



RESERVOIR PERFORMANCE MONITOR

FILE NO:

API NO:
05077104030000

COMPANY
WELL
FIELD
COUNTY

LARAMIE ENERGY II LLC
NICHOLS 0994-13-20E
VEGA
MESA STATE COLORADO

Ver. 4.10

LOCATION:

SHL 1777 FNL 2775 FEL
BHL 340 FNL 1484 FEL
SEC 24 TWP 9 RGE 94W

OTHER SERVICES
RAL

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	20-Mar-2018
RUN	2
TRIP	1
SERVICE ORDER	US133014J
DEPTH DRILLER	8032 FT
DEPTH LOGGER	7970 FT
BOTTOM LOGGED INTERVAL	7969 FT
TOP LOGGED INTERVAL	2569 FT
TIME STARTED	08:00
TIME FINISHED	13:00
OPERATOR RIG TIME	LOGGER
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	119 FT
LOGGED CEMENT TOP	2524 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	17 FMIN
MAX. RECORDED TEMP.	231 DEGF
REFERENCE LOG	BAKER HUGHES
REFERENCE LOG DATE	19-MAR-2018
EQUIP. NO.	4291
LOCATION	R. ZUNIGA
GRAND JCT	
RECORDED BY	NA
WITNESSED BY	

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: 6249-6268
SJ: 7163-7182

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: Tue Mar 20 14:02:15 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-20E/p353h03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2549.750 ft BOTTOM DEPTH: 3198.545 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

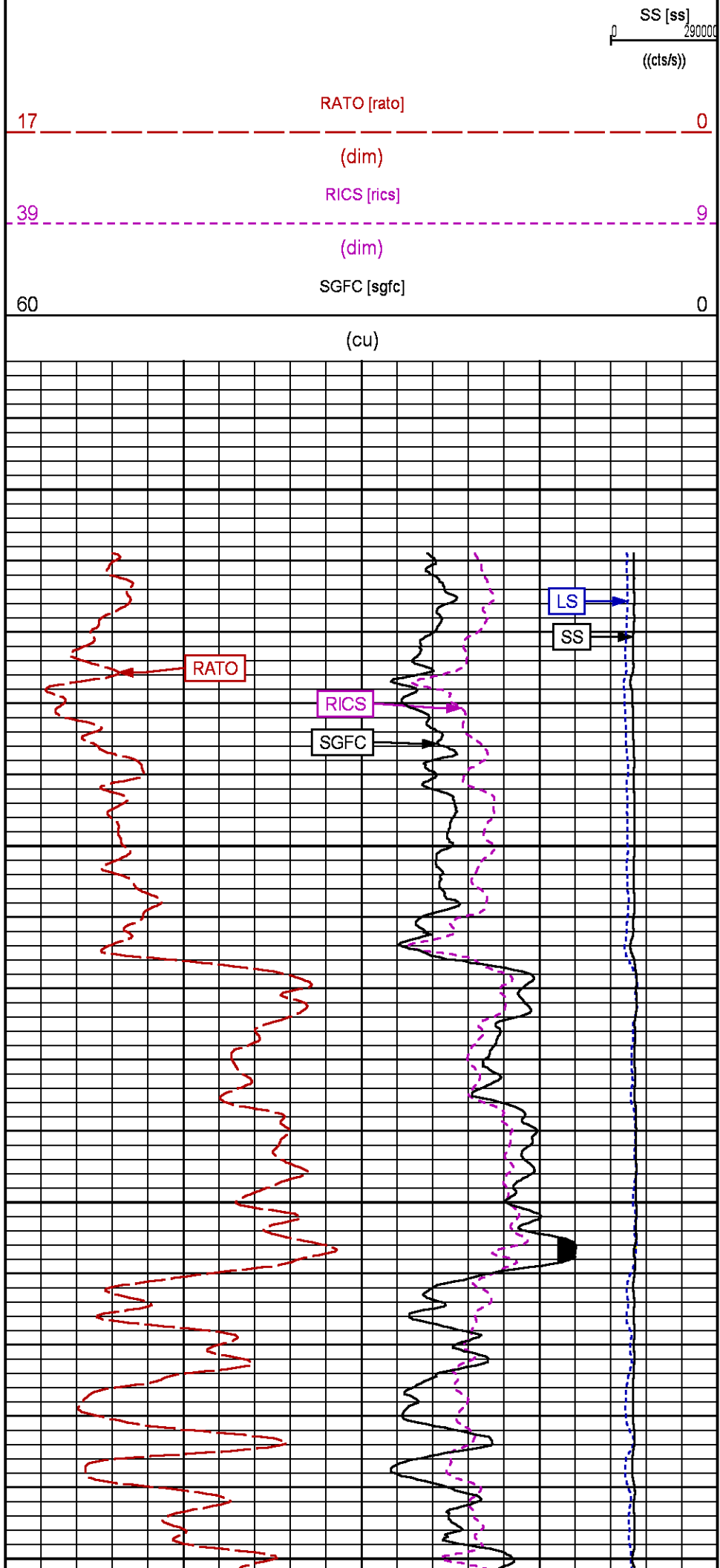
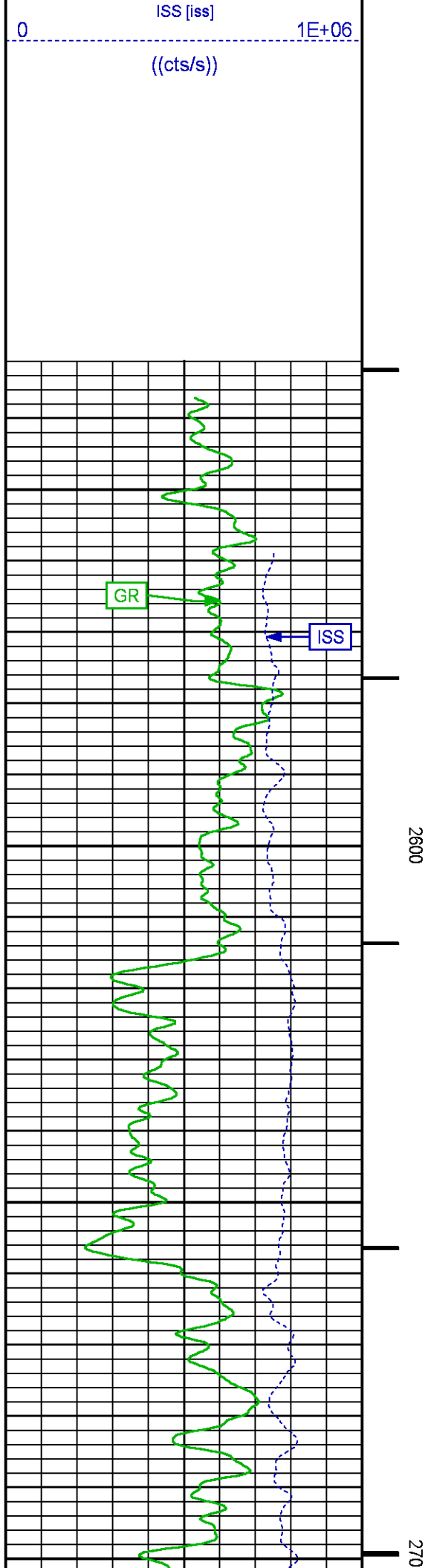
CURVE MEASURE POINT OFFSET

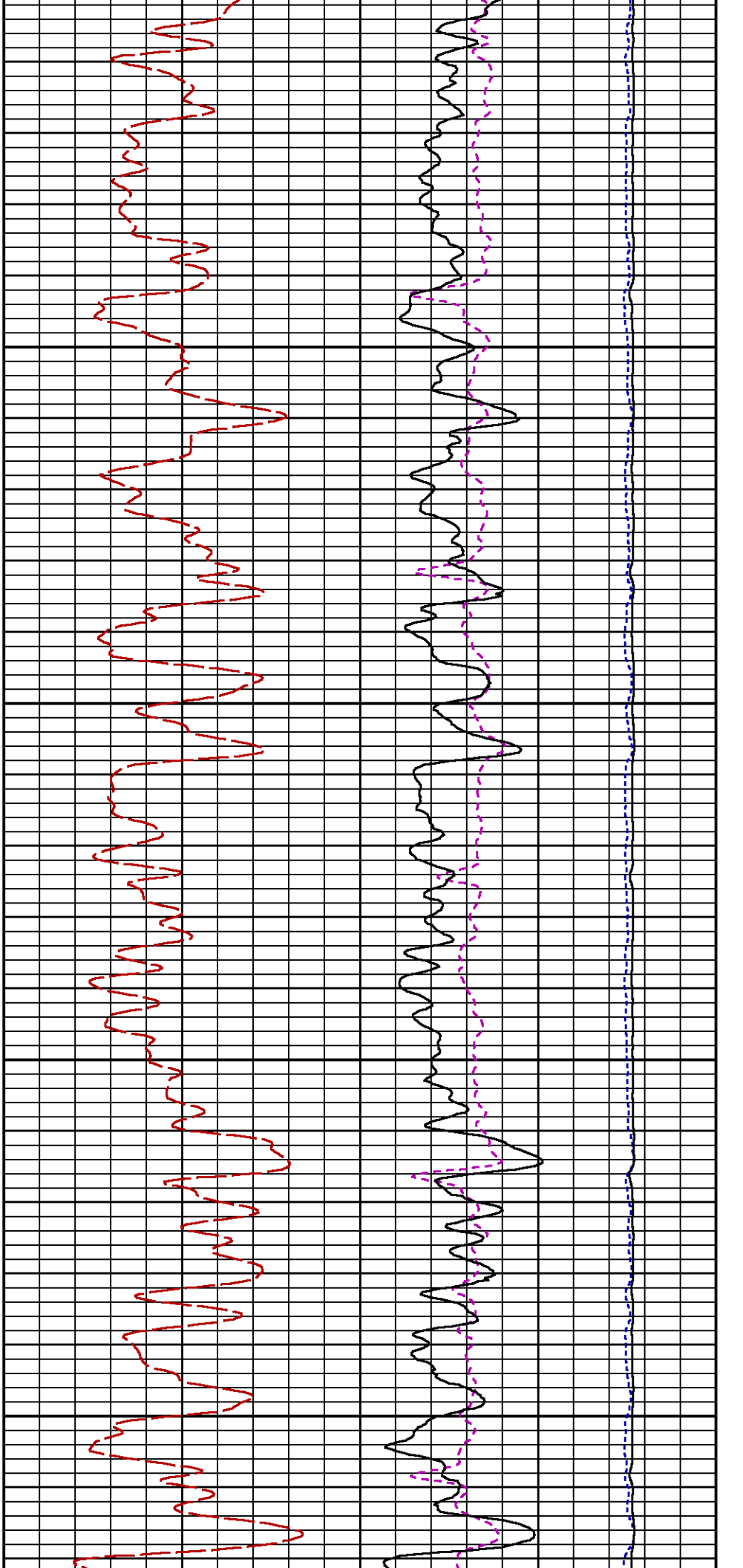
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:LARAMIE_RPM_GS.fvpdf [5"/100' Scale]
Plot Interval : 2533 - 3203.5 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-20E/RPM_GS.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : NICHOLS 0994-13-20E
Field : VEGA
File Interval : 2533 - 3205 Feet
OCT : p353h



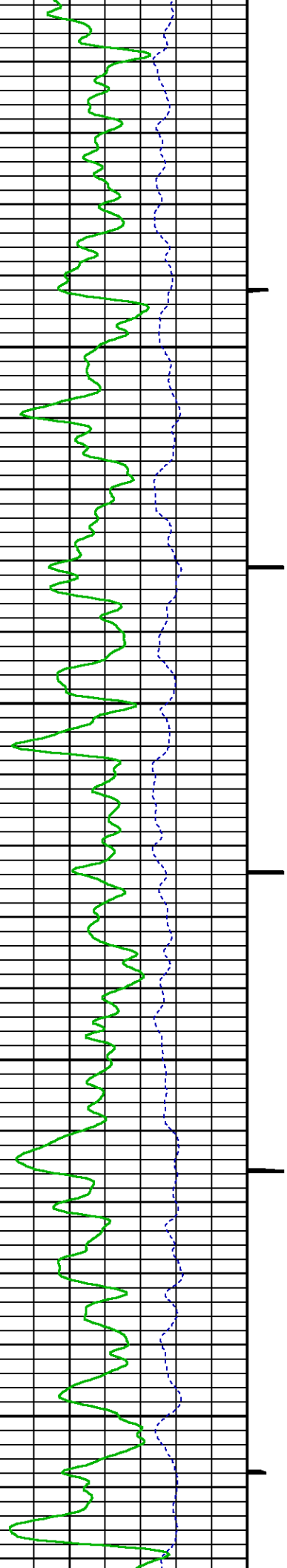


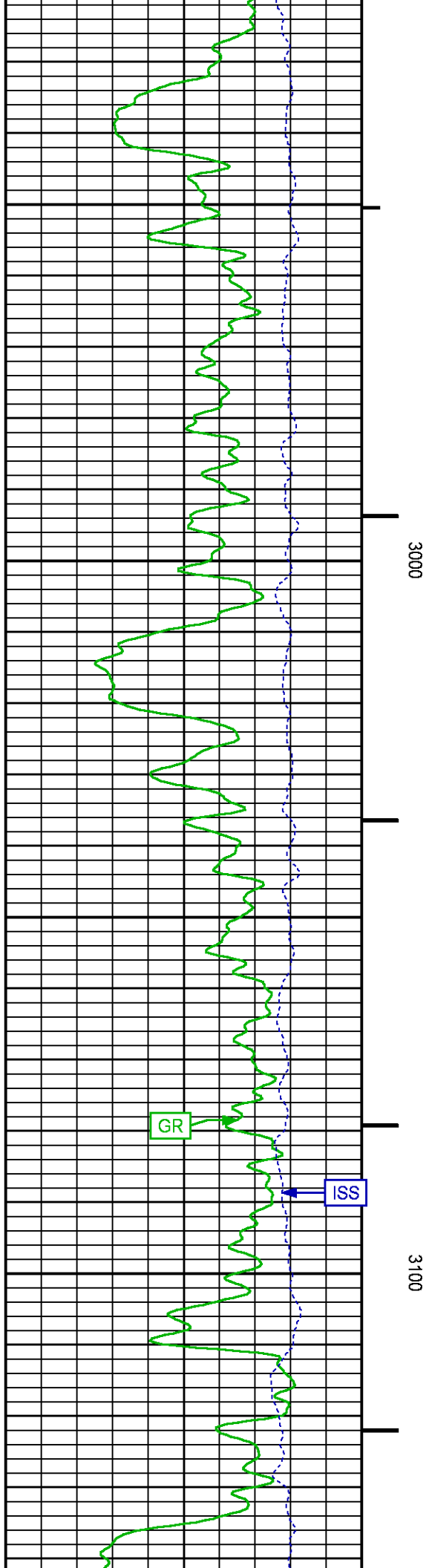
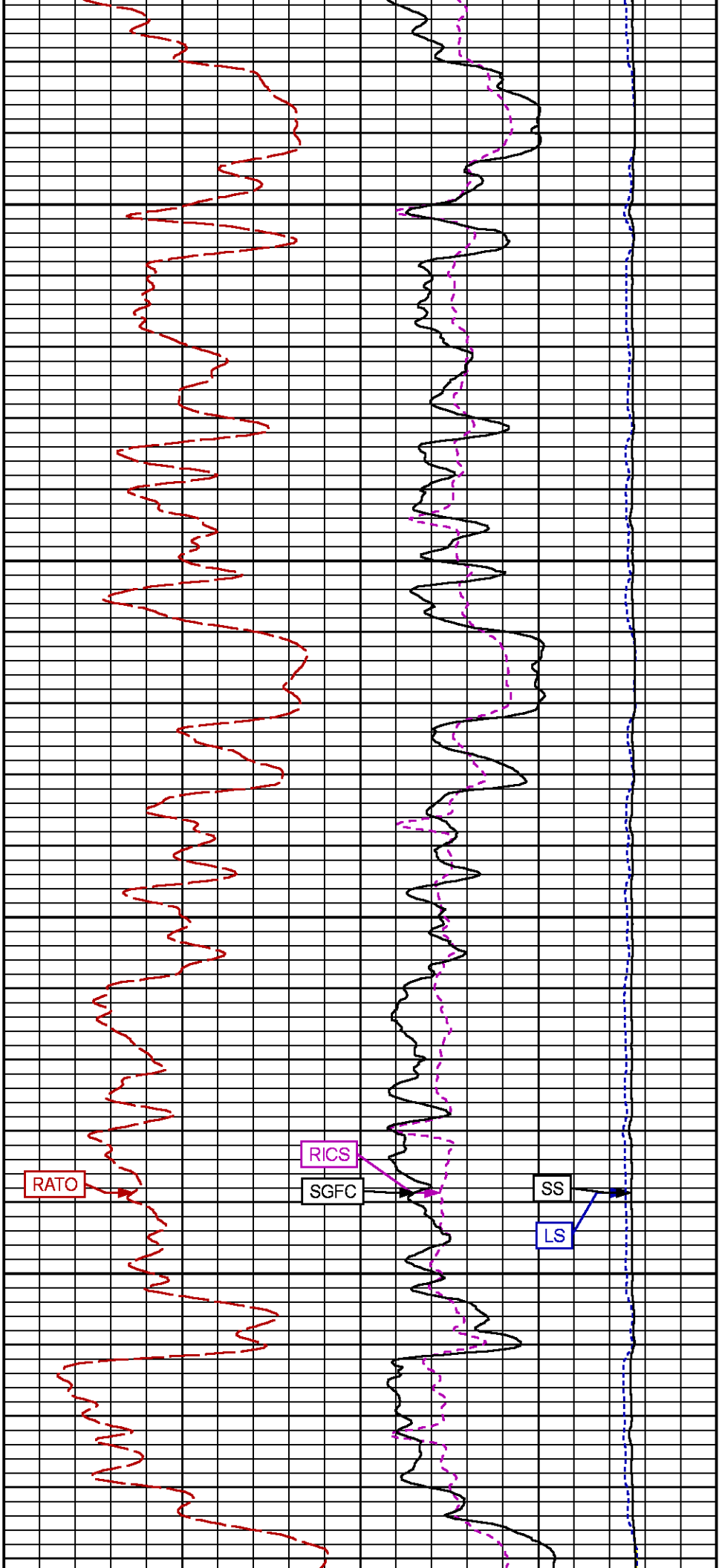


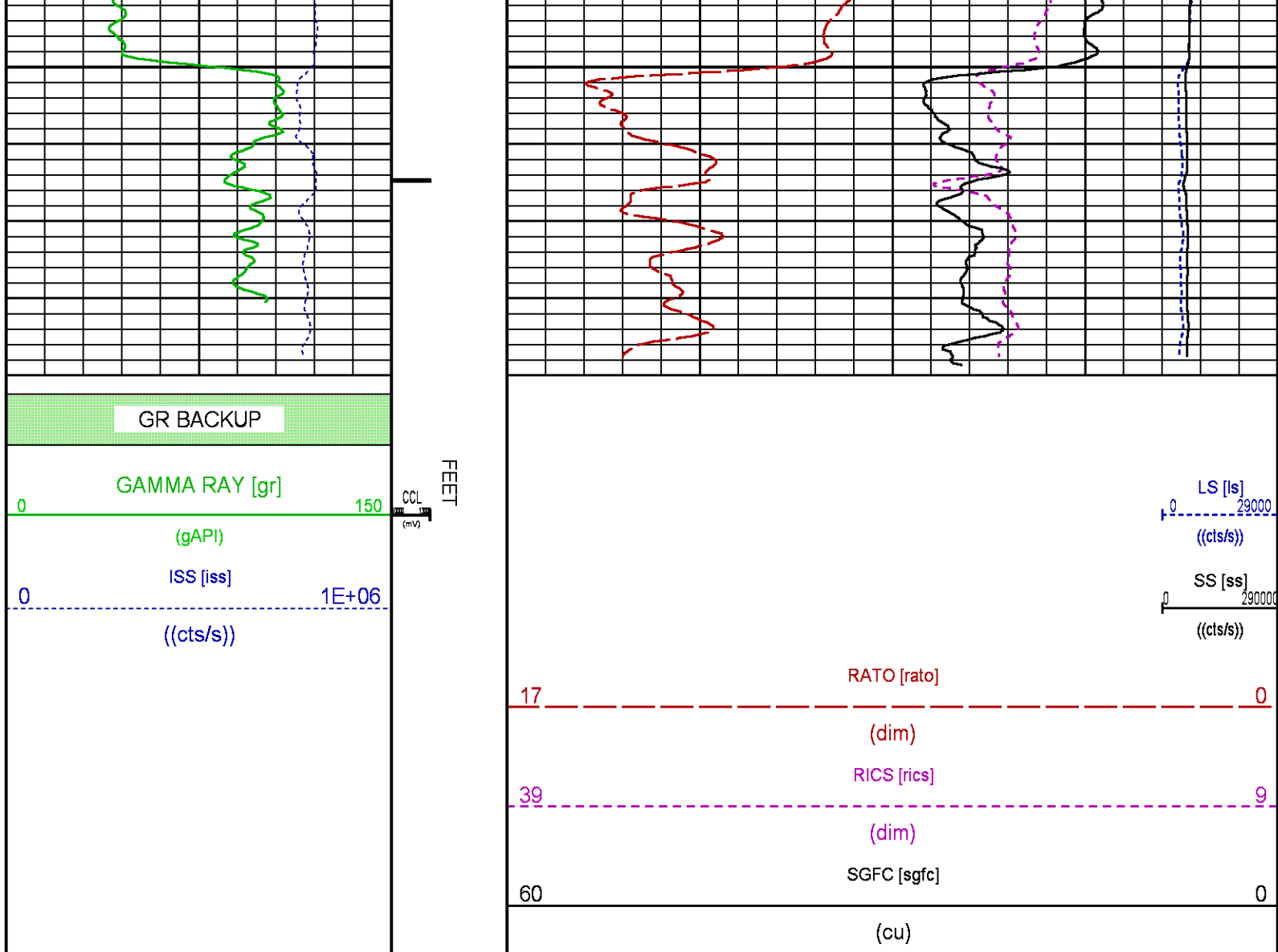
0

2800

2900







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: Tue Mar 20 13:16:28 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-20E/p353h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4597.959 ft BOTTOM DEPTH: 7973.584 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	in	"
	LARGEST CASING OD	4.50	in	"
	MATRIX	SANDSTONE	"	"

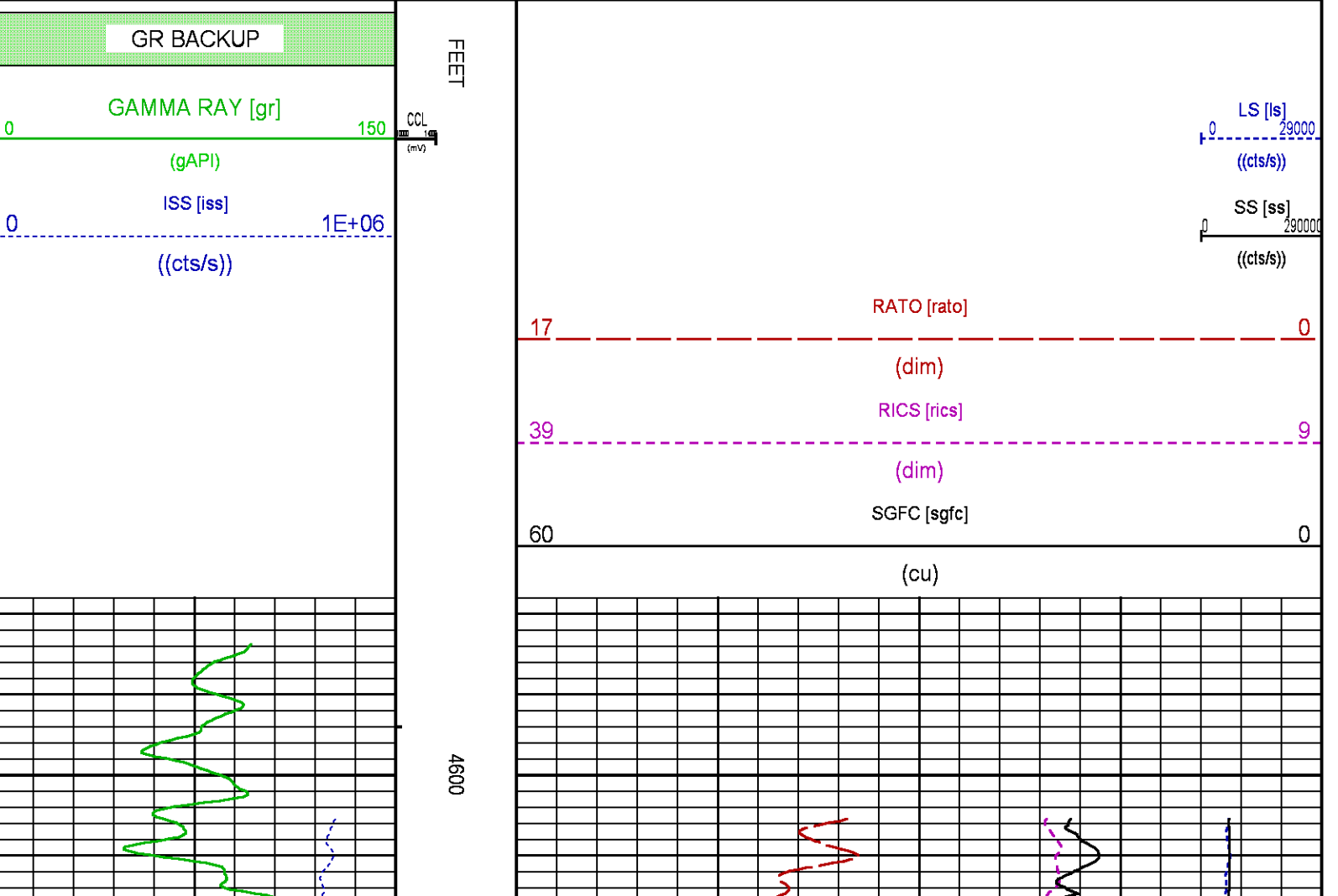
CURVE DESCRIPTION REPORT

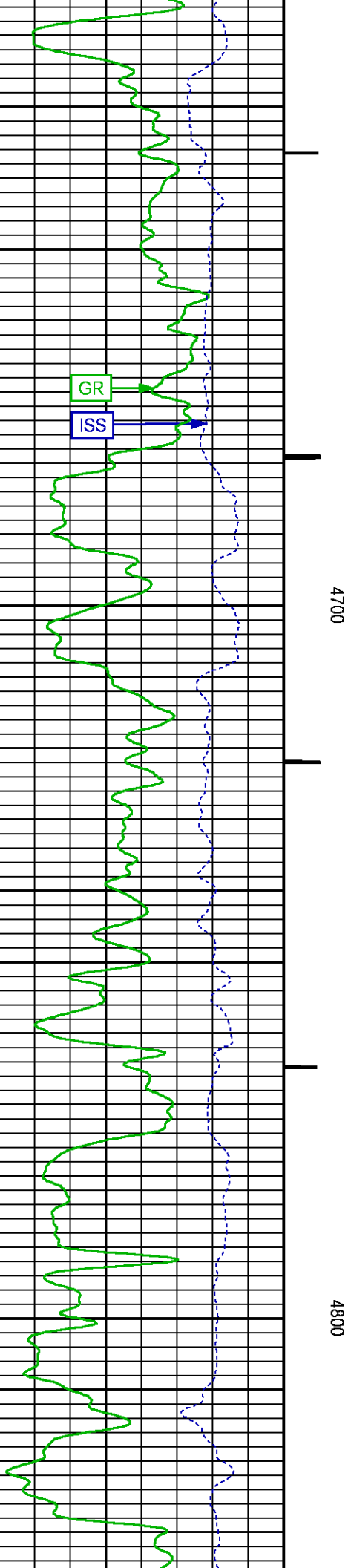
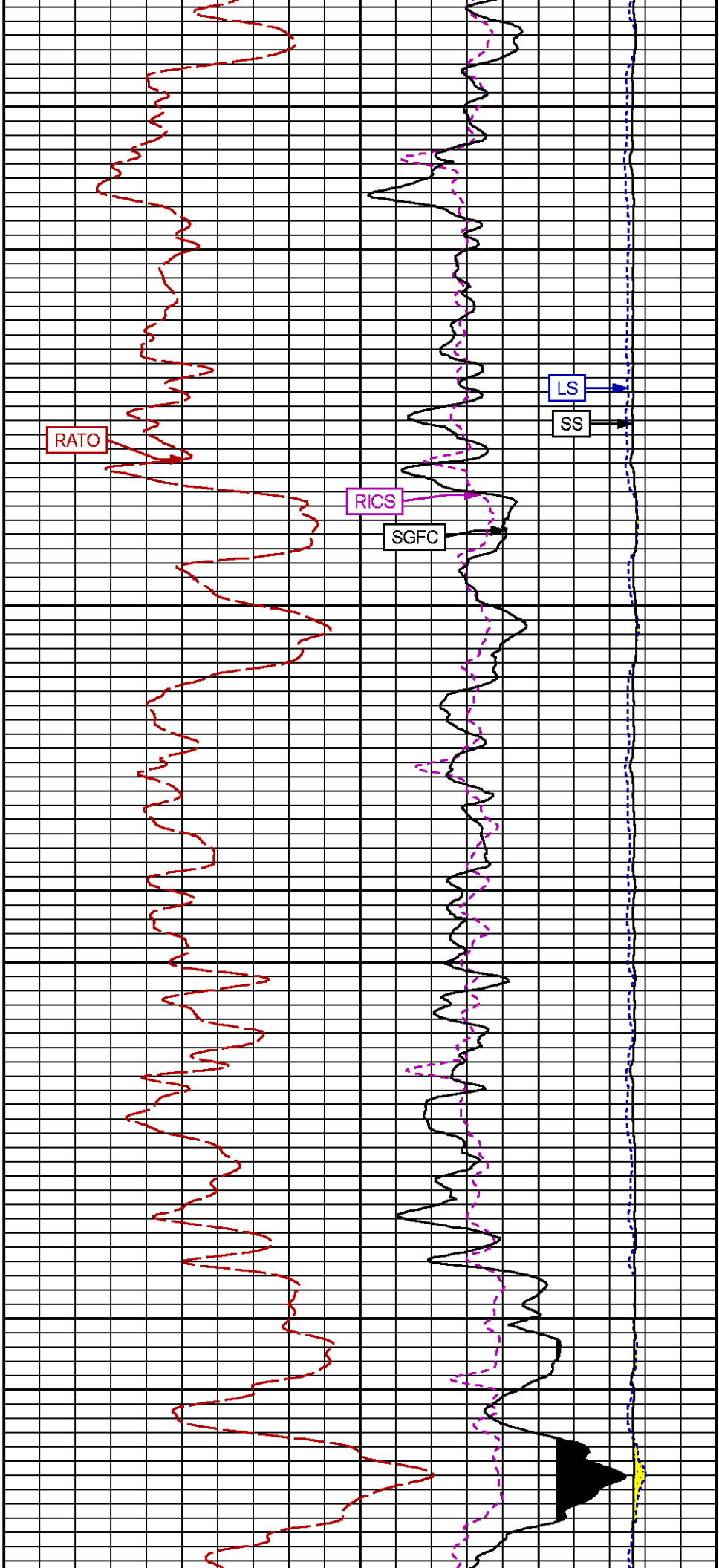
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A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

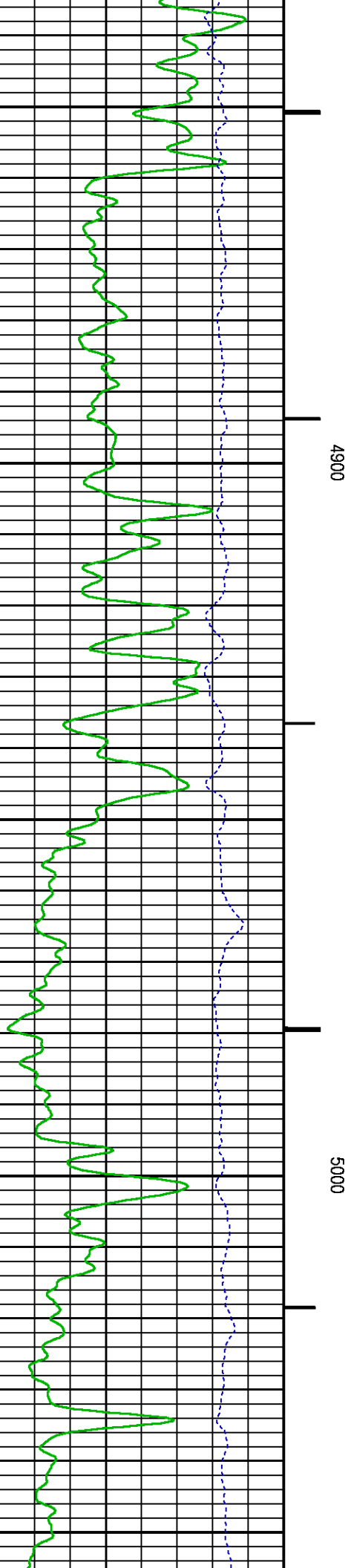
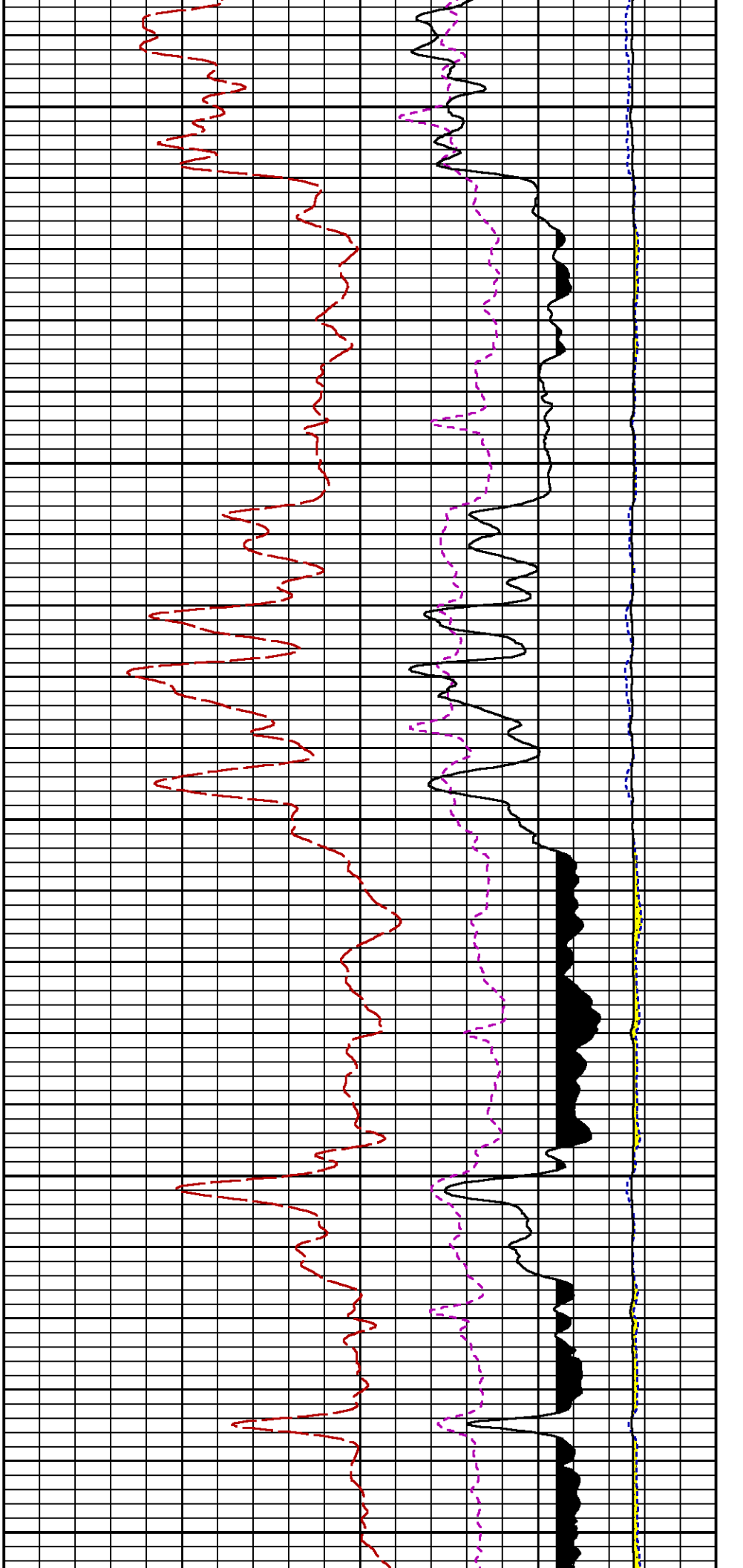
CURVE MEASURE POINT OFFSET

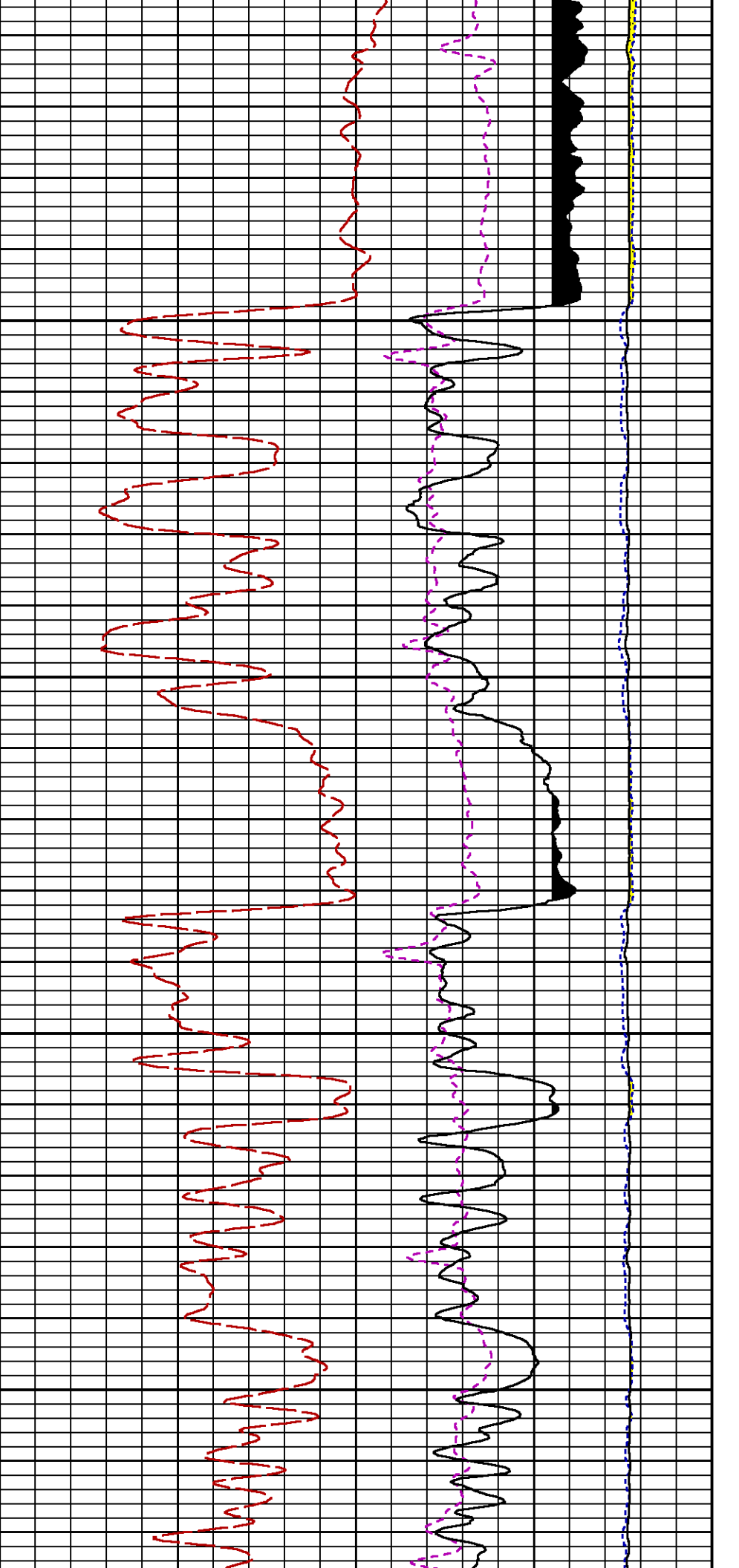
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation	: SysA:LARAMIE_RPM_WF.fvpdf [5"/100' Scale]
Plot Interval	: 4579.5 - 7978.5 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-20E/RPM_WF.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-13-20E
Field	: VEGA
File Interval	: 4579.5 - 7980 Feet
OCT	: p353h



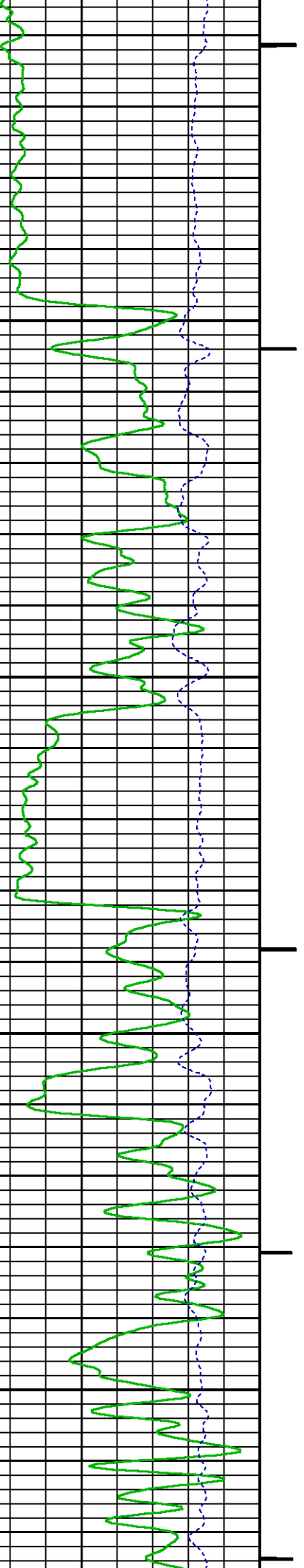


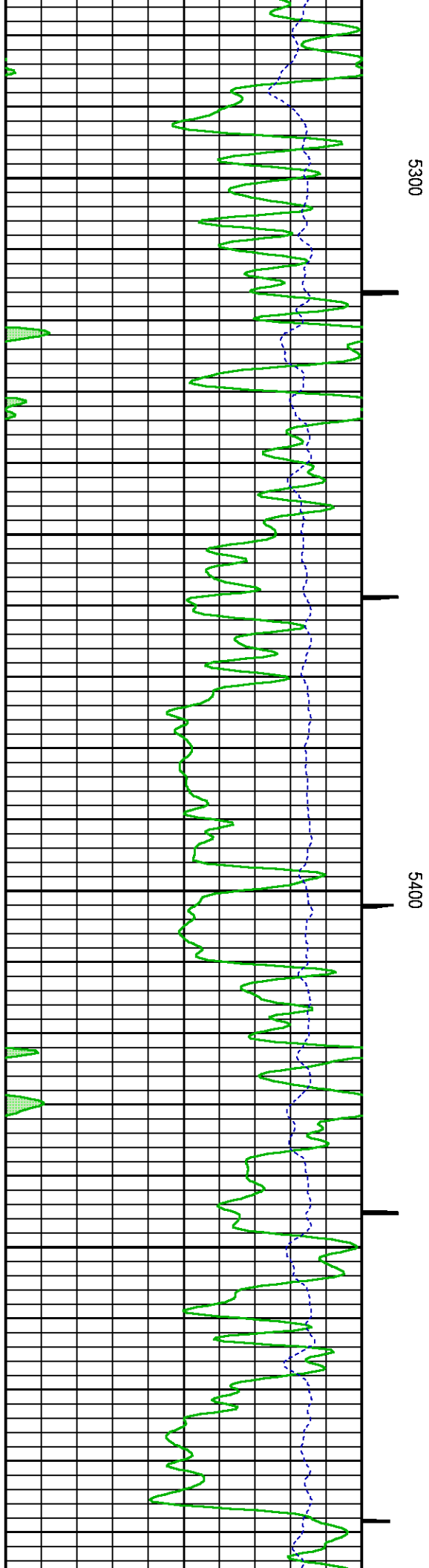
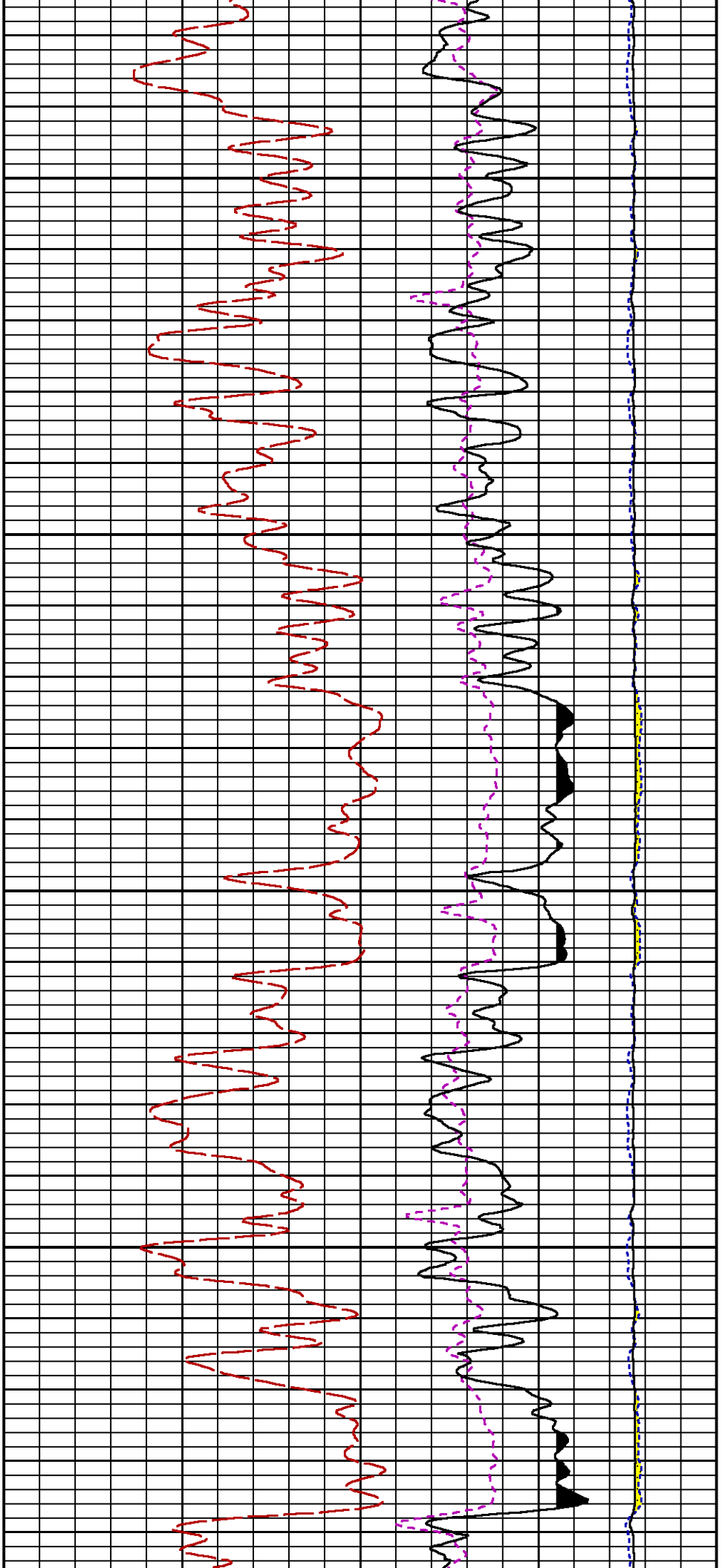


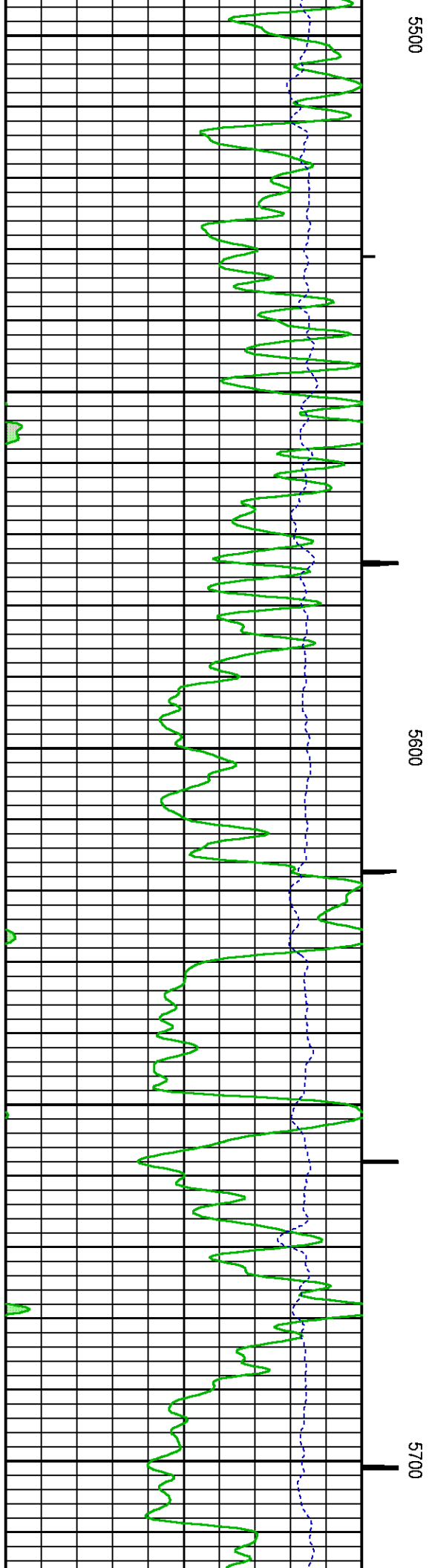
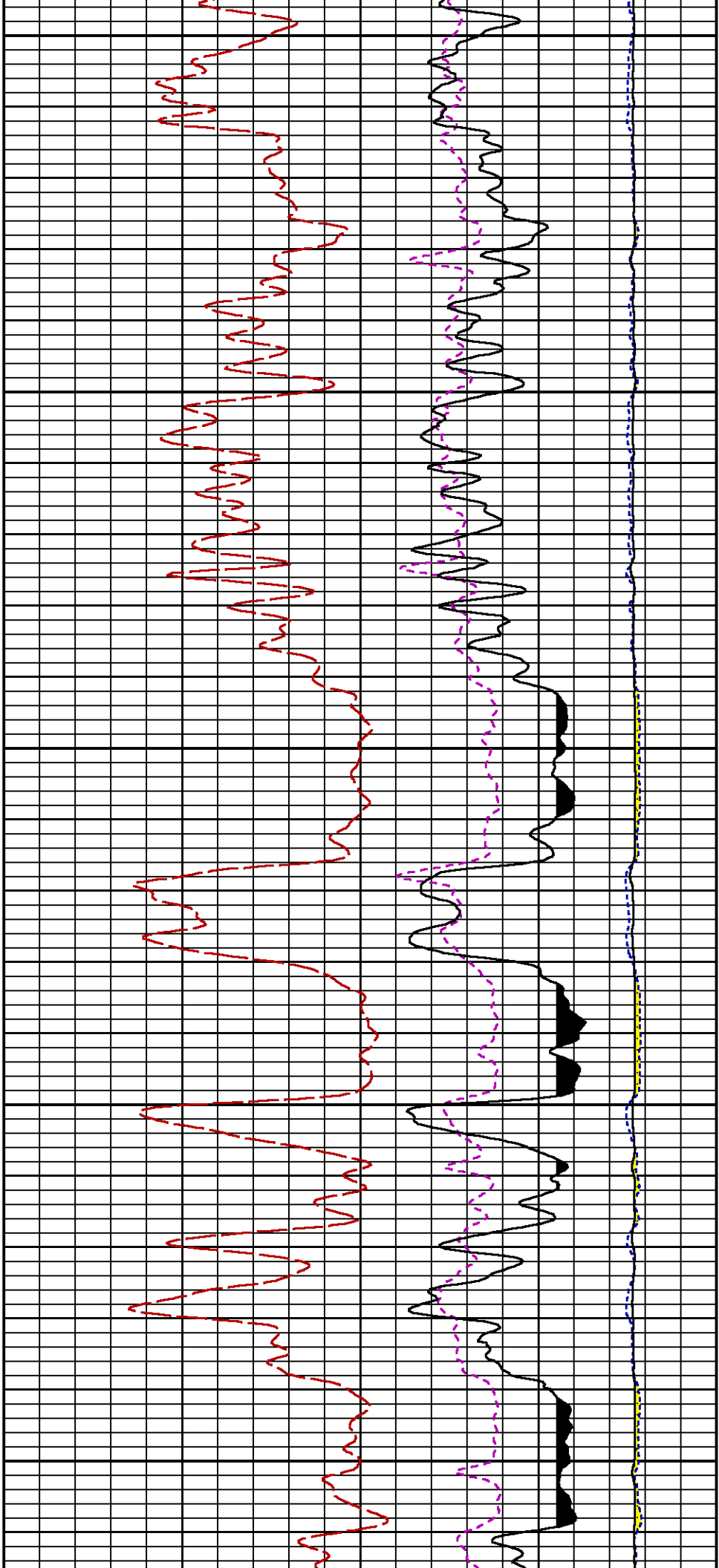


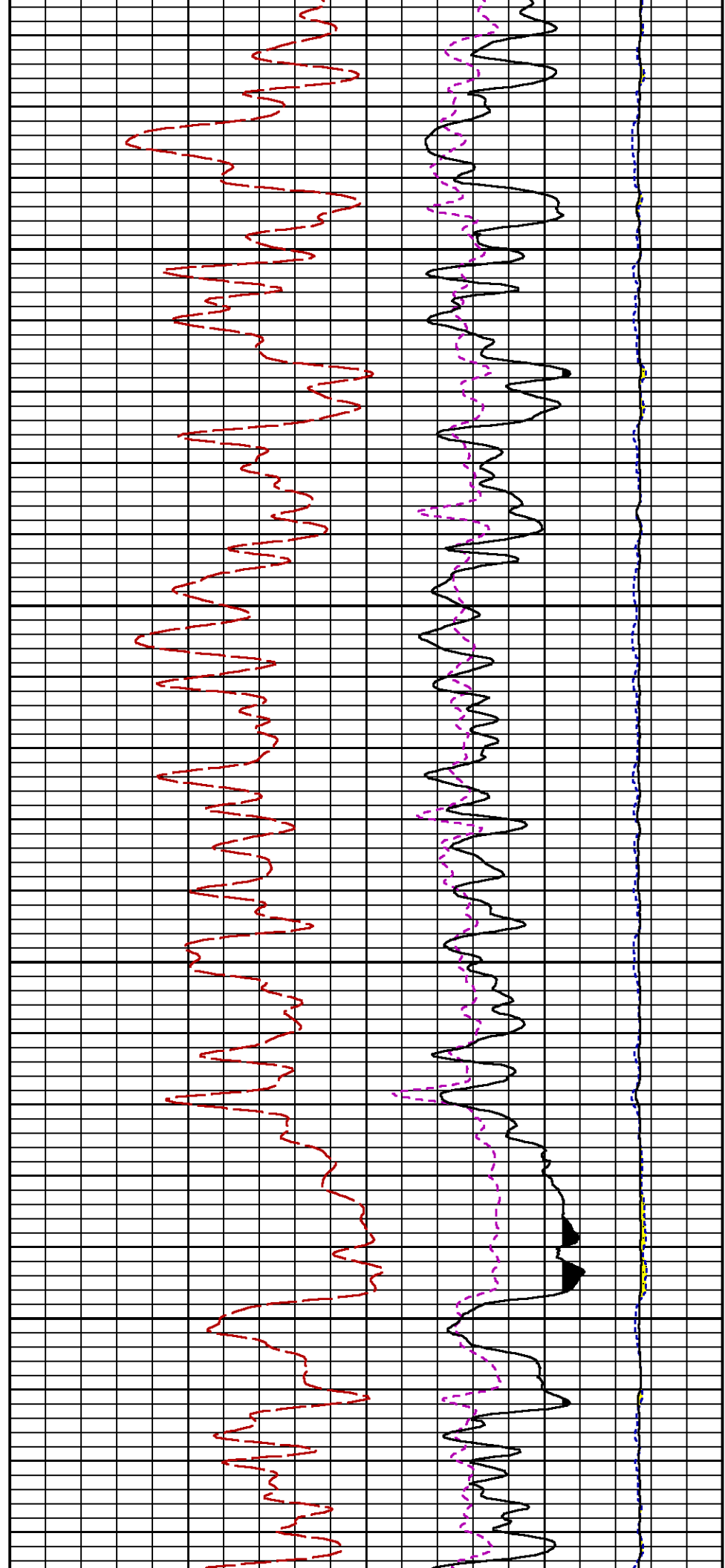
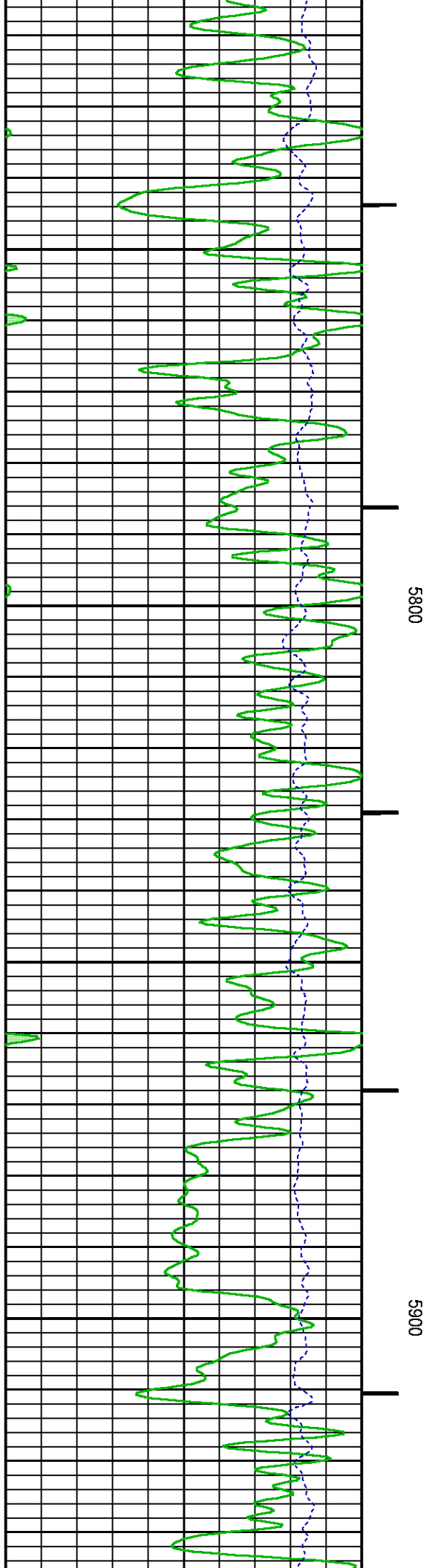
5100

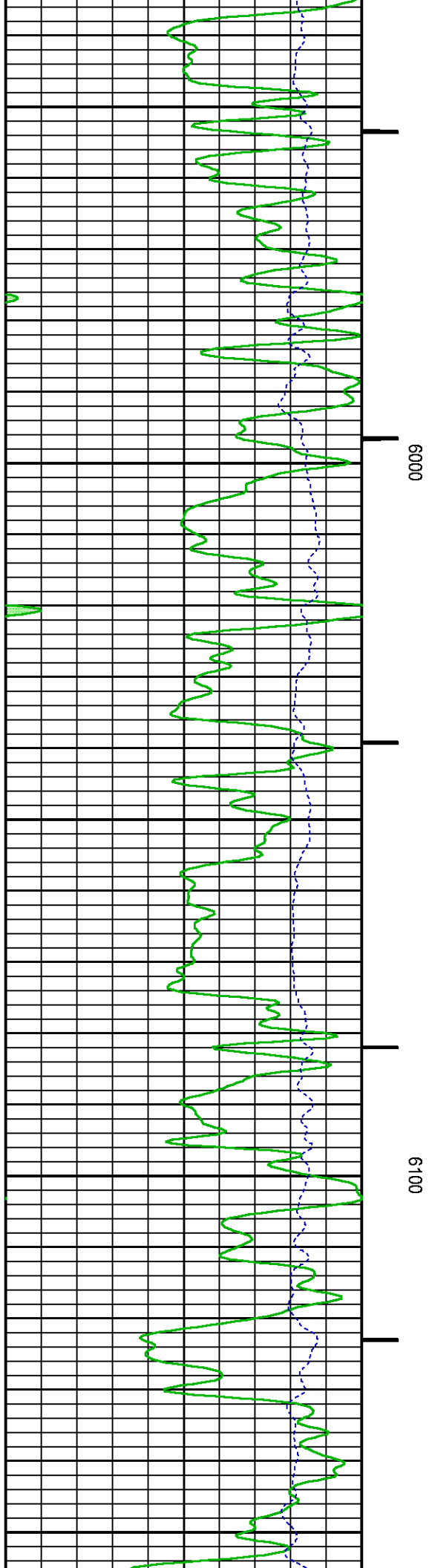
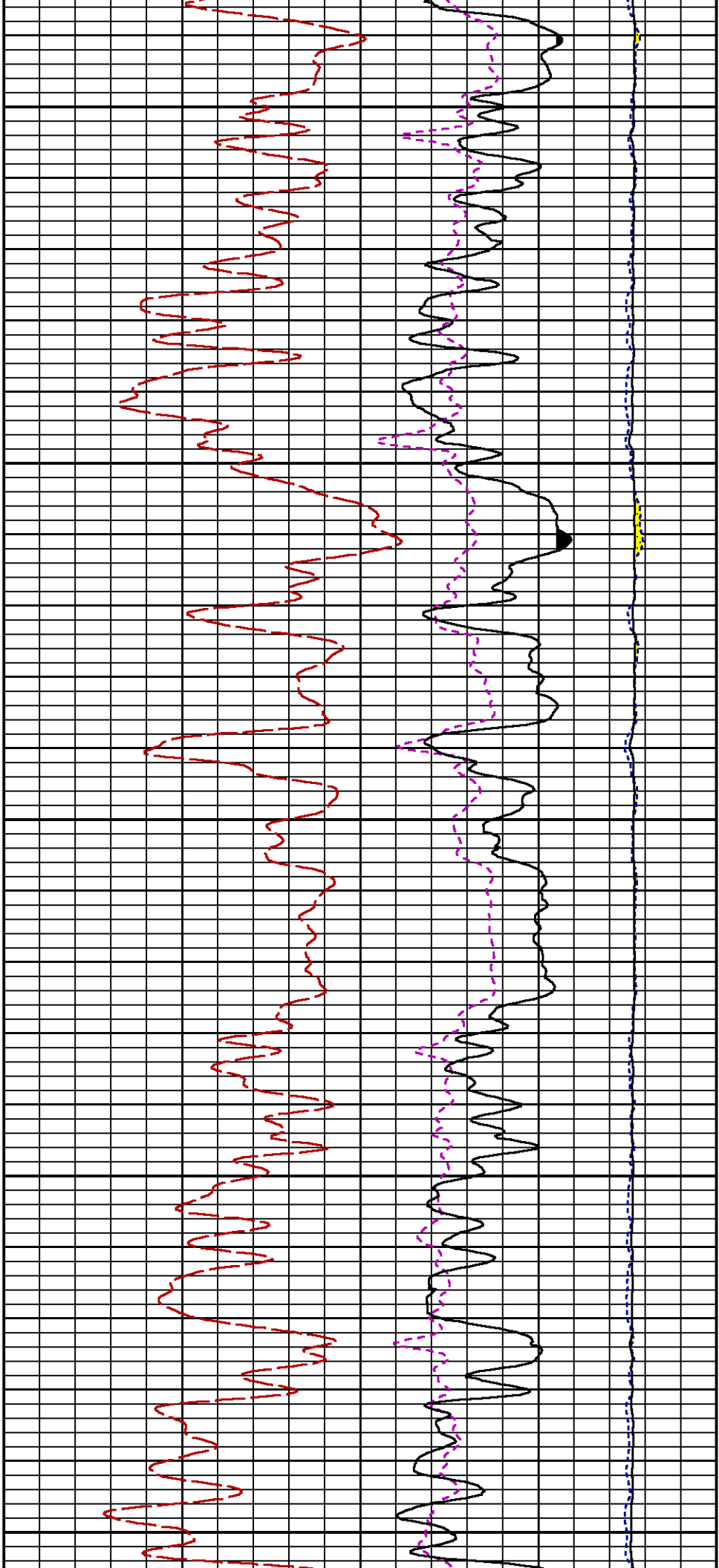
5200

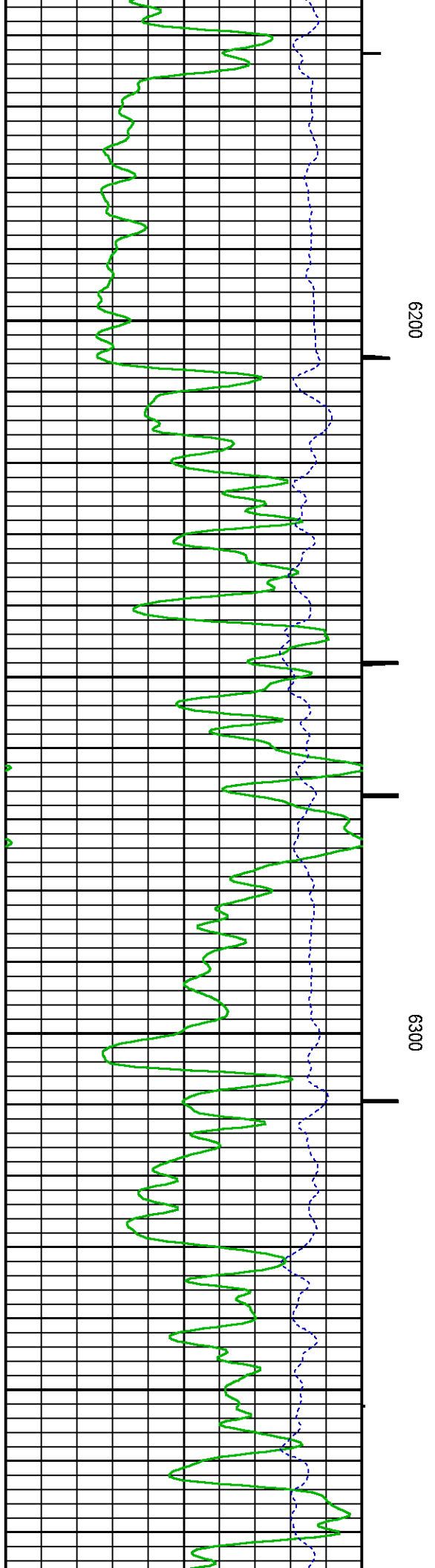
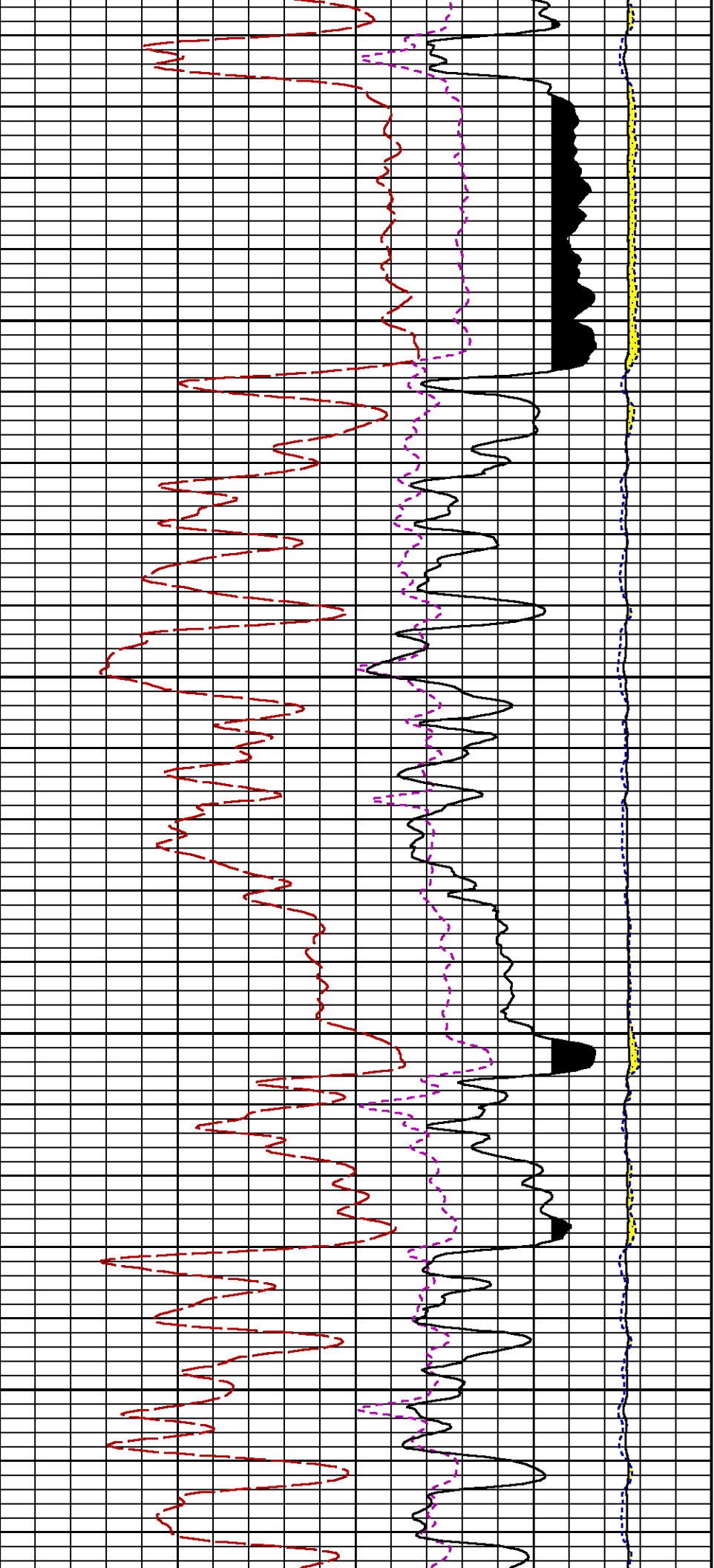


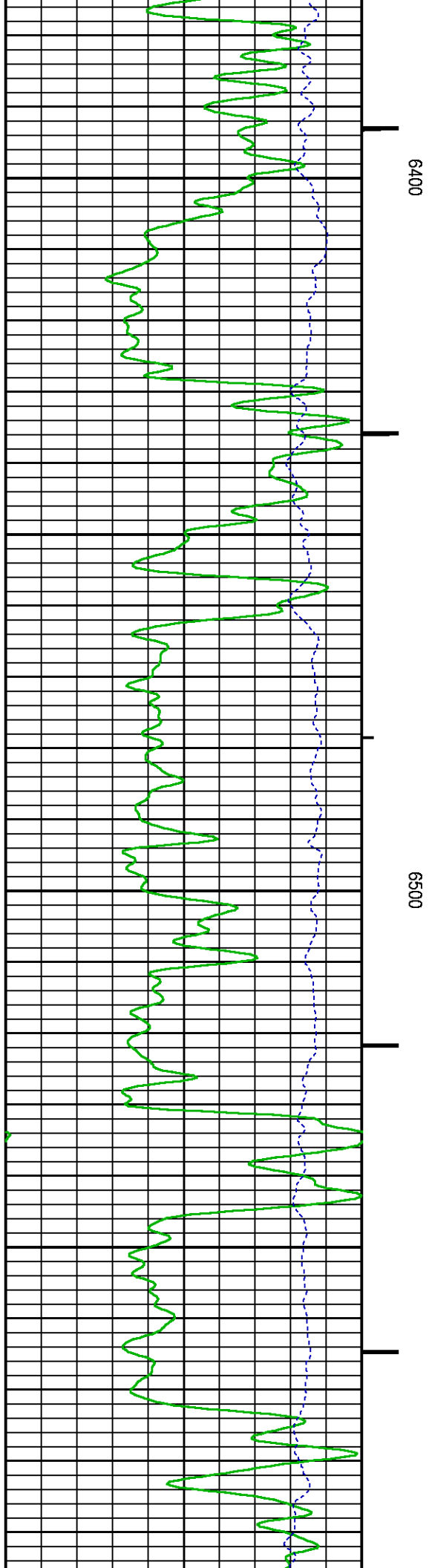
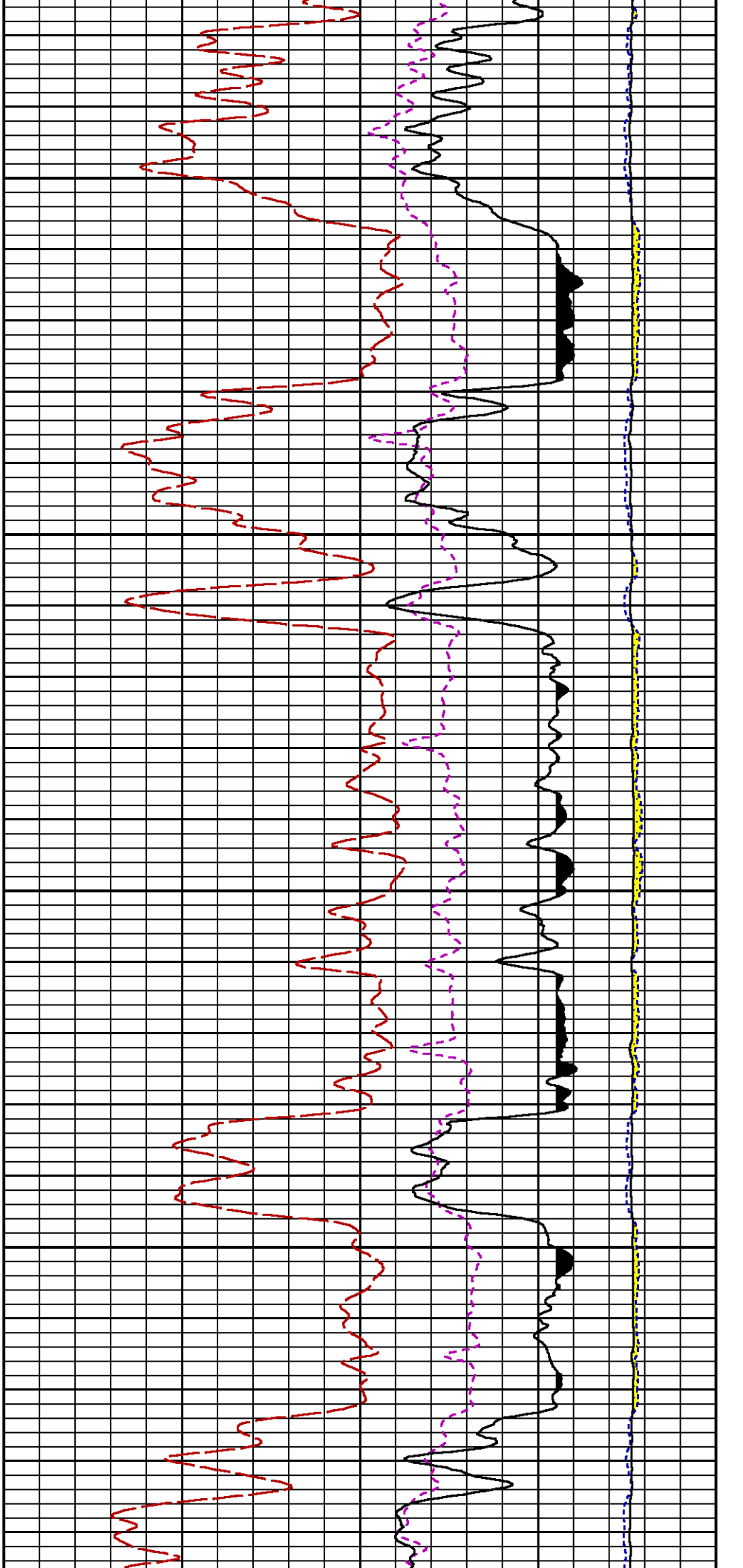


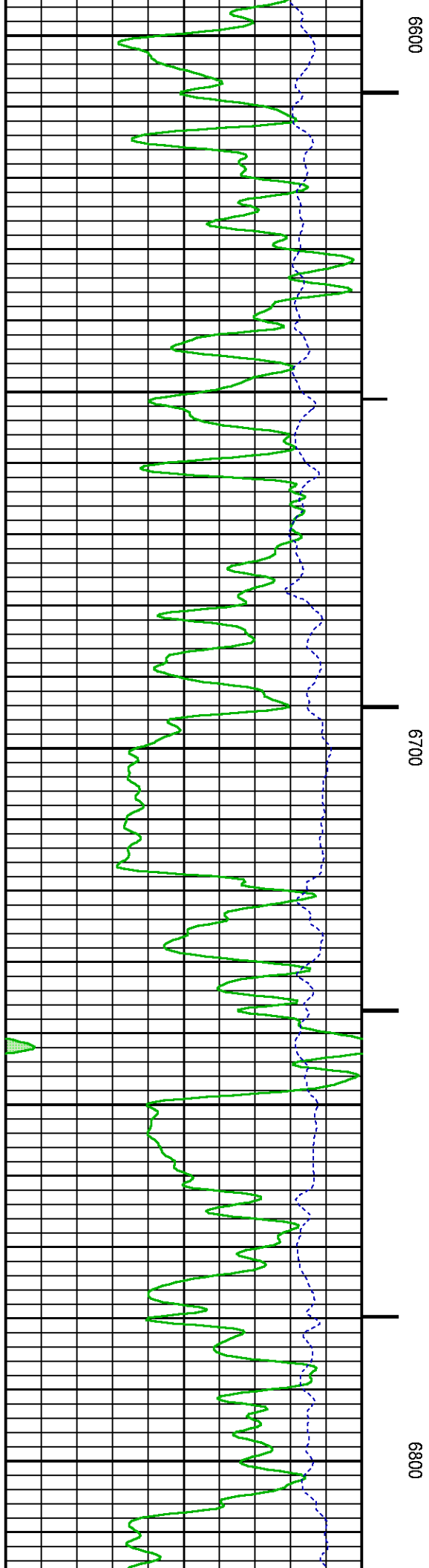
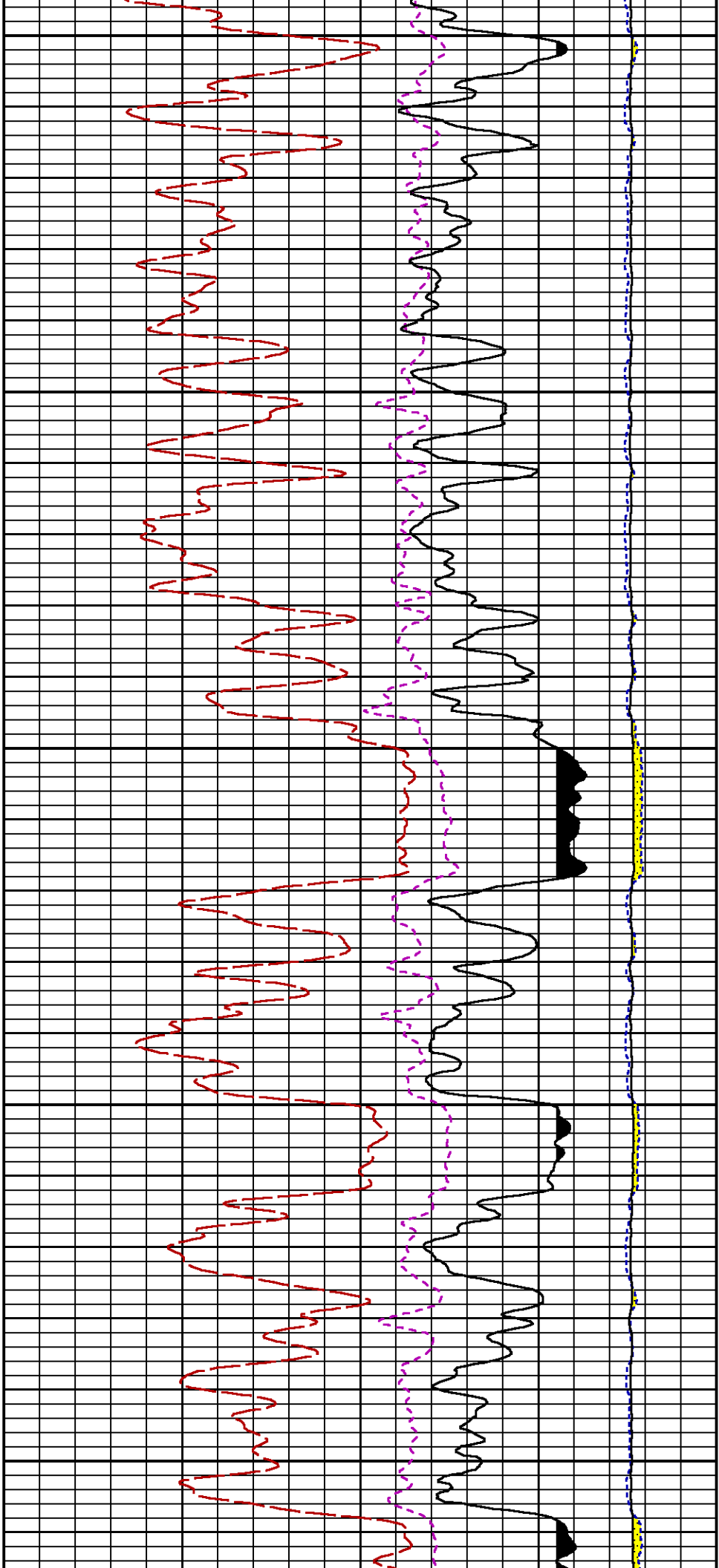


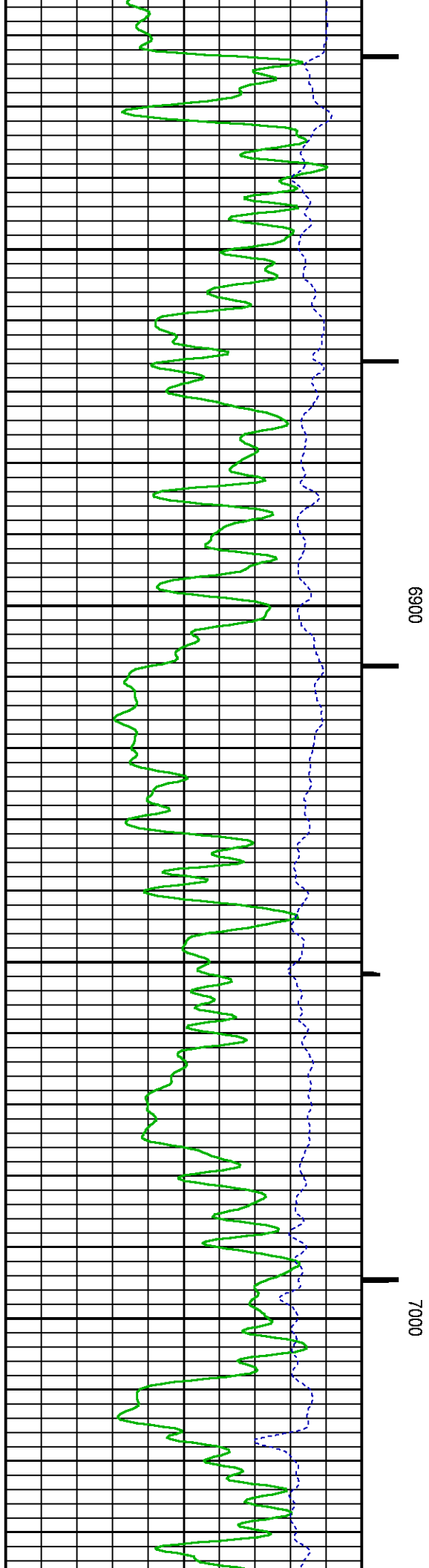
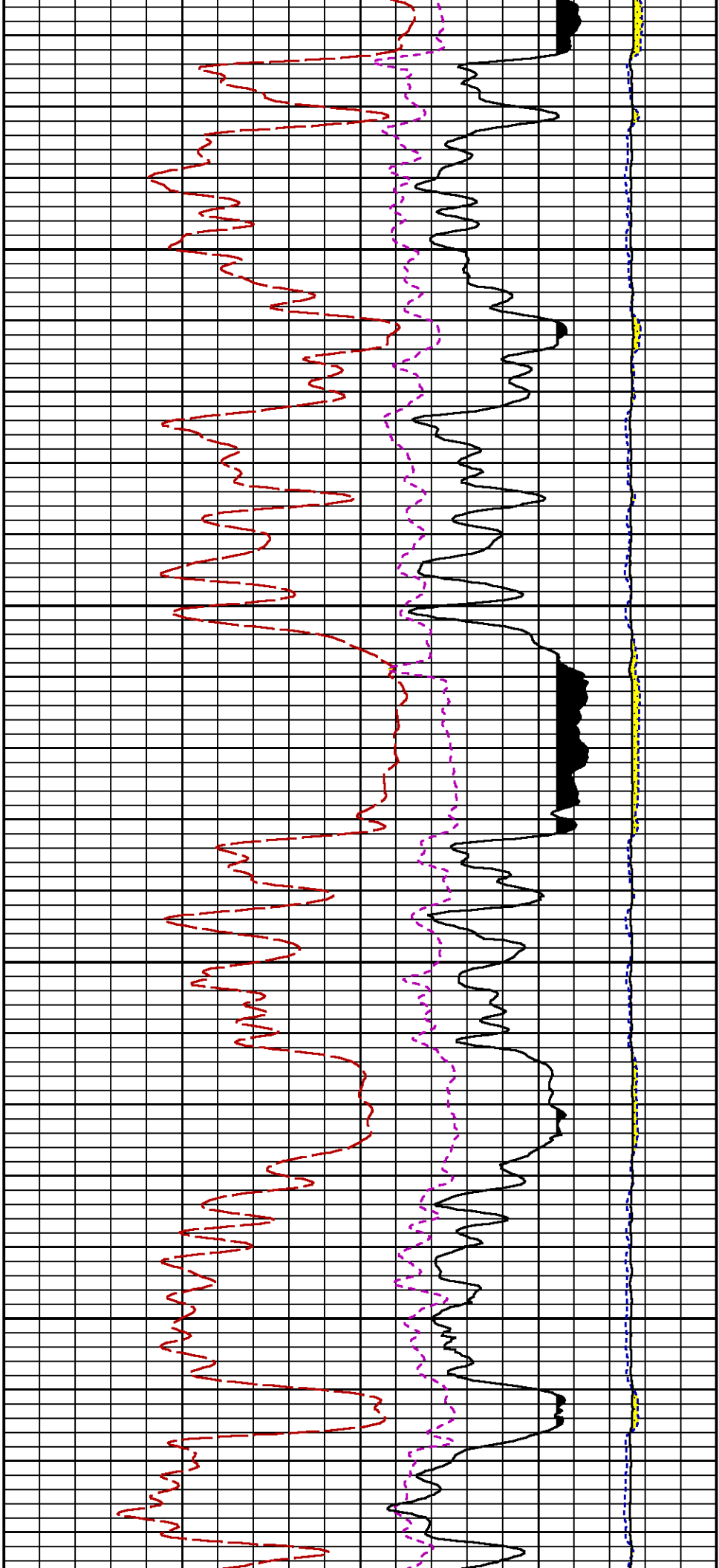


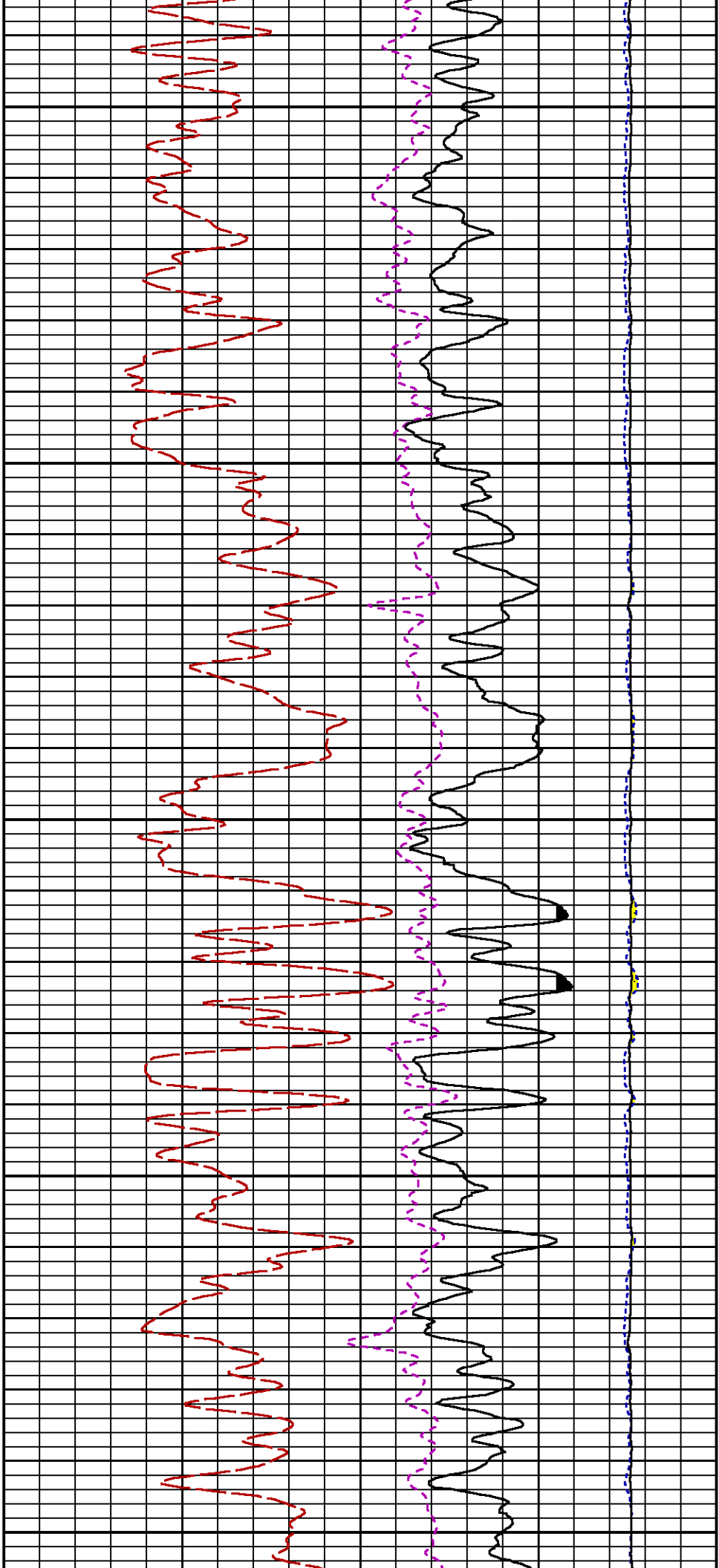






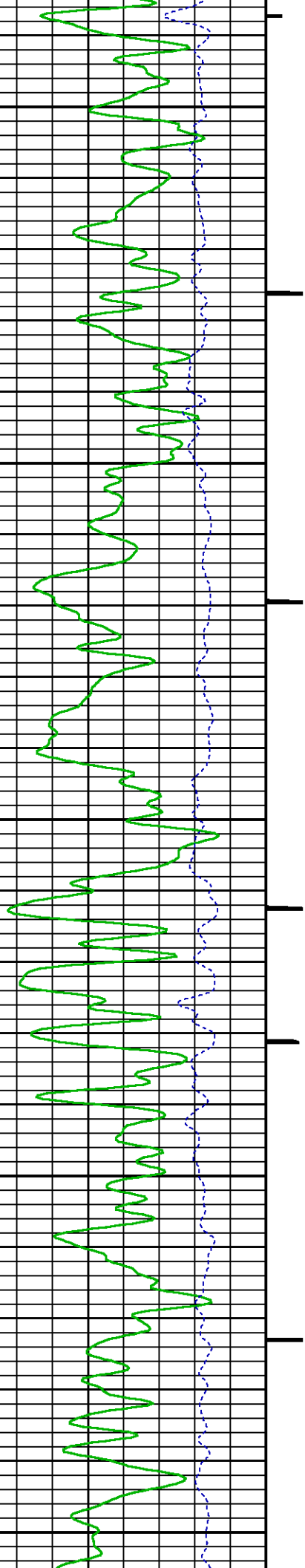


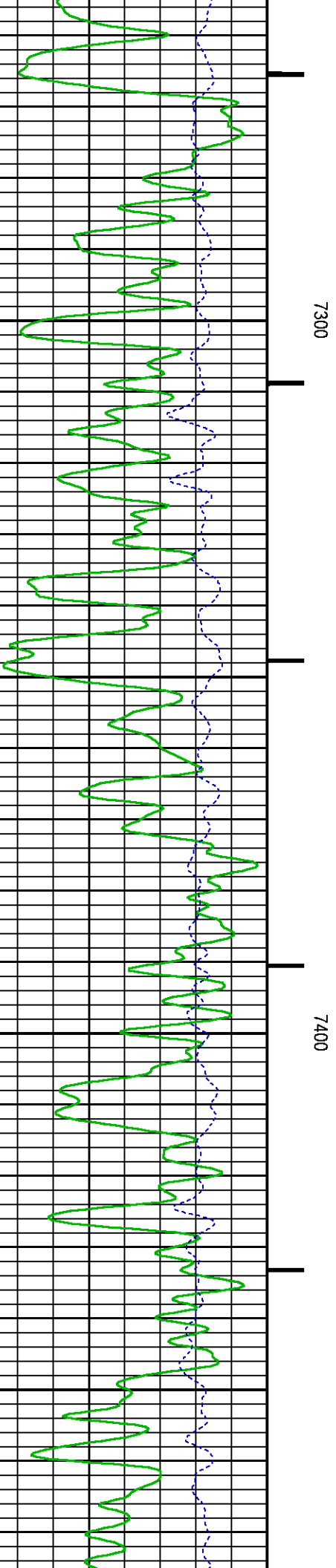
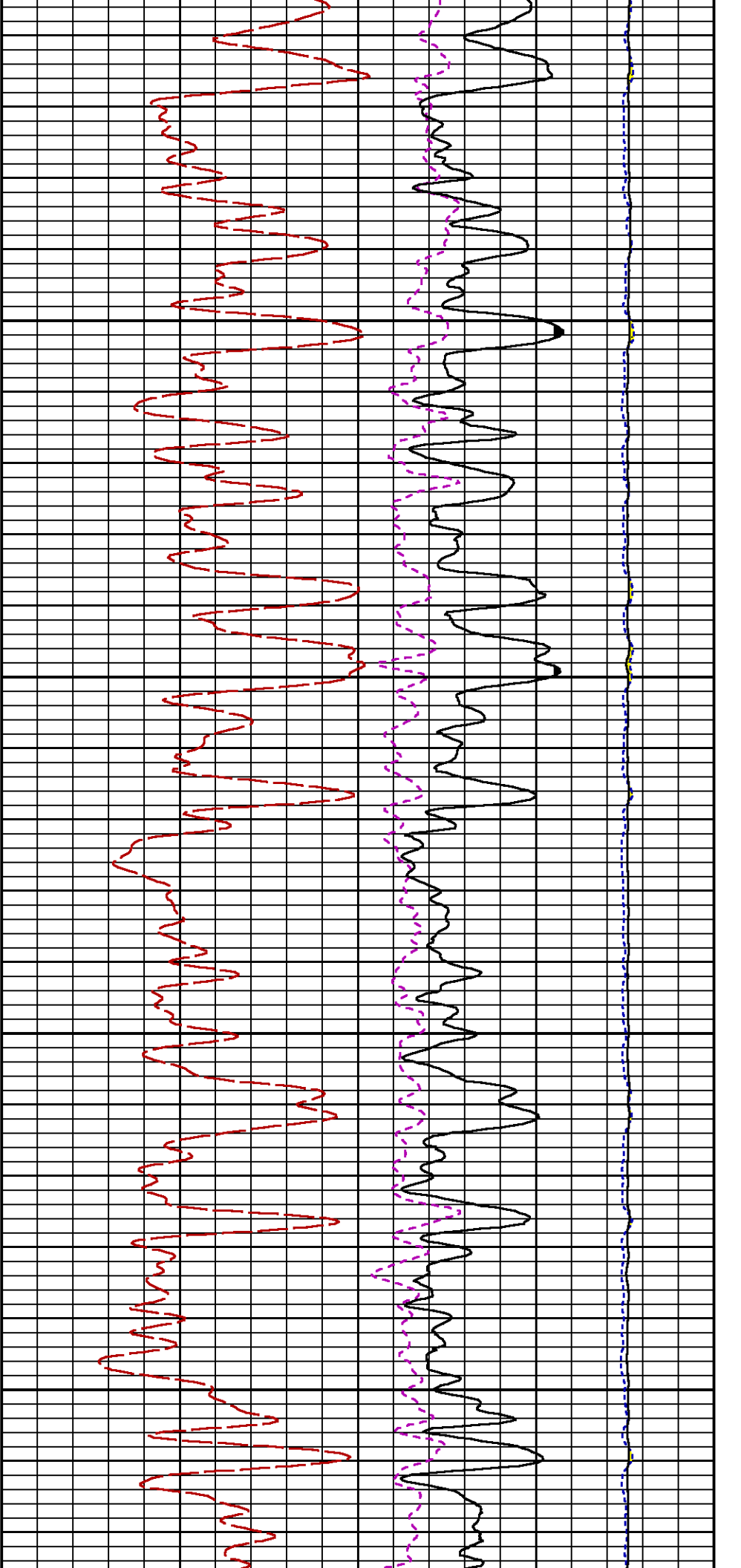


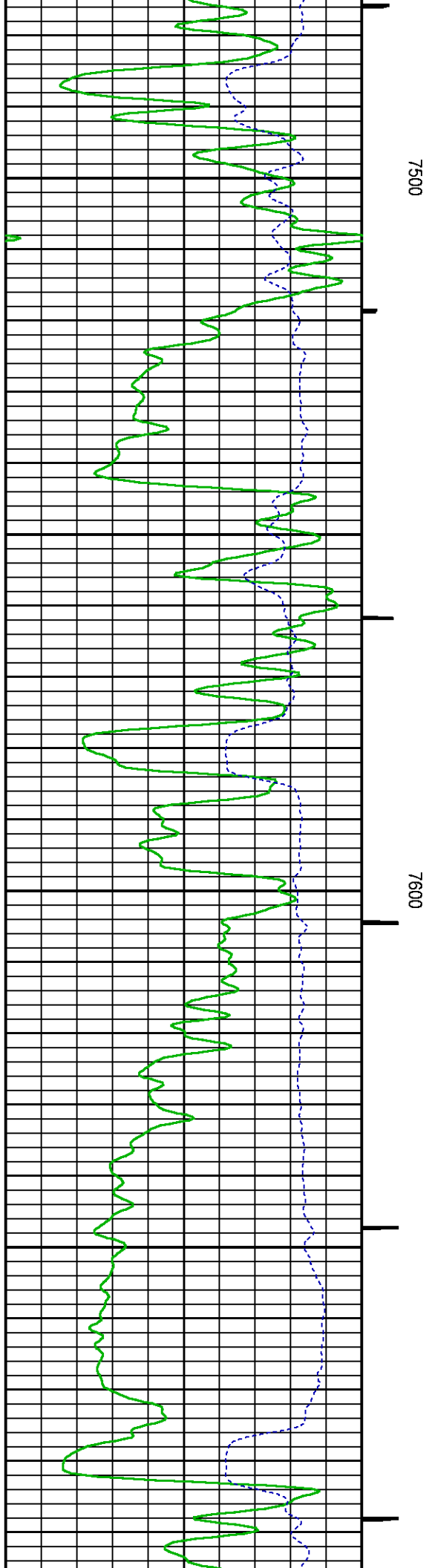
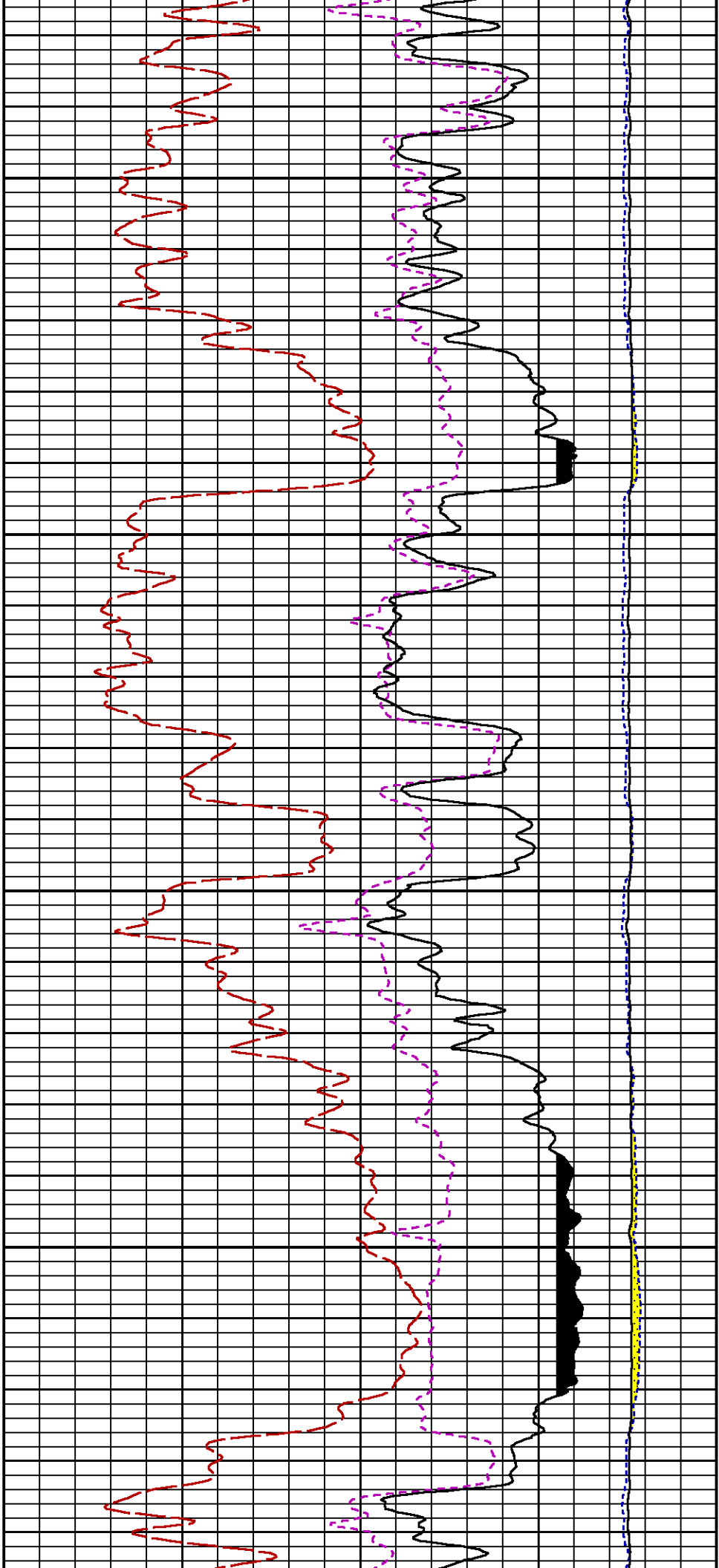


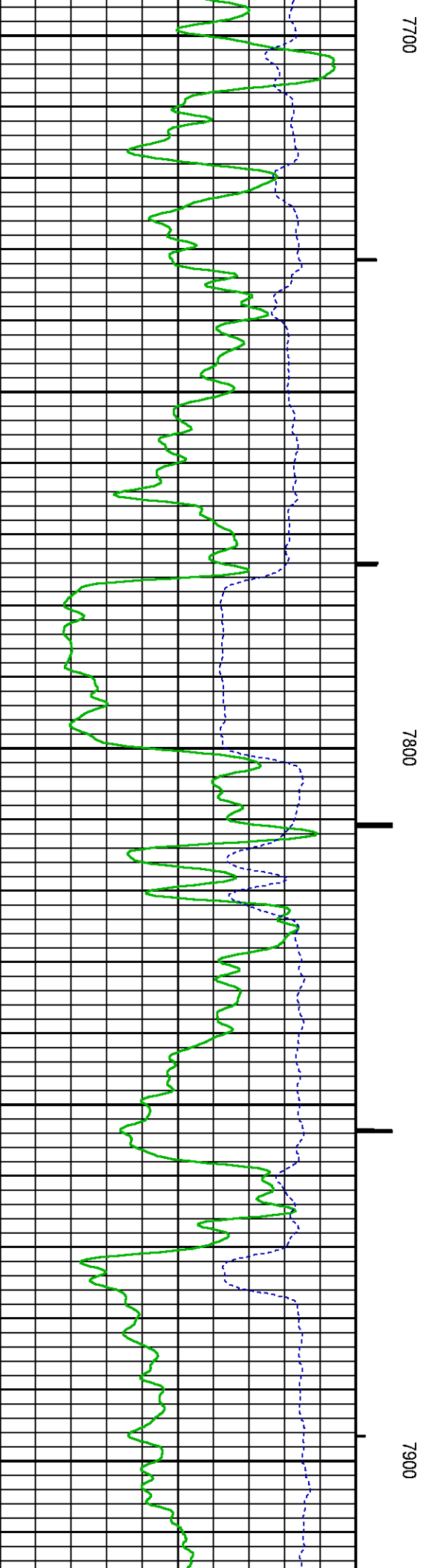
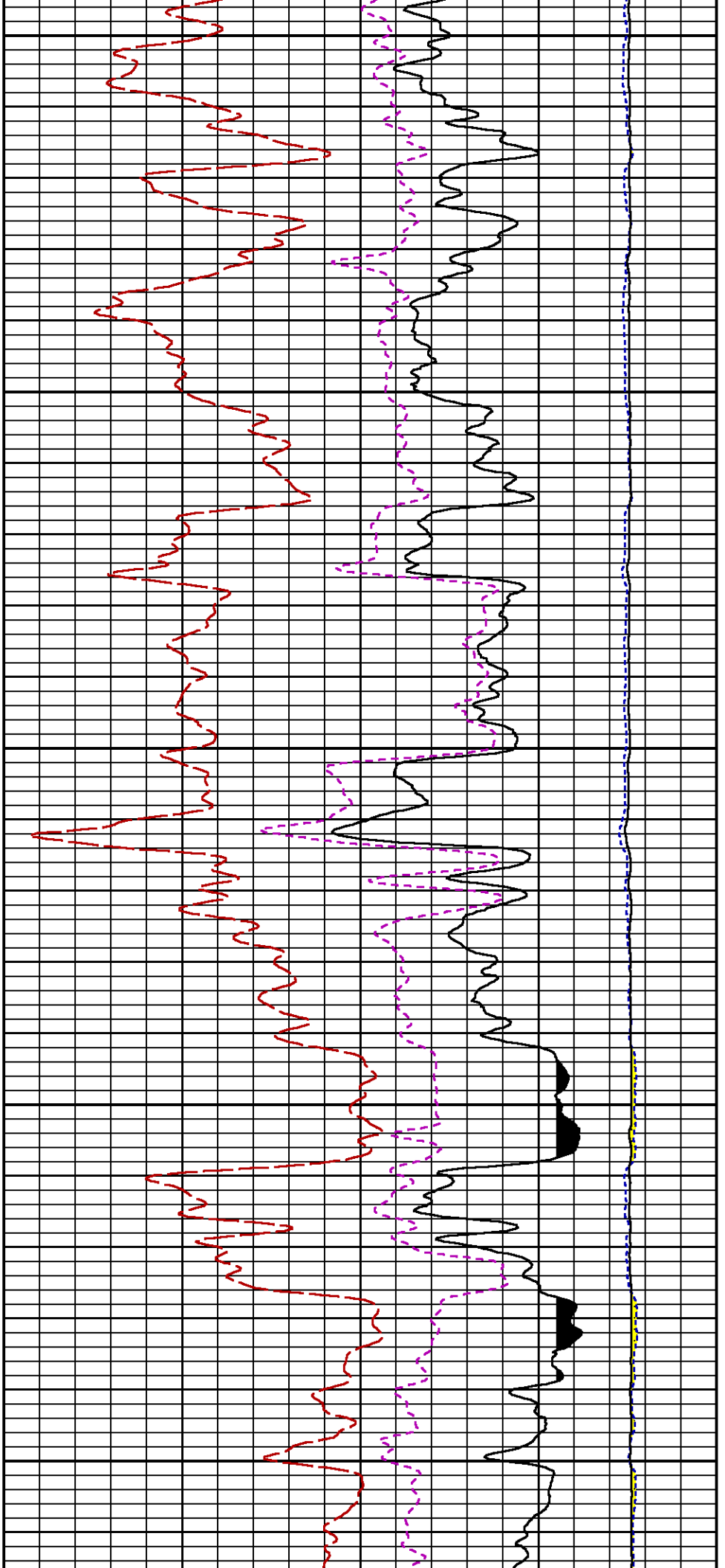
7100

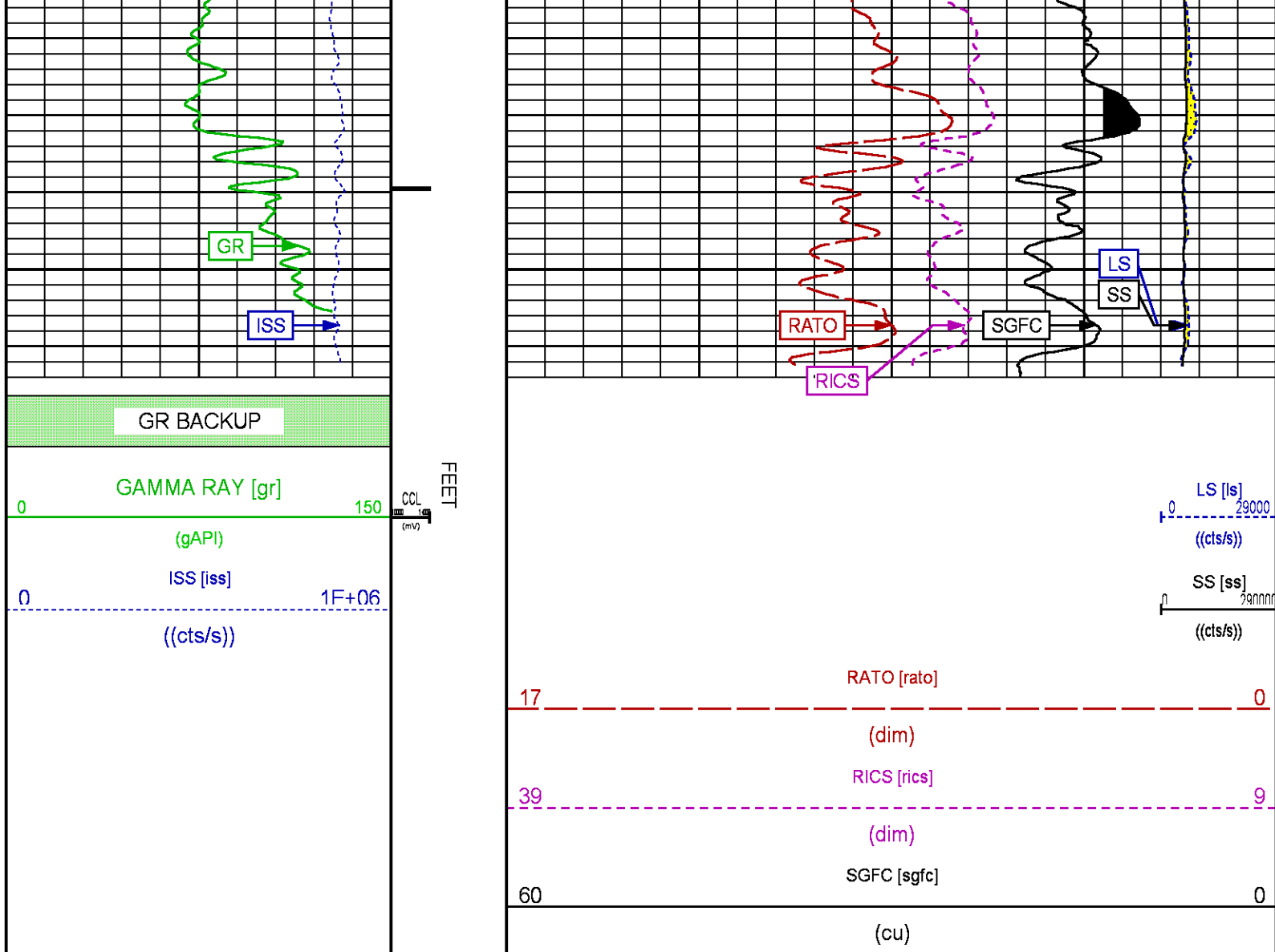
7200











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: Tue Mar 20 10:27:55 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-13-20E/p353h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5007.313 ft BOTTOM DEPTH: 5246.278 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	in	"
	LARGEST CASING OD	4.50	in	"
	MATRIX	SANDSTONE	"	"

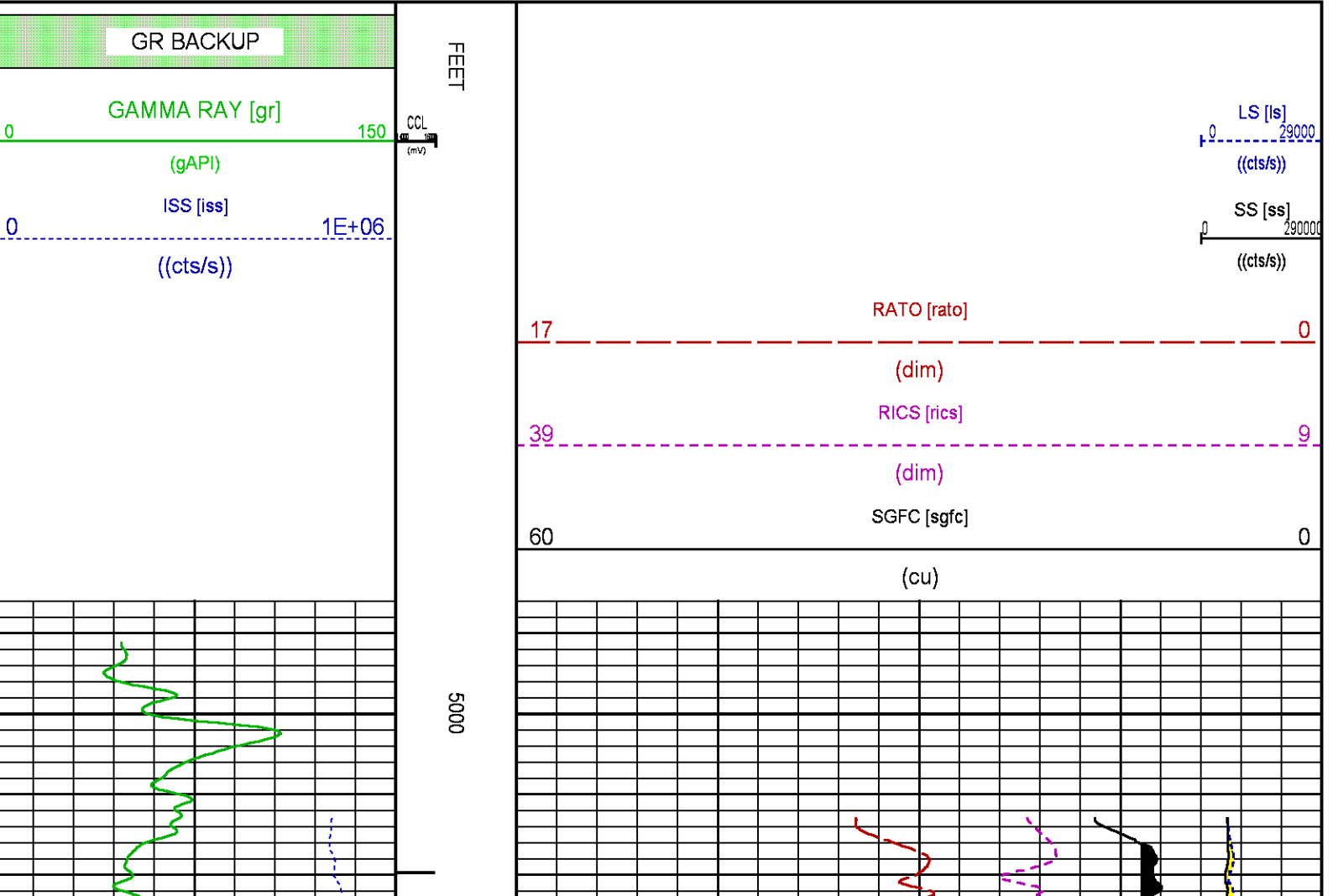
CURVE DESCRIPTION REPORT

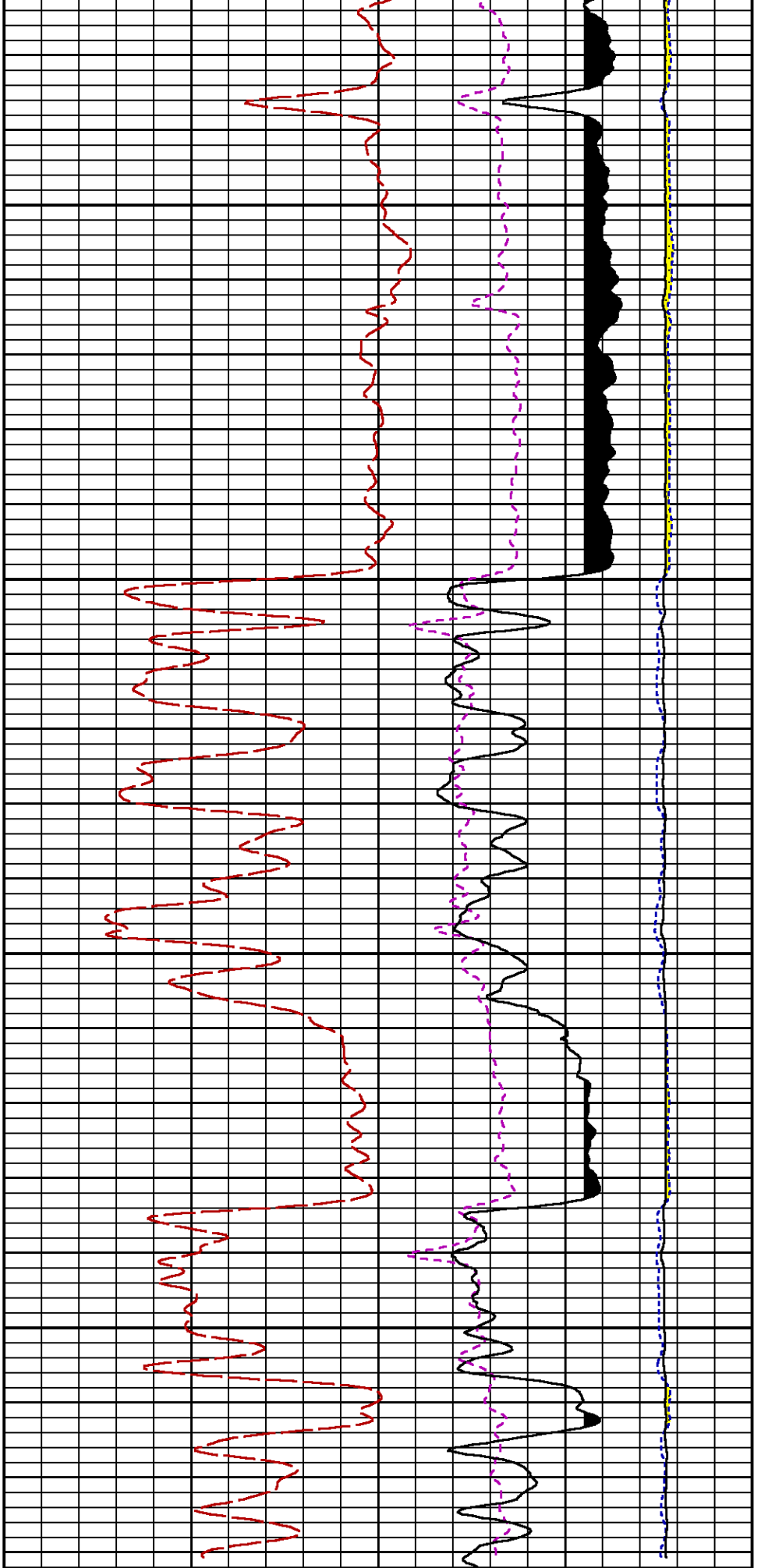
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	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_REPEAT.fvpdf [5"/100" Scale]
Plot Interval	: 4987 - 5246.75 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-13-20E/RPM_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-13-20E
Field	: VEGA
File Interval	: 4987 - 5248.25 Feet
OCT	: p353h

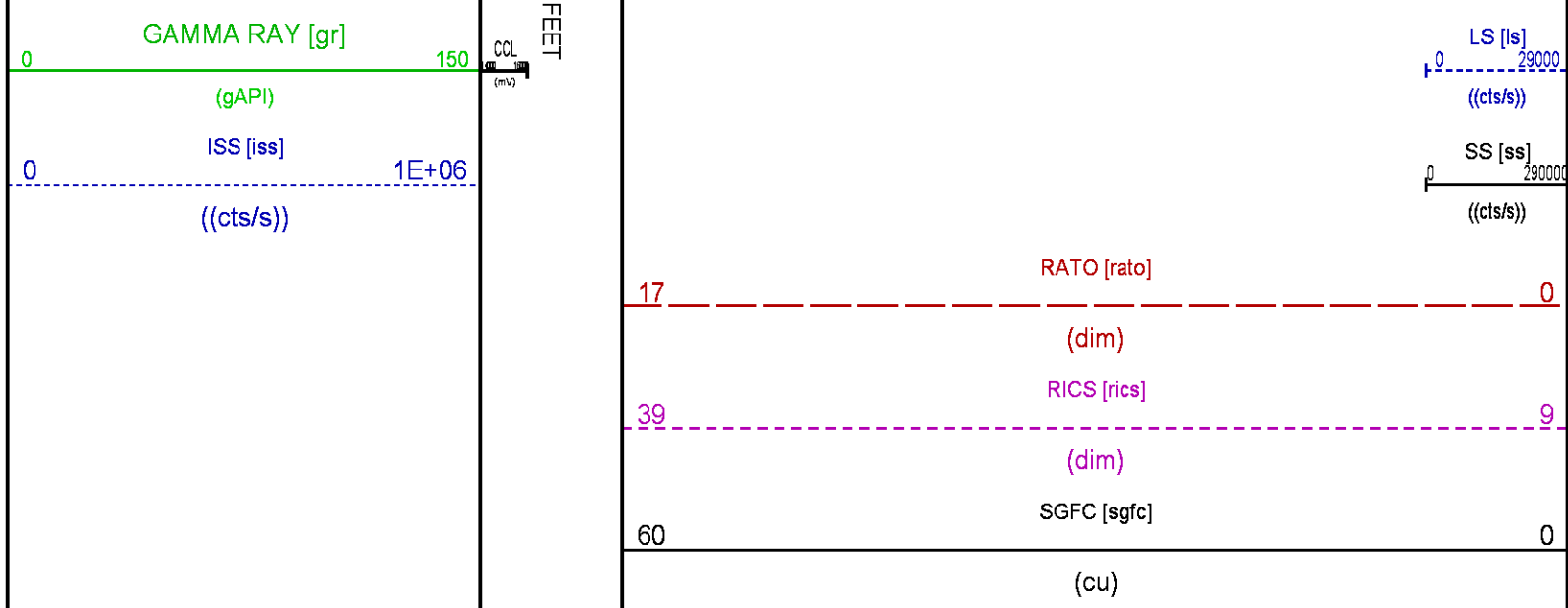




5100

5200

GR BACKUP



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_NICHOLS_0994-13-20E/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 (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
						176.00 196.00

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 Vlt (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	RIN13	RICS	RATC	RTWO	RONE
Raw Data	813743	1.43	4.70	30.56	14.63	10.86	3.87	4.10
	1.42	1.46	3.66	5.62	22.20	32.70	10.99	16.34
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	6.62	27.60	32.70	13.70	16.34
					10.06	11.10	3.67	3.96
							3.76	4.22

TPSETEMP 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 Ptfs

-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

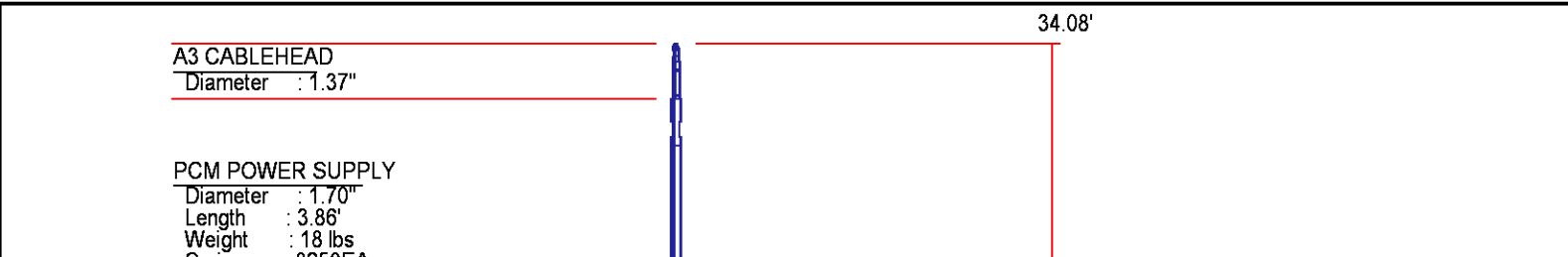
2.862524E+02

1.251039E-04

7.924253E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_NICHOLS_0994-13-20E/p353h~tdg



Series : 8250EA
Mnemonic : PCM

TELEMETRY / CCL

Diameter : 1.70"
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
 PRES MP 1.65'

BULL PLUG 1 11/16

0.00'

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



COMPANY

LARAMIE ENERGY II LLC

WELL

NICHOLS 0994-13-20E

FIELD

VEGA

COUNTY

MESA

STATE

COLORADO

FILE NO:

API NO:

05077104030000

LOCATION:

SHL 1777 FNL 2775 FEL
 BHL 340 FNL 1484 FEL

ELEVATIONS:

KB 7161 FT

DF

GL 7137 FT

SEC 24 TWP 9 RGE 94W

DATE 20-Mar-2018