



FILE NO:	COMPANY
CO097903	LARAMIE ENERGY
API NO:	WELL
05077102310000	GUNDERSON 29-13E
	FIELD
	VEGA
	COUNTY
	MESA
	STATE
	COLORADO

Ver. 4.01	LOCATION:	OTHER SERVICES
SEC 29 T9S R93W	SHL: LAT 39.248810 LONG -107.787831	BOND LOG
PAD 29-09	BHL: LAT 39.246796 LONG -107.786787	
PATTERSON 306	SEC 29 TWP 9S RGE 93W	

PERMANENT DATUM	GL	ELEVATION	7631 FT
LOG MEASURED FROM	KB	22 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		
		ELEVATIONS:	
		KB	7653 FT
		DF	
		GL	7631 FT

DATE	20-Jul-2015
RUN	1
TRIP	1
SERVICE ORDER	US097903
DEPTH DRILLER	7690 FT
DEPTH LOGGER	7641 FT
BOTTOM LOGGED INTERVAL	7631 FT
TOP LOGGED INTERVAL	2450 FT
TIME STARTED	10:30
TIME FINISHED	16:00
OPERATOR RIG TIME	5.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	34 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	243 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	20-Jul-2015
EQUIP. NO.	6670
LOCATION	GRAND JCT.
RECORDED BY	T. NEWELL
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
7.875 IN	22 FT	7843 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	7843 FT

REMARKS
RUN 1 TRIP 1: ALL DATA ON THIS LOG IS SHIFTED AT TD USING THE GAMMA RAY CURVE TO BE ON DEPTH WITH THE BAKER HUGHES BOND LOG DATED 20/JULY/2015 AT THE CLIENT'S REQUEST.
AMOUNT OF LINEAR SHIFT IS 10 FEET
BHT = 243 degF
SJ = 5907' - 5929'
SJ = 6800' - 6822'
THANK YOU FOR CHOOSING BAKER HUGHES ... THE BEST CHOICE!

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	10586851	FREE
1	1	TEL/CCL	8248ED	10460262	FREE
1	1	GR	8262XA	10274382	FREE
1	1	RPM	8281EA	10190984	FREE
1	1	RPM	8283PA	10414345	FREE
1	1	RPM	8281FA	10401926	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: 6

Plotted: Mon Jul 20 15:37:03 2015

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/CH097903/n354h03.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 2444.500 ft BOTTOM DEPTH: 3061.000 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	Jul 20 14:51:55 2015	CASING COLLAR LOCATOR
F1:GR	Jul 20 14:51:55 2015	GAMMA RAY
F1:ISS	Jul 20 14:51:55 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 20 14:51:55 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 20 14:51:55 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 20 14:51:55 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 20 14:51:55 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 20 14:51:55 2015	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/CH097903/13E_RPM_GSAND.fvpdf [5"/100' Scale]
 Plot Interval : 2450 - 3060 Feet

Data File 1 : F1 : HL6670:/dat1a/CH097903/13E_RPM_GSAND.xtf
 Created On : Jul 20 14:51:55 2015
 Company : LARAMIE ENERGY
 Well : GUNDERSON 29-13E
 Field : NECA

Field : VEGA
File Interval : 2417.5 - 3061 Feet
OCT : n354h

GR BACKUP

ISS [iss]

(1)

GAMMA RAY [gr]

(gAPI)

FEET

CCL
(mV)

2500

LS [ls]

(1)

SS [ss]

(1)

RATO [rato]

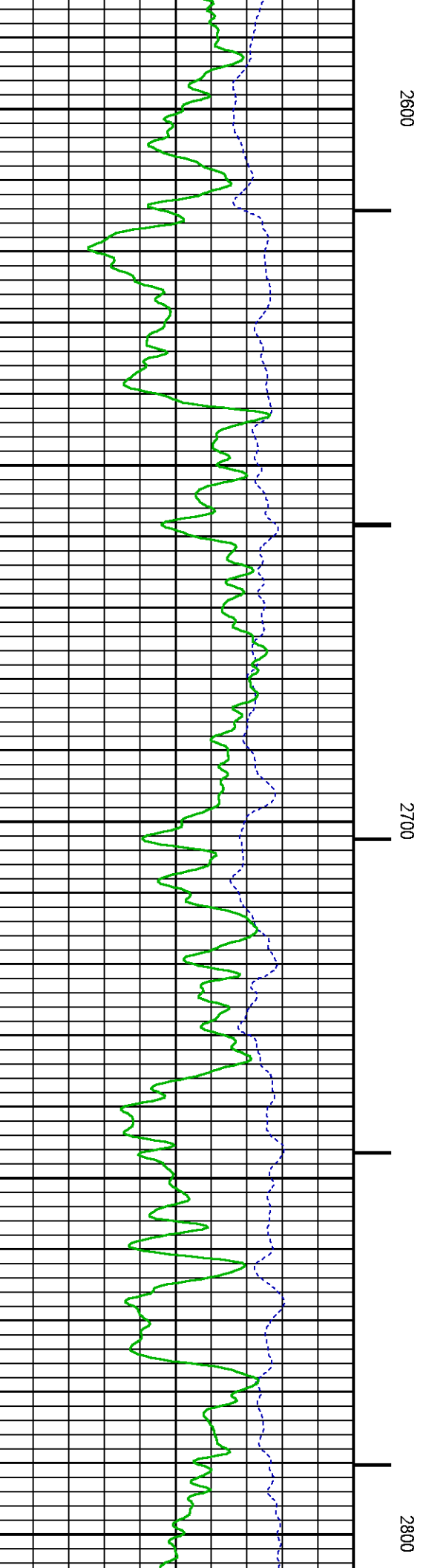
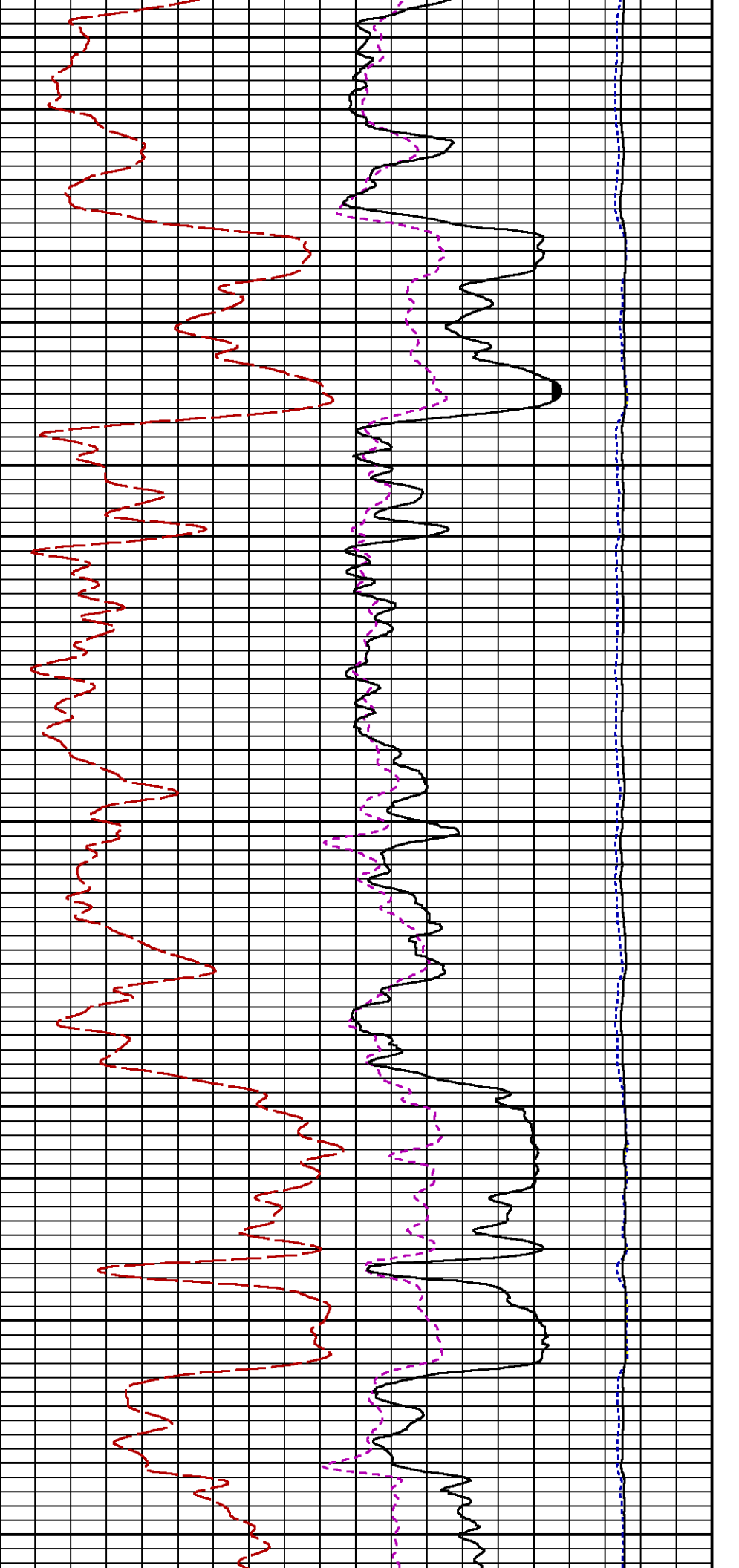
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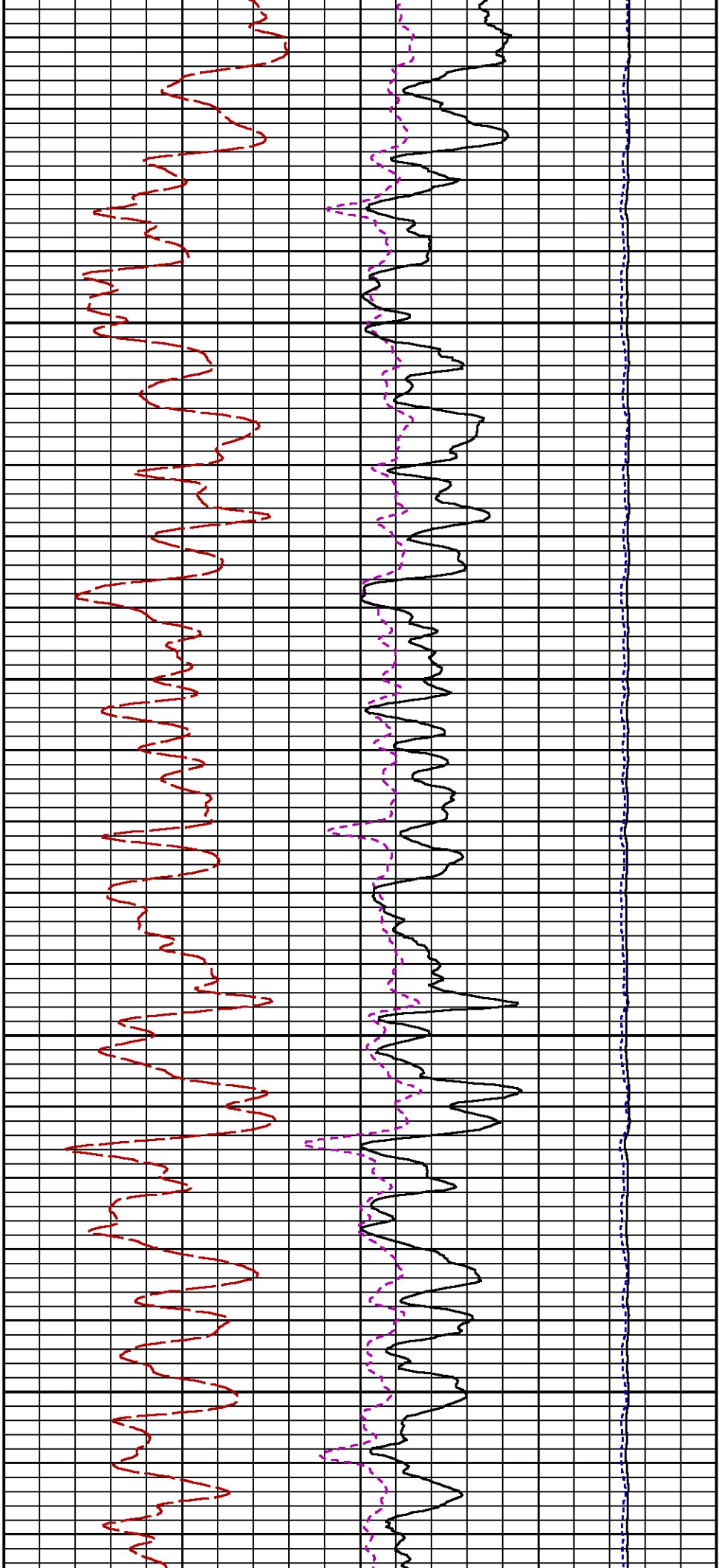
RICS [rics]

(1)

SGFC [sgfc]

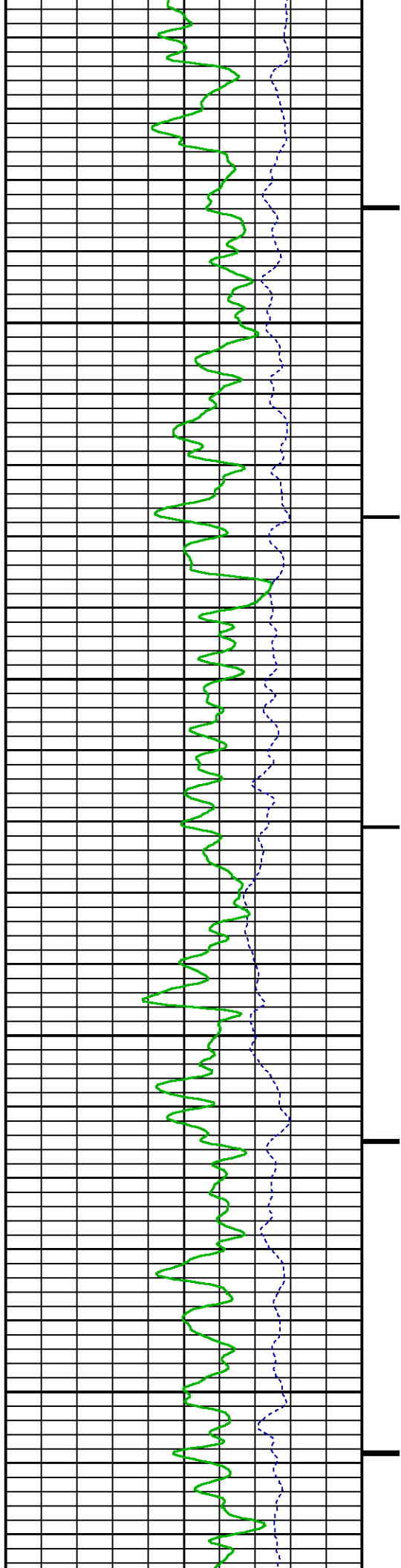
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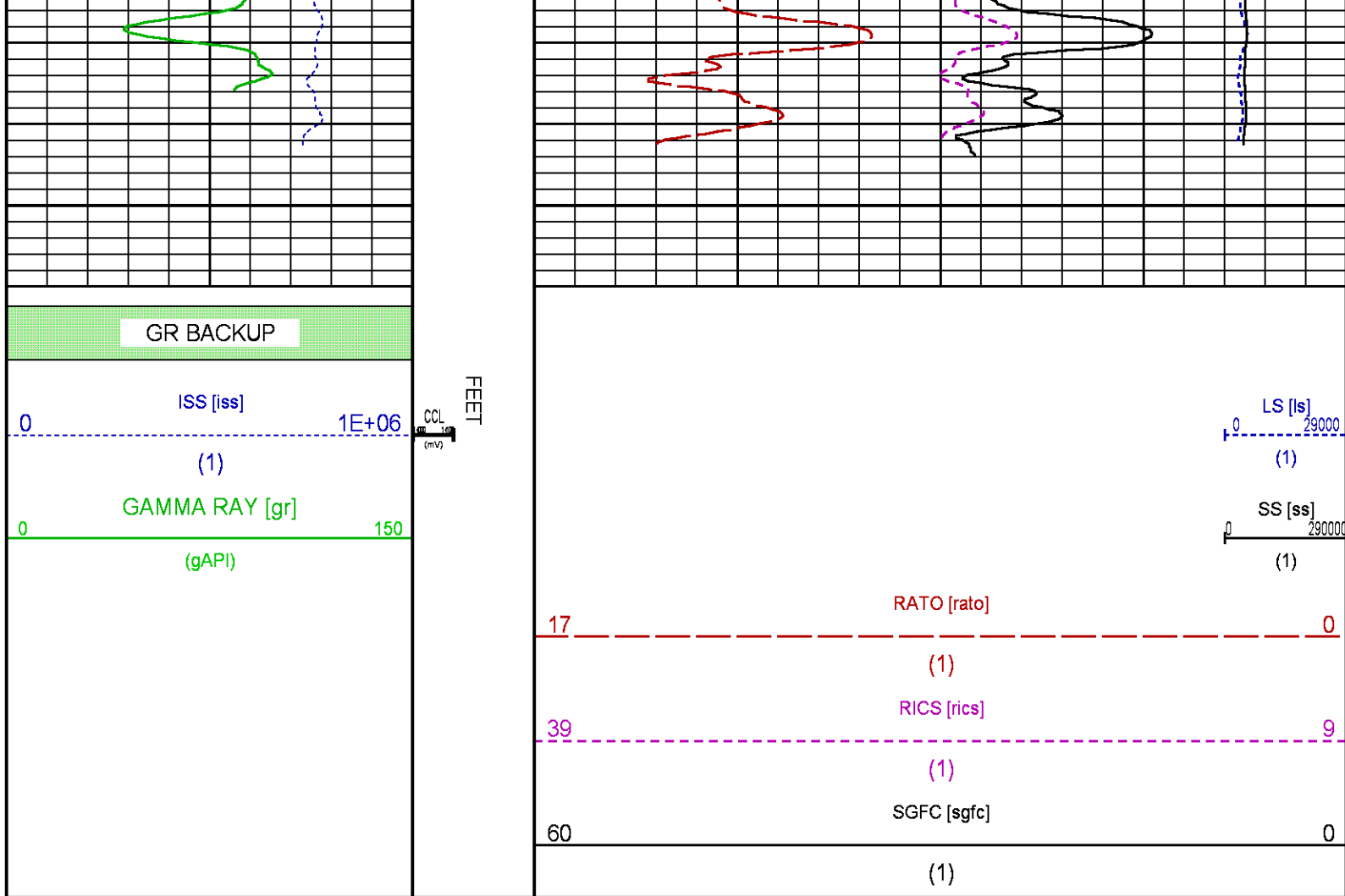




2900

3000





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: Mon Jul 20 15:04:07 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH097903/n354h02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 4419.250 ft BOTTOM DEPTH: 7650.750 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	7.88	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "

CURVE DESCRIPTION REPORT

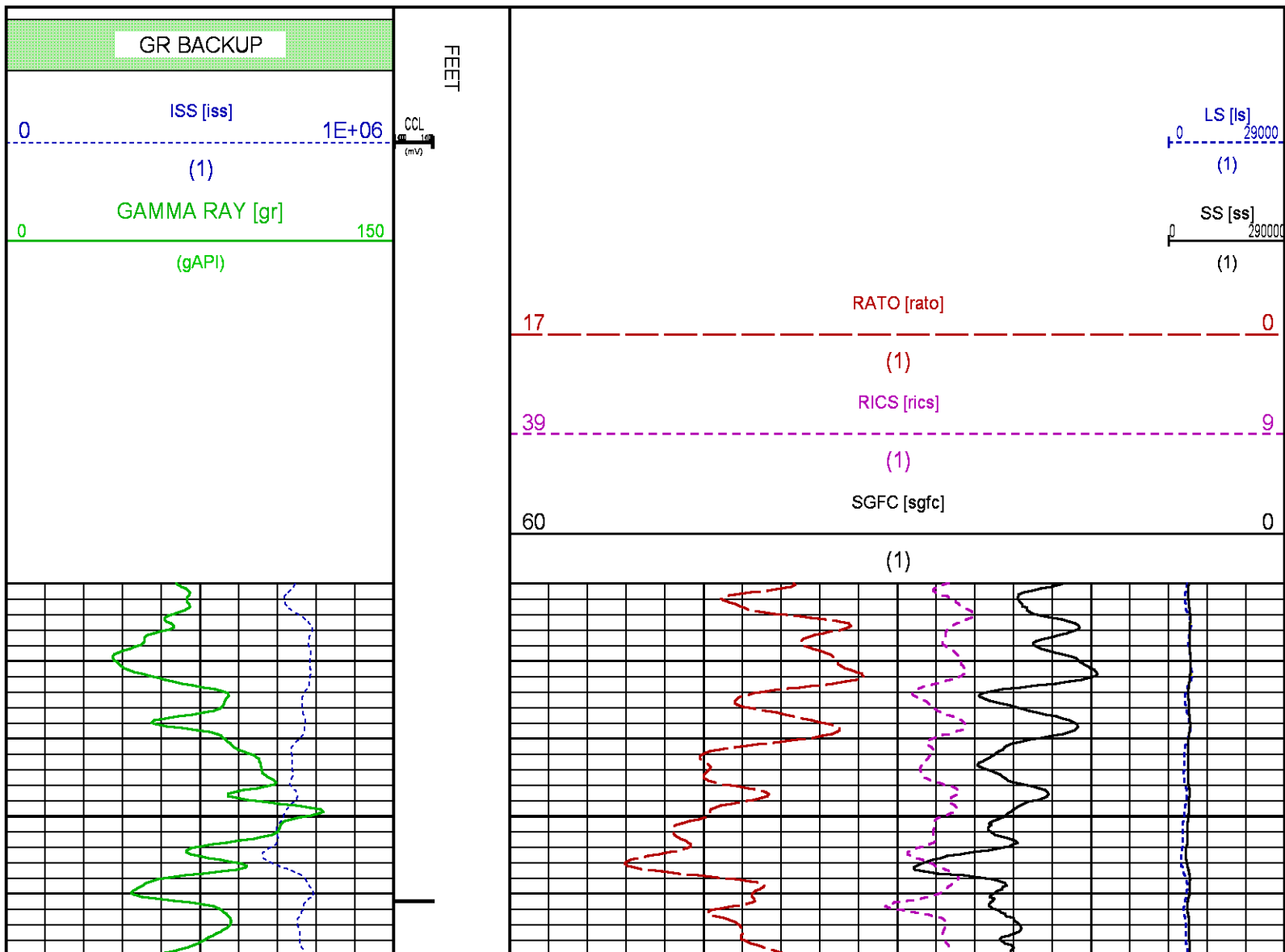
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 20 11:20:30 2015	CASING COLLAR LOCATOR
F1:GR	Jul 20 11:20:30 2015	GAMMA RAY
F1:ISS	Jul 20 11:20:30 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 20 11:20:30 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 20 11:20:30 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 20 11:20:30 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 20 11:20:30 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 20 11:20:30 2015	SHORT SPACE COUNT RATE

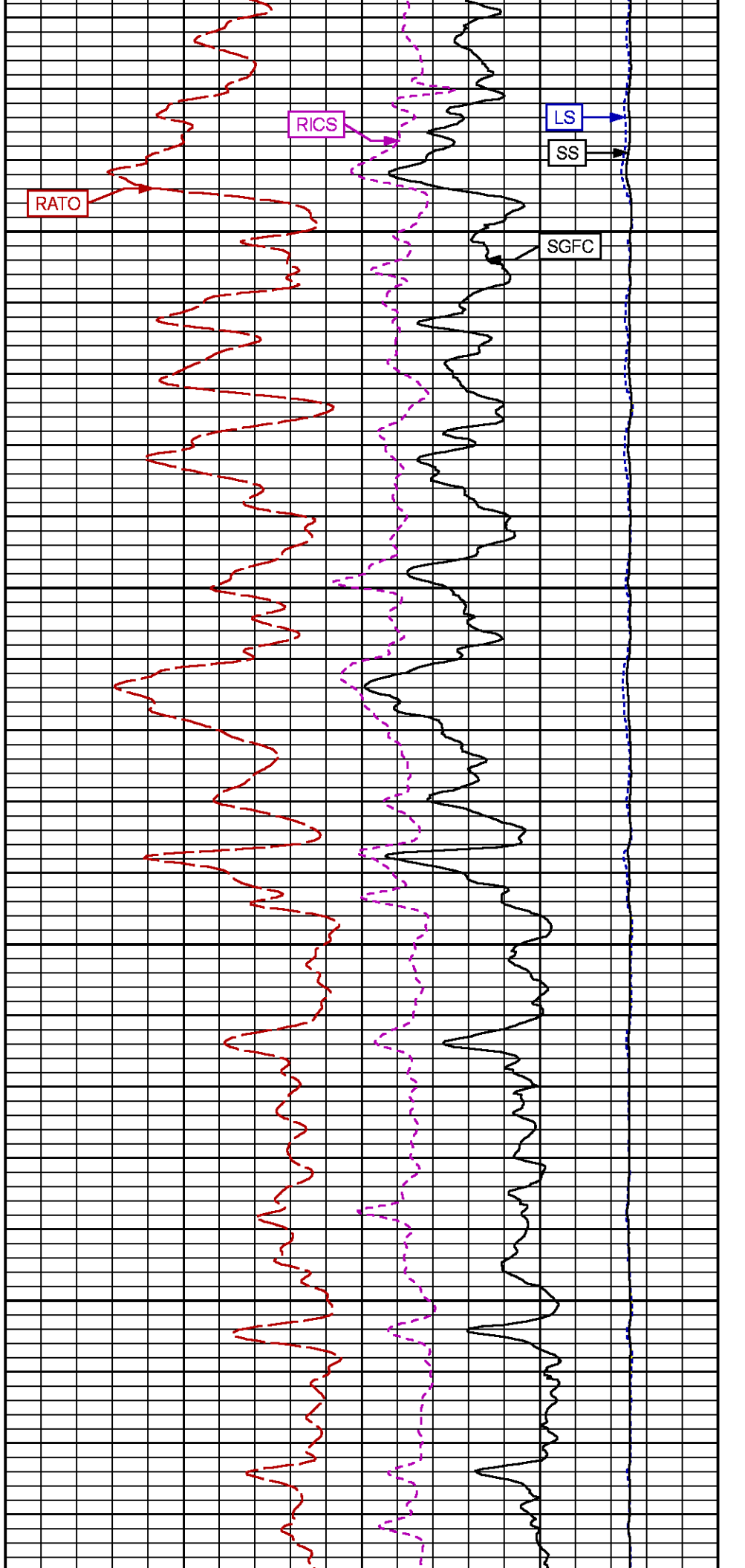
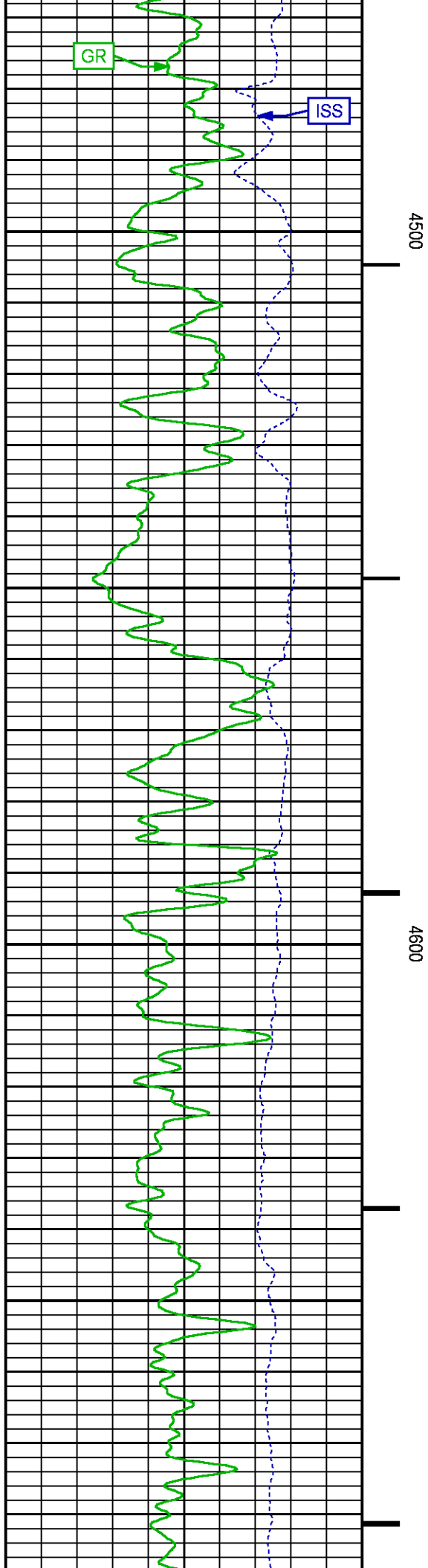
CURVE MEASURE POINT OFFSET

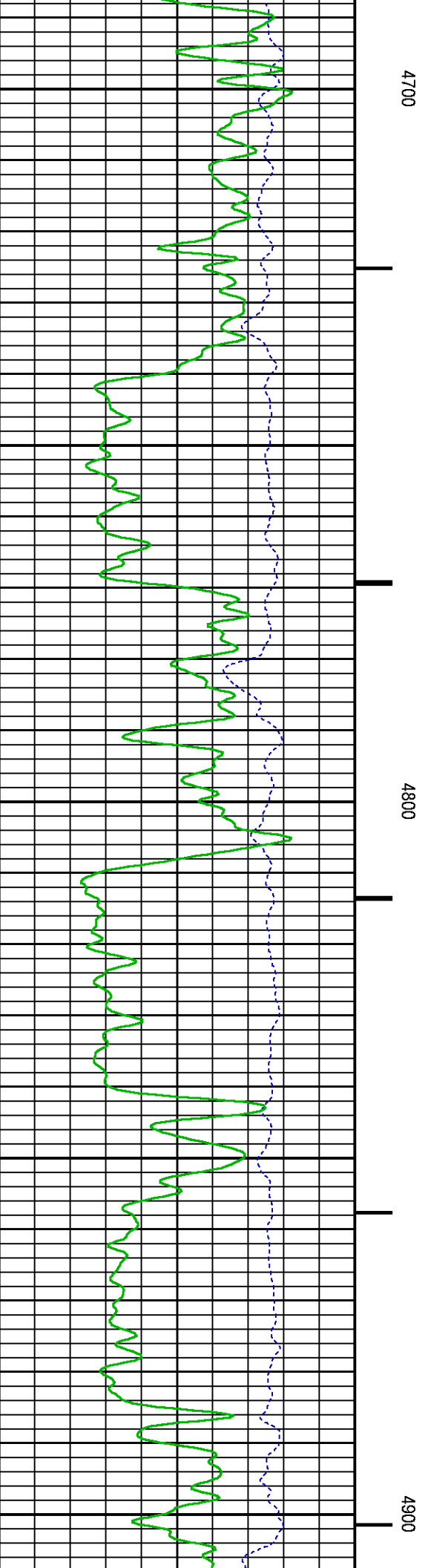
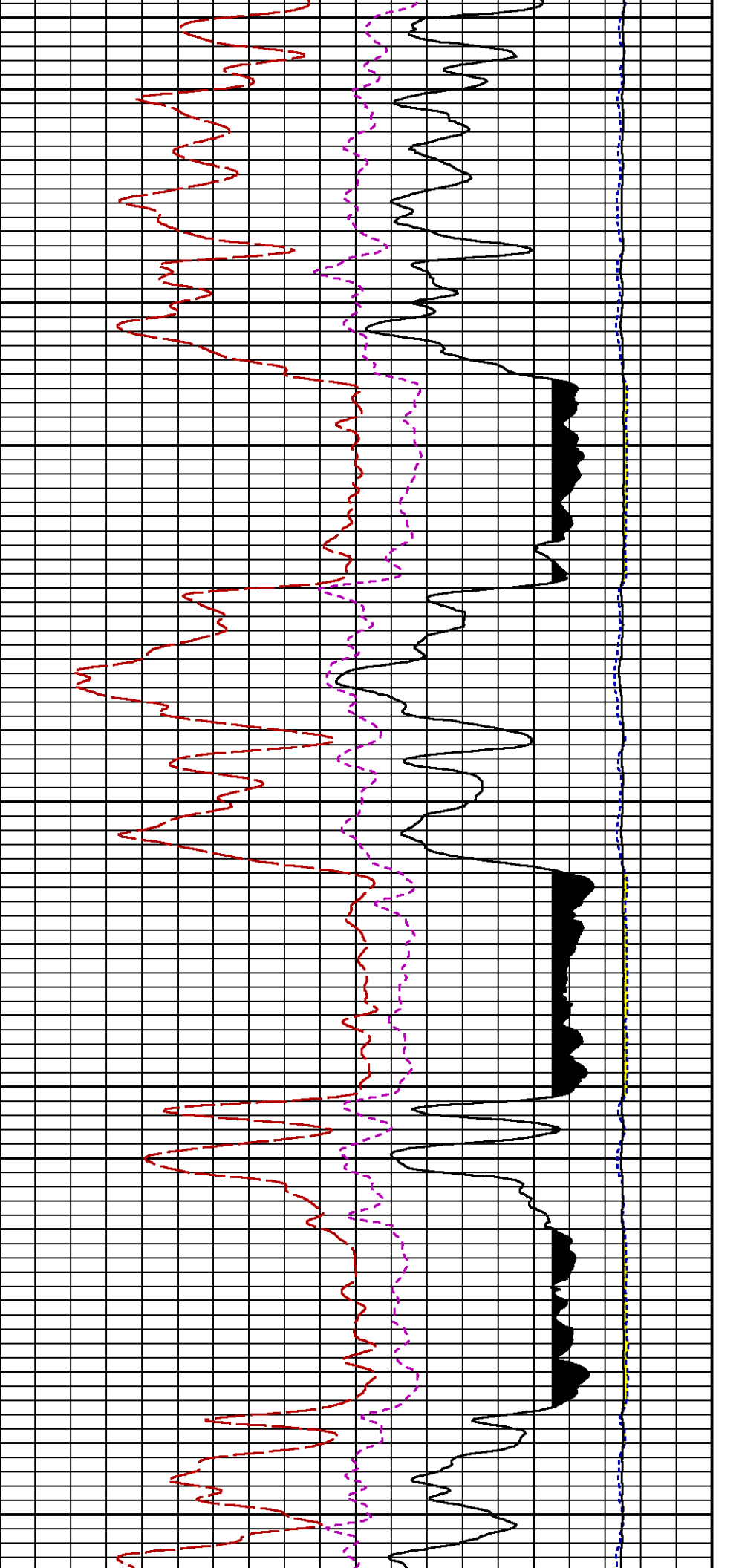
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

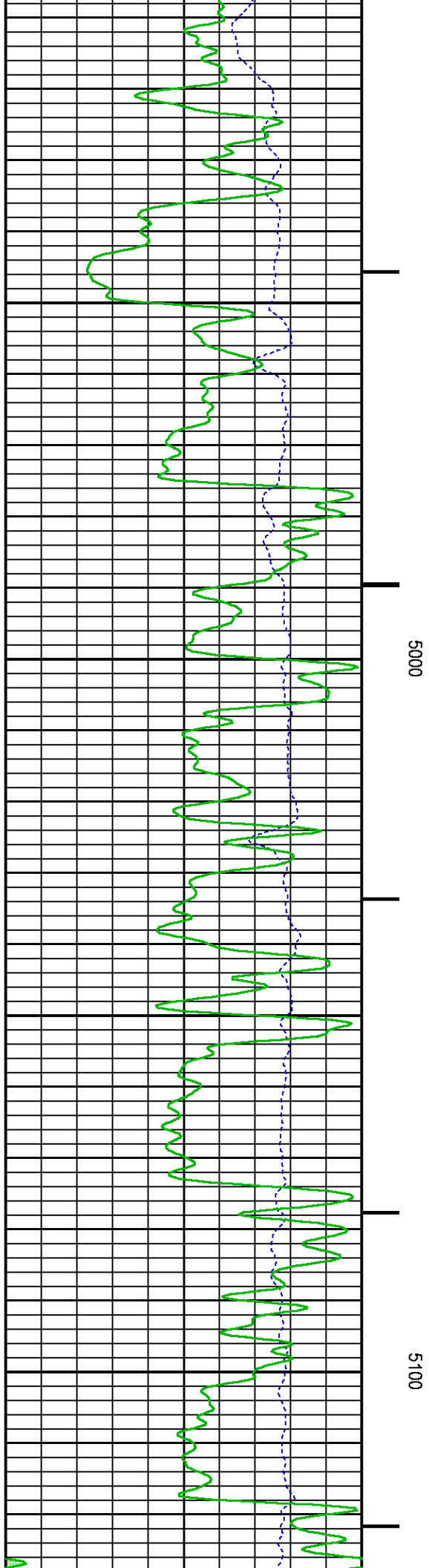
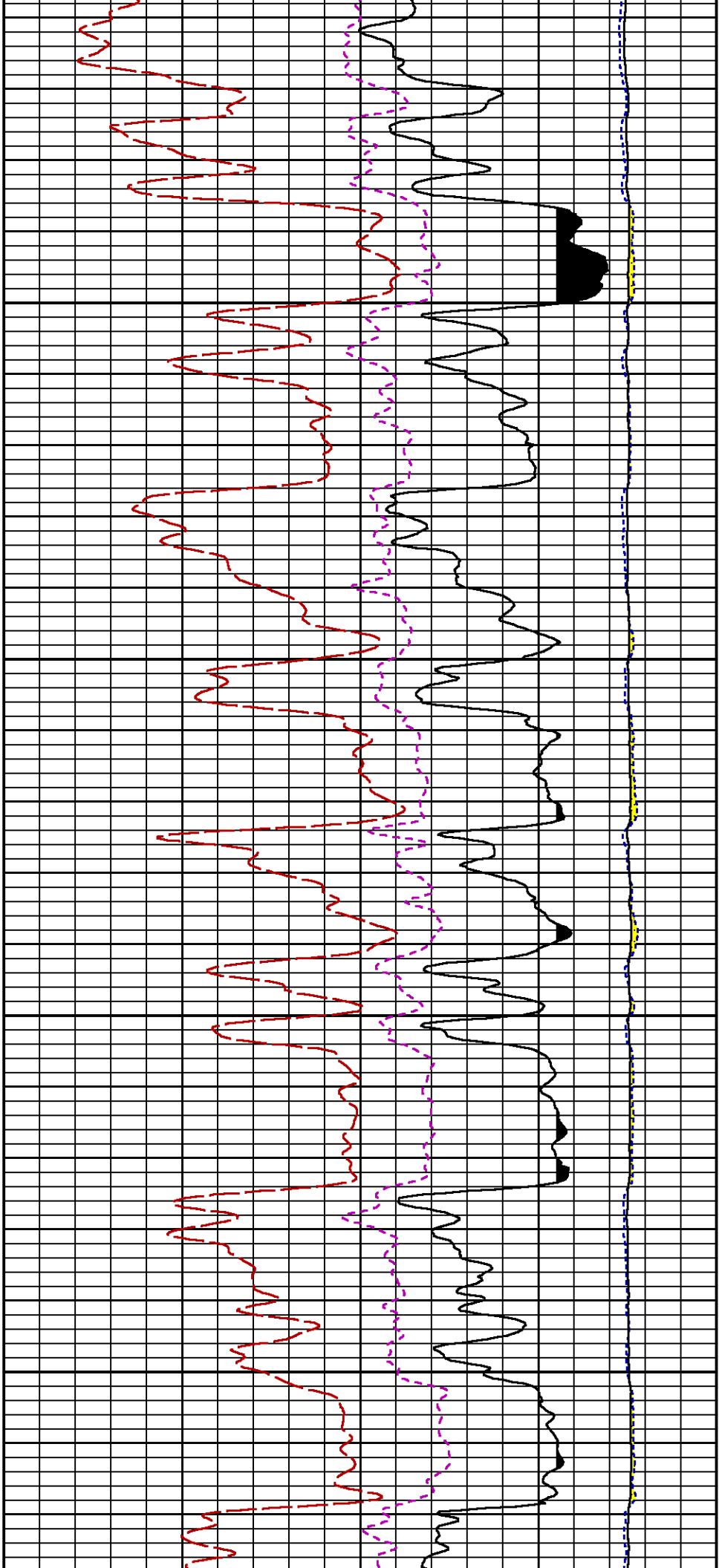
Presentation : HL6670:/dat1a/CH097903/13E_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 4420 - 7650 Feet

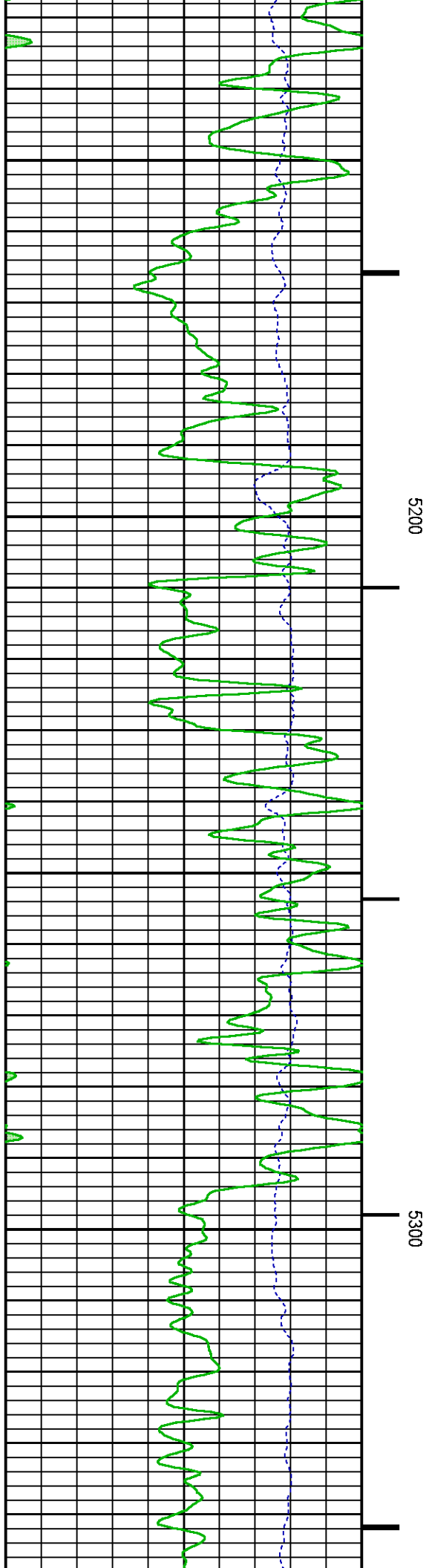
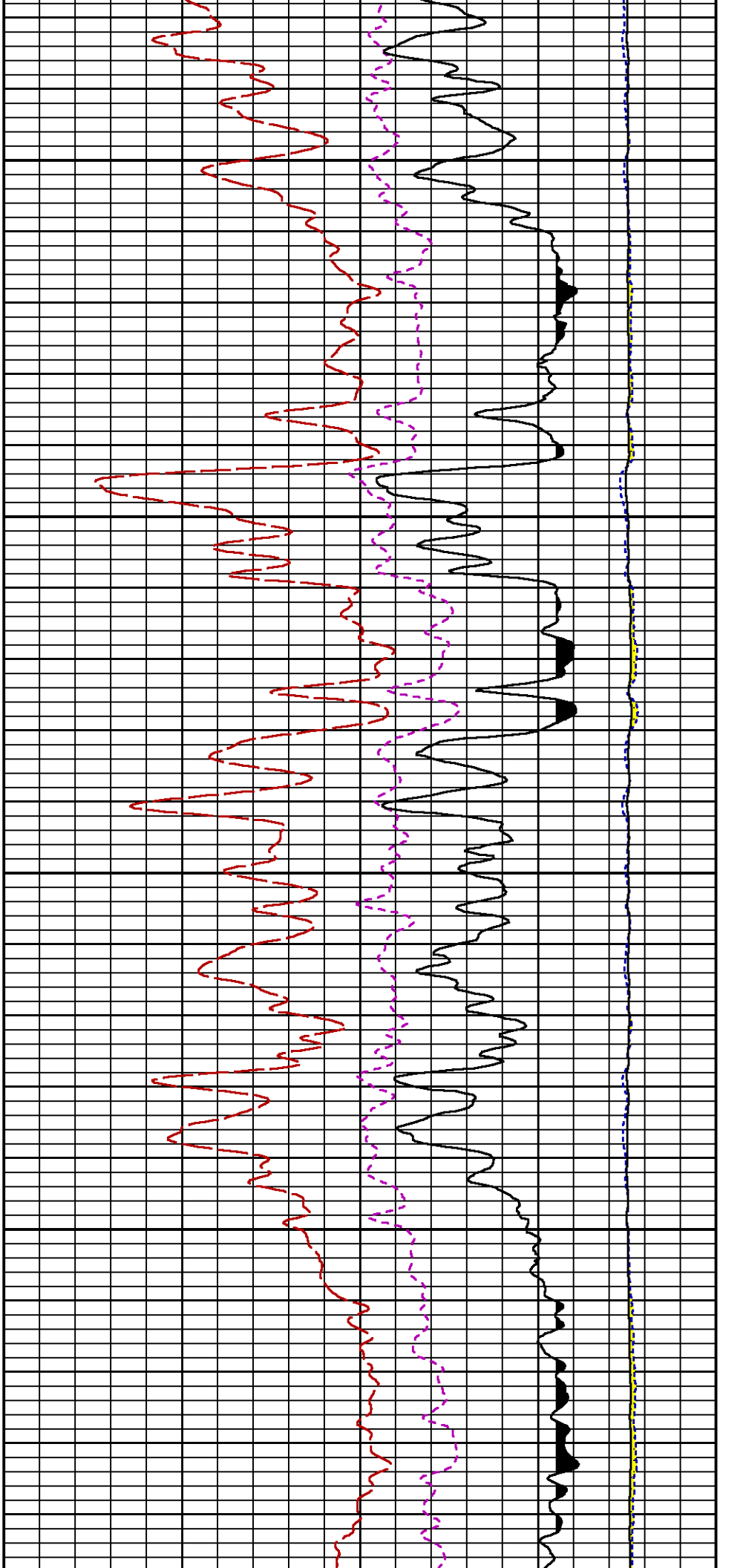
Data File 1 : F1 : HL6670:/dat1a/CH097903/13E_RPM_MAIN.xtf
Created On : Jul 20 11:20:30 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-13E
Field : VEGA
File Interval : 4393.25 - 7650.75 Feet
OCT : n354h

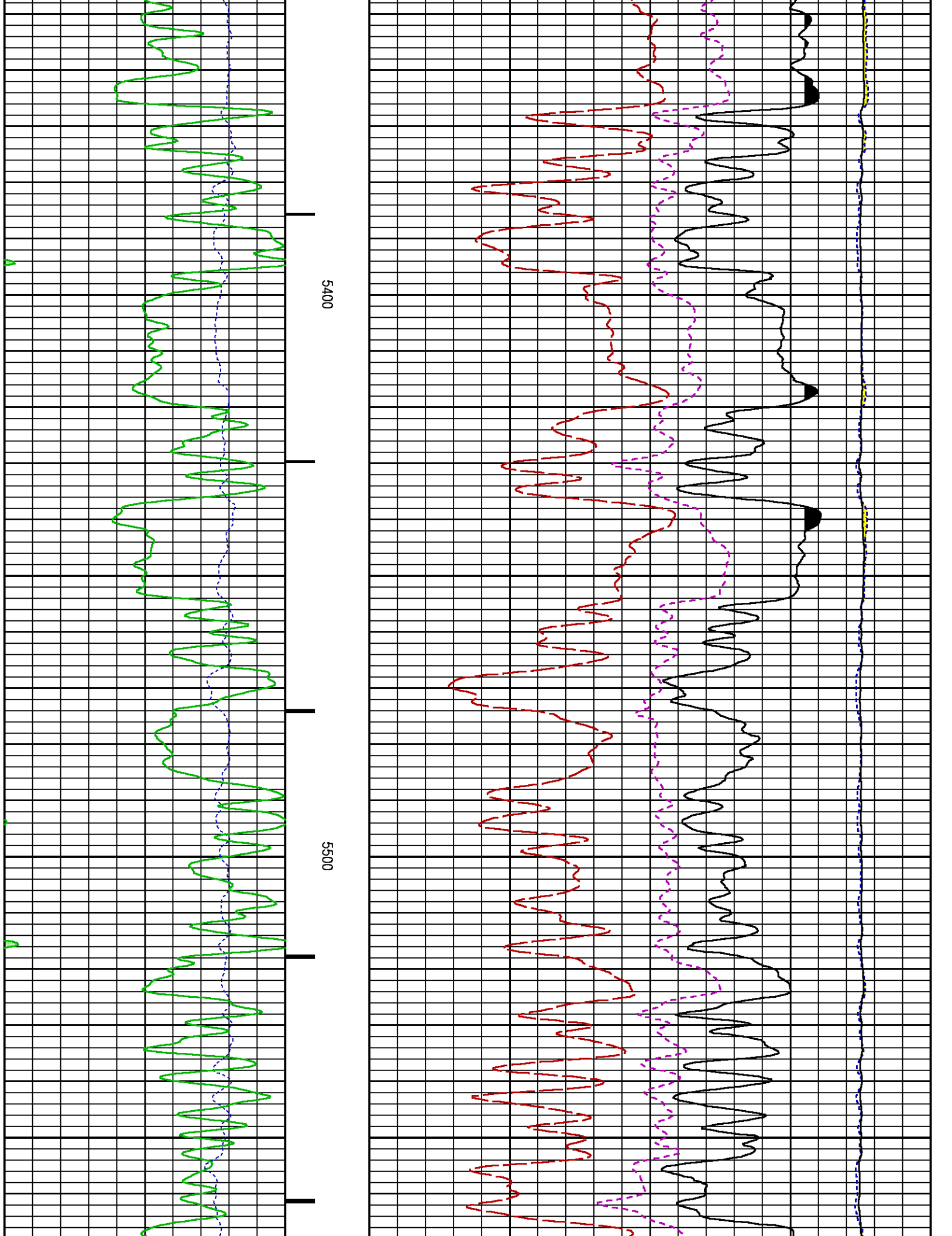


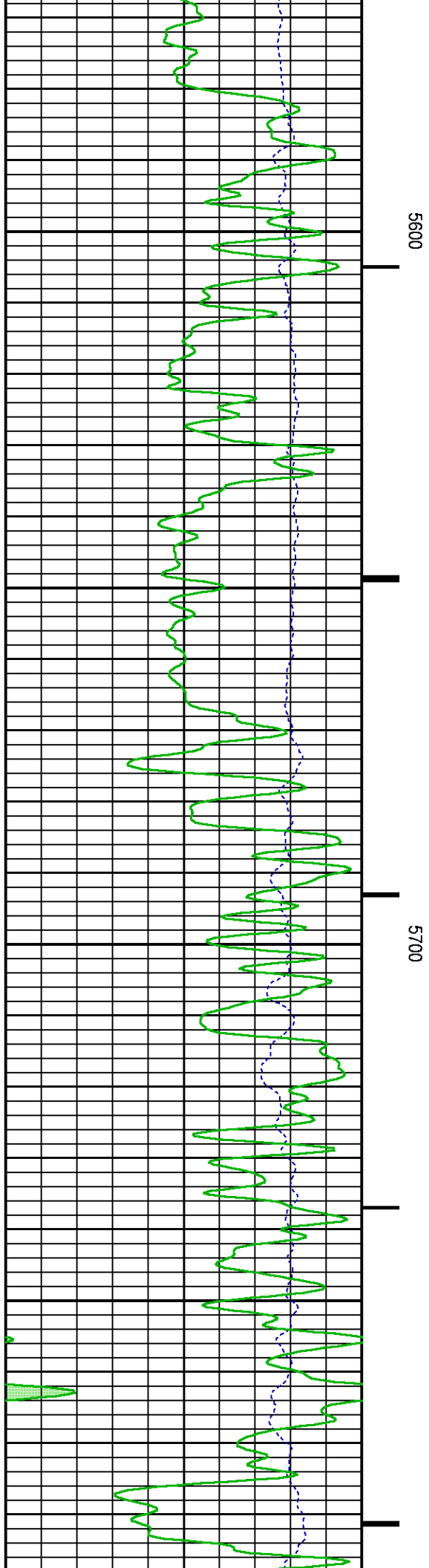
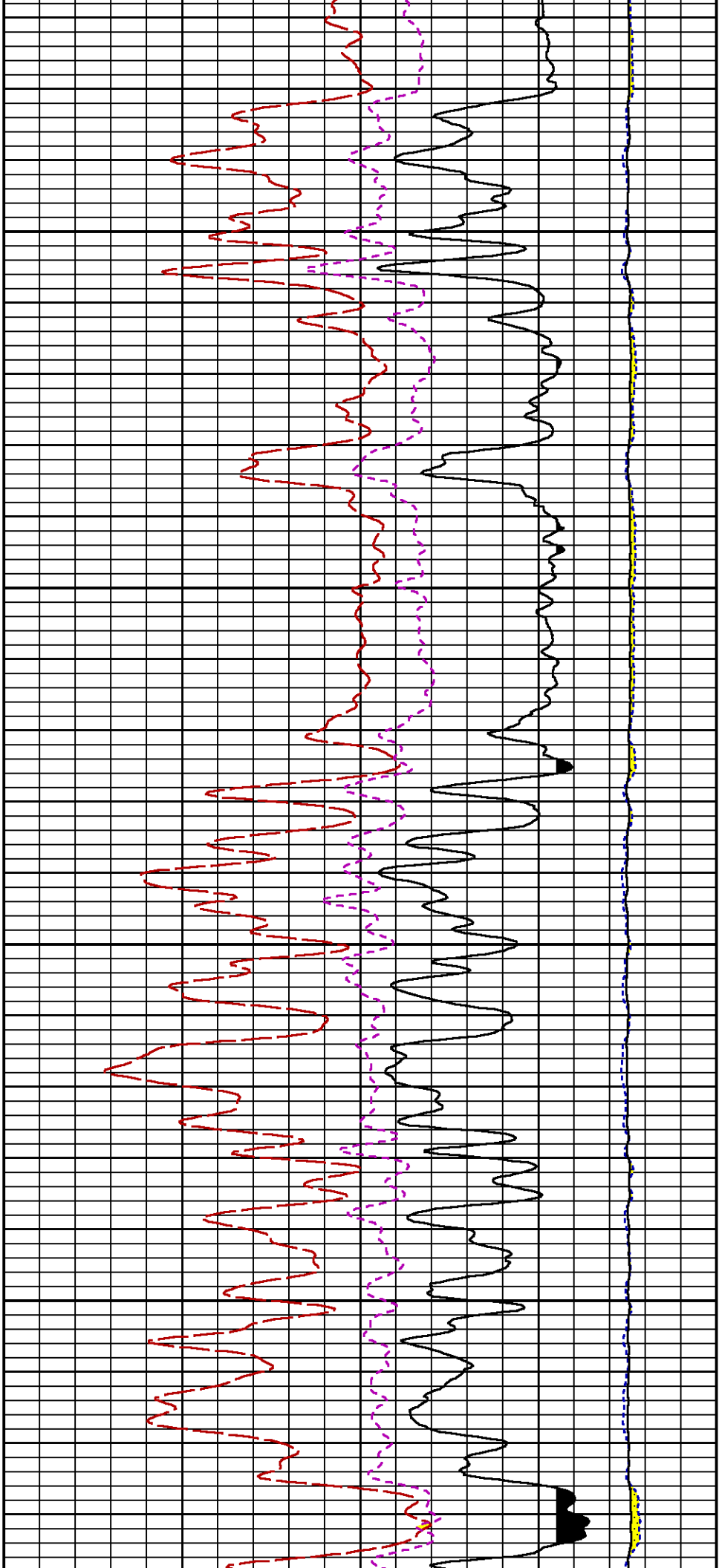


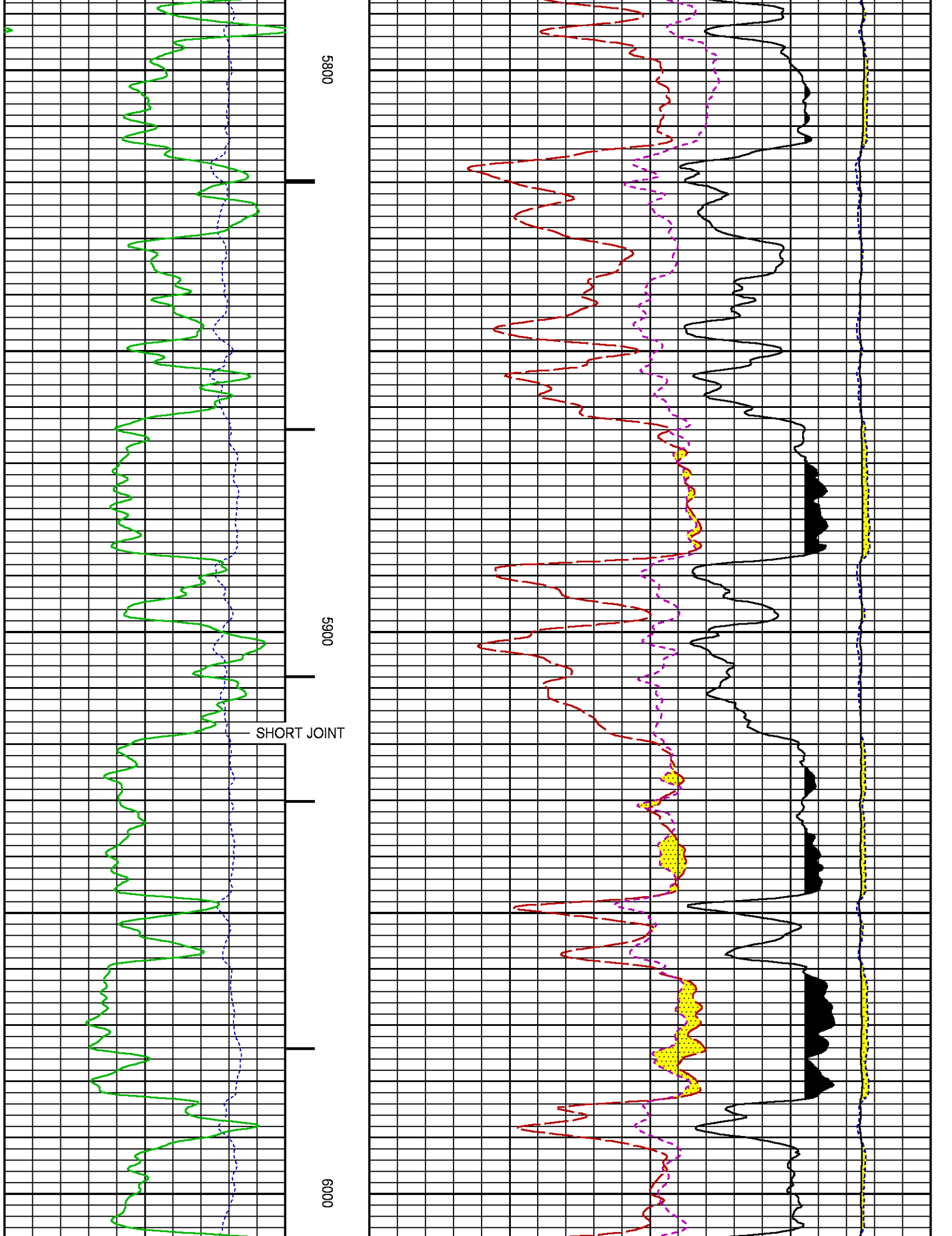


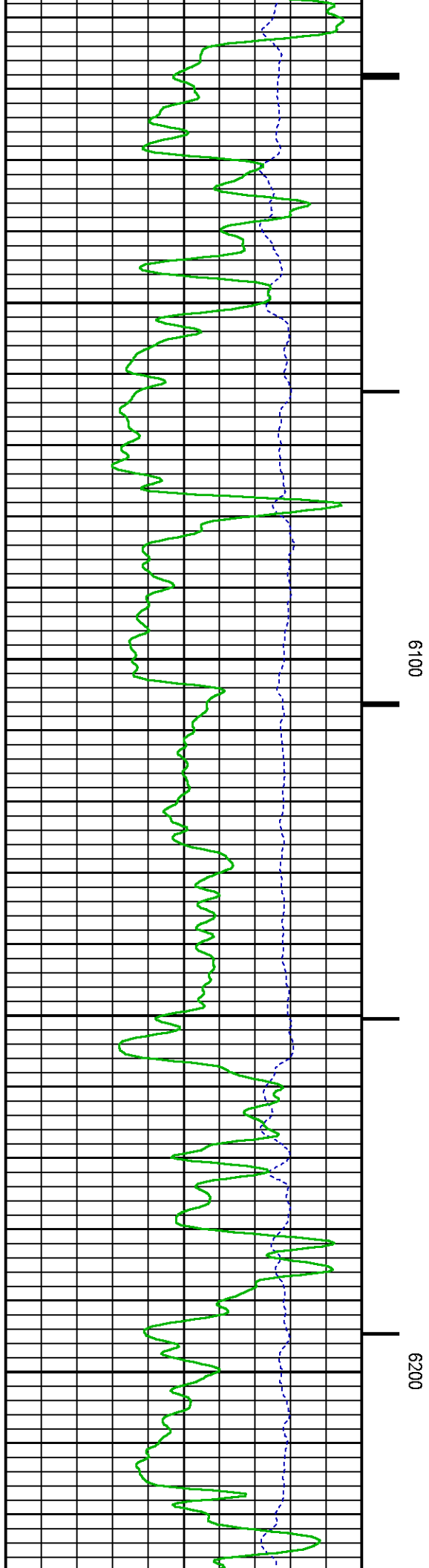
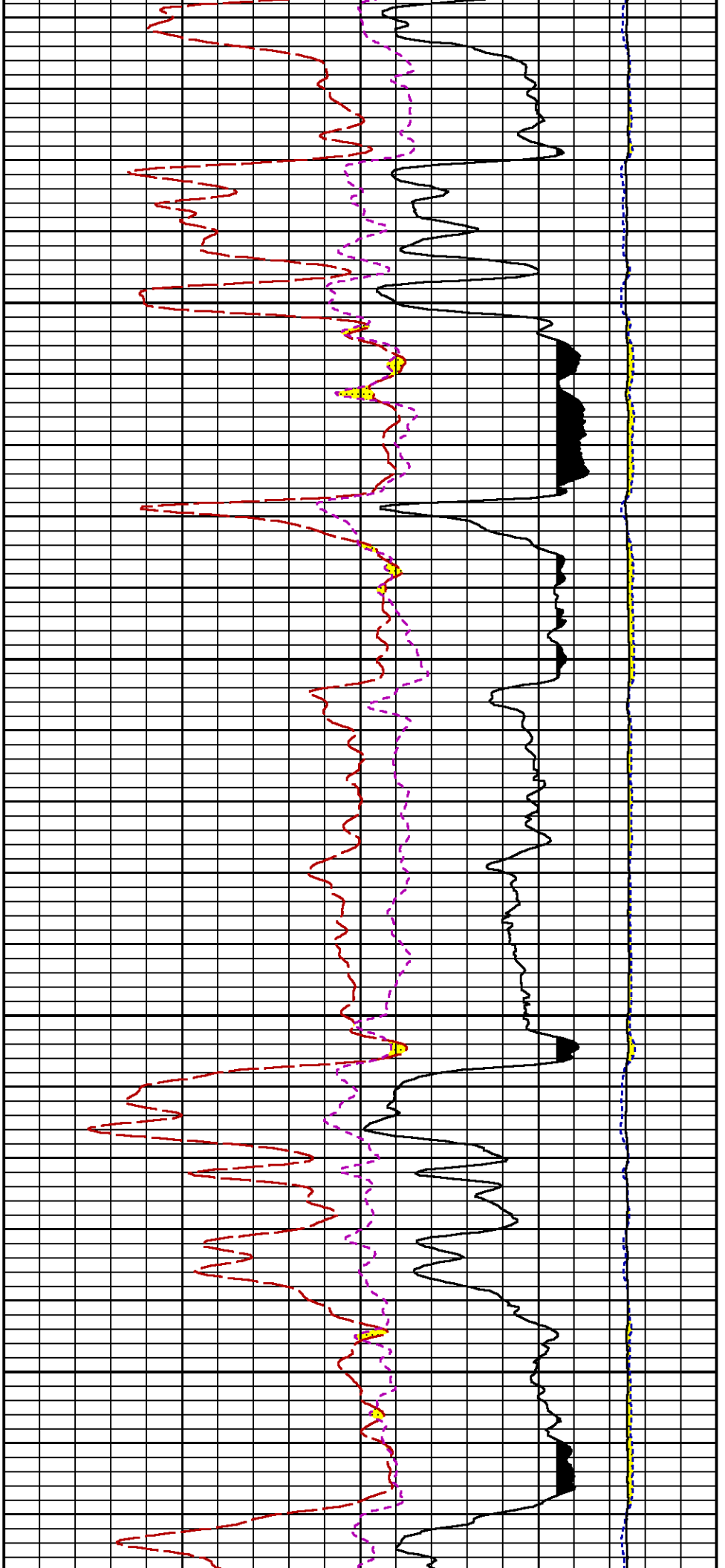


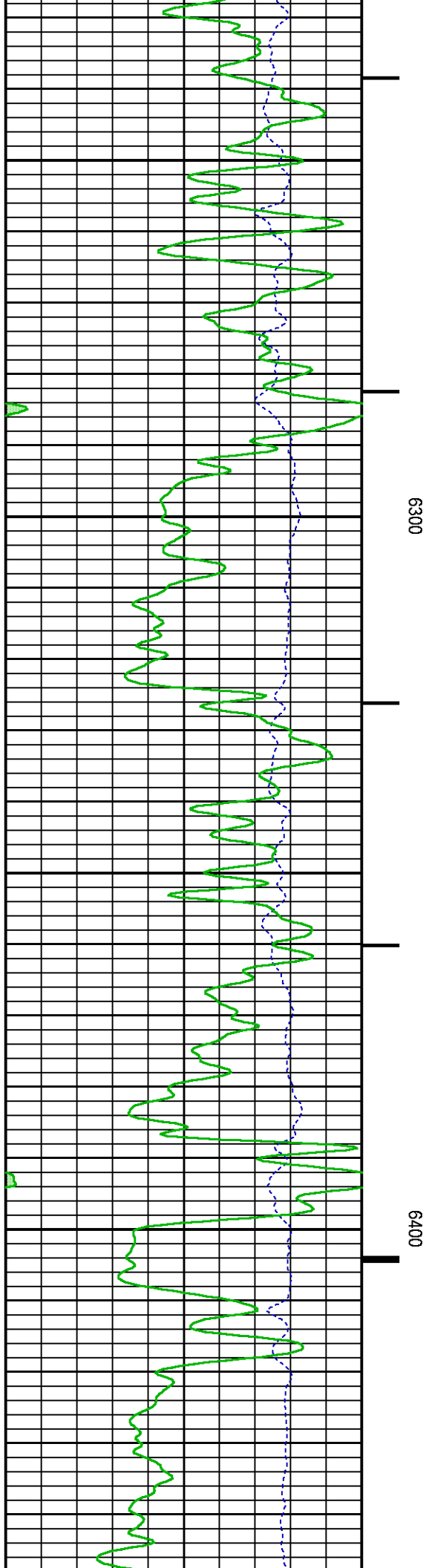
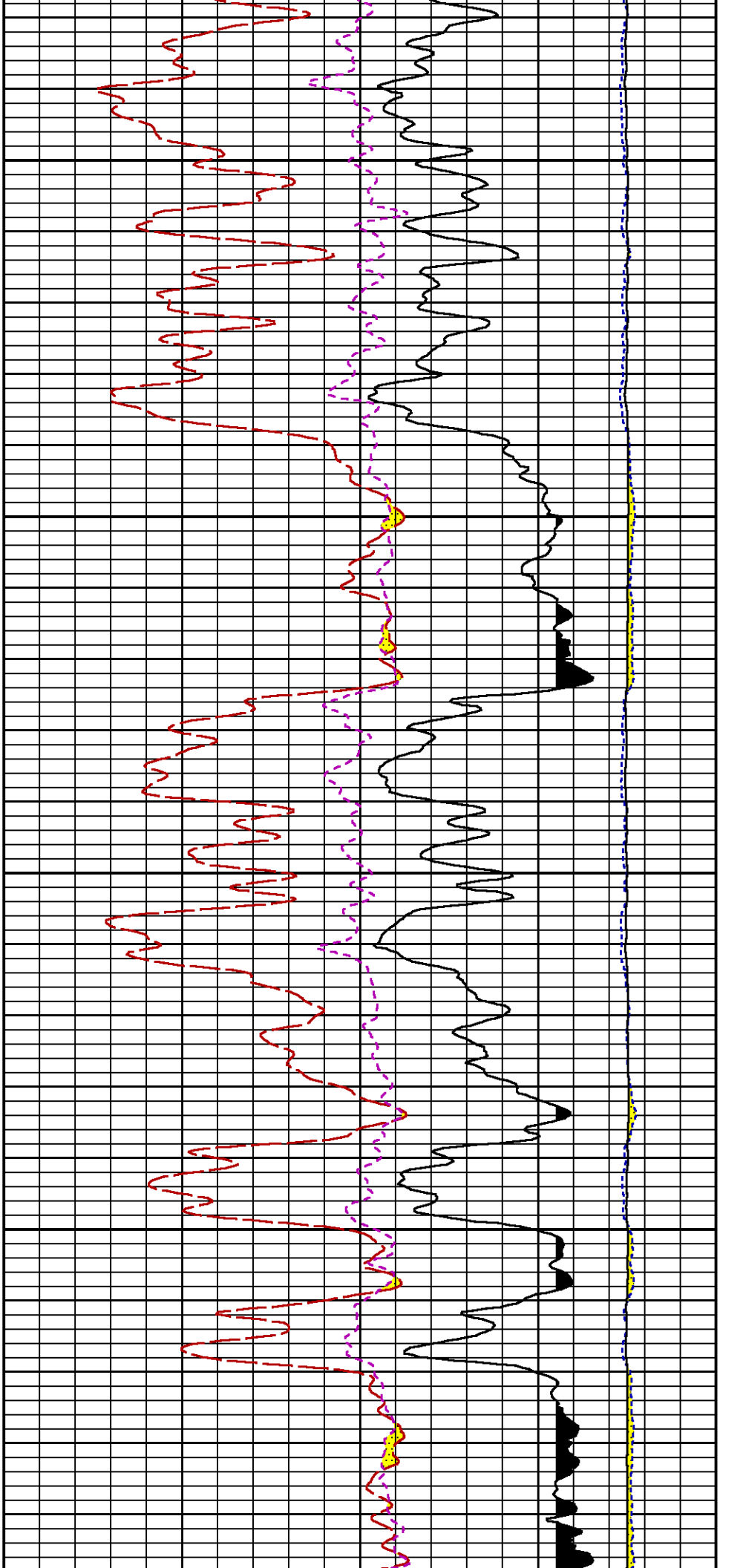


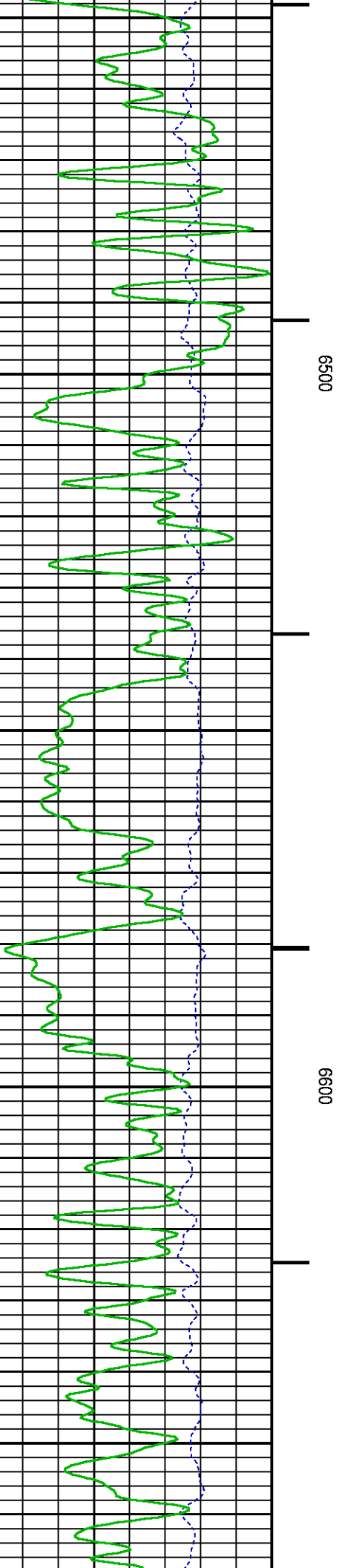
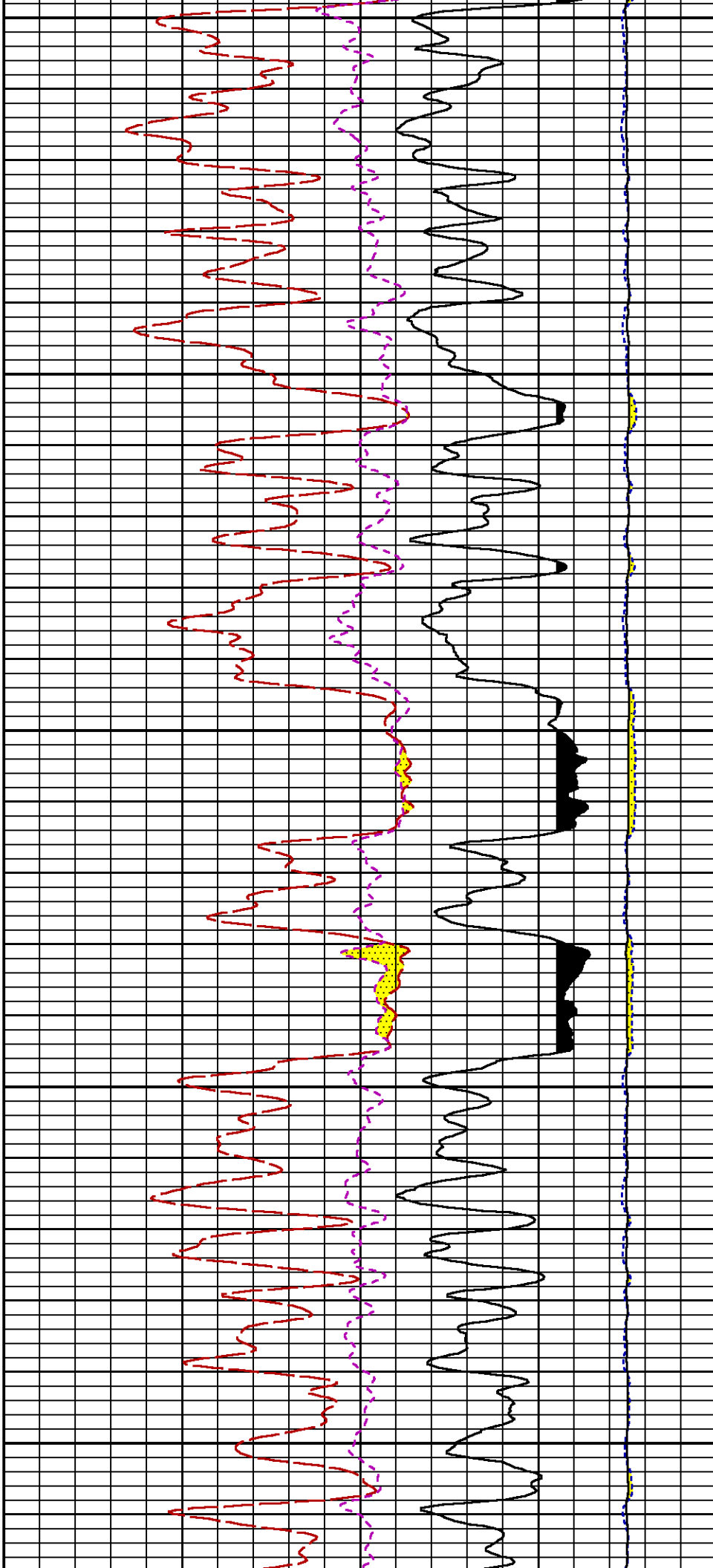


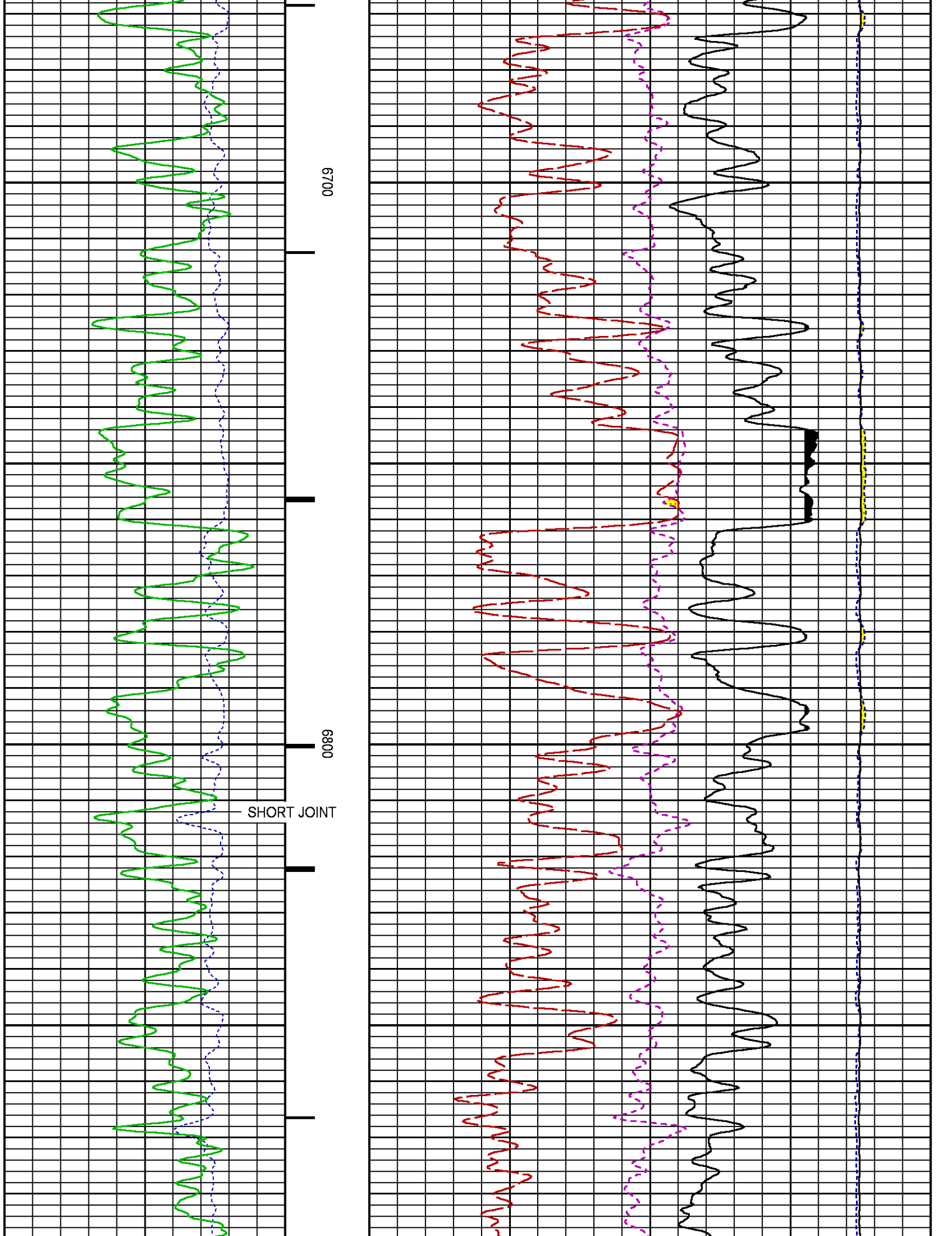


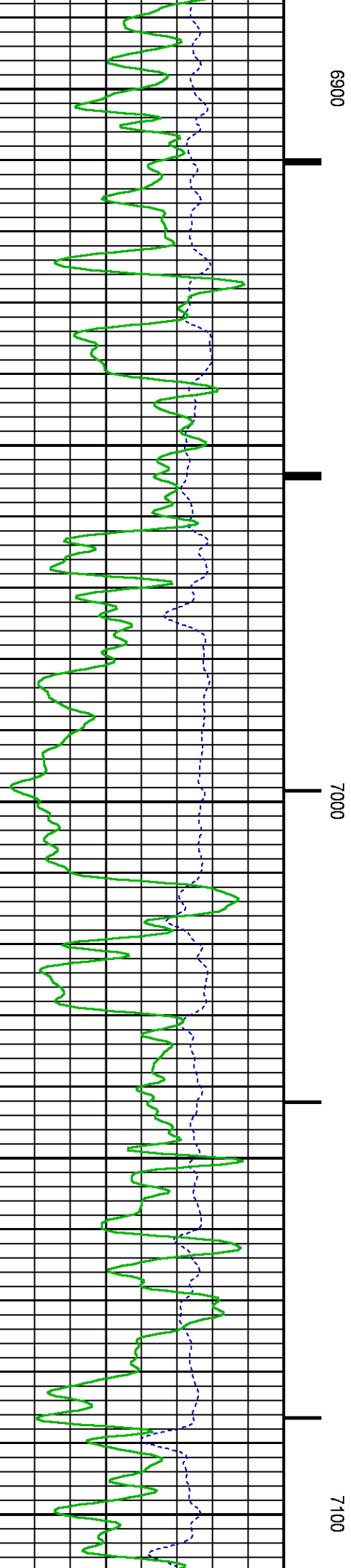
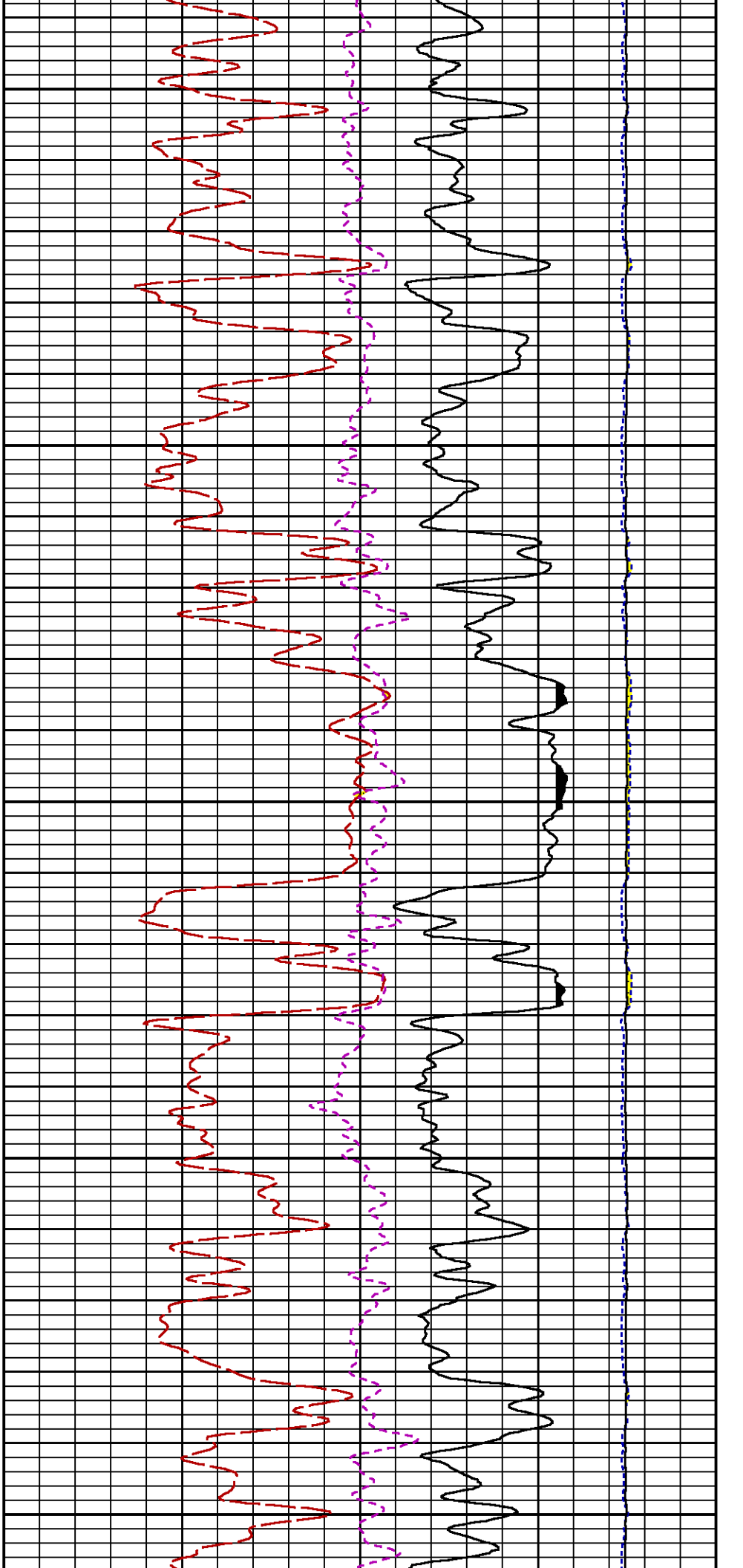


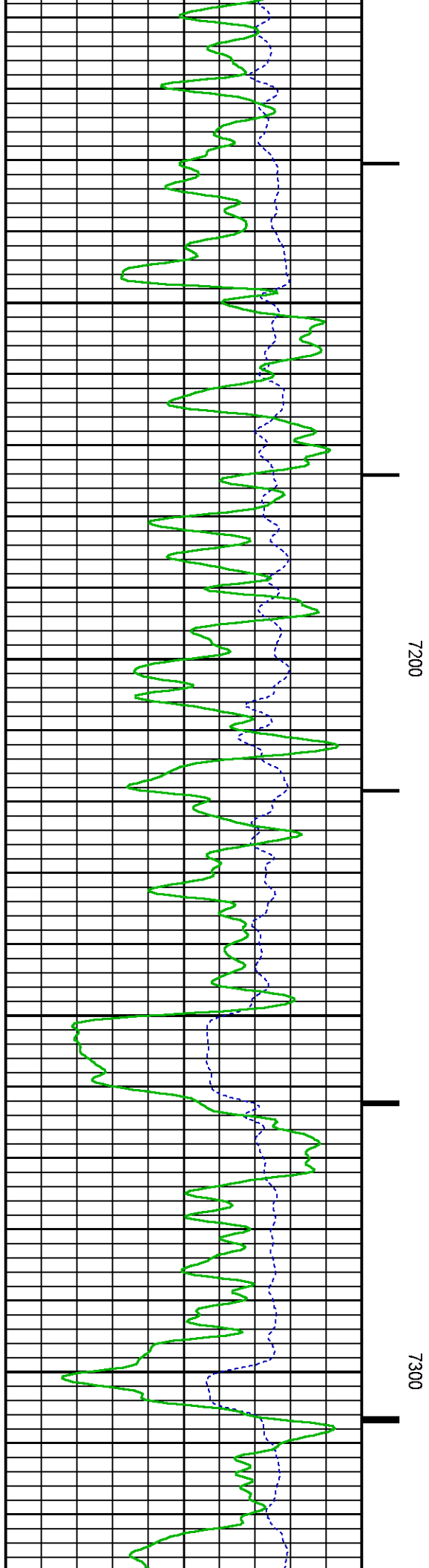
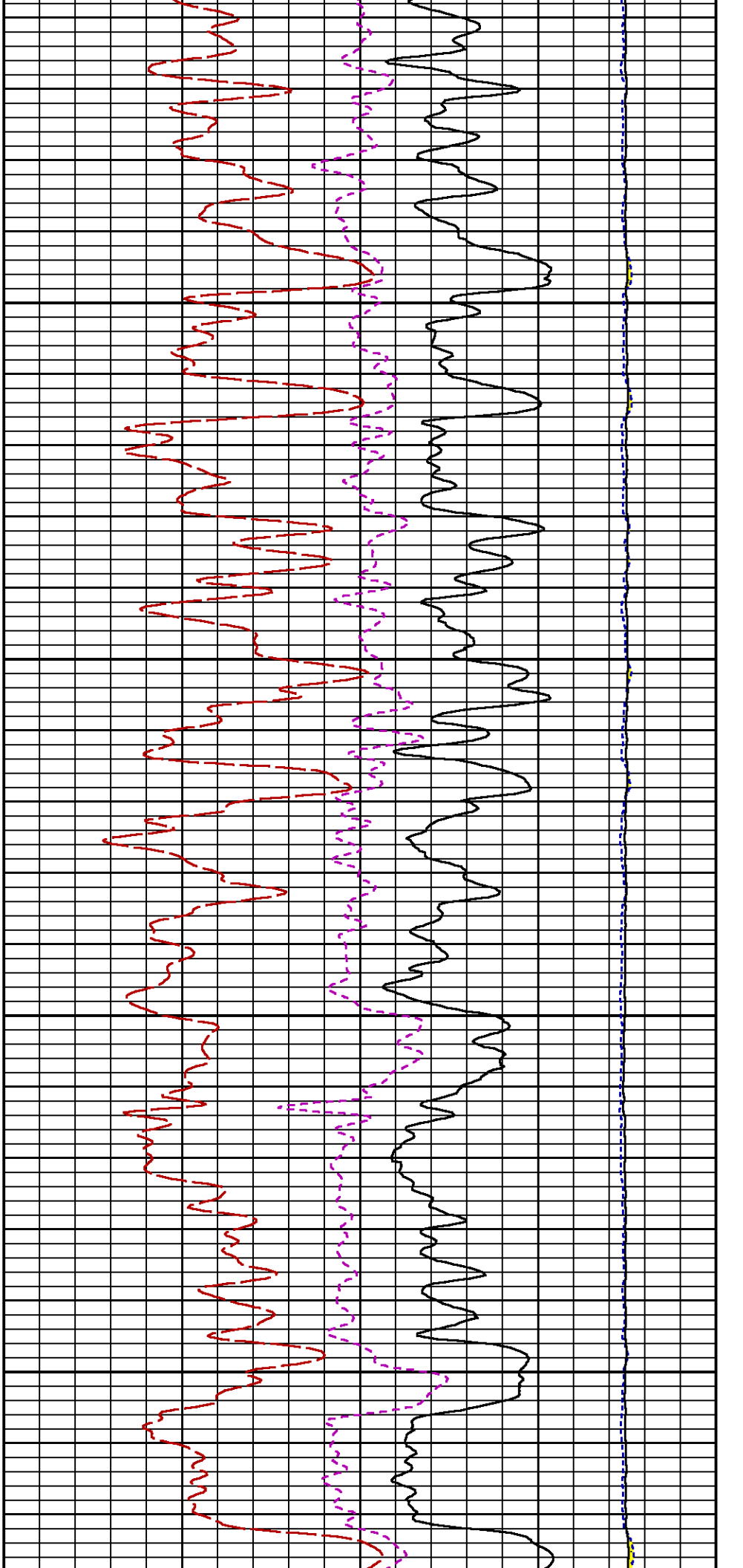


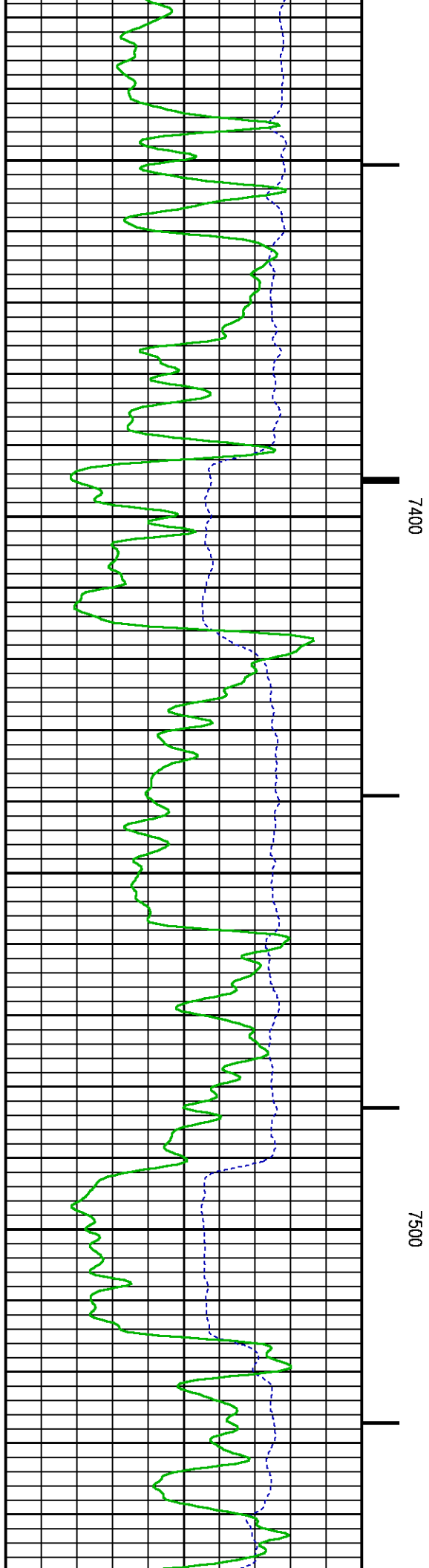
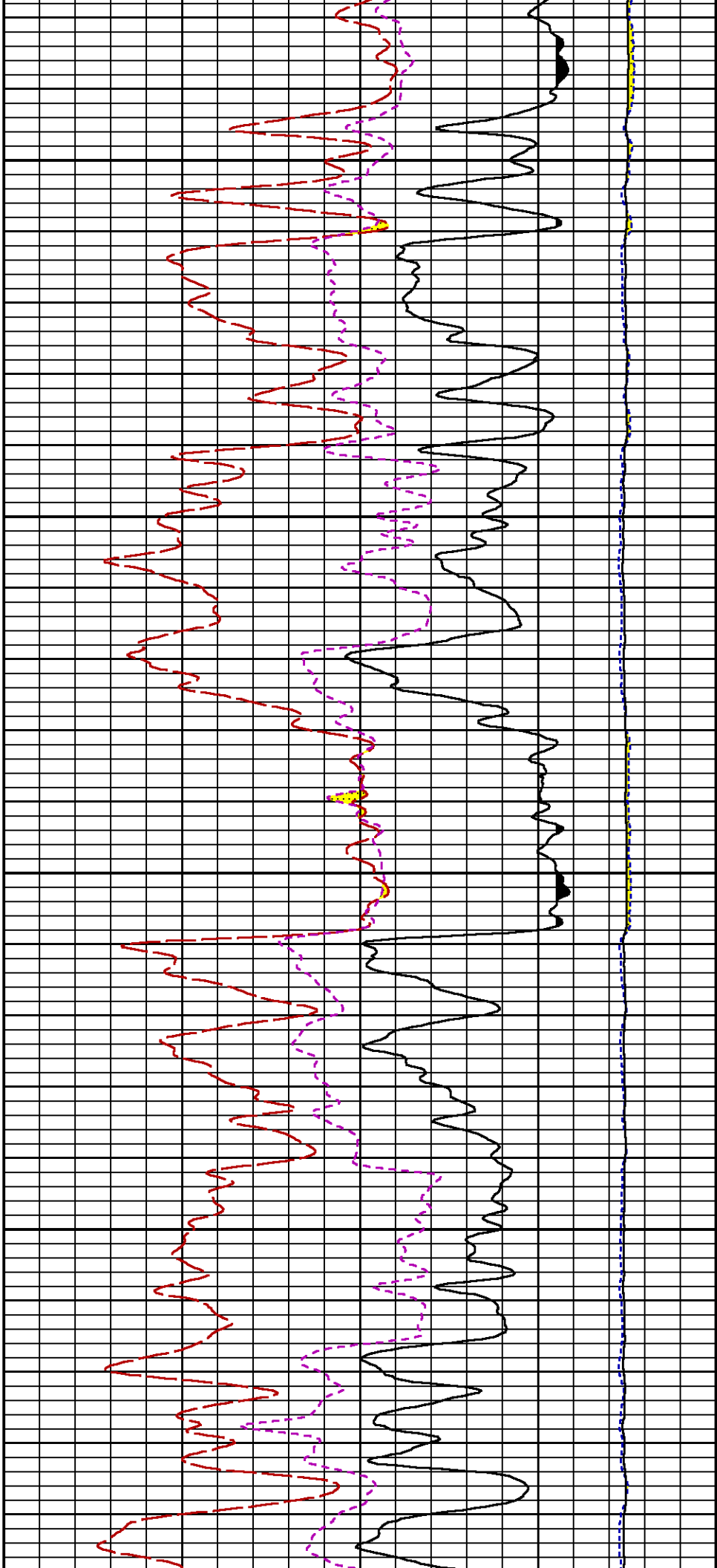


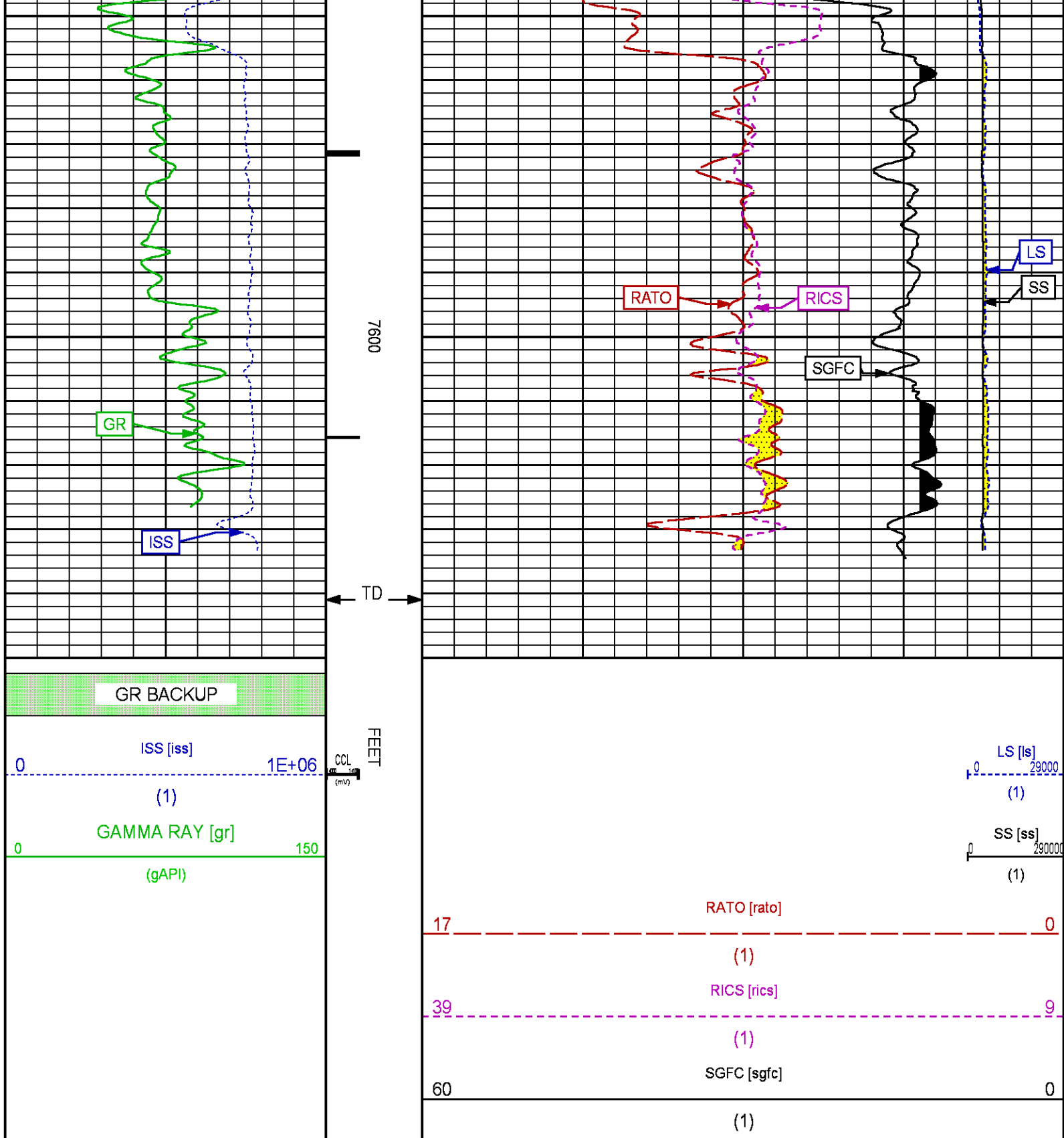












REPEAT SECTION PNC-3D MODE

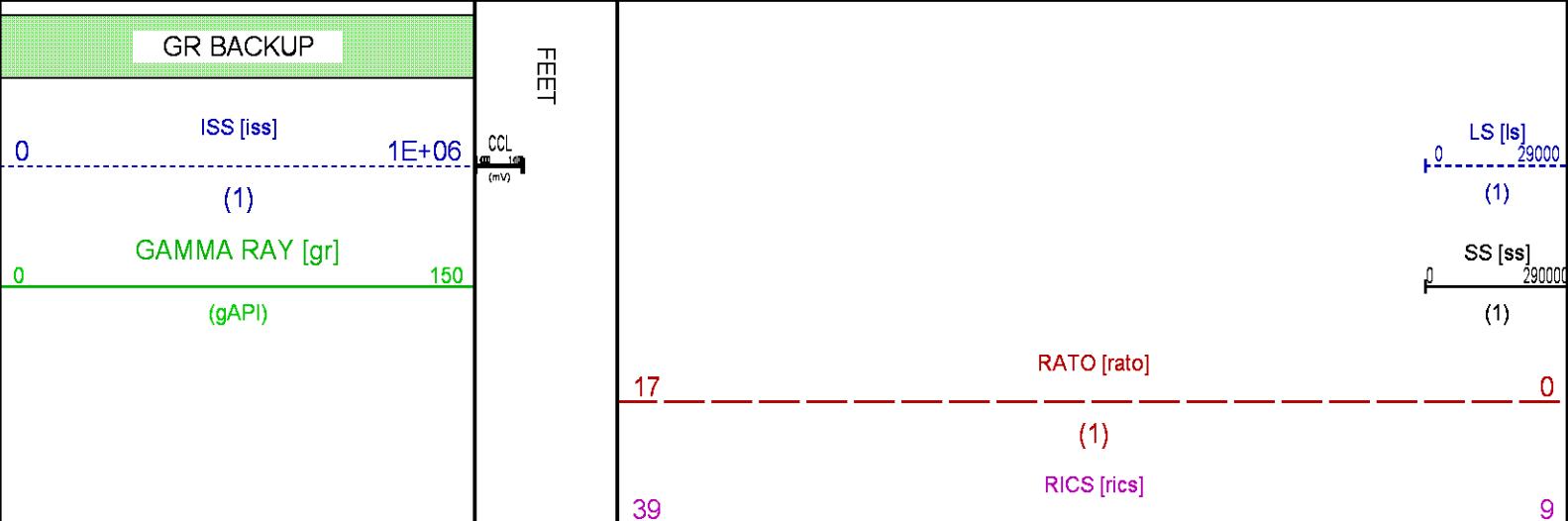
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/CH097903/n354h01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 7425.750 ft BOTTOM DEPTH: 7671.188 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM
RPM PROCESSING				
MEASUREMENT 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	Jul 20 11:00:12 2015	CASING COLLAR LOCATOR
F1:GR	Jul 20 11:00:12 2015	GAMMA RAY
F1:ISS	Jul 20 11:00:12 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 20 11:00:12 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 20 11:00:12 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 20 11:00:12 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 20 11:00:12 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 20 11:00:12 2015	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/CH097903/13E_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 7410 - 7632 Feet

Data File 1 : F1 : HL6670:/dat1a/CH097903/13E_RPM_REPEAT.xtf
Created On : Jul 20 11:00:12 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-13E
Field : VEGA
File Interval : 7380.75 - 7647 Feet
OCT : n354h



60

SGFC [sgfc]

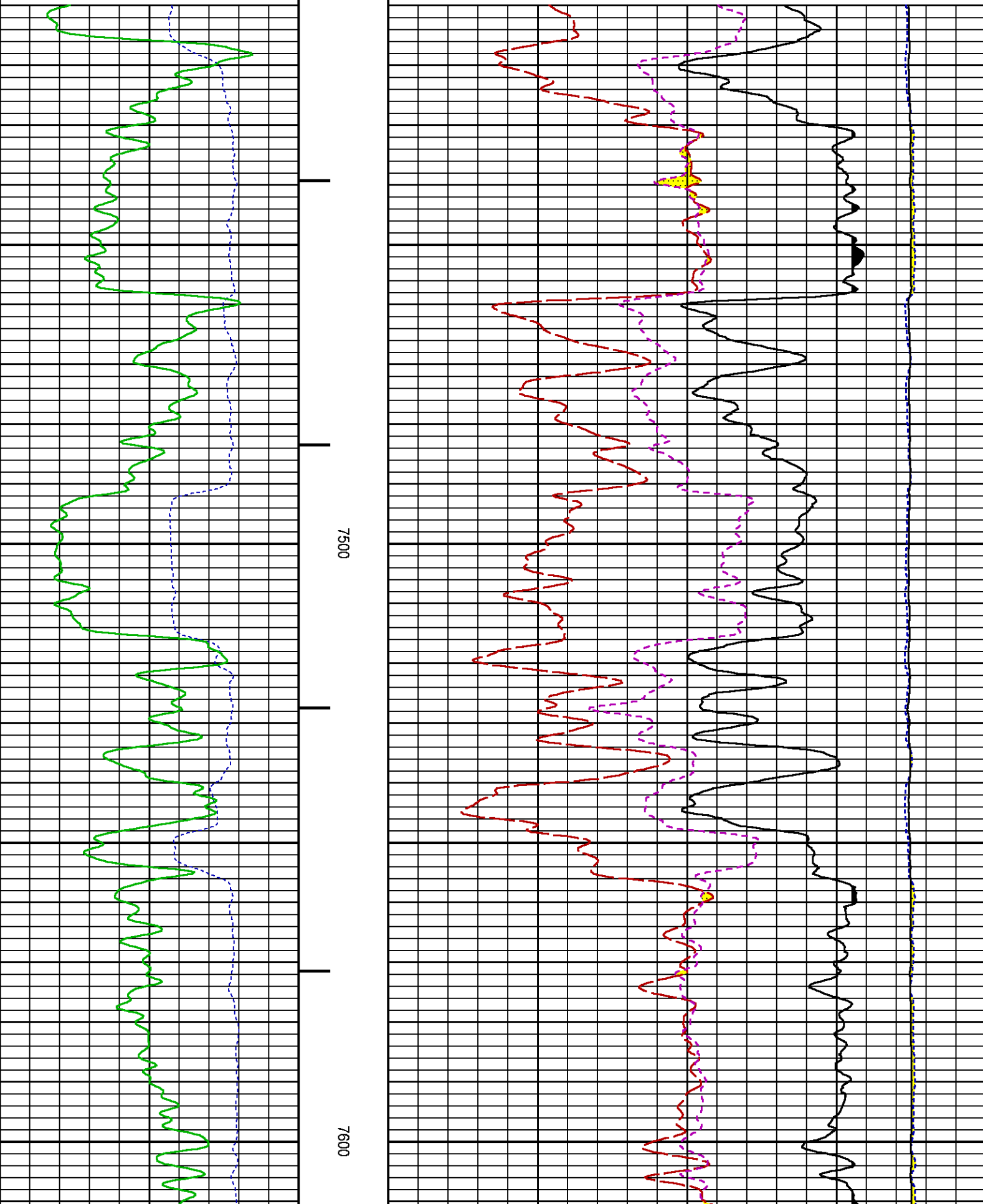
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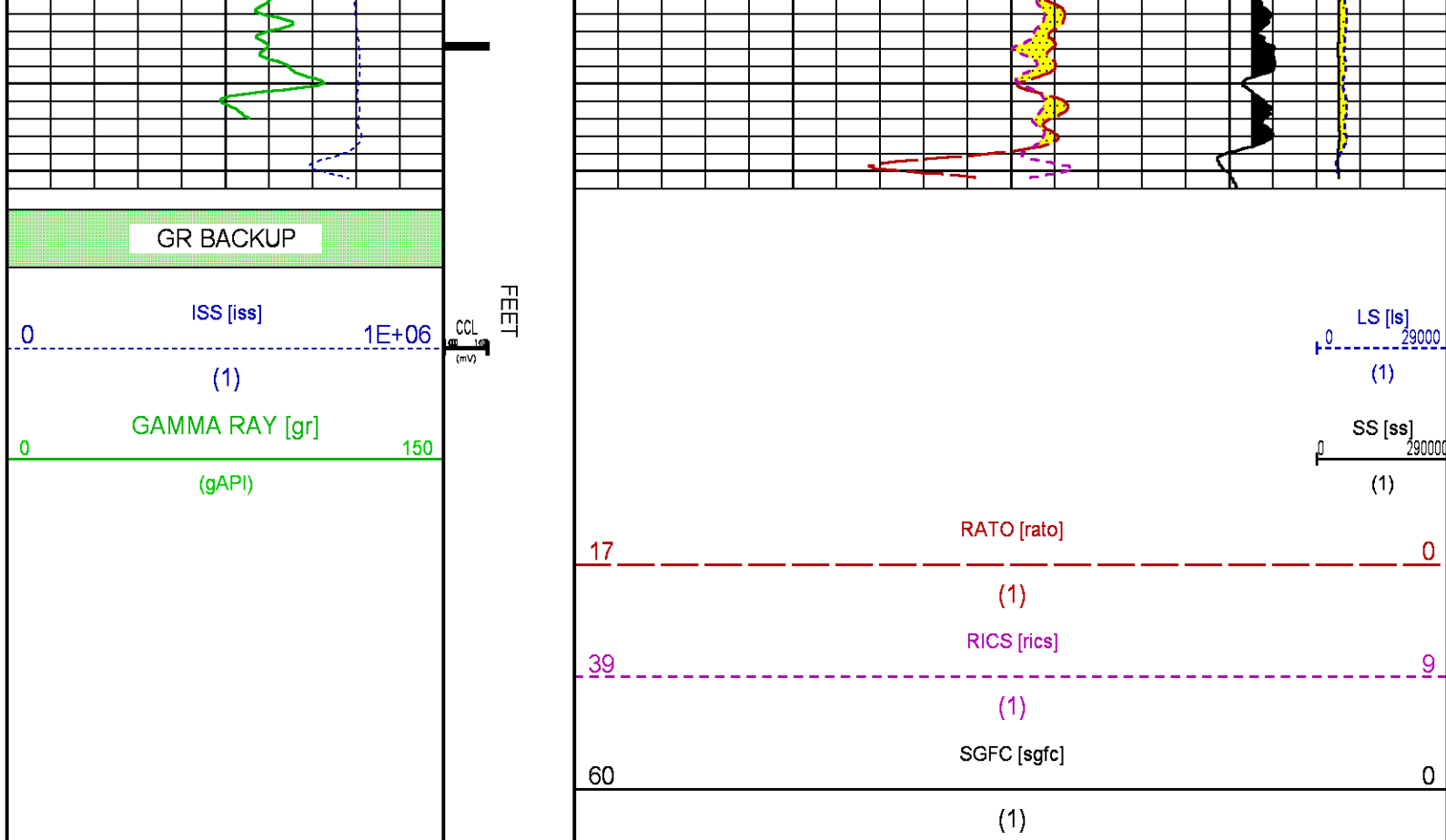
(1)

(1)

7500

7600





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH097903/n354h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 2812LA 10274382

DATE/TIME PERFORMED: Mon Jun 29 13:50:46 2015

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	53.69	250.18	196.5	1.069	57.38	267.38	210

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 2812LA 10274382

DATE/TIME PERFORMED: Mon Jun 29 13:52:57 2015

UNIT #: 3880TA HL6670

VERI JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	54.84	255.69	1.069	58.62	273.27	214.66
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10414345

DATE/TIME PERFORMED: Mon Jun 29 13:21:43 2015

UNIT: 3880TA HL6670 CALIBRATOR: 2437XB 112674 SOURCE: 8281AA 10160601 HOURS: 8281AA 35

	ISS	Mtr Vltz (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	789473	123	2266	2250	2244	111	7	0.9752
Interpolated	1300000	144	2249	2245	2242			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	789473	5721	905	127	25.91	0.15	24.01	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	789473	159387	24447	85326	30418	7922	51779	12657
Fit Quality %		0.817	0.981	0.689	0.679	0.788	0.643	0.795

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	789473	1.44	4.95	32.31	15.25	10.77	3.84	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 %		0.015	0.061	0.086	0.097	0.069	0.063	0.073
Reduced	1393911	1.44	4.94	32.28	15.21	10.79	3.85	4.09
		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/CH097903/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'

33.24'

Length : 1.40'
Weight : 20 lbs
Series : 8248ED
Mnemonic : PCM
Measure Point: 1.00': CCL MP

CCL MP — 25.19'

SONDEX GAMMA RAY

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

GR MP — 22.64'

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: 33.24'

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

	COMPANY	LARAMIE ENERGY		FILE NO:	
	WELL	GUNDERSON 29-13E		CO097903	
	FIELD	VEGA		API NO:	
	COUNTY	MESA	STATE	COLORADO	05077102310000
LOCATION:		ELEVATIONS:		SEC 29 T9S R93W	
SHL: LAT 39.248810 LONG -107.787831		KB 7553 FT		PAD 29-09	
BHL: LAT 39.246796 LONG -107.786787		DF		PATTERSON 306	
GL 7531 FT		DATE		20-Jul-2015	
SEC 29 TWP 9S RGE 93W					

