



RESERVOIR PERFORMANCE MONITOR

FILE NO:

COMPANY

LARAMIE ENERGY II LLC

API NO:

WELL

NICHOLS 0994-24-02W

05077104020000

FIELD

VEGA

STATE COLORADO

Ver. 4.10

LOCATION:

SHL 1792 FNL 2792 FEL
BHL 352 FNL 1544 FEL

OTHER SERVICES

SEC 24 TWP 9S RGE 94W

PERMANENT DATUM

GL ELEVATION 7137 FT

LOG MEASURED FROM

KB 24 FT ABOVE P.D.

DRILL. MEAS. FROM

KB ELEVATIONS:
KB 7161 FT
DF
GL 7137 FT

DATE 12-Mar-2018

RUN 2 TRIP 1

SERVICE ORDER US133004J

DEPTH DRILLER 7676 FT

DEPTH LOGGER 7515 FT

BOTTOM LOGGED INTERVAL 7514 FT

TOP LOGGED INTERVAL 2339 FT

TIME STARTED 16:00

TIME FINISHED 23:00

OPERATOR RIG TIME LOGGER

TYPE OF FLUID IN HOLE WATER

FLUID DENSITY NA

FLUID SALINITY NA

FLUID LEVEL 52 FT

LOGGED CEMENT TOP 3500 FT

WELLHEAD PRESSURE 0 PSI

MAXIMUM HOLE DEVIATION NA

NOMINAL LOGGING SPEED 90 FMIN

MAX. RECORDED TEMP. 230 DEGF

REFERENCE LOG BAKER HUGHES CBL

REFERENCE LOG DATE 12-MAR-2018

EQUIP. NO. 4291 LOCATION GRAND JCT

RECORDED BY R. ZUNIGA

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: GR/CCL/TEMP RUN IN COMBINATION

LOGGED WITH 0 PSI AT WELLHEAD

SJ: 5884-5904
SJ: 6782-6800

TOP OF CEMENT COULD NOT BE DETERMINED USING AS PER CUSTOMER REQUEST.

TD LOGGER MEASURED 161FT SHALLOW FROM PBTD. WIRELINE DEPTH WAS VERIFIED WITH RPM TRIP.

CREW: R. ZUNIGA, J. PENA, A. SHAHNOOSHI

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	TELEMETRY	8250 EA/8248 ED	11745584/10193585	FREE
2	1	GR	8262 XA	10317216	FREE
2	1	RPM ELEC	8281 EA	10387162	FREE

2	1	RPM	8283 PA/8281 FA	10184883/10318654	FREE
2	1	TEMP	8255 XA	11774568	FREE

G-SAND PNC 3D MODE

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

Patches: 2

Plotted: Mon Mar 12 23:59:35 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-24-02W/p353h04.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2296.373 ft BOTTOM DEPTH: 3026.467 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

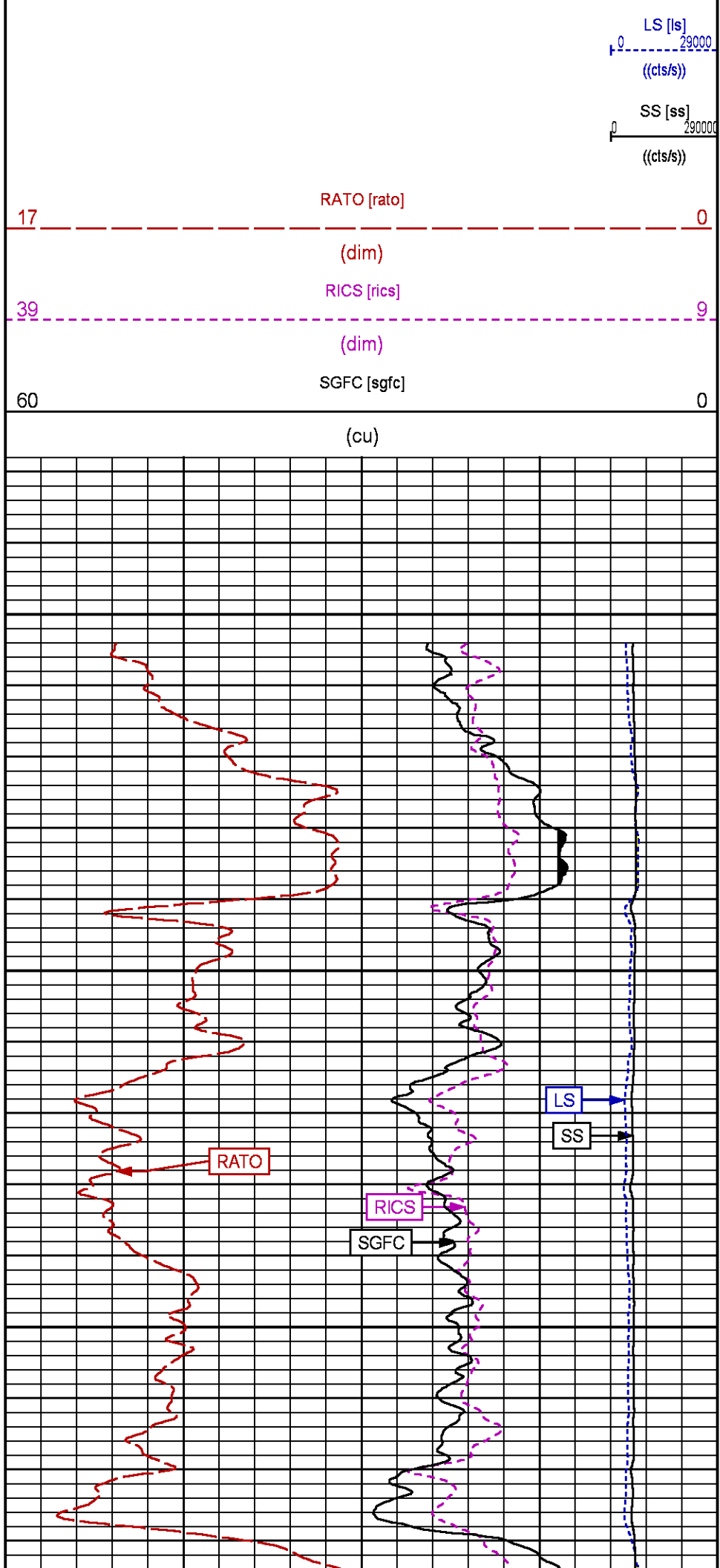
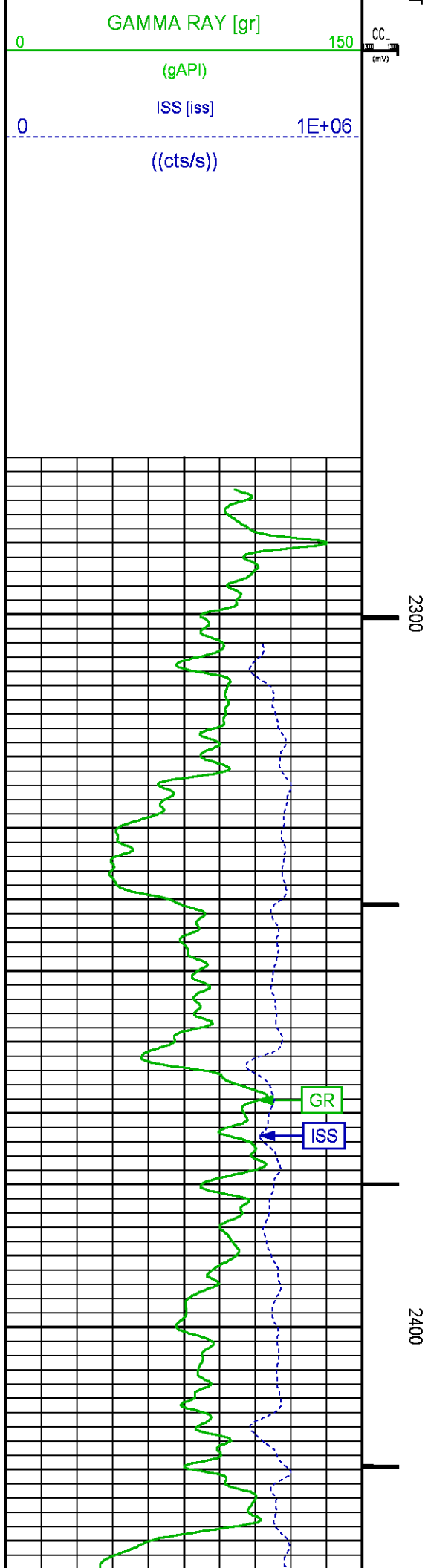
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

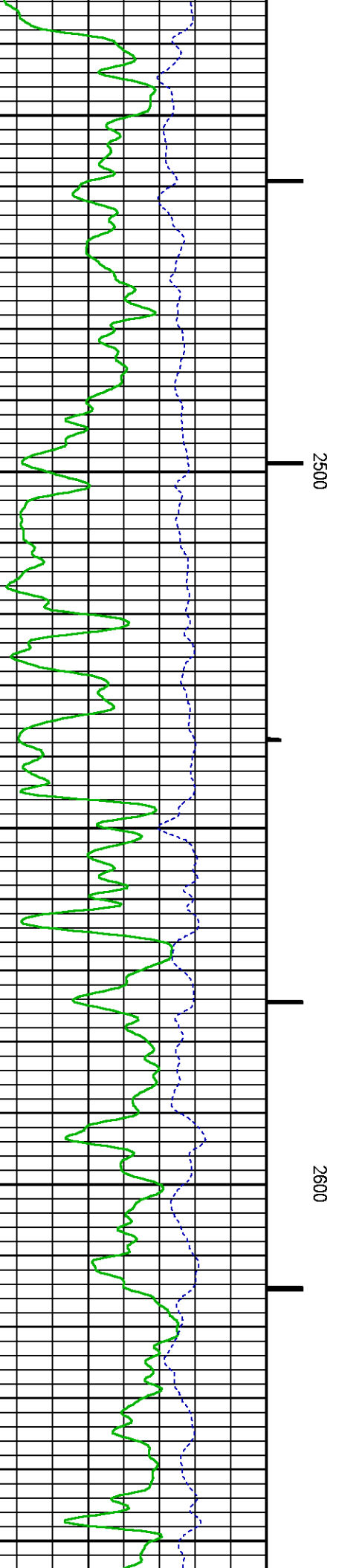
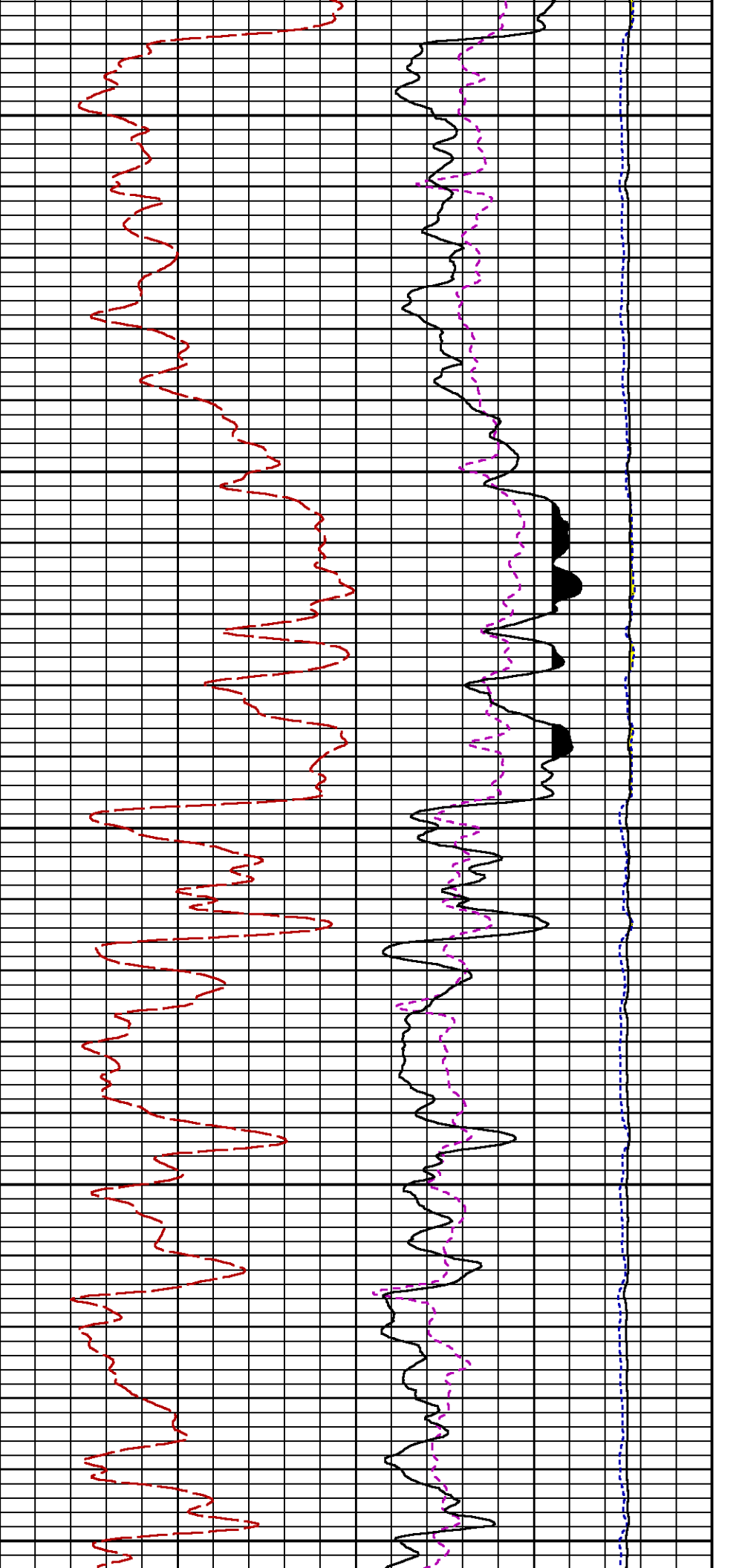
Presentation : SysA:LARAMIE_RPM_GS.fvpd [5"/100' Scale]
Plot Interval : 2278.25 - 3031.25 Feet

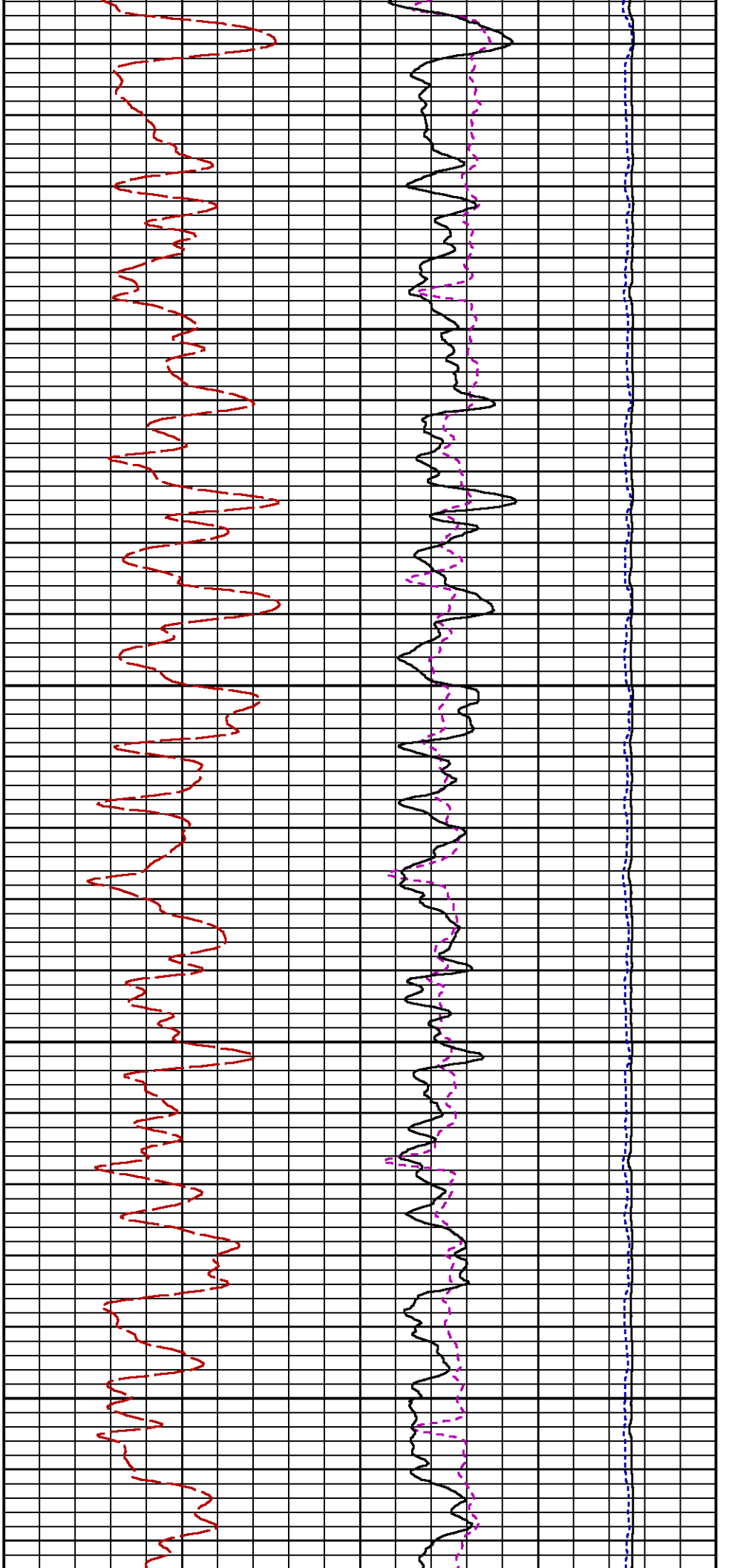
Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-02W/RPM_GS.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : NICHOLS 0994-24-02W
Field : VEGA
File Interval : 2278.25 - 3032.75 Feet
OCT : p353h

GR BACKUP

FEET

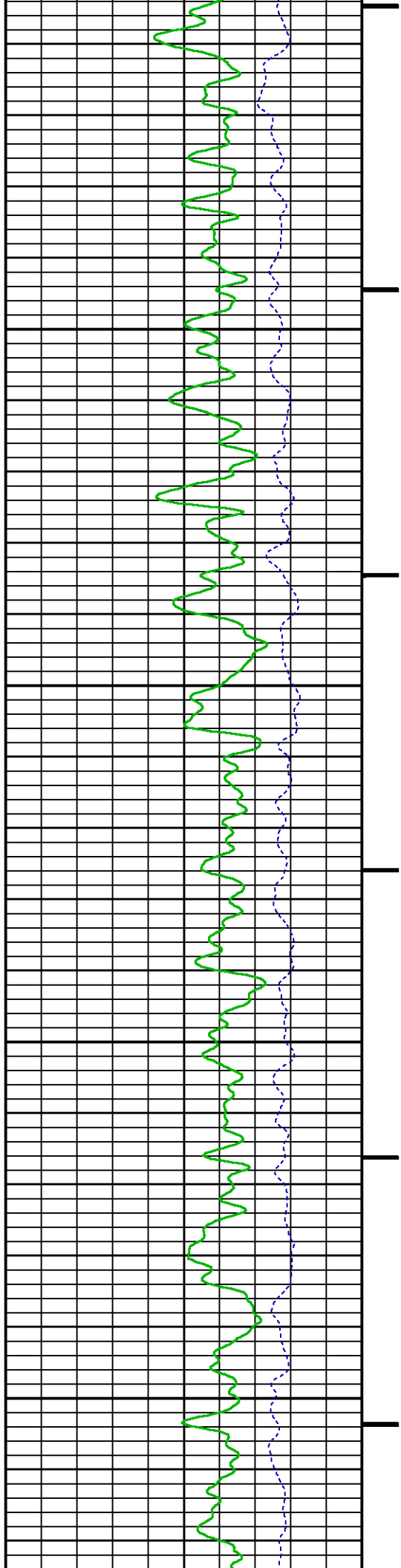


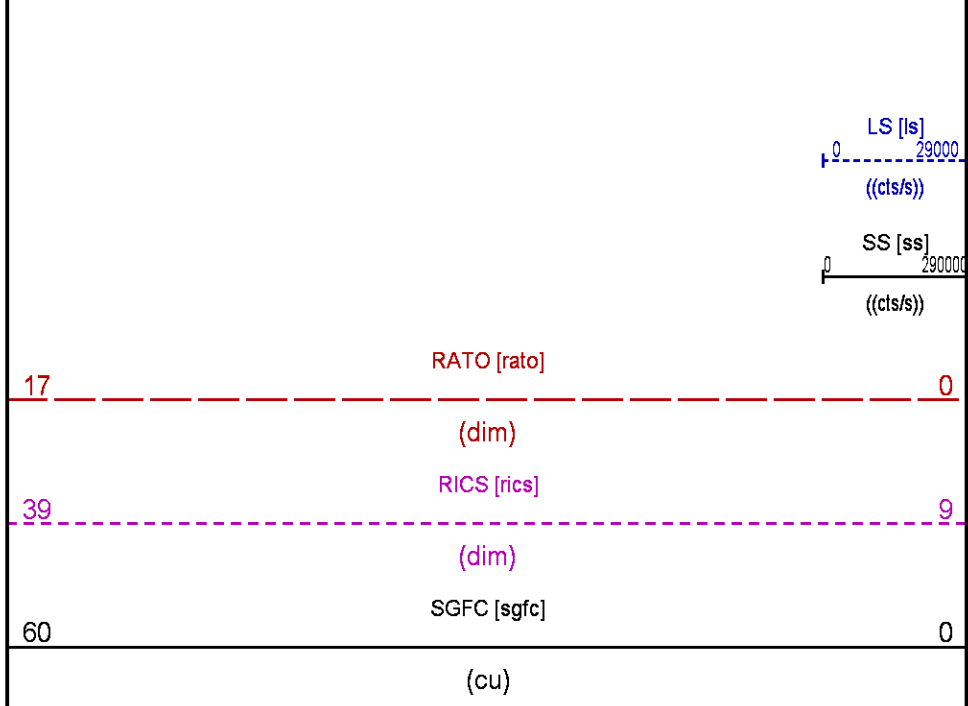
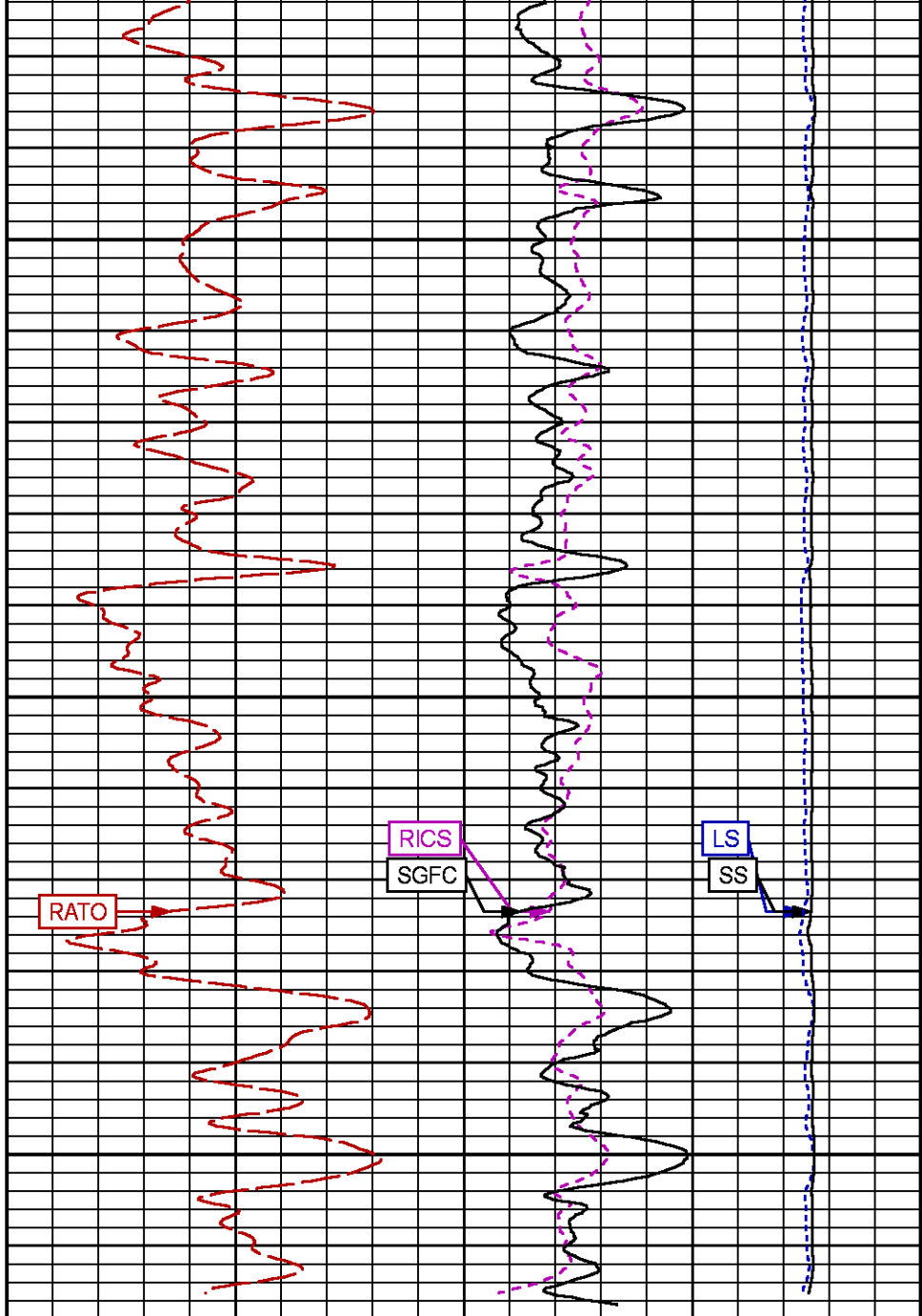
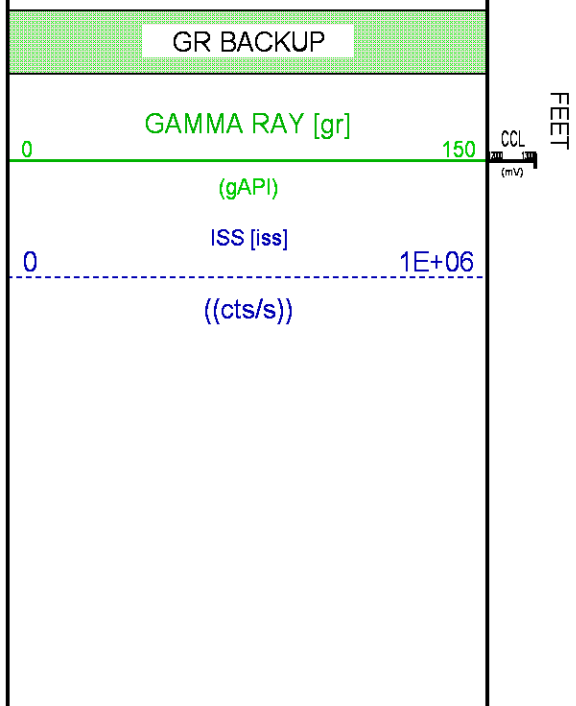
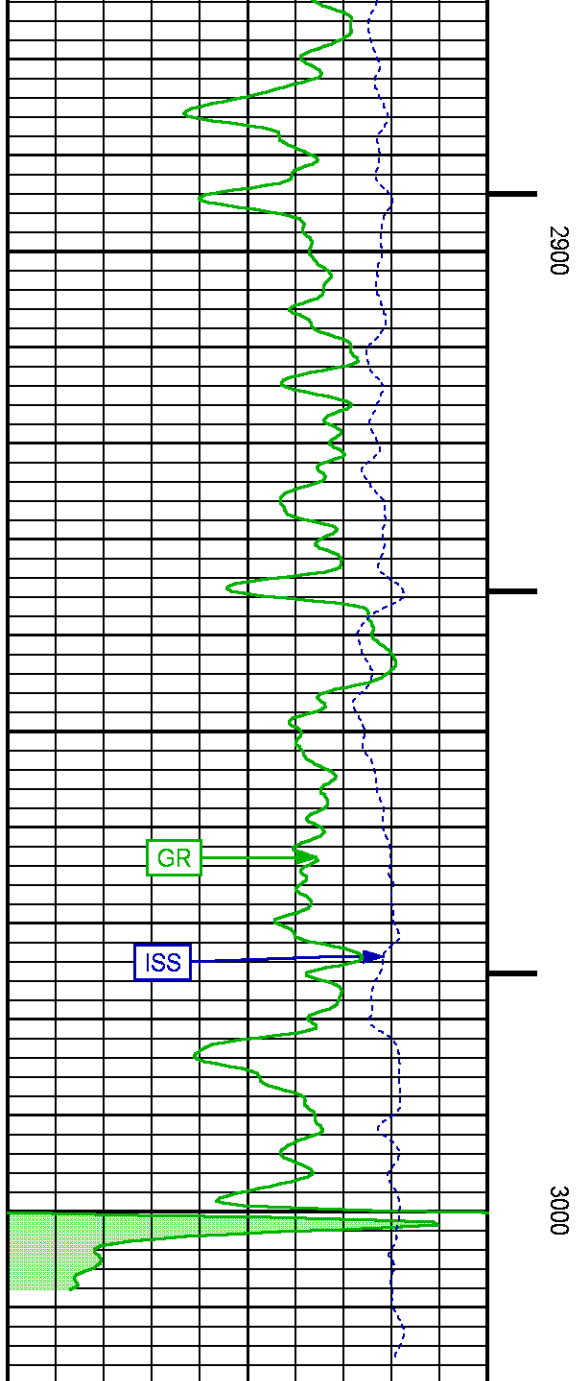




2700

2800





WILLIAMS FORK PNC 3D MODE

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

Plotted: Mon Mar 12 23:24:34 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-24-02W/p353h03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4298.377 ft BOTTOM DEPTH: 7580.586 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:LARAMIE_RPM_WF.fvpdf [5"/100' Scale]
Plot Interval : 4279 - 7584 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-02W/RPM_WF.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : NICHOLS 0994-24-02W
Field : VEGA
File Interval : 4279 - 7585.5 Feet
OCT : p353h

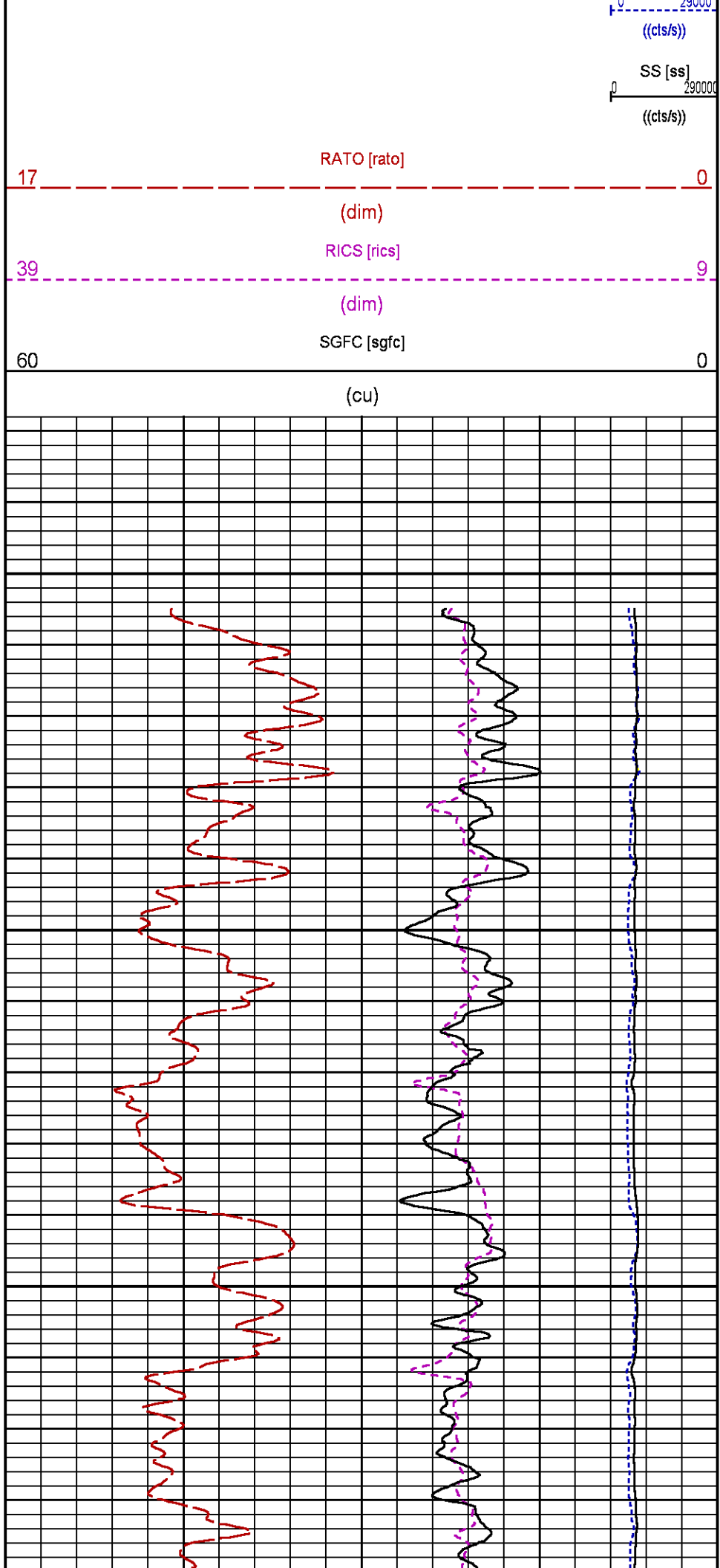
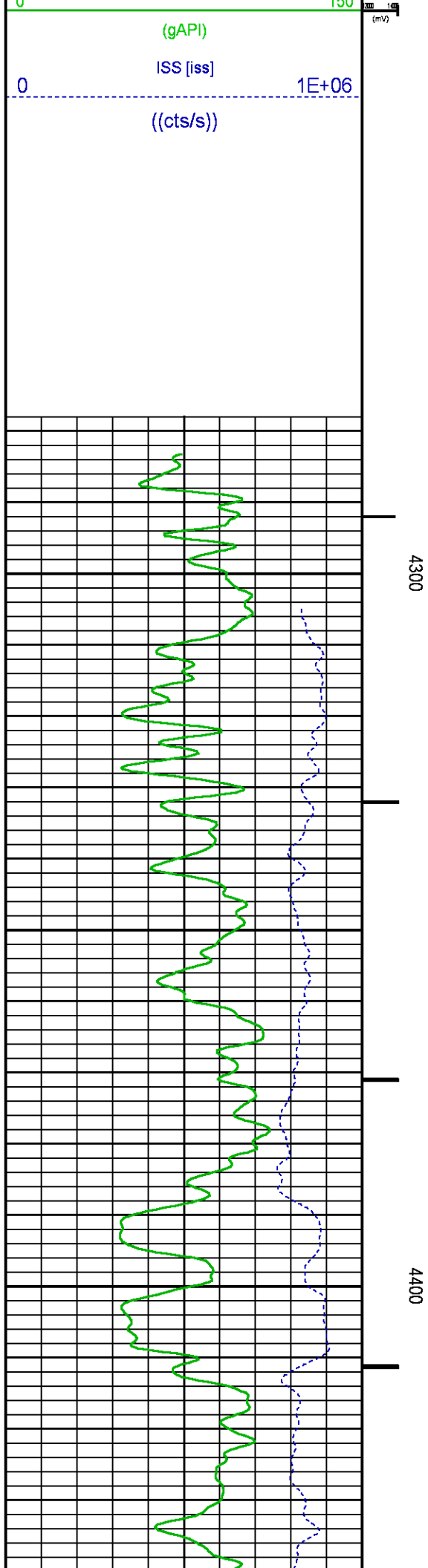
GR BACKUP

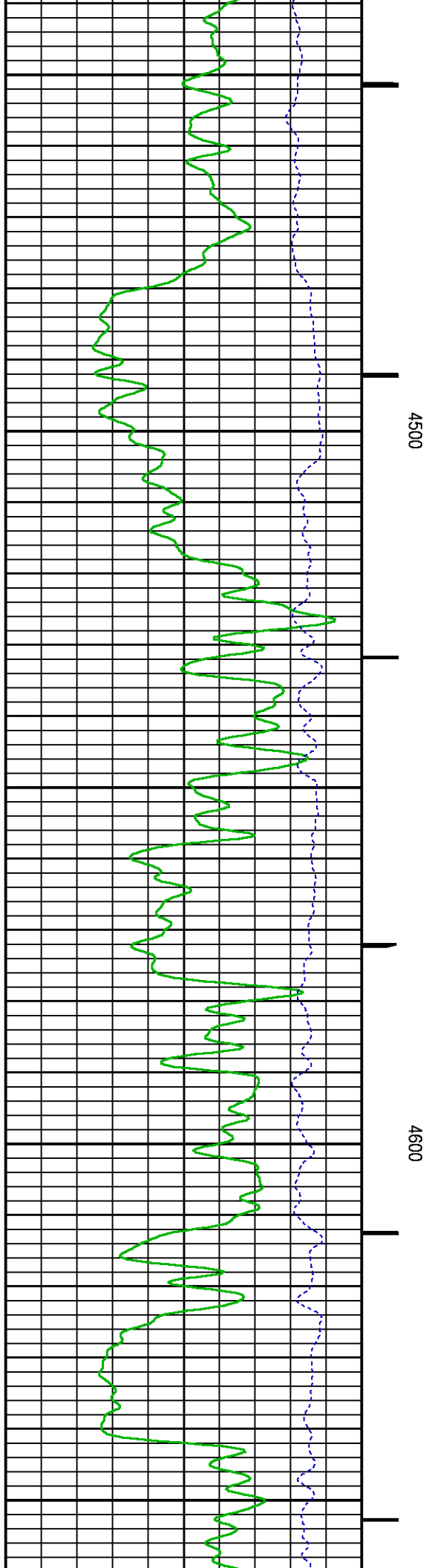
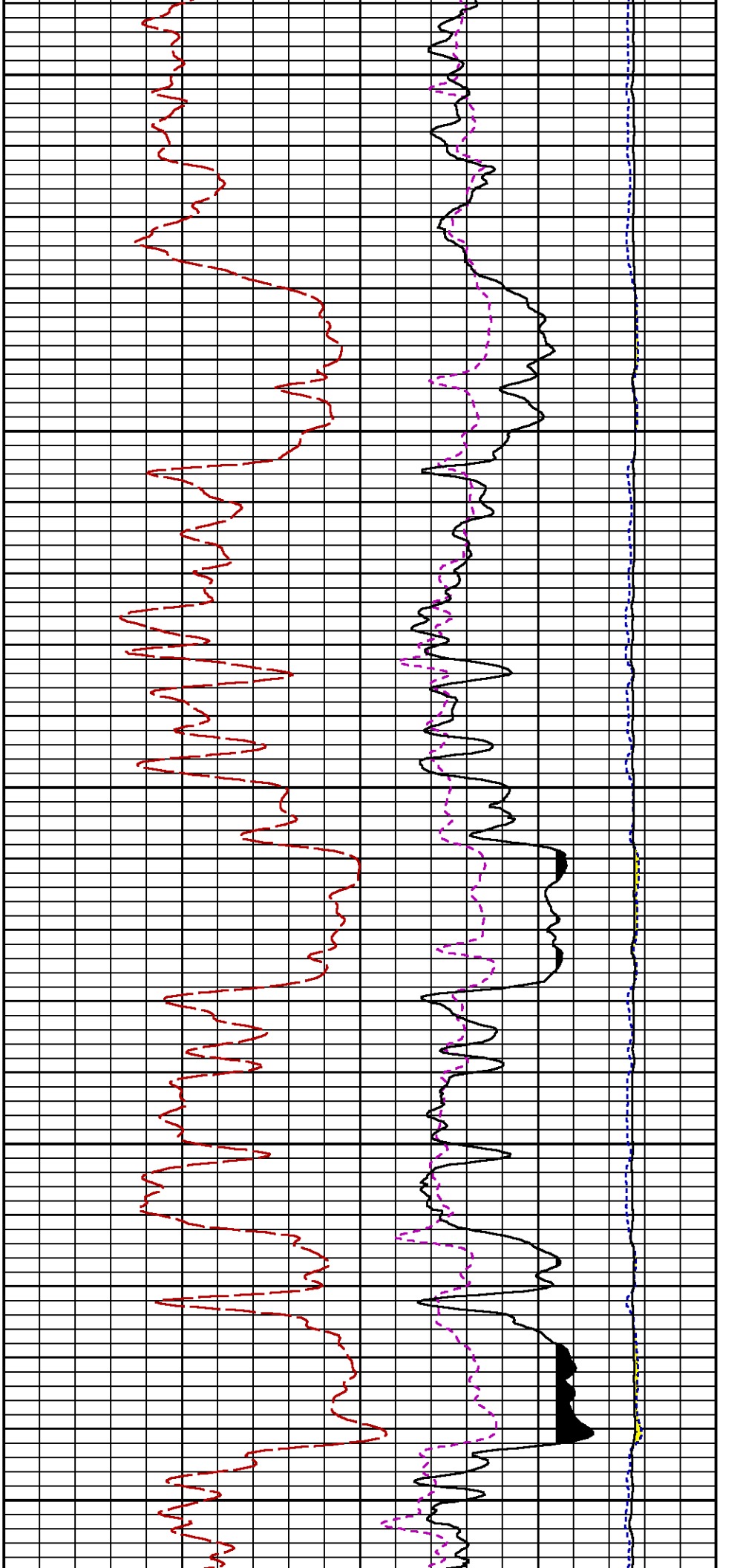
GAMMA RAY [gr]

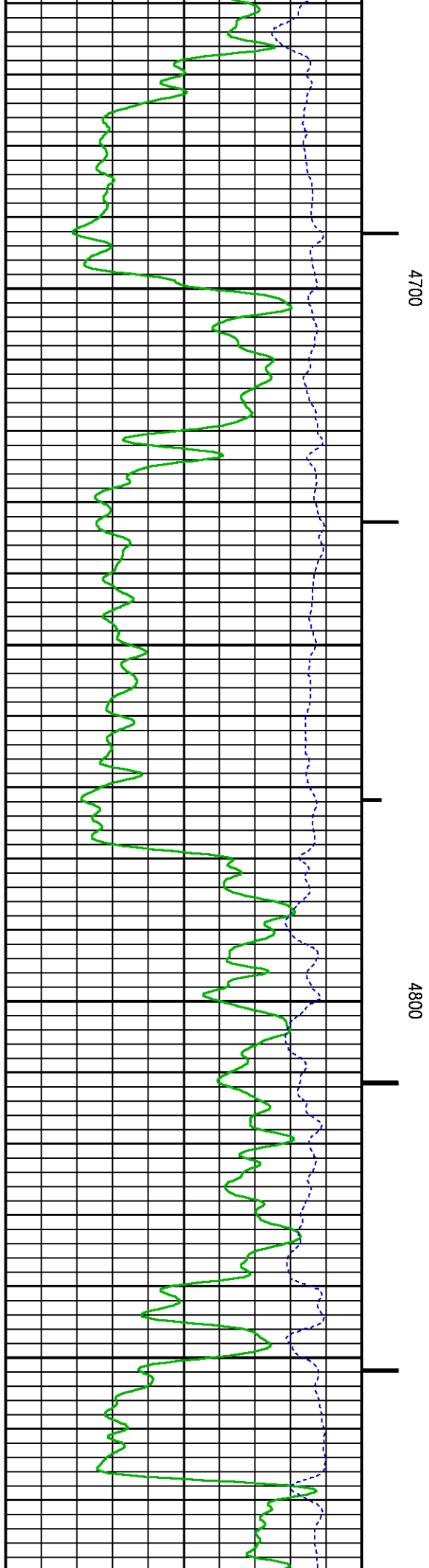
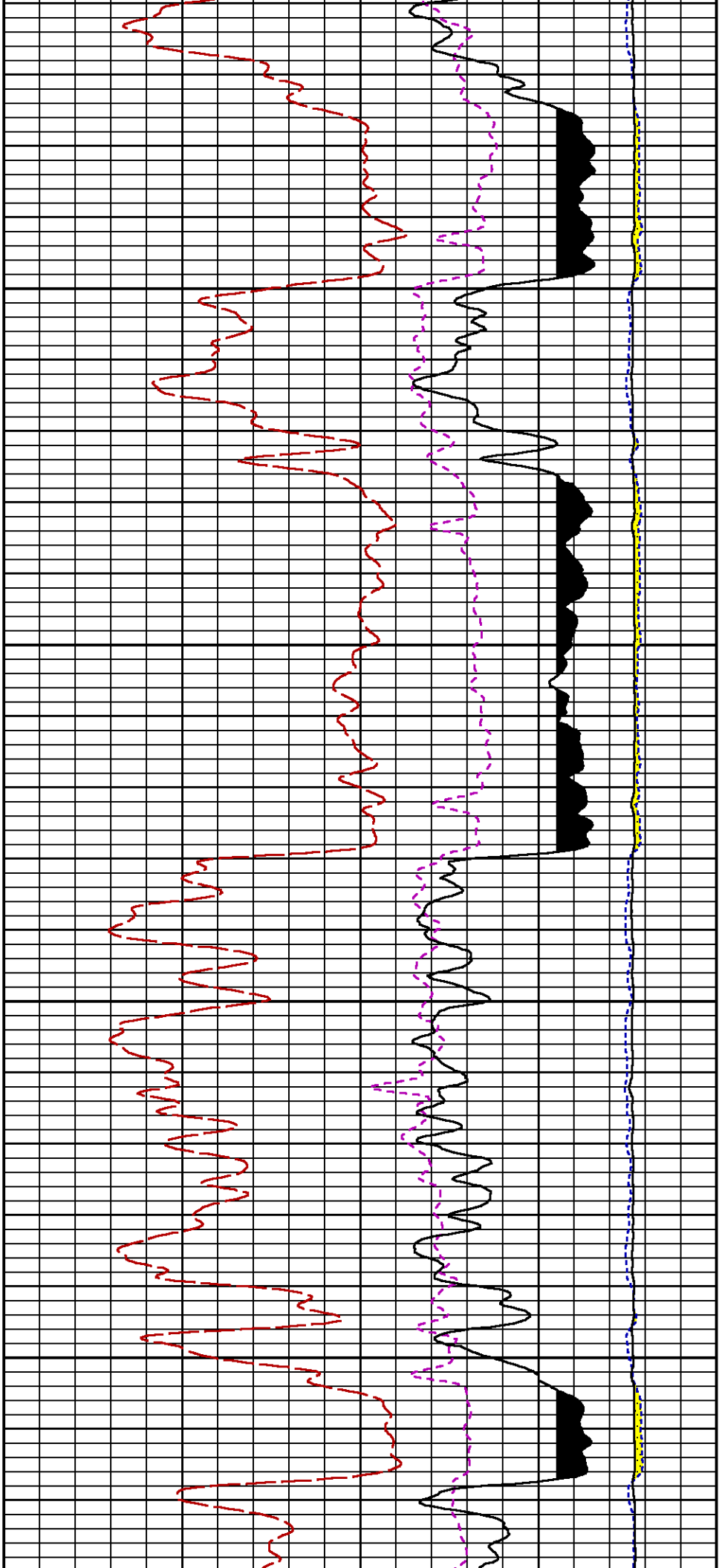
FEET

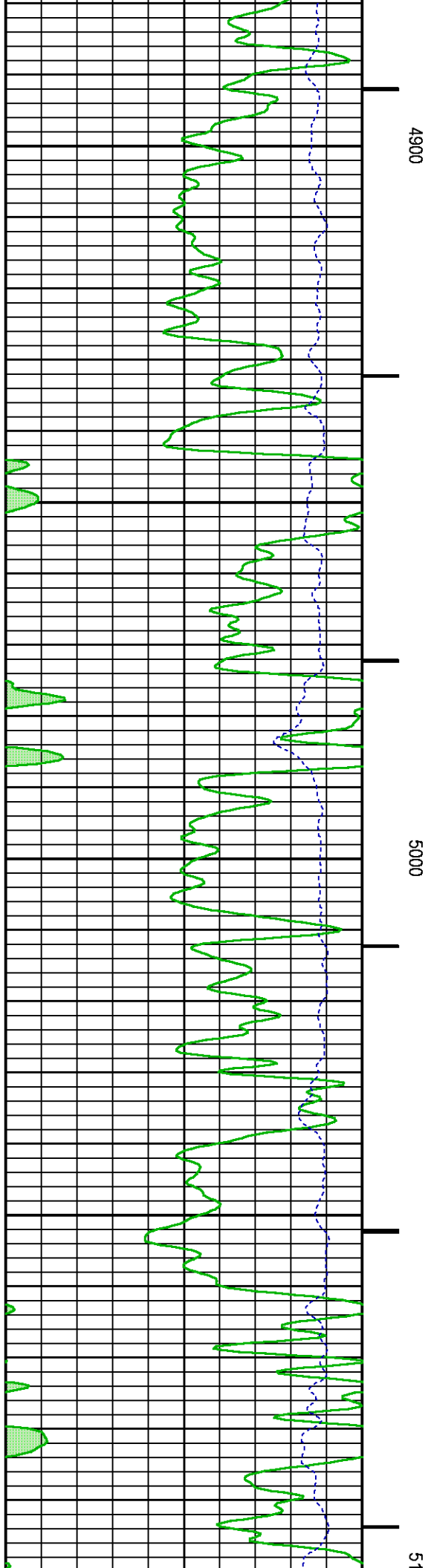
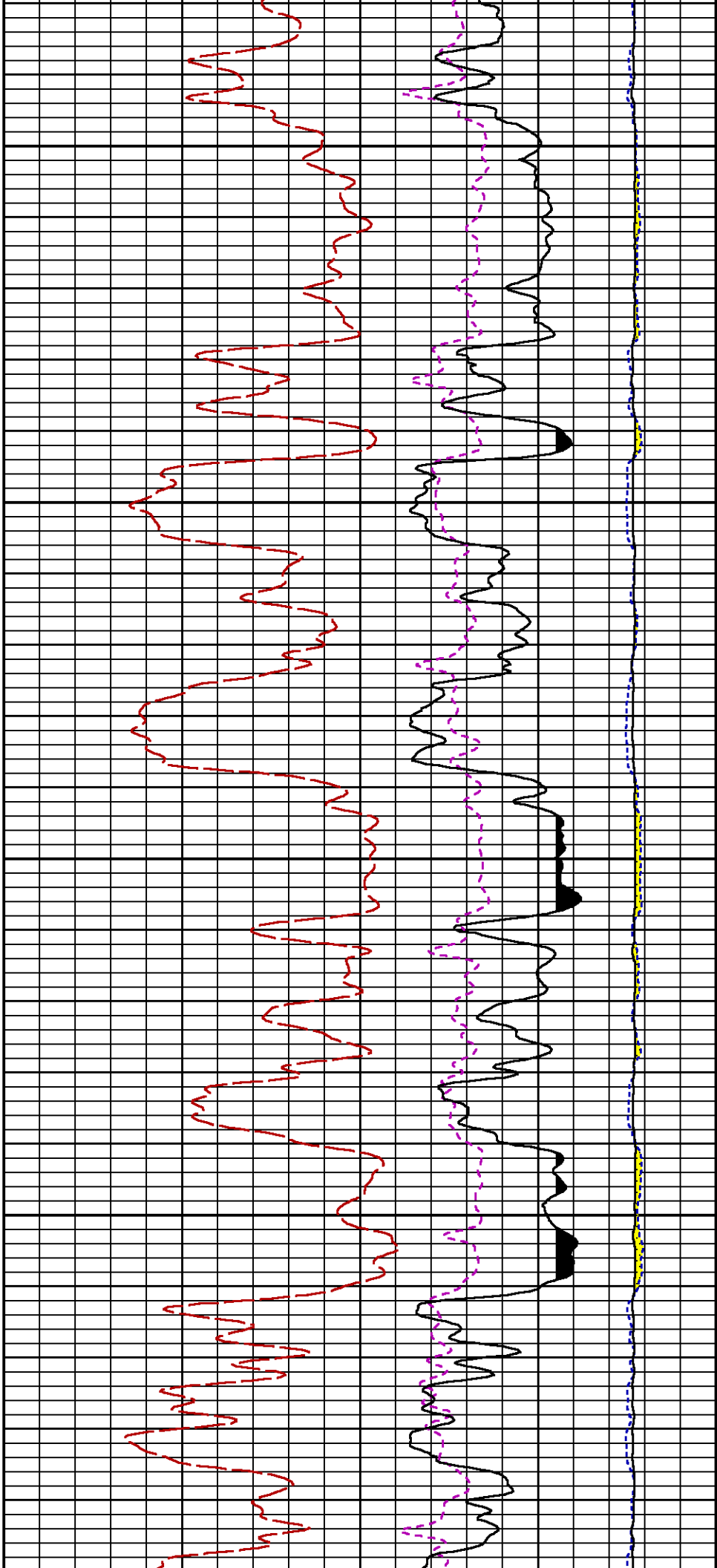
CCL

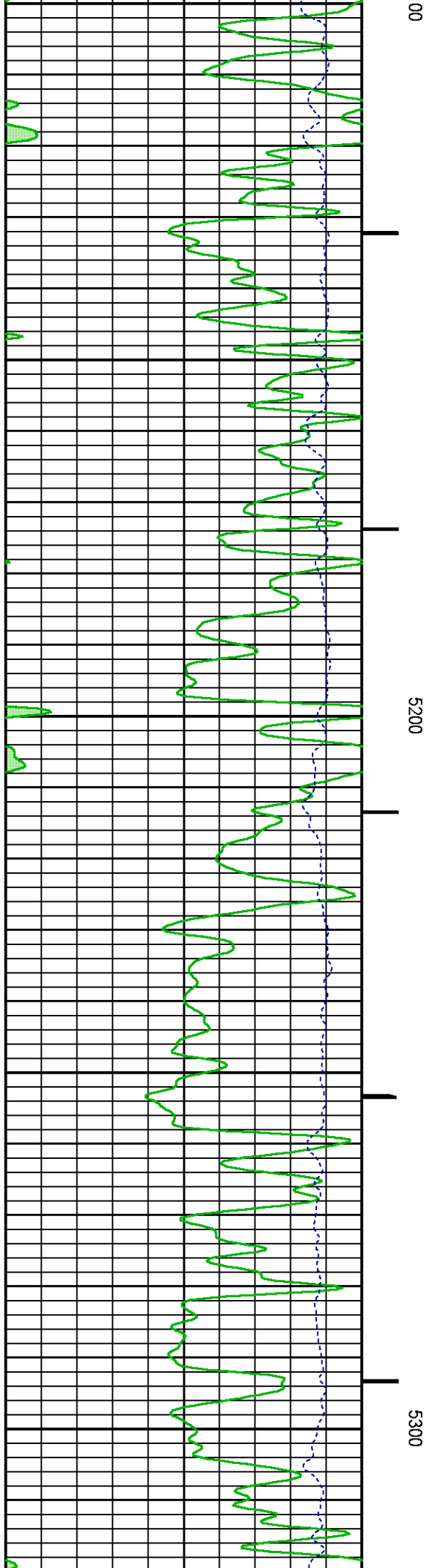
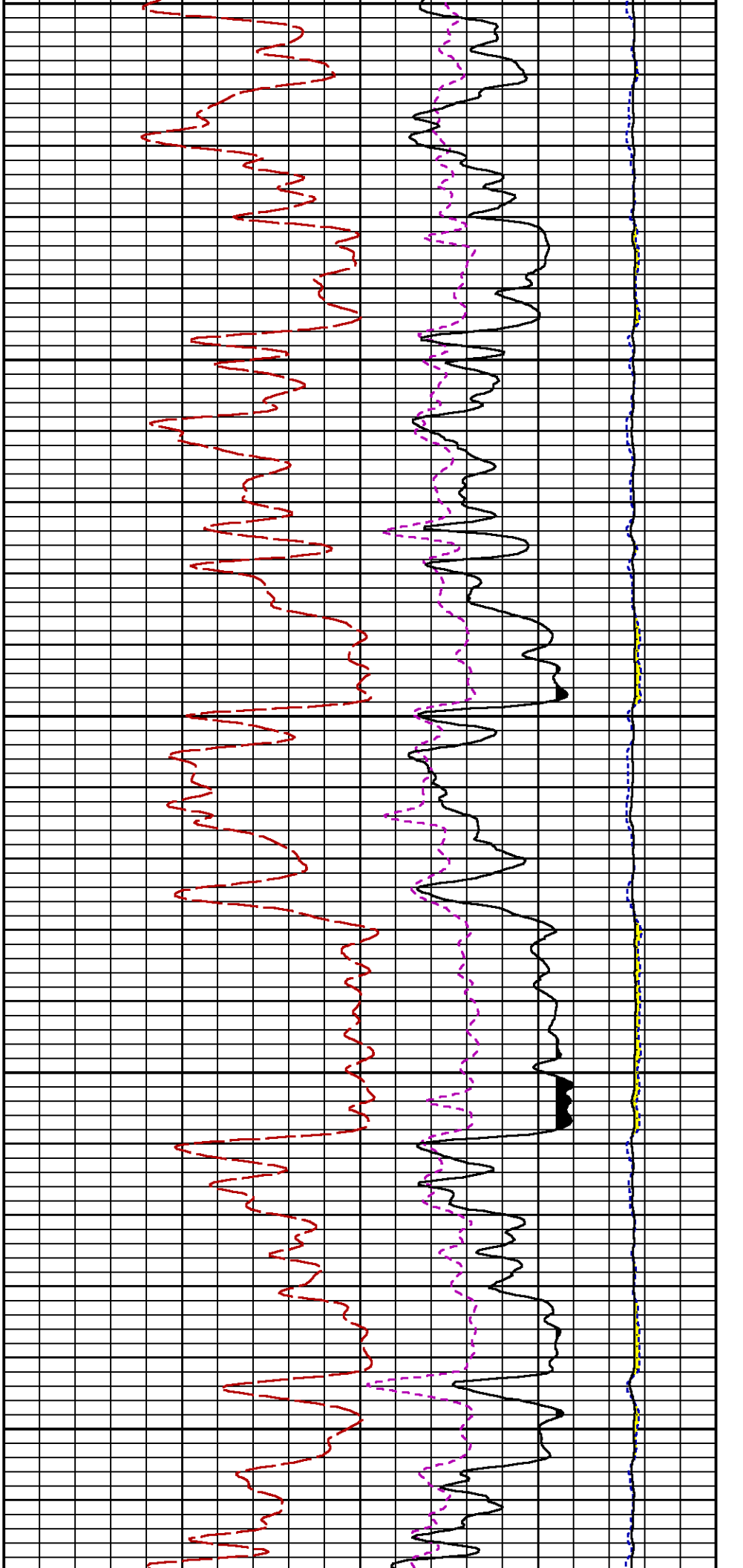
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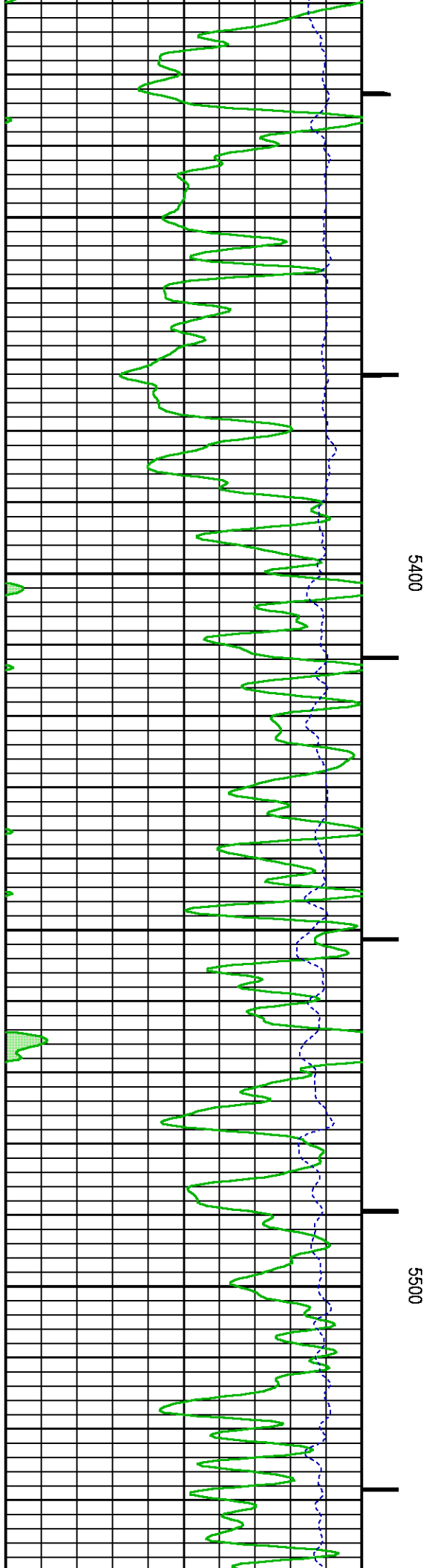
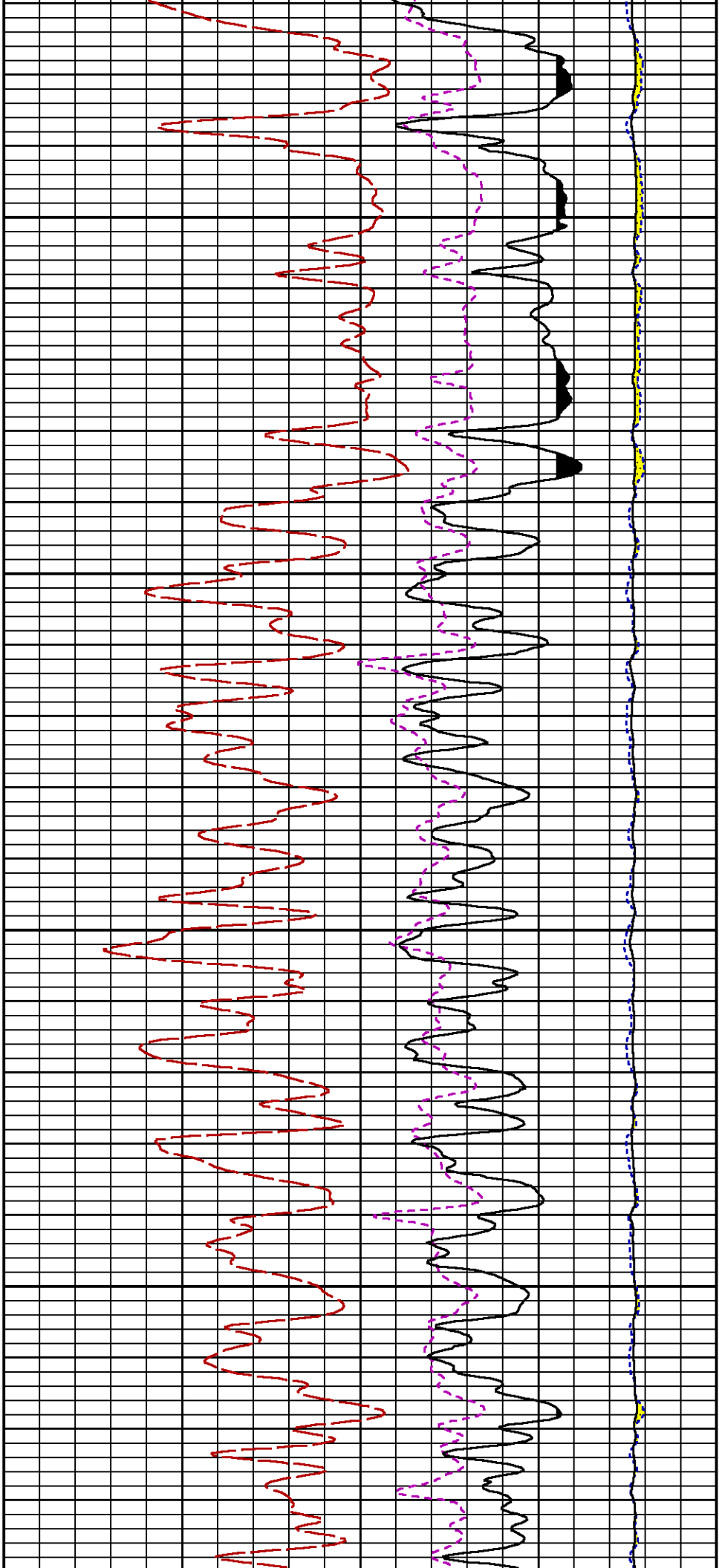


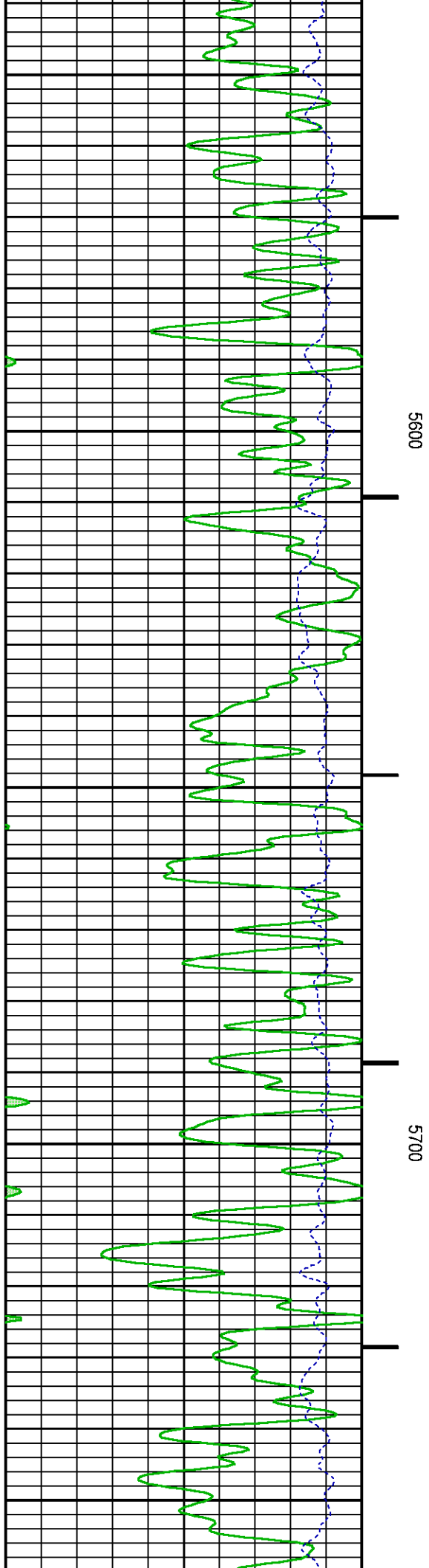
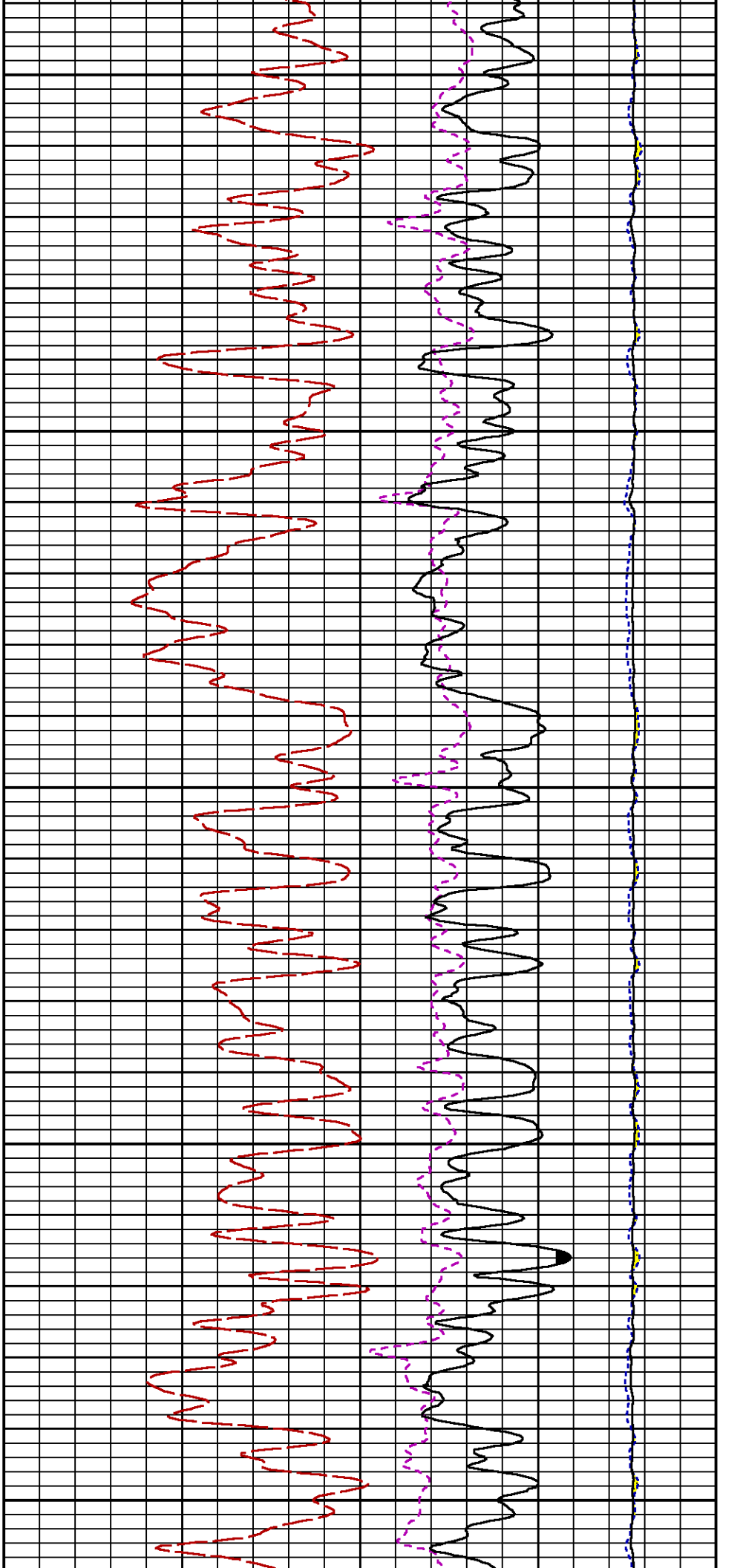


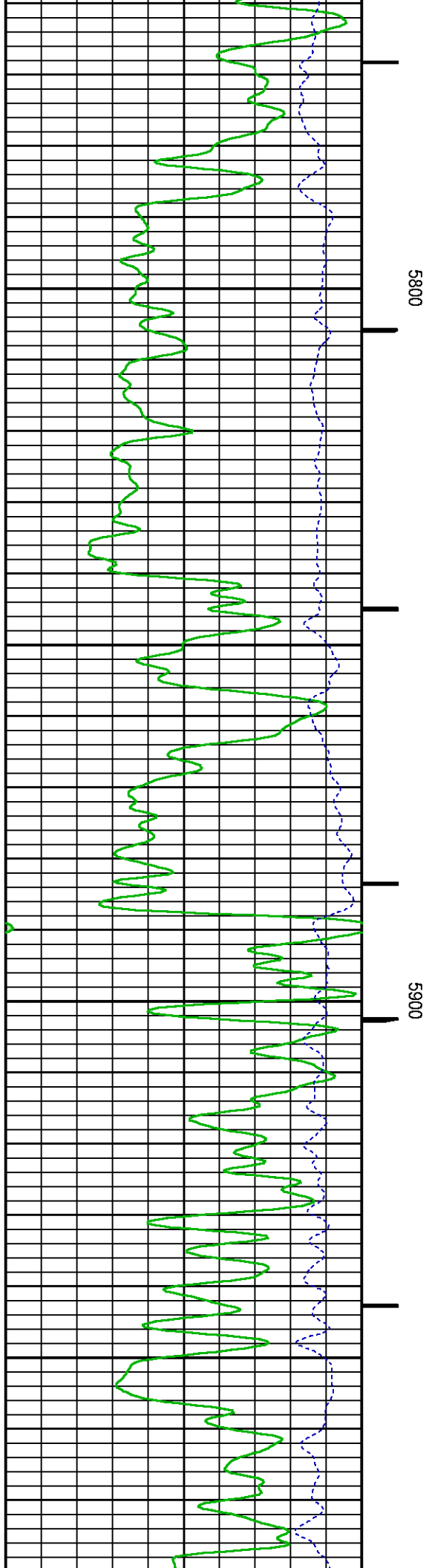
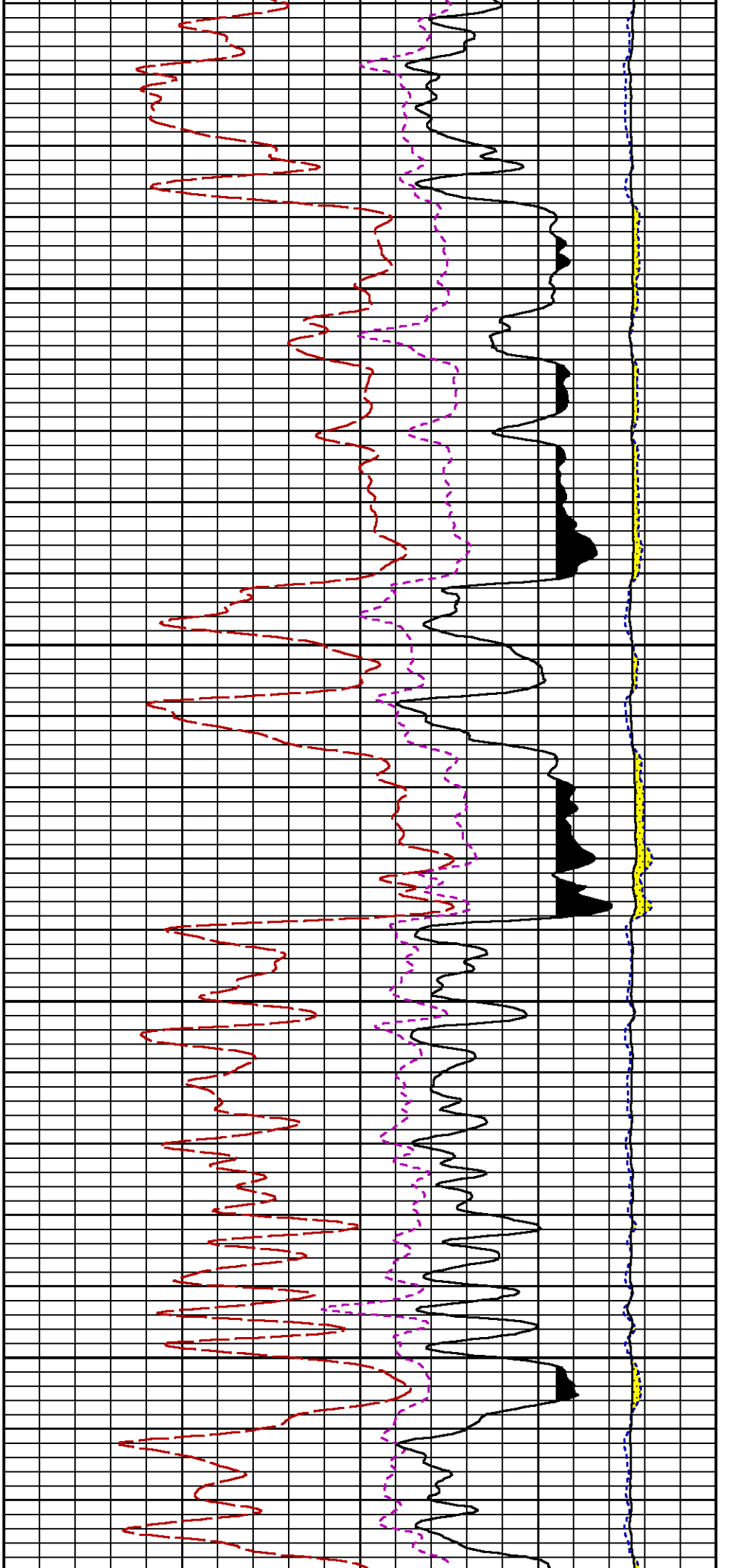


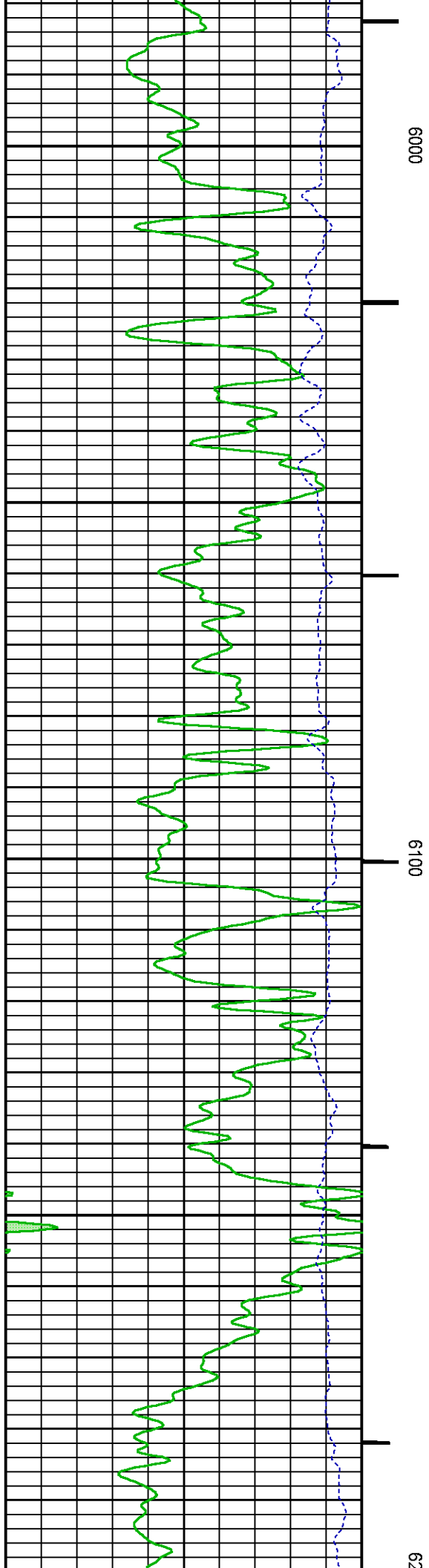
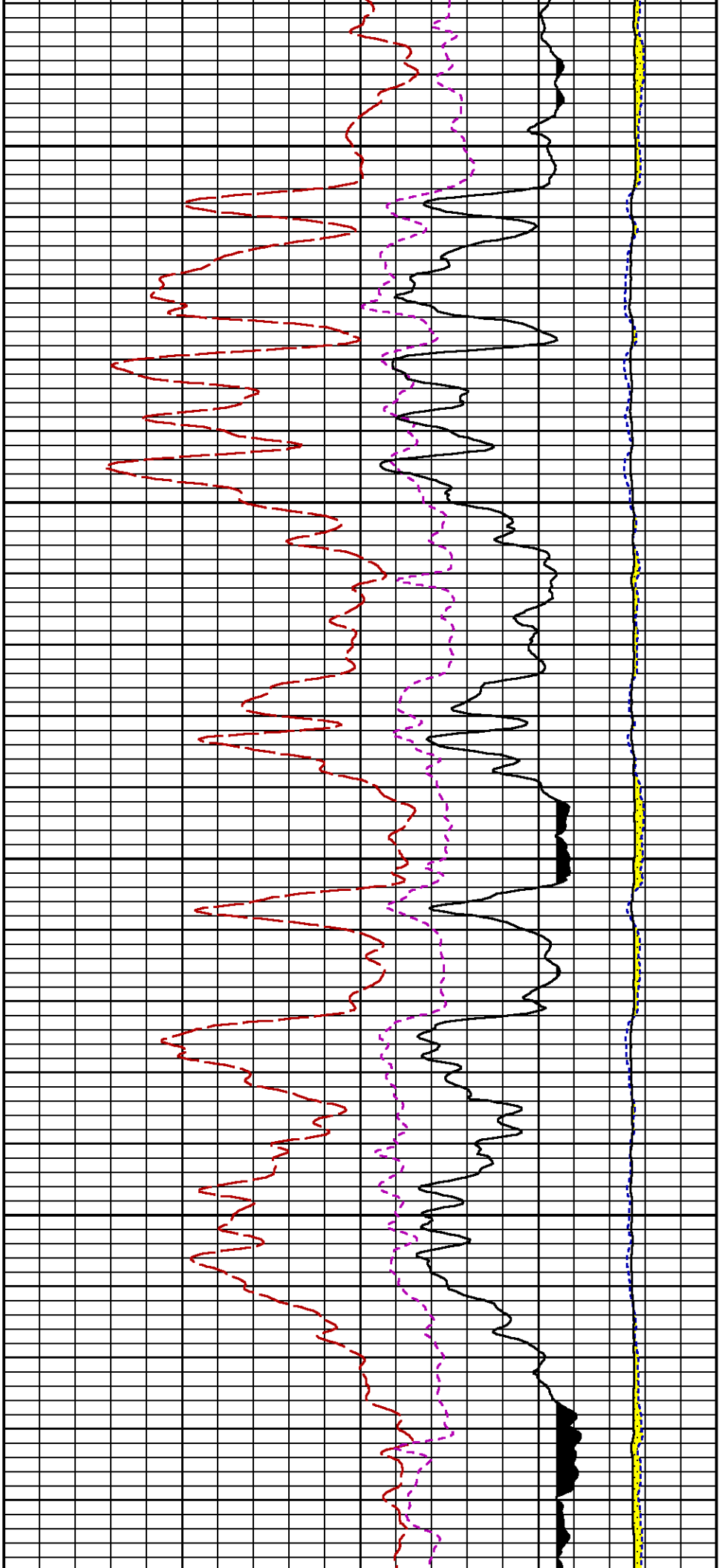


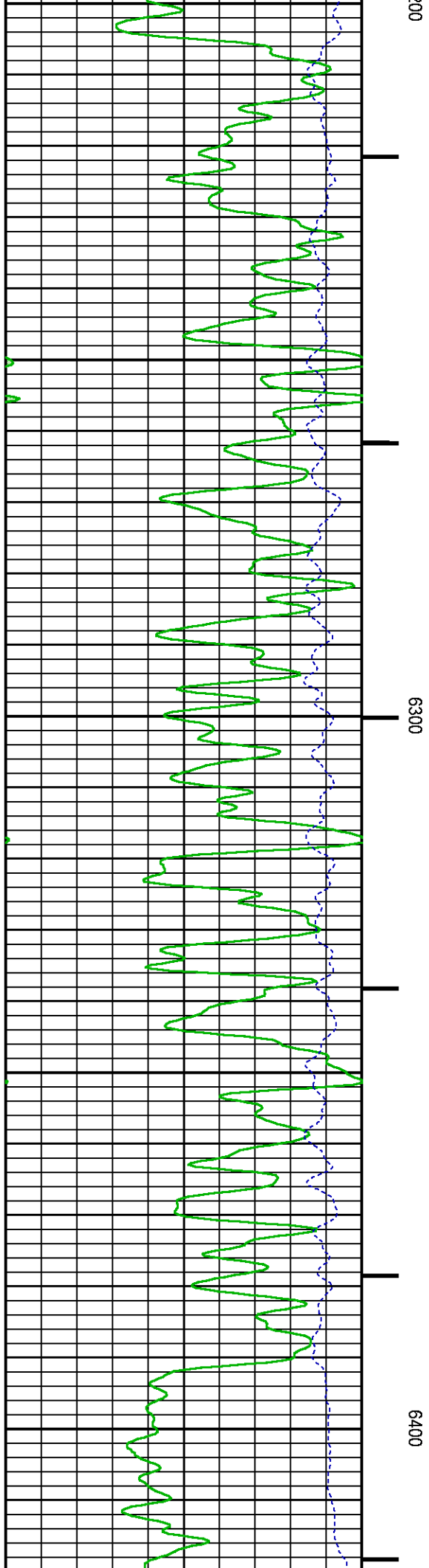
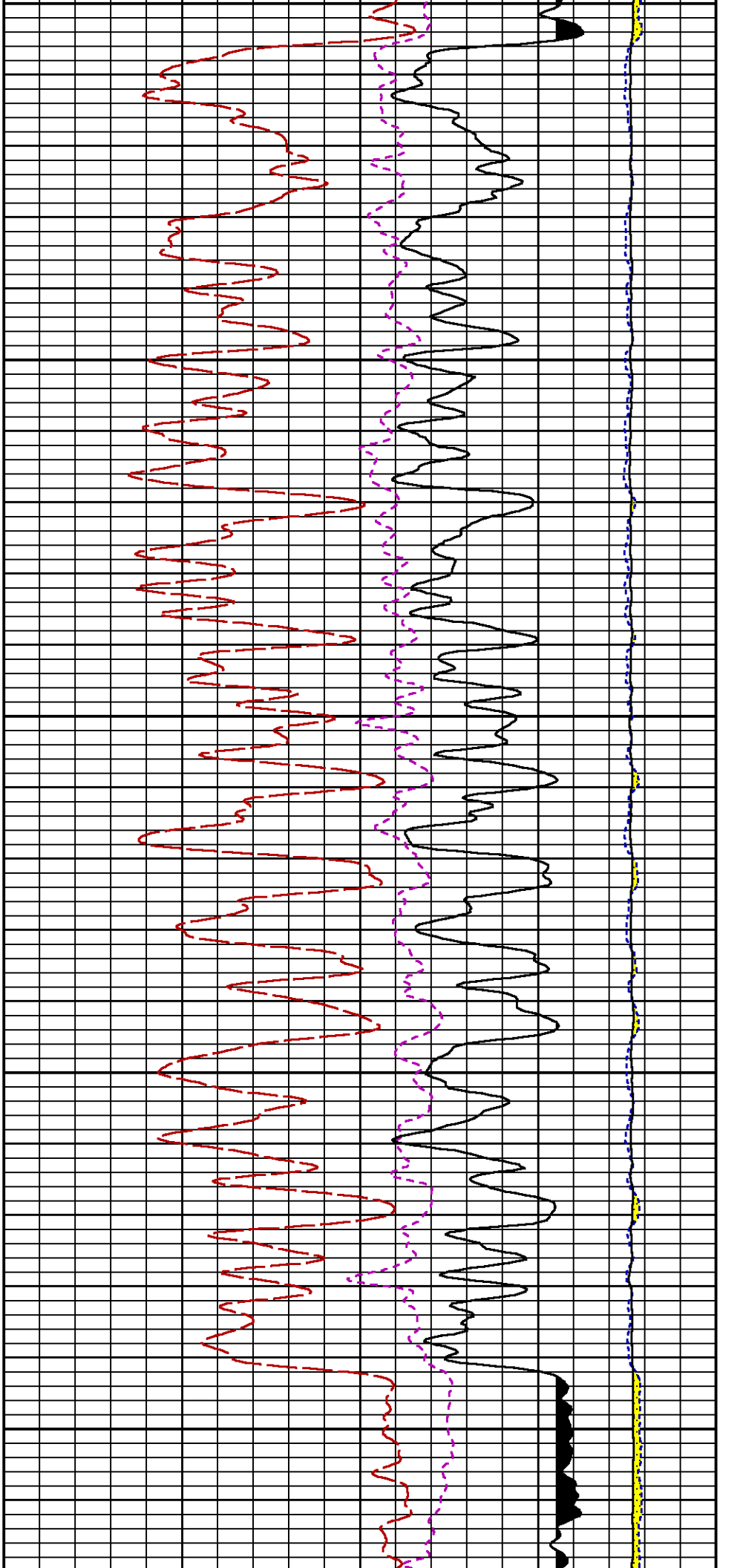


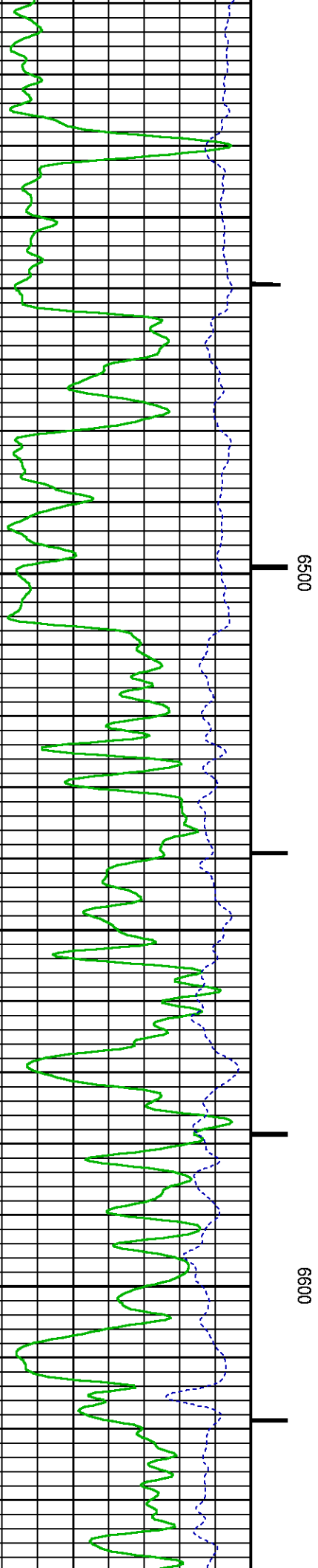
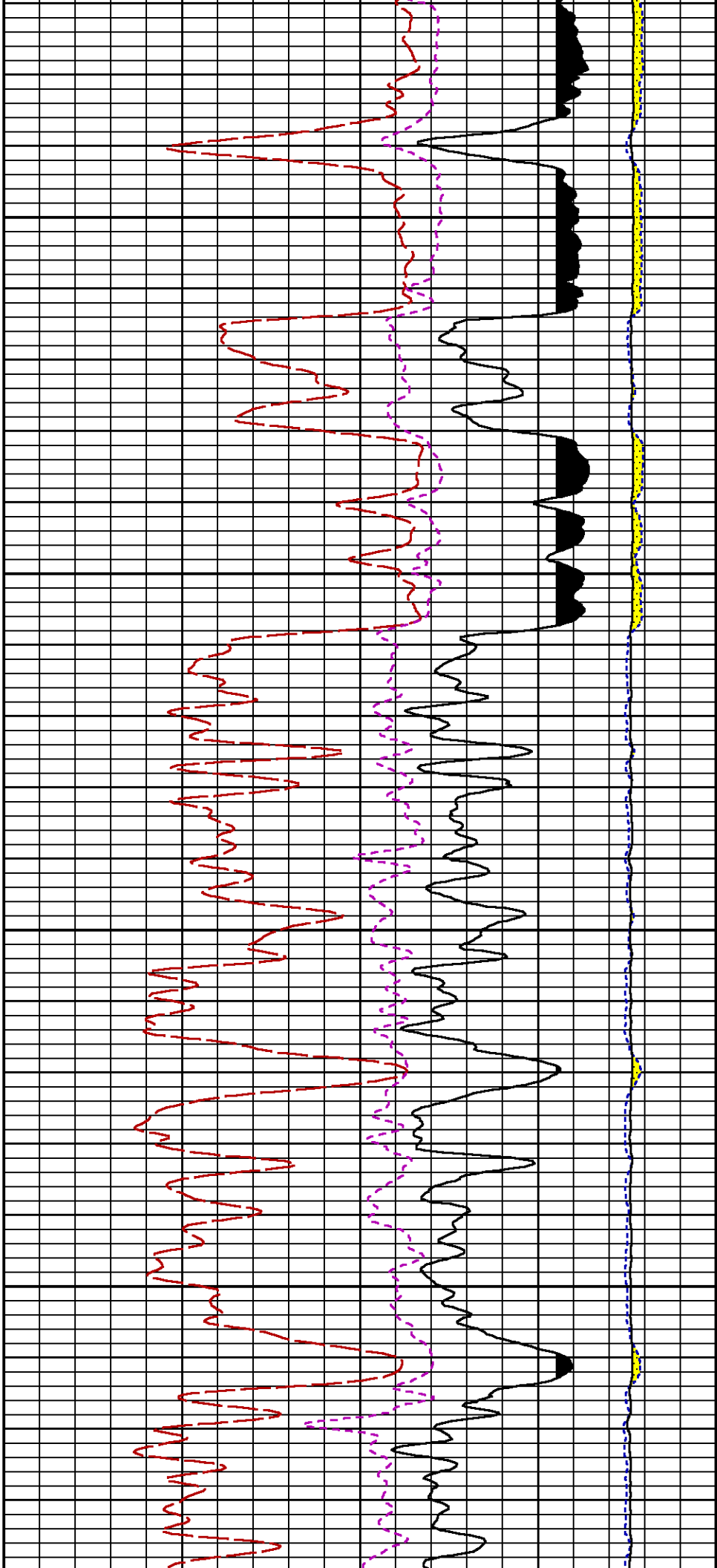


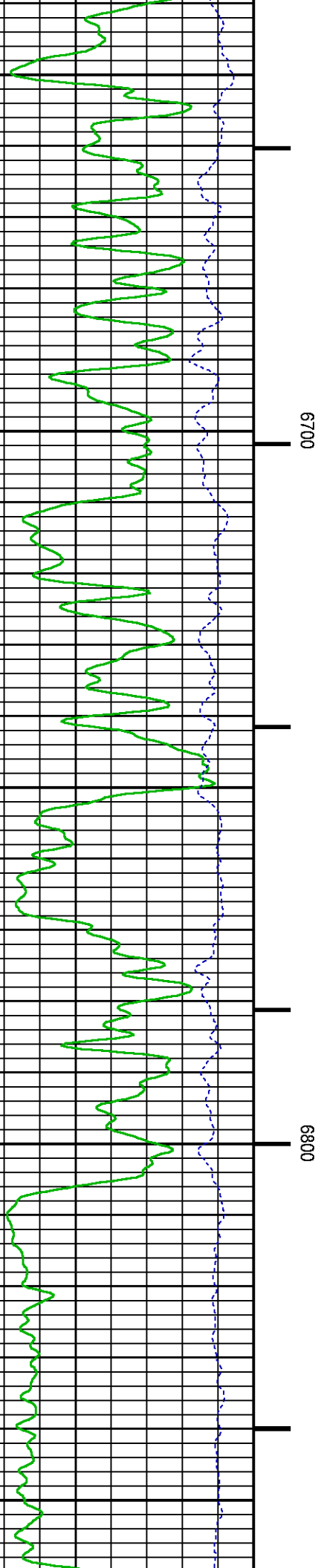
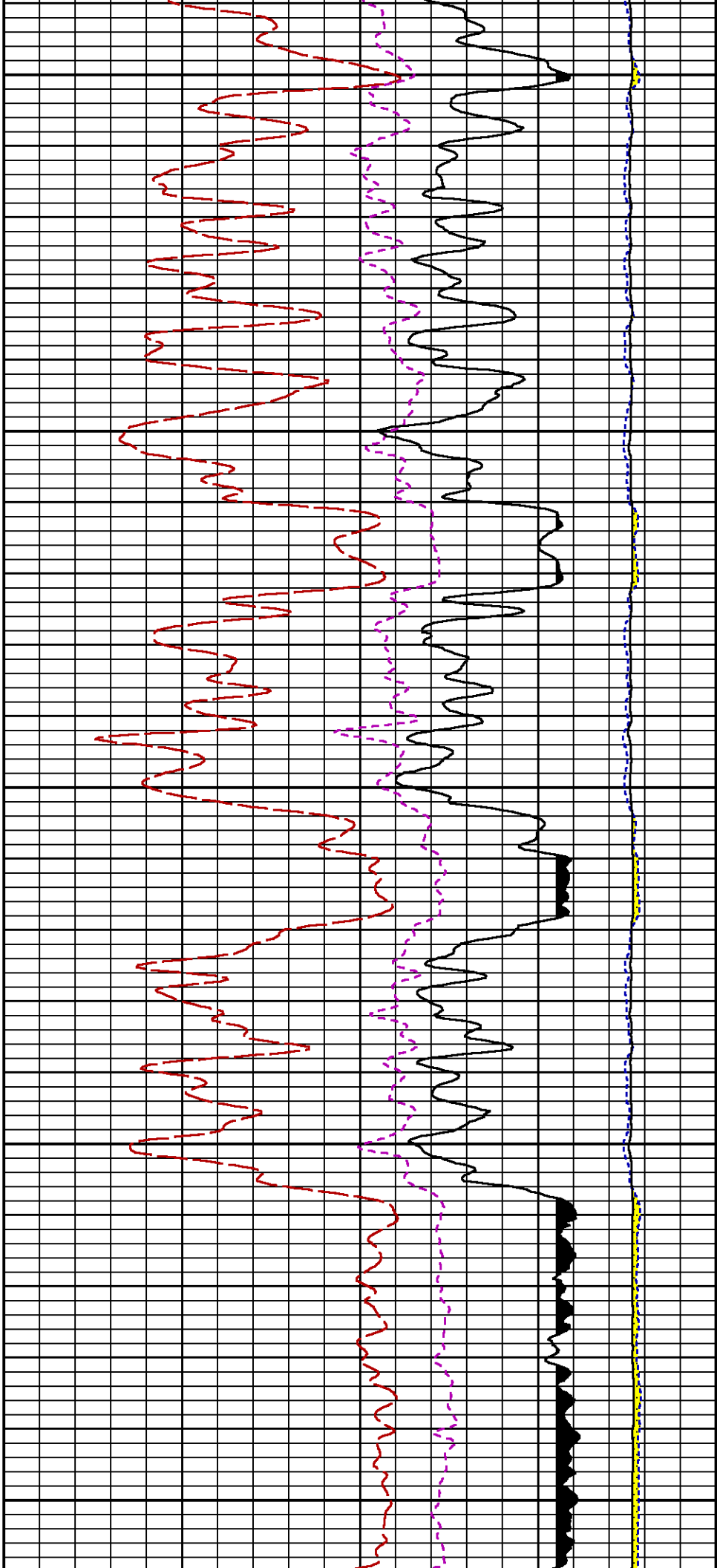


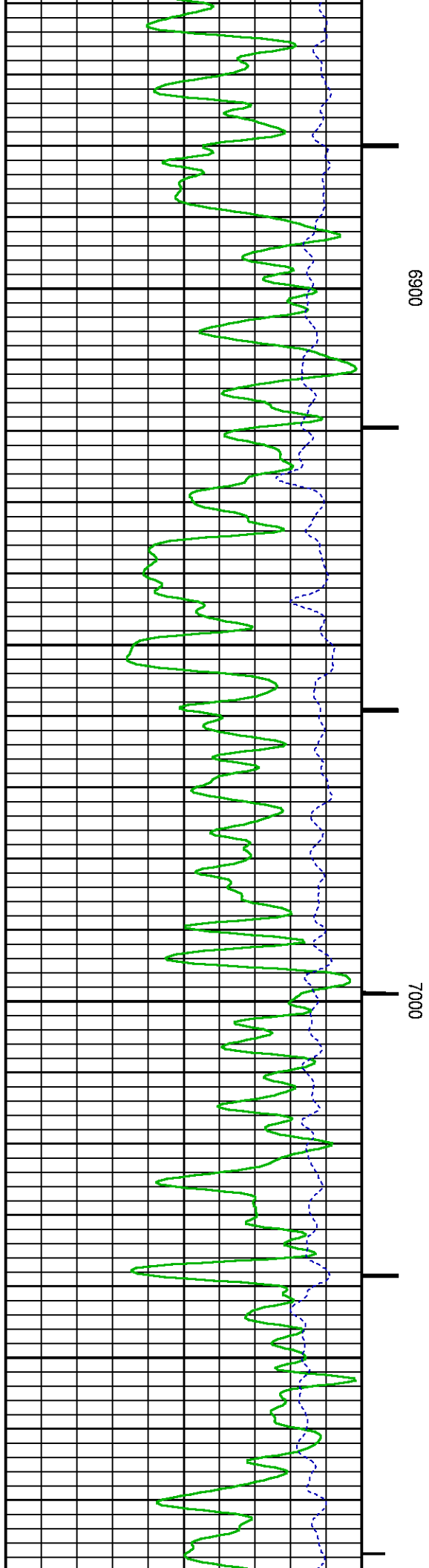
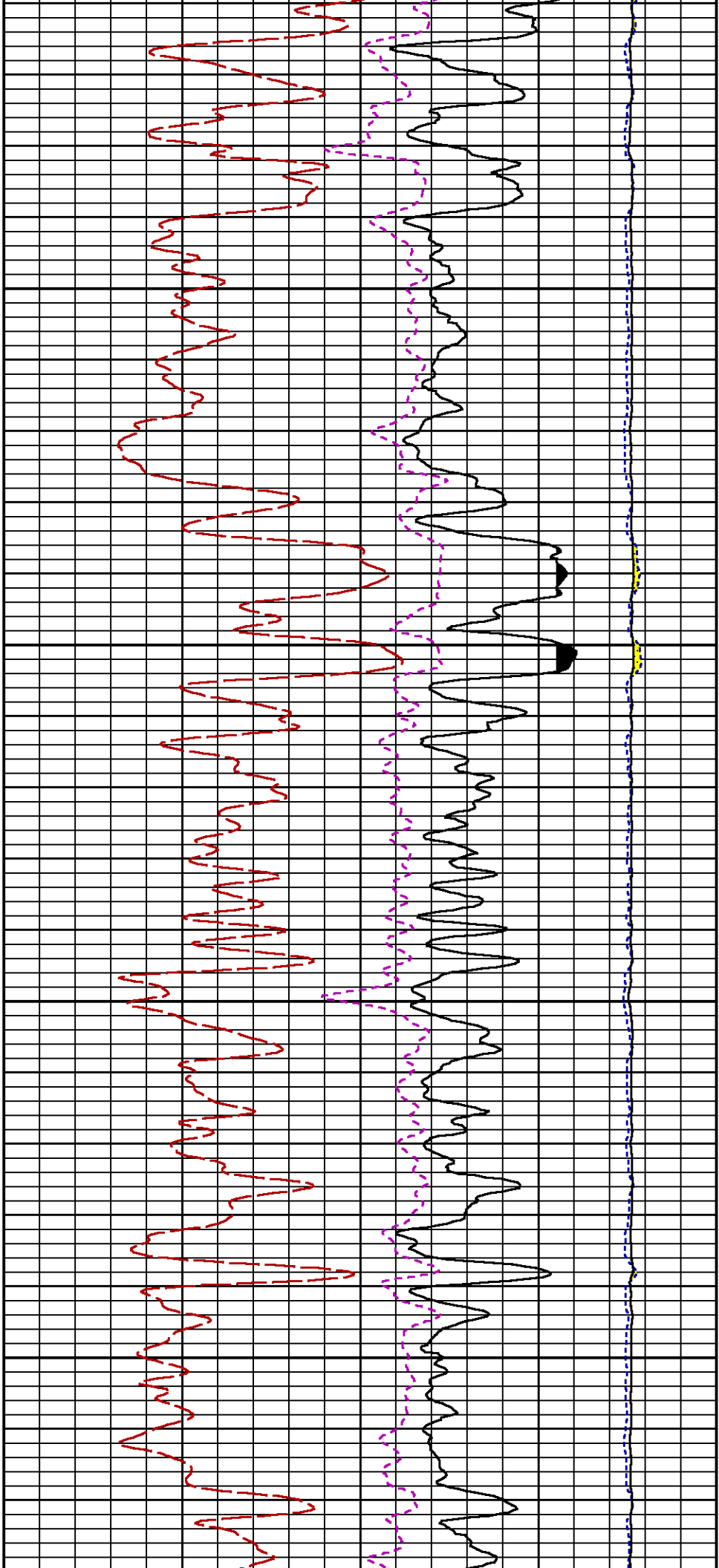


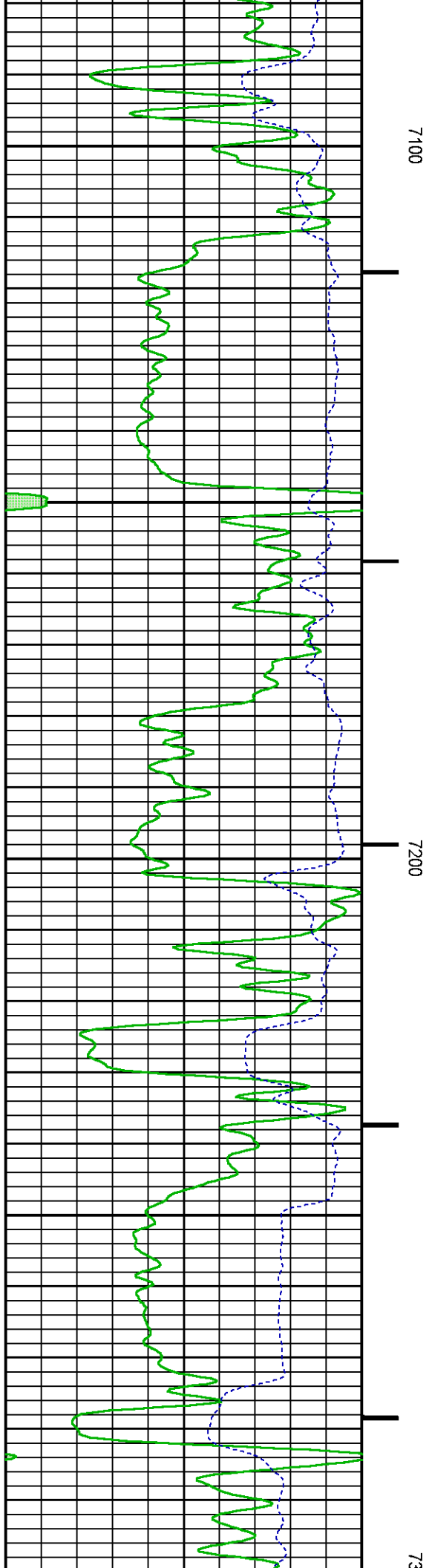
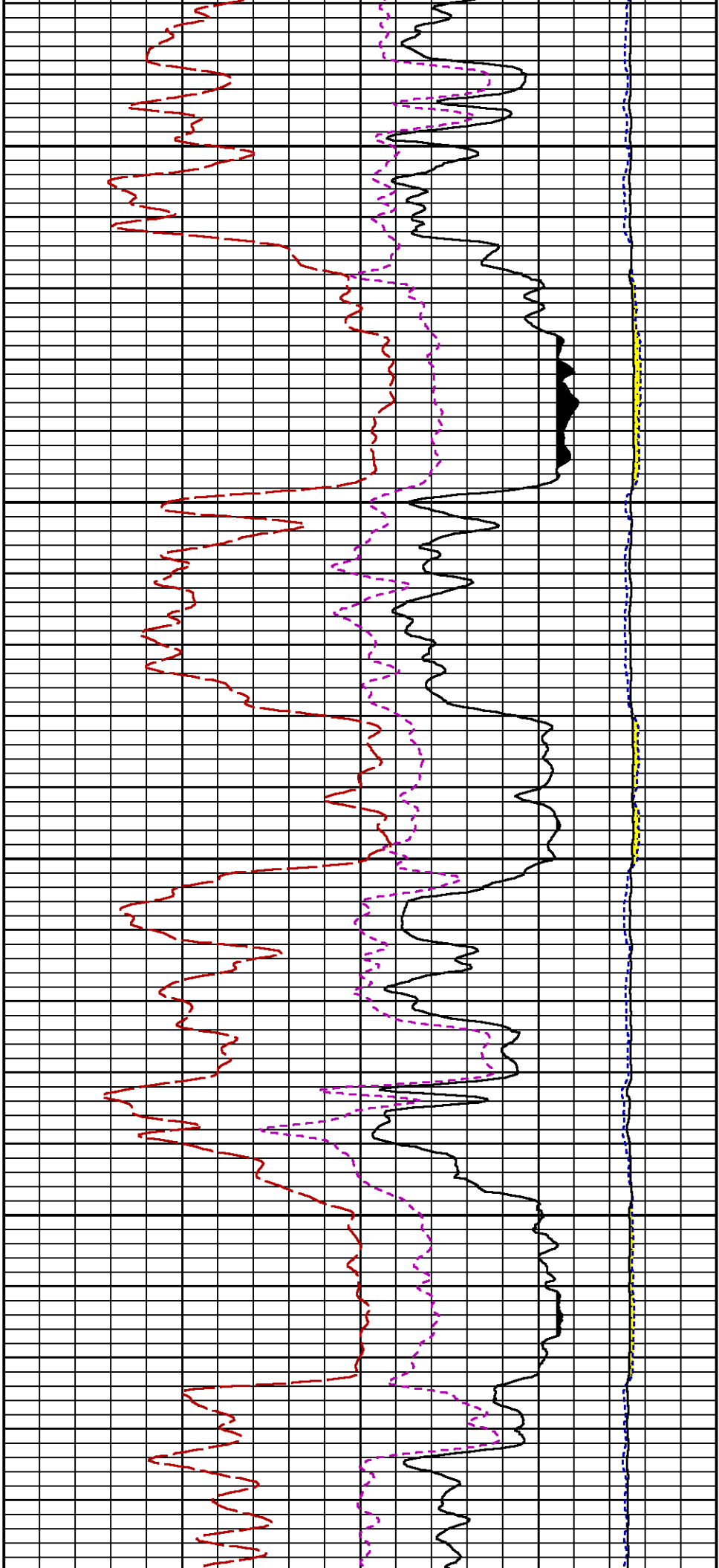


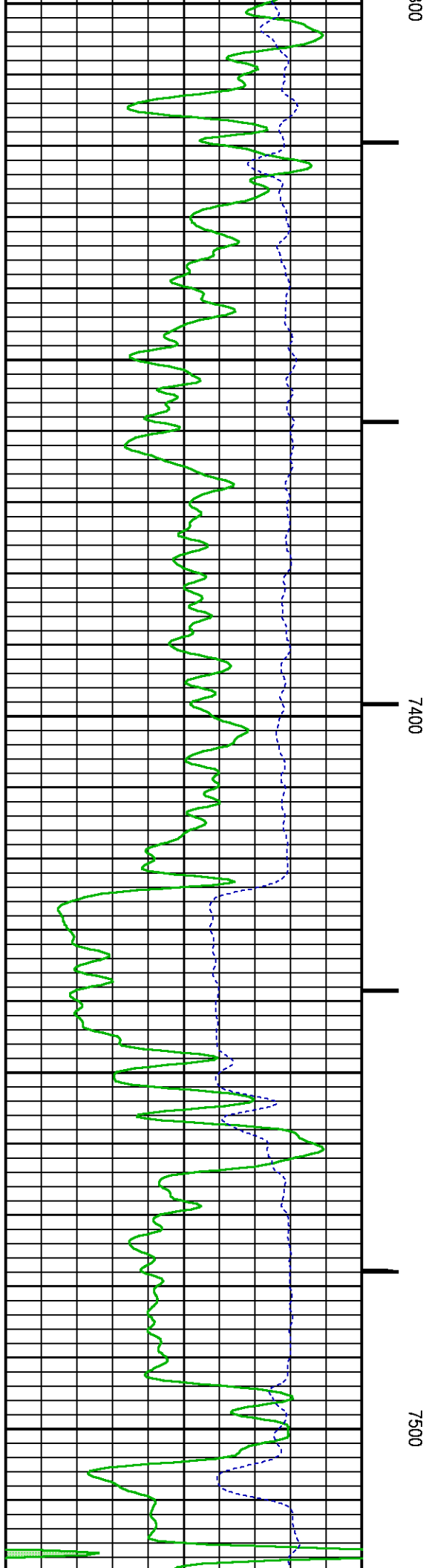
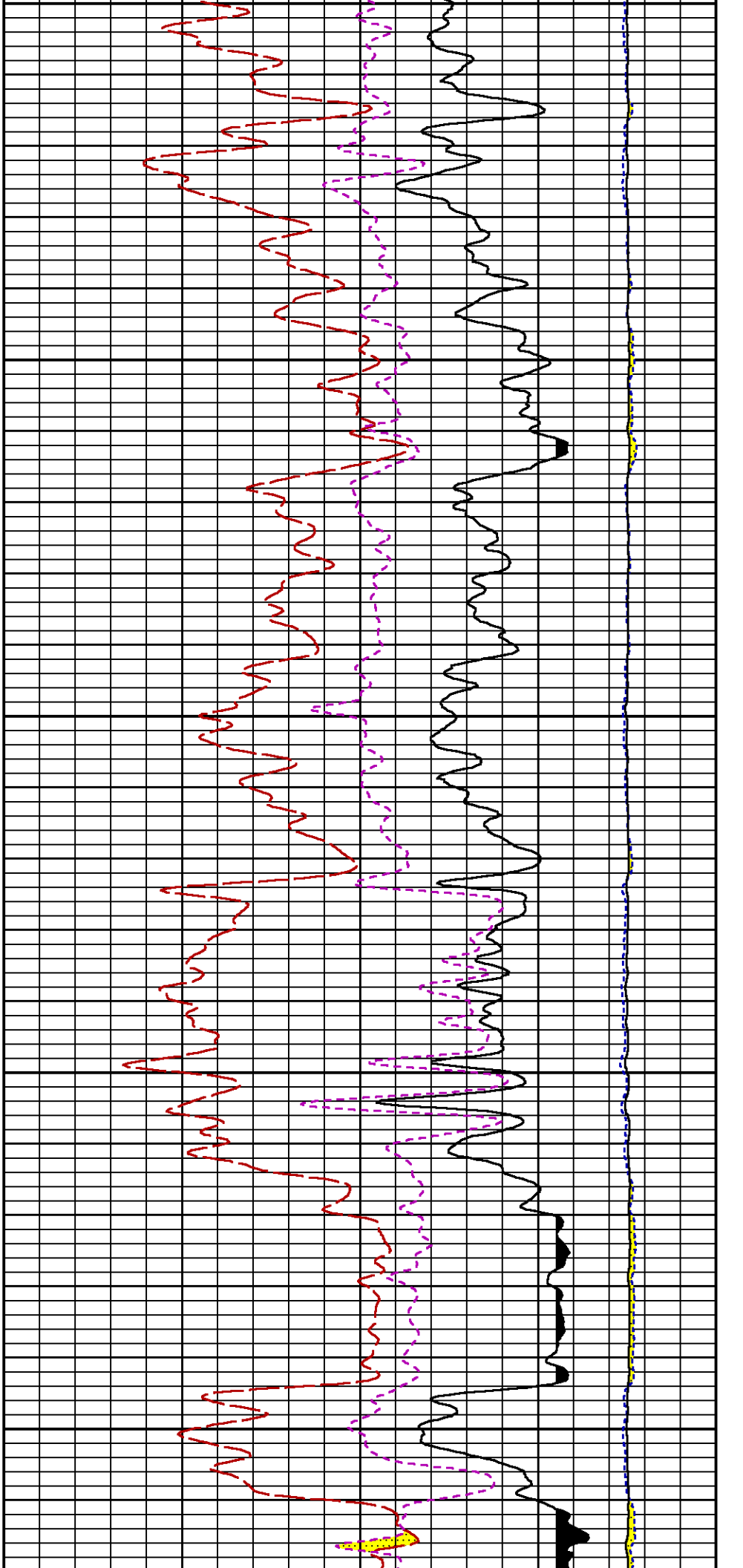


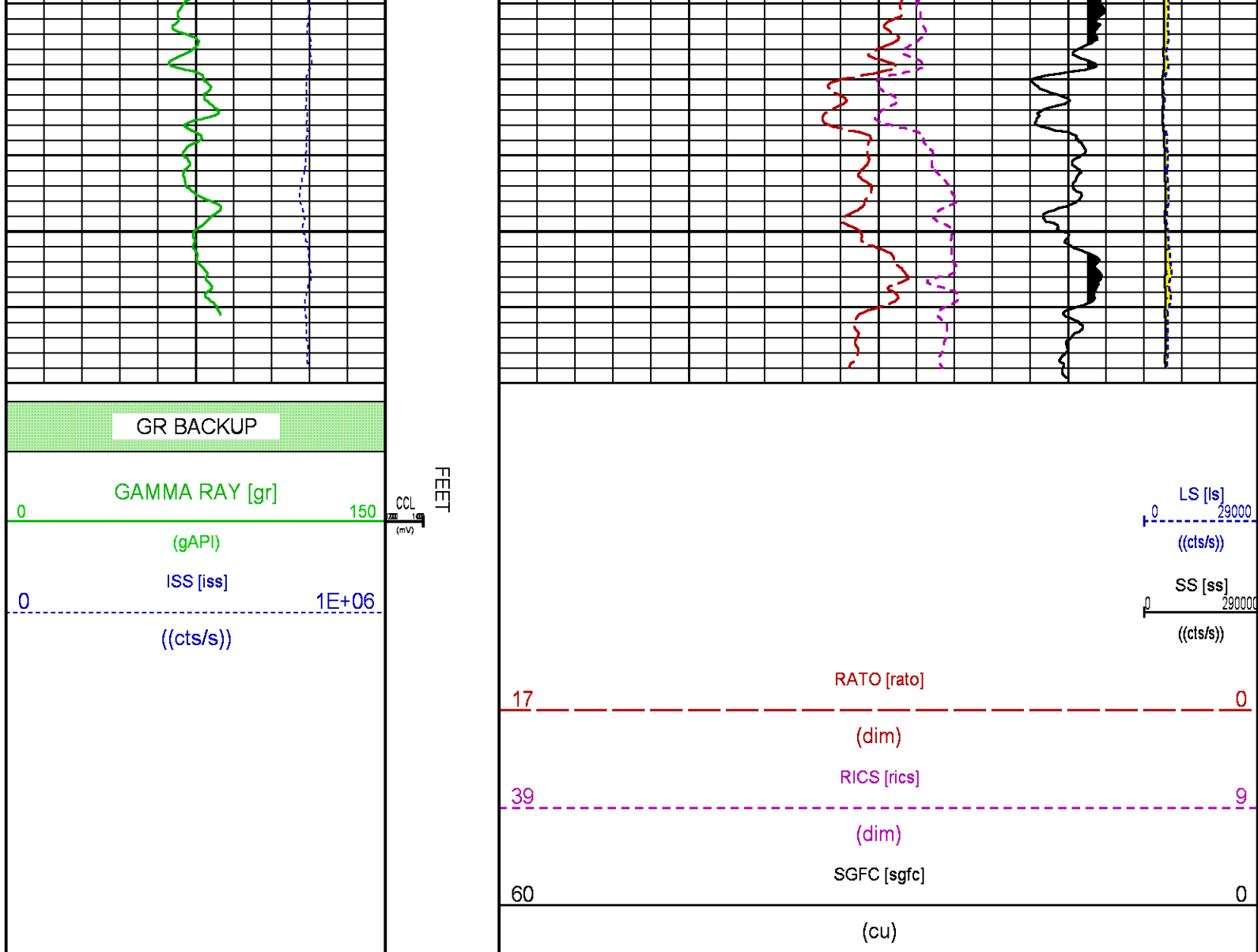












REPEAT PASS PNC 3D MODE

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

Plotted: Mon Mar 12 21:30:53 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-24-02W/p353h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4759.476 ft BOTTOM DEPTH: 5102.747 ft

SYMMETRIC FILTER

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

RPM PROCESSING

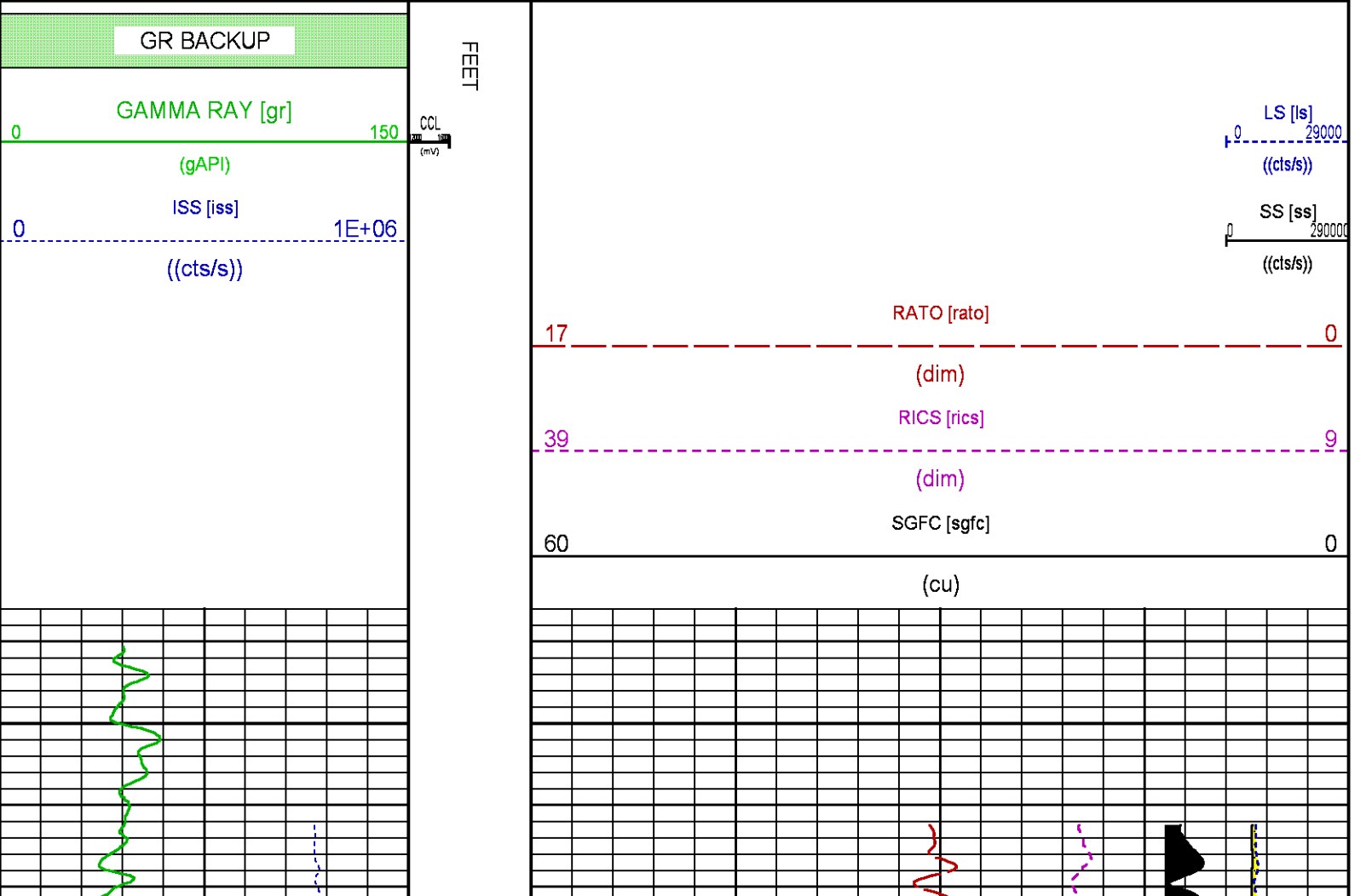
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
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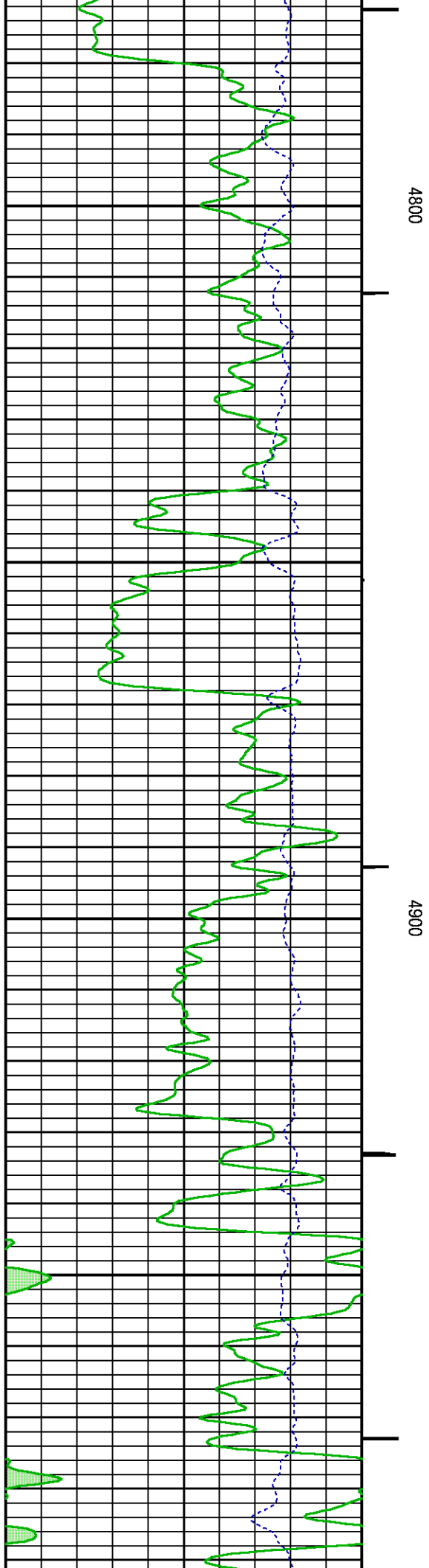
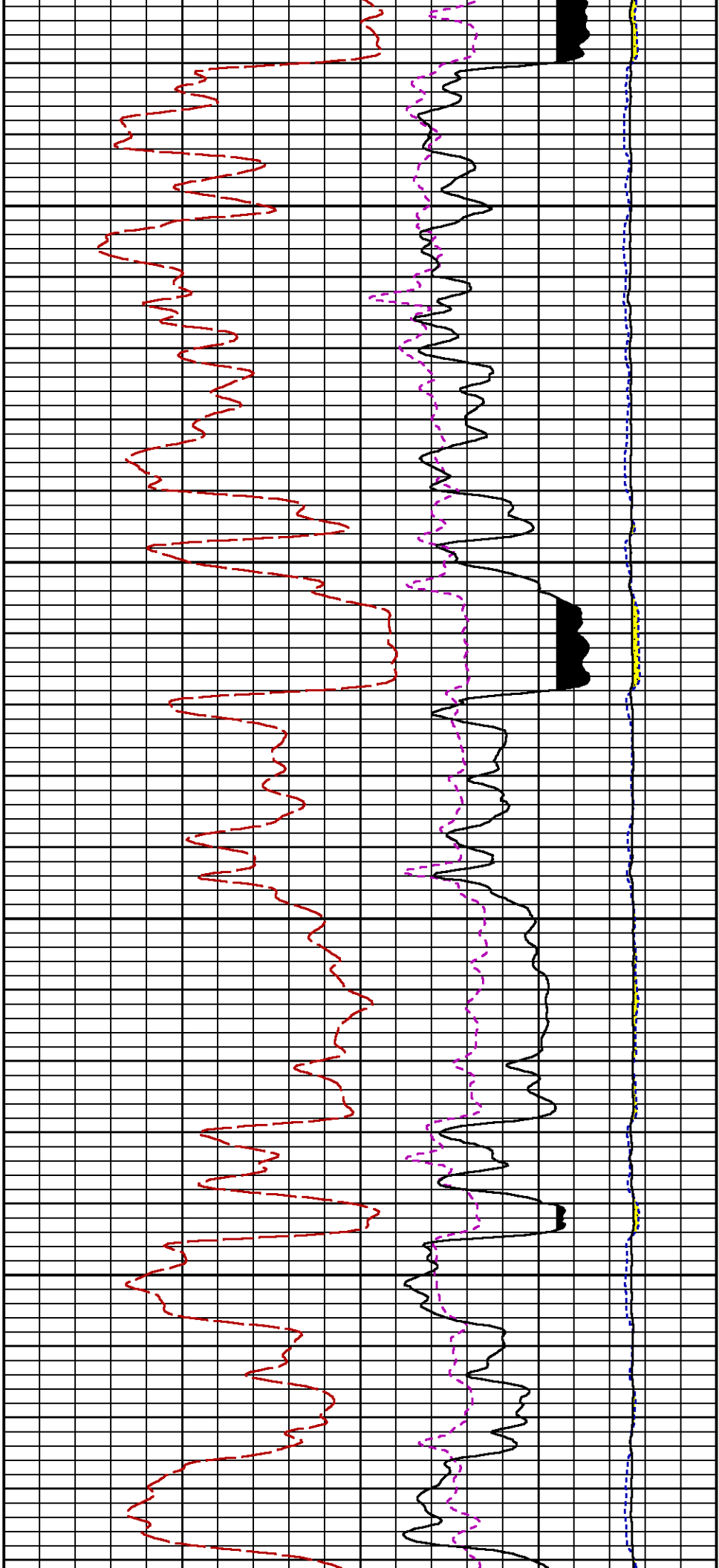
PNC Parameters	BOREHOLE CONTENTS	FLUID	TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE	"	"
	BOREHOLE SIZE	7.88	"	"
	LARGEST CASING OD	4.50	"	"
	MATRIX	SANDSTONE	"	"

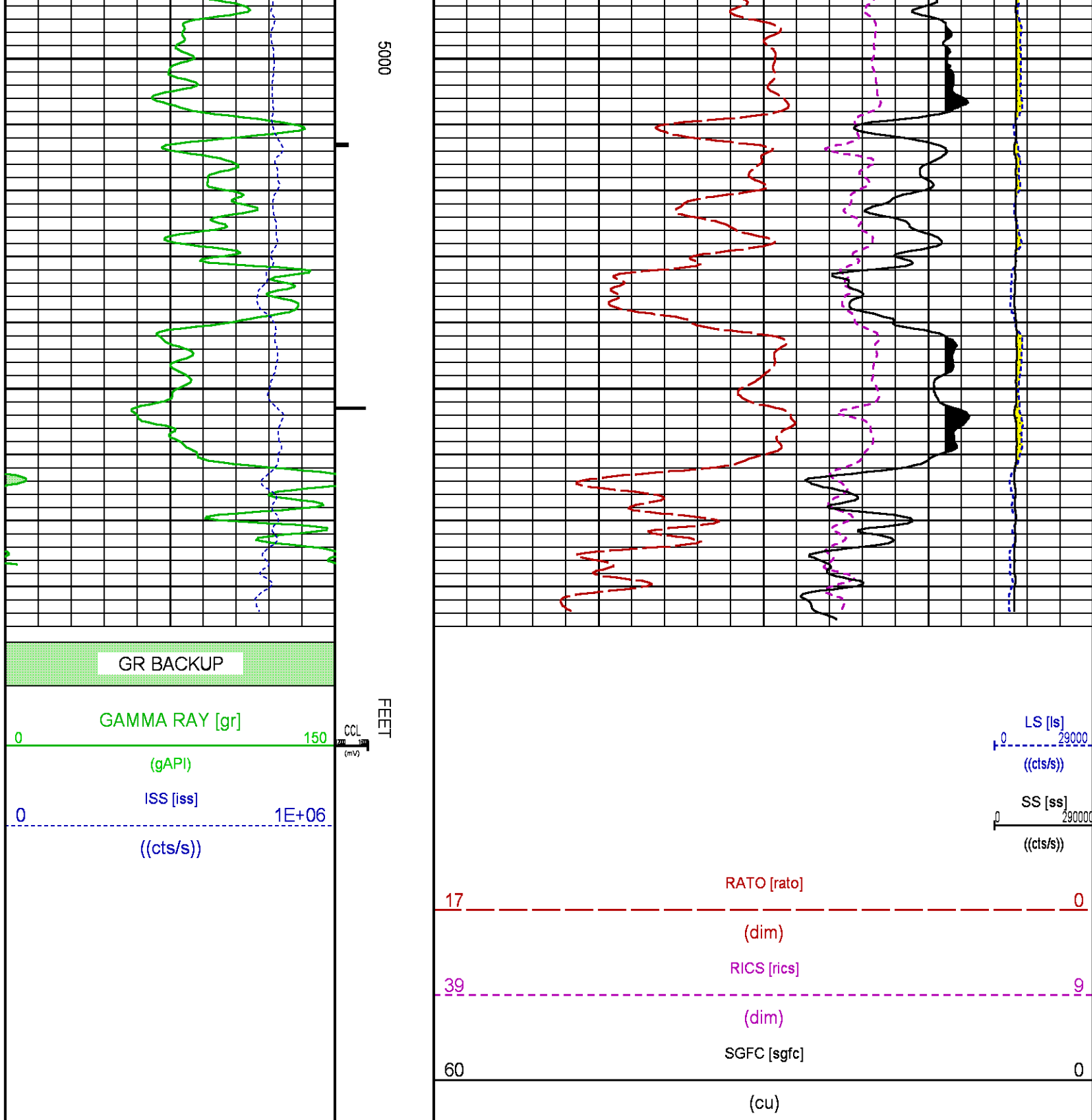
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE 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	-26.00	ISS	-12.75	RATO	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75

Presentation	: SysA:LARAMIE_RPMRPT.fvpdf [5"/100' Scale]
Plot Interval	: 4736.5 - 5099.75 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-02W/RPM_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-24-02W
Field	: VEGA
File Interval	: 4736.5 - 5101.25 Feet
OCT	: p353h







CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_NICHOLS_0994-24-02W/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 CALBRTR ON

CR DIFF

MULT

BACKGROUND CALBRTR ON

CALBRTR

	(cts/s)	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(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 (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	59.02	336.93	0.664	39.20	223.79	184.59
						176.00 195.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10184883 DATE/TIME PERFORMED: Thu Dec 28 16:06:32 2017

UNIT: 5753XD 111111 CALIBRATOR: 2437XB 112674 SOURCE: 8281AA 10160595 HOURS: 8281AA 495

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	801542	129	2259	2283	2296	101	7.5	0.9861
Interpolated	1300000	153	2239	2269	2287			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	801542	7010	1133	147	26.10	0.15	24.22	0.32
					26.36 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	801542	173203	26774	88480	31440	8243	53586	13246
Fit Quality %		0.758	0.949	0.821	0.831	0.824	0.790	0.824

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	801542	1.43	4.63	29.95	14.96	10.74	3.82	4.05
		1.42 1.46	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 %		0.055	0.140	0.158	0.082	0.013	0.026	0.049
Reduced	1392301	1.43	4.62	30.03	14.96	10.74	3.81	4.04
		1.42 1.46	4.33 5.52	27.60 32.70	13.70 16.34	10.06 11.10	3.57 3.95	3.76 4.22

TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 11774568 DATE/TIME PERFORMED: Sat Feb 24 08:44:02 2018

UNIT #: 5753XD 111111

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-1.089847E+01	1.064572E-01	3.162229E-07	5.808012E-11

TPSITEEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 11774568 DATE/TIME PERFORMED: Thu May 7 07:52:05 2015

UNIT #: 3880TA HL6670

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Ptfis	-1.089847E+01	1.064572E-01	3.162229E-07	5.808012E-11

TPSPRES PRIMARY CALIBRATION SUMMARY

GAUGE #: 8255XA 11774568 DATE/TIME PERFORMED: Thu May 7 08:08:15 2015

UNIT #: 3880TA HL6670

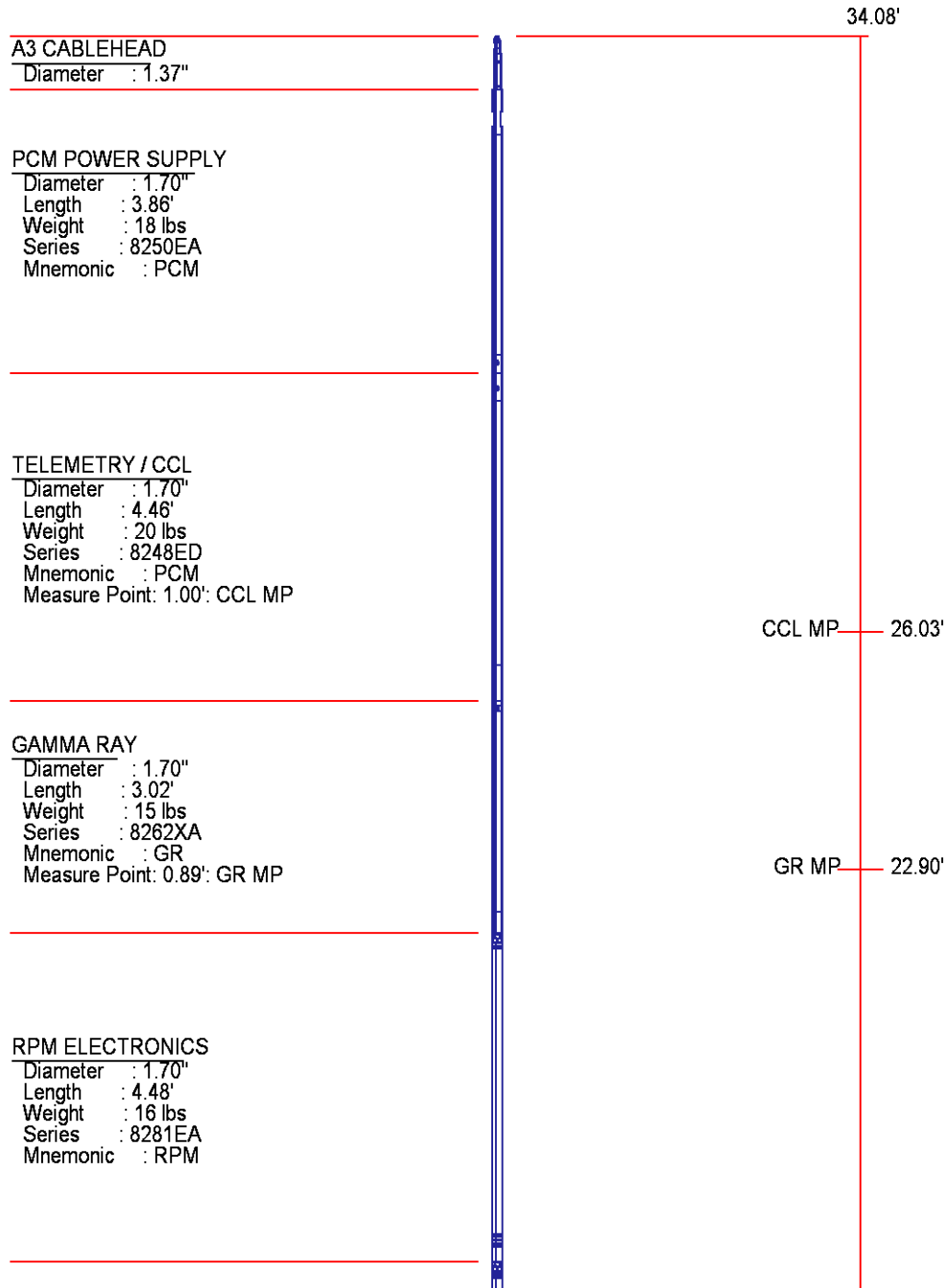
Temp	G	H	I	J
	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00

0	5.757116E+05	2.756916E+02	2.333345E-04	-6.169285E-09
1	-8.476257E+01	3.280890E-02	-2.151323E-06	8.959875E-11
2	6.895835E-01	-2.638656E-04	9.921076E-09	-4.102106E-13
3	-1.434187E-03	5.654808E-07	-1.414922E-11	5.870839E-16
4	1.408894E-16	7.548284E-20	2.001050E-24	-7.758373E-29

Coef Test	350.0	5.690279E+05	2.790962E+02	8.905545E-05	1.107021E-10
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INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_NICHOLS_0994-24-02W/p353h~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

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



COMPANY **LARAMIE ENERGY II LLC**

WELL **NICHOLS 0994-24-02W**

FIELD **VEGA**

COUNTY **MESA** STATE **COLORADO**

FILE NO:

API NO:

05077104020000

LOCATION:

SHL 1792 FNL 2792 FEL
 BHL 352 FNL 1544 FEL

ELEVATIONS:

KB 7161 FT
 DF
 GL 7137 FT

SEC **24** TWP **9S** RGE **94W**

DATE **12-Mar-2018**

