



Baker Atlas



FILE NO: CH033276	COMPANY WILLIAMS PRODUCTION COMPANY
API NO: 05045196630000	WELL GM 514-26
	FIELD GRAND VALLEY
	COUNTY GARFIELD
	STATE COLORADO
Ver. 3.87 26 GS 96W MV 29-27 PAD H&P 280	LOCATION: SHL: 1918' FSL & 1325' FEL S27T6SR96W BHL: 163' FSL & 1325' FWL S26T6SR96W SEC 26 TWP 6S RGE 96W
PERMANENT DATUM LOG MEASURED FROM DRILL MEAS. FROM	GL ELEVATION 5659 FT KB 24 FT ABOVE P.D. KELLY BUSHING
	OTHER SERVICES BOND LOG ELEVATIONS: KB 5683 FT DF 5682 FT GL 5659 FT

DATE		22-Apr-2011			
RUN	TRIP	1	1		
SERVICE ORDER		575745			
DEPTH DRILLER		8202 FT			
DEPTH LOGGER		8158 FT			
BOTTOM LOGGED INTERVAL		8149 FT			
TOP LOGGED INTERVAL		2316 FT			
TIME STARTED		09:30			
TIME FINISHED		17:00			
OPERATOR RIG TIME		7.5 HRS			
TYPE OF FLUID IN HOLE		WATER			
FLUID DENSITY		N/A			
FLUID SALINITY		N/A			
FLUID LEVEL		FULL			
LOGGED CEMENT TOP		N/A			
WELLHEAD PRESSURE		0 PSI			
MAXIMUM HOLE DEVIATION		N/A			
NOMINAL LOGGING SPEED		10 F/MN			
MAX. RECORDED TEMP.		227 DEGF			
REFERENCE LOG		BAKER ATLAS BOND LOG			
REFERENCE LOG DATE		20-APR-2011			
EQUIP. NO.	LOCATION	HL 6670	G.J., CO.		
RECORDED BY		J. OSTLER			
WITNESSED BY		MR. MIKE ROLAND			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE 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	SURFACE	1356 FT
7.875 IN	SURFACE	8202 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN			SURFACE	1356 FT
4.5 IN	11.6 LB/F	P-110	SURFACE	8202 FT

REMARKS	
RUN 1 TRIP 1 :	ALL DATA ON THIS LOG WAS DEPTH SHIFTED TO MATCH A BAKER ATLAS BOND LOG DATED 20 APR 2011. THE AMOUNT OF LINEAR SHIFT WAS 18 FEET DOWN.  WELL WAS LOGGED IN PNC 3-D MODE.  BHT = 227 DEGF.  SHORT JOINT AT 4766' TO 4788'.

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TEL / CN	8218FD	10500811	FBT

1	1	TEL/CCL	8248ED	10390814	FREE
1	1	GR	8262XA	10165055	FREE
1	1	RPM	8281FA	10294755	FREE
1	1	RPM	8283PA	10203151	FREE
1	1	RPM	8281FA	10423689	FREE
1	1	PCM	8250FA	UNKWN	FREE

## "G" SAND LOG PNC 3-D MODE

ECLIPS 6.11 Aug 06, 2010  
Updates: 1

Fri Apr 22 17:45:33 2011

Perplt /main/62

Cplot

Pdf\_Cpp /main/16

Fileview 5.51

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/575745/m353h03.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 2272.000 ft BOTTOM DEPTH: 2749.000 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

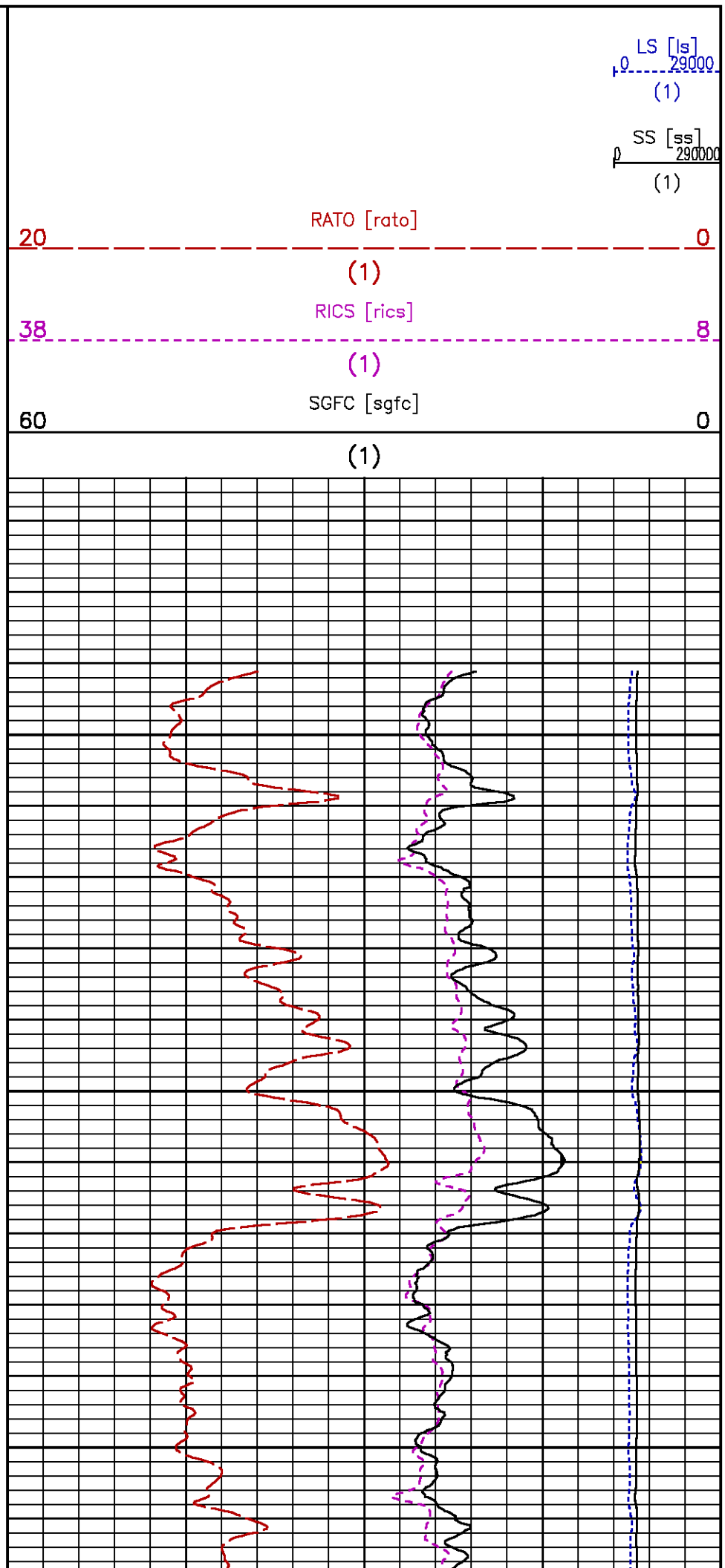
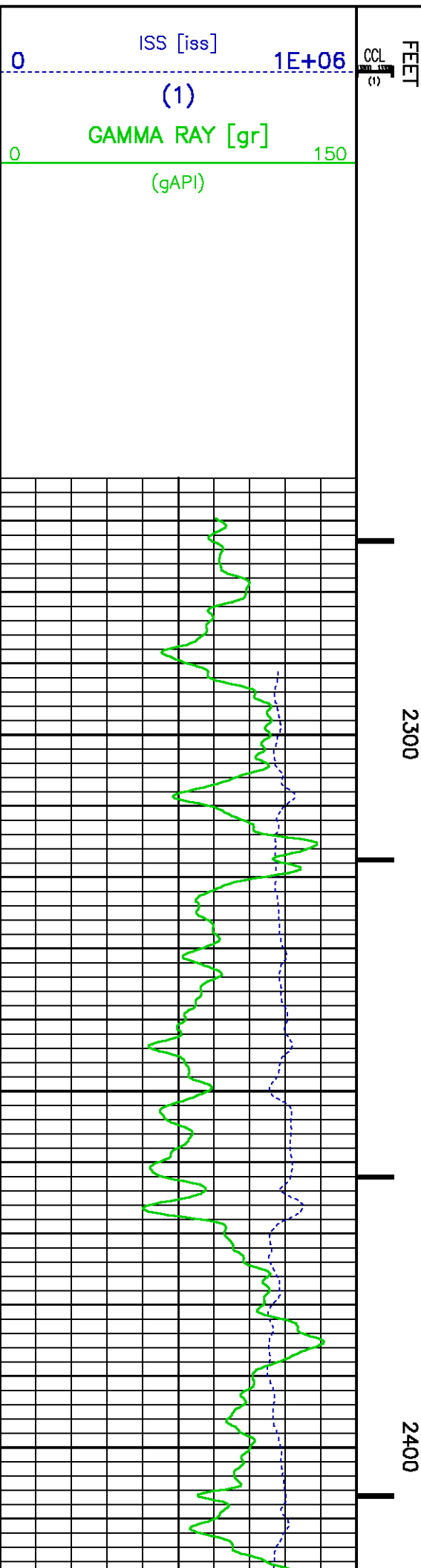
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Apr 22 16:56:00 2011	CASING COLLAR LOCATOR
F1:GR	Apr 22 16:56:00 2011	GAMMA RAY
F1:ISS	Apr 22 16:56:00 2011	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Apr 22 16:56:00 2011	LONG SPACE COUNT RATE
F1:RATO	Apr 22 16:56:00 2011	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Apr 22 16:56:00 2011	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Apr 22 16:56:00 2011	CORRECTED FORMATION SIGMA
F1:SS	Apr 22 16:56:00 2011	SHORT SPACE COUNT RATE

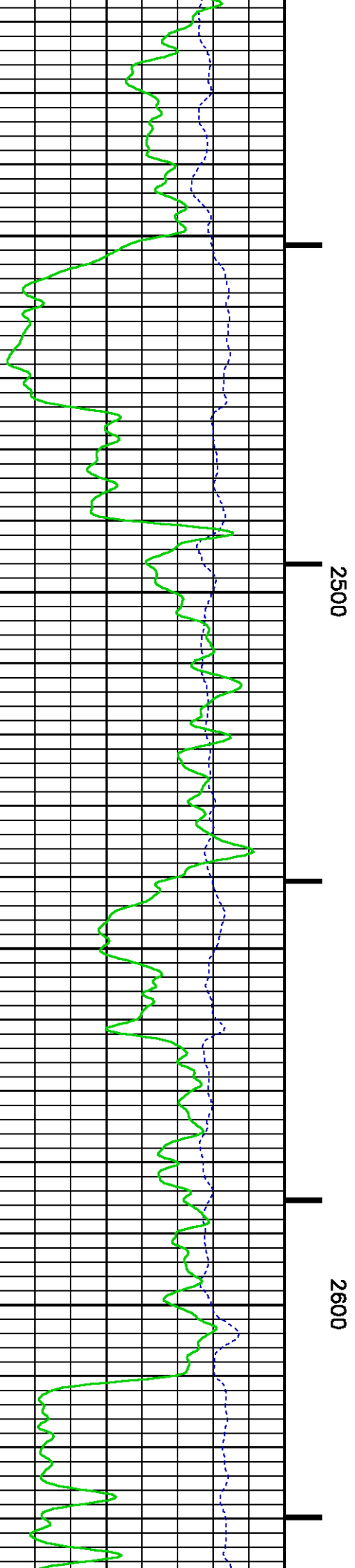
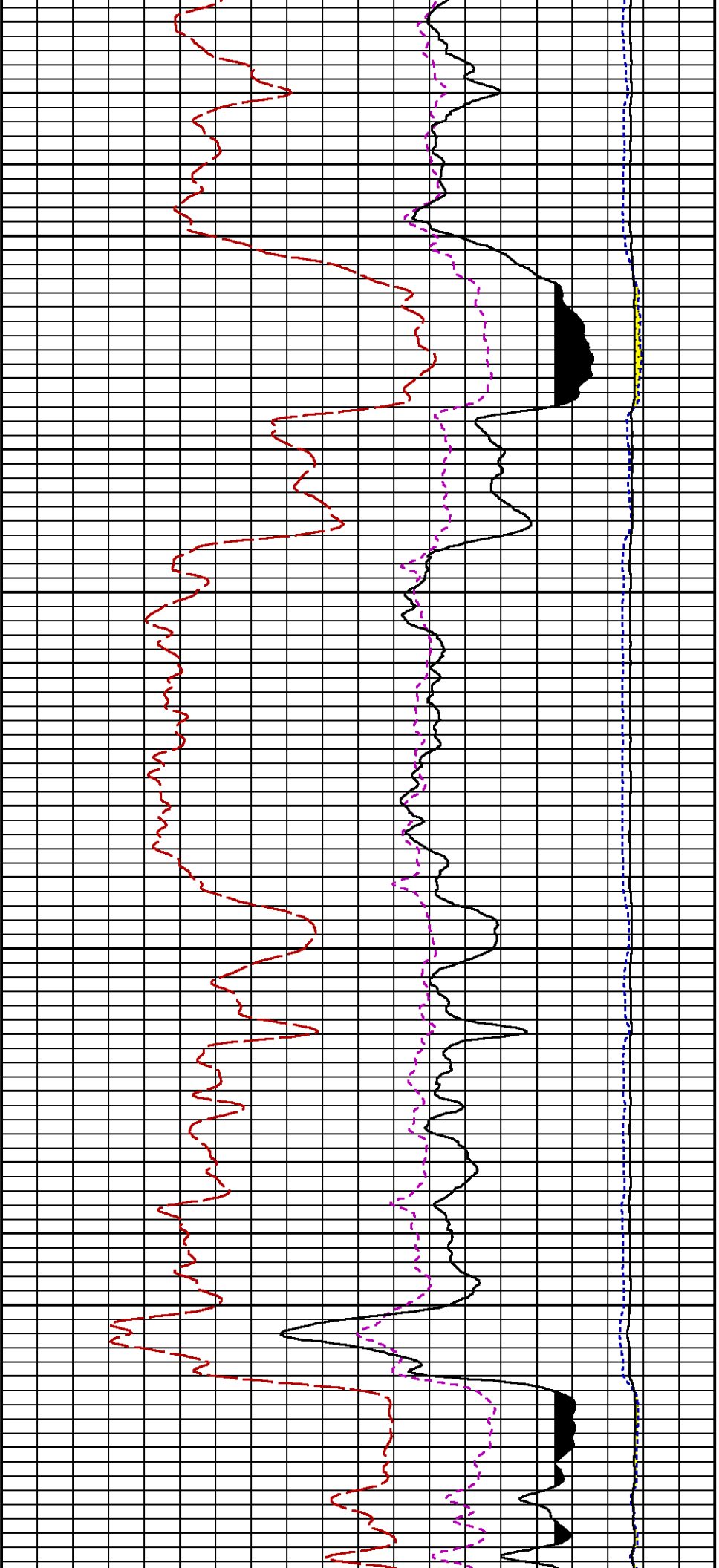
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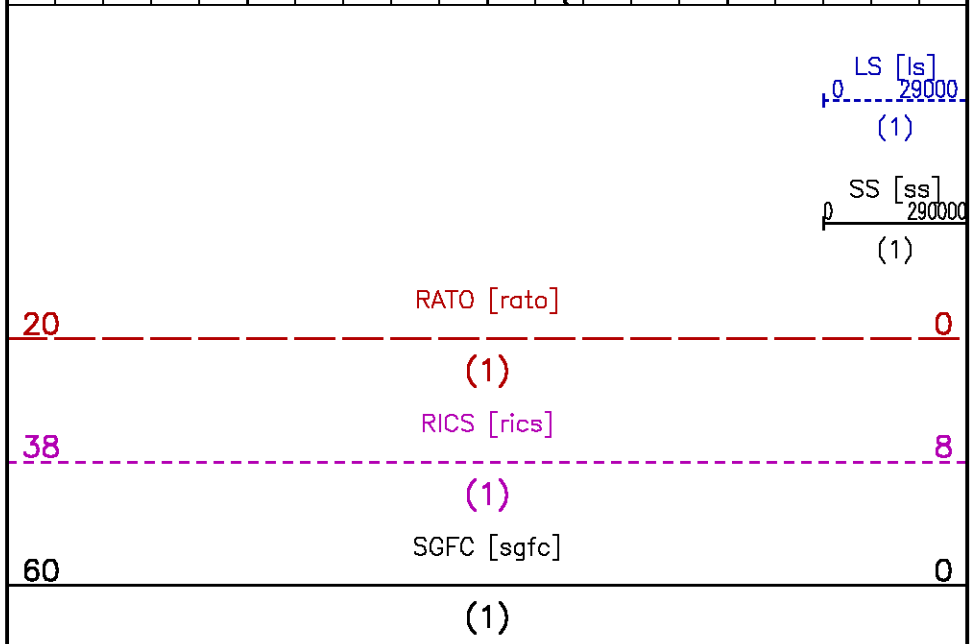
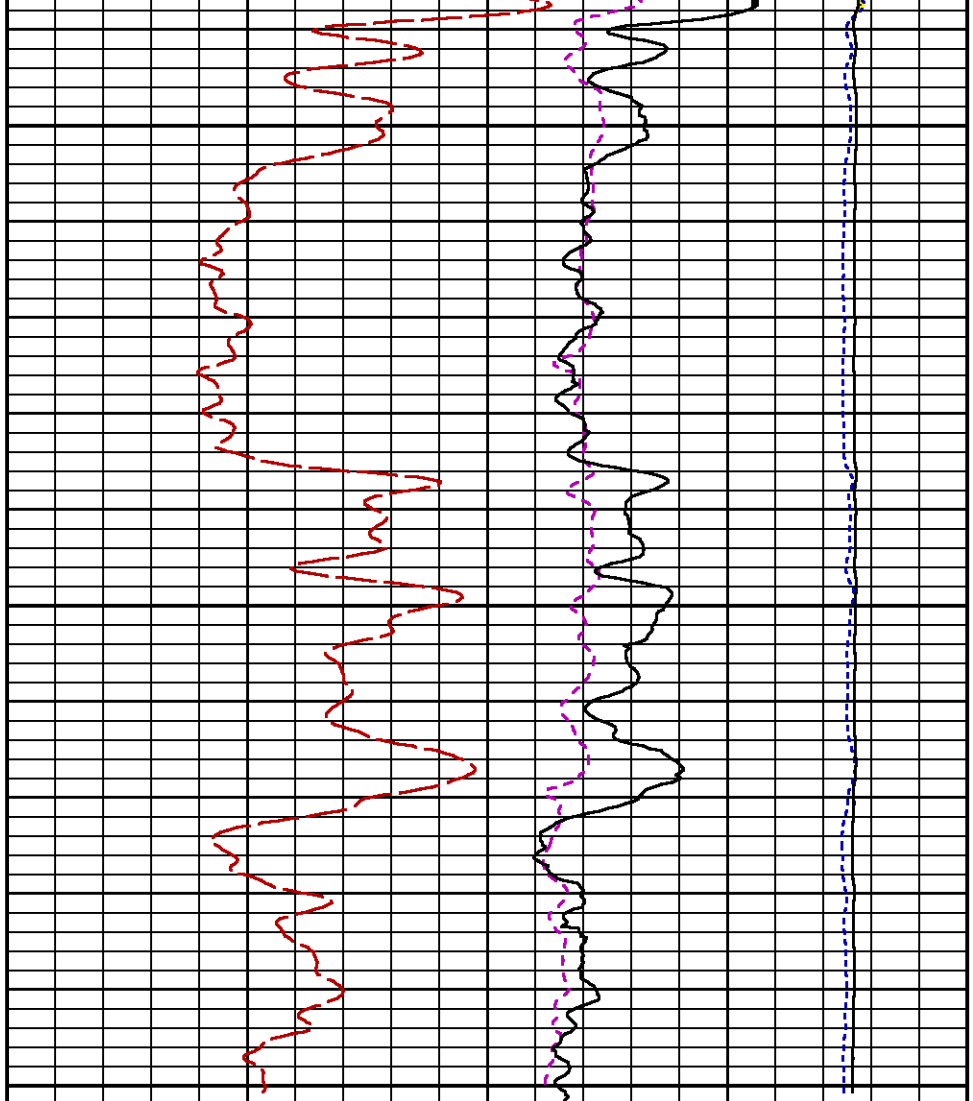
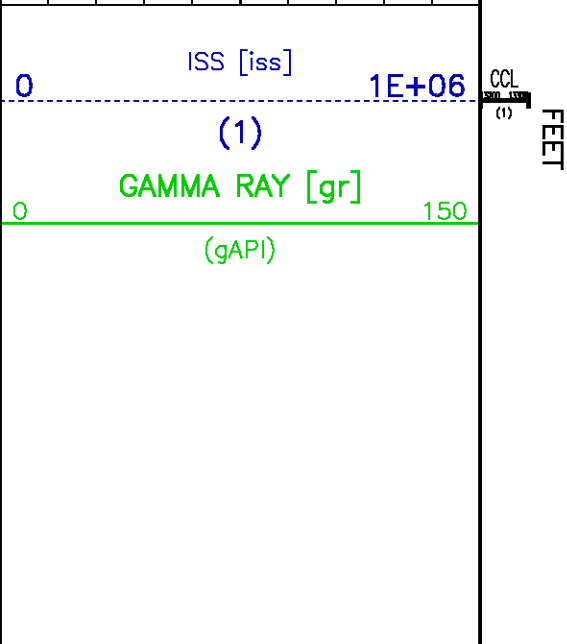
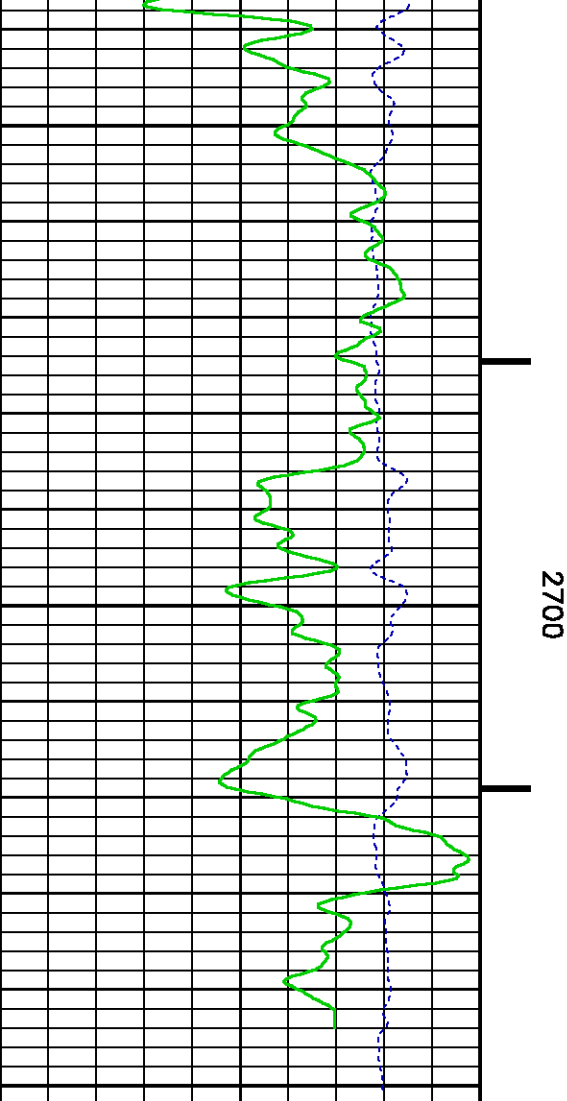
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	22.50	ISS	9.50	RATO	9.50	SGFC	9.50
GR	19.50	LS	9.50	RICS	9.50	SS	9.50

Presentation : HL6670:/dat1a/575745/RPM\_PRESENTATION+01--GSAND\_RPM-5.pdf [5"/100' Scale]  
Plot Interval : 2265.5 - 2752 Feet

Data File 1 : F1 : HL6670:/dat1a/575745/GSAND\_RPM.xtf  
Created On : Apr 22 16:56:00 2011  
Company : WILLIAMS PRODUCTION COMPANY  
Well : GM 514-26  
Field : GRAND VALLEY  
File Interval : 2249.5 - 2765 Feet  
Oct : m353h







MAIN LOG PNC 3-D MODE

Pcrplt /main/62

Cplot

Pdf\_Cpp /main/16

Fileview 5.51

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/575745/m353h02.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 4590.000 ft BOTTOM DEPTH: 8168.000 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

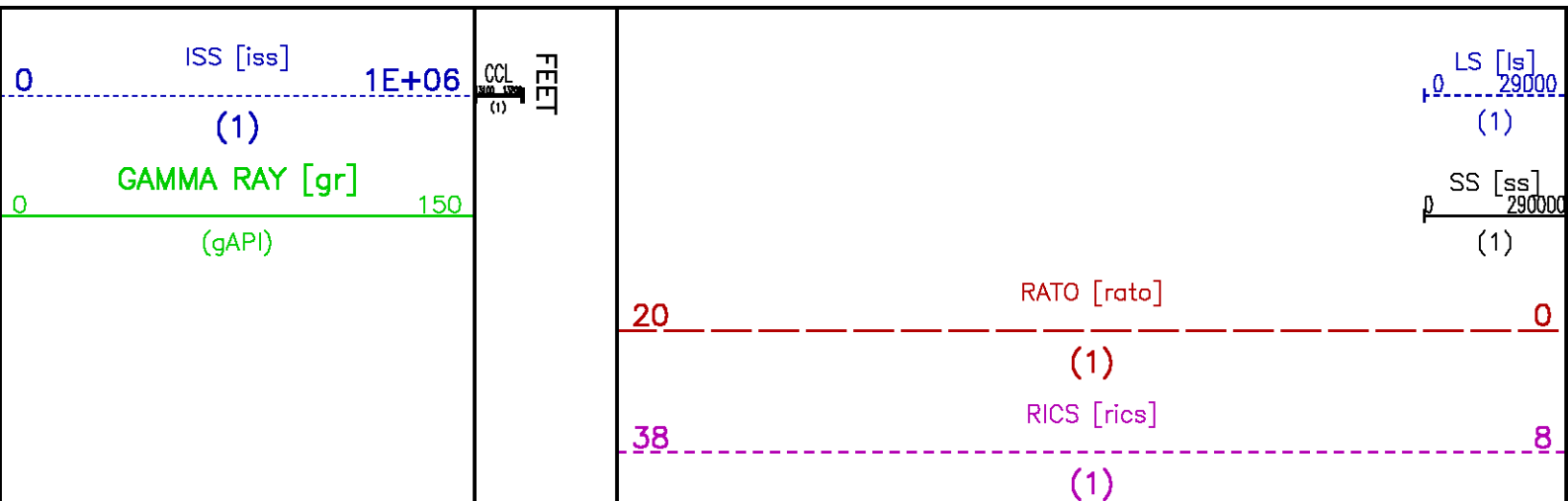
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F1:CCL	Apr 22 17:31:55 2011	CASING COLLAR LOCATOR
F1:GR	Apr 22 17:32:45 2011	GAMMA RAY
F1:ISS	Apr 22 17:32:45 2011	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Apr 22 17:32:46 2011	LONG SPACE COUNT RATE
F1:RATO	Apr 22 17:33:03 2011	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Apr 22 17:33:07 2011	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Apr 22 17:33:09 2011	CORRECTED FORMATION SIGMA
F1:SS	Apr 22 17:33:09 2011	SHORT SPACE COUNT RATE

### CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	22.50	ISS	9.50	RATO	9.50	SGFC	9.50
GR	19.50	LS	9.50	RICS	9.50	SS	9.50

Presentation : HL6670:/dat1a/575745/RPM\_PRESENTATION+01-MAIN-MAIN\_RPM-5.pdf [5"/100' Scale]  
 Plot Interval : 4600 - 8164 Feet

Data File 1 : F1 : HL6670:/dat1a/575745/MAIN\_RPM.xtf  
 Created On : Apr 22 17:31:54 2011  
 Company : WILLIAMS PRODUCTION COMPANY  
 Well : GM 514-26  
 Field : GRAND VALLEY  
 File Interval : -19.75 - 8187.75 Feet  
 Oct : m353h

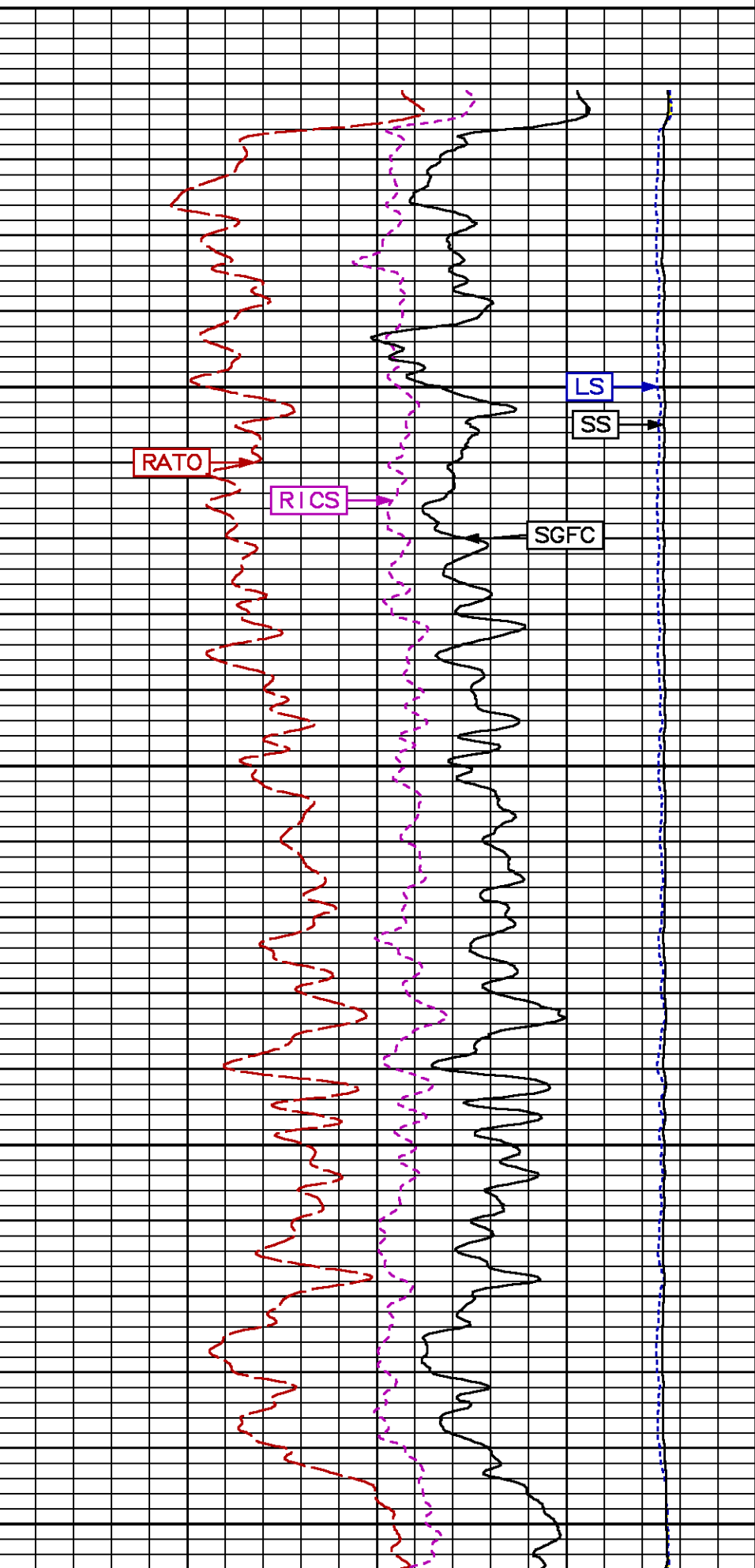


60

SGFC [sgfc]

0

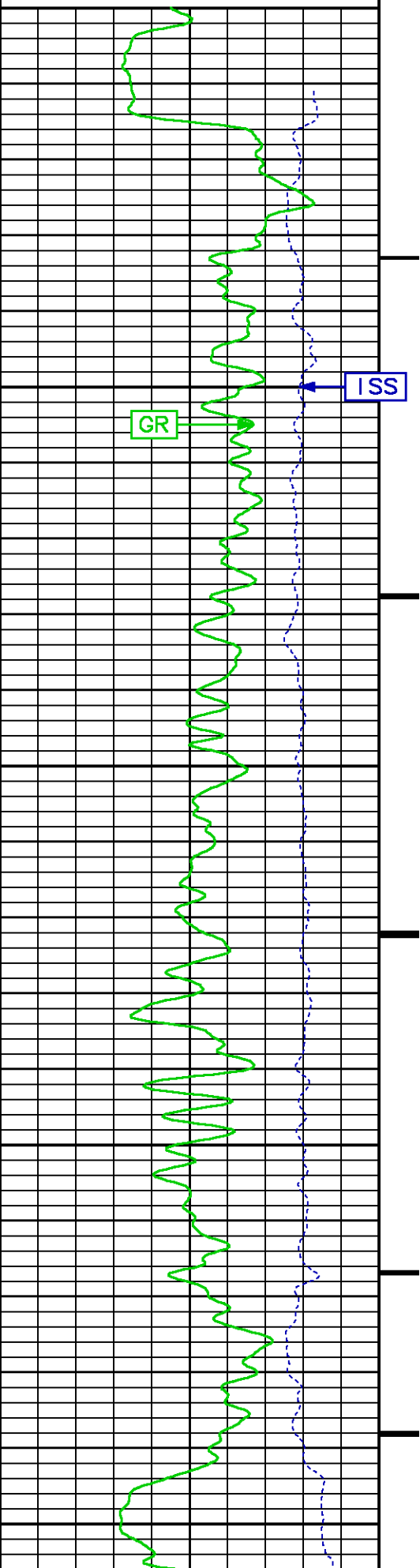
(1)



4600

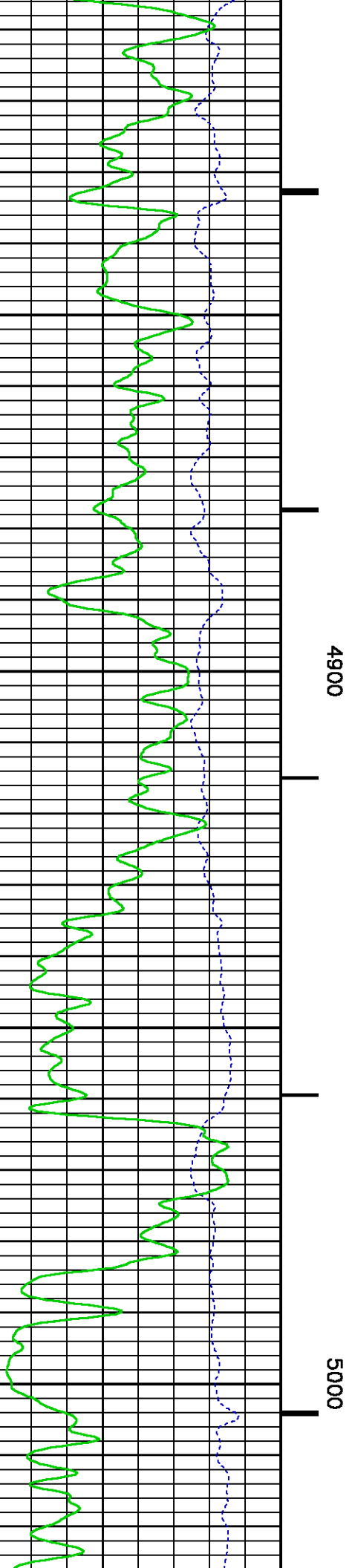
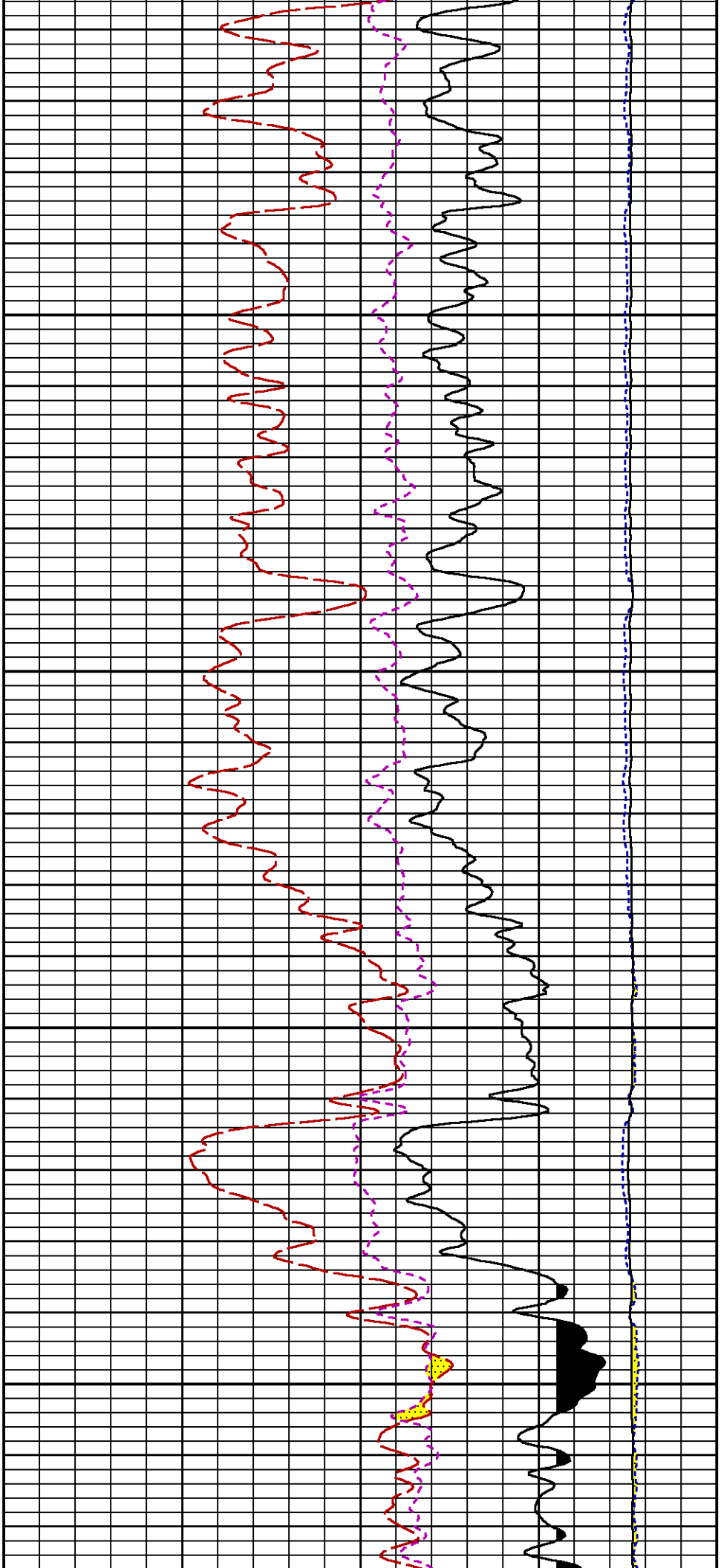
4700

4800

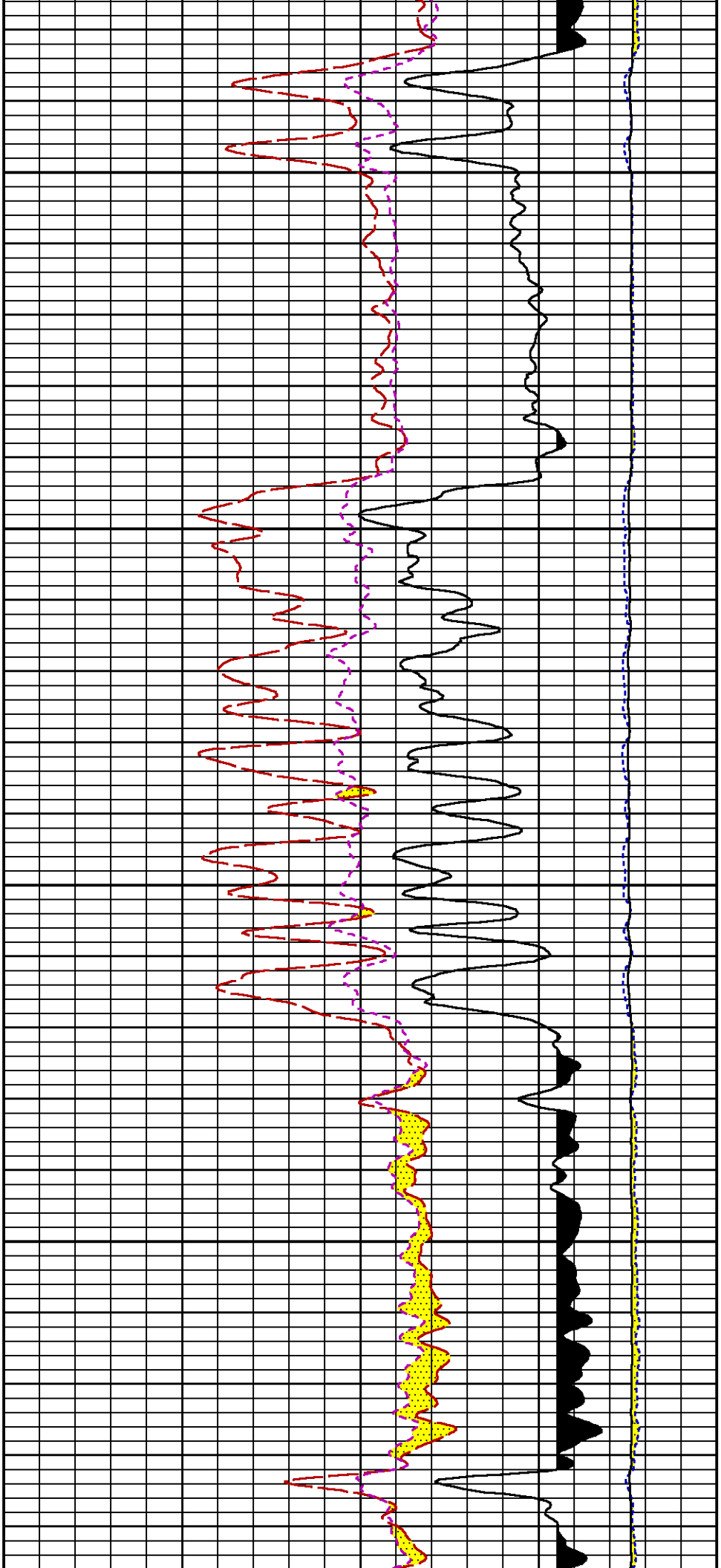


GR

ISS

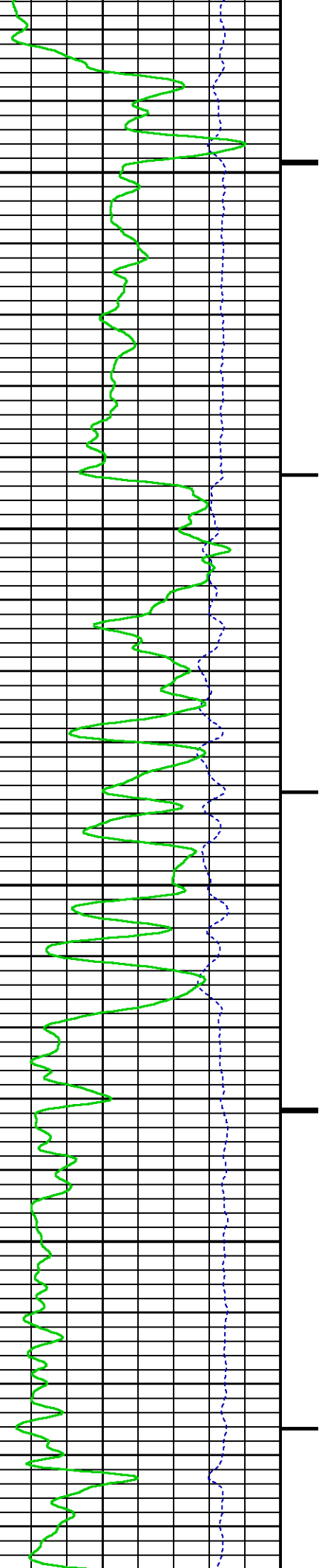


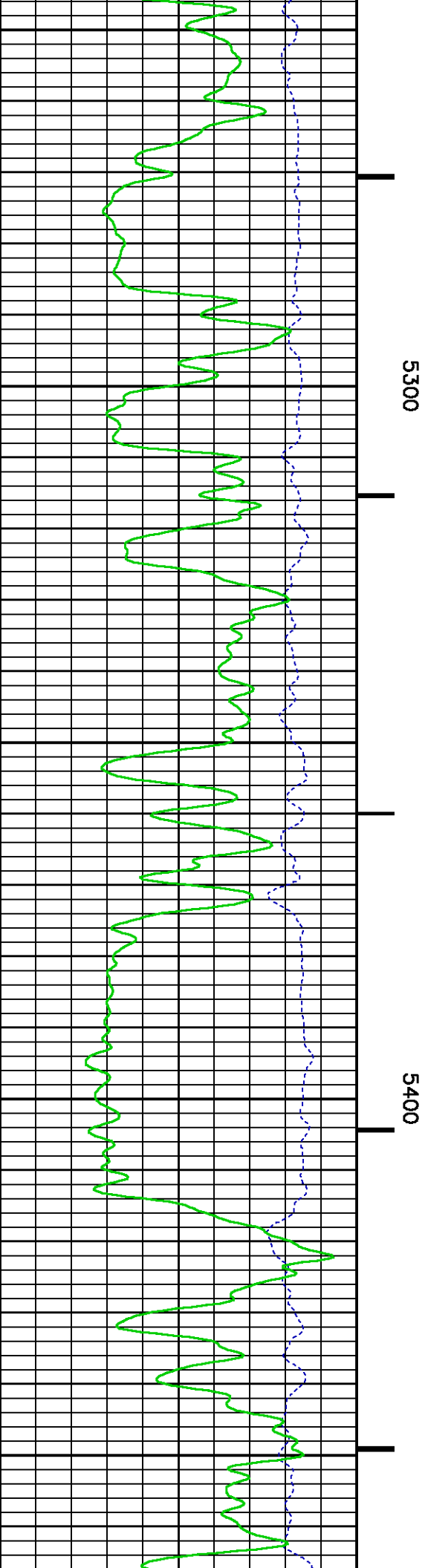
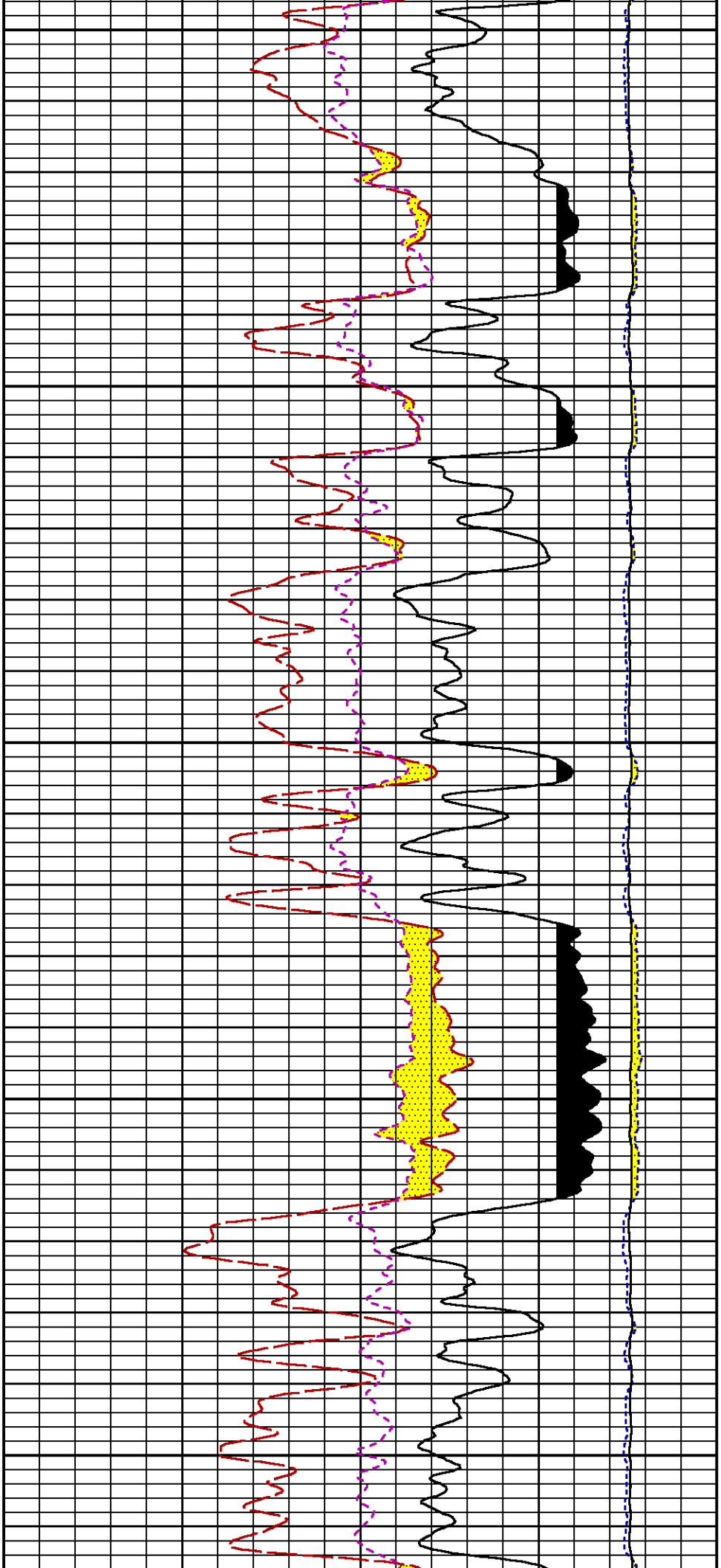


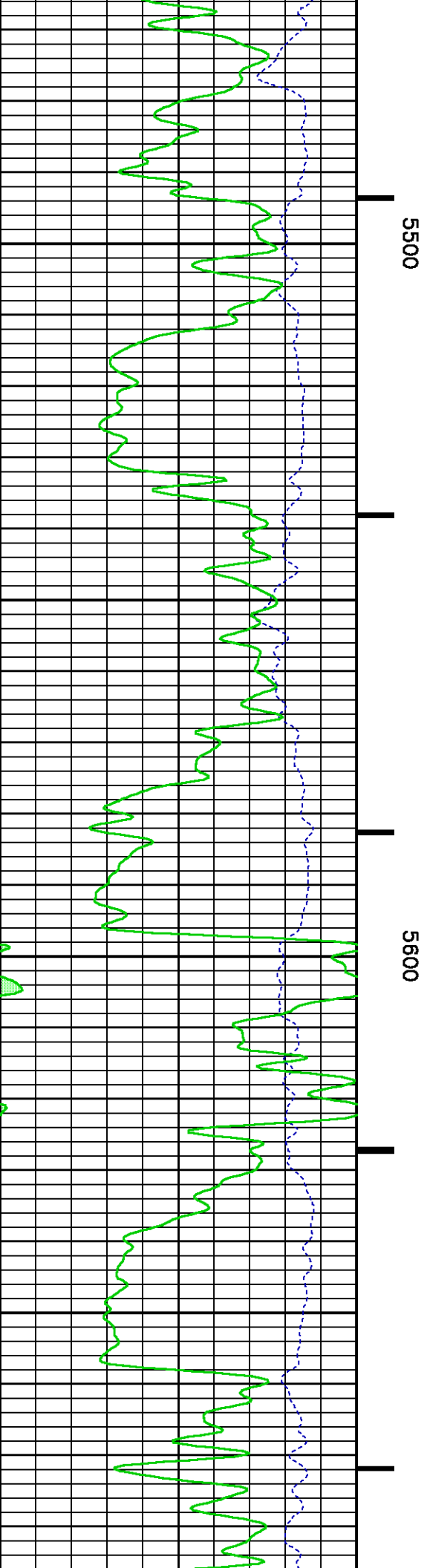
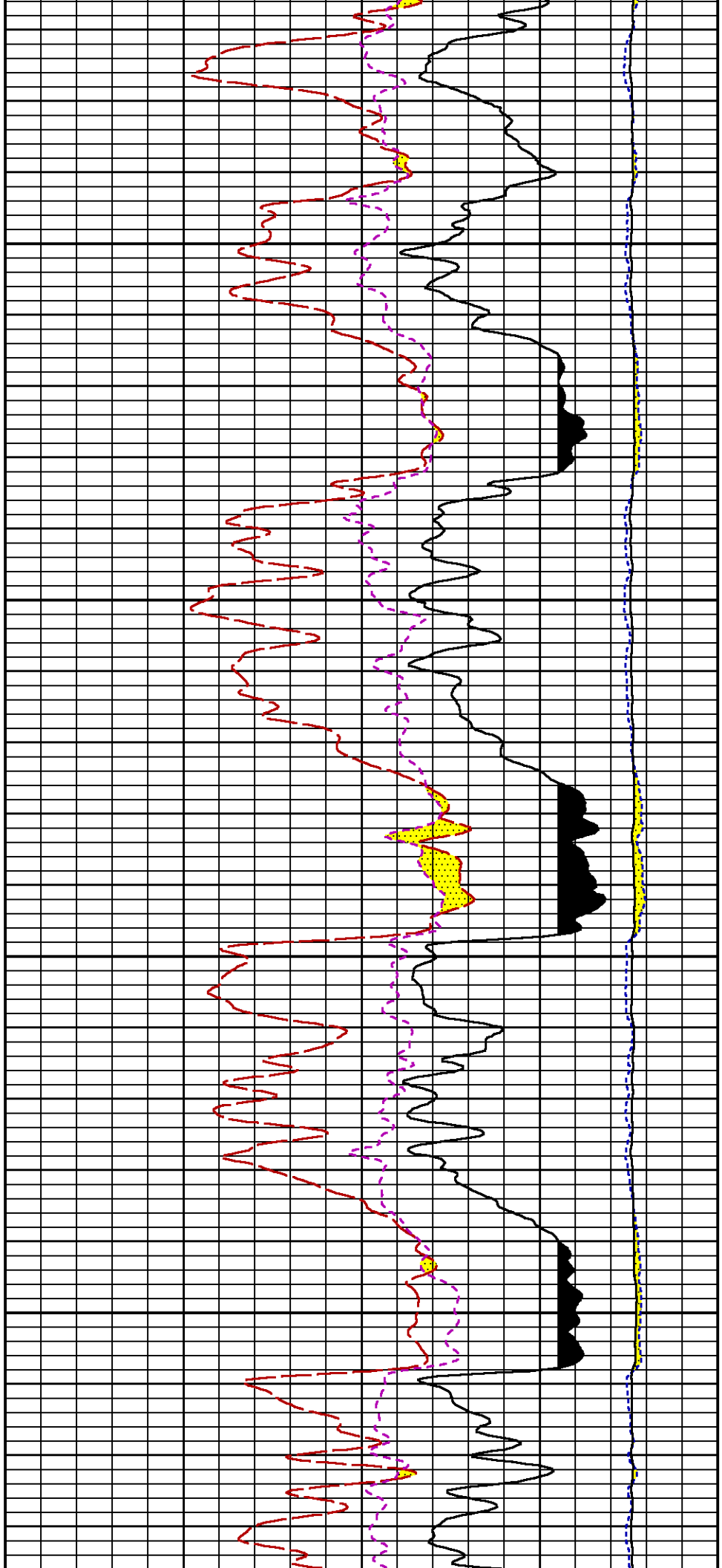


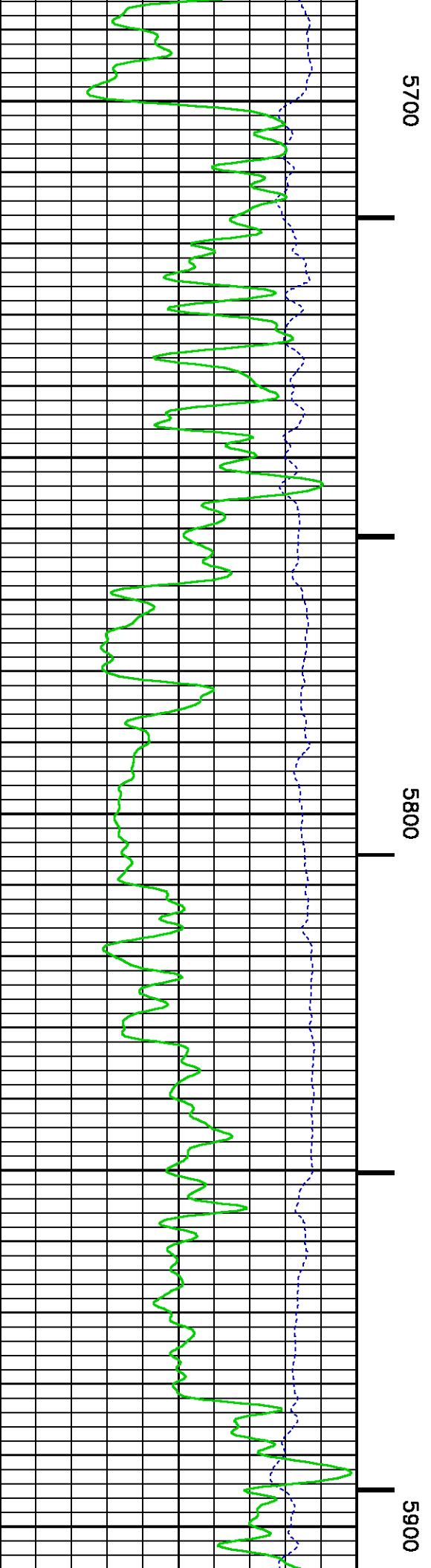
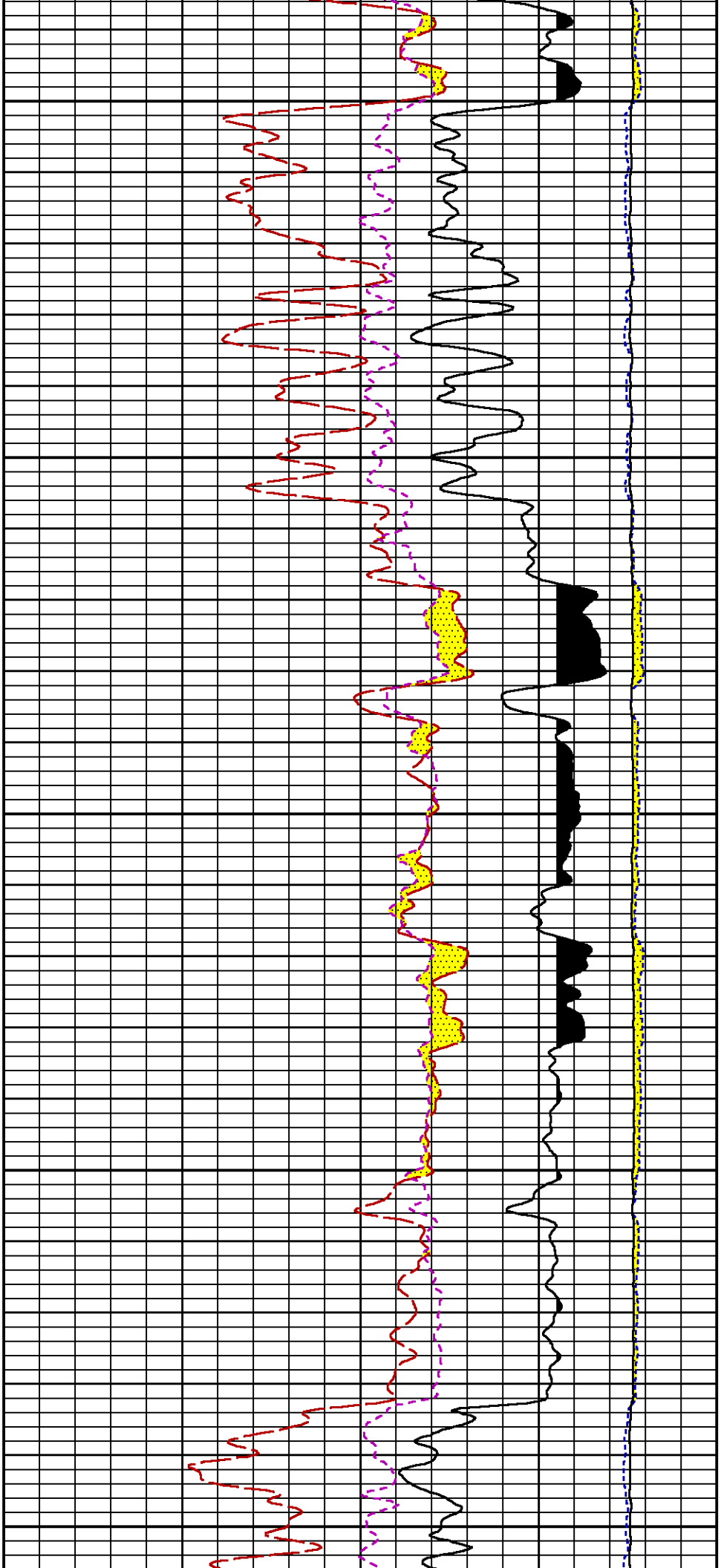
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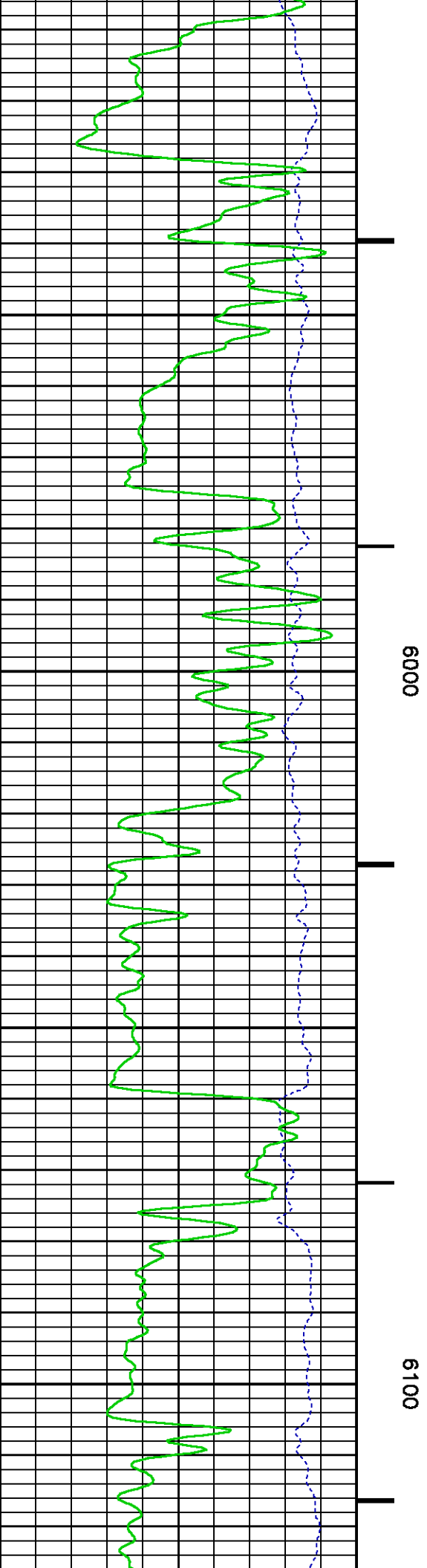
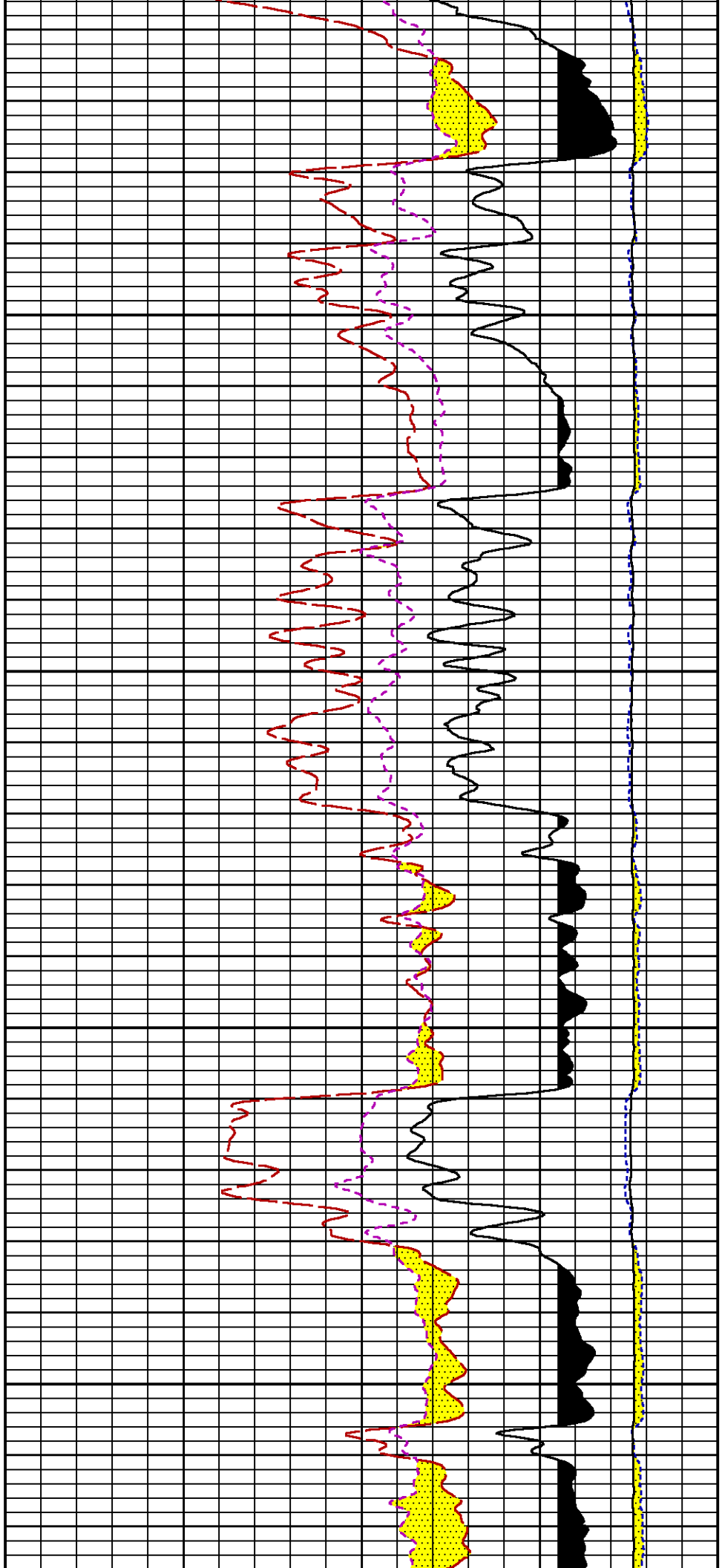
5200

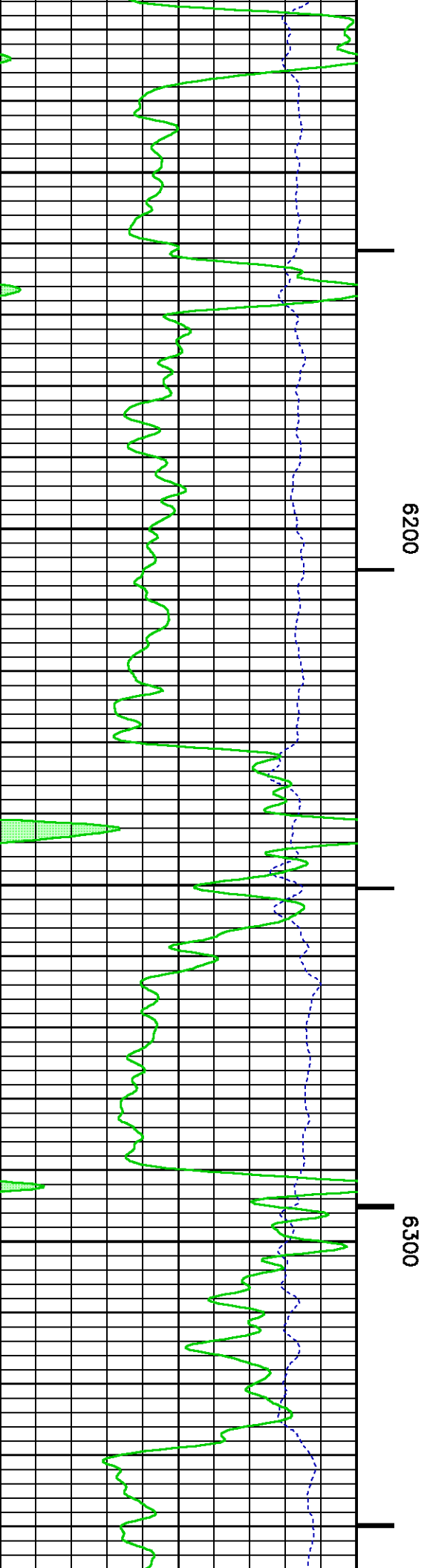
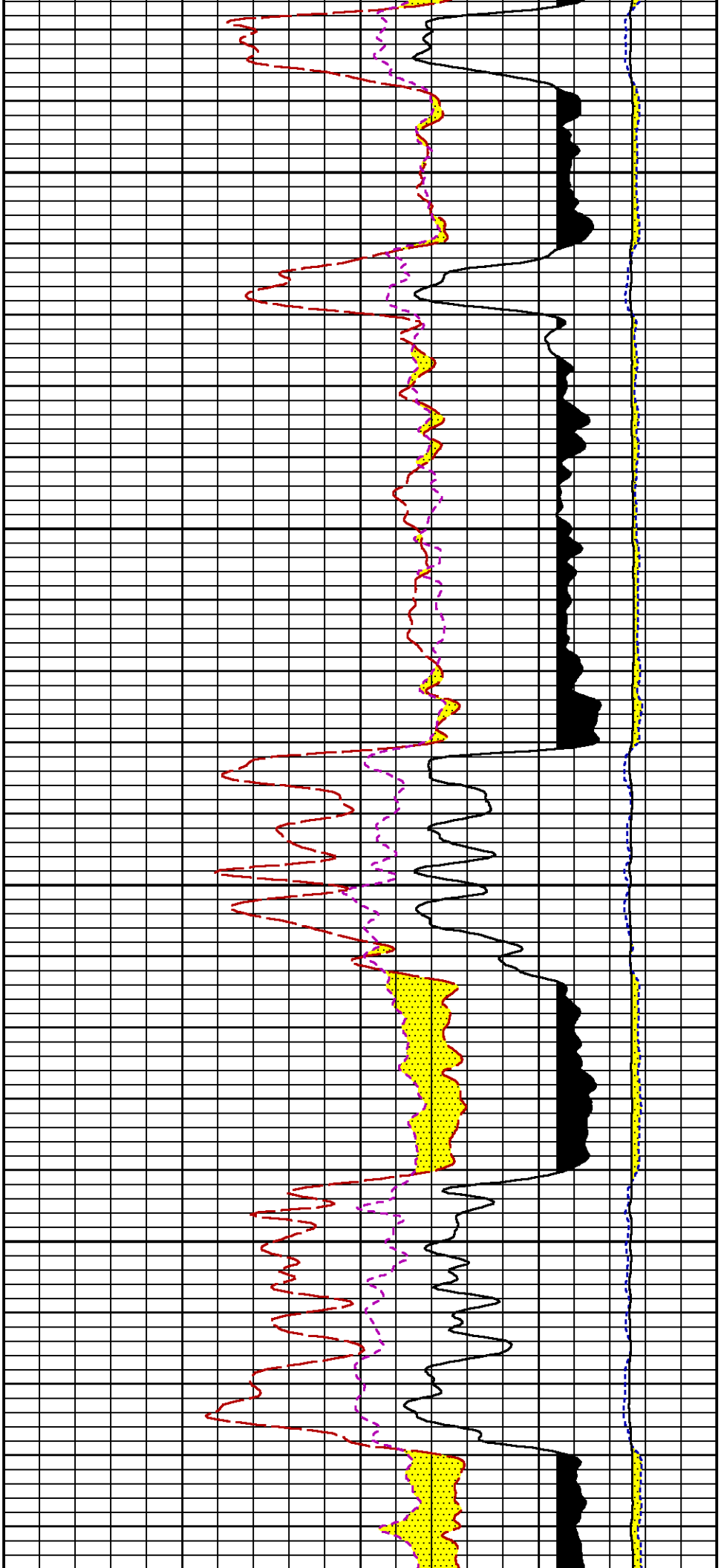


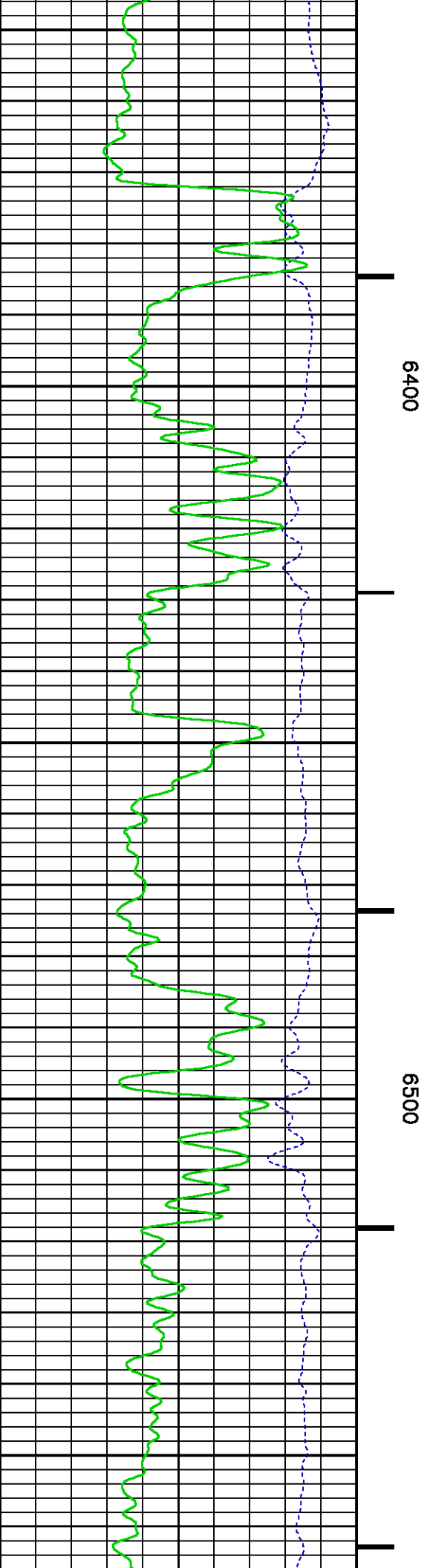
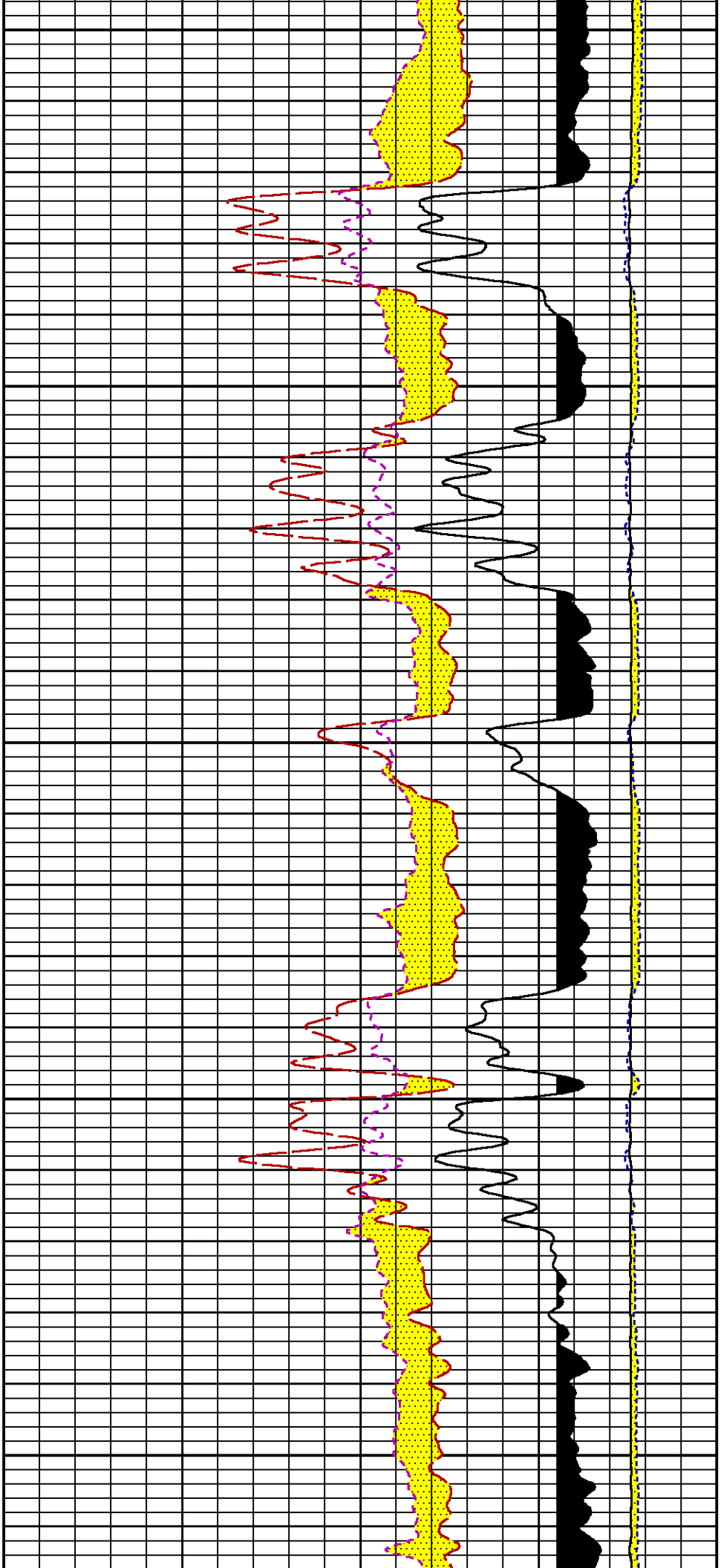


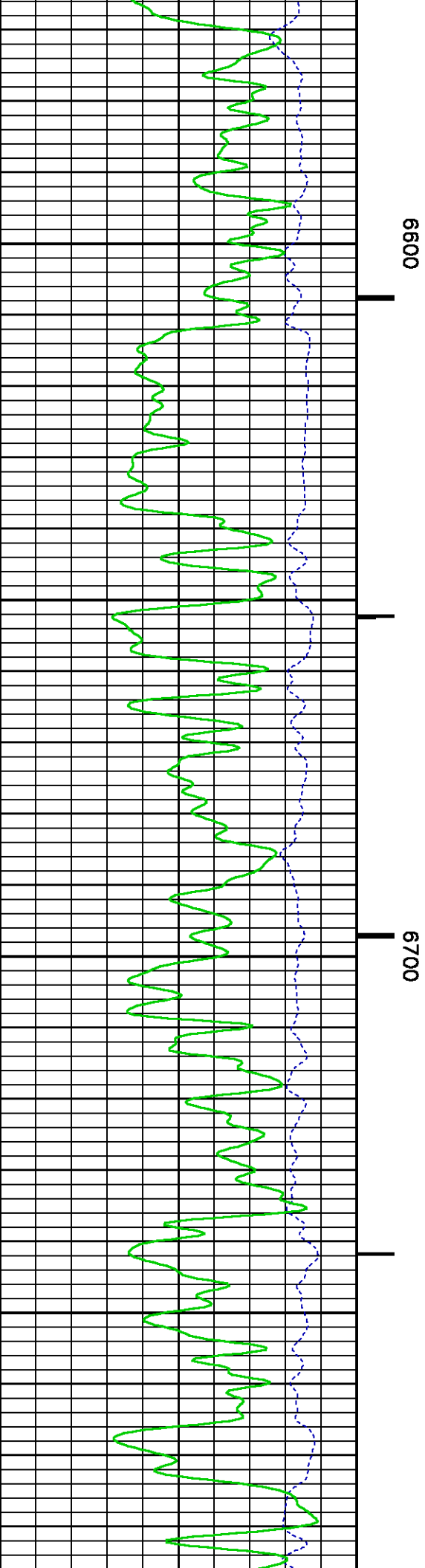
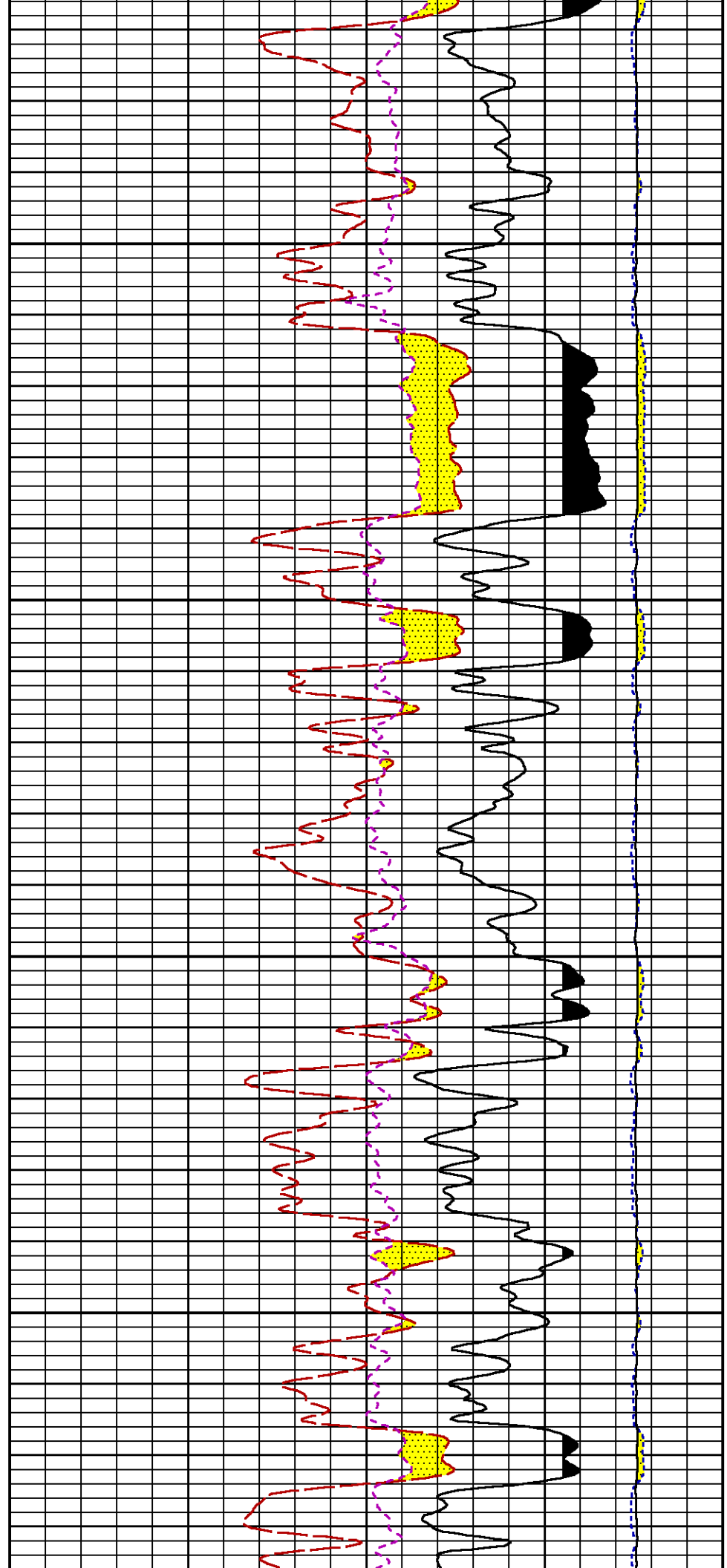




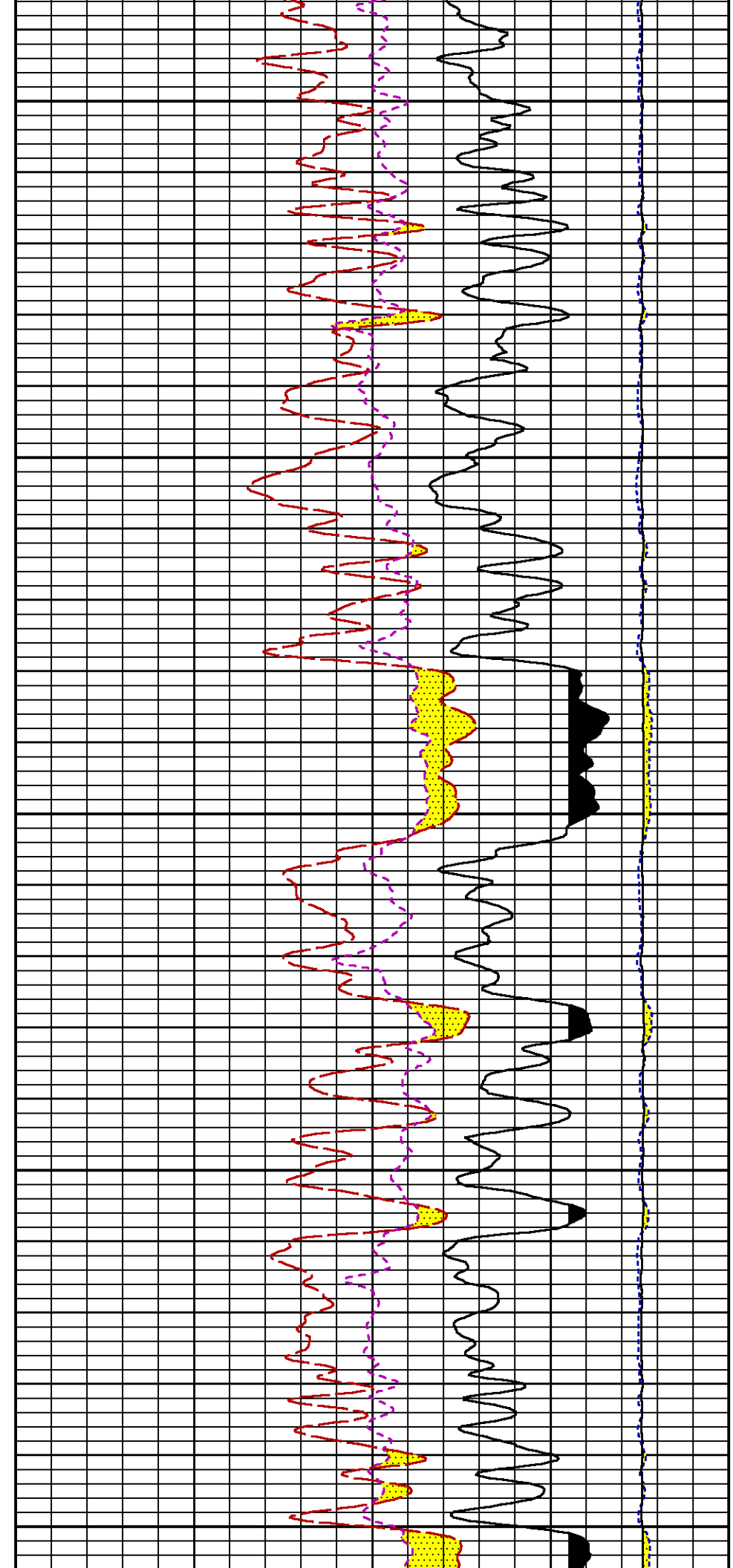
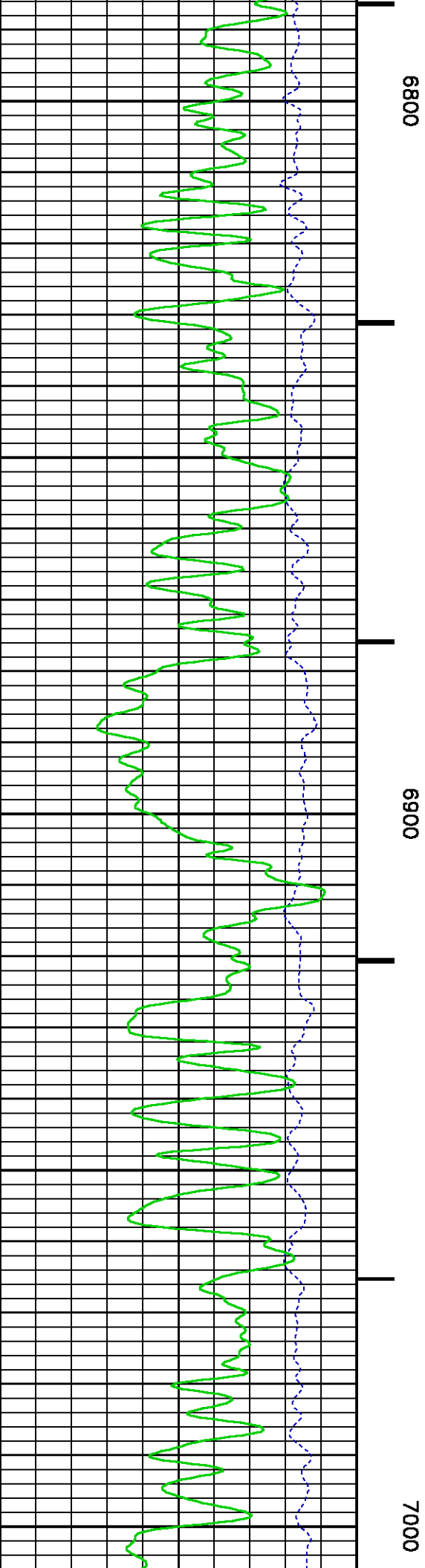


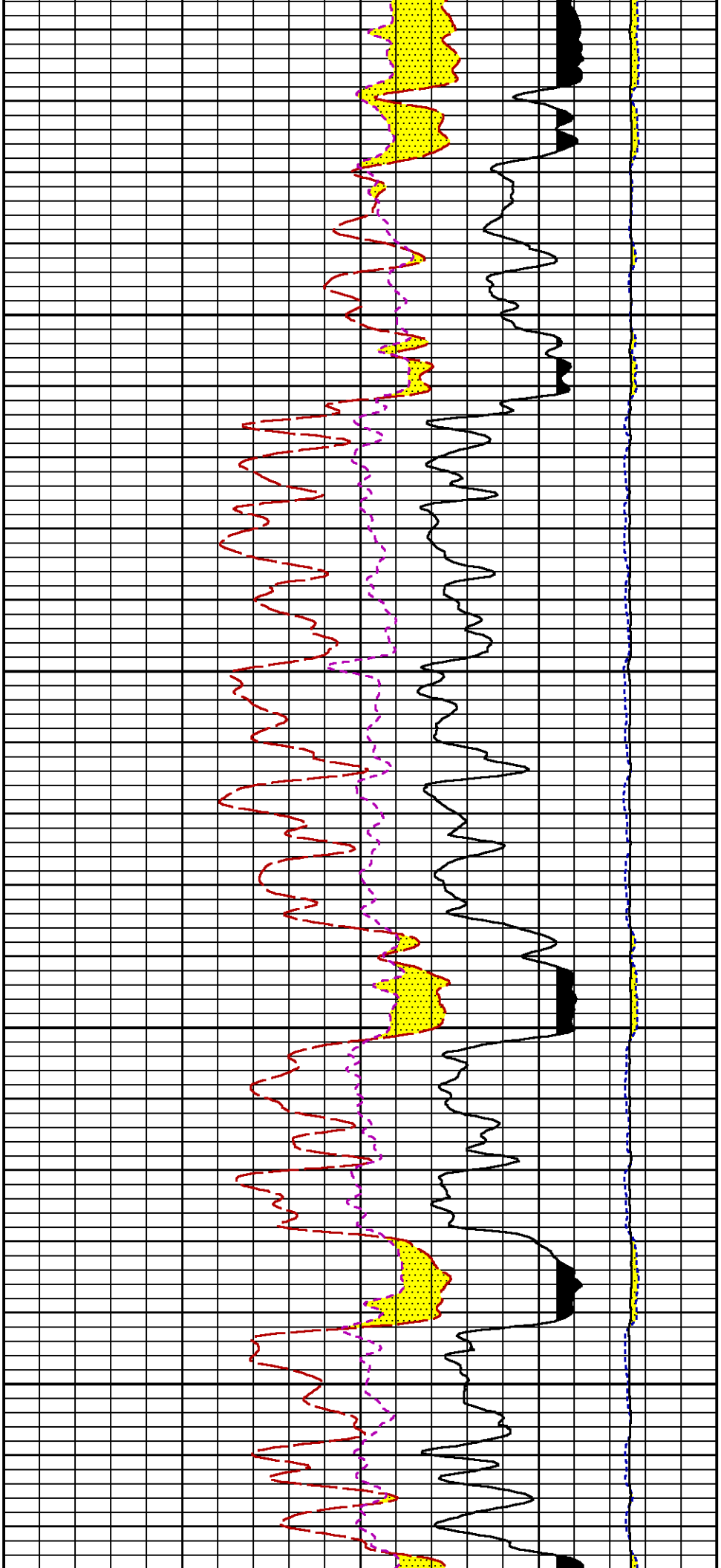






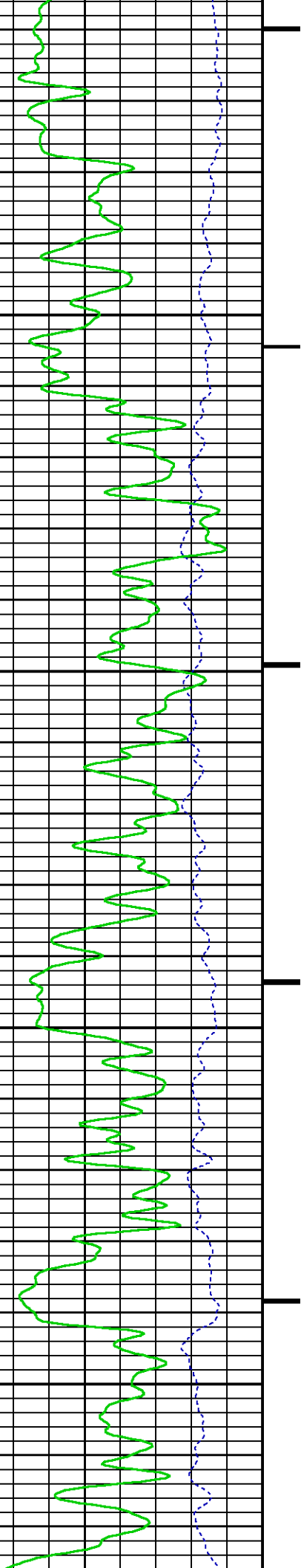


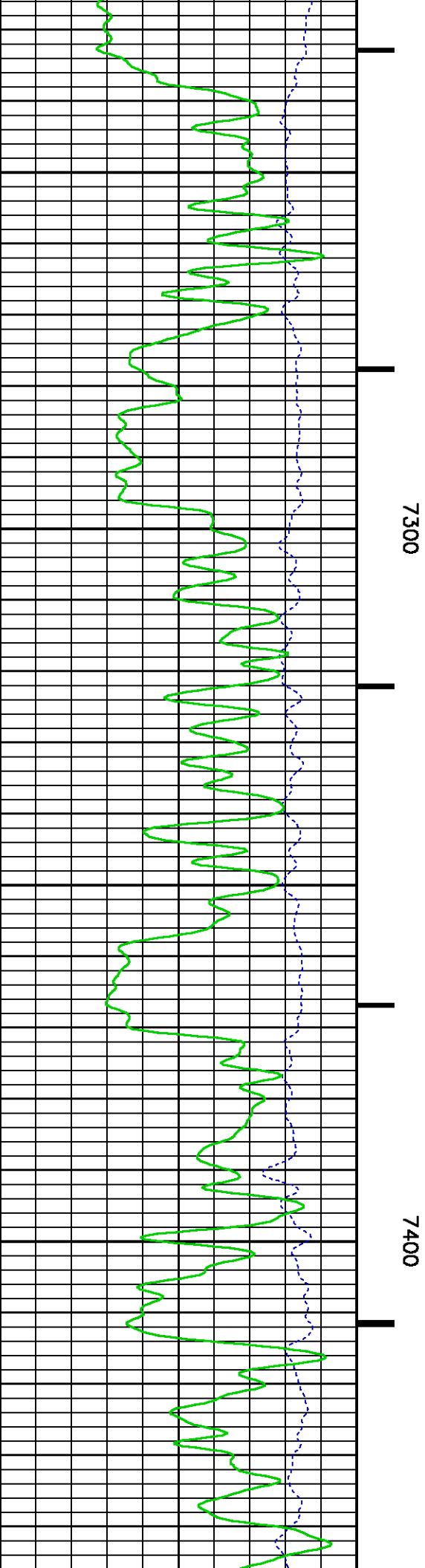
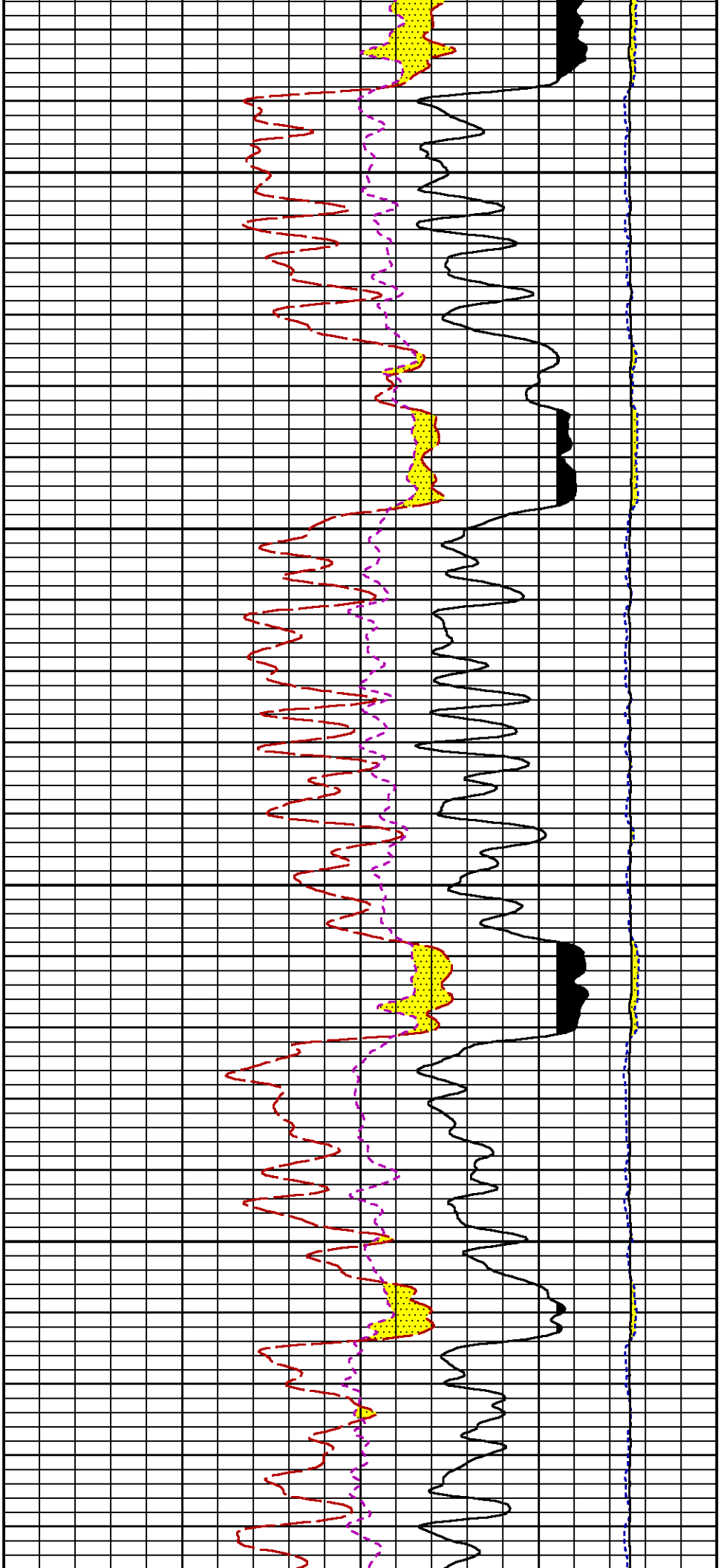


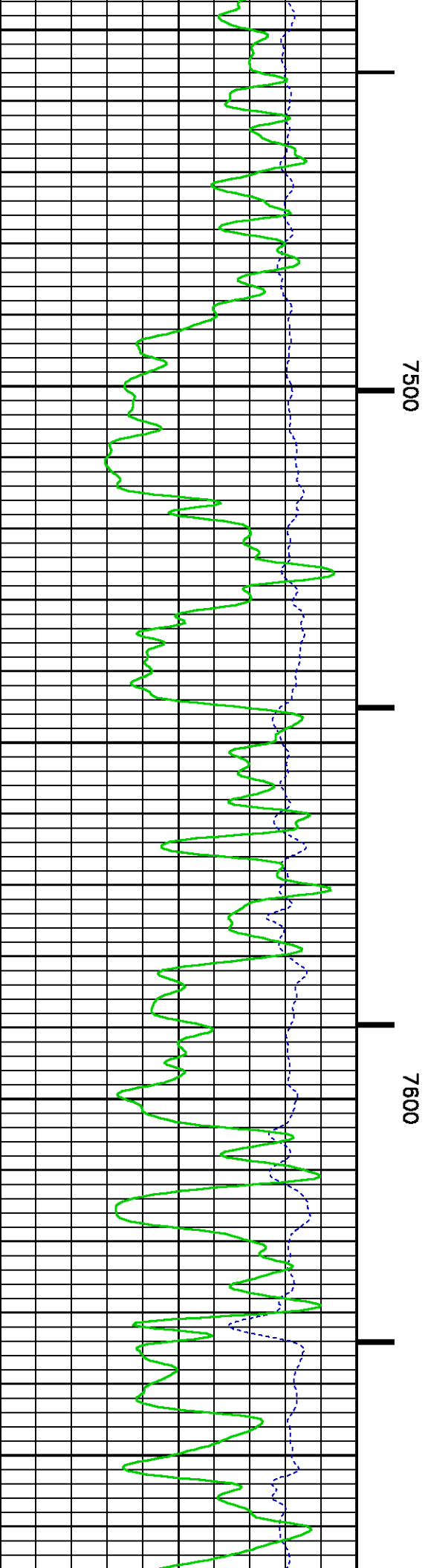
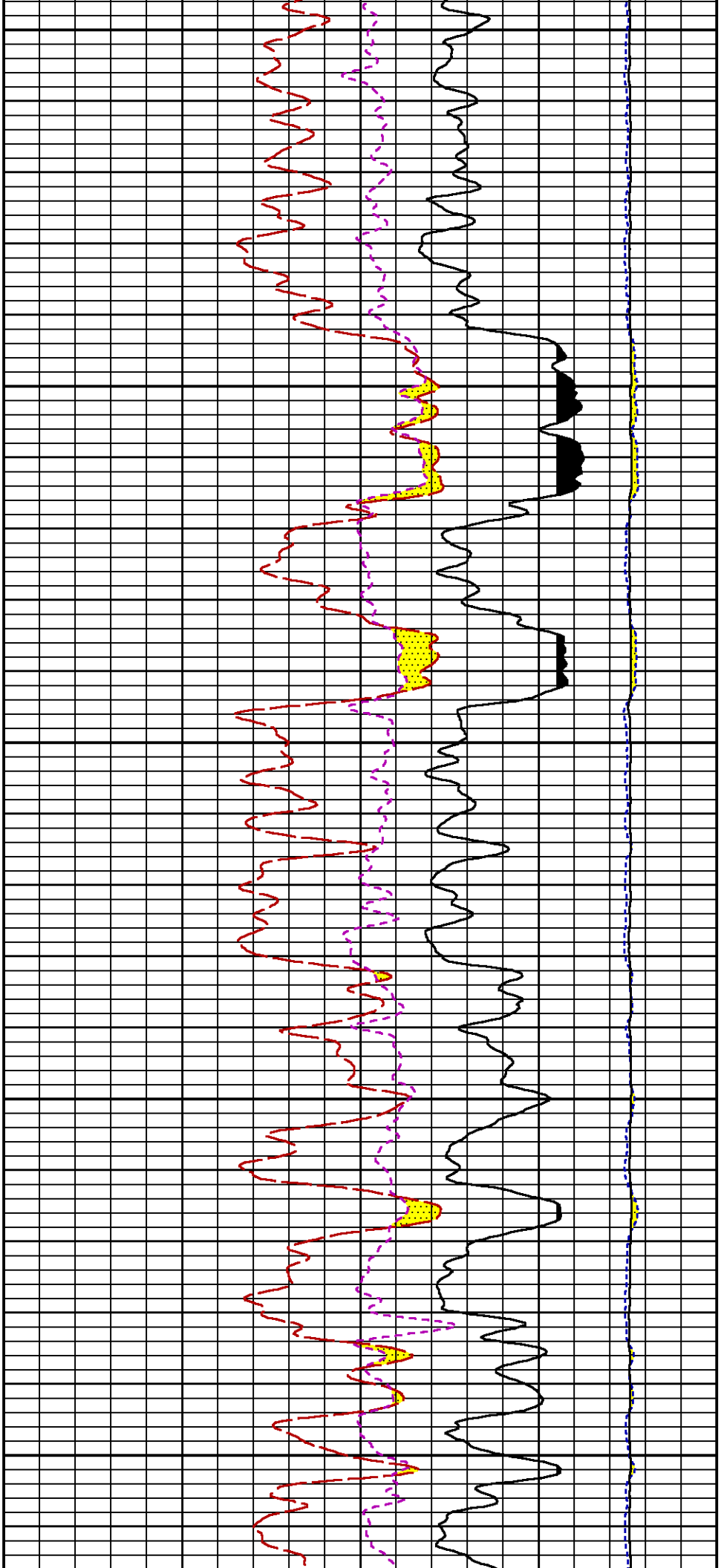


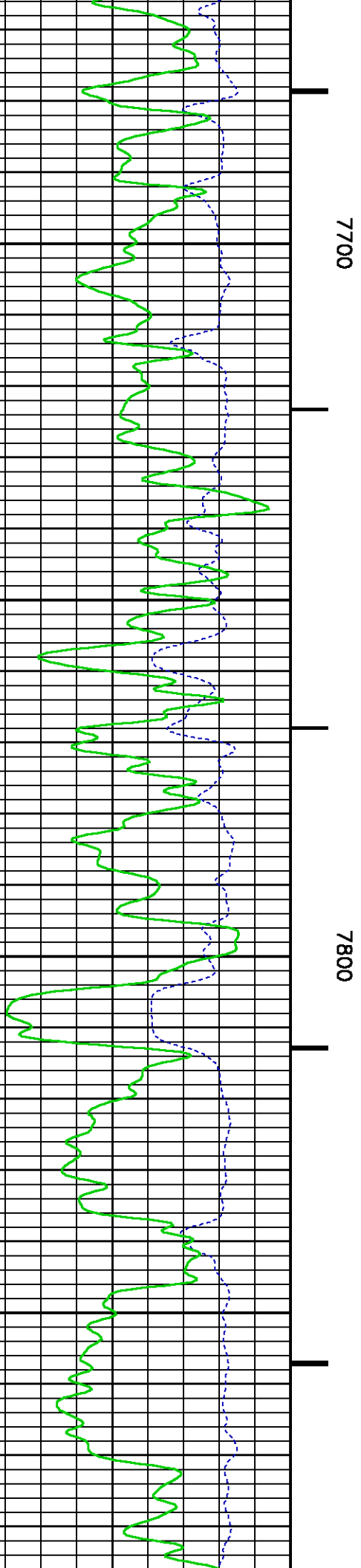
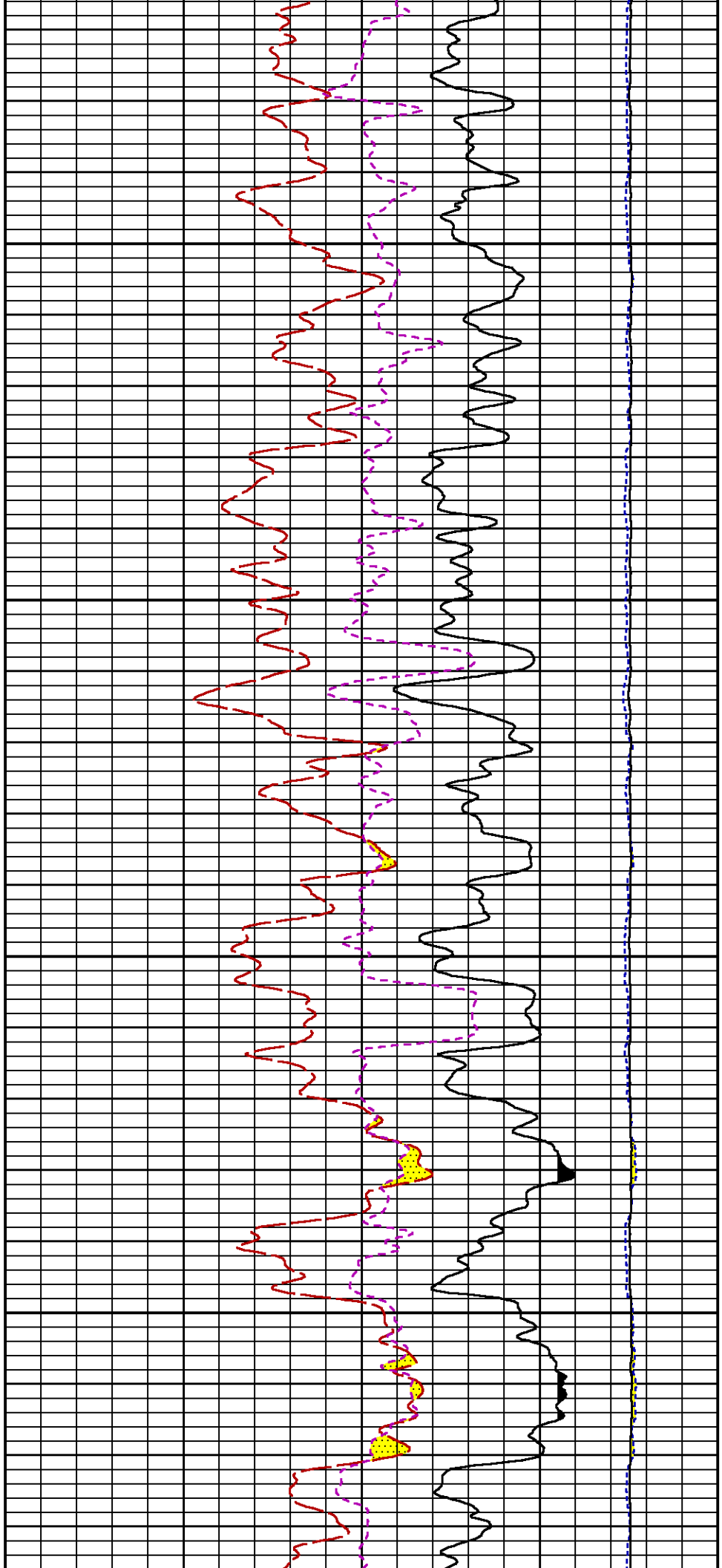
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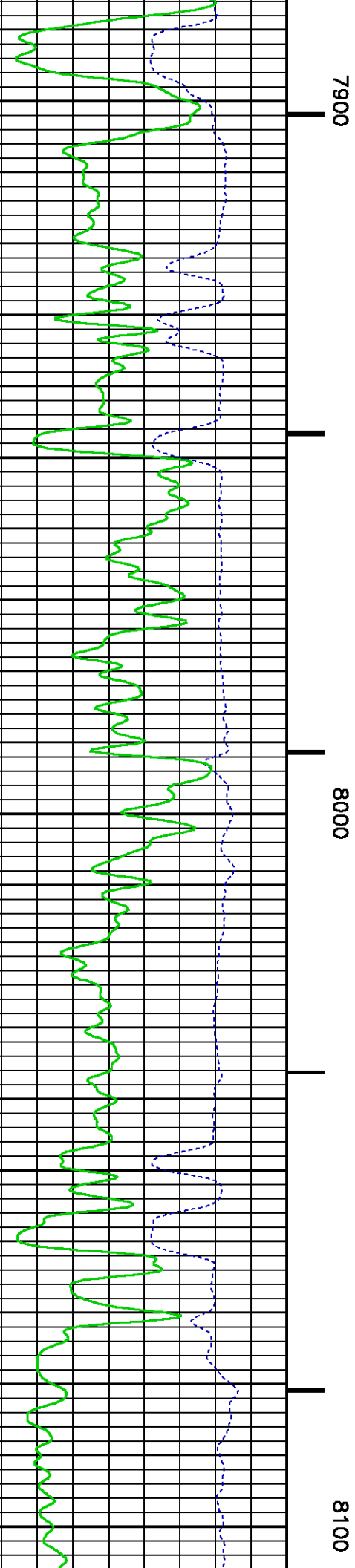
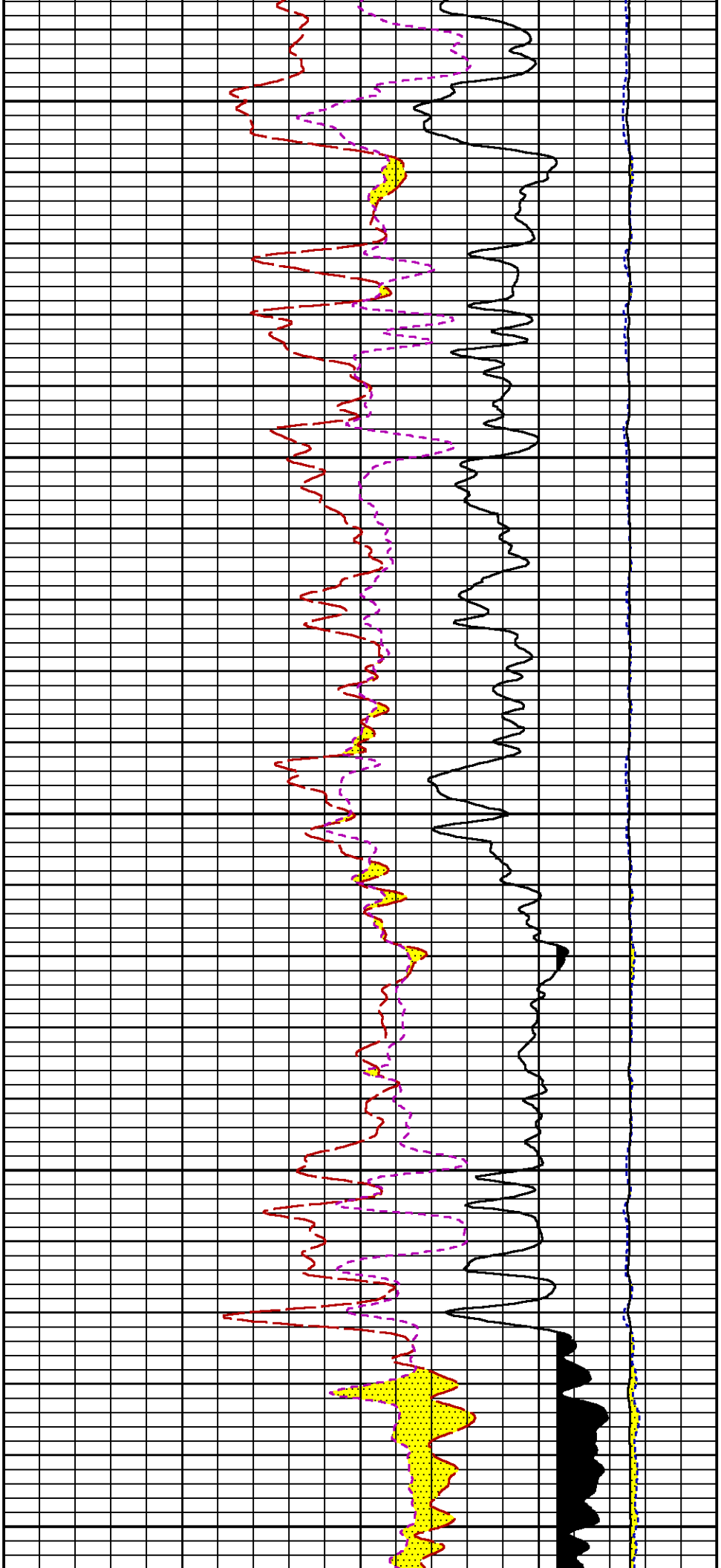
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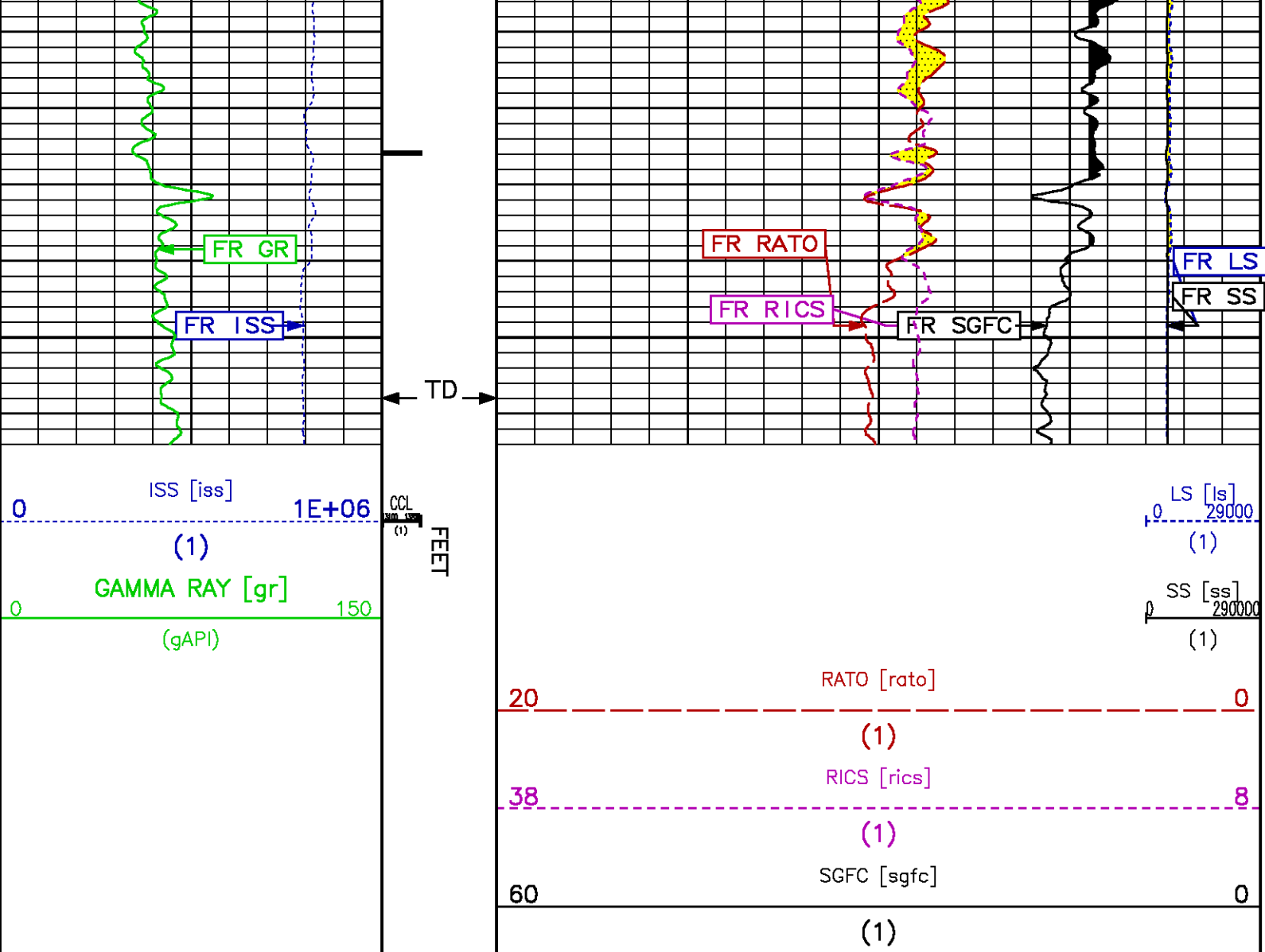












REPEAT LOG PNC 3-D MODE

ECLIPS 6.11 Aug 06, 2010  
Updates: 1

Fri Apr 22 17:42:32 2011

Pcrplt /main/62

Cplot

Pdf\_Cpp /main/16

Fileview 5.51

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/575745/m353h01.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 6131.750 ft BOTTOM DEPTH: 6590.000 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)
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PNC Parameters	BOREHOLE CONTENTS	FLUID	TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE	''	''
	BOREHOLE SIZE	7.88	''	''
	CASING SIZE	4.50	''	''
	MATRIX	SANDSTONE	''	''
	CORRECTION BUFFER	11	''	''

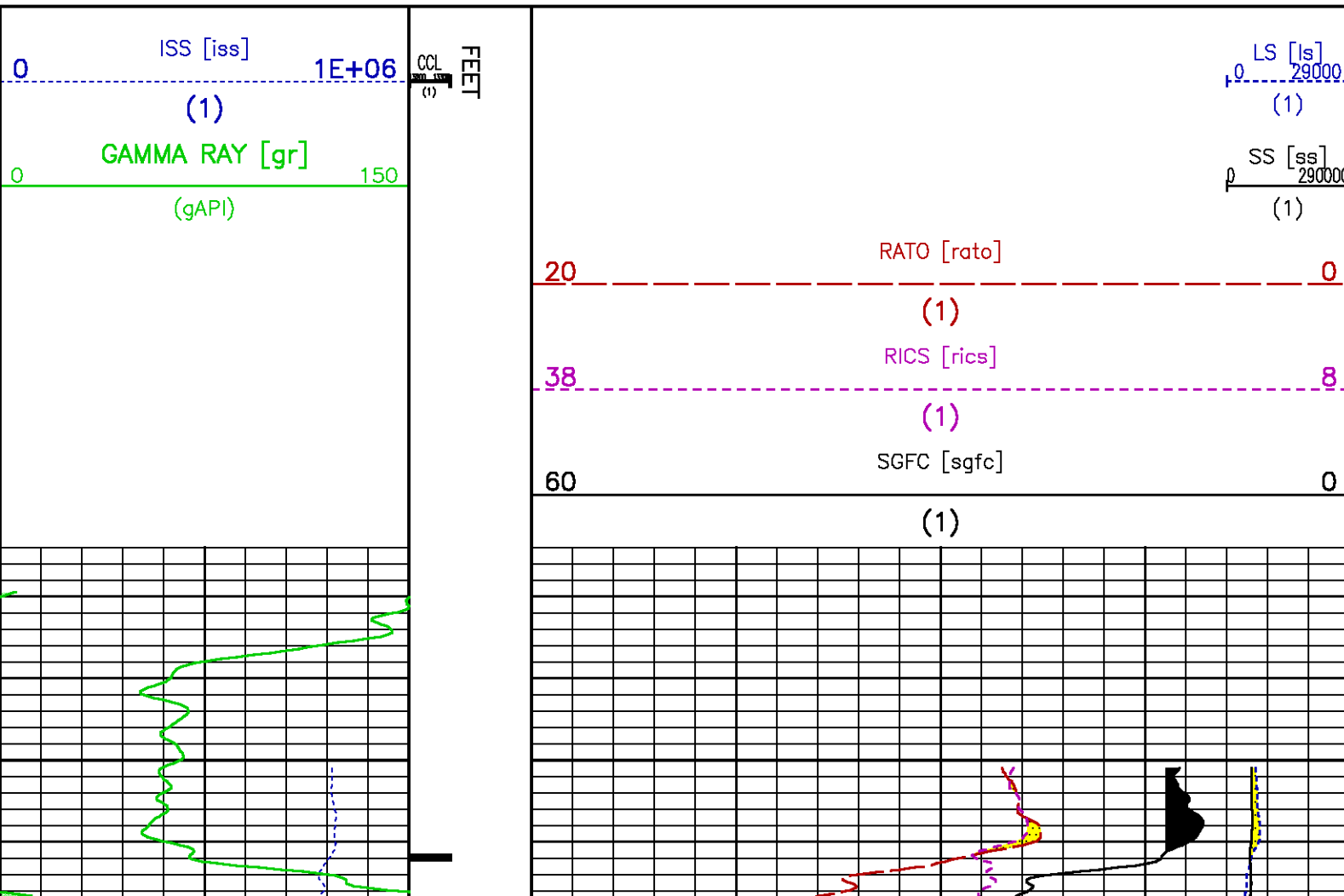
## CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Apr 22 11:42:13 2011	CASING COLLAR LOCATOR
F1:GR	Apr 22 11:42:13 2011	GAMMA RAY
F1:ISS	Apr 22 11:42:13 2011	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Apr 22 11:42:13 2011	LONG SPACE COUNT RATE
F1:RATO	Apr 22 11:42:13 2011	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Apr 22 11:42:13 2011	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Apr 22 11:42:13 2011	CORRECTED FORMATION SIGMA
F1:SS	Apr 22 11:42:13 2011	SHORT SPACE COUNT RATE

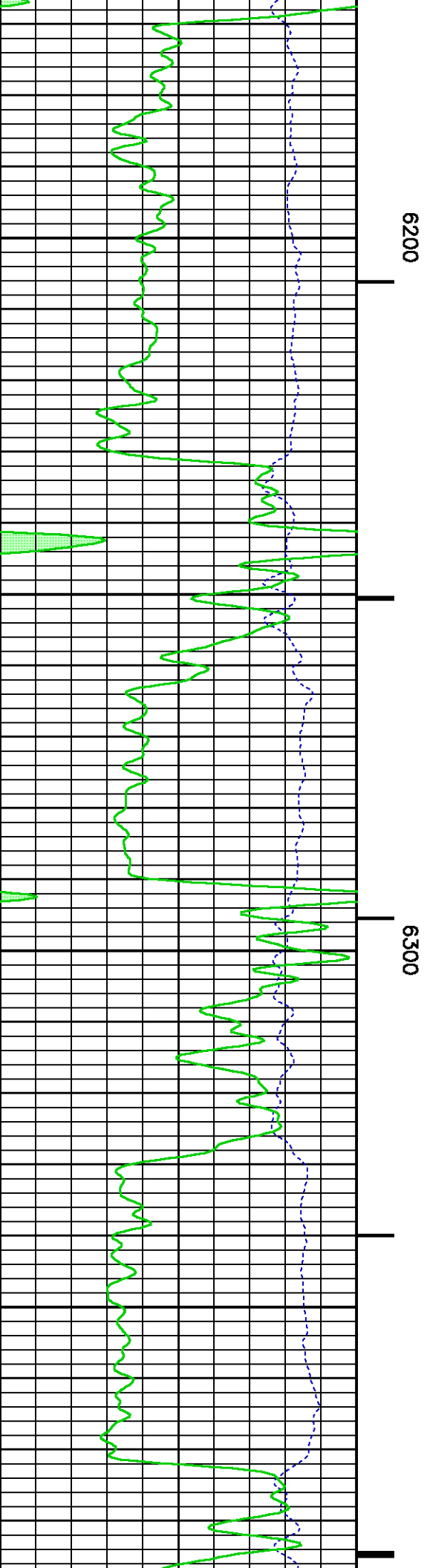
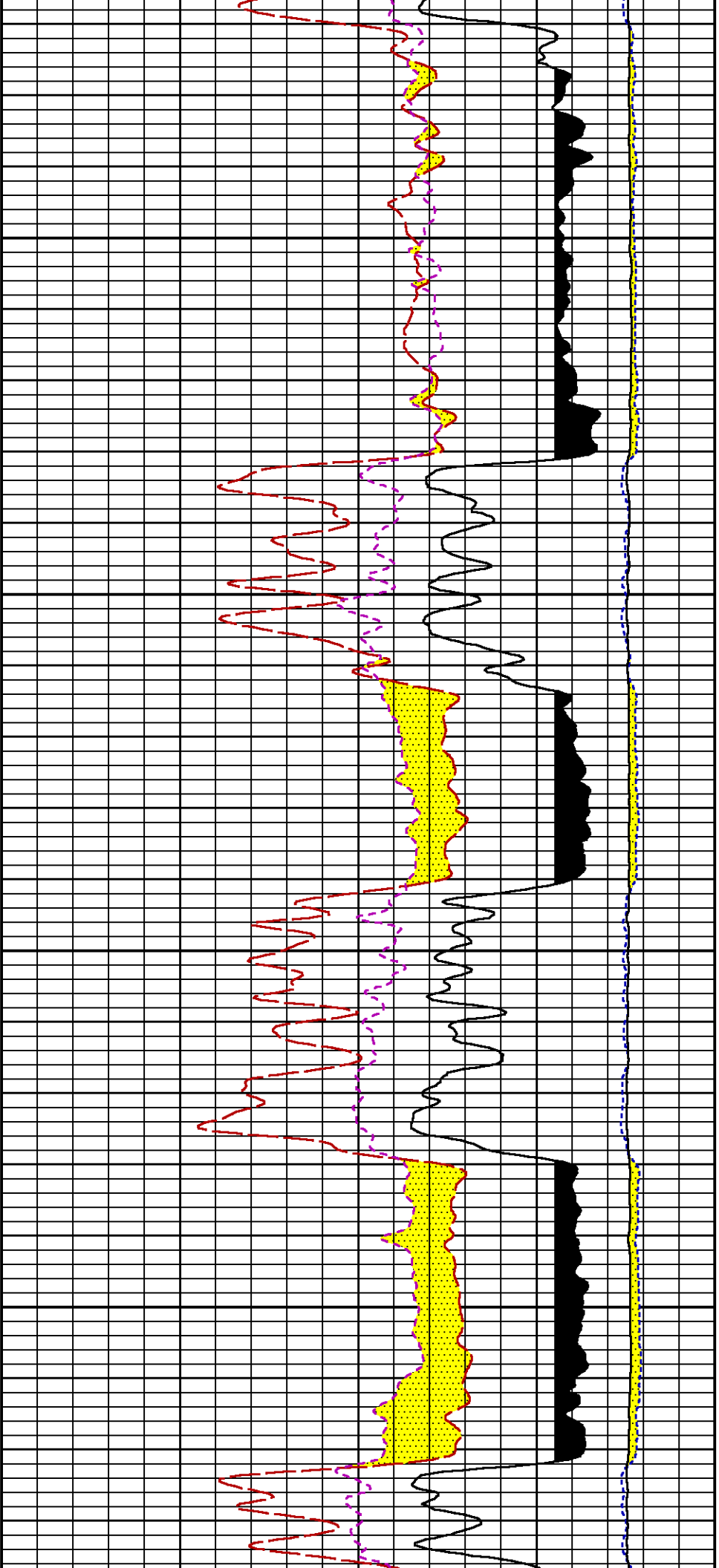
## CURVE MEASURE POINT OFFSET

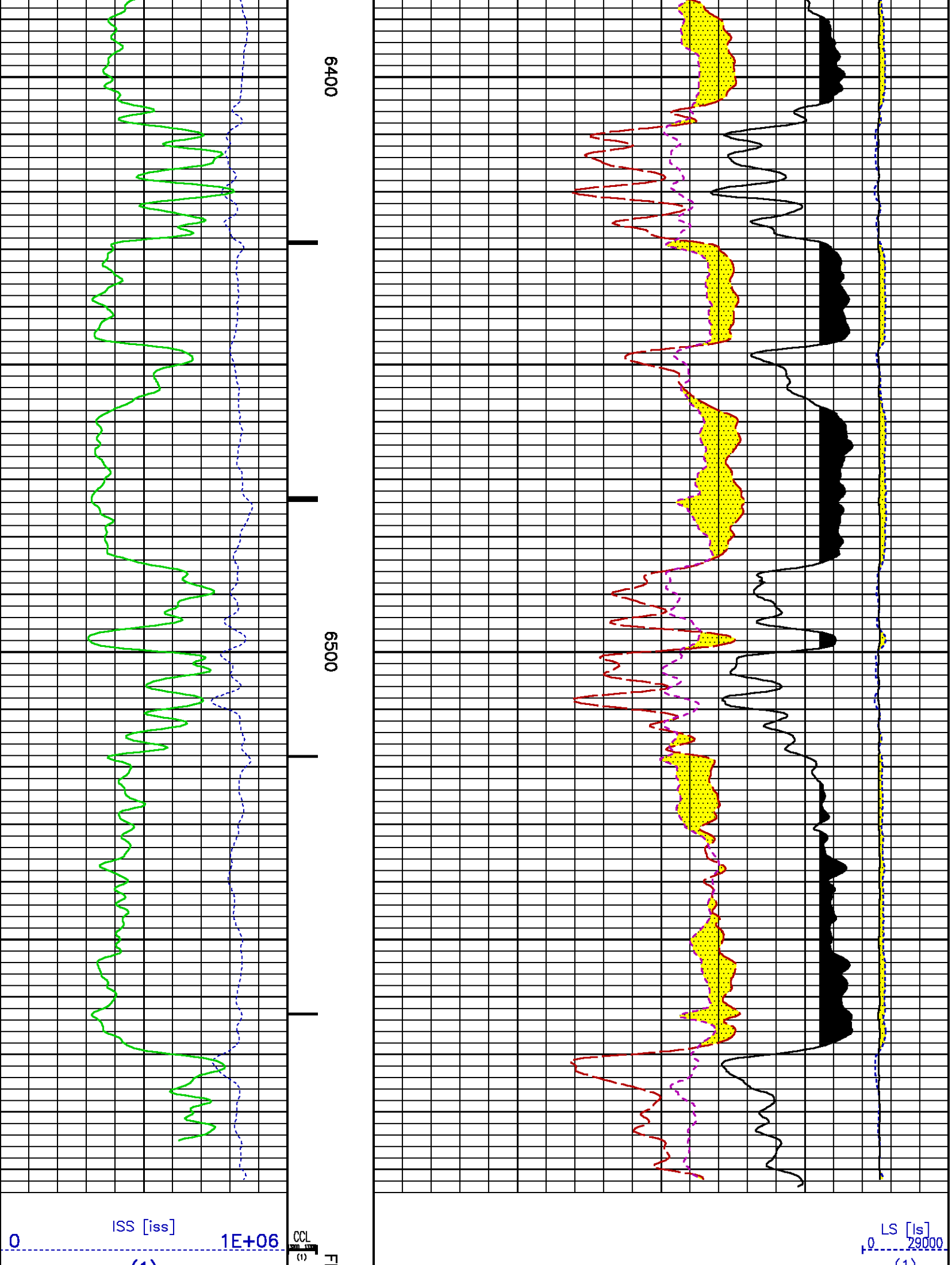
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	22.50	ISS	9.50	RATO	9.50	SGFC	9.50
GR	19.50	LS	9.50	RICS	9.50	SS	9.50

Presentation	: HL6670:/dat1a/575745/RPM_PRESENTATION+02-REPEAT-REPEAT_RPM-5.pdf [5"/100' Scale]
Plot Interval	: 6125.25 - 6593 Feet
Data File 1	: F1 : HL6670:/dat1a/575745/REPEAT_RPM.xtf
Created On	: Apr 22 11:42:13 2011
Company	: WILLIAMS PRODUCTION COMPANY
Well	: GM 514-26
Field	: GRAND VALLEY
File Interval	: 6109.25 - 6750 Feet
Oct	: m353h









# CALIBRATION / VERIFICATION SUMMARY

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	800826	164365	25651	88154	31406	8079	53384	12916

Fit Quality %

1.161

1.257

0.936

0.937

1.092

0.862

1.097

	ISS	RBOR	RIN		RIN13		RICS	RATO		RTWO	RONE	
			ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS				
Raw Data	800826	1.43	4.87	31.23	15.00	10.92	3.89	4.13				
		1.42 1.45	3.85 5.82	22.20 32.70	10.98 16.34	10.06 11.10	3.57 3.85	3.76 4.22				
Fit Quality %		0.064	0.026	0.112	0.129	0.090	0.098	0.113				
Reduced	1412143	1.43	4.87	31.20	15.00	10.91	3.89	4.13				
		1.42 1.45	4.33 5.82	27.60 32.70	13.70 16.34	10.06 11.10	3.57 3.85	3.76 4.22				

## INSTRUMENT CONFIGURATION

### A3 CABLEHEAD

Diameter : 1.37"

### PCM POWER SUPPLY

Diameter : 1.70"  
 Length : 3.88'  
 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

### 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

30.78'

CCL MP — 22.73'

GR MP — 19.59'

**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 — 10.27'  
 LS DETECTOR — 9.86'  
 SS DETECTOR — 9.81'

**RPM SOURCE SECTION**

Diameter : 1.70"  
 Length : 4.70'  
 Weight : 18 lbs  
 Series : 8281FA  
 Mnemonic : RPM

**BULL PLUG 1 11/16**

TOTAL LENGTH: 30.78'  
 TOTAL WEIGHT: 131 lbs  
 MAX DIAMETER: 0"1.70"

0.00'

**Baker Atlas****COMPANY**WILLIAMS PRODUCTION COMPANY**WELL**GM 514-26**FIELD**GRAND VALLEY**COUNTY**GARFIELDSTATE COLORADO**FILE NO:**CH033276**API NO:**05045196630000**LOCATION:**

SHL: 1918' FSL & 1325' FEL S27T6SR96W  
 BHL: 163' FSL & 1325' FWL S26T6SR96W

**ELEVATIONS:**

KB 5683 FT  
 DF 5682 FT  
 GL 5659 FT

26 6S 96W

MV 29-27 PAD  
H&P 280

SEC 26 TWP 6S RGE 96WDATE 22-Apr-2011