



FILE NO:	COMPANY	LARAMIE ENERGY LLC
API NO:	WELL	NICHOLS 0994-24-08E
05077104120000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.10	LOCATION:	OTHER SERVICES
	SHL: 39.264465 N; 107.830720 W	RAL
	BHL: 39.264737 N; 107.826024 W	
	SEC 24 TWP 9 S RGE 94 W	

PERMANENT DATUM	GL	ELEVATION	7137 FT	ELEVATIONS: KB 7161 FT DF 7160 FT GL 7137 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.	
DRILL. MEAS. FROM	KB			

DATE	23-Jan-2018
RUN	1
TRIP	2
SERVICE ORDER	US132013
DEPTH DRILLER	7636 FT
DEPTH LOGGER	7450 FT
BOTTOM LOGGED INTERVAL	7450 FT
TOP LOGGED INTERVAL	2289 FT
TIME STARTED	10:00
TIME FINISHED	17:00
OPERATOR RIG TIME	7 HRS
TYPE OF FLUID IN HOLE	FRESH WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	48 FT
LOGGED CEMENT TOP	2257
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	237 DEGF
REFERENCE LOG	NA
REFERENCE LOG DATE	NA
EQUIP. NO.	ML-4291
LOCATION	GRAND JUNCT
RECORDED BY	M.MENTZER
WITNESSED BY	MR. MATT SETTLES

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 1 TRIP 2: *2 OPERATIONS IN WELLBORE*

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

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 5701' - 5723'

SJ: 6620' - 6640'

CREW:C.GOLOBY J .PENA, A.SHAHNOOSHI

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	2	TELEMETRY	8248 EA/8250 ED	111745584/10193585	FREE
1	2	GR	8262 XA	10317216	FREE
1	2	RPM ELEC	8281 EA	10179238	FREE
1	2	RPM	8283 PA/8281 FA	10190200/10318654	FREE
1	2	TEMP	8255 XA	11774568	FREE

MAIN PASS GRAND SANDS PNC 3D MODE

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

Patches: 2

Plotted: Tue Jan 23 17:14:55 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_08E/p353h04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2206.000 ft BOTTOM DEPTH: 2969.000 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	8.50	in	"	"
	LARGEST CASING OD	7.00	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_24_08E/LARAMIE_RPM+01-MAIN-RPM_MN_GS_08E-5.fvpdf [5"/100' Scale]
Plot Interval : 2285 - 2970 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_08E/RPM_MN_GS_08E.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : NICHOLS 0994-24-08E
Field : VEGA
File Interval : 2190.25 - 2978.75 Feet
OCT : p353h

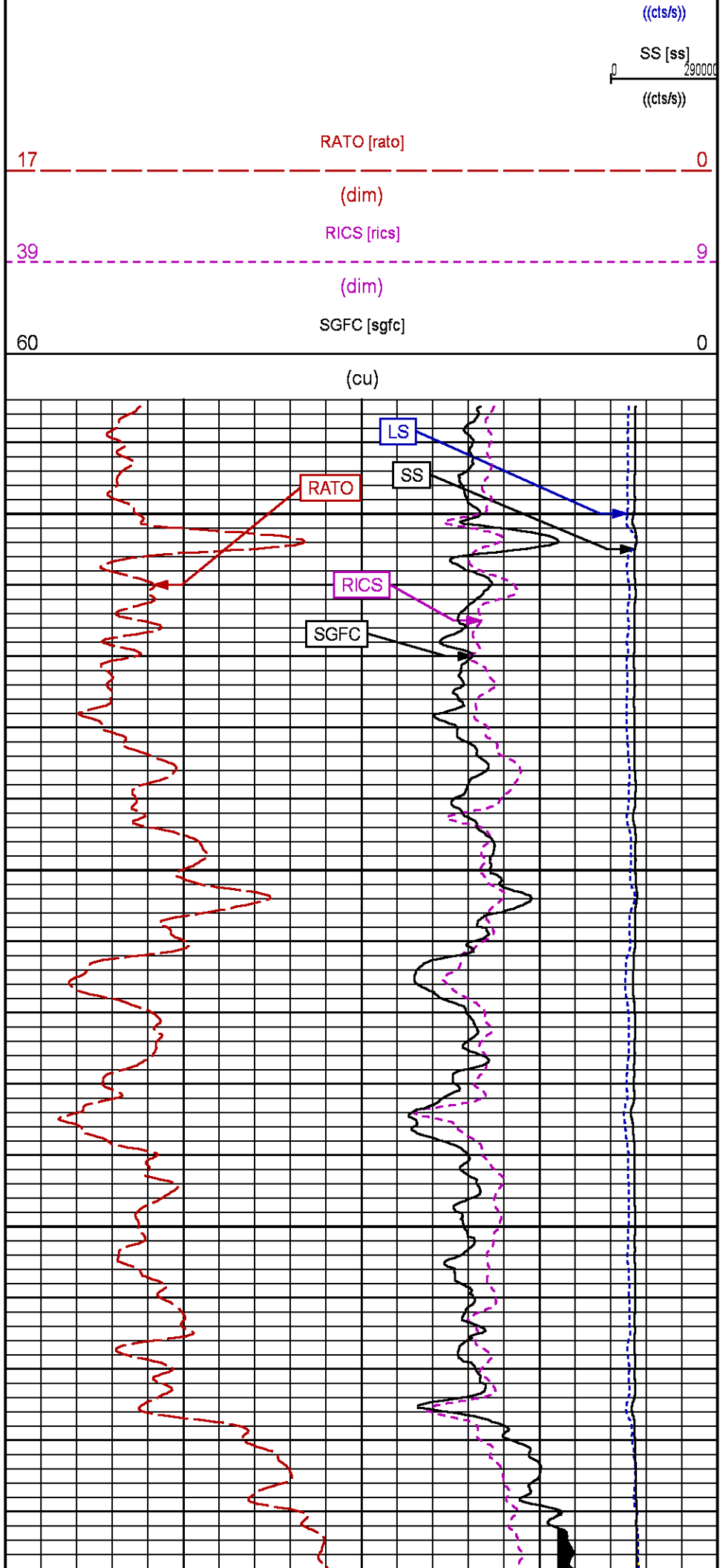
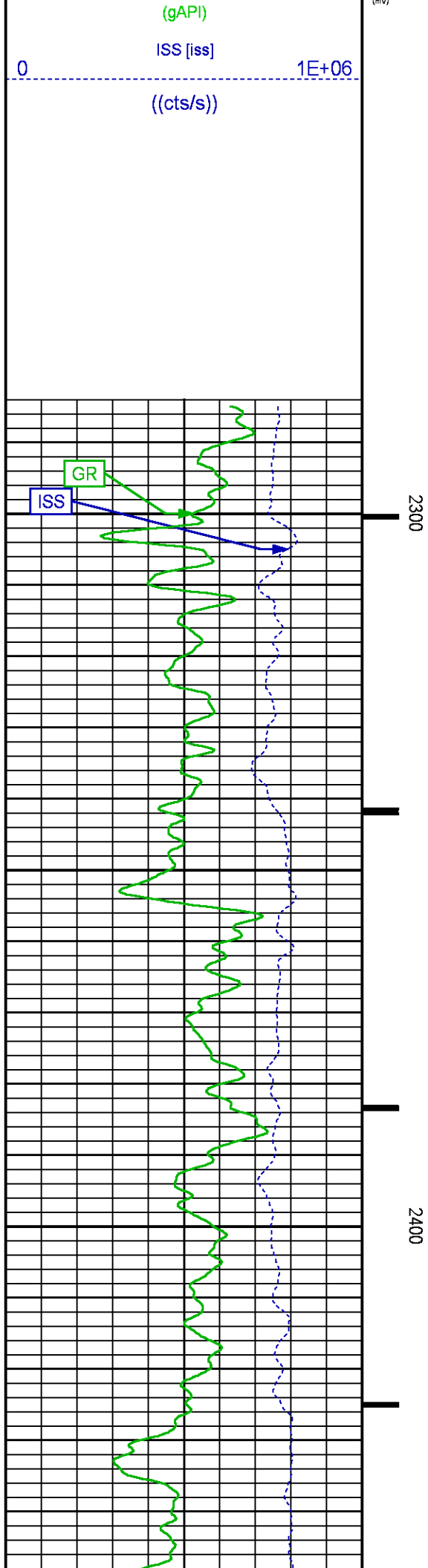
GR BACKUP

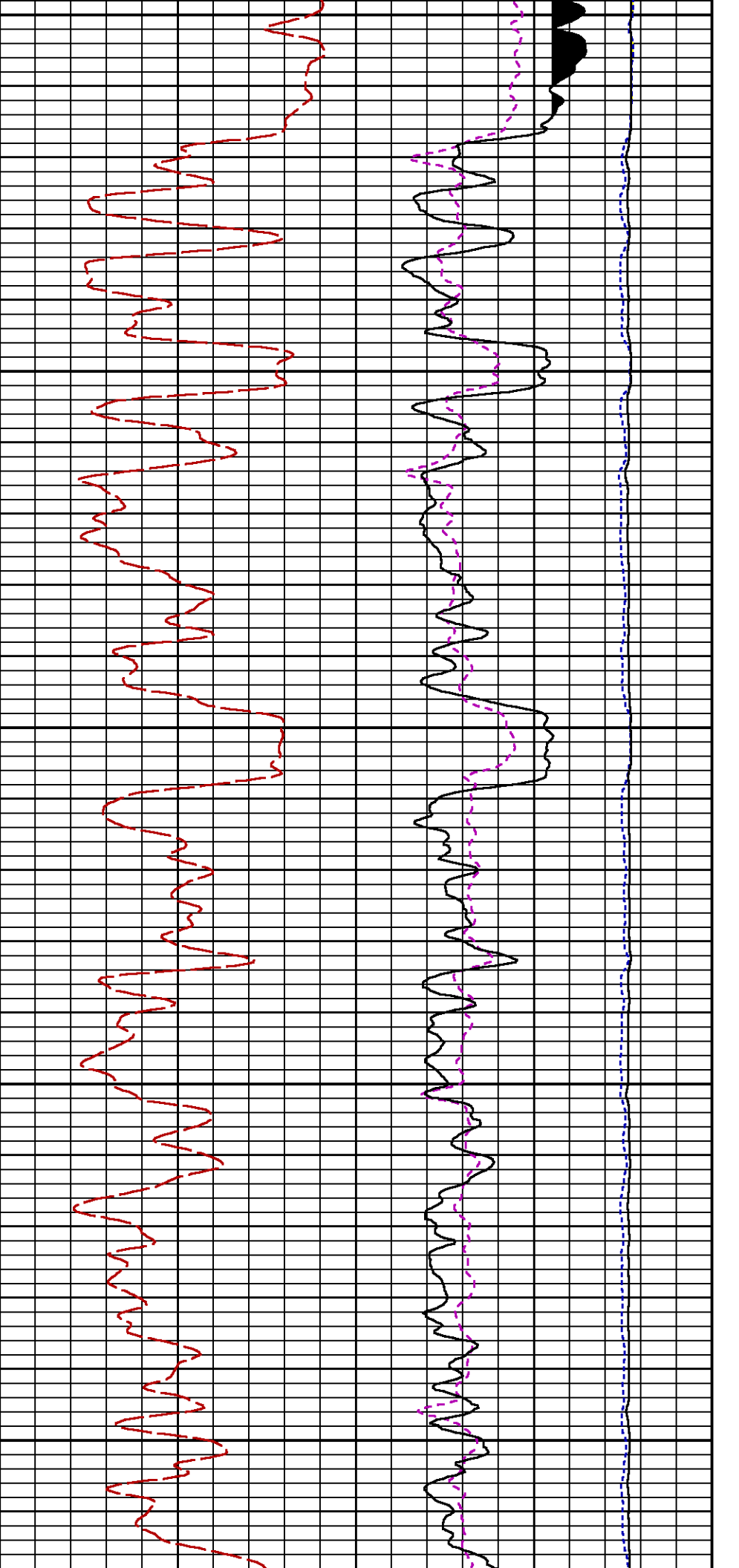
GAMMA RAY [gr]

FEET

LS [ls]

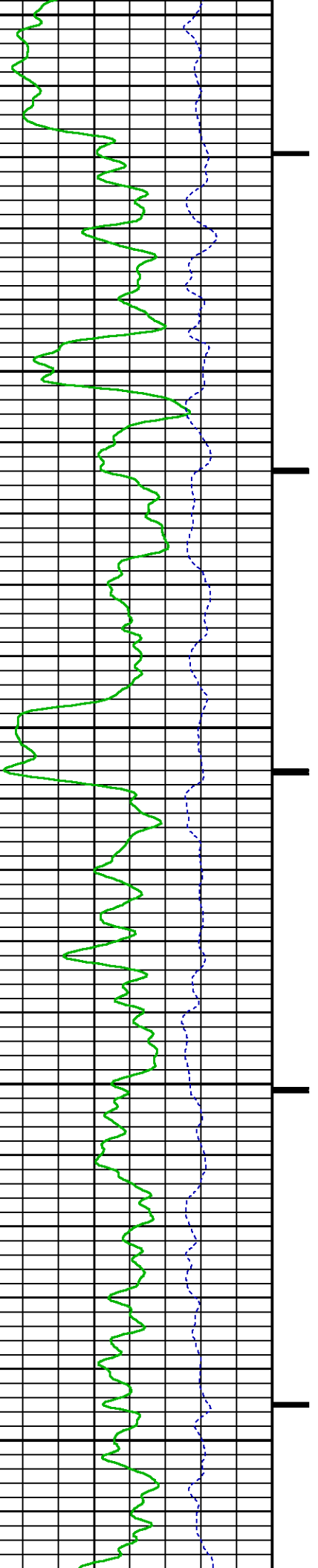
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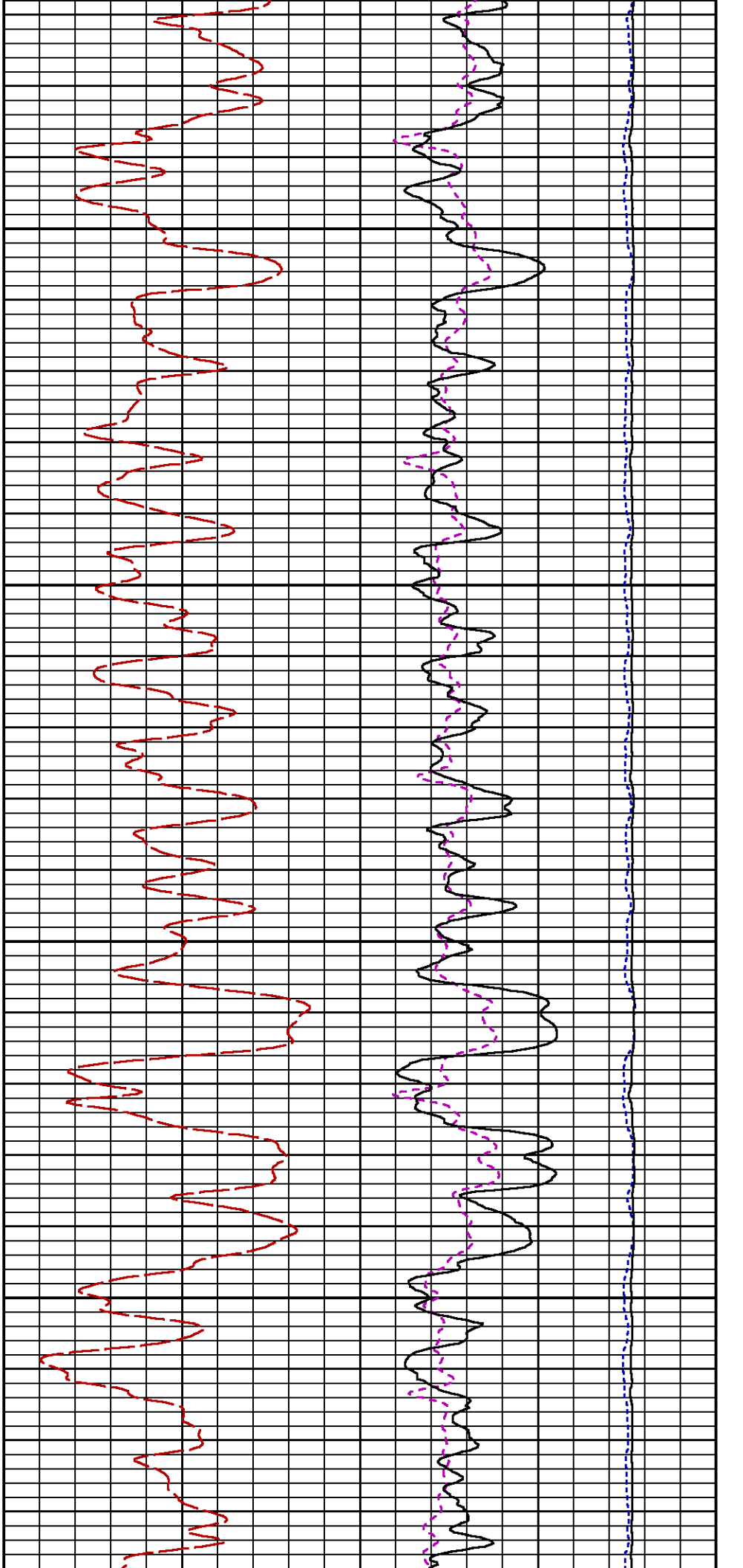




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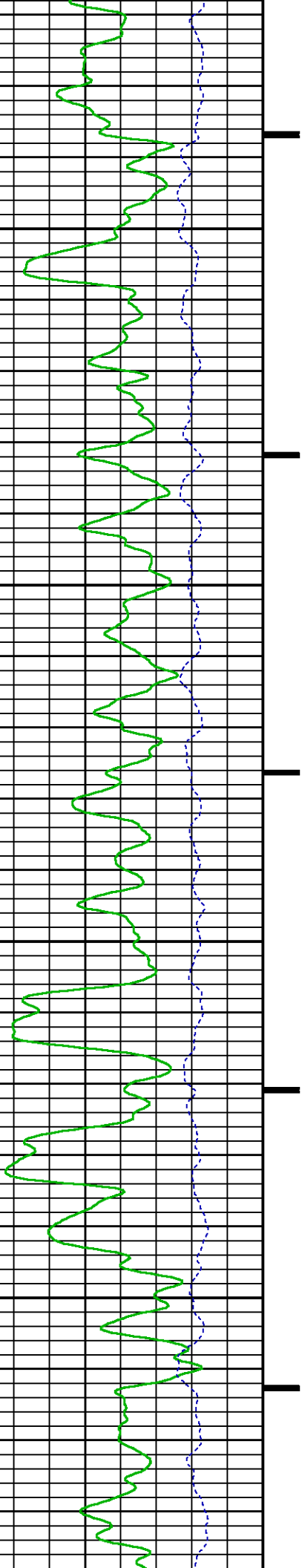
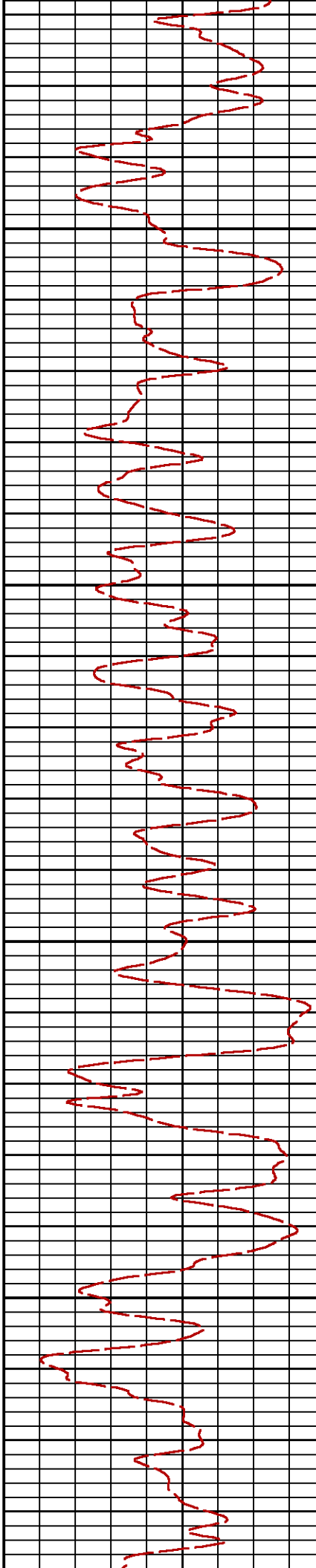
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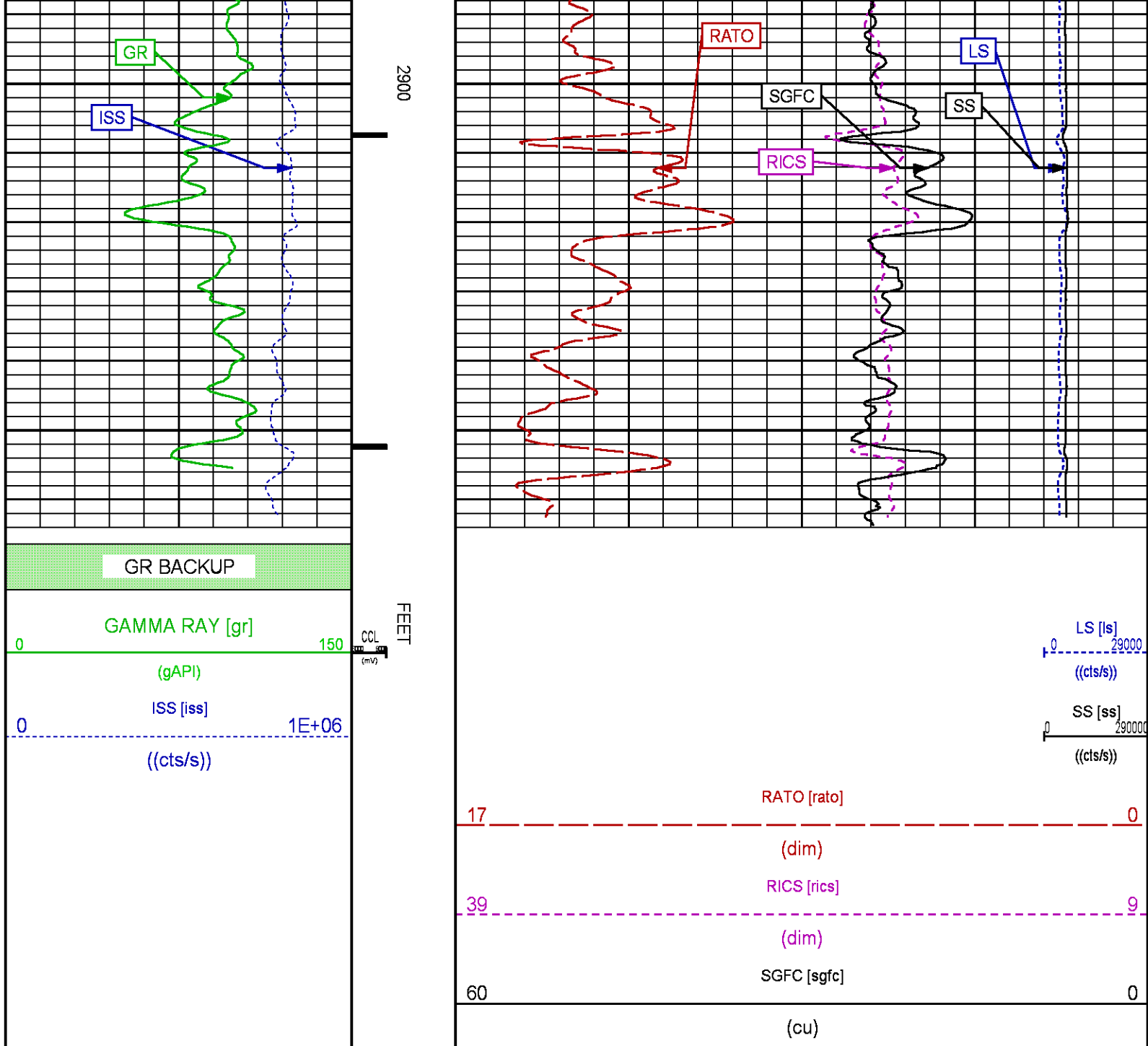




2700

2800





MAIN PASS 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: Tue Jan 23 16:11:59 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_08E/p353h03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4118.500 ft BOTTOM DEPTH: 7448.750 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	8.50	in	"	"
	LARGEST CASING OD	7.00	in	"	"
	MATRIX	SANDSTONE		"	"

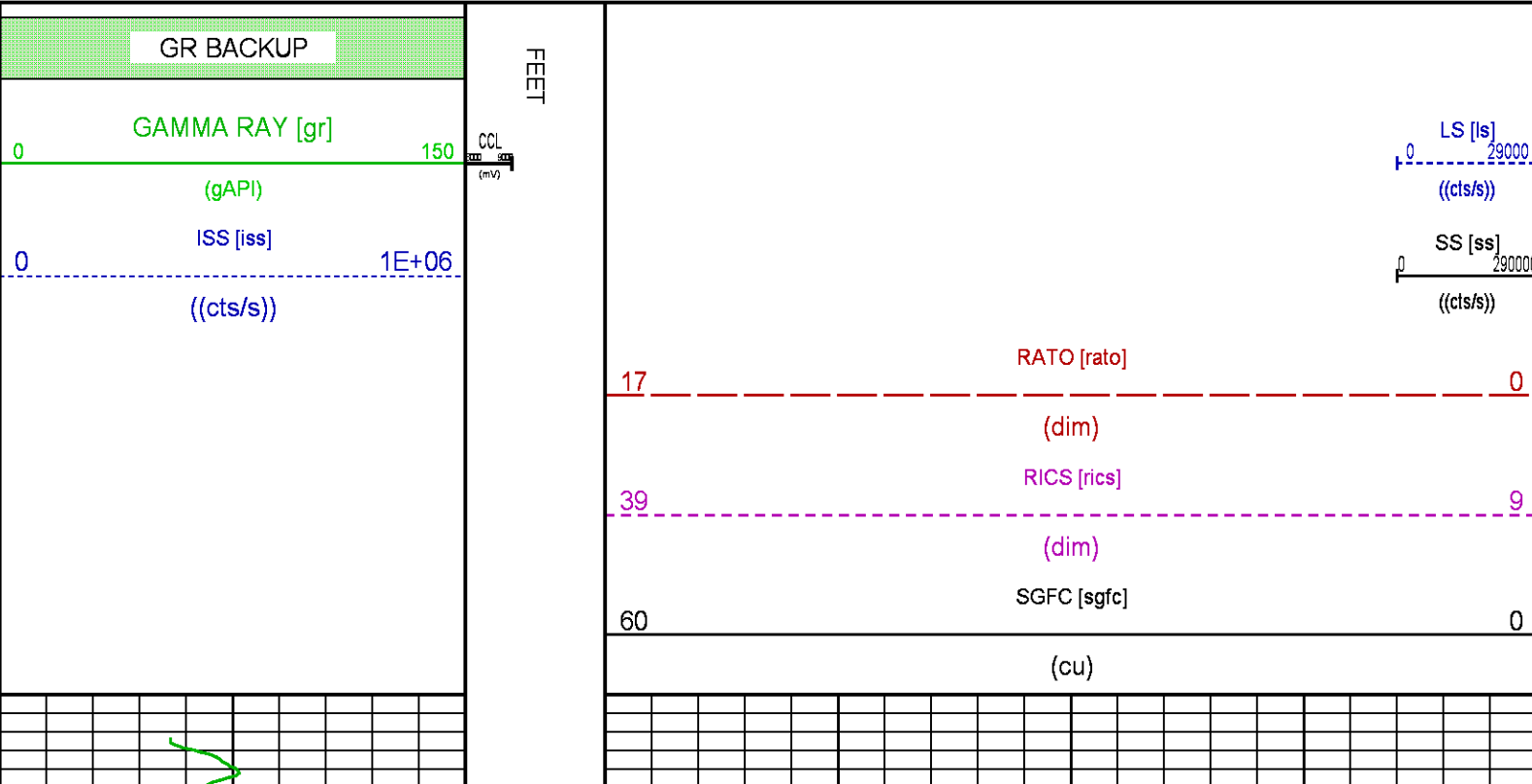
CURVE DESCRIPTION REPORT

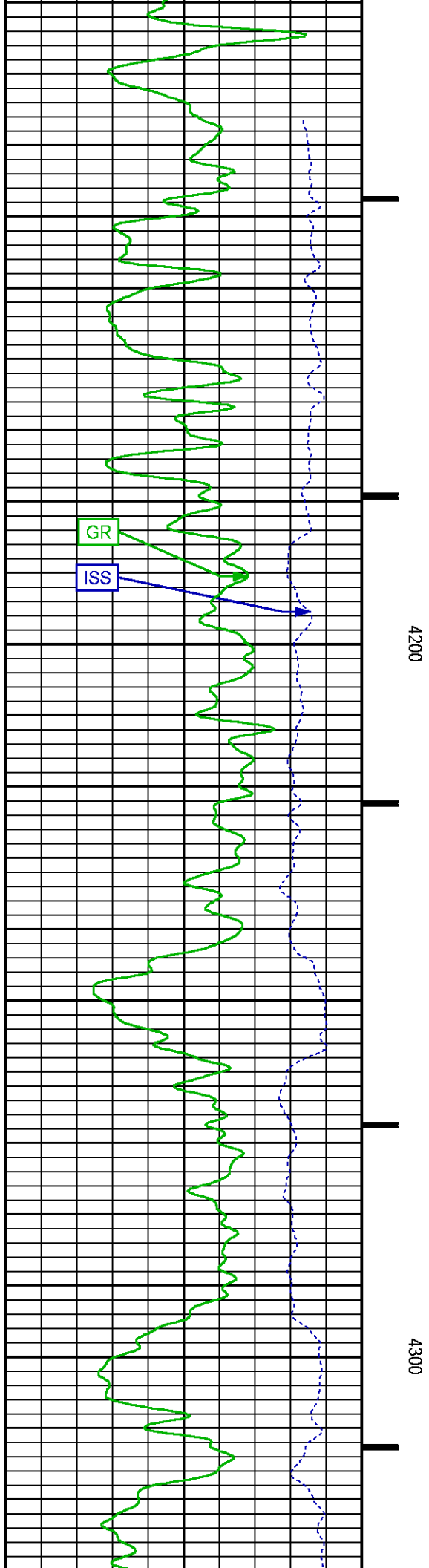
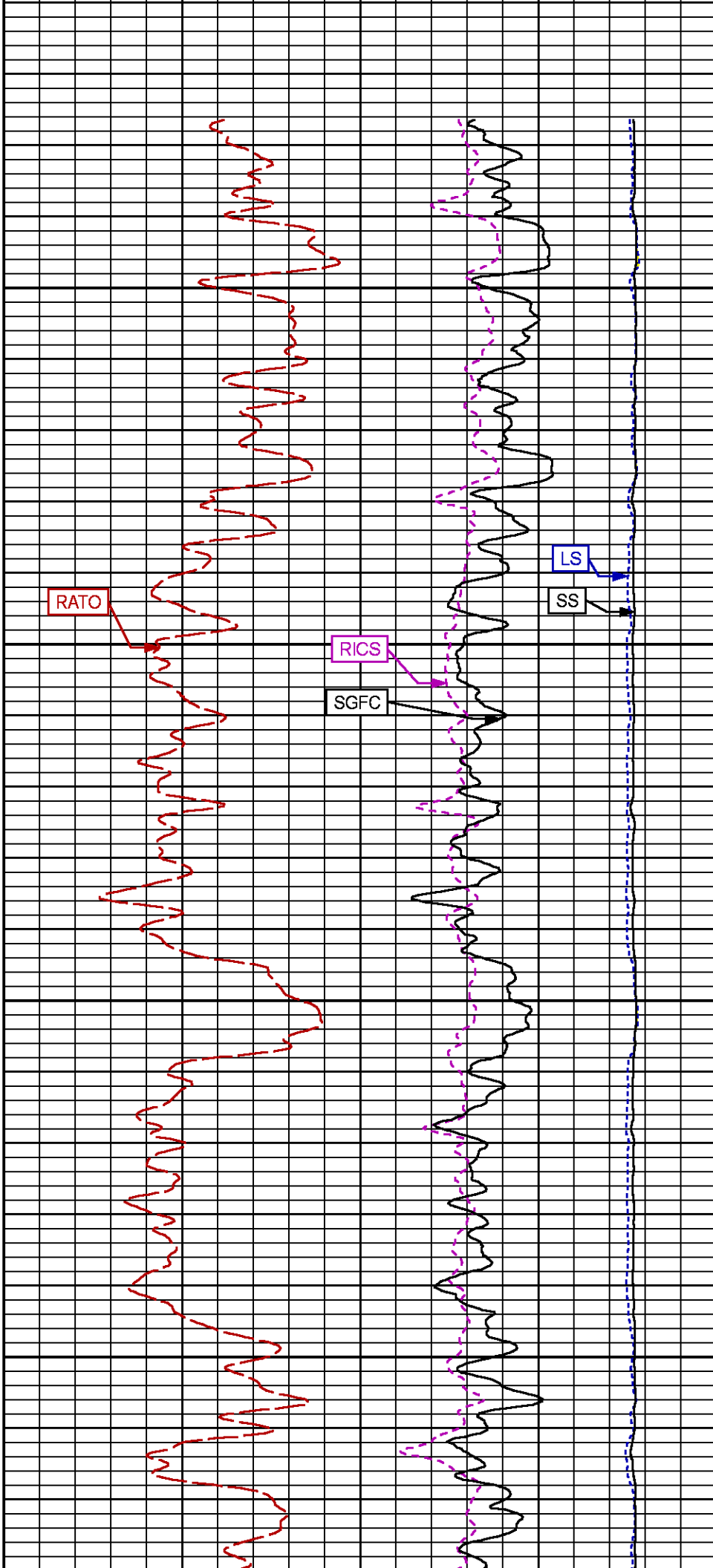
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A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

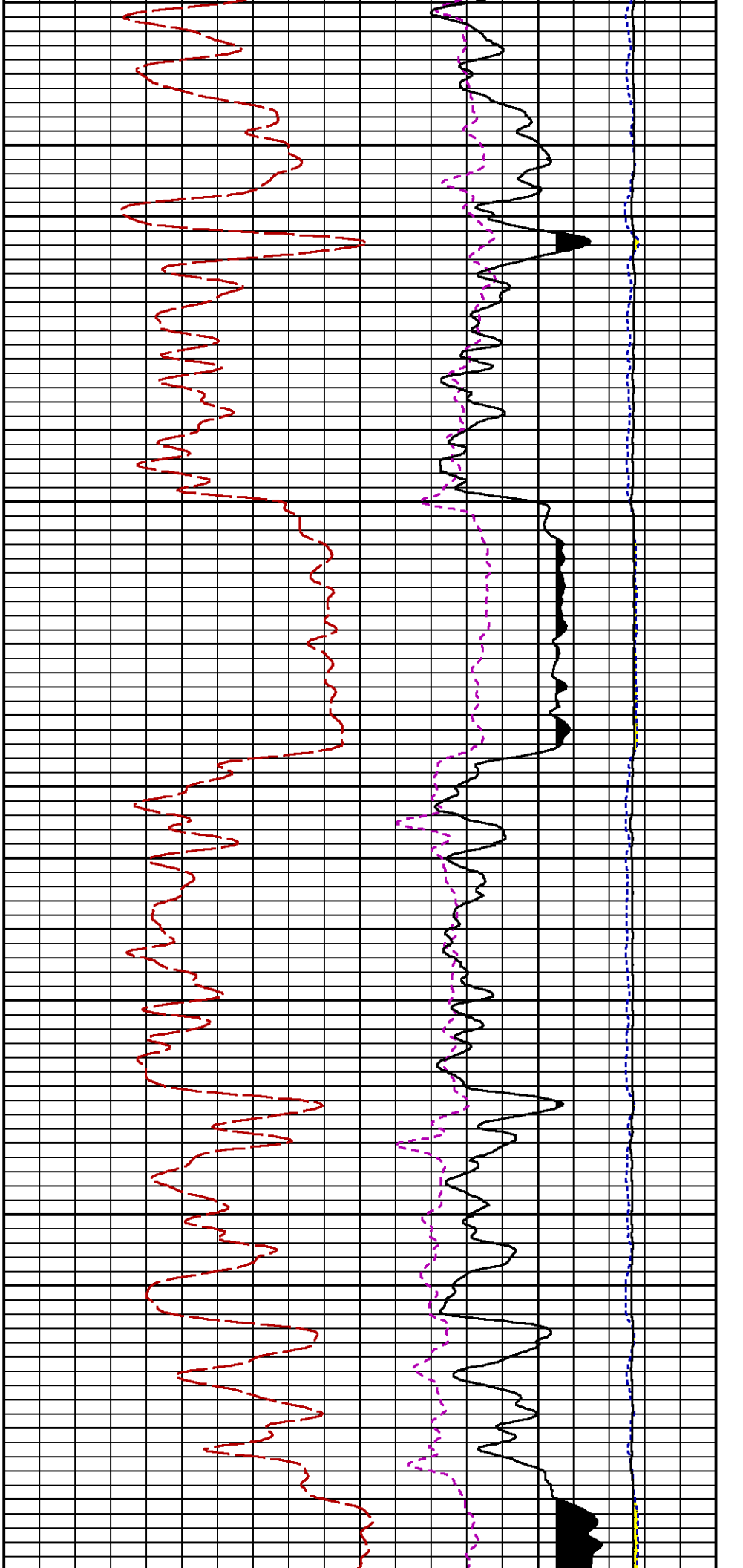
CURVE MEASURE POINT OFFSET

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_24_08E/LARAMIE_RPM+01-MAIN-RPM_MN_WF_08E-5.fvpdf [5"/100' Scale]
Plot Interval	: 4100.5 - 7446.75 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_08E/RPM_MN_WF_08E.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: NICHOLS 0994-24-08E
Field	: VEGA
File Interval	: 4099.75 - 7455.5 Feet
OCT	: p353h

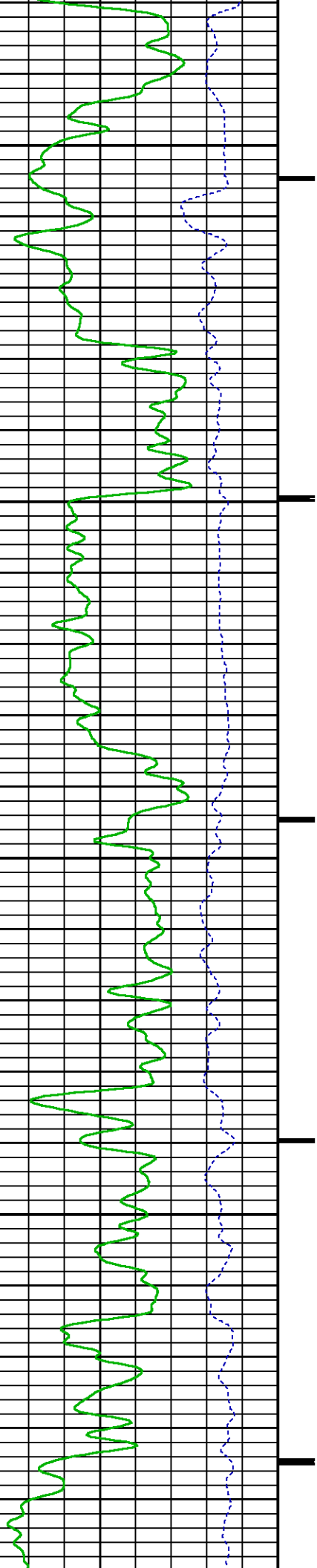


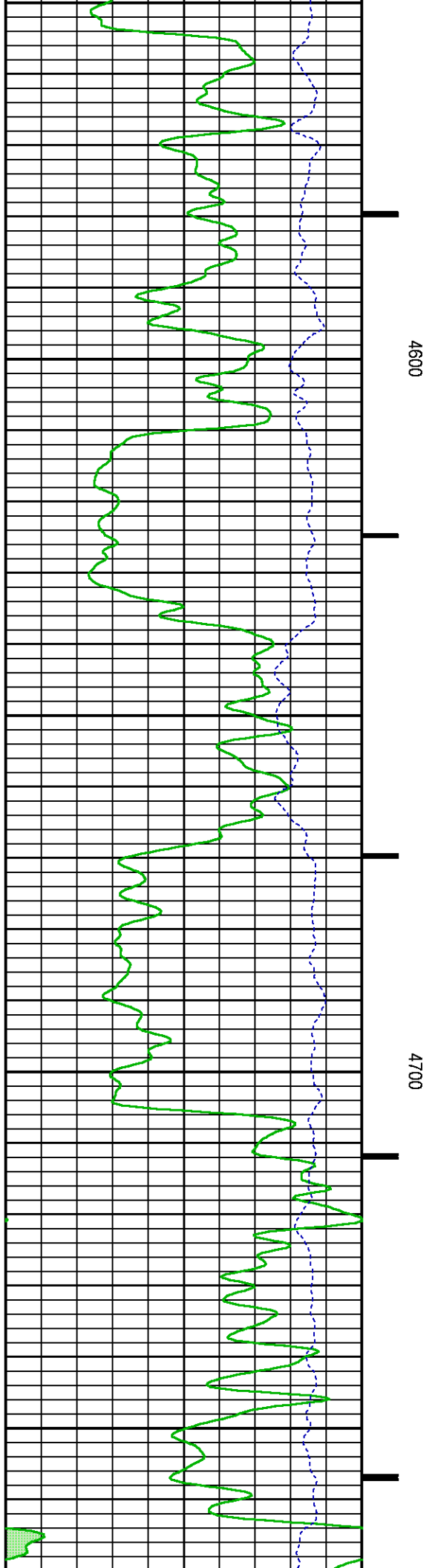
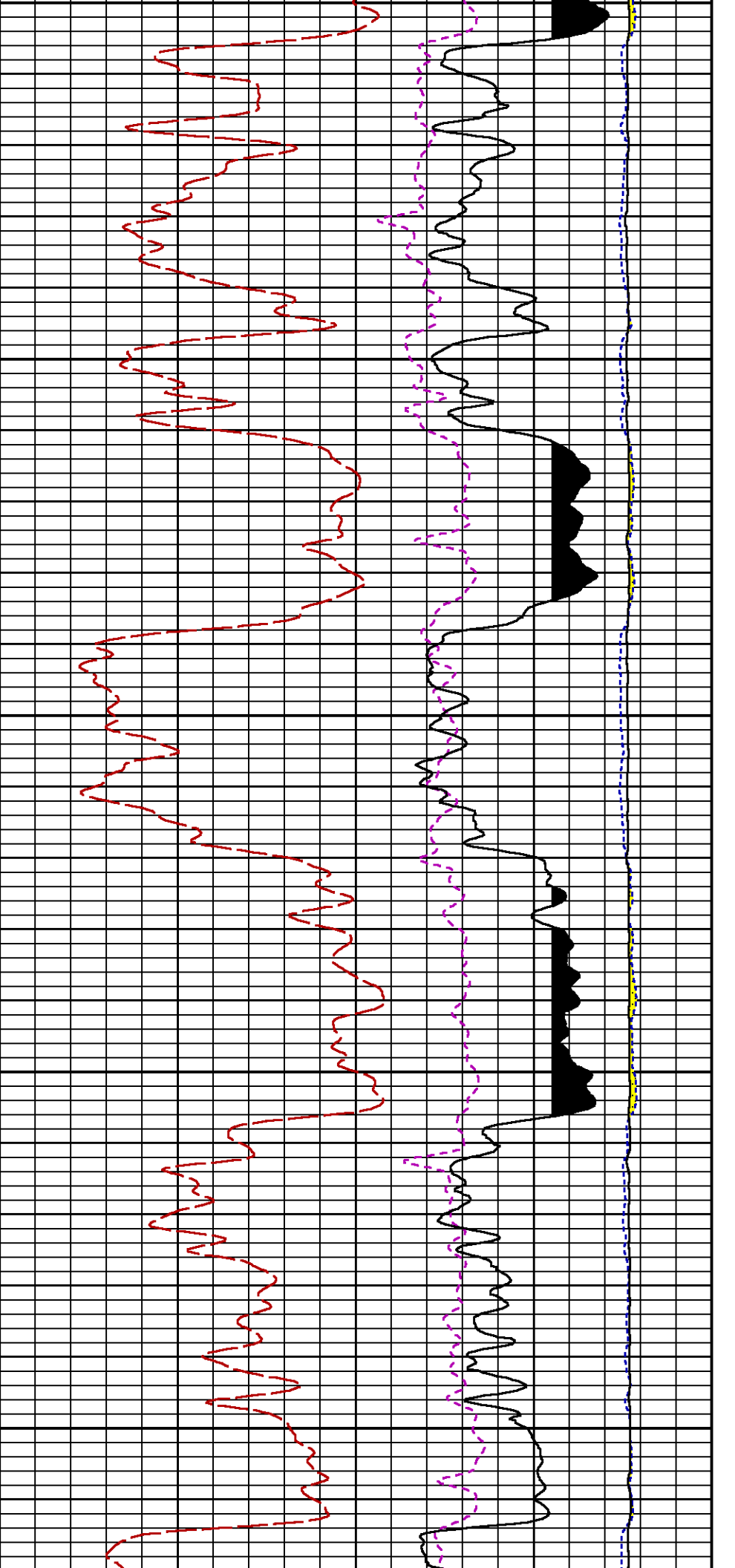


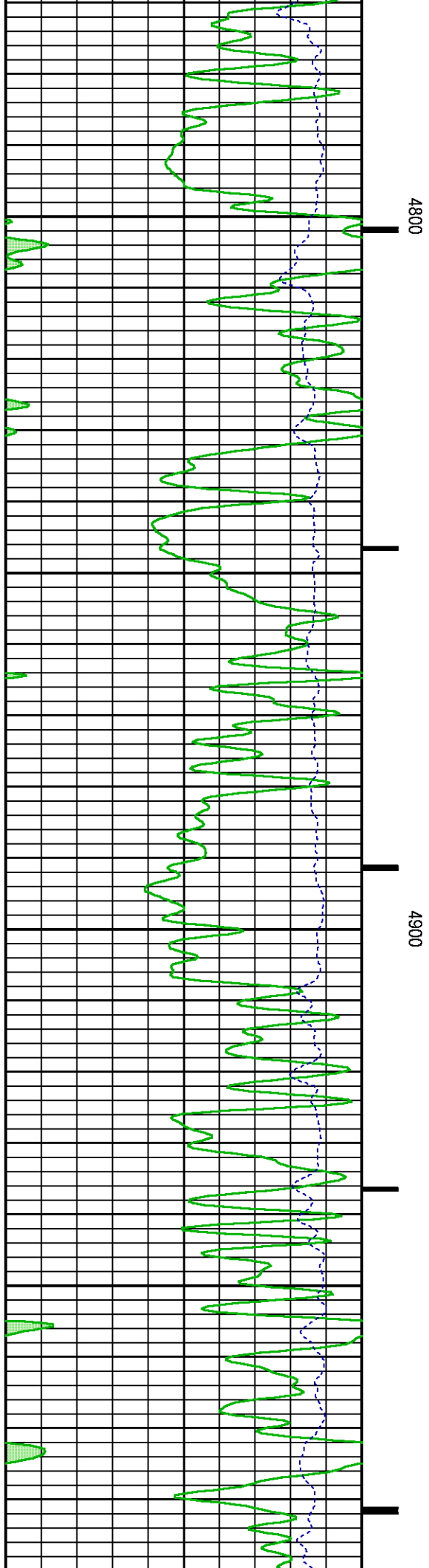
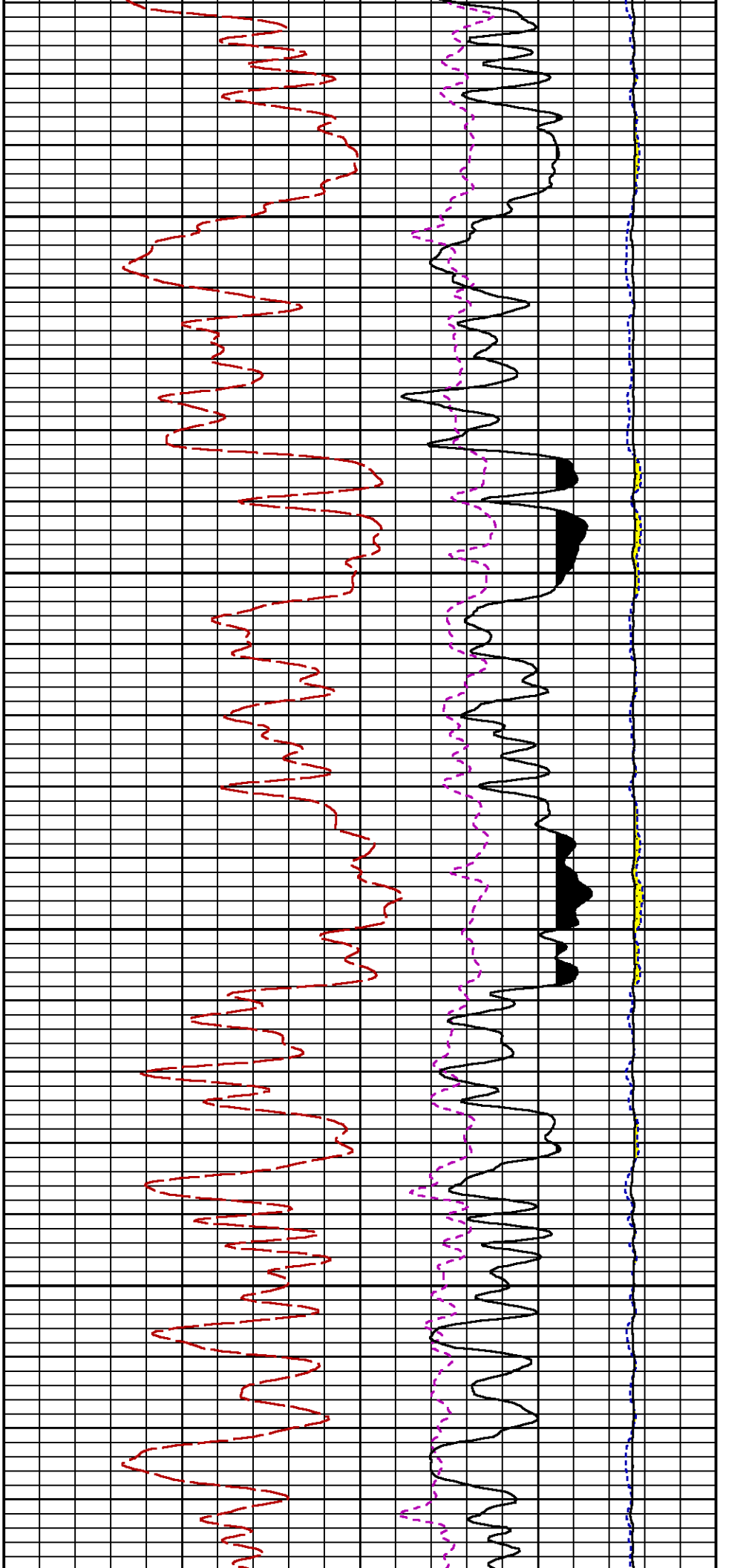


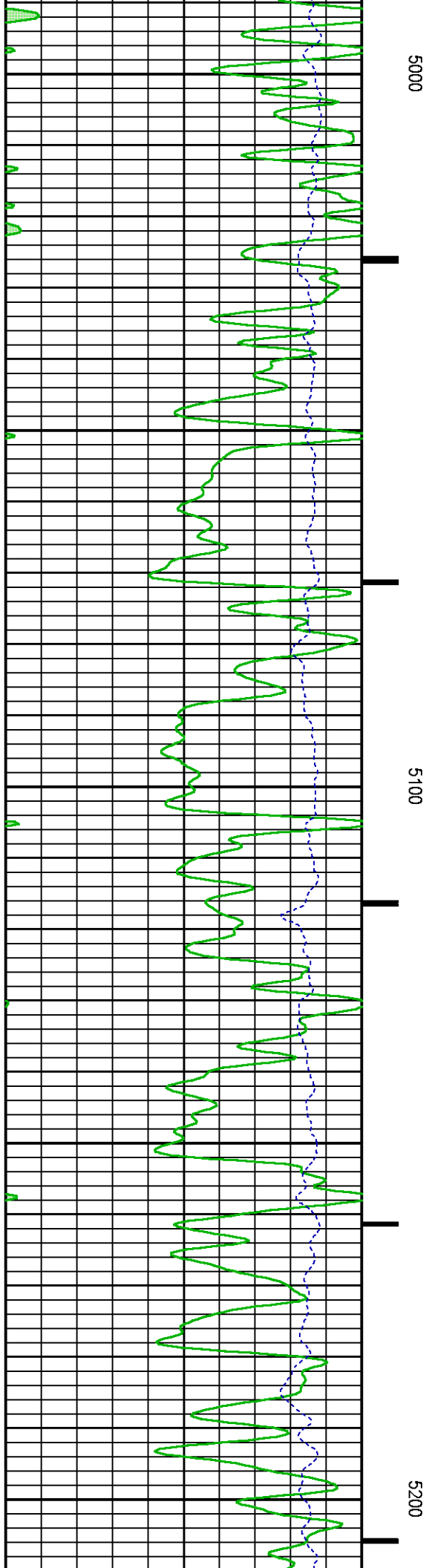
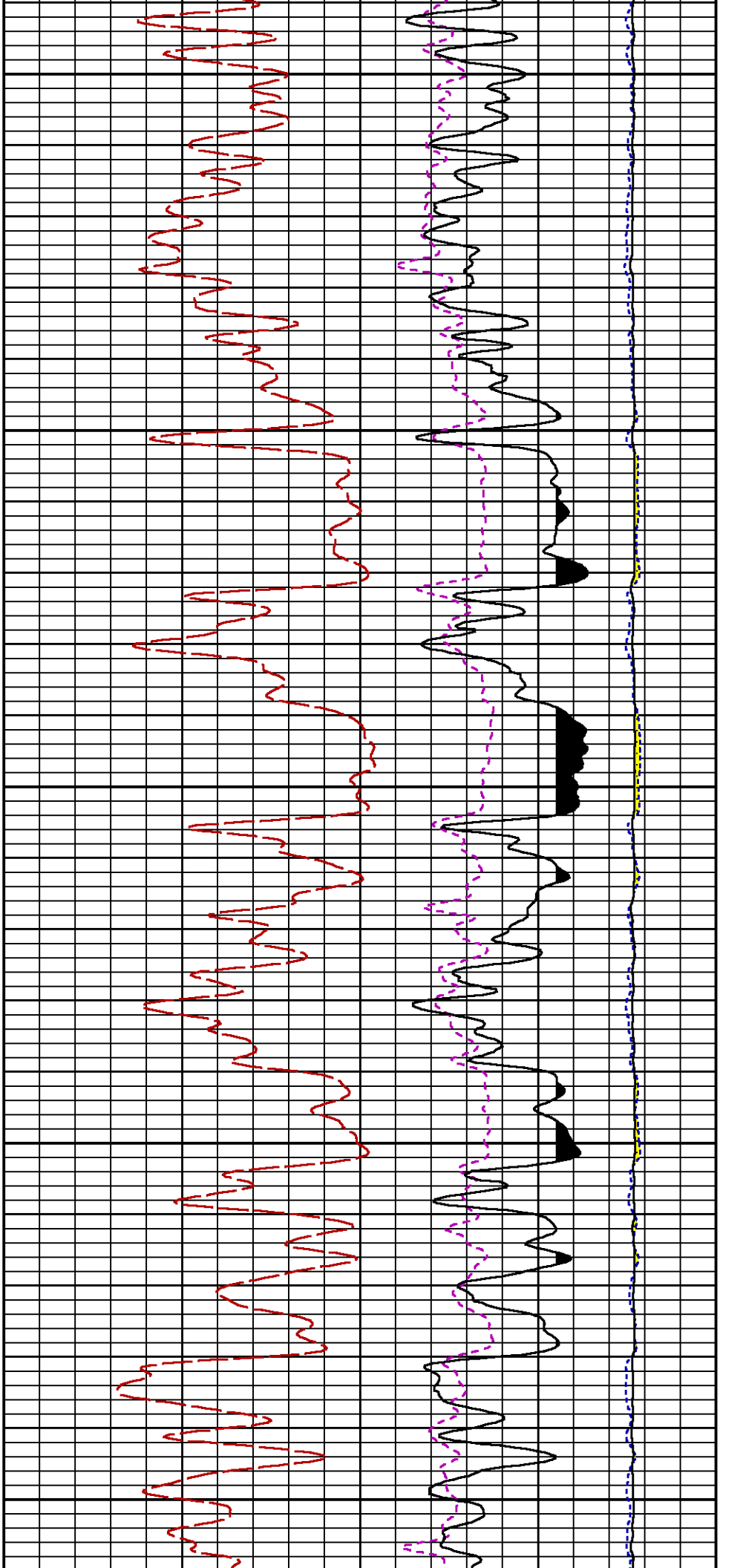
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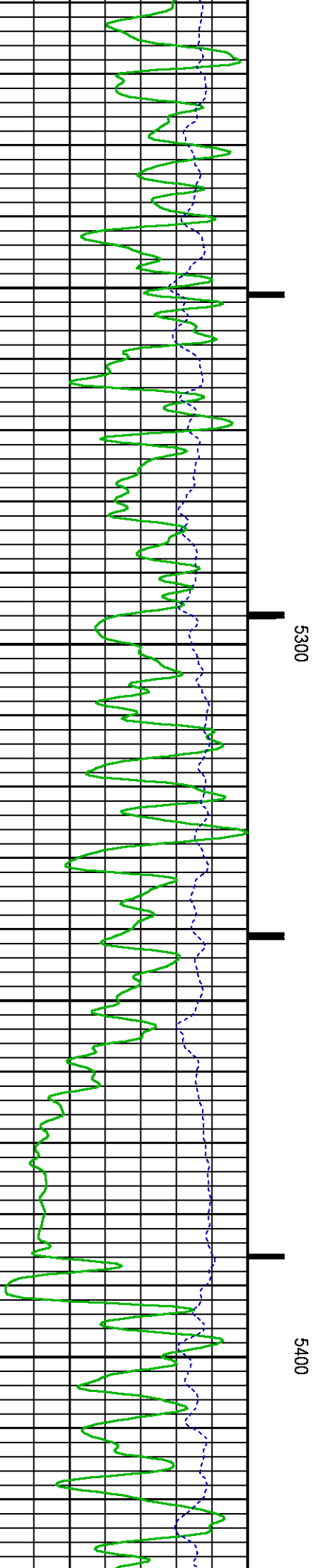
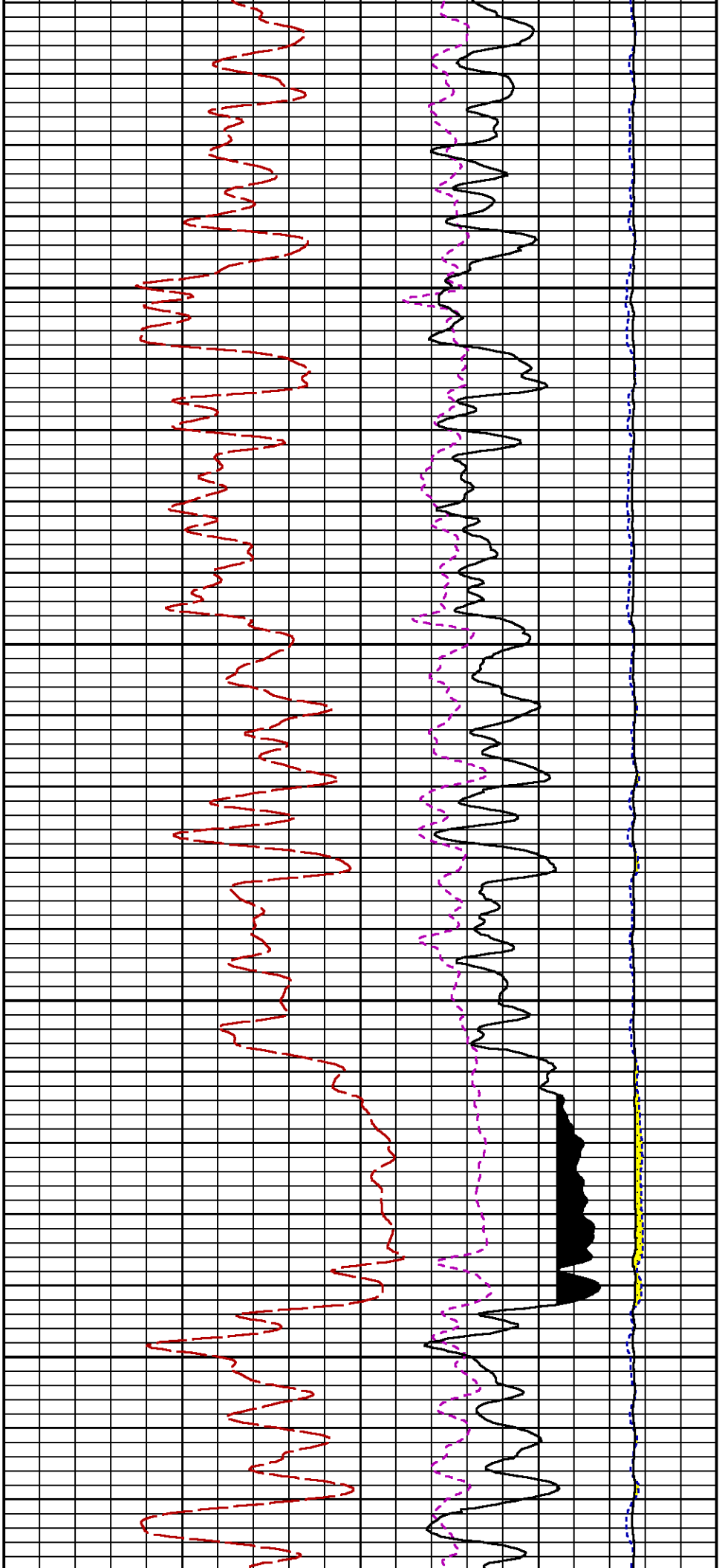
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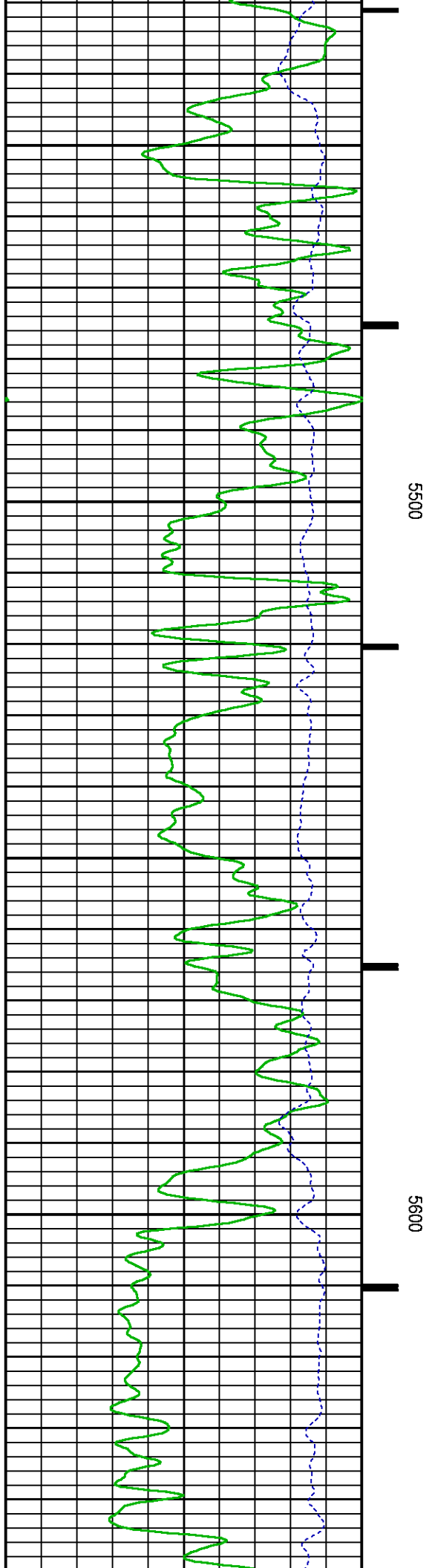
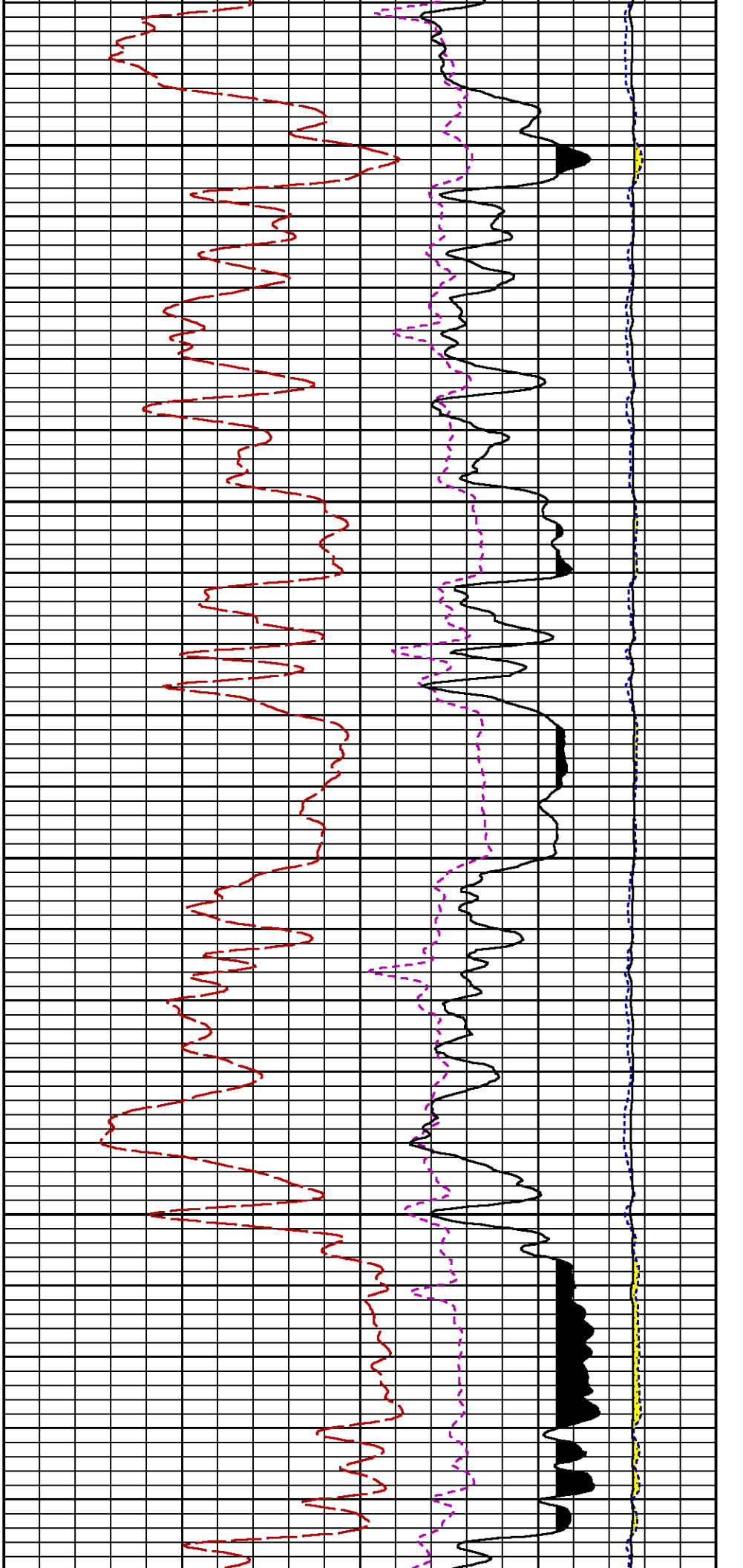


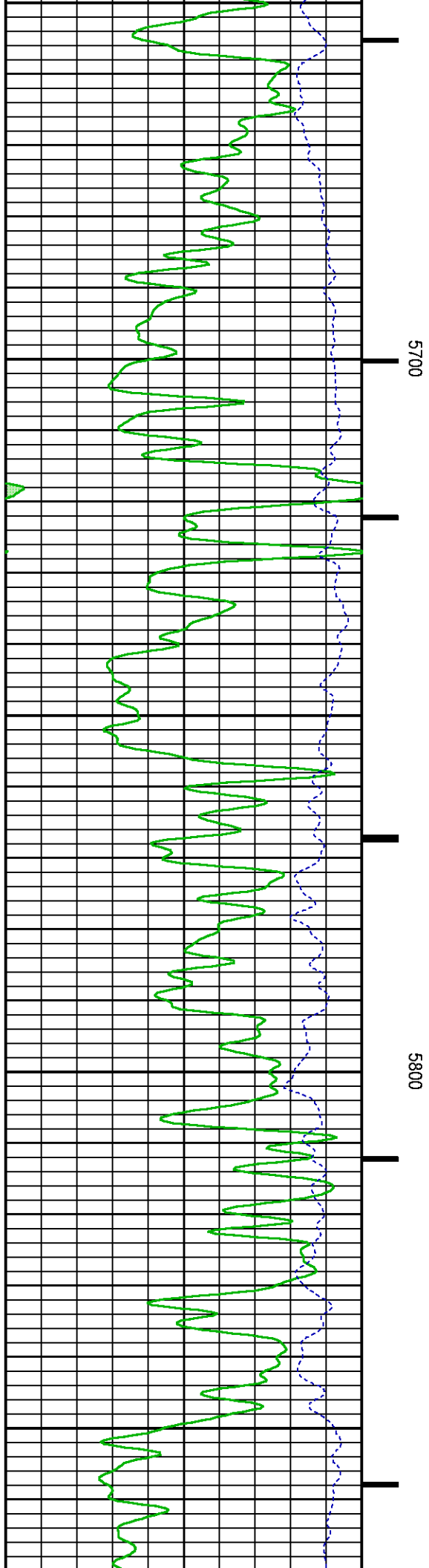
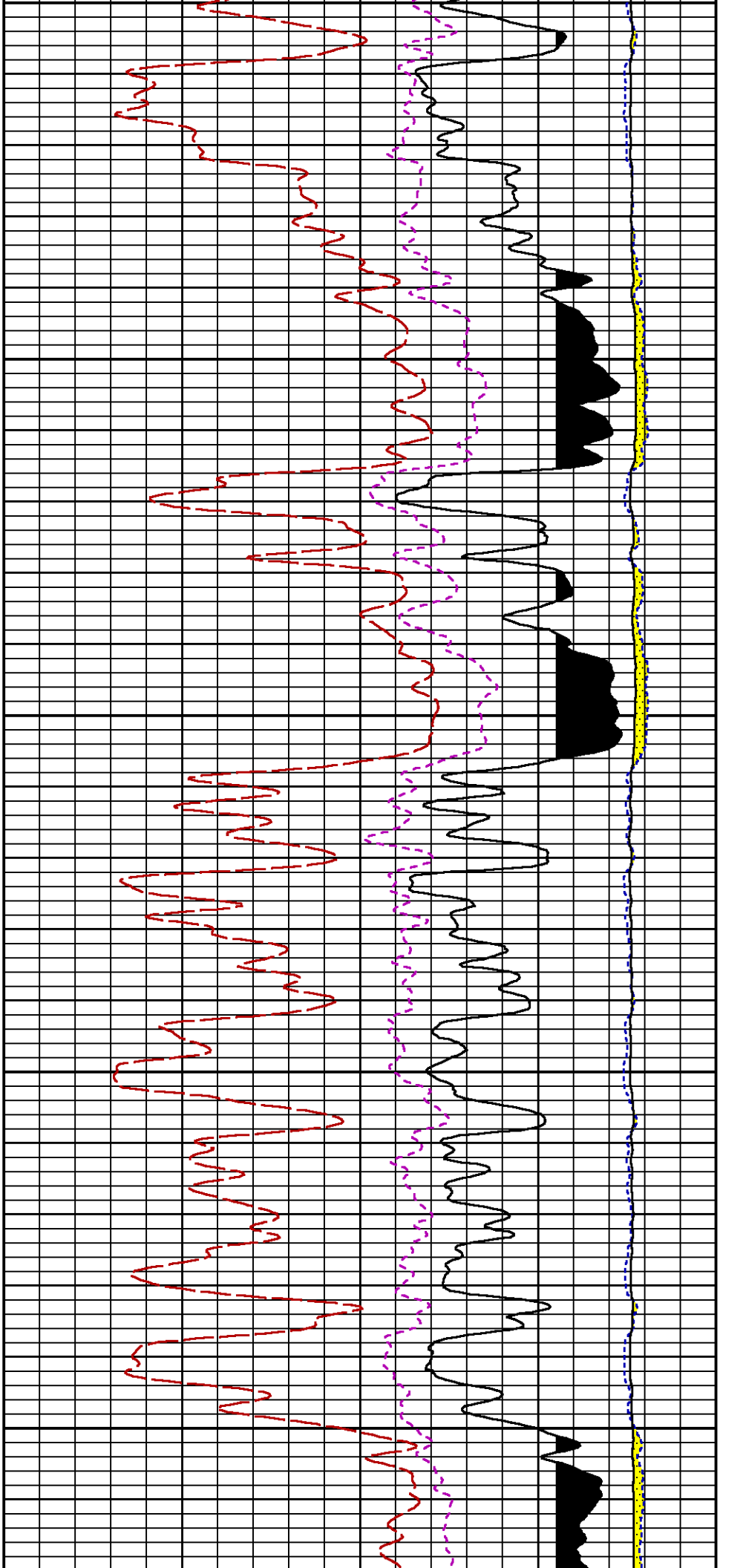


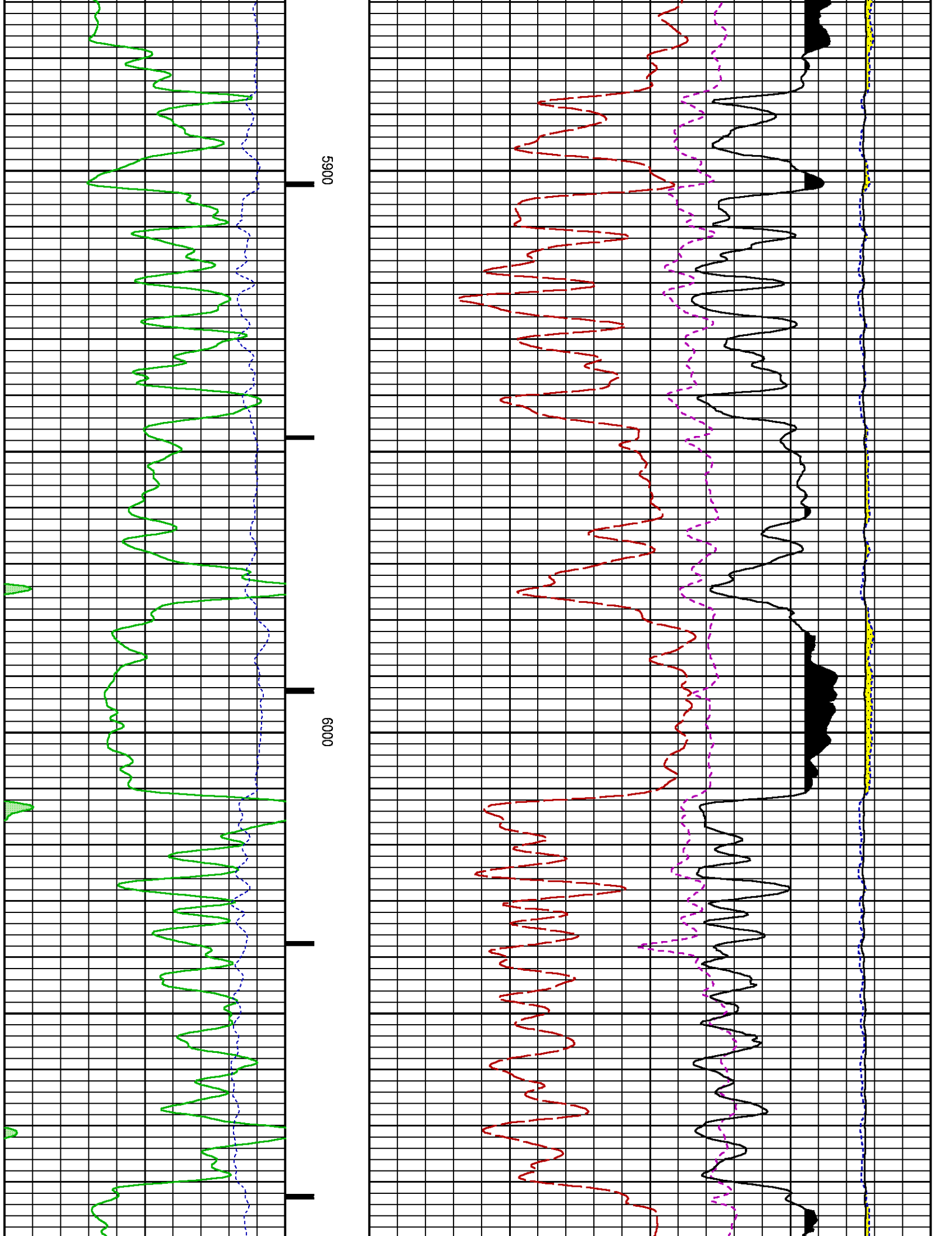


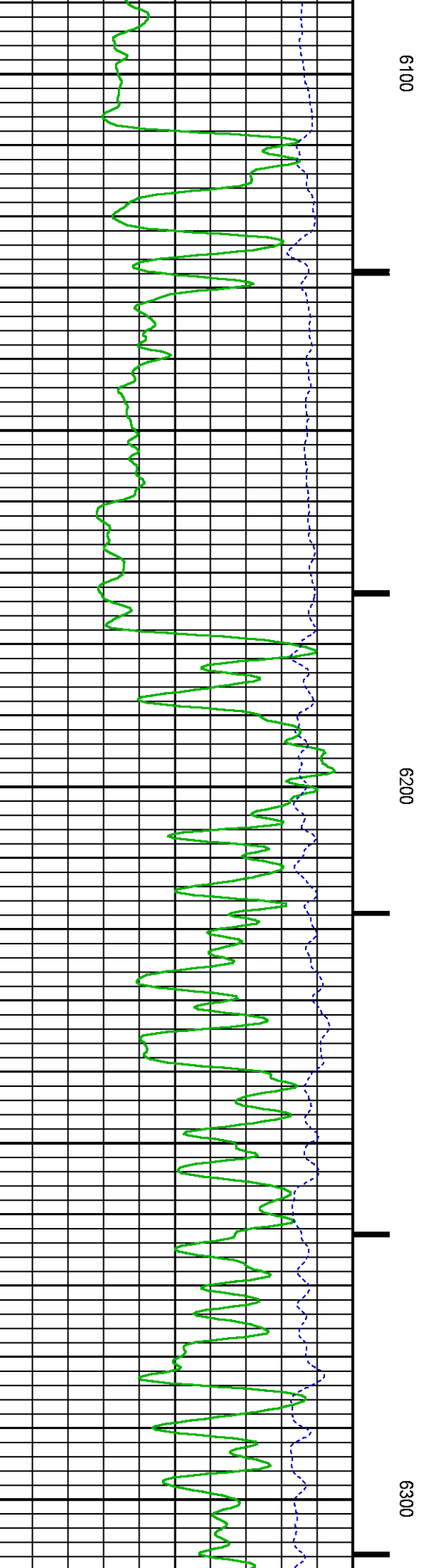
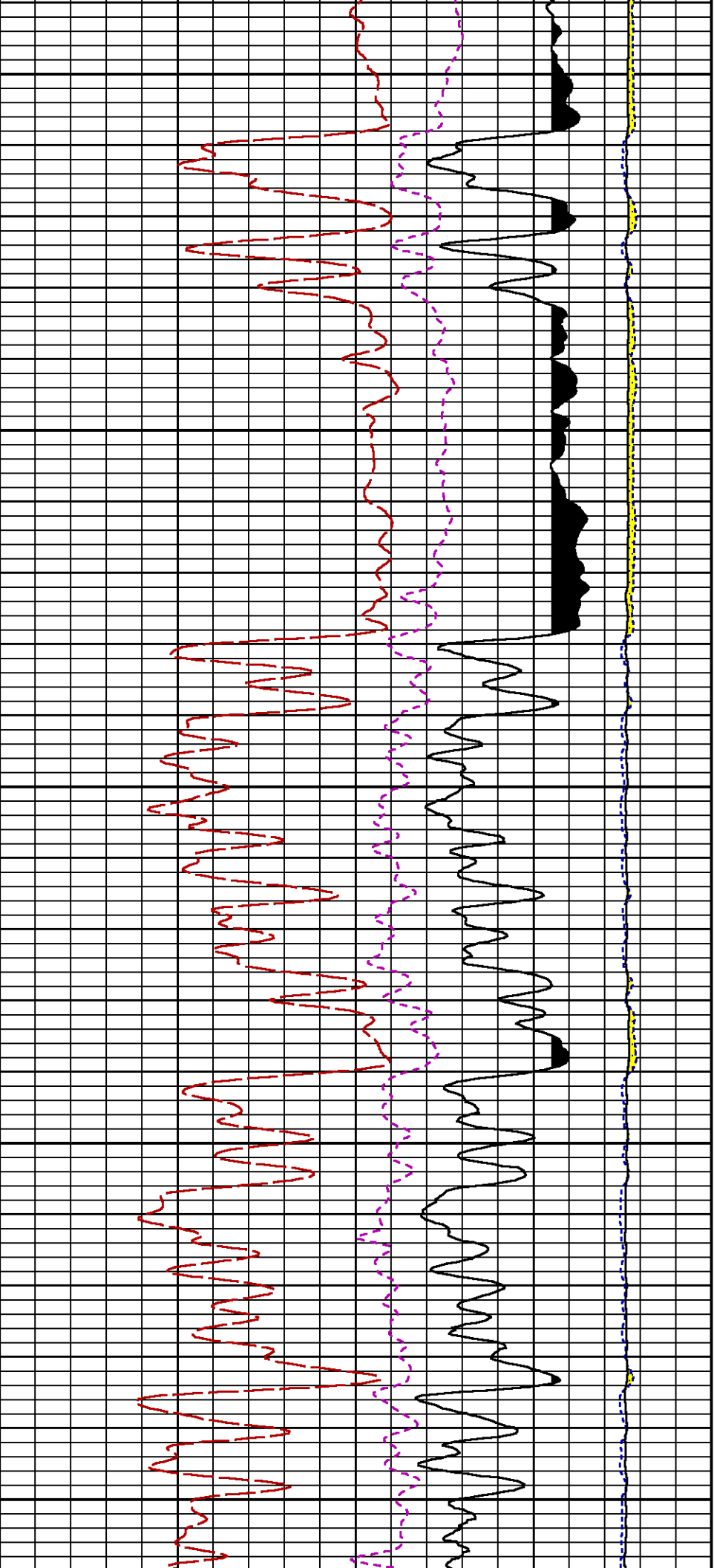


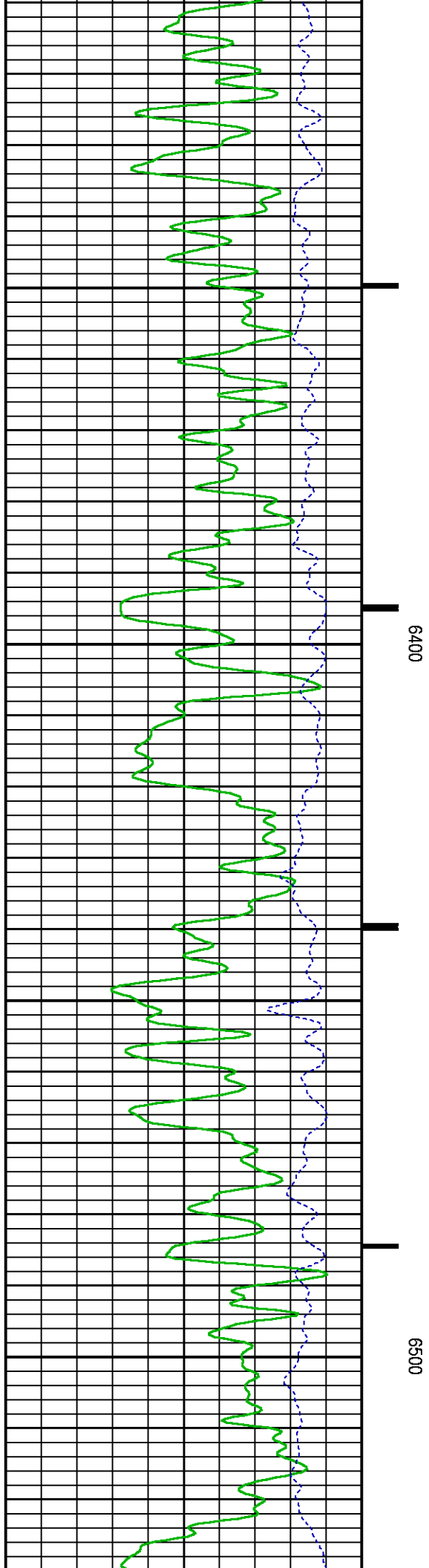
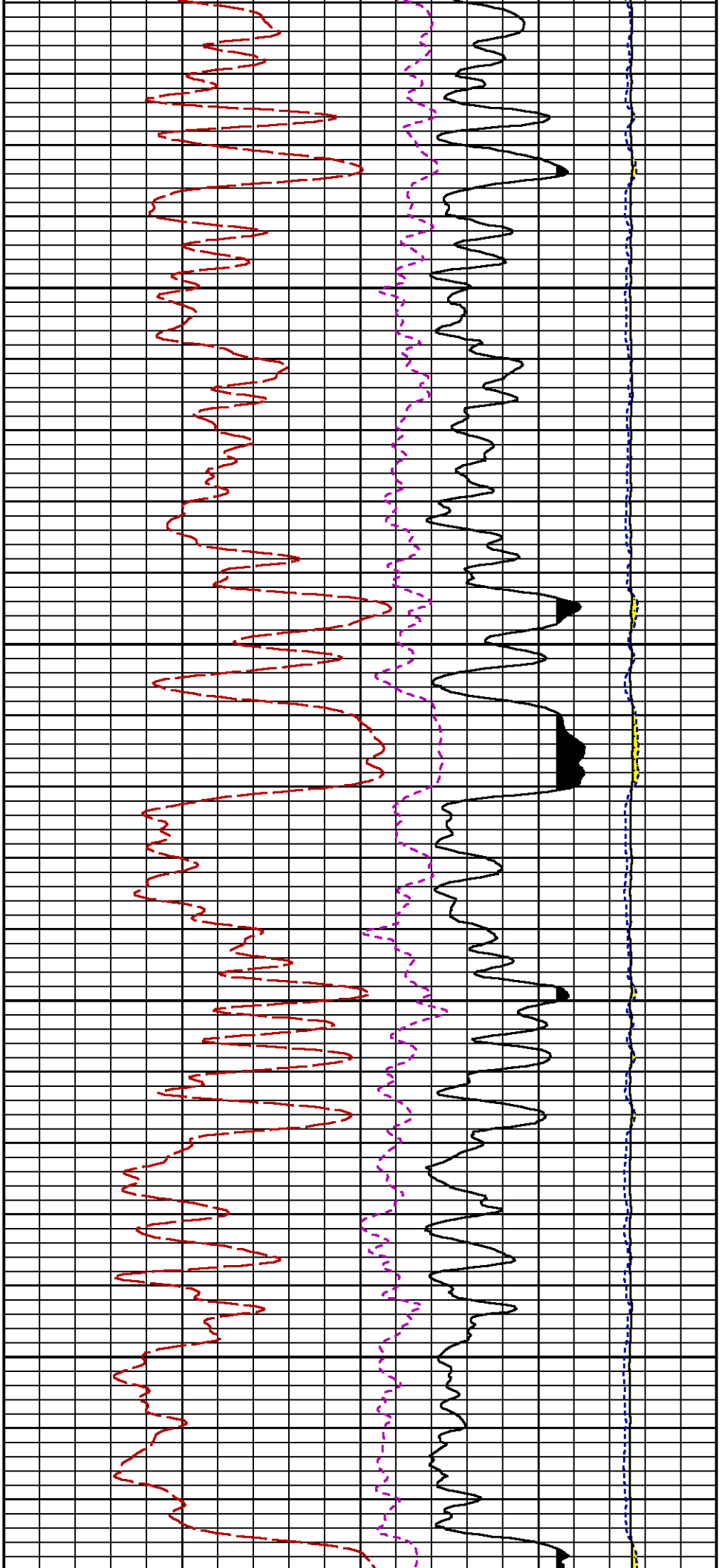


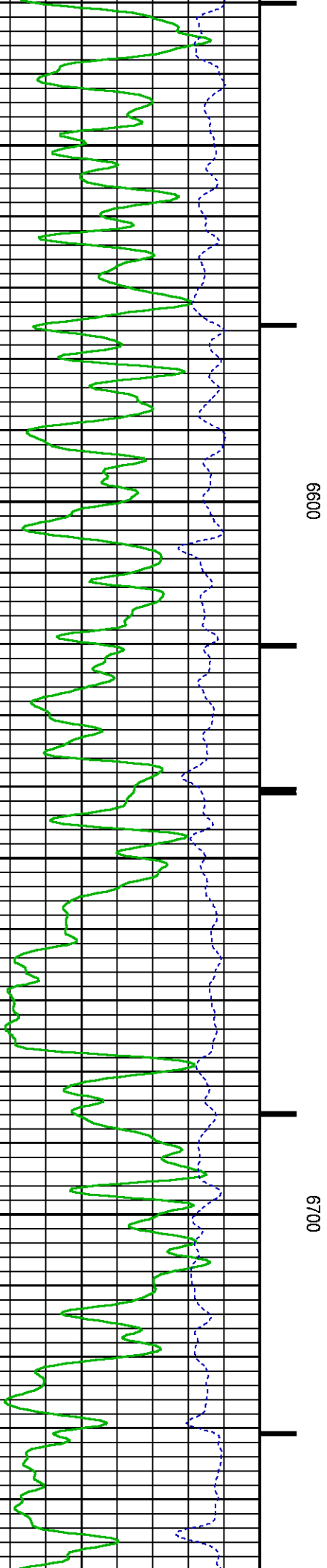
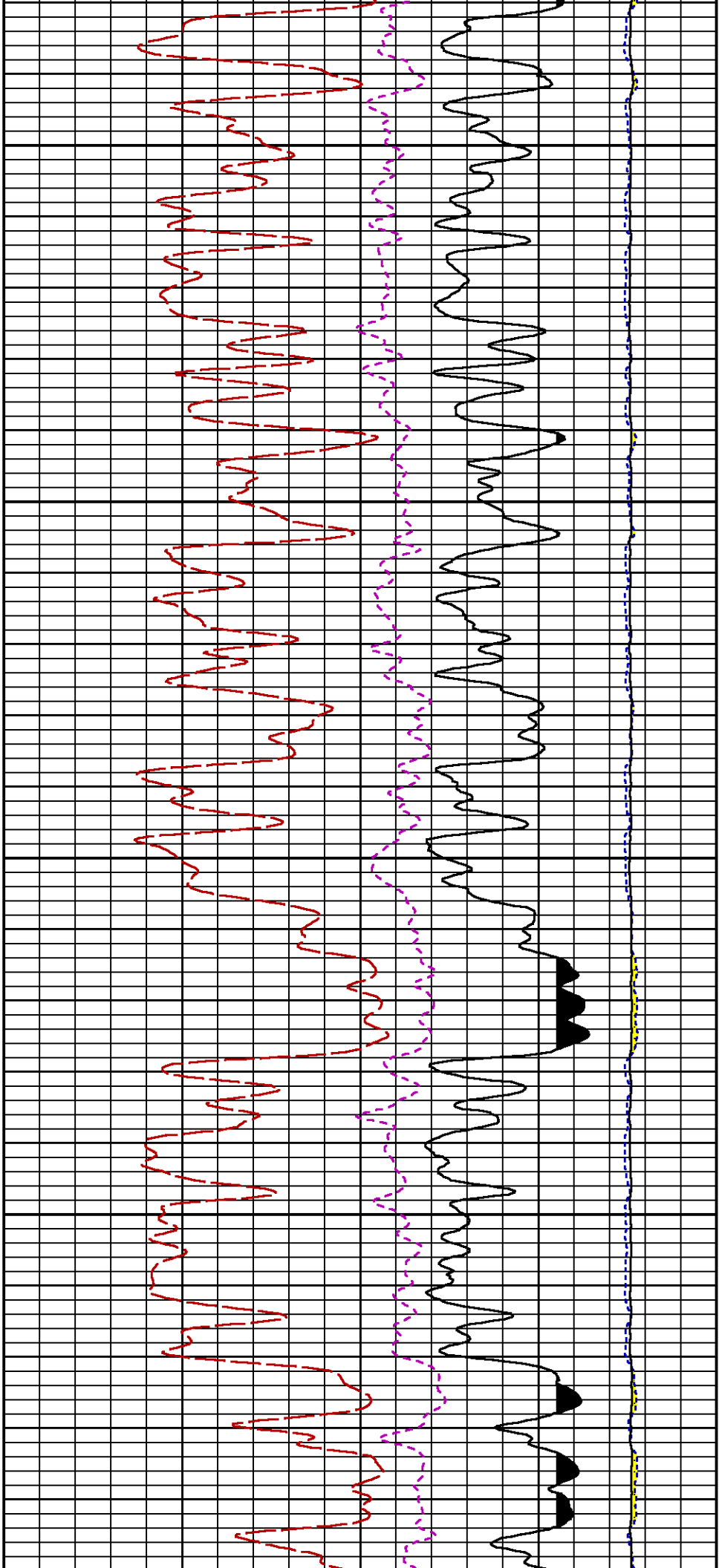


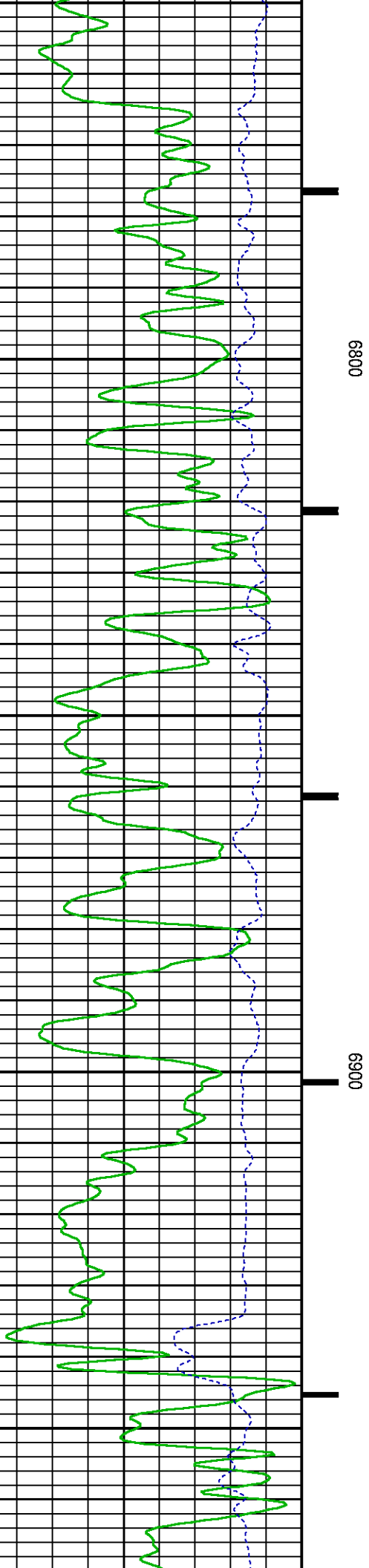
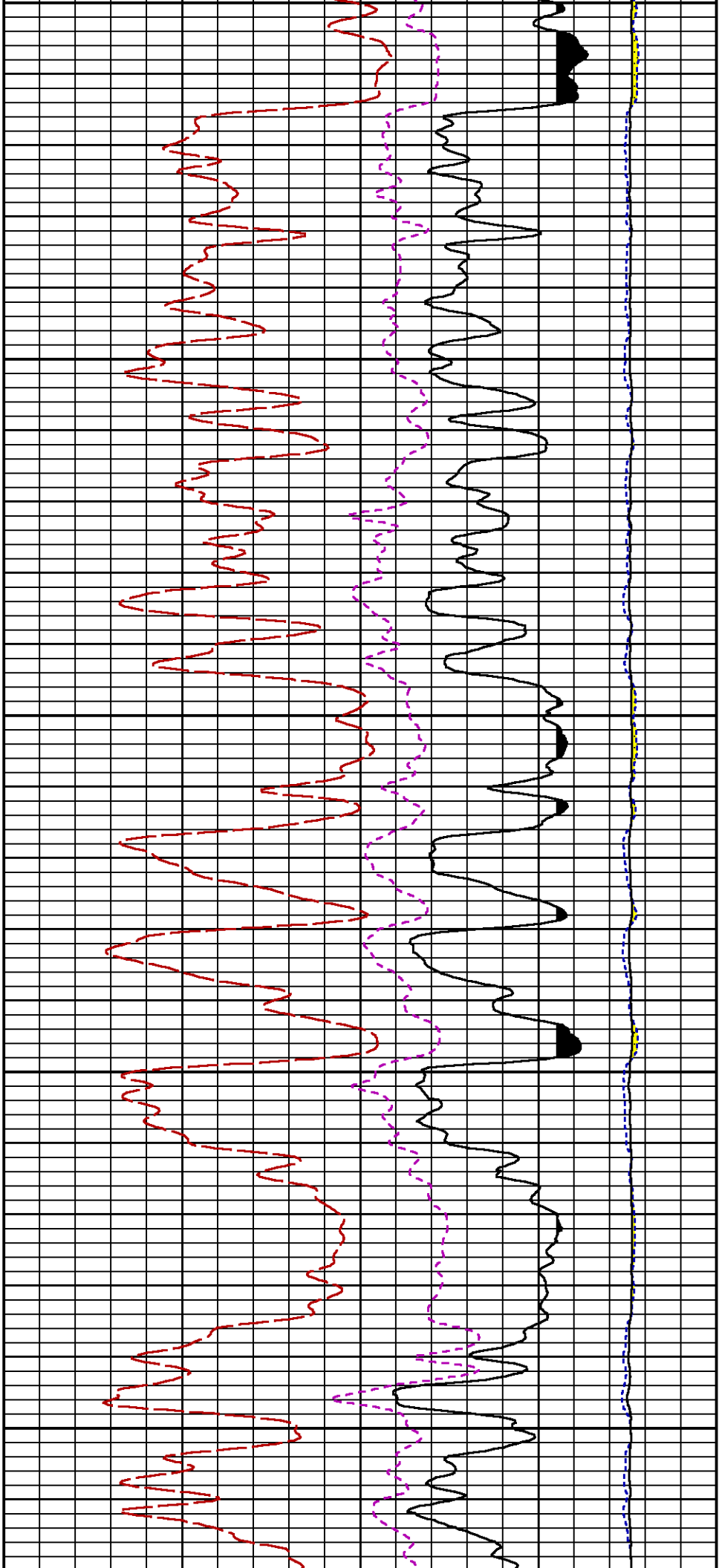


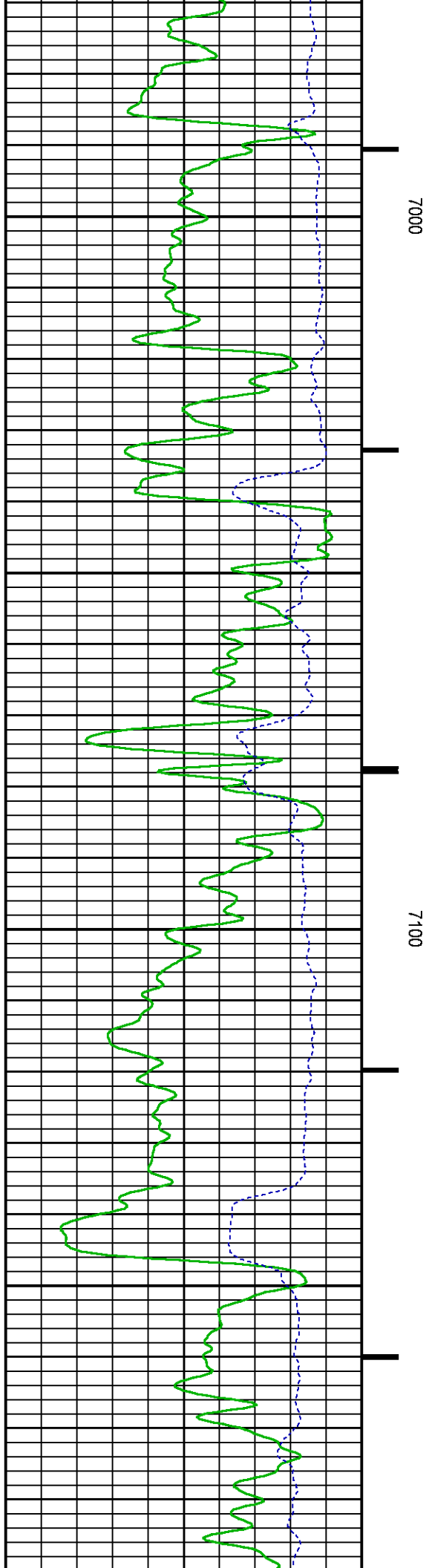
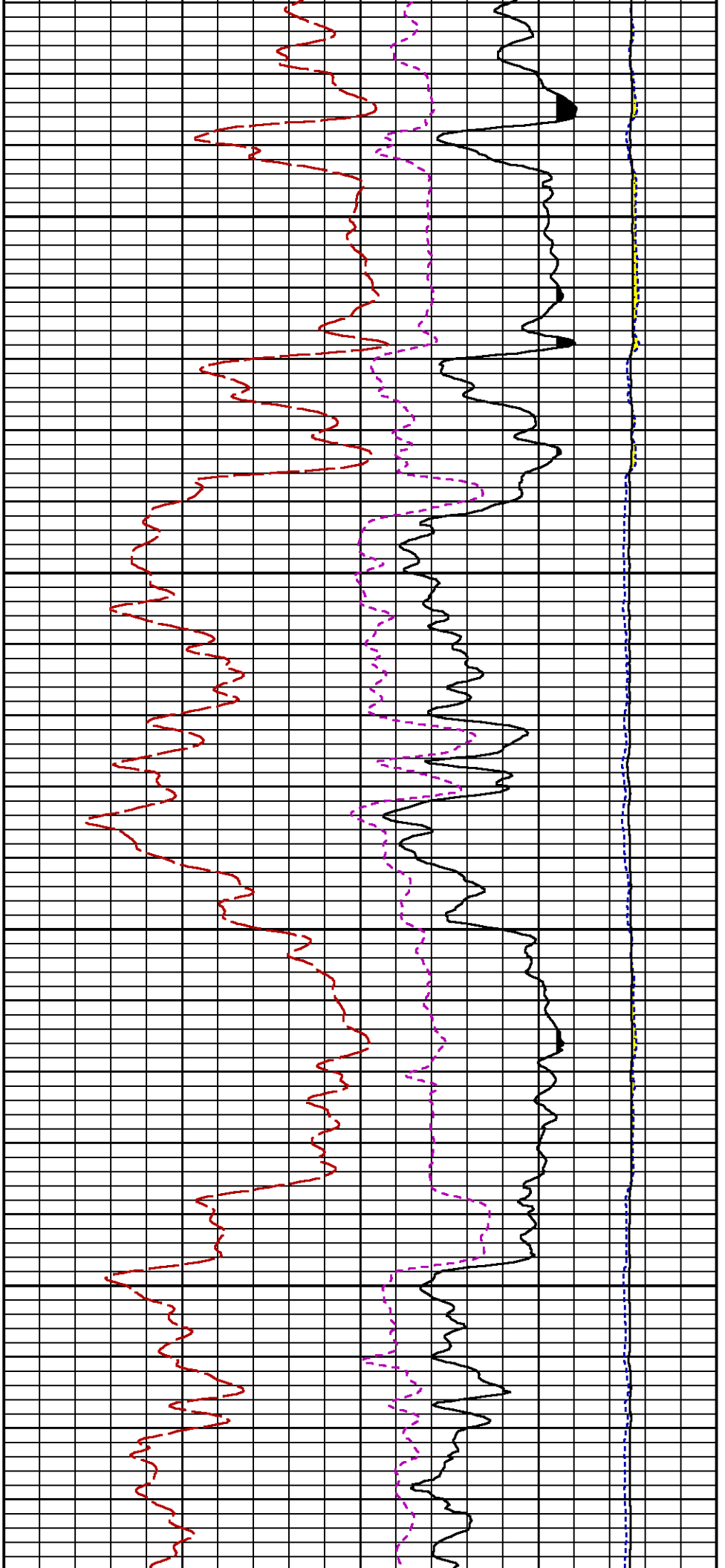


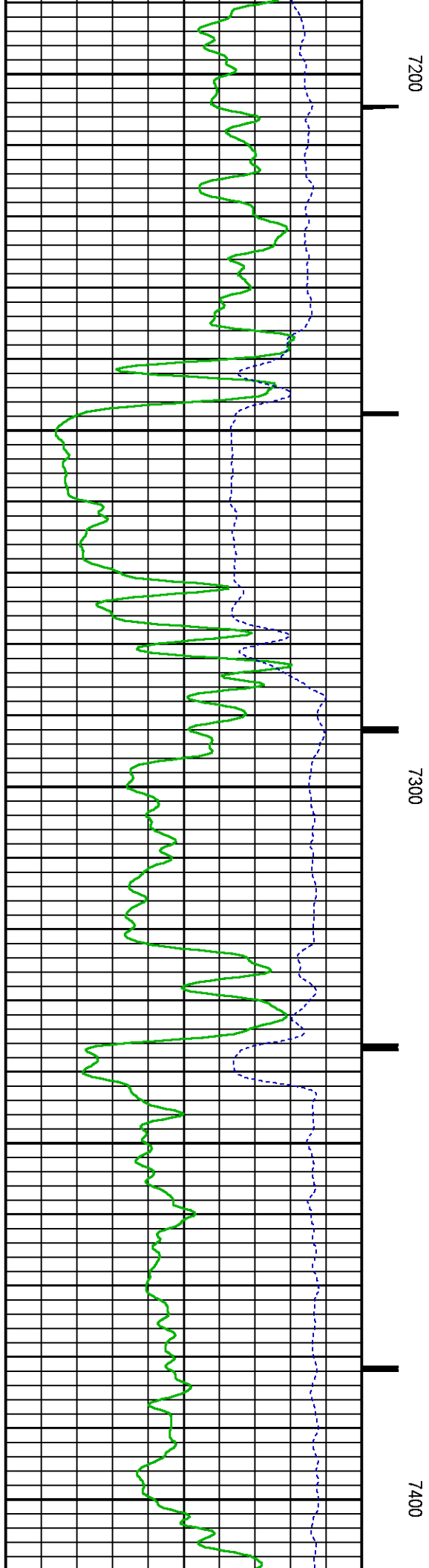
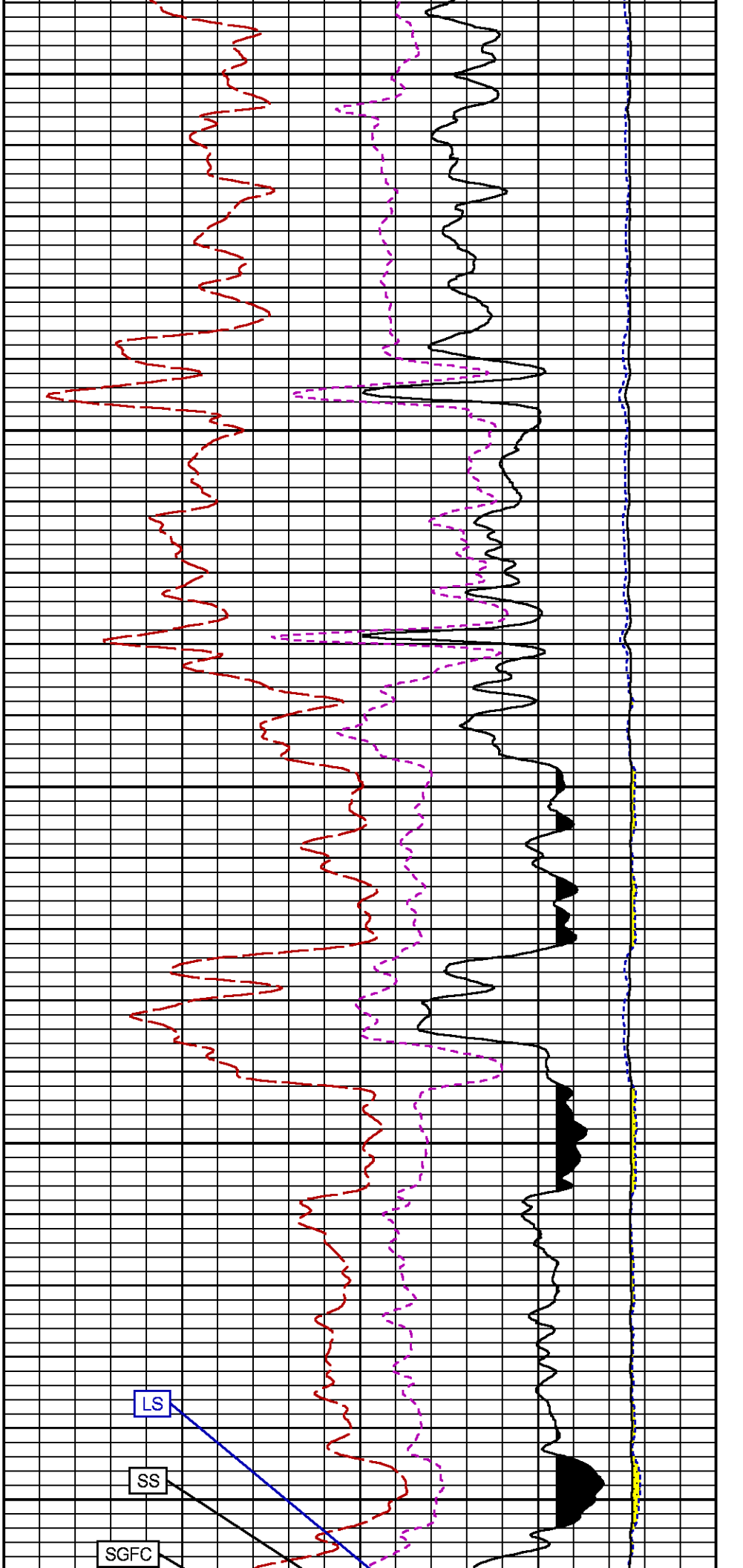


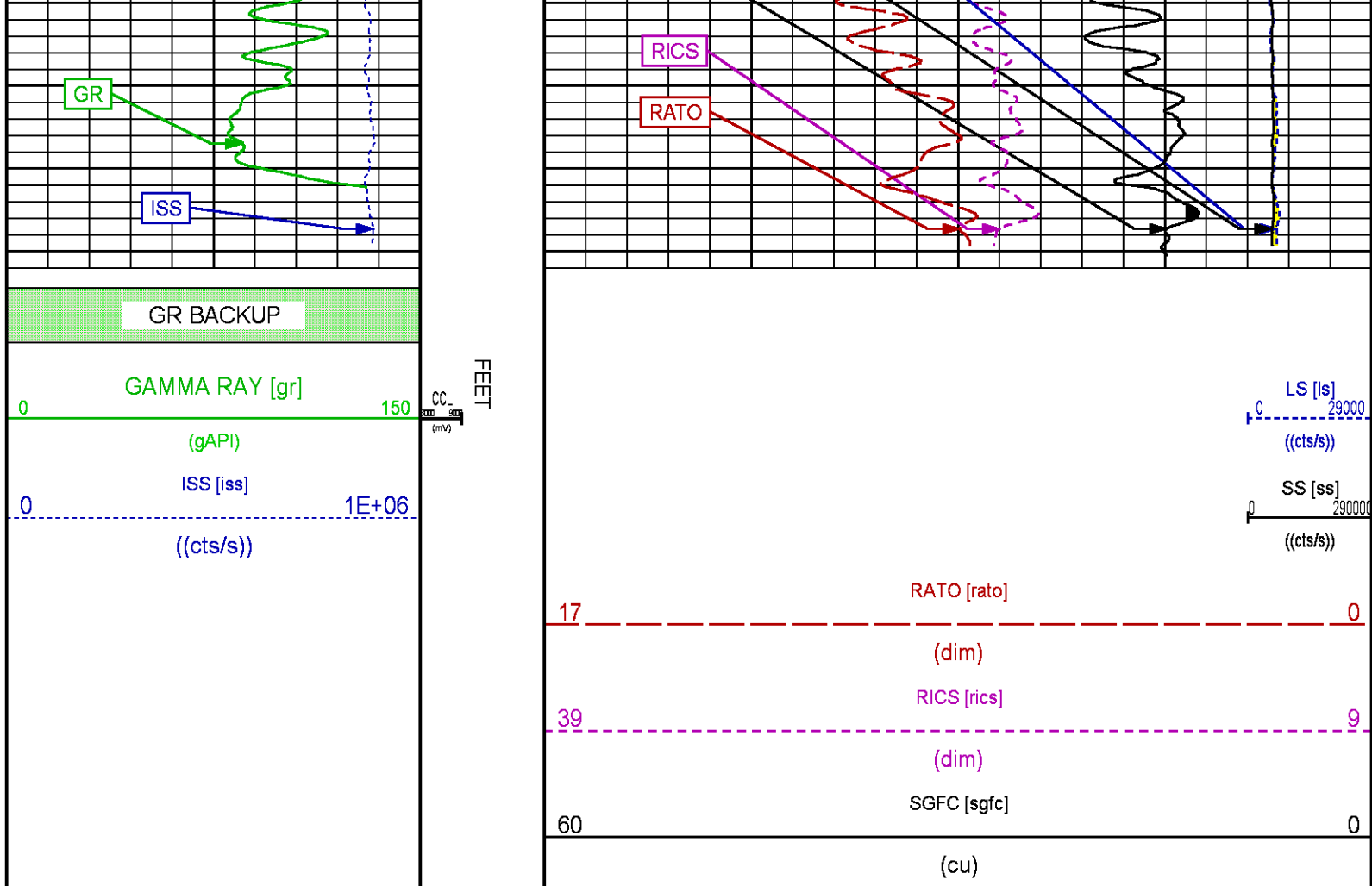












REPEAT PASS PNC 3D MODE

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

Plotted: Tue Jan 23 14:35:40 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_08E/p353h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4953.250 ft BOTTOM DEPTH: 5173.750 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	8.50	in	" "
	LARGEST CASING OD	7.00	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_24_08E/LARAMIE_RPM+01-REPEAT-RPM_RPT_08E-5.fvpdf [5"/100' Scale]
Plot Interval : 4925.75 - 5170.75 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_08E/RPM_RPT_08E.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : NICHOLS 0994-24-08E
Field : VEGA
File Interval : 4925 - 5173.75 Feet
OCT : p353h

GR BACKUP

GAMMA RAY [gr]

0 150

(gAPI)

ISS [iss]

0 1E+06

((cts/s))

FEET

CCL
(mV)

RATO [rato]

17

0

(dim)

RICS [rics]

39

9

(dim)

SGFC [sgfc]

60

0

(cu)

LS [ls]

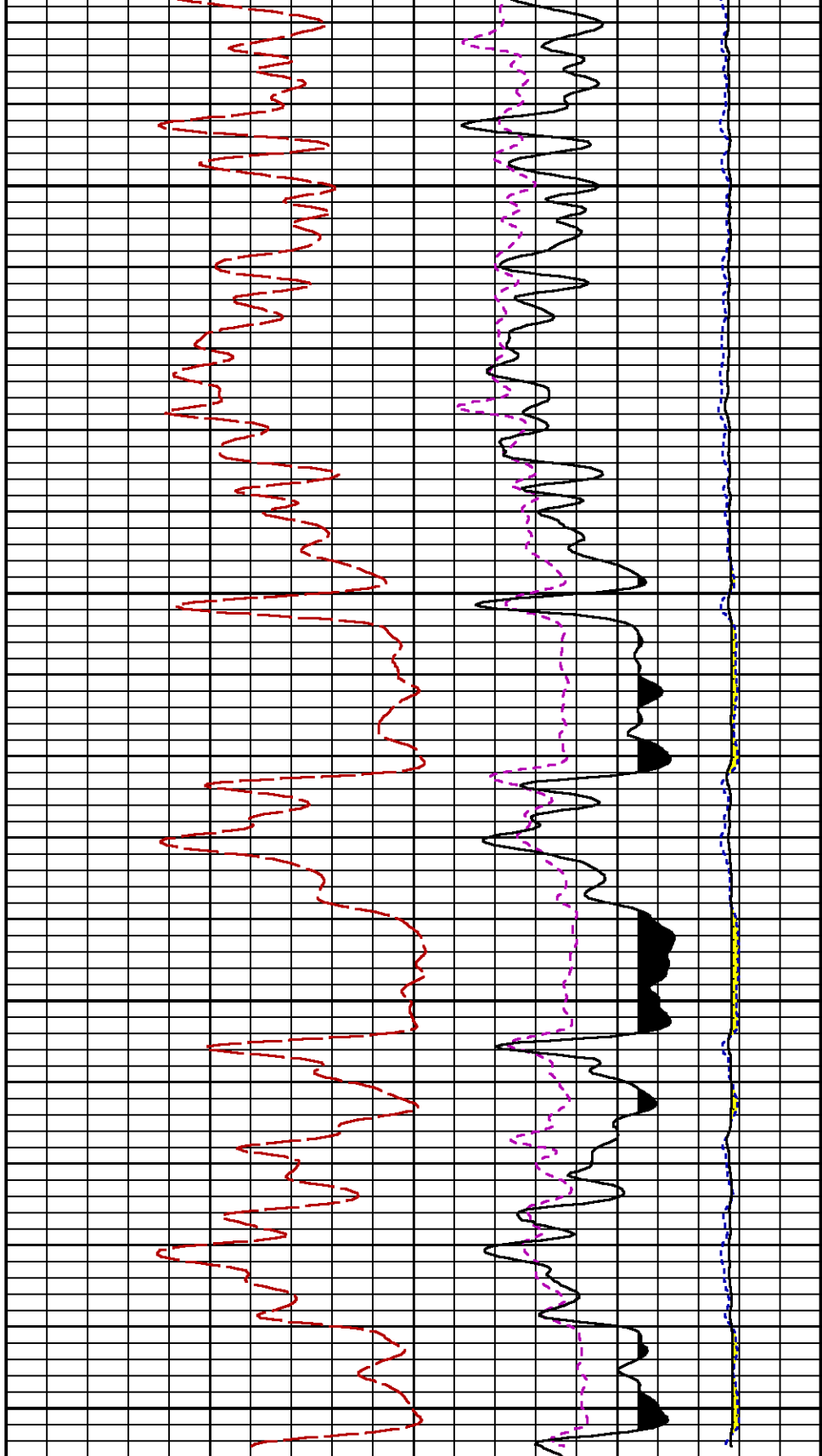
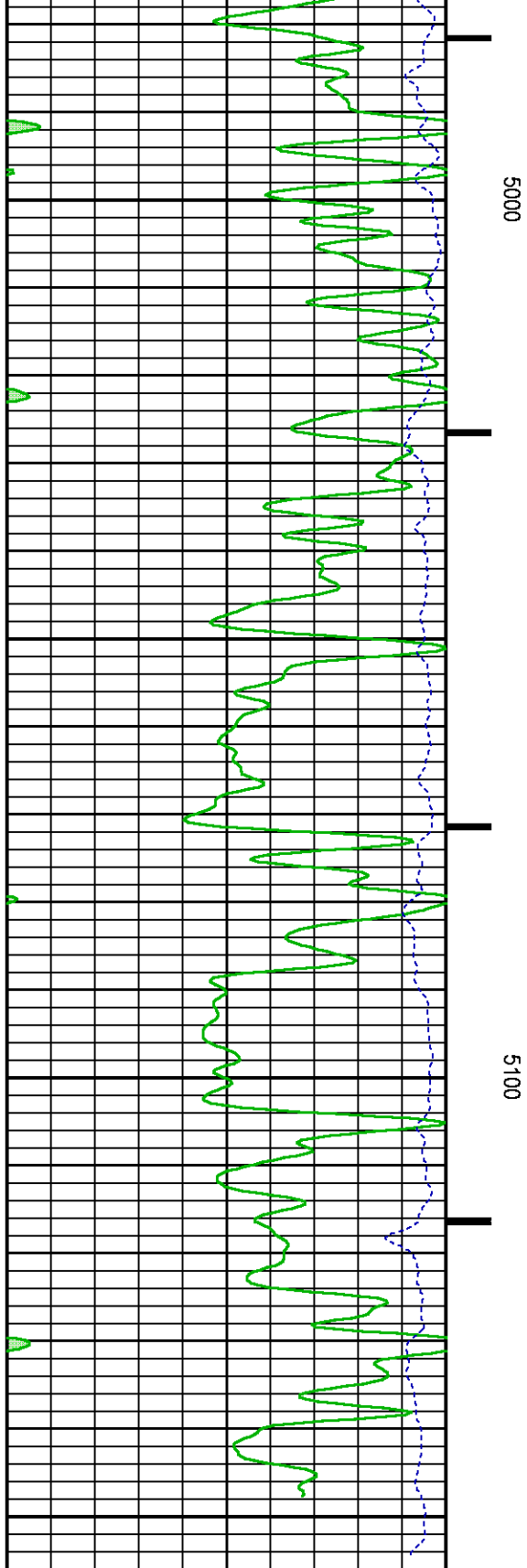
0 29000

((cts/s))

SS [ss]

0 290000

((cts/s))



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

CALIBRATION / VERIFICATION SUMMARY

Source File: \dat1a\ARAME_NICHOLS_0994_24_08Ep353h1p1

GR PRIMARY CALIBRATION SUMMARY

TOOL #:

8262XA10317216

DATE/TIME PERFORMED:

Sat Jan 20 08:55:31 2018

UNIT #:

4352 ML4352

CALB JIG #:

4702NKDA_228

BACKGROUND	CALBRTR ON	GR 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 #:

8262XA10317216

DATE/TIME PERFORMED:

Sat Jan 20 08:58:00 2018

UNIT #:

4352 ML4352

VERI JIG #:

4702NKDA_228

BACKGROUND	CALBRTR ON	MULT	BACKGROUND	CALBRTR ON	DIFF.		
(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)		
GR	59.02	336.93	0.664	39.20	223.79	184.59	
						195.00	196.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL:

8283PA10190200

DATE/TIME PERFORMED:

Sat Jan 20 11:23:45 2018

UNIT:

3882TD HL6728

CALIBRATOR:

2437XB 120052

SOURCE:

8281AA 10408960

HOURS:

8281AA 98

	ISS	Mtr Vits	SS Gain	LS Gain	XLS Gain	EA Temp	Sync Delay	RCAL
		(V)				(degF)	(usec)	
Raw Data	809388	126	2266	2230	2285	93	9.5	0.9606
Interpolated	1300000	153	2243	2224	2277			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	809388	7357	1127	150	26.22	0.14	24.24	0.31
					26.36	26.40	0.00	0.00
					23.60	24.60	0.00	0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	809388	175615	27609	96901	34428	8787	58424	14068
Fit Quality %		1.010	1.290	1.259	1.256	1.310	1.081	1.352

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE							
			ISS/LS	ISS/XS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS							
Raw Data	809388	1.43	4.61	29.33	13.85	11.03	3.92	4.15							
		1.42	1.40	3.60	5.92	29.30	30.10	30.90	16.34	10.06	11.10	3.59	3.96	3.16	4.20
Fit Quality %		0.057	0.296	0.312	0.307	0.010	0.041	0.063							
Reduced	1401166	1.43	4.62	29.41	13.90	11.03	3.92	4.16							
		1.42	1.40	1.39	5.92	29.10	30.10	30.10	16.34	10.06	11.10	3.59	3.96	3.16	4.20

TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #:

8255XA11774568

DATE/TIME PERFORMED:

Wed May 14 12:39:45 2014

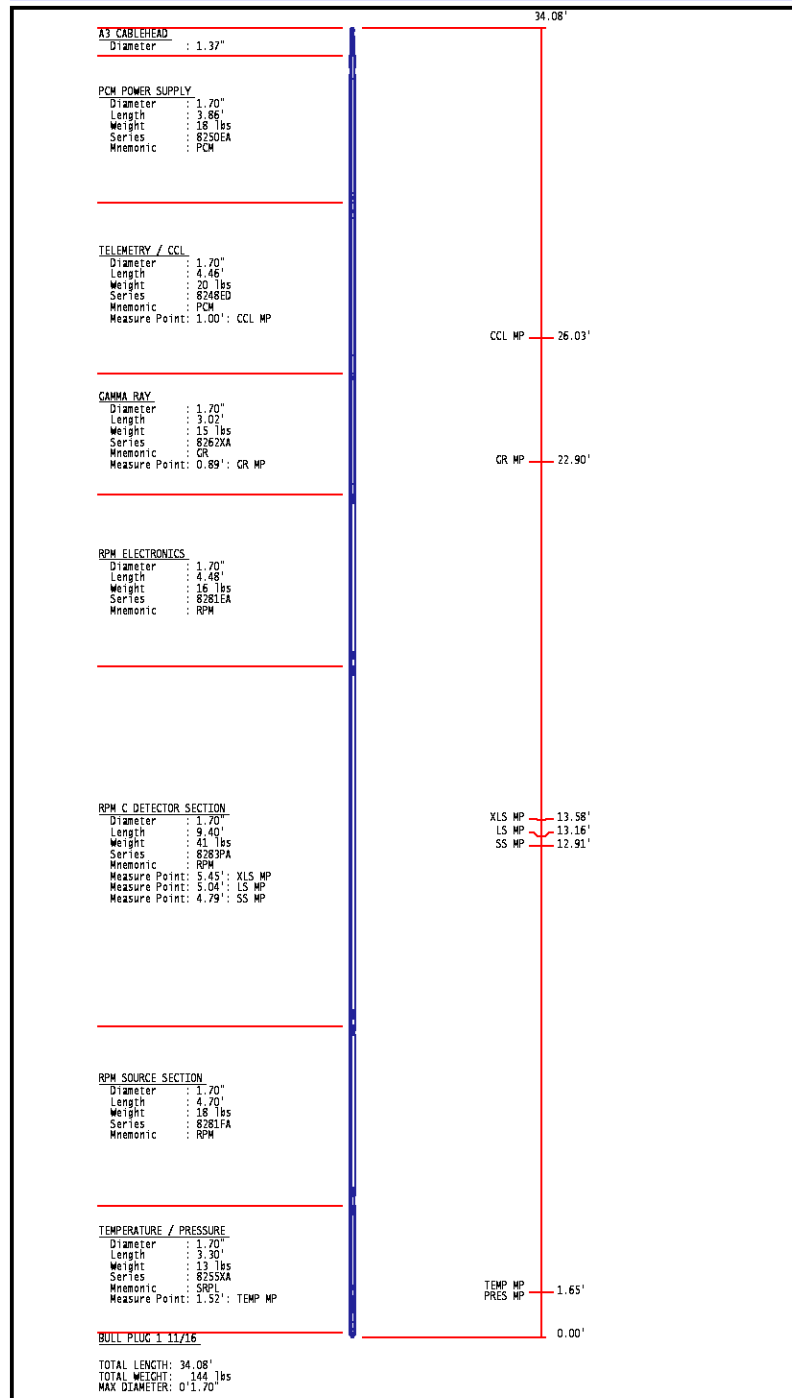
UNIT #:

3880TA HL6670

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-9.274653E+00	1.055639E-01	2.143764E-06	-2.782846E-10

INSTRUMENT CONFIGURATION

Source File: A:\data\ARAME_NICHOLS_0994_24_08\RPMP_3D_TEMP.tdg



**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY LARAMIE ENERGY LLC
WELL NICHOLS 0994-24-08E
FIELD VEGA
COUNTY MESA **STATE** COLORADO

FILE NO:

API NO:

05077104120000

LOCATION:

SHL: 39.264465 N; 107.830720 W
BHL: 39.264737 N; 107.826024 W

ELEVATIONS:

KB 7161 FT

DF 7160 FT

GL 7137 FT

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

DATE 23-Jan-2018

