



FILE NO:	COMPANY	LARAMIE ENERGY
API NO:	WELL	BRUTON 19-01W
05077104290000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.06	LOCATION:	OTHER SERVICES
	SHL: LAT:39.262997N; LONG:107.815047W	RPM
	BHL: LAT:39.269311N; LONG:107.816113W	
	SEC 19 TWP 9S RGE 93W	

PERMANENT DATUM	GL	ELEVATION	7262 FT	KB	7286 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.	DF	7286 FT
DRILL. MEAS. FROM	KB			GL	7262 FT

DATE	29-AUG-2017
RUN	2
TRIP	1
SERVICE ORDER	US127294
DEPTH DRILLER	8069 FT
DEPTH LOGGER	8041 FT
BOTTOM LOGGED INTERVAL	8041 FT
TOP LOGGED INTERVAL	2300 FT
TIME STARTED	07:00
TIME FINISHED	13:00
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	50 FT
LOGGED CEMENT TOP	1816 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	15 FMN
MAX. RECORDED TEMP.	237 DEGF
REFERENCE LOG	BAKER GR/RAL
REFERENCE LOG DATE	28-AUG-2017
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	S.YASSA
WITNESSED BY	MR. CHUCK MALLARY

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 WELL*

**OPERATION 2: RPM/GR/CCL/TEMP RUN IN COMBINATION **

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 6188' - 6210'

SJ: 7195' - 7217'

CREW: G.SUAREZ , J.PENA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	TELEMETRY	8250EA/8248EA	10185091/10323398	FREE
2	1	GAMMA RAY	8262XA	10485470	FREE
2	1	RPM	8281EA	10387162	FREE
2	1	RPM	8283PA	10184883	FREE
2	1	RPM	8281FA	10315572	FREE
2	1	TEMP	8255XA	120516	FREE

G-SAND SECTION PNC 3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 1 Patches: 9

Plotted: Tue Aug 29 13:46:25 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_19_01W/RPM3D03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2492.500 ft BOTTOM DEPTH: 3143.000 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	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 29 13:00:42 2017	CASING COLLAR LOCATOR
F1:GR	Aug 29 13:00:42 2017	GAMMA RAY
F1:ISS	Aug 29 13:00:42 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 29 13:00:42 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 29 13:00:42 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 29 13:00:42 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 29 13:00:42 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 29 13:00:42 2017	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

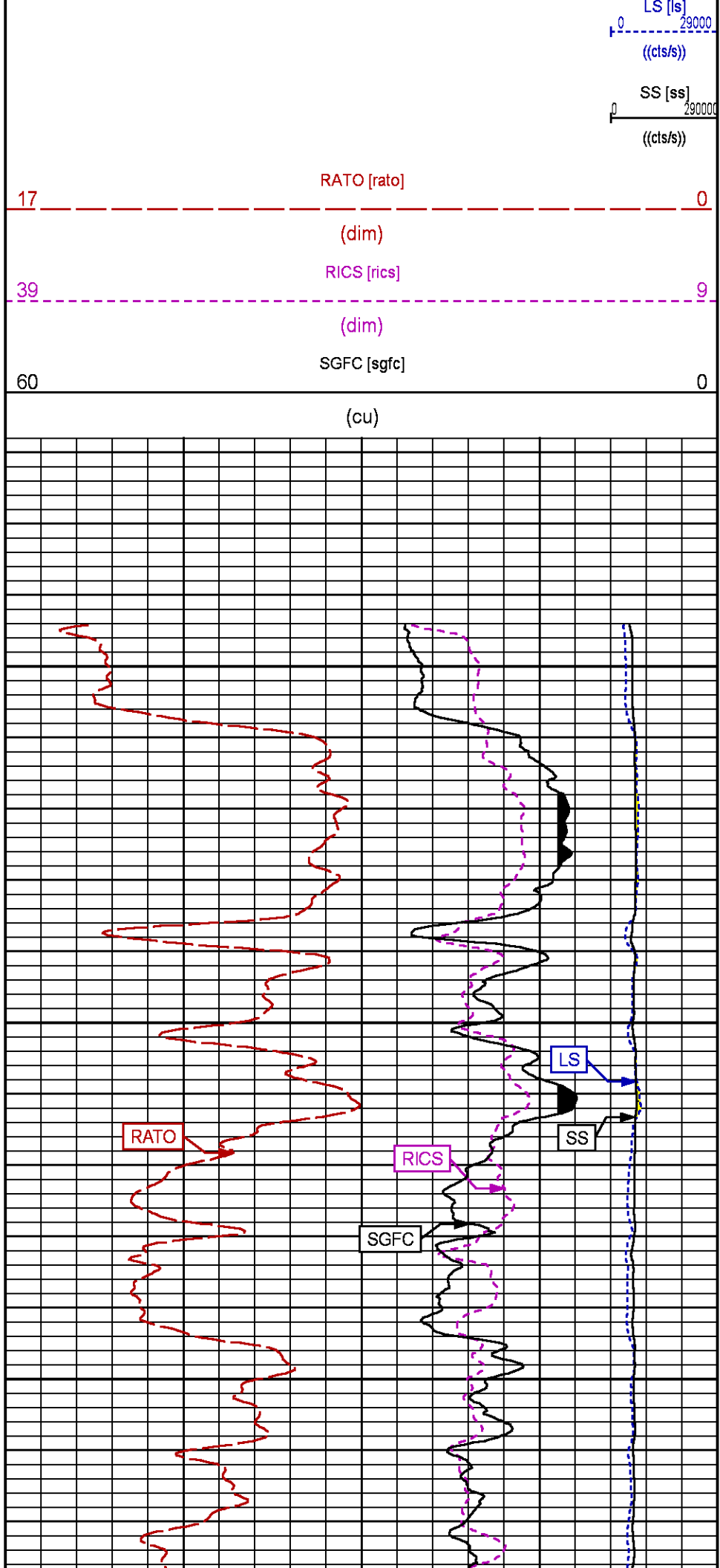
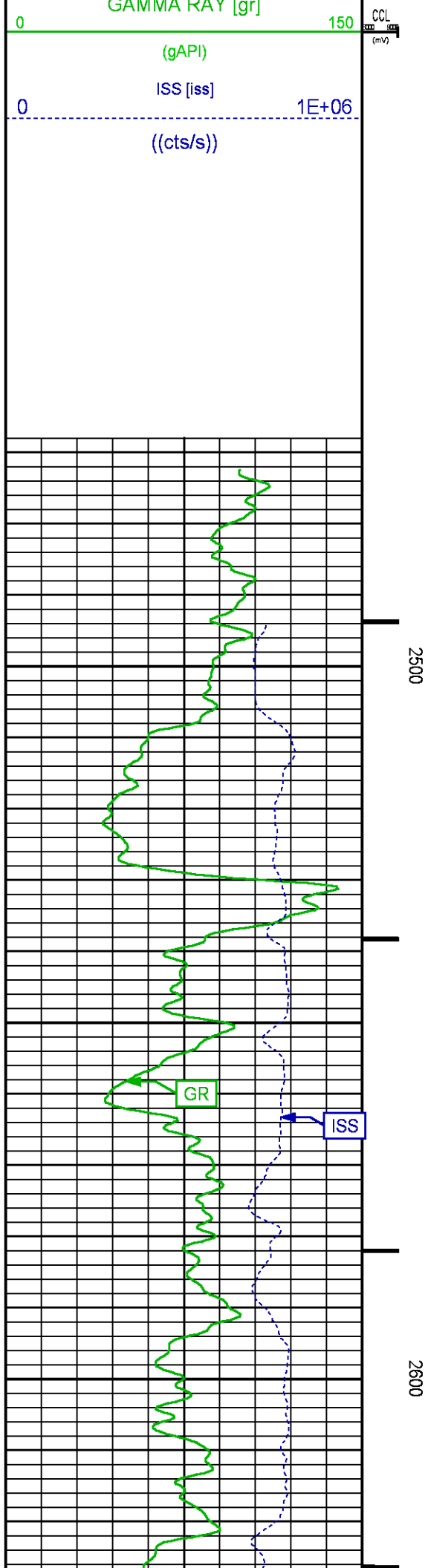
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

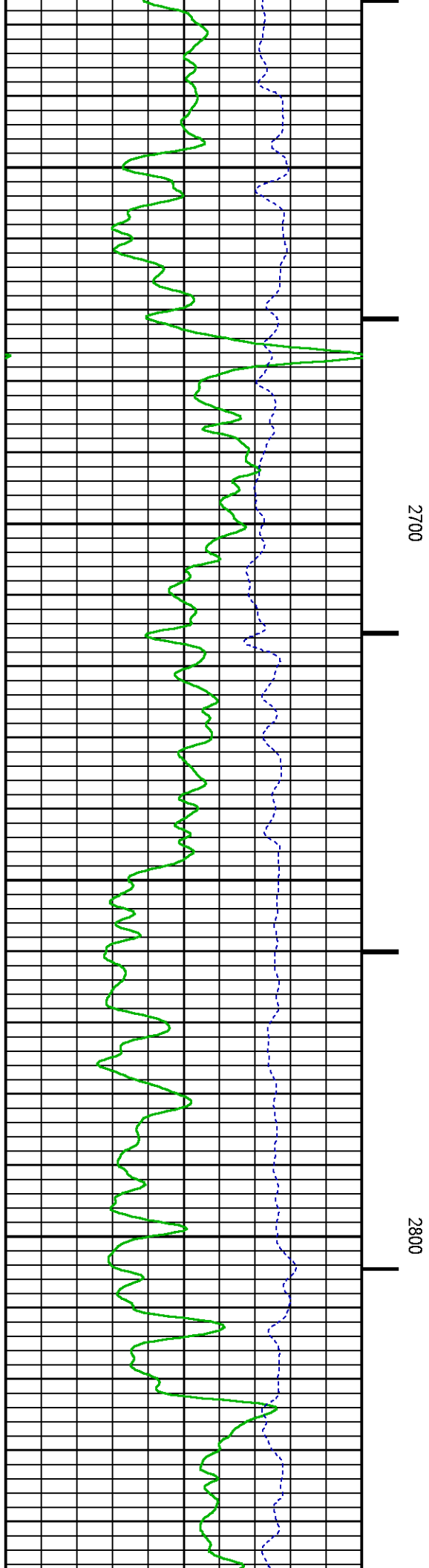
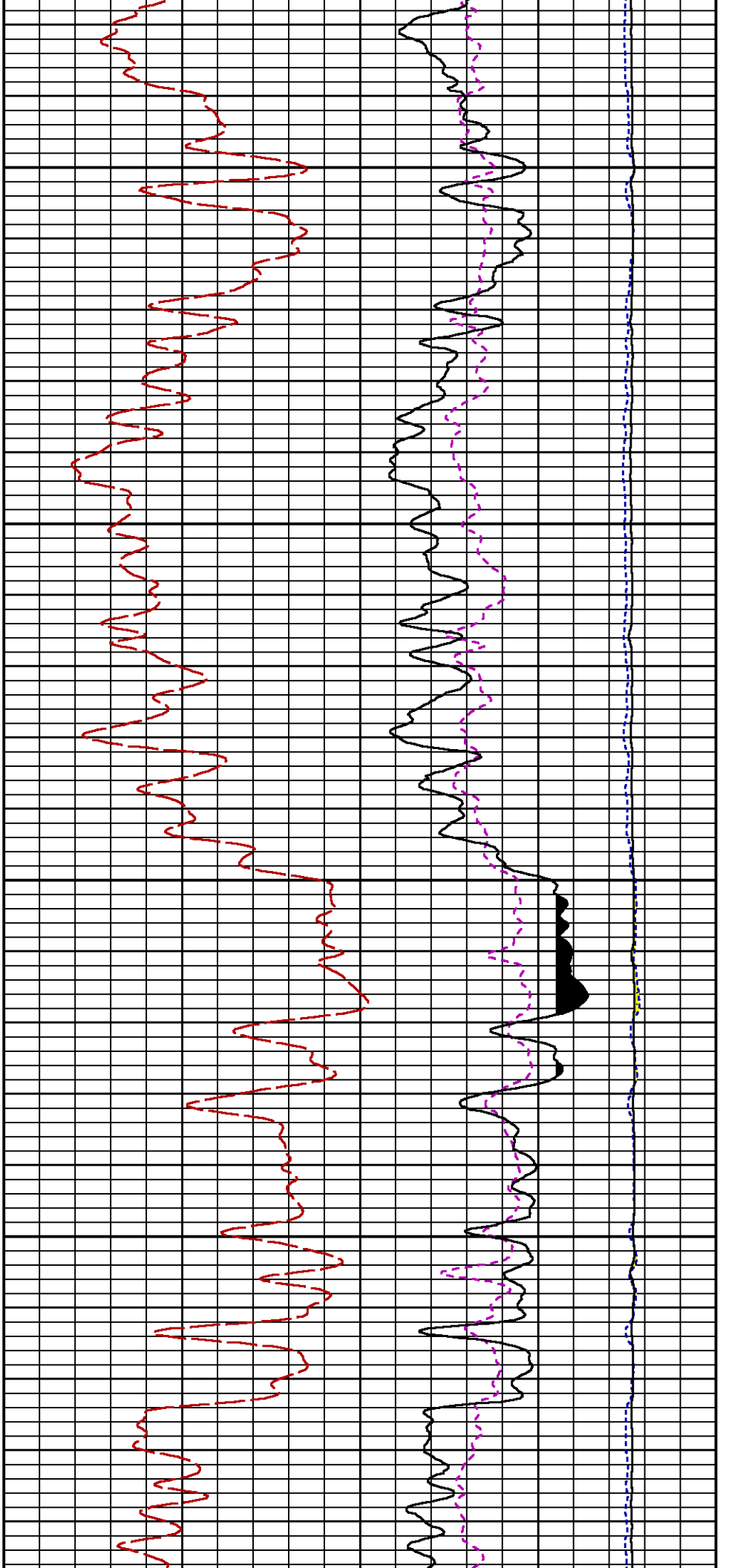
Presentation : cpu100:/dat1a/LARAMIE_BRUTON_19_01W/BRUTON_19_01W_RPM_GSAND.fvpdf [5"/100' Scale]
 Plot Interval : 2468.25 - 3134.75 Feet

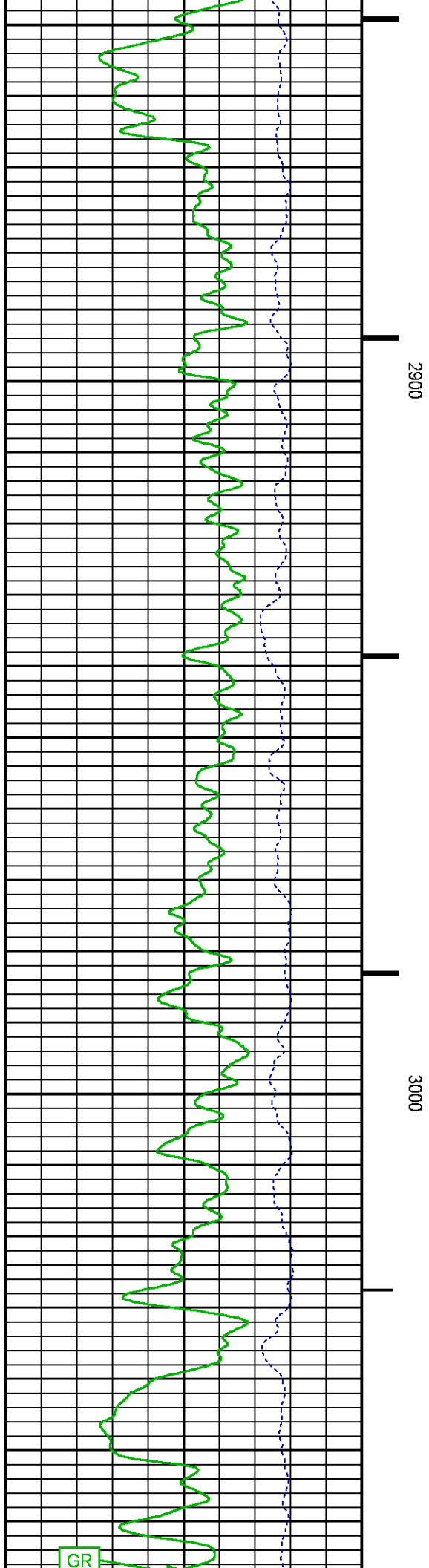
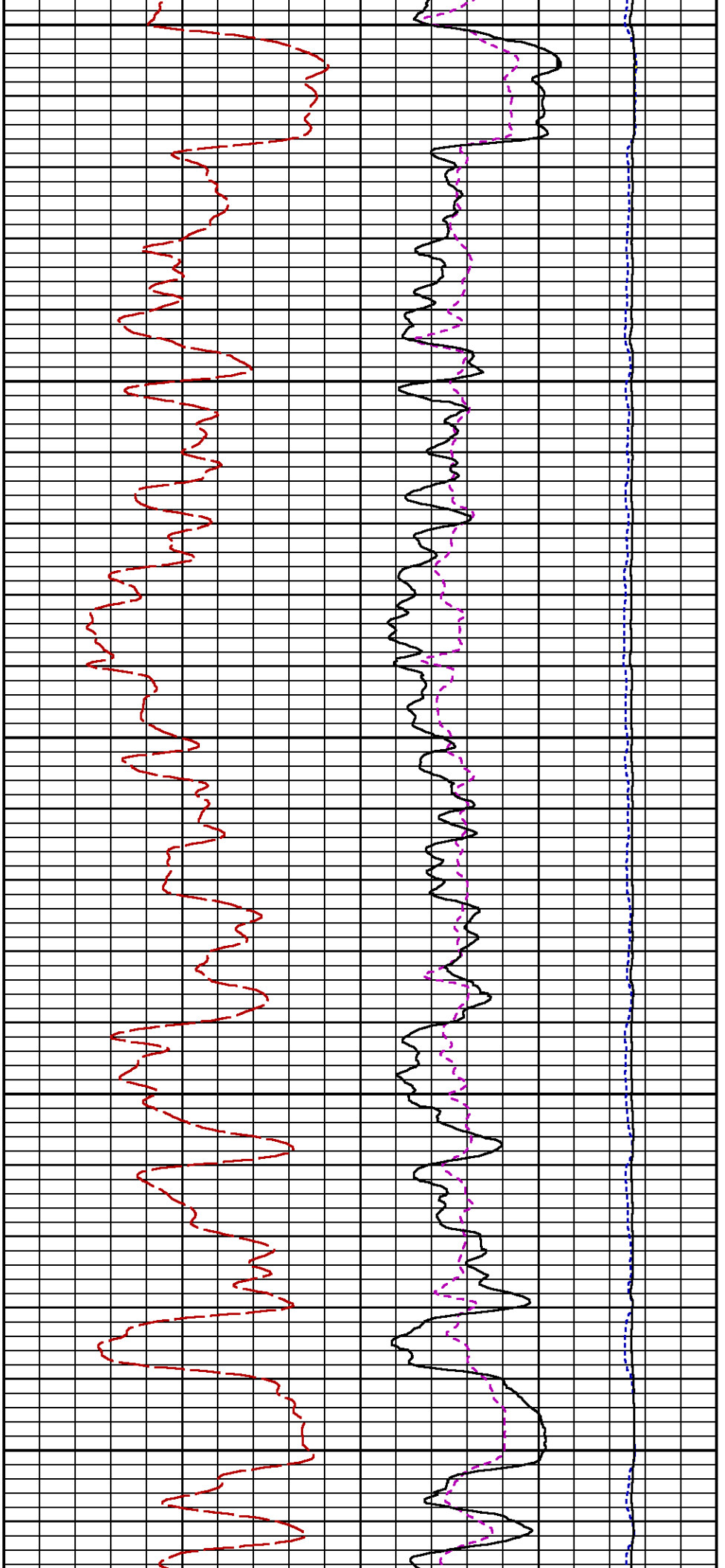
Data File 1 : F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_01W/BRUTON_19_01W_RPM_GSAND.xtf
 Created On : Aug 29 13:00:42 2017
 Company : LARAMIE ENERGY
 Well : BRUTON 19-01W
 Field : VEGA
 File Interval : 2467.5 - 3143.5 Feet
 OCT : RPM3D

GR BACKUP

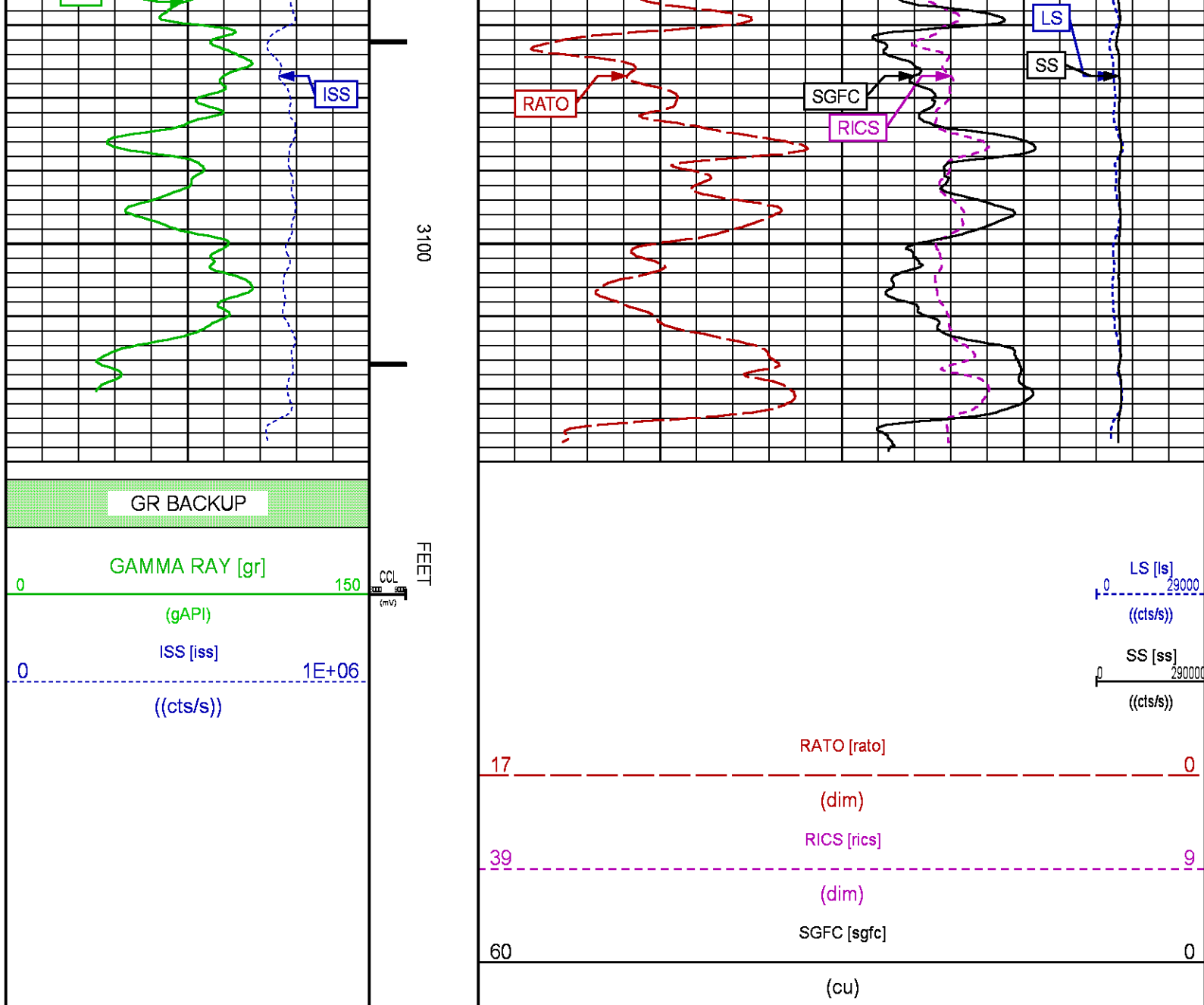
FEET







GR



MAIN PASS PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 1 Patches: 9

Plotted: Tue Aug 29 12:59:29 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_19_01W/RPM3D02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4311.500 ft BOTTOM DEPTH: 8051.000 ft

SYMMETRIC FILTER

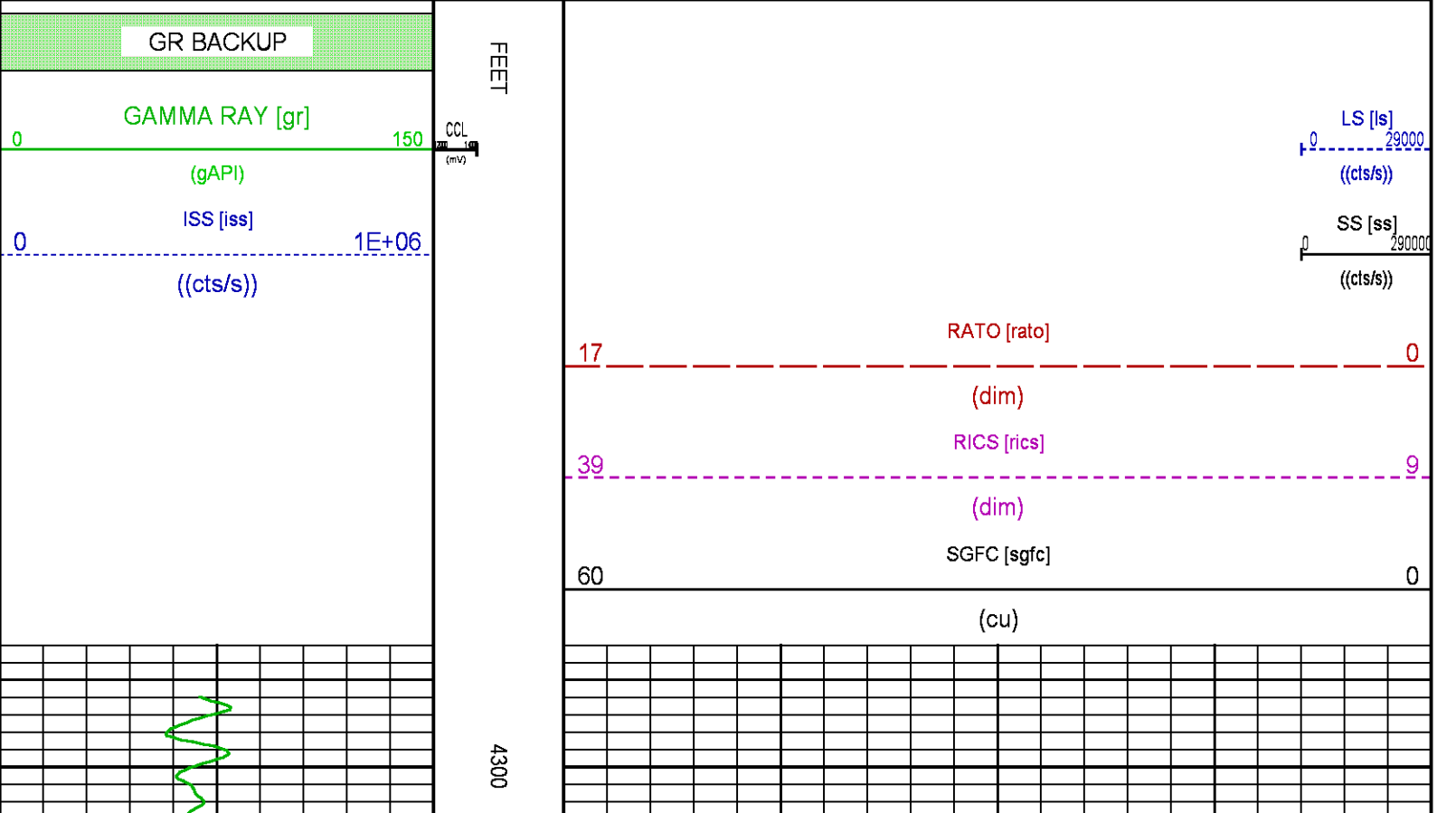
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
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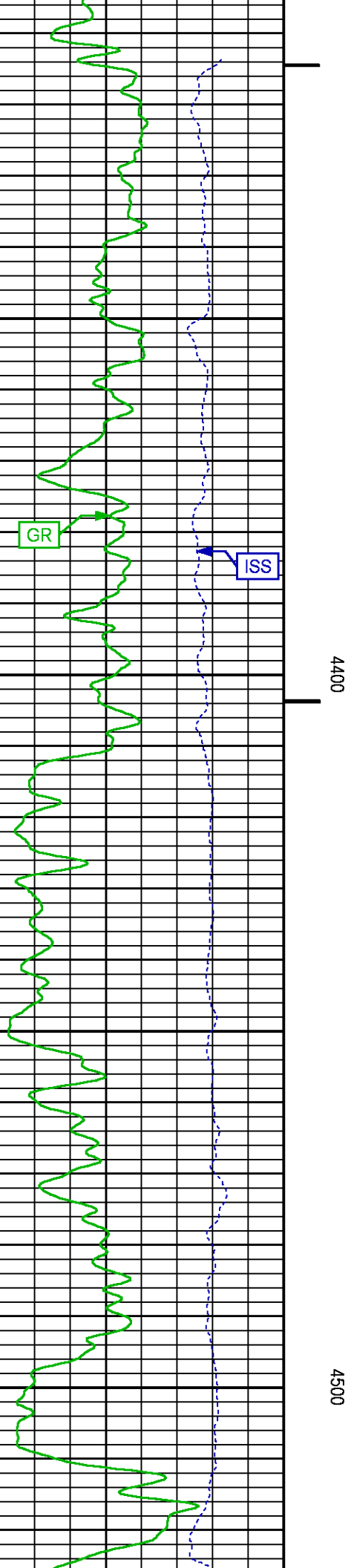
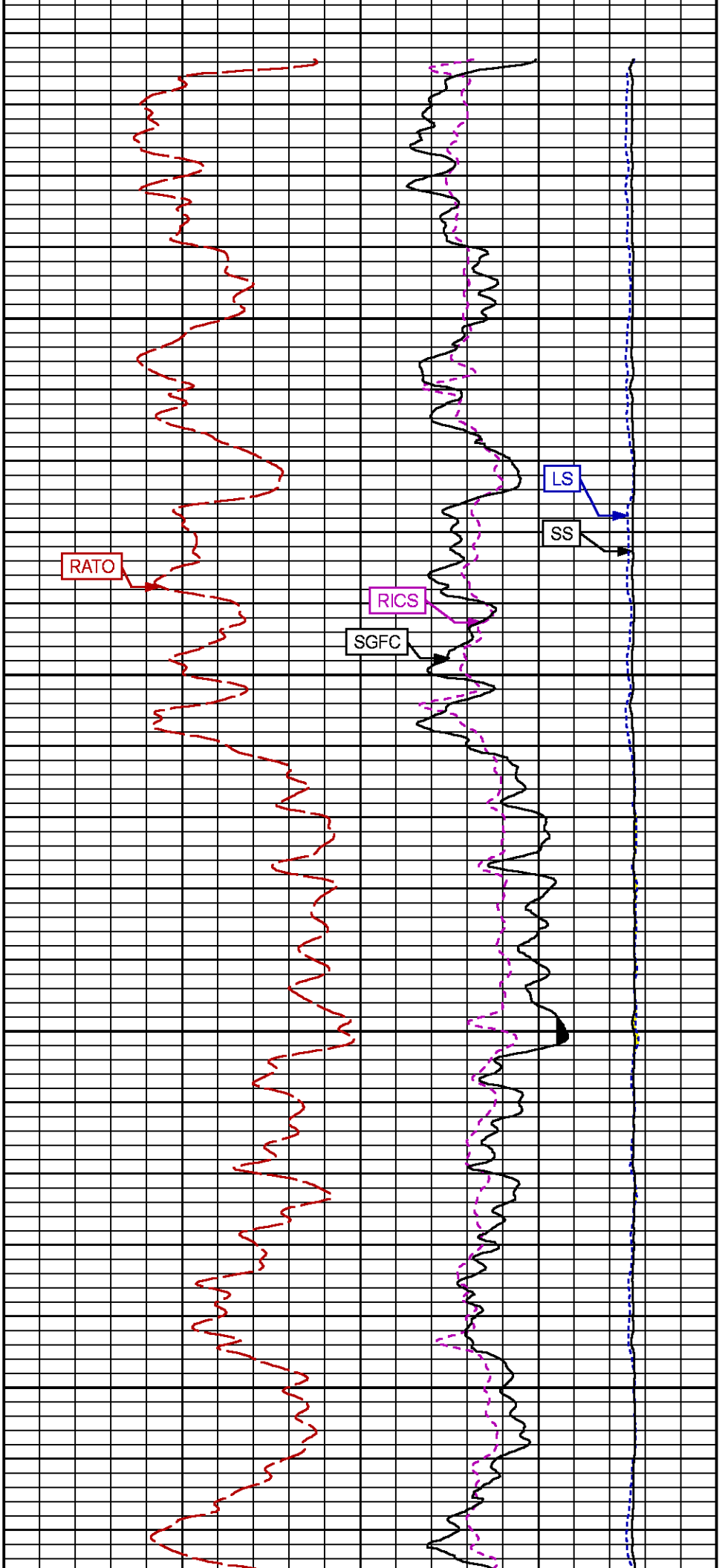
GR	FILTER ()	medium (1)	TOP	BOTTOM
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP
	OPEN/CASED HOLE	CASED HOLE		BOTTOM
	BOREHOLE SIZE	7.88	in	"
	CASING SIZE	4.50	in	"
	MATRIX	SANDSTONE		"
	CORRECTION BUFFER	11		"

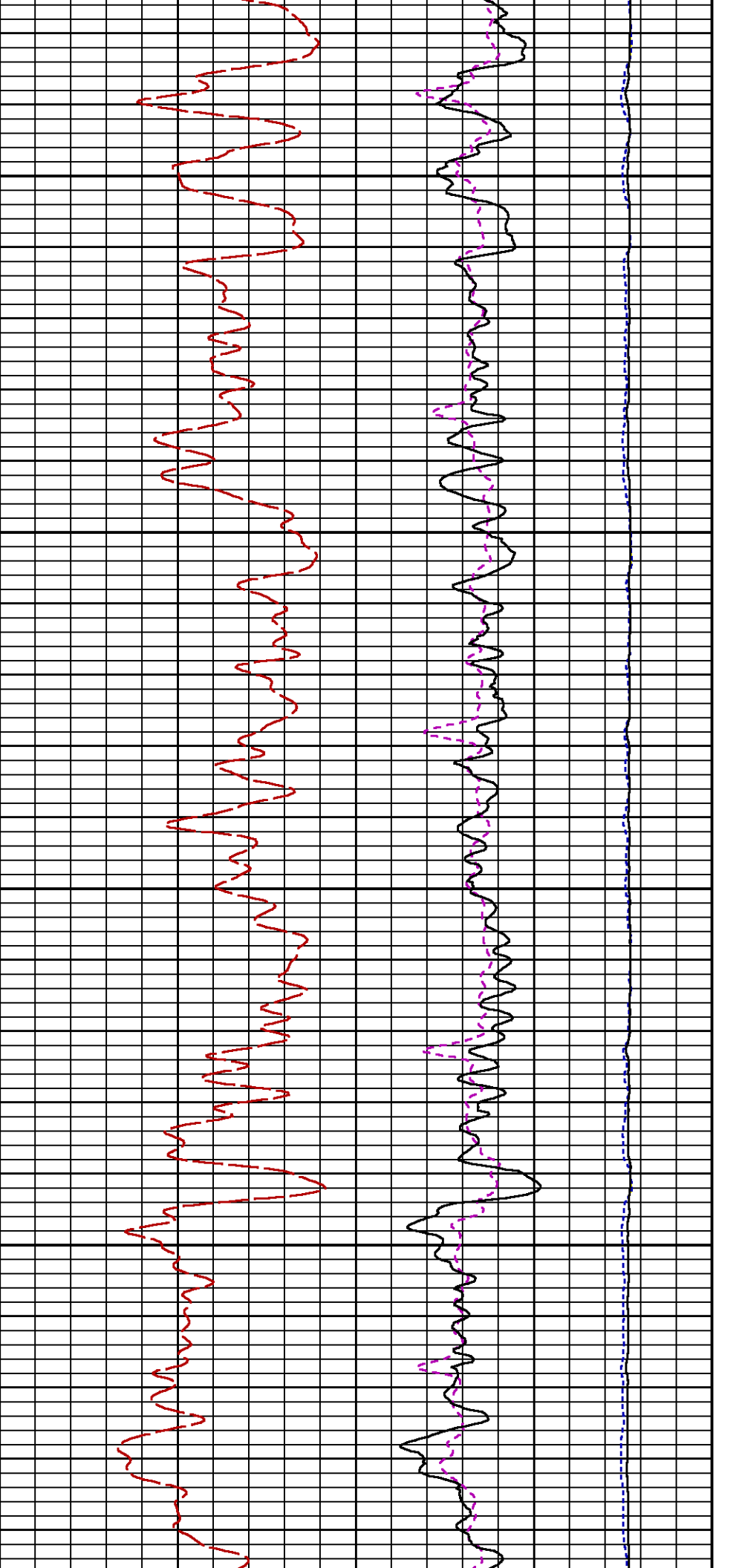
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 29 08:56:53 2017	CASING COLLAR LOCATOR
F1:GR	Aug 29 08:56:53 2017	GAMMA RAY
F1:ISS	Aug 29 08:56:53 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 29 08:56:53 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 29 08:56:53 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 29 08:56:53 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 29 08:56:53 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 29 08:56:53 2017	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	: cpu100:/dat1a/LARAMIE_BRUTON_19_01W/BRUTON_19_01W_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 4287.75 - 8043.5 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_01W/BRUTON_19_01W_RPM_MAIN.xtf
Created On	: Aug 29 08:56:53 2017
Company	: LARAMIE ENERGY
Well	: BRUTON 19-01W
Field	: VEGA
File Interval	: 4287 - 8052.25 Feet
OCT	: RPM3D

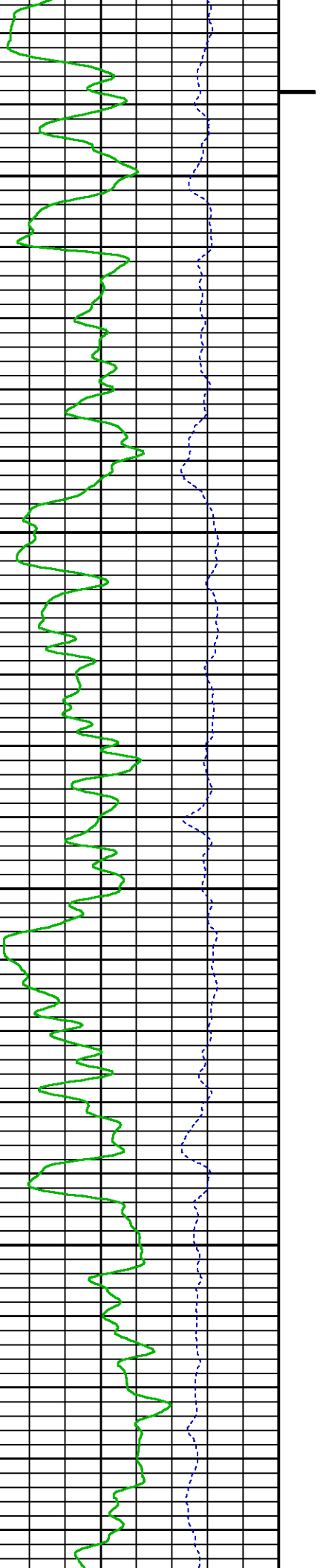


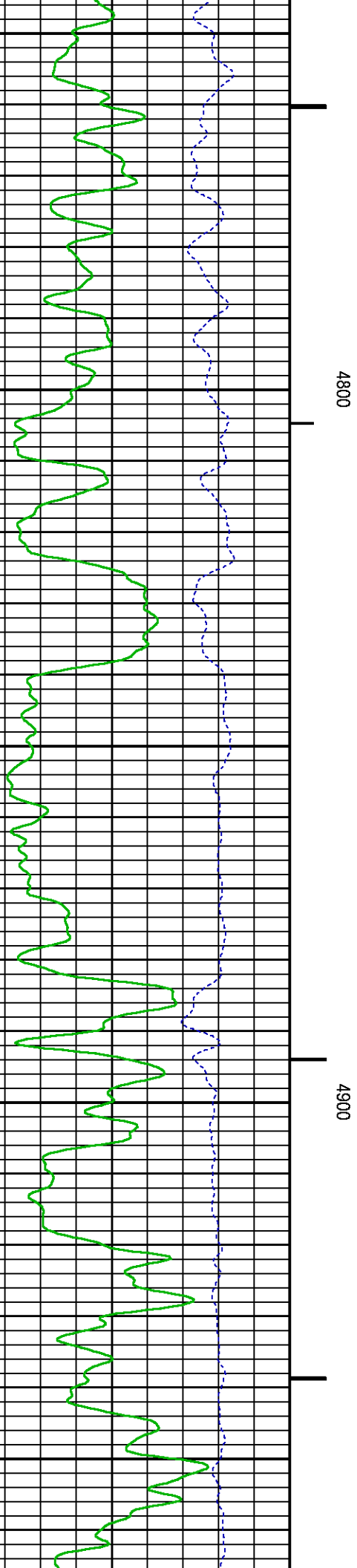
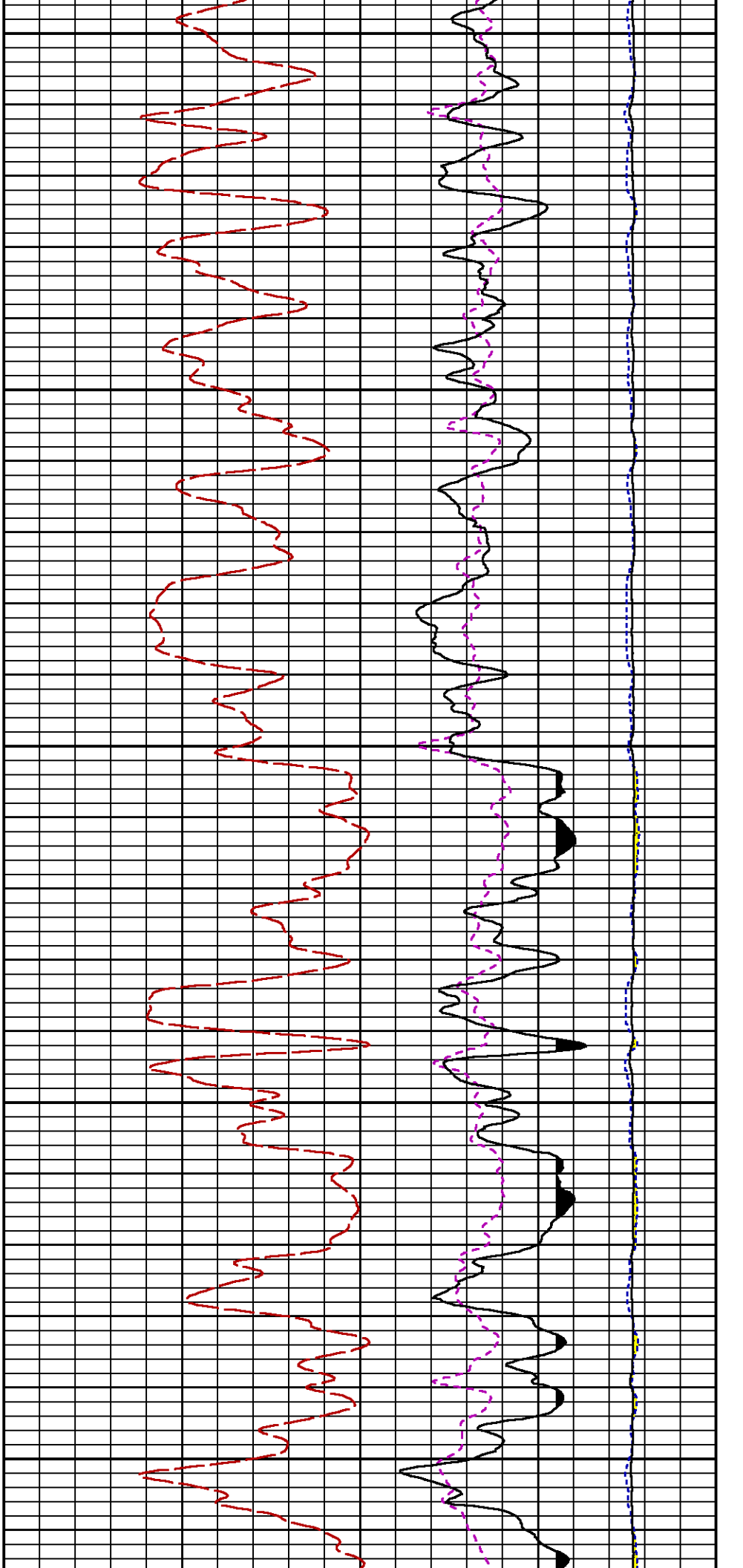


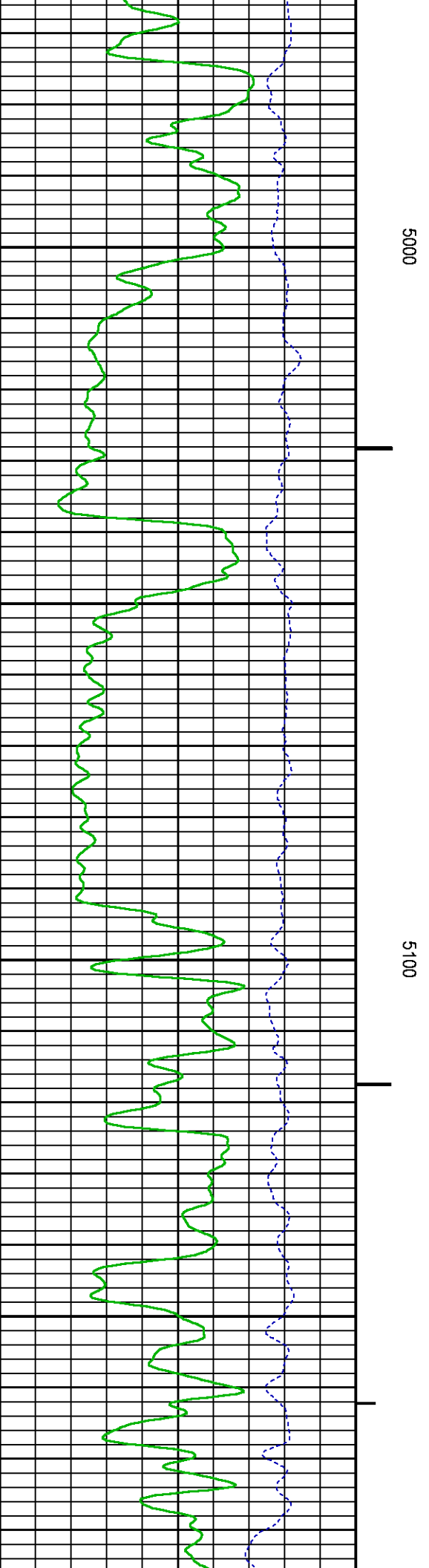
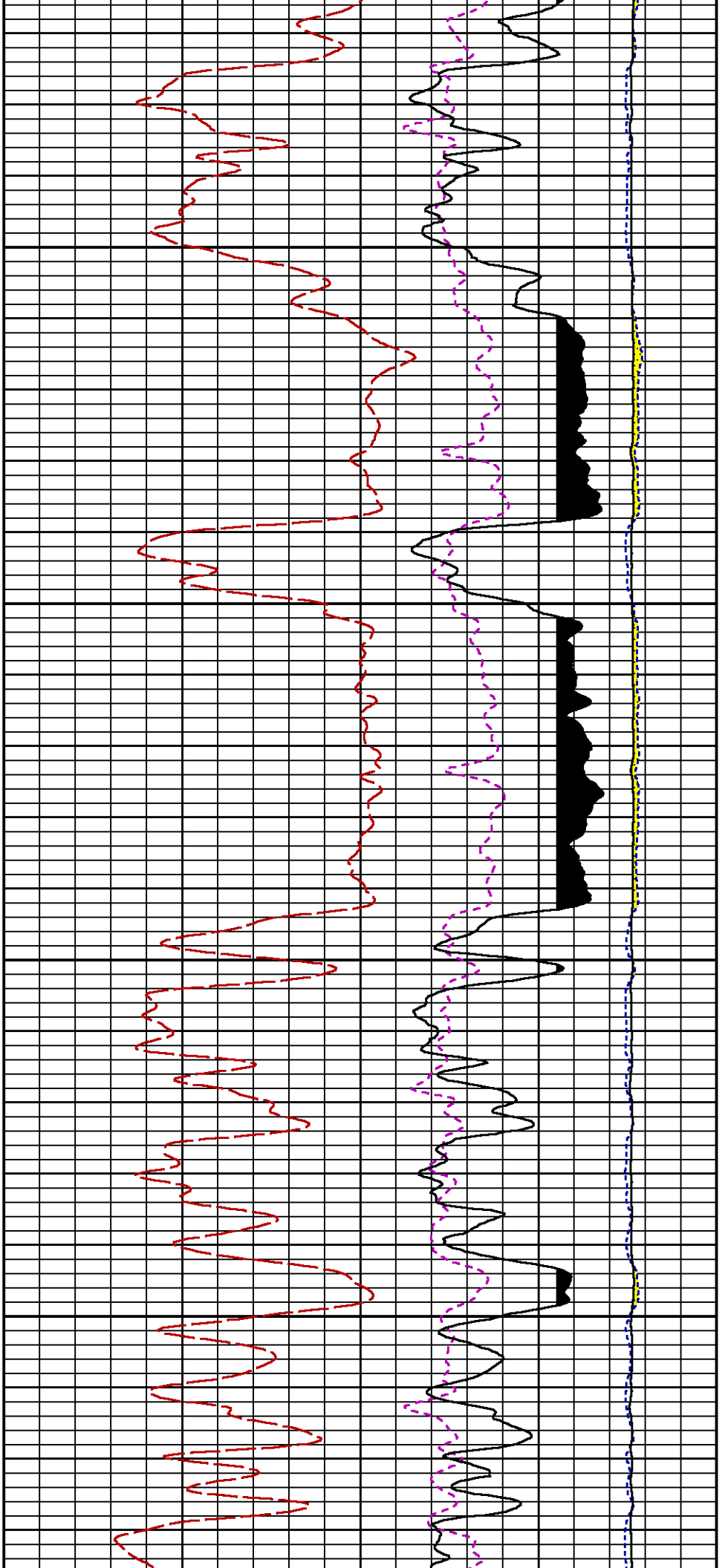


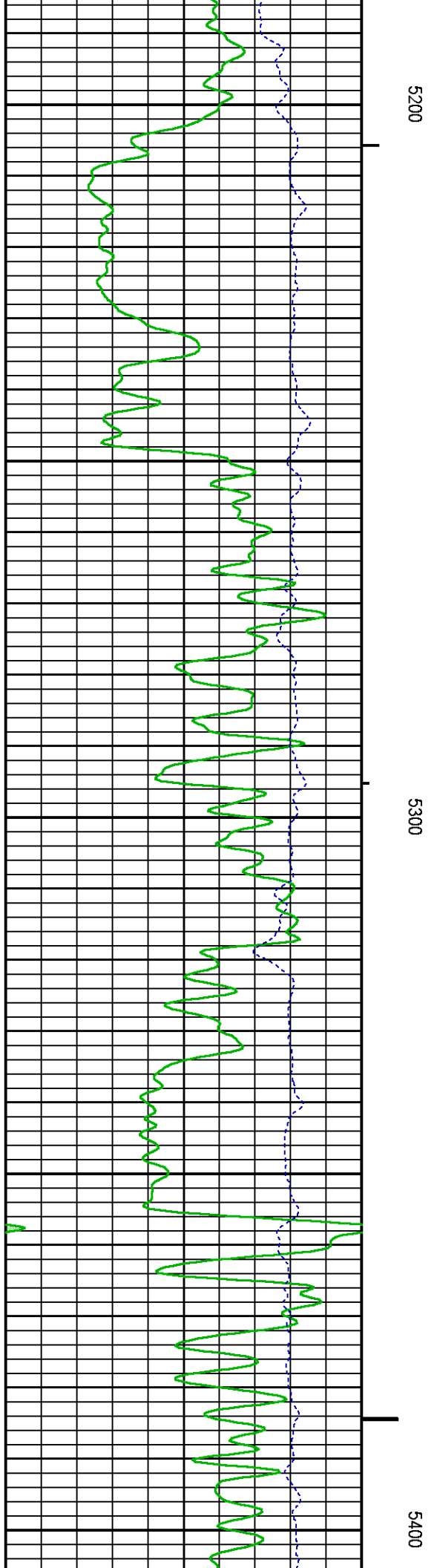
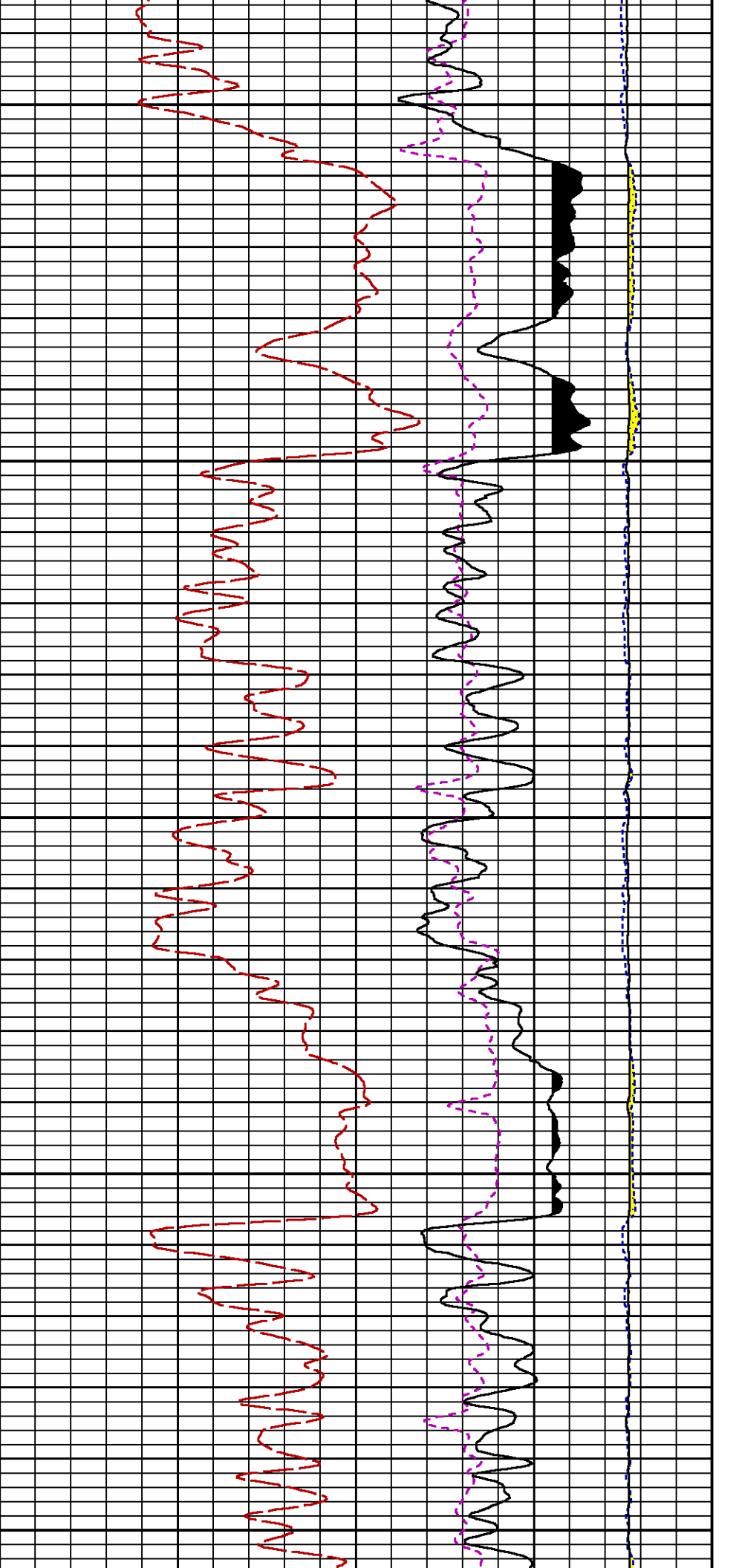
4600

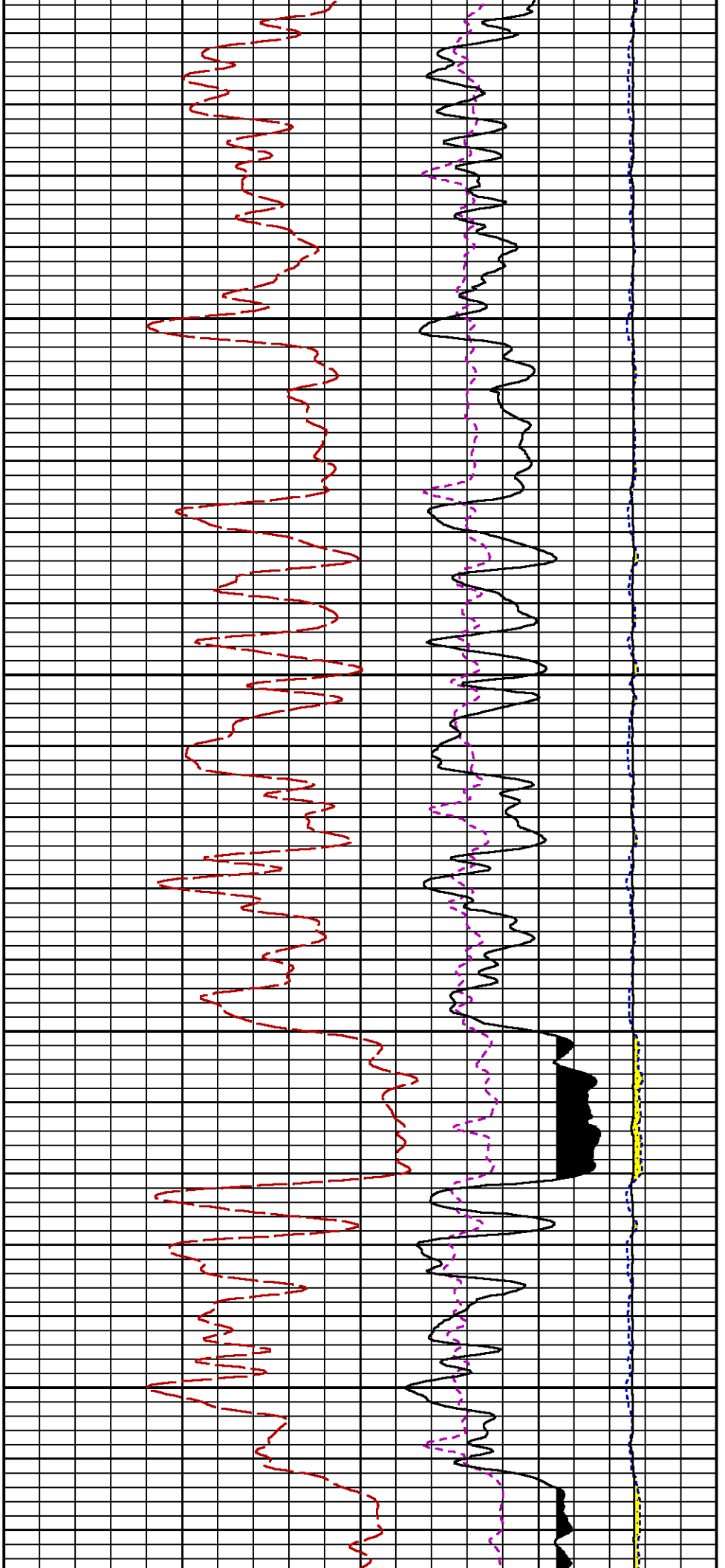
4700





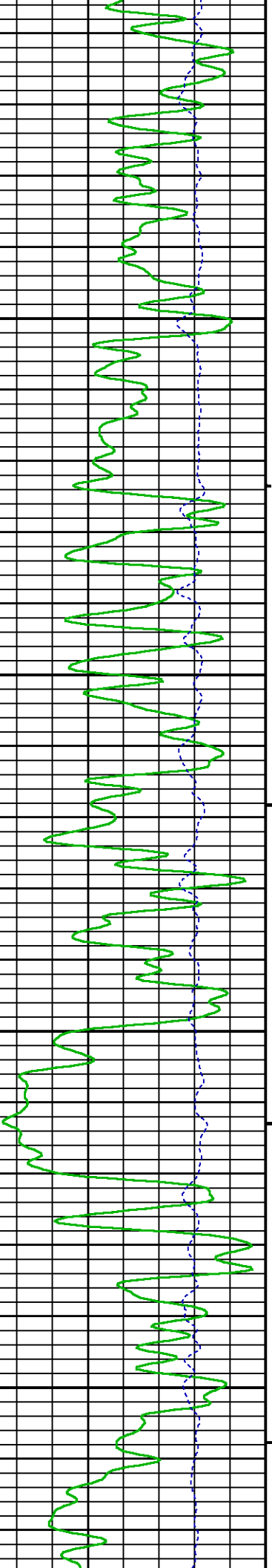


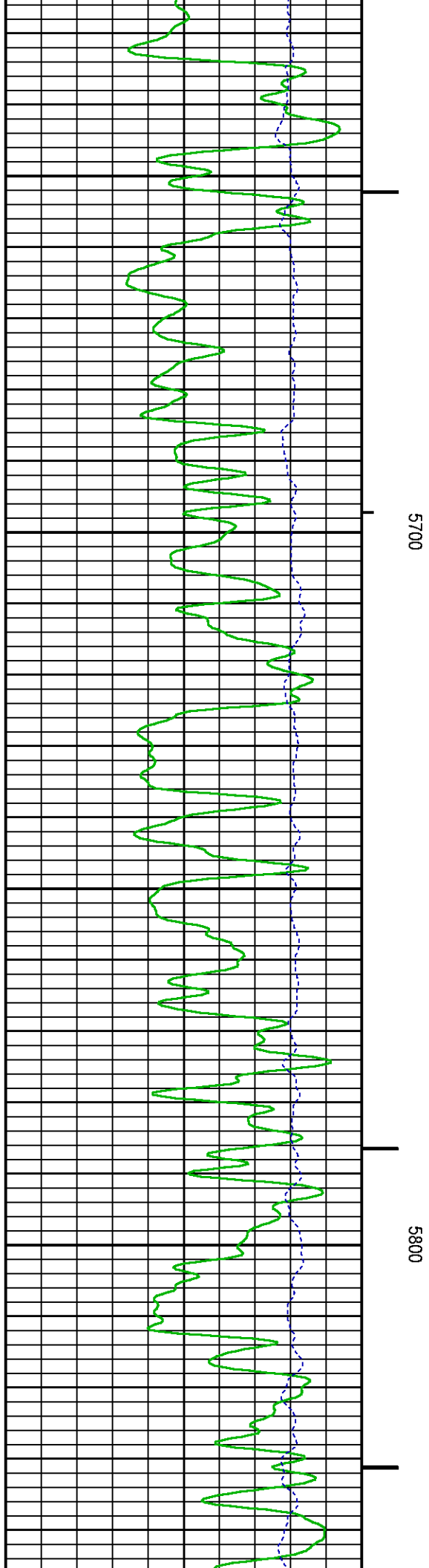
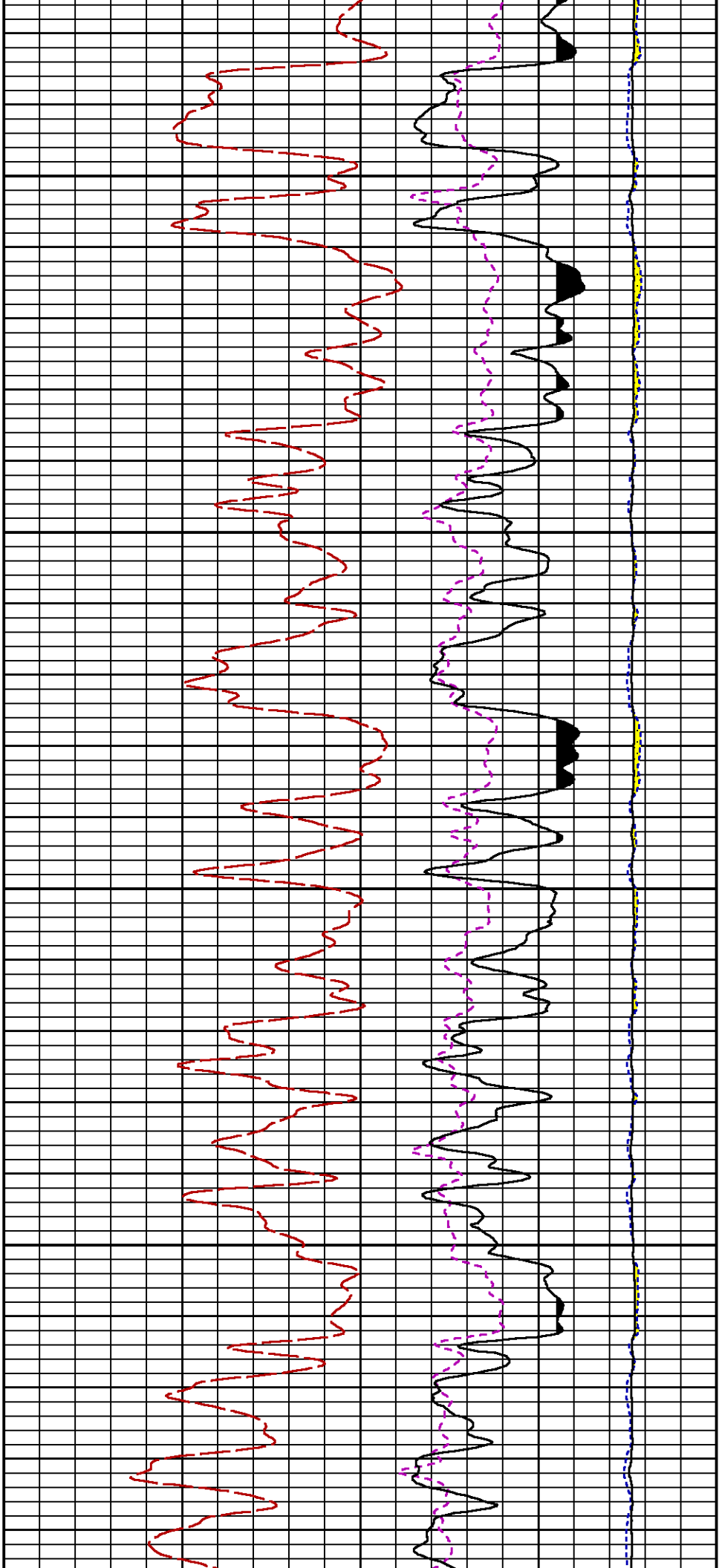


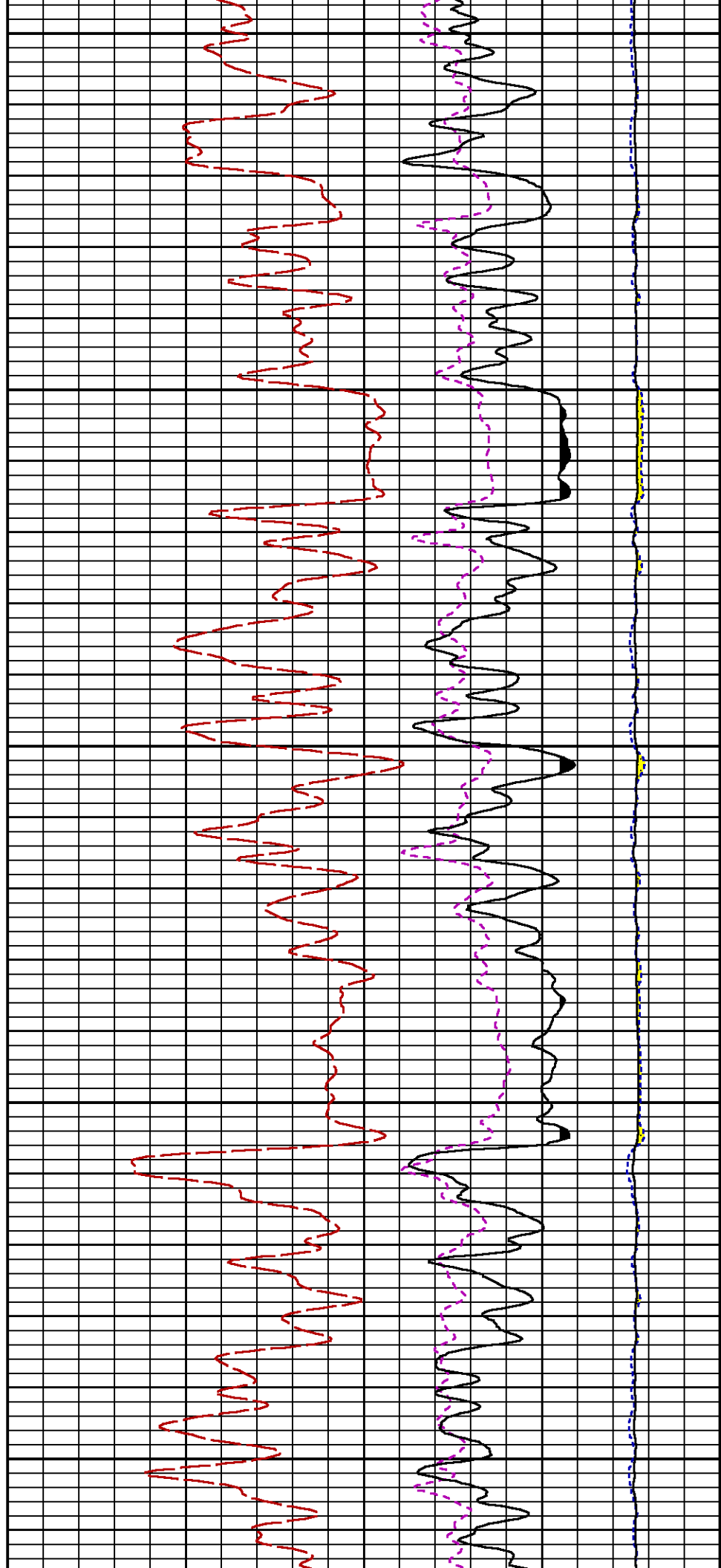
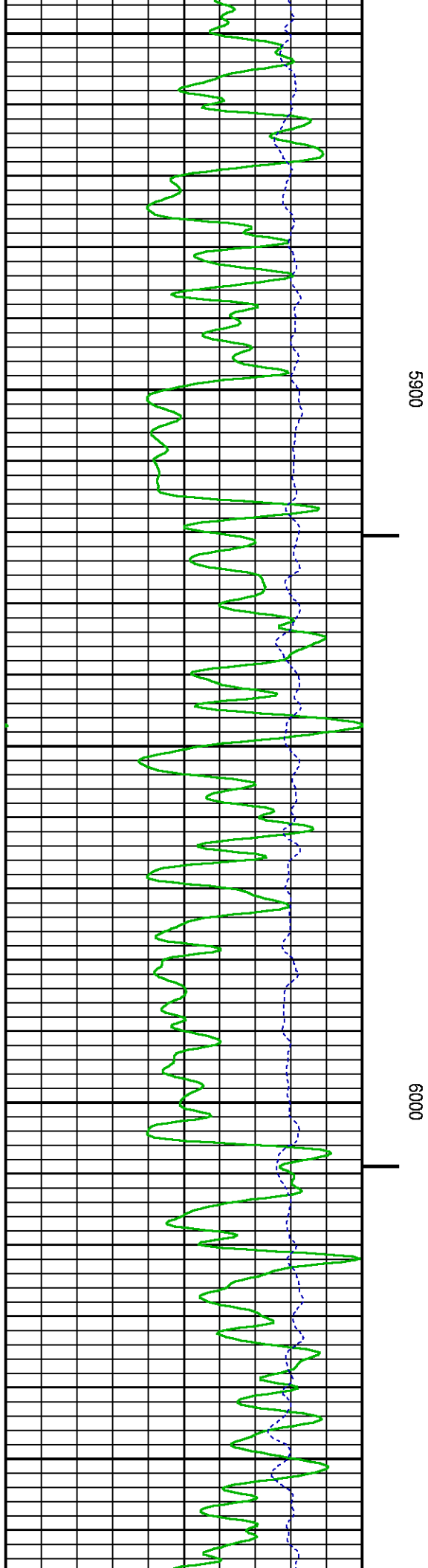


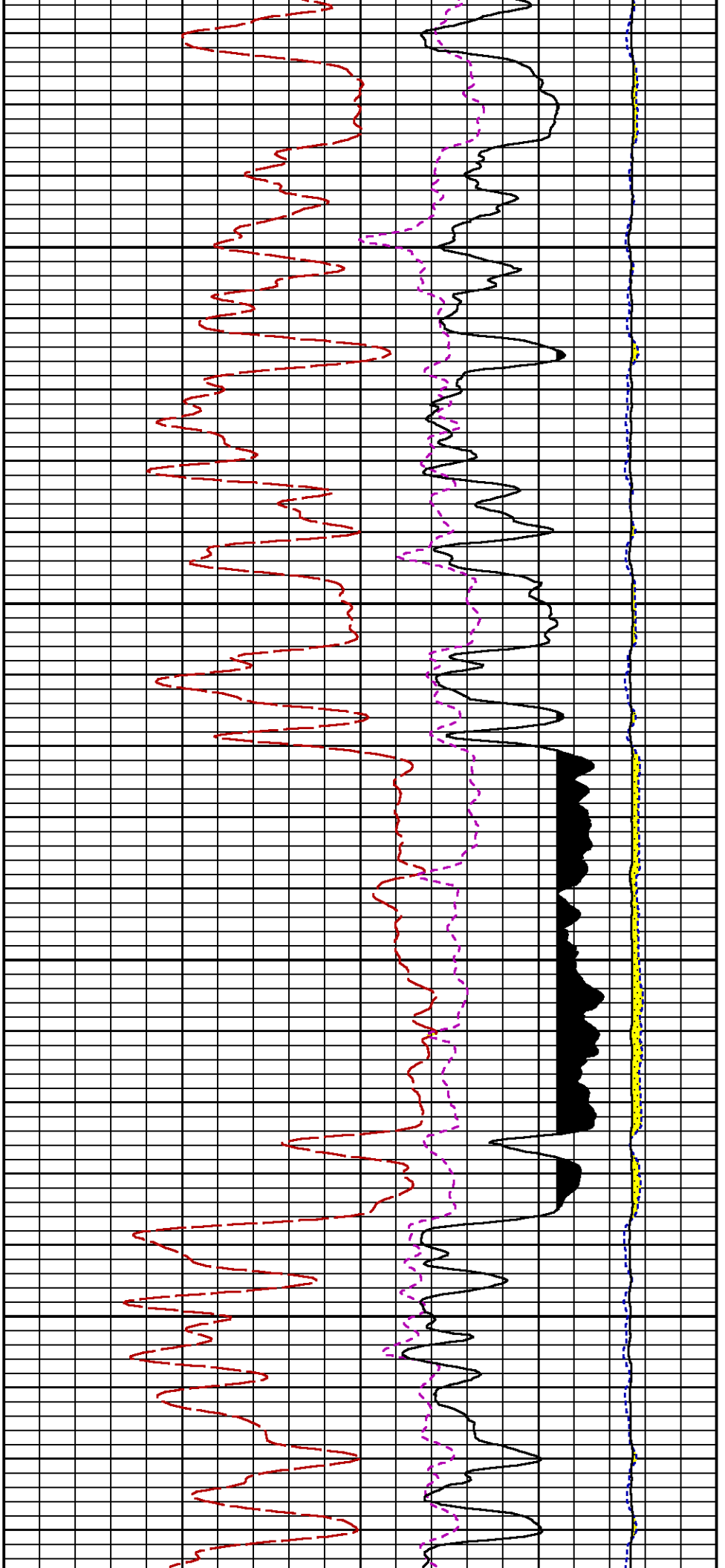
5500

5600



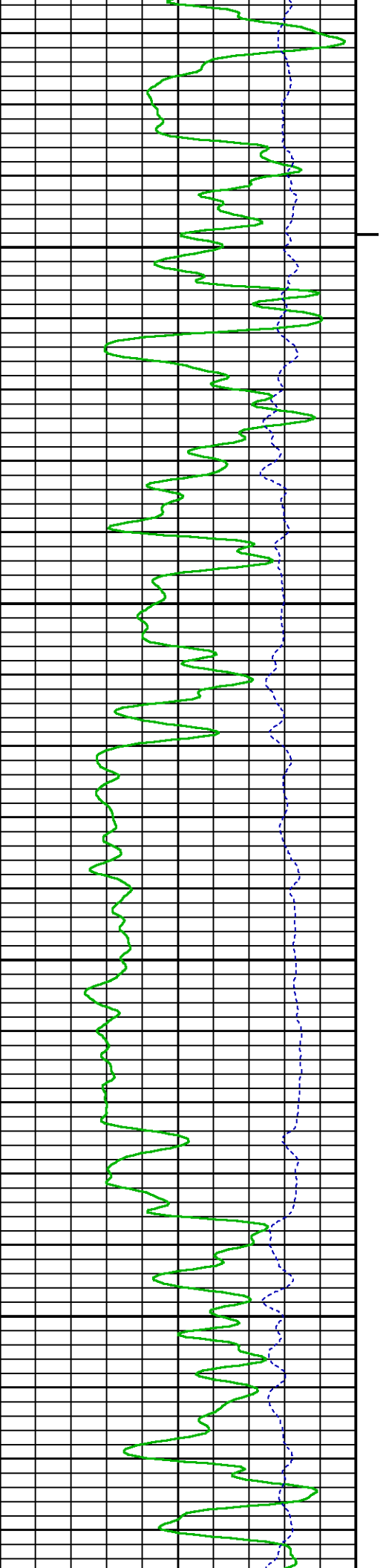


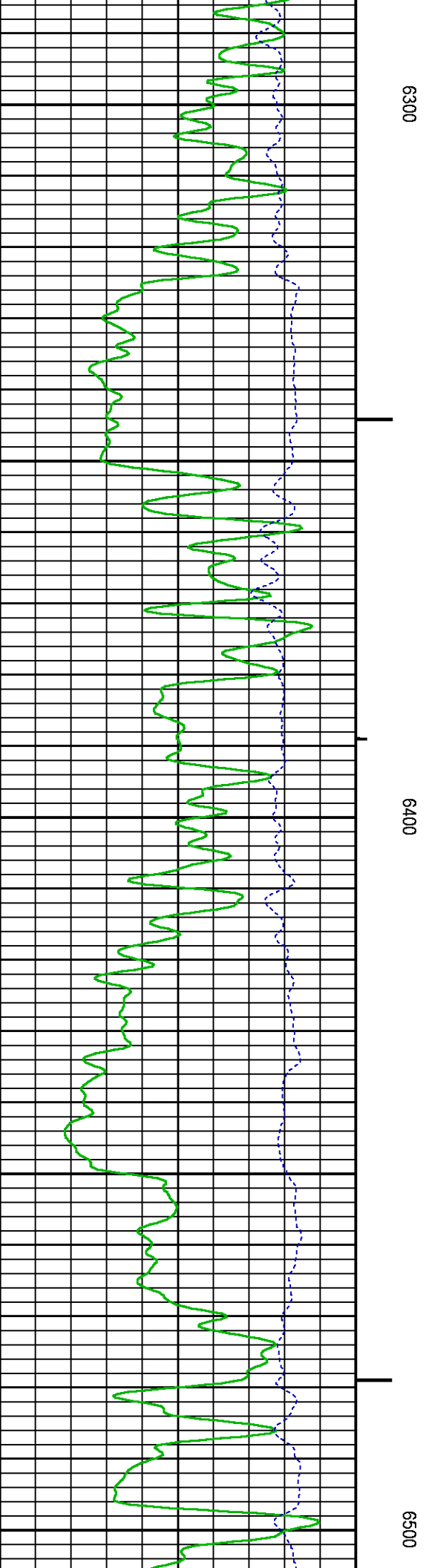
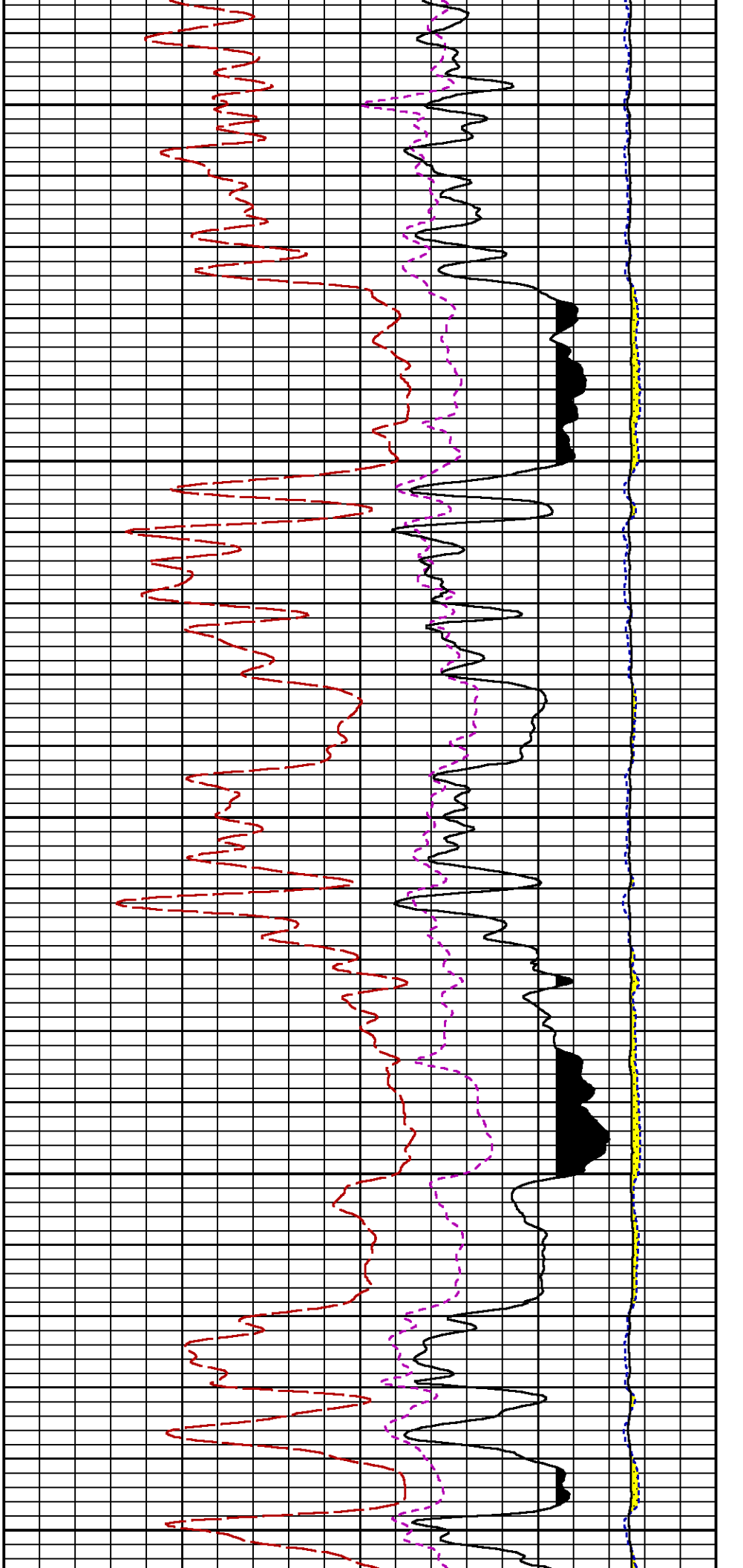


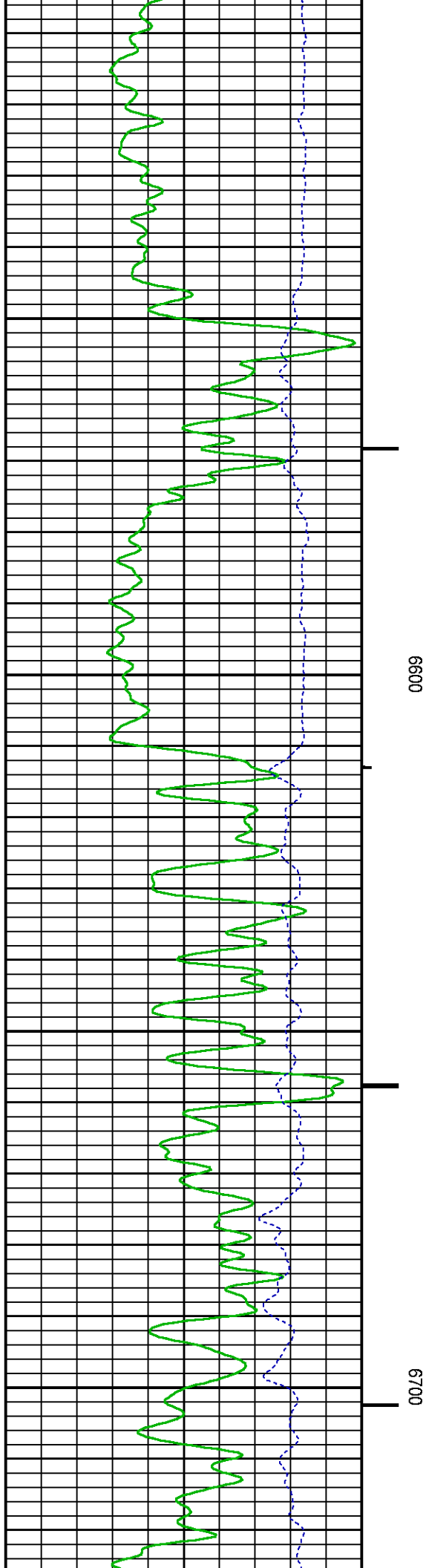
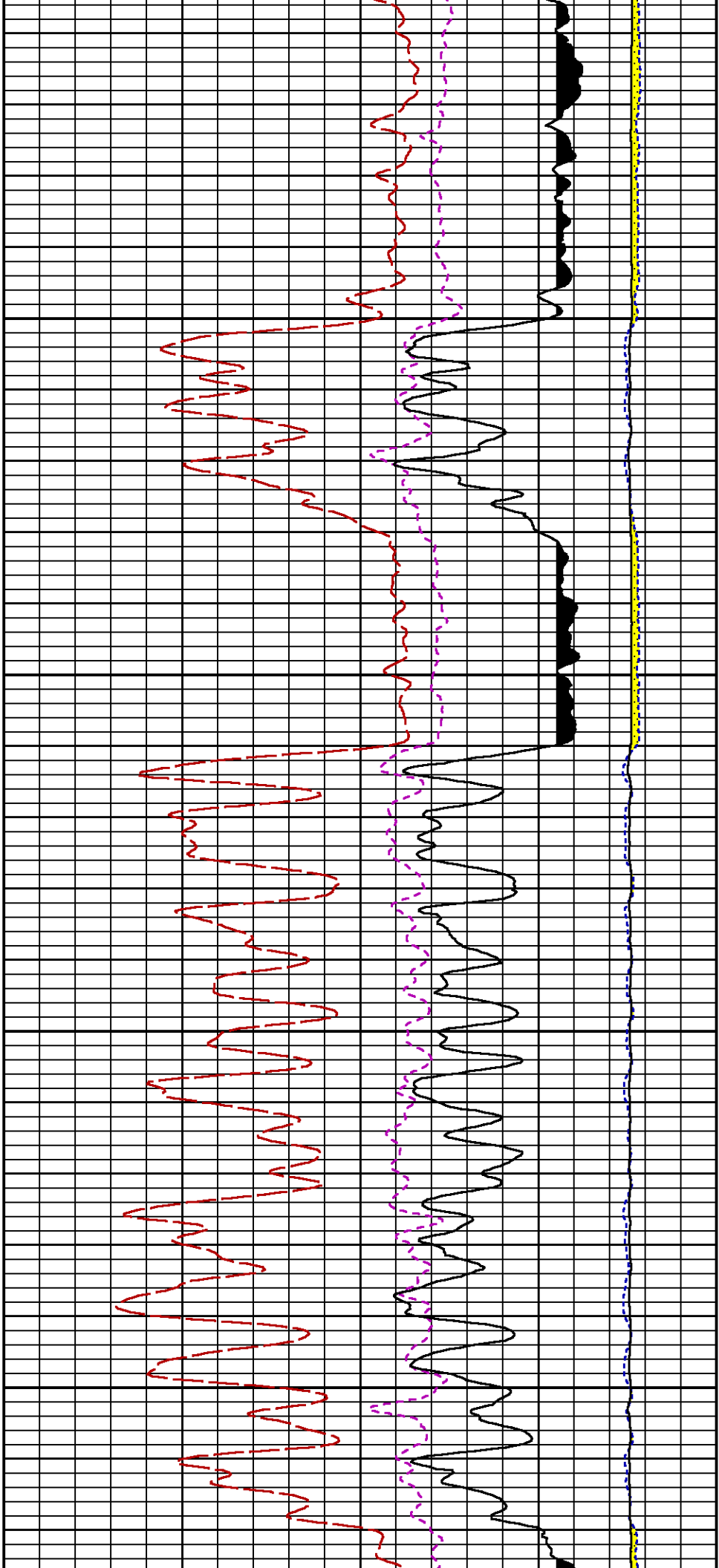


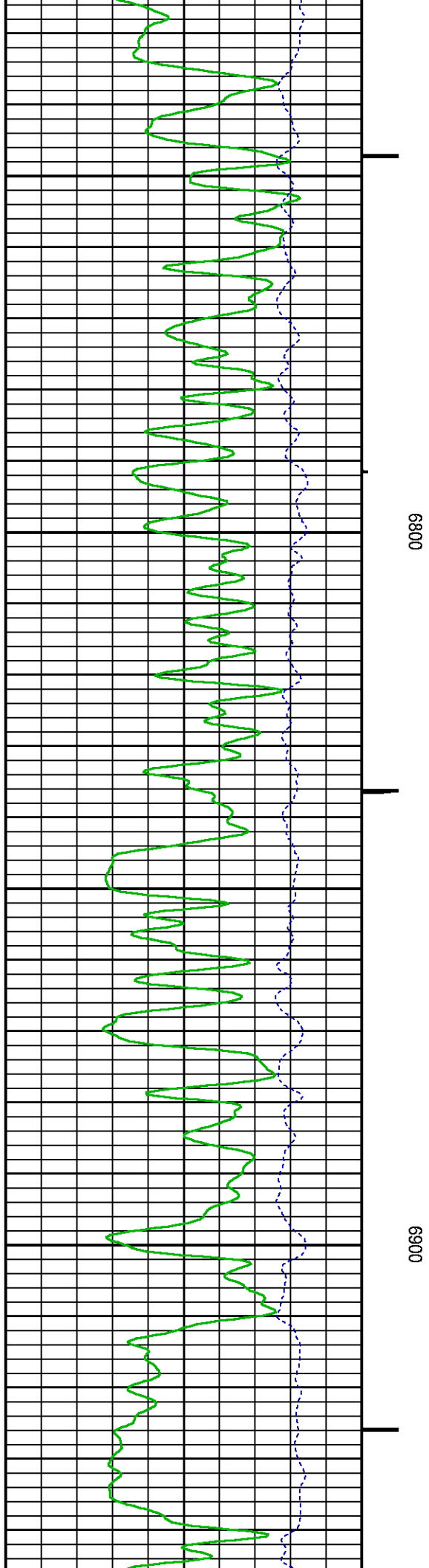
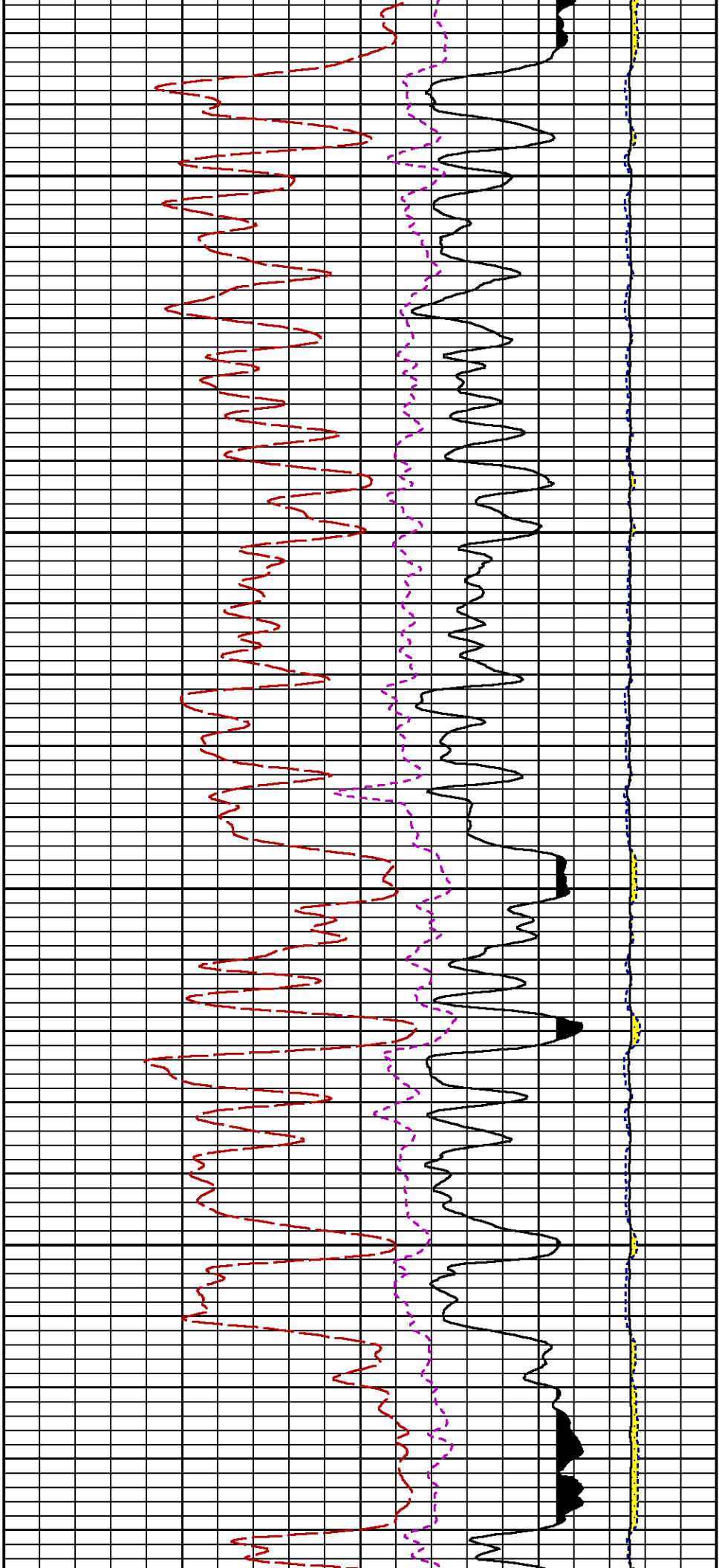
6100

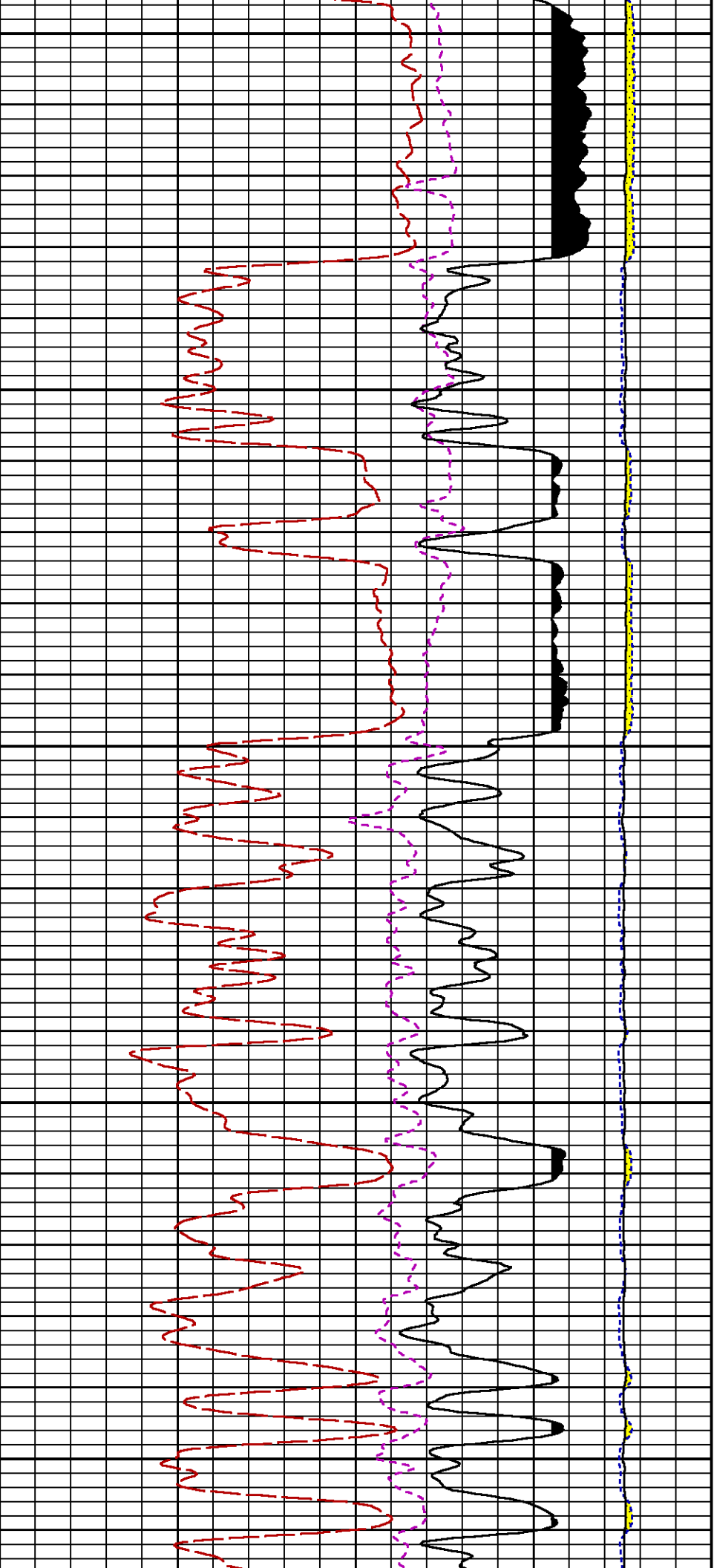
6200





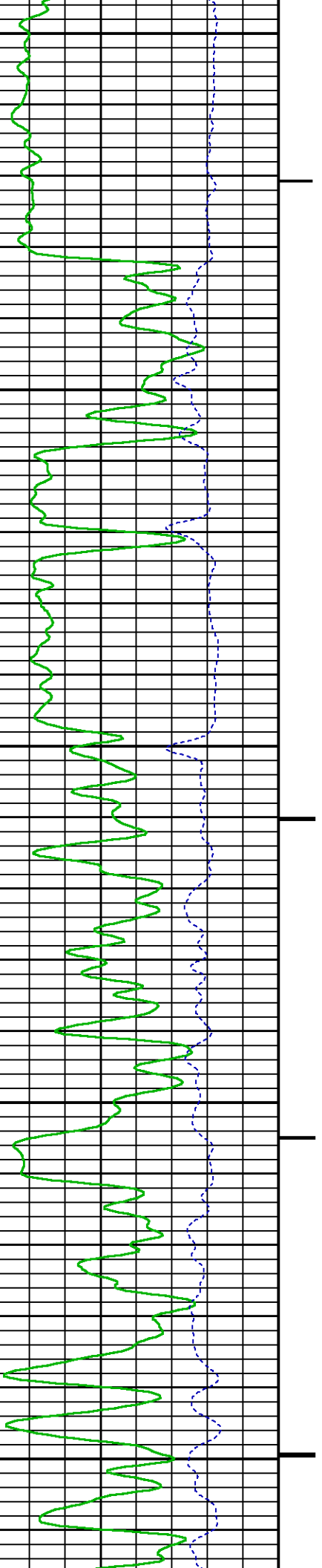


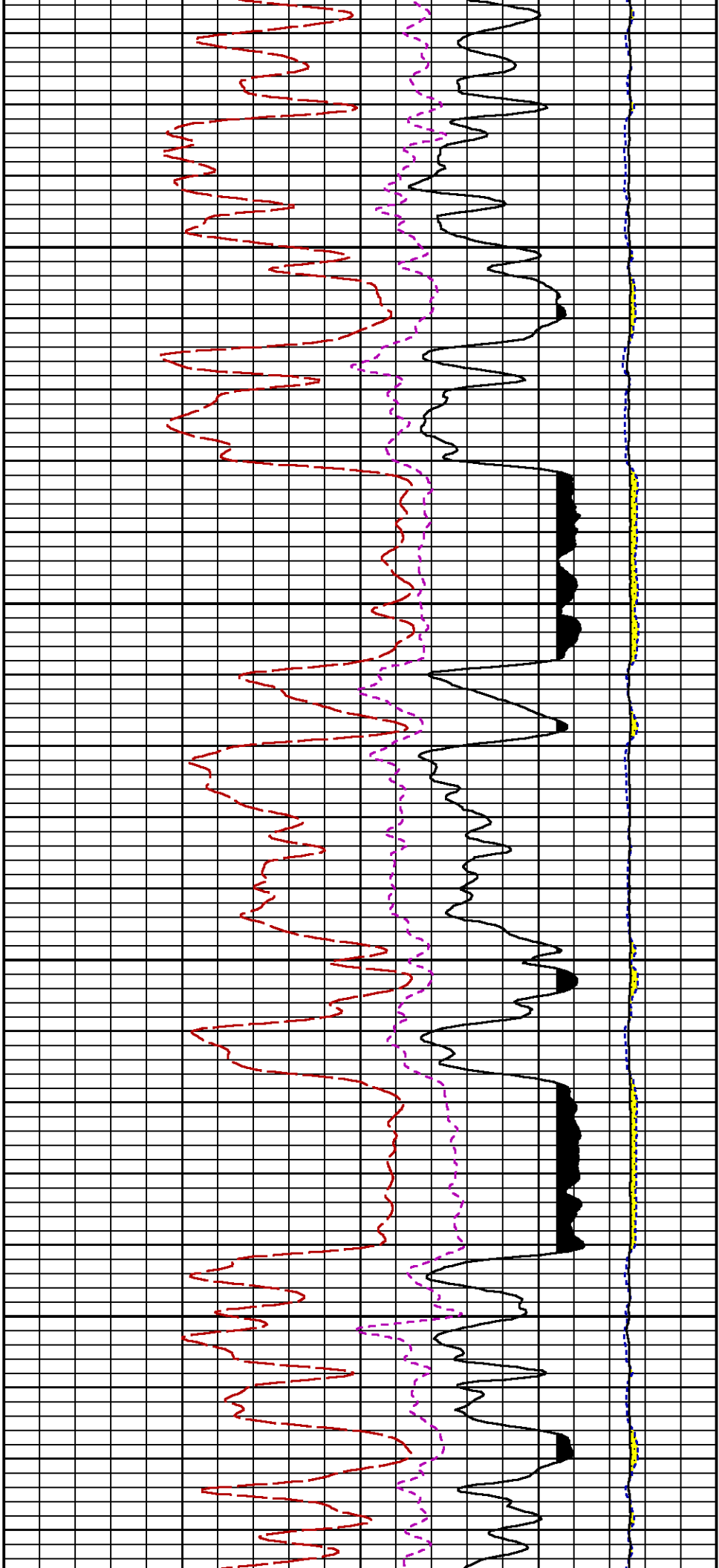




7000

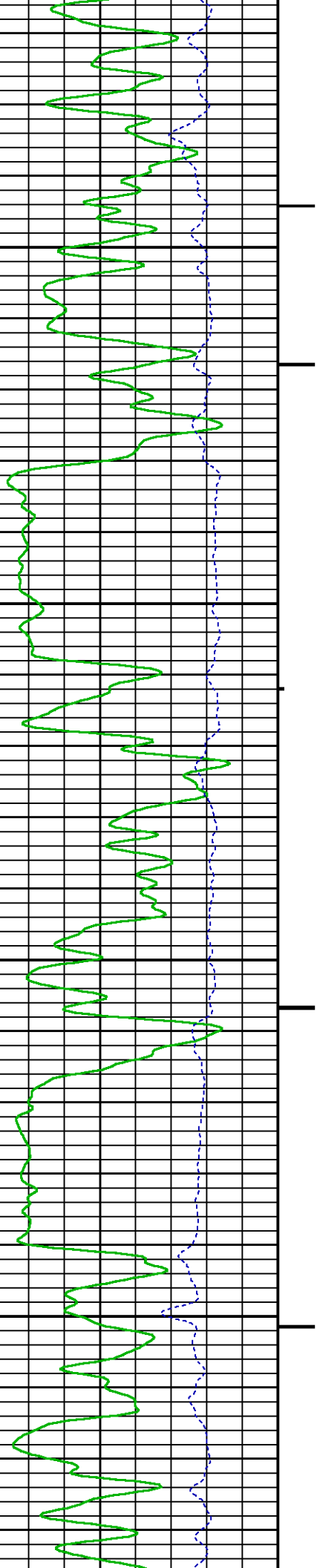
7100

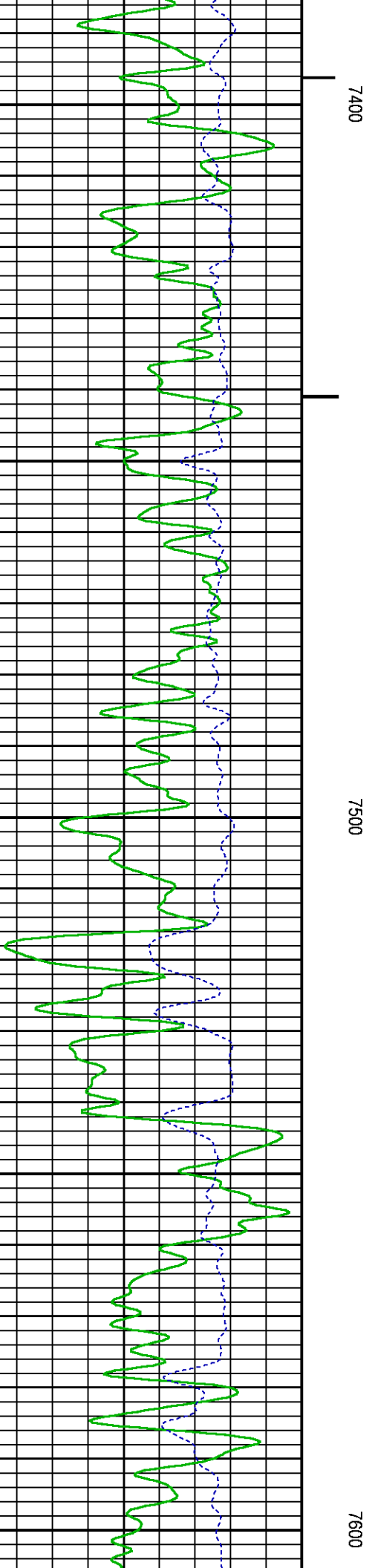
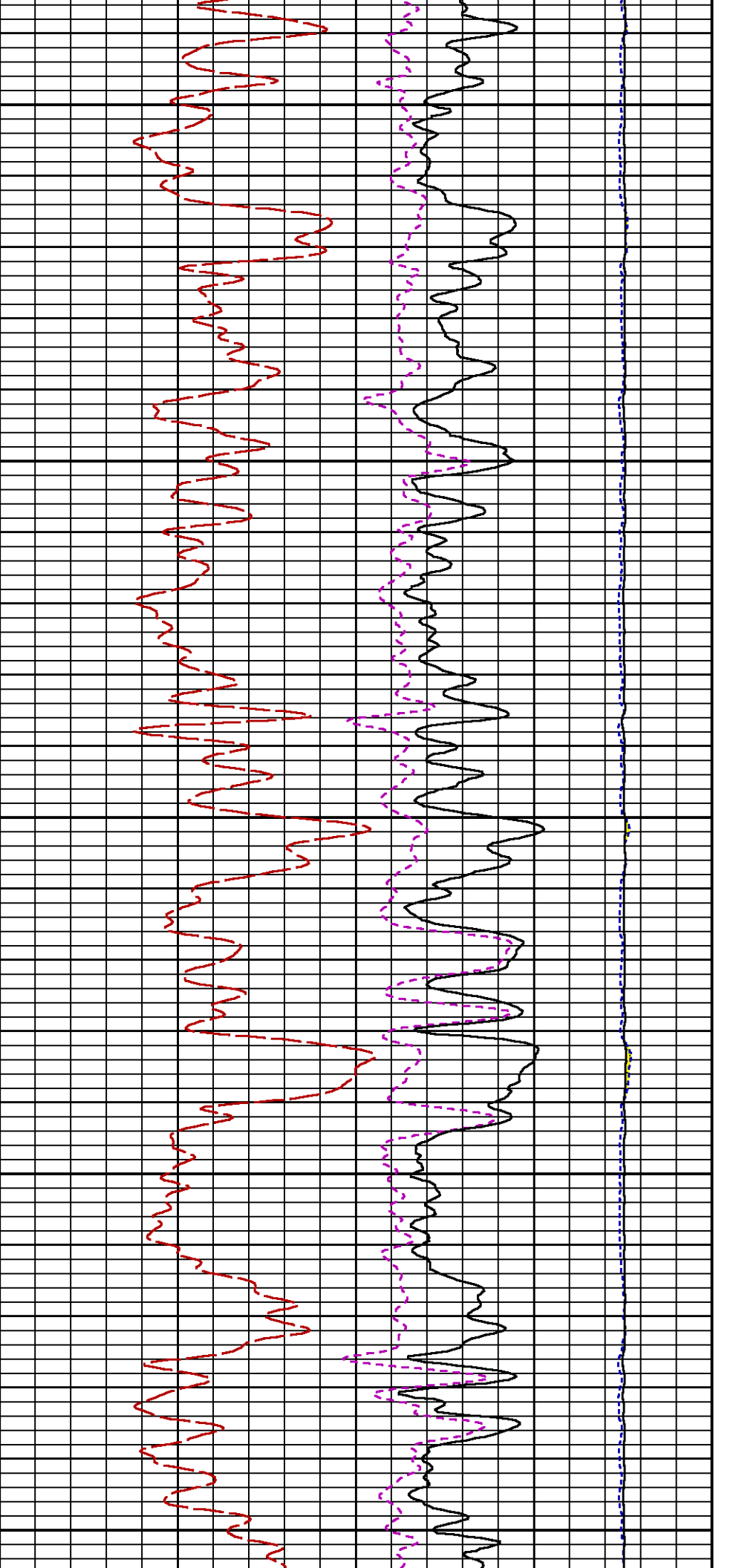


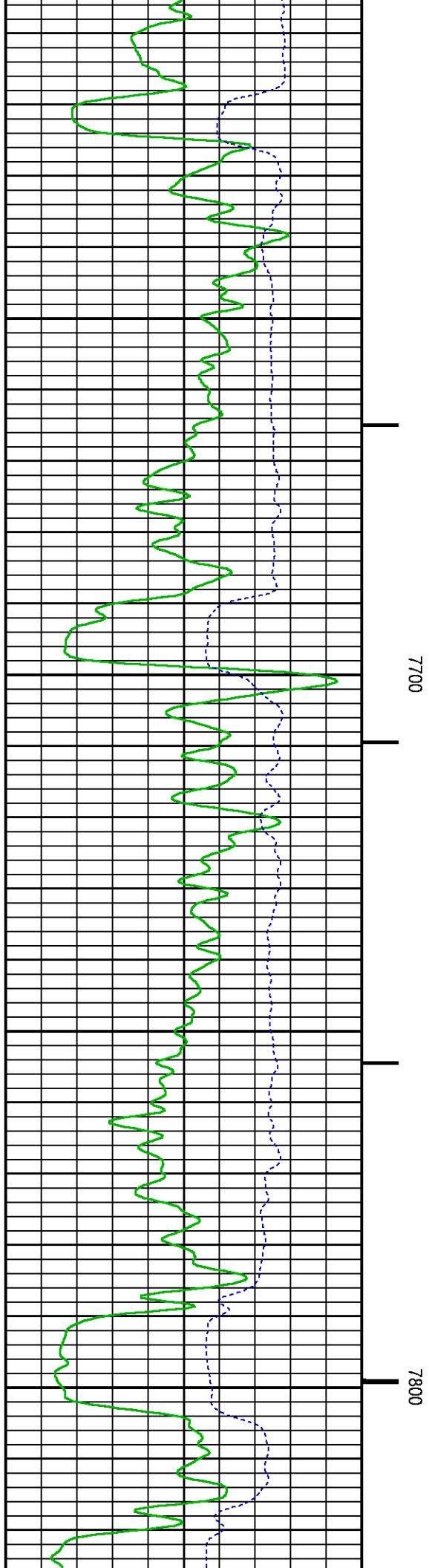
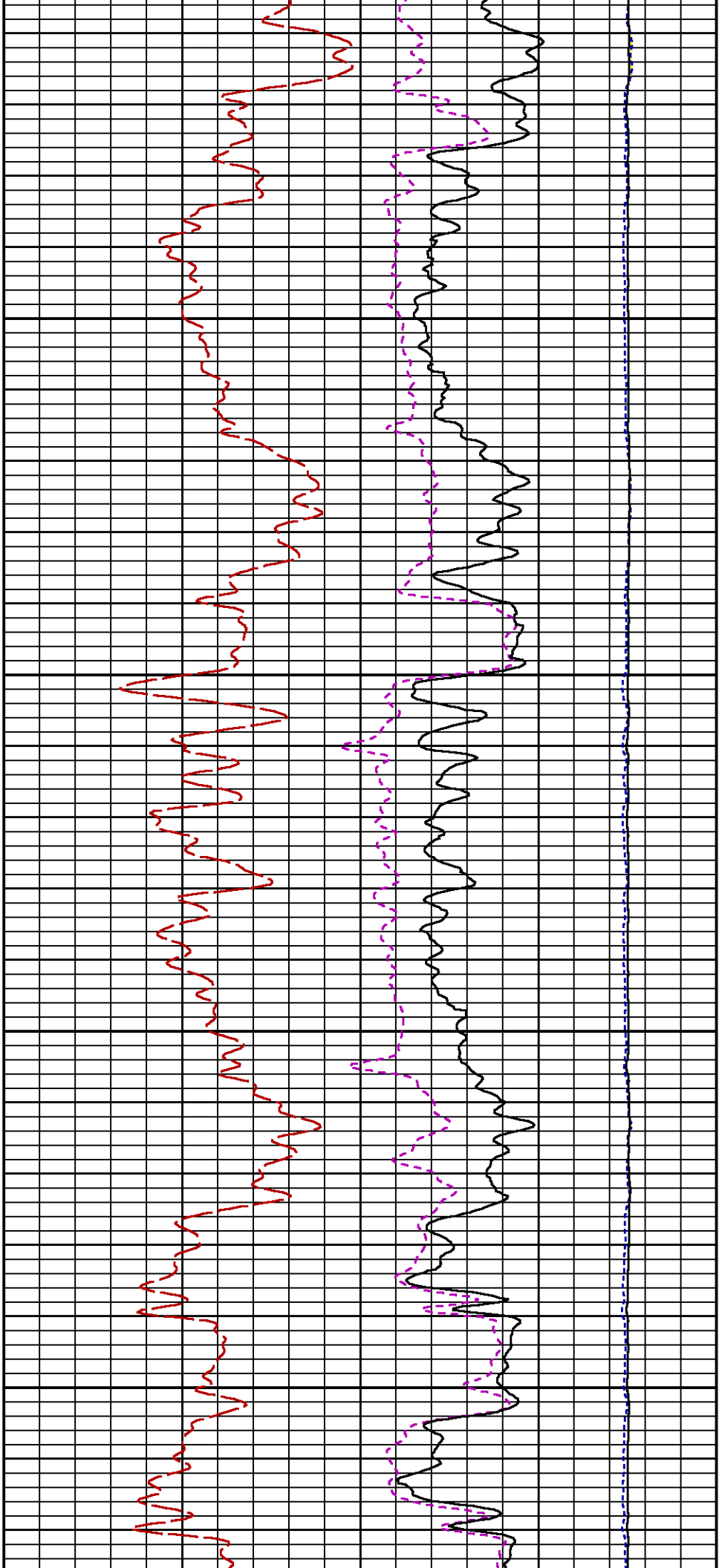


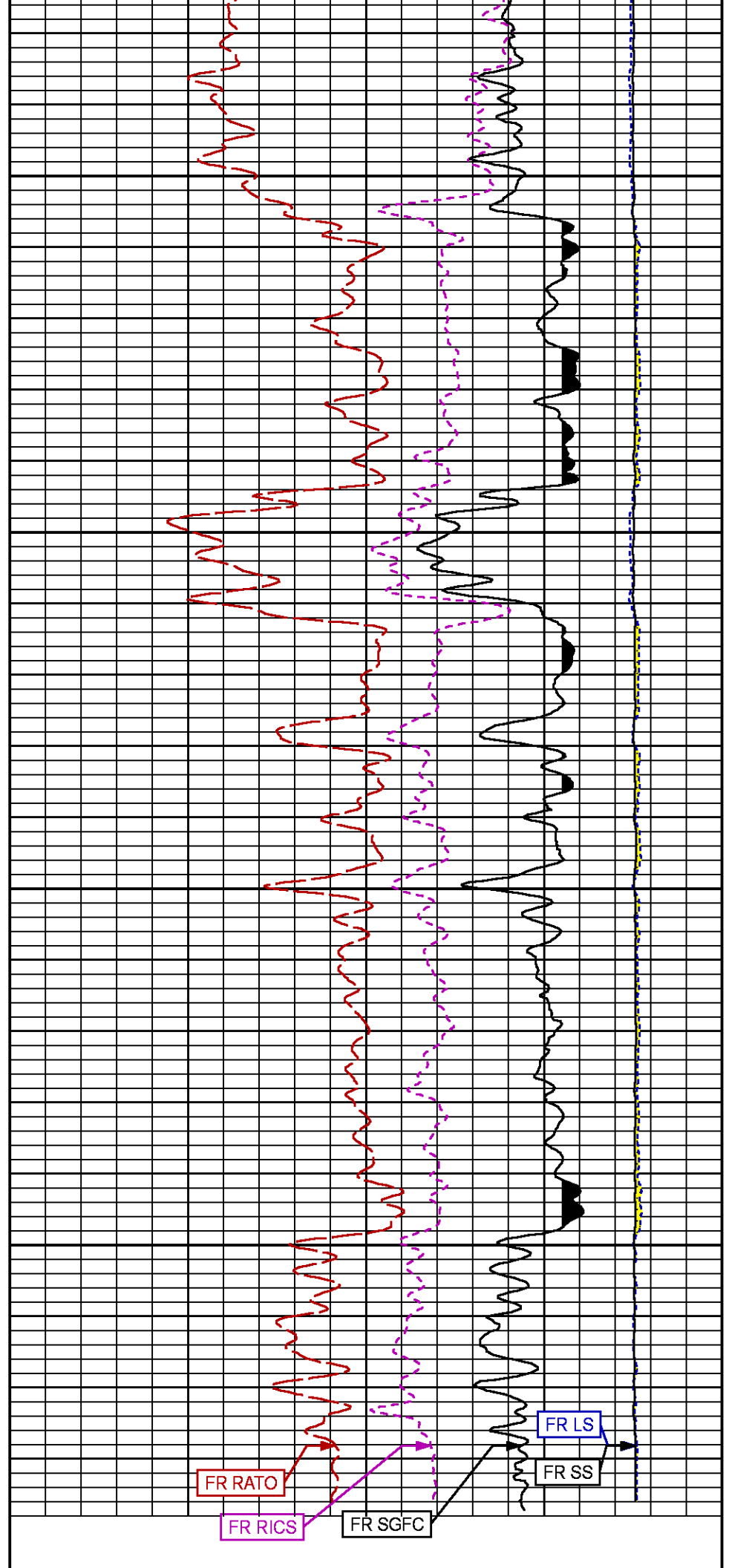
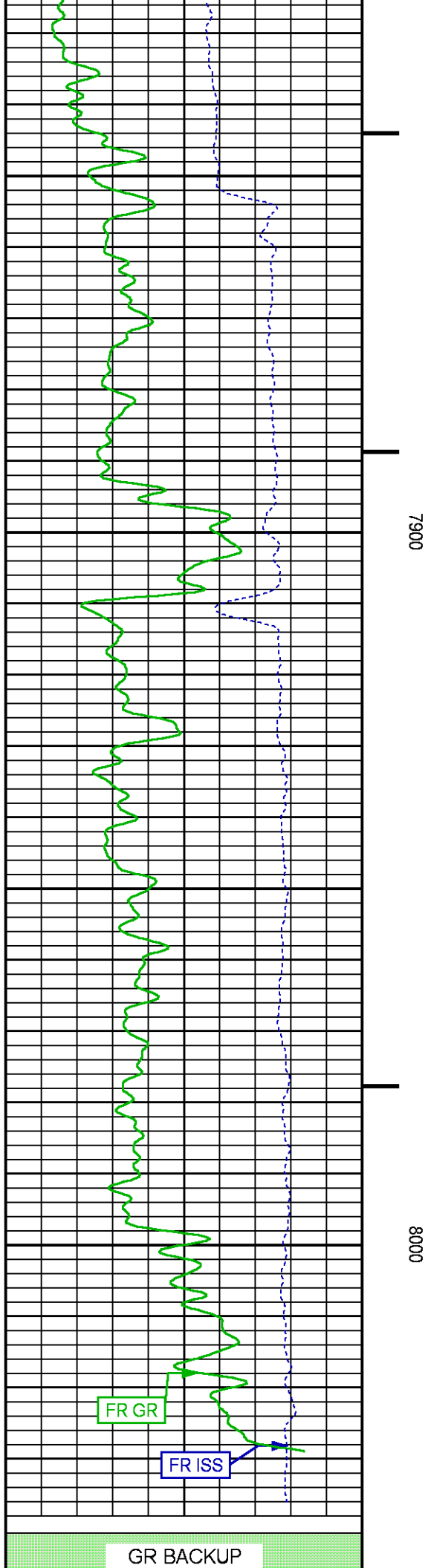
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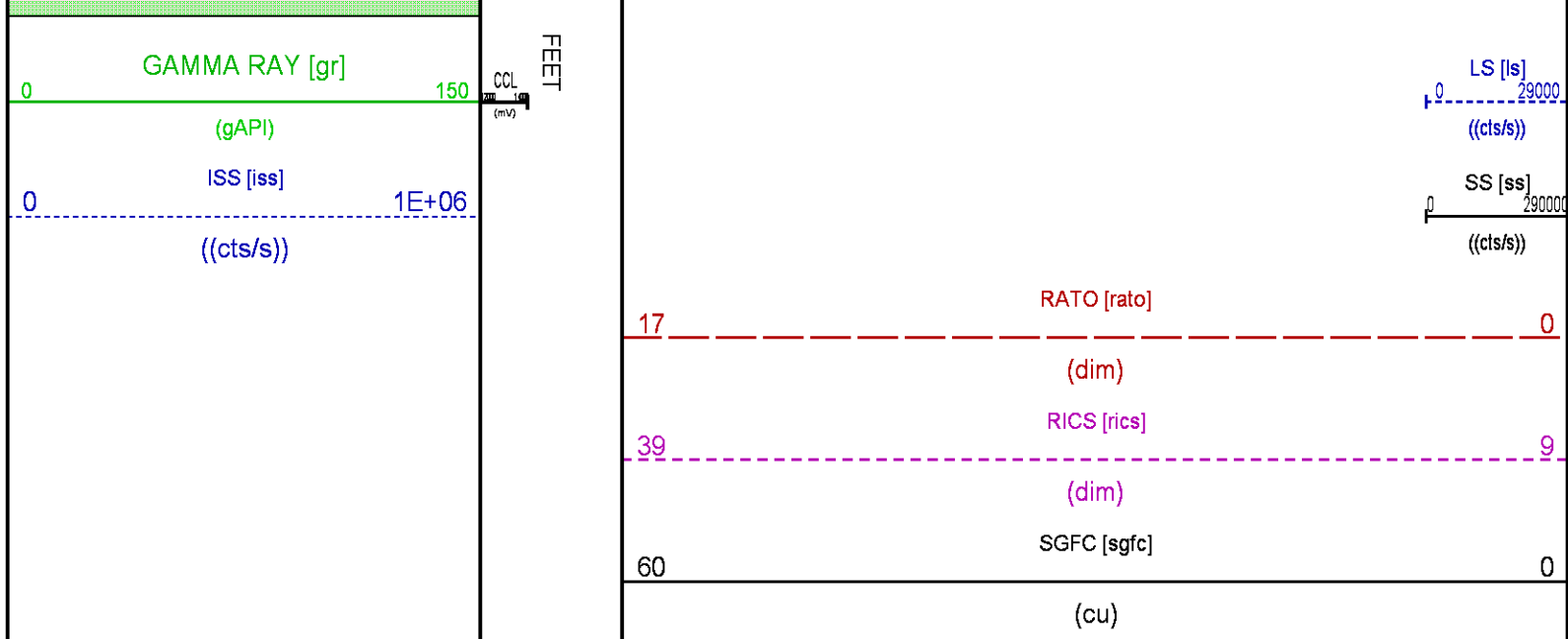
7300











REPEAT PASS PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 9

Plotted: Tue Aug 29 09:05:15 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_19_01W/RPM3D01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7433.000 ft BOTTOM DEPTH: 7680.500 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	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

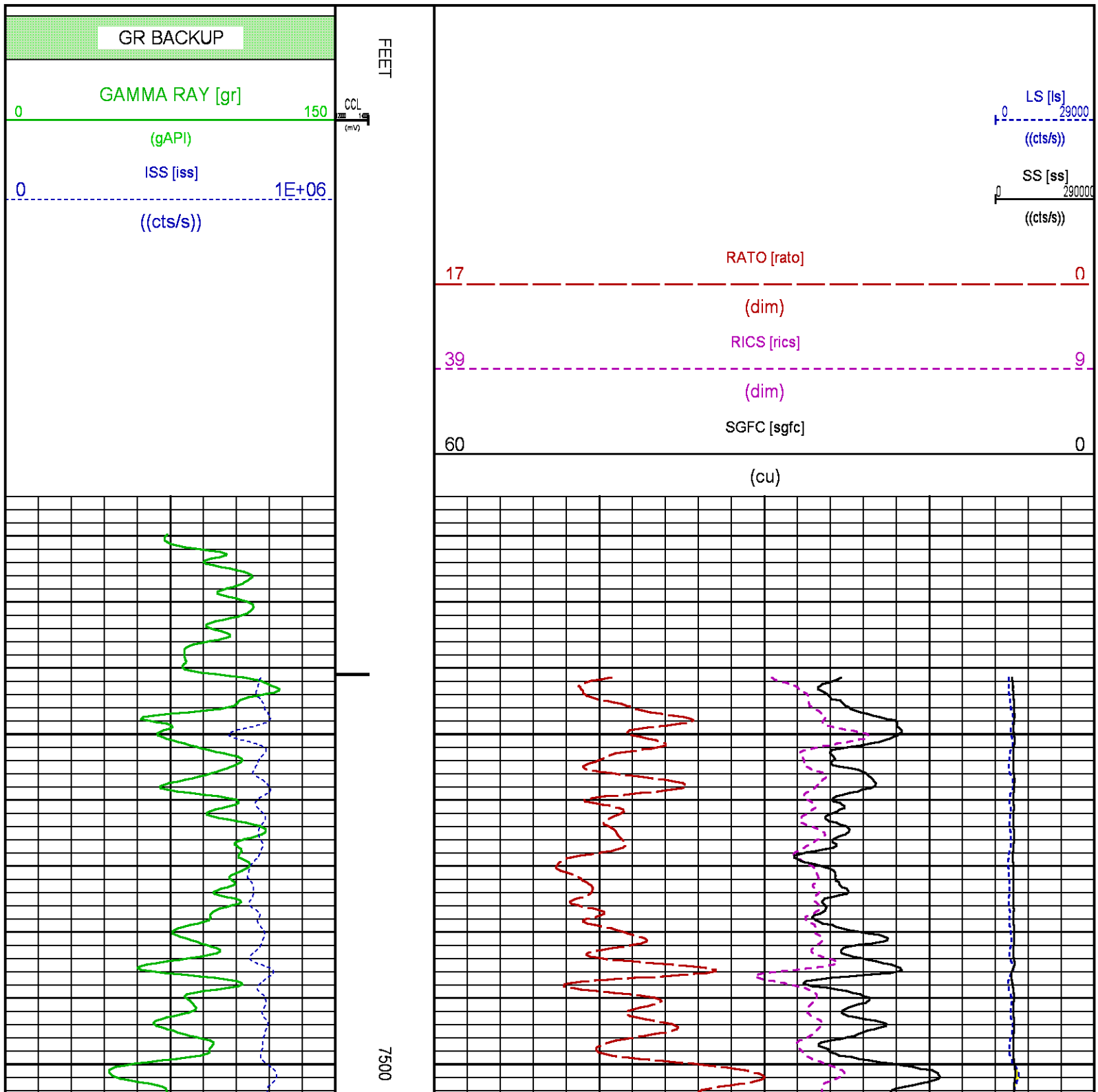
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 29 08:38:10 2017	CASING COLLAR LOCATOR
F1:GR	Aug 29 08:38:10 2017	GAMMA RAY
F1:ISS	Aug 29 08:38:10 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 29 08:38:10 2017	LONG SPACE COUNT RATE
F1:RATO	Aug 29 08:38:10 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 29 08:38:10 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 29 08:38:10 2017	CORRECTED FORMATION SIGMA
F1:SS	Aug 29 08:38:10 2017	SHORT SPACE COUNT RATE

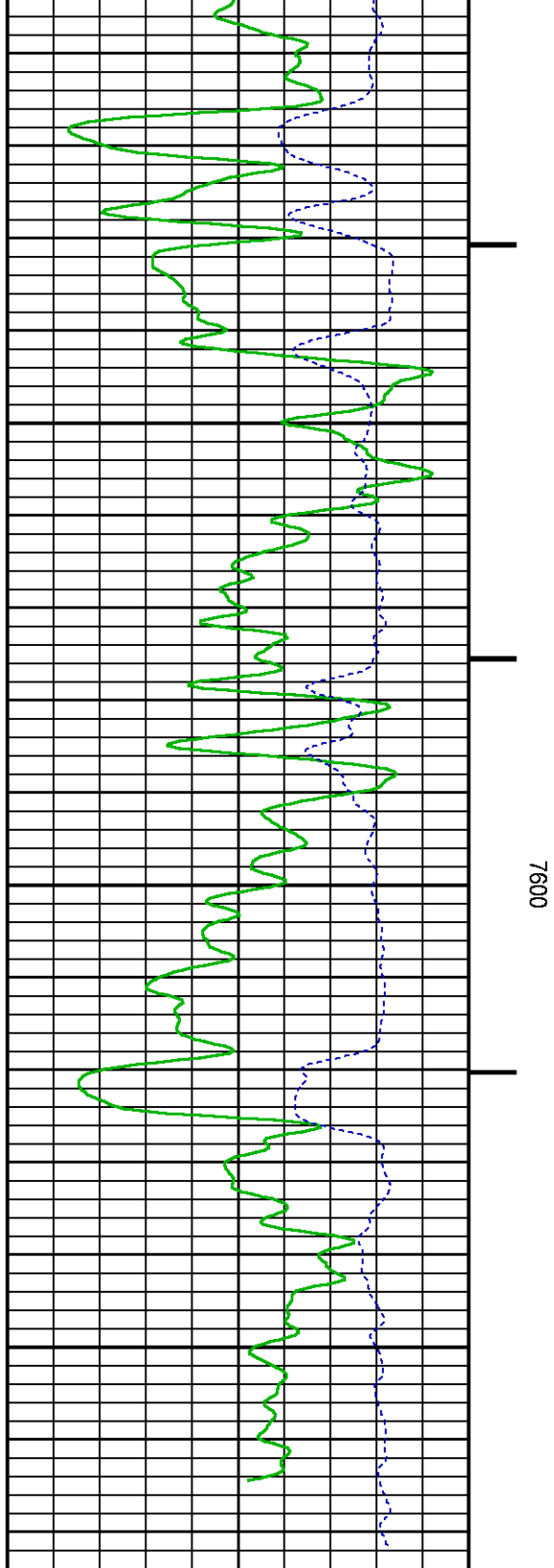
CURVE MEASURE POINT OFFSET

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 : cpu100:BRUTON_19_01W_RPM_REPEAT.fvpdf [5"/100' Scale]
 Plot Interval : 7415.5 - 7679 Feet

Data File 1 : F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_01W/BRUTON_19_01W_RPM_REPEAT.xtf
 Created On : Aug 29 08:38:10 2017
 Company : LARAMIE ENERGY
 Well : BRUTON 19-01W
 Field : VEGA
 File Interval : 7414.75 - 7687.75 Feet
 OCT : RPM3D





7600

FEET

GR BACKUP

GAMMA RAY [gr]

0 150

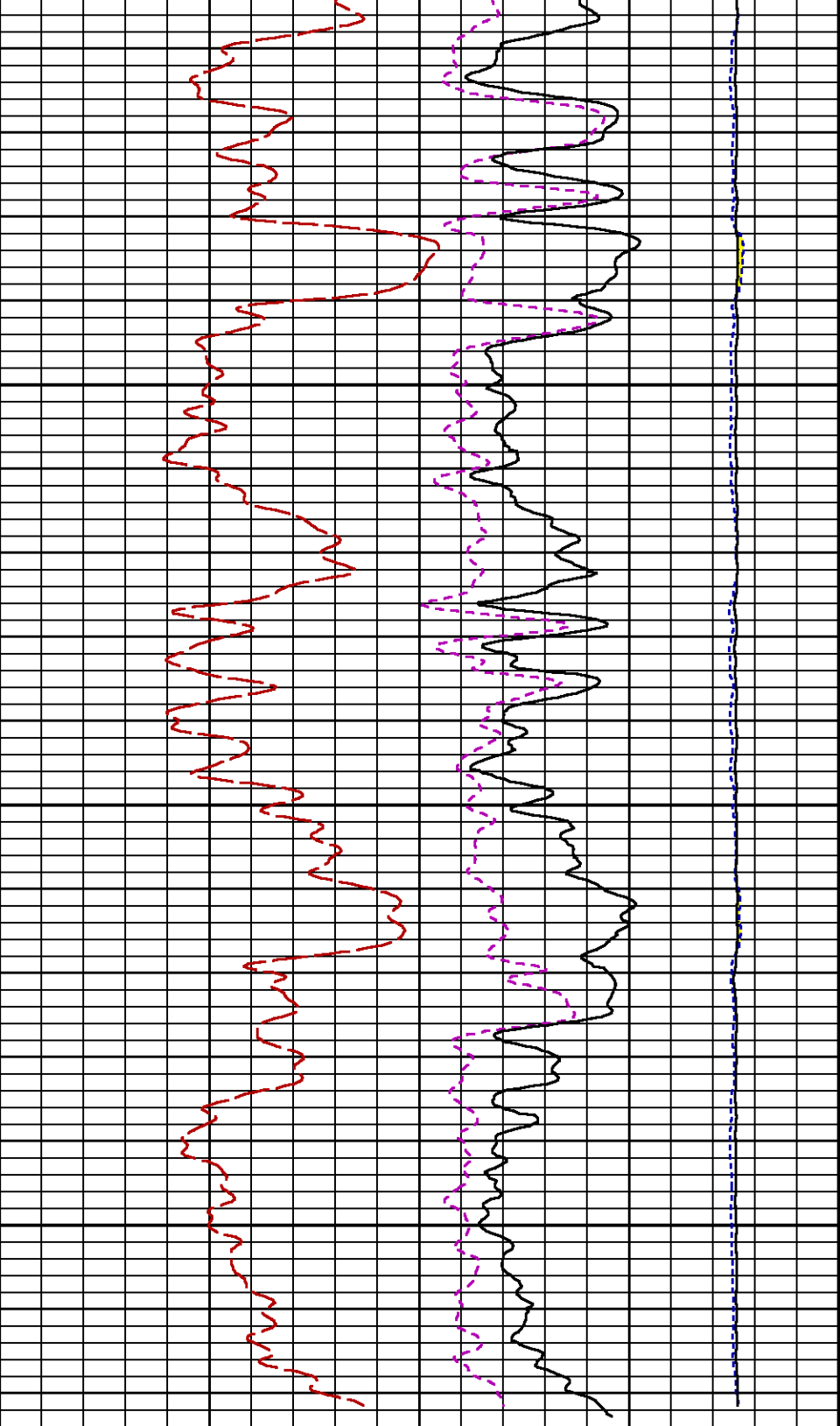
(gAPI)

ISS [iss]

0 1E+06

((cts/s))

CCL
(mV)



LS [ls]

0 29000

((cts/s))

SS [ss]

0 290000

((cts/s))

RATO [rato]

17

0

(dim)

39

RICS [rics]

9

(dim)

SGFC [sgfc]

60

0

(cu)

CALIBRATION / VERIFICATION SUMMARY

Source File: /data/LARAMIE_BRUTON_19_01W/RPM3D.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Tue Jan 17 13:32:11 2017

UNIT #: 3882ML ML4352

CALB JIG #: 4702NK DA_228

	BACKGROUND CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)		
GR	63.76	399.13	335.4	0.552	35.17	220.17	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Tue Jan 17 13:34:45 2017

UNIT #: 3882ML ML4352

VERI JIG #: 4702NK DA_228

	BACKGROUND CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	63.44	394.18	0.552	35.00	217.44
					175.00 165.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10184883

DATE/TIME PERFORMED: Thu Jul 13 15:06:48 2017

UNIT: 3882TD HL6728

CALIBRATOR: 2437XB 120057

SOURCE: 8281AA 10180595

HOURS: 8281AA 228

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	807240	123	2232	2259	2285	137	9.0	0.9874

Interpolated	1300000	146	2216	2251	2283
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	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	807240	6543	1352	236	25.88	0.15	24.03	0.34
					25.35 26.40	0.00 0.30	23.60 24.00	0.00 0.40

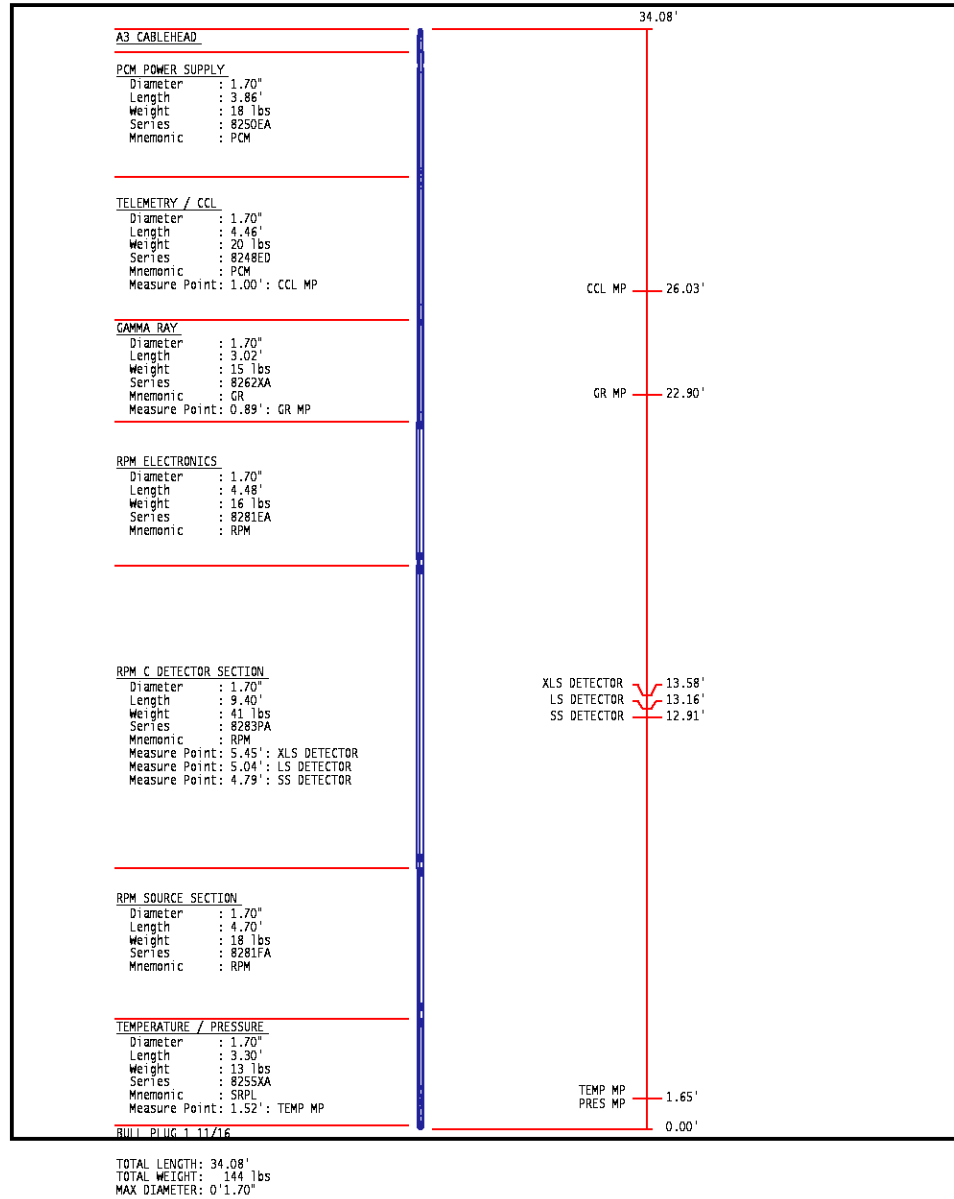
	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	807240	164687	25336	88104	30690	8086	52299	12945
Fit Quality %		0.492	0.443	0.487	0.490	0.506	0.462	0.494

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS						
Raw Data	807240	1.44	4.90	31.88	15.44	10.65	3.80	4.04						
	1.42	1.40	3.55	5.52	22.20	32.70	10.88	16.34	10.08	11.10	3.57	3.85	3.76	4.22
Fit Quality %		0.052	0.128	0.117	0.144	0.021	0.011	0.031						
Reduced	1232260	1.44	4.91	31.91	15.45	10.65	3.80	4.04						
	1.42	1.40	4.33	5.52	27.60	32.70	13.70	16.34	10.08	11.10	3.57	3.85	3.76	4.22

INSTRUMENT CONFIGURATION

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_BRUTON_19_01W/RPM-1dg



COMPANY
WELL
FIELD
COUNTY

LARAMIE ENERGY
BRUTON 19-01W
VEGA
MESA

STATE **COLORADO**

FILE NO:

API NO:

05077104290000

LOCATION:

SHL: LAT:39.262997N;LONG:107.815047W

BHL: LAT:39.269311N;LONG:107.816113W

SEC 19 **TWP** 9S **RGE** 93W

ELEVATIONS:

KB **7286 FT**

DF **7286 FT**

GL **7262 FT**

DATE **29-AUG-2017**