



RESERVOIR PERFORMANCE MONITOR

FILE NO: CH136847 COMPANY LARAMIE ENERGY LLC
 API NO: 05077105340000 WELL VEGA
 FIELD VEGA
 COUNTY MESA STATE COLORADO

Ver. 4.10 LOCATION: LAT: 39.273903 N LONG: 107.835218 W
 SEC 13 TWP 9 S RGE 94 W
 OTHER SERVICES RAL

PERMANENT DATUM GL ELEVATION 7272 FT
 LOG MEASURED FROM KB 30 FT ABOVE P.D.
 DRILL. MEAS. FROM KB
 ELEVATIONS:
 KB 7302 FT
 DF
 GL 7272 FT

DATE	13-Jun-2018
RUN	2
TRIP	1
SERVICE ORDER	US136847
DEPTH DRILLER	7544 FT
DEPTH LOGGER	7494 FT
BOTTOM LOGGED INTERVAL	7494 FT
TOP LOGGED INTERVAL	2180 FT
TIME STARTED	13:30
TIME FINISHED	19:30
OPERATOR RIG TIME	6 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	54 FT
LOGGED CEMENT TOP	490 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	13-Jun-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 2 TRIP 1: *2 OPERATIONS IN WELLBORE*
 OPERATION 2: RPM/GR/CCL RUN IN PNC-3D
 LOGGED WITH 0 PSI ON WELLHEAD
 SJ: 5718' - 5738'
 SJ: 6976' - 6996'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	PCM	8250EA	11908682	FREE
2	1	TEL/CCL	8248ED	10460262	FREE
2	1	GR	2812LA	10384613	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: 4

Plotted: Wed Jun 13 20:29:46 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_0994-13-12W/p354h03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2168.925 ft BOTTOM DEPTH: 2856.417 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_GUNDERSON_0994-13-12W/0994-13-12W_RPM_MAIN_GS.fvpdf [5"/100' Scale]
 Plot Interval : 2170 - 2860.5 Feet

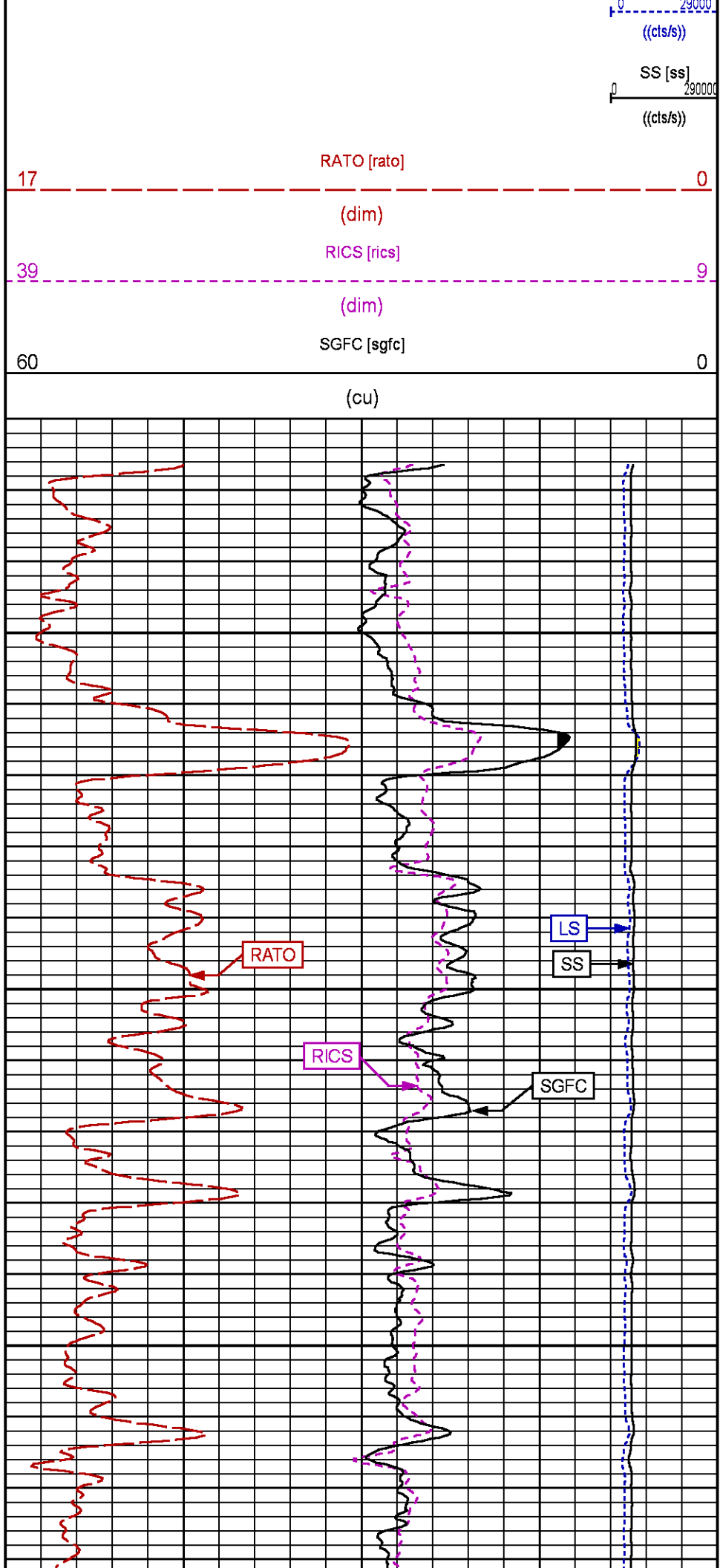
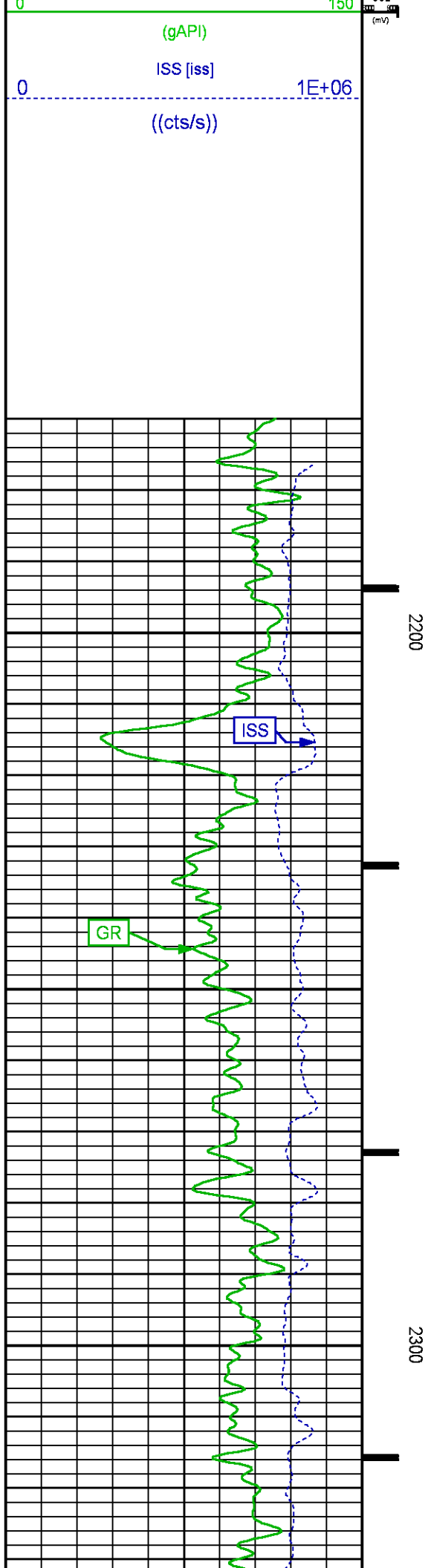
Data File 1 : F1 : SysA:/dat1a/LARAMIE_GUNDERSON_0994-13-12W/0994-13-12W_RPM_GS.xtf
 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : GUNDERSON 0994-13-12W
 Field : VEGA
 File Interval : 2150.75 - 2860.75 Feet
 OCT : p354h

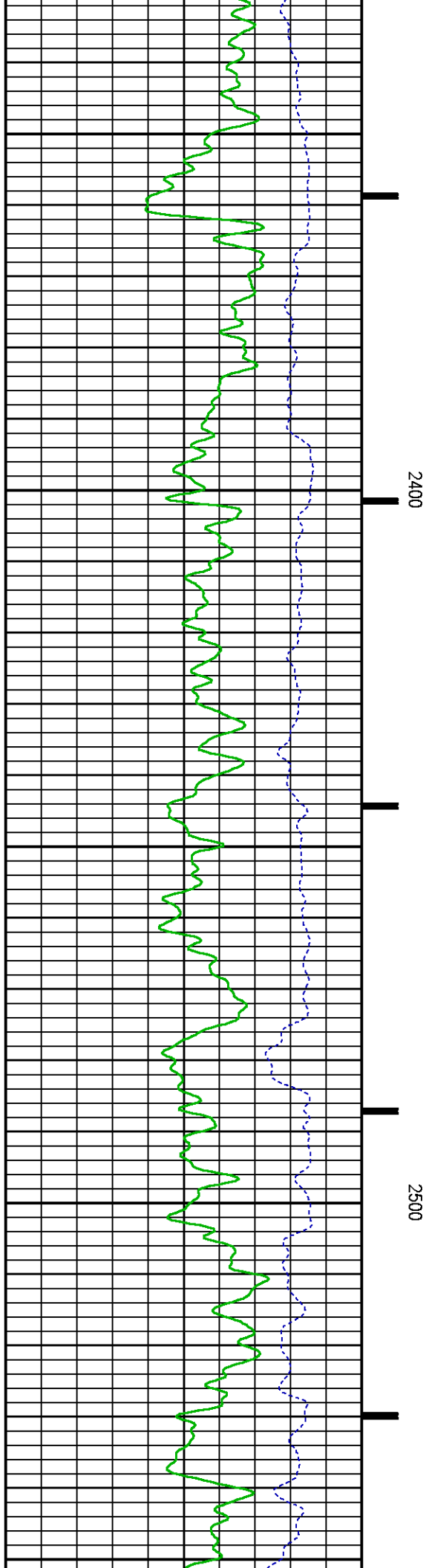
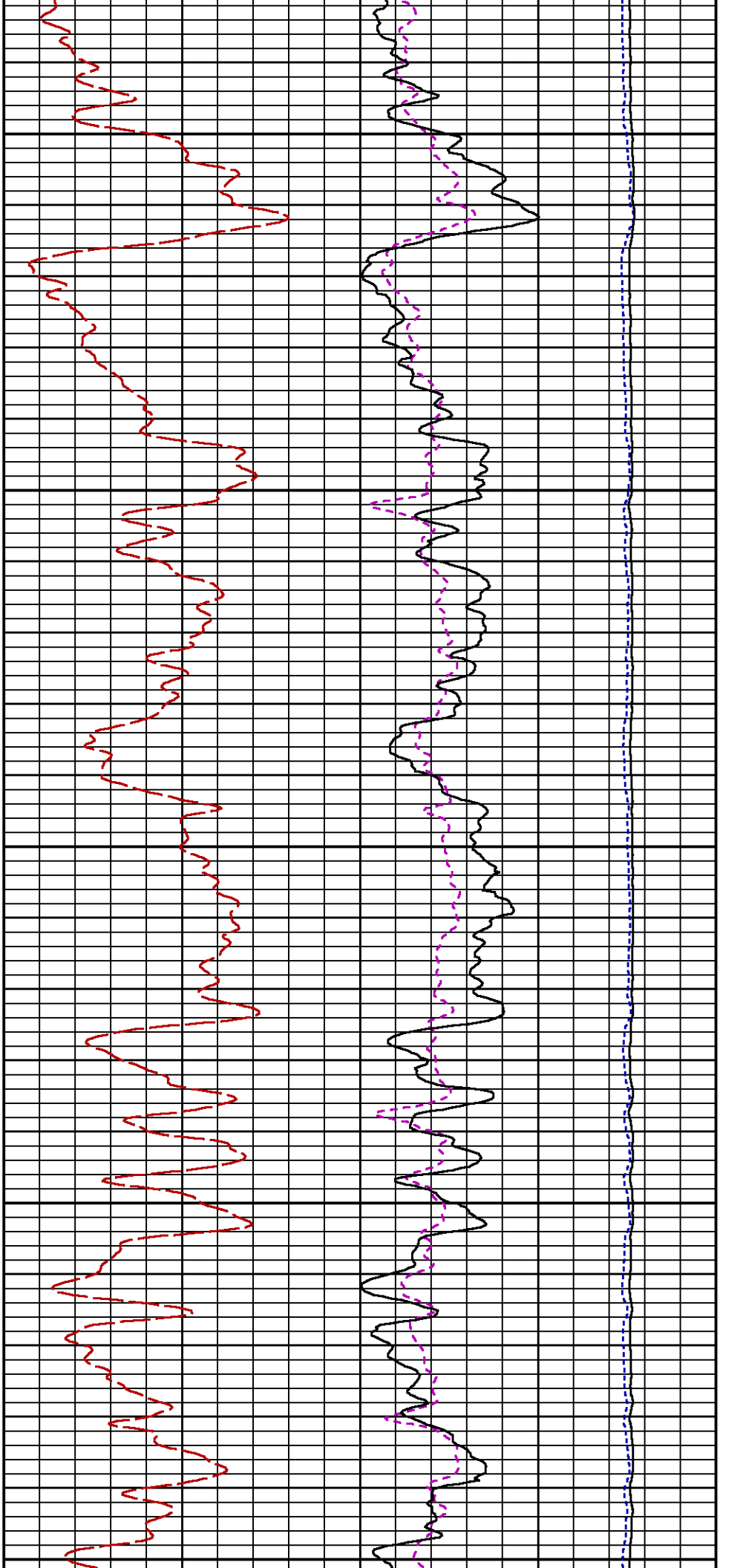
GR BACKUP

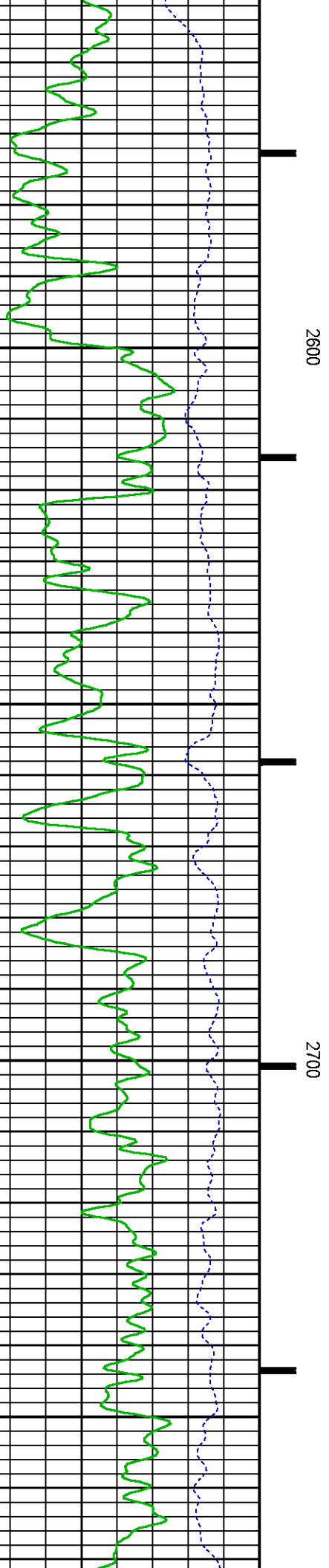
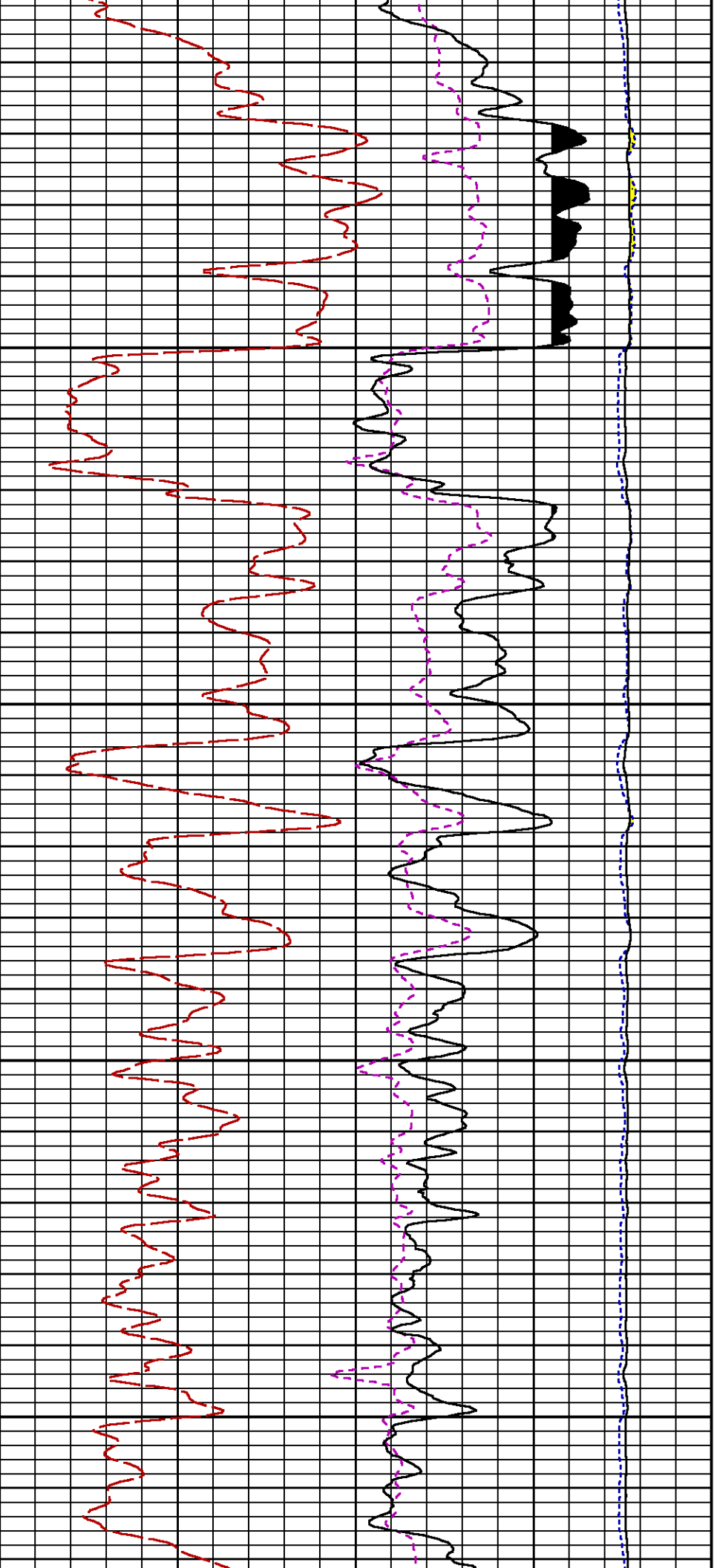
GAMMA RAY [gr]

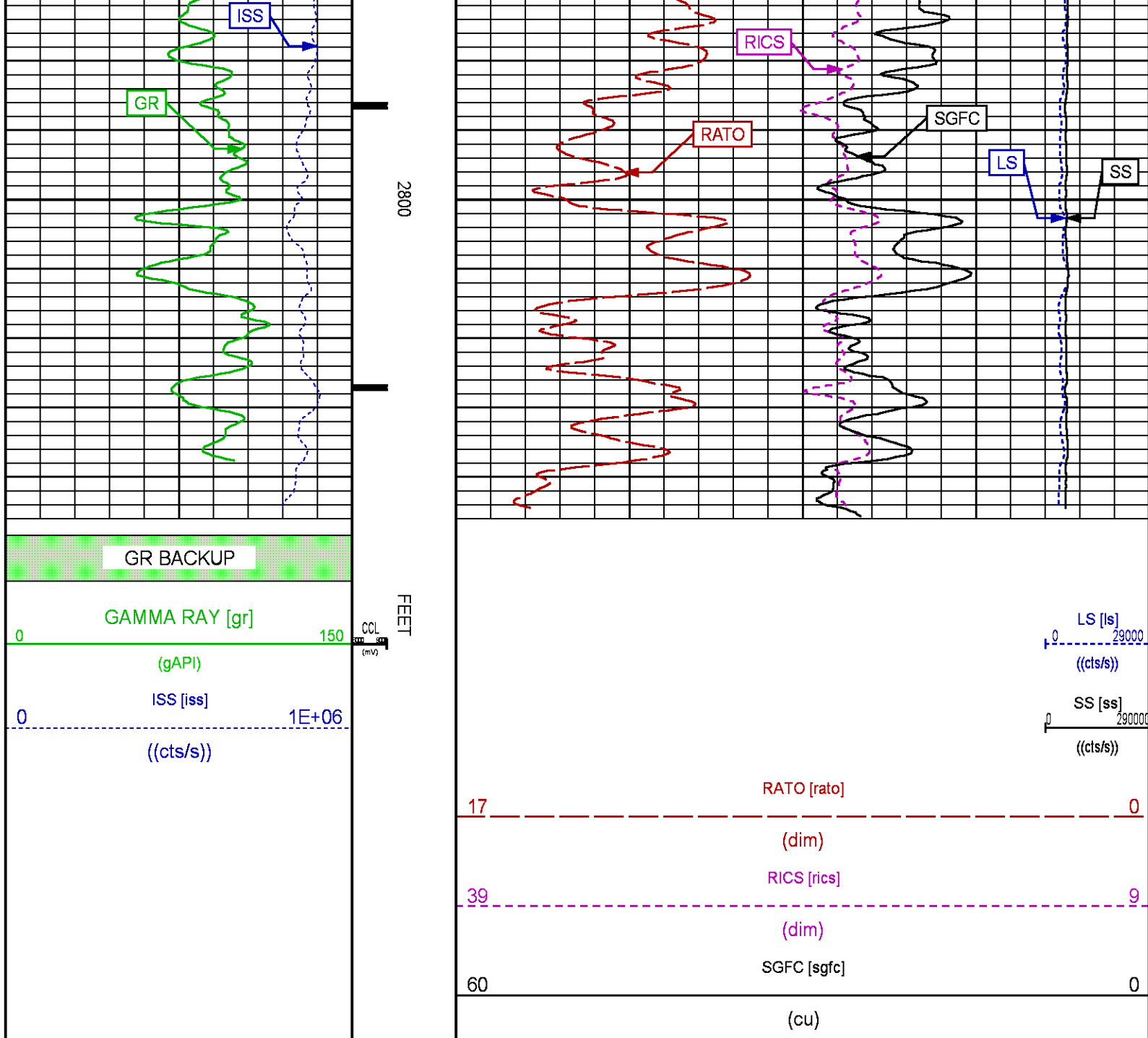
FEET

LS [ls]









RPM MAIN PASS WILLIAMS FORK

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

Patches: 4

Plotted: Wed Jun 13 19:38:56 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_0994-13-12W/p354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4271.750 ft BOTTOM DEPTH: 7500.136 ft

SYMMETRIC FILTER

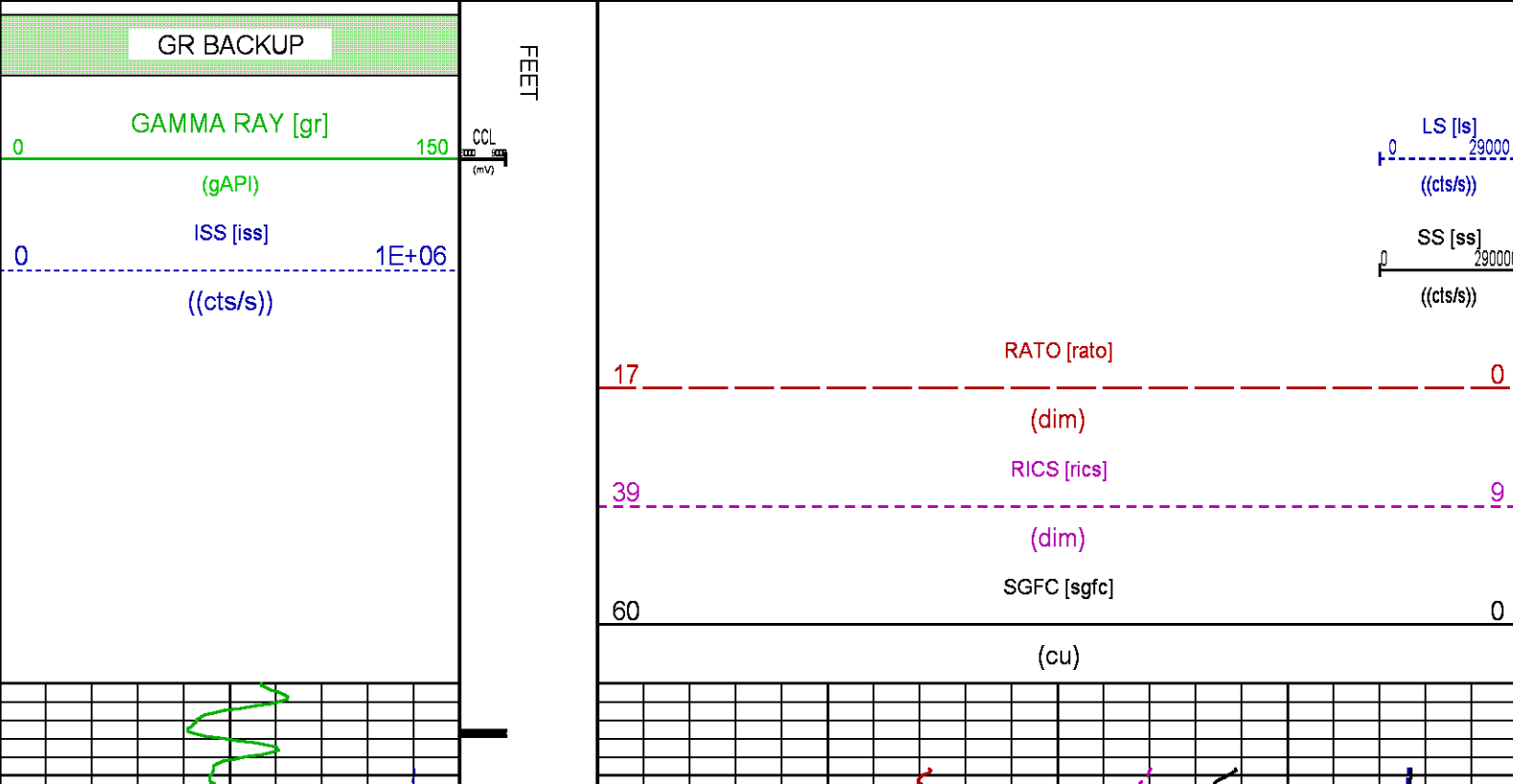
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM

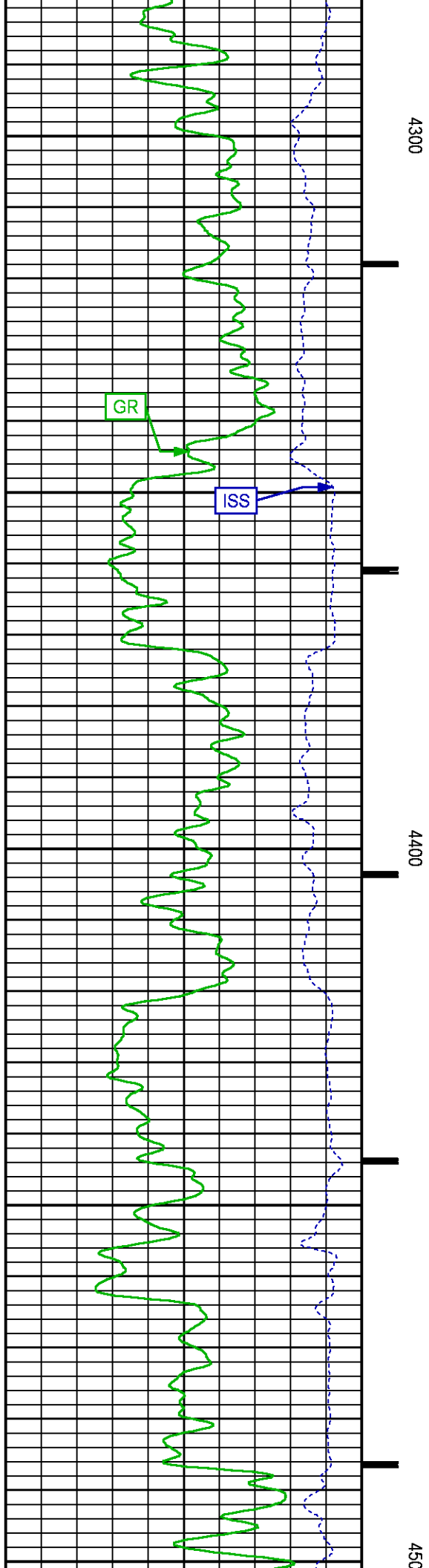
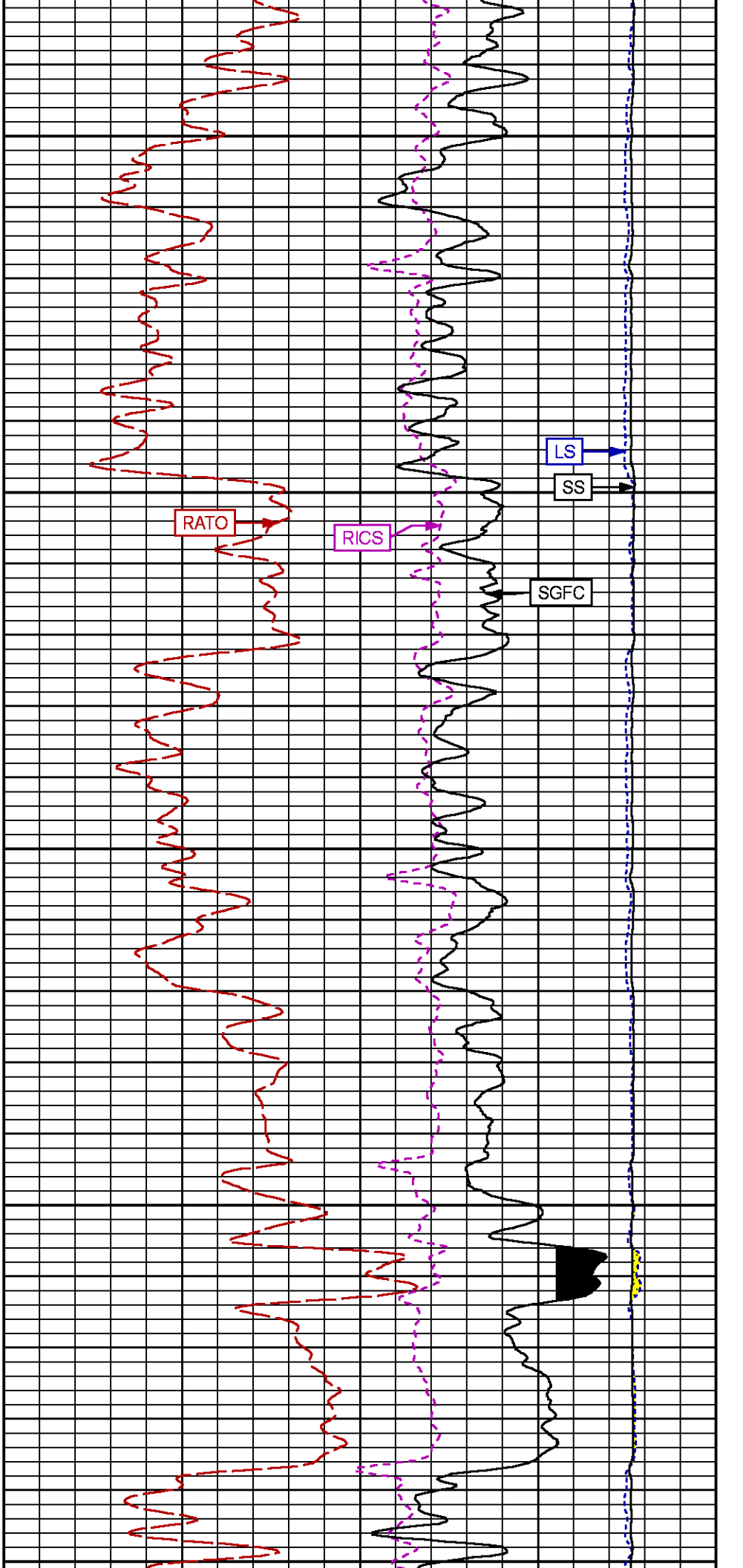
RPM PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	7.87	in	"	"
	LARGEST CASING OD	4.50	in	"	"
	MATRIX	SANDSTONE		"	"

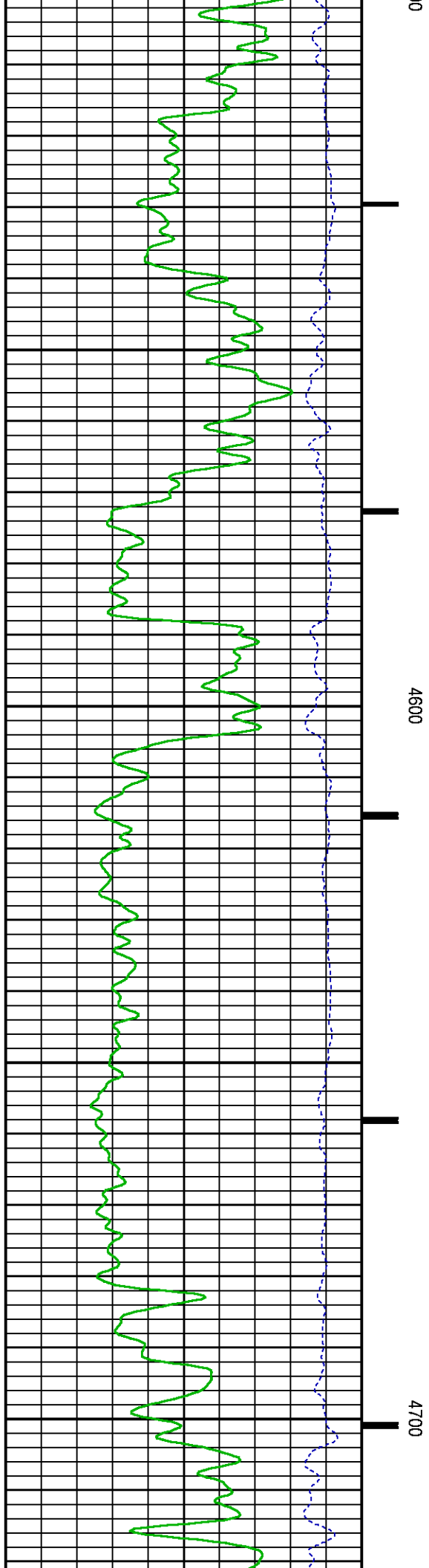
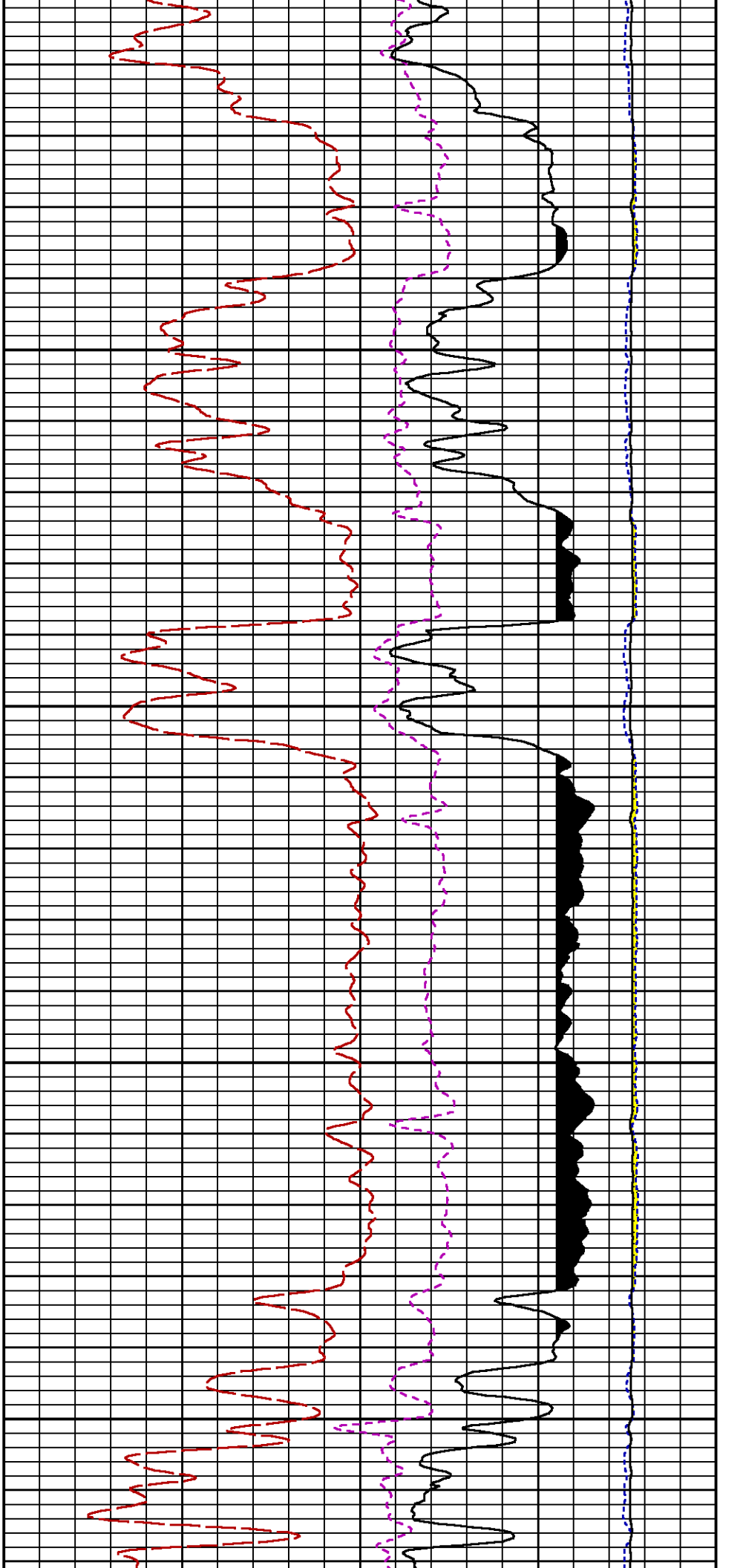
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE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

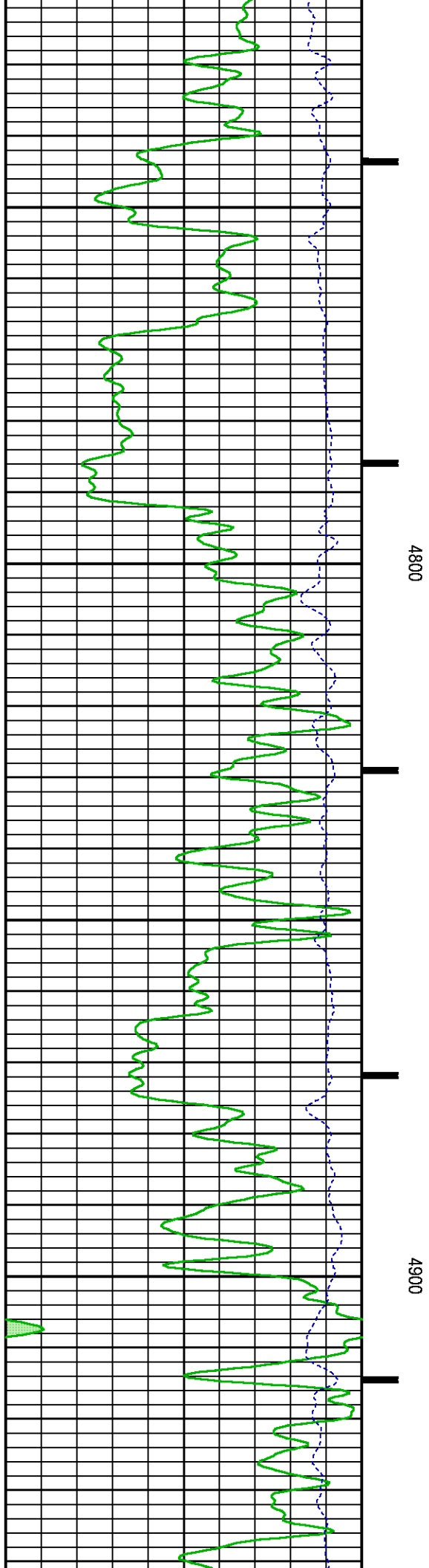
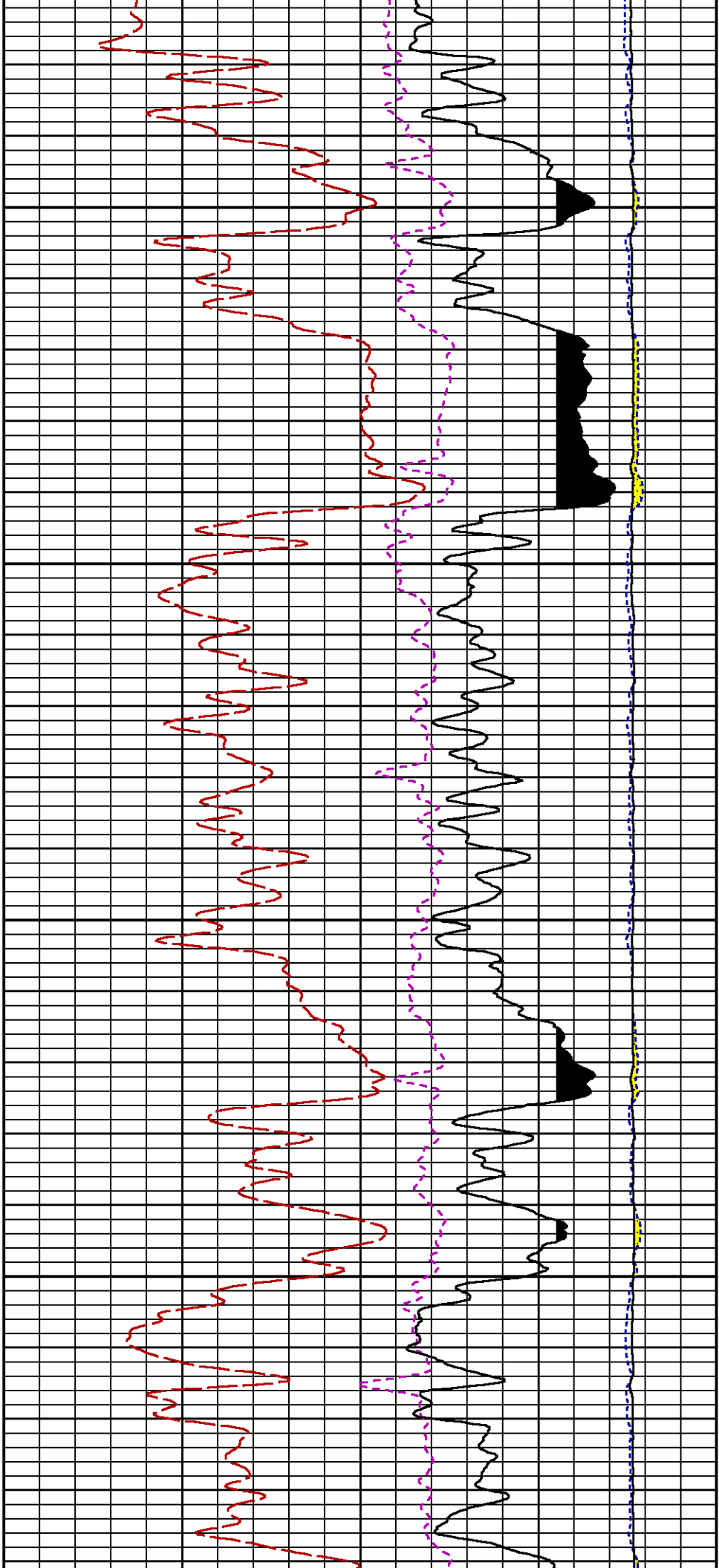
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-25.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75	SS	-12.75

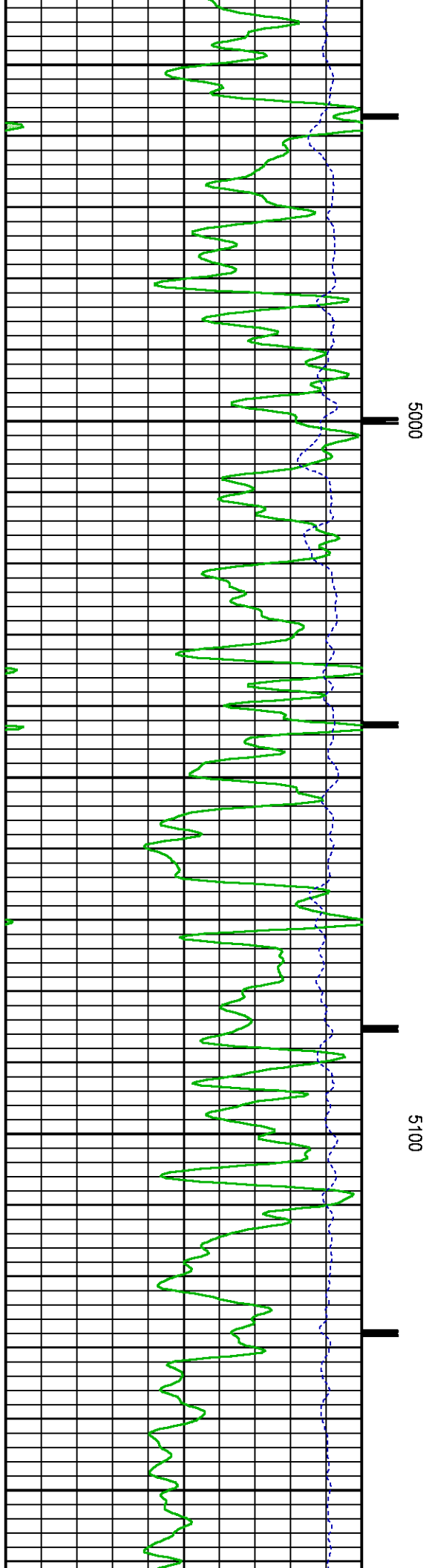
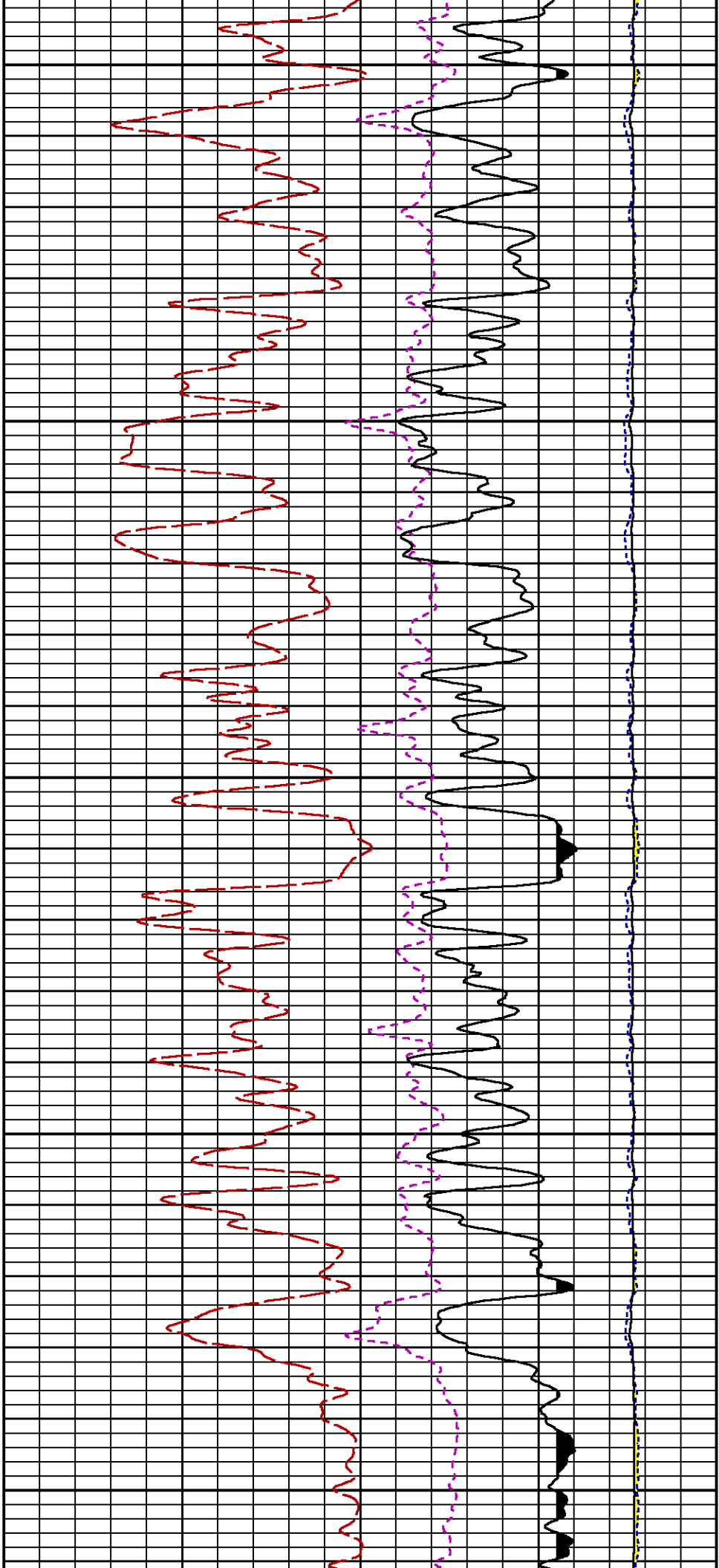
Presentation	: SysA:/dat1a/LARAMIE_GUNDERSON_0994-13-12W/0994-13-12W_RPM_MAIN_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4270 - 7520 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_GUNDERSON_0994-13-12W/0994-13-12W_RPM_MAIN_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: GUNDERSON 0994-13-12W
Field	: VEGA
File Interval	: 4253.5 - 7503 Feet
OCT	: p354h

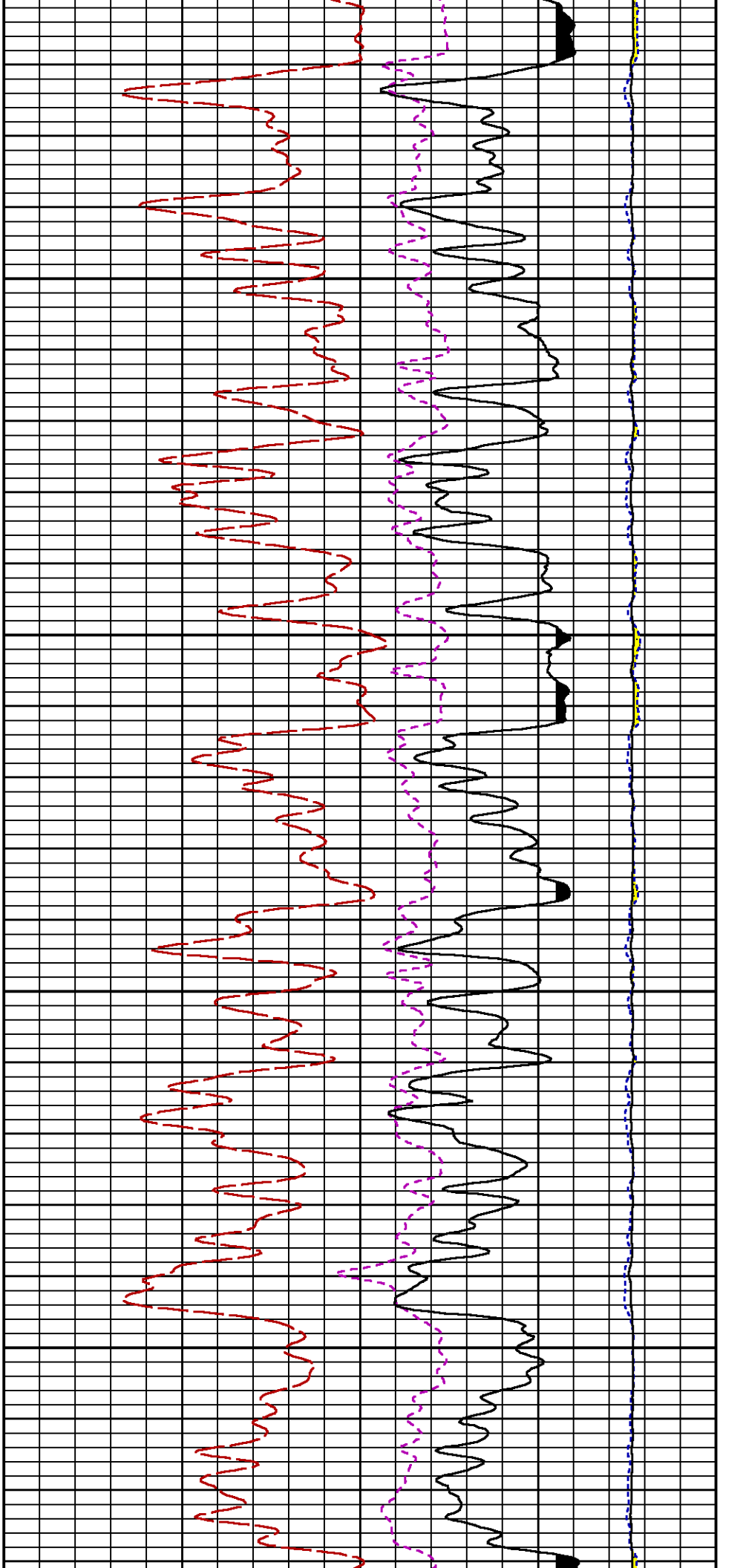






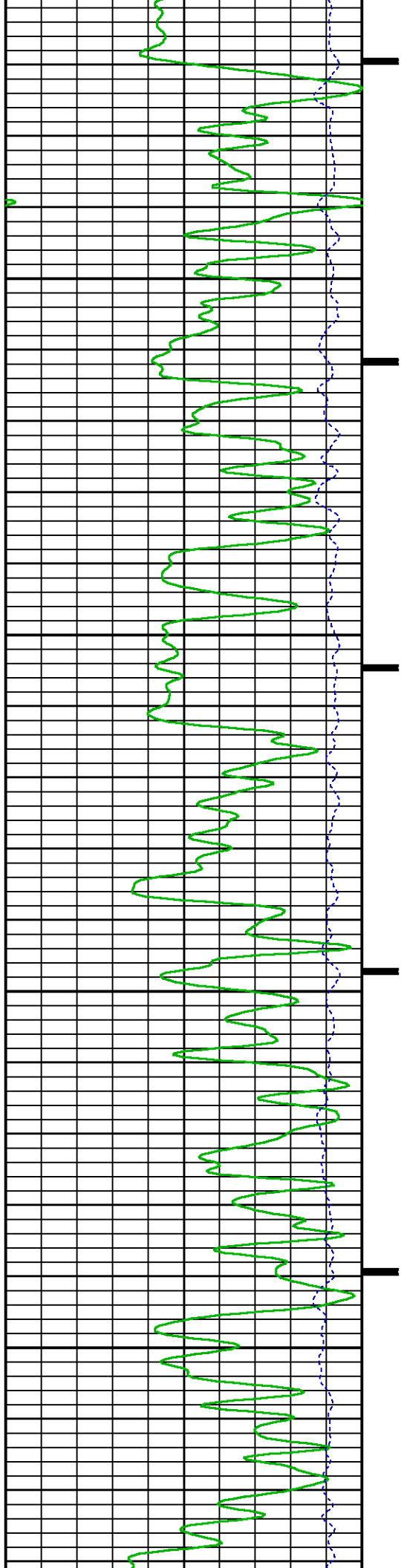


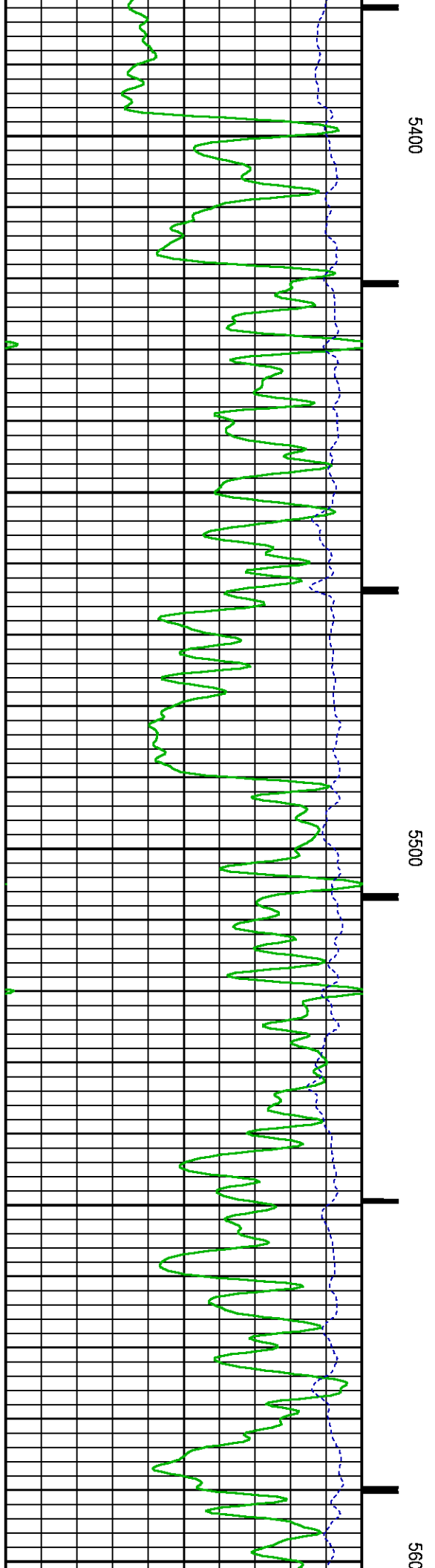
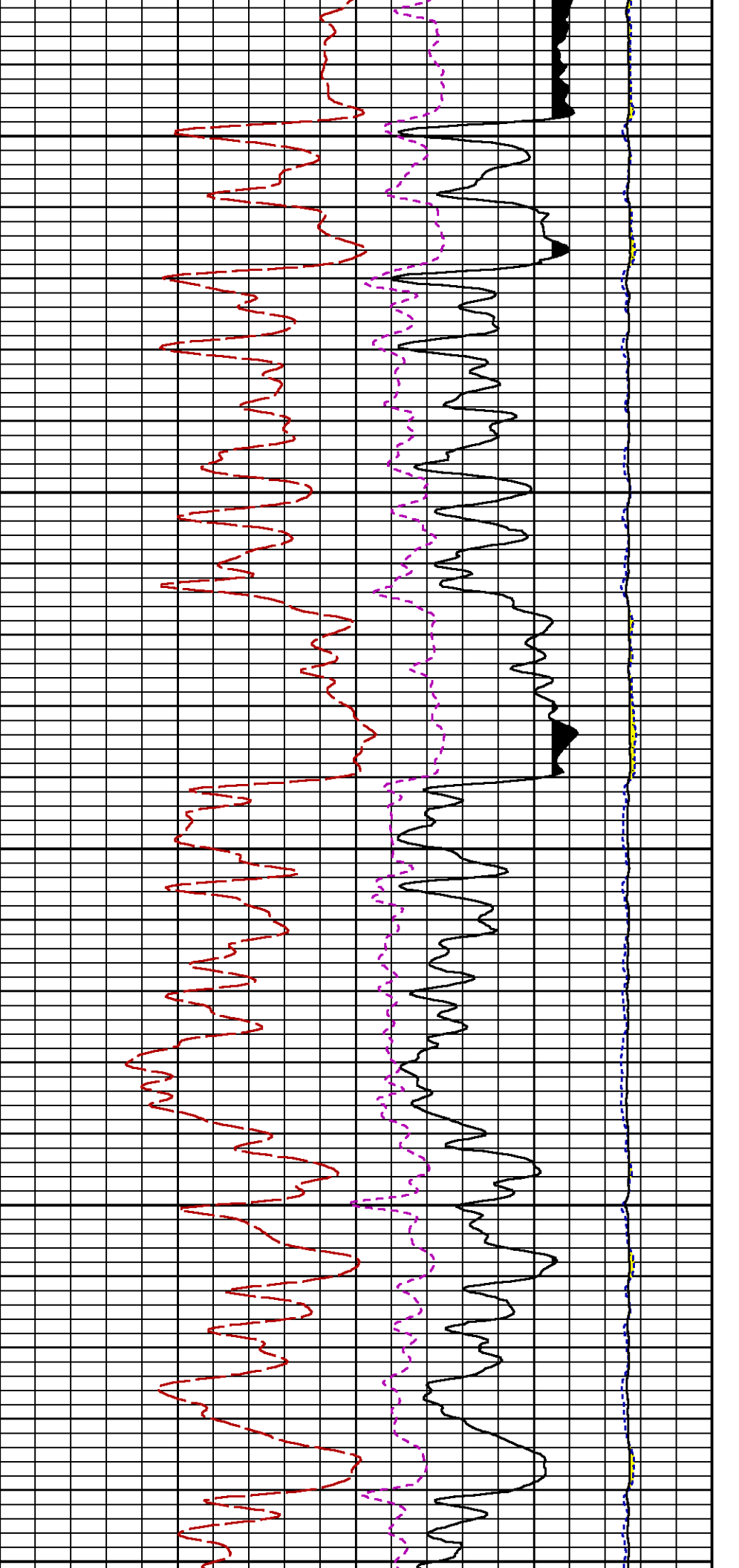


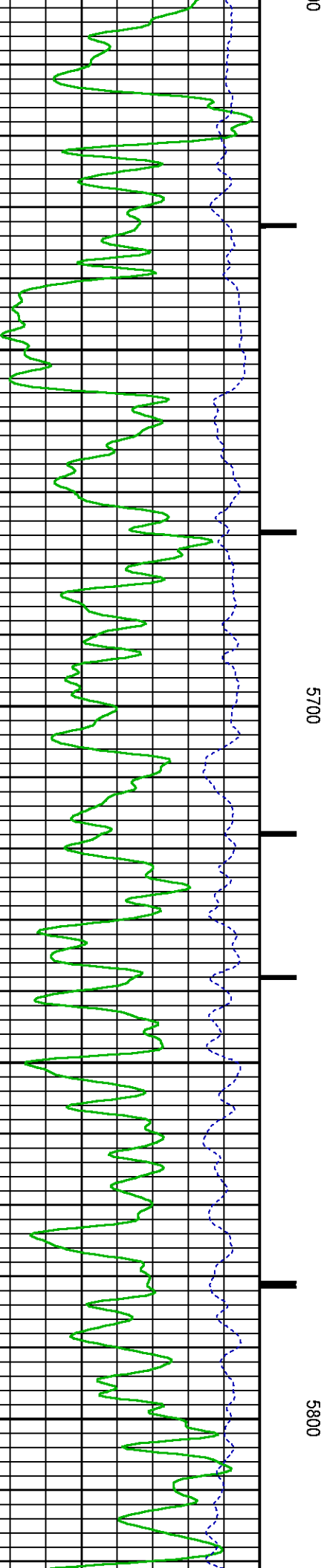
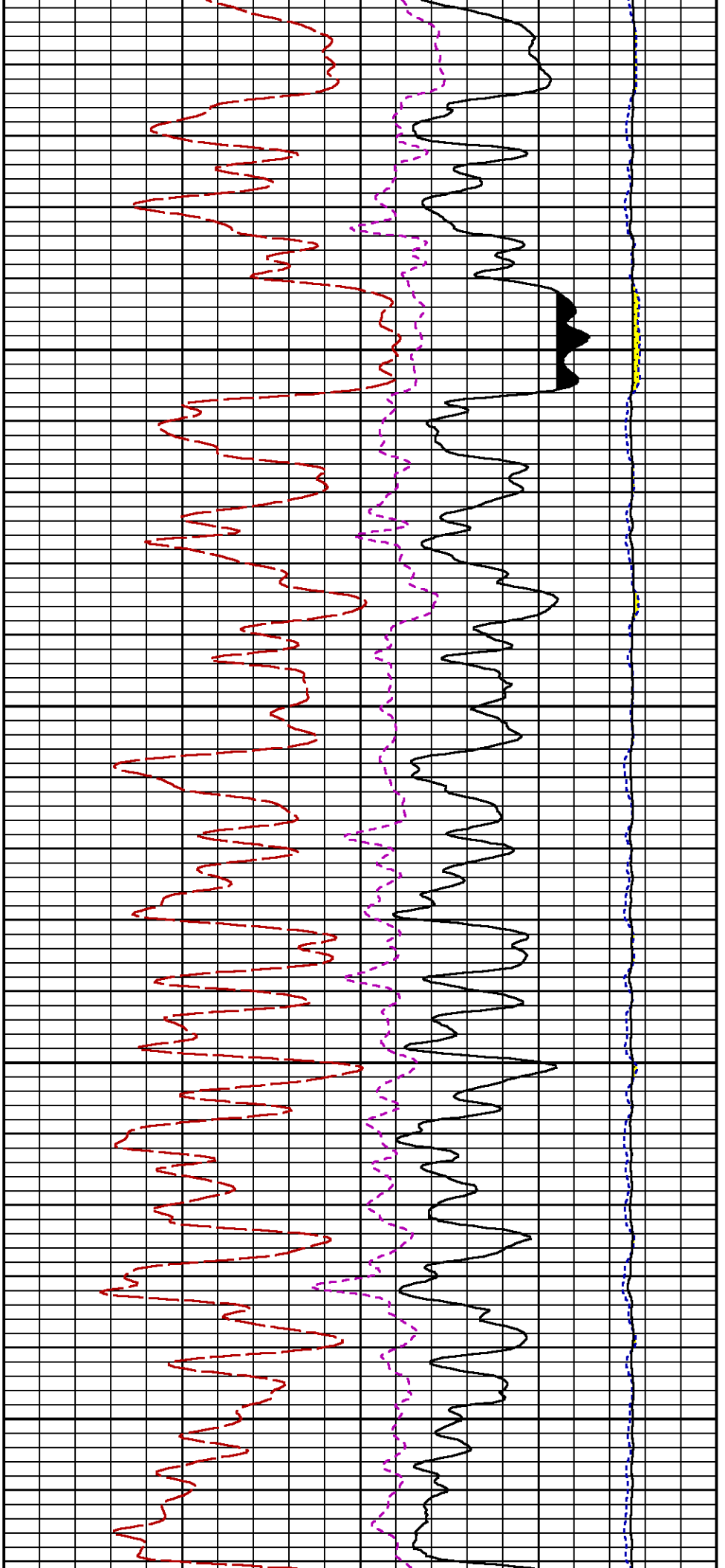


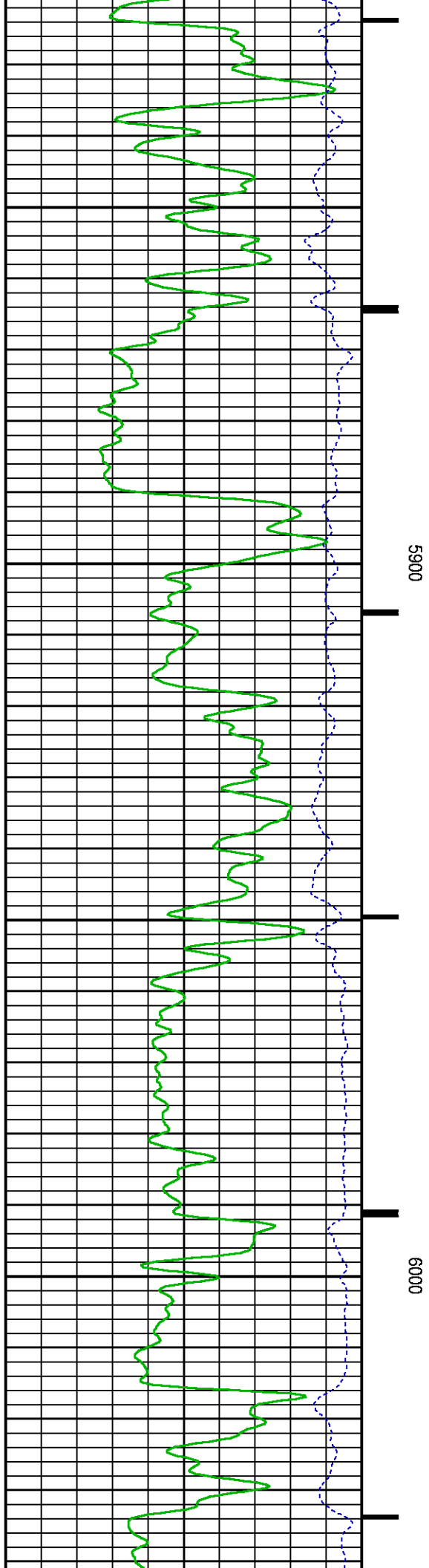
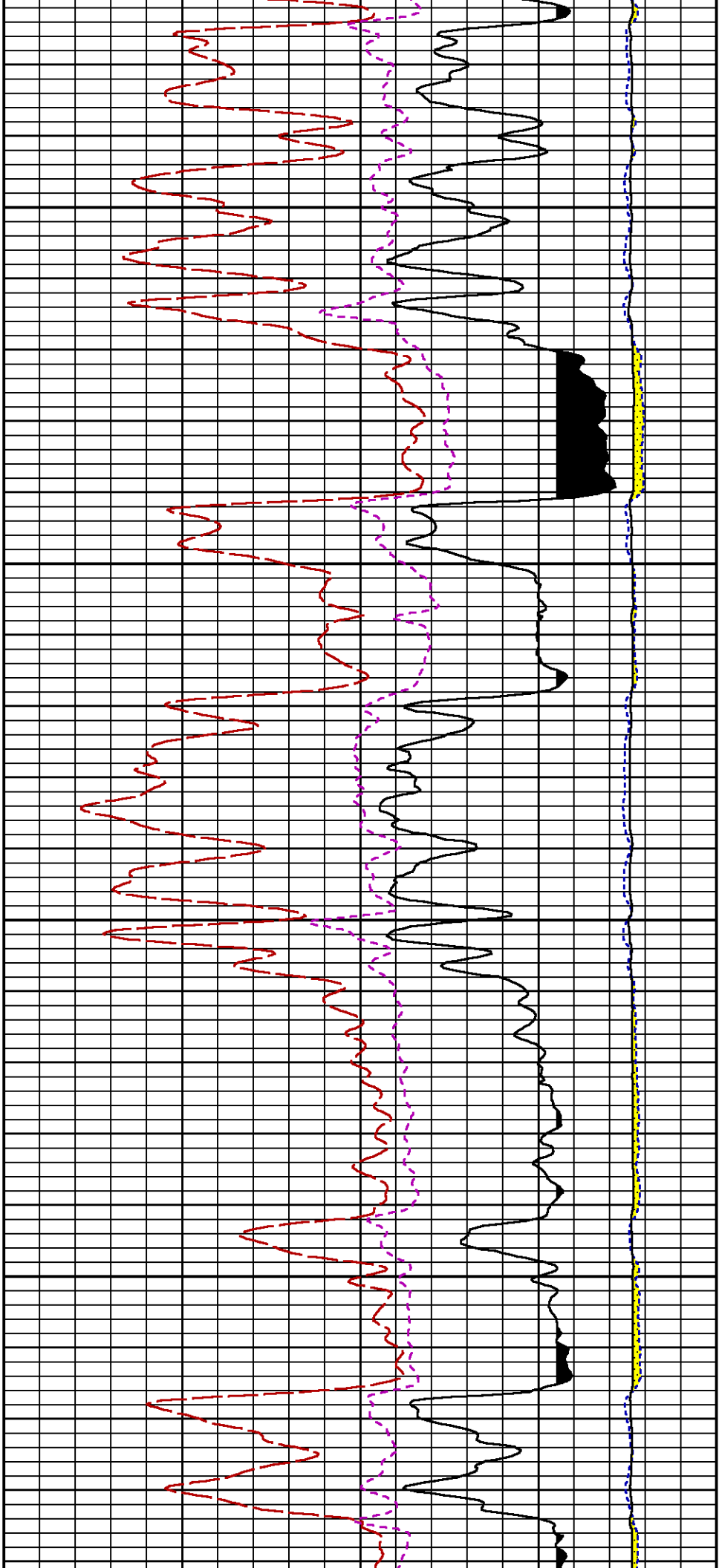
5200

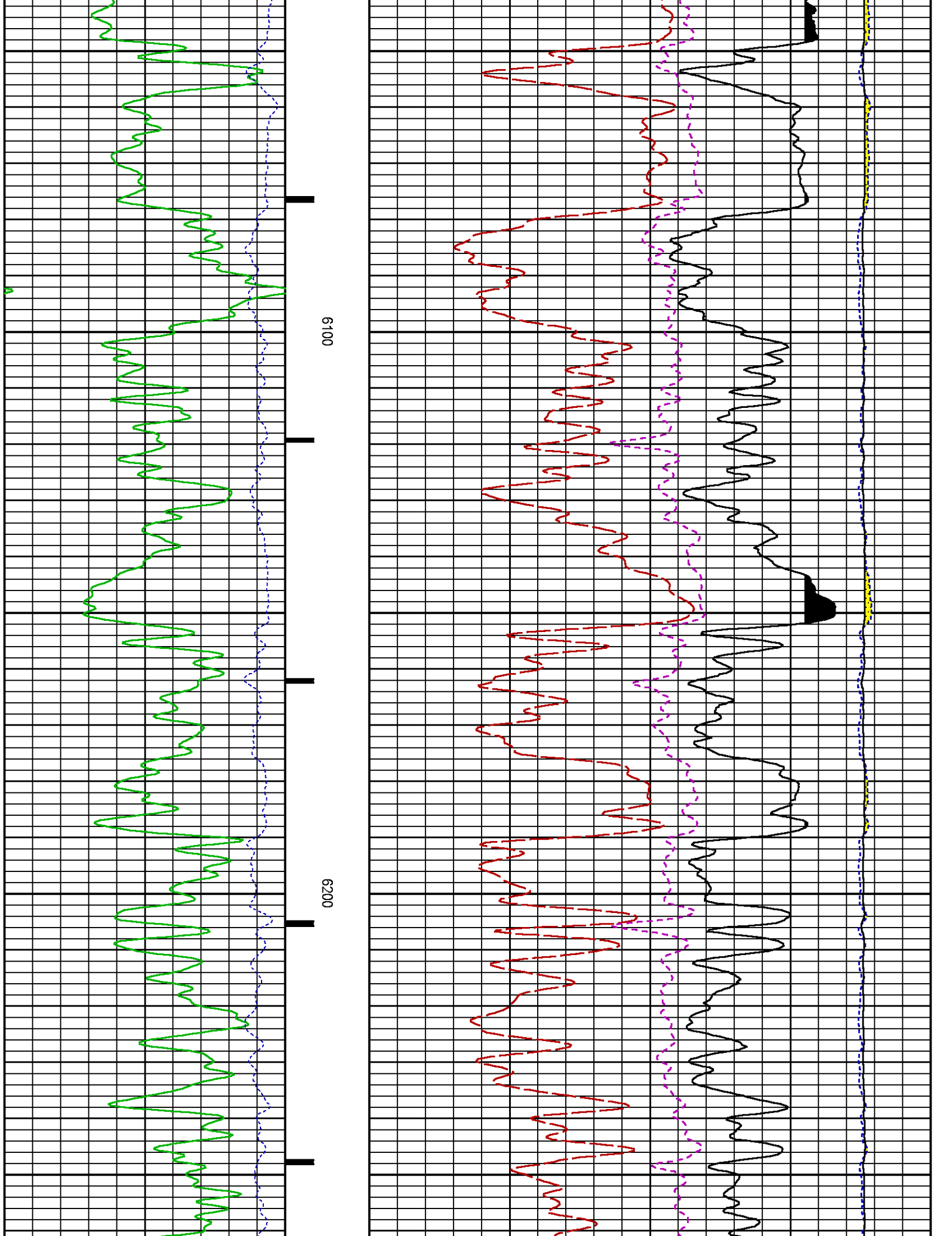
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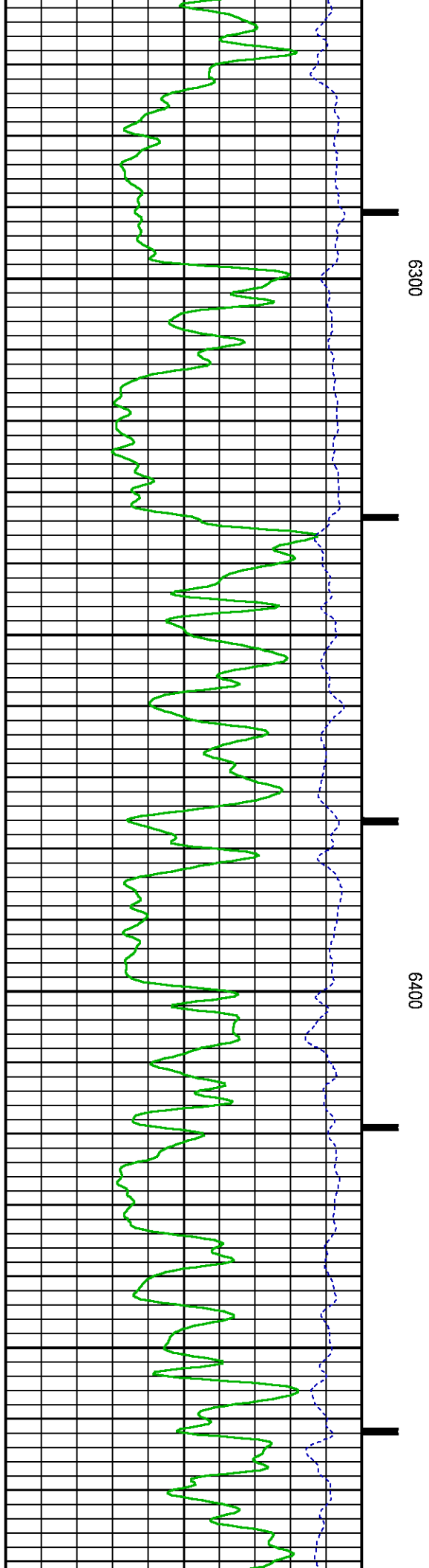
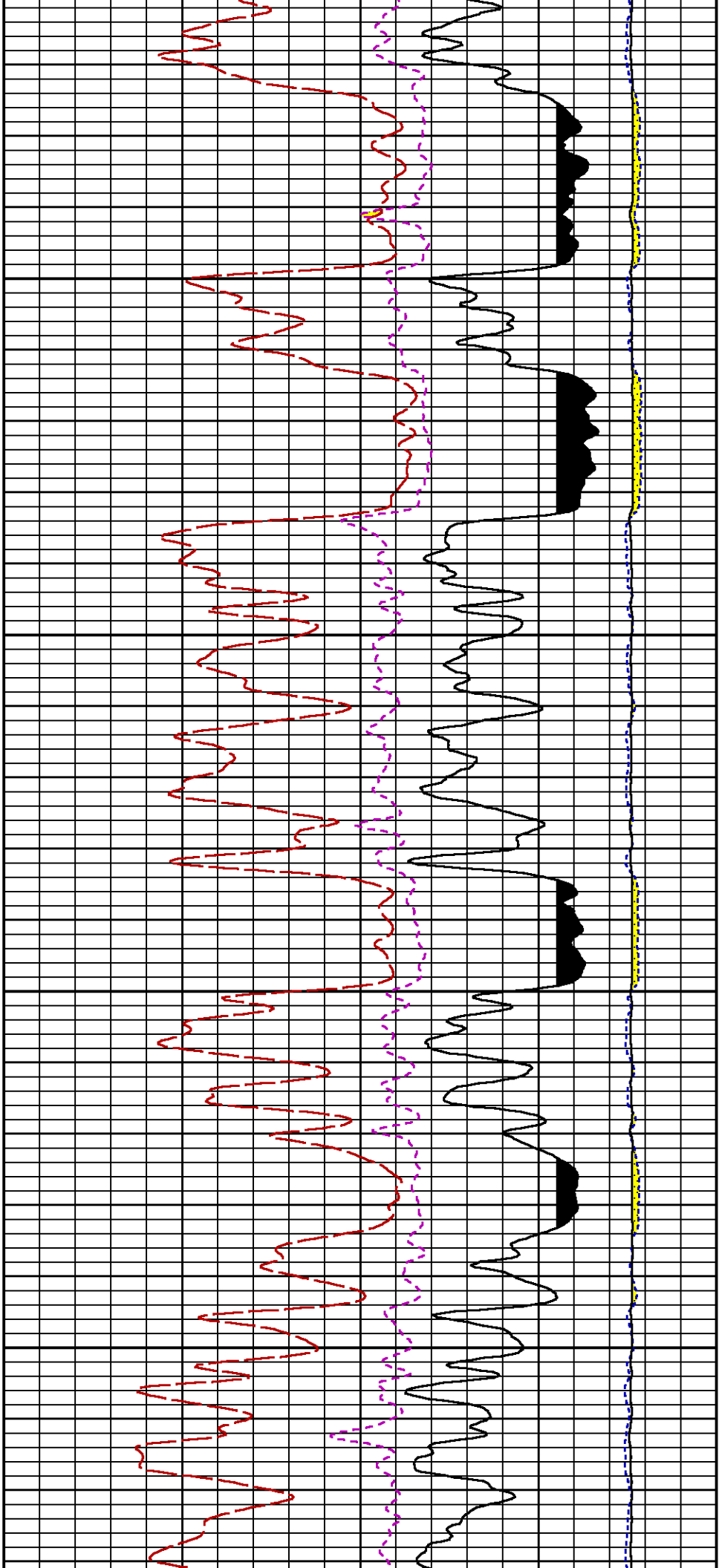


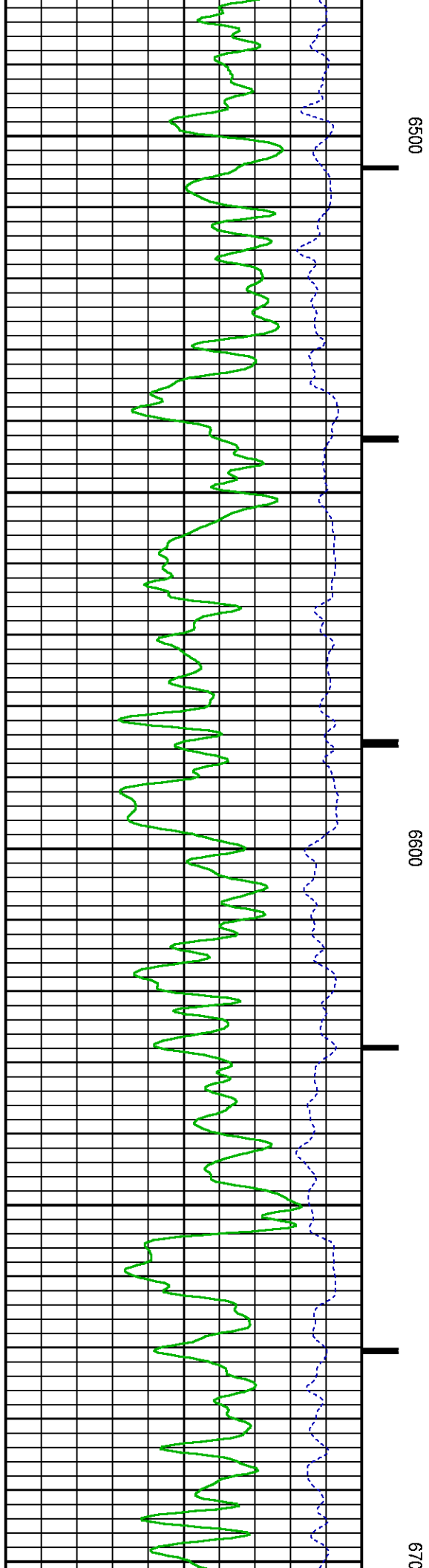
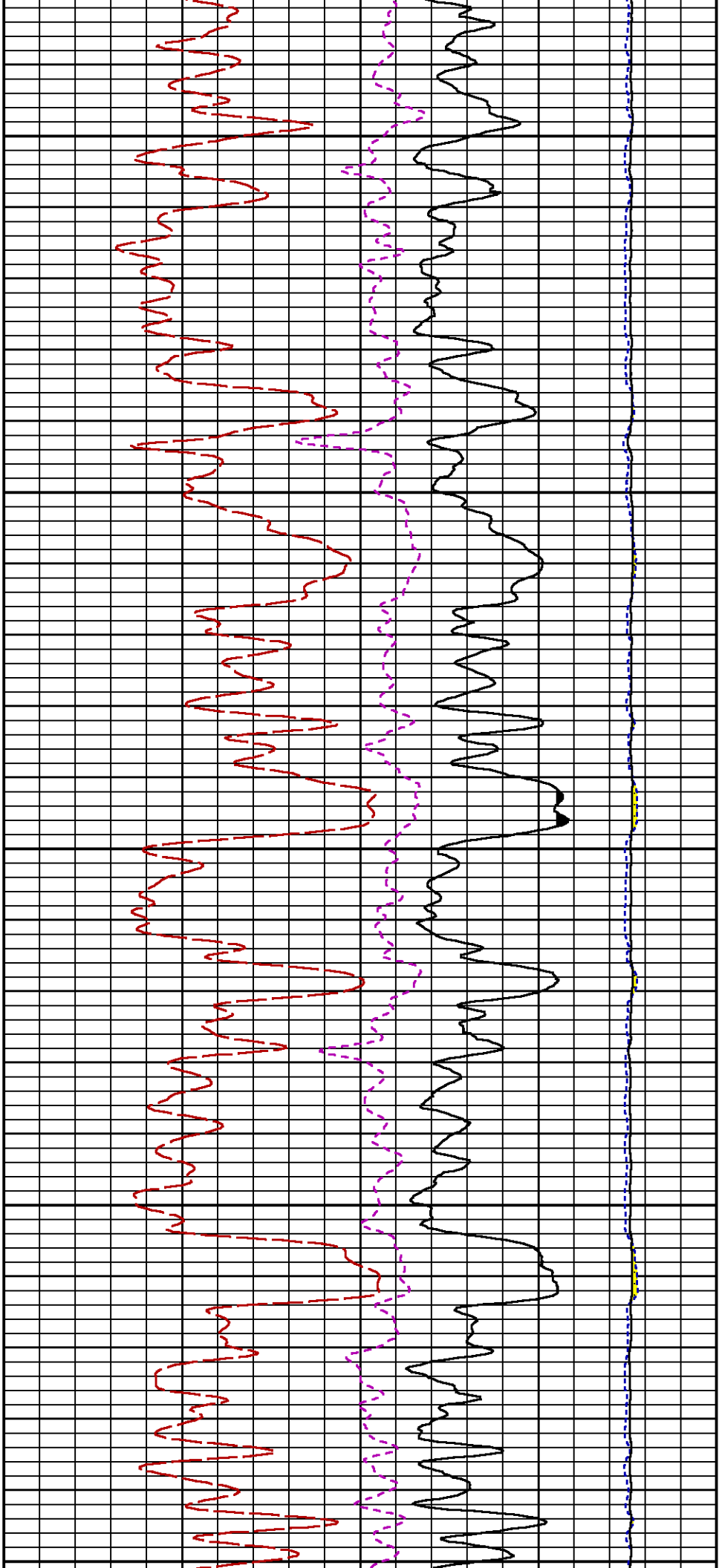


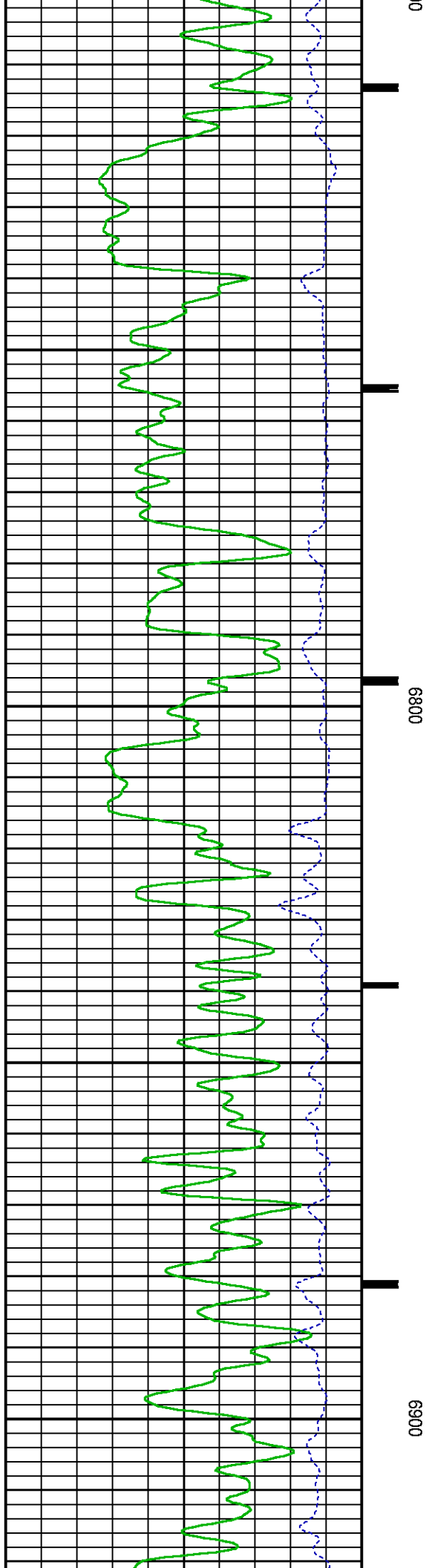
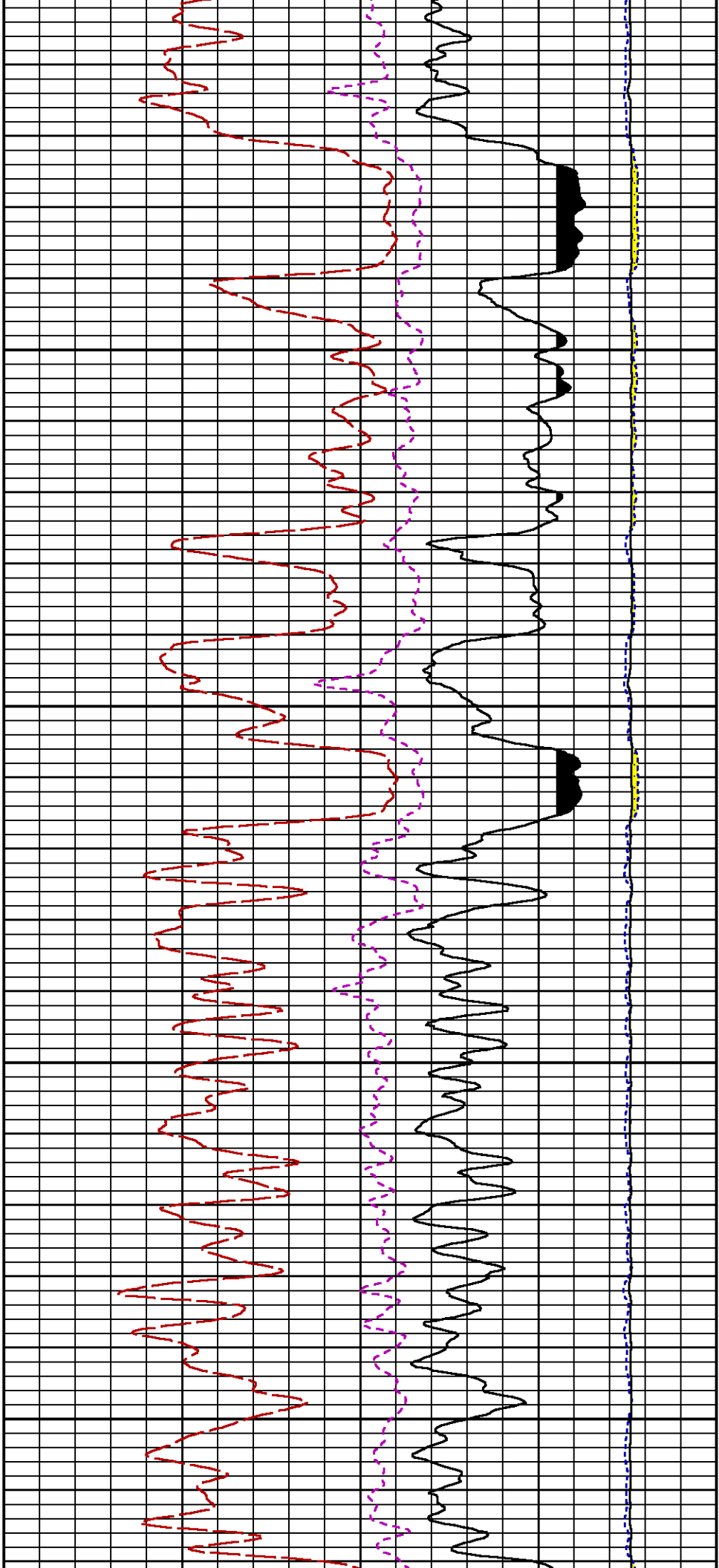


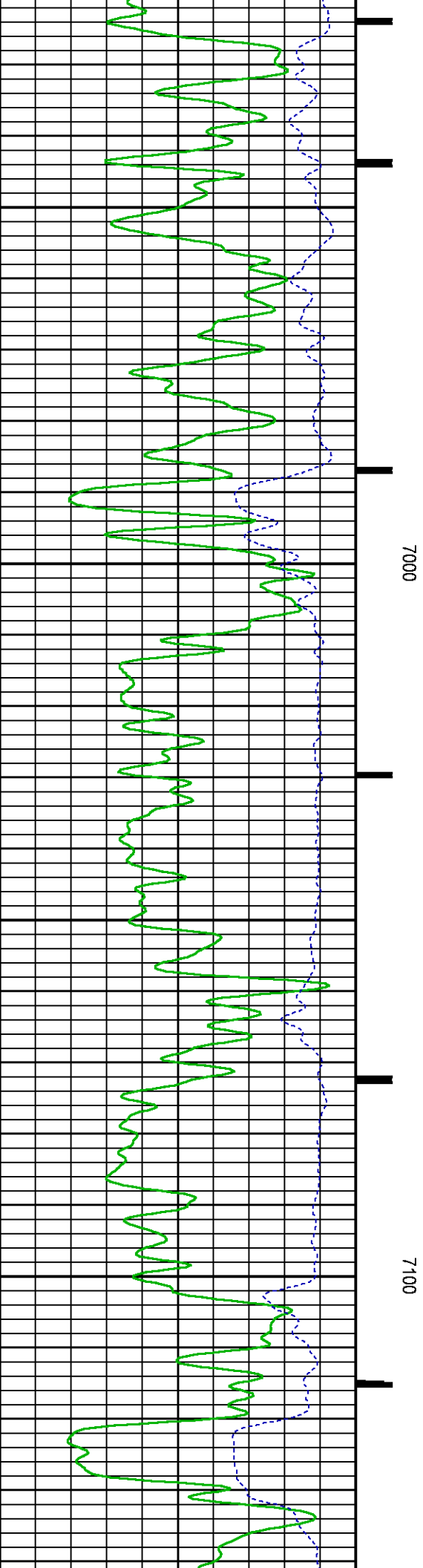
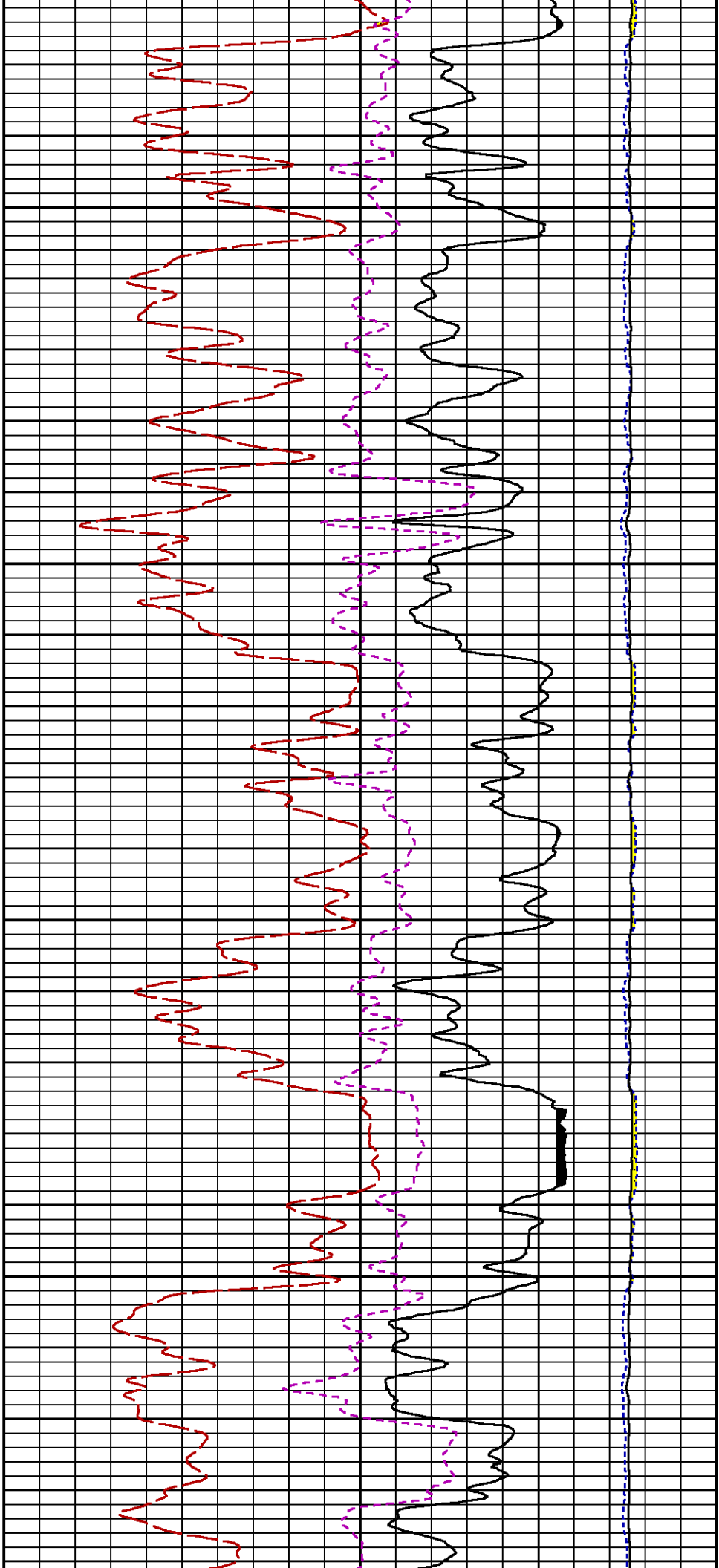


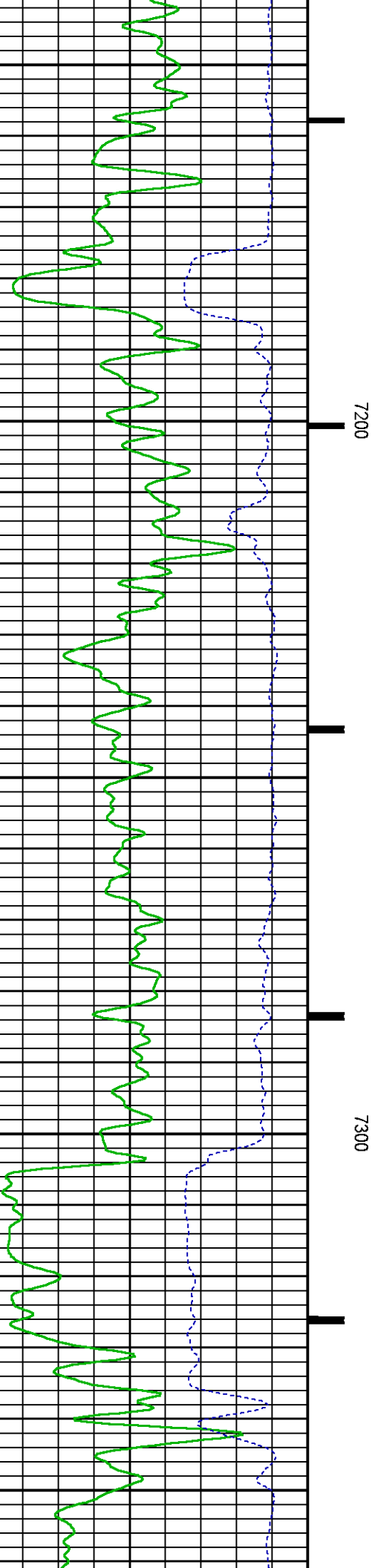
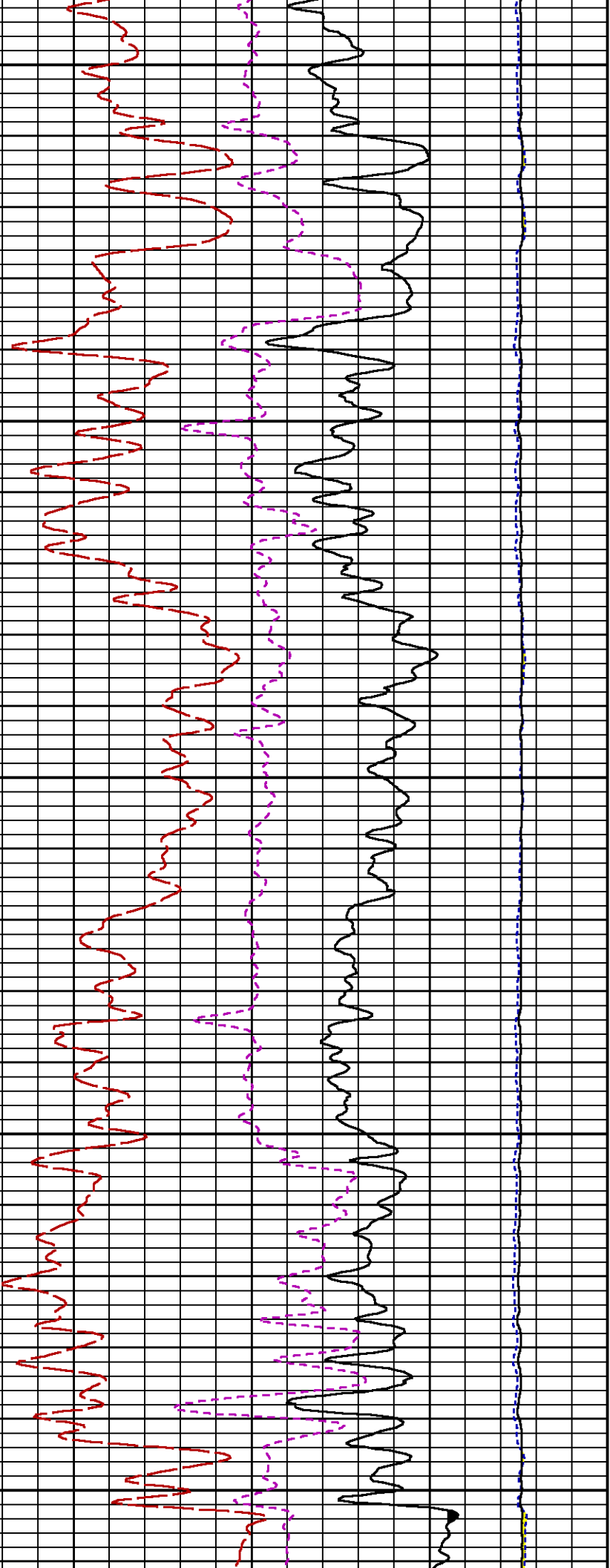


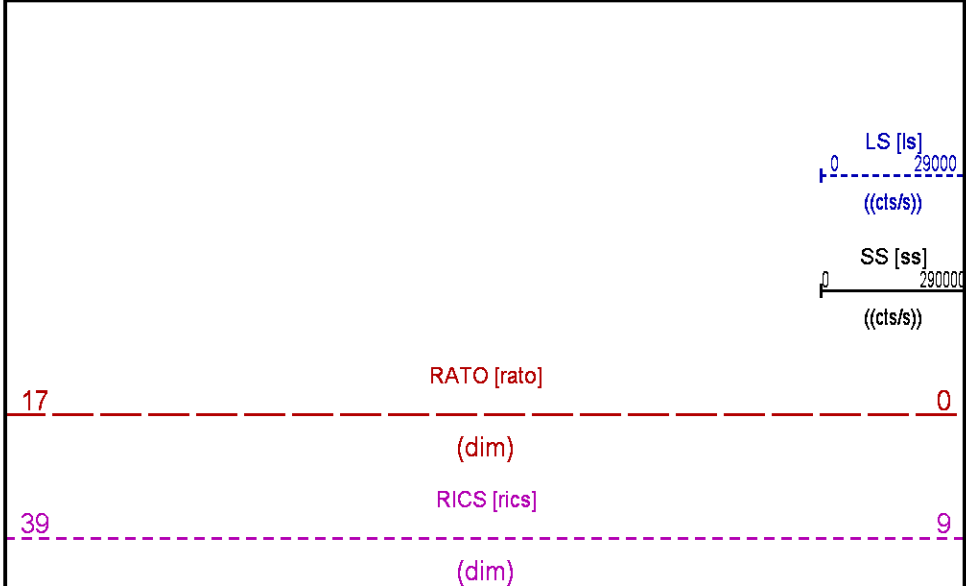
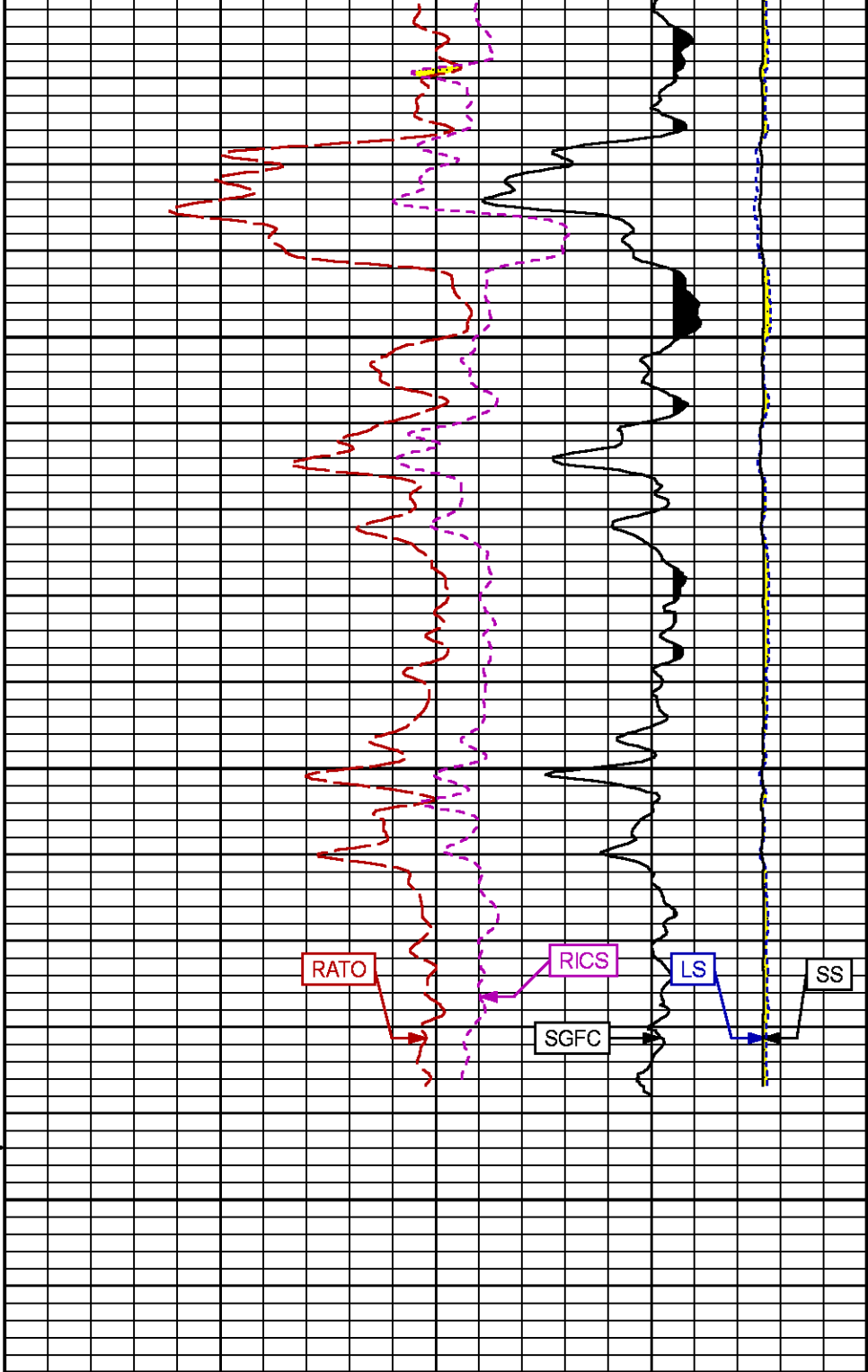
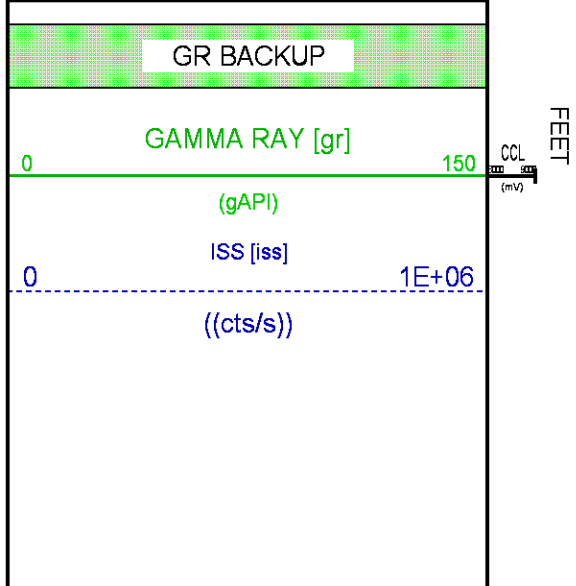
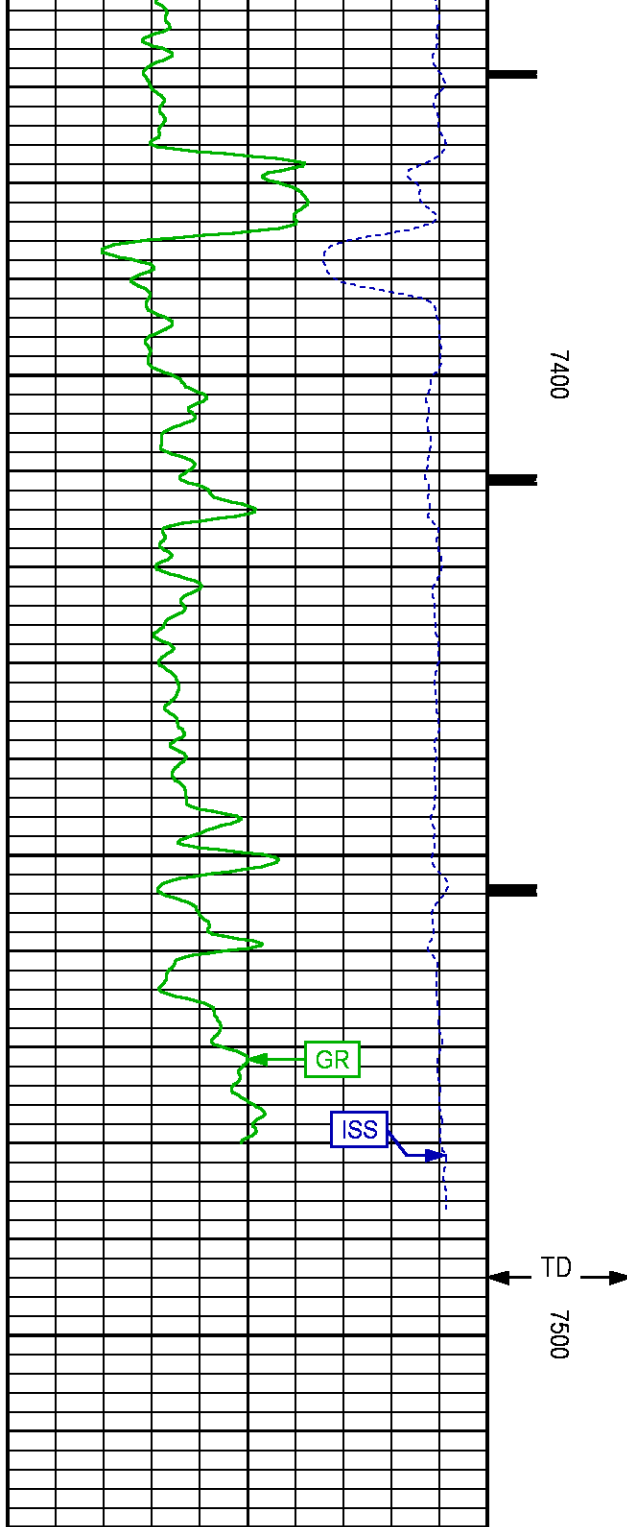












		SGFC [sgfc]	0
	60		
		(cu)	

REPEAT PASS

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 4

Plotted: Wed Jun 13 16:17:17 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_0994-13-12W/p354h01.prm
LOGGING MODE: DEPTH DIRECTION: LIP
TOP DEPTH: 4776.931 ft BOTTOM DEPTH: 5050.330 ft

SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM

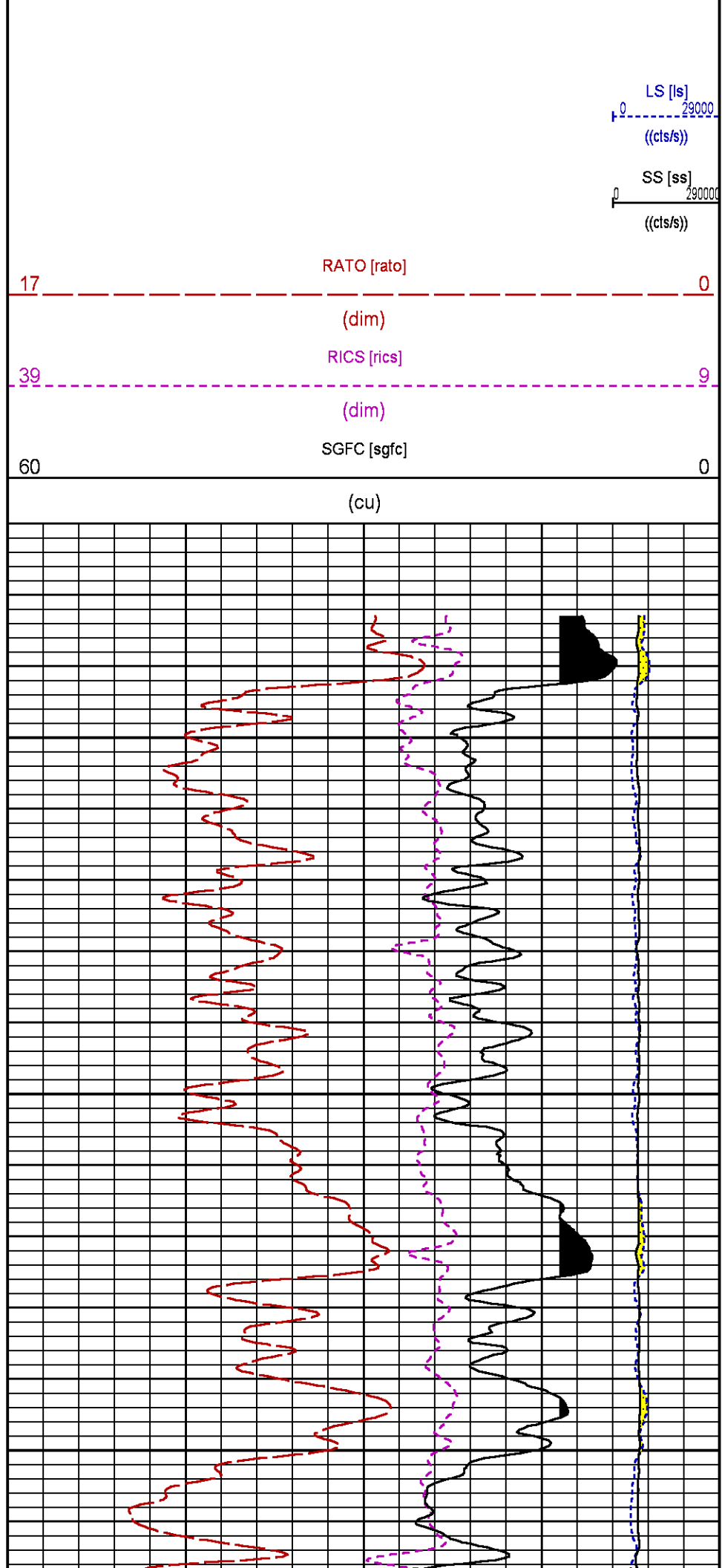
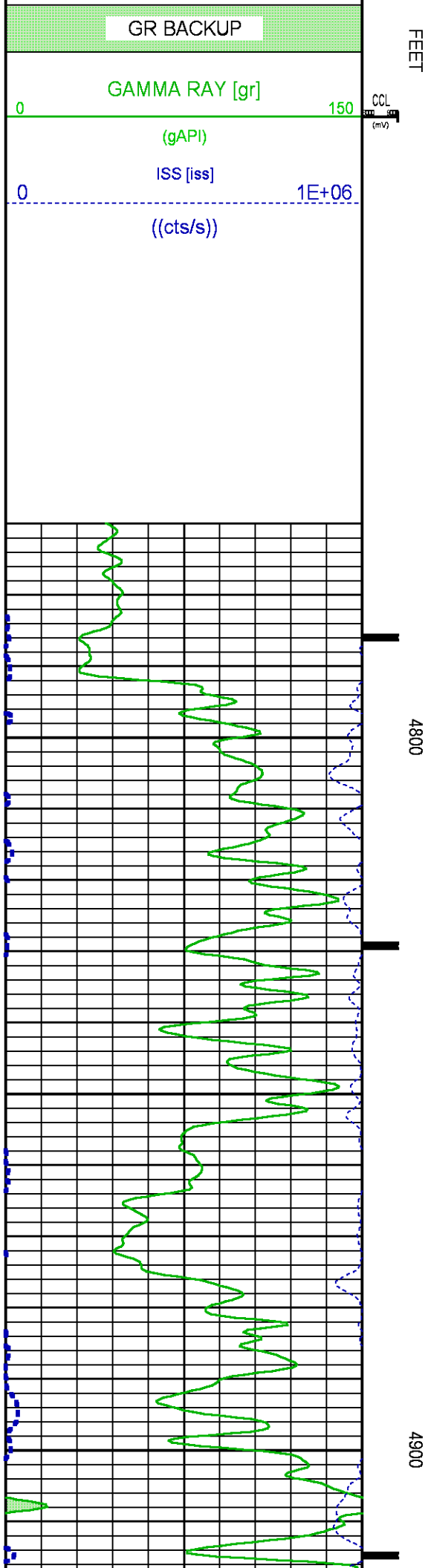
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	7.87	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

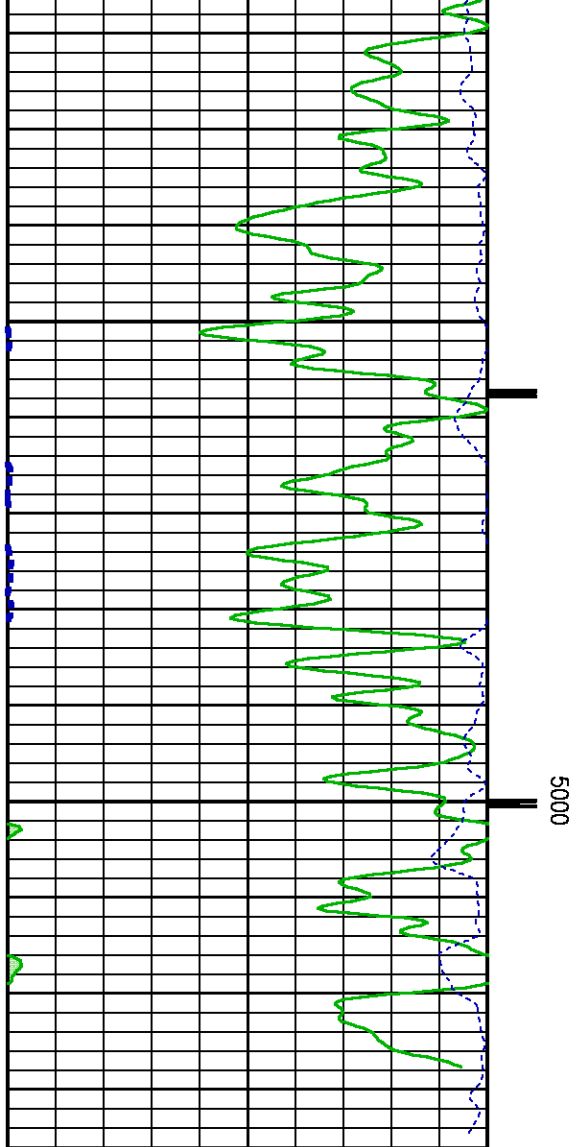
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE 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)
CCL	-25.00	ISS	-12.75	RATO	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75
				SGFC	-12.75
				SS	-12.75

Presentation : SysA:/dat1a/LARAMIE_GUNDERSON_0994-13-12W/0994-13-12W_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 4770 - 5050.5 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_GUNDERSON_0994-13-12W/0994-13-12W_RPM_REPEAT.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : GUNDERSON 0994-13-12W
Field : VEGA
File Interval : 4757.25 - 5050.75 Feet
OCT : p354h





5000

FEET

GR BACKUP

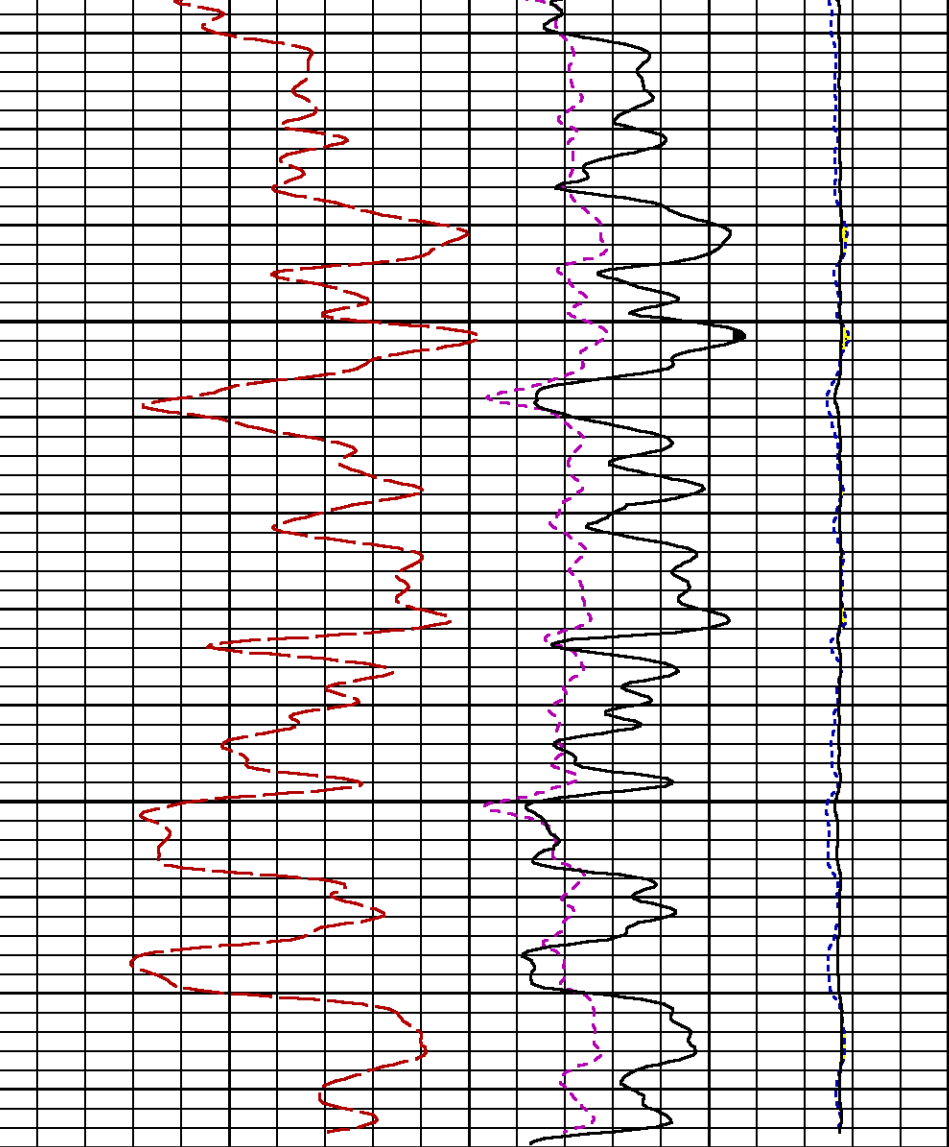
GAMMA RAY [gr]

(gAPI)

ISS [iss]

((cts/s))

CCL
(mV)



17

RATO [rato]

(dim)

RICS [rics]

(dim)

SGFC [sgfc]

(cu)

39

60

0

9

0

LS [ls]

((cts/s))

SS [ss]

((cts/s))

CALIBRATION / VERIFICATION SUMMARY

GR PRIMARY CALIBRATION SUMMARY

TOOL #:

2812LA 10384613

DATE/TIME PERFORMED:

Fri May 11 07:48:58 2018

UNIT #:

3885TD SHAFT1

CALB JIG #:

4702NK BA-930

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	63.60	272.31	208.7	1.006	63.99	273.99	210

GR PRIMARY VERIFICATION SUMMARY

TOOL #:

2812LA 10384613

DATE/TIME PERFORMED:

Fri May 11 07:52:37 2018

UNIT #:

3885TD SHAFT1

VERI JIG #:

4702NK BA-930

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	61.64	278.96	1.006	62.03	280.68	218.65
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL:

8283PA 10066991

DATE/TIME PERFORMED:

Mon May 7 15:09:32 2018

UNIT:

5753XD 111111

CALIBRATOR:

2437XB 112674

SOURCE:

8281AA 10430258

HOURS:

8281AA 88

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	794247	124	2139	2383	2237	120	8.0	1.0374
Interpolated	1300000	145	2128	2374	2232			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	794247	6835	1065	142	25.87	0.15	24.10	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	794247	178007	27088	88699	31638	8729	53712	13968
Fit Quality %		0.926	0.946	0.726	0.765	0.956	0.682	0.966

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	794247	1.43	4.46	29.33	14.79	10.16	3.63	3.85
		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 %		0.119	0.323	0.318	0.028	0.337	0.297	0.353
Reduced	1412538	1.43	4.47	29.36	14.77	10.20	3.64	3.86
		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

33.24'

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 : 8248EA
Mnemonic : PCM
Measure Point: 1.00': CCL MP

CCL MP 25.19'

GAMMA RAY, 1 11/16"
Diameter : 1.69"
Length : 2.17'
Weight : 10 lbs
Series : 2812LA
Mnemonic : GR
Measure Point: 0.62': GR MP

GR MP 22.64'

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
PRES MP

1.65'

BULL PLUG 1 11/16

TOTAL LENGTH: 33.24'
TOTAL WEIGHT: 140 lbs
MAX DIAMETER: 0'1.70"

0.00'

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY

LARAMIE ENERGY LLC

WELL

GUNDERSON 0994-13-12W

FIELD

VEGA

COUNTY

MESA

STATE COLORADO

FILE NO:

CH136847

API NO:

05077105340000

LOCATION:

LAT: 39.273903 N

LONG: 107.835218 W

ELEVATIONS:

KB 7302 FT

DF

GL 7272 FT

SEC 13 TWP 9 S RGE 94 W

DATE 13-Jun-2018