



FILE NO: CH089277
 COMPANY: WPX ENERGY
 WELL: FEDERAL NER 413-32
 FIELD: RULISON
 COUNTY: GARFIELD STATE CO

Ver. 3.87
 32 6S 93W
 RU 23-5 PAD
 NABORS 576
 LOCATION:
 SHL: 135' FNL & 2578' FWL(5 7S 93W)
 BHL: 1762' FSL & 655' FWL(32 6S 93W)
 SEC 32 TWP 6S RGE 93W
 OTHER SERVICES
 BOND LOG

PERMANENT DATUM GL ELEVATION 7603 FT
 LOG MEASURED FROM KB 26 FT ABOVE P.D.
 DRILL. MEAS. FROM KB
 ELEVATIONS:
 KB 7629 FT
 DF
 GL 7603 FT

DATE	31-Aug-2014
RUN	1
TRIP	1
SERVICE ORDER	US089277
DEPTH DRILLER	10579 FT
DEPTH LOGGER	10554 FT
BOTTOM LOGGED INTERVAL	10544 FT
TOP LOGGED INTERVAL	6419 FT
TIME STARTED	8:00
TIME FINISHED	15:00
OPERATOR RIG TIME	7 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	91 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMN
MAX. RECORDED TEMP.	245 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	30-Aug-2014
EQUIP. NO.	6670
LOCATION	GRAND JCT.
RECORDED BY	NEWELL
WITNESSED BY	JEFF DUCY

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	0 FT	1155 FT
8.75 IN	1155 FT	10618 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN			0 FT	10618 FT
4.5 IN	11.6 LB/F	P-110	0 FT	10618 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 30/AUG/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 6 feet.

Logged in PNC-3D mode.

BHT = 245 degF
 SJ = 6908' - 6930'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	10314363	FREE
1	1	TEL/CCL	8248ED	120493	FREE
1	1	GR	8262XA	10485470	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	RPM	8283PA	10466231	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	TEMP	8255XA	11774568	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: 2

Plotted: Sun Aug 31 20:56:25 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH089277/n353h02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 6336.750 ft BOTTOM DEPTH: 10570.750 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	8.75	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

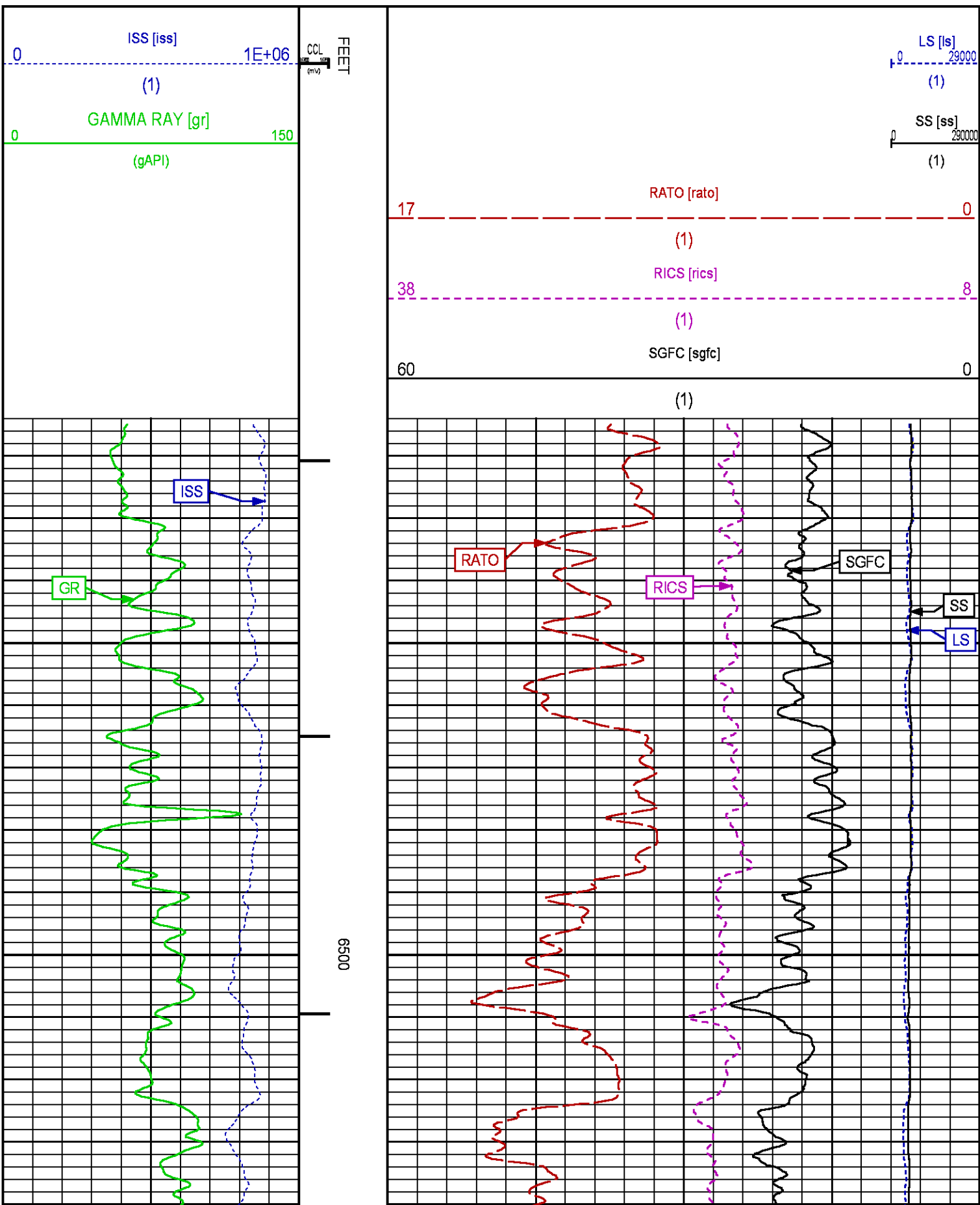
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 31 10:16:21 2014	CASING COLLAR LOCATOR
F1:GR	Aug 31 10:16:21 2014	GAMMA RAY
F1:ISS	Aug 31 10:16:21 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 31 10:16:21 2014	LONG SPACE COUNT RATE
F1:RATO	Aug 31 10:16:21 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 31 10:16:21 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 31 10:16:21 2014	CORRECTED FORMATION SIGMA
F1:SS	Aug 31 10:16:21 2014	SHORT SPACE COUNT RATE

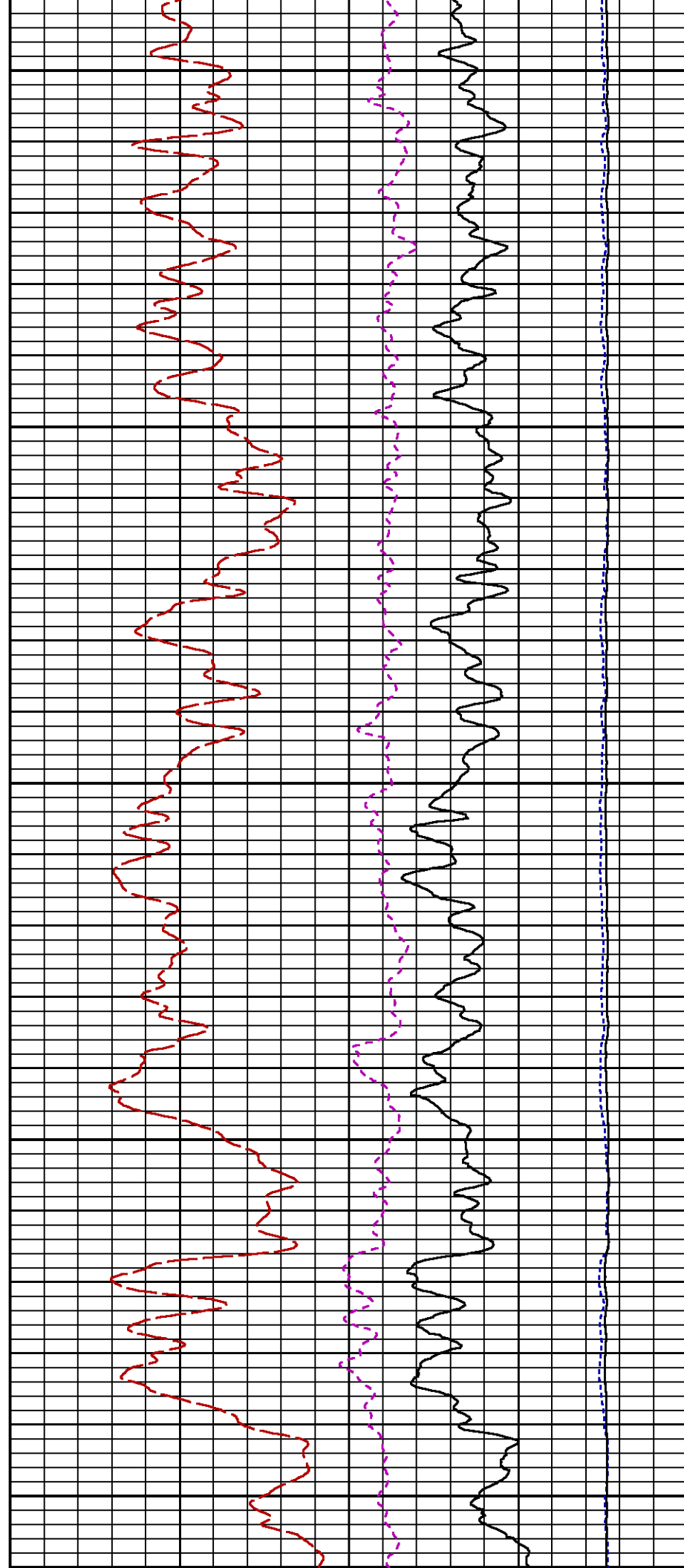
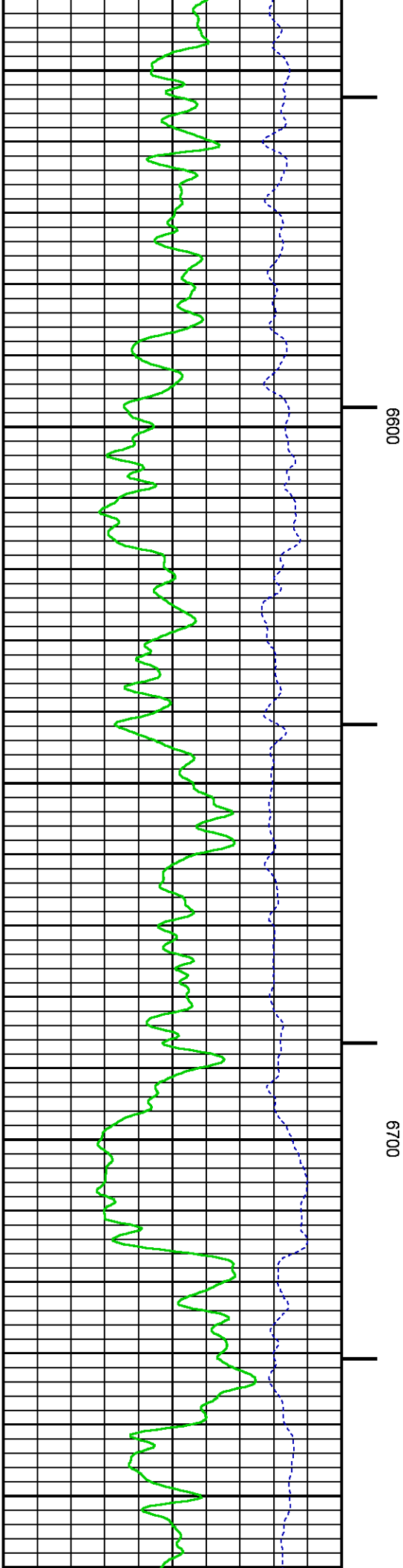
CURVE MEASURE POINT OFFSET

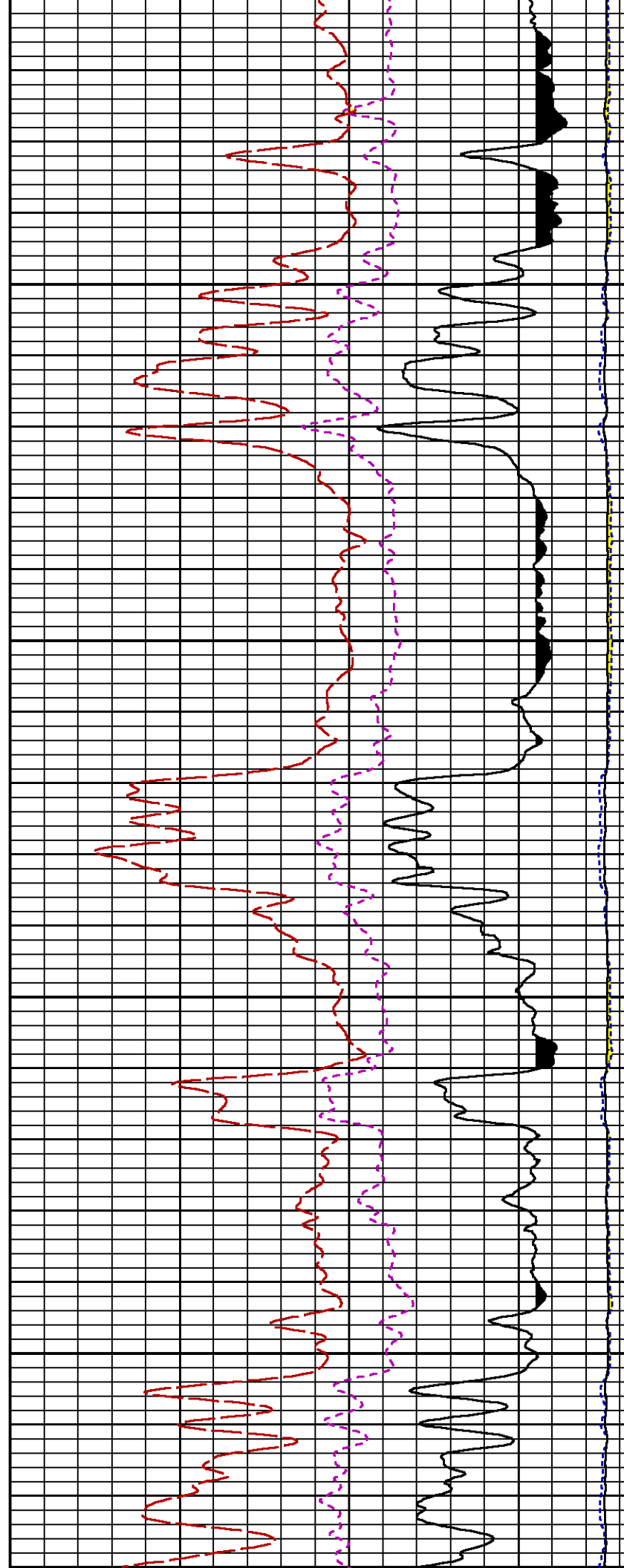
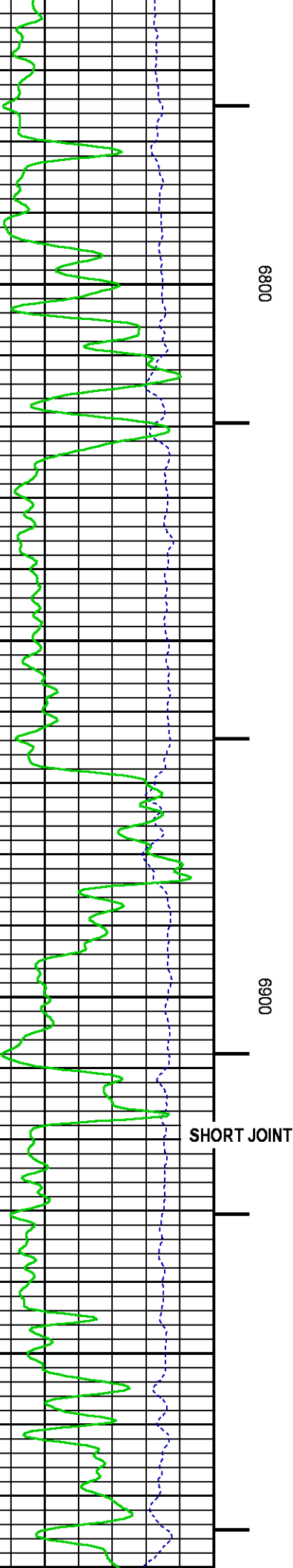
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

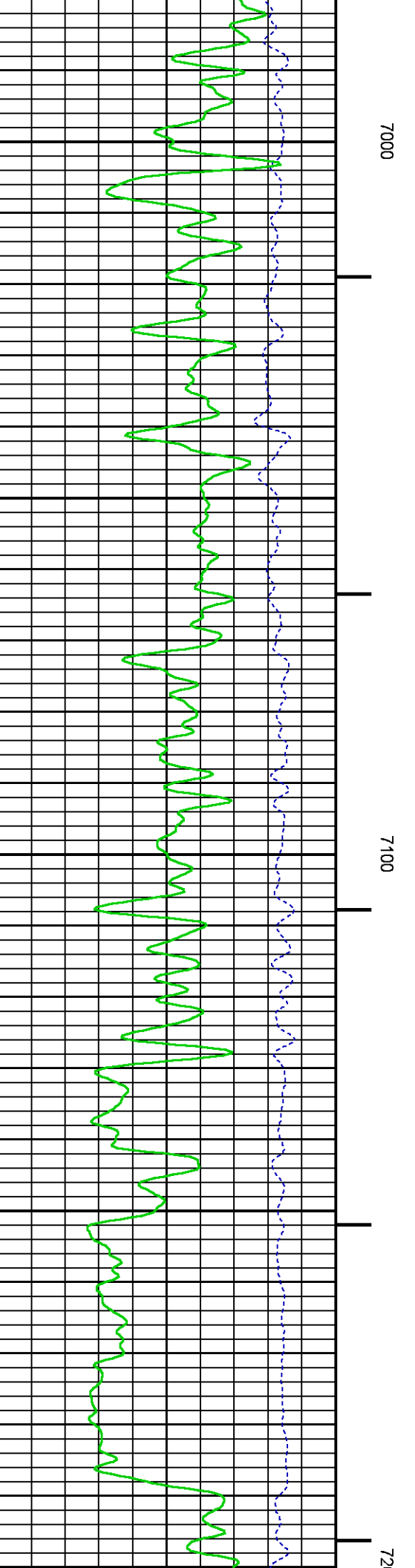
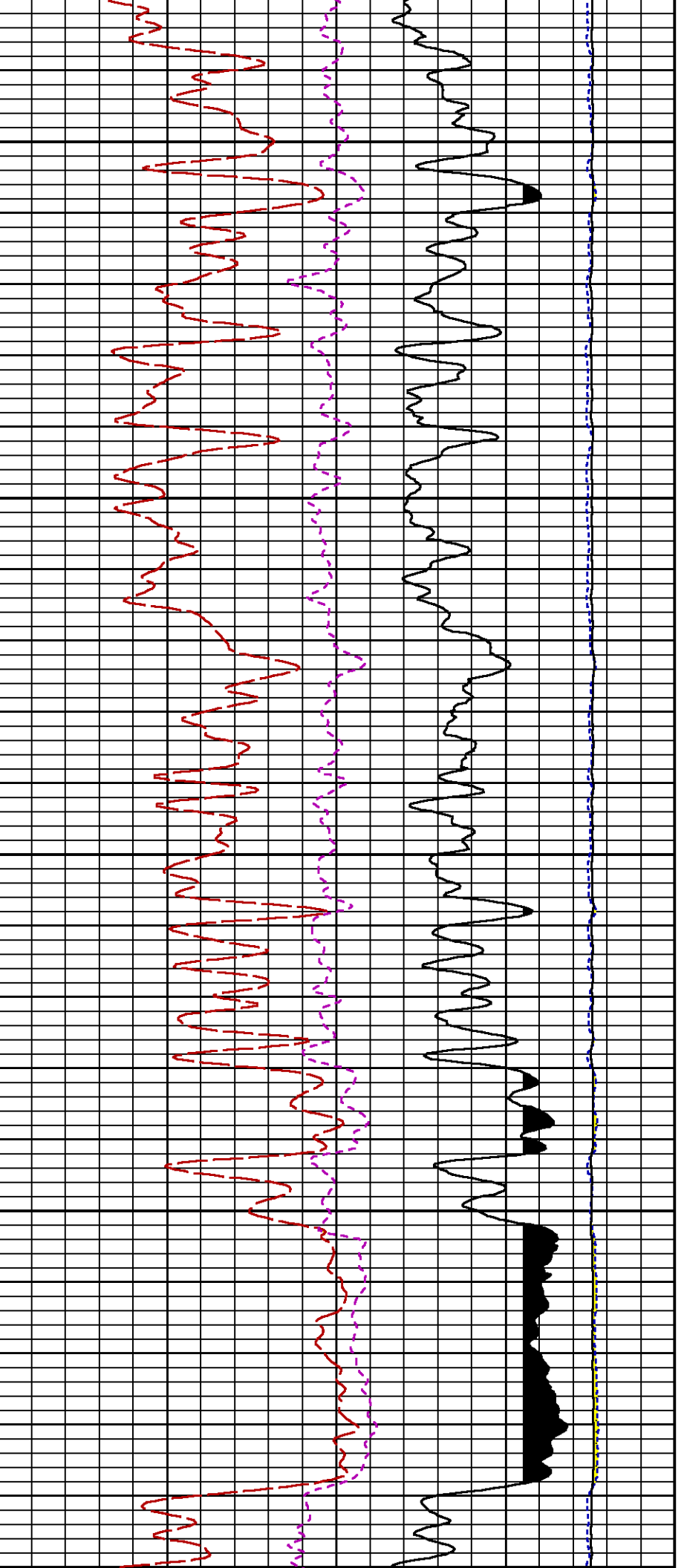
Plot Interval : 6415 - 10559 Feet

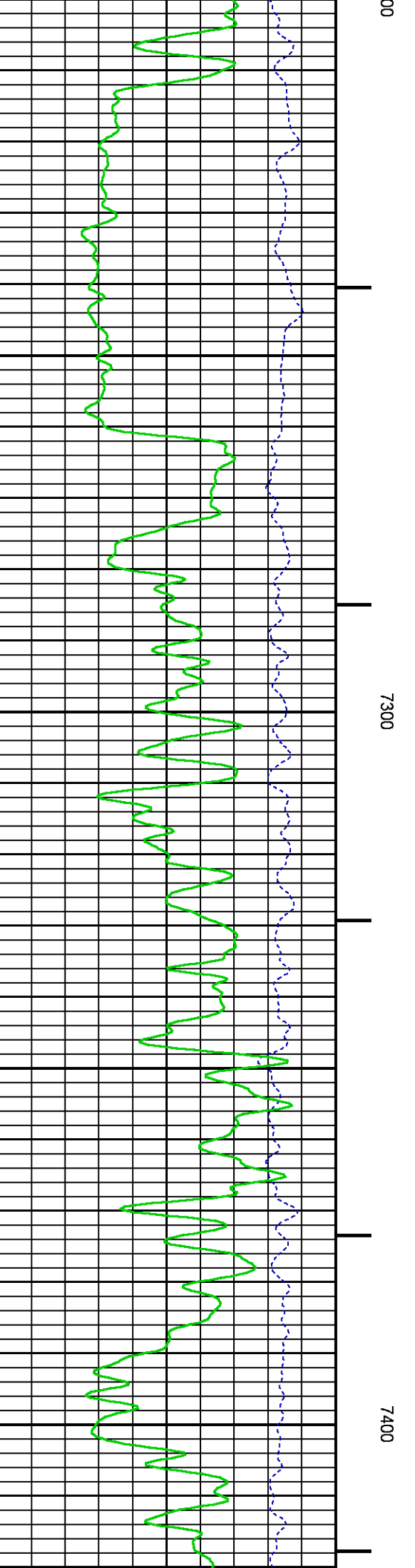
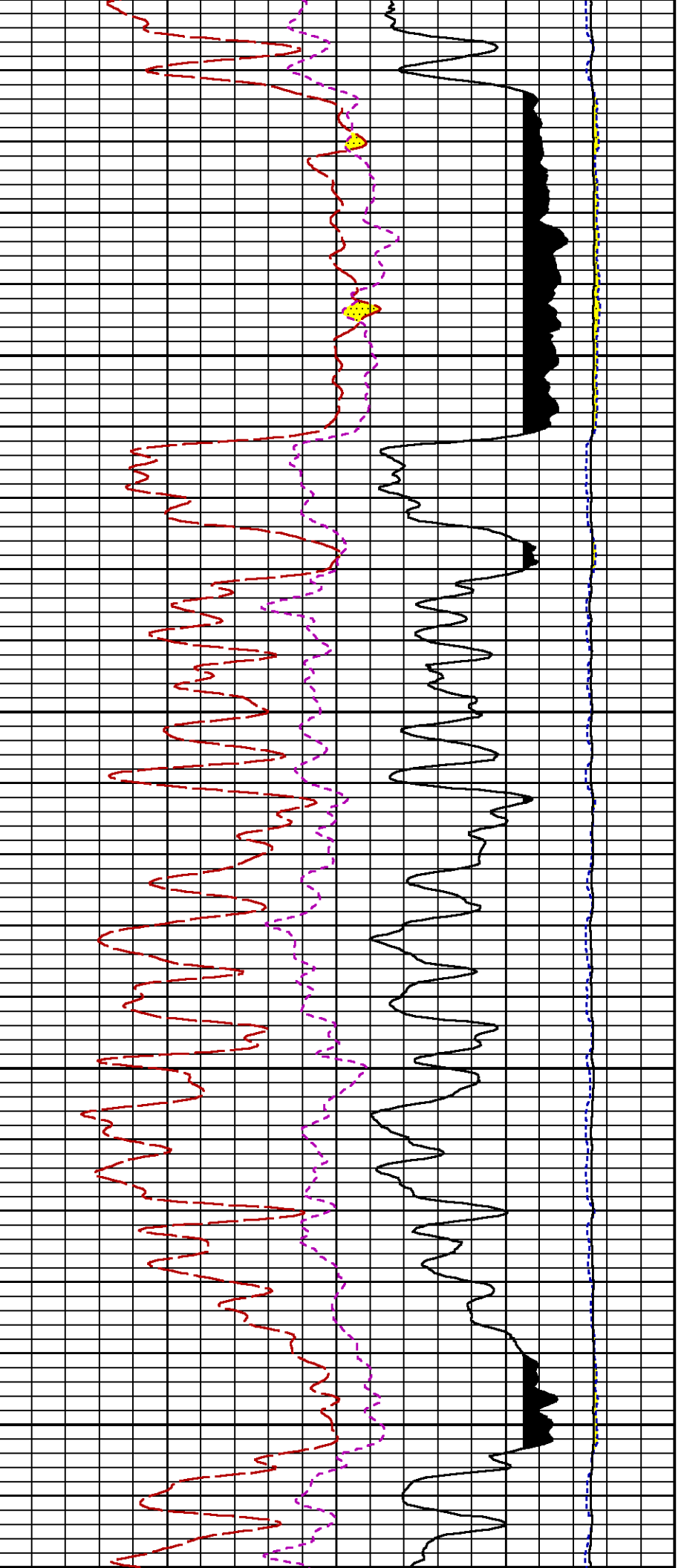
Data File 1 : F1 : HL6670:/dat1a/CH089277/413RPM_MAIN.xtf
Created On : Aug 31 10:16:21 2014
Company : WPX ENERGY
Well : FEDERAL NER 413-32
Field : RULISON
File Interval : 22.75 - 10571.2 Feet
OCT : n353h

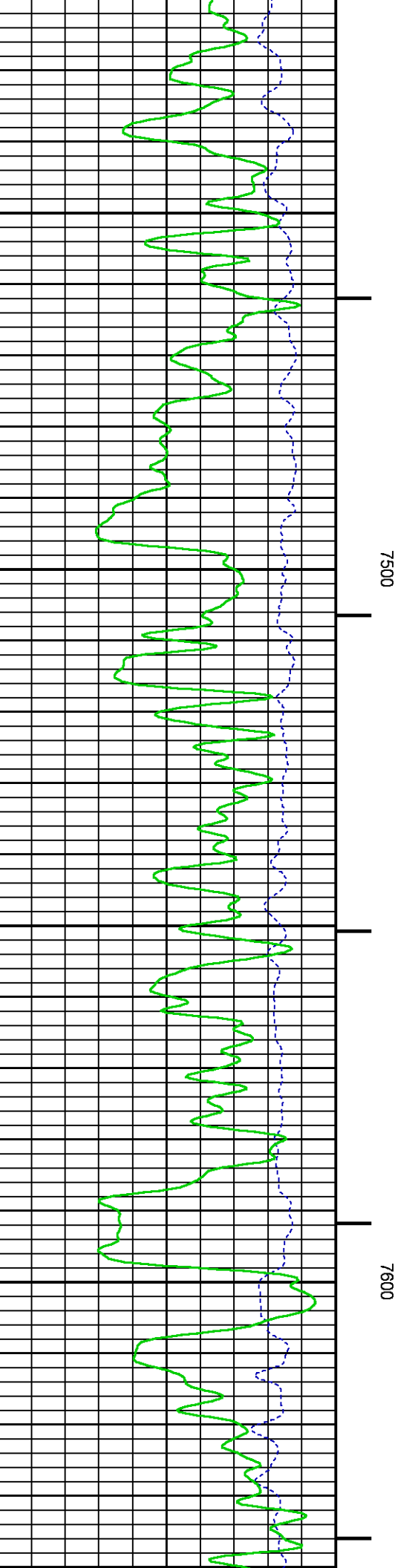
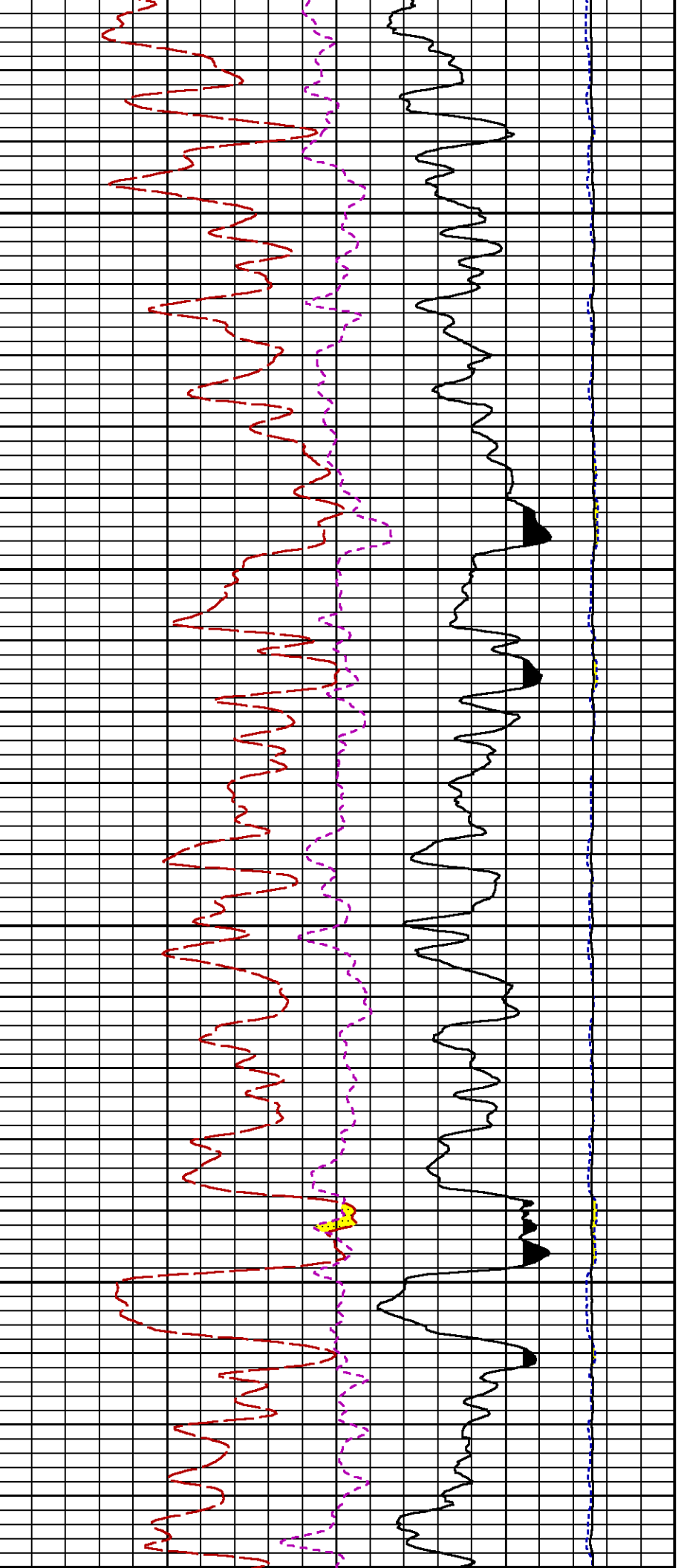


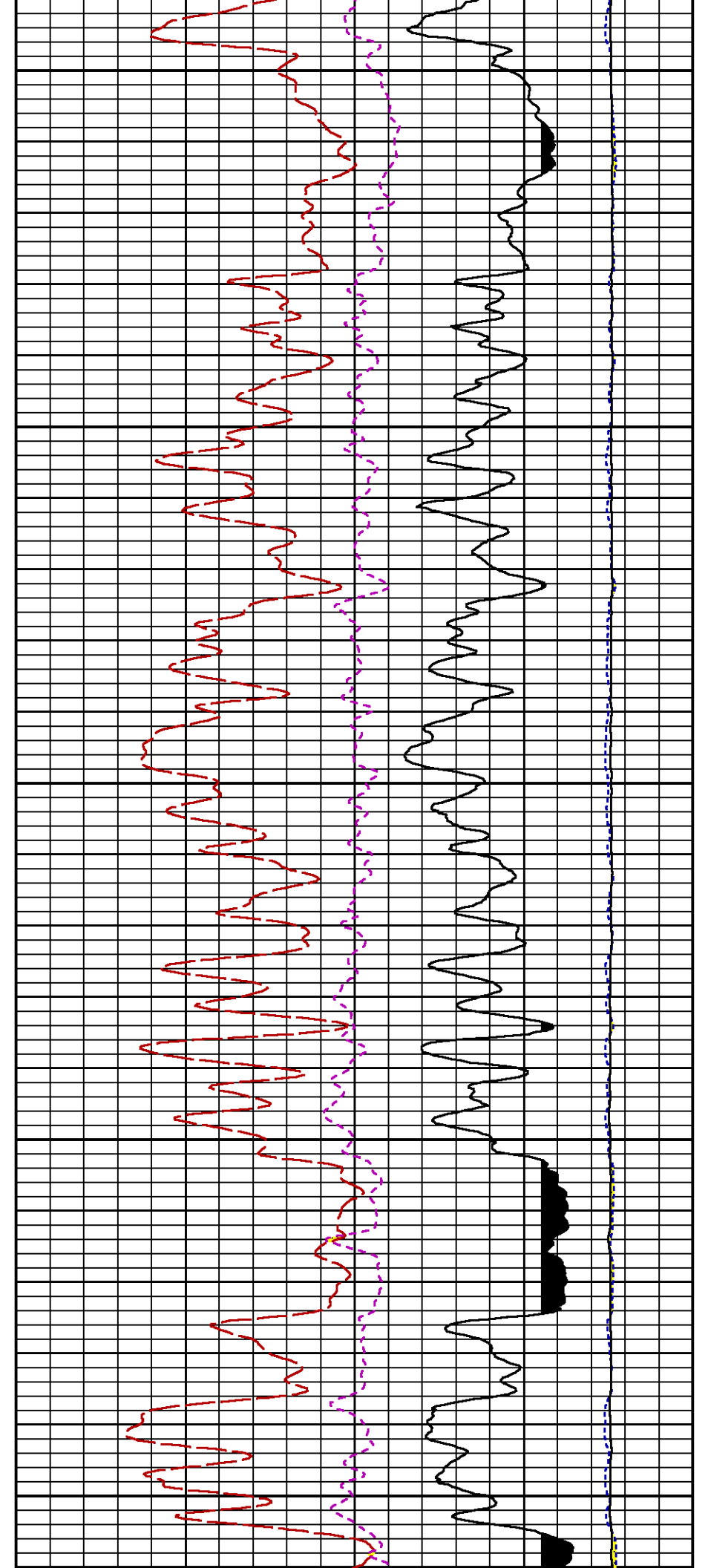
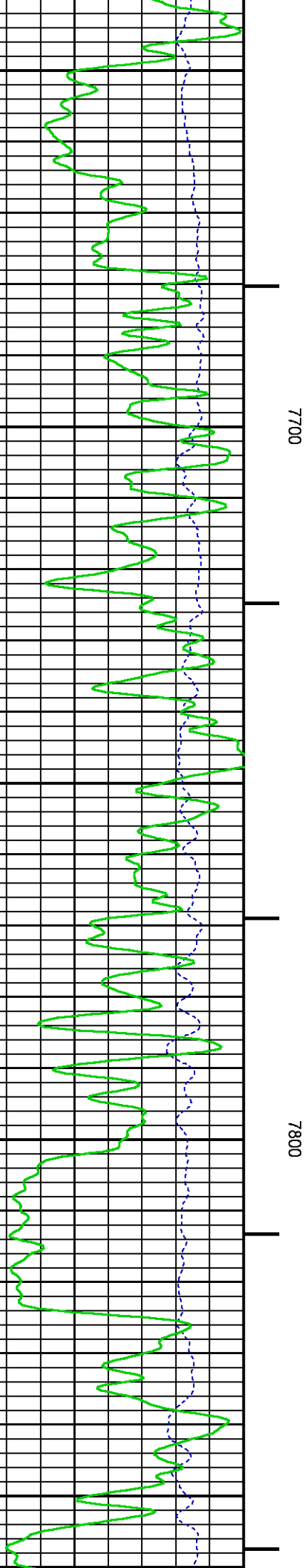


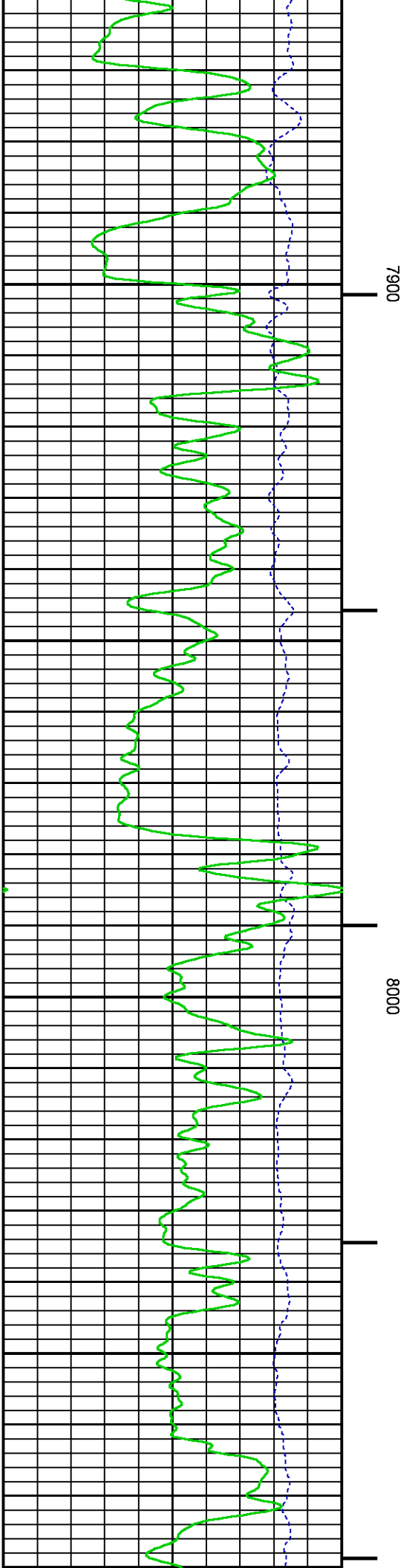
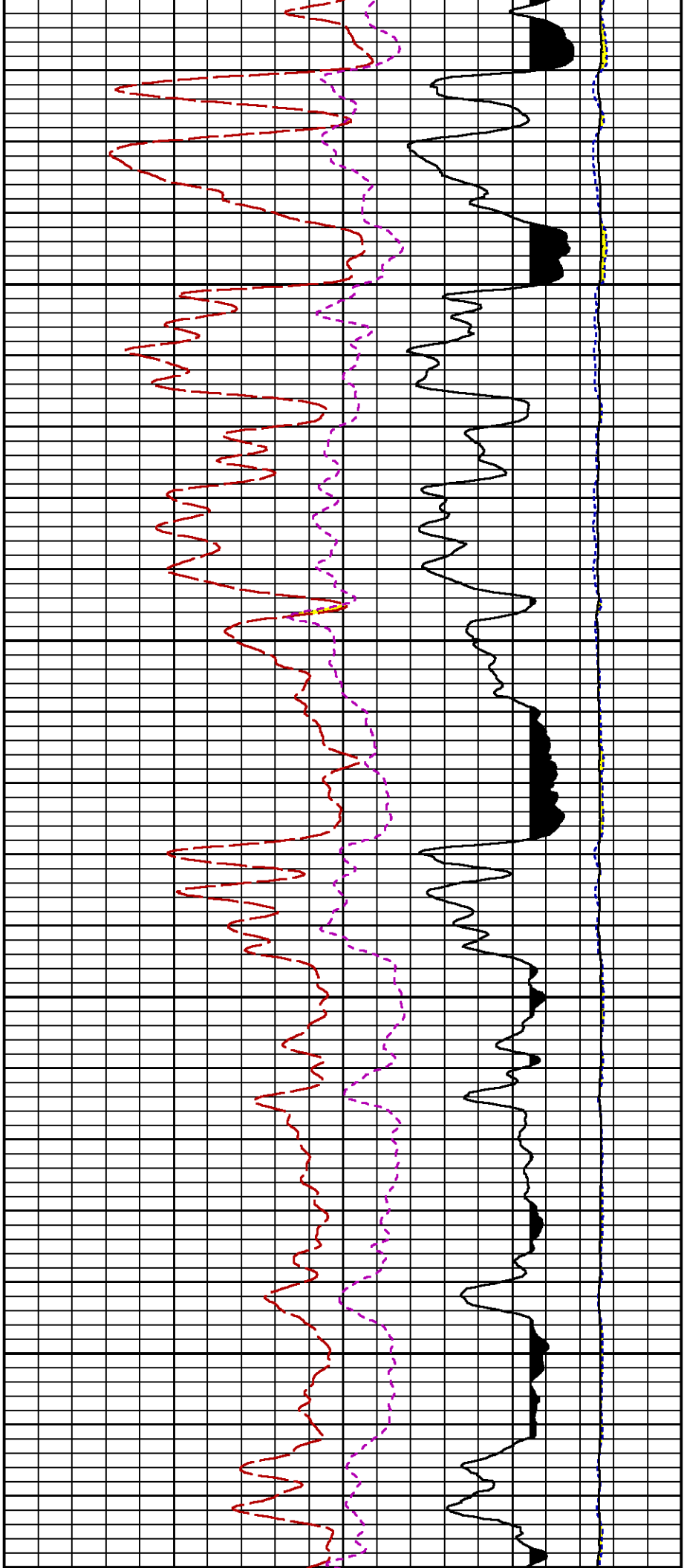


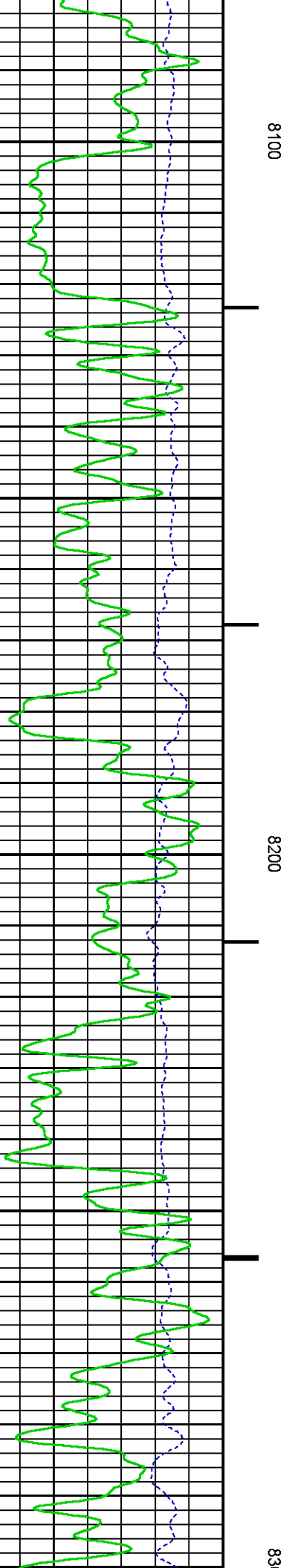
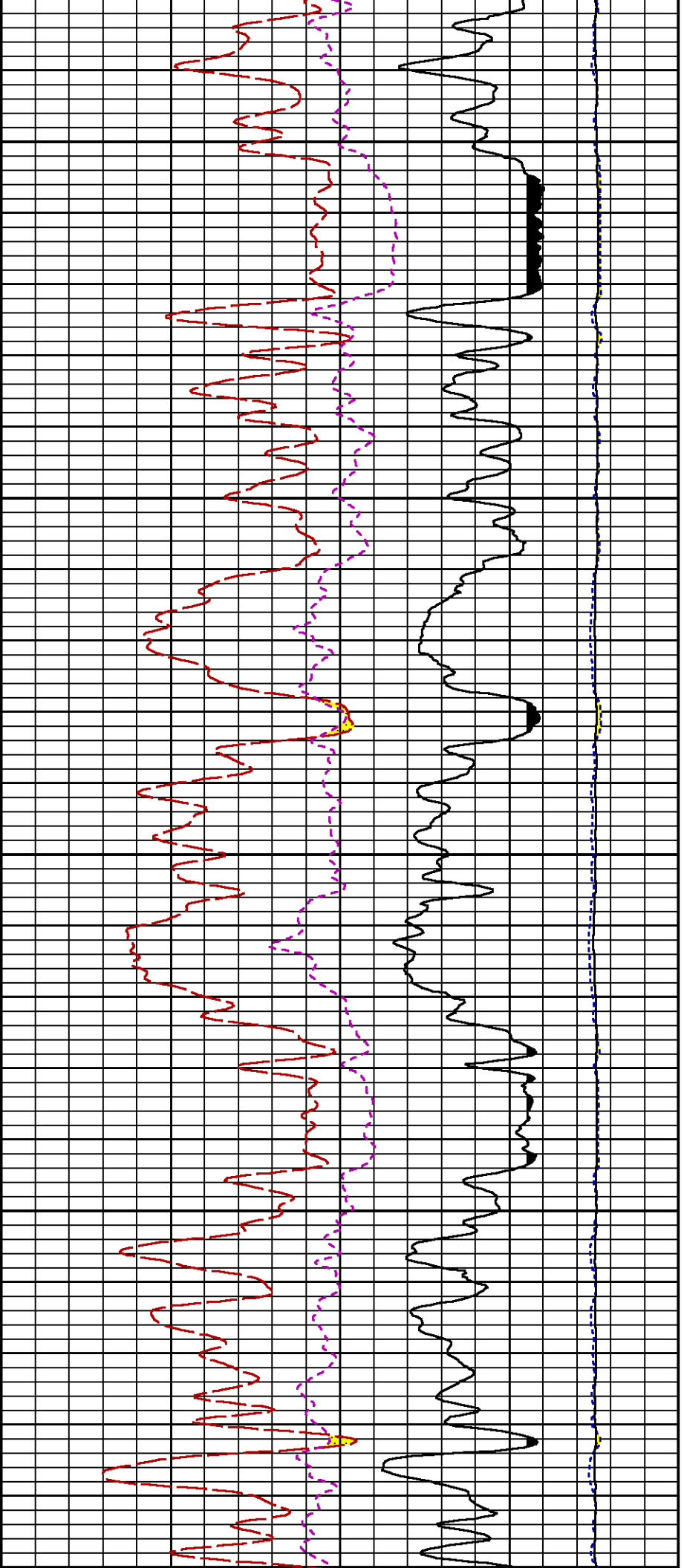


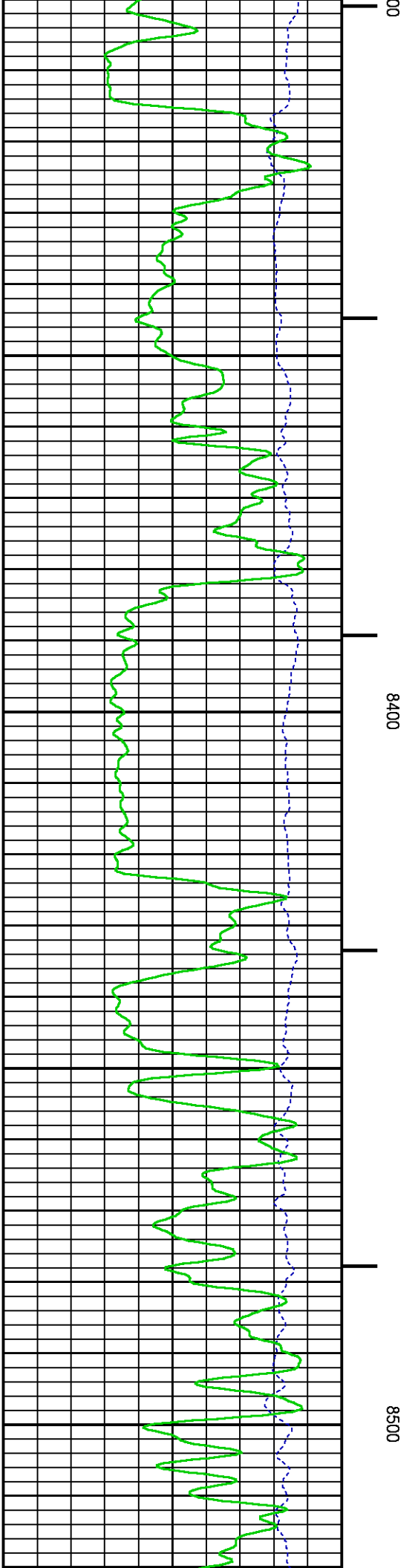
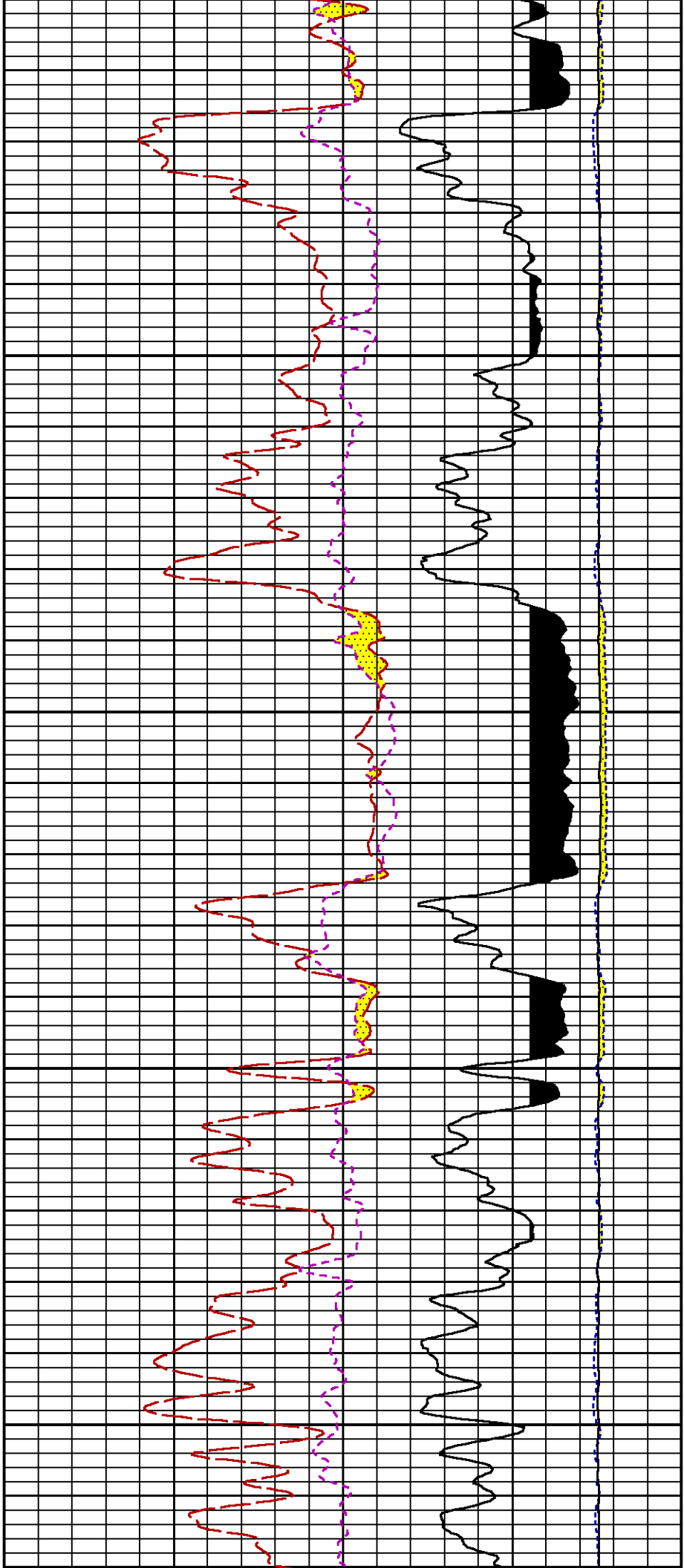


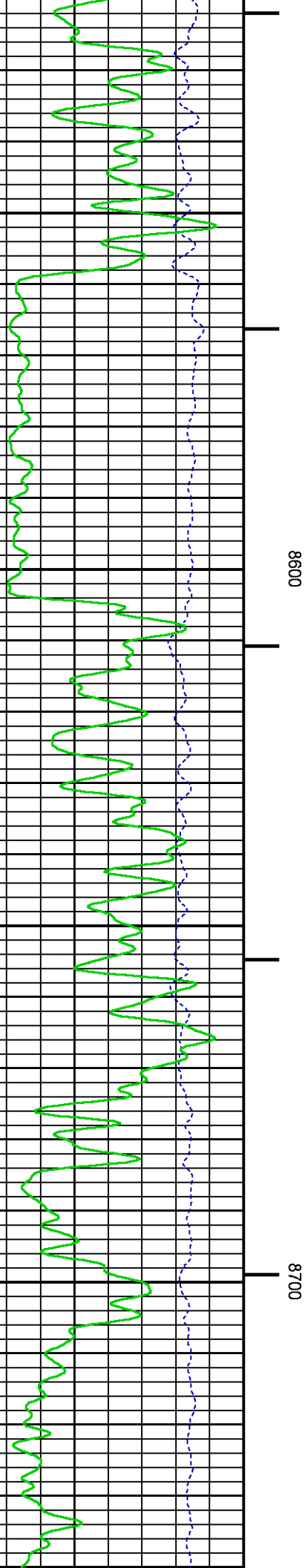






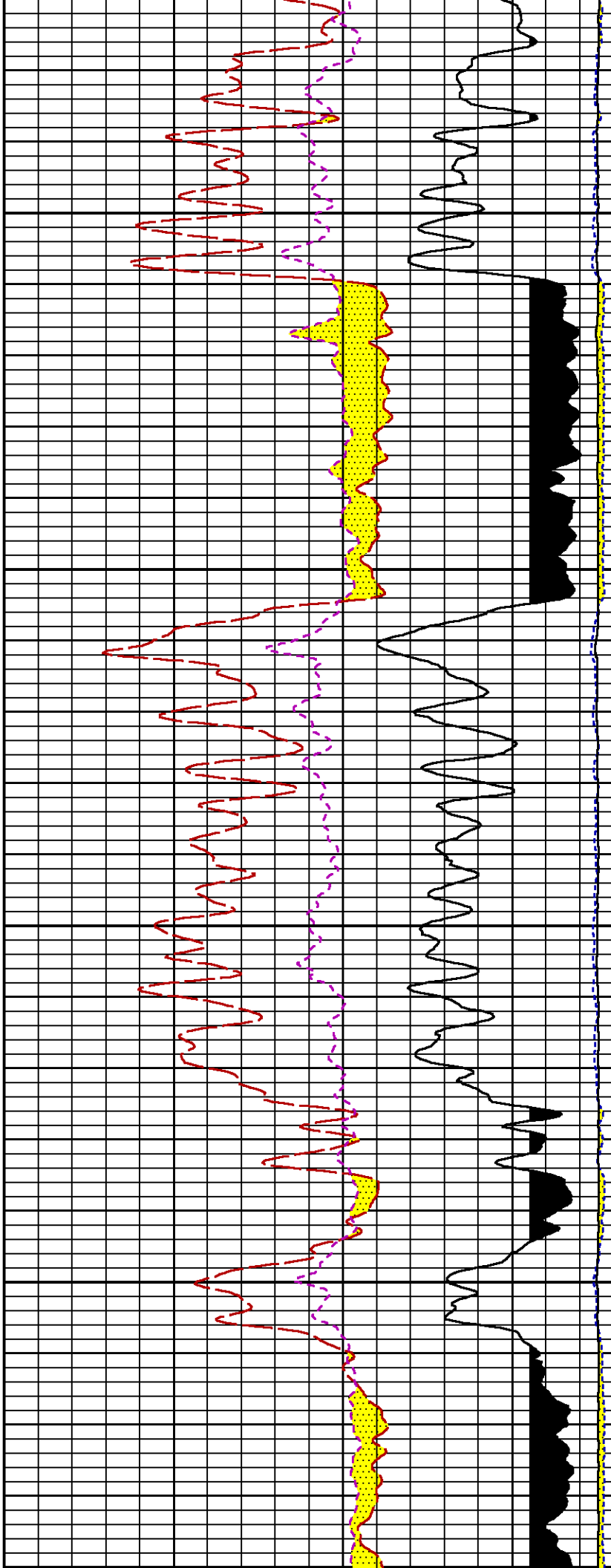


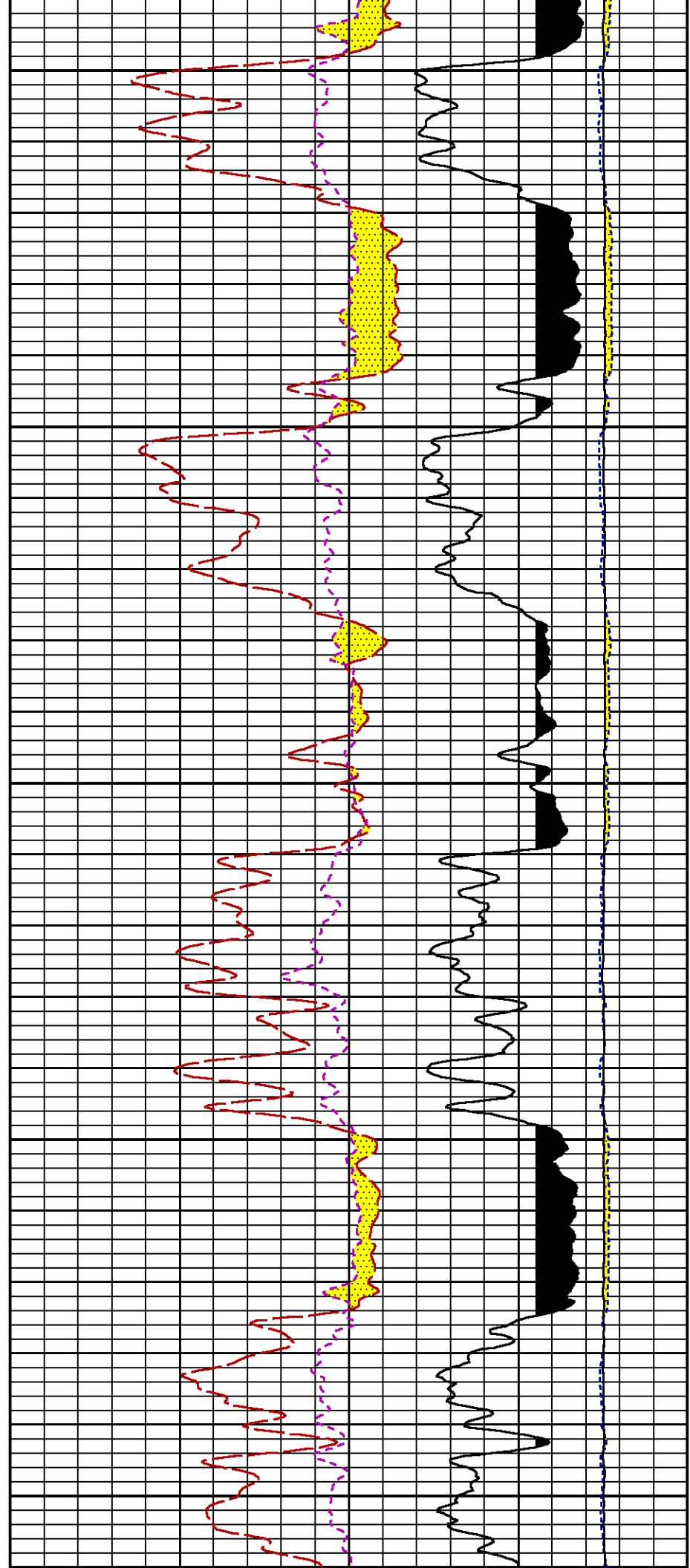
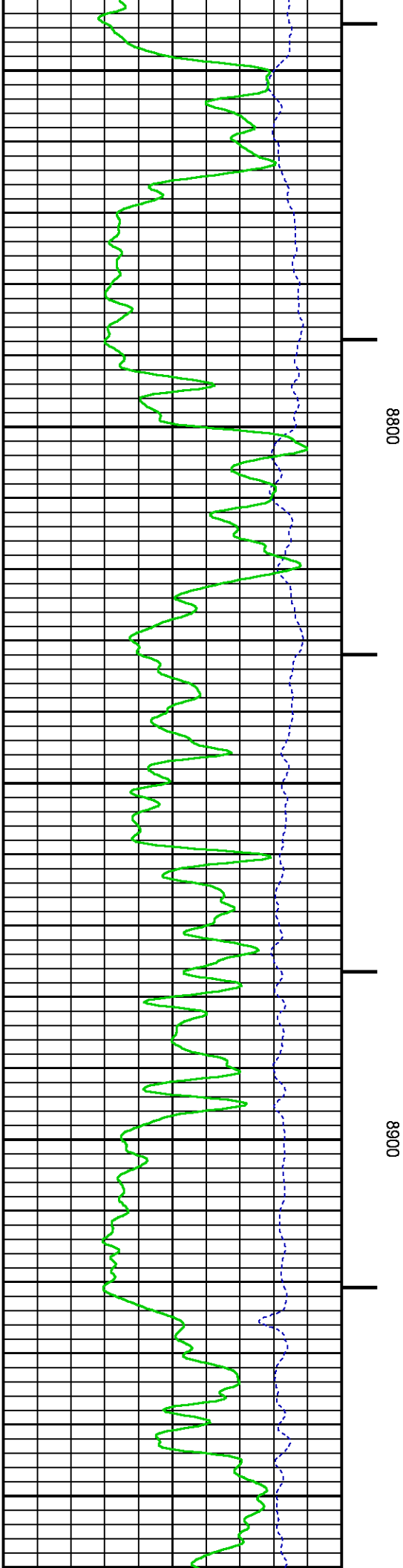


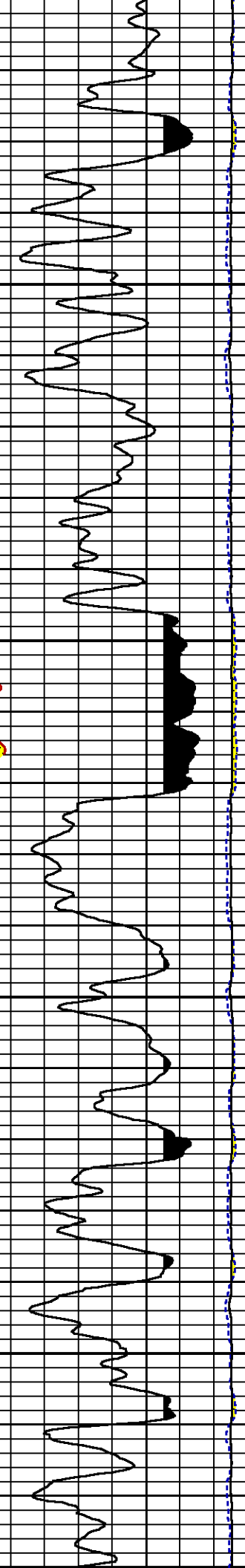
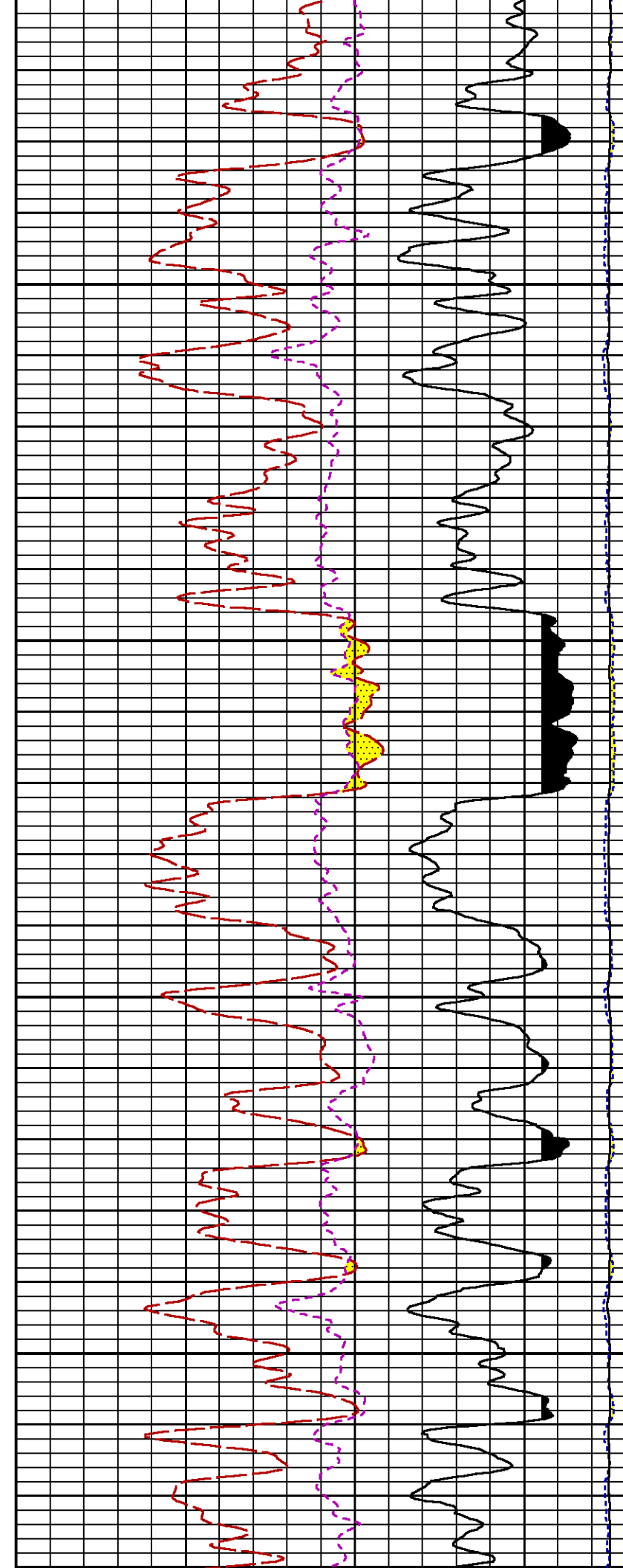
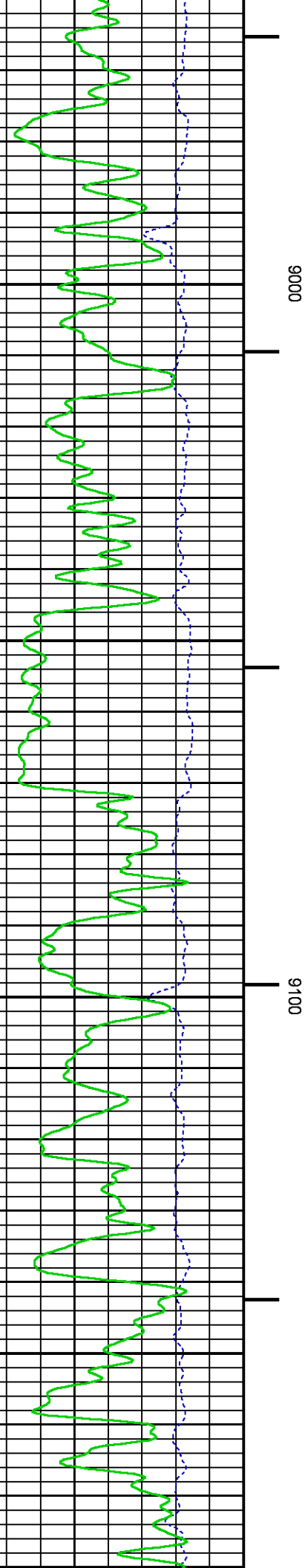


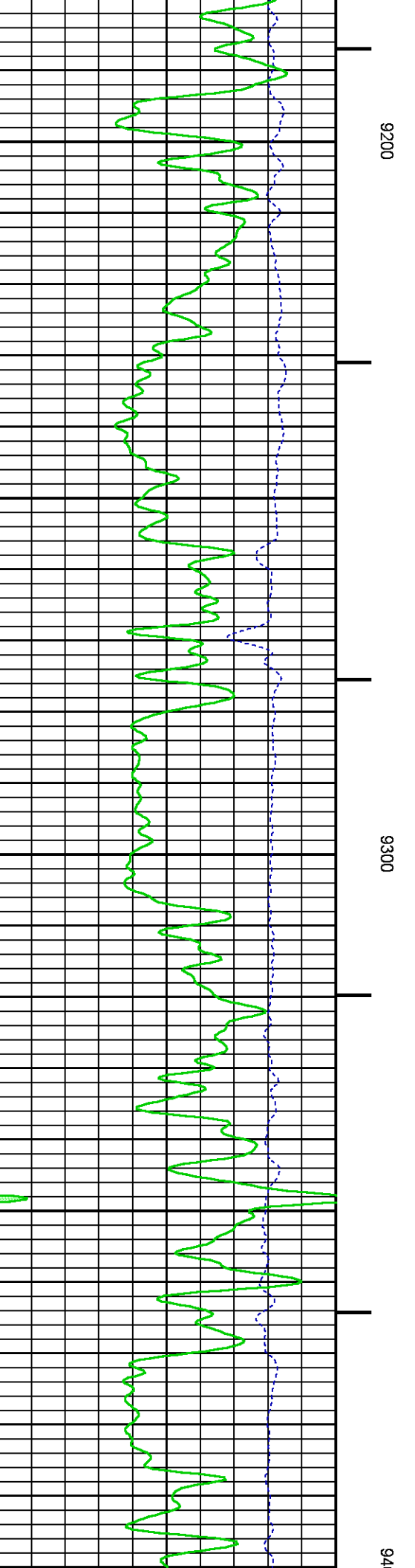
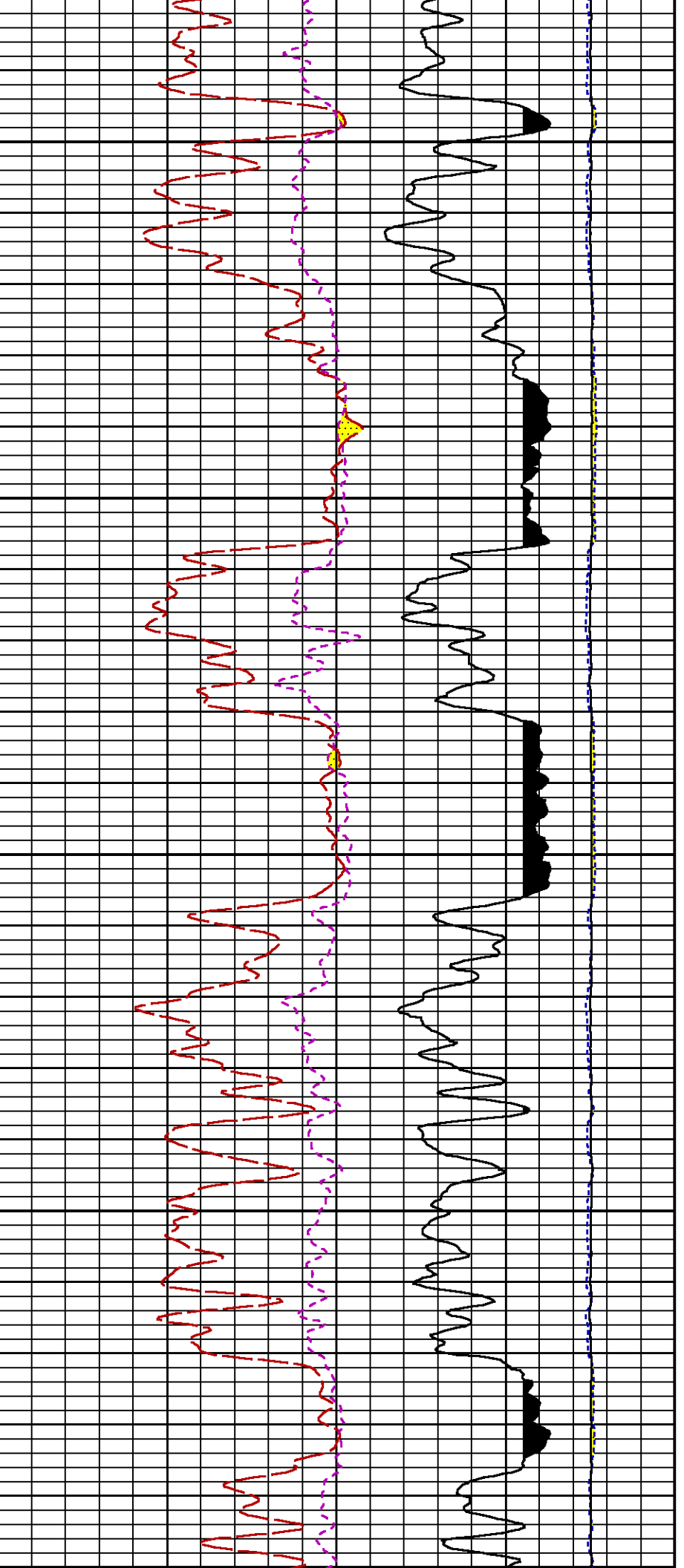
8600

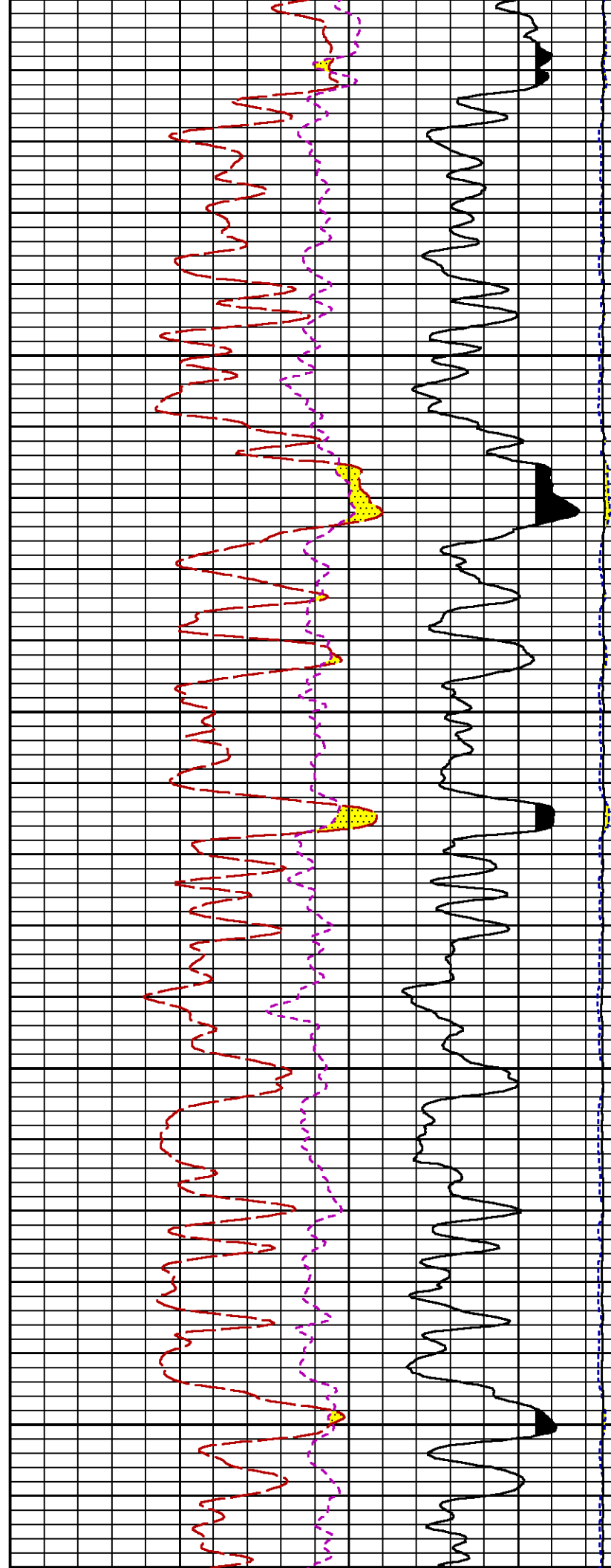
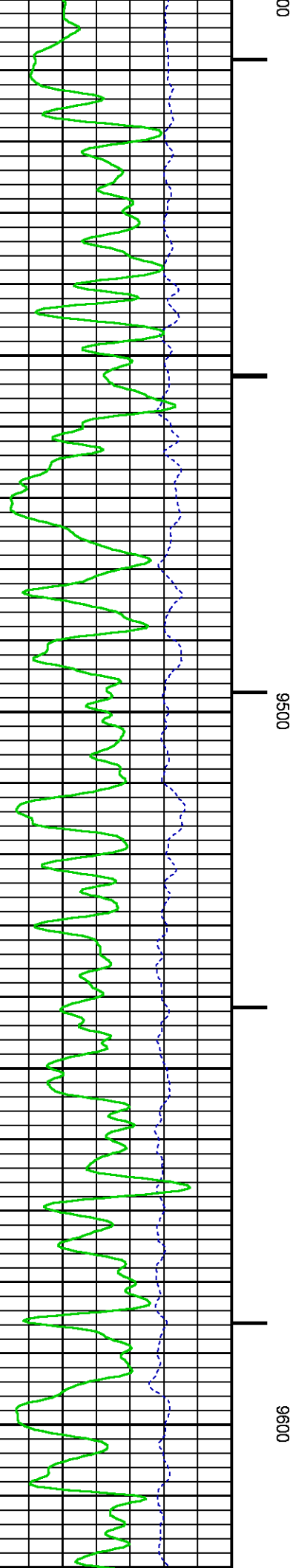
8700

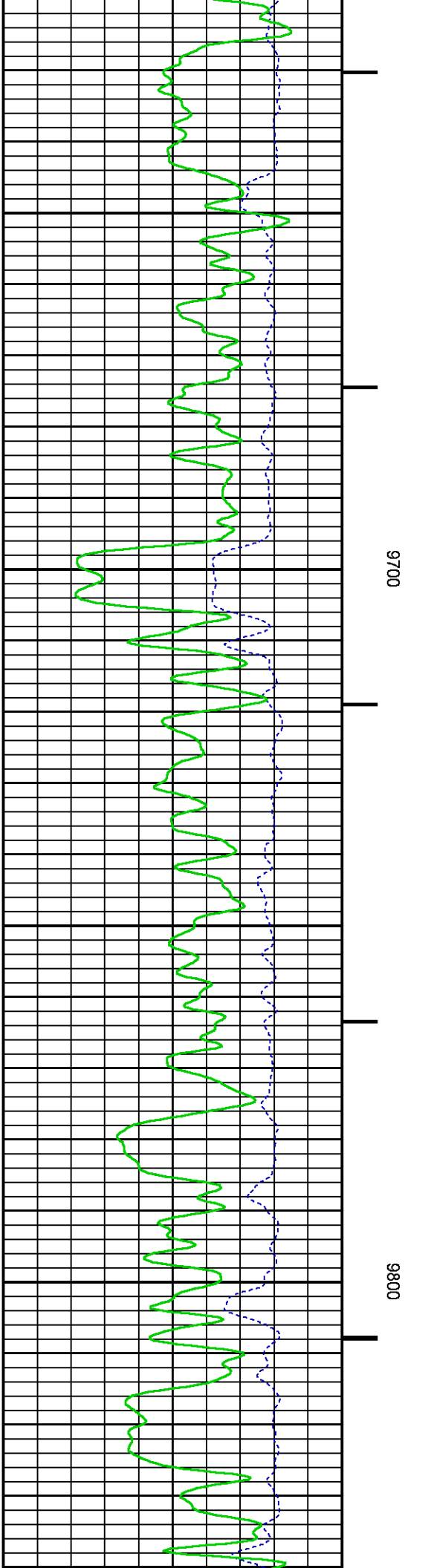
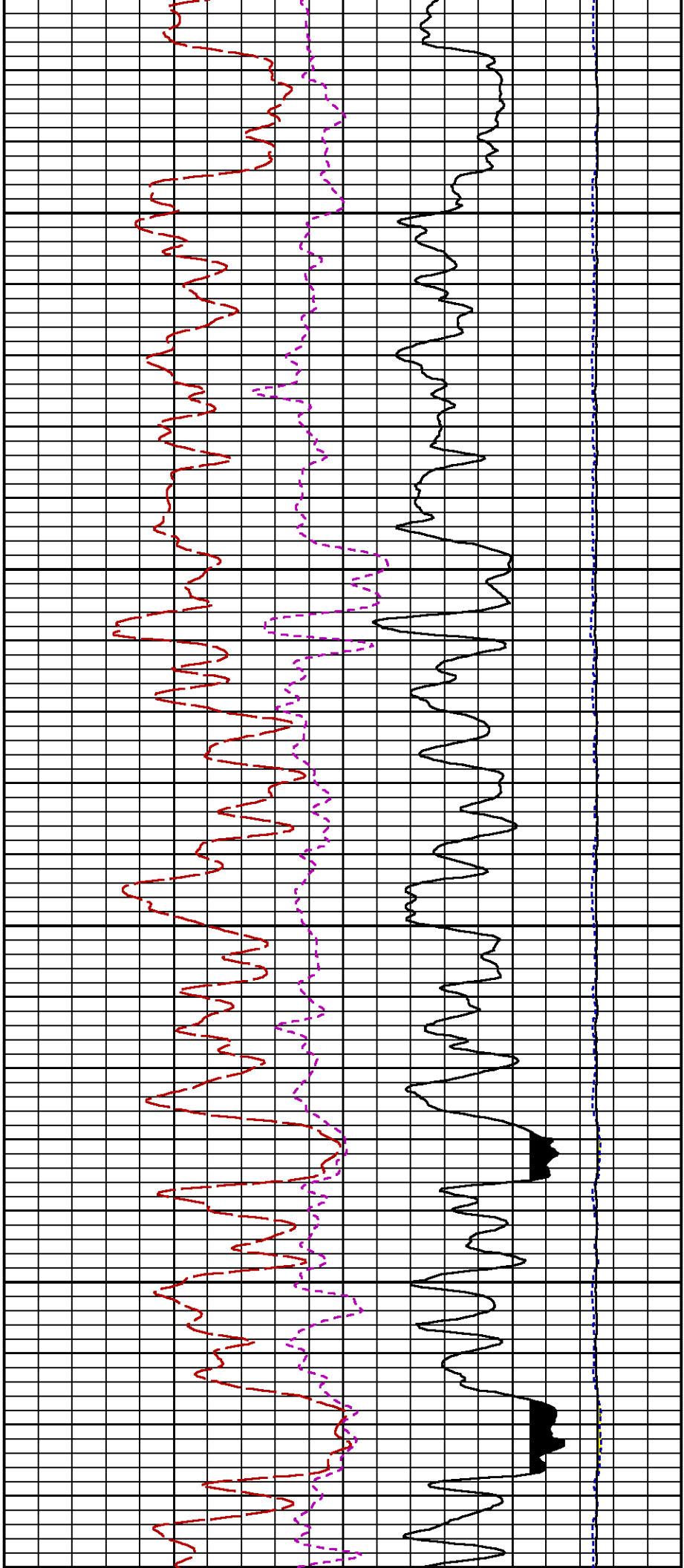


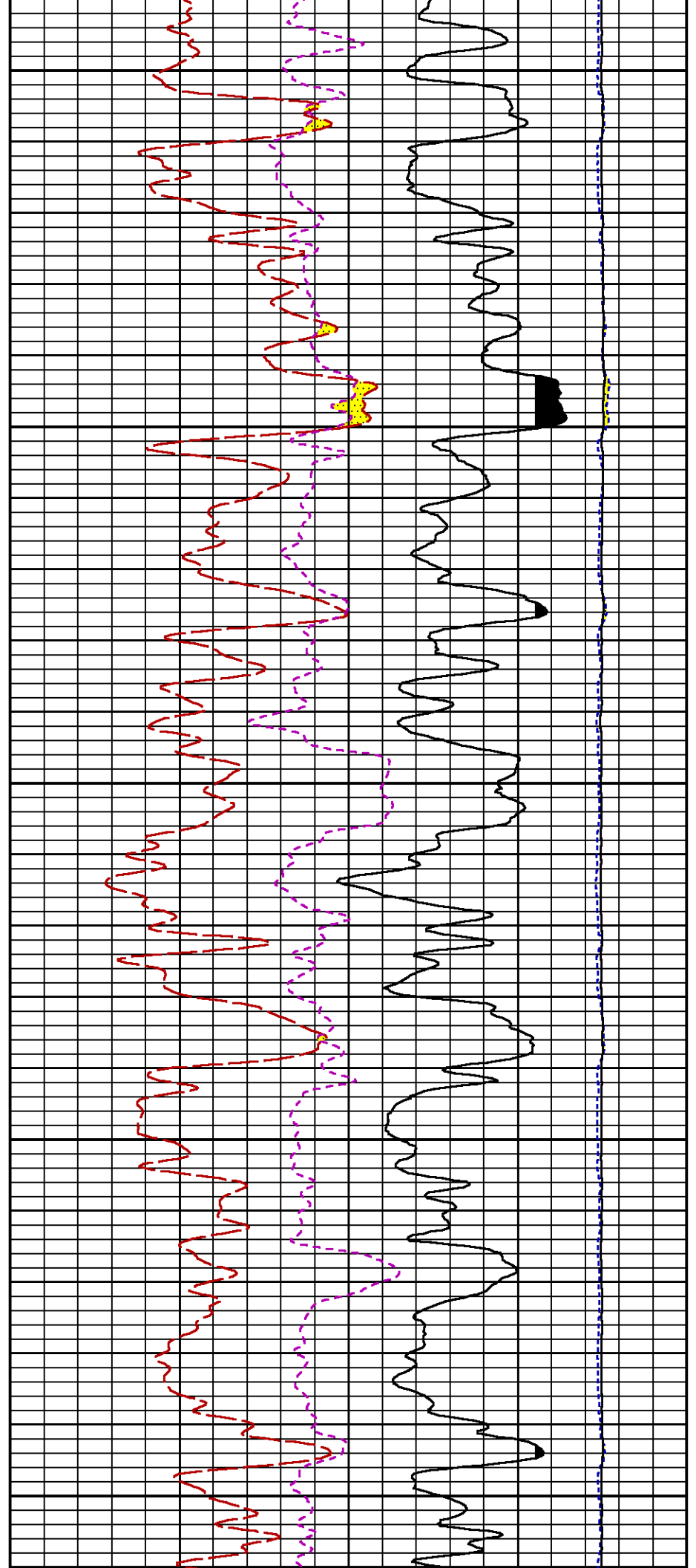
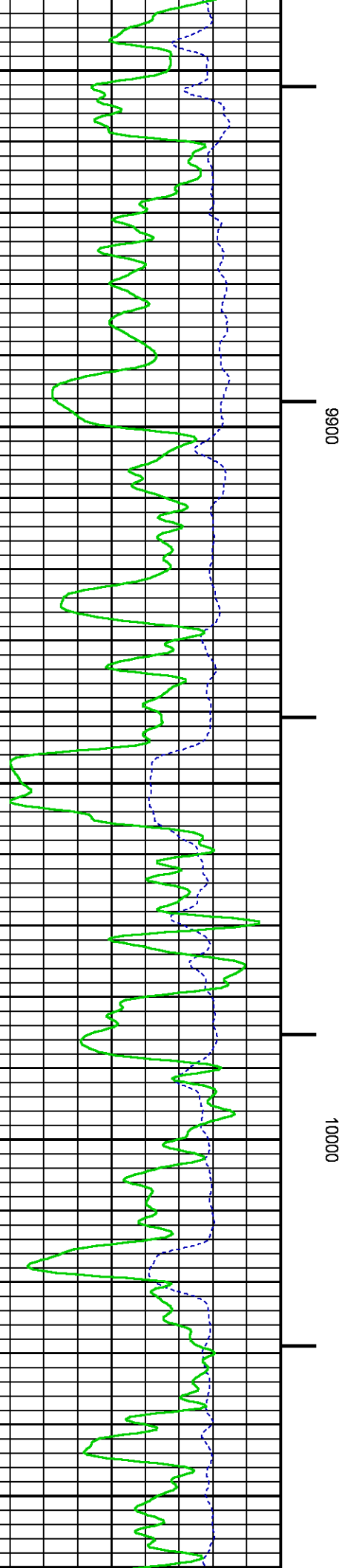


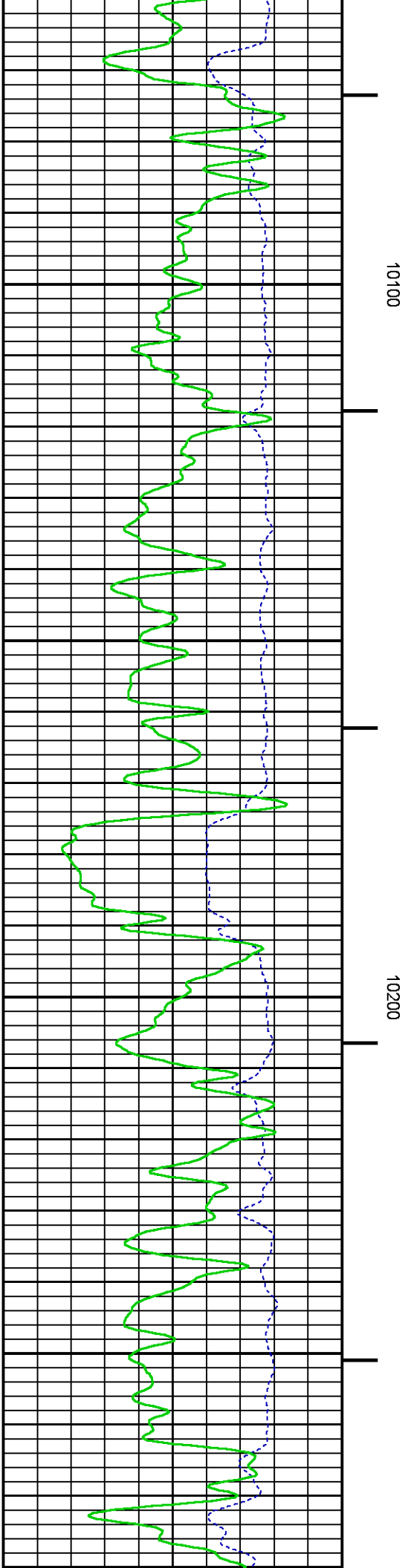
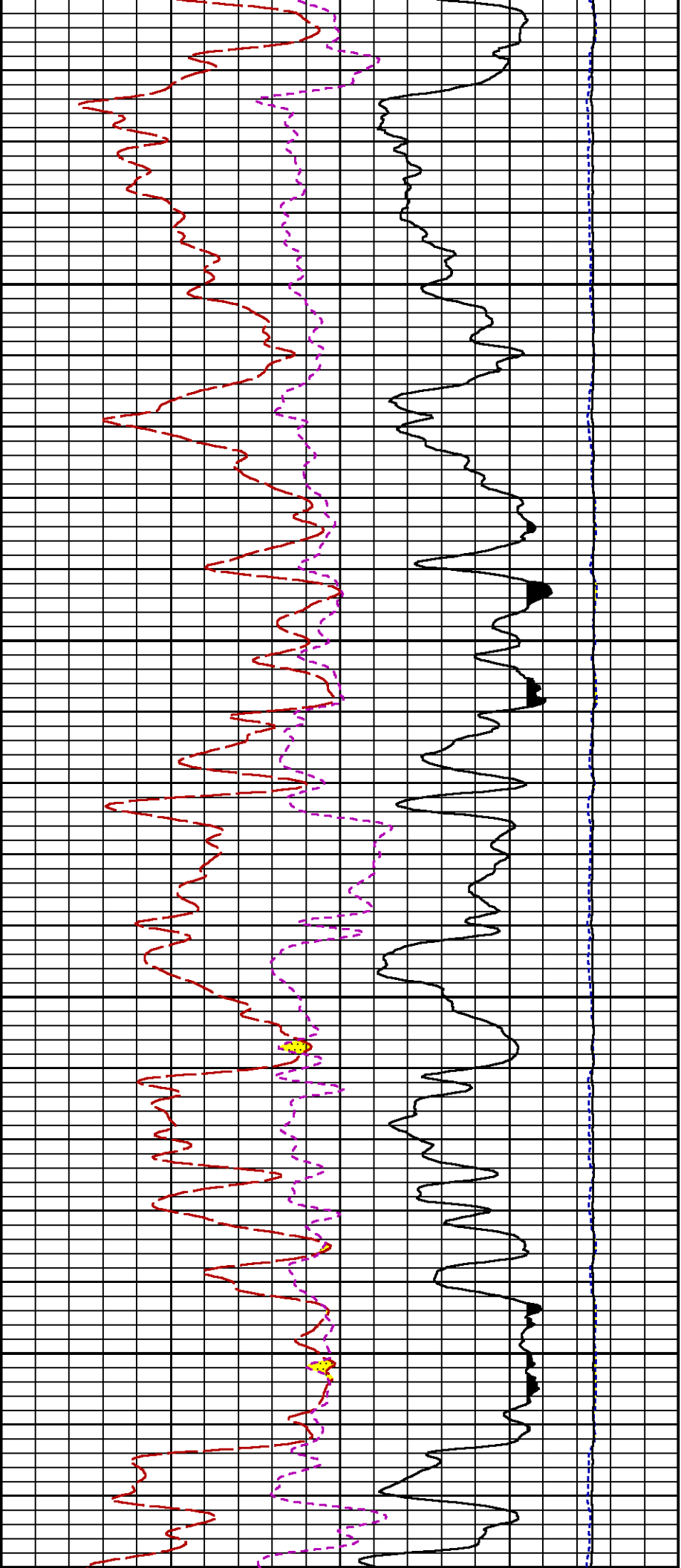


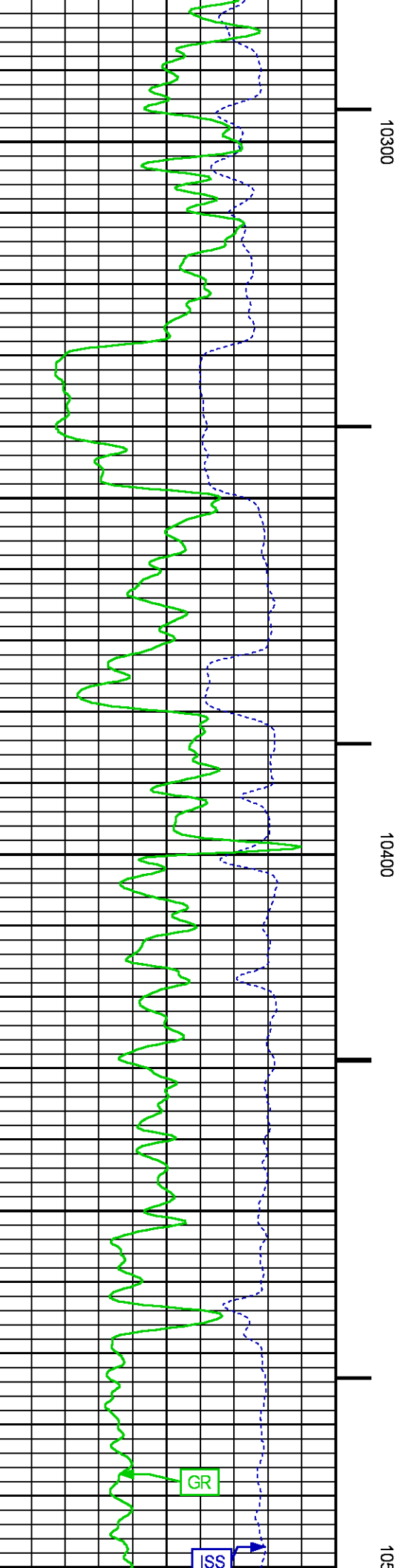
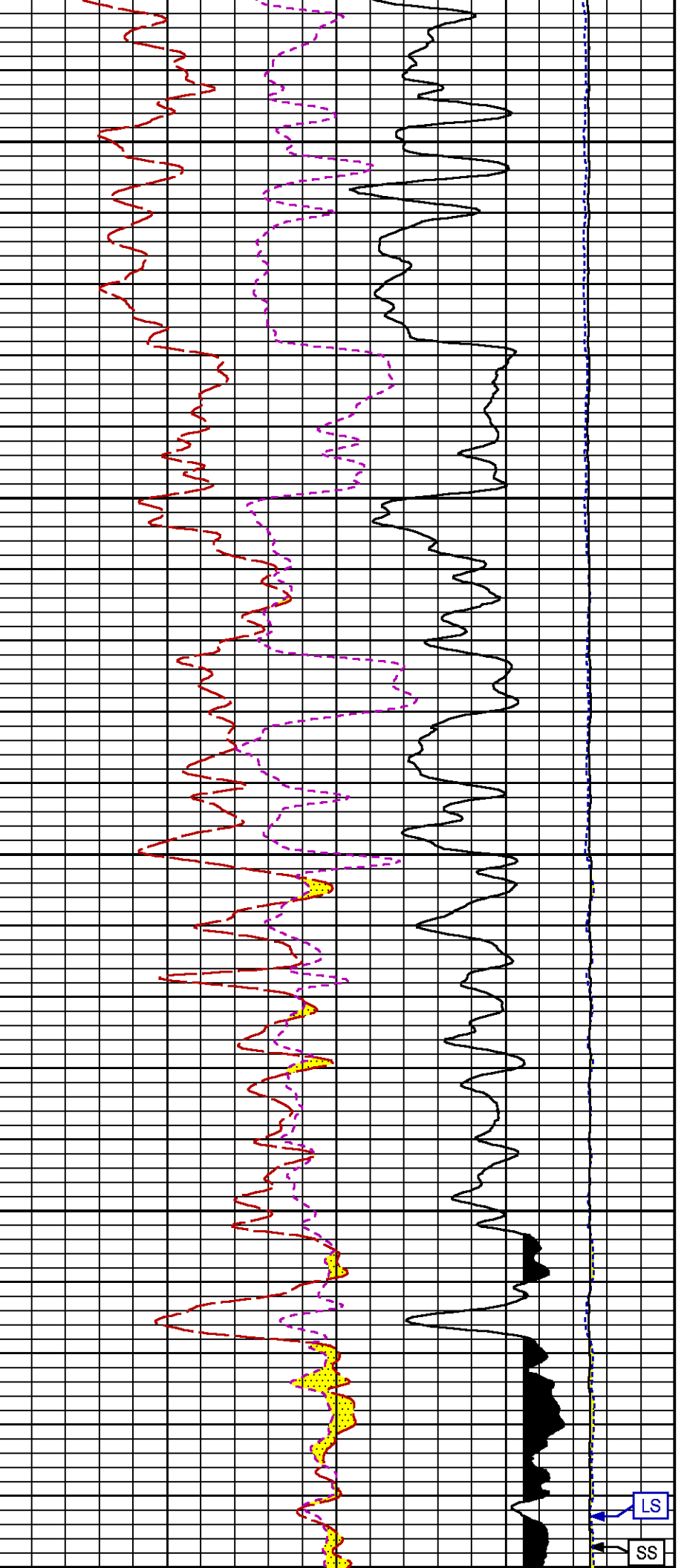


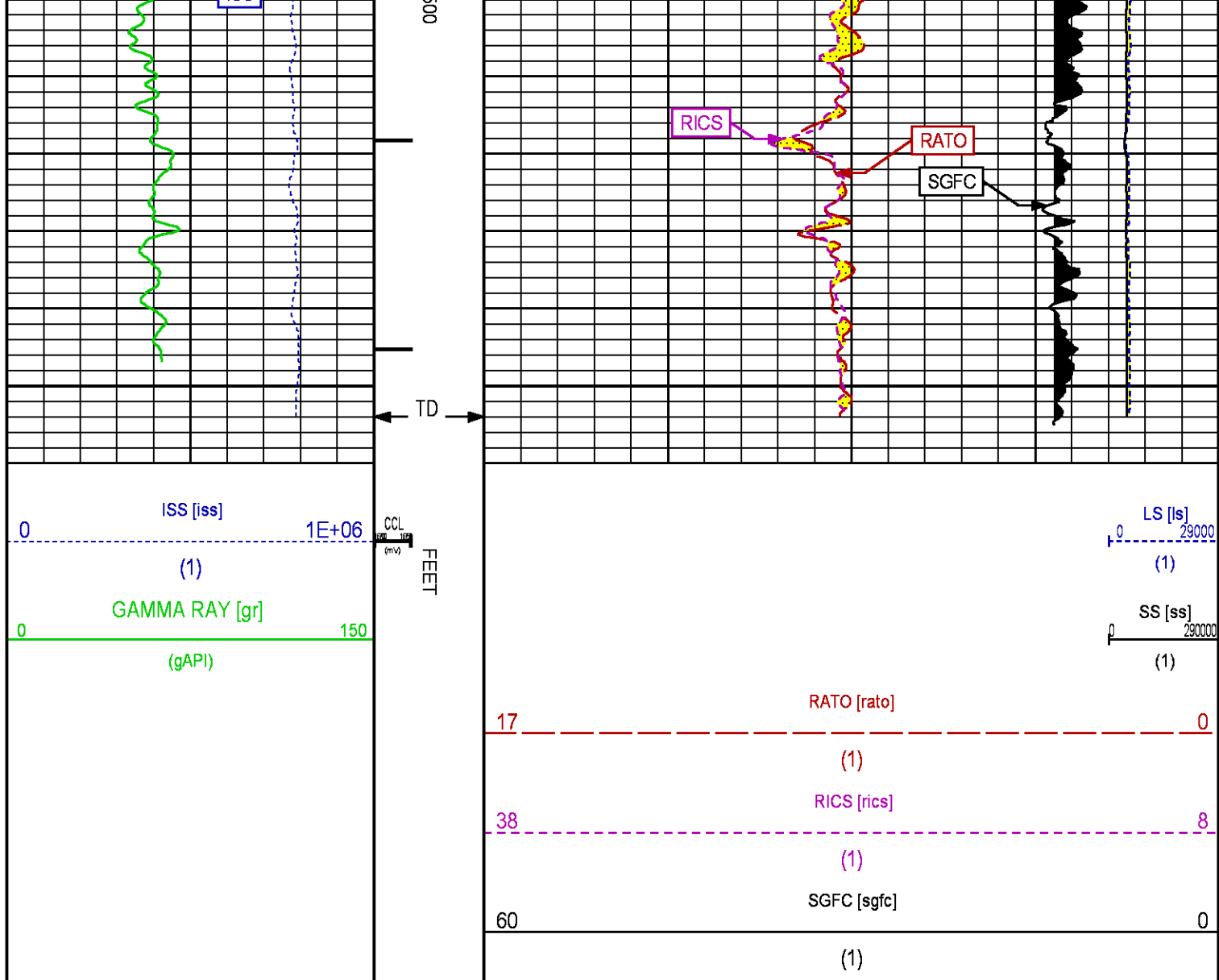












REPEAT SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
 Updates: 1 Patches: 2

Plotted: Sun Aug 31 20:56:55 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH089277/n353h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 9651.000 ft BOTTOM DEPTH: 10043.663 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	"	"
	CASING SIZE	4.50	"	"
	MATRIX	SANDSTONE	"	"
	CORRECTION BUFFER	11	"	"

CURVE DESCRIPTION REPORT

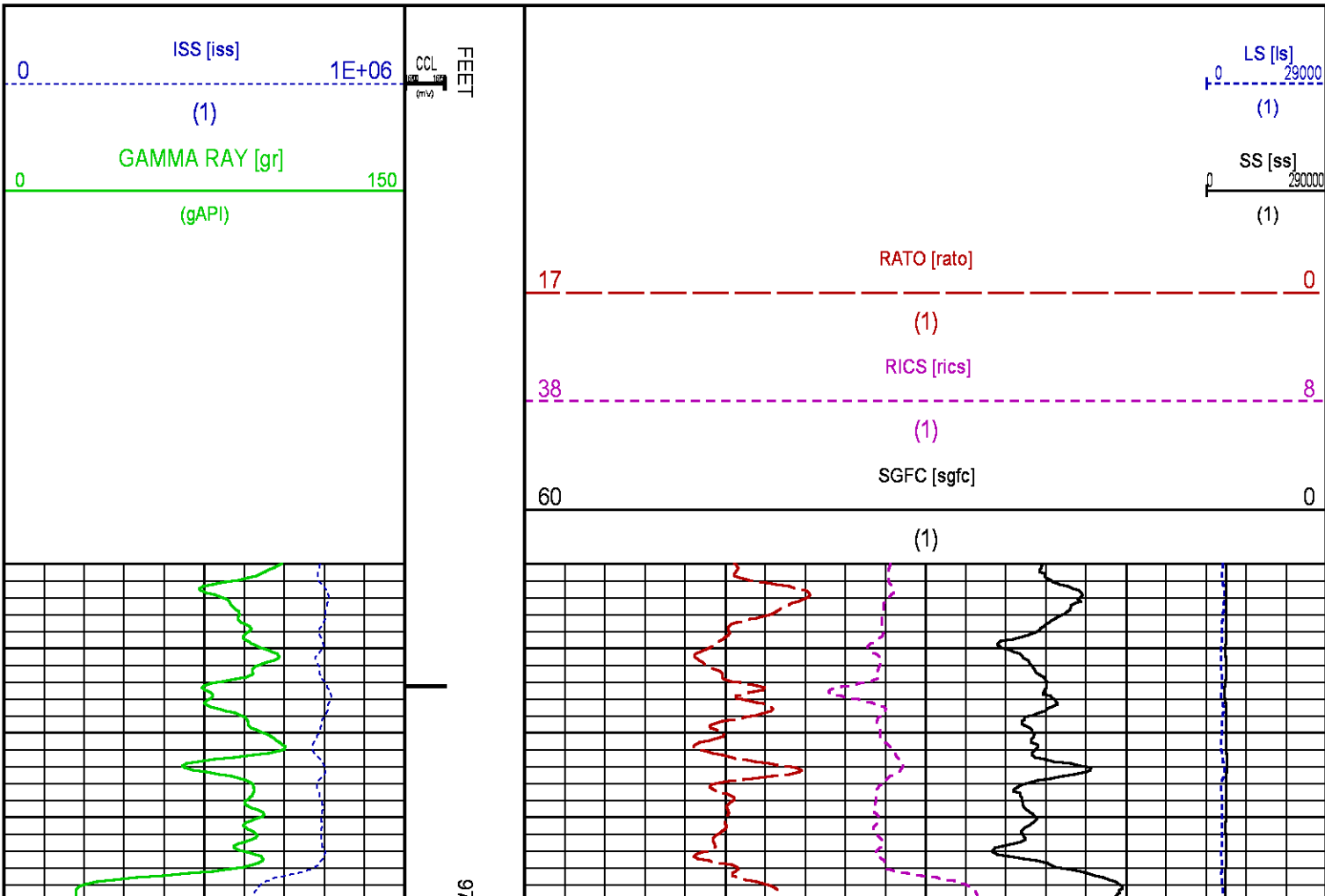
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 31 09:38:58 2014	CASING COLLAR LOCATOR
F1:GR	Aug 31 09:38:58 2014	GAMMA RAY
F1:ISS	Aug 31 09:38:58 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 31 09:38:58 2014	LONG SPACE COUNT RATE
F1:RATO	Aug 31 09:38:58 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 31 09:38:58 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 31 09:38:58 2014	CORRECTED FORMATION SIGMA
F1:SS	Aug 31 09:38:58 2014	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 : HL6670:/dat1a/CH089277/413RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 9660 - 9960 Feet

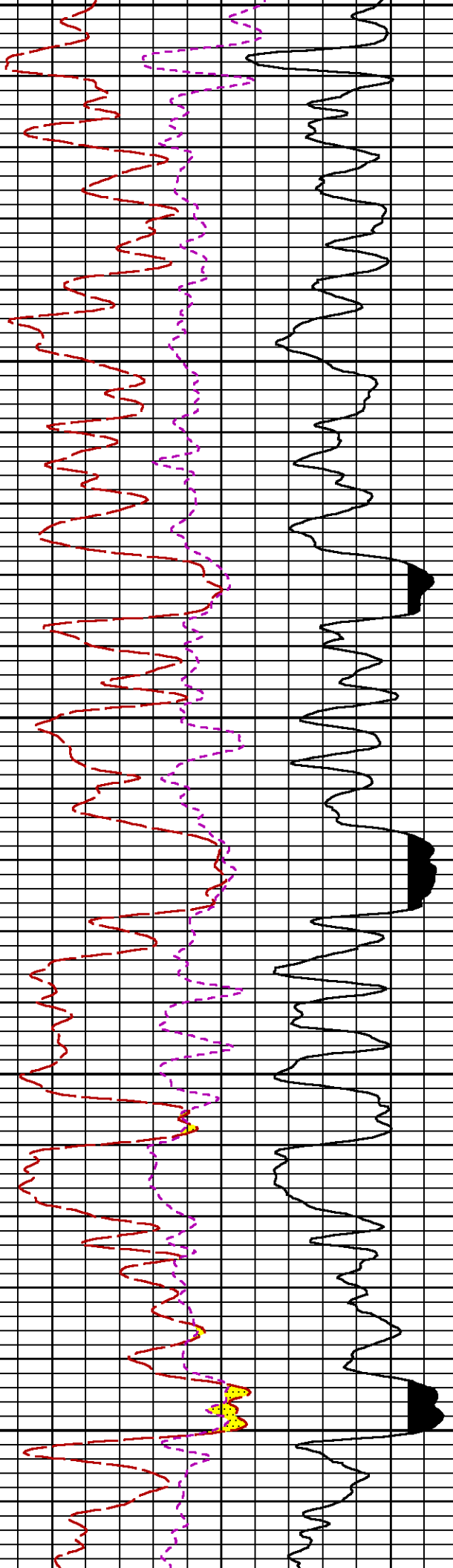
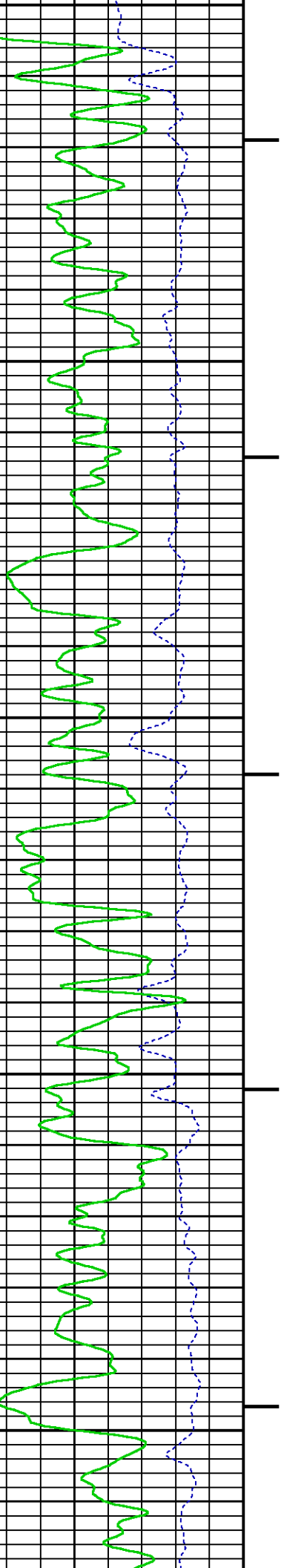
Data File 1 : F1 : HL6670:/dat1a/CH089277/314RPM_REPEAT.xtf
Created On : Aug 31 09:38:58 2014
Company : WPX ENERGY
Well : FEDERAL NER 413-32
Field : RULISON
File Interval : 9632 - 10047.2 Feet
OCT : n353h

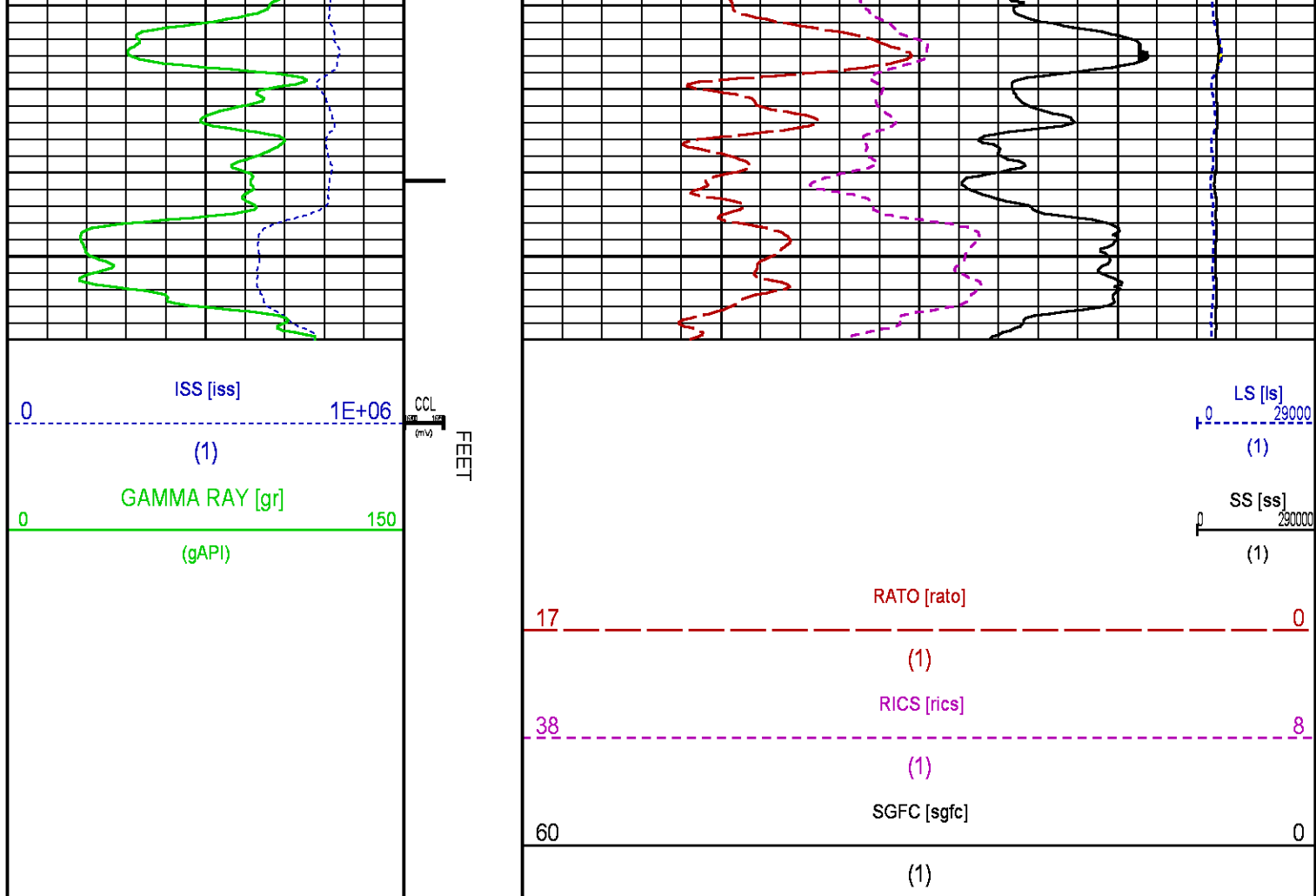


00

9800

9900





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH089277/n353h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10485470 DATE/TIME PERFORMED: Fri Aug 29 08:40:52 2014
 UNIT #: 3880TA HL6670 CALB JIG #: 4702NK DA-041

	BACKGROUND CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	90.71	392.56	0.596	54.09	234.09

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10485470 DATE/TIME PERFORMED: Fri Aug 29 08:43:54 2014
 UNIT #: 3880TA HL6670 VERI JIG #: 4702NK DA-041

	BACKGROUND CALBRTR ON (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	90.20	0.596	53.79	176.10
				170.00 190.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10466231

DATE/TIME PERFORMED: Tue Aug 26 10:36:41 2014

UNIT: 3880TA HL6670

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 11724361

HOURS: 8281AA 211

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	792242	118	2308	2285	2278	102	7	0.9713

Interpolated	1300000	139	2286	2280	2273			
--------------	---------	-----	------	------	------	--	--	--

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	792242	5967	951	138	25.99	0.15	24.16	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	792242	164652	25905	86312	30739	7950	52272	12727
Fit Quality %		1.176	1.070	0.821	0.805	1.174	0.758	1.134

	ISS	RBOR	RIN ISS/LS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	792242	1.43	4.81	30.60	15.16	10.86	3.87	4.11
		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 %		0.045	0.107	0.018	0.124	0.241	0.251	0.218
Reduced	1395637	1.43	4.79	30.53	15.13	10.85	3.86	4.10
		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 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/CH089277/RPM-tdg

A3 CABLEHEAD
Diameter : 1.37"

PCM POWER SUPPLY
Diameter : 1.70"
Length : 3.86'
Weight : 18 lbs
Series : 8250EA
Mnemonic : PCM

34.08'

TELEMETRY / CCL

Diameter : 1.70"
Length : 4.46'
Weight : 20 lbs
Series : 8248EA
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 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

0.00'

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



COMPANY <u>WPX ENERGY</u> WELL <u>FEDERAL NER 413-32</u> FIELD <u>RULISON</u> COUNTY <u>GARFIELD</u> STATE <u>CO</u>	FILE NO: <u>CH089277</u>
	API NO: <u>05045217870000</u>
LOCATION: SHL: 135' FNL & 2578' FWL(5 7S 93W) BHL: 1762' FSL & 655' FWL(32 6S 93W)	ELEVATIONS: KB 7629 FT DF GL 7603 FT
SEC <u>32</u> TWP <u>6S</u> RGE <u>93W</u>	DATE <u>31-Aug-2014</u>

