



FILE NO: _____ COMPANY **LARAMIE ENERGY II LLC**

WELL **NICHOLS 0994-13-21E**

API NO: **05077104160000** FIELD **VEGA**

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

Ver. 4.10 LOCATION: **SHL 1783 FNL 2777 FEL** OTHER SERVICES **RAL**
BHL 112 FNL 1494 FEL

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

PERMANENT DATUM **GL** ELEVATION **7137 FT** ELEVATIONS: **KB 7161 FT**
LOG MEASURED FROM **KB** **24 FT** ABOVE P.D. **DF**
DRILL. MEAS. FROM **KB** **GL 7137 FT**

DATE	18-Mar-2018
RUN	2
TRIP	1
SERVICE ORDER	US133008J
DEPTH DRILLER	7920 FT
DEPTH LOGGER	7837 FT
BOTTOM LOGGED INTERVAL	7836 FT
TOP LOGGED INTERVAL	2512 FT
TIME STARTED	08:00
TIME FINISHED	14:00
OPERATOR RIG TIME	LOGGER
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	50 FT
LOGGED CEMENT TOP	2034 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	17 FMIN
MAX. RECORDED TEMP.	230 DEGF
REFERENCE LOG	BAKER HUGHES
REFERENCE LOG DATE	16-MAR-2018
EQUIP. NO.	4291
LOCATION	R. ZUNIGA
GRAND JCT	
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/RPM/TEMP RUN IN COMBINATION

LOGGED WITH 0 PSI AT WELLHEAD

SJ: 6092-6110
SJ: 7000-7018

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

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	TELEMETRY	8250 EA/8248 ED	10185091/10323398	FREE
2	1	GR	8262 XA	10317216	FREE
2	1	RPM ELEC	8281 EA	10190985	FREE
2	1	RPM	8283 PA/8281 FA	10068031/10076673	FREE
2	1	TEMP	8255 XA	166341	FREE

G-SAND PNC 3D MODE

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

Patches: 3

Plotted: Sun Mar 18 20:17:51 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-21E/p353h04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2496.996 ft BOTTOM DEPTH: 3146.810 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_0994-13-21E/LARAMIE_RPM_GS.fvpdf [5"/100' Scale]
Plot Interval : 2475.75 - 3146.5 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-21E/RPM_GS.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : NICHOLS 0994-13-21E
Field : VEGA
File Interval : 2475.75 - 3148 Feet
OCT : p353h

GR BACKUP

GAMMA RAY [gr]

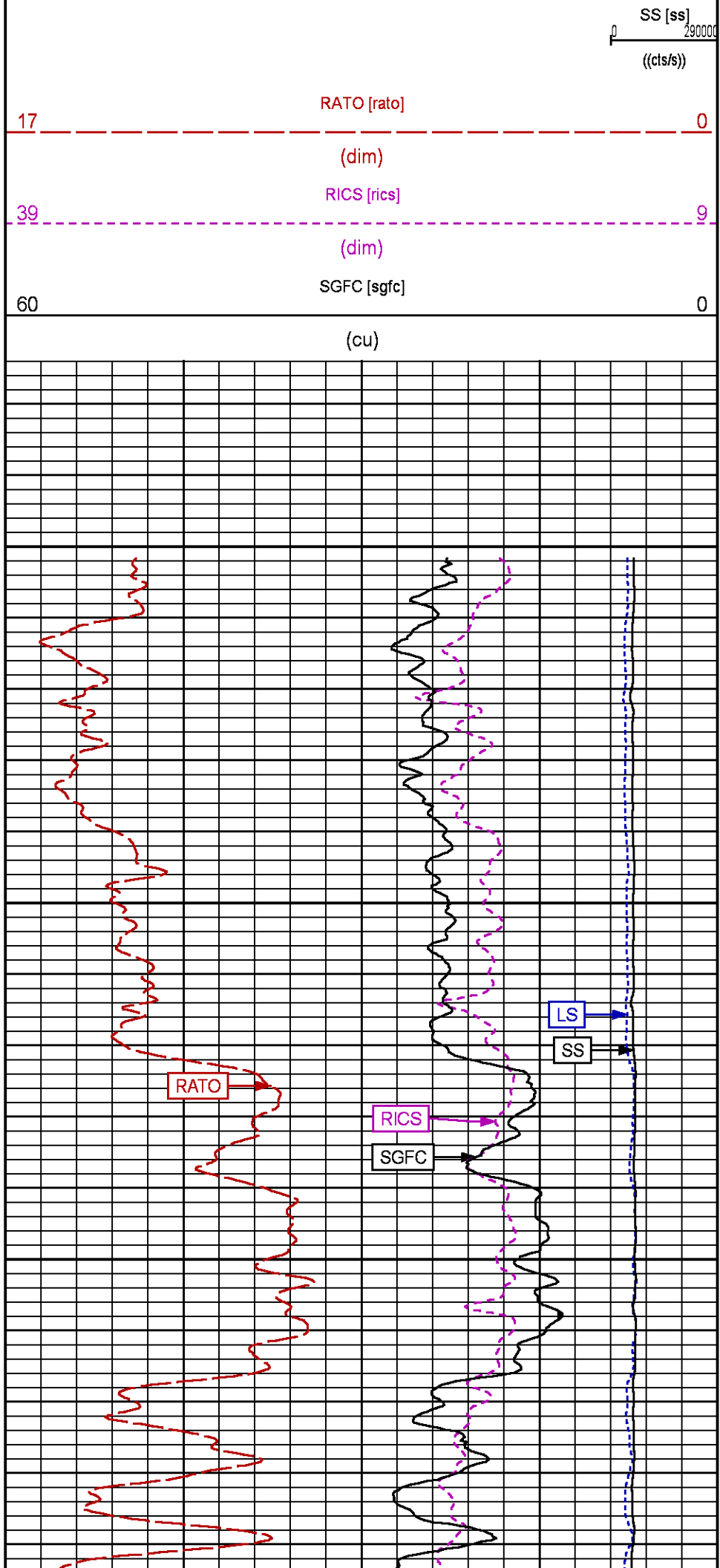
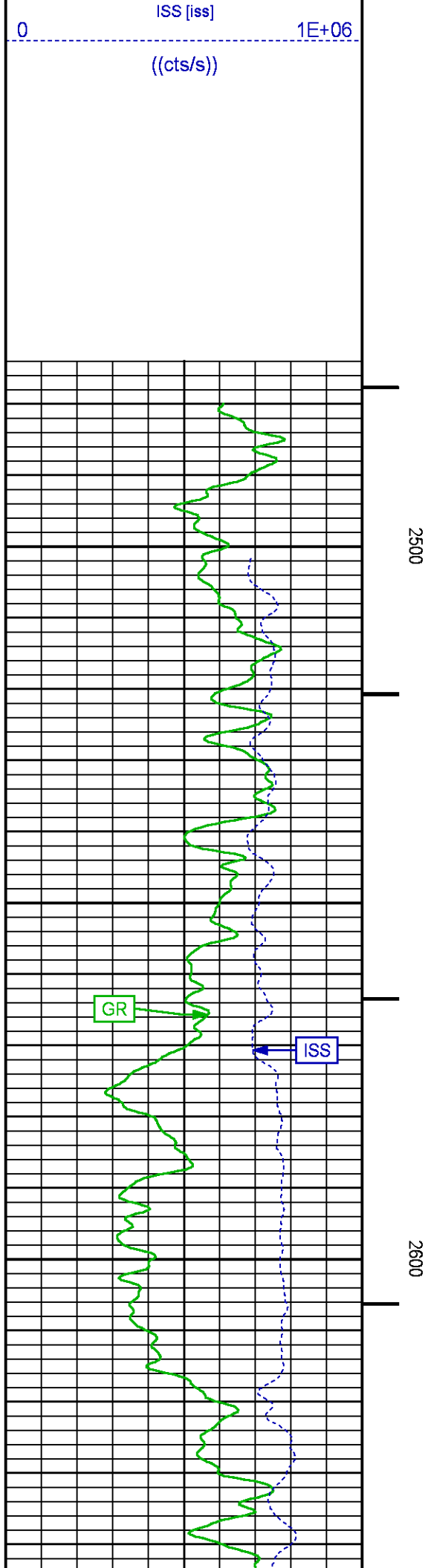
(gAPI)

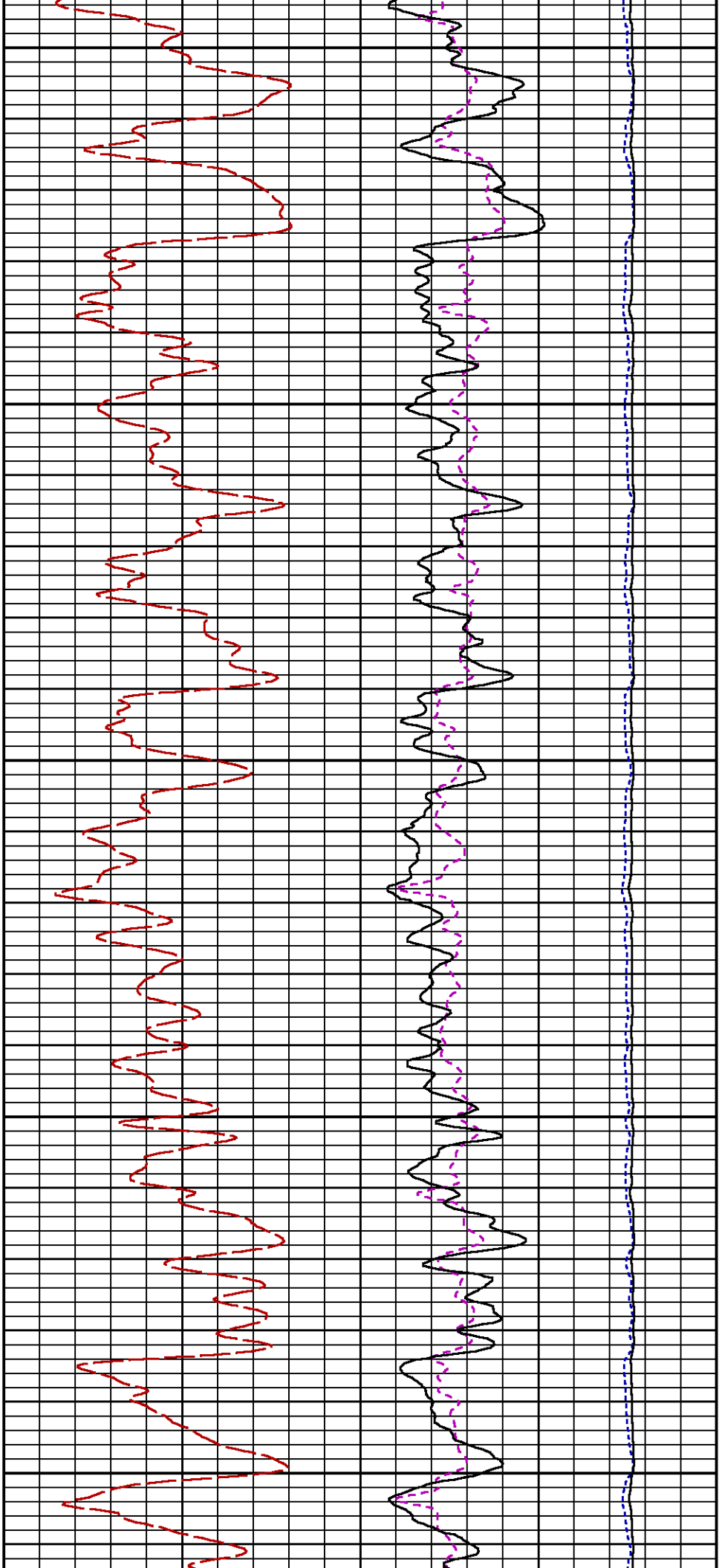
FEET

CCL
mV

LS [ls]

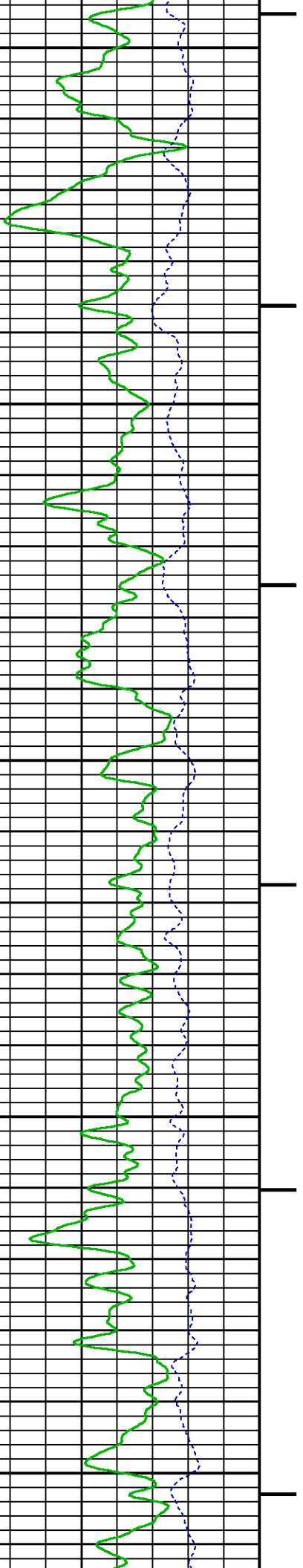
((cts/s))

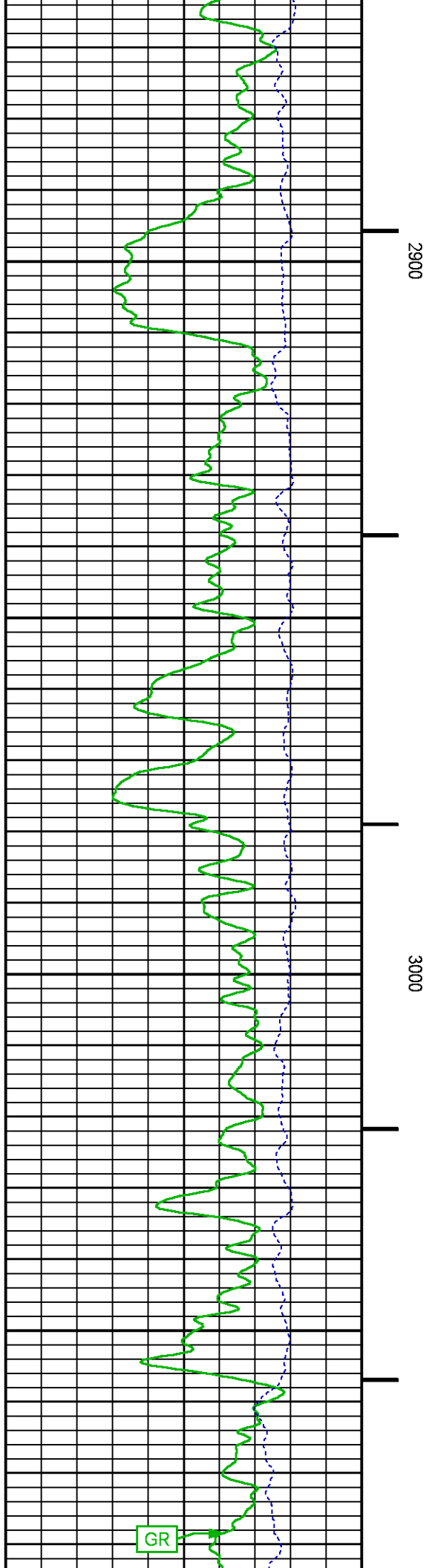
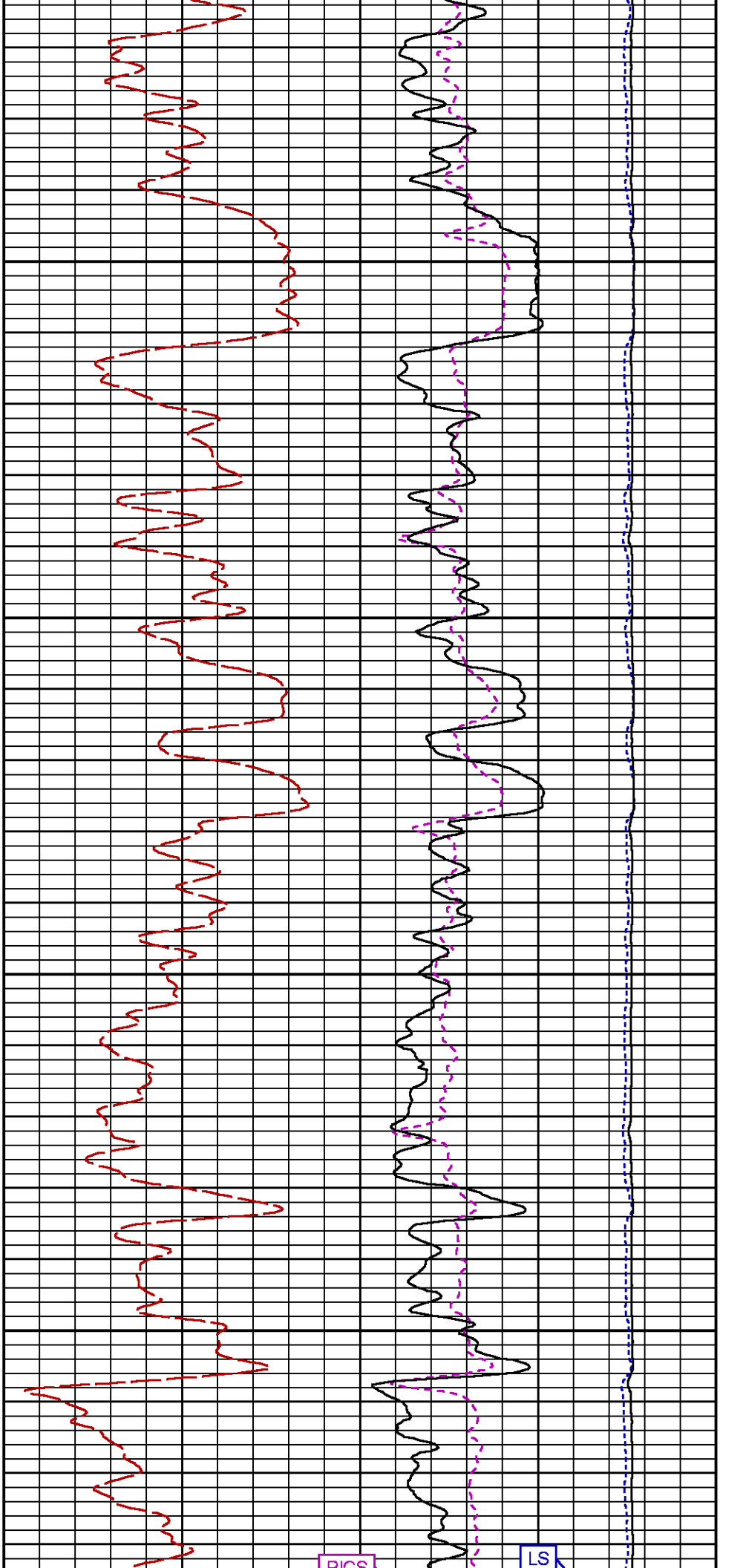


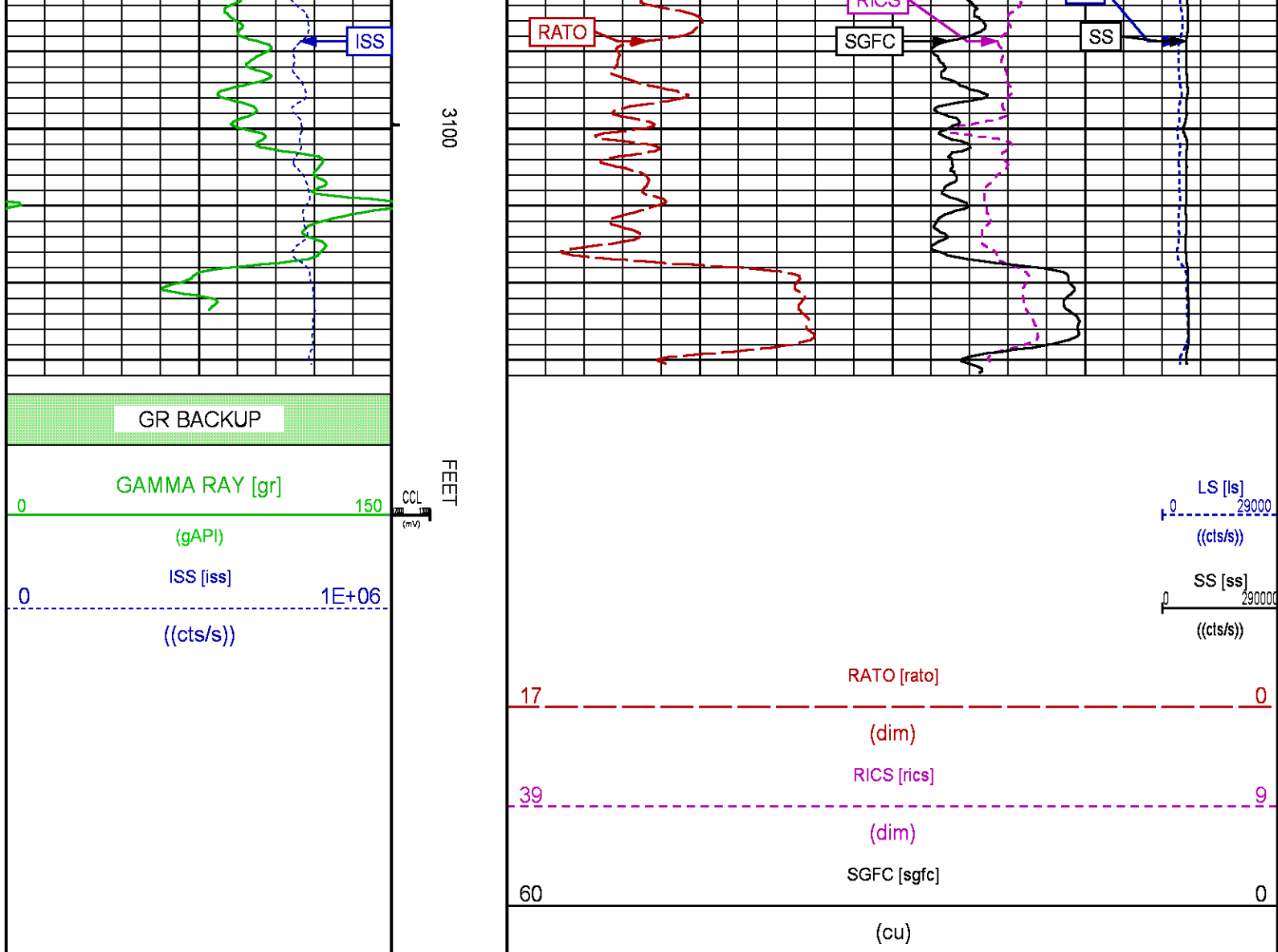


2700

2800







WILLIAMS FORK PNC 3D MODE

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

Patches: 3

Plotted: Sun Mar 18 13:32:11 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-21E/p353h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4498.621 ft BOTTOM DEPTH: 7846.710 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	"	"

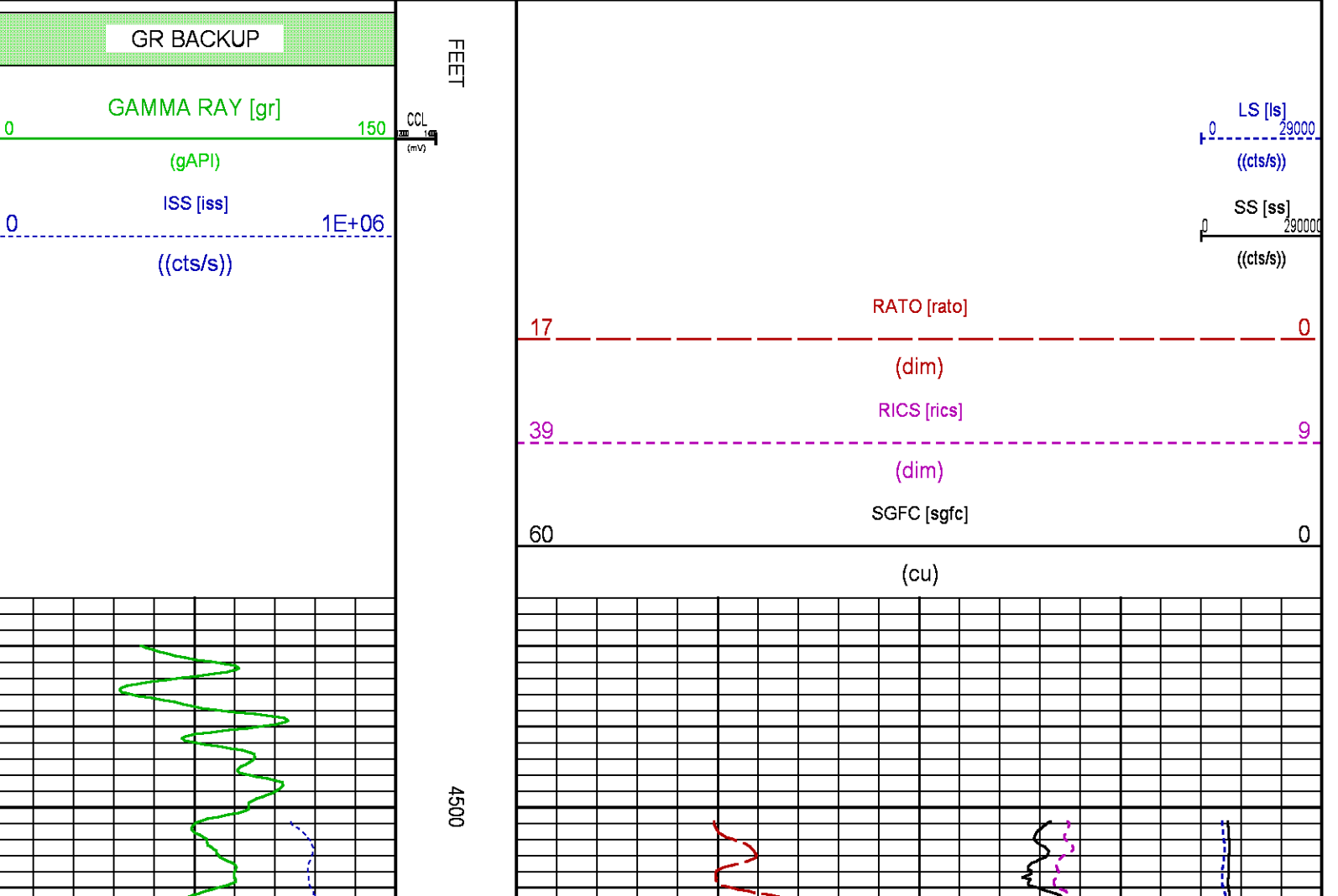
CURVE DESCRIPTION REPORT

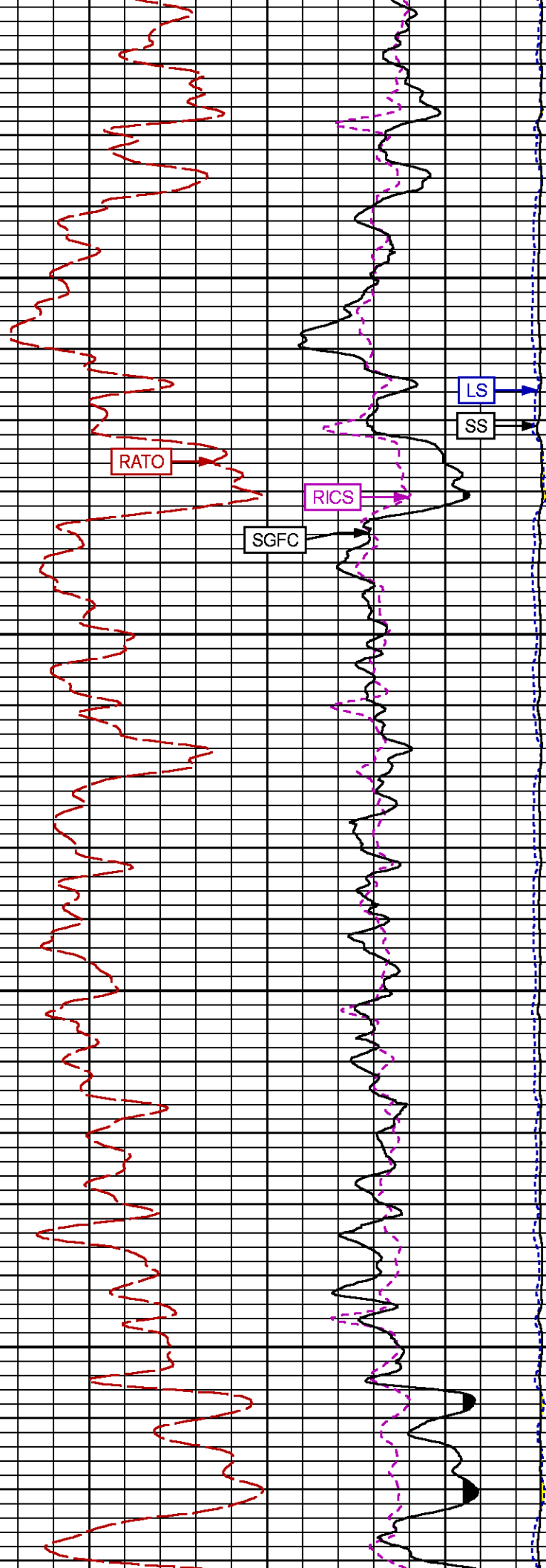
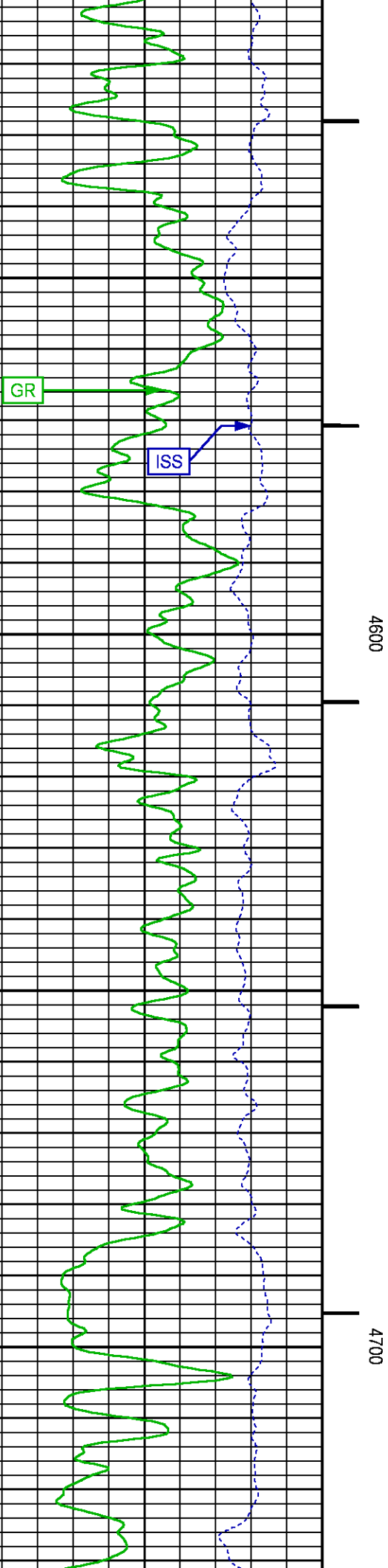
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A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

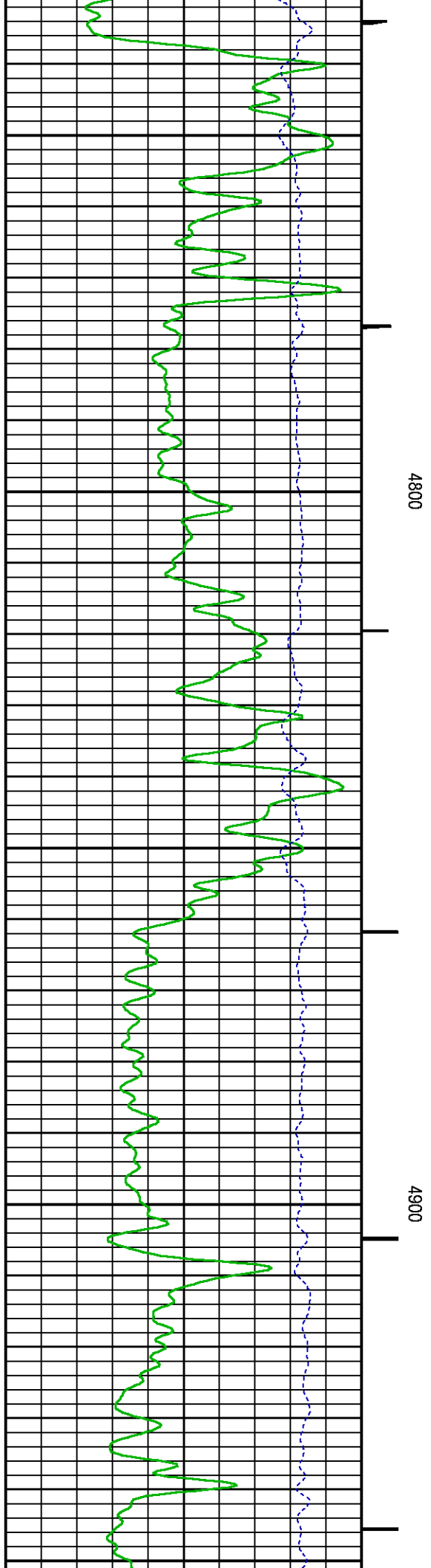
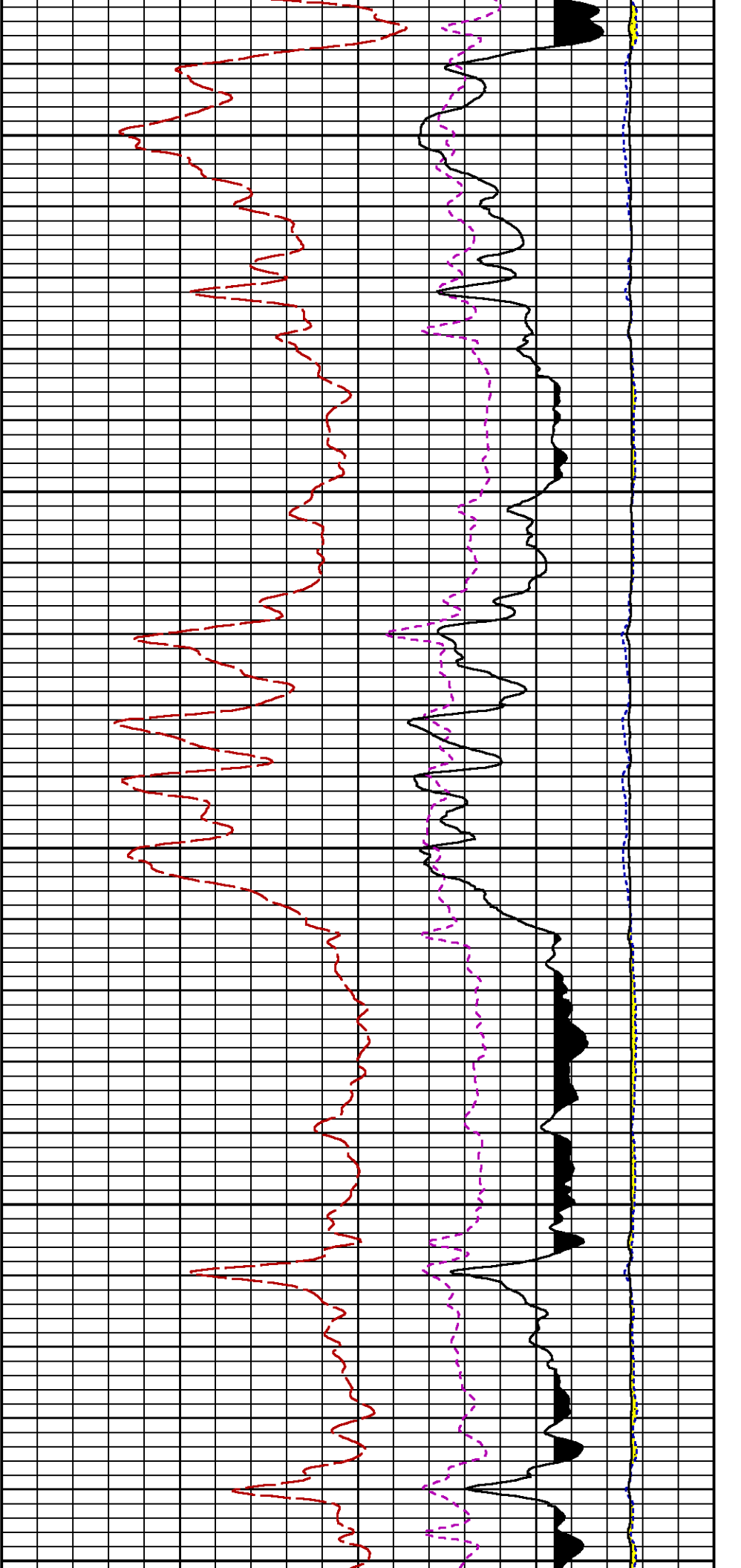
CURVE MEASURE POINT OFFSET

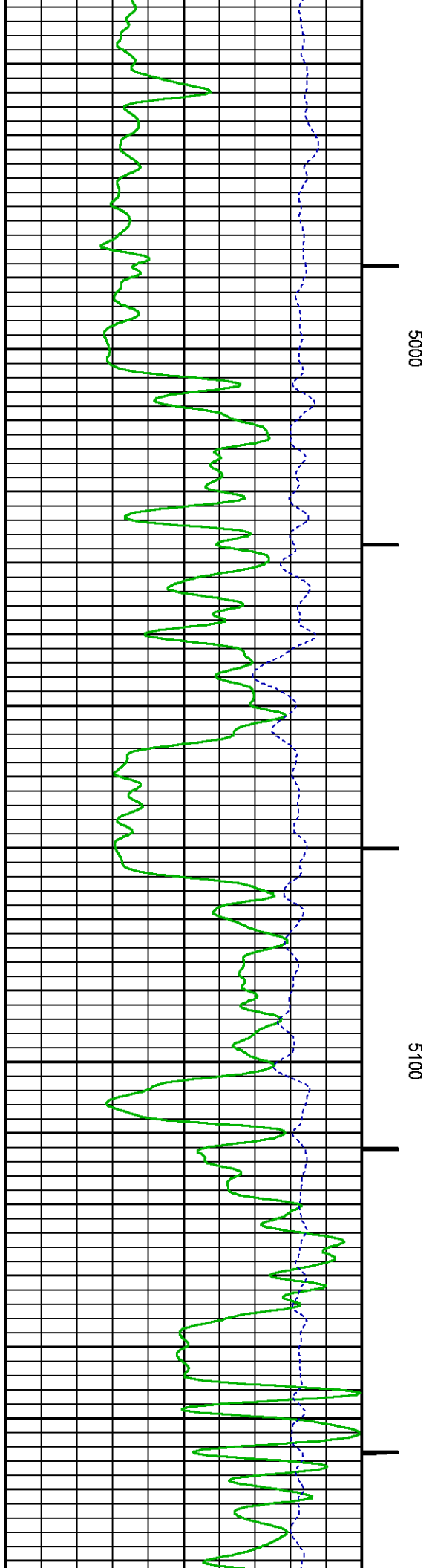
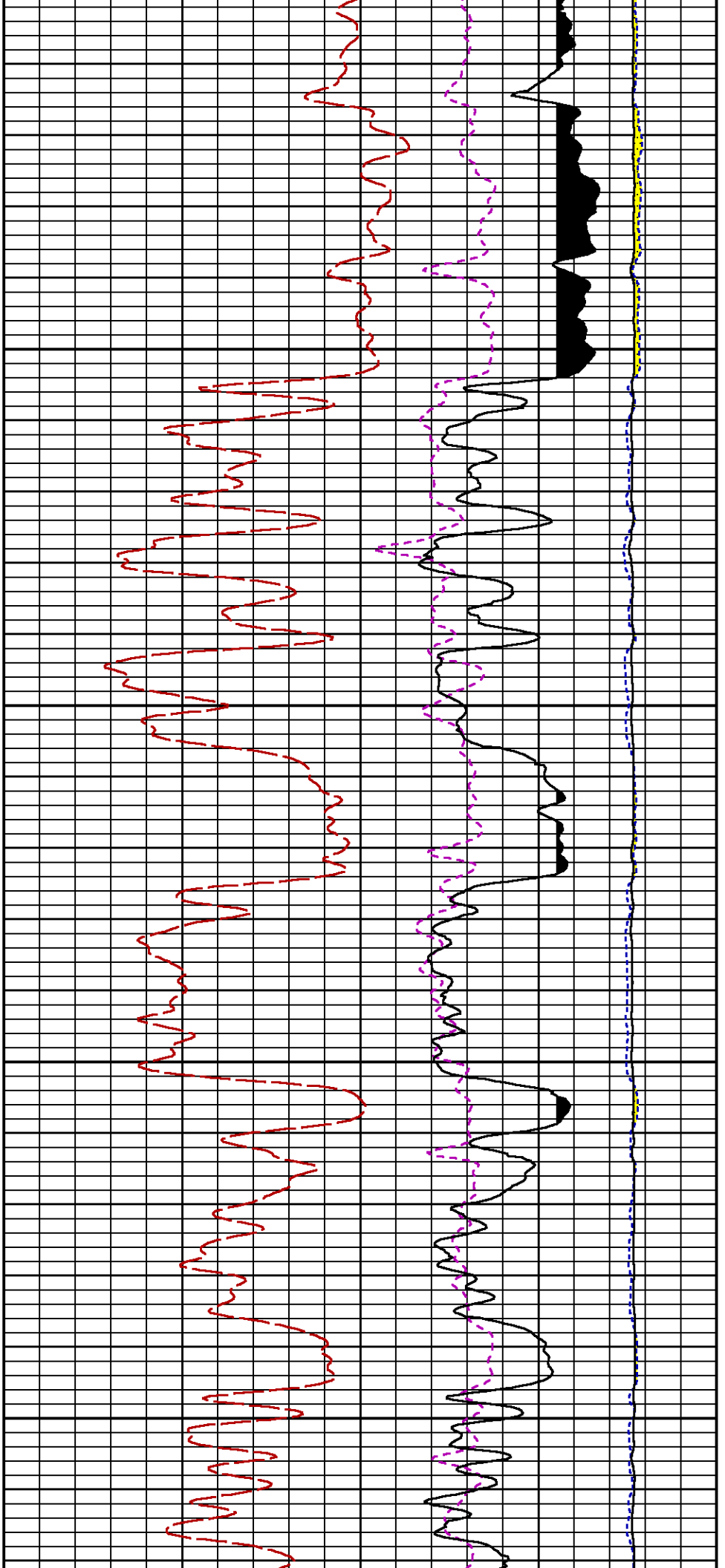
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

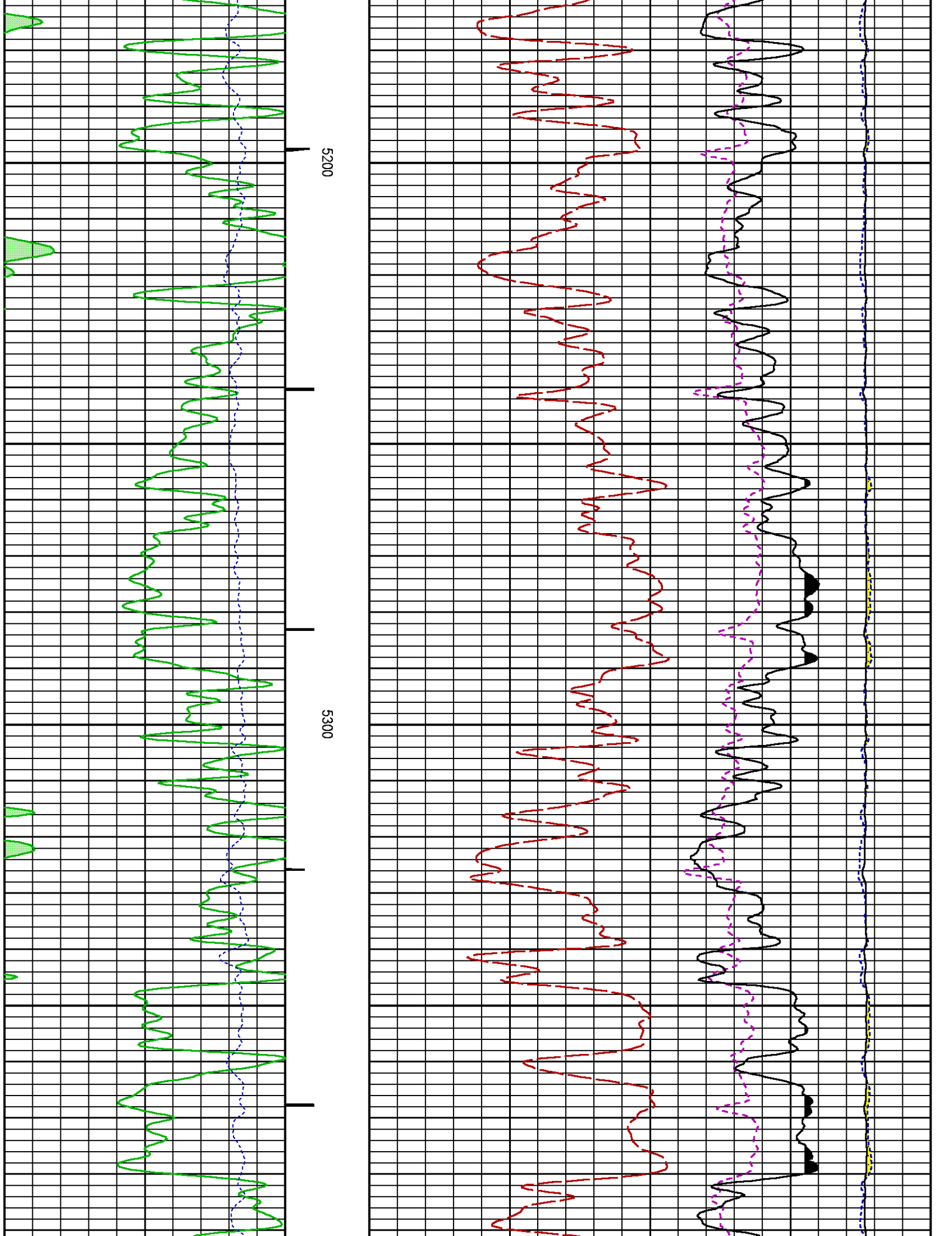
Presentation	: SysA:LARAMIE_RPM_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4475.75 - 7846 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-21E/RPM_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-13-21E
Field	: VEGA
File Interval	: 4475.75 - 7847.5 Feet
OCT	: p353h

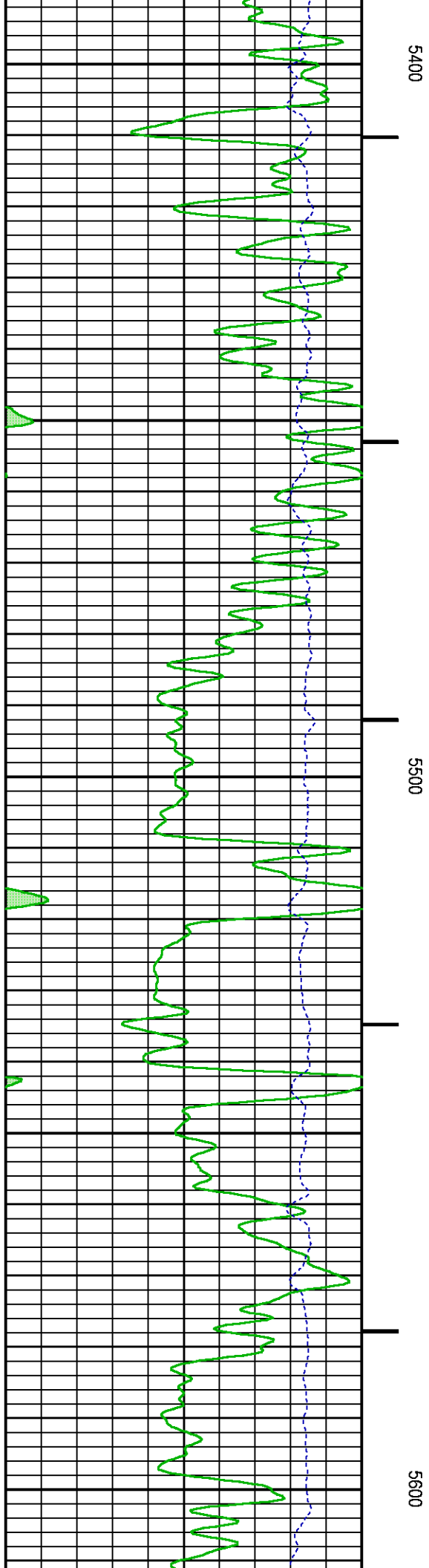
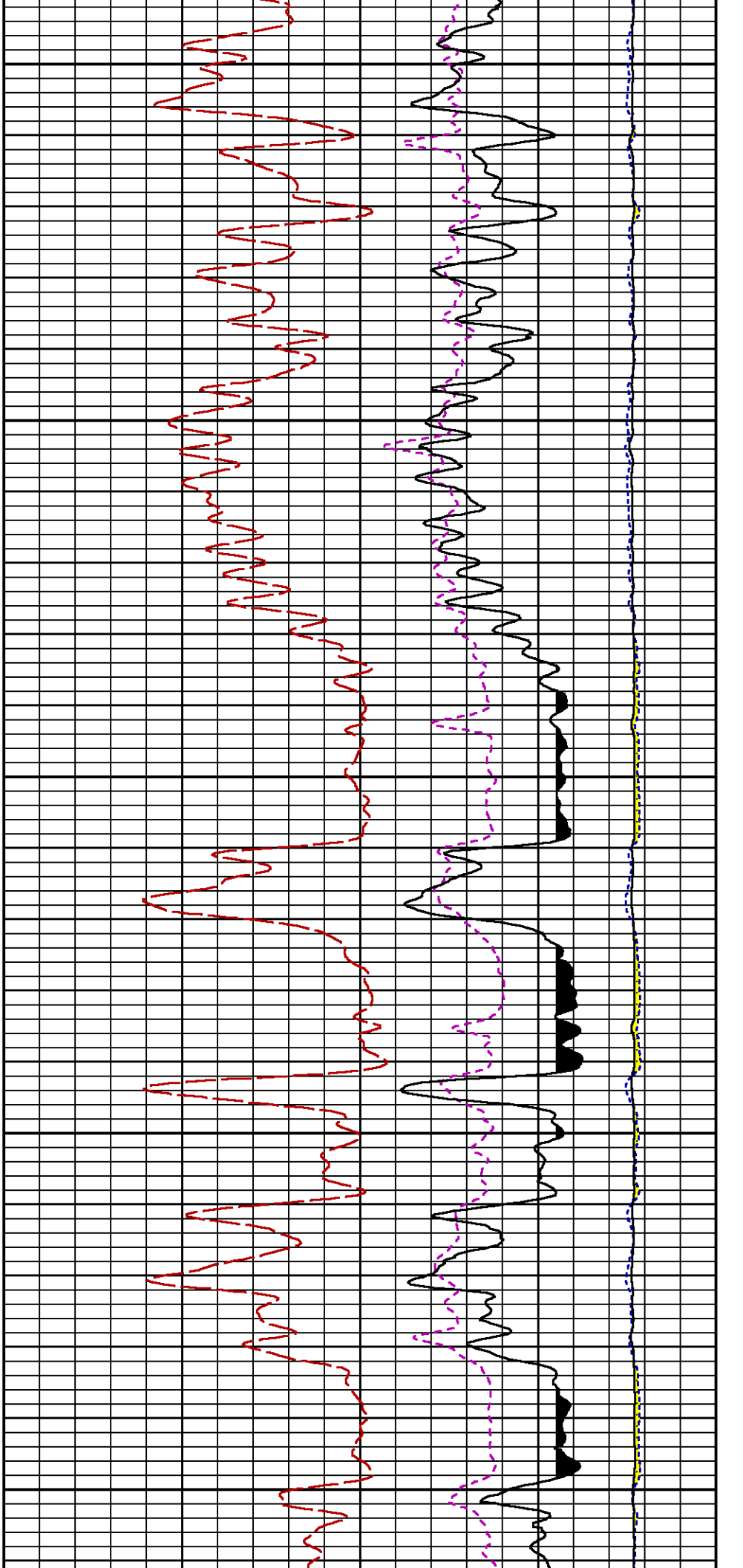


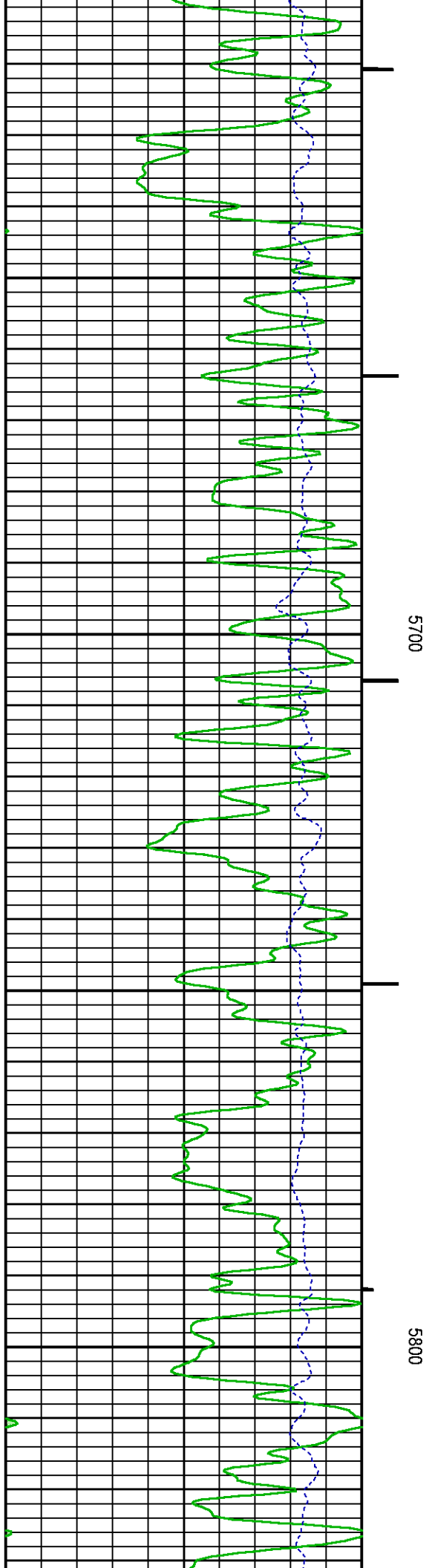
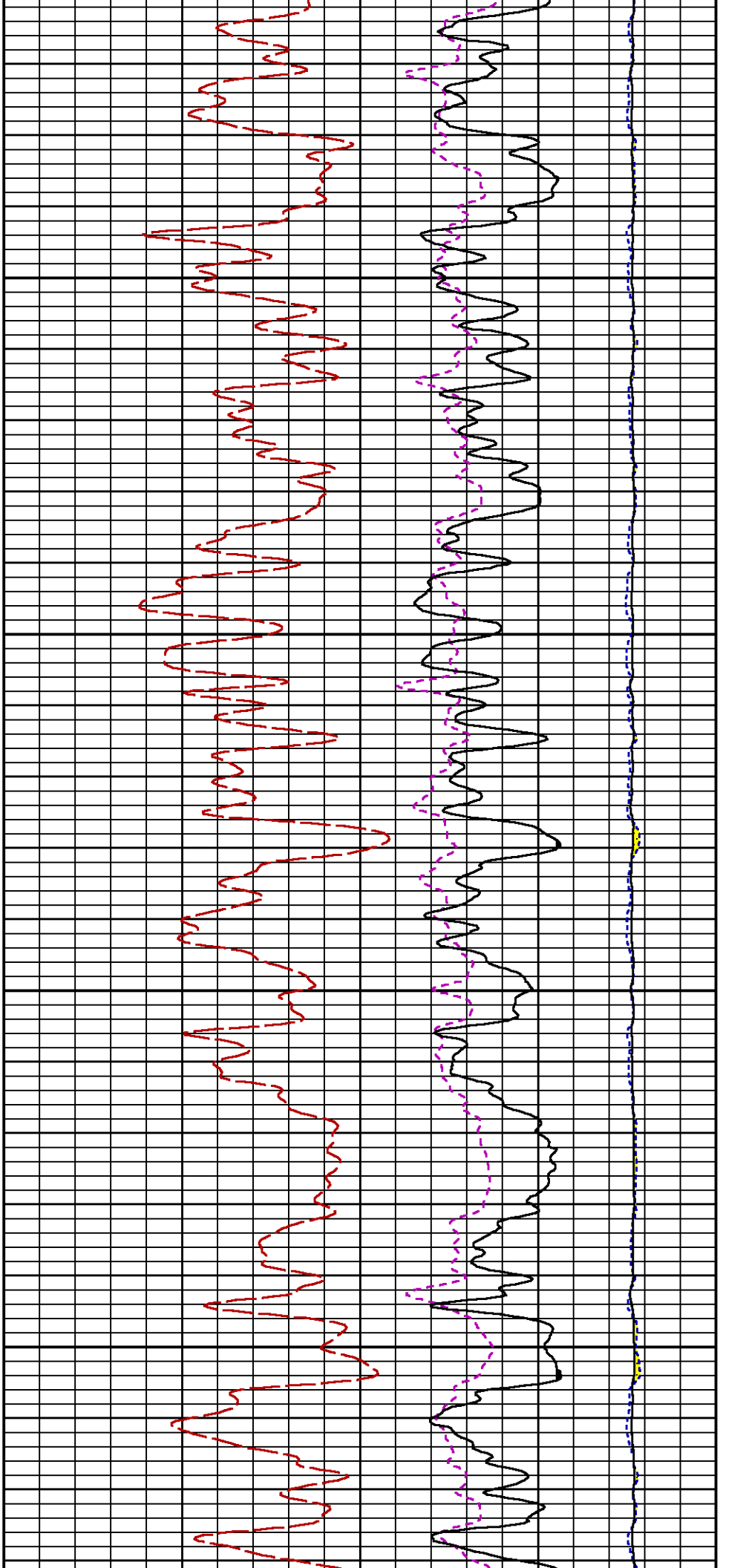


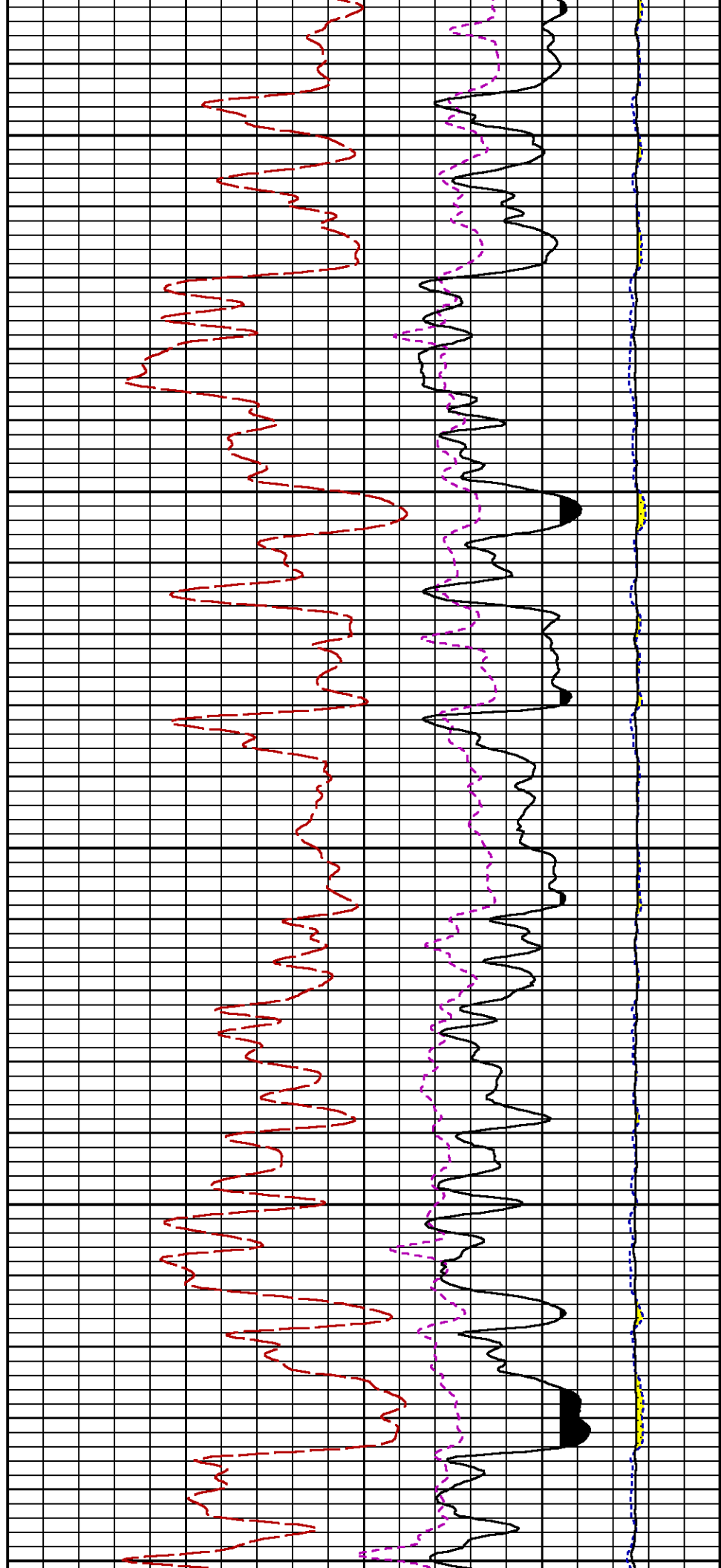
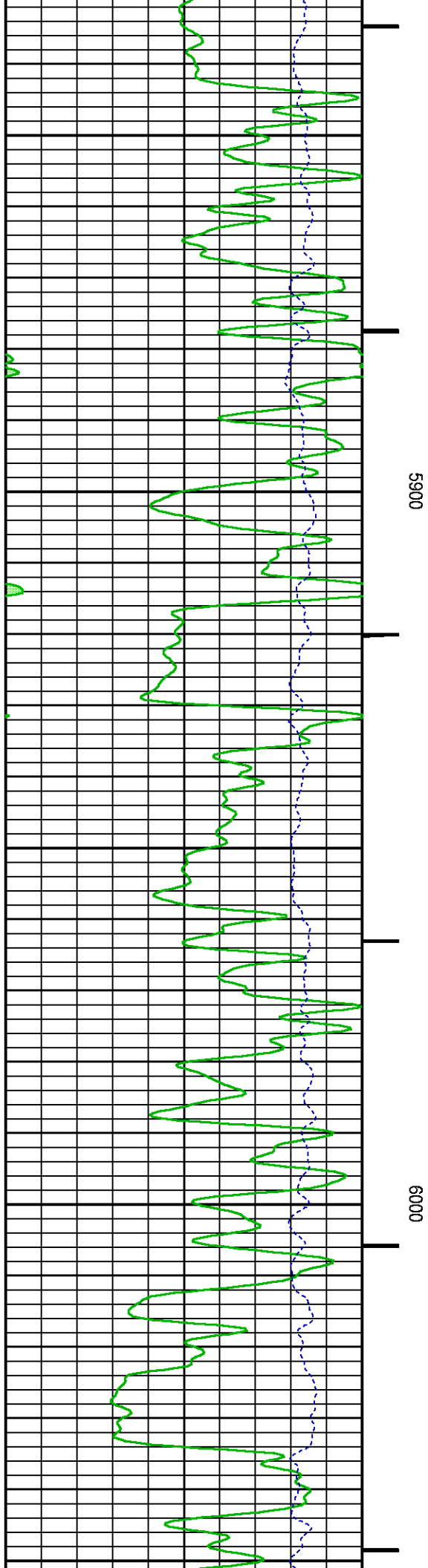


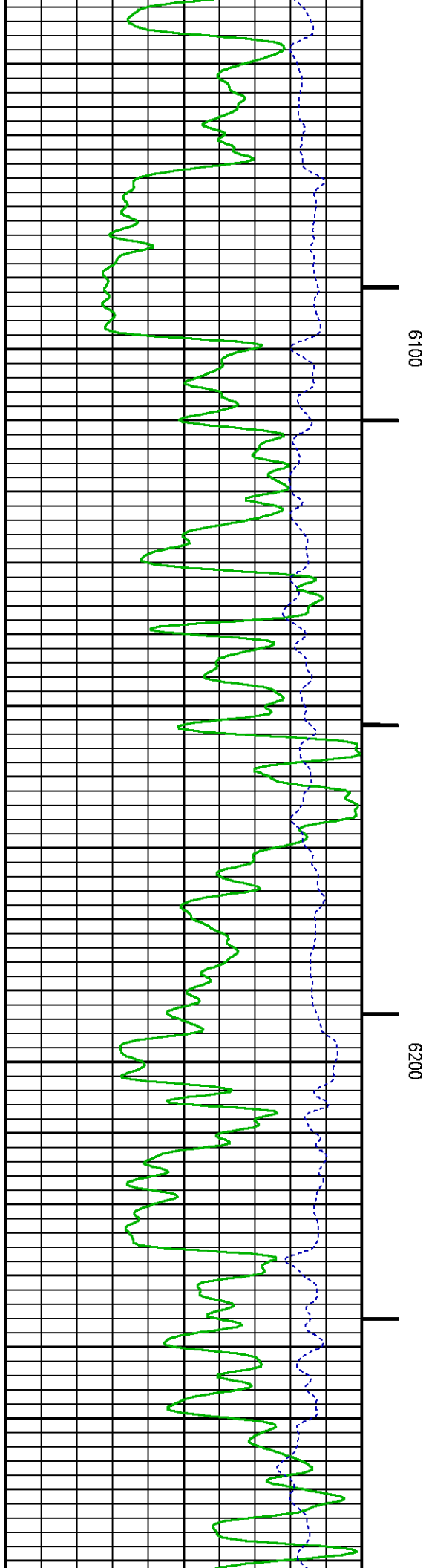
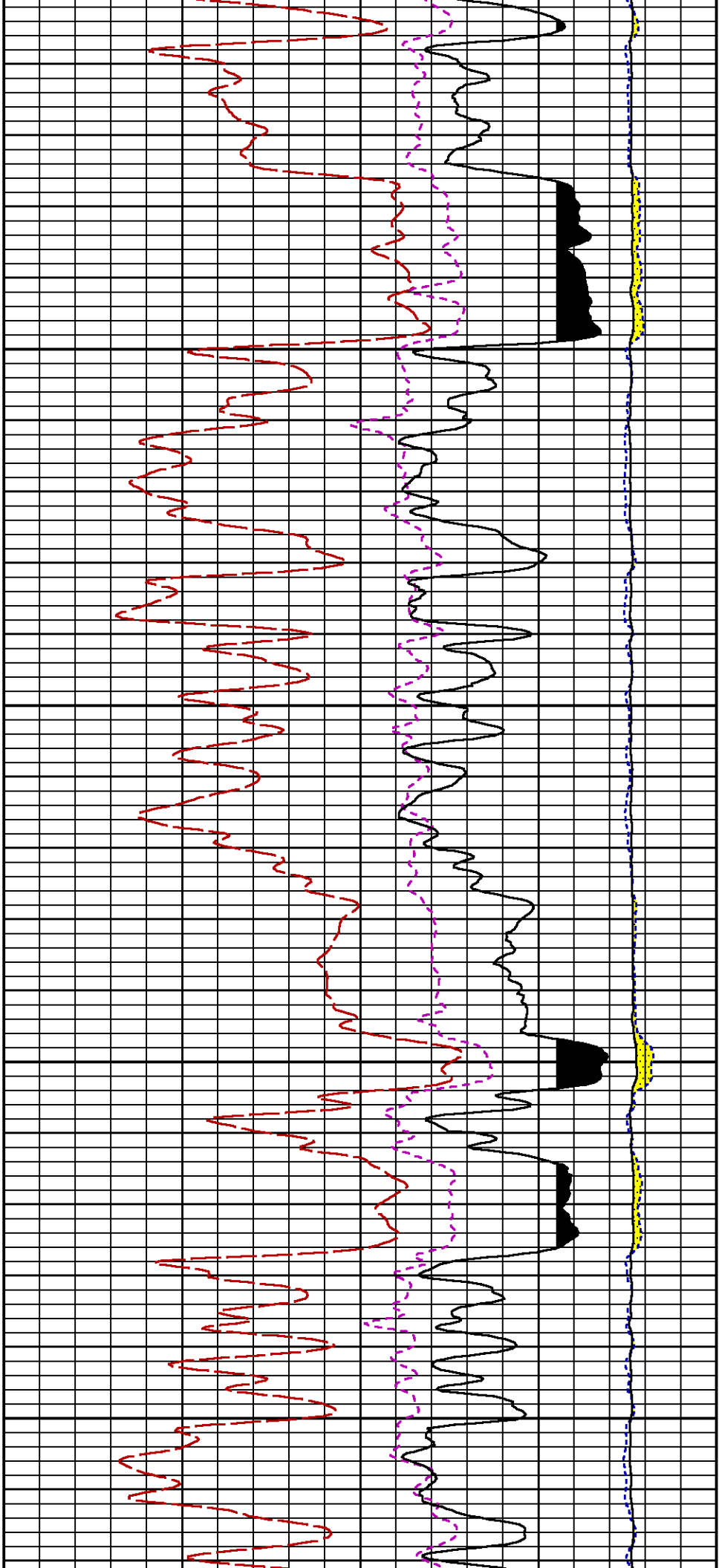


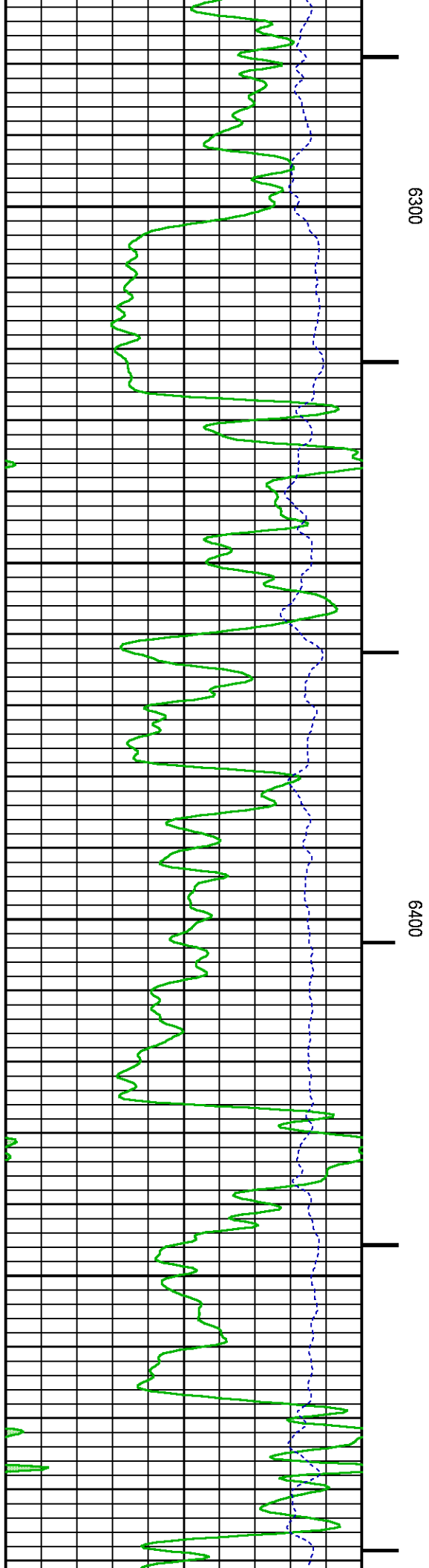
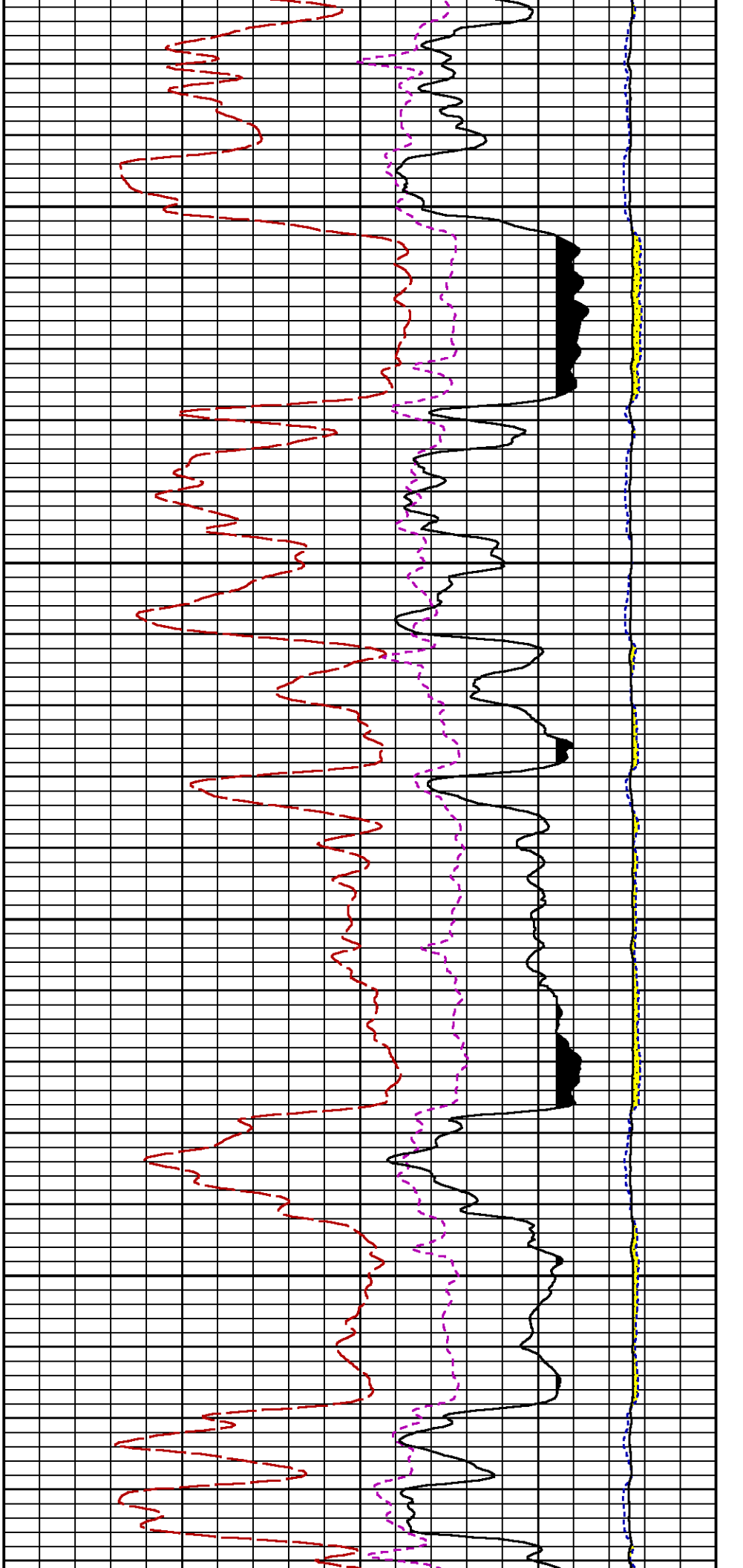


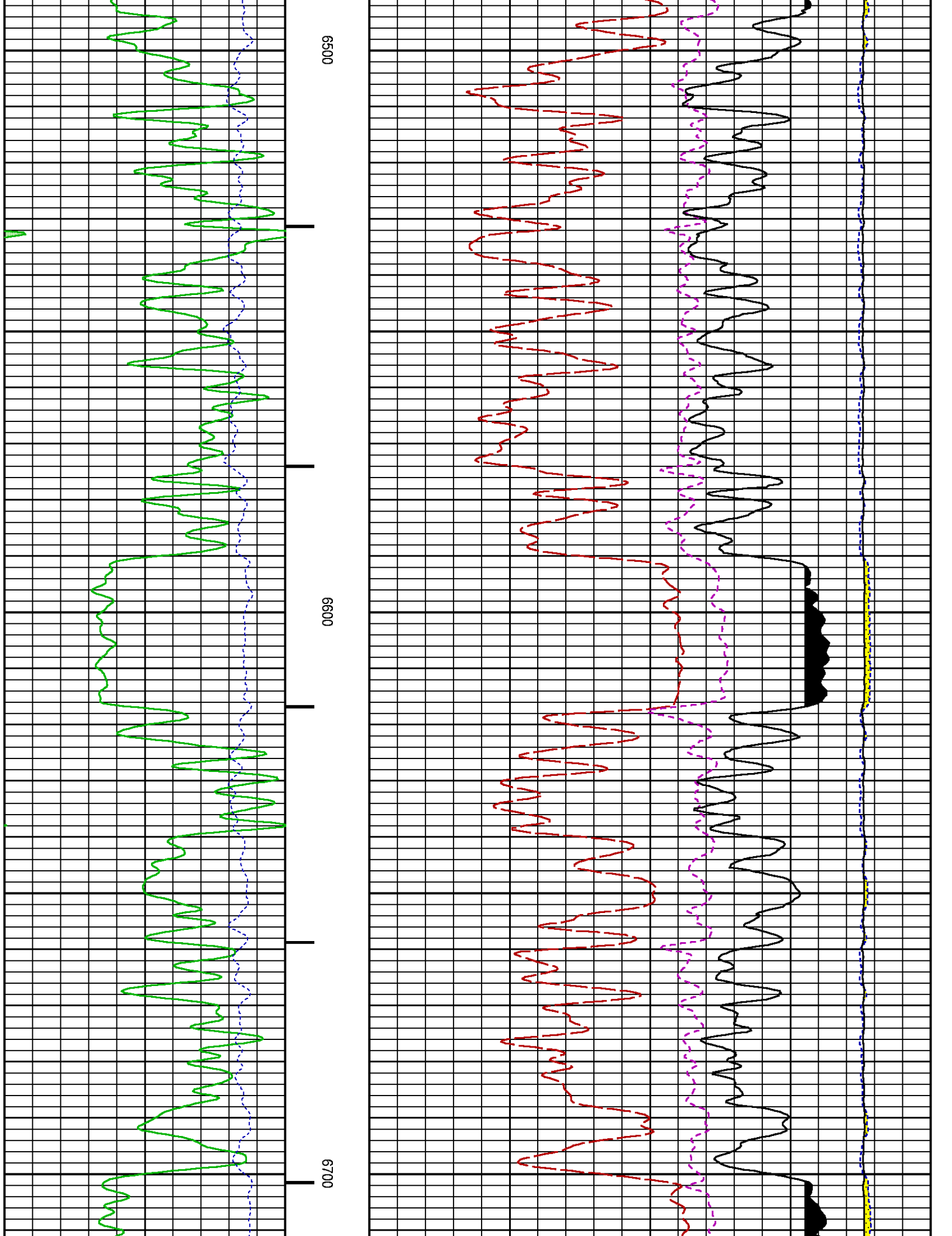


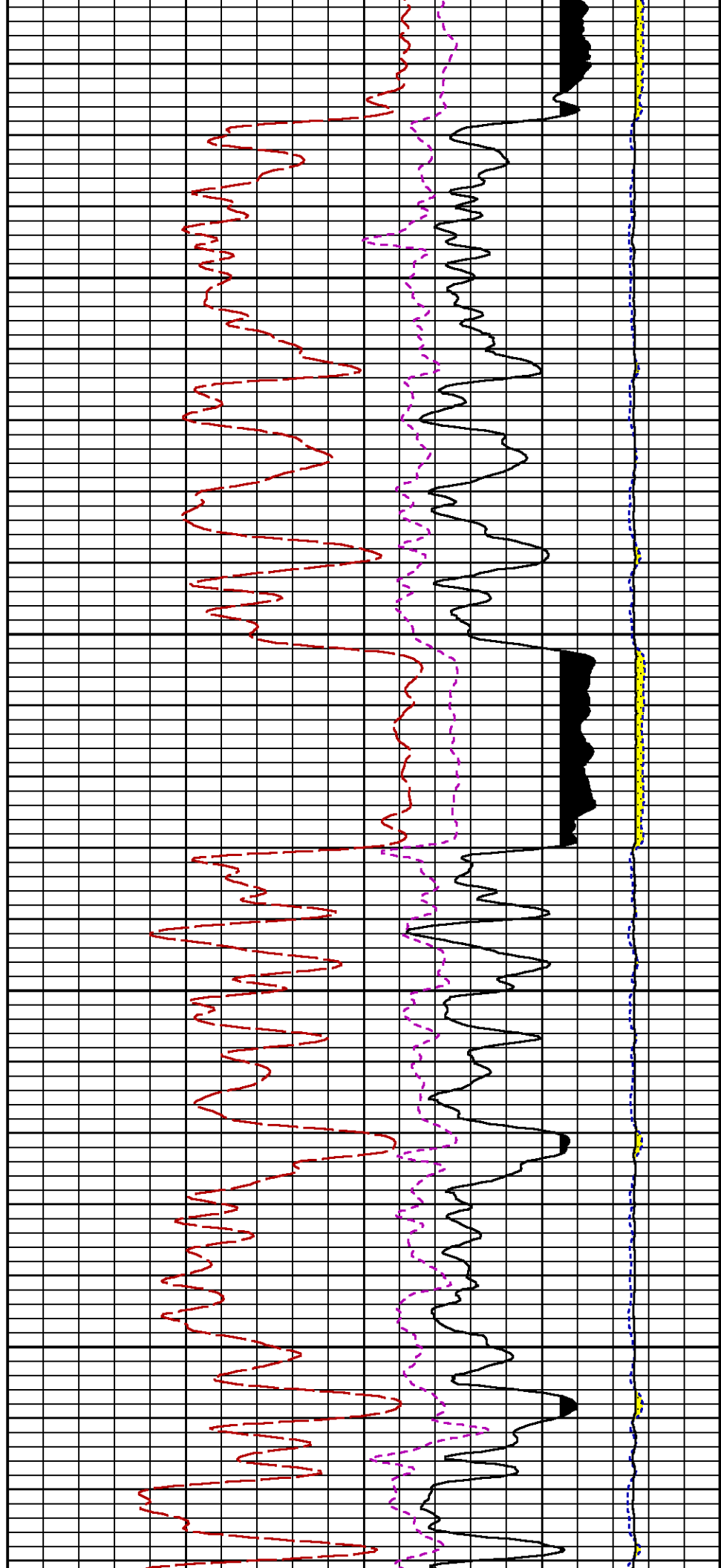
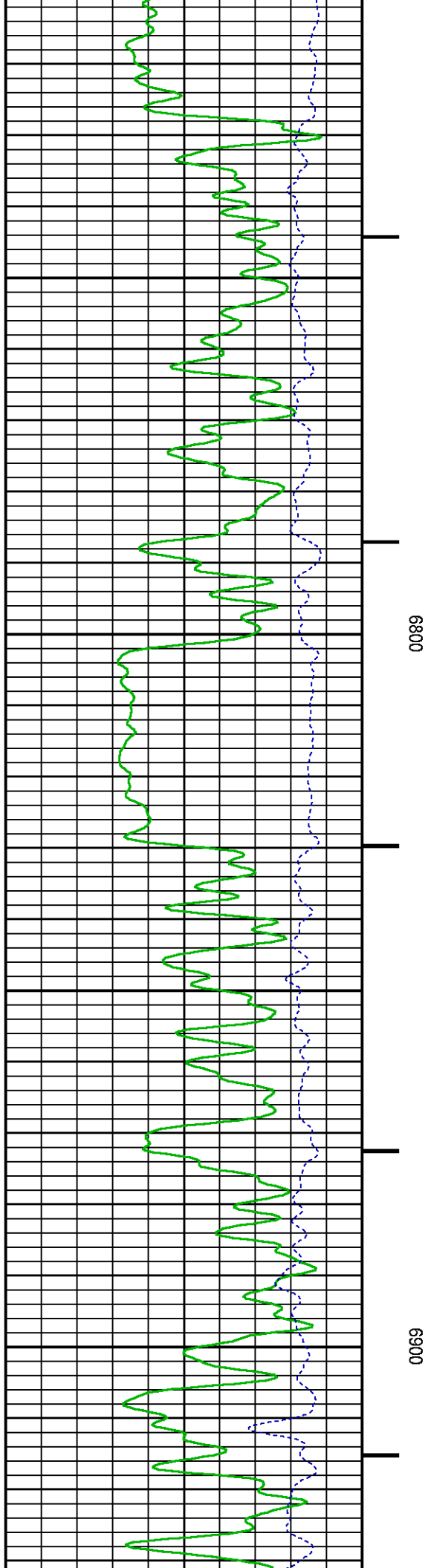


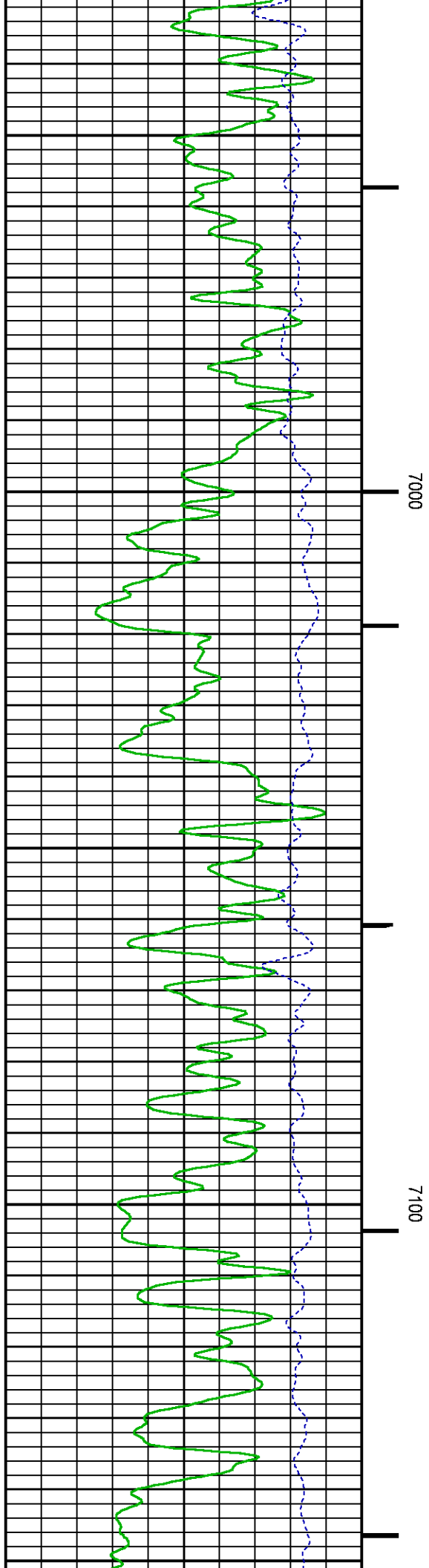
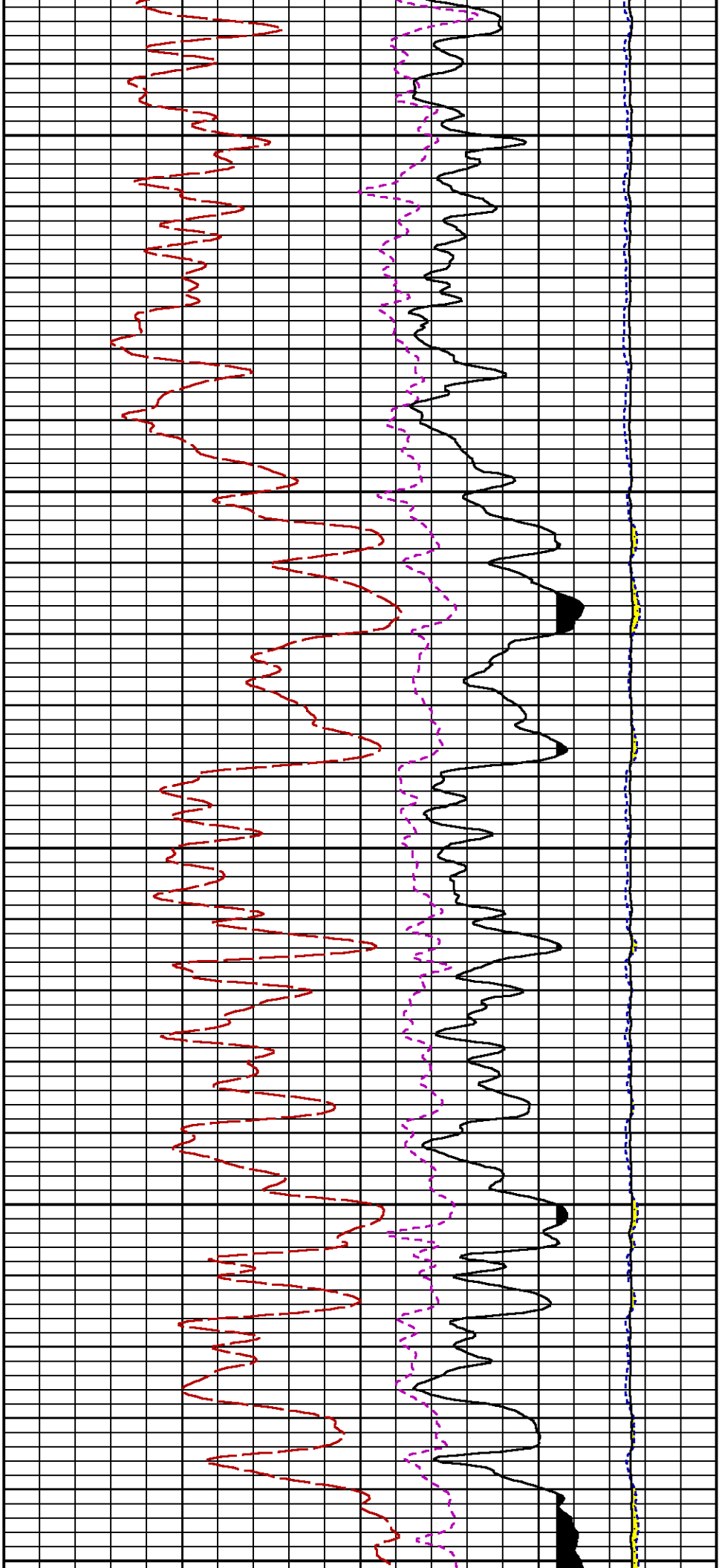


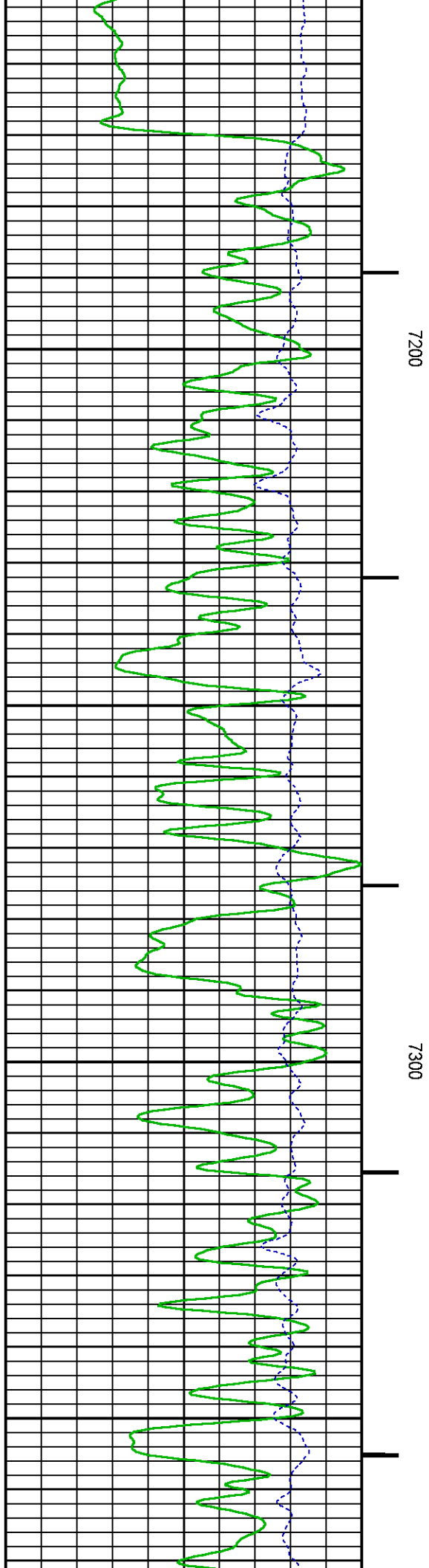
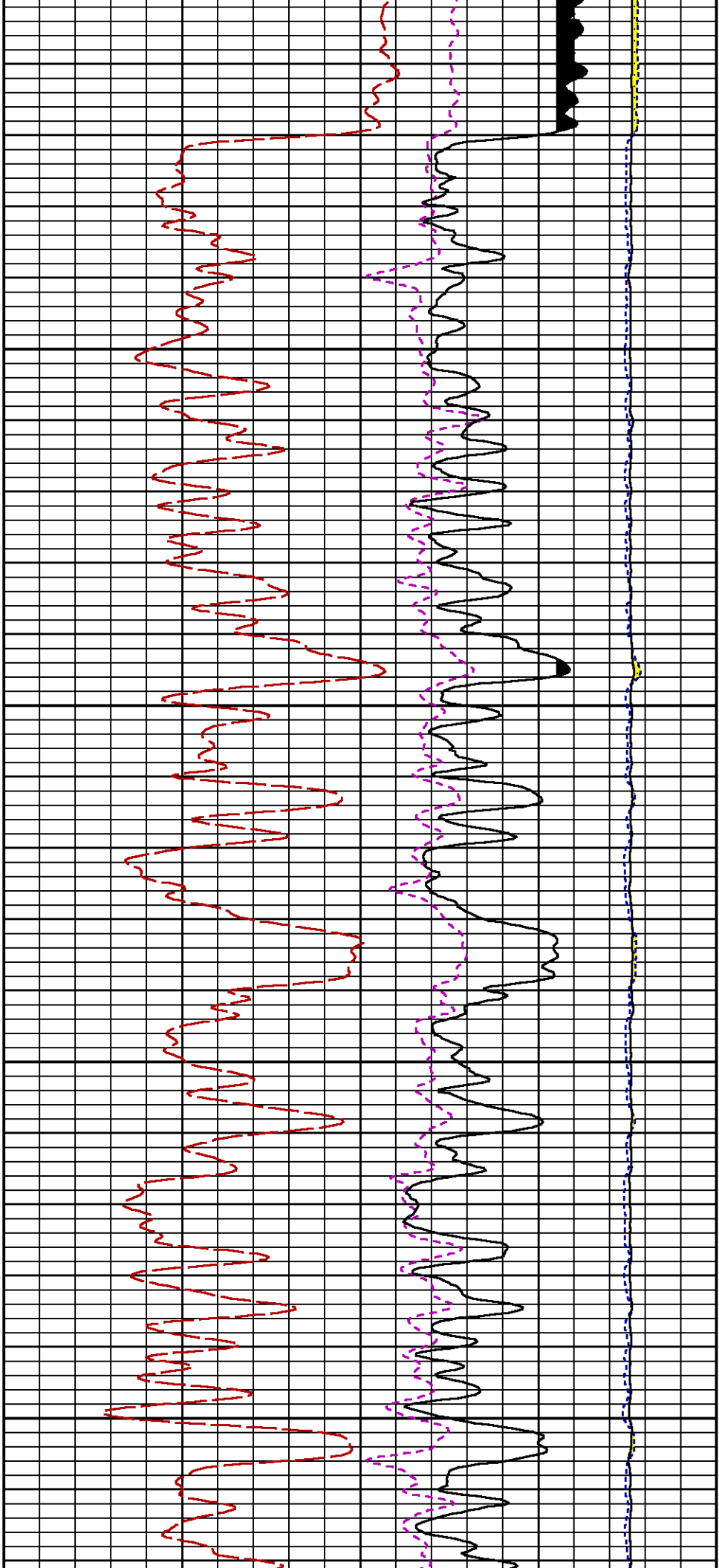


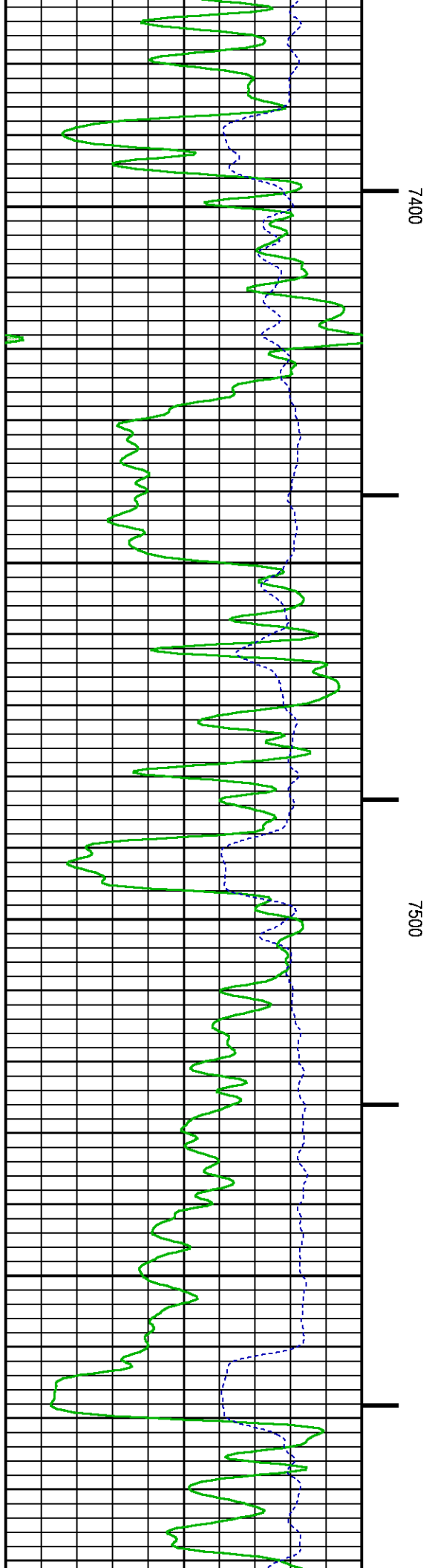
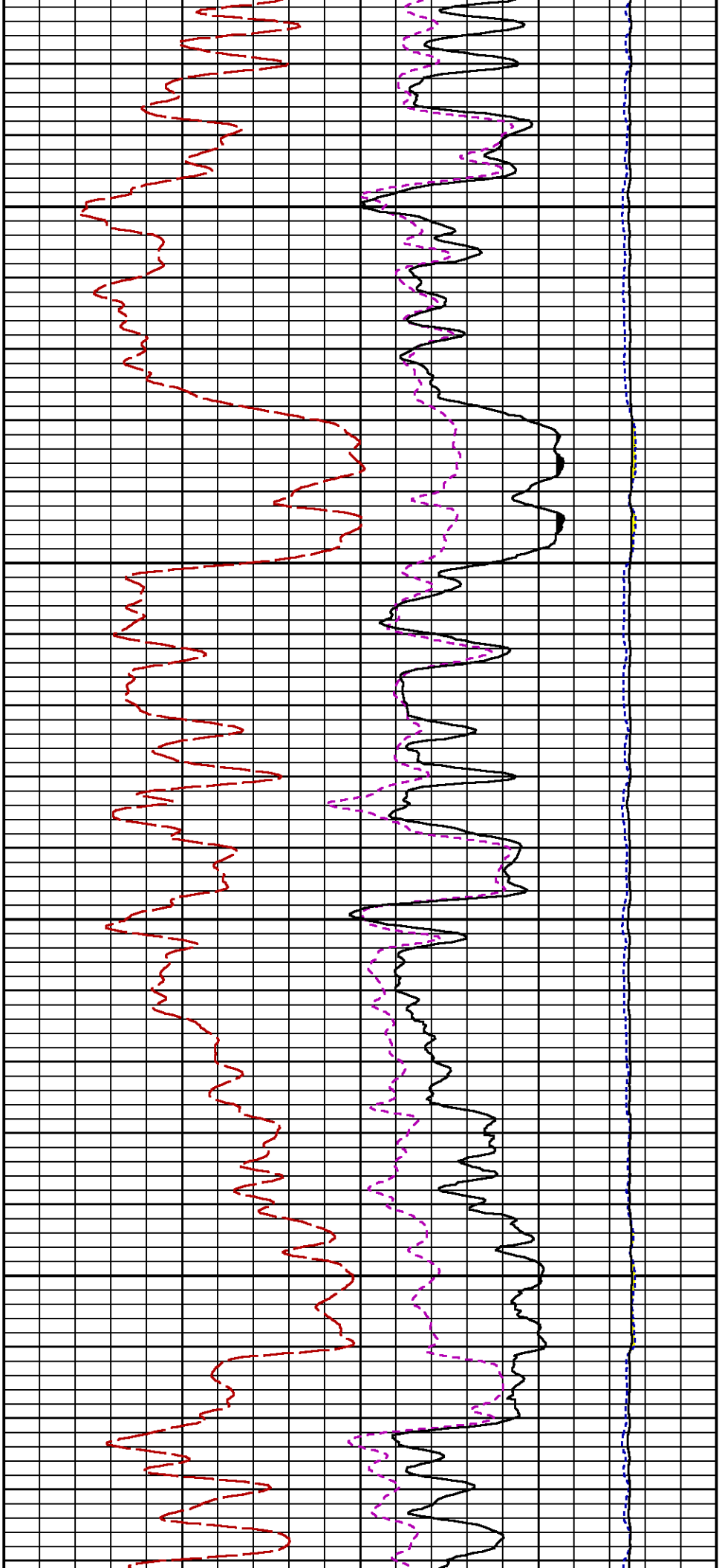


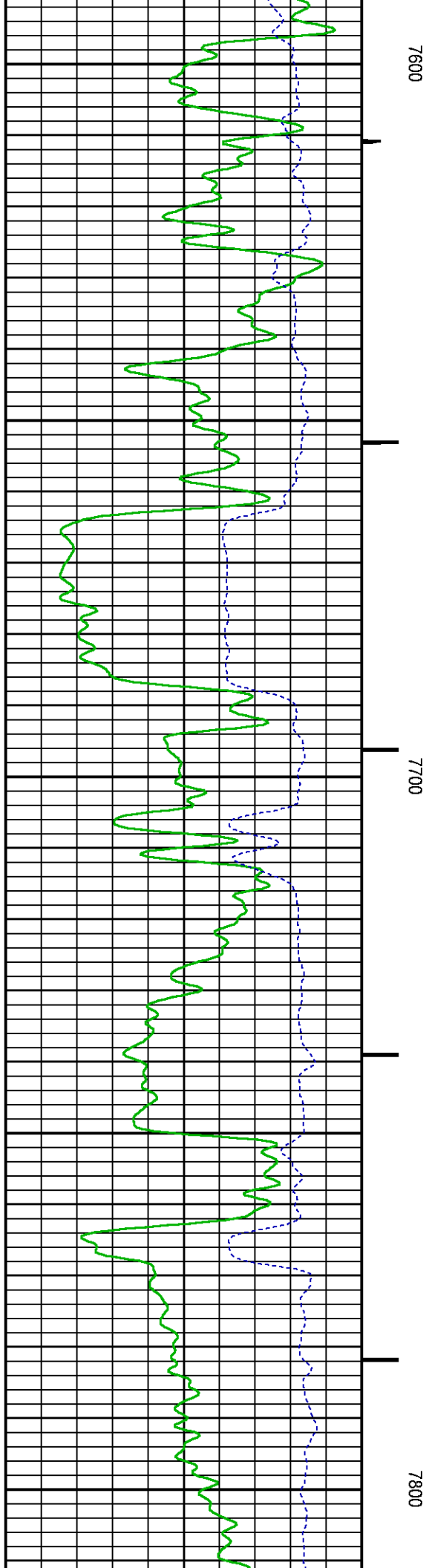
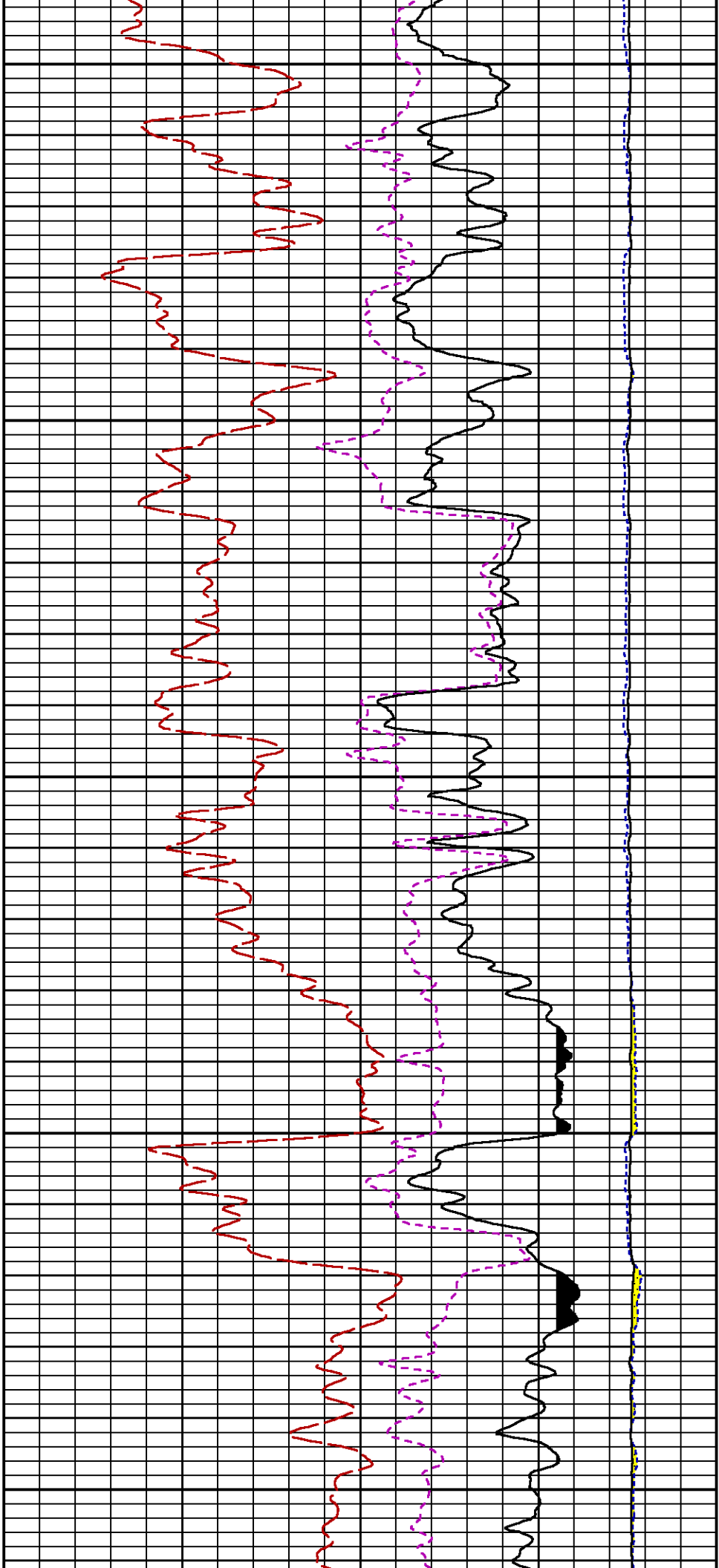


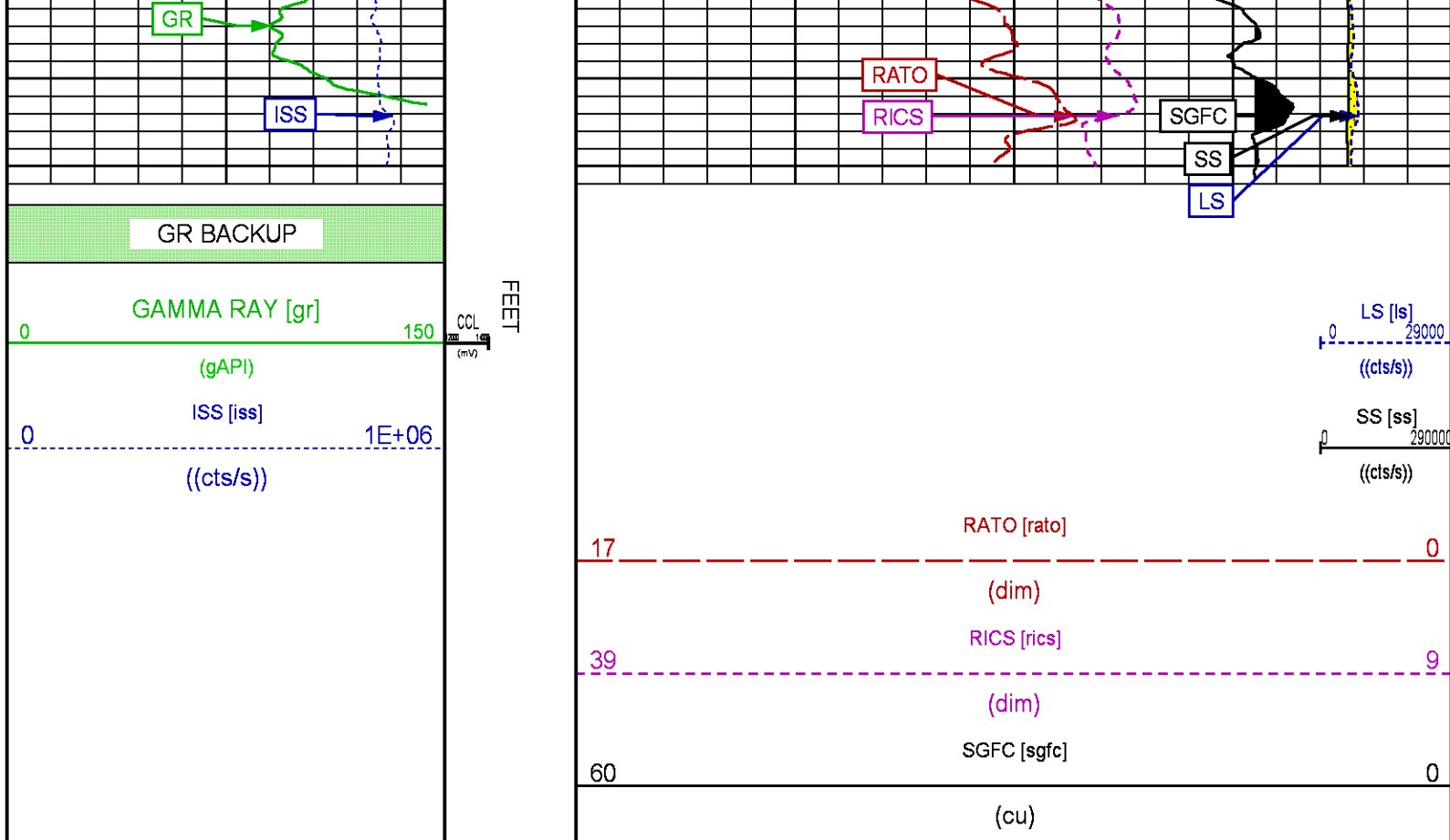












REPEAT PASS PNC 3D MODE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 3

Plotted: Sun Mar 18 10:03:24 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-21E/p353h01.prm
LOGGING MODE: DEPTH
TOP DEPTH: 4847.584 ft
DIRECTION: UP
BOTTOM DEPTH: 5085.917 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 "
	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

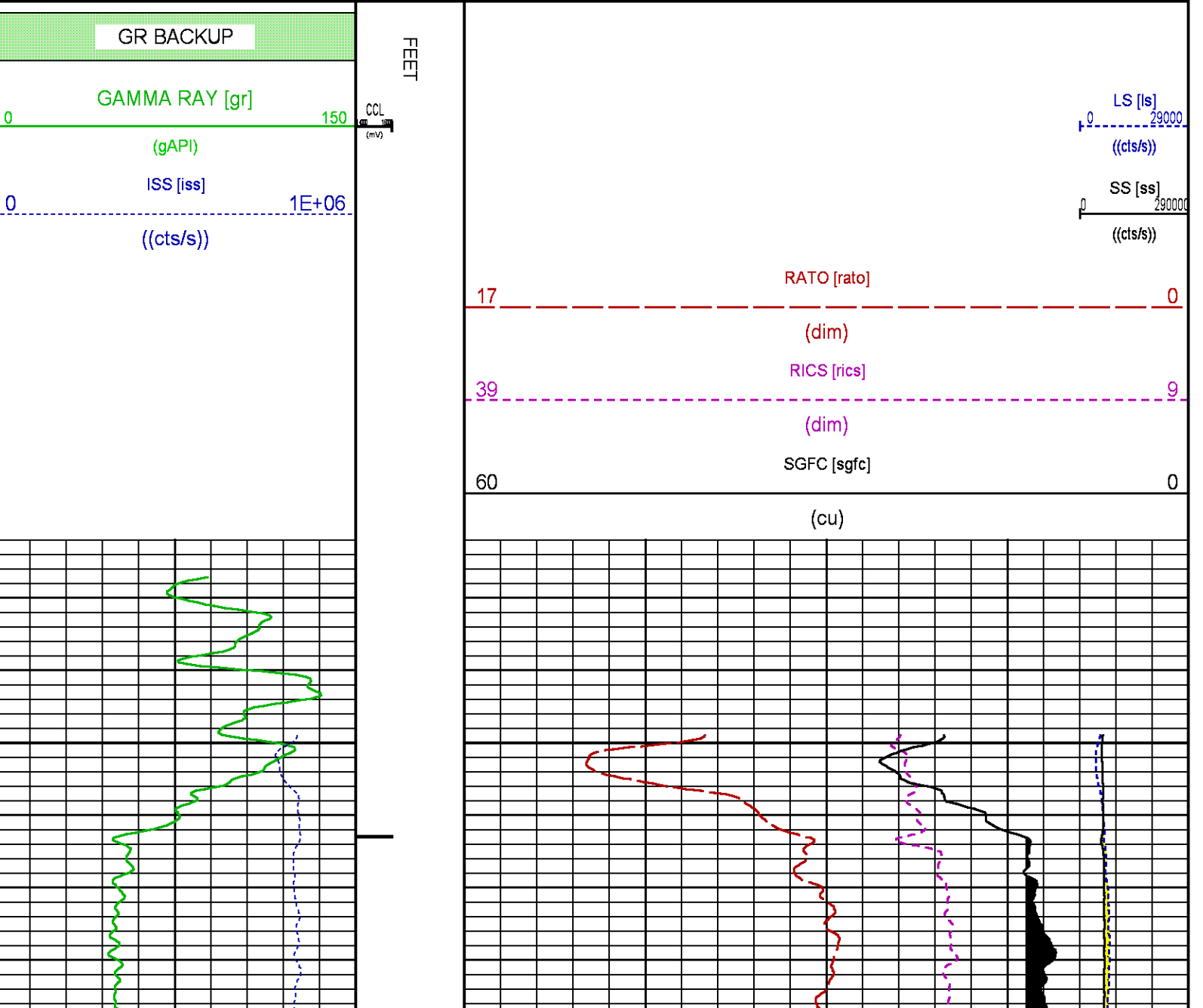
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

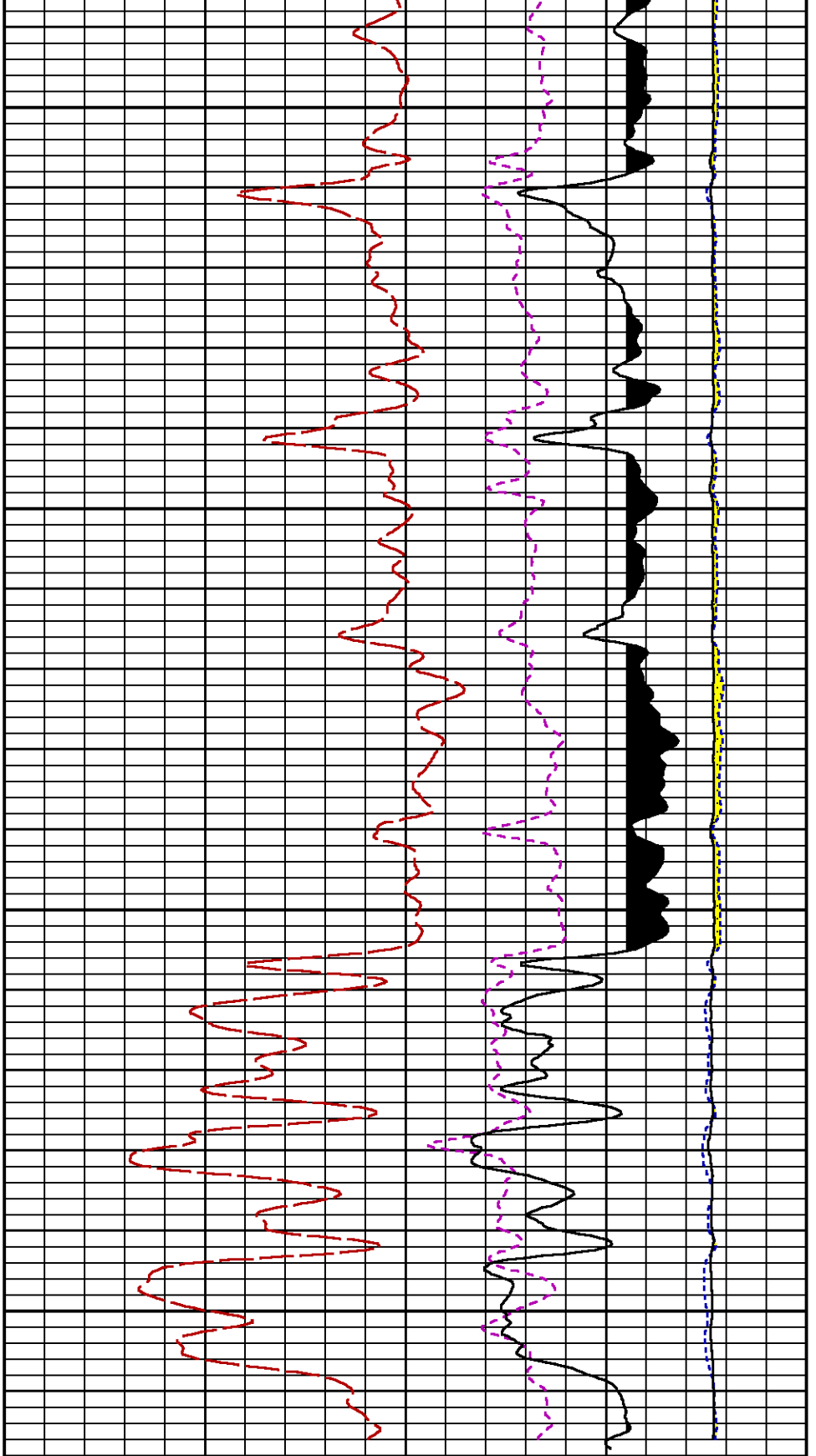
Presentation
Plot Interval

: SysA:LARAMIE_RPM_REPEAT.fvpdf [5"/100' Scale]
: 4823 - 5082 Feet

Data File 1
Created On
Company
Well
Field
File Interval
OCT

: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-21E/RPM_REPEAT.xtf
: N/A
: LARAMIE ENERGY II LLC
: NICHOLS 0994-13-21E
: VEGA
: 4823 - 5083.5 Feet
: p353h





LS [ls]
0 29000
((cts/s))

SS [ss]
0 290000
((cts/s))

4900

5000

FEET

CCL
(mV)

GR BACKUP

GAMMA RAY [gr]

0 150

(gAPI)

ISS [iss]

0 1E+06

((cts/s))

RATQ [ratq]

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

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_NICHOLS_0994-13-21E/p353h.lp1

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 (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 10068031

DATE/TIME PERFORMED: Wed Mar 14 13:45:44 2018

UNIT: 5753XD 111111

CALIBRATOR: 2437XB GJSHOP

SOURCE: 8281AA 10047980

HOURS: 8281AA 15

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	813743	121	2165	2166	2262	97	7.0	0.9725

Interpolated	1300000	145	2147	2163	2258
--------------	---------	-----	------	------	------

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	813743	7003	1117	196	26.03	0.14	24.15	0.33
					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	813743	172980	26637	92035	32769	8474	55643	13564
Fit Quality %		1.011	1.146	1.038	1.006	1.007	0.931	1.038

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	813743	1.43	4.70	30.56	14.63	10.86	3.87	4.10
		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 %		0.029	0.211	0.232	0.204	0.020	0.025	0.038
Reduced	1395444	1.43	4.72	30.61	14.67	10.86	3.87	4.10
		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

TPSETMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 166341

DATE/TIME PERFORMED: Fri Feb 9 11:57:12 2018

UNIT #: 5753XD 111111

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-1.865216E+01	1.008290E-01	4.283274E-07	1.750012E-11

TPSITEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 166341

DATE/TIME PERFORMED: Fri Feb 9 11:58:25 2018

UNIT #: 5753XD 111111

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Ptf's	-1.279033E+01	1.023596E-01	3.753687E-06	-5.745945E-10

TPSPRES PRIMARY CALIBRATION SUMMARY

GAUGE #: 8255XA 166341

DATE/TIME PERFORMED: Fri Feb 9 12:15:25 2018

UNIT #: 5753XD 111111

	Temp	G	H	I	J
0		5.404341E+05	2.856945E+02	7.421320E-05	1.963967E-09
1		-2.525705E+02	2.896840E-02	7.709446E-07	-2.834983E-11
2		1.575603E+00	-2.390996E-04	-3.902487E-09	1.790438E-13
3		-3.156464E-03	5.410310E-07	6.600155E-12	-3.329160E-16
4		4.037484E-16	2.188692E-19	-8.807789E-24	3.671191E-26
Coef Test	200.0	5.276924E+05	2.862524E+02	1.251039E-04	7.924253E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_NICHOLS_0994-13-21E/p353h~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"

34.08'

Length : 4.46'
Weight : 20 lbs
Series : 8248ED
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: 34.08'
TOTAL WEIGHT: 144 lbs
MAX DIAMETER: 0'1.70"

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY LARAMIE ENERGY II LLC
WELL NICHOLS 0994-13-21E
FIELD VEGA
COUNTY MESA **STATE** COLORADO

FILE NO:

API NO:

05077104160000

LOCATION:

SHL 1783 FNL 2777 FEL
BHL 112 FNL 1494 FEL

ELEVATIONS:

KB 7161 FT
DF
GL 7137 FT

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

DATE 18-Mar-2018