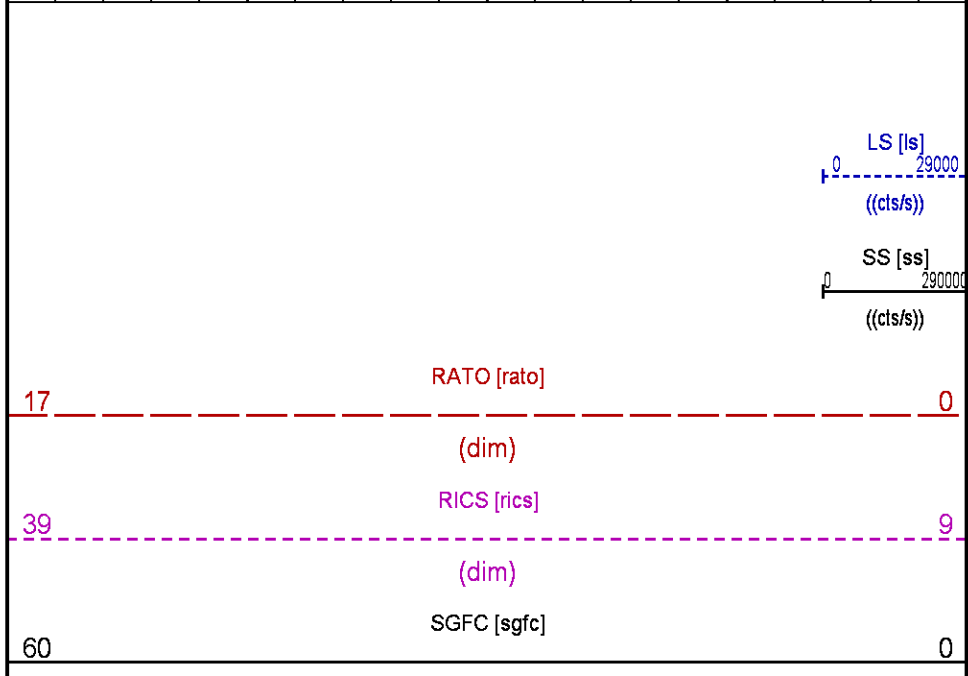
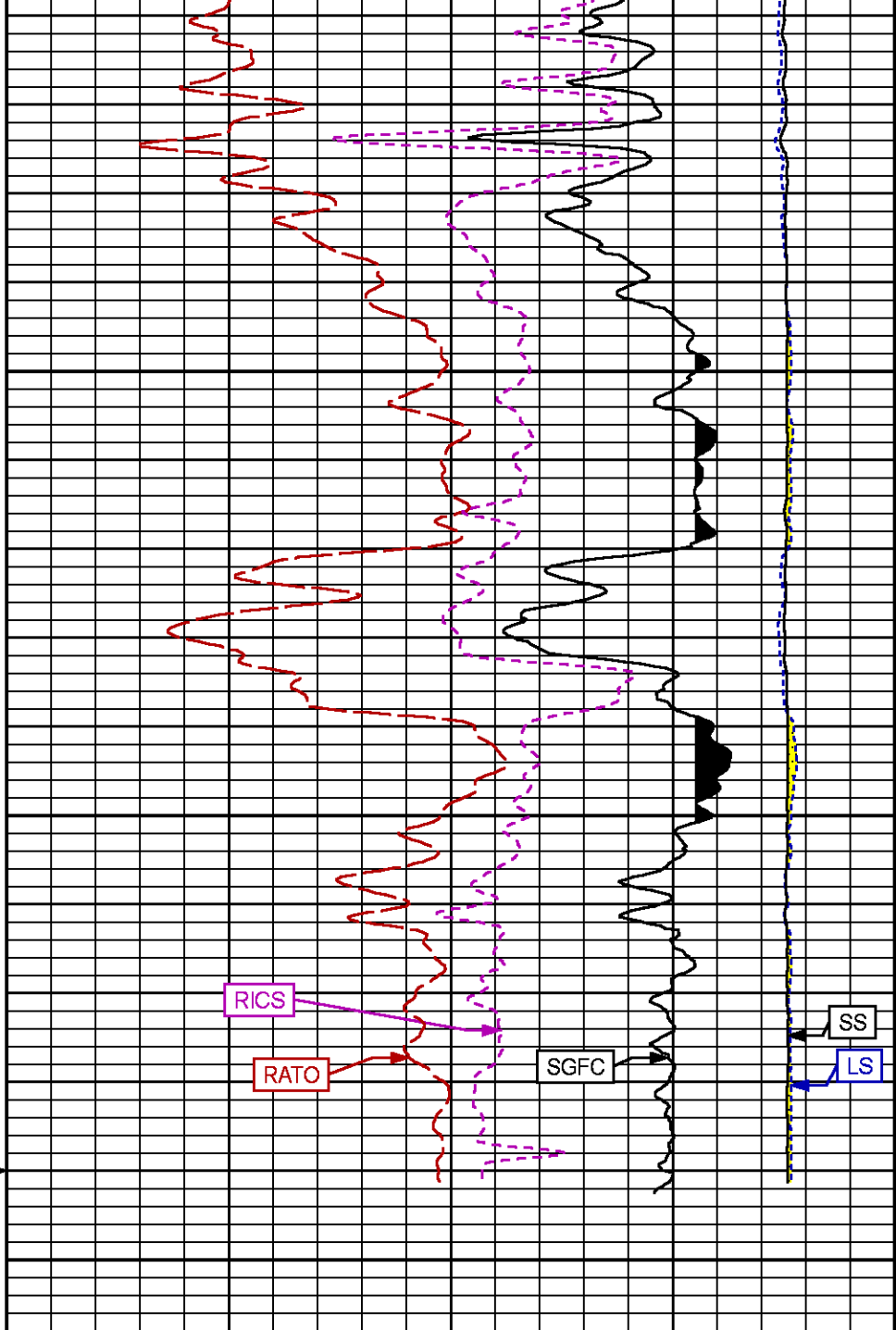
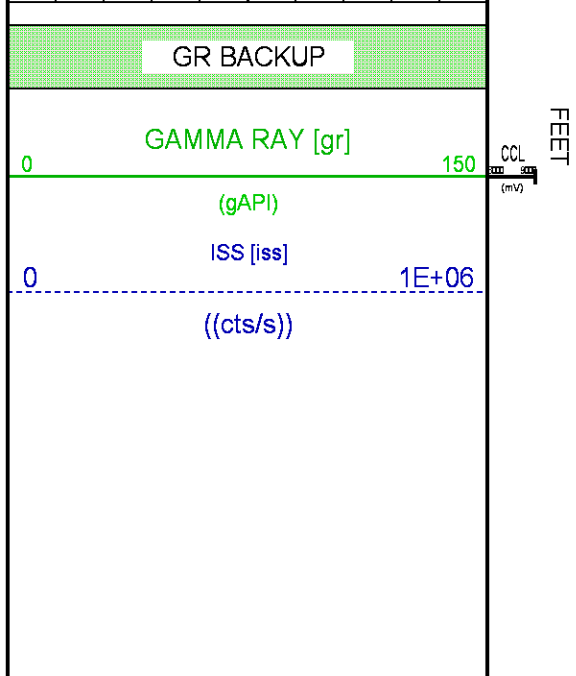
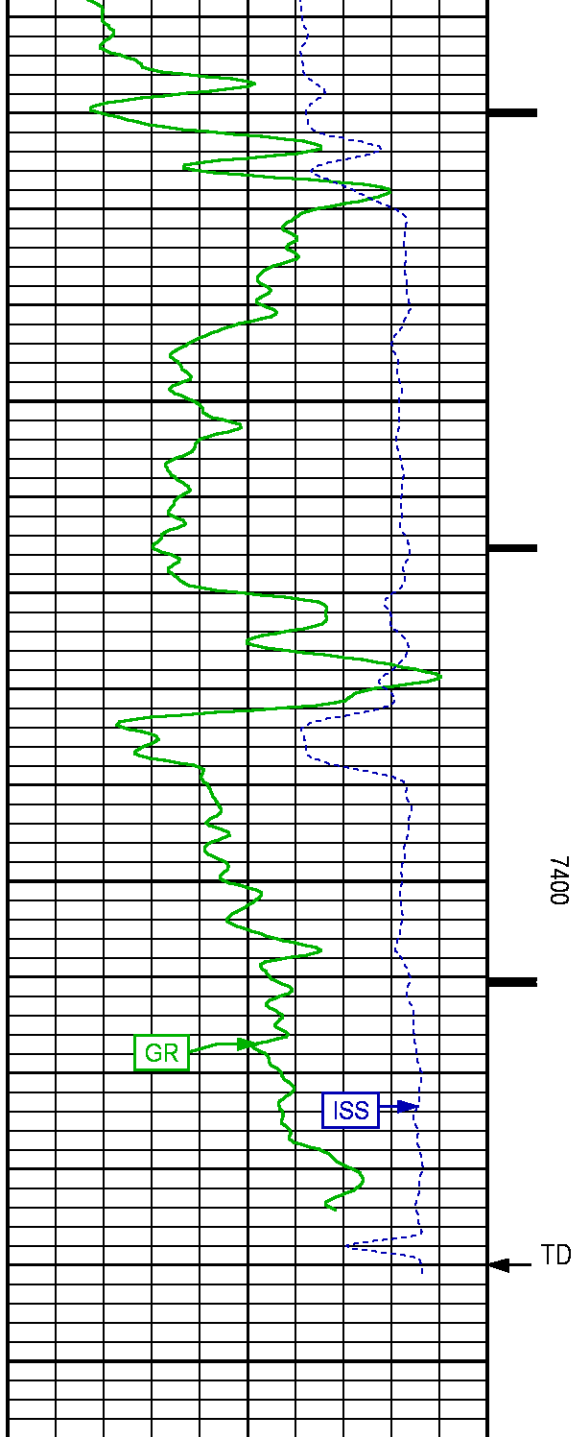


7100

7200

7300





REPEAT PASS

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

Patches: 2

Plotted: Fri Jan 26 02:03:54 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_06E/p353h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 4648.530 ft BOTTOM DEPTH: 4878.158 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

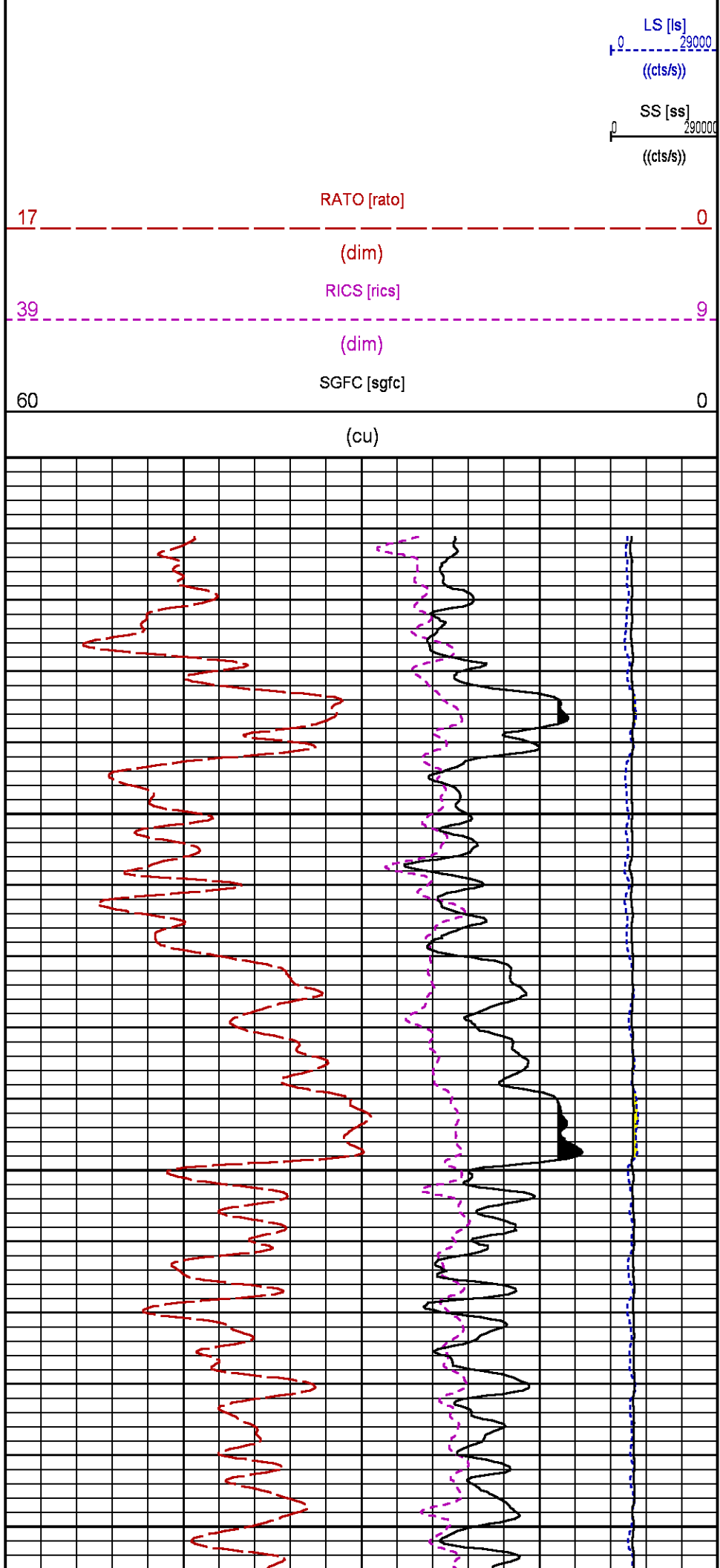
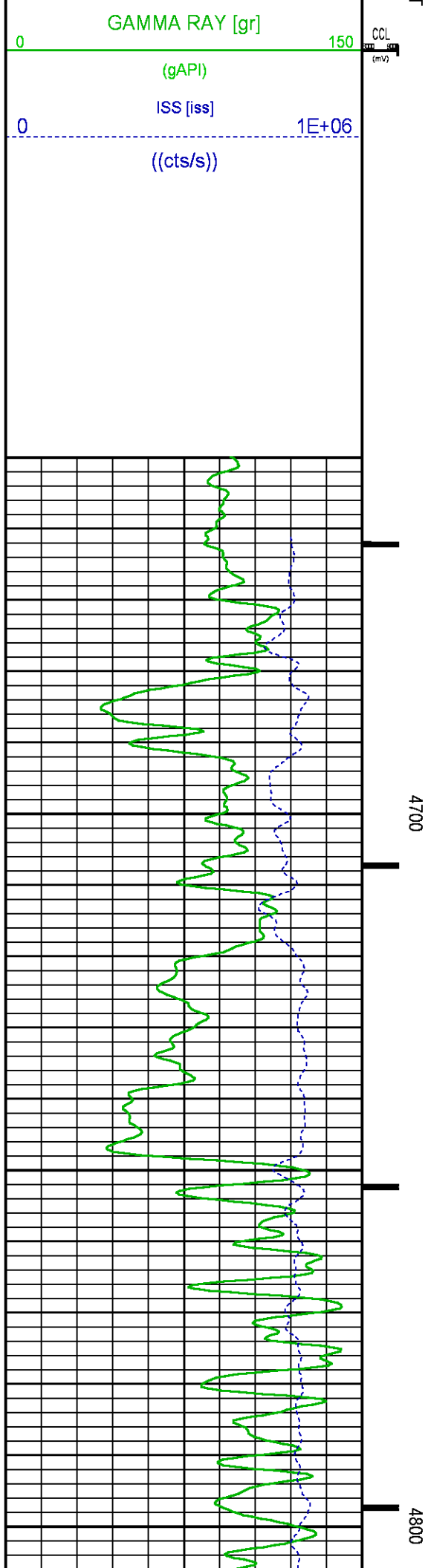
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

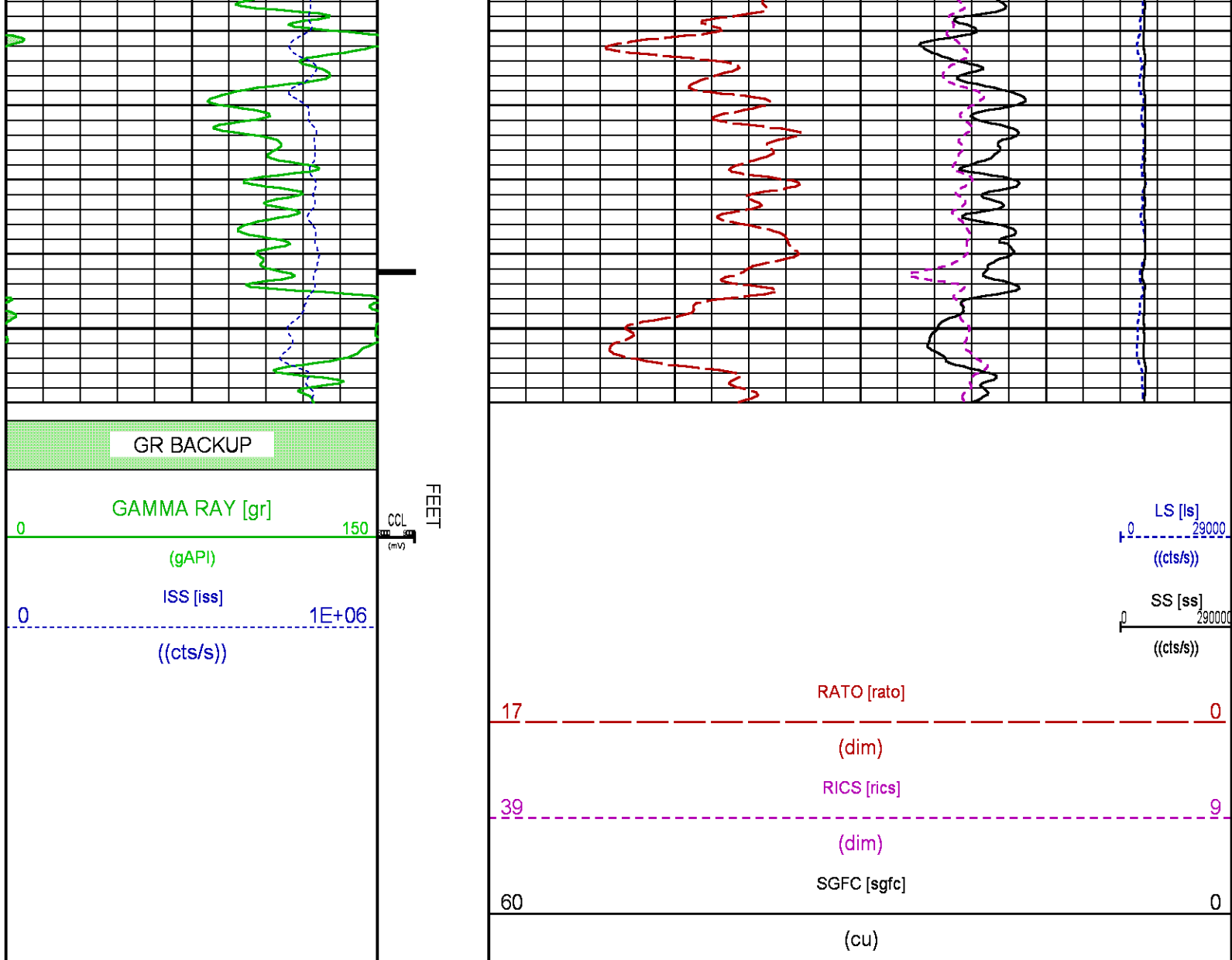
Presentation : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/24-06E_RPM_REPEAT.fvpdf [5"/100' Scale]
 Plot Interval : 4650 - 4860 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_06E/24-6E_RPM_REPEAT.xtf
 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : NICHOLS 0994-24-06E
 Field : VEGA
 File Interval : 4622 - 4875.25 Feet
 OCT : p353h

GR BACKUP

FEET





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_NICHOLS_0994_24_06E/p353h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10317216

DATE/TIME PERFORMED: Sat Jan 20 08:55:31 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	58.42	336.96	278.5	0.664	38.80	223.80	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10317216

DATE/TIME PERFORMED: Sat Jan 20 08:58:00 2018

UNIT #: 4352 ML4352

VERI JIG #: 4702NK DA_228

BACKGROUND CALBRTR ON MULT BACKGROUND CALBRTR ON DIFF.

	(cts/s)	(cts/s)	(gAPI)	(gAPI)	(gAPI)
GR	59.02	336.93	0.664	39.20	223.79
					184.59
					175.00 195.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10190200

DATE/TIME PERFORMED: Sat Jan 20 11:23:45 2018

UNIT: 3882TD HL6728

CALIBRATOR: 2437XB 120052

SOURCE: 8281AA 10408960

HOURS: 8281AA 98

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	809388	126	2266	2230	2285	93	9.5	0.9606
Interpolated	1300000	153	2243	2224	2277			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	809388	7357	1127	150	26.22	0.14	24.24	0.31
					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	809388	175615	27609	96901	34428	8787	58424	14068
Fit Quality %		1.010	1.290	1.259	1.256	1.310	1.081	1.352

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	809388	1.43	4.61	29.33	13.85	11.03	3.92	4.15
		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 %		0.057	0.296	0.312	0.307	0.010	0.041	0.063
Reduced	1401166	1.43	4.62	29.41	13.90	11.03	3.92	4.16
		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_NICHOLS_0994_24_06E/RPM-tdg

A3 CABLEHEAD
Diameter : 1.37"

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

34.08'

Mnemonic : PCM
Measure Point: 1.00': CCL MP

CCL MP 26.03'

GAMMA RAY

Diameter : 1.70"
Length : 3.02'
Weight : 15 lbs
Series : 8262XA
Mnemonic : GR
Measure Point: 0.89': GR MP

GR MP 22.90'

RPM ELECTRONICS

Diameter : 1.70"
Length : 4.48'
Weight : 16 lbs
Series : 8281EA
Mnemonic : RPM

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: 34.00'

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

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY
WELL
FIELD
COUNTY

LARAMIE ENERGY LLC
NICHOLS 0994-24-06E
VEGA
MESA **STATE** COLORADO

FILE NO:

API NO:

05077104050000

LOCATION:

SHL: 39.264586 N; 107.830603 W
BHL: 39.266062 N; 107.826023 W

ELEVATIONS:

KB 7161 FT
DF 7160 FT
GL 7137 FT

SEC 24 TWP 9 S RGE 94 W

DATE 26-Jan-2018