



FILE NO: CH101524	COMPANY WELL FIELD COUNTY	LARAMIE ENERGY PICEANCE FEDERAL 28-19E VEGA MESA STATE COLORADO
API NO: 05077102540000	LOCATION: Ver. 4.05 SEC 28 T9S R93W 28-10 PAD PATTERSON 306	OTHER SERVICES CBL SHL: 2011' FSL 2492' FWL BHL: 613' FSL 880' FEL SEC 28 TWP 9S RGE 93W
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7682 FT KB 22 FT ABOVE P.D. KB	ELEVATIONS: KB 7704 FT DF GL 7682 FT

DATE	25-Jan-2016
RUN	1
TRIP	1
SERVICE ORDER	US101524J
DEPTH DRILLER	8414 FT
DEPTH LOGGER	8331 FT
BOTTOM LOGGED INTERVAL	8321 FT
TOP LOGGED INTERVAL	2850 FT
TIME STARTED	11:00
TIME FINISHED	16:30
OPERATOR RIG TIME	5.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	38 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	245 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	25-JAN-2016
EQUIP. NO.	6685
LOCATION	GRAND JCT
RECORDED BY	W. QUIGLEY
WITNESSED BY	MR. JOHN GRUBICH

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.

BOREHOLE RECORD		
BIT SIZE	FROM	TO
7.875 IN	0 FT	8414 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		0 FT	8414 FT

REMARKS
RUN 1 TRIP 1: THIS LOG DEPTH SHIFTED ON BOTTOM TO MATCH BAKER HUGHES BOND LOG DATED 25-JAN-16 AMOUNT OF LINEAR SHIFT -2 FT LOGGED WITH 0 PSI AT THE WELLHEAD BHT: 245 DEGF SJ: 6452'-6474' SJ: 7566'-7588' THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES CREW: OLSON, COATE, QUIGLEY RIG: PATTERSON 306

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8248ED	10460262	FREE
1	1	CCL	8250EA	10586851	FREE
1	1	GAMMA RAY	8262XA	10317216	FREE
1	1	RPM ELEC.	8281EA	10190984	FREE
1	1	RPM SOURCE	8283PA	10203151	FREE
1	1	RPM TNSMTR	8281FA	10238007	FREE
1	1	TEMP	8255XA	11774568	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: 8

Plotted: Mon Jan 25 15:57:22 2016

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/CH101524/n353h03.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 2844.000 ft BOTTOM DEPTH: 3481.000 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	Jan 25 15:16:09 2016	CASING COLLAR LOCATOR
F1:GR	Jan 25 15:16:09 2016	GAMMA RAY
F1:ISS	Jan 25 15:16:09 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 15:16:09 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 25 15:16:09 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 15:16:09 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 25 15:16:09 2016	CORRECTED FORMATION SIGMA
F1:SS	Jan 25 15:16:09 2016	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 : cas6685:/dat1a/CH101524/RPM_GSAND.fvpdf [5"/100' Scale]
Plot Interval : 2815.75 - 3462.75 Feet

Data File 1 : F1 : cas6685:/dat1a/CH101524/n353h03_GSAND.xtf
Created On : Jan 25 15:16:09 2016
Company : LARAMIE ENERGY
Well : PICEANCE FEDERAL 28-19E
Field : WEGA

Field : VEGA
File Interval : 2815 - 3477.75 Feet
OCT : n353h

GR BACKUP

FEET

ISS [iss] 0 1E+06
(cts/s)
GAMMA RAY [gr] 0 150
(gAPI)

CCL
(mV)

2900

ISS
GR

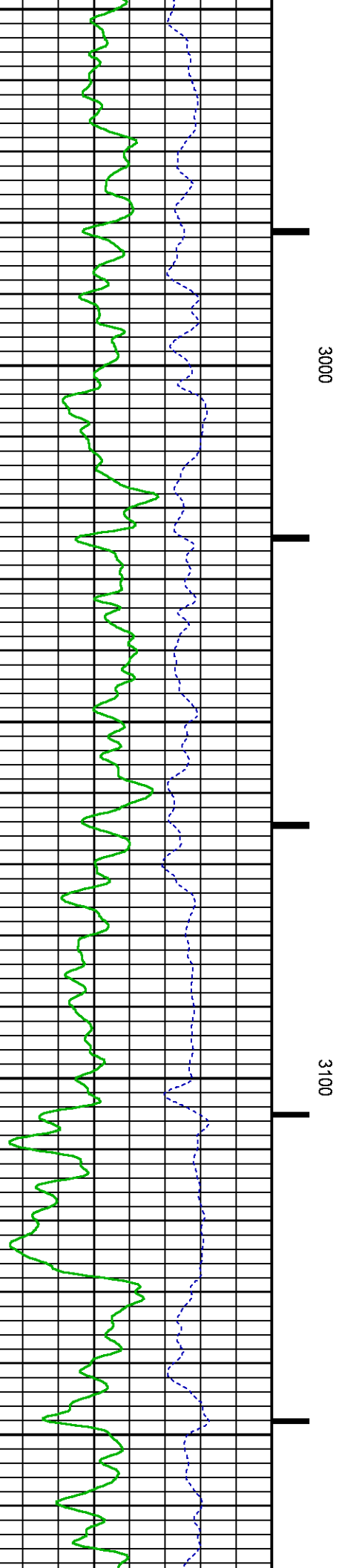
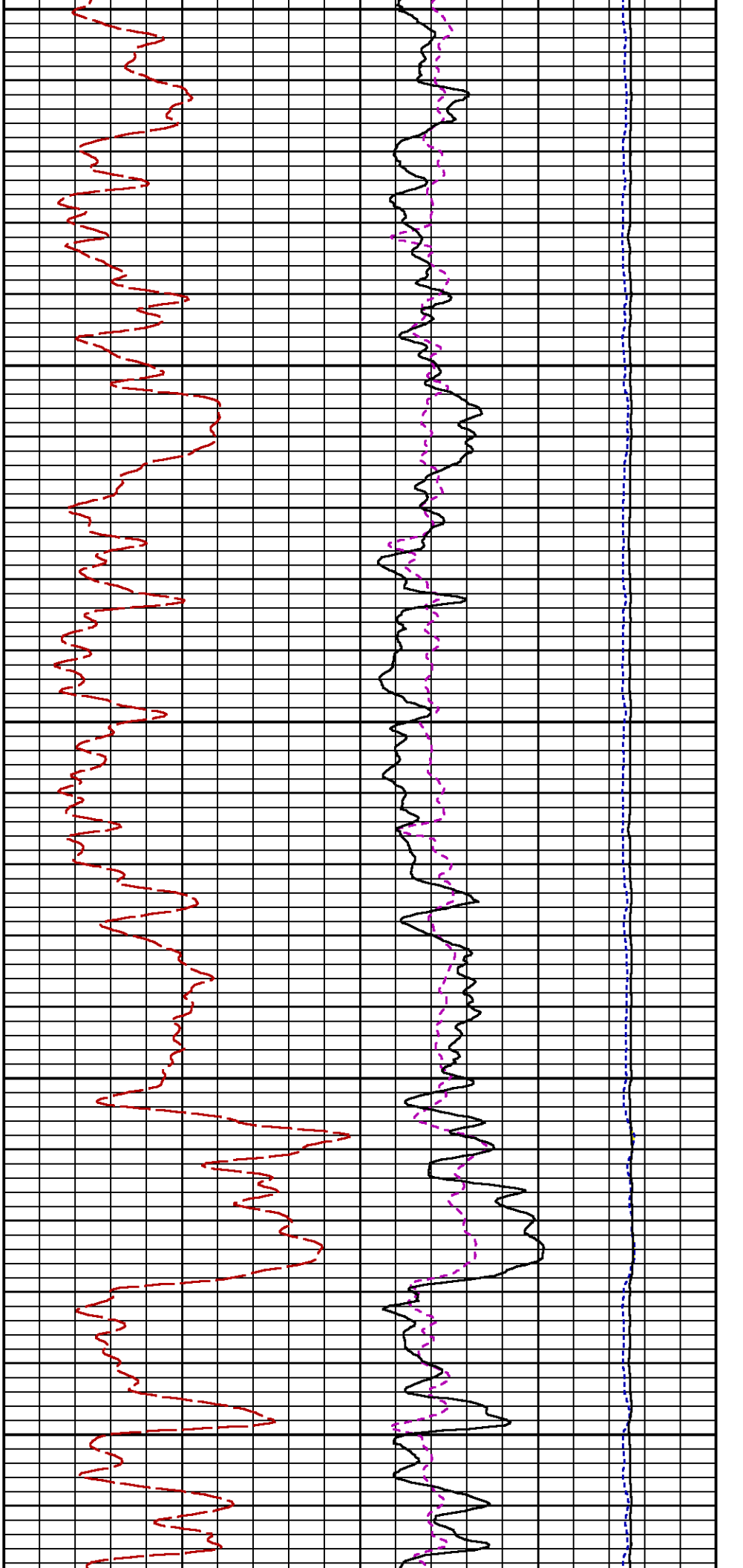
LS [ls] 0 29000
(cts/s)
SS [ss] 0 290000
(cts/s)

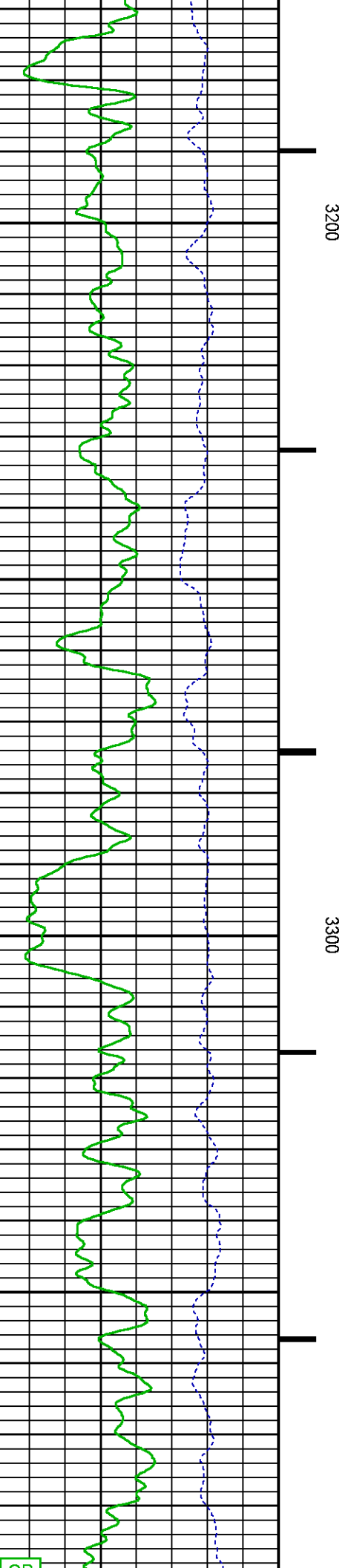
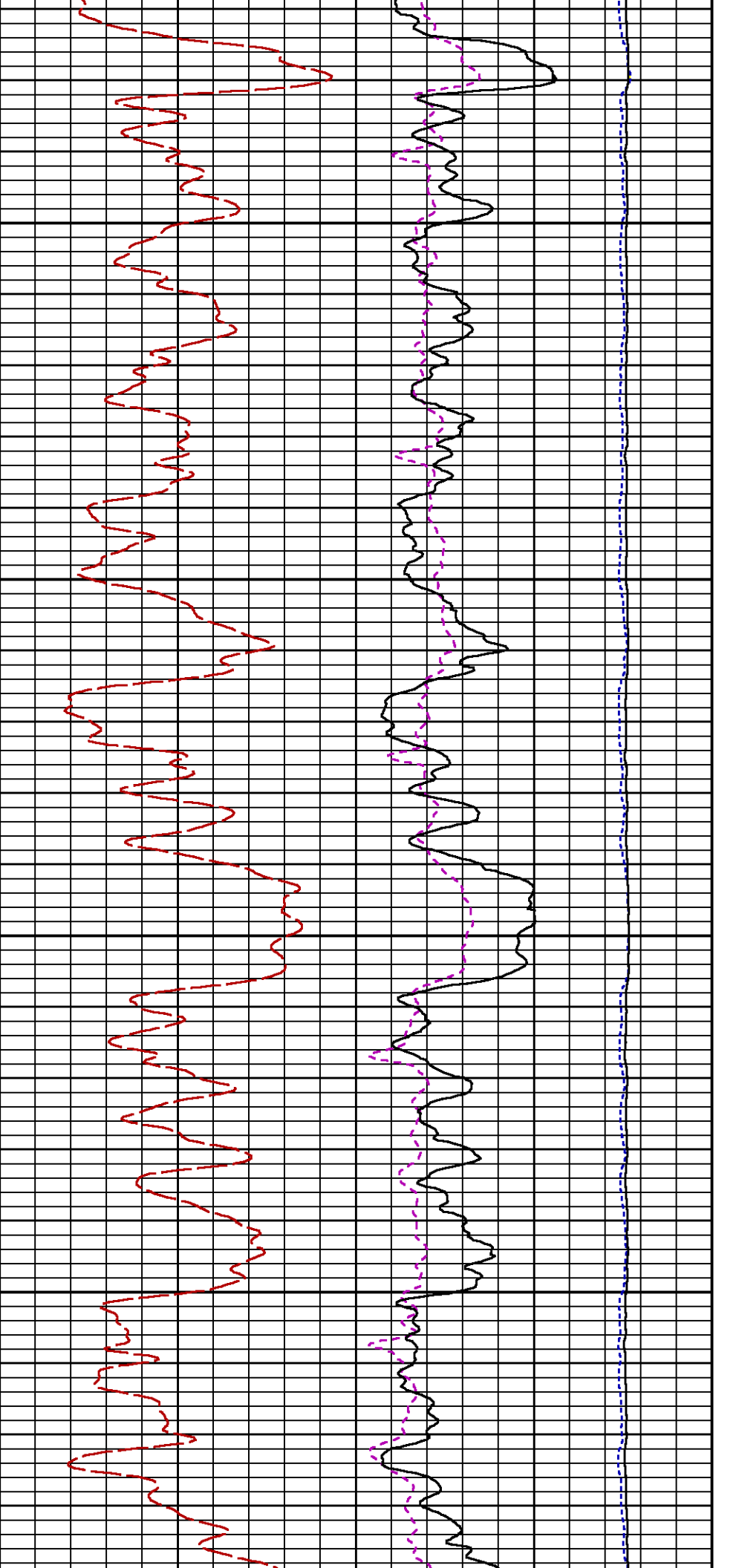
17 RATO [rato] 0
(dim)
39 RICS [rics] 9
(dim)
60 SGFC [sgfc] 0
(cu)

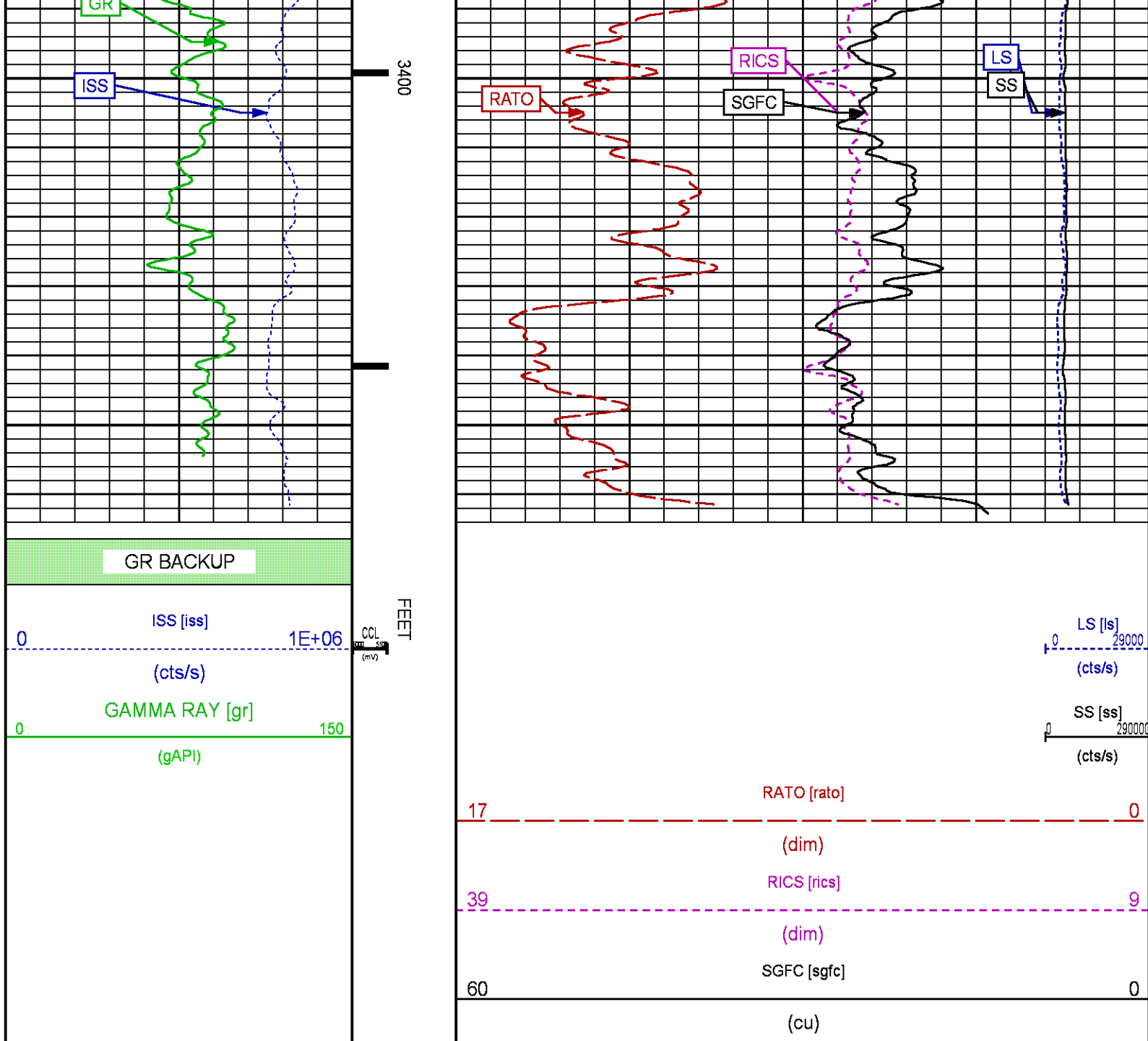
RATO

RICS
SGFC

LS
SS







MAIN SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 8

Plotted: Mon Jan 25 15:29:52 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101524/n353h02.prm
LOGGING MODE: DEPTH 5043.250 ft
DIRECTION: UP
BOTTOM DEPTH: 8336.500 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

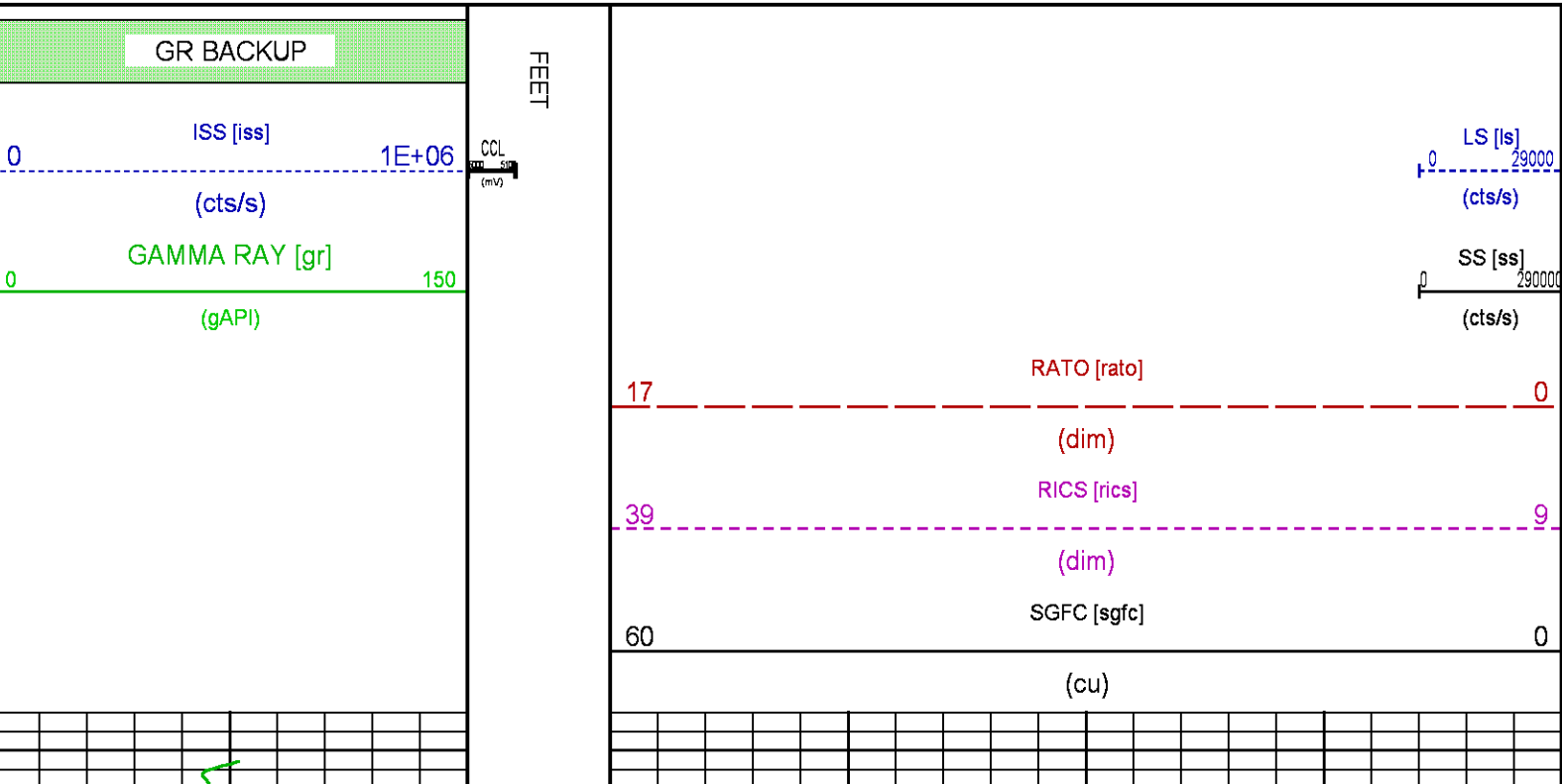
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 25 11:48:13 2016	CASING COLLAR LOCATOR
F1:GR	Jan 25 11:48:13 2016	GAMMA RAY
F1:ISS	Jan 25 11:48:13 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 11:48:13 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 25 11:48:13 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 11:48:13 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 25 11:48:13 2016	CORRECTED FORMATION SIGMA
F1:SS	Jan 25 11:48:13 2016	SHORT SPACE COUNT RATE

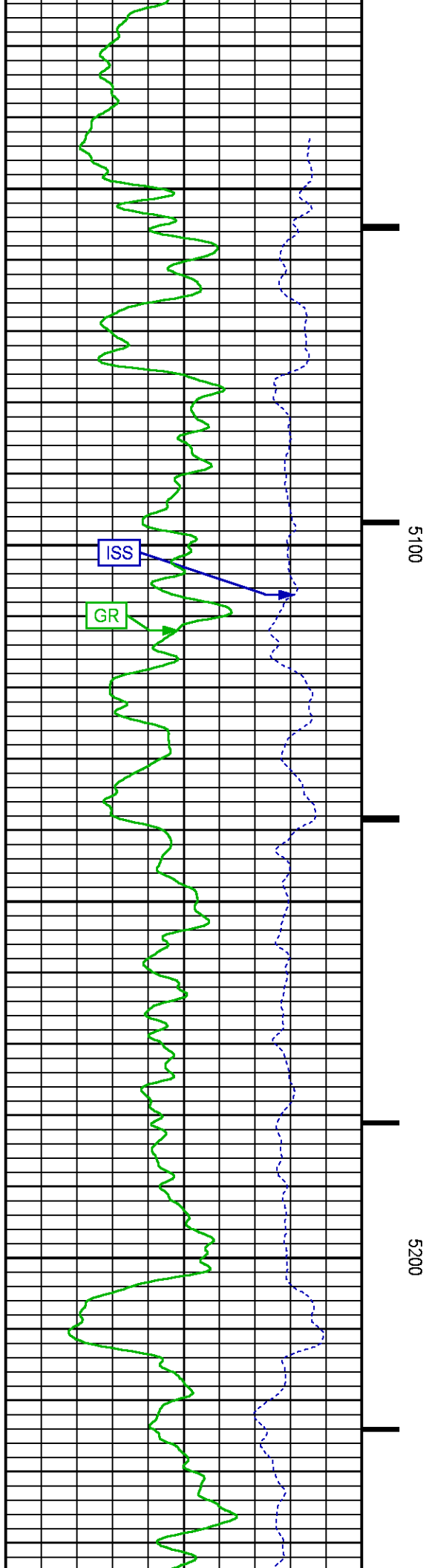
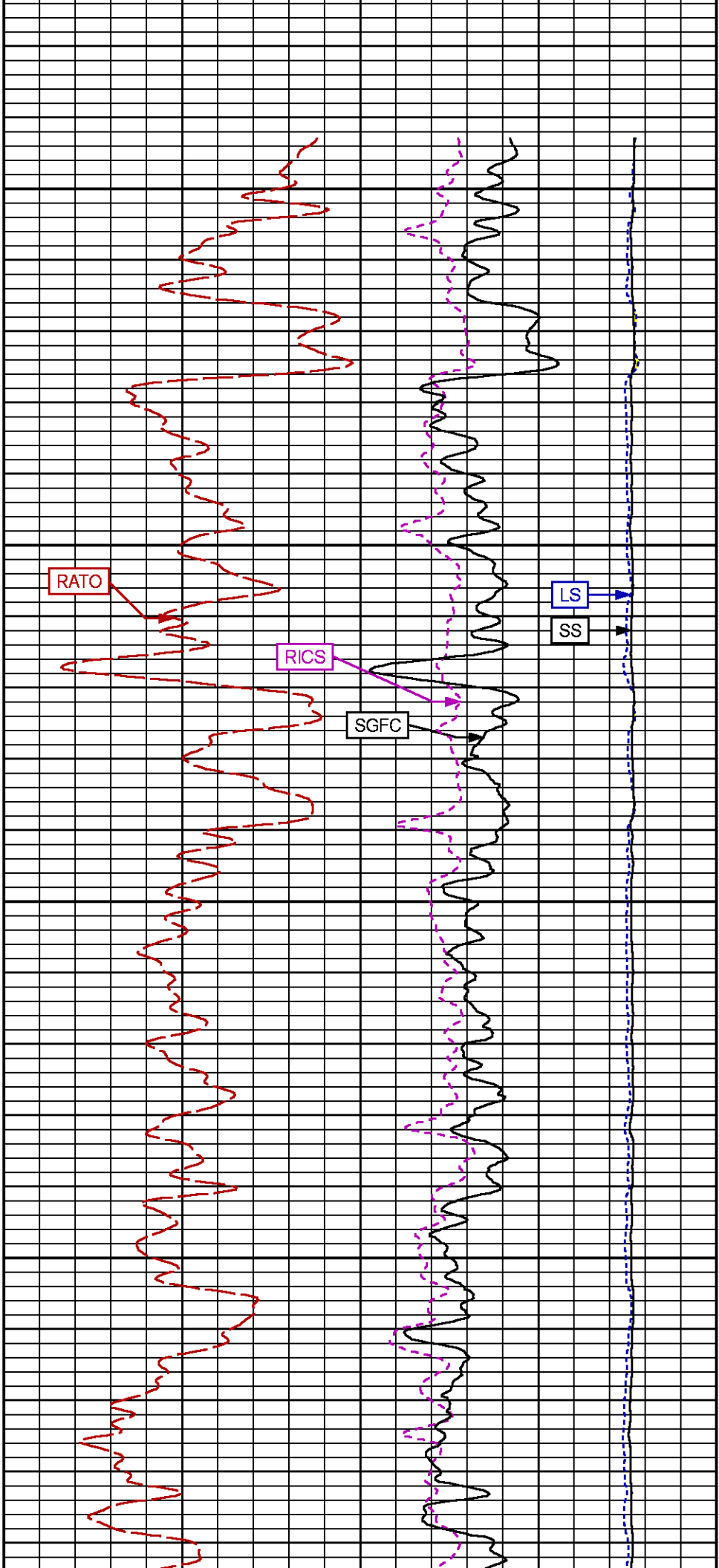
CURVE MEASURE POINT OFFSET

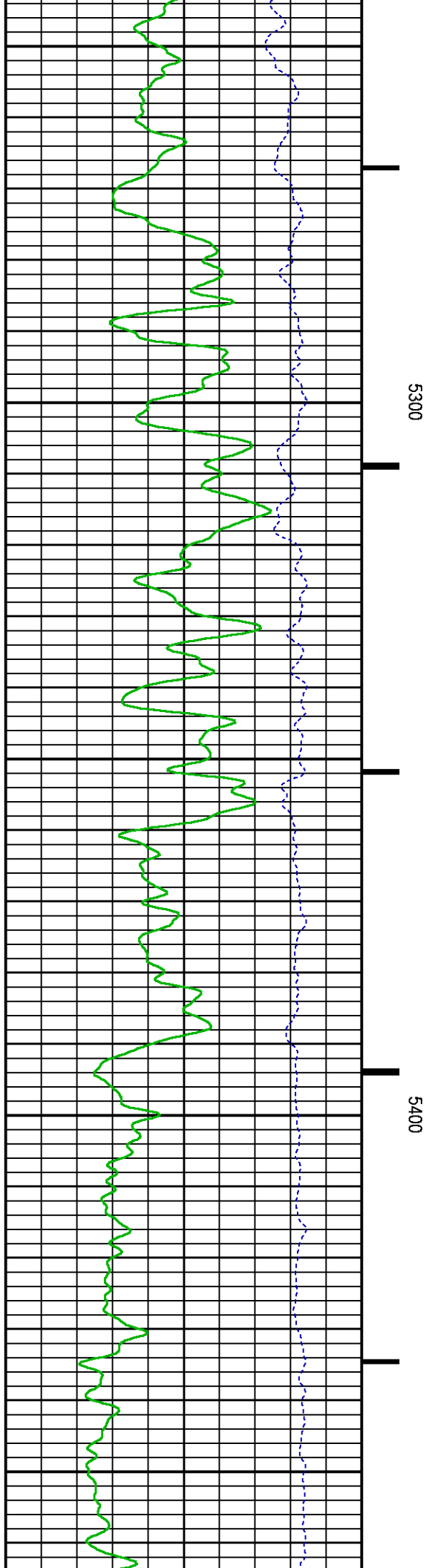
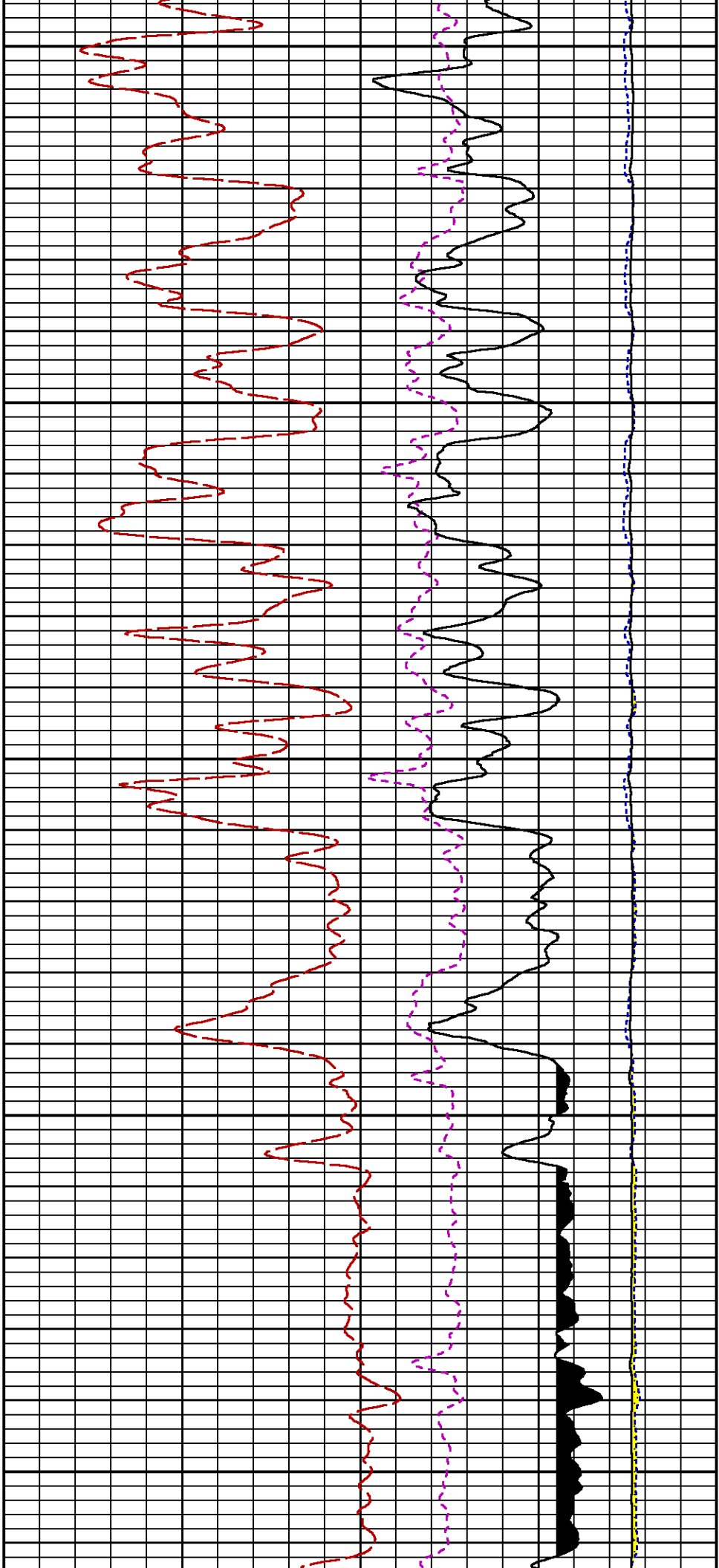
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

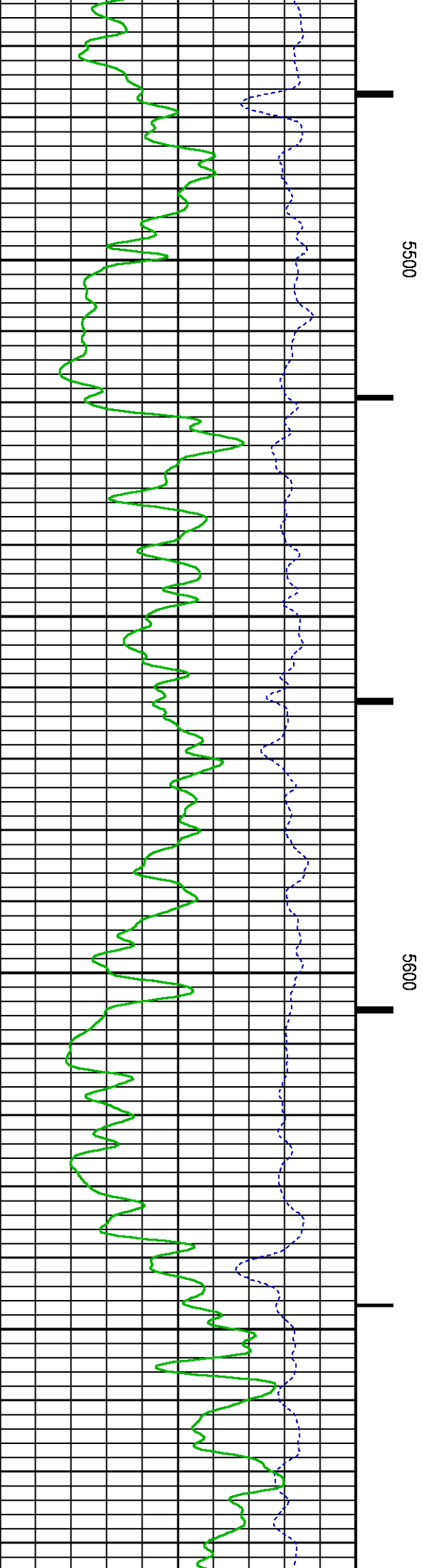
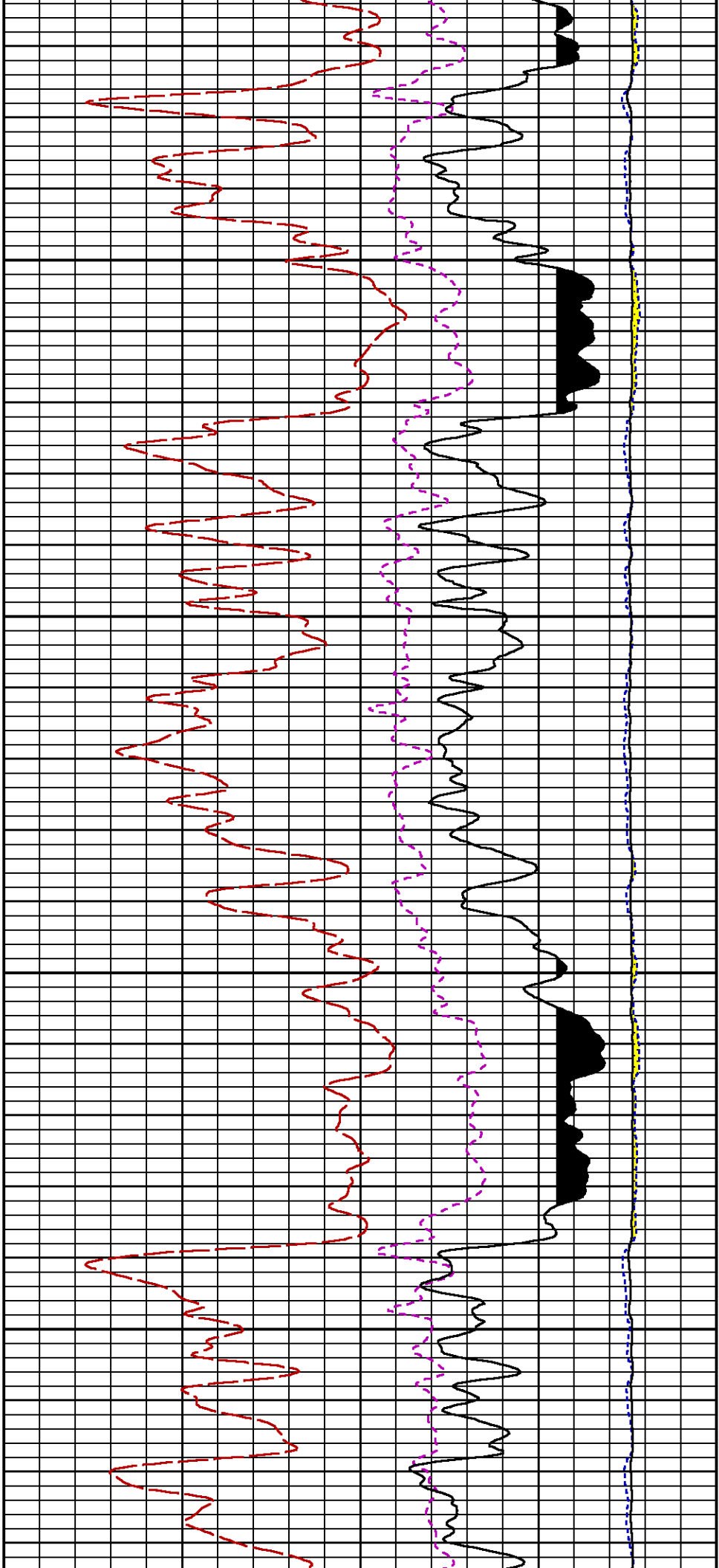
Presentation : cas6685:/dat1a/CH101524/RPM_MAIN.fvpdf [5"/100' Scale]
 Plot Interval : 5017 - 8320.25 Feet

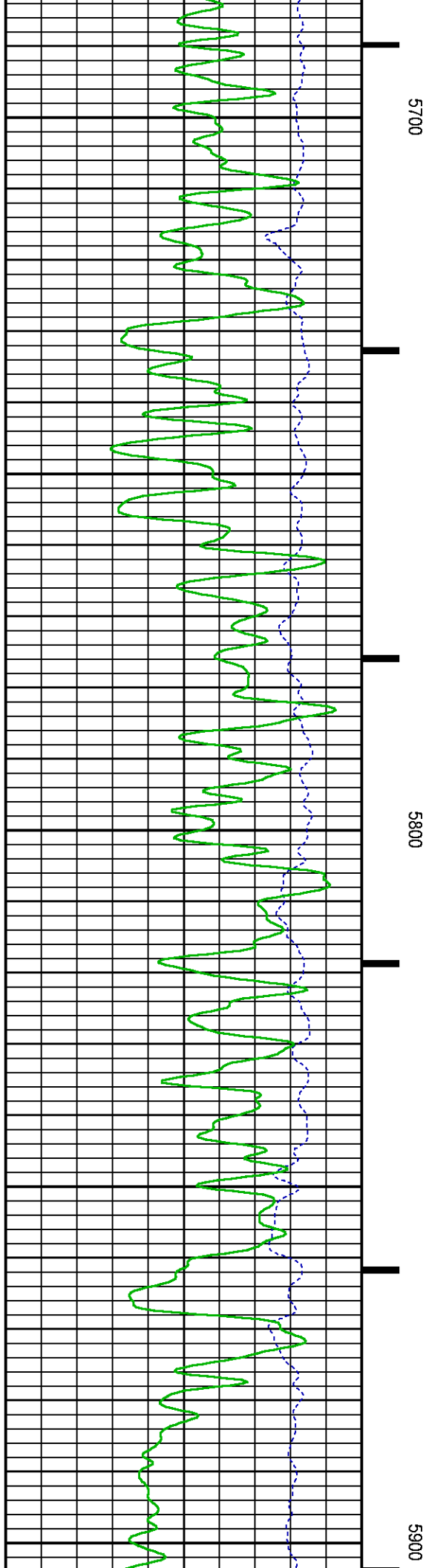
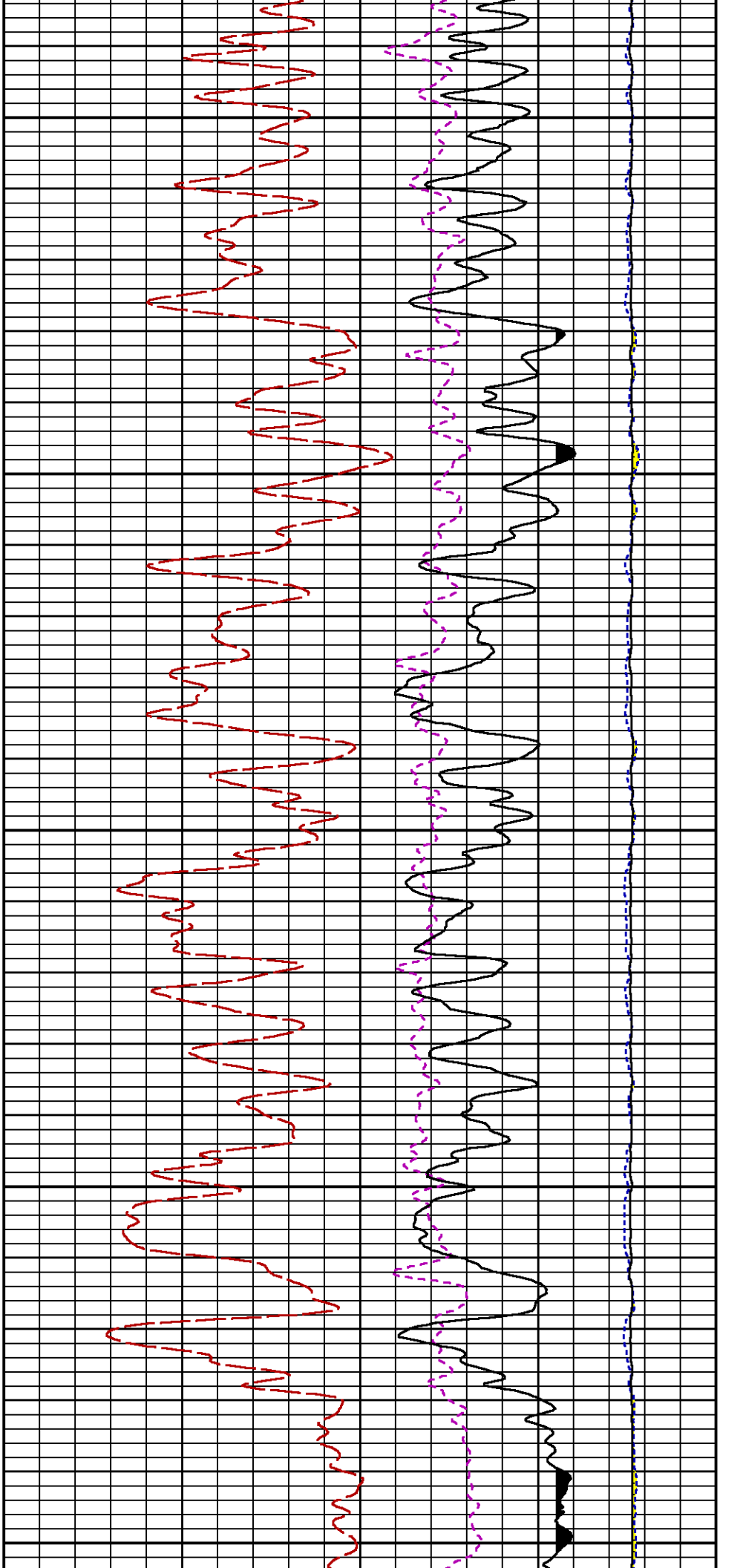
Data File 1 : F1 : cas6685:/dat1a/CH101524/n353h02_MAIN.xtf
 Created On : Jan 25 11:48:13 2016
 Company : LARAMIE ENERGY
 Well : PICEANCE FEDERAL 28-19E
 Field : VEGA
 File Interval : 5016.25 - 8336.5 Feet
 OCT : n353h

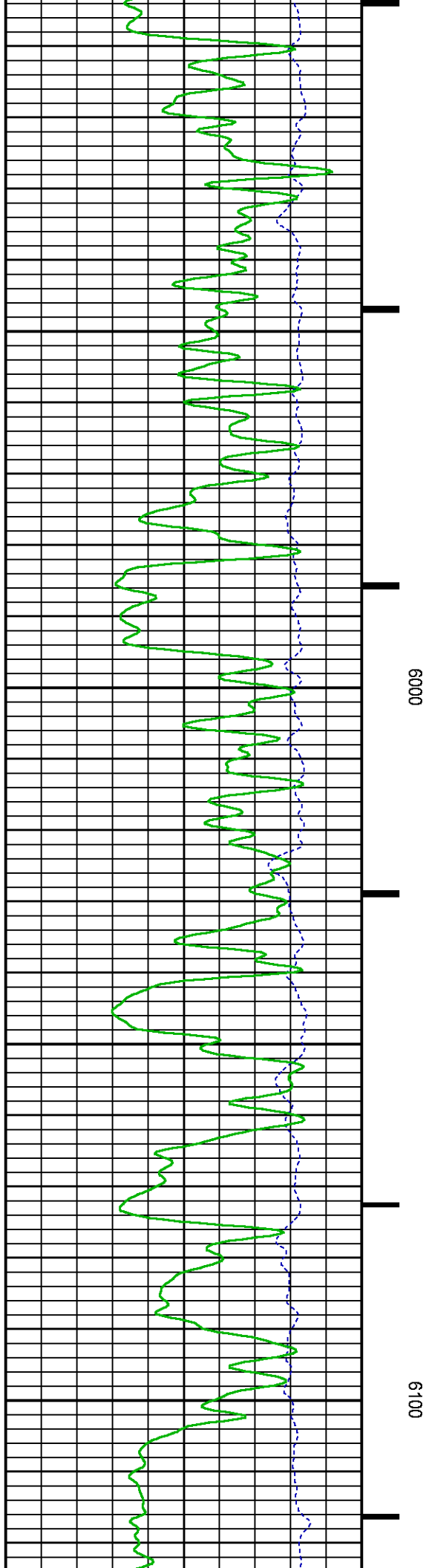
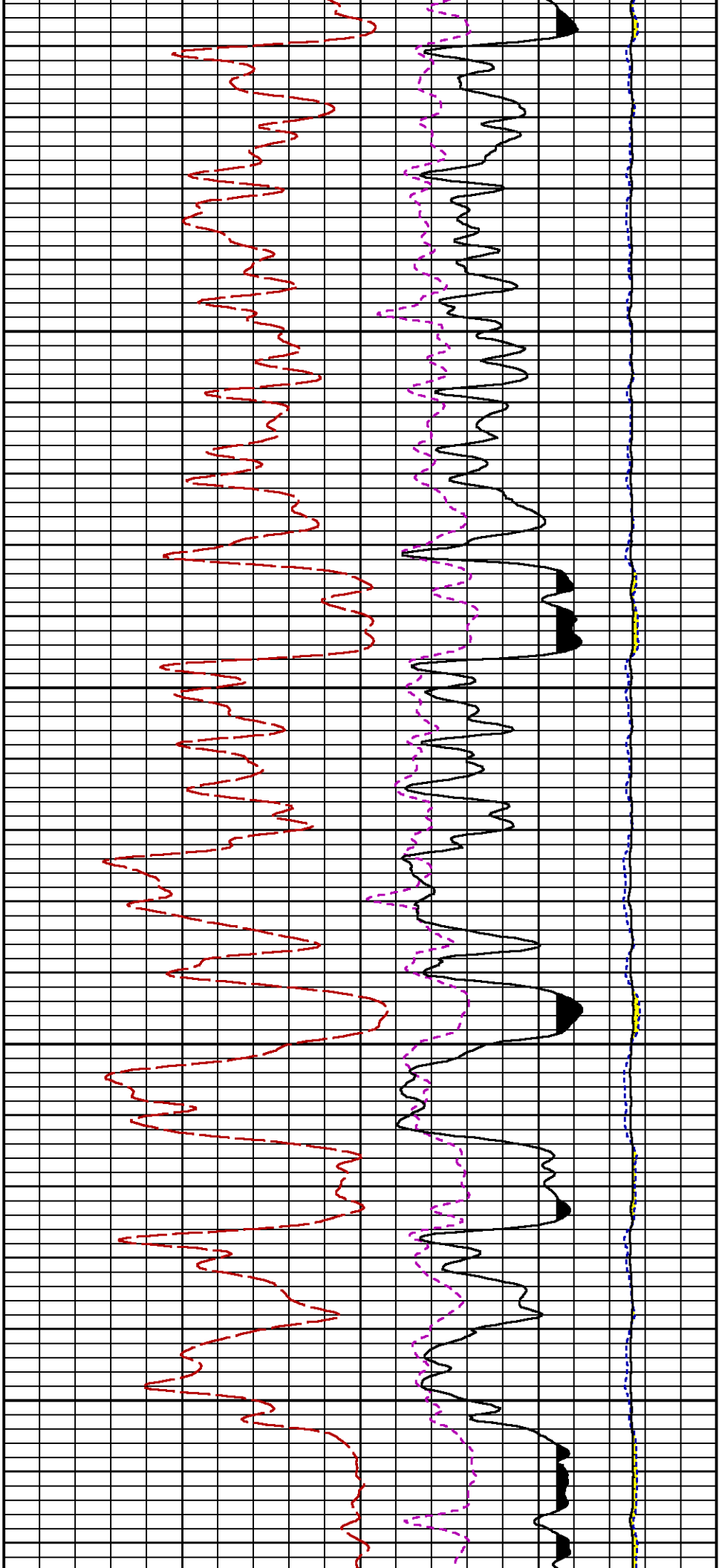


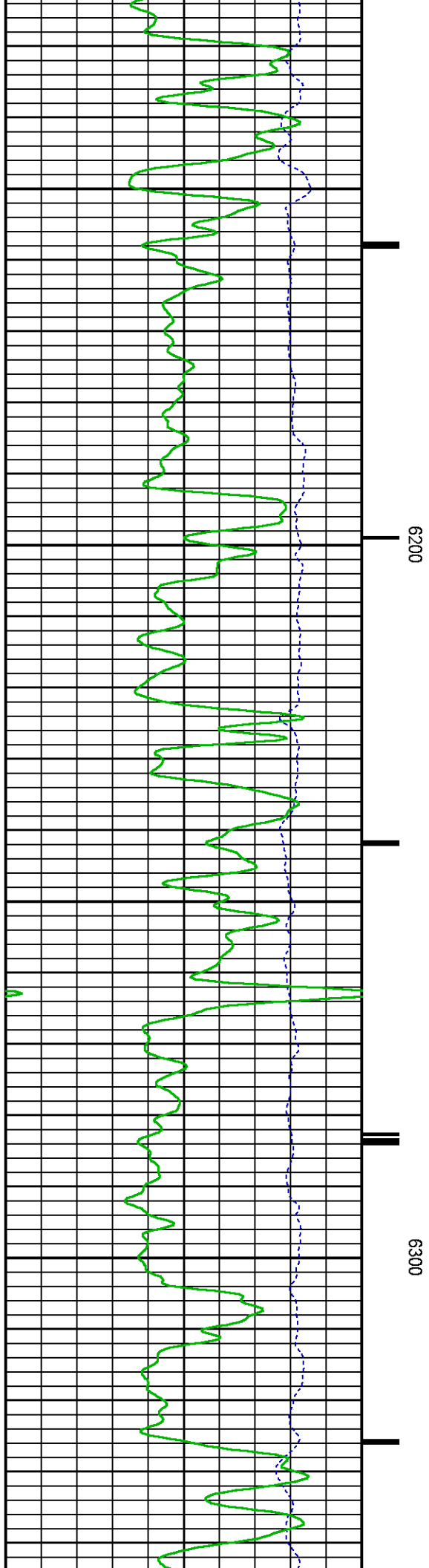
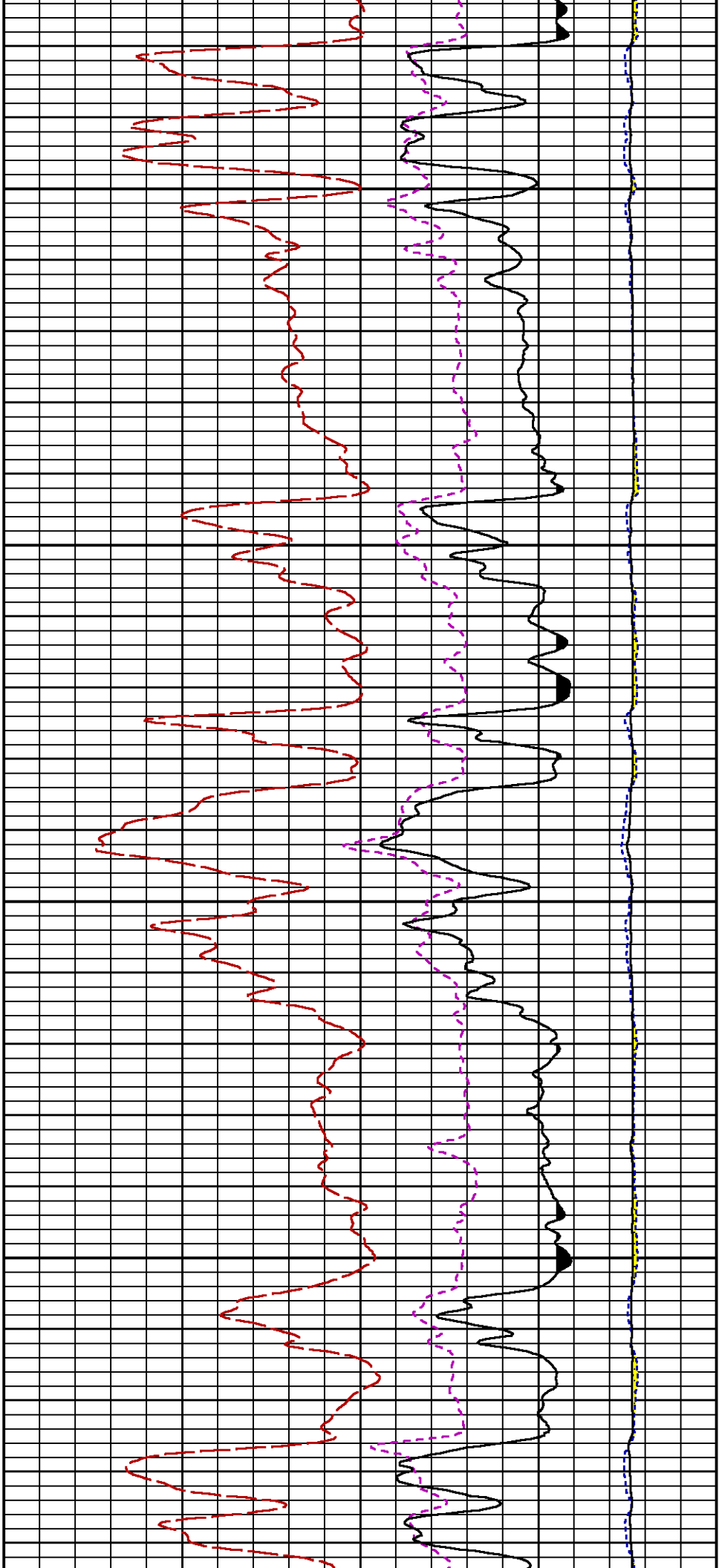


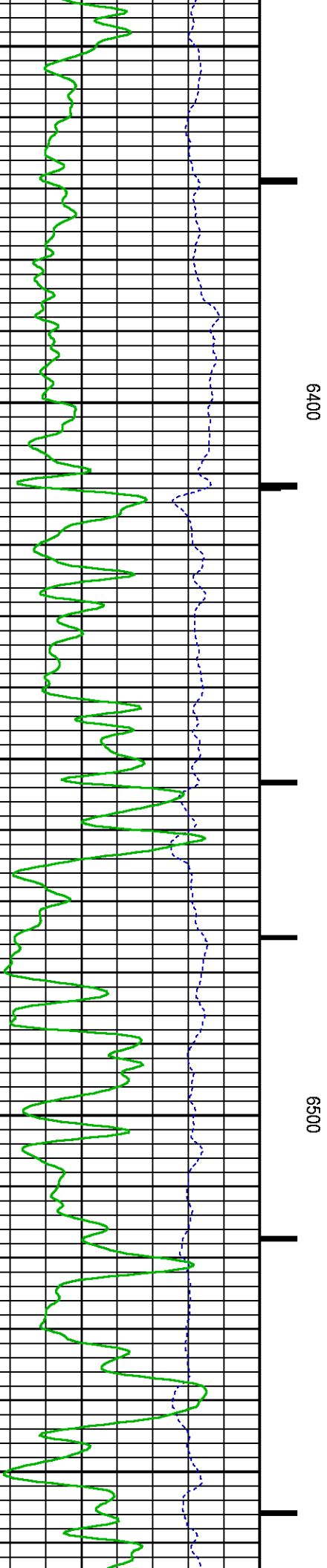
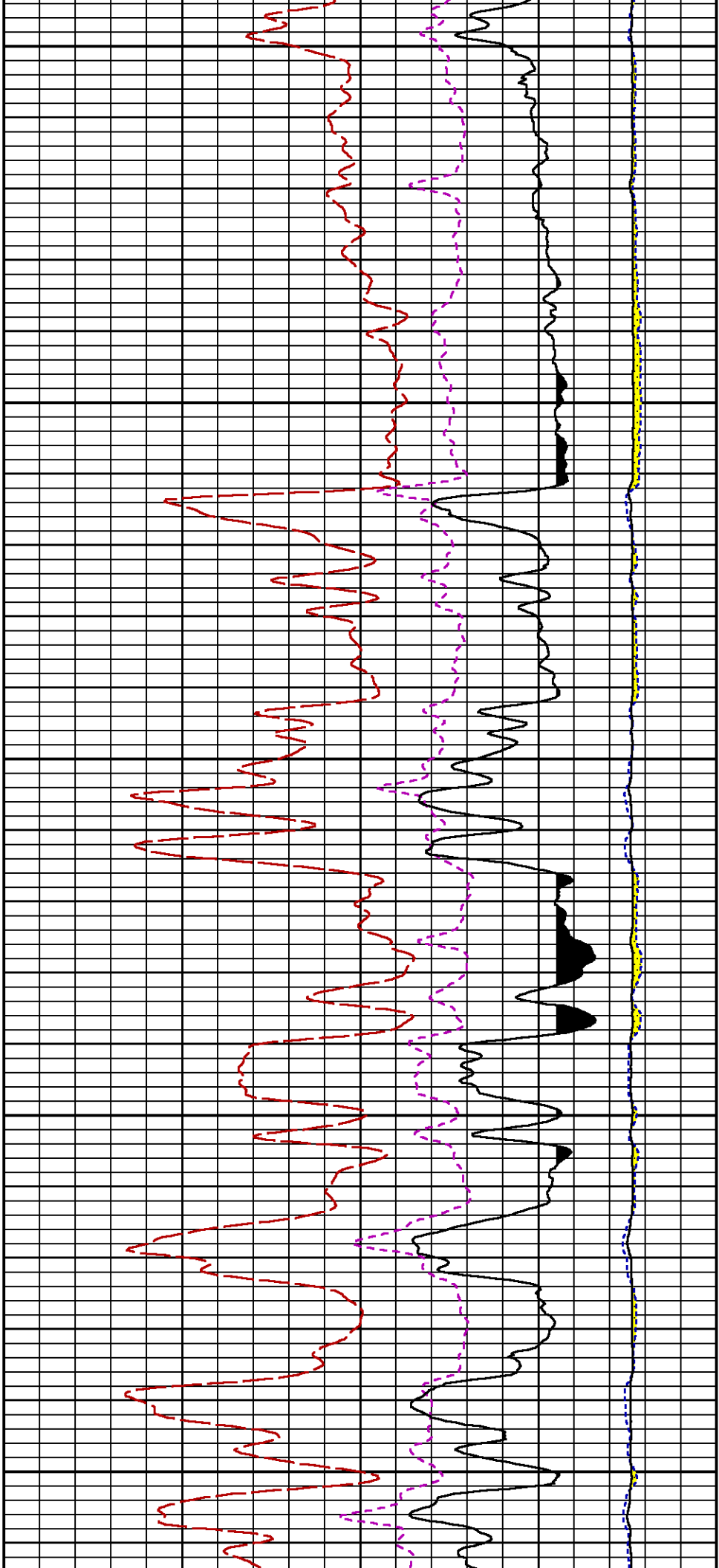


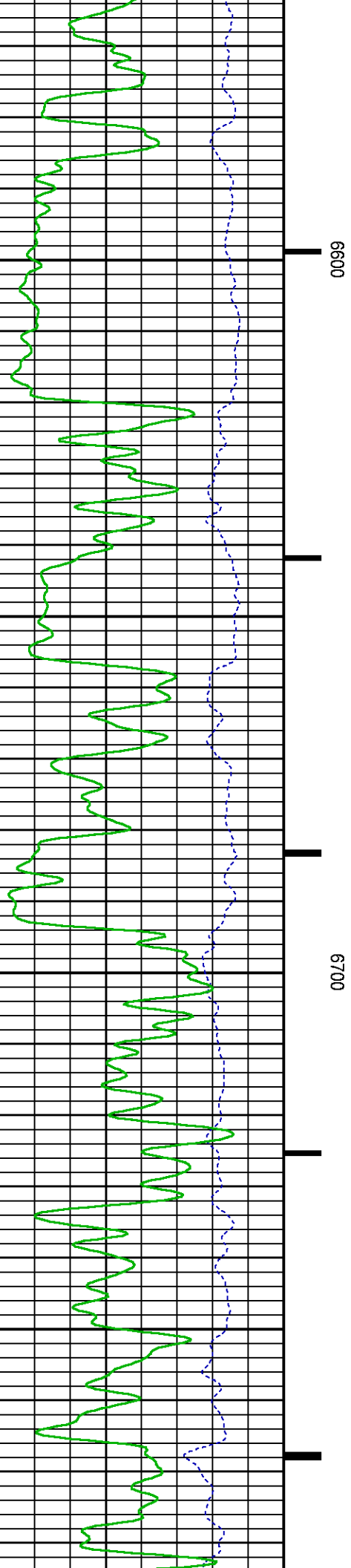
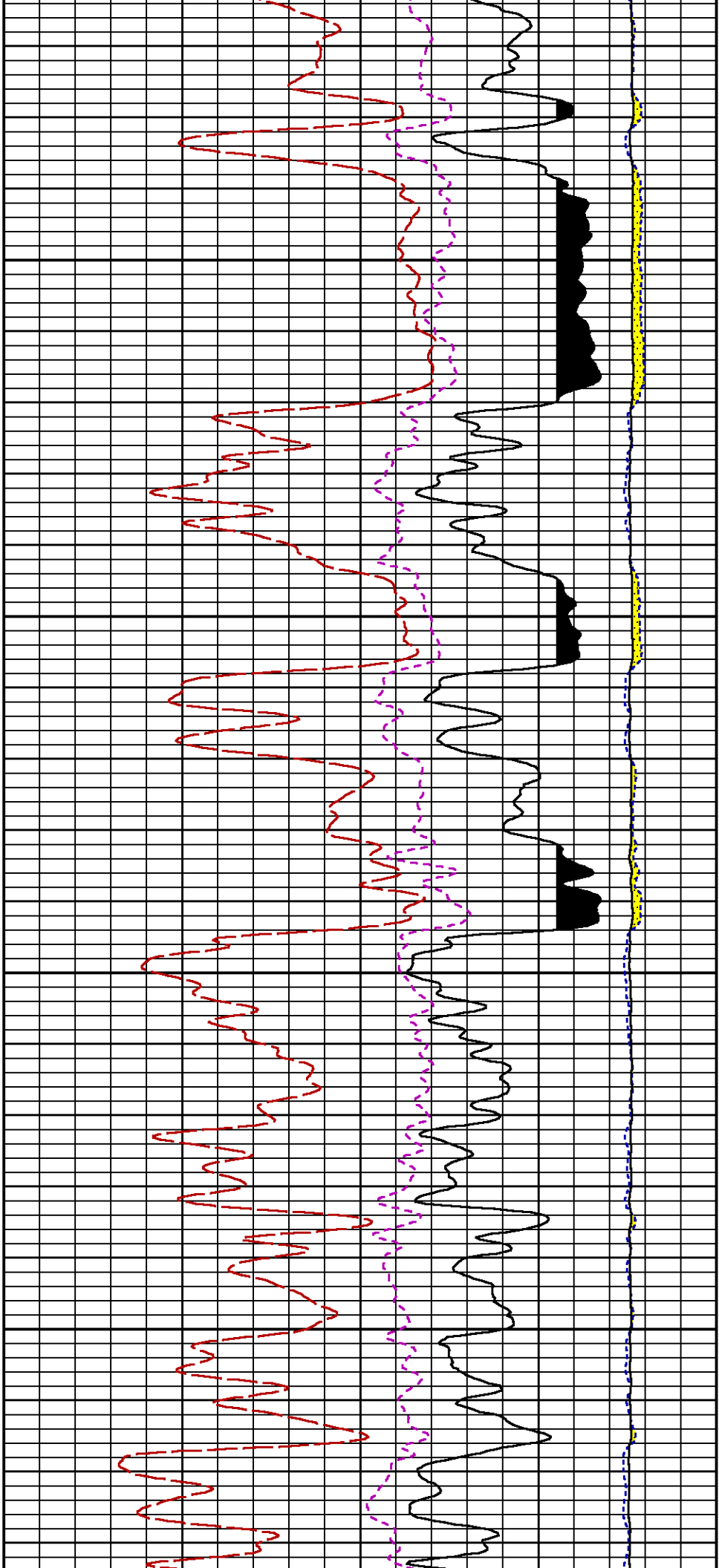


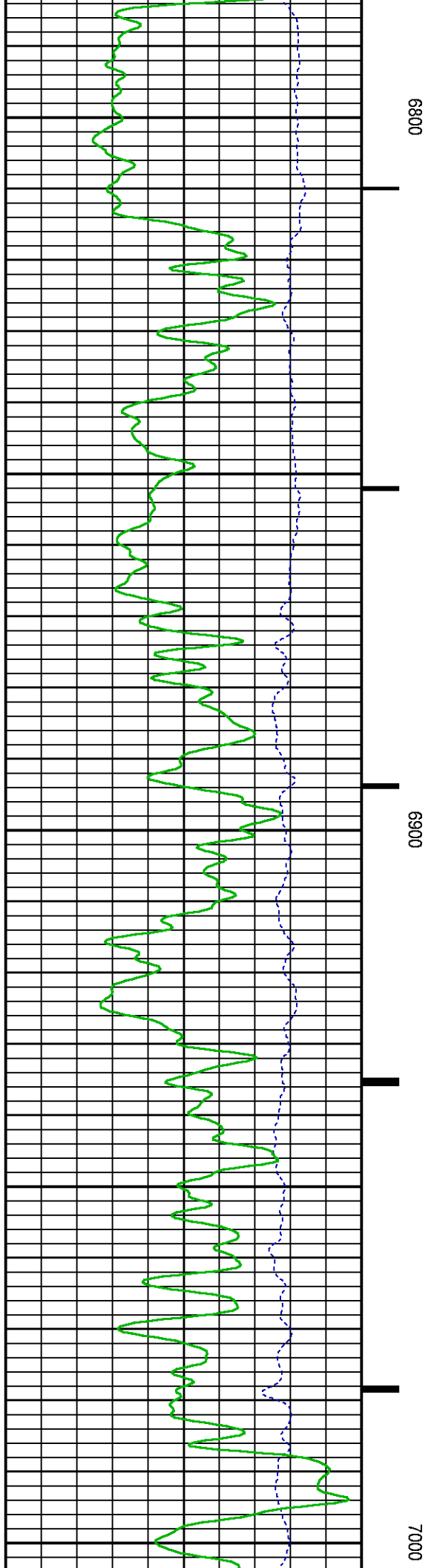
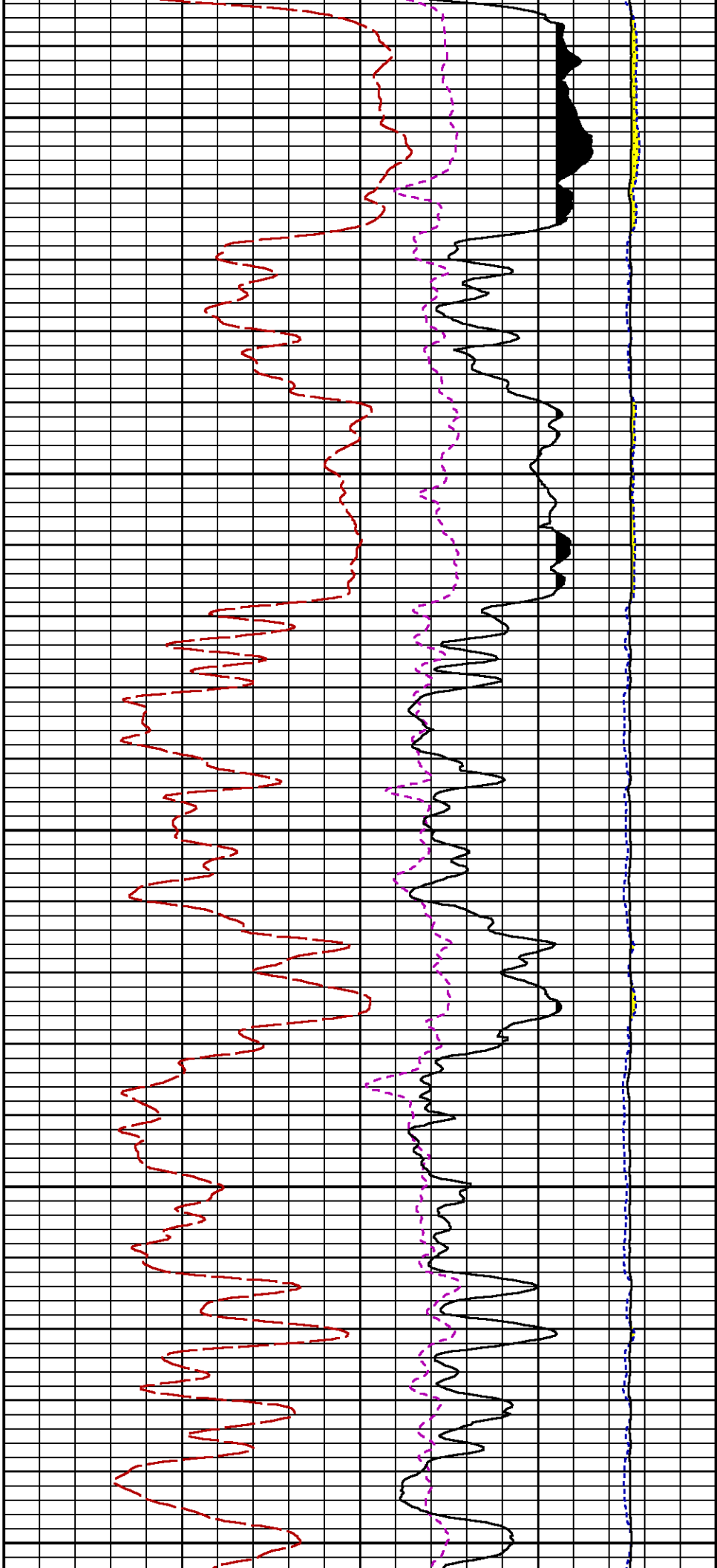


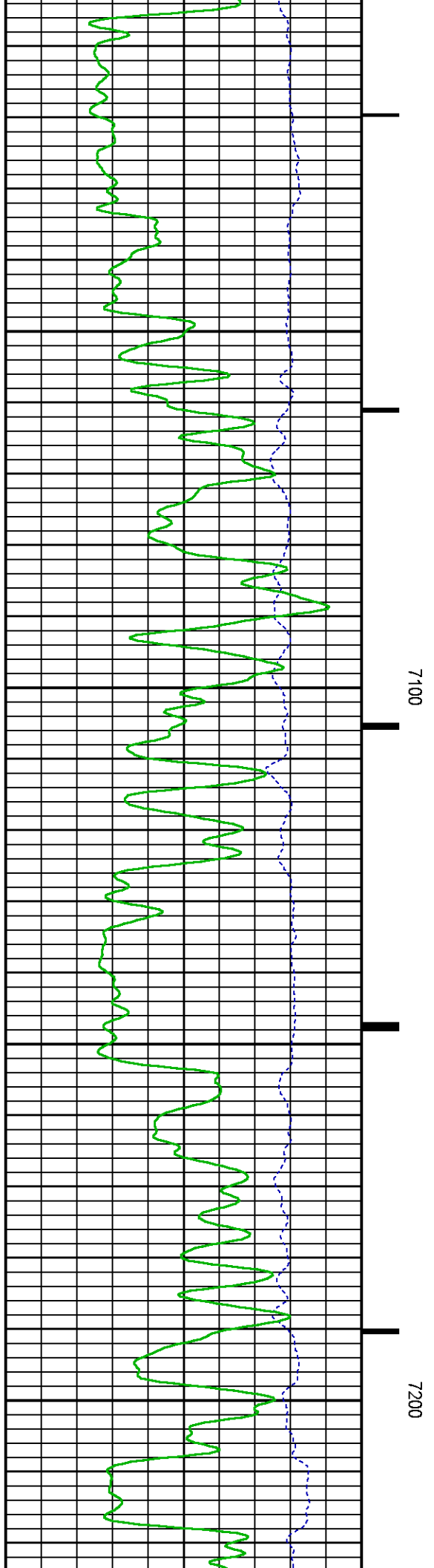
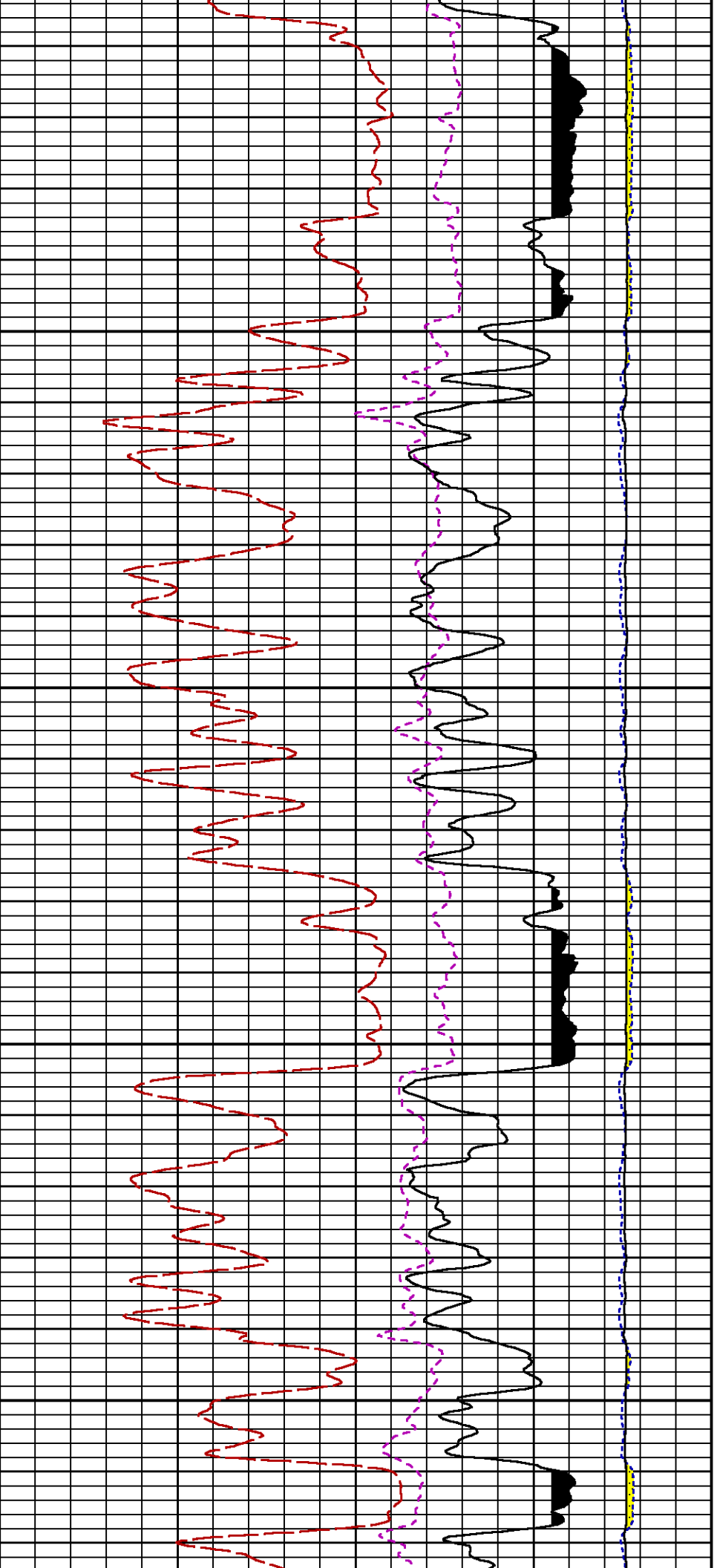


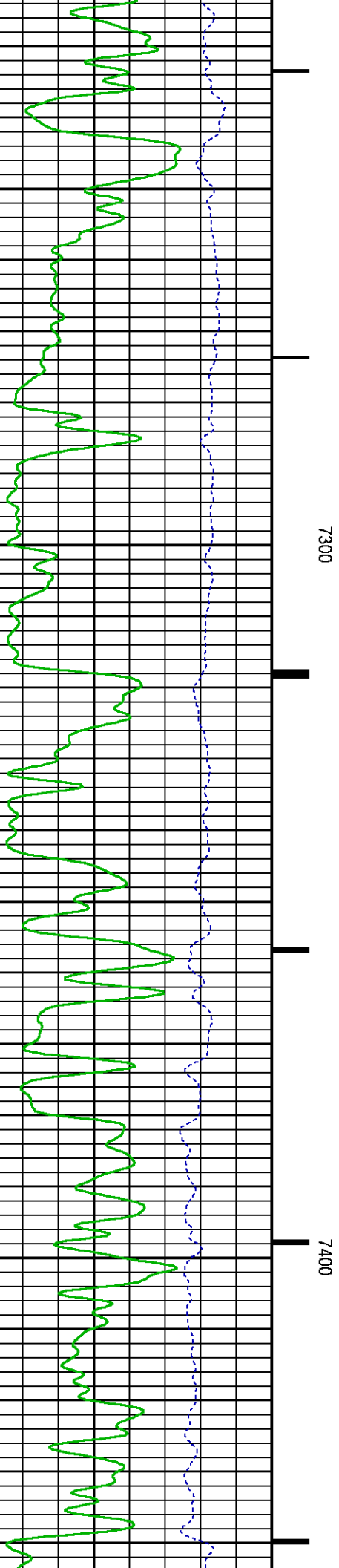
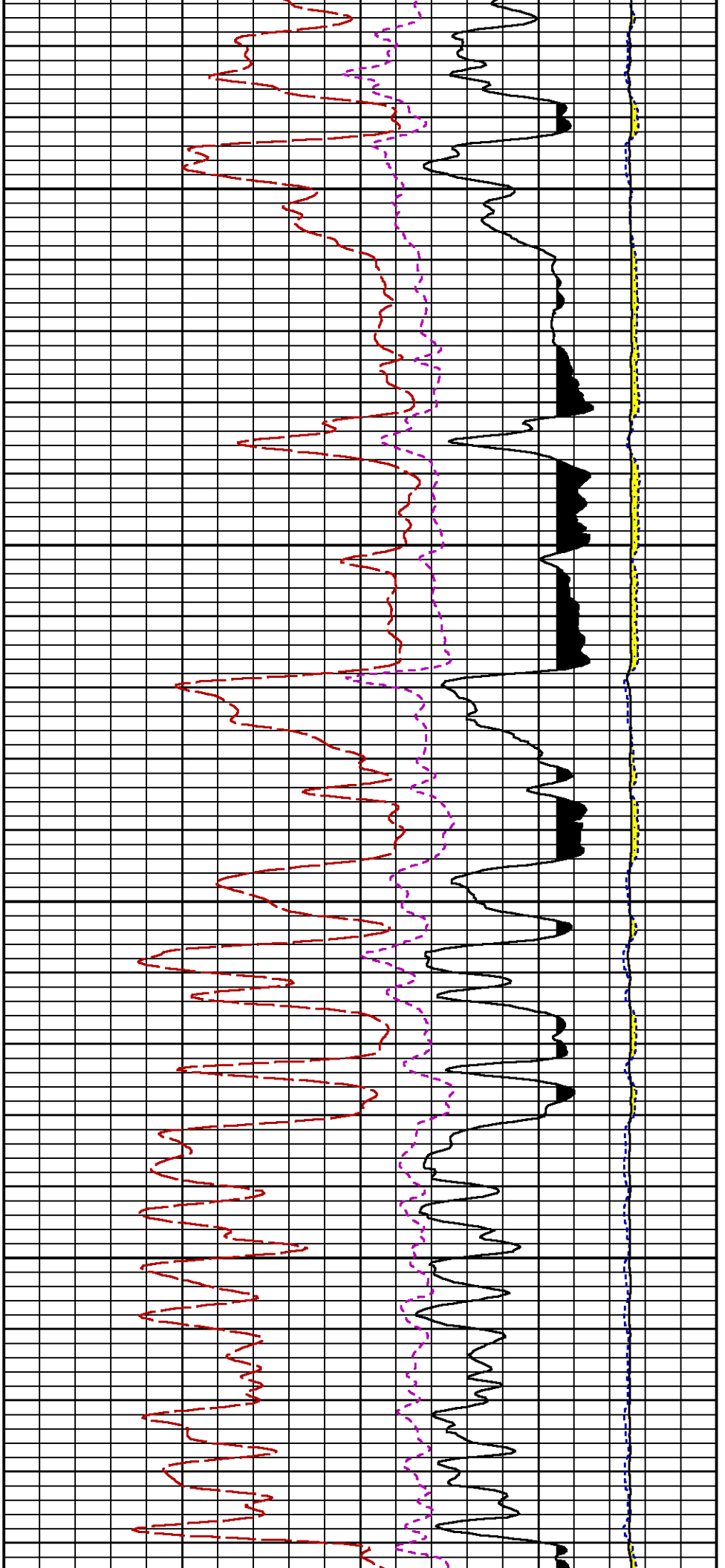


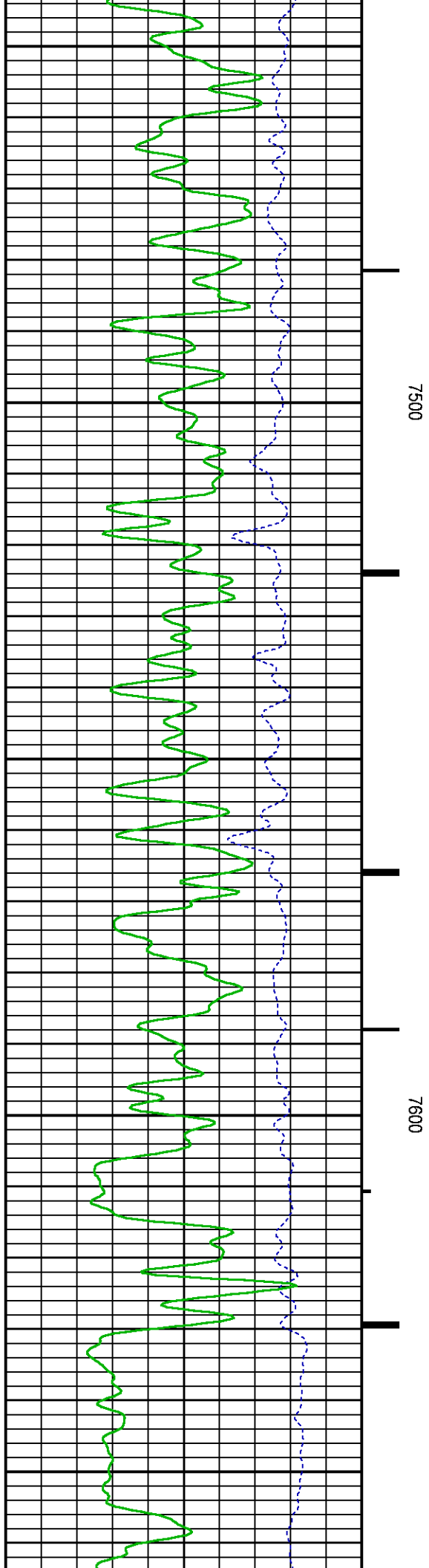
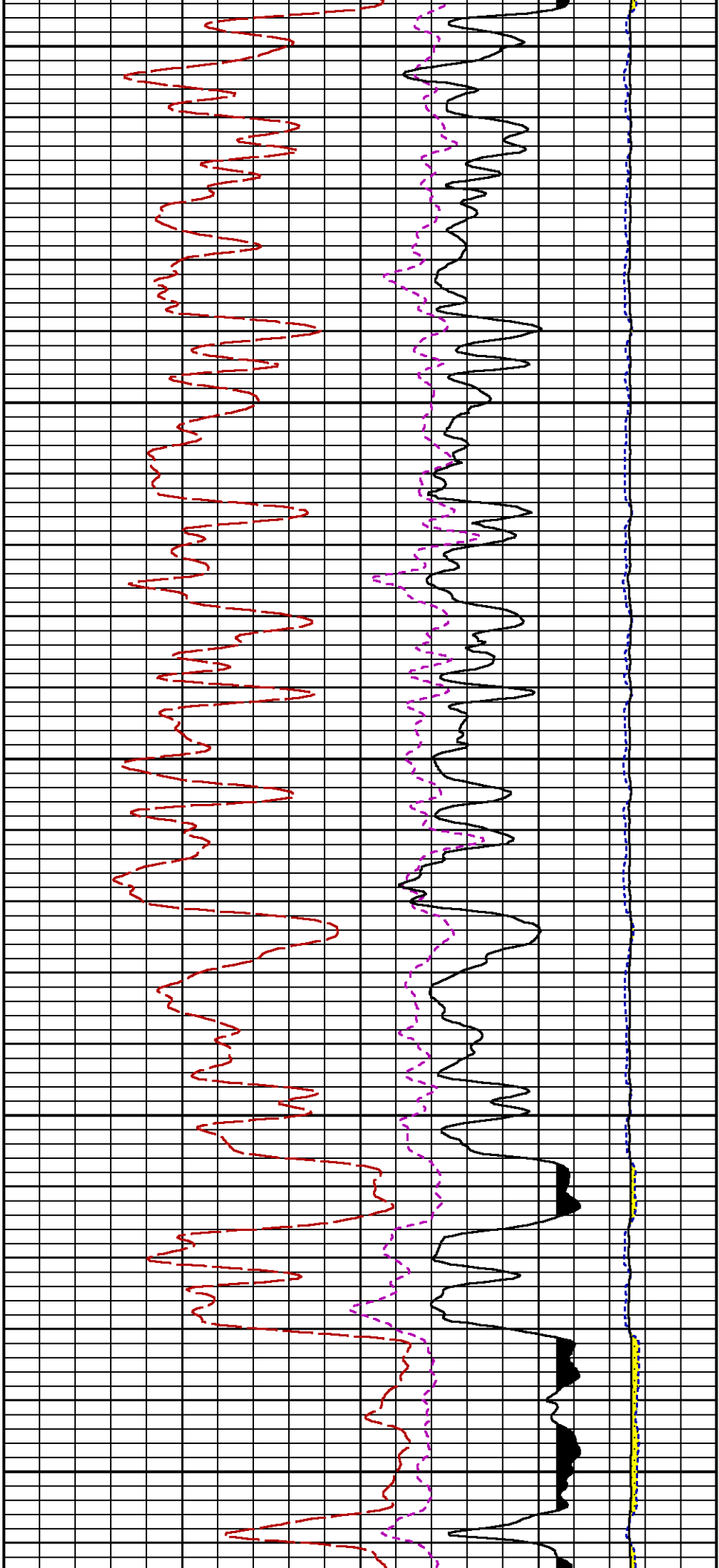


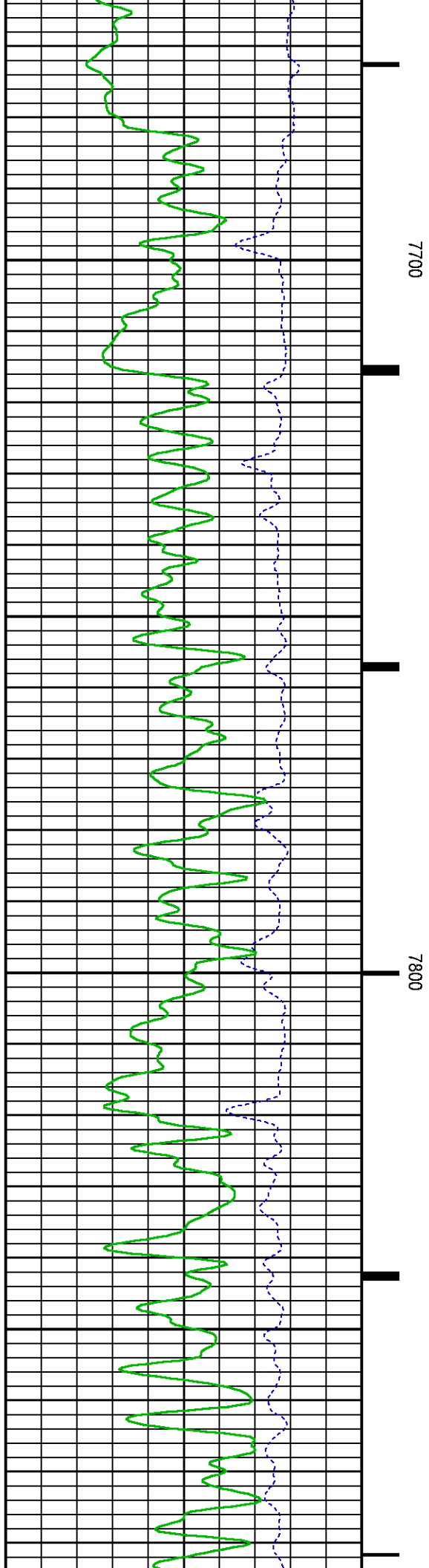
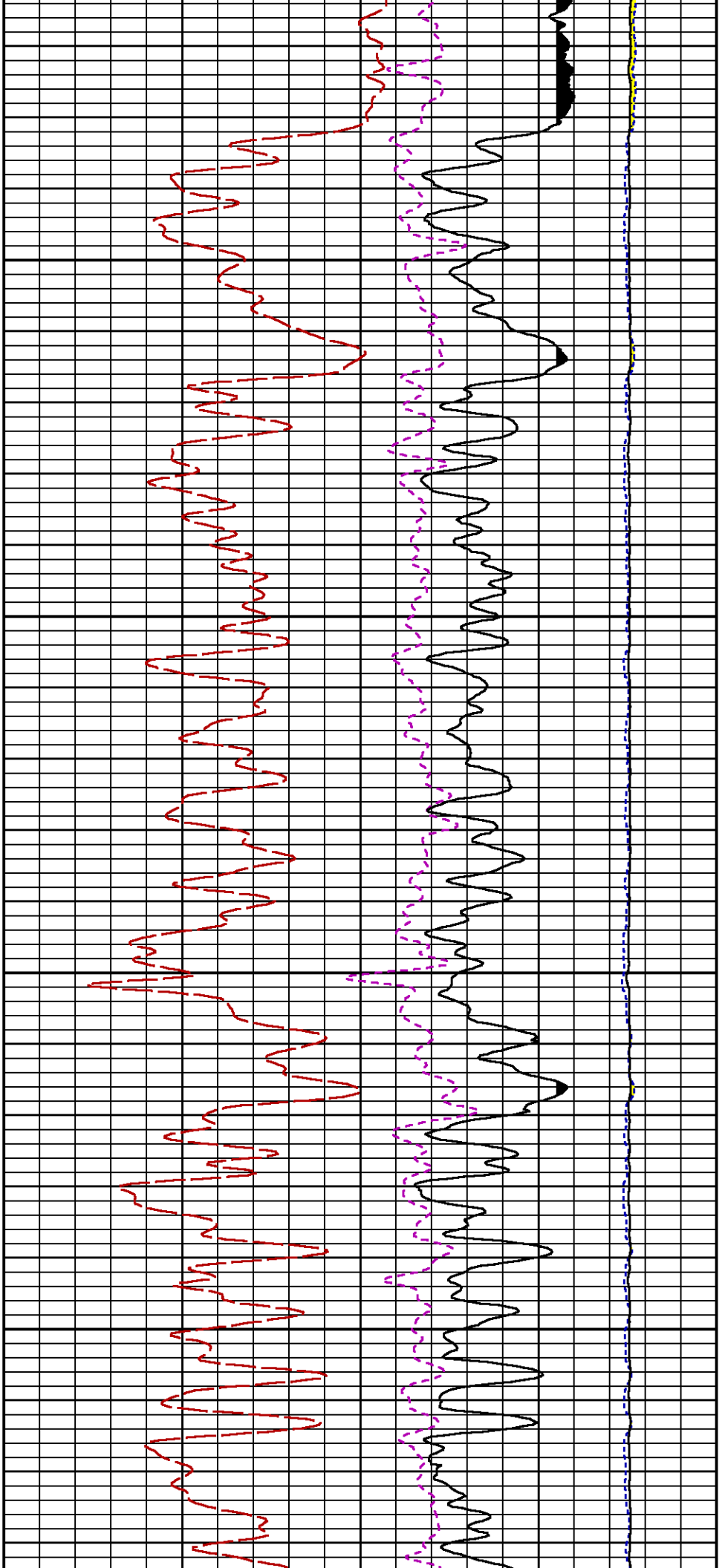


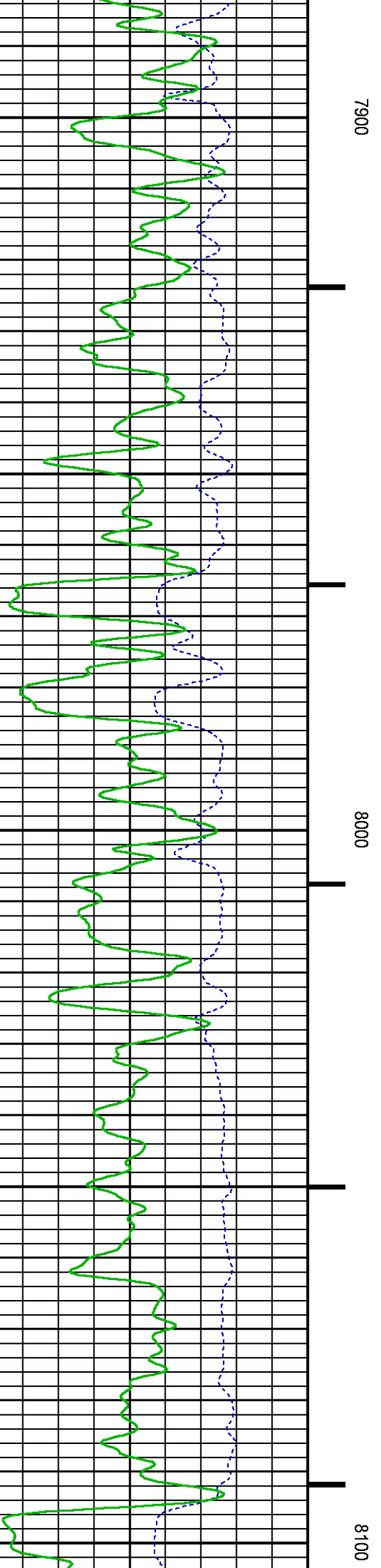
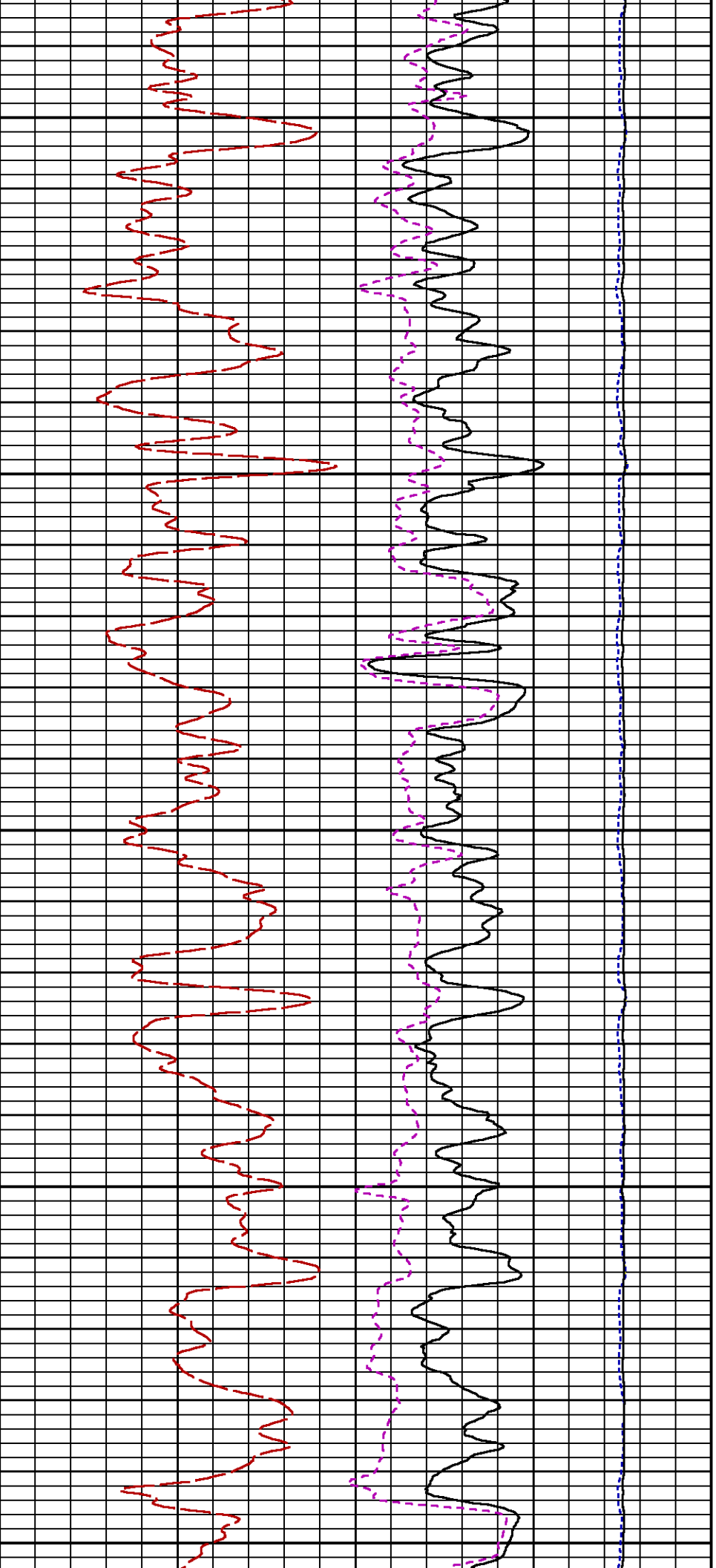


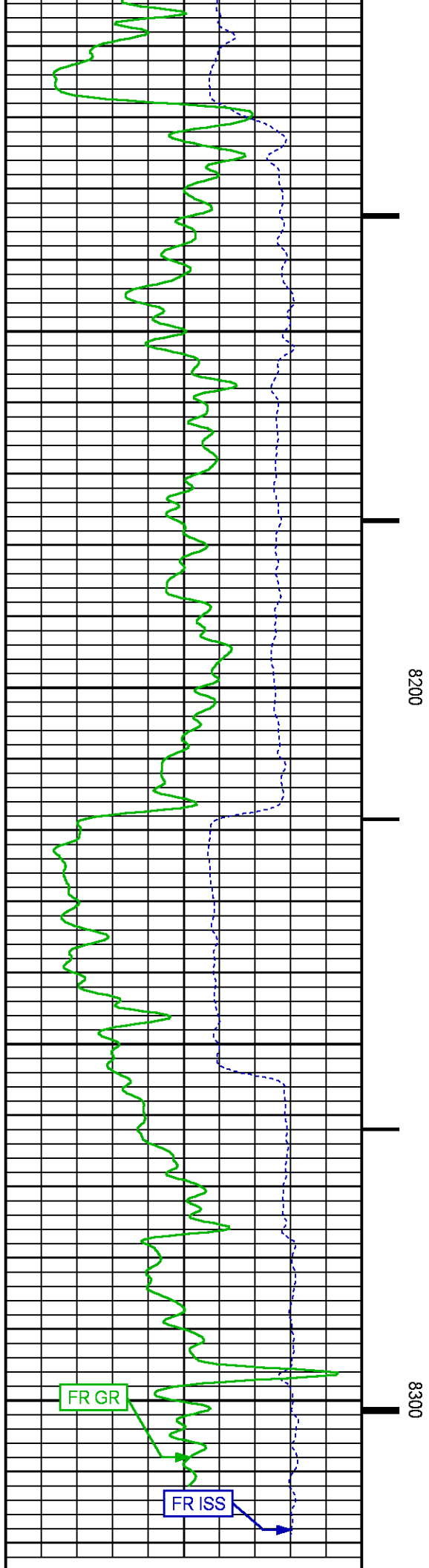
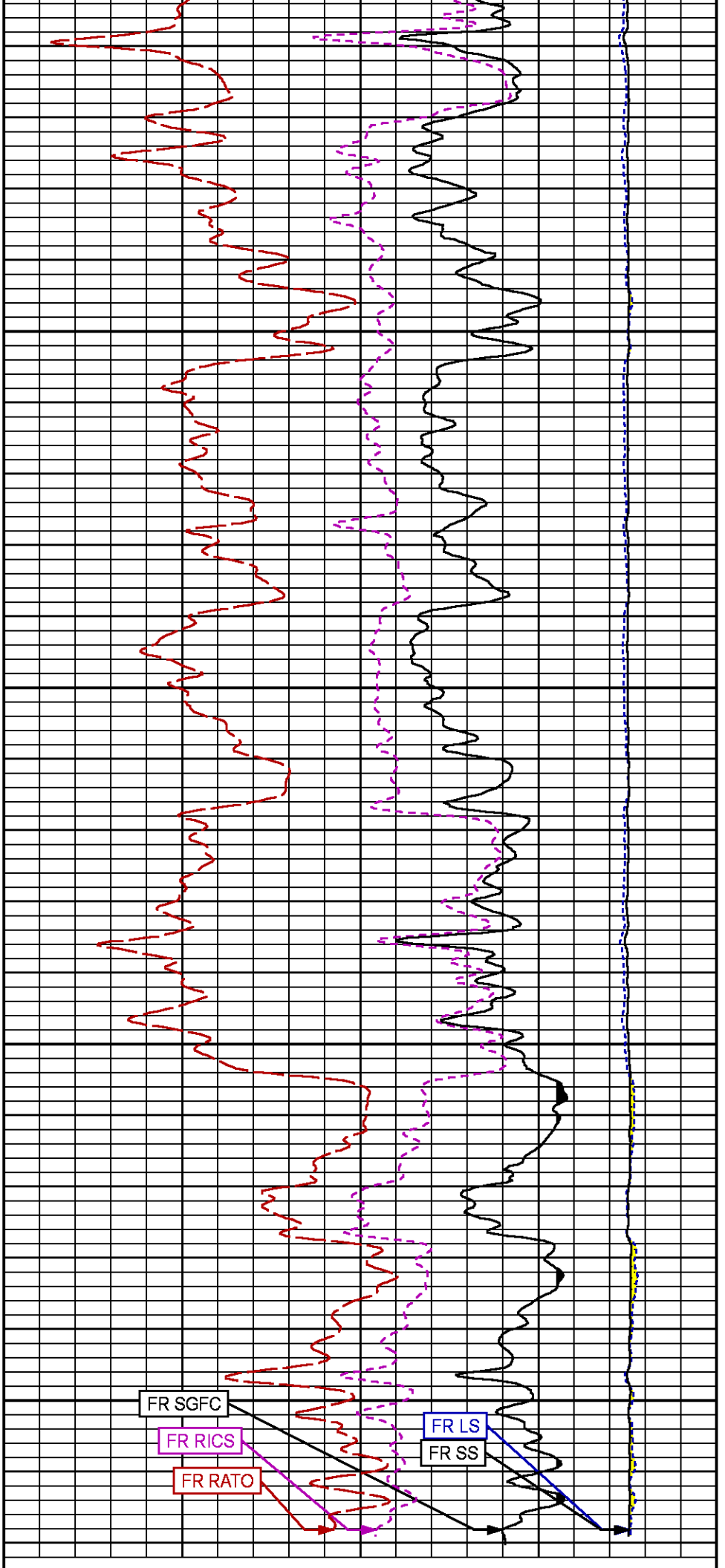


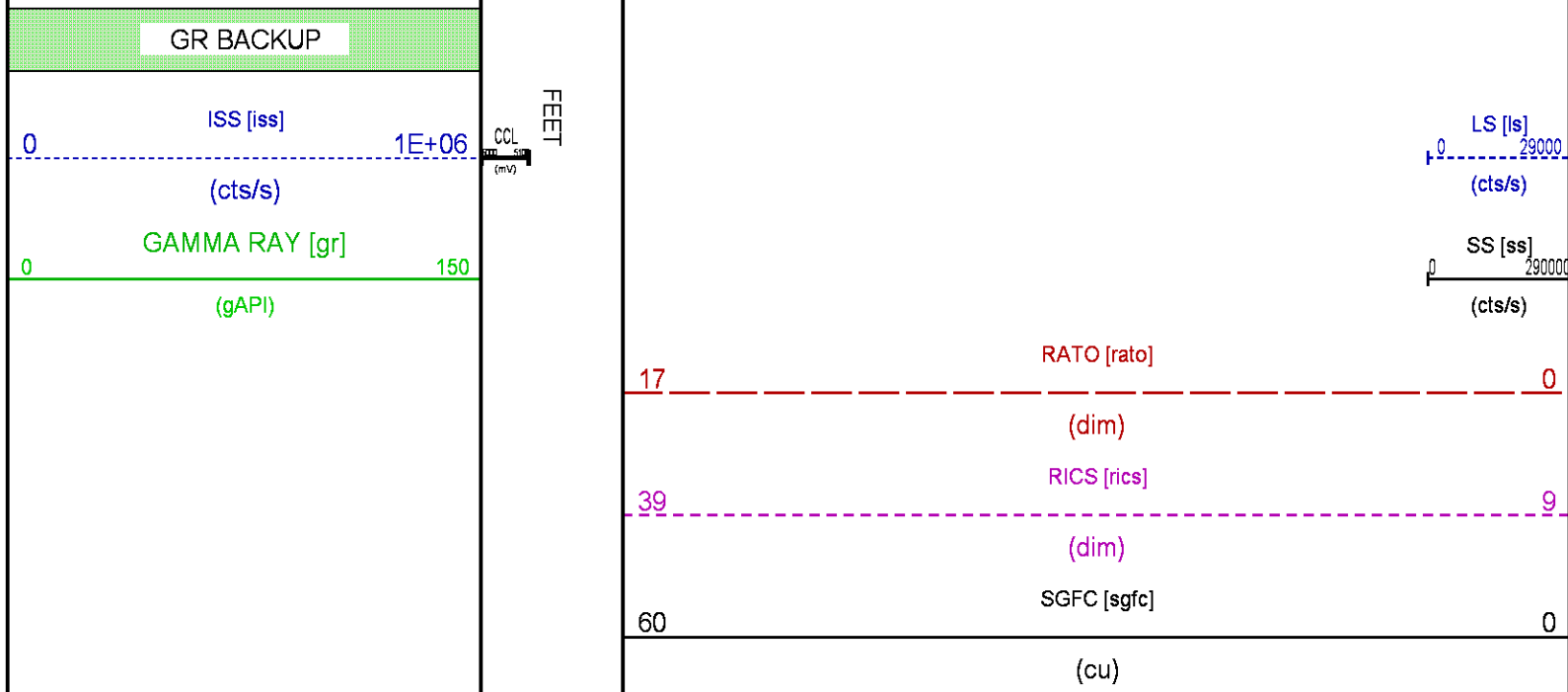












REPEAT SECTION PNC-3D MODE

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

Updates: 1 Patches: 8

Plotted: Mon Jan 25 15:16:03 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101524/n353h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 8099.750 ft BOTTOM DEPTH: 8341.051 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

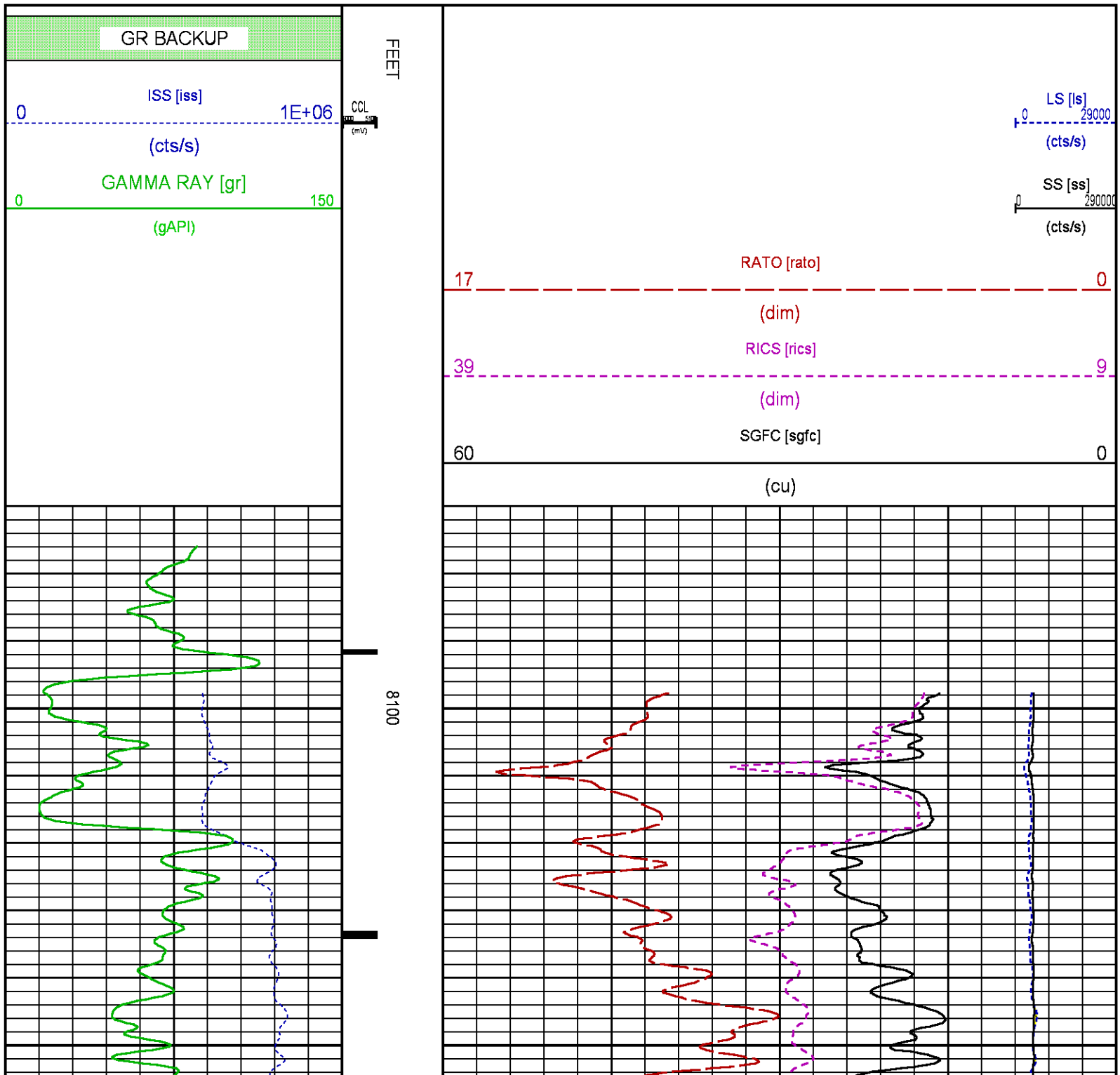
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 25 11:29:51 2016	CASING COLLAR LOCATOR
F1:GR	Jan 25 11:29:51 2016	GAMMA RAY
F1:ISS	Jan 25 11:29:51 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 11:29:51 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 25 11:29:51 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 11:29:51 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)

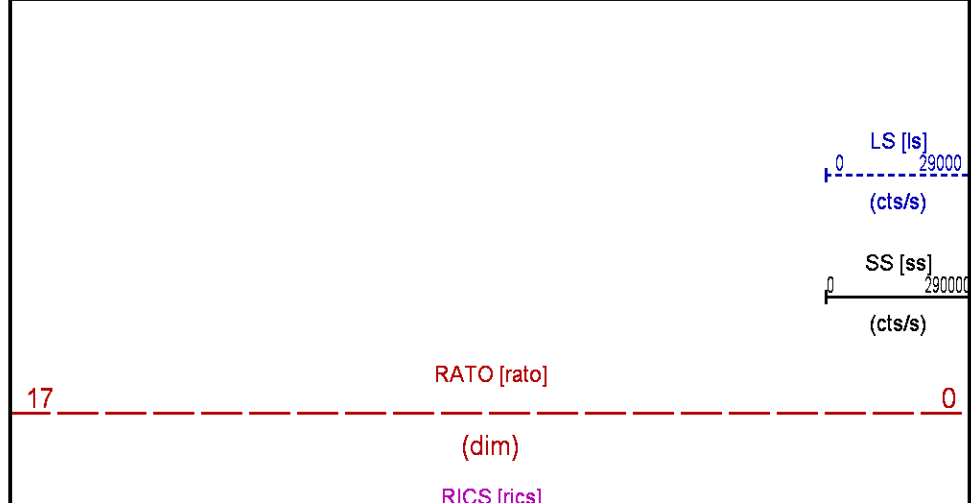
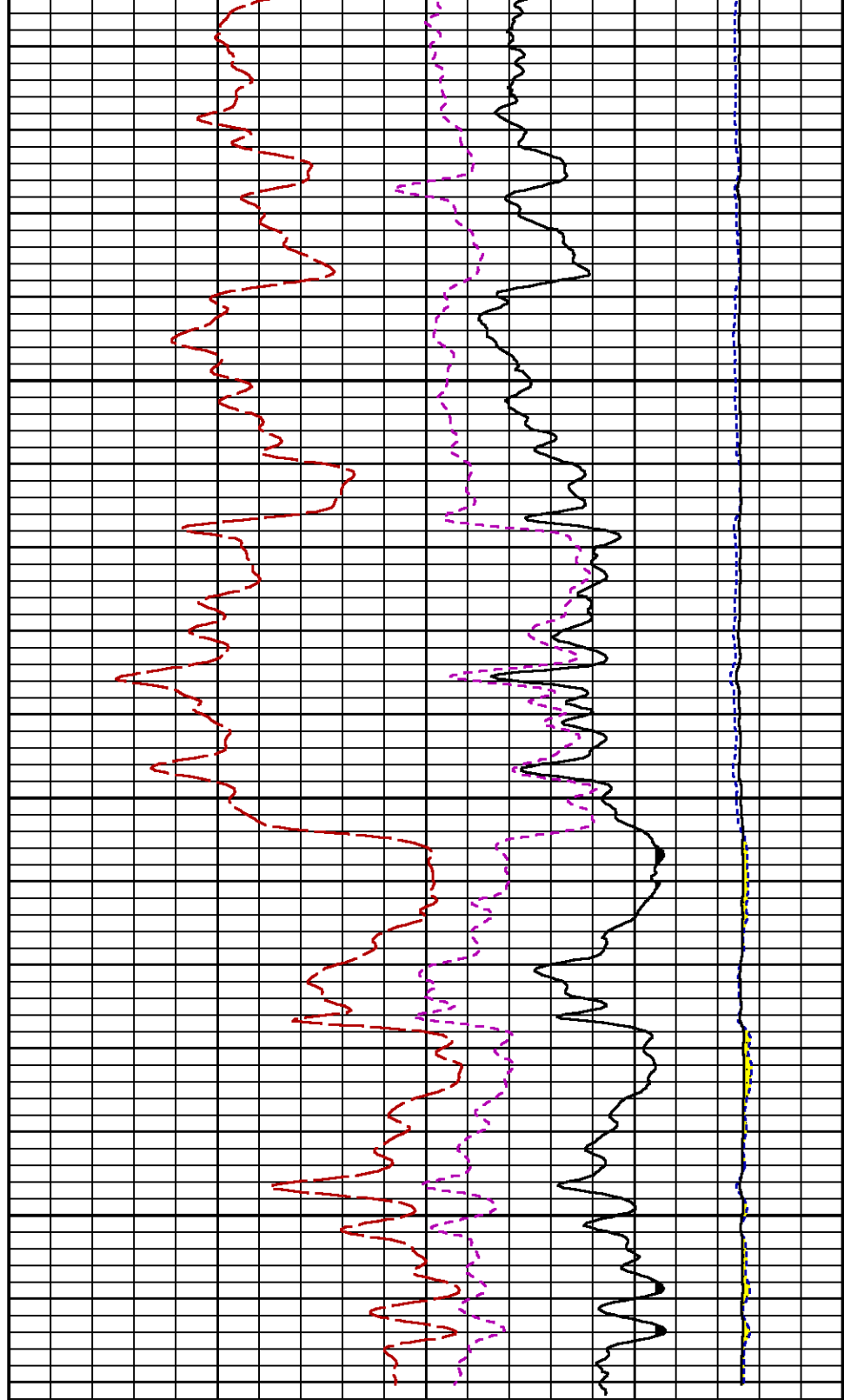
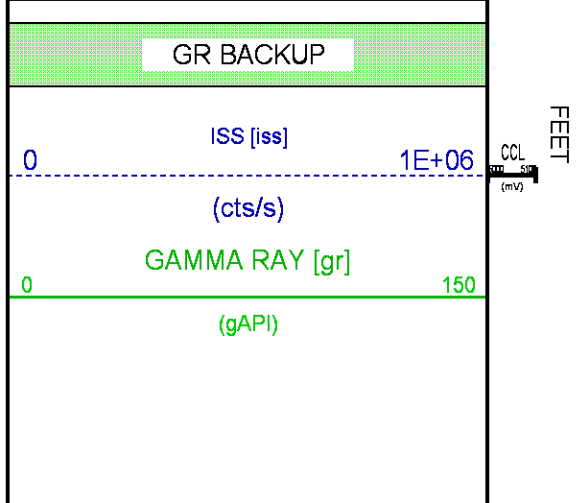
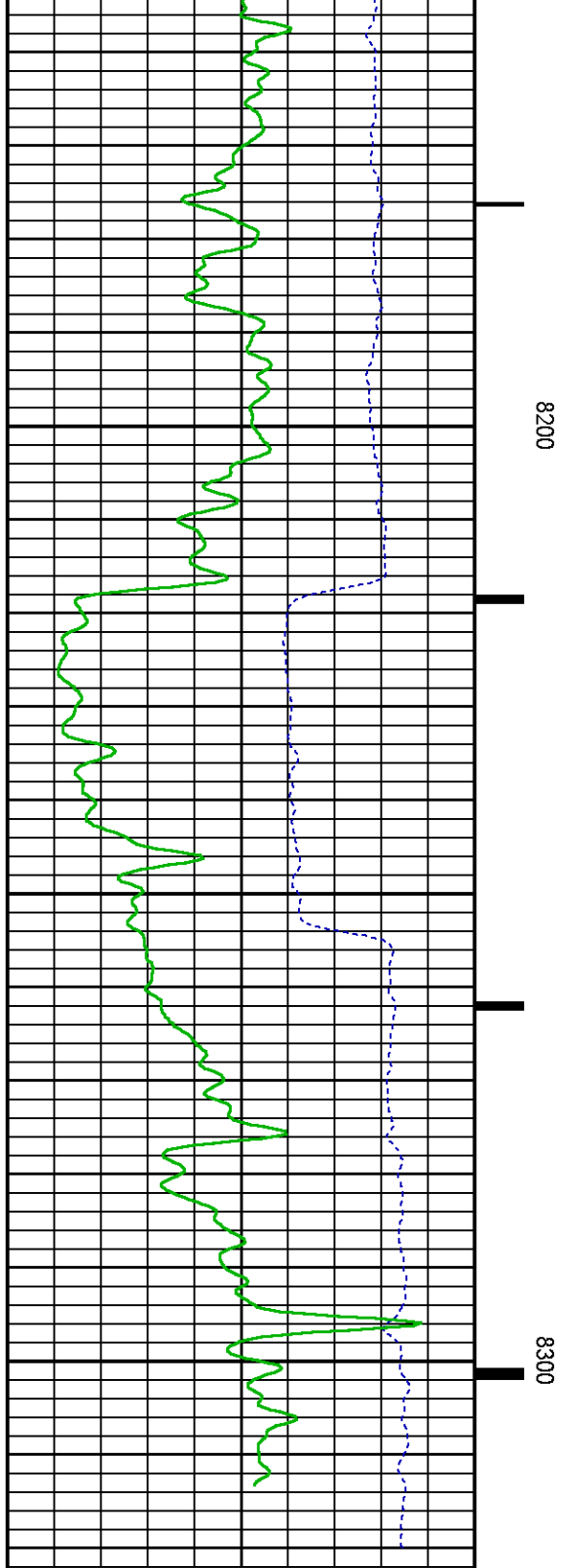
CURVE MEASURE POINT OFFSET

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 : cas6685:/dat1a/CH101524/RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 8071.75 - 8321.5 Feet

Data File 1 : F1 : cas6685:/dat1a/CH101524/n353h01_RPT.xtf
Created On : Jan 25 11:29:51 2016
Company : LARAMIE ENERGY
Well : PICEANCE FEDERAL 28-19E
Field : VEGA
File Interval : 8071 - 8336.5 Feet
OCT : n353h





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

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH101524/n353h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10317216

DATE/TIME PERFORMED: Mon Jan 18 10:46:03 2016

UNIT #: 3885TC 6685

CALB JIG #: 4702NK BA-905

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	68.11	414.24	346.1	0.520	35.42	215.42	180

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10317216

DATE/TIME PERFORMED: Mon Jan 18 10:48:06 2016

UNIT #: 3885TC 6685

VERI JIG #: 4702NK BA-905

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	70.38	414.87	0.520	36.60	215.74	179.14
						170.00 190.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10203151

DATE/TIME PERFORMED: Mon Jan 11 11:21:12 2016

UNIT: 3880TA HL6670

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 11803641

HOURS: 8281AA 418

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	807400	124	2290	2370	2449	126	7.0	0.9665
Interpolated	1300000	147	2275	2369	2437			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	807400	8034	1221	162	26.06 25.35 26.40	0.15 0.00 0.20	24.11 23.60 24.80	0.34 0.00 0.40
	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	807400	165244	25673	87246	31025	7989	52815	12795
Fit Quality %		0.829	0.833	0.893	0.851	0.976	0.810	0.984
	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	807400	1.43 1.42 1.45	4.89 3.55 5.52	31.47 22.20 32.70	15.29 10.99 16.34	10.93 10.06 11.10	3.89 3.57 3.95	4.13 3.76 4.22
Fit Quality %		0.028	0.215	0.140	0.126	0.184	0.197	0.174
Reduced	1387478	1.43 1.42 1.45	4.91 4.33 5.52	31.56 27.60 32.70	15.33 13.70 16.34	10.96 10.06 11.10	3.90 3.57 3.95	4.14 3.76 4.22

TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 11774568

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: /dat1a/CH101507/n353h-joe-tdg

A3 CABLEHEAD

PCM POWER SUPPLY

Diameter : 1.70"
Length : 3.86'
Weight : 18 lbs
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

34.08'

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

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 DETECTOR
Measure Point: 5.04': LS DETECTOR
Measure Point: 4.79': SS DETECTOR

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


BULL PLUG 1 11/16

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

GR MP 22.90'

XLS DETECTOR 13.58'
LS DETECTOR 13.16'
SS DETECTOR 12.91'

TEMP MP 1.65'
PRES MP 0.00'

	COMPANY	LARAMIE ENERGY		FILE NO:	CH101524
	WELL	PICEANCE FEDERAL 28-19E		API NO:	05077102540000
	FIELD	VEGA			
	COUNTY	MESA	STATE	COLORADO	
	LOCATION:	SHL: 2011' FSL 2492' FWL BHL: 613' FSL 880' FEL		ELEVATIONS:	SEC 28 T9S R93W 28-10 PAD PATTERSON 306
	SEC 28	TWP 9S	RGE 93W	DATE	25-Jan-2016