



FILE NO: CH092544
API NO: 05045224660000
COMPANY WPX ENERGY
WELL GM 343-12
FIELD GRAND VALLEY
COUNTY GARFIELD STATE COLORADO

Ver. 3.87
12 7S 96W
GM 21-12 PAD
NABORS 573
LOCATION:
SHL: 1208' FNL & 1928' FWL
BHL: 2057' FSL & 1341' FEL
SEC 12 TWP 7S RGE 96W
OTHER SERVICES
BOND LOG

PERMANENT DATUM GL ELEVATION 5125 FT
LOG MEASURED FROM KB 26 FT ABOVE P.D.
DRILL. MEAS. FROM KB
ELEVATIONS:
KB 5151 FT
DF
GL 5125 FT

DATE	19-Nov-2014
RUN	1
SERVICE ORDER	US092544
DEPTH DRILLER	7275 FT
DEPTH LOGGER	7260 FT
BOTTOM LOGGED INTERVAL	7250 FT
TOP LOGGED INTERVAL	26 FT
TIME STARTED	23:00
TIME FINISHED	5:00
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	73 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	207 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	19-NOV-2014
EQUIP. NO.	HL-6670
LOCATION	GRAND JCT.
RECORDED BY	RENEAU
WITNESSED BY	ORAN JACOBS

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
13.5 IN	26 FT	1697 FT
8.75 IN	1697 FT	7276 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN			26 FT	1697 FT
4.5 IN	11.6 LB/F	I-80	26 FT	7276 FT

REMARKS

RUN 1 TRIP 1: All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 19/NOV/2014 at the client's request.

The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

The amount of linear shift is 8 feet.

Logged in PNC-3D mode.

BHT = 207 degF

SJ = 3770' - 3792'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TEMP	8255XA	11774586	FREE
1	1	RPM	8281FA	10307727	FREE
1	1	RPM	8283PA	10160383	FREE
1	1	RPM	8281EA	10190984	FREE
1	1	GR	2812LA	11701636	FREE
1	1	TEL/CCL	8248EA	10590814	FREE
1	1	PCM	8250EA	10408796	FREE

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: 4

Plotted: Thu Nov 20 11:11:06 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH092544/n354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 3831.000 ft BOTTOM DEPTH: 7257.250 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER (1)	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	8.75	in	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

CURVE DESCRIPTION REPORT

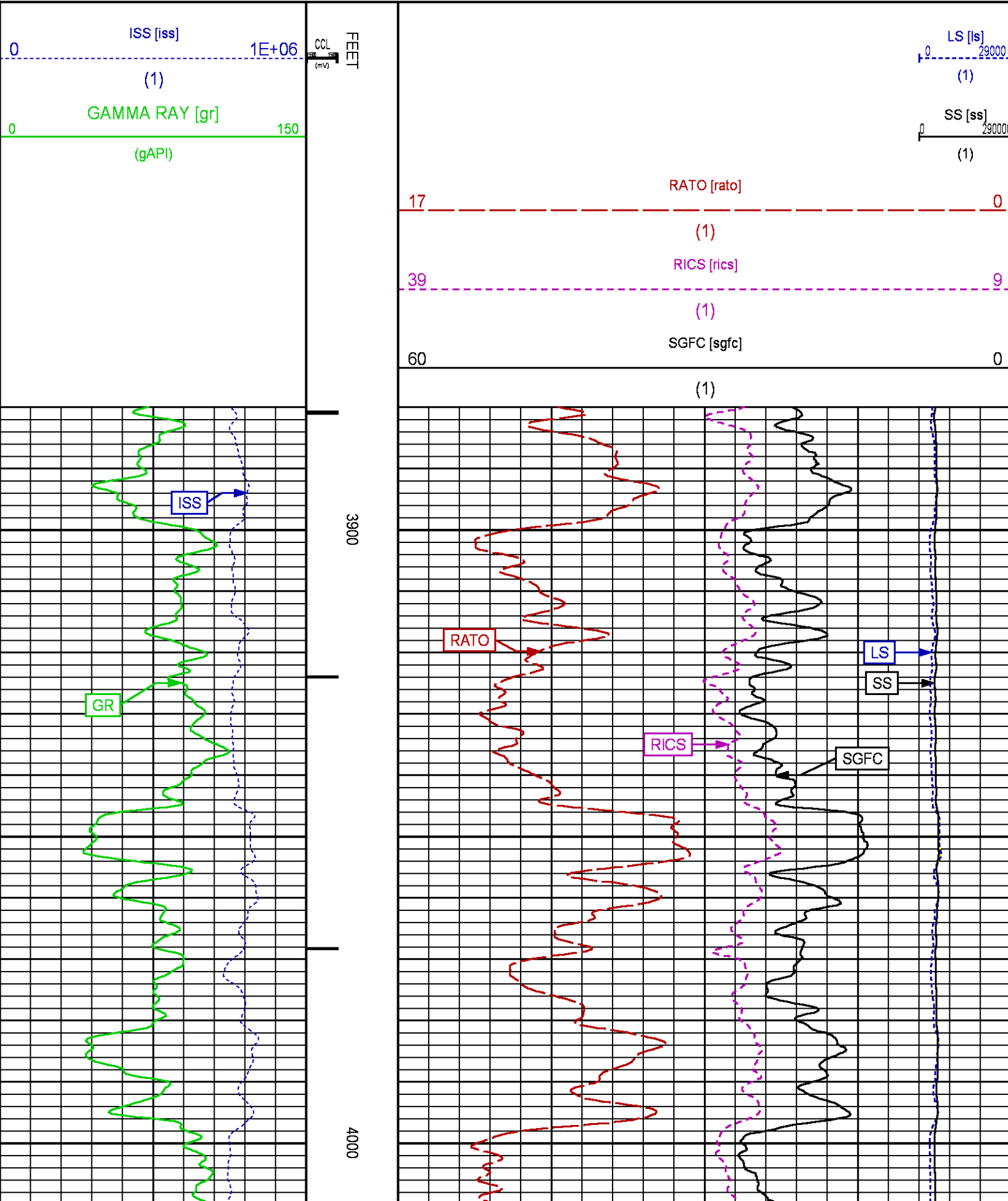
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Nov 20 10:54:46 2014	CASING COLLAR LOCATOR
F1:GR	Nov 20 10:56:02 2014	GAMMA RAY
F1:ISS	Nov 20 10:56:02 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Nov 20 10:56:02 2014	LONG SPACE COUNT RATE
F1:RATO	Nov 20 10:56:24 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Nov 20 10:56:24 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Nov 20 10:56:25 2014	CORRECTED FORMATION SIGMA
F1:SS	Nov 20 10:56:25 2014	SHORT SPACE COUNT RATE

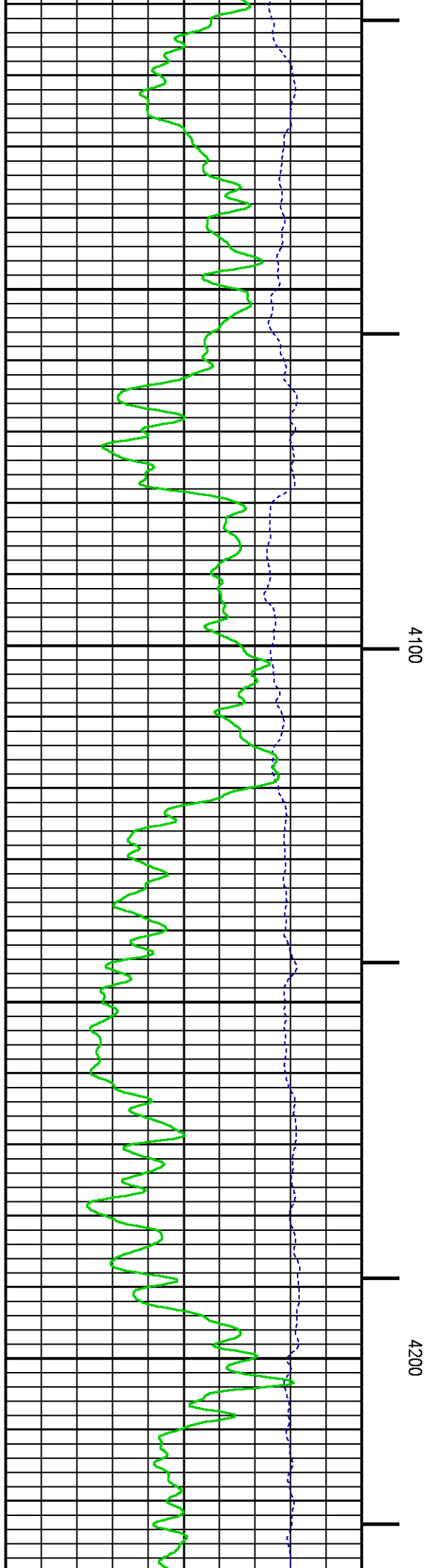
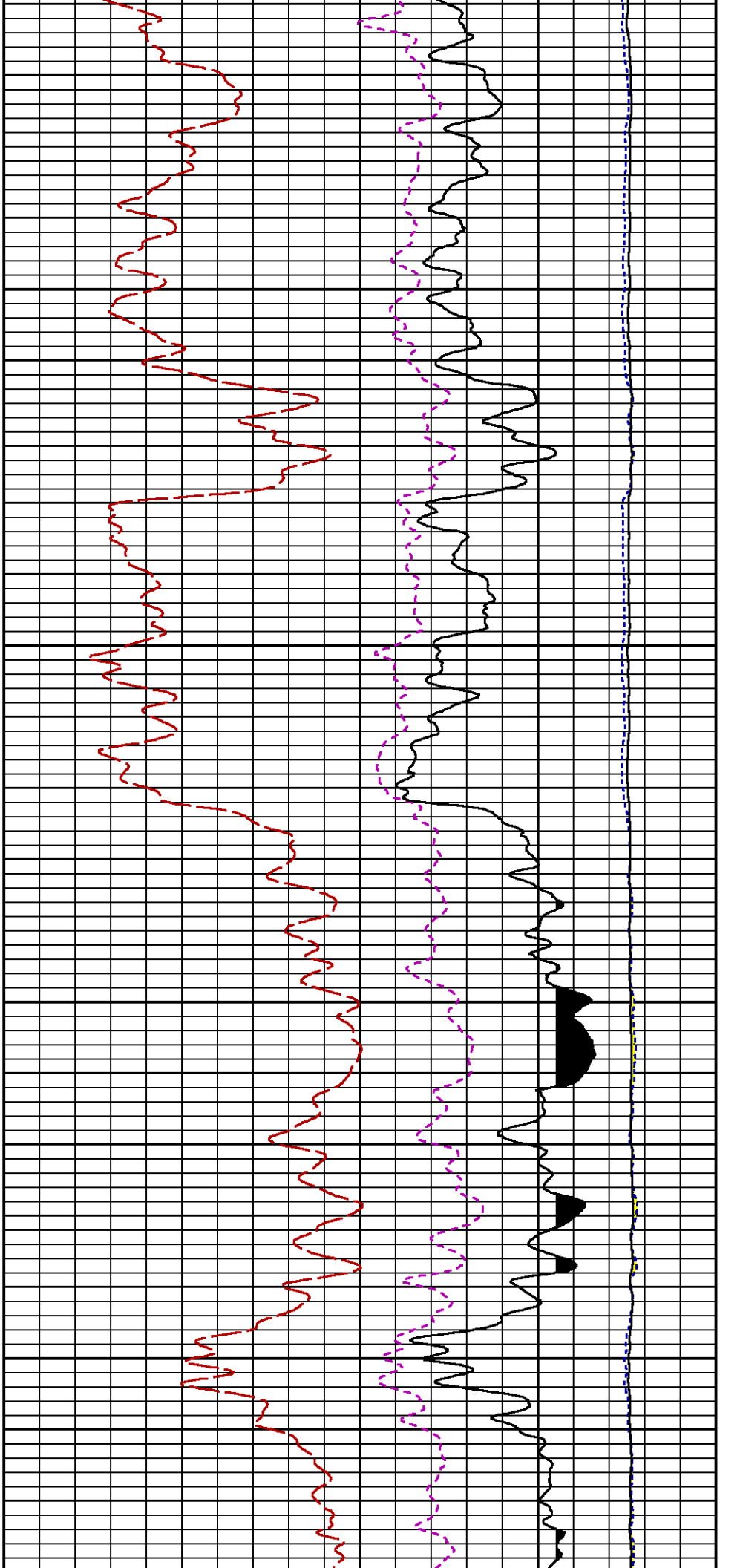
CURVE MEASURE POINT OFFSET

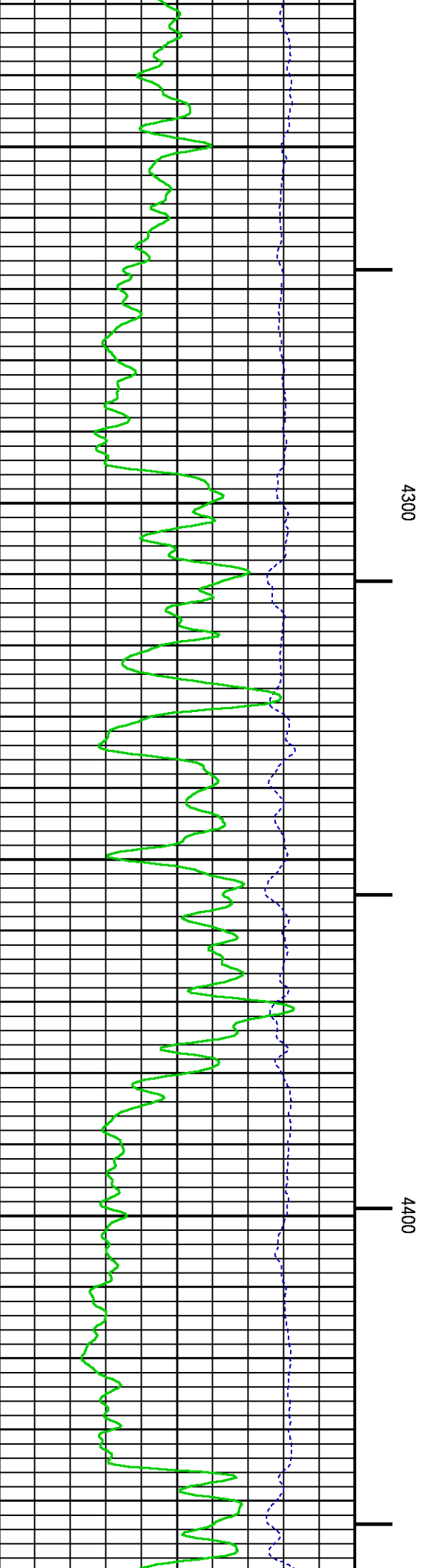
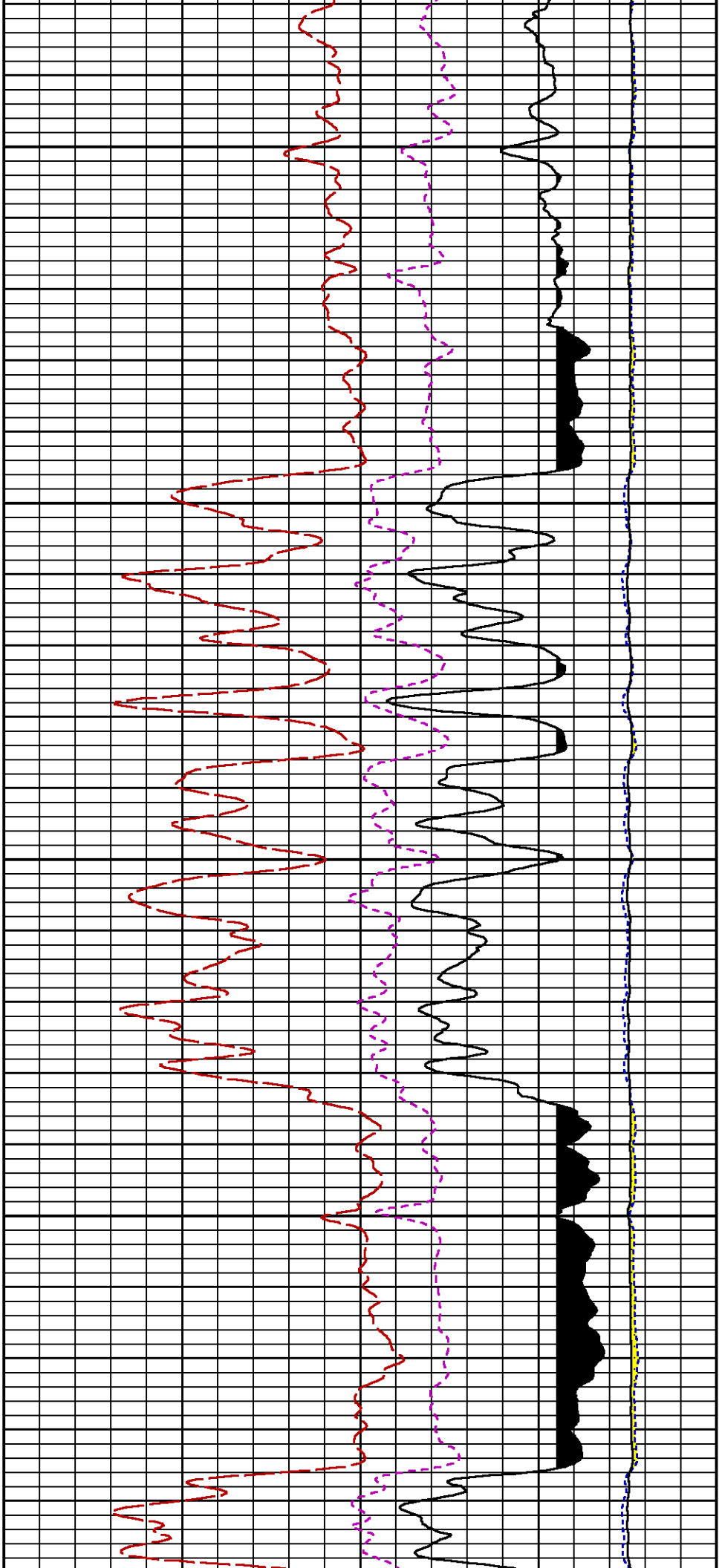
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

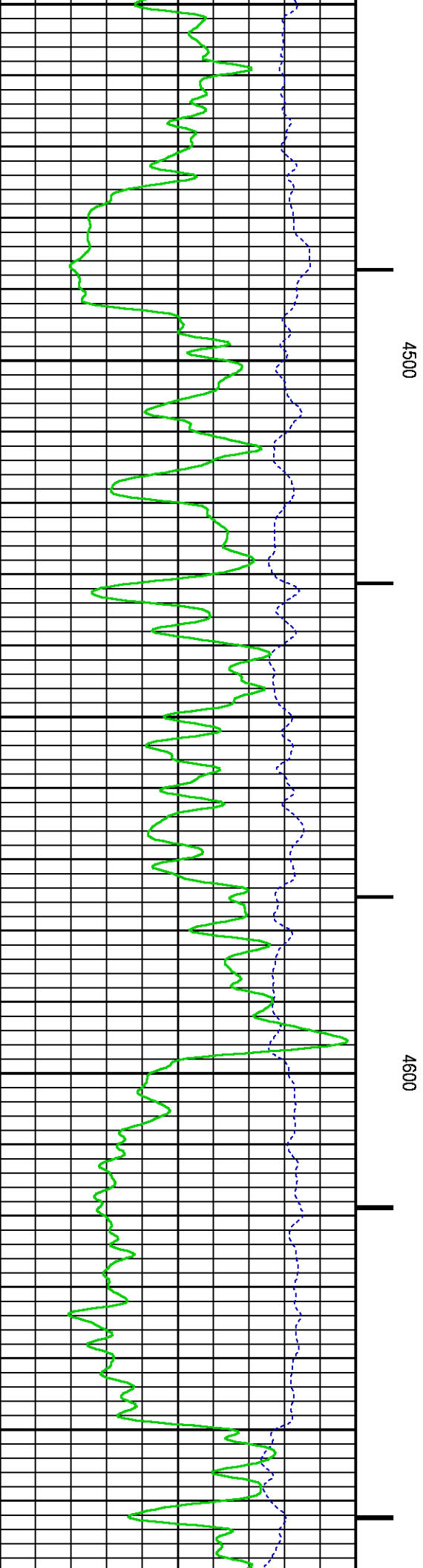
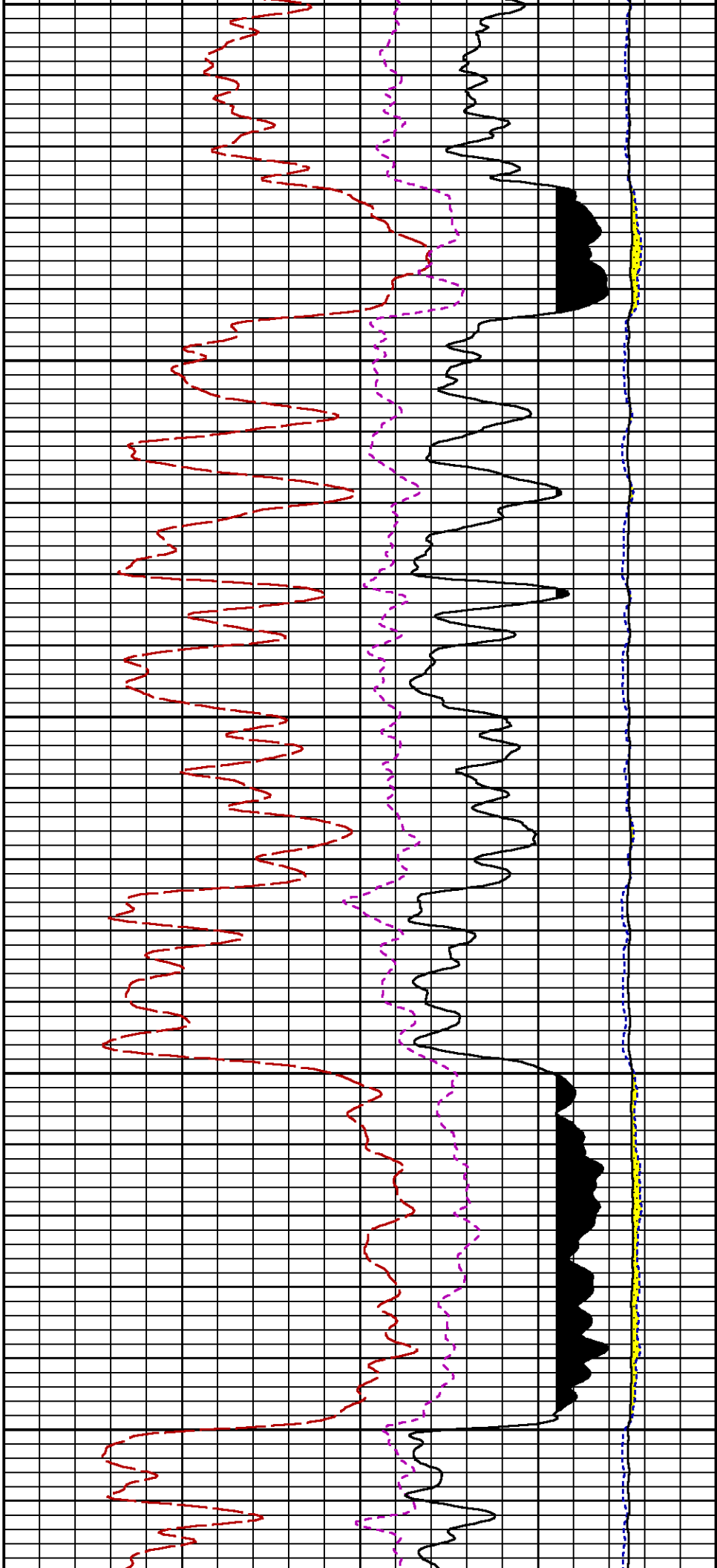
Presentation : HL6670:/dat1a/CH092544/343RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 3880 - 7265 Feet

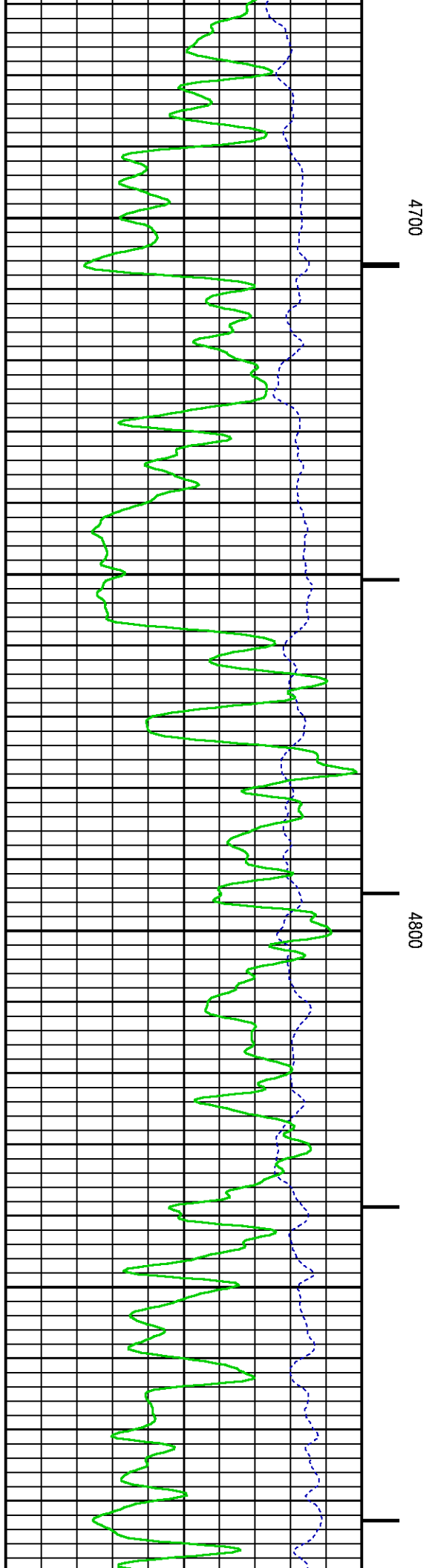
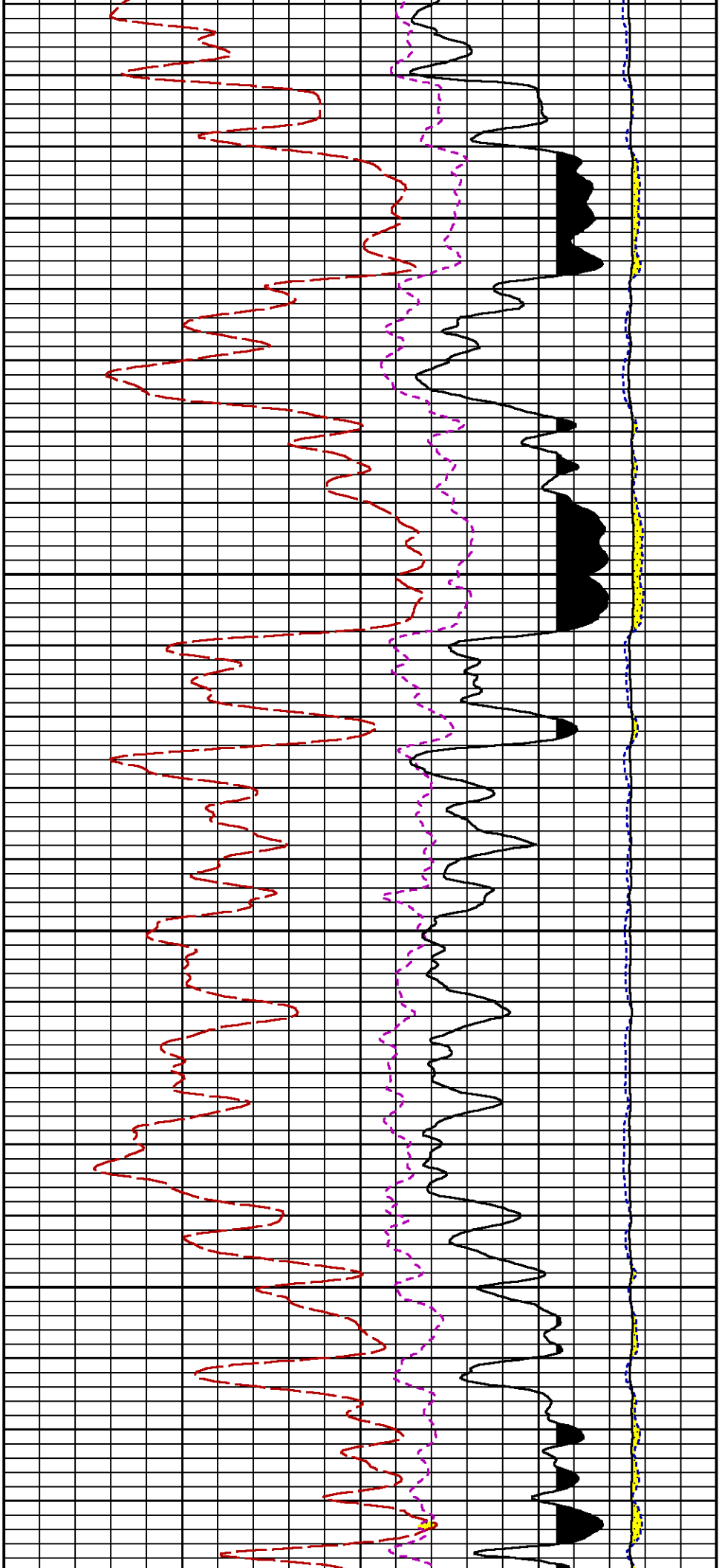
Data File 1 : F1 : HL6670:/dat1a/CH092544/343RPM_MAIN2.xtf
Created On : Nov 20 10:54:26 2014
Company : WPX ENERGY
Well : GM 343-12
Field : GRAND VALLEY
File Interval : 20.5 - 7257.25 Feet
OCT : n354h

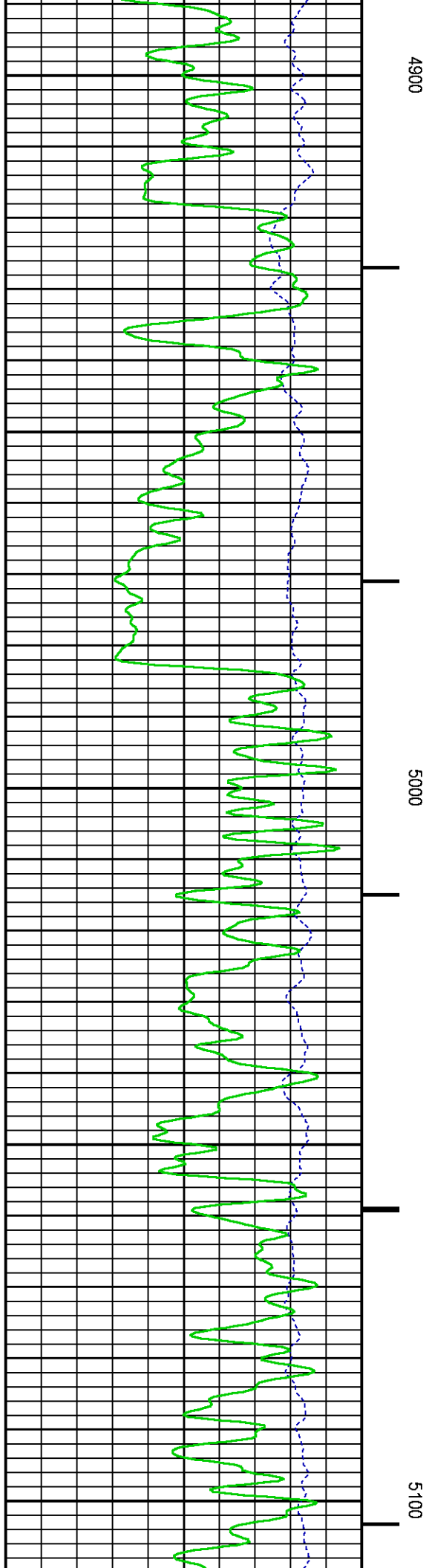
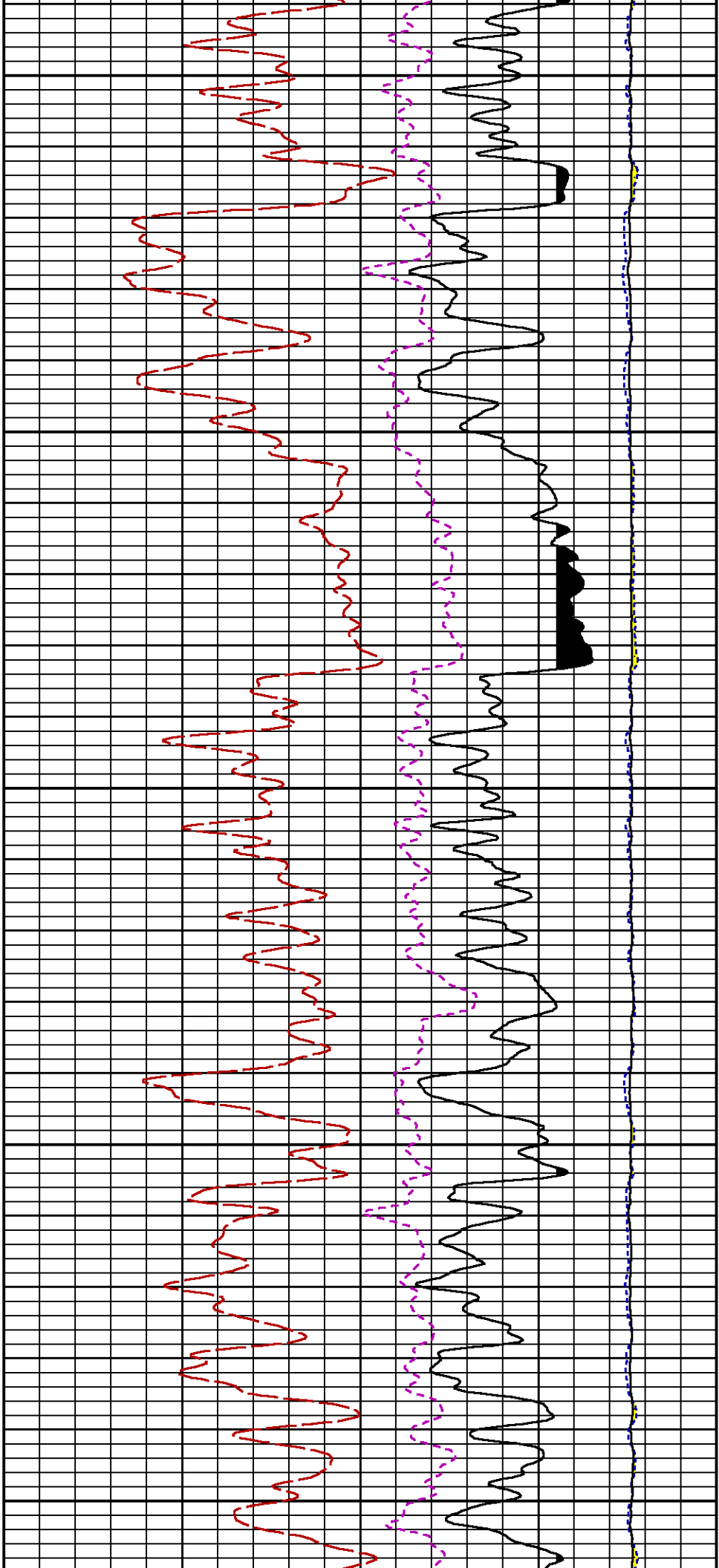


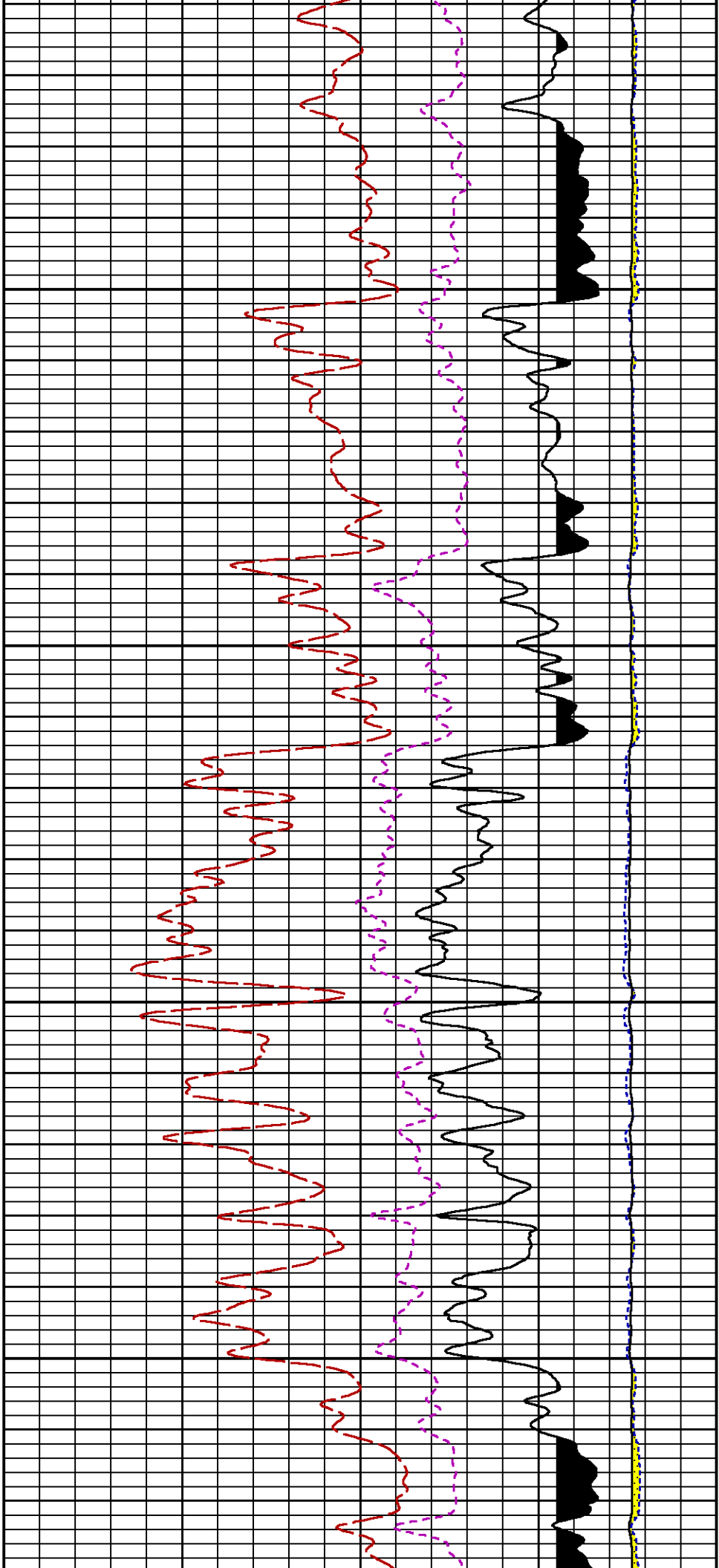






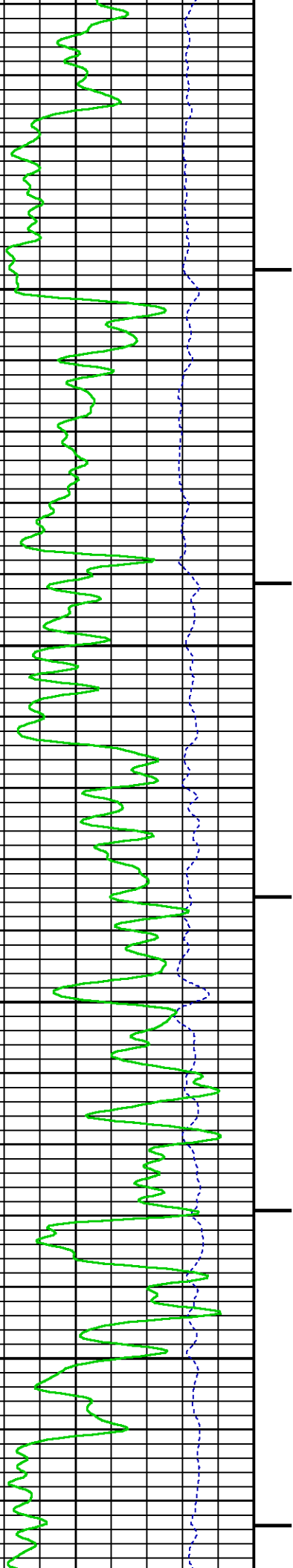


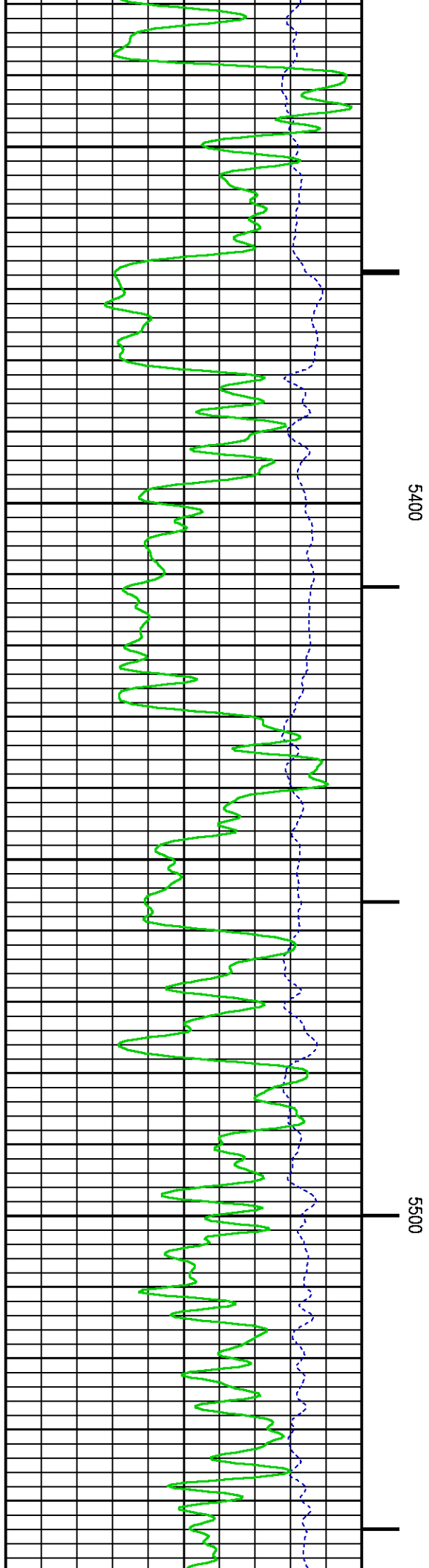
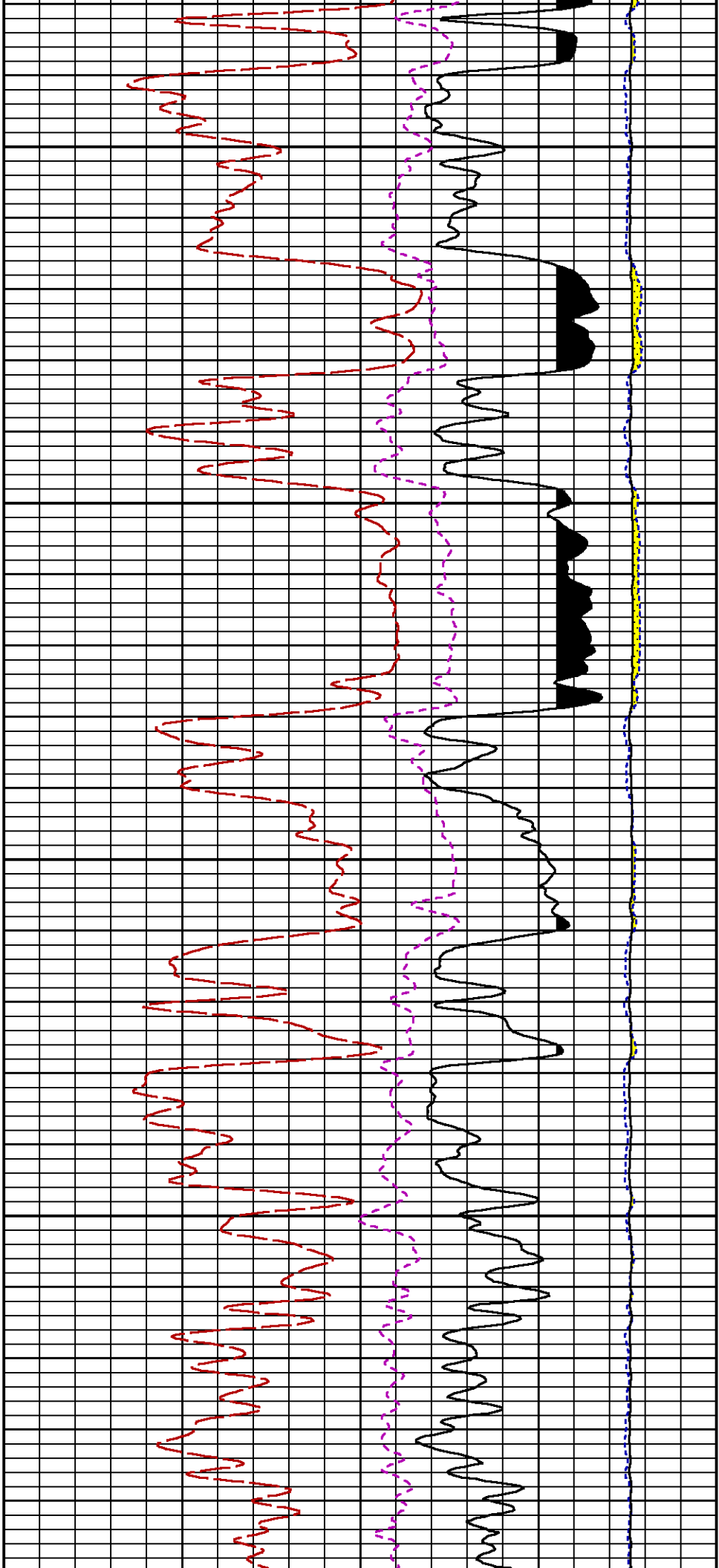


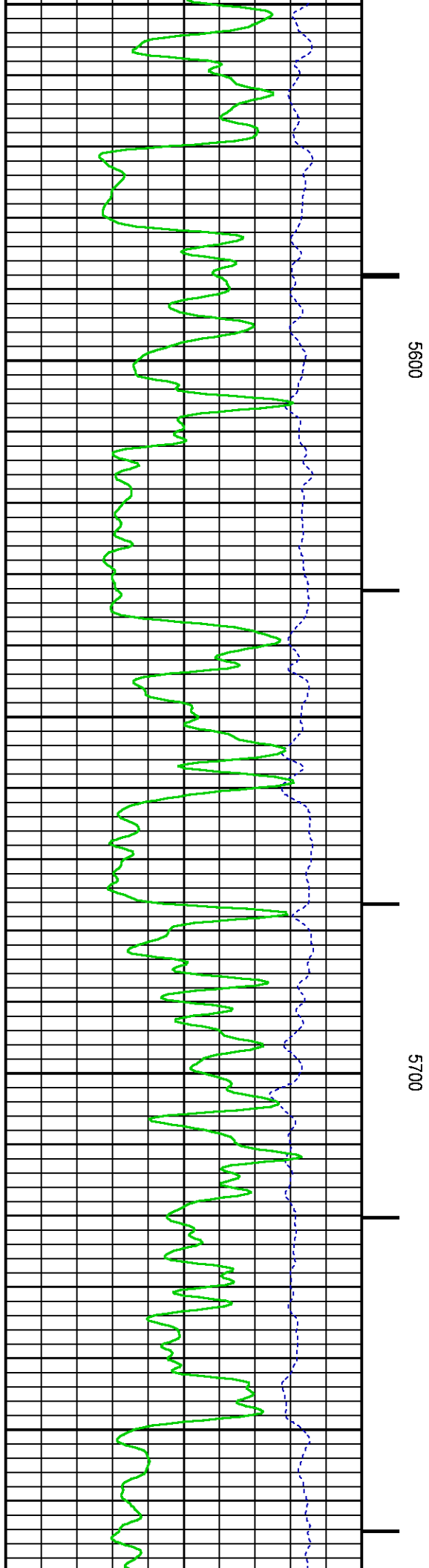
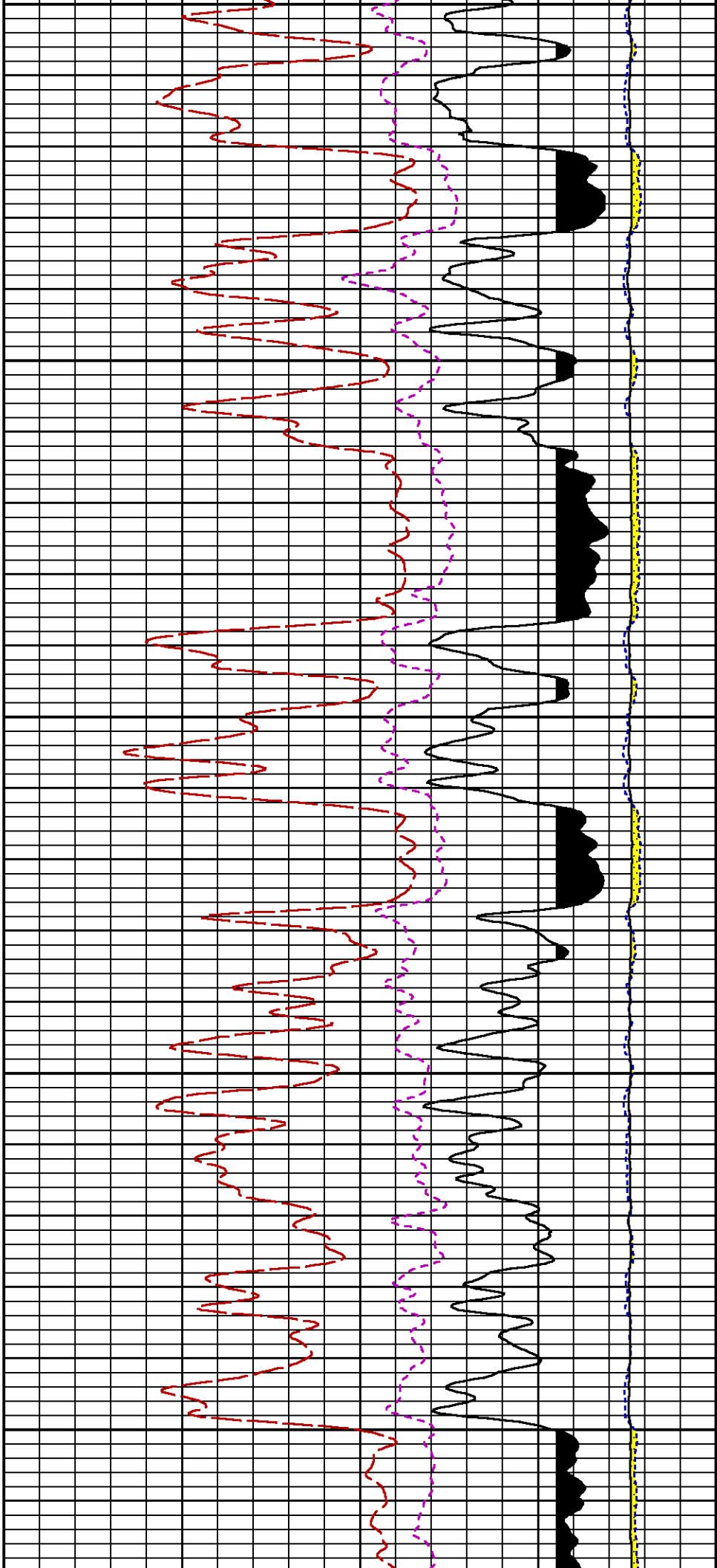


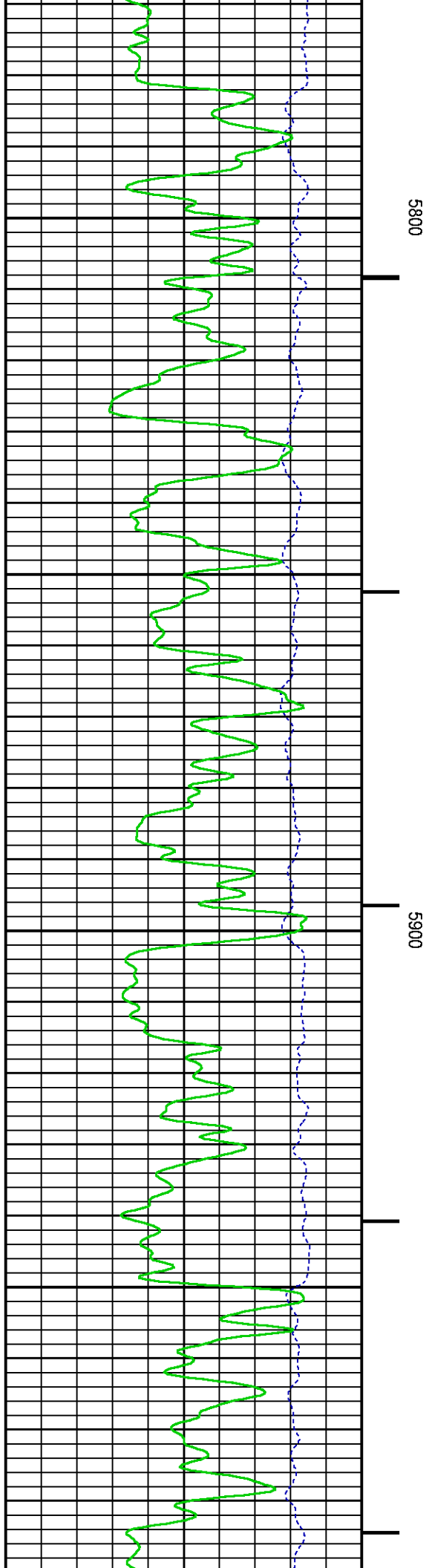
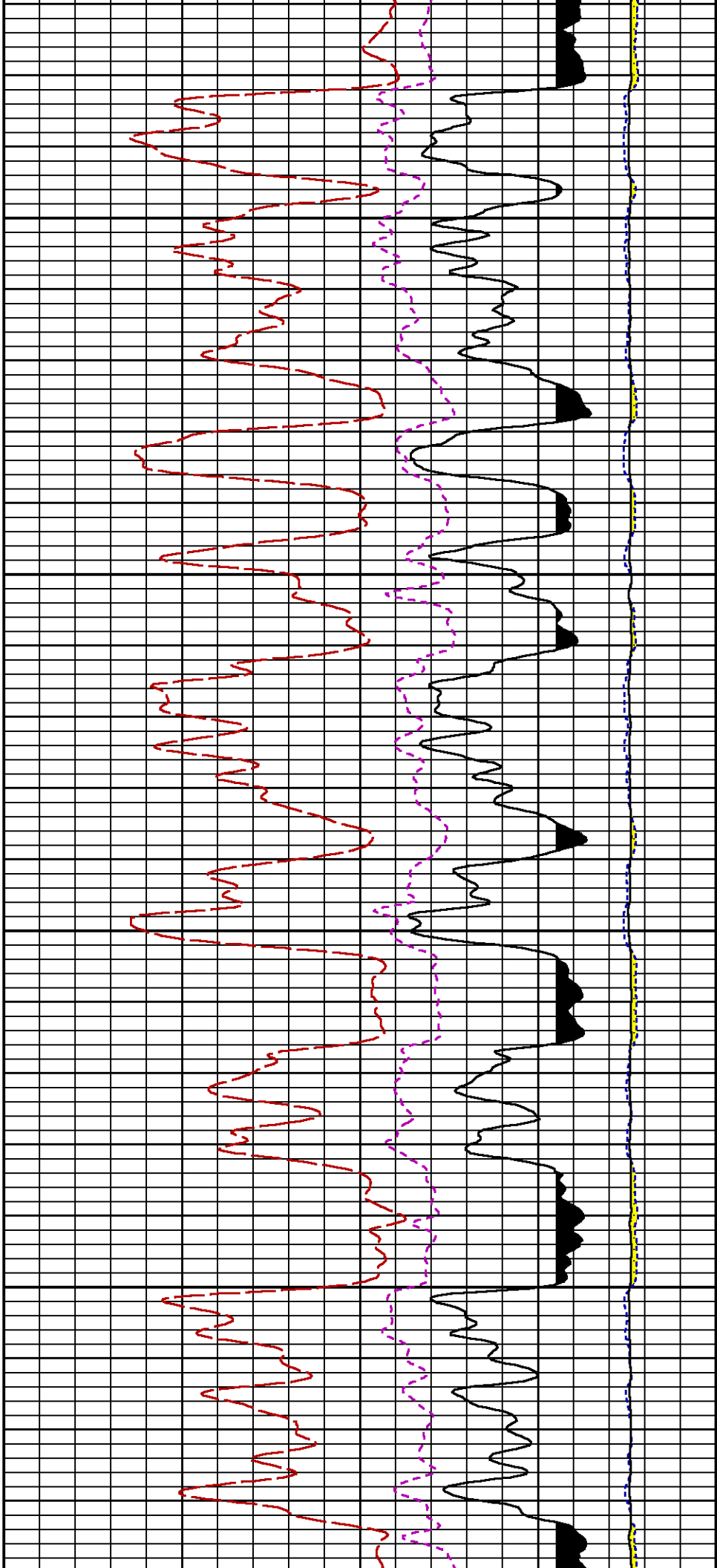
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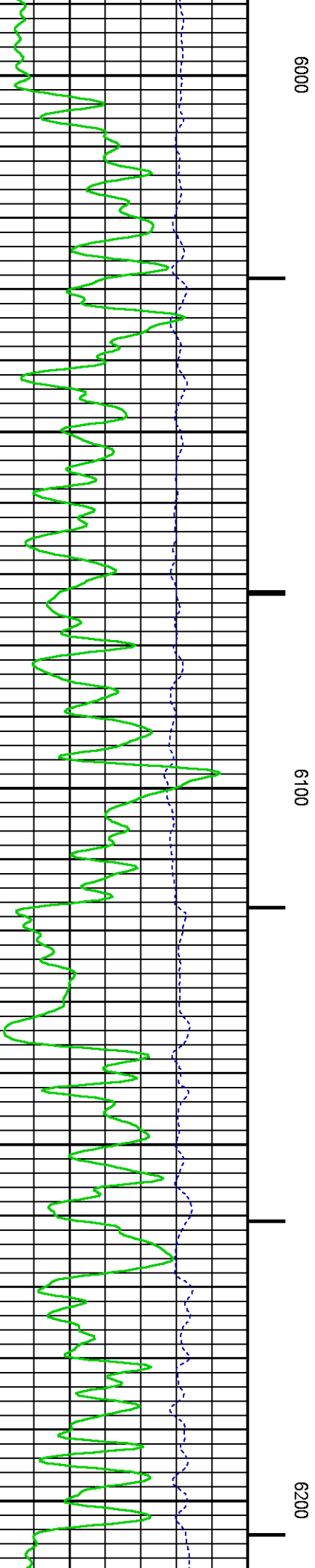
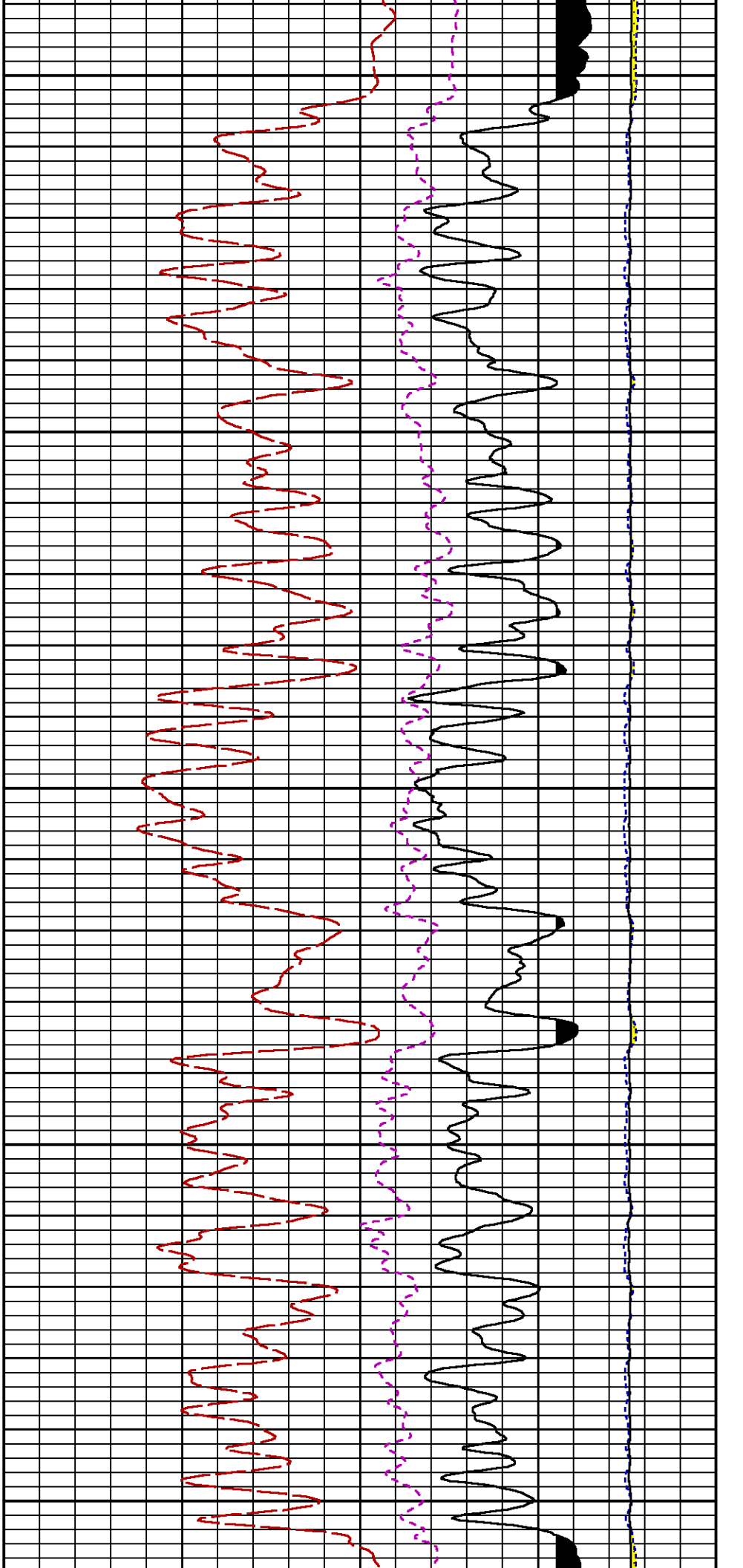
5300

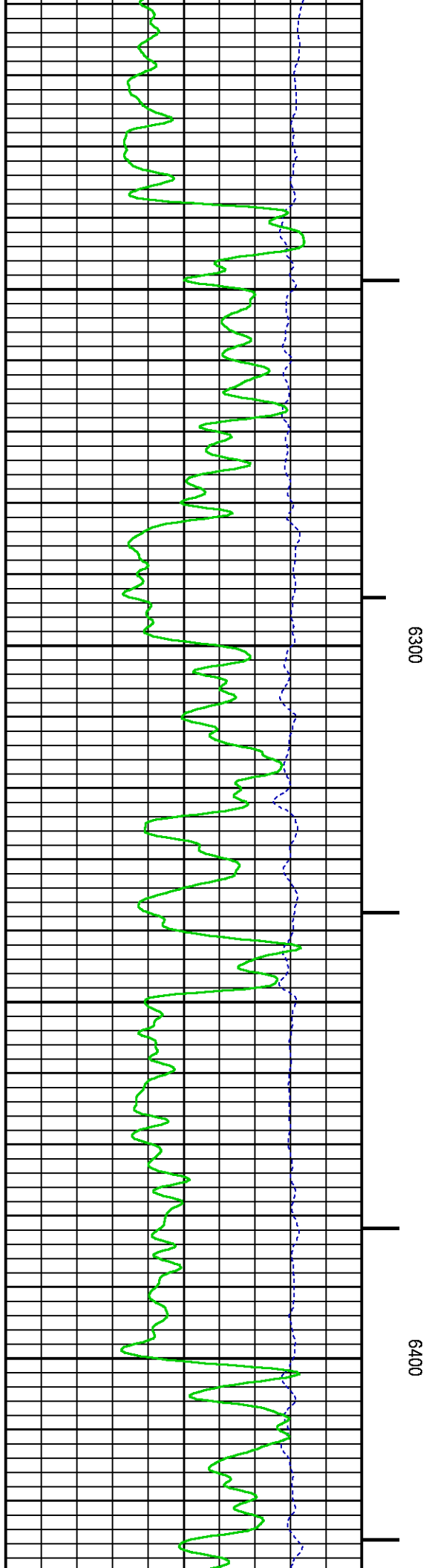
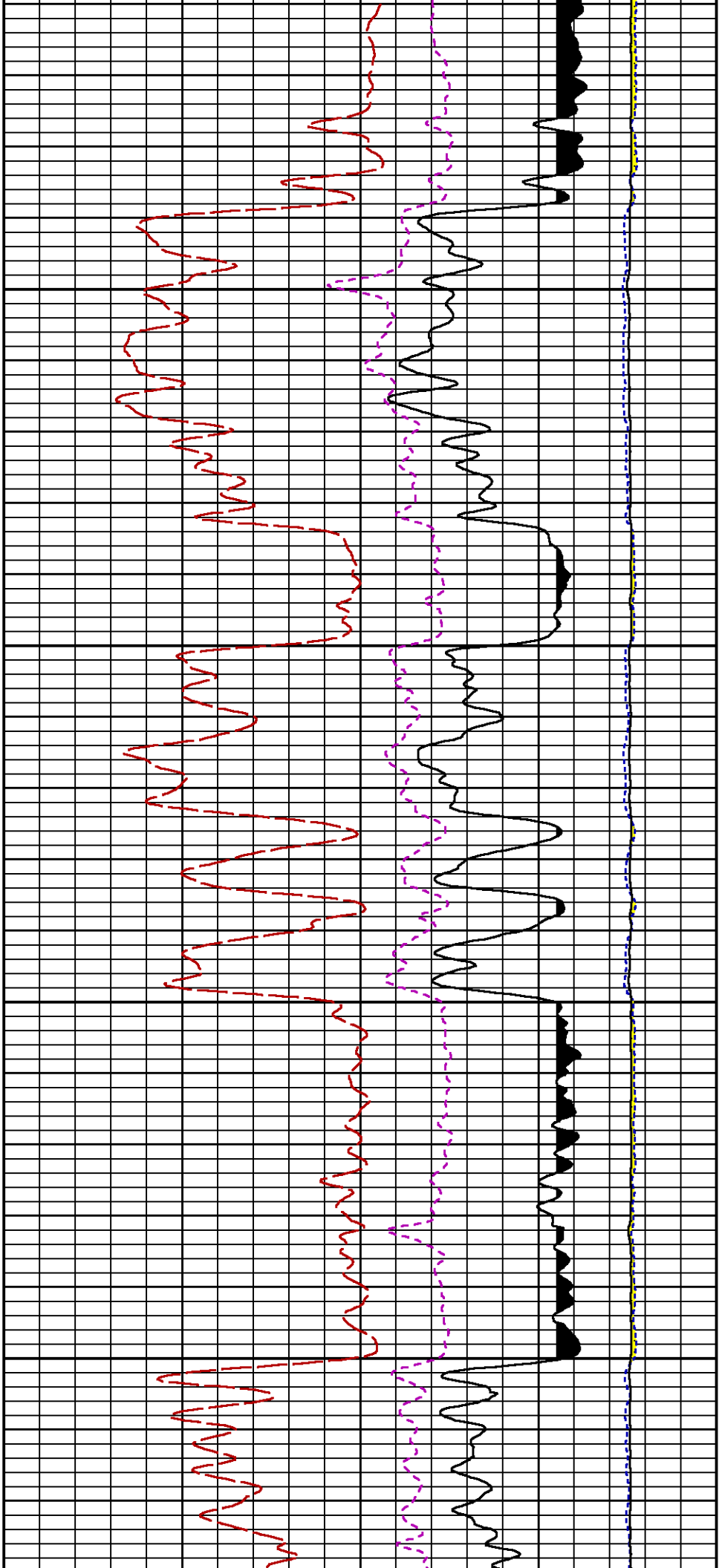


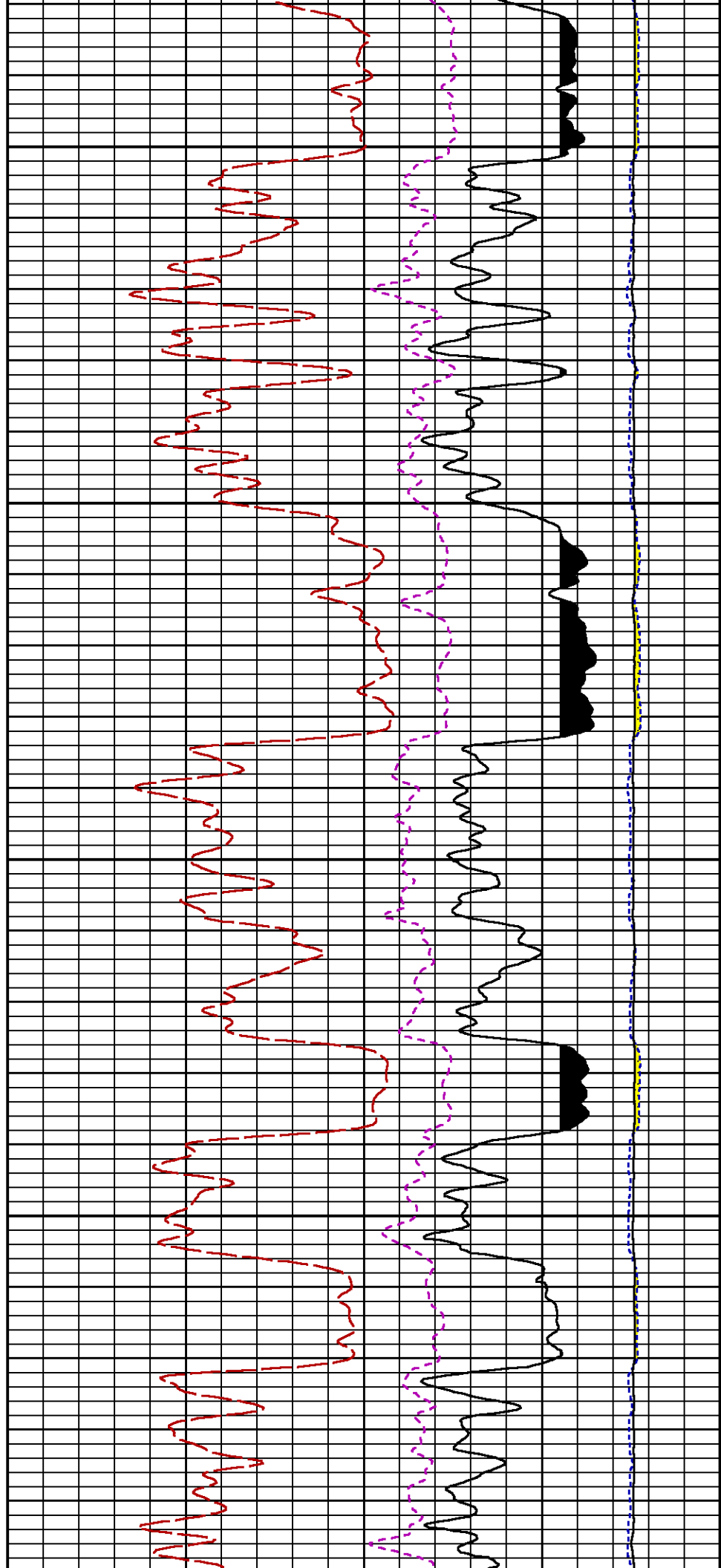
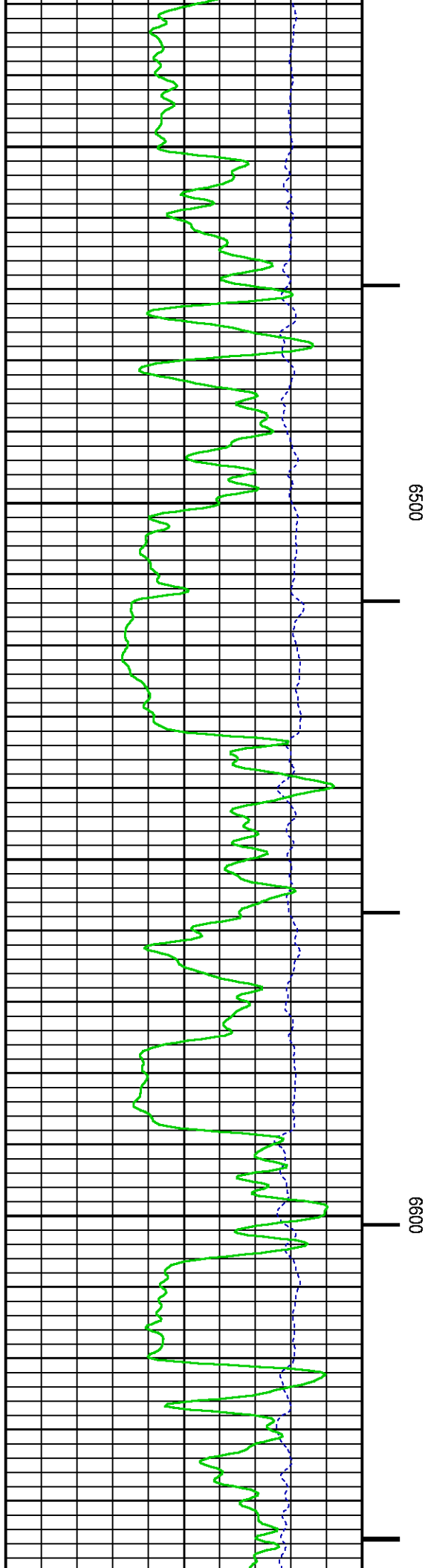


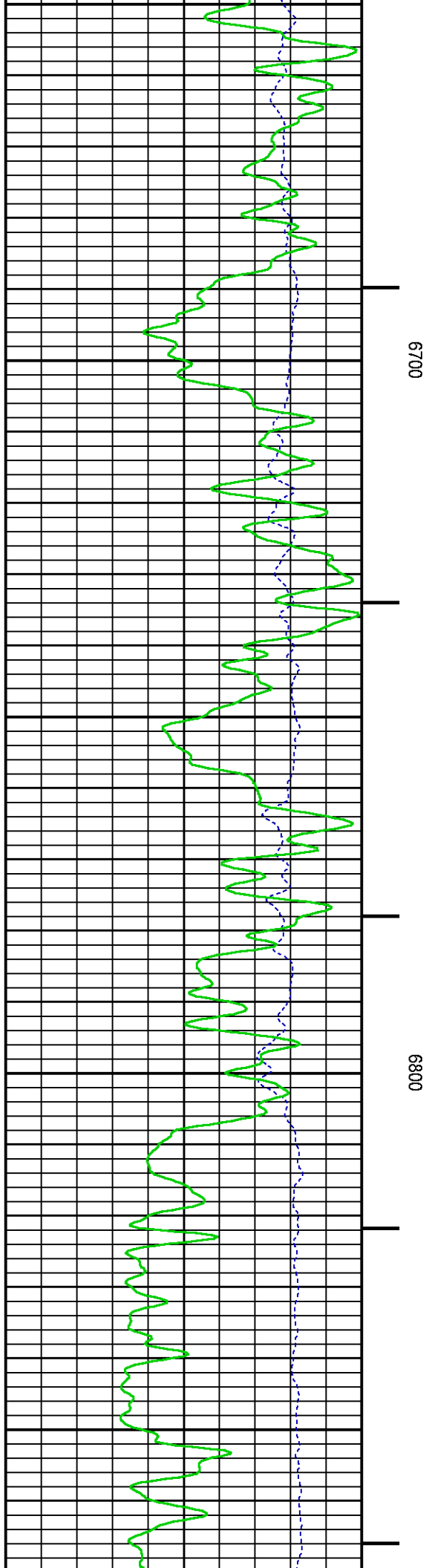
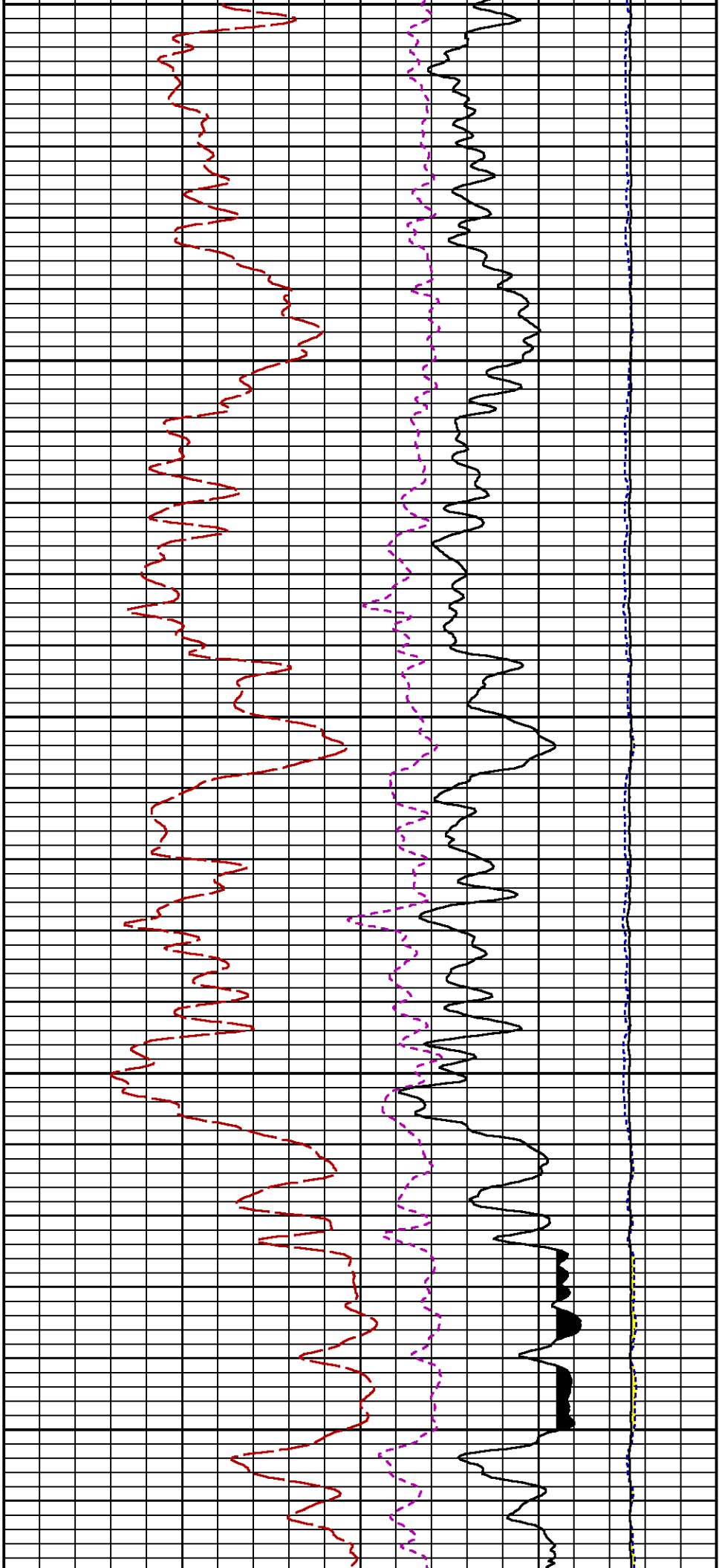


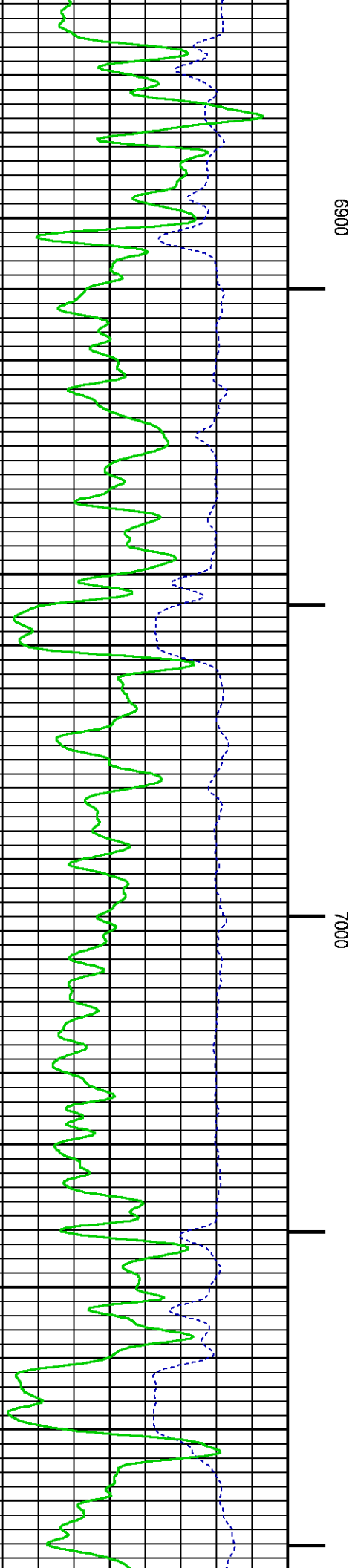
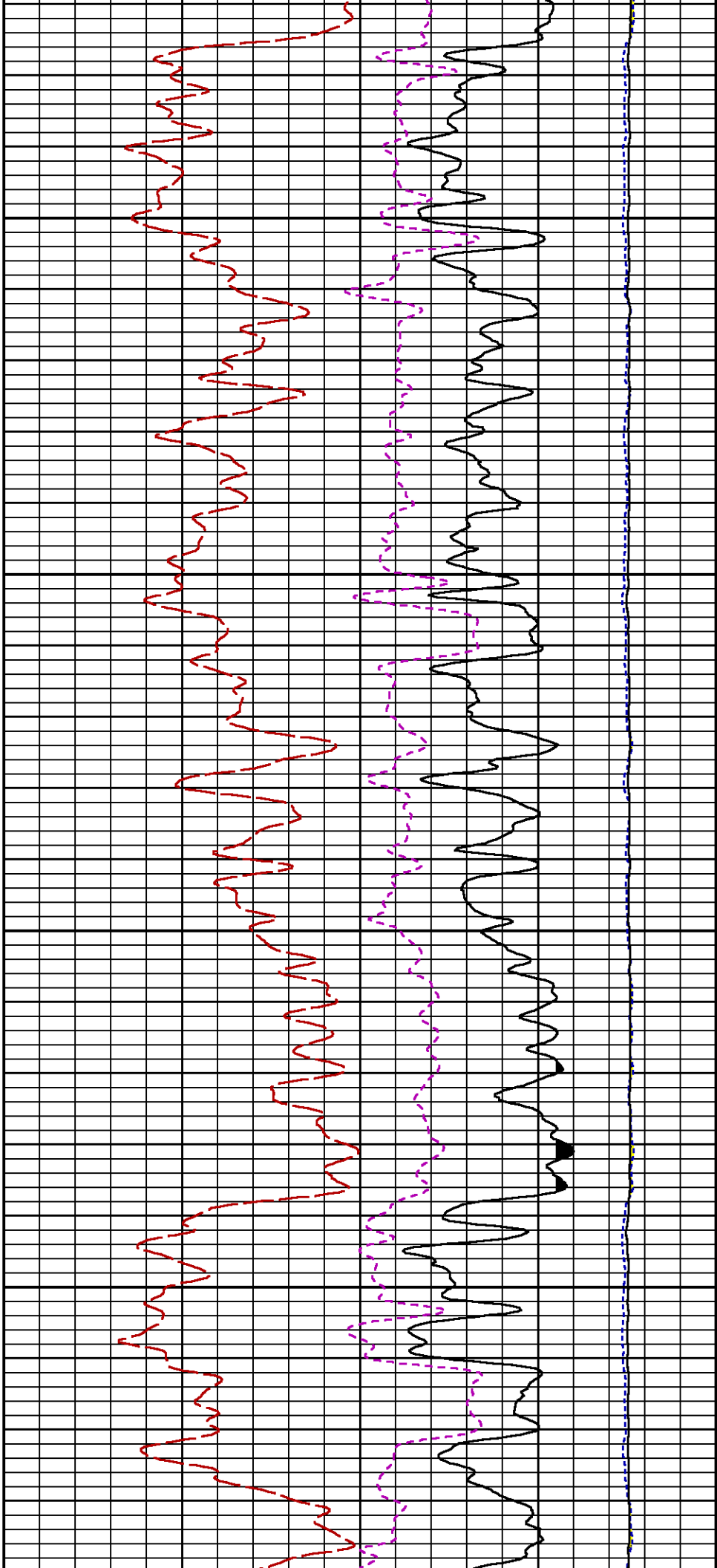


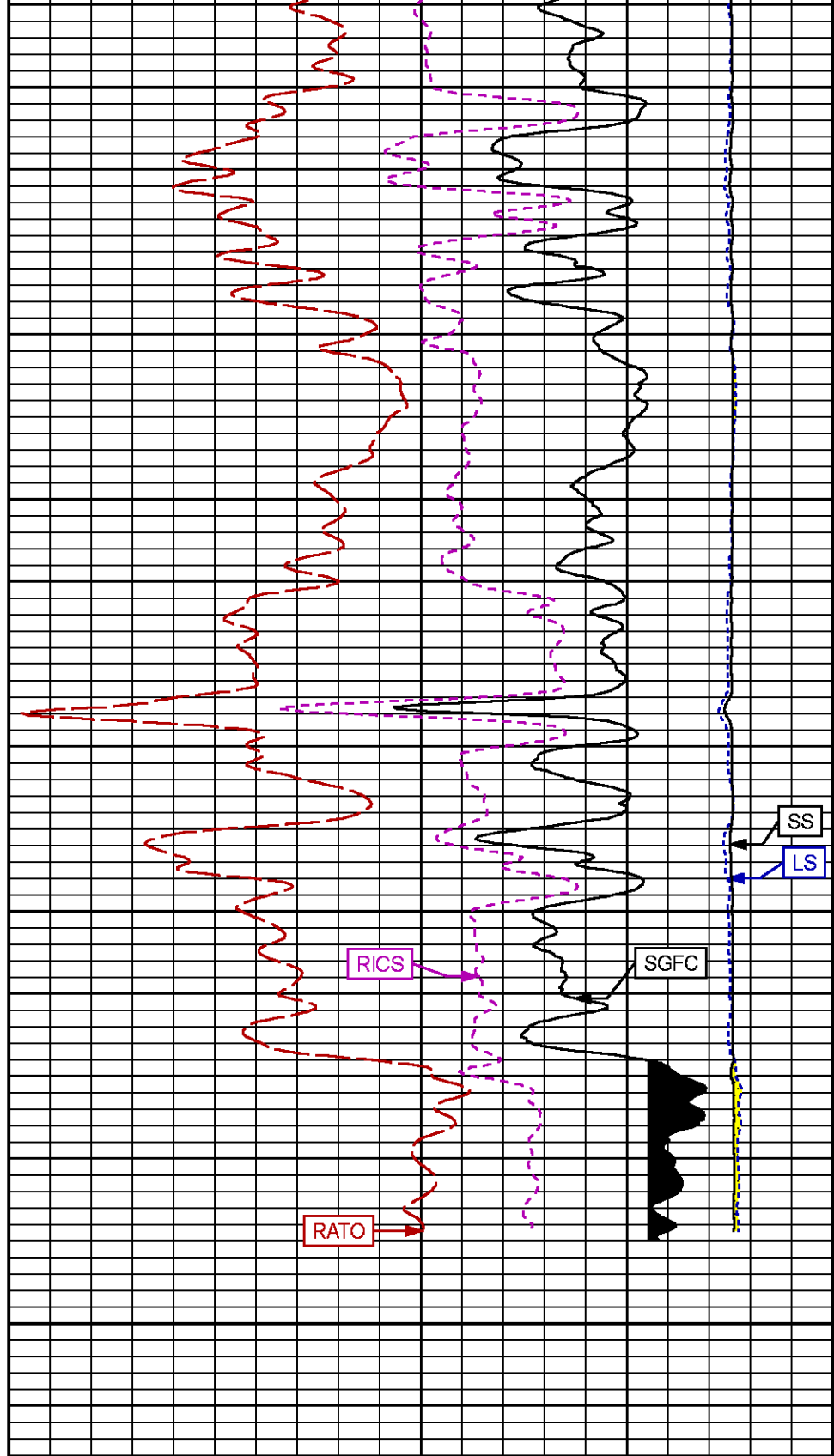
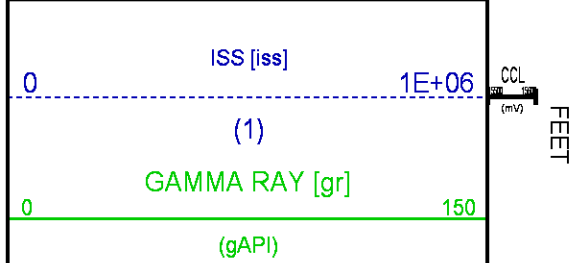
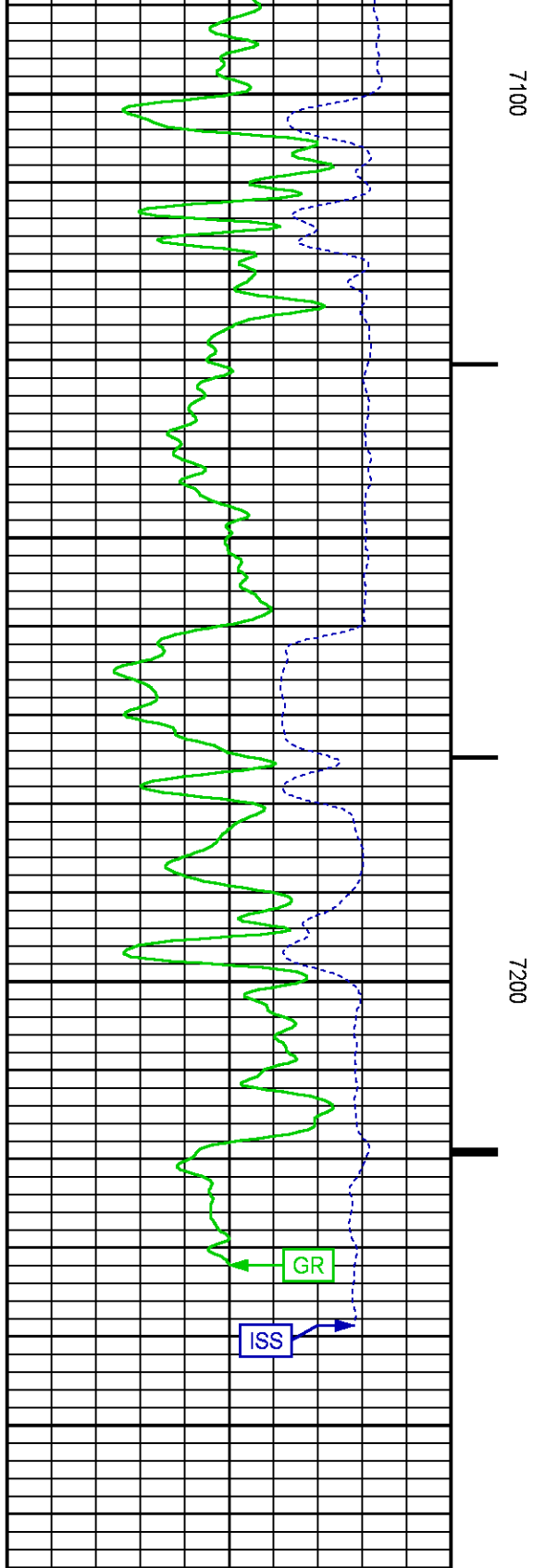












		39	RICS [rics]	9
			(1)	
		60	SGFC [sgfc]	0
			(1)	

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: 4

Plotted: Thu Nov 20 11:13:26 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH092544/n354h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 6326.250 ft BOTTOM DEPTH: 6663.250 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	8.75	in	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Nov 20 00:06:28 2014	CASING COLLAR LOCATOR
F1:GR	Nov 20 00:06:28 2014	GAMMA RAY
F1:ISS	Nov 20 00:06:28 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Nov 20 00:06:28 2014	LONG SPACE COUNT RATE
F1:RATO	Nov 20 00:06:28 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Nov 20 00:06:28 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Nov 20 00:06:28 2014	CORRECTED FORMATION SIGMA
F1:SS	Nov 20 00:06:28 2014	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

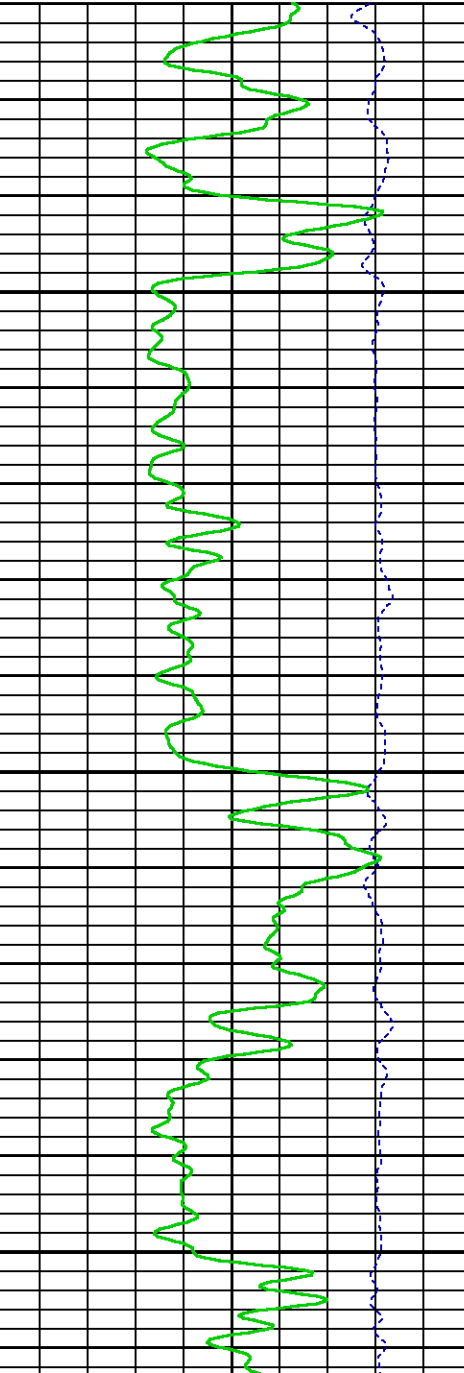
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : HL6670:/dat1a/CH092544/343RPM_REPEAT.fvpdf [5"/100' Scale]
 Plot Interval : 6320 - 6620 Feet

Data File 1 : F1 : HL6670:/dat1a/CH092544/343RPM_REPEAT.xtf
 Created On : Nov 20 11:10:40 2014
 Company : WPX ENERGY
 Well : GM 343-12
 Field : GRAND VALLEY

Field : GRAND VALLEY
File Interval : 6291.75 - 6653.5 Feet
OCT : n354h

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

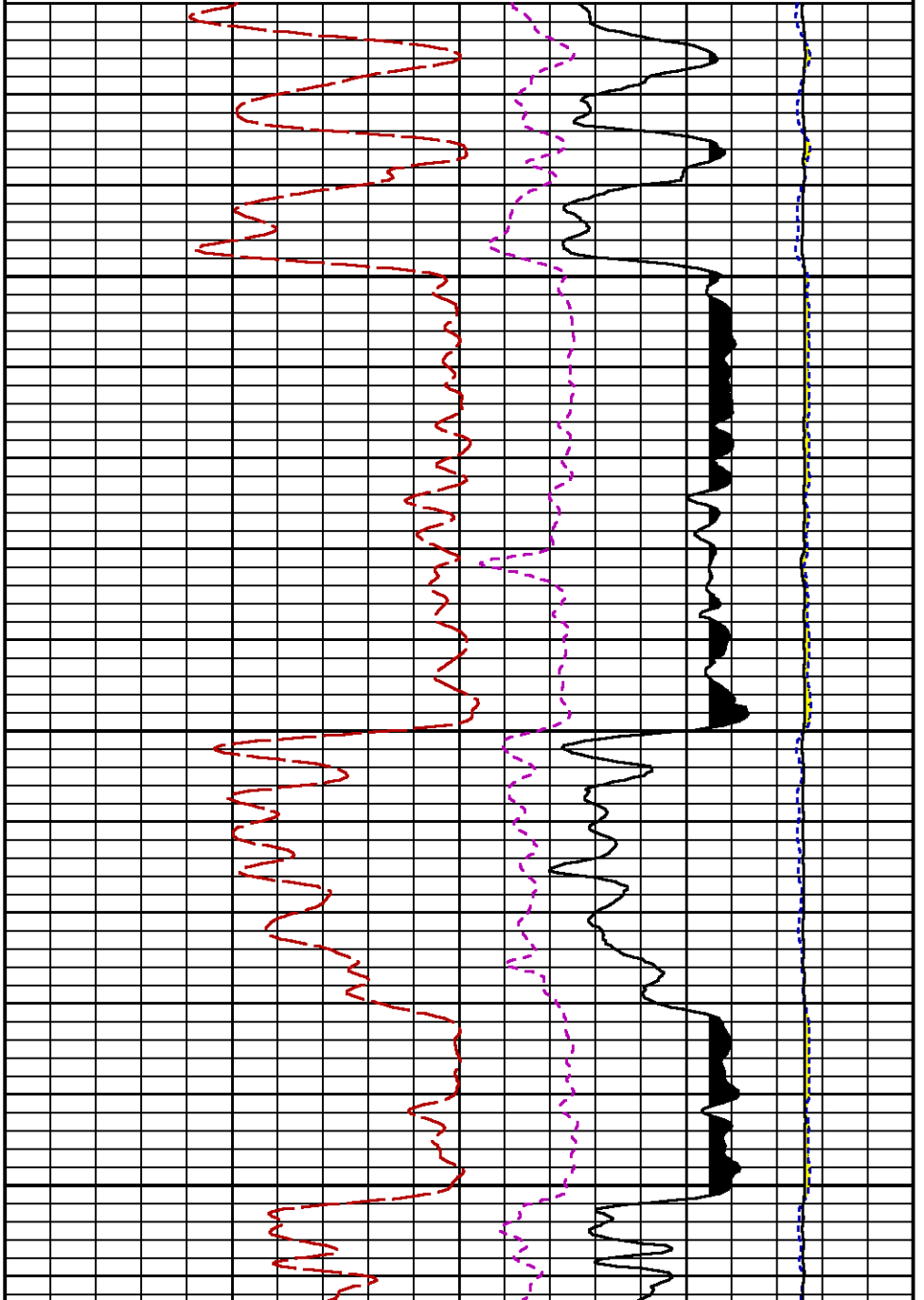


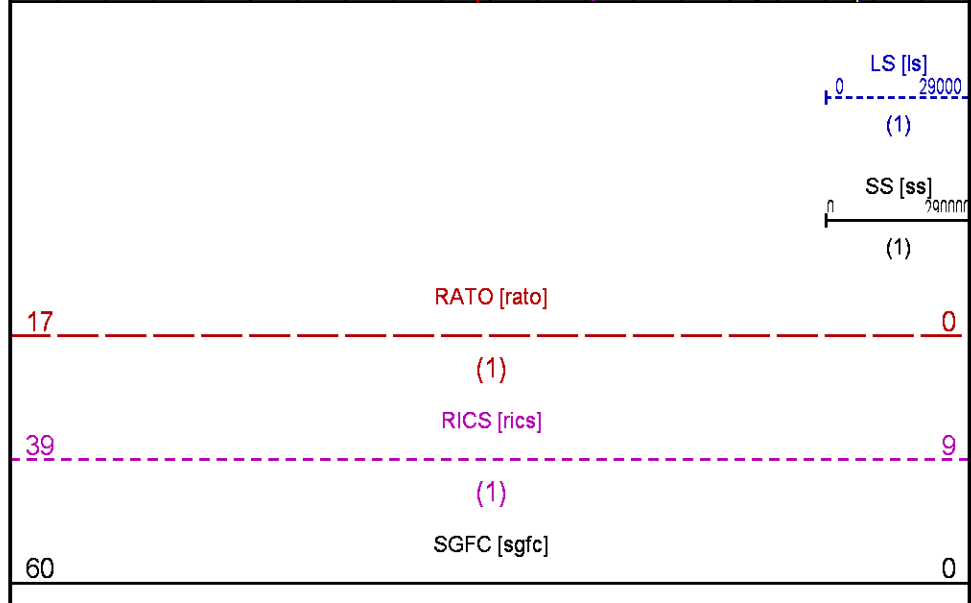
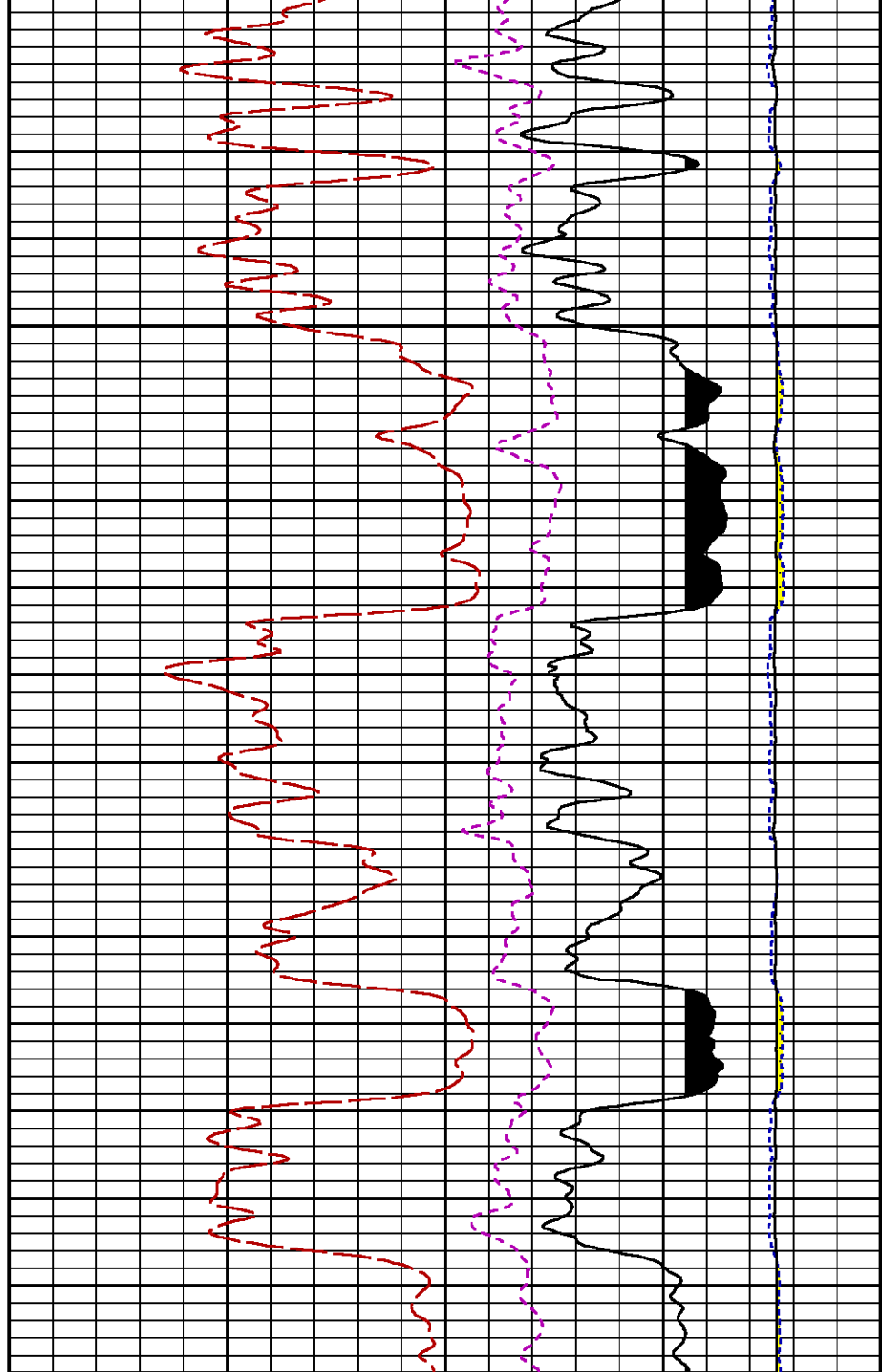
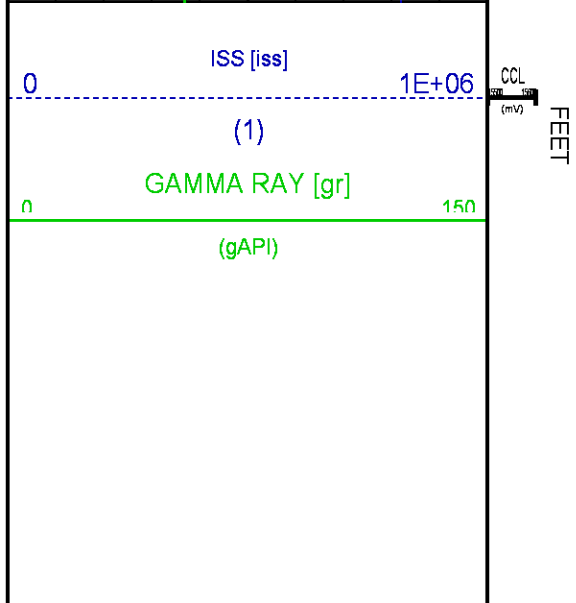
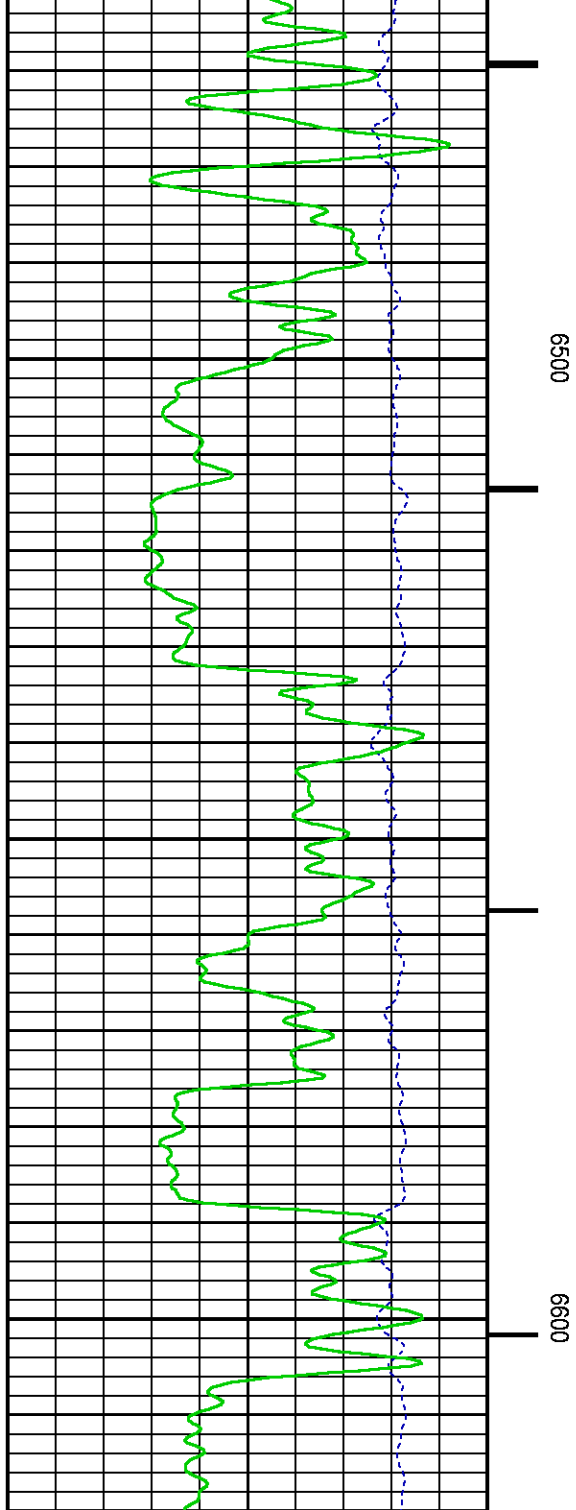
FEET
CCL
(m)

6400

LS [ls] 0 29000
(1)
SS [ss] 0 29000
(1)

RATO [rato] 17 0
(1)
RICS [rics] 39 9
(1)
SGFC [sgfc] 60 0
(1)





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH092544/n354h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 2812LA 11701636

DATE/TIME PERFORMED: Wed Nov 12 13:41:56 2014

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	59.84	276.27	216.4	0.970	58.07	268.07	210

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 2812LA 11701636

DATE/TIME PERFORMED: Wed Nov 12 13:44:33 2014

UNIT #: 3880TA HL6670

VERI JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	56.98	275.16	0.970	55.29	266.99	211.70
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10160383

DATE/TIME PERFORMED: Wed Nov 12 12:22:40 2014

UNIT: 3880TA HL6670

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 11765055

HOURS: 8281AA 36

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	799301	125	2276	2258	2216	100	7	0.9764
Interpolated	1300000	148	2255	2251	2211			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	799301	6536	1023	136	26.07	0.15	24.33	0.33
					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	799301	171372	25970	89191	31734	8236	53881	13187
Fit Quality %		0.646	0.555	0.505	0.529	0.631	0.451	0.602

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	799301	1.43	4.66	30.79	14.84	10.83	3.85	4.09
		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 %		0.058	0.340	0.278	0.287	0.114	0.083	0.098
Reduced	1373098	1.43	4.65	30.73	14.80	10.82	3.85	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

INSTRUMENT CONFIGURATION

Source File: /dat1a/CH092544/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

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

33.24'

CCL MP — 25.19'

GR MP — 22.64'

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
PRES MP 1.65'

BULL PLUG 1 11/16

0.00'

TOTAL LENGTH: 33.24'
TOTAL WEIGHT: 140 lbs
MAX DIAMETER: 0'1.70"

	COMPANY	WPX ENERGY		FILE NO:	
	WELL	GM 343-12			CH092544
	FIELD	GRAND VALLEY		API NO:	
	COUNTY	GARFIELD	STATE	COLORADO	05045224660000
LOCATION:				ELEVATIONS:	
SHL: 1208' FNL & 1928' FWL				KB 5151 FT	12 7S 96W
BHL: 2057' FSL & 1341' FEL				DF	GM 21-12 PAD
				GL 5125 FT	NABORS 573
SEC 12 TWP 7S RGE 96W				DATE	19-Nov-2014