



FILE NO: CH136894	COMPANY LARAMIE ENERGY LLC
API NO: 05077105380000	WELL GUNDERSON 0994-14-11E
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10	LOCATION: LAT: 39.273873 N LONG: 107.834926 W SEC 14 TWP 9 S RGE 94 W	OTHER SERVICES RAL
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB KB KB	ELEVATION 7272 FT 30 FT ABOVE P.D.	ELEVATIONS: KB 7302 FT DF GL 7272 FT
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DATE	15-Jun-2018
RUN	2
TRIP	2
SERVICE ORDER	US136894
DEPTH DRILLER	8226 FT
DEPTH LOGGER	8174 FT
BOTTOM LOGGED INTERVAL	8174 FT
TOP LOGGED INTERVAL	2490 FT
TIME STARTED	08:30
TIME FINISHED	14:00
OPERATOR RIG TIME	5.5 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	58 FT
LOGGED CEMENT TOP	2128 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	15 FMIN
MAX. RECORDED TEMP.	226 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	14-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 2: *2 OPERATIONS IN WELLBORE*

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

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 6451' - 6471'

SJ: 7698' - 7718'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	2	PCM	8250EA	11908682	FREE
2	2	TEL/CCL	8248ED	10460262	FREE
2	2	GR	2812LA	10384613	FREE
2	2	RPM	8281EA	10294755	FREE
2	2	RPM	8283PA	10066691	FREE
2	2	RPM	8281FA	10066992	FREE
2	2	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: Fri Jun 15 14:51:57 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_0994-14-11E/p354h03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2472.750 ft BOTTOM DEPTH: 3165.731 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_0994-14-11E/0994-14-11E_RPM_MAIN_GS.fvpdf [5"/100' Scale]
 Plot Interval : 2480 - 3170.25 Feet

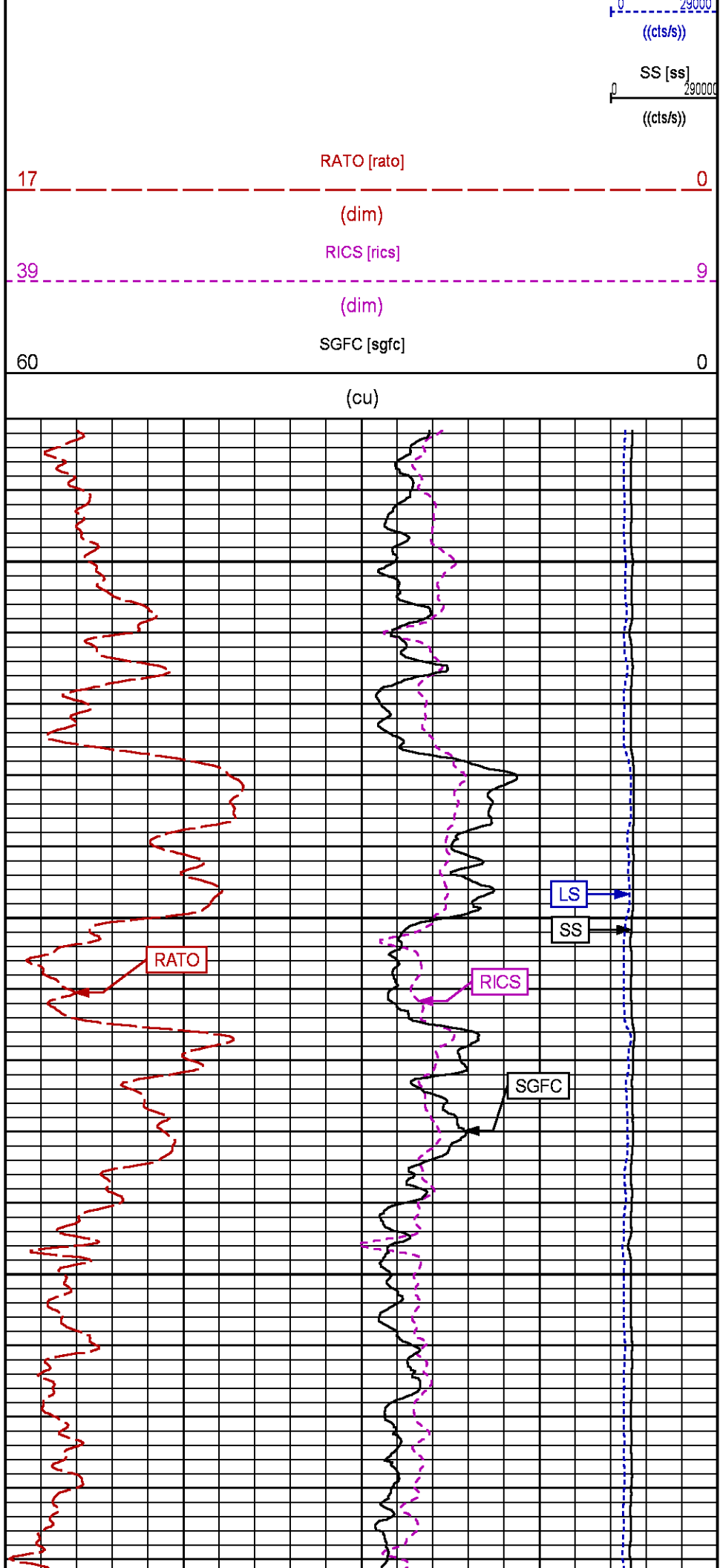
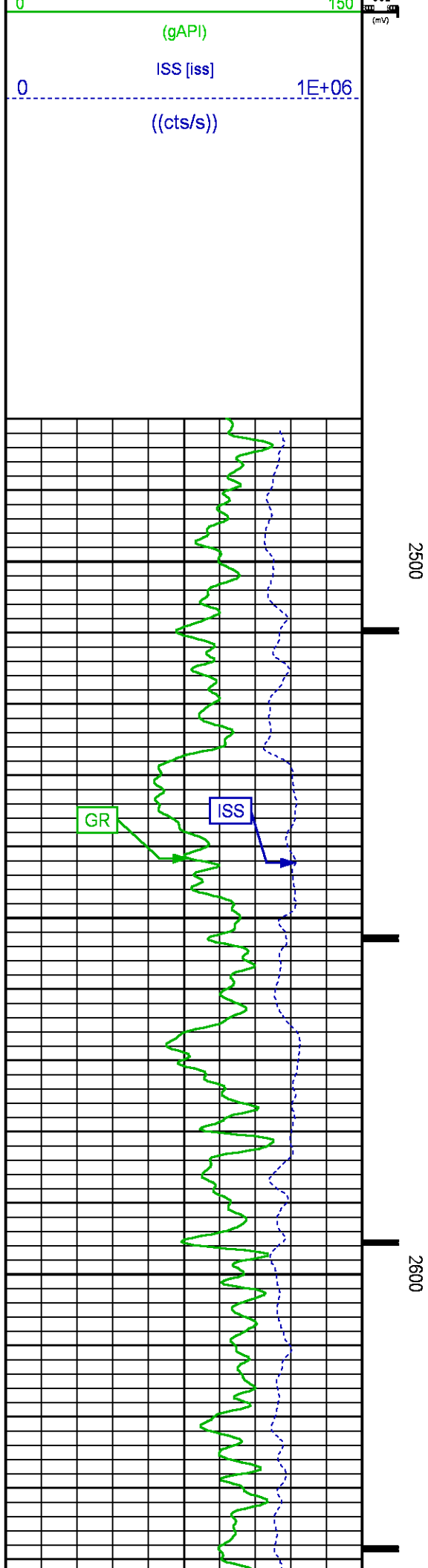
Data File 1 : F1 : SysA:/dat1a/LARAMIE_GUNDERSON_0994-14-11E/0994-14-11E_RPM_MAIN_GS.xtf
 Created On : N/A
 Company : LARAMIE ENERGY LLC
 Well : GUNDERSON 0994-14-11E
 Field : VEGA
 File Interval : 2456 - 3170.5 Feet
 OCT : p354h

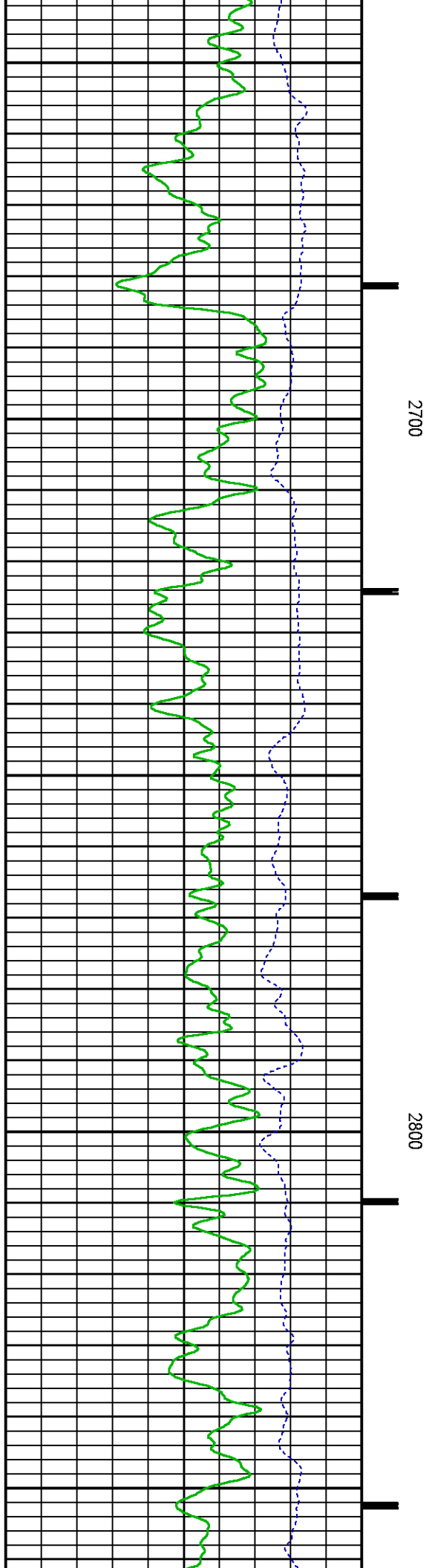
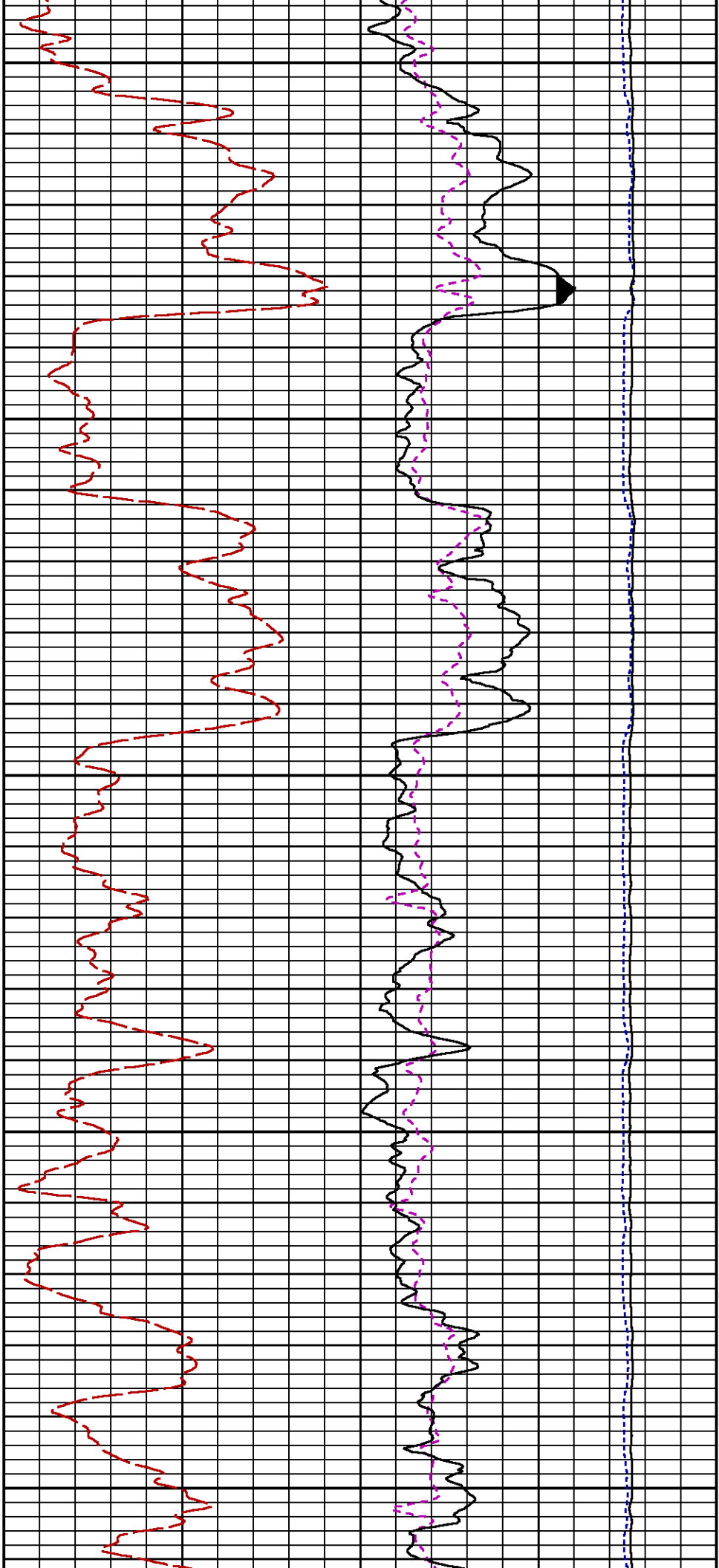
GR BACKUP

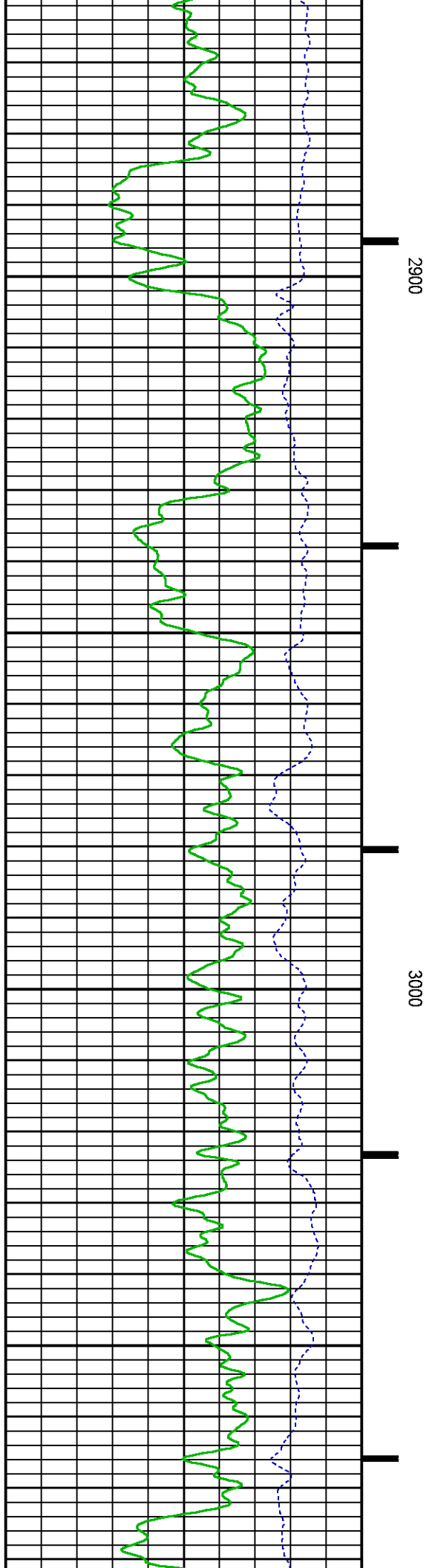
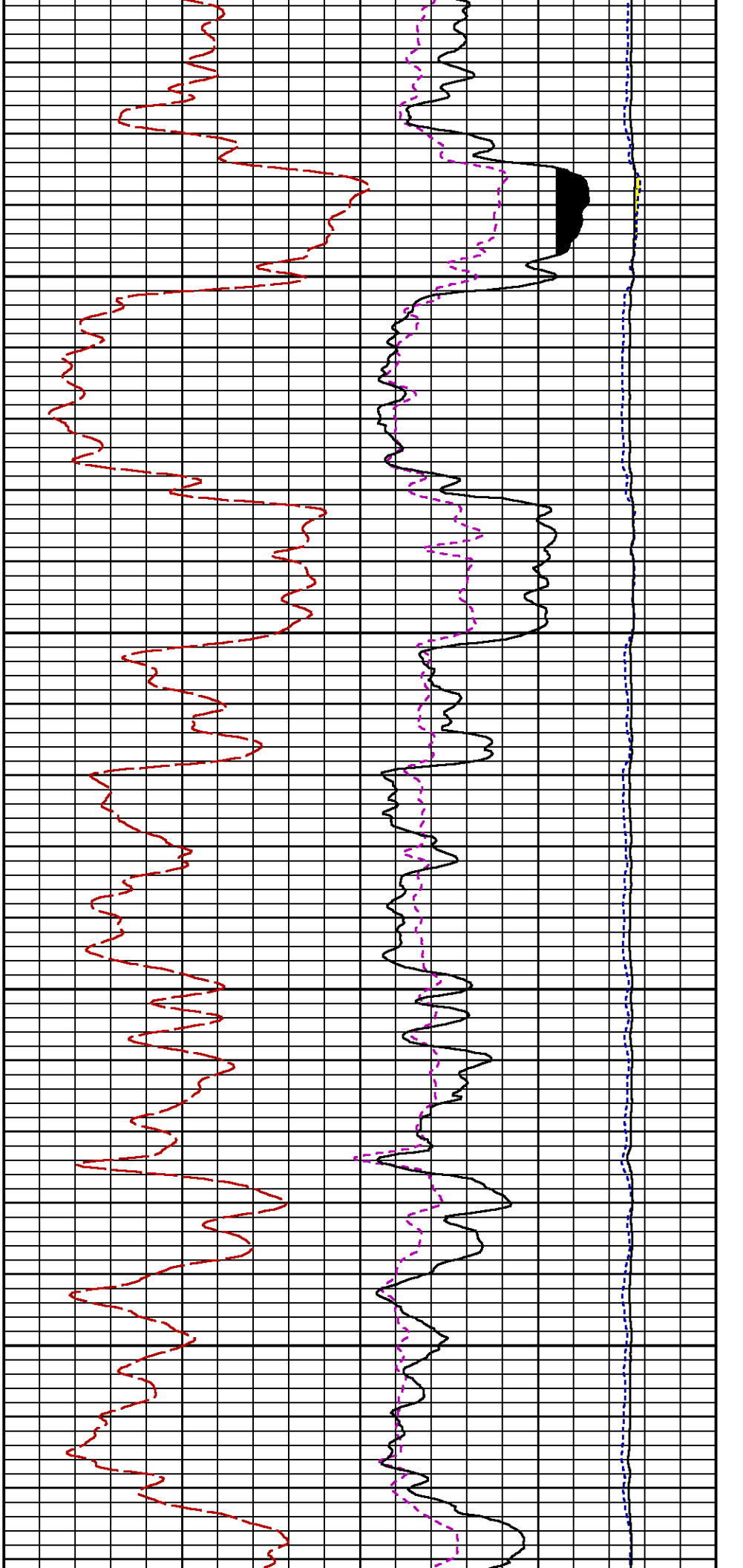
GAMMA RAY [gr]

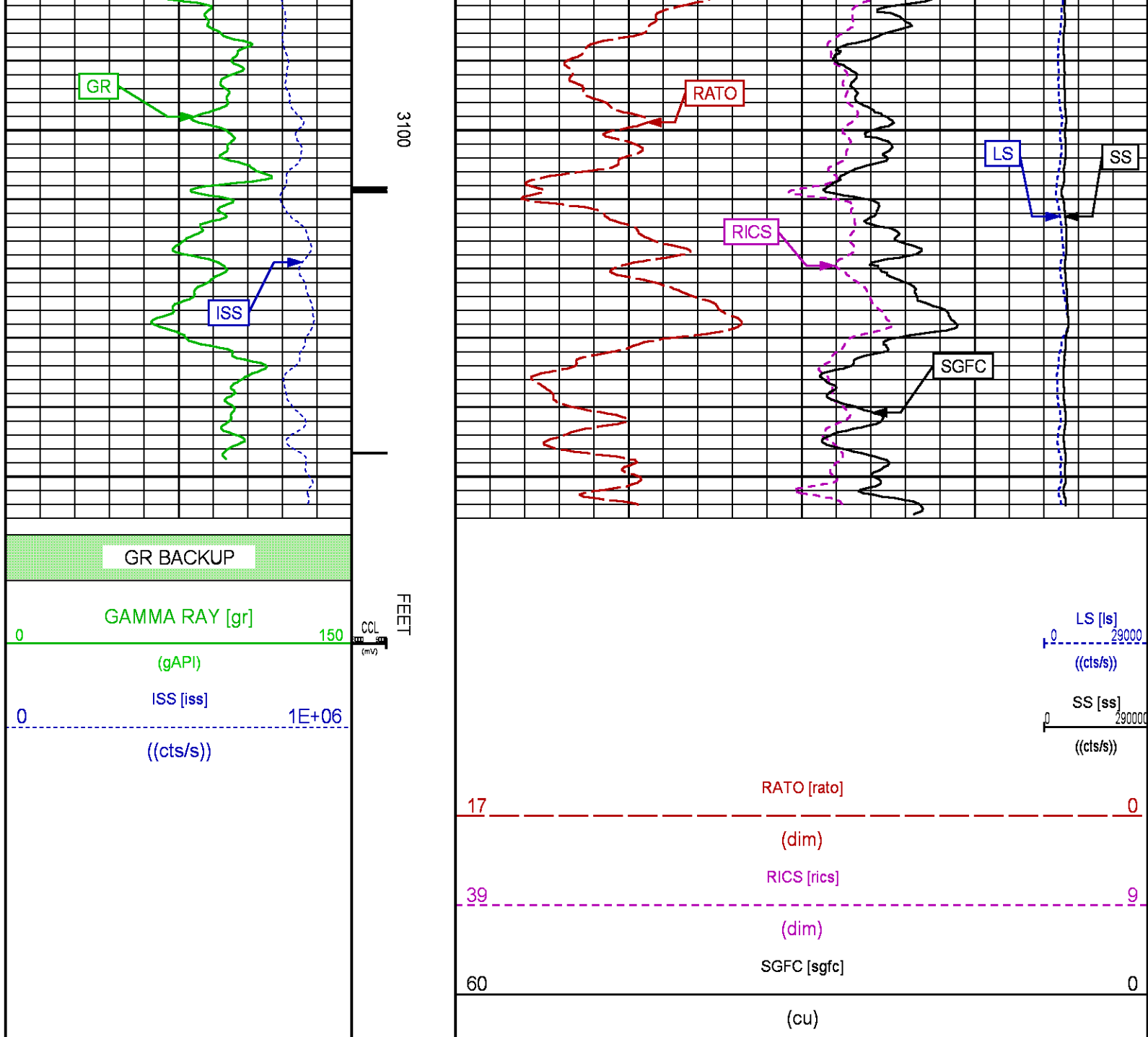
FEET

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: Fri Jun 15 17:15:45 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_GUNDERSON_0994-14-11E/p354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4889.894 ft BOTTOM DEPTH: 8178.234 ft

SYMMETRIC FILTER

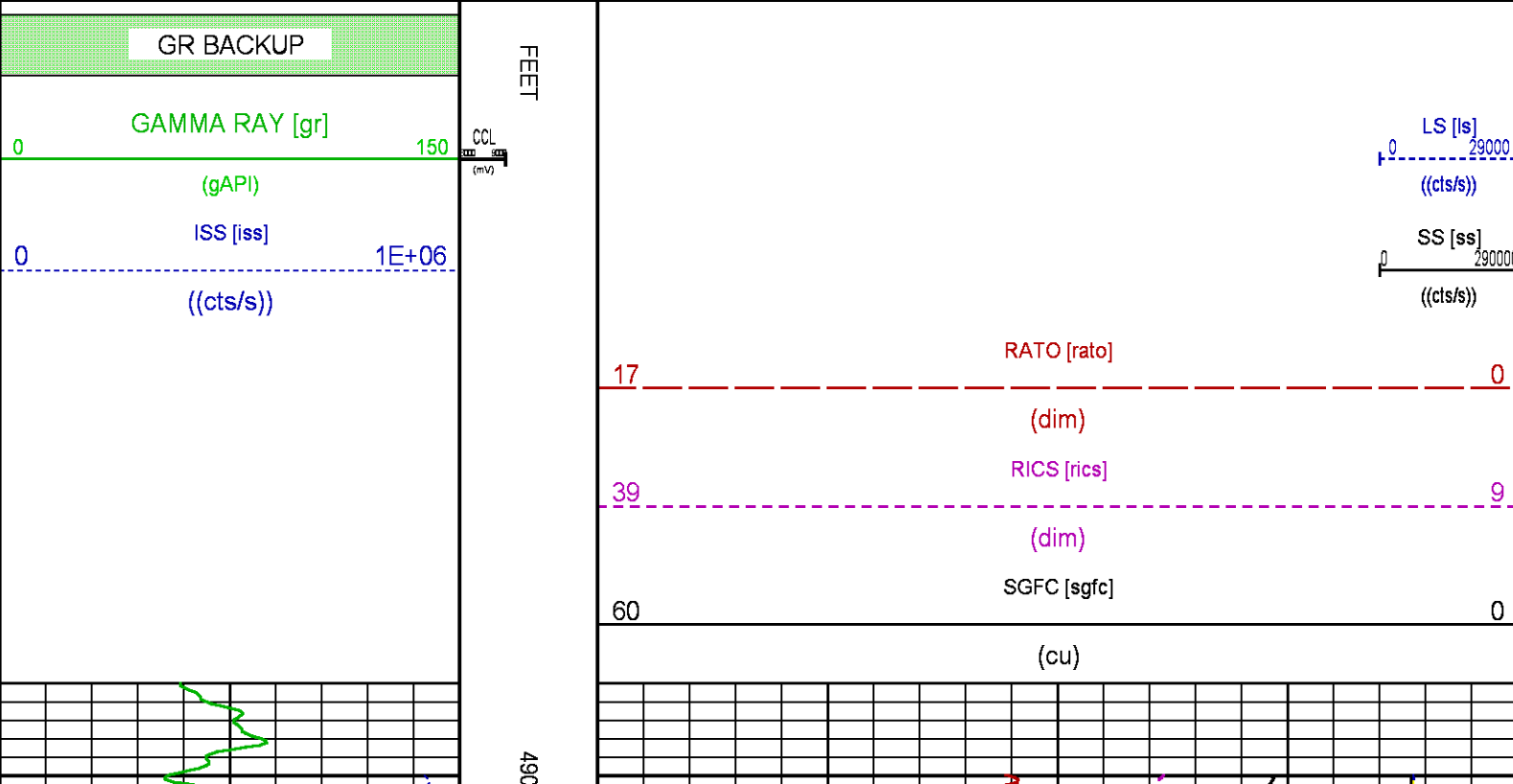
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM

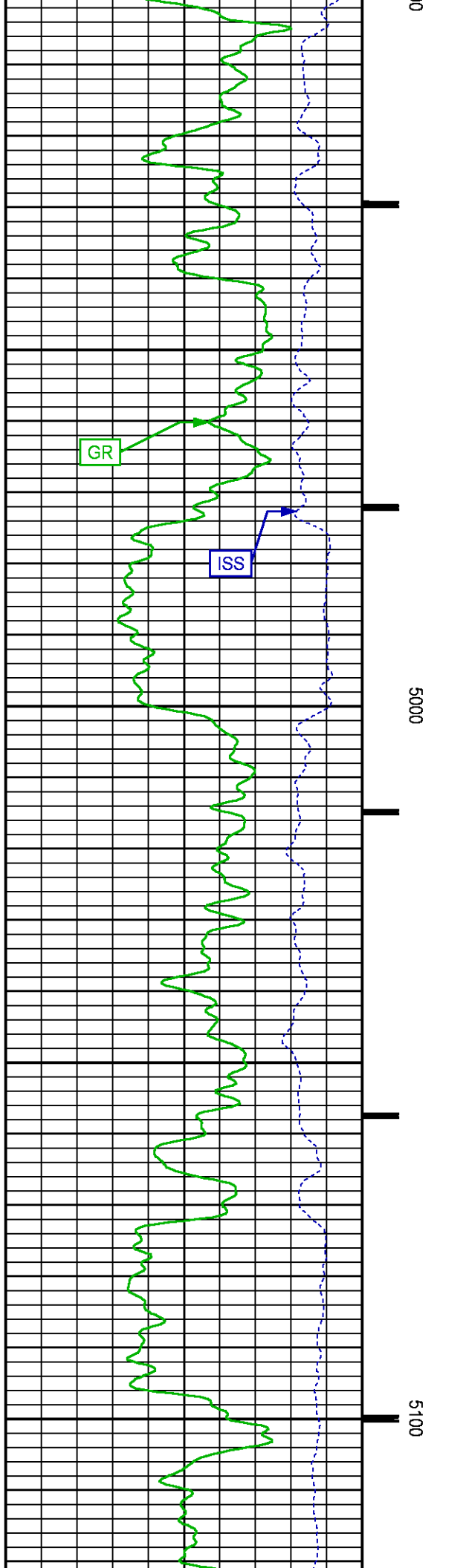
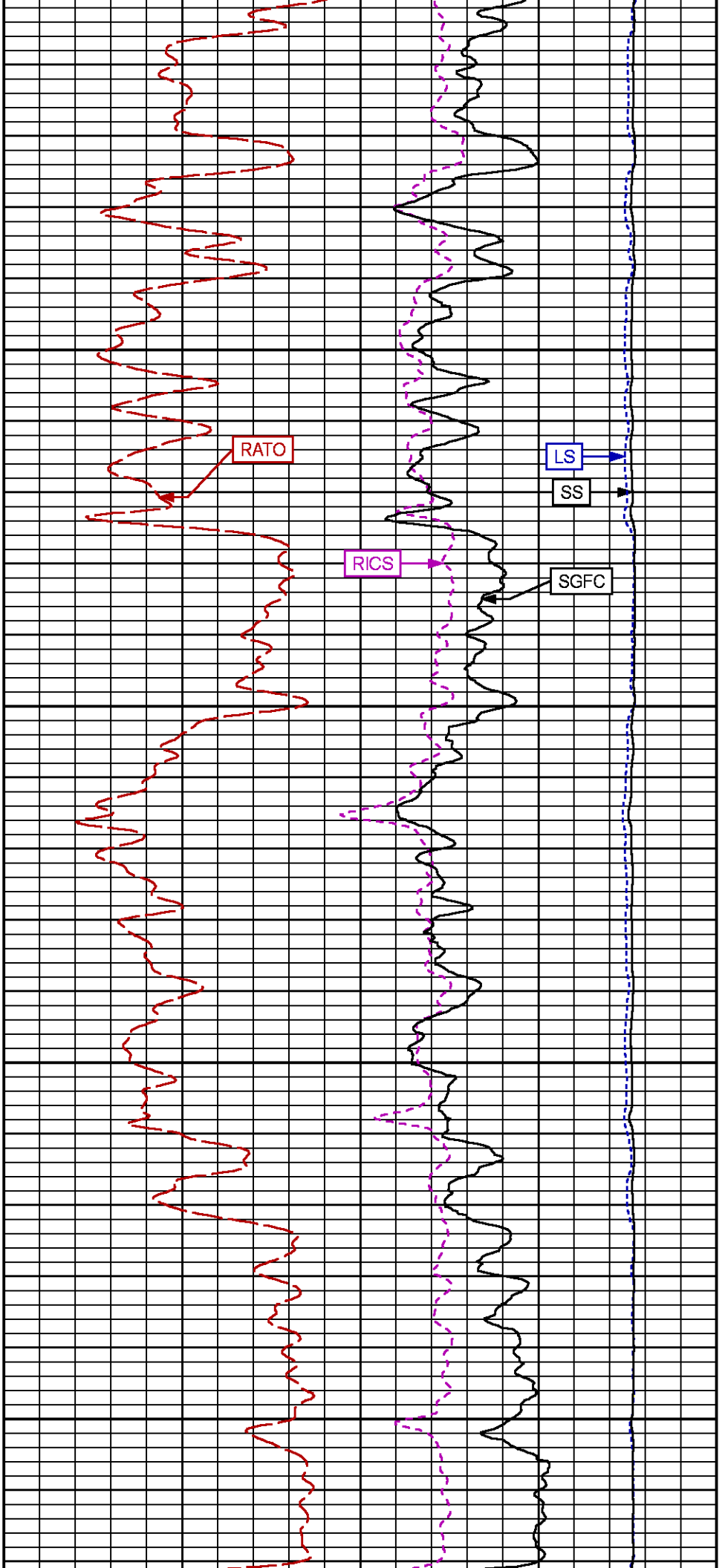
RPM PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	7.87	in	"	"
	LARGEST CASING OD	4.50	in	"	"
	MATRIX	SANDSTONE		"	"

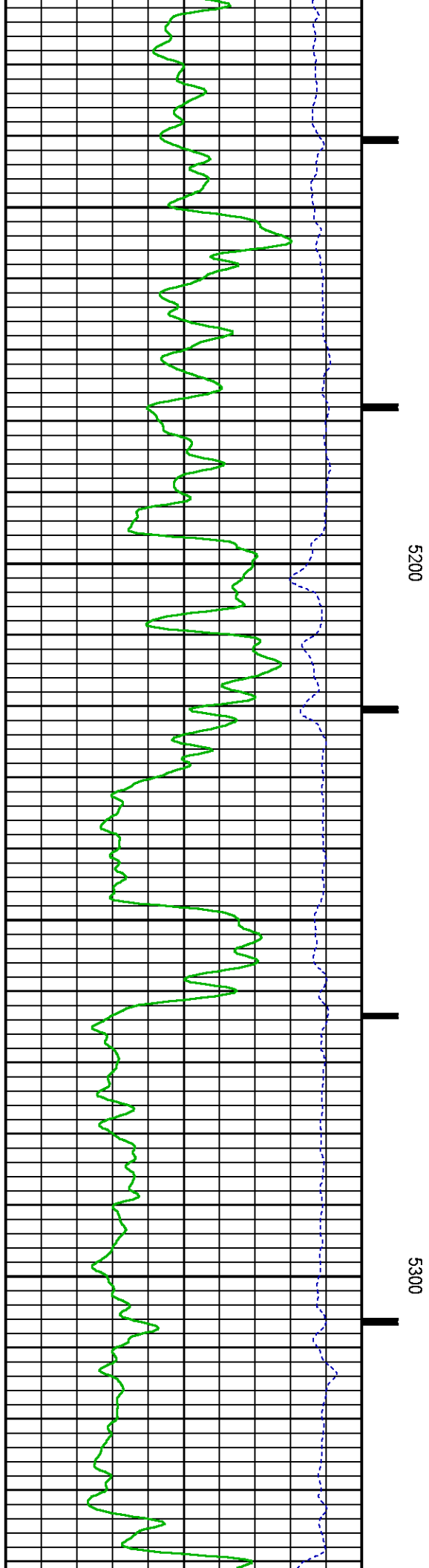
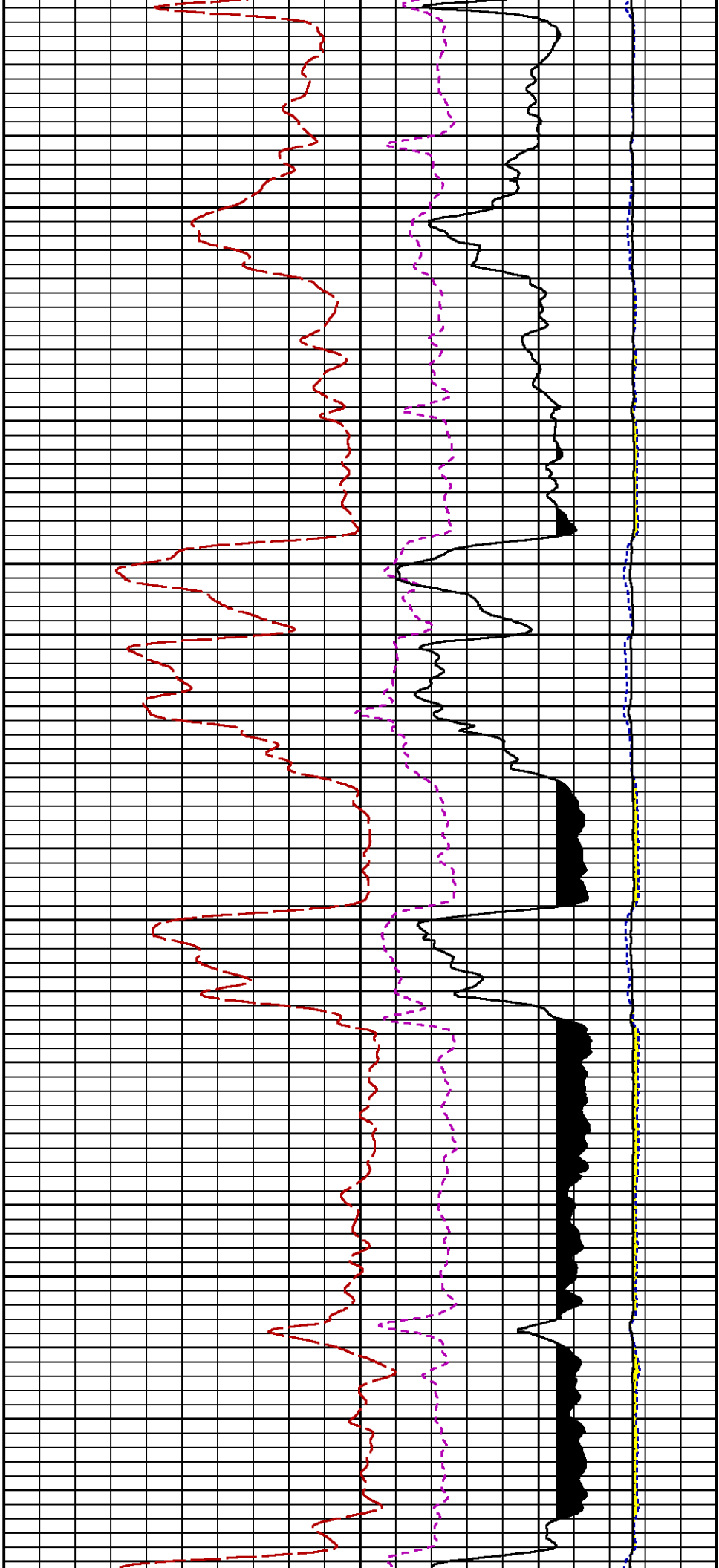
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE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

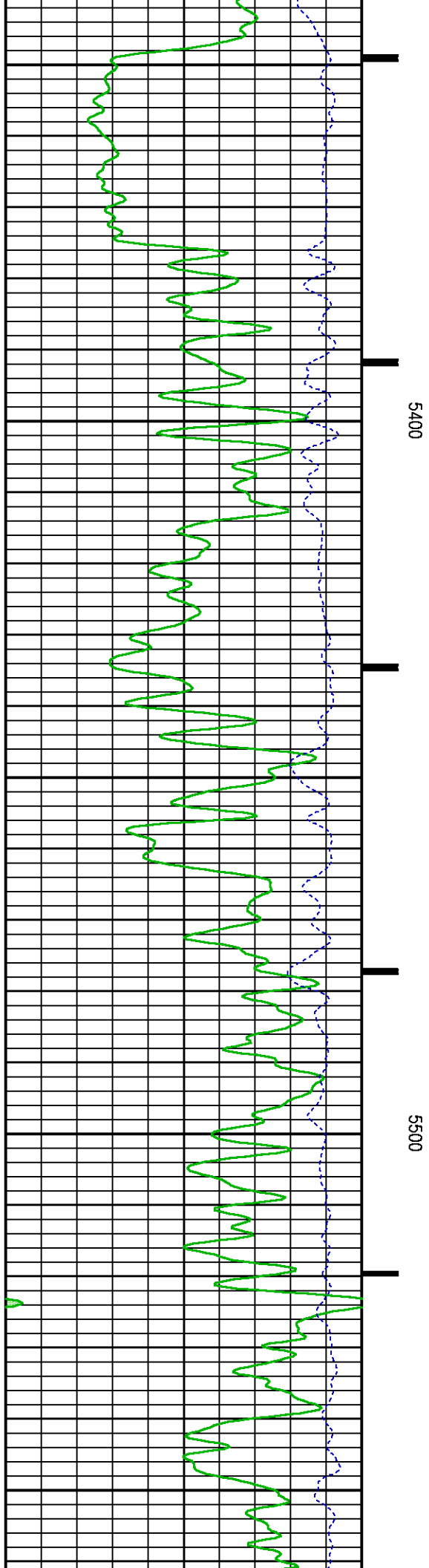
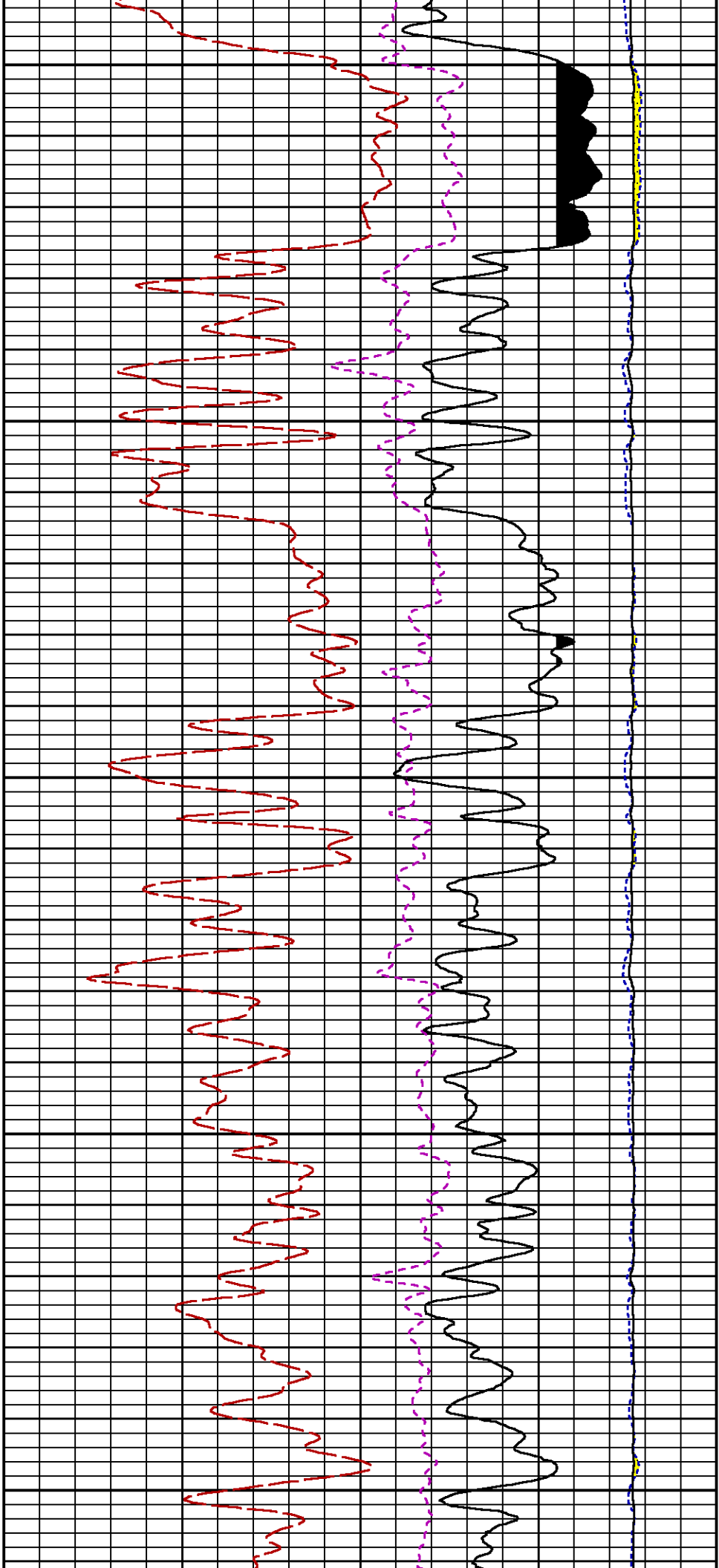
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-25.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-22.75	LS	-12.75	RICS	-12.75	SS	-12.75

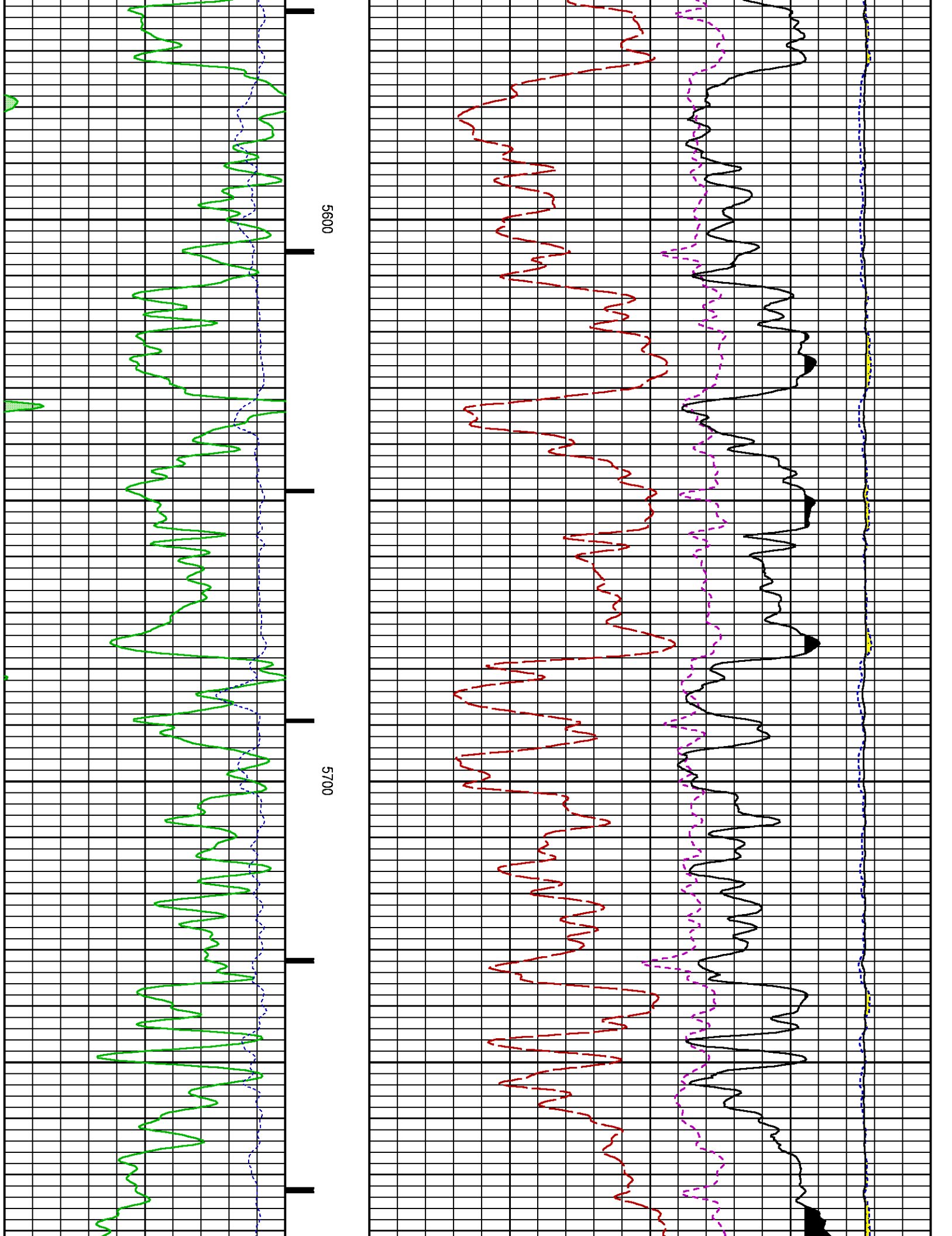
Presentation	: SysA:/dat1a/LARAMIE_GUNDERSON_0994-14-11E/0994-14-11E_RPM_MAIN_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4890 - 8180 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_GUNDERSON_0994-14-11E/0994-14-11E_RPM_MAIN_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: GUNDERSON 0994-14-11E
Field	: VEGA
File Interval	: 4874.25 - 8184.75 Feet
OCT	: p354h

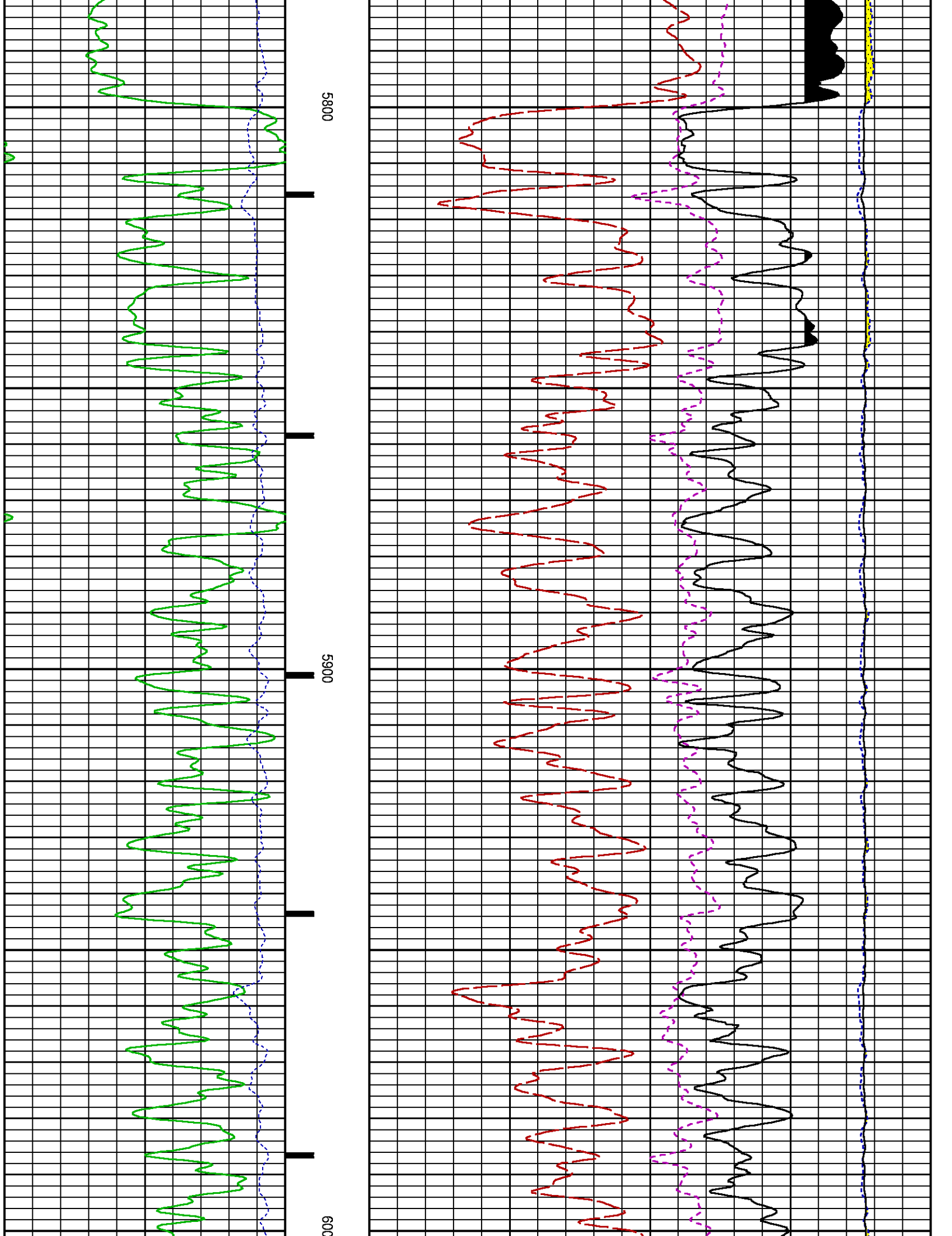


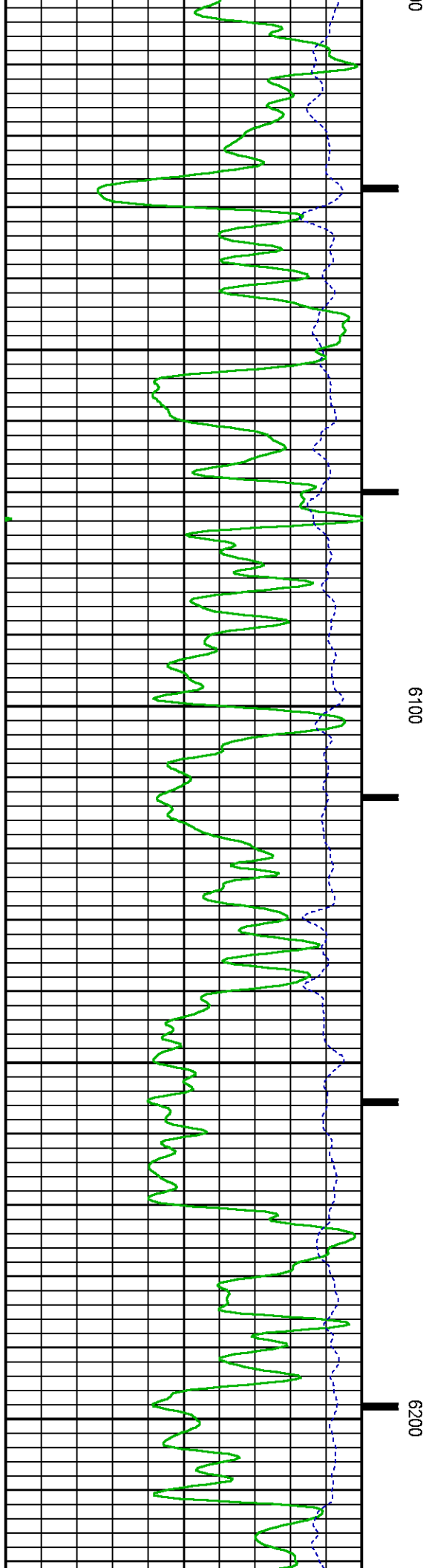
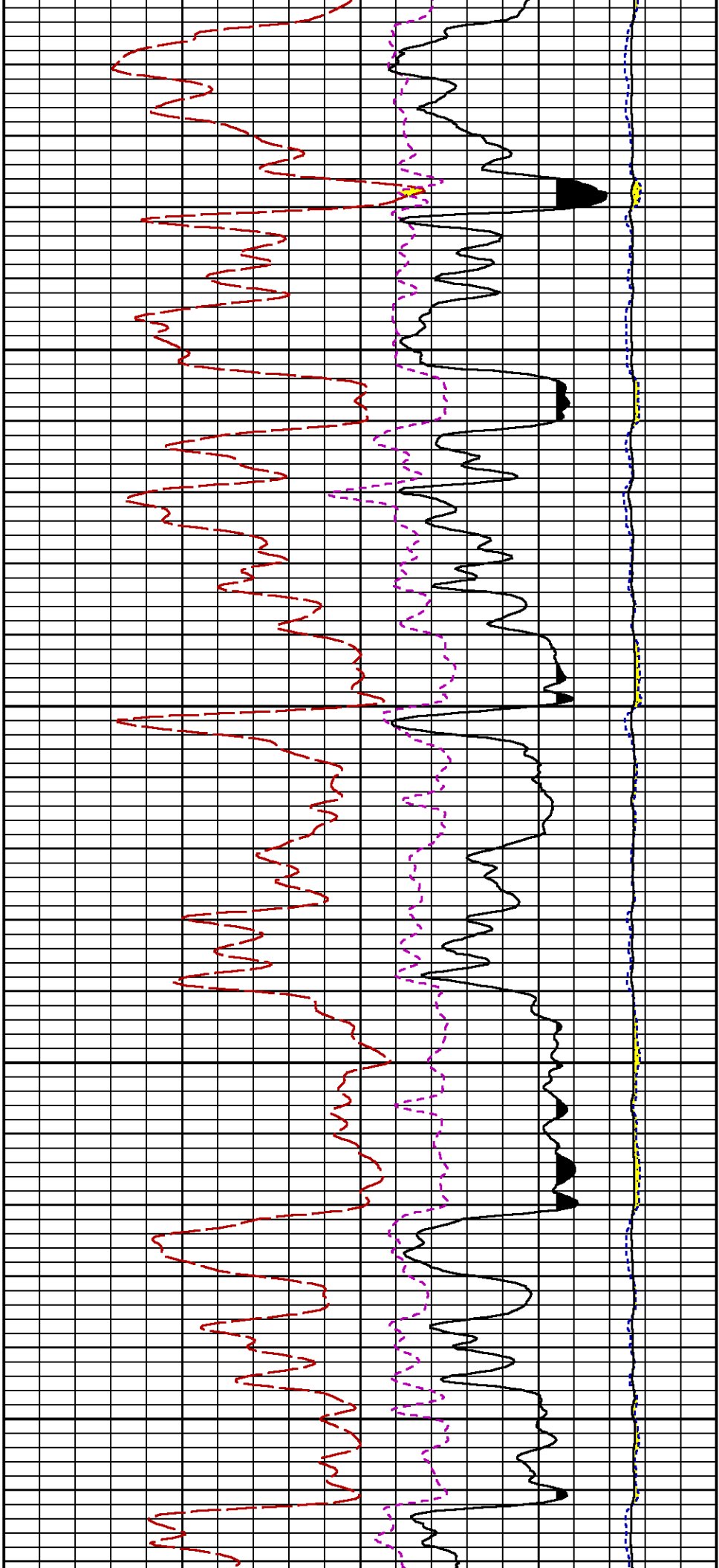


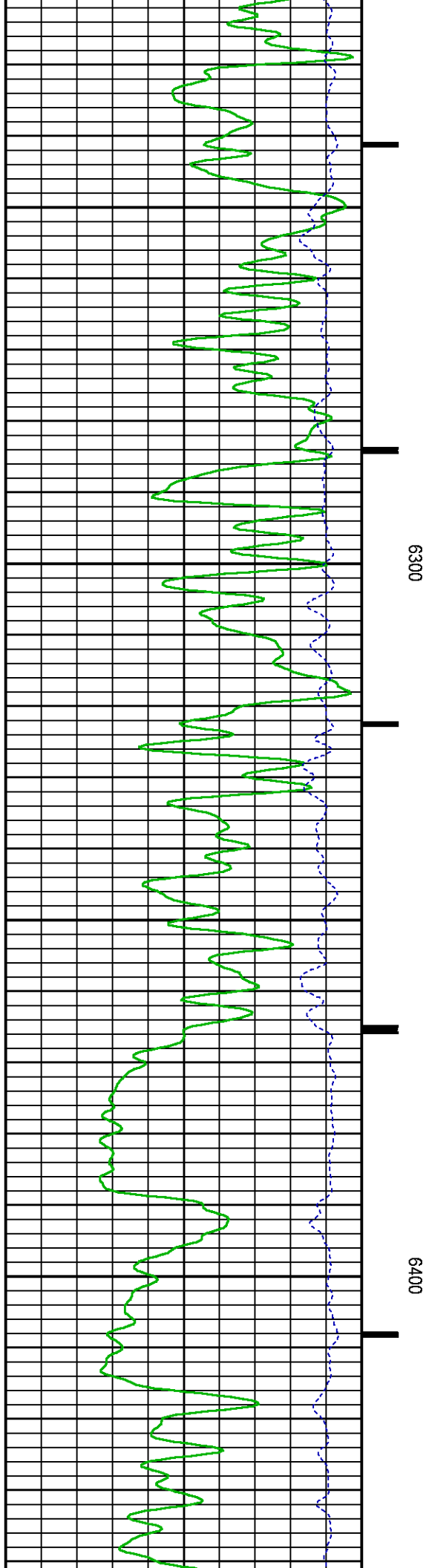
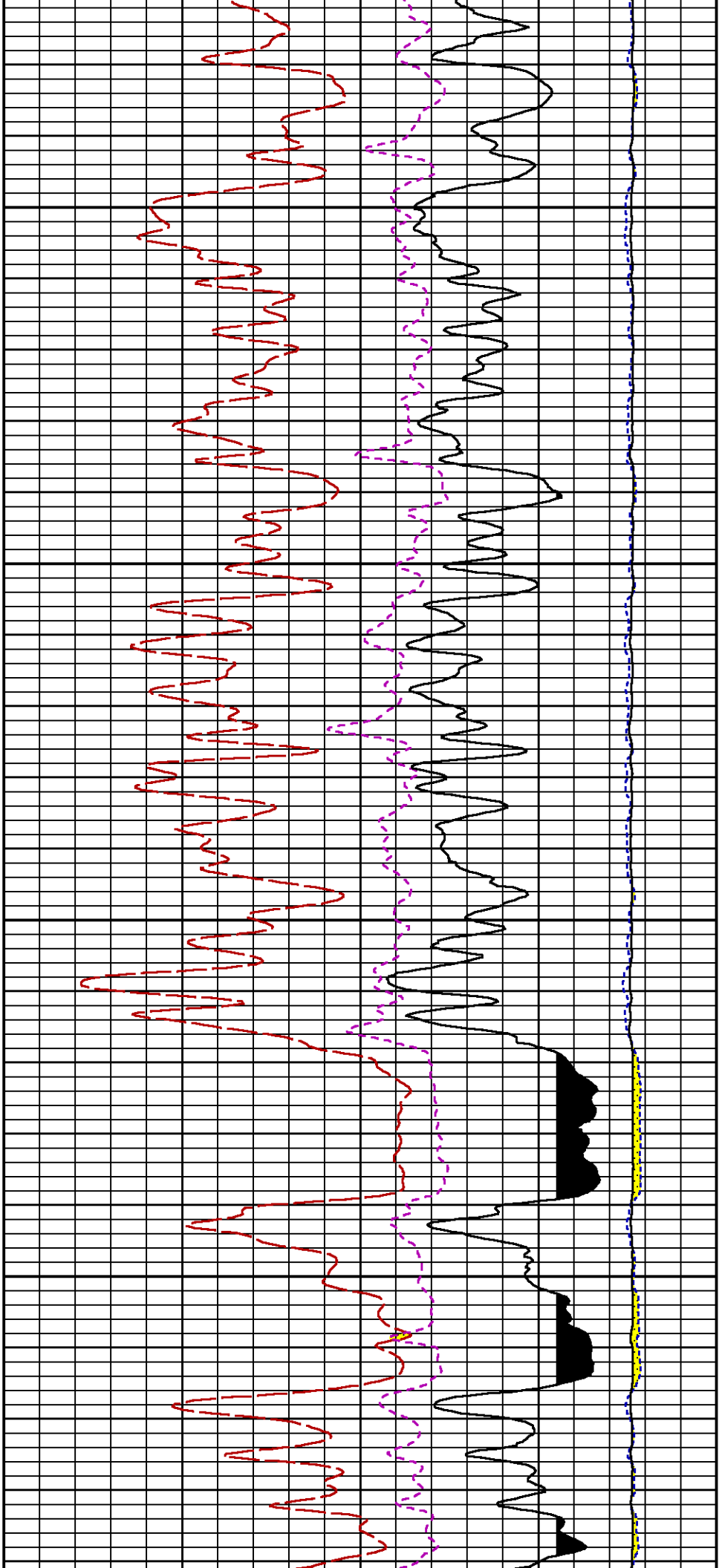


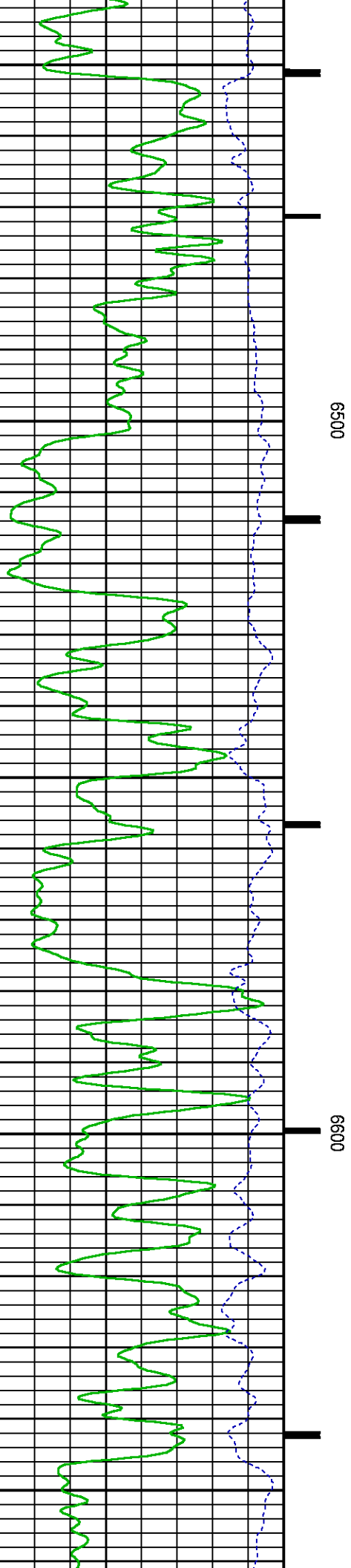
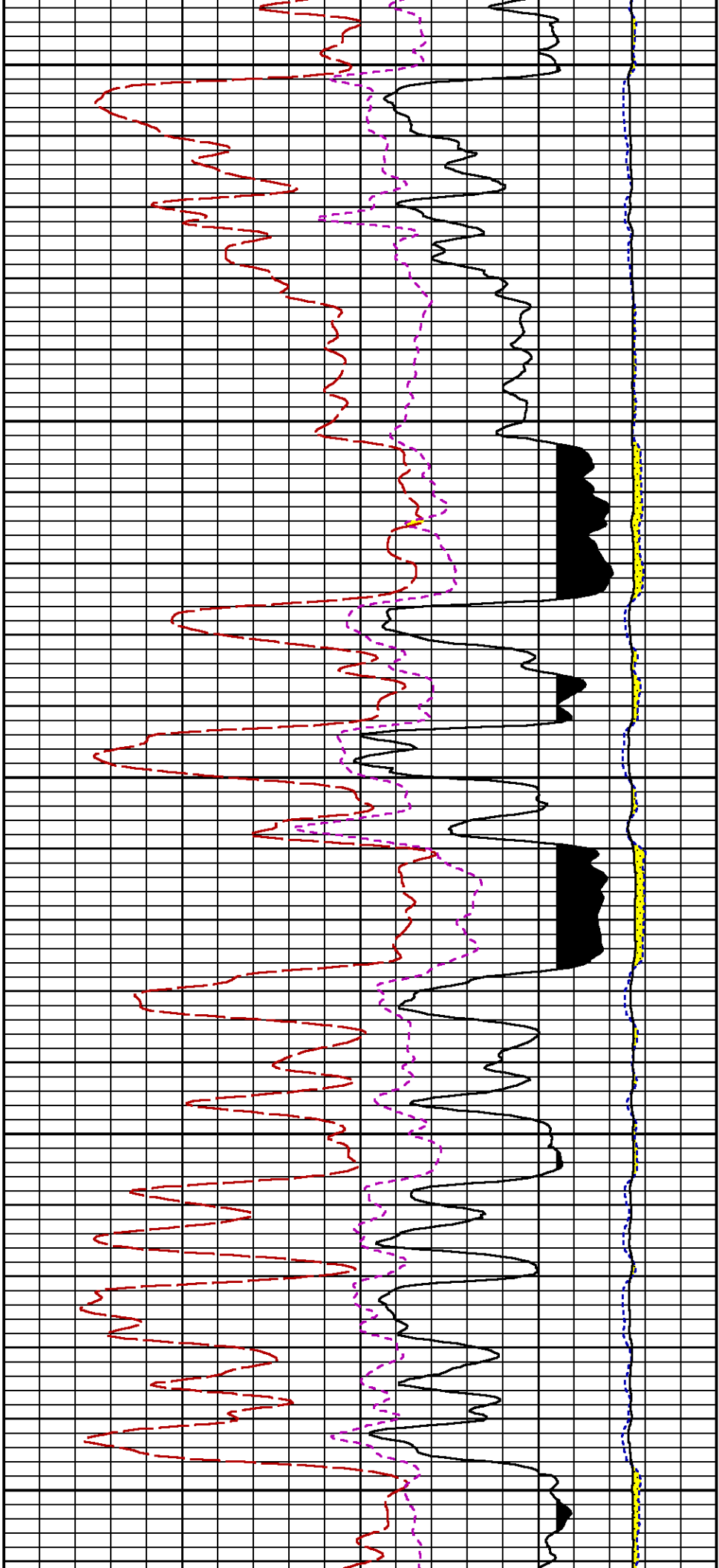


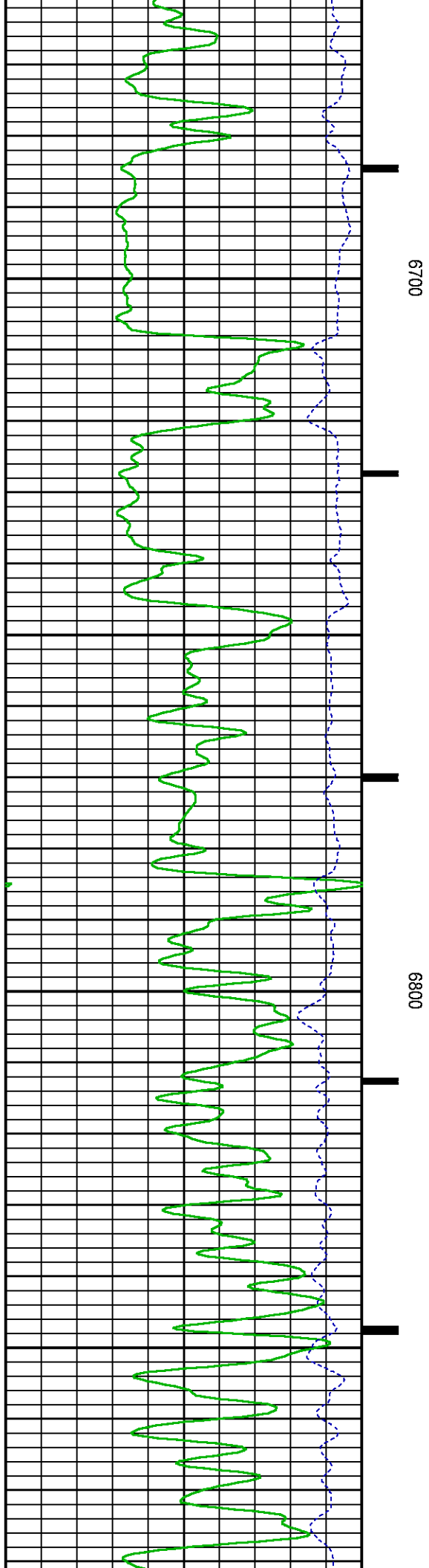
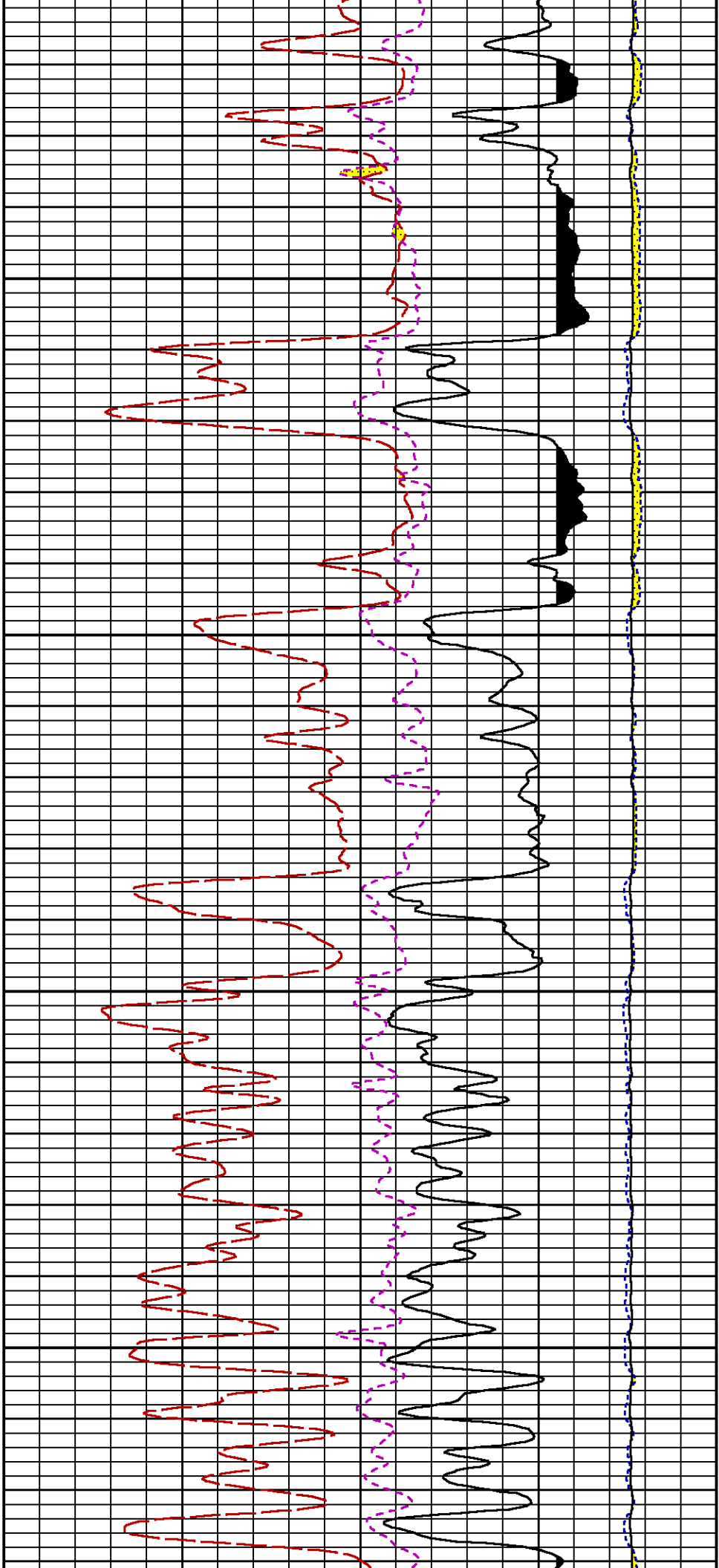


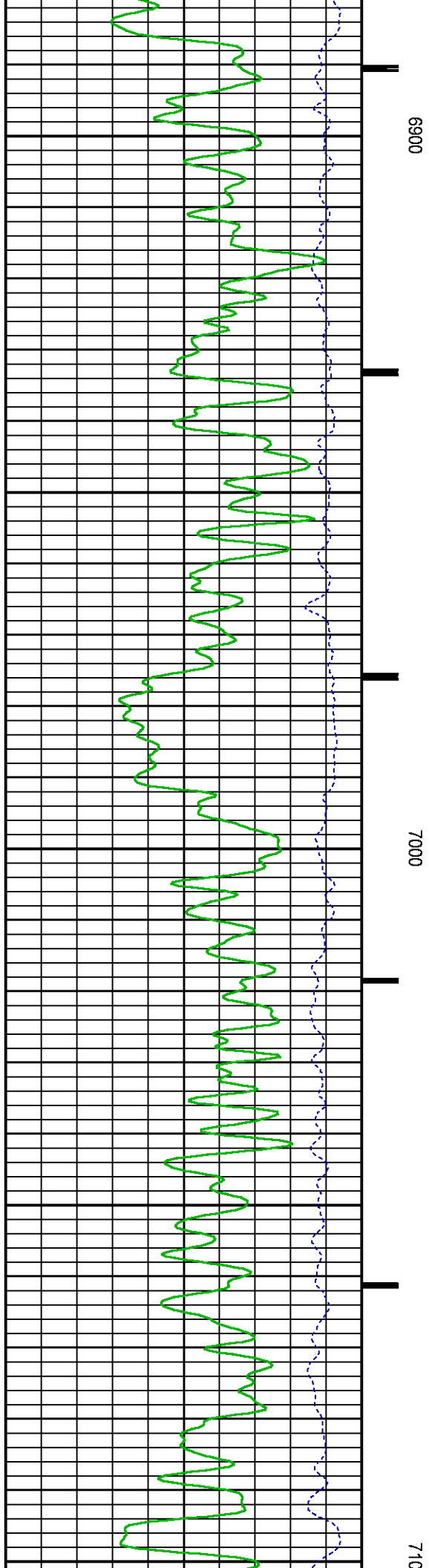
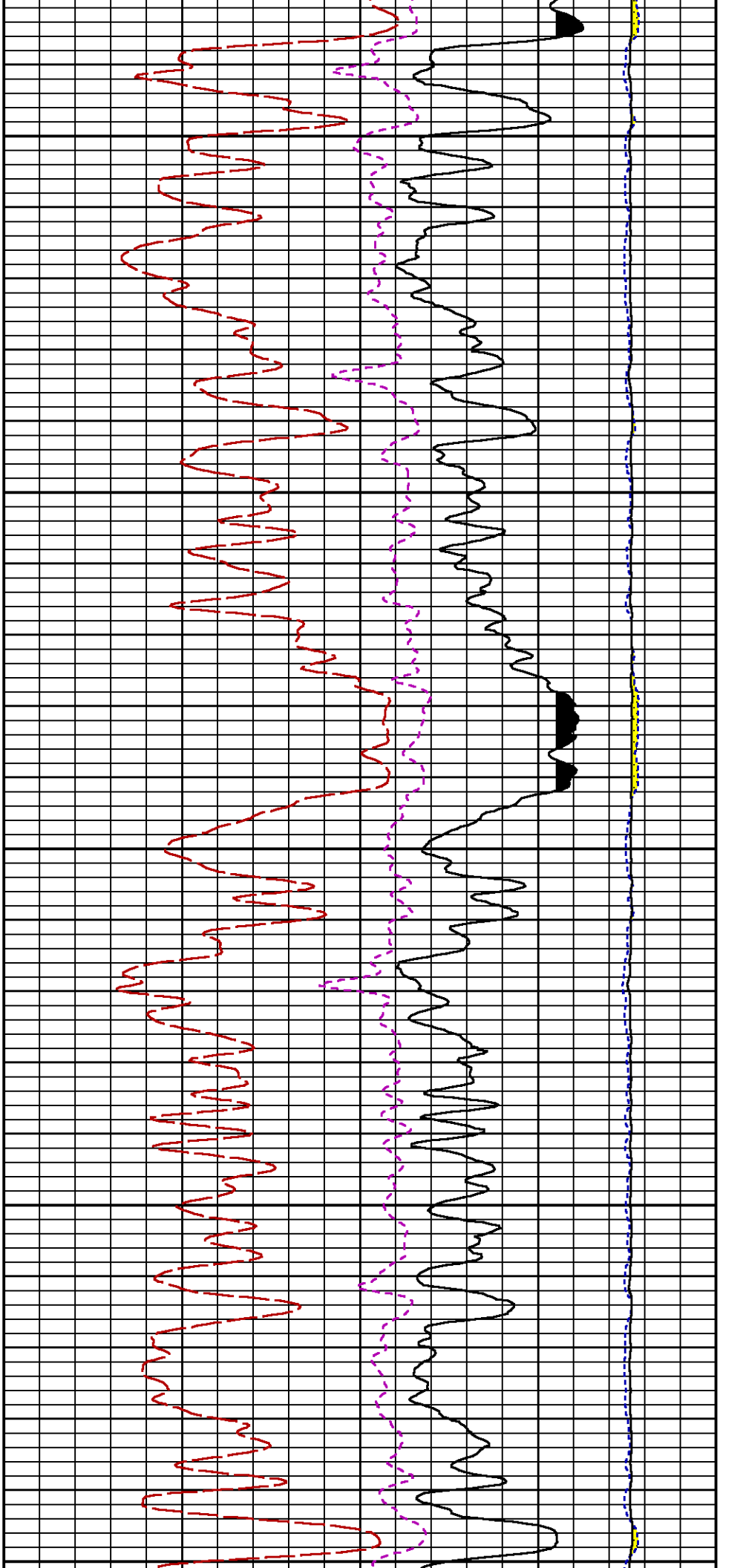


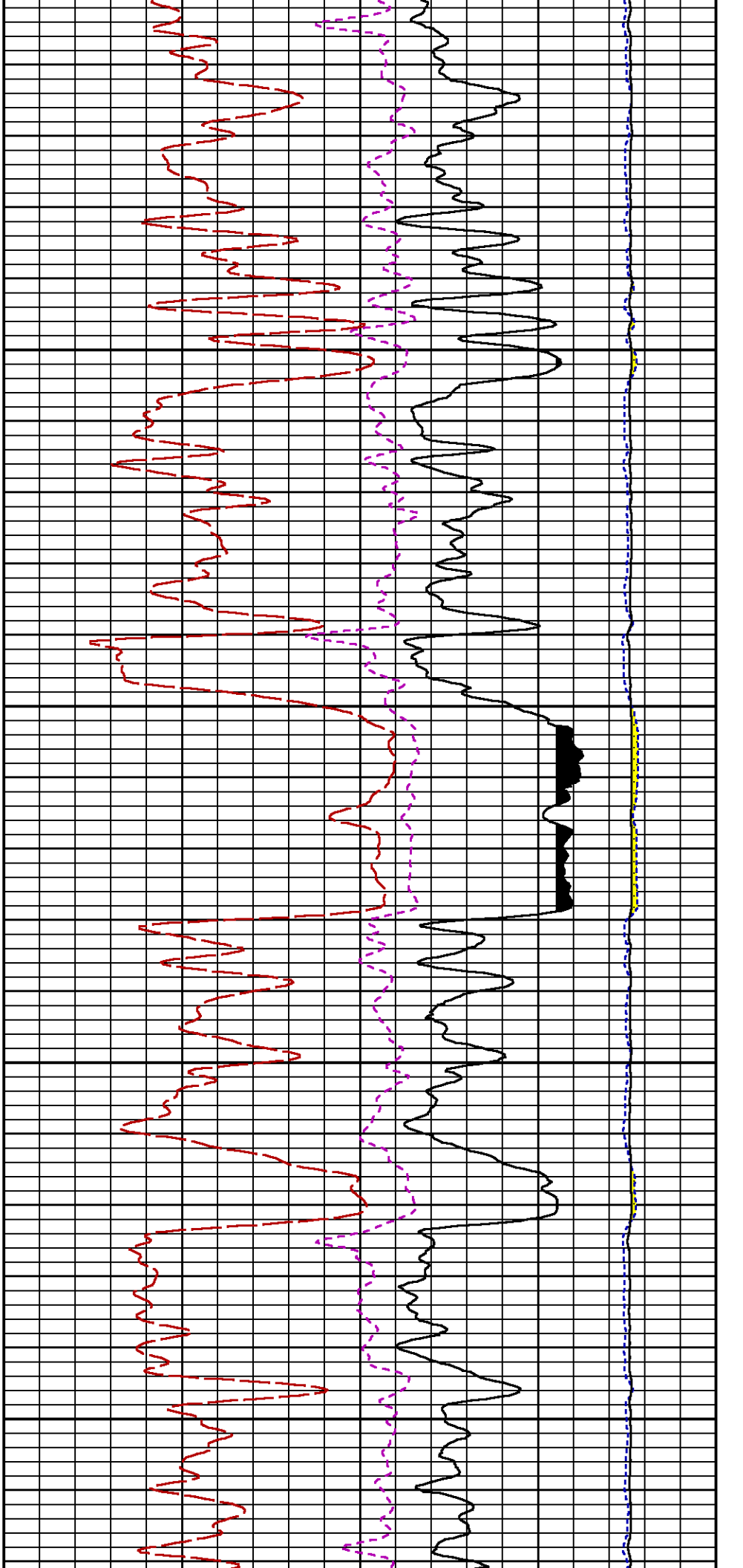






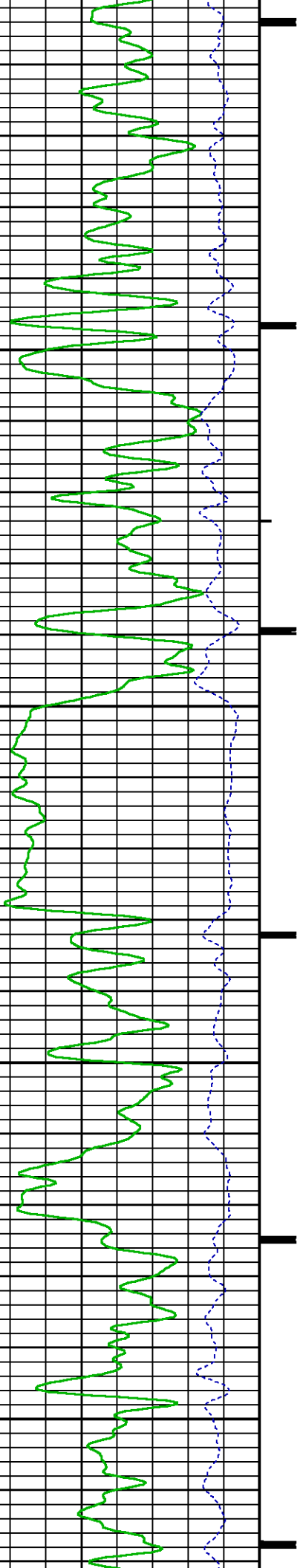


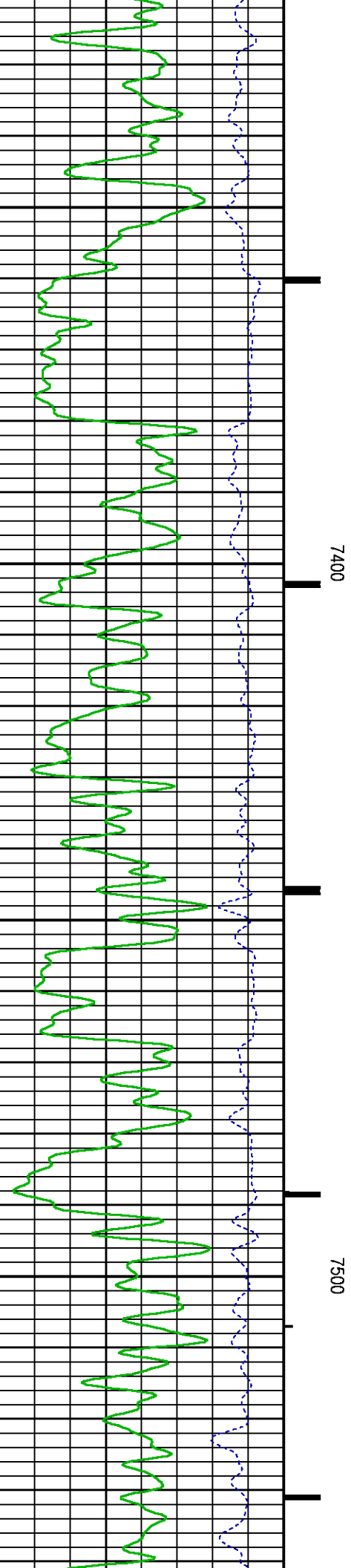
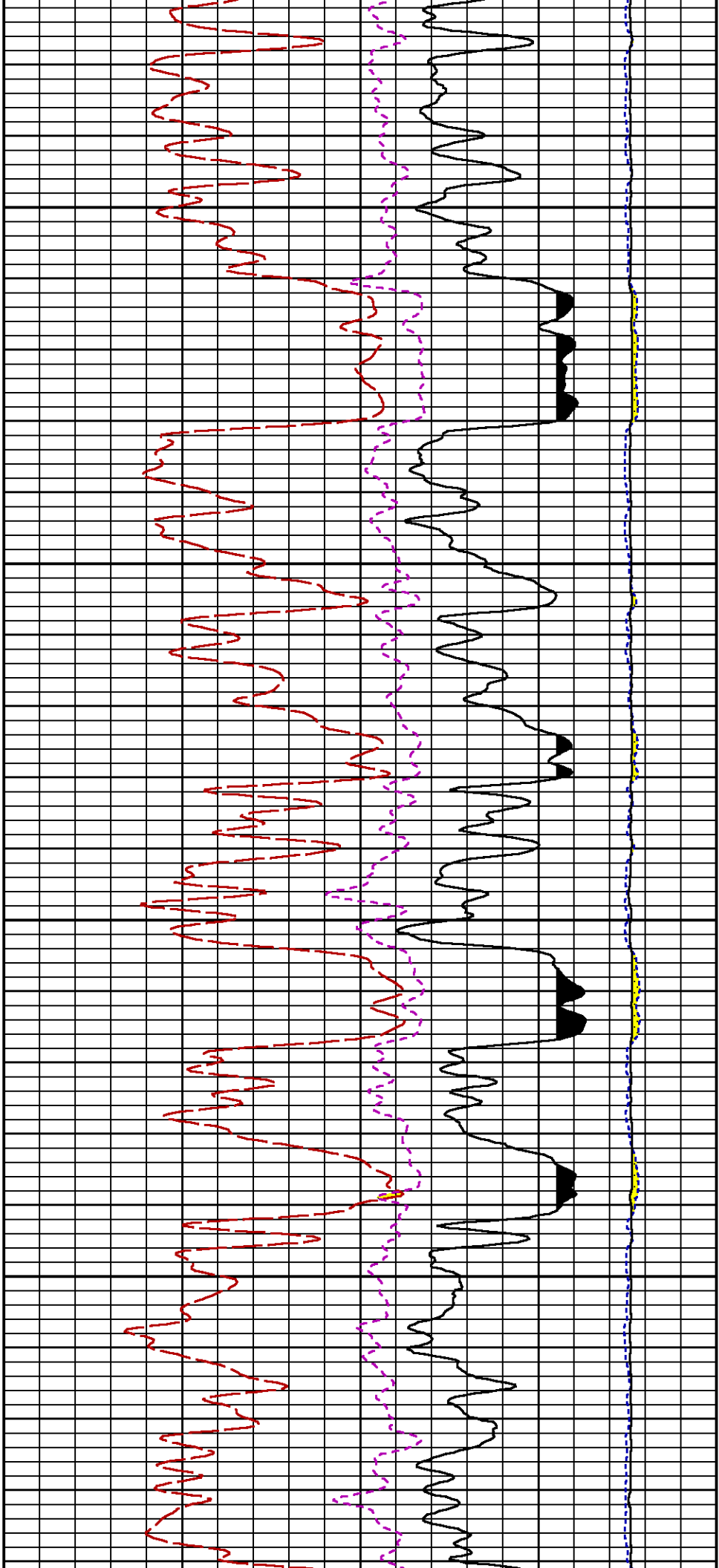


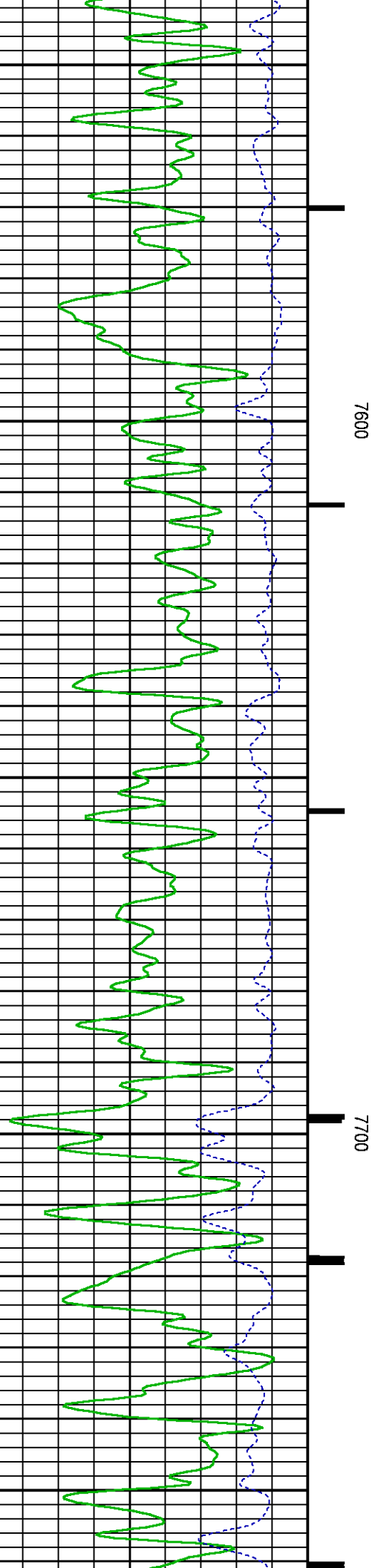
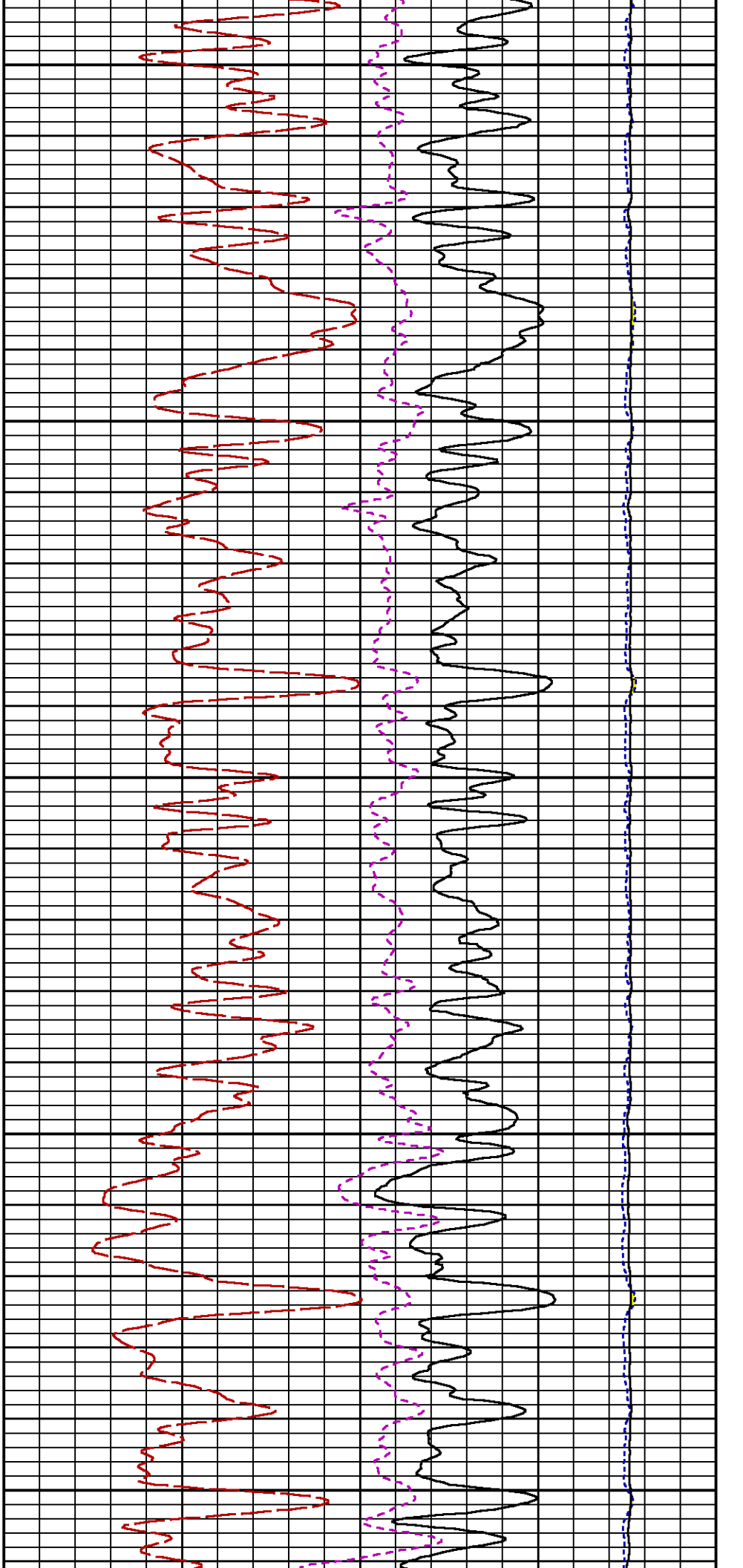


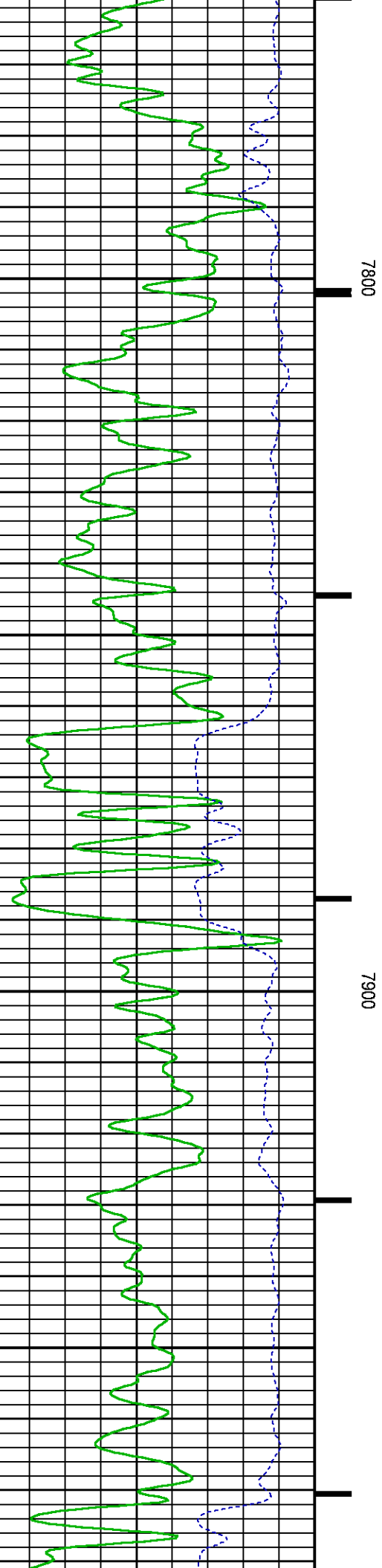
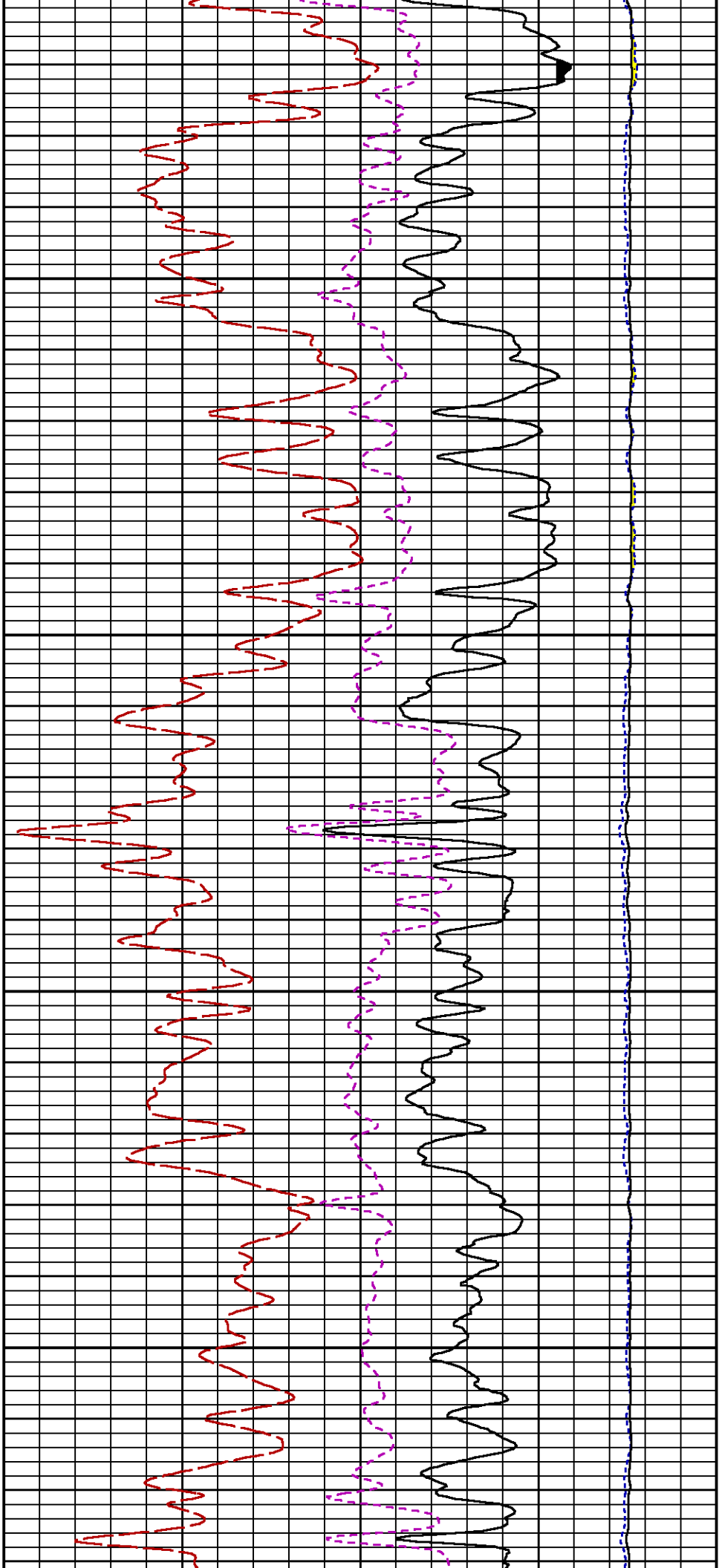
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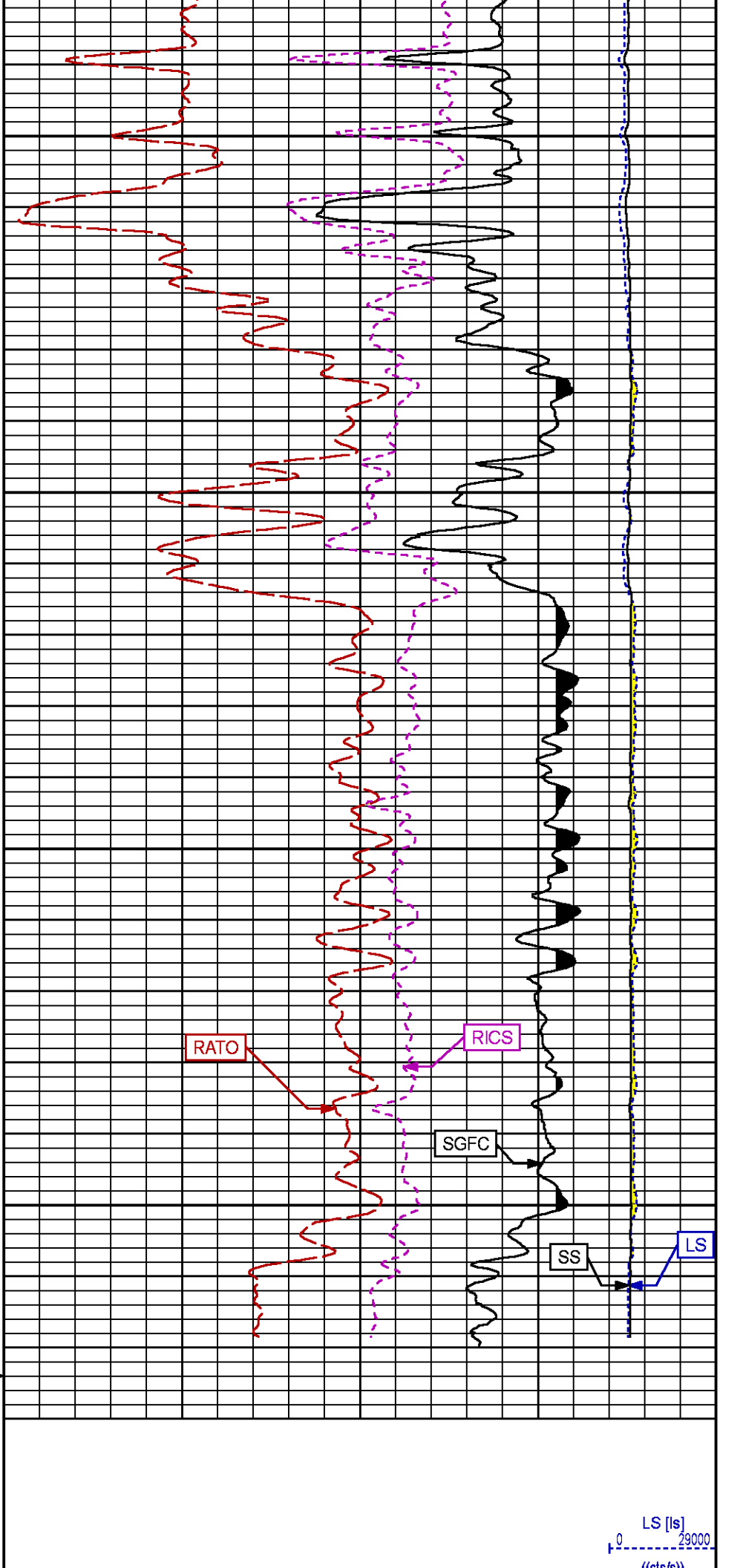
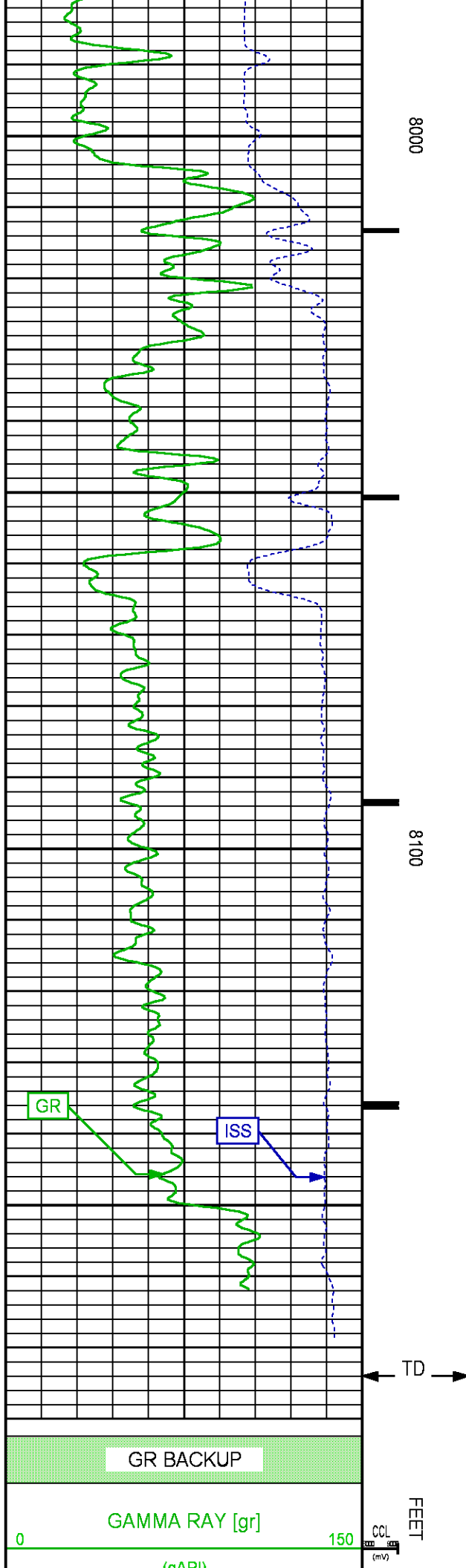
7300











ISS [iss]	SS [ss]
0	0
1E+06	290000
((cts/s))	((cts/s))
	RATO [rato]
17	0
	(dim)
	RICS [rics]
39	9
	(dim)
	SGFC [sgfc]
60	0
	(cu)

REPEAT PASS

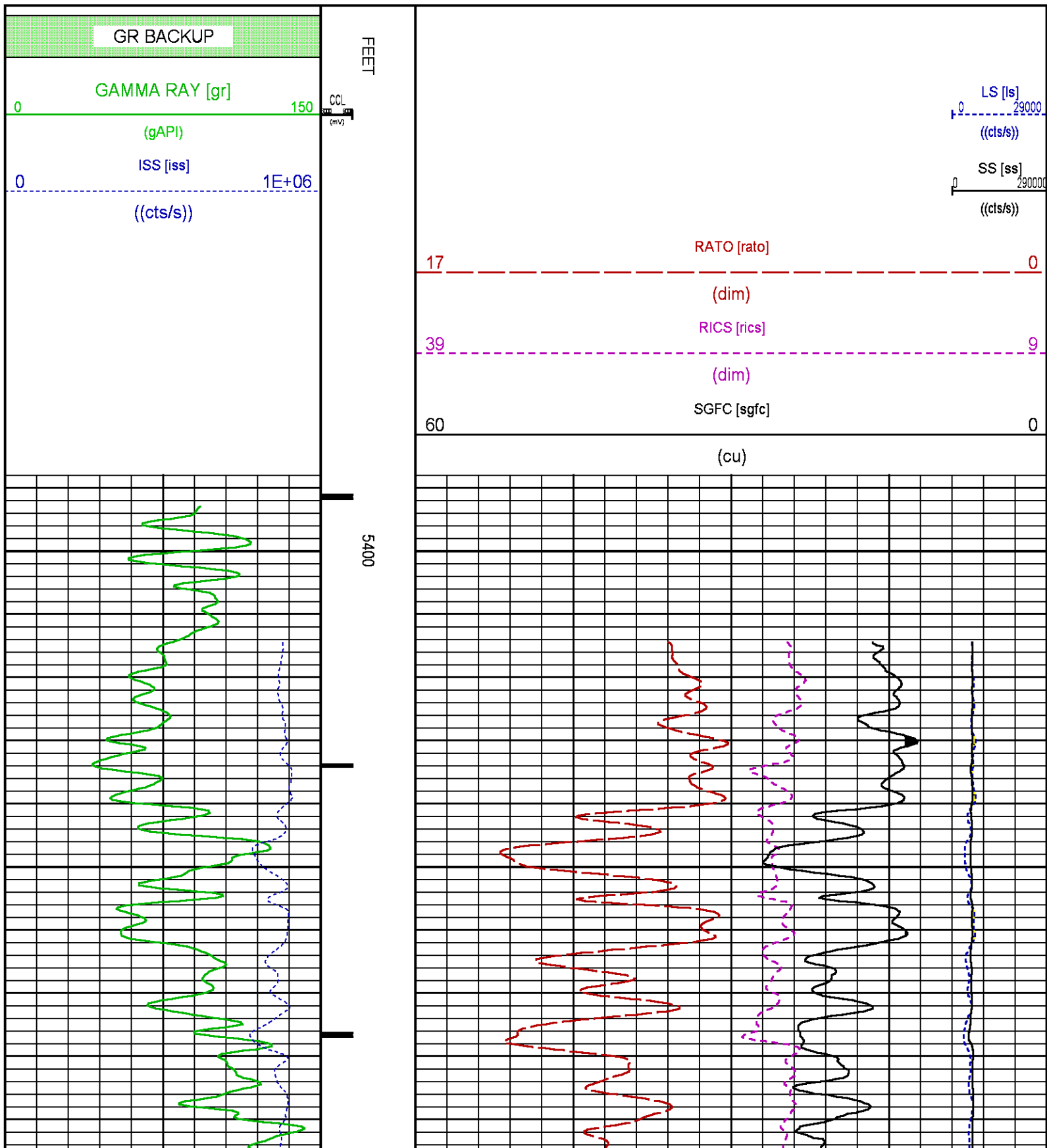
ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 4

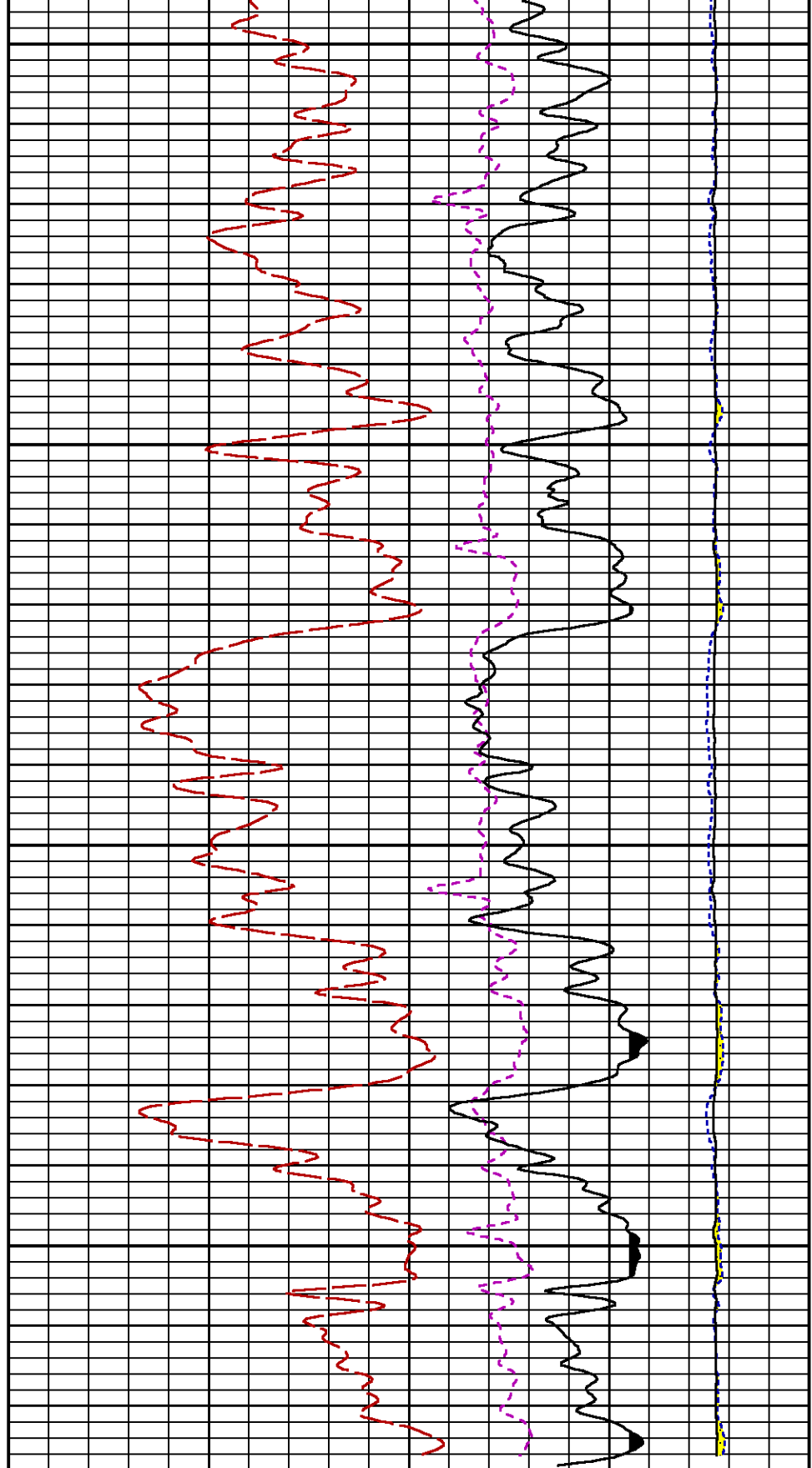
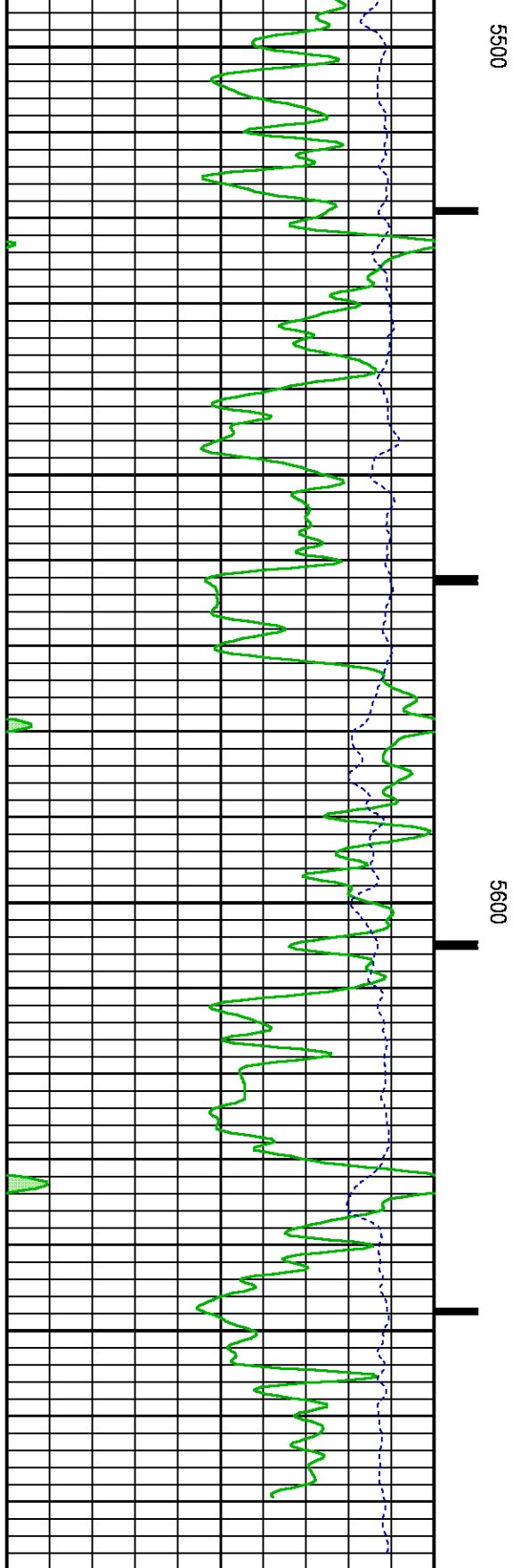
Plotted: Fri Jun 15 10:26:17 2018

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/LARAMIE_GUNDERSON_0994-14-11E/p354h01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 5406.670 ft BOTTOM DEPTH: 5686.634 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
				SGFC	12.75





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

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_GUNDERSON_0994-14-11E/p354h.tp1

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

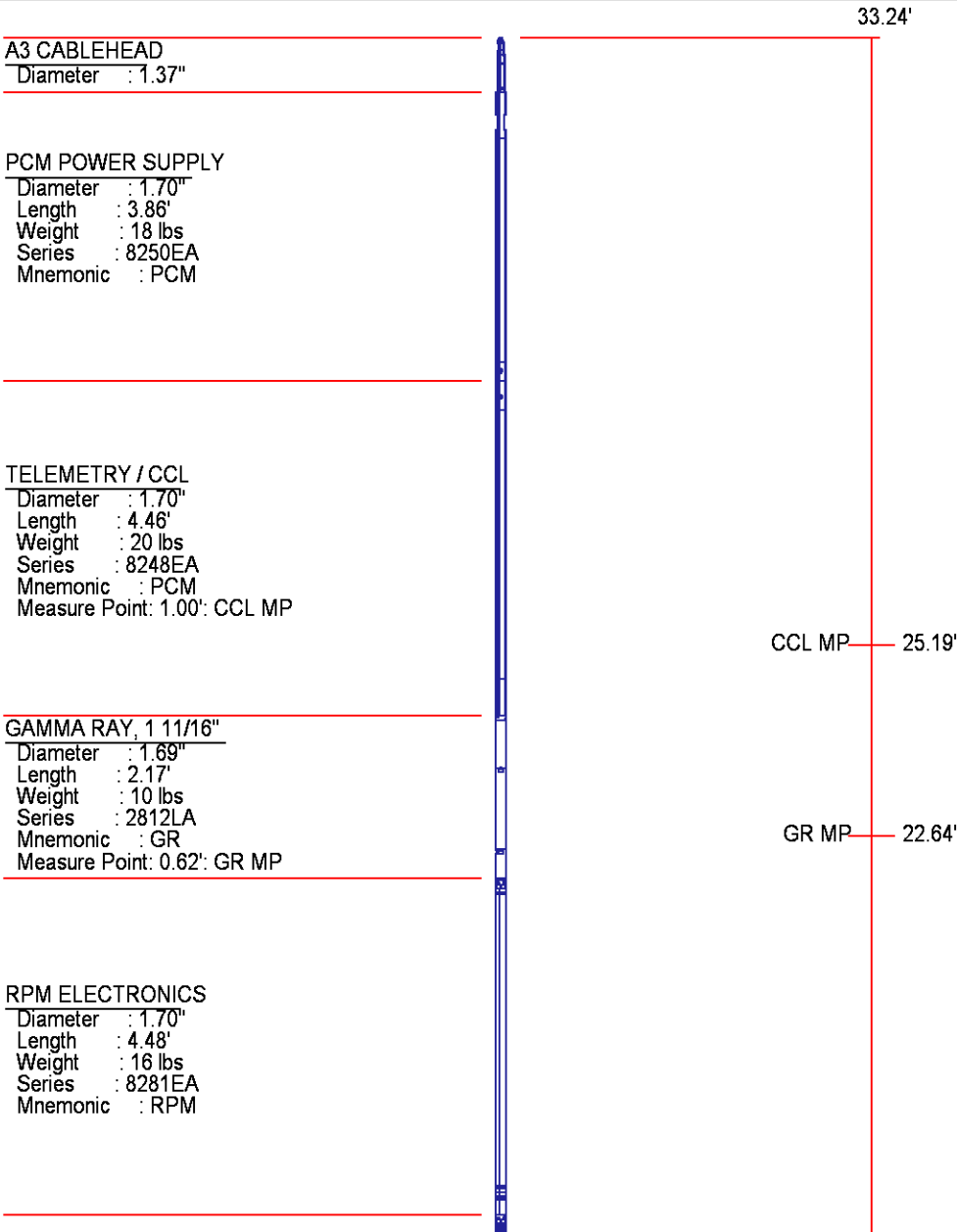
	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	794247	178007	27088	88699	31638	8729	53712	13968
Fit Quality %		0.926	0.946	0.726	0.765	0.956	0.682	0.966

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
--	-----	------	-----	-------	------	------	------	------

		ISS/ILS		ISS/IXS		ISS/CSS		SS/LS		SS2/LS		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
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

Source File: /dat1a/LARAMIE_GUNDERSON_0994-14-11E/p354h~GR_SONDEX-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: 33.24'
 TOTAL WEIGHT: 140 lbs
 MAX DIAMETER: 0'1.70"

**BAKER
HUGHES**
 a GE company



ECLIPS

COMPANY

LARAMIE ENERGY LLC

WELL

GUNDERSON 0994-14-11E

FIELD

VEGA

COUNTY

MESA

STATE COLORADO

FILE NO:

CH136894

API NO:

05077105380000

LOCATION:

LAT: 39.273873 N

LONG: 107.834926 W

ELEVATIONS:

KB 7302 FT

DF

GL 7272 FT

SEC 14

TWP 9 S

RGE 94 W

DATE

15-Jun-2018