



FILE NO: CH101518	COMPANY WELL FIELD COUNTY	LARAMIE ENERGY PICEANCE FEDERAL 28-13E VEGA MESA STATE CO
API NO: 05077102490000		

Ver. 4.01 28 9S 93W 28-10 PAD PATTERSON 306	LOCATION: SHL: 2042' FSL & 2489' FWL BHL: 2113' FSL & 877' FEL SEC 28 TWP 9S RGE 93W	OTHER SERVICES BOND LOG
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB KB GL	ELEVATION 22 FT 22 FT 7682 FT 7682 FT	ABOVE P.D. ELEVATIONS: KB 7704 FT DF GL 7682 FT
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DATE	22-JAN-2016
RUN	TRIP
SERVICE ORDER	US101518
DEPTH DRILLER	8306 FT
DEPTH LOGGER	8302 FT
BOTTOM LOGGED INTERVAL	8292 FT
TOP LOGGED INTERVAL	2804 FT
TIME STARTED	10:30
TIME FINISHED	15:30
OPERATOR RIG TIME	5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	49 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	236 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	22-JAN-2016
EQUIP. NO.	HL-6670
LOCATION	GRAND JCT.
RECORDED BY	P. EDWARDS
WITNESSED BY	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

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	8393 FT

REMARKS

RUN 1 TRIP 1: ALL DATA ON THIS LOG IS SHIFTED USING THE GAMMA RAY CURVE TO THE BAKER HUGHES BOND LOG DATED 22/JAN/2016 AT THE CLIENT'S REQUEST.

LOGGED IN PNC-3D MODE.

LOGGED WITH 0 PSI AT WELLHEAD.

BHT = 236 DEGF

SJ = 6624' - 6645'
SJ = 7482' - 7504'

THANK YOU FOR CHOOSING BAKER HUGHES ... THE BEST CHOICE!

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	Z166326	FREE
1	1	TEL/CCL	8248ED	10387150	FREE
1	1	GR	2812LA	10274382	FREE
1	1	RPM	8281EA	10423671	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10460082	FREE
1	1	TEMP	8255XA	Z120516	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: 6

Plotted: Fri Jan 22 15:00:36 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101518/n354h03.prm
 LOGGING MODE: DEPTH: 2791.500 ft DIRECTION: UP
 TOP DEPTH: 2791.500 ft BOTTOM DEPTH: 3448.000 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 22 14:18:02 2016	CASING COLLAR LOCATOR
F1:GR	Jan 22 14:18:02 2016	GAMMA RAY
F1:ISS	Jan 22 14:18:02 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 22 14:18:02 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 22 14:18:02 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 22 14:18:02 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 22 14:18:02 2016	CORRECTED FORMATION SIGMA
F1:SS	Jan 22 14:18:02 2016	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : HL6670:/dat1a/CH101518/13E_RPM_GSAND.fvpdf [5"/100" Scale]
 Plot Interval : 2800 - 3420 Feet

Data File 1 : F1 : HL6670:/dat1a/CH101518/n354h03GSAND13E.xtf
 Created On : Jan 22 14:18:02 2016
 Company : LARAMIE ENERGY
 Well : RICEANCE FEDERAL 20-125

Well : PICEANCE_FEDERAL_29_13E
Field : VEGA
File Interval : 2778.5 - 3459.75 Feet
OCT : n354h

GR BACKUP

ISS [iss]

1E+06

(1)

GAMMA RAY [gr]

(gAPI)

FEET

CCL
(mV)

2800

2900

LS [ls]

29000

(1)

SS [ss]

290000

(1)

RATO [rato]

17

0

(1)

RICS [rics]

39

9

(1)

SGFC [sgfc]

60

0

(1)

GR

ISS

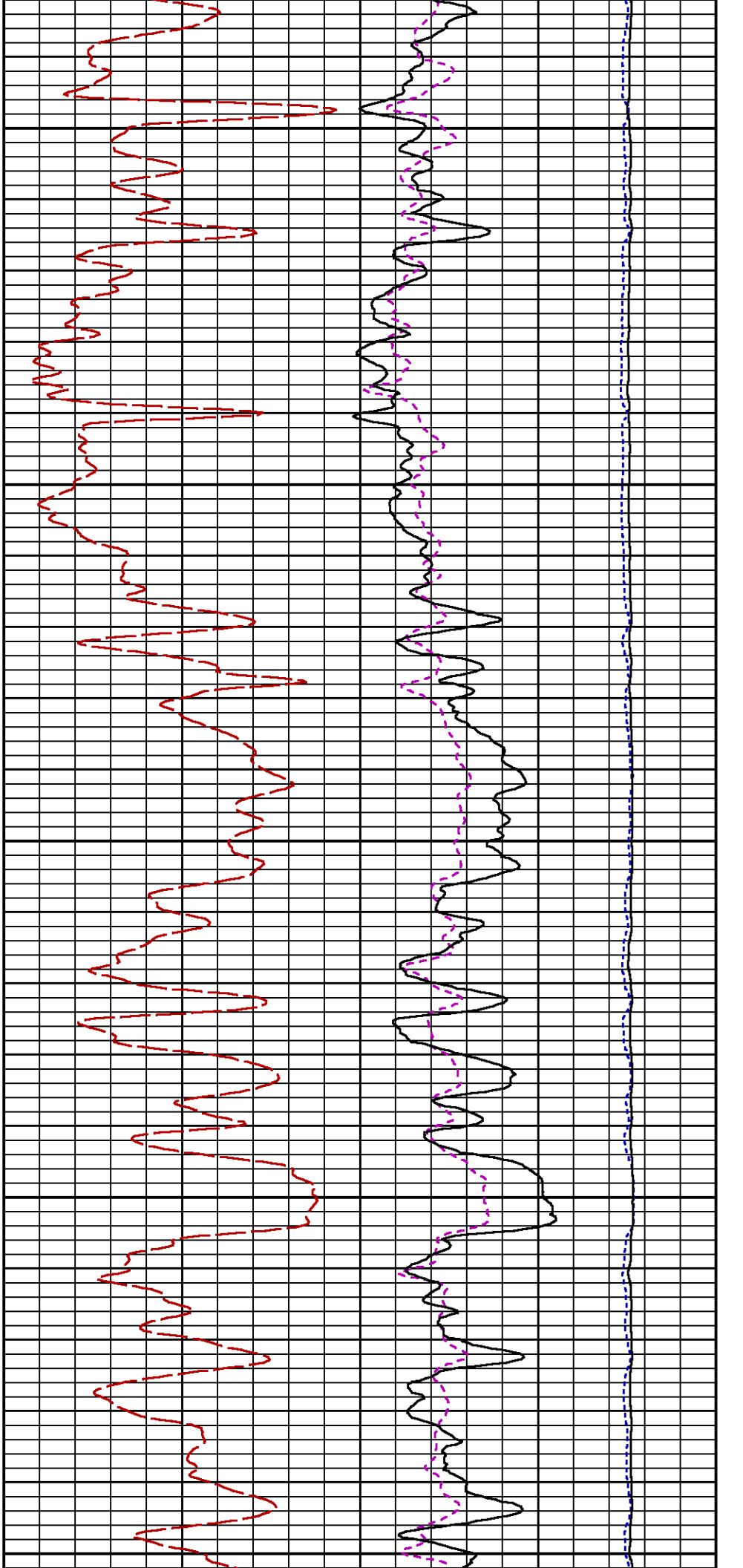
RATO

LS

SS

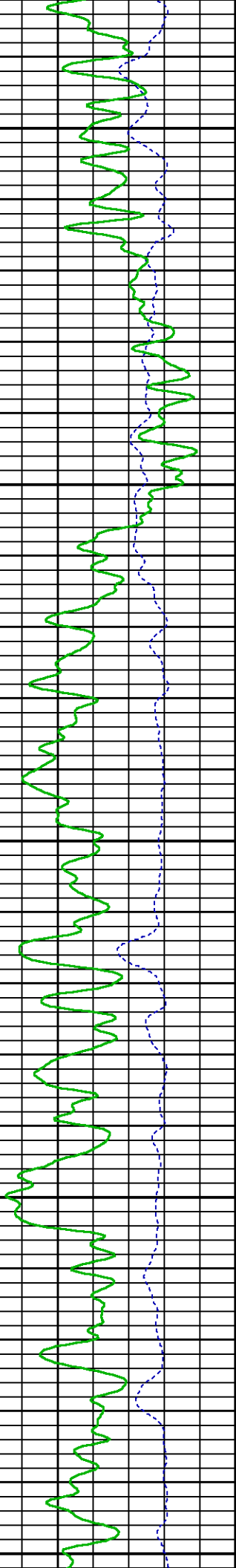
RICS

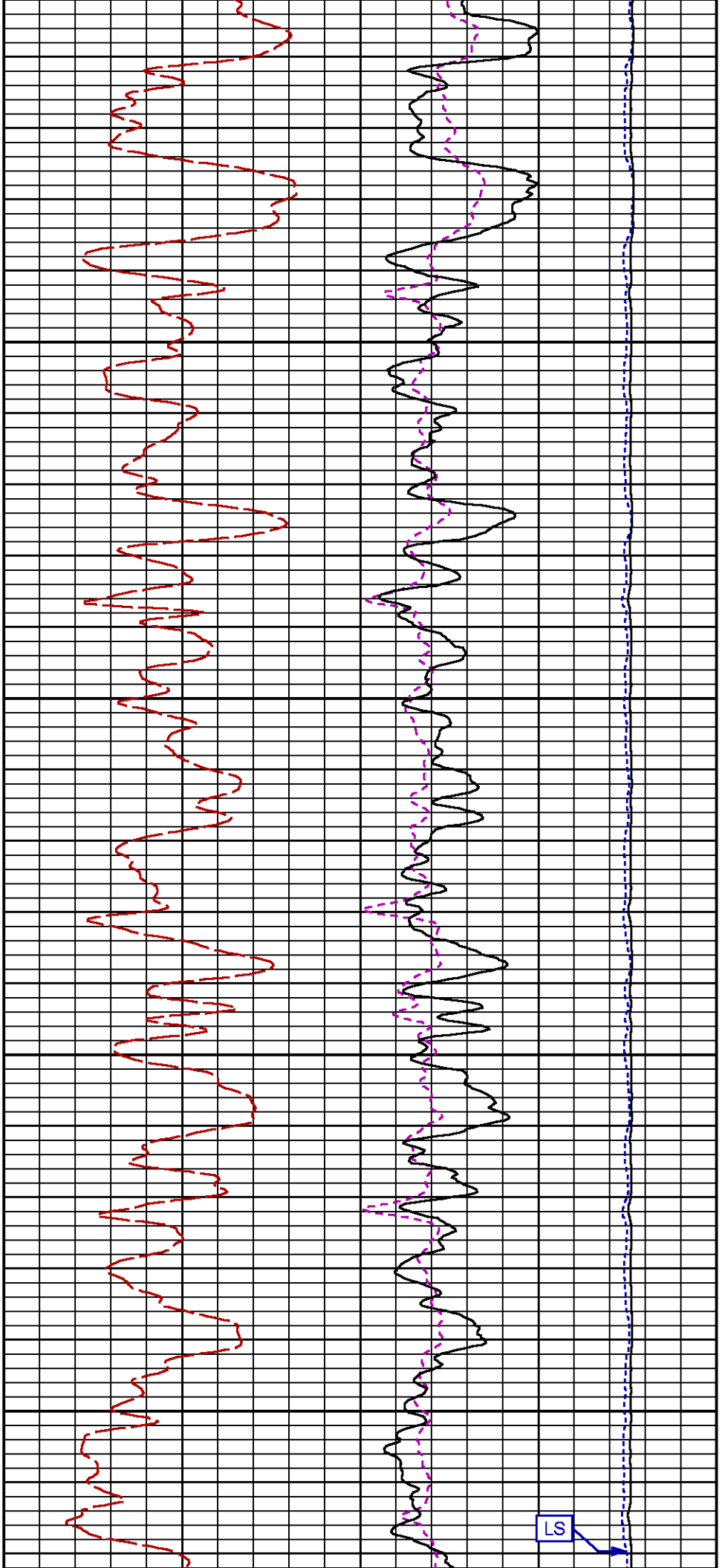
SGFC



3000

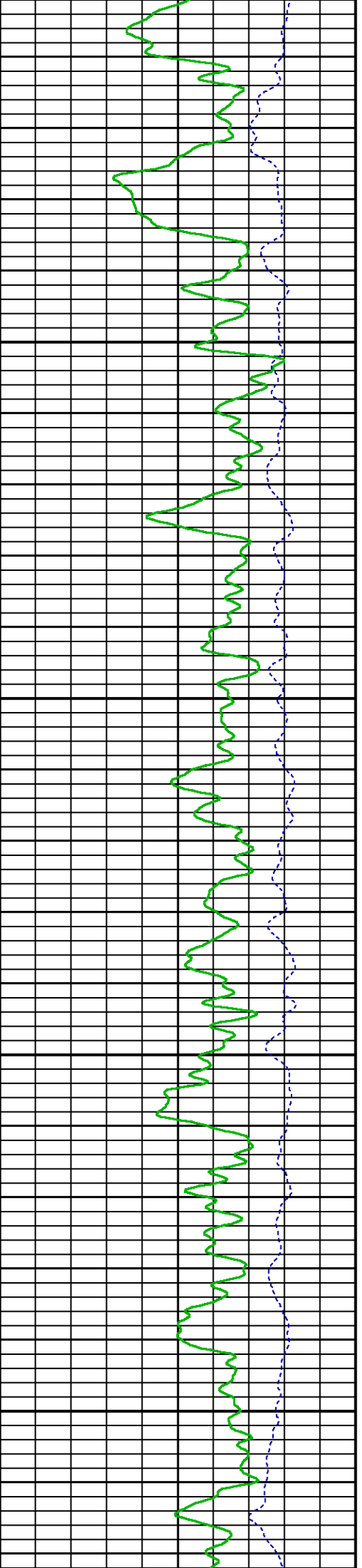
3100

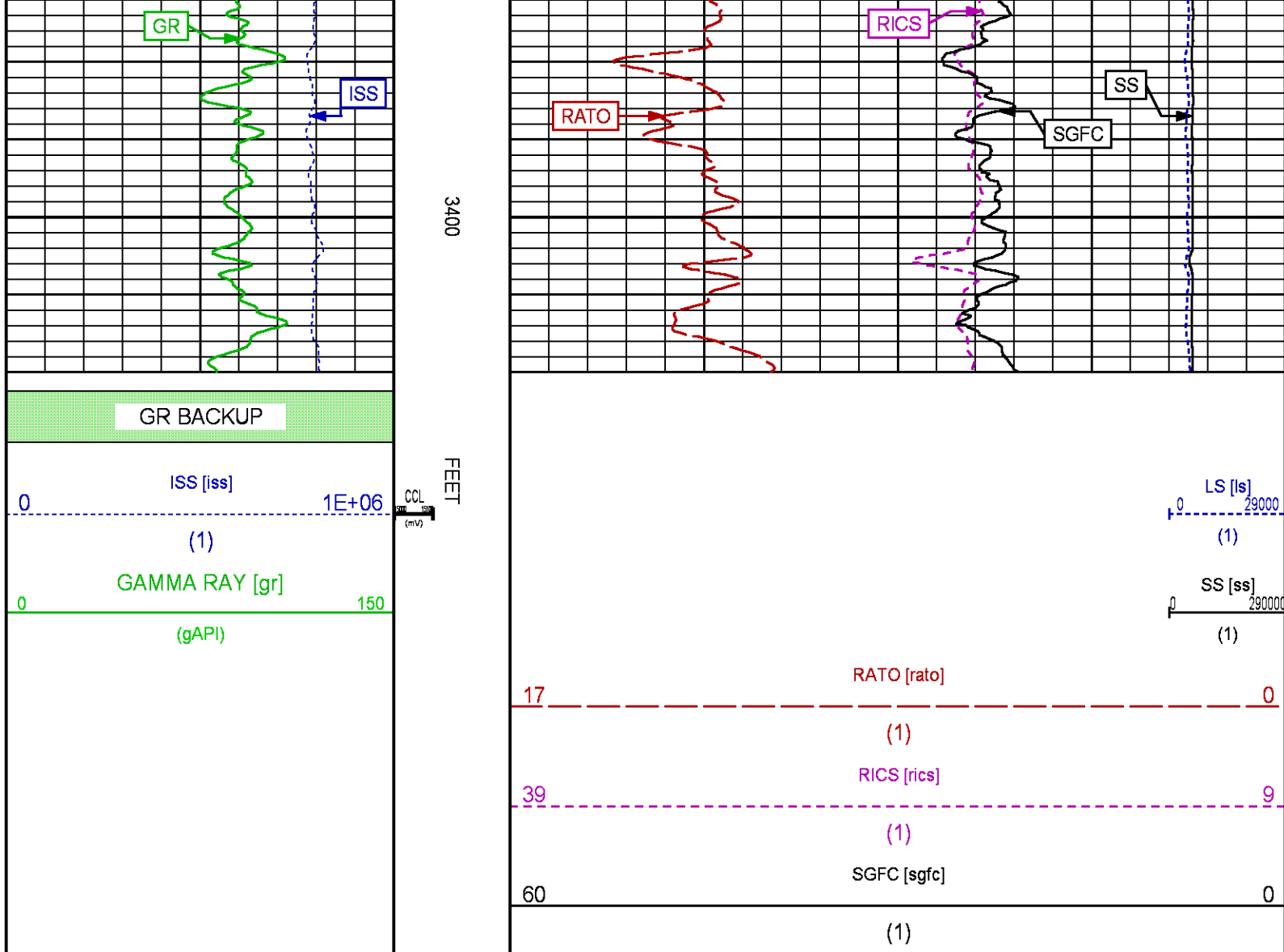




3200

3300





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: 6

Plotted: Fri Jan 22 14:17:27 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101518/n354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4949.000 ft BOTTOM DEPTH: 8295.427 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	"
	CASING SIZE	4.50	in	"
	MATRIX	SANDSTONE	"	"
	CORRECTION BUFFER	11	"	"

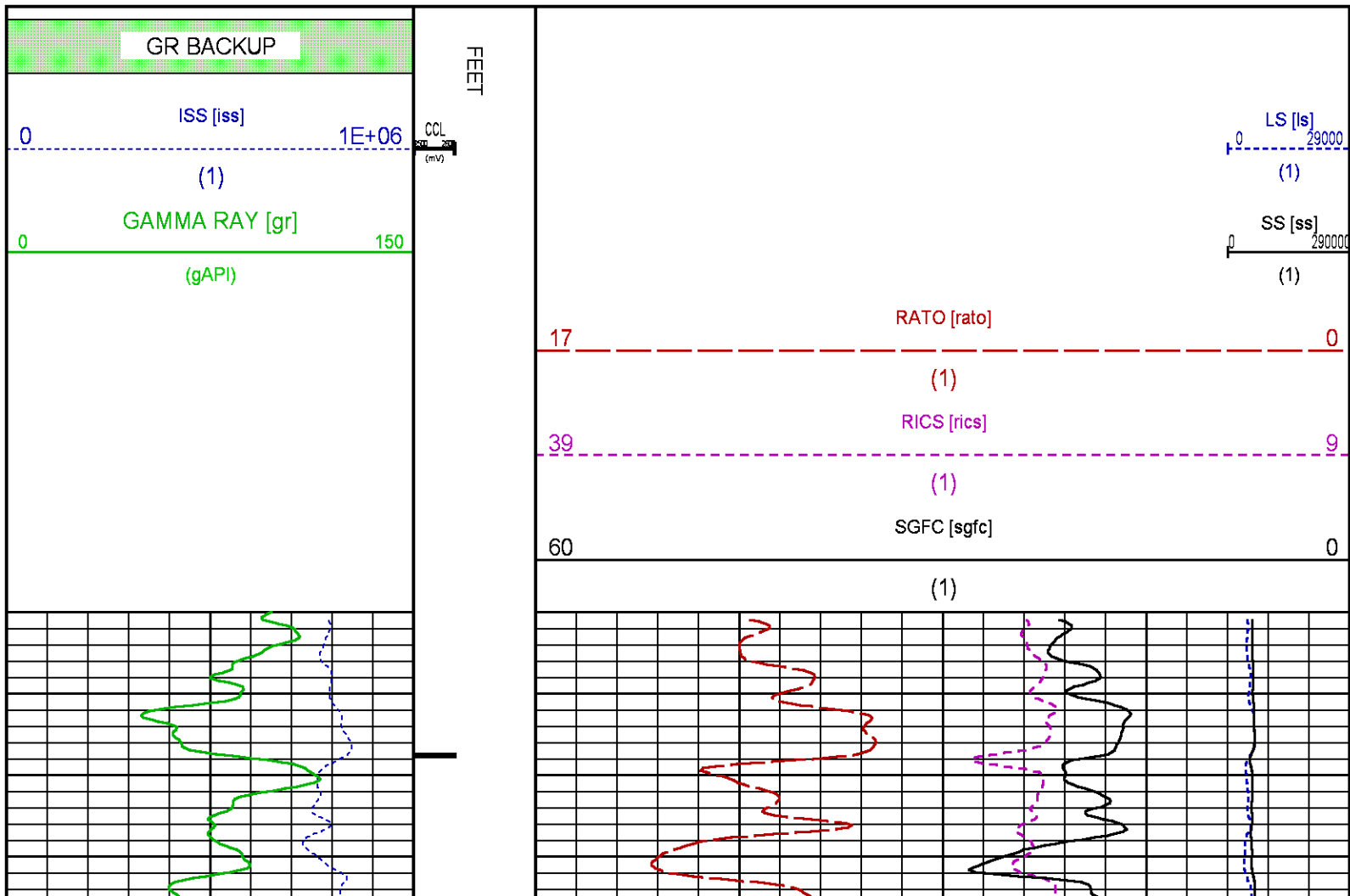
CURVE DESCRIPTION REPORT

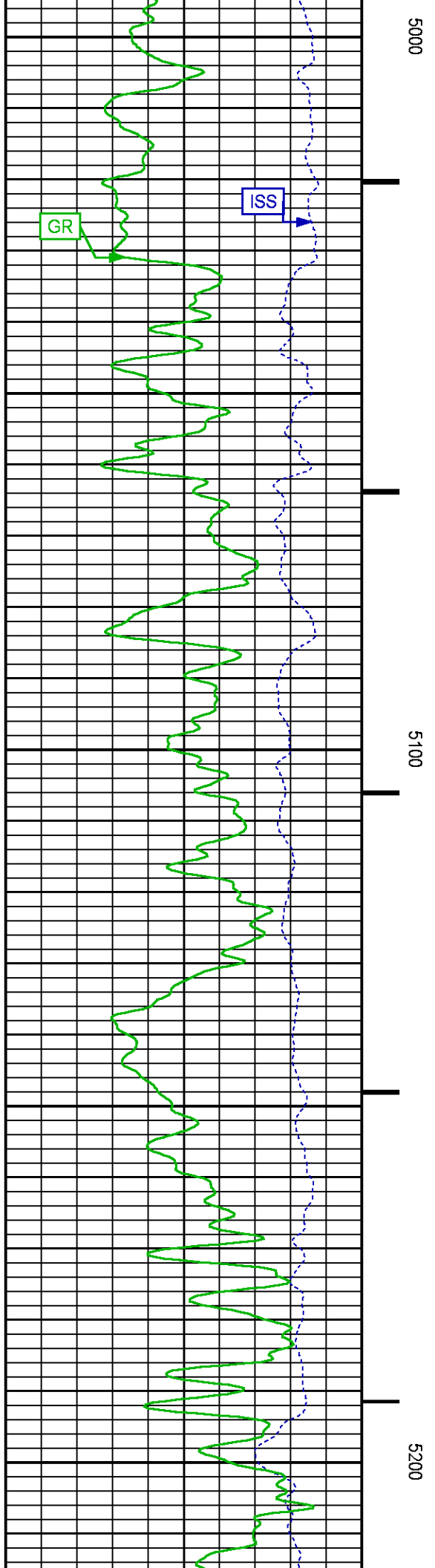
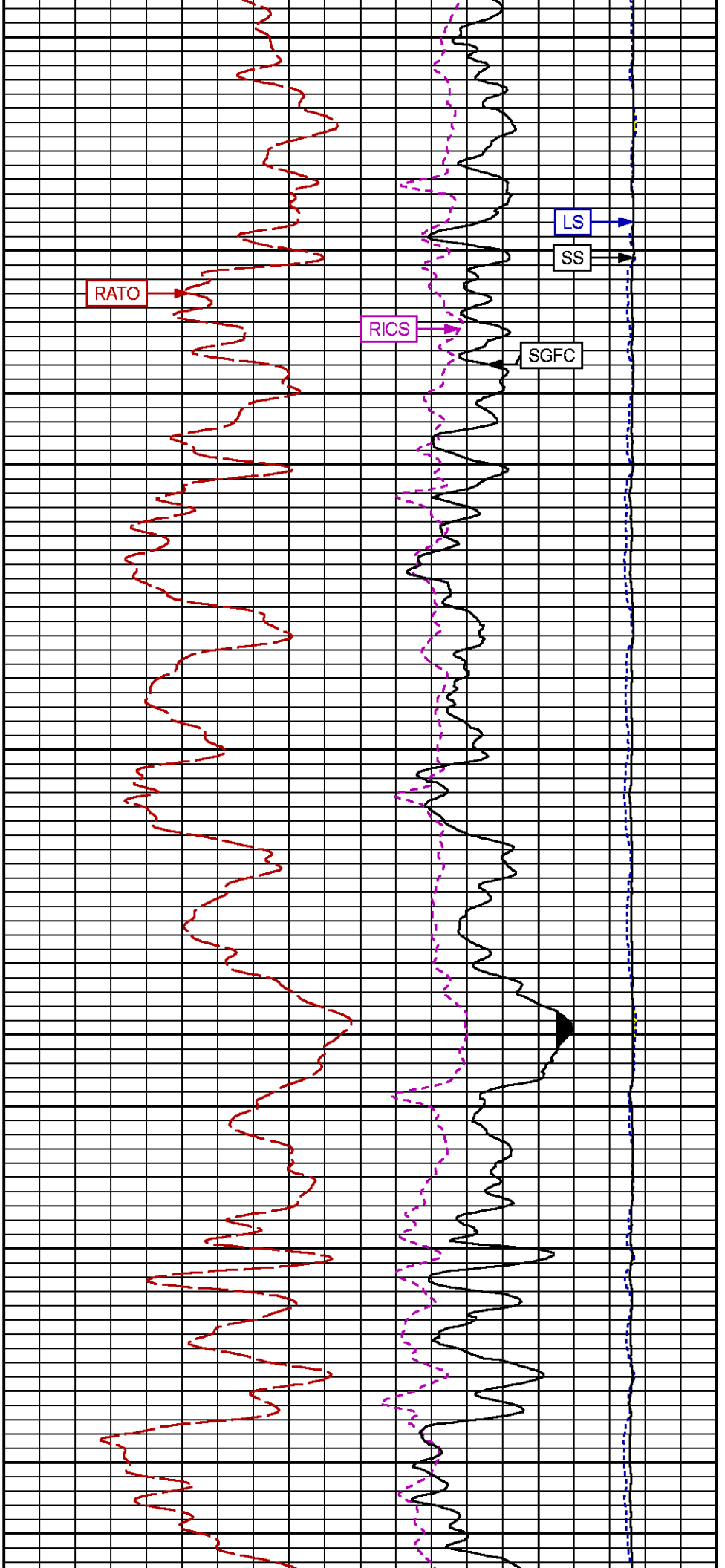
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 22 10:56:57 2016	CASING COLLAR LOCATOR
F1:GR	Jan 22 10:56:57 2016	GAMMA RAY
F1:ISS	Jan 22 10:56:57 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 22 10:56:57 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 22 10:56:57 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 22 10:56:57 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 22 10:56:57 2016	CORRECTED FORMATION SIGMA
F1:SS	Jan 22 10:56:57 2016	SHORT SPACE COUNT RATE

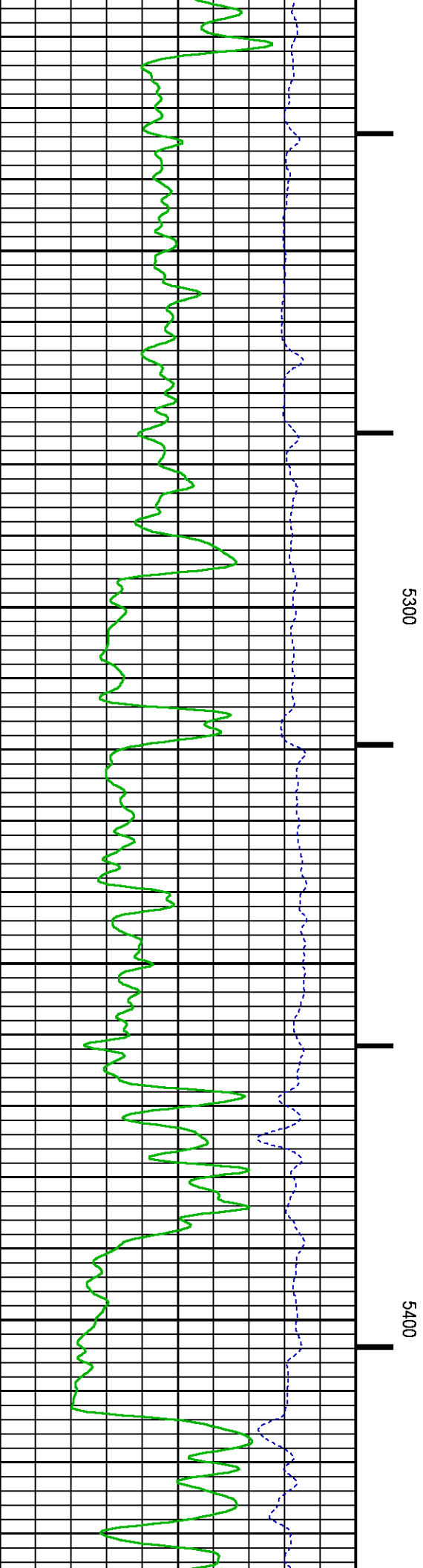
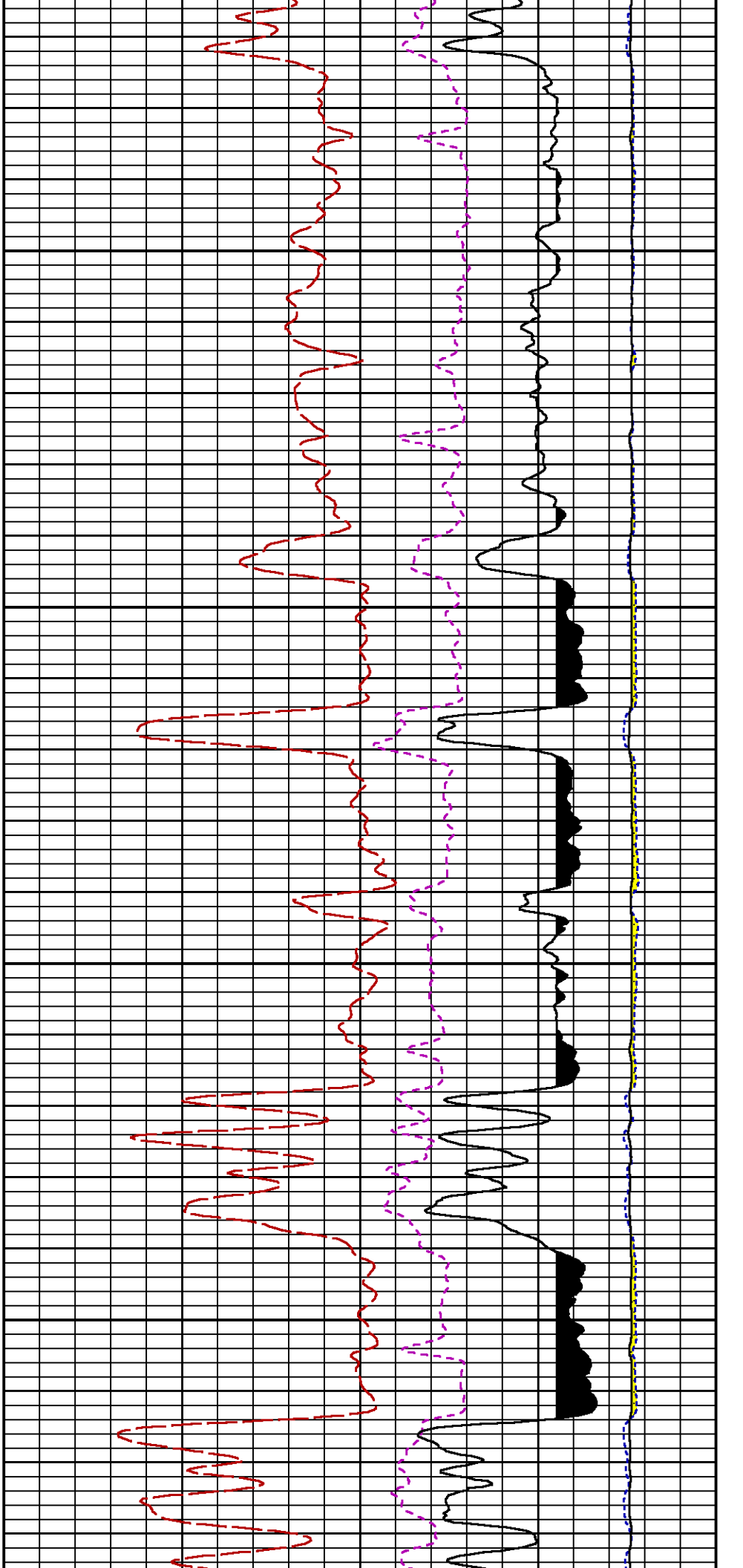
CURVE MEASURE POINT OFFSET

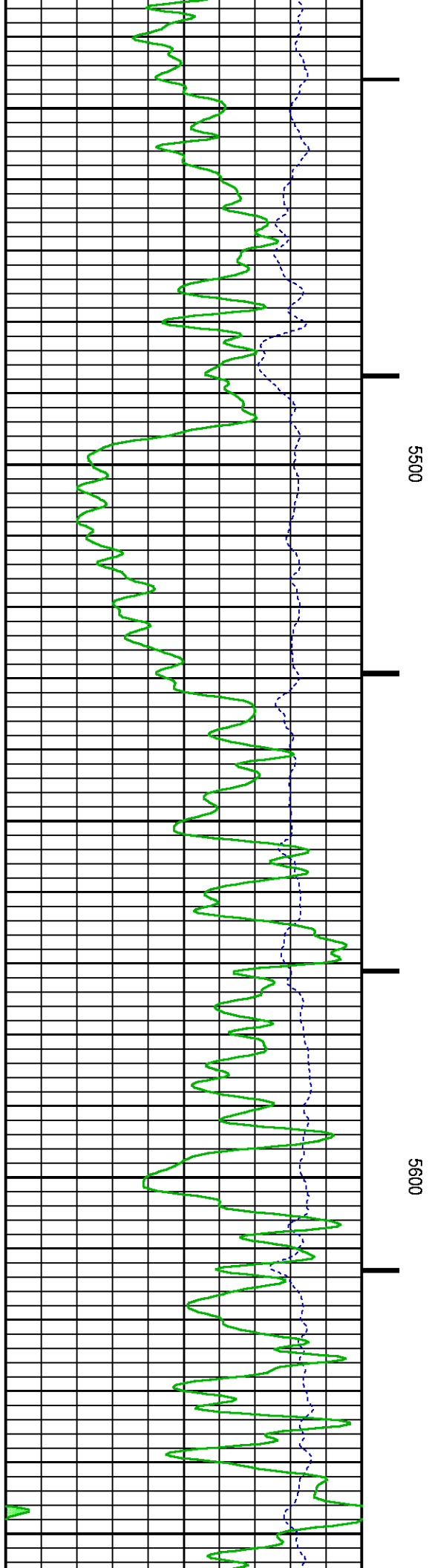
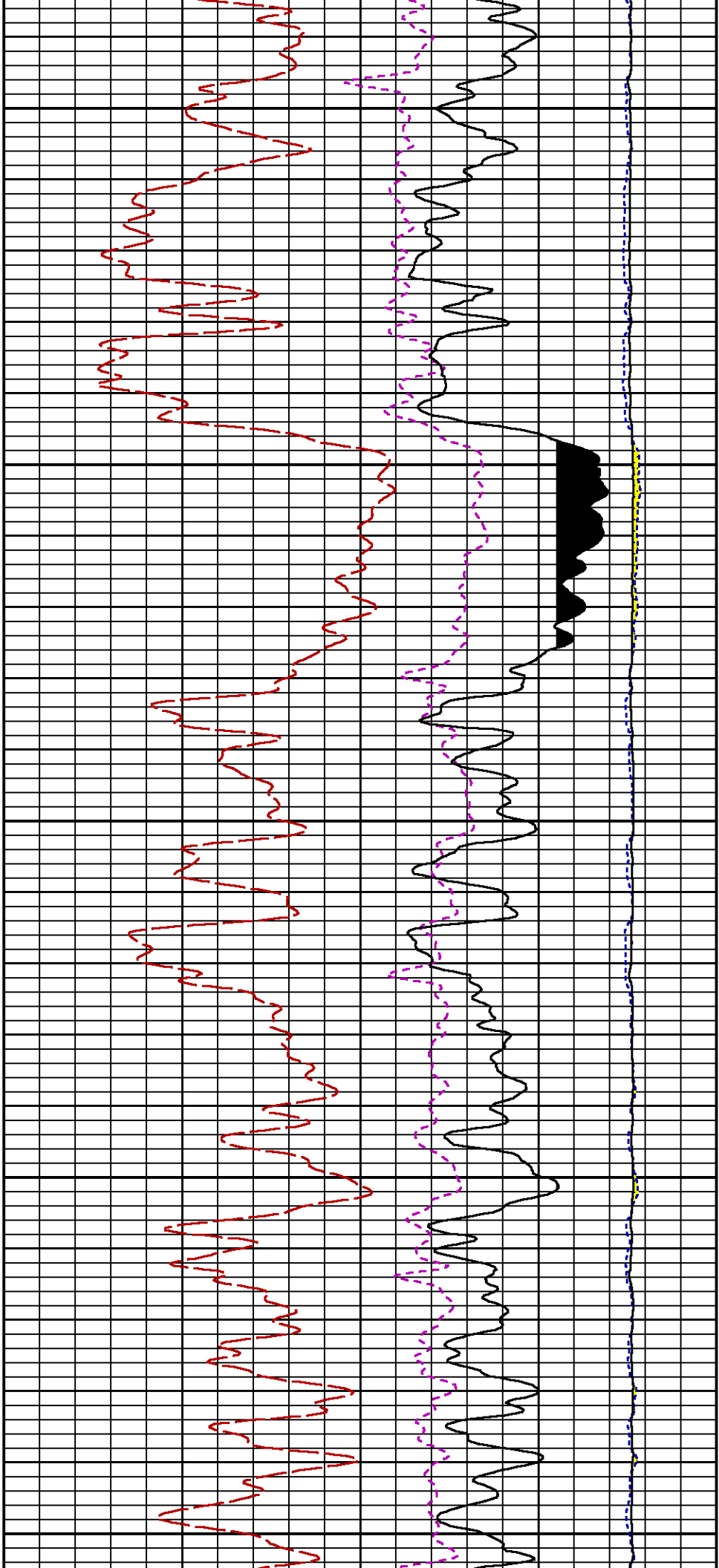
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

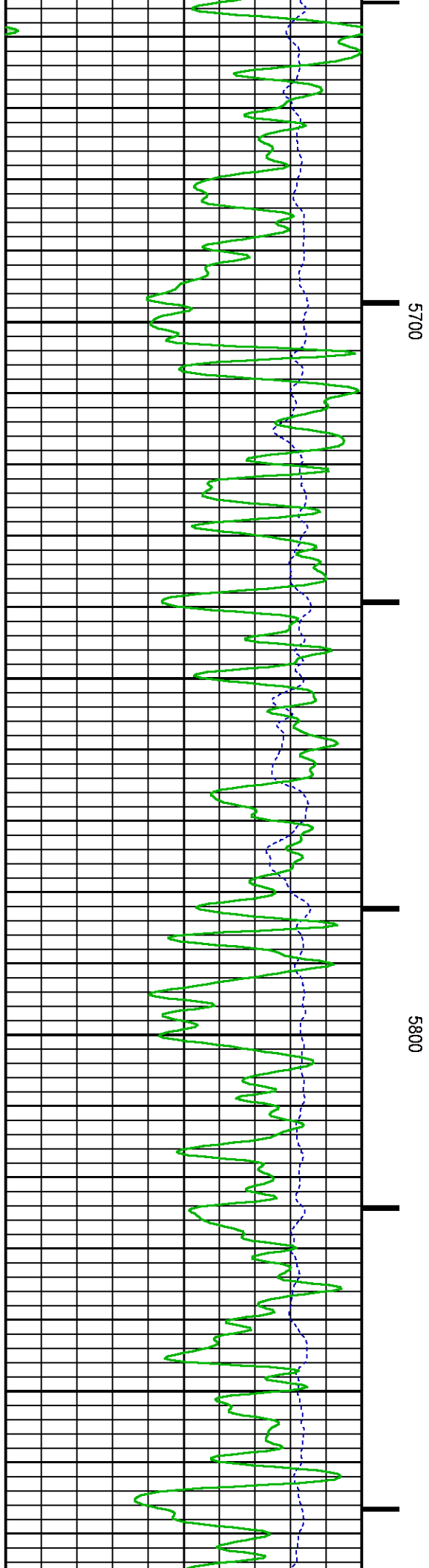
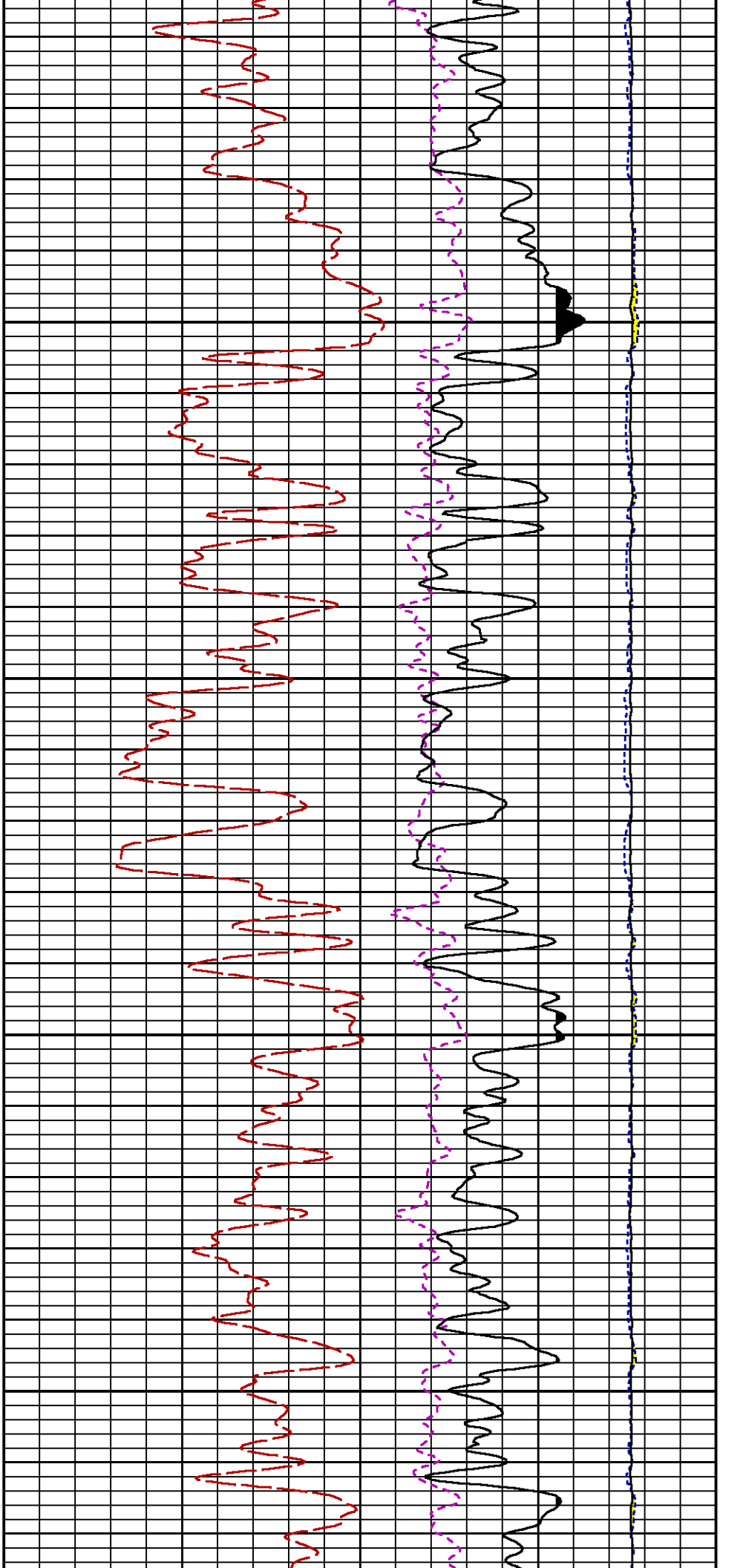
Presentation	: HL6670:/dat1a/CH101518/13E_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 4960 - 8307 Feet
Data File 1	: F1 : HL6670:/dat1a/CH101518/n354h02MAIN13E.xtf
Created On	: Jan 22 10:56:57 2016
Company	: LARAMIE ENERGY
Well	: PICEANCE_FEDERAL_29_13E
Field	: VEGA
File Interval	: 4935.25 - 8304.75 Feet
OCT	: n354h

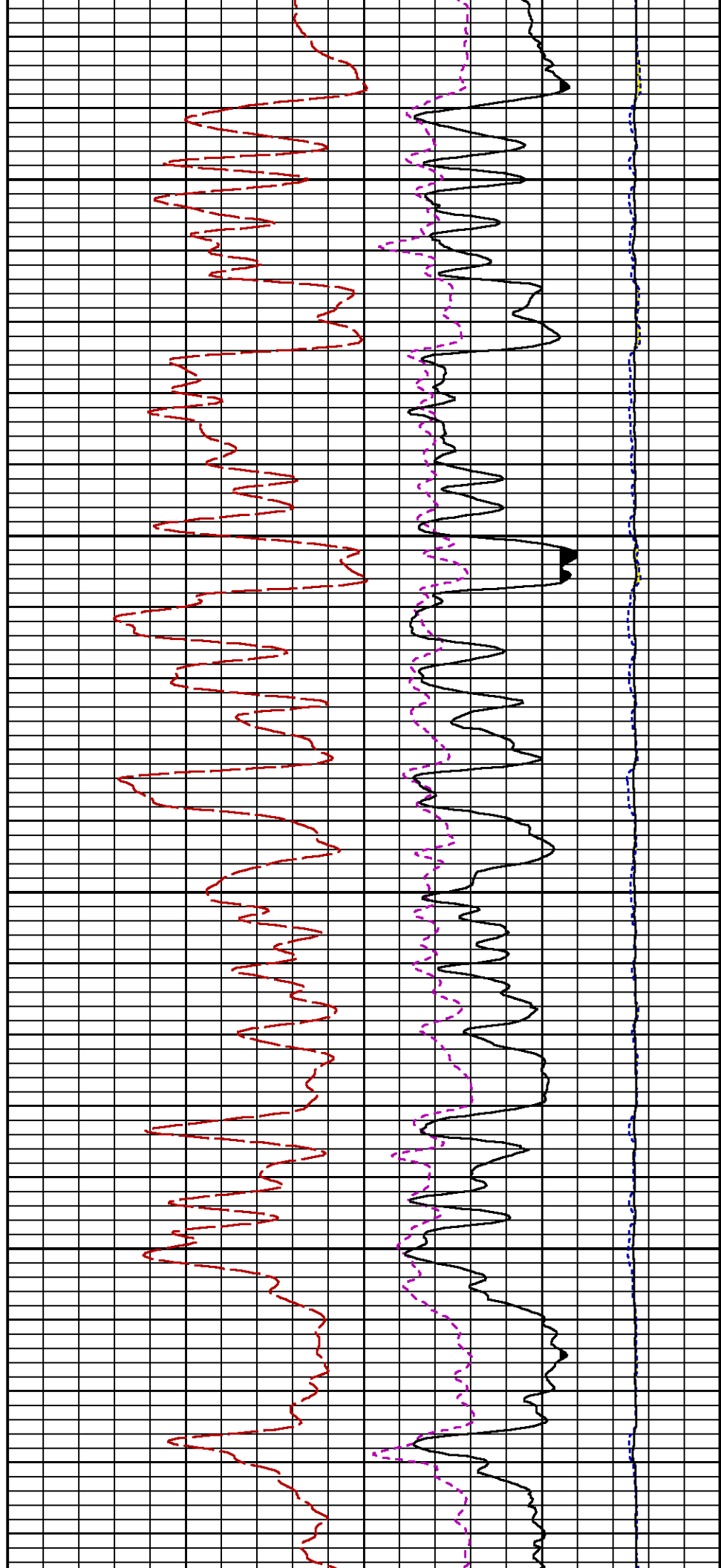
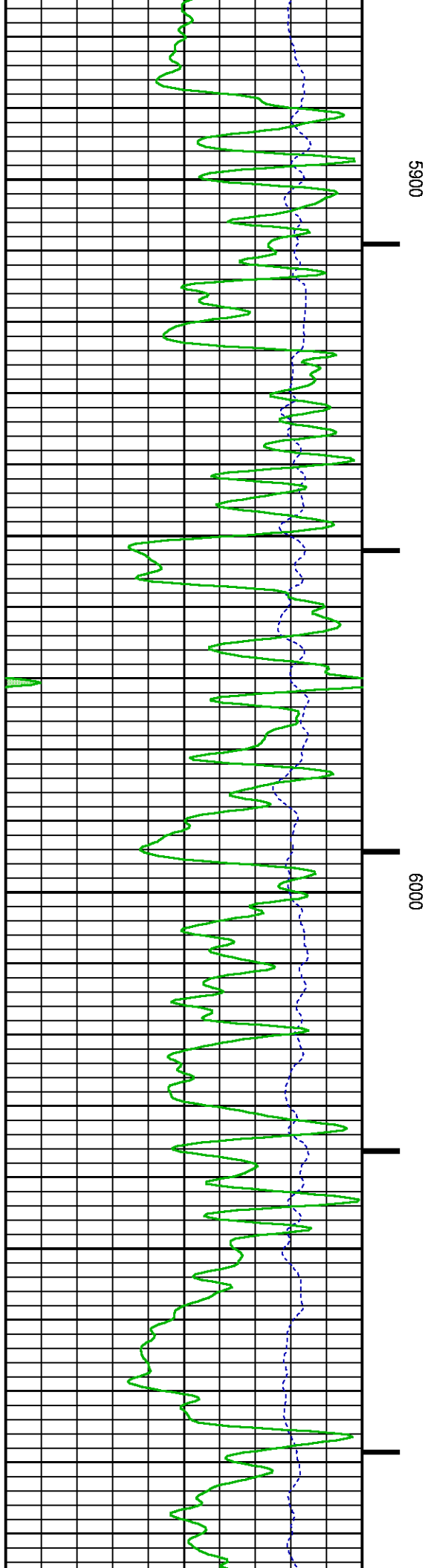


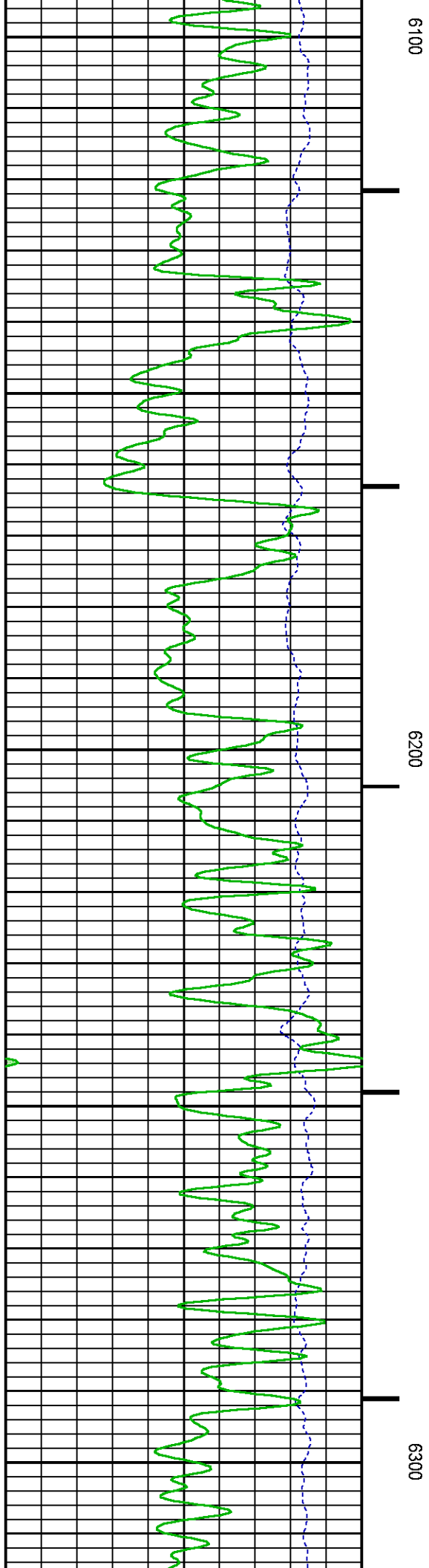
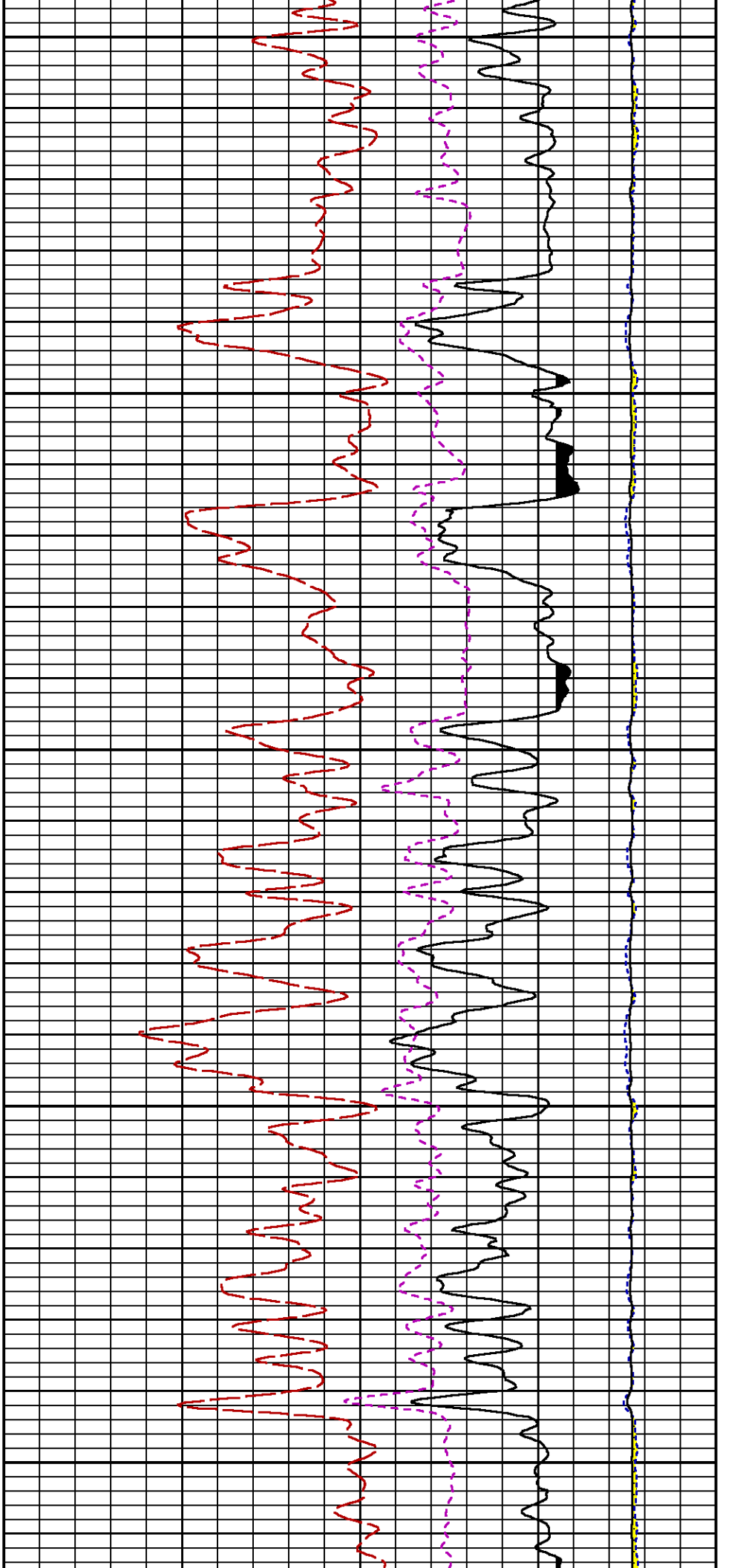


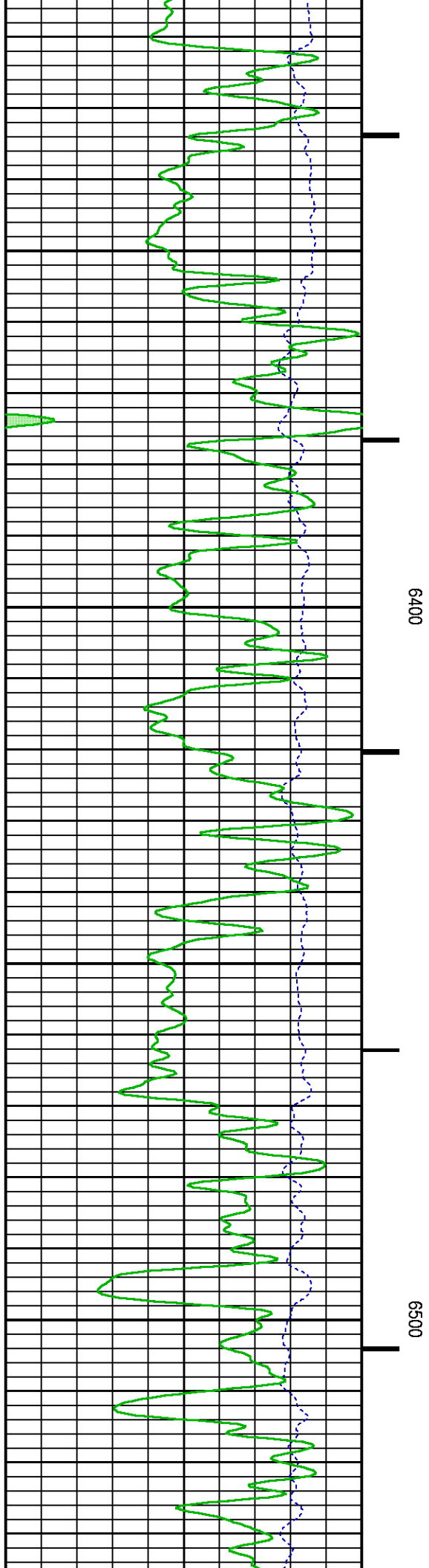
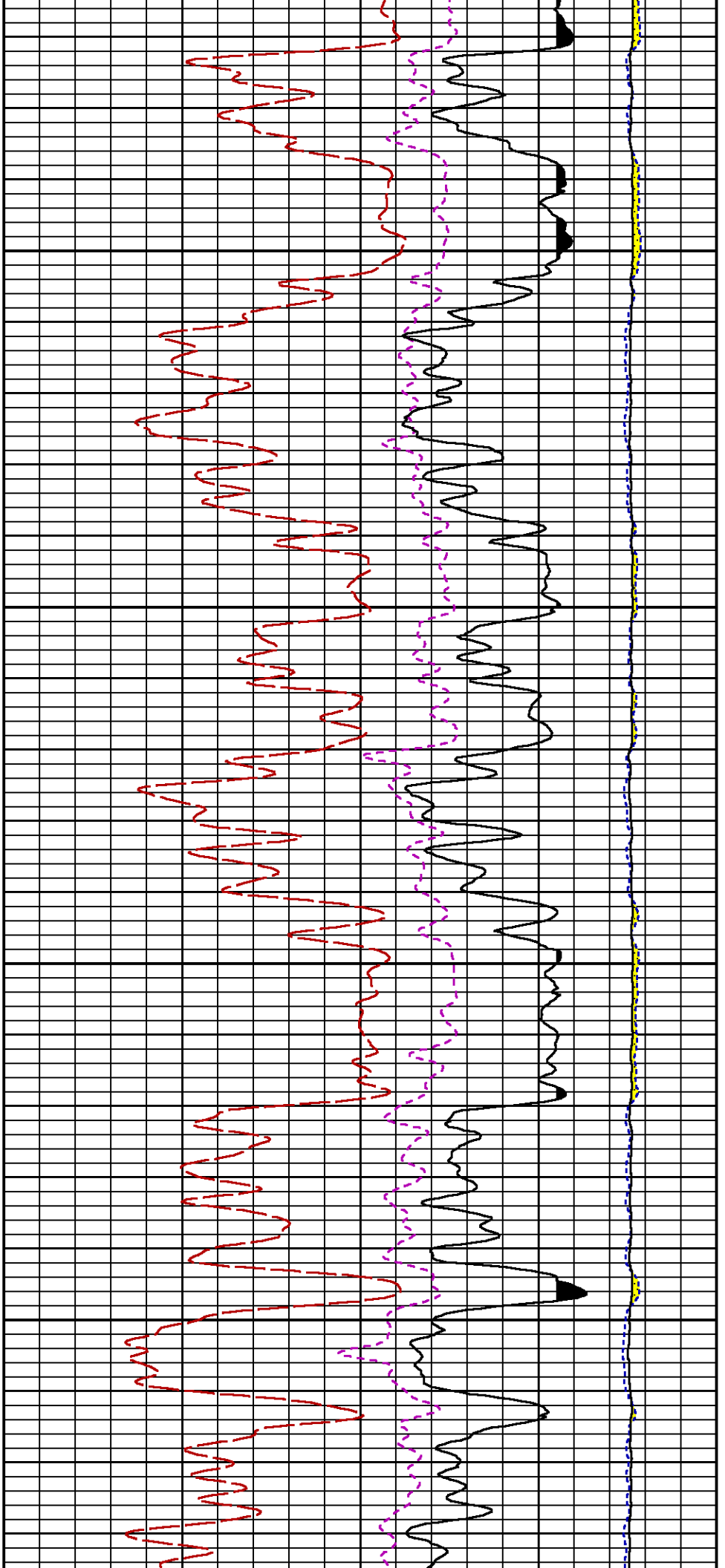


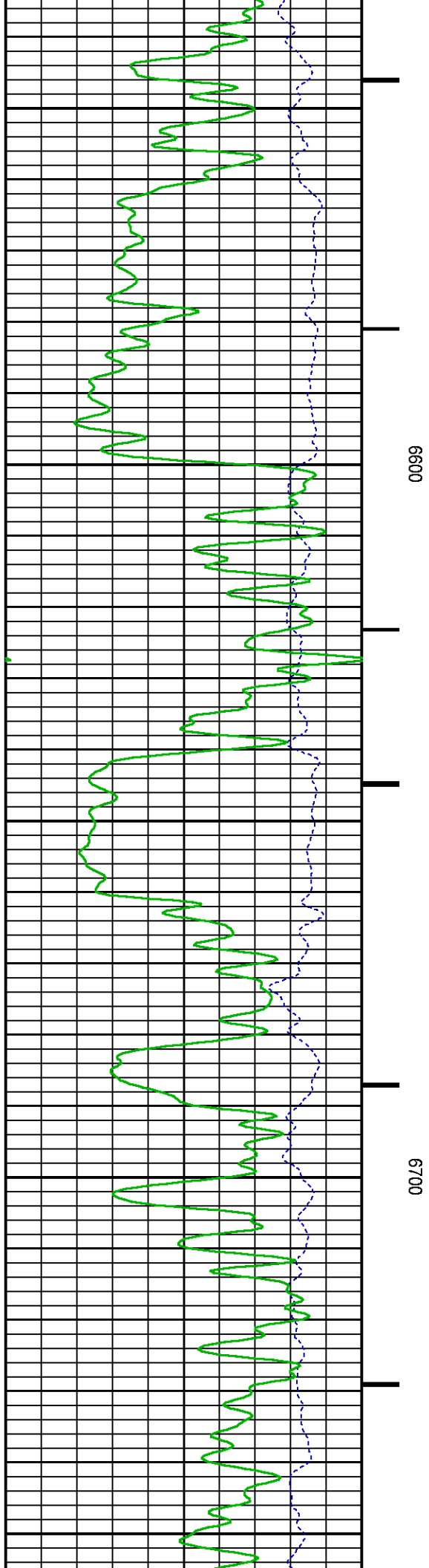
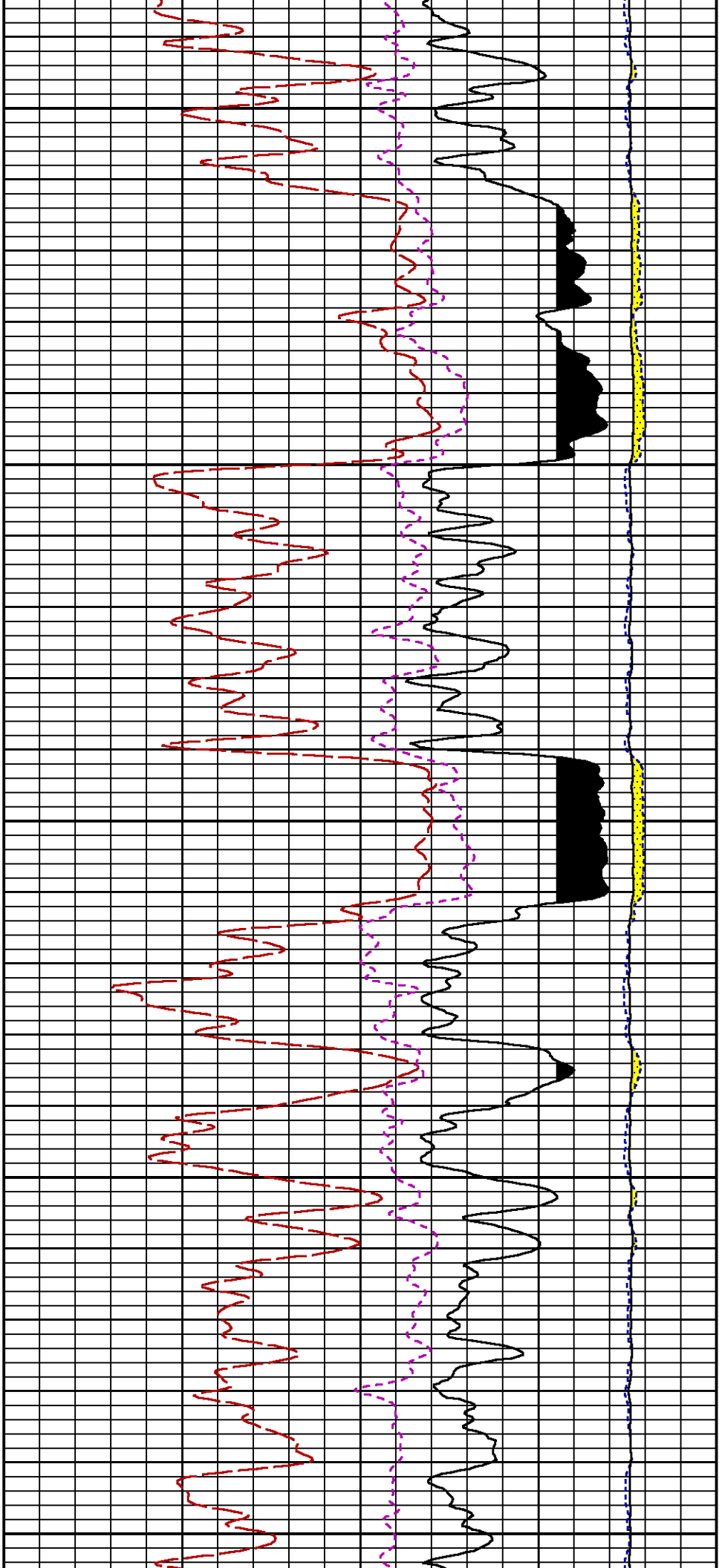


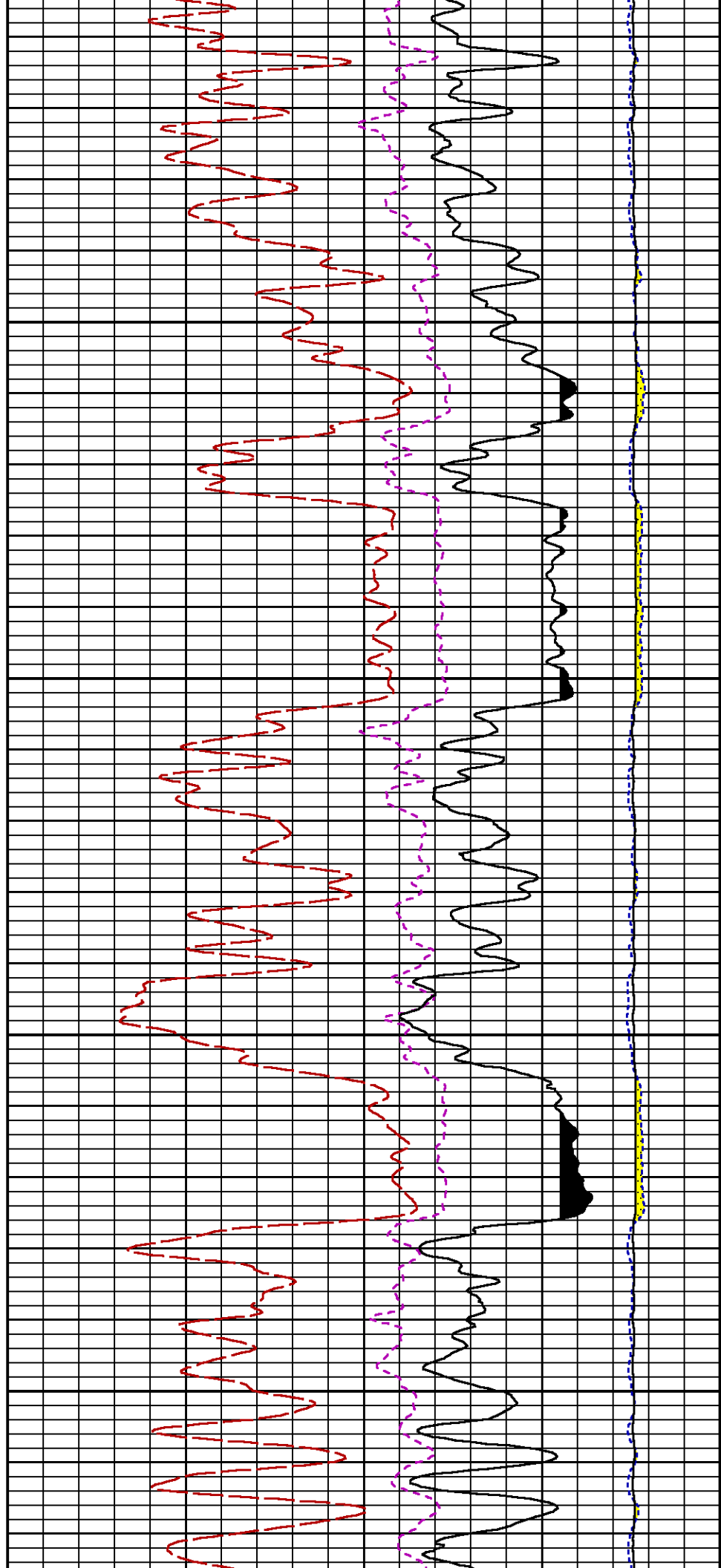
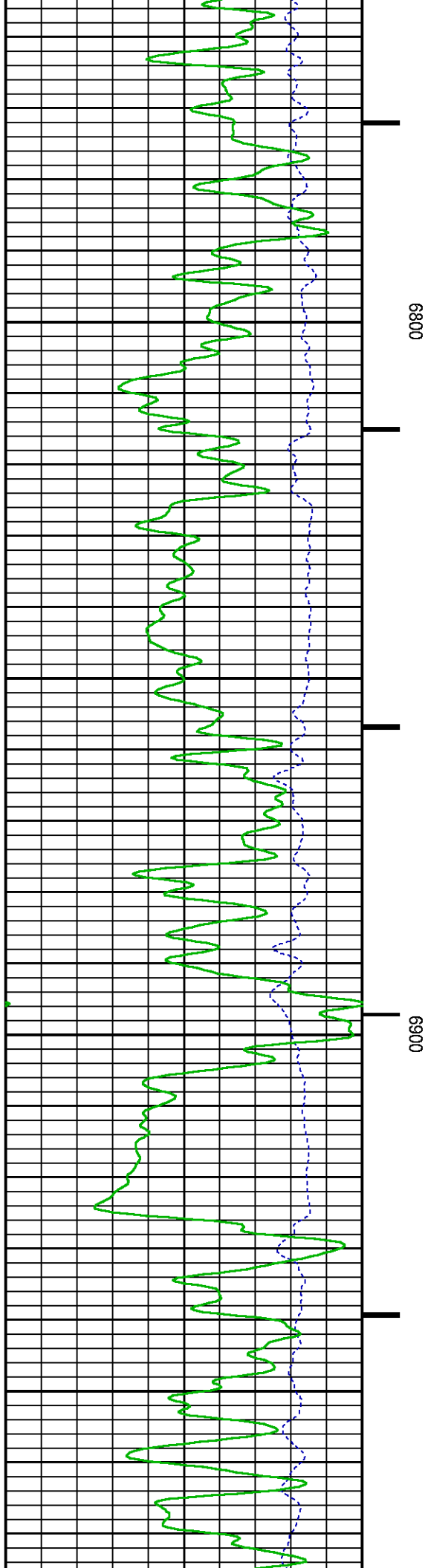


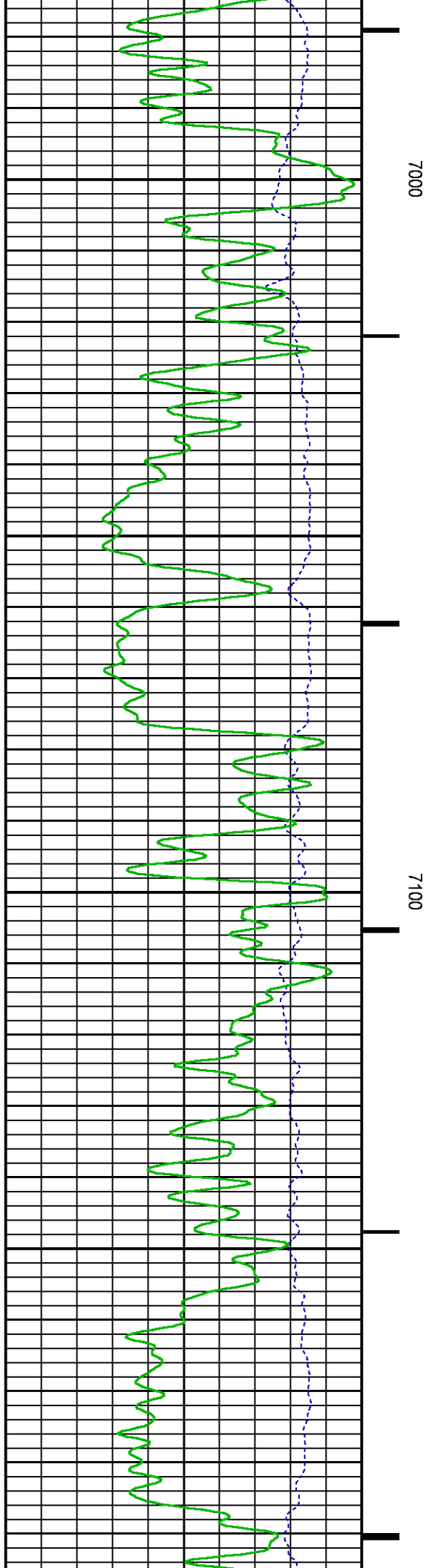
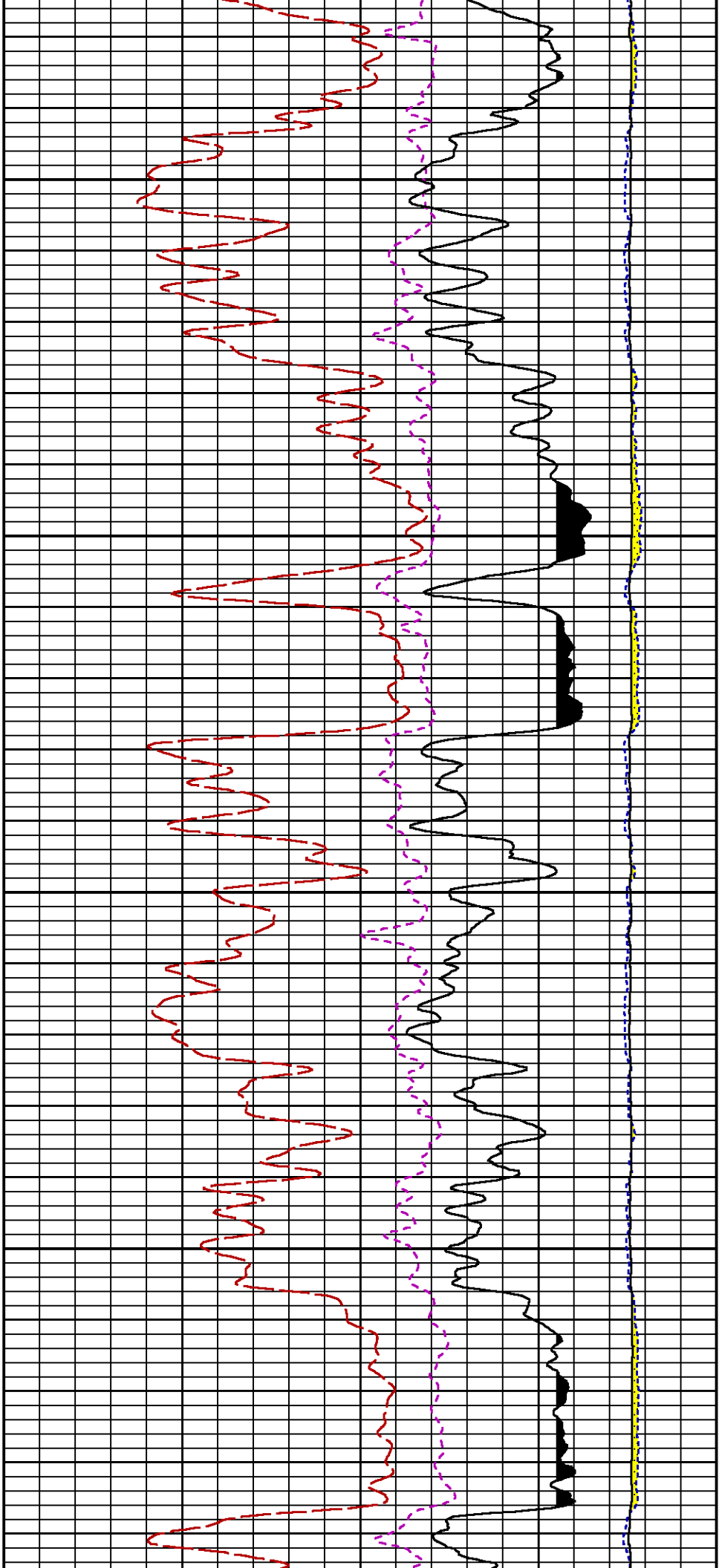


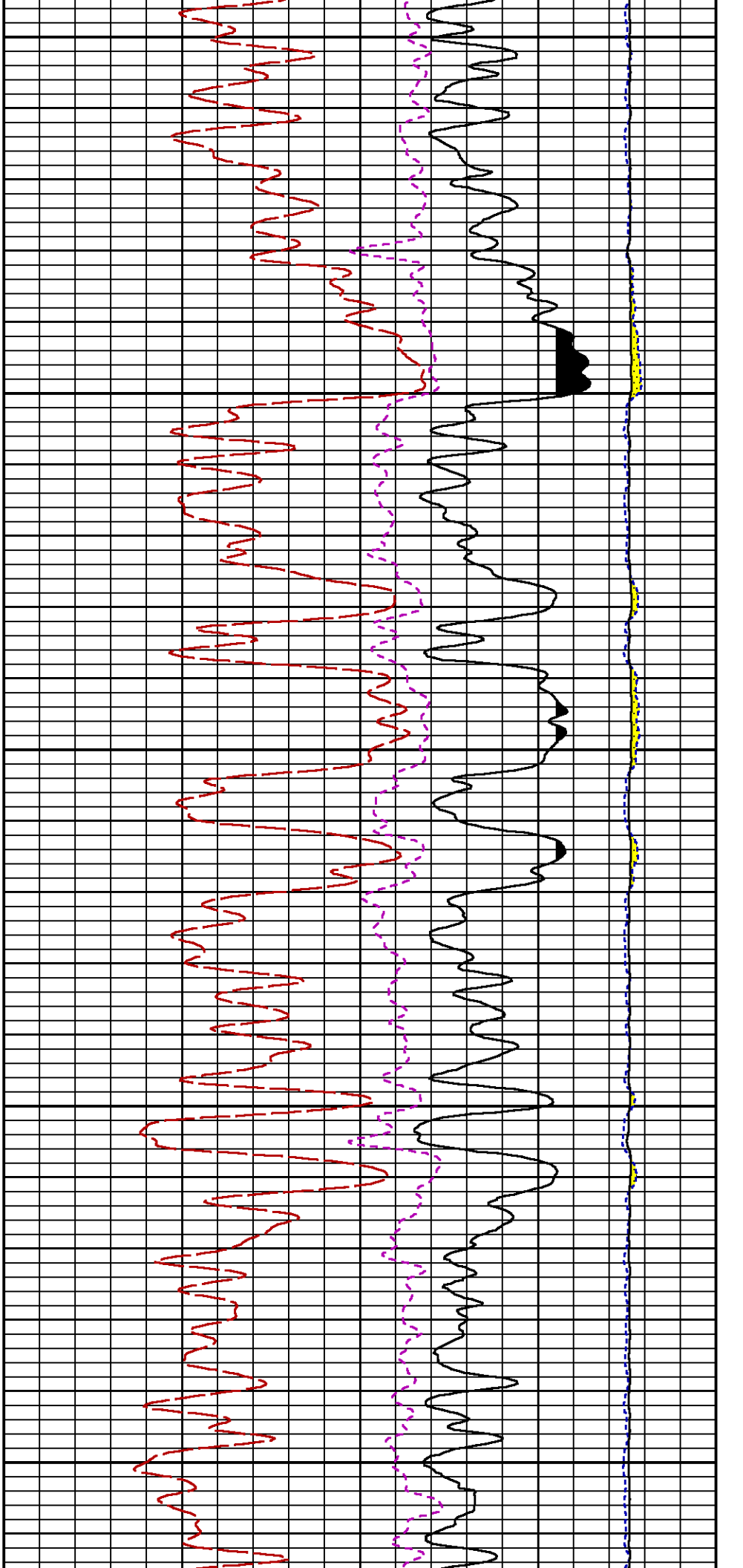








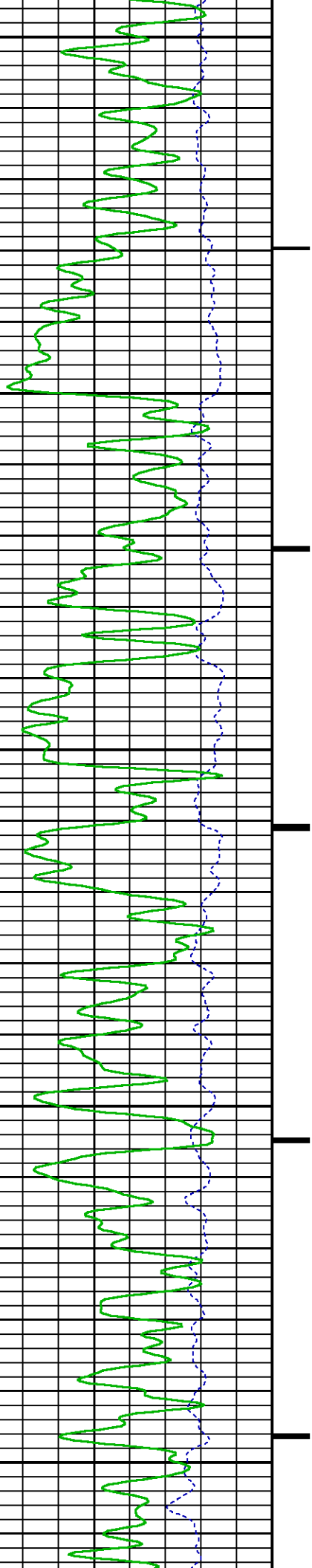


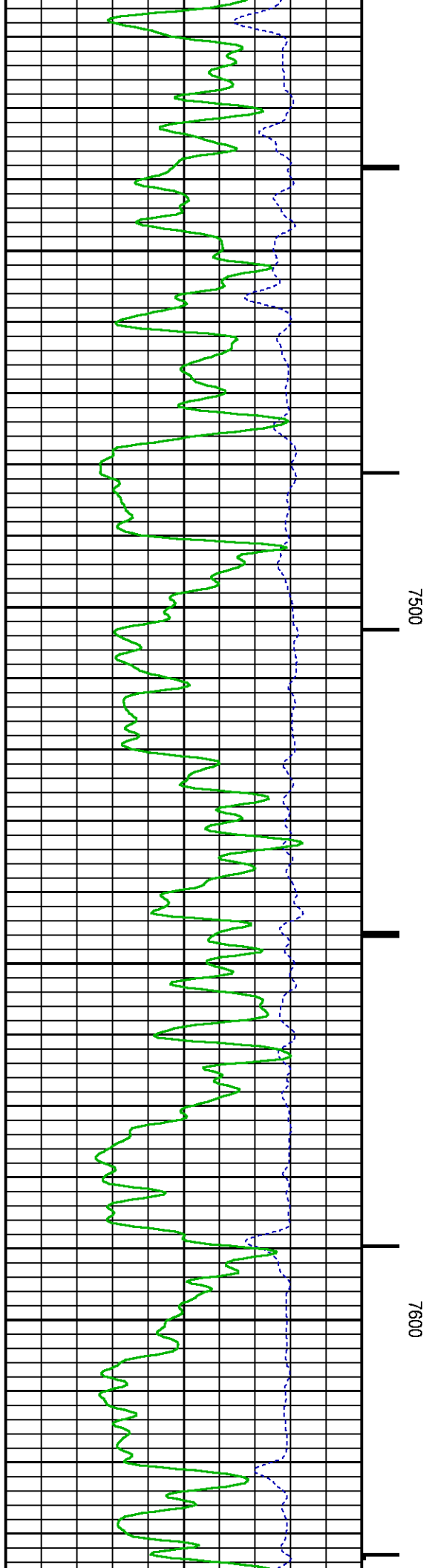
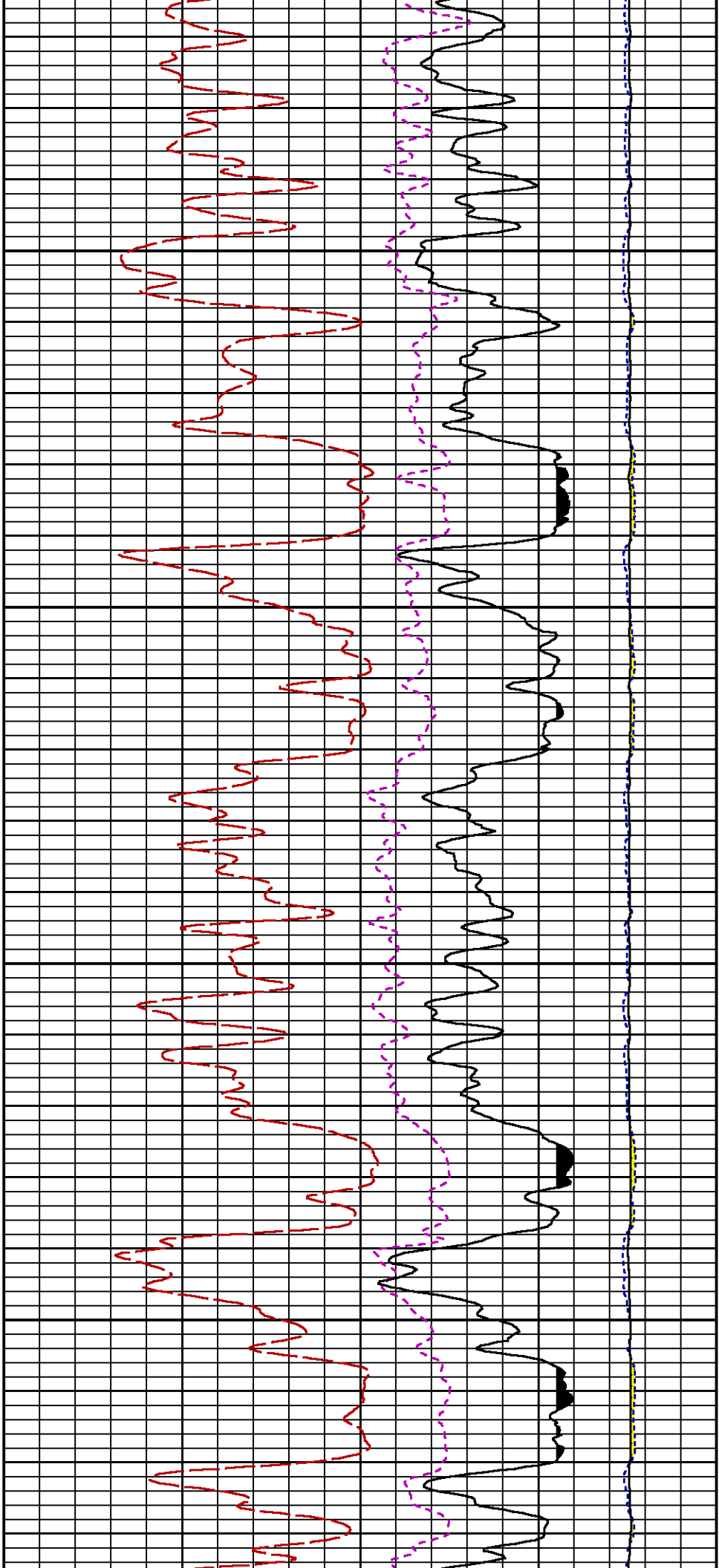


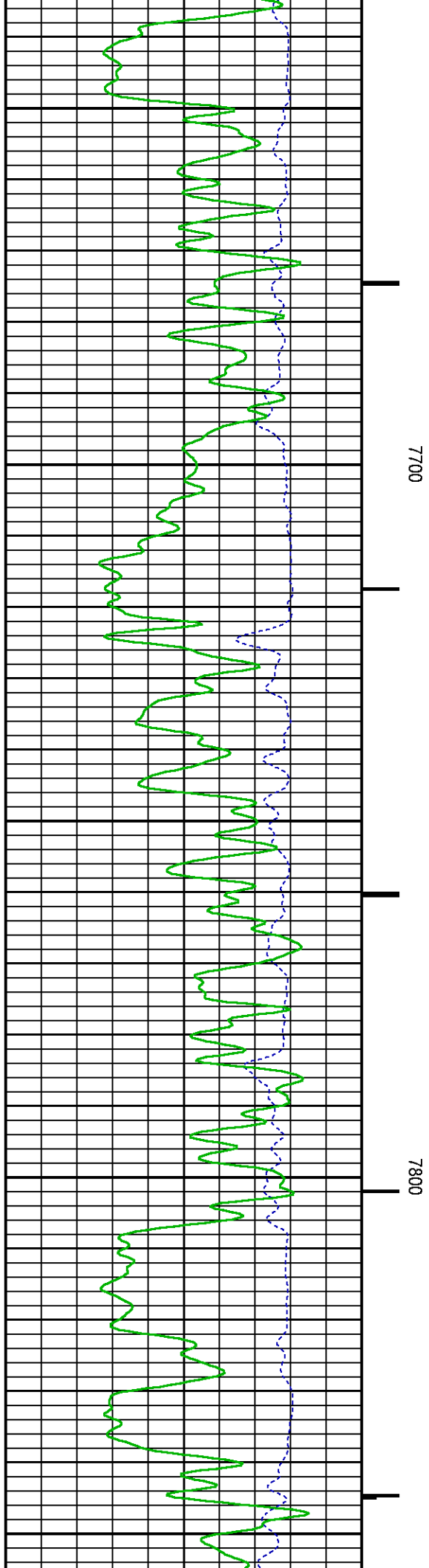
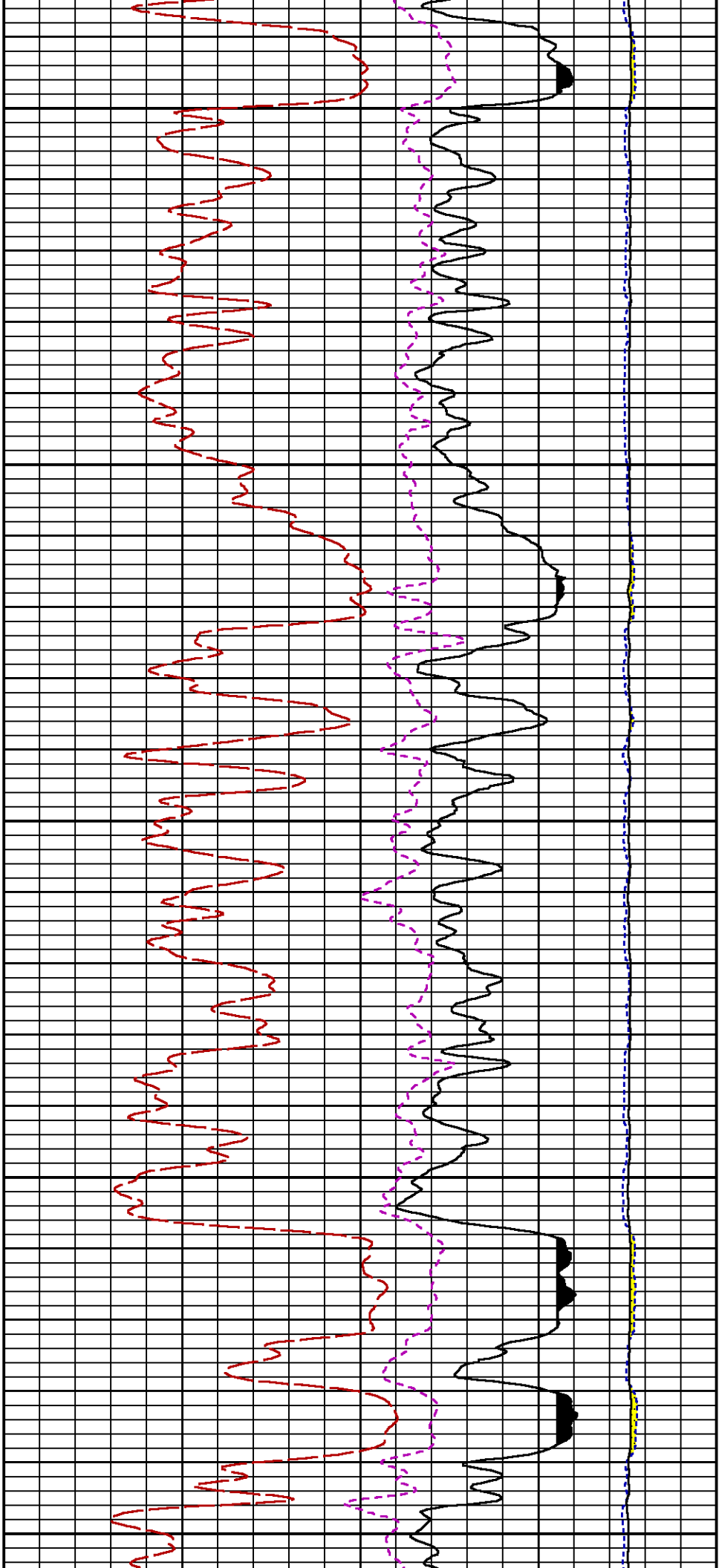
7200

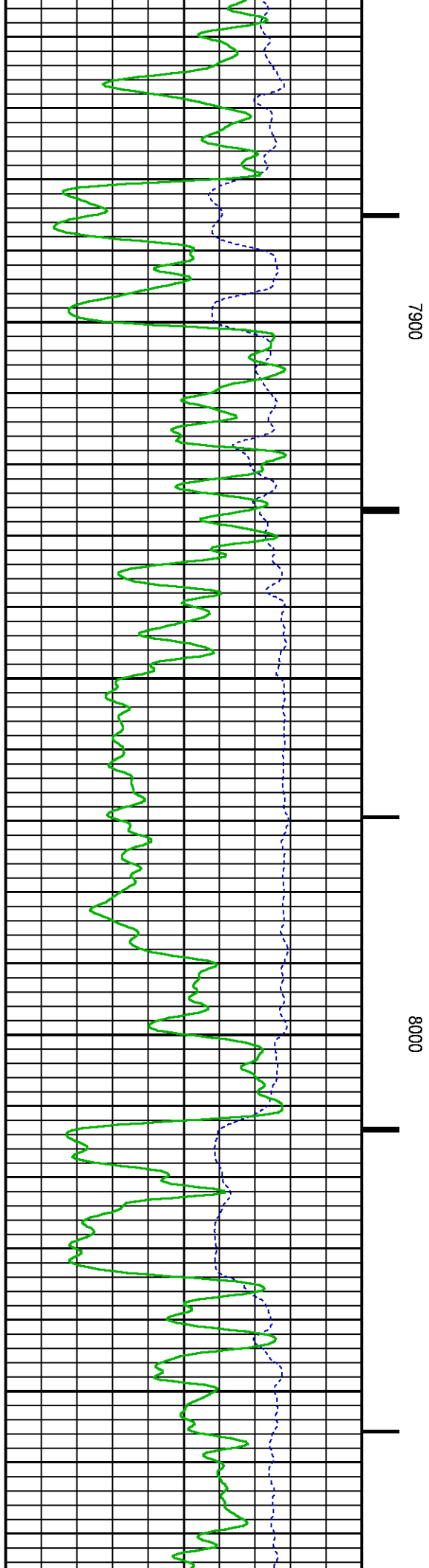
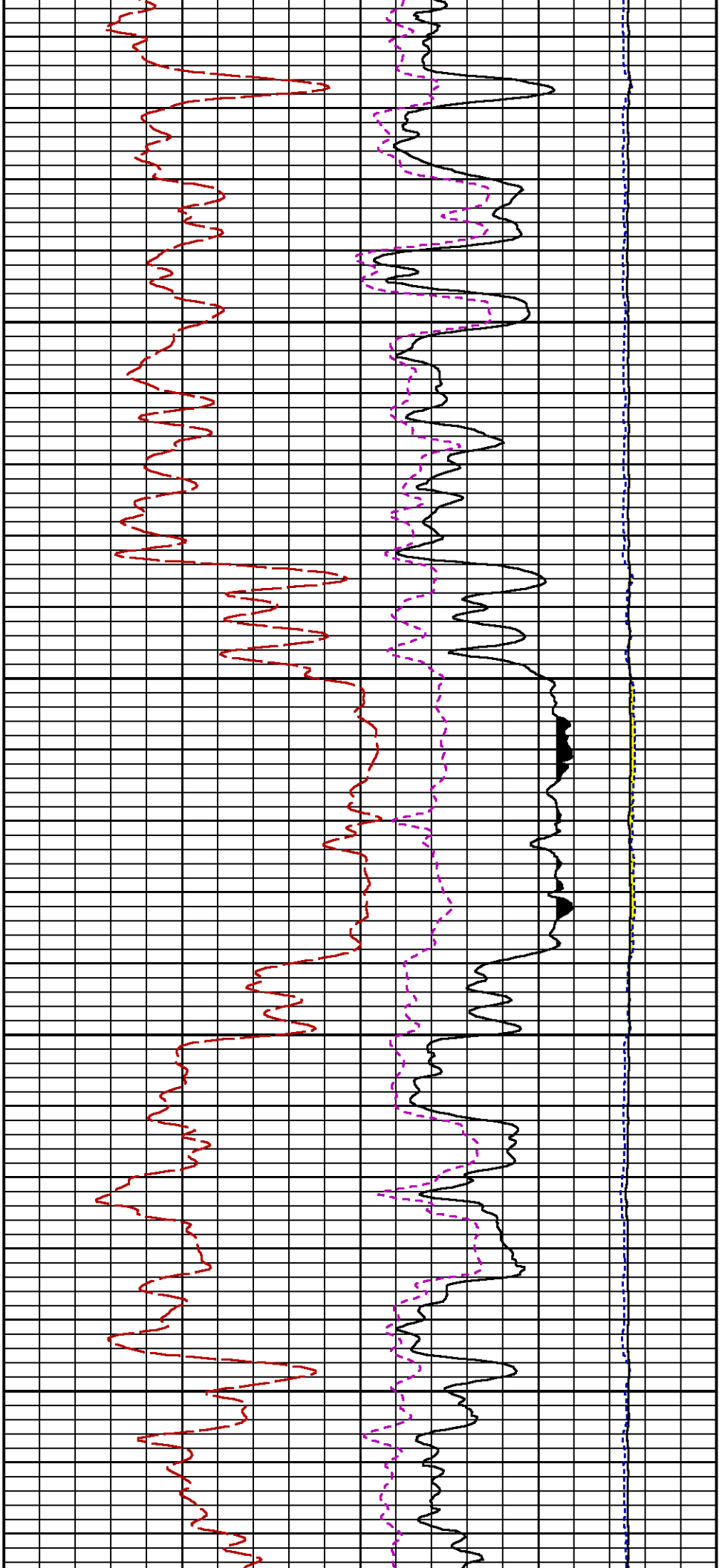
7300

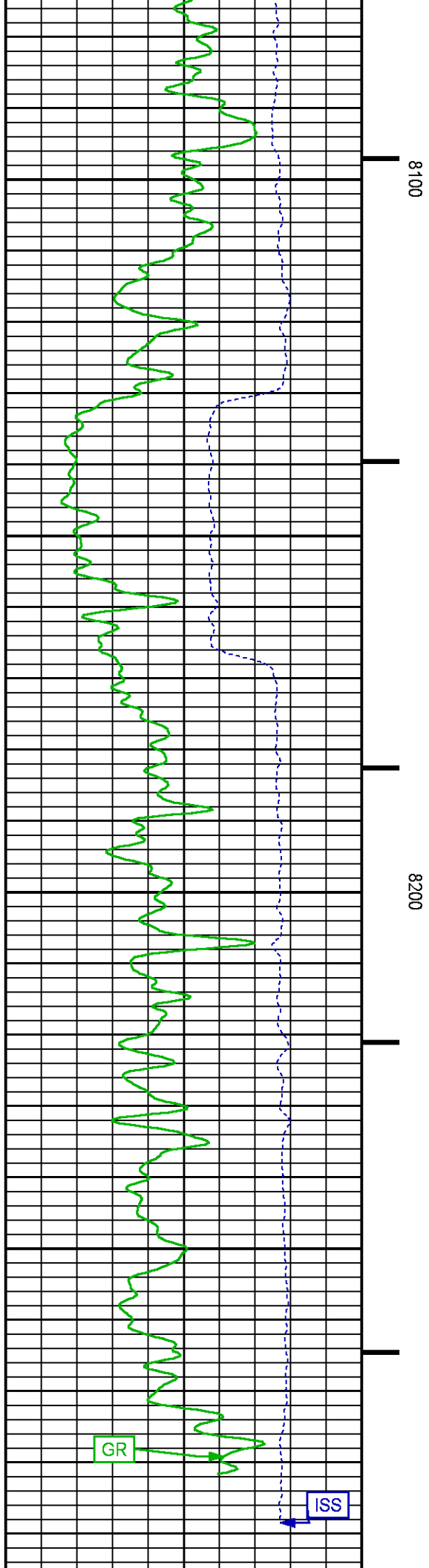
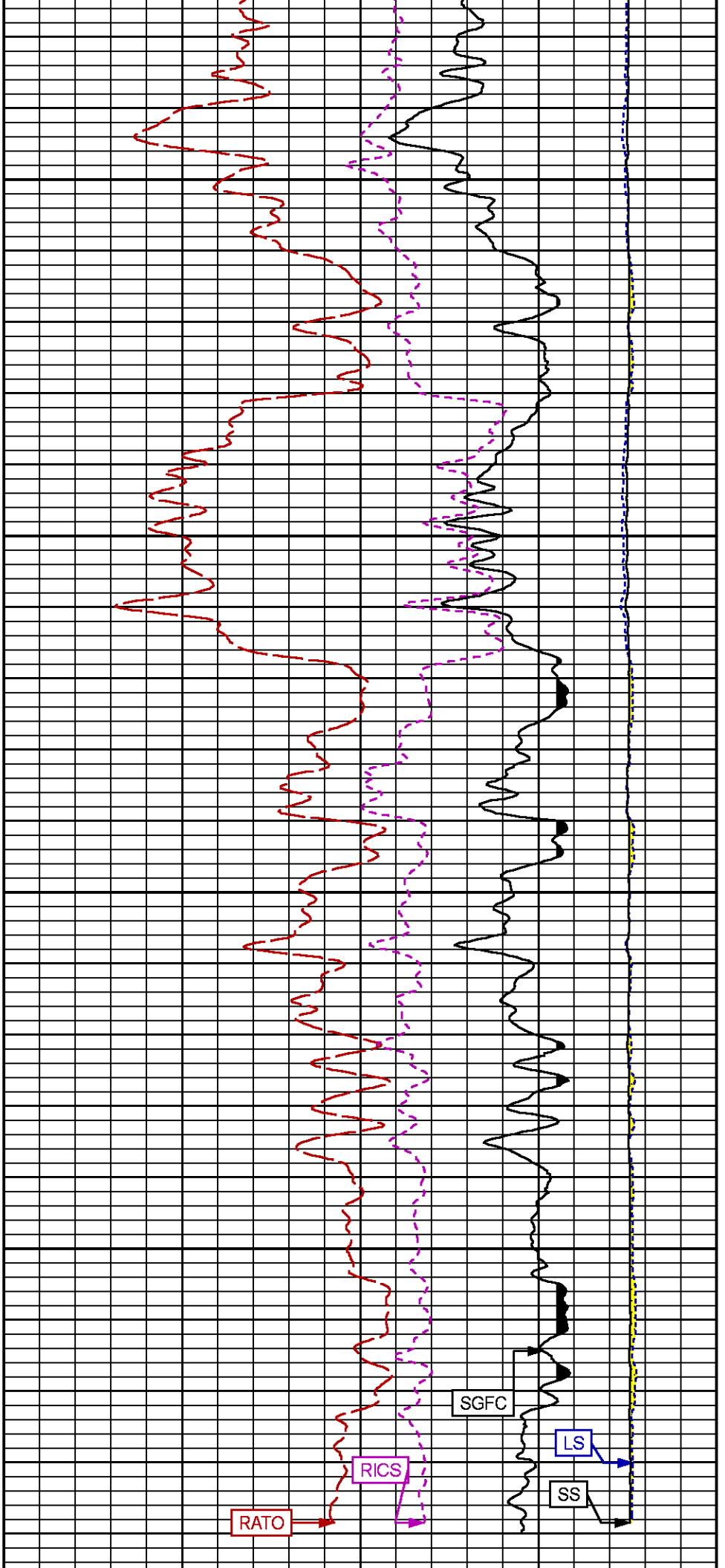
7400

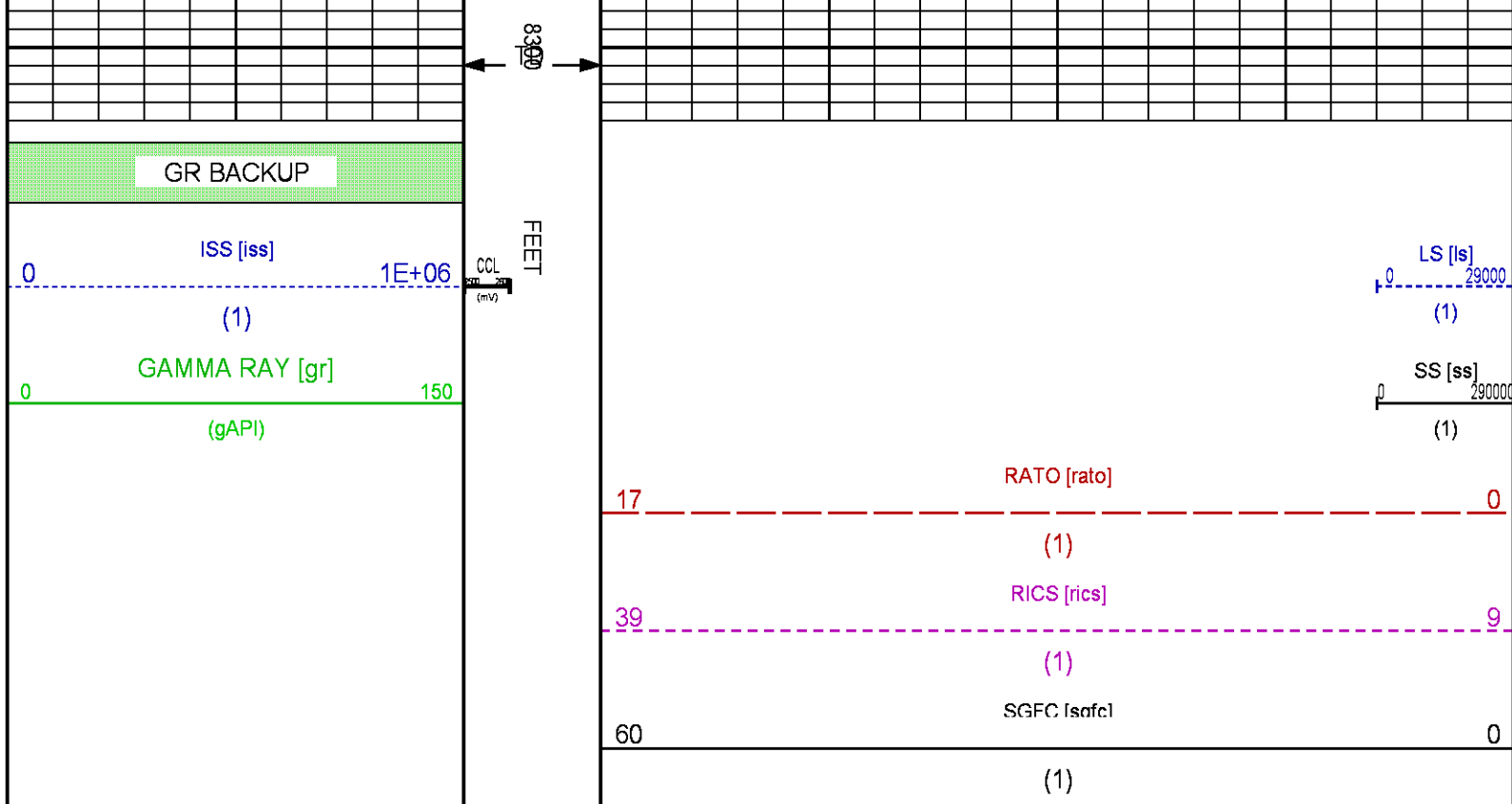












REPEAT SECTION PNC-3D MODE

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

Updates: 1 Patches: 6

Plotted: Fri Jan 22 11:06:09 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH101518/n354h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 8053.500 ft BOTTOM DEPTH: 8294.000 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

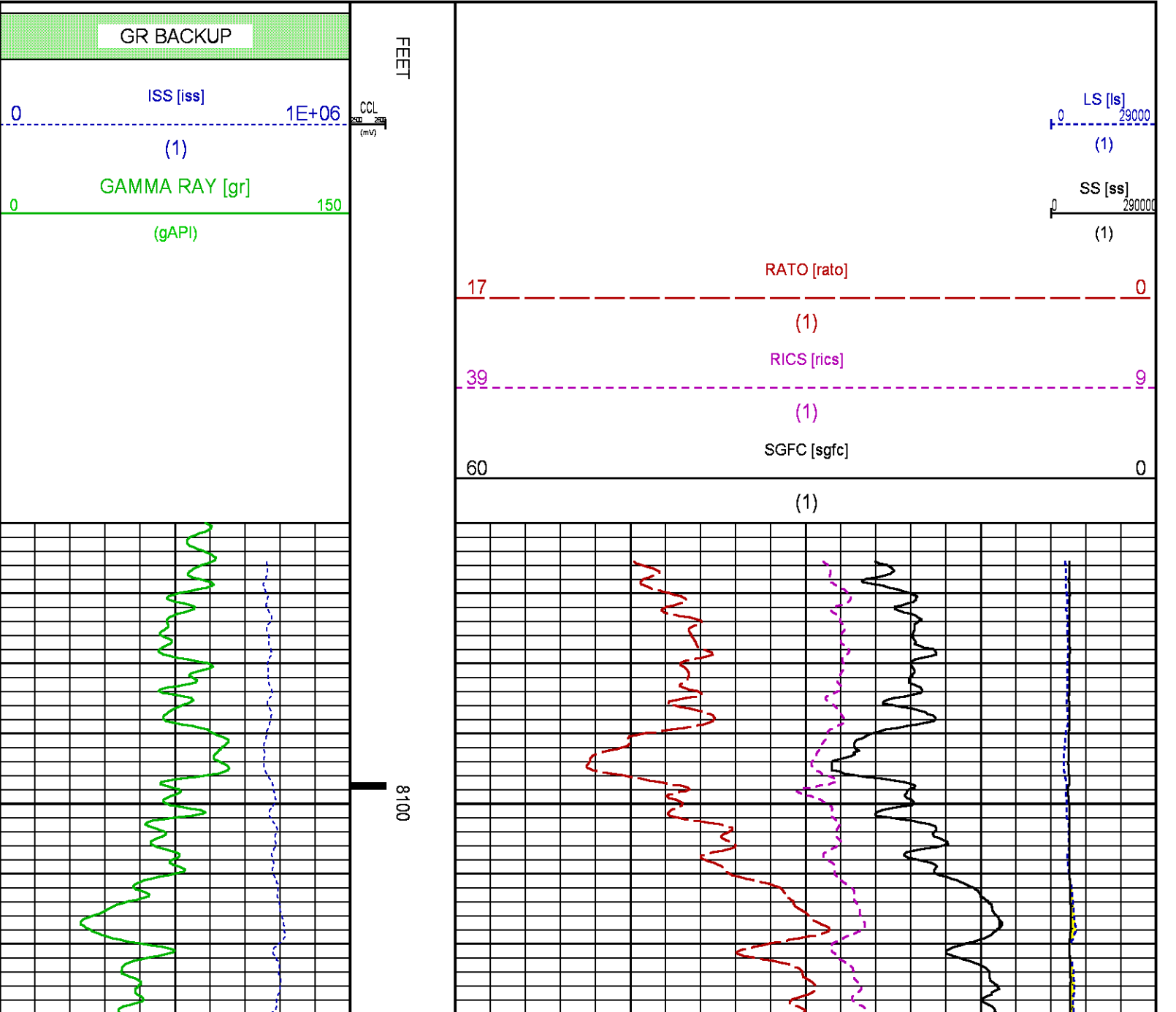
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 22 10:36:09 2016	CASING COLLAR LOCATOR

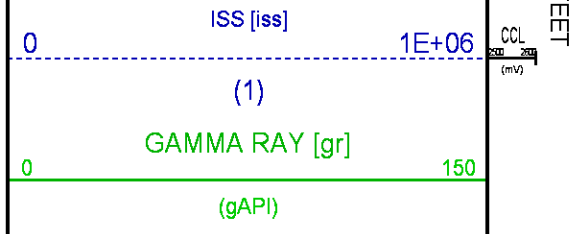
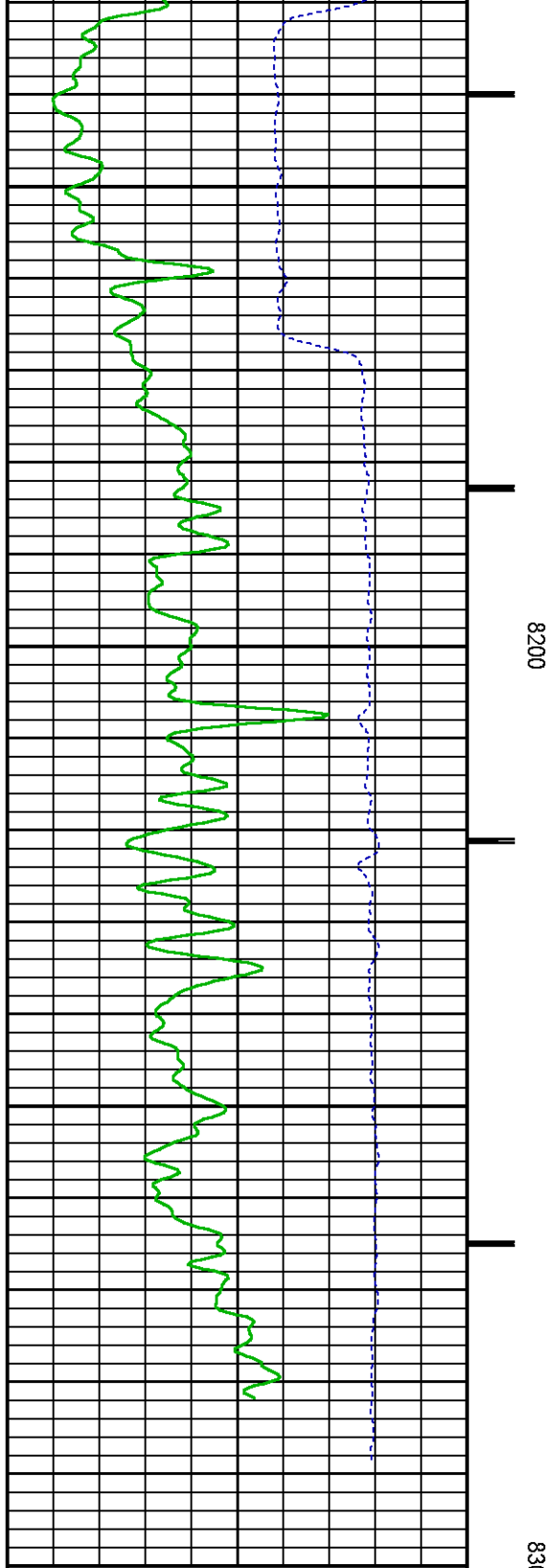
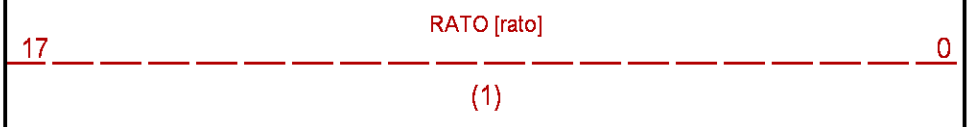
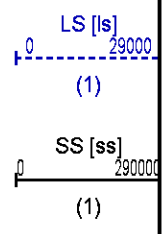
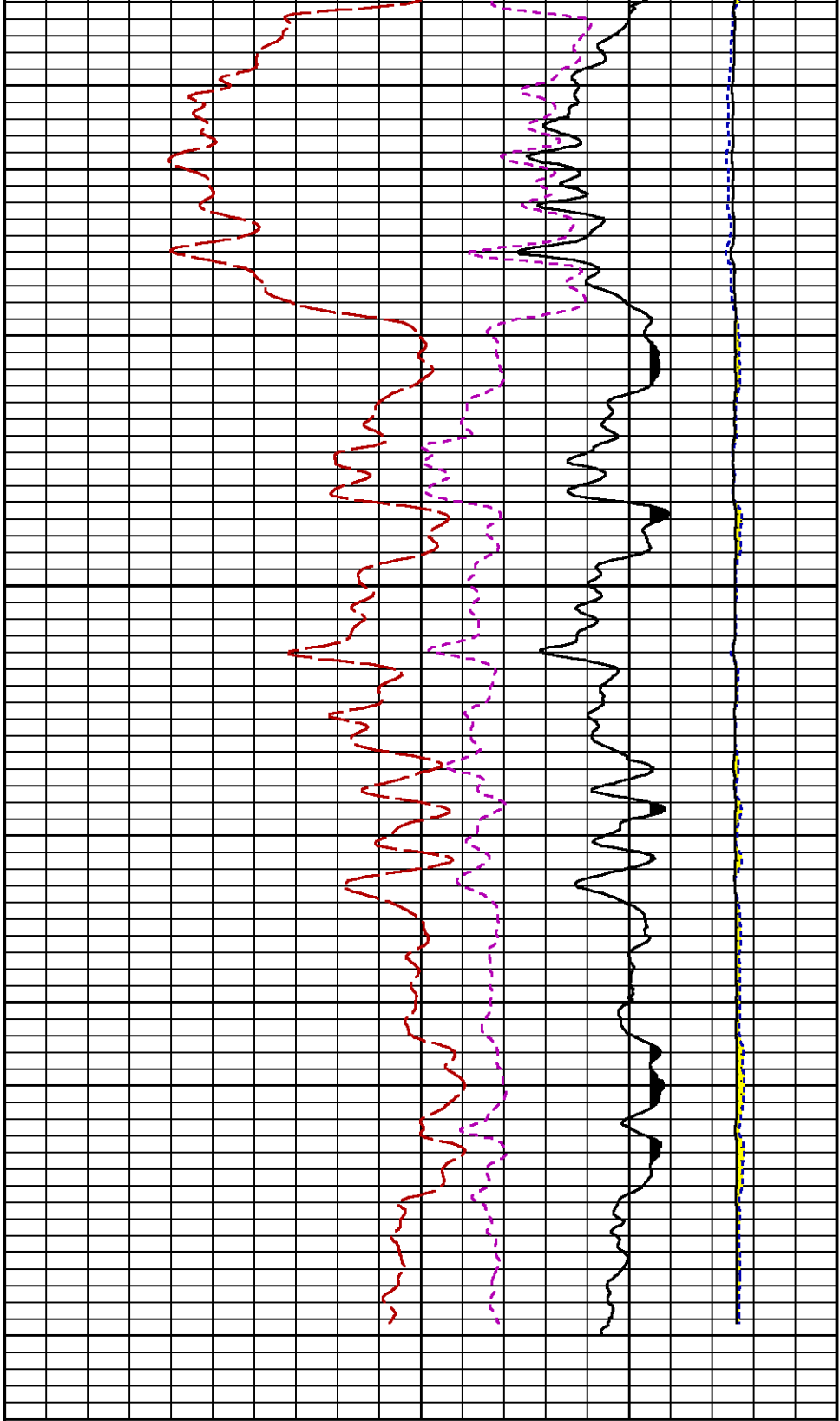
F1:GR	Jan 22 10:36:09 2016	GAMMA RAY
F1:ISS	Jan 22 10:36:09 2016	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 22 10:36:09 2016	LONG SPACE COUNT RATE
F1:RATO	Jan 22 10:36:09 2016	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 22 10:36:09 2016	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 22 10:36:09 2016	CORRECTED FORMATION SIGMA
F1:SS	Jan 22 10:36:09 2016	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : HL6670:/dat1a/CH101518/13E_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 8060 - 8300 Feet

Data File 1 : F1 : HL6670:/dat1a/CH101518/n354h01REPEAT13E.xtf
Created On : Jan 22 10:36:09 2016
Company : LARAMIE ENERGY
Well : PICEANCE_FEDERAL_29_13E
Field : VEGA
File Interval : 8039.75 - 8304.75 Feet
OCT : n354h





GR BACKUP

CCL
(mV)

FEET

8300

8200

		39	RICS [rics]	9
			(1)	
		60	SGFC [sgfc]	0
			(1)	

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH101518/n354h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 2812LA 10274382 DATE/TIME PERFORMED: Thu Jan 14 11:54:50 2016
UNIT #: 3880TA HL6670 CALB JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	29.51	215.93	186.4	1.126	33.24	243.24	210

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 2812LA 10274382 DATE/TIME PERFORMED: Thu Jan 14 11:56:42 2016
UNIT #: 3880TA HL6670 VERI JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	29.36	214.51	1.126	33.07	241.64	208.57
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10585555 DATE/TIME PERFORMED: Tue Jan 5 13:43:17 2016
UNIT: 3885TC 6685 CALIBRATOR: 2437XB 112674 SOURCE: 8281AA 11724361 HOURS: 8281AA 67

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	803214	123	2244	2201	2233	105	7	0.9784
Interpolated	1300000	146	2225	2189	2227			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	803214	6764	1075	149	26.18	0.14	24.25	0.32
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	803214	175103	27203	91100	32407	8421	55002	13490
Fit Quality %		0.620	0.631	0.726	0.710	0.593	0.613	0.604

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	803214	1.43	4.59	29.54	14.60	10.82	3.85	4.08
		1.42 1.45	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 %		0.119	0.379	0.433	0.302	0.139	0.124	0.083

Reduced

1396227

1.43

4.59

29.60

14.61

10.80

3.84

4.08

1.42

1.45

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 120516

DATE/TIME PERFORMED: Fri Oct 9 14:47:11 2015

UNIT #: 3880TA HL6670

T(0)

T(1)

T(2)

T(3)

Corr Coeff for Temp

-2.032071E+01

1.041576E-01

1.407105E-06

-1.763022E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/CH101518/RPM-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"
 Length : 4.46'
 Weight : 20 lbs
 Series : 8248ED
 Mnemonic : PCM
 Measure Point: 1.00': CCL MP

SONDEX GAMMA RAY

Diameter : 1.69"
 Length : 2.17'
 Weight : 10 lbs
 Series : 2812LA
 Mnemonic : GR
 Measure Point: 0.62': GR MP

RPM ELECTRONICS

Diameter : 1.70"
 Length : 4.48'
 Weight : 16 lbs
 Series : 8281EA
 Mnemonic : RPM

33.24'

CCL MP 25.19'

GR MP 22.64'

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

XLS DETECTOR 13.58'
LS DETECTOR 13.16'
SS DETECTOR 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: 33.24'
TOTAL WEIGHT: 140 lbs
MAX DIAMETER: 0'1.70"

0.00'

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <u>CH101518</u>
	WELL <u>PICEANCE FEDERAL 28-13E</u>		API NO: <u>05077102490000</u>
	FIELD <u>VEGA</u>	STATE <u>CO</u>	
	COUNTY <u>MESA</u>		
LOCATION: SHL: 2042' FSL & 2489' FWL BHL: 2113' FSL & 877' FEL		ELEVATIONS: KB 7704 FT DF GL 7682 FT	28 9S 93W 28-10 PAD PATTERSON 306
SEC <u>28</u> TWP <u>9S</u> RGE <u>93W</u>		DATE <u>22-JAN-2016</u>	