



FILE NO: CH146479	COMPANY <b>LARAMIE ENERGY LLC</b>
API NO: 05077105750000	WELL <b>SUP &amp; SHEP 0993-25-07W</b>
	FIELD <b>BUZZARD CREEK</b>
	COUNTY <b>MESA</b> STATE <b>COLORDAO</b>

Version	LOCATION: SHL LAT: 39.244836 N LONG: 107.724361 W SEC 25 TWP 9S RGE 93W	OTHER SERVICES RAL
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PERMANENT DATUM	GL	ELEVATION	8078 FT
LOG MEASURED FROM	KB	30 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:	KB	8108 FT
	DF	
	GL	8078 FT

DATE	TRIP	
13-FEB-2019	1	1
SERVICE ORDER	US146479	
DEPTH DRILLER	8605.0 FT	
DEPTH LOGGER	8592.0 FT	
BOTTOM LOGGED INTERVAL	8572.0 FT	
TOP LOGGED INTERVAL	3075.0 FT	
TIME STARTED	13:00	
TIME FINISHED	20:30	
OPERATOR RIG TIME	7.5 HOURS	
TYPE OF FLUID IN HOLE	WATER	
FLUID DENSITY	NA	
FLUID SALINITY	NA	
FLUID LEVEL	88.5 FT	
LOGGED CEMENT TOP	1180.0 FT	
WELLHEAD PRESSURE	0 PSI	
MAXIMUM HOLE DEVIATION	NA	
NOMINAL LOGGING SPEED	10 FMIN	
MAX. RECORDED TEMP.	275.0 DEGF	
REFERENCE LOG	BAKER HUGHES RAL	
REFERENCE LOG DATE	13-FEB-2019	
EQUIP. NO.	ML-4217	GRAND JCT.
RECORDED BY	ATUL GUPTA	
WITNESSED BY	NA	

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.

### REMARKS

RUN 1 TRIP 1: \*2 OPERATIONS IN WELLBORE\*

\*\*OPERATION 1: RAL/GR/CCL RUN CENTRALIZED\*\*

\*\*OPERATION 2: RPM/GR/CCL RUN IN PNC-3D\*\*

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 6865.0' - 6887.0'

SJ: 7691.0' - 7713.0'

### EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	1	PCM	8250EA	Z166326	FREE
2	1	TEL/CCL	8248ED	10387150	FREE
2	1	GR	8262XA	10456403	FREE
2	1	RPM	8281EA	12210975	FREE
2	1	RPM	8283PA	11768879	FREE
2	1	RPM	8281FA	11778241	FREE

2

1

TEMP

8255XA

1073217

FREE

MAIN PASS PNC-3D GSAND

ECLIPS 7.0wu1 PC-ECLIPS General Release Rel 7.0w Update 1 Wed Jul 25 15:19:34 Central Daylight Time 2018  
Patches: 1

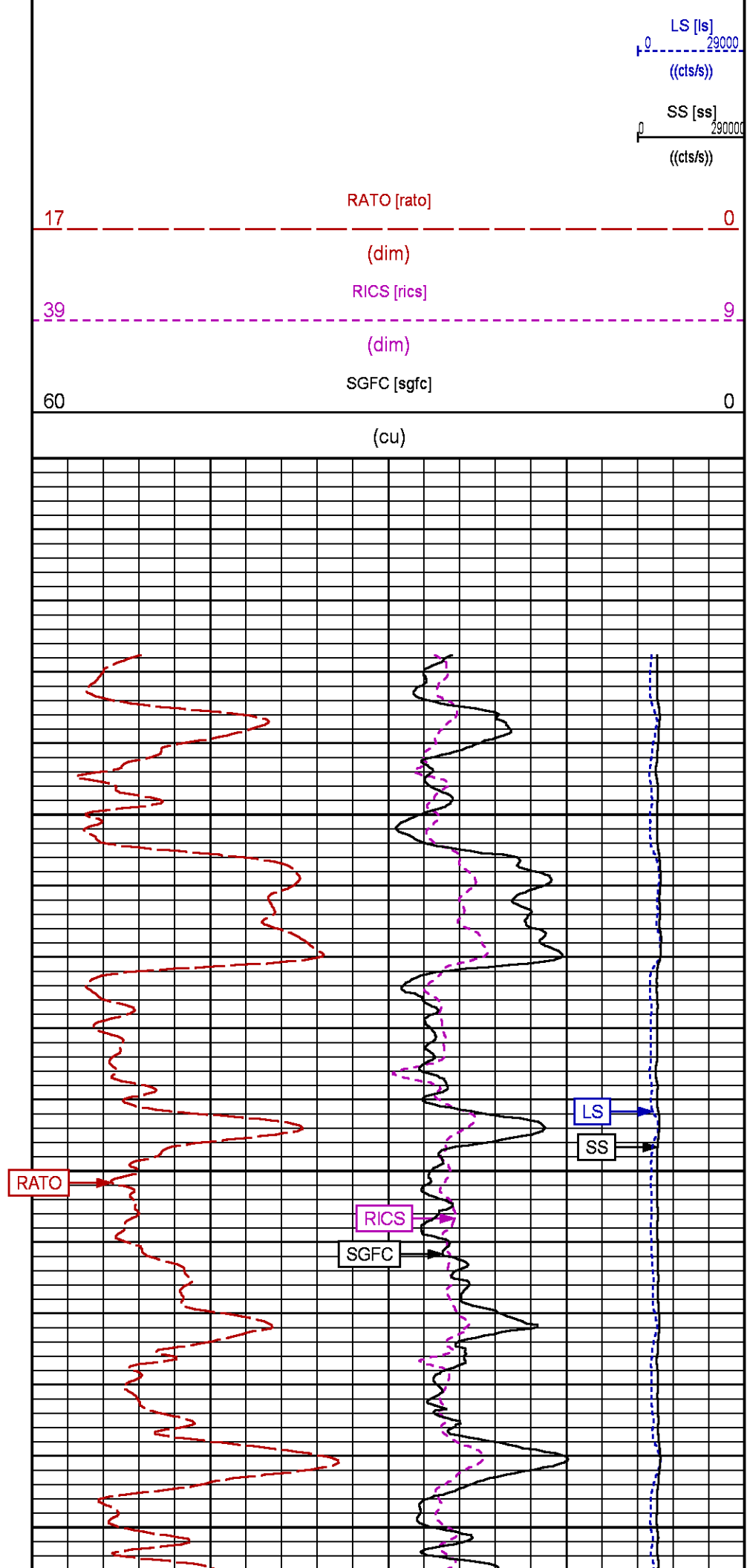
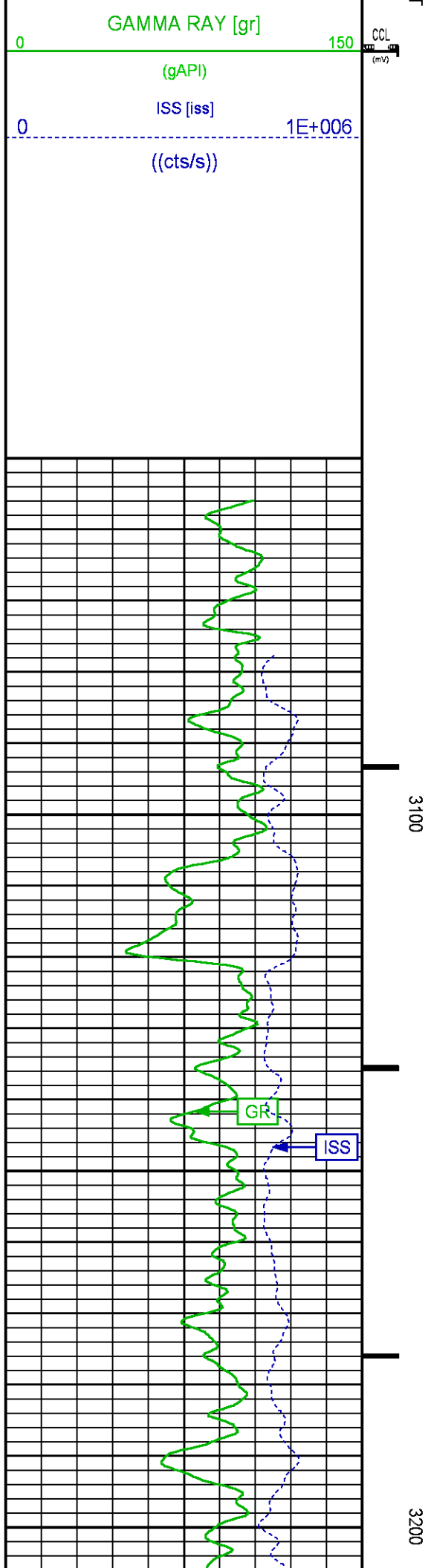
Plotted: Thu Feb 14 01:35:27 2019

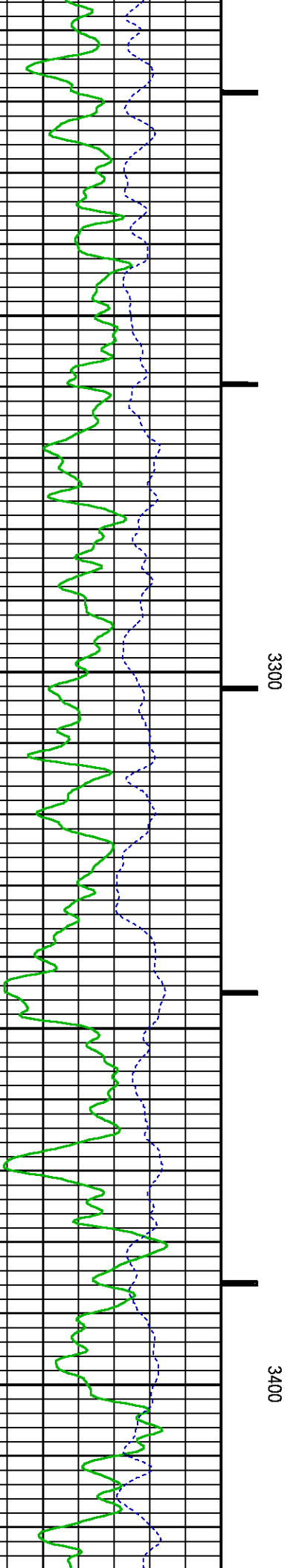
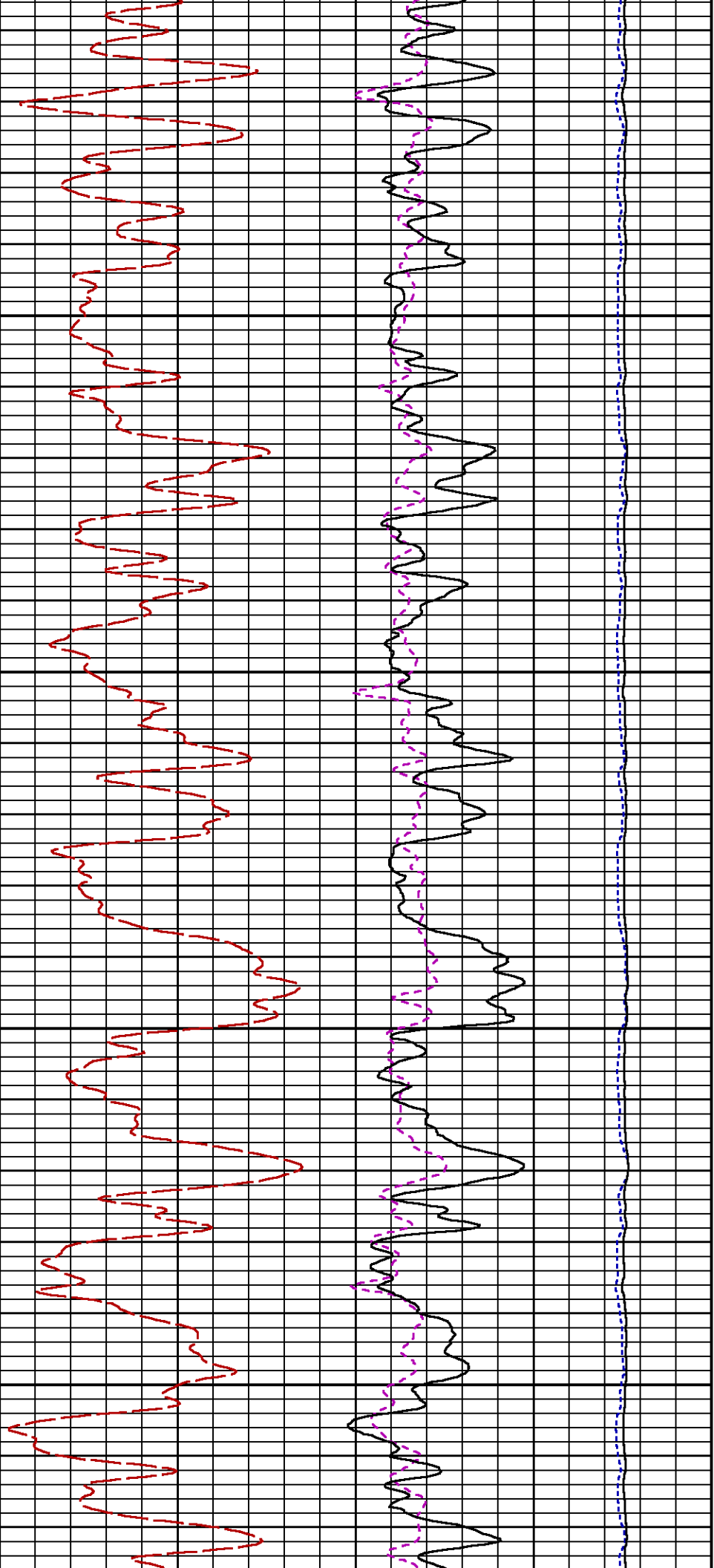
PARAMETER AND FILTER SUMMARY REPORT					
FILE:		C:\dat1a\Laramie_Sup_Shep_0993-25-07W\p353h04.prm			
LOGGING MODE:		DEPTH		DIRECTION: UP	
TOP DEPTH:		3068.211 ft		BOTTOM DEPTH: 3753.488 ft	
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ( )	medium (1)		TOP	BOTTOM
RPM PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID / SLEEVE		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	8.50	in	"	"
	LARGEST CASING OD	4.50	in	"	"
	MATRIX	SANDSTONE		"	"

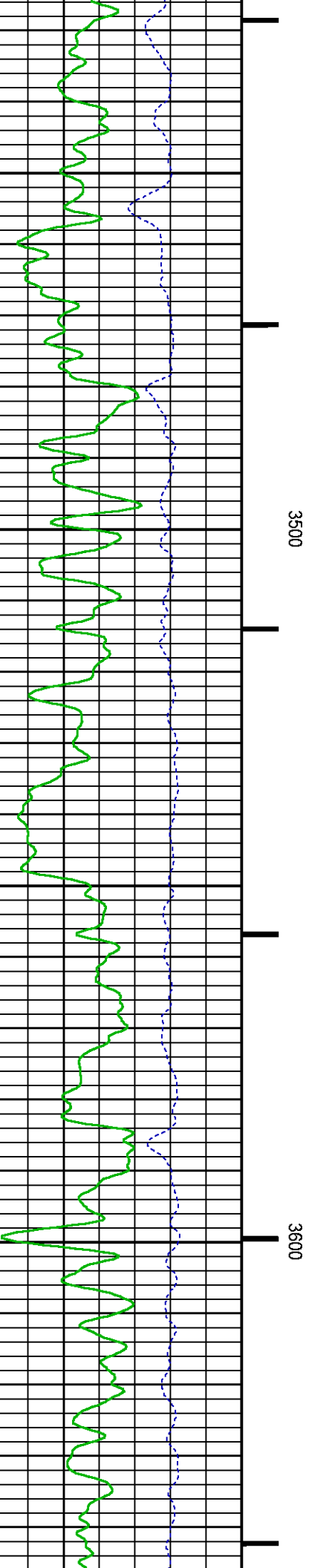
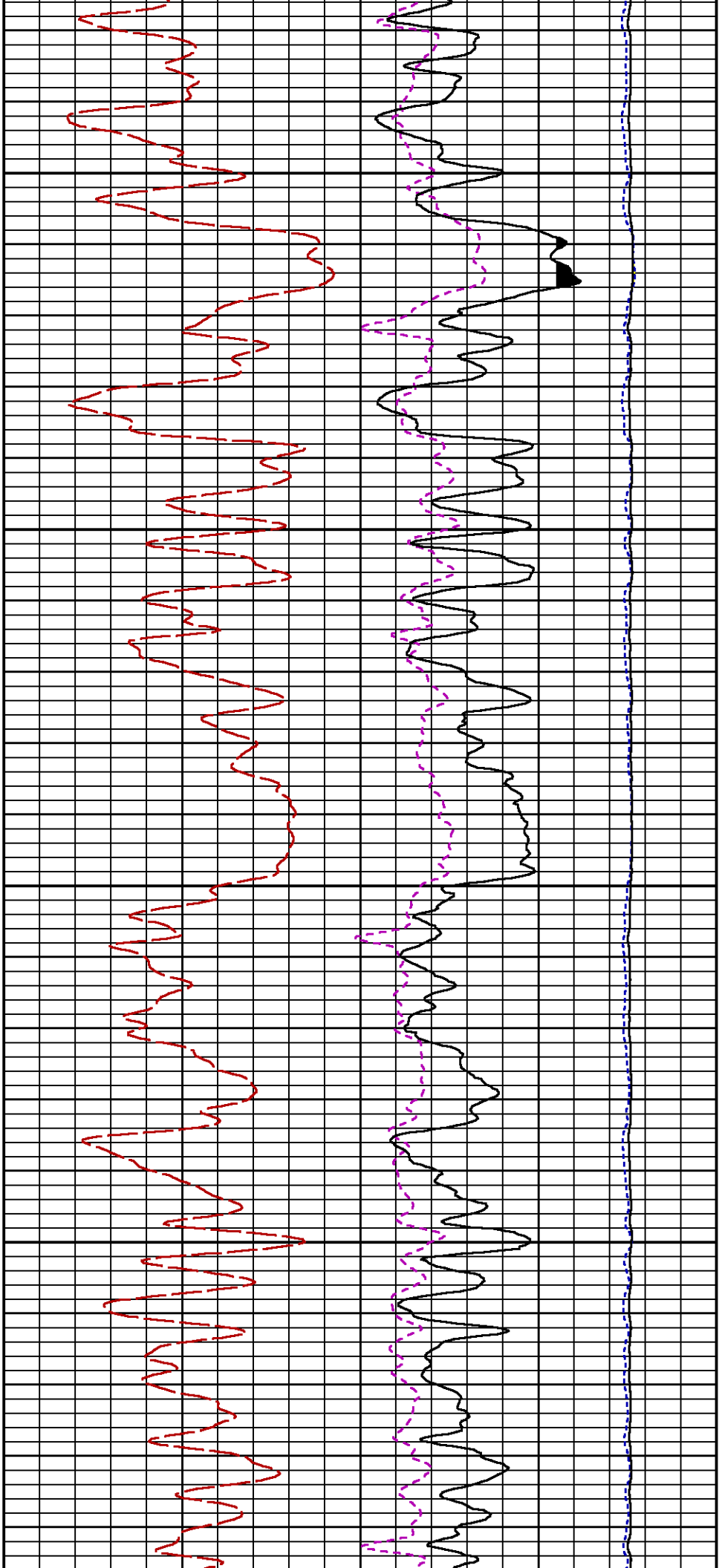
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Feb 13 19:23:08 2019	CASING COLLAR LOCATOR
F1:GR	Feb 13 19:23:08 2019	GAMMA RAY
F1:ISS	Feb 13 19:23:08 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Feb 13 19:23:08 2019	LONG SPACE COUNT RATE
F1:RATO	Feb 13 19:23:08 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Feb 13 19:23:08 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Feb 13 19:23:08 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Feb 13 19:23:08 2019	SHORT SPACE COUNT RATE

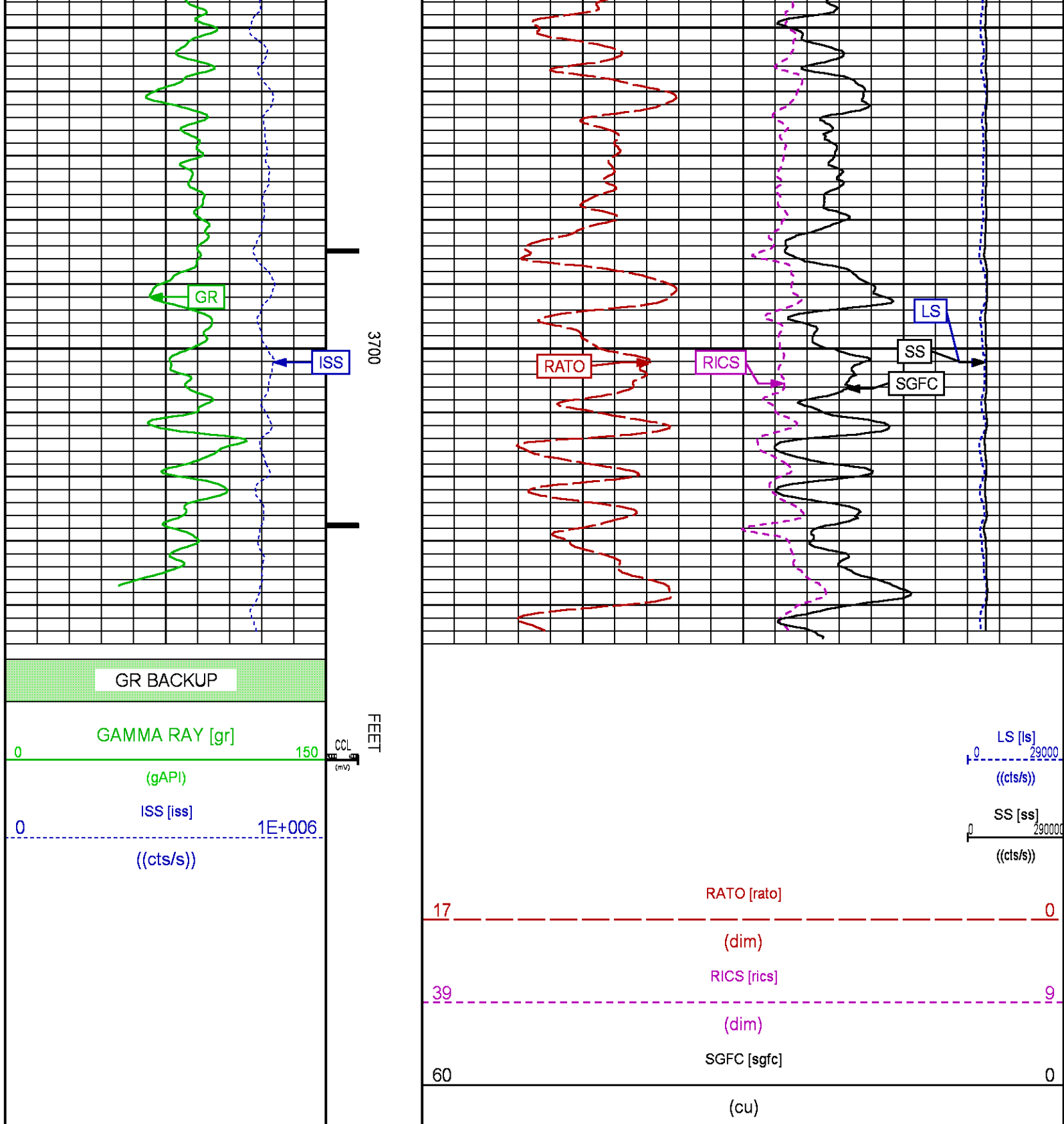
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

<b>Presentation</b> : BHIHXPM1N2:C:\dat1a\Laramie_Sup_Shep_0993-25-07W\07W_RPM_GS_MAIN.fvpdf [5"/100' Scale]	
<b>Plot Interval</b> : 3051.75 - 3760 Feet	
<b>Data File 1</b> : F1 : BHIHXPM1N2:C:\dat1a\Laramie_Sup_Shep_0993-25-07W\LARAMIE_SUP&SHEP 0993-25-07W_RPM_GS_MAIN.xtf	
<b>Created On</b> : Feb 13 19:23:08 2019	
<b>Company</b> : LARAMIE ENERGY LLC	
<b>Well</b> : SUP & SHEP 099326-07W	
<b>Field</b> : BUZZARD CREEK	
<b>File Interval</b> : 3051 - 3761.5 Feet	
<b>OCT</b> : p353h	









## MAIN PASS PNC-3D WILLIAMS FORK

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07W\p353h03.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 5185.250 ft BOTTOM DEPTH: 8586.156 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 / SLEEVE		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	8.50	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

CURVE DESCRIPTION REPORT

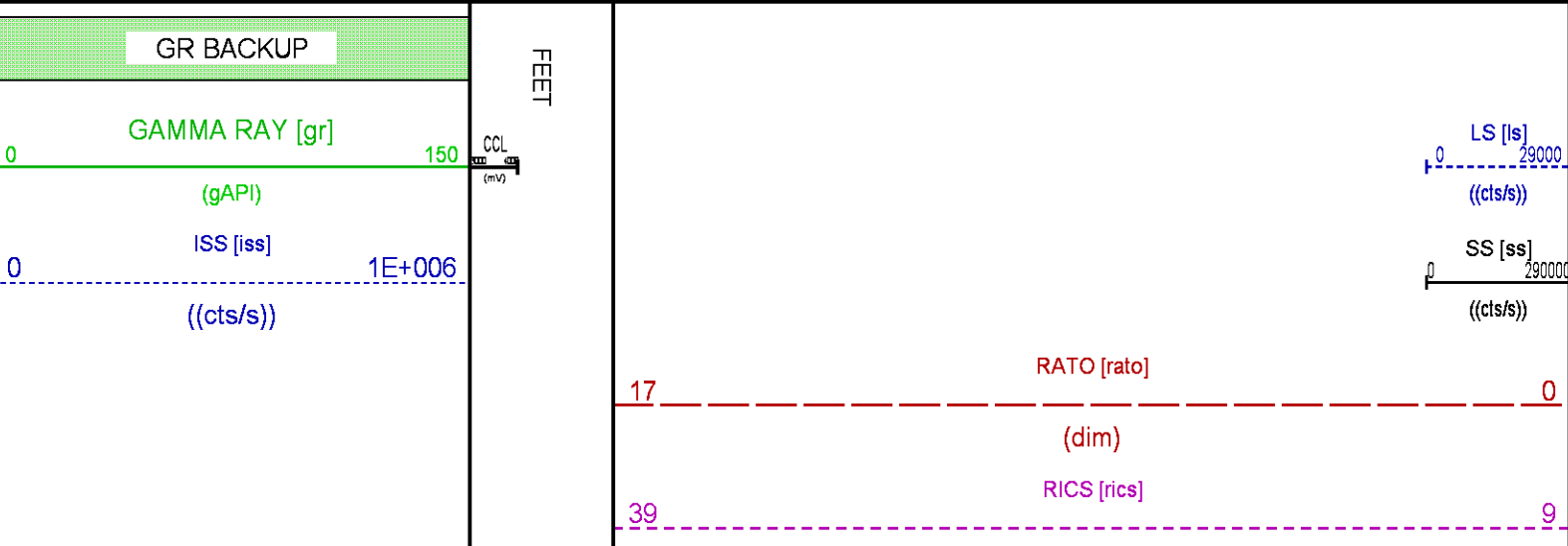
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Feb 13 15:41:57 2019	CASING COLLAR LOCATOR
F1:GR	Feb 13 15:41:57 2019	GAMMA RAY
F1:ISS	Feb 13 15:41:57 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Feb 13 15:41:57 2019	LONG SPACE COUNT RATE
F1:RATO	Feb 13 15:41:57 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Feb 13 15:41:57 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Feb 13 15:41:57 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Feb 13 15:41:57 2019	SHORT SPACE COUNT RATE

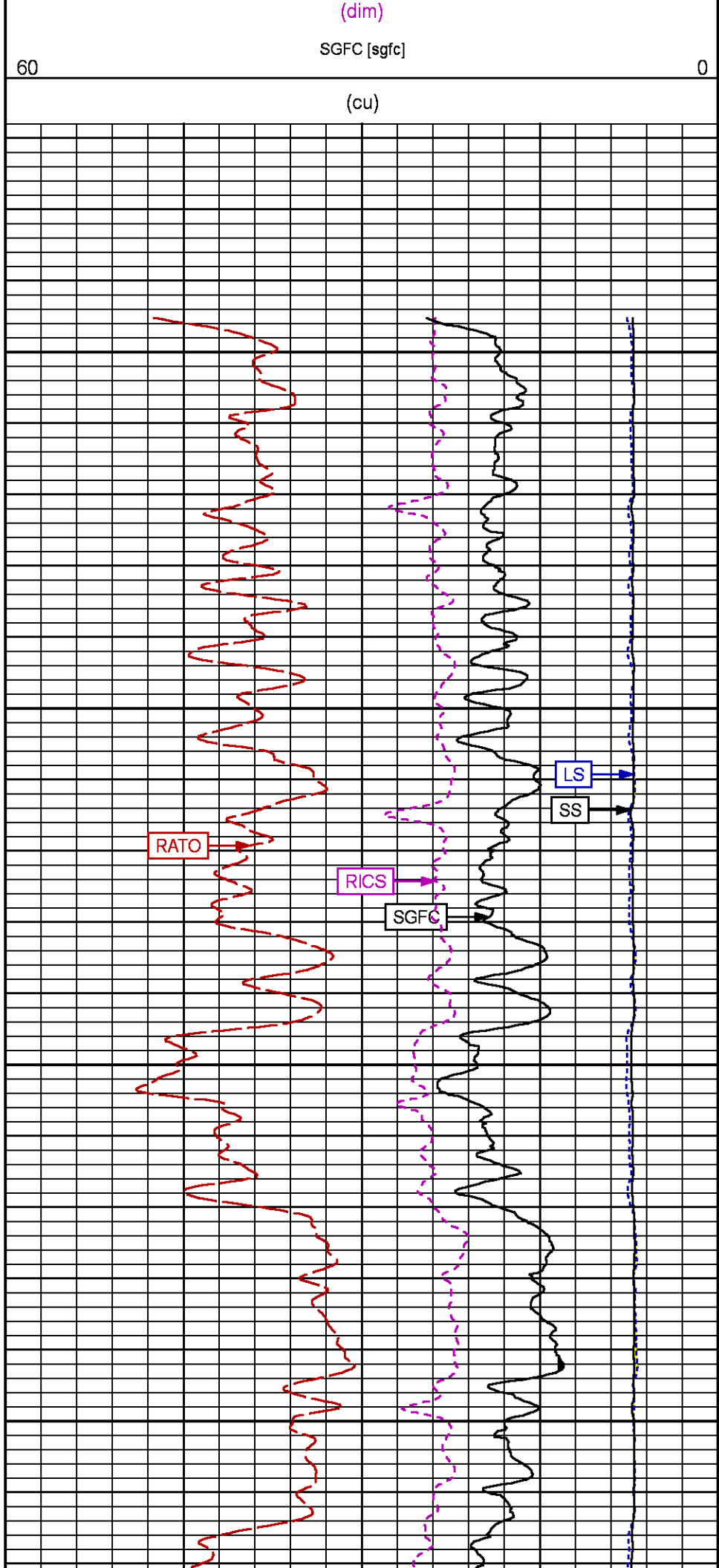
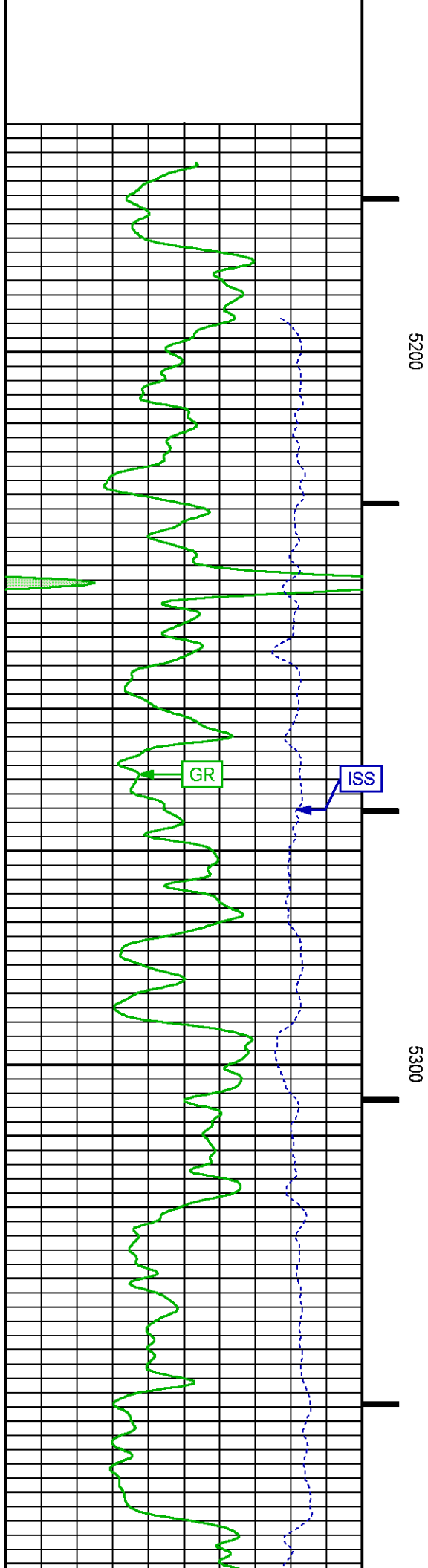
CURVE MEASURE POINT OFFSET

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

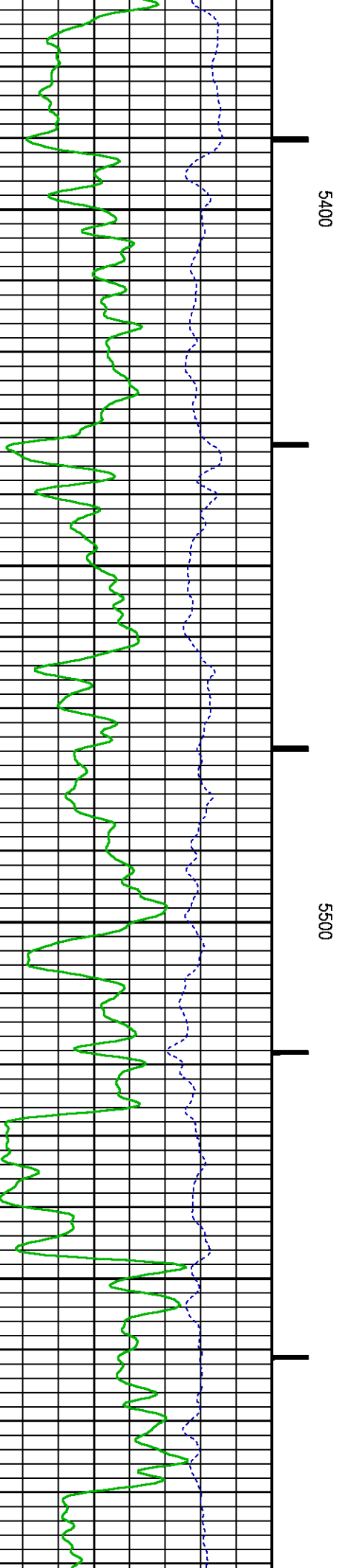
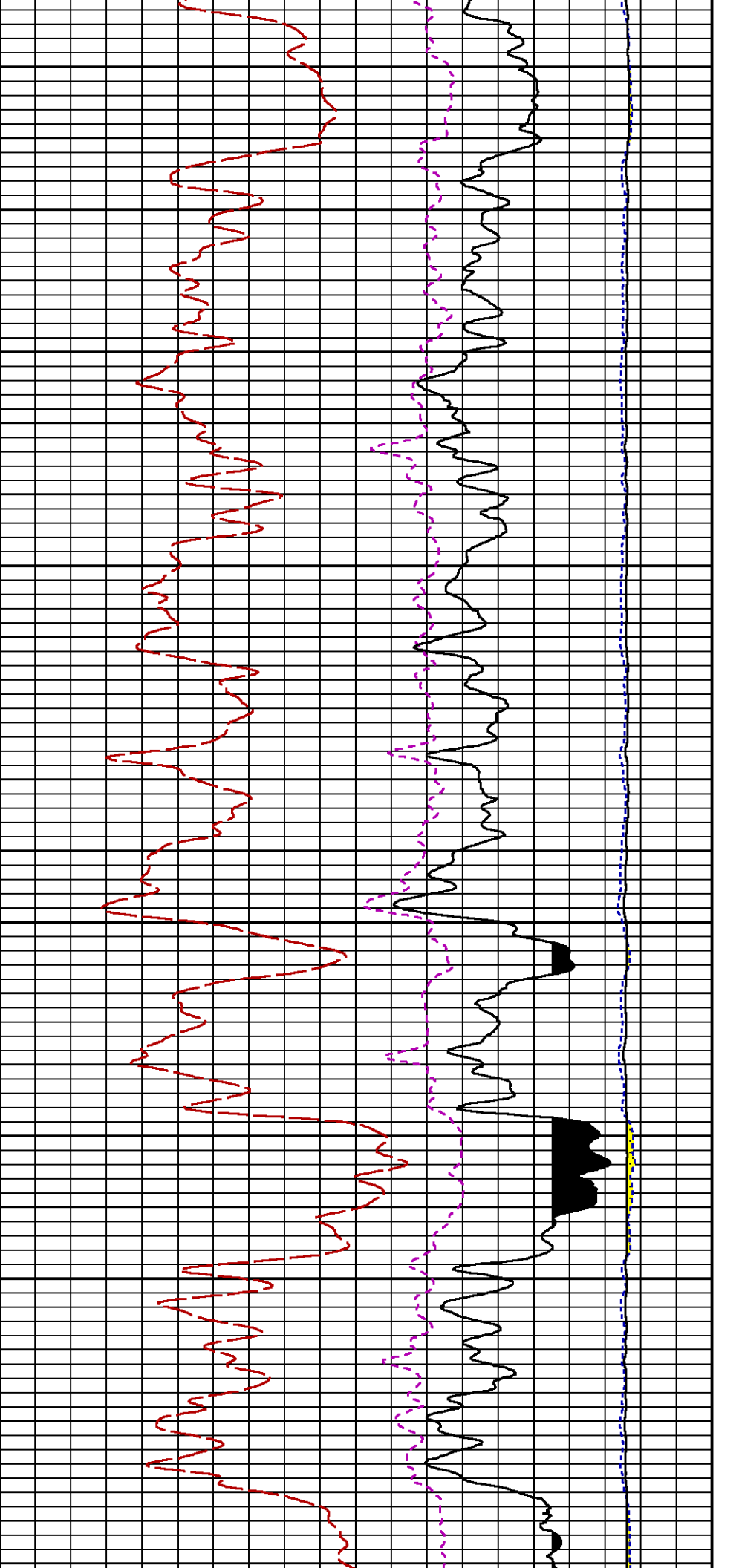
Presentation : BHIHXP1N2:C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07W\07W\_RPM\_WF\_MAIN.fvpdf [5"/100" Scale]  
Plot Interval : 5169.25 - 8593.5 Feet

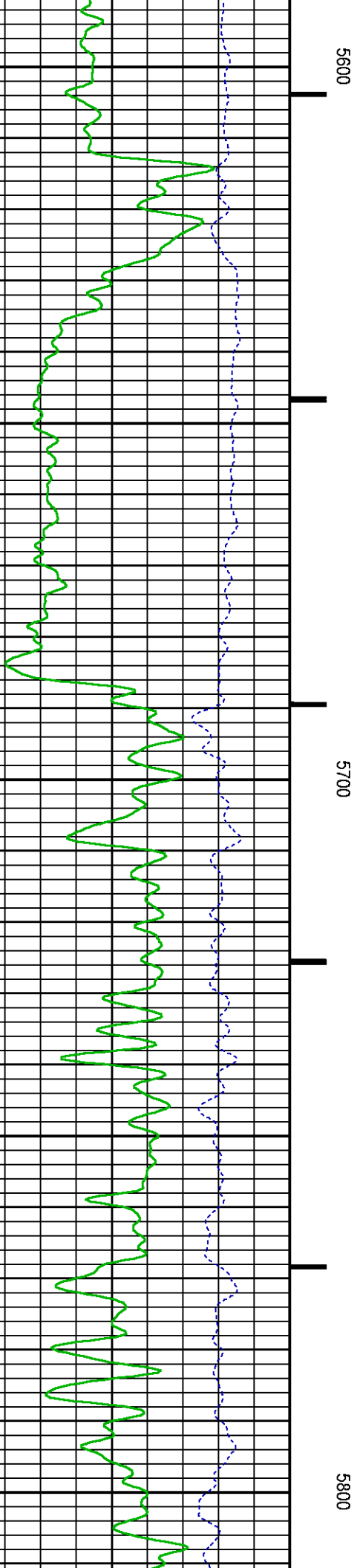
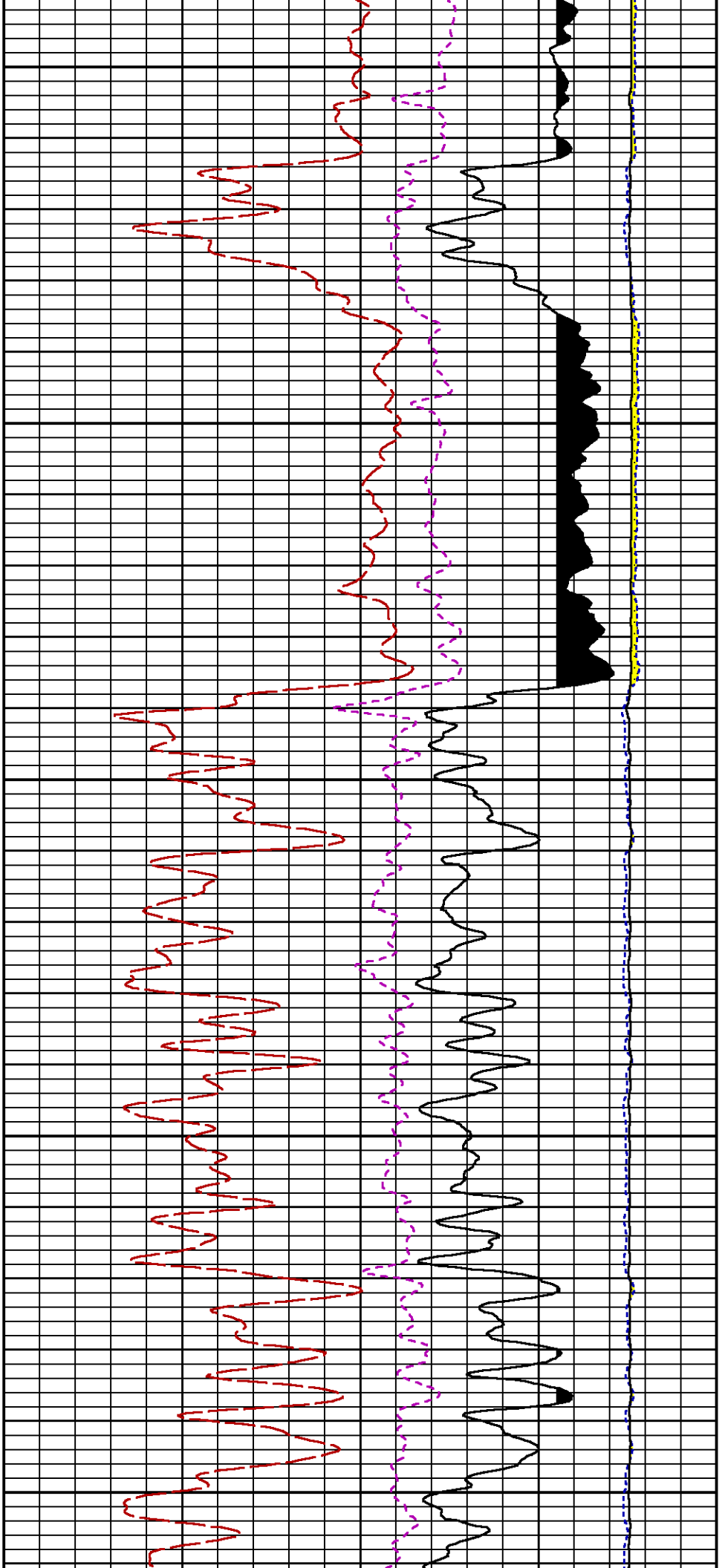
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Created On : Feb 13 15:41:57 2019  
Company : LARAMIE ENERGY LLC  
Well : SUP & SHEP 099326-07W  
Field : BUZZARD CREEK  
File Interval : 5168.5 - 8595 Feet  
OCT : p353h

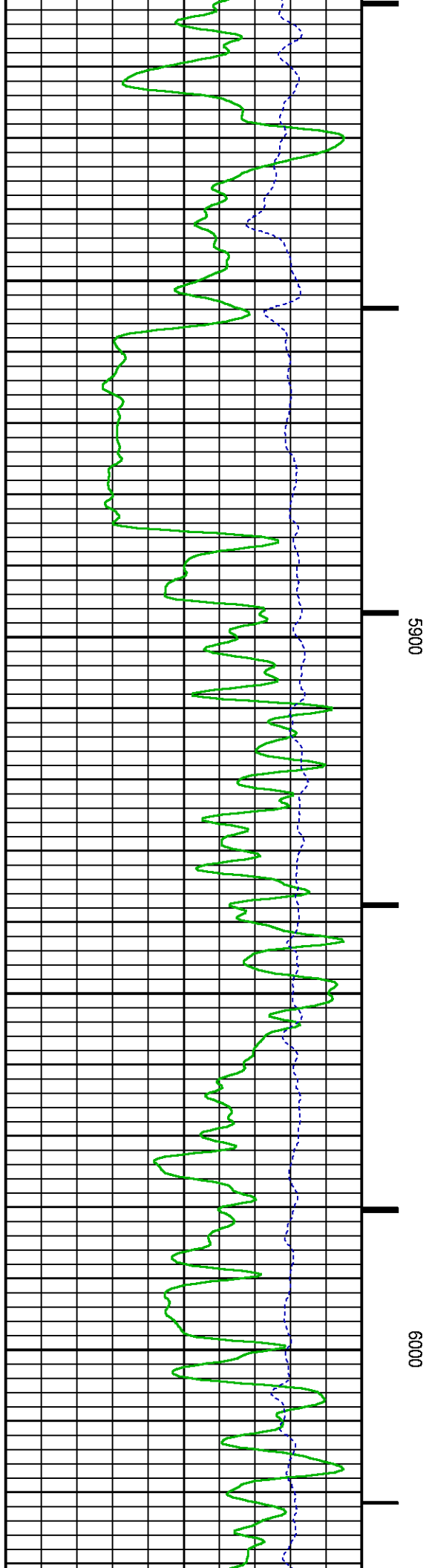
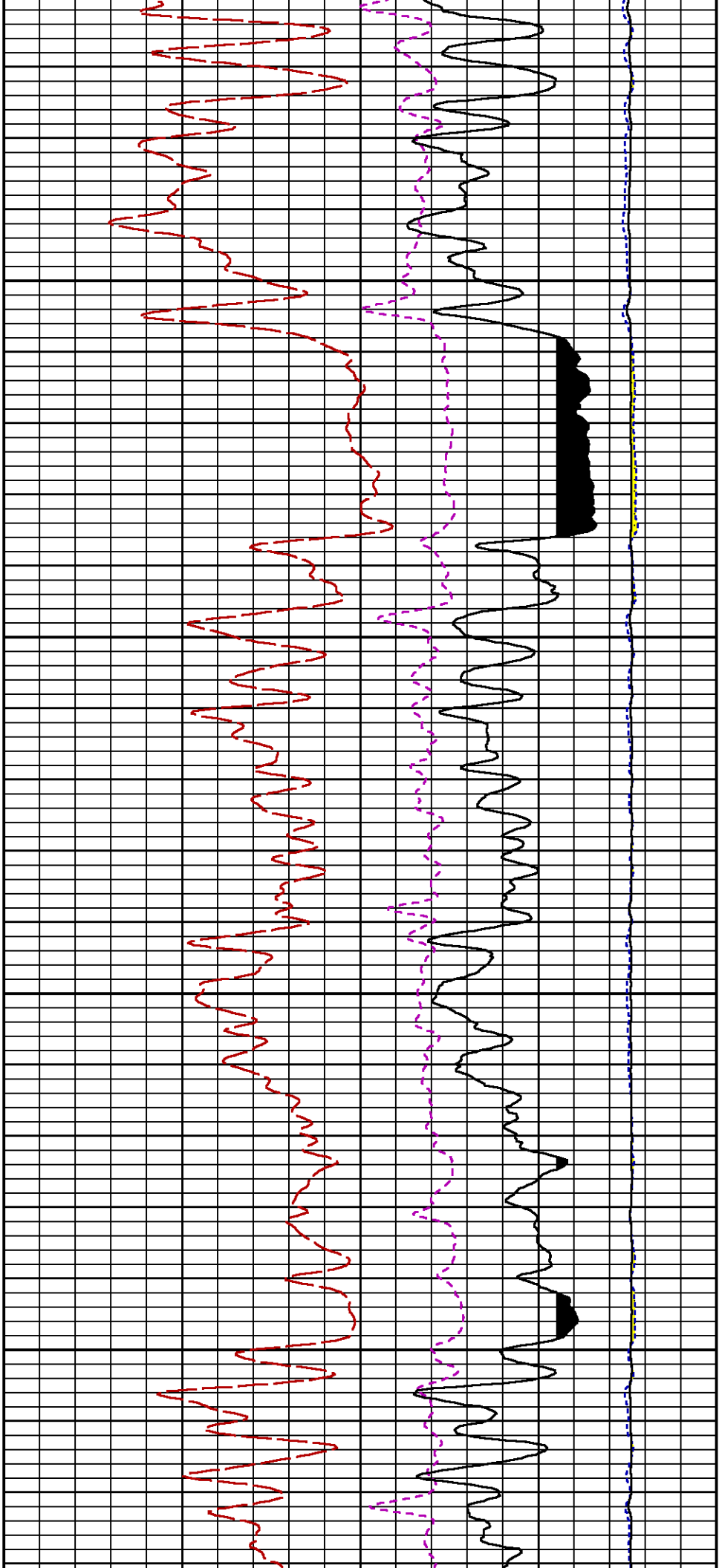


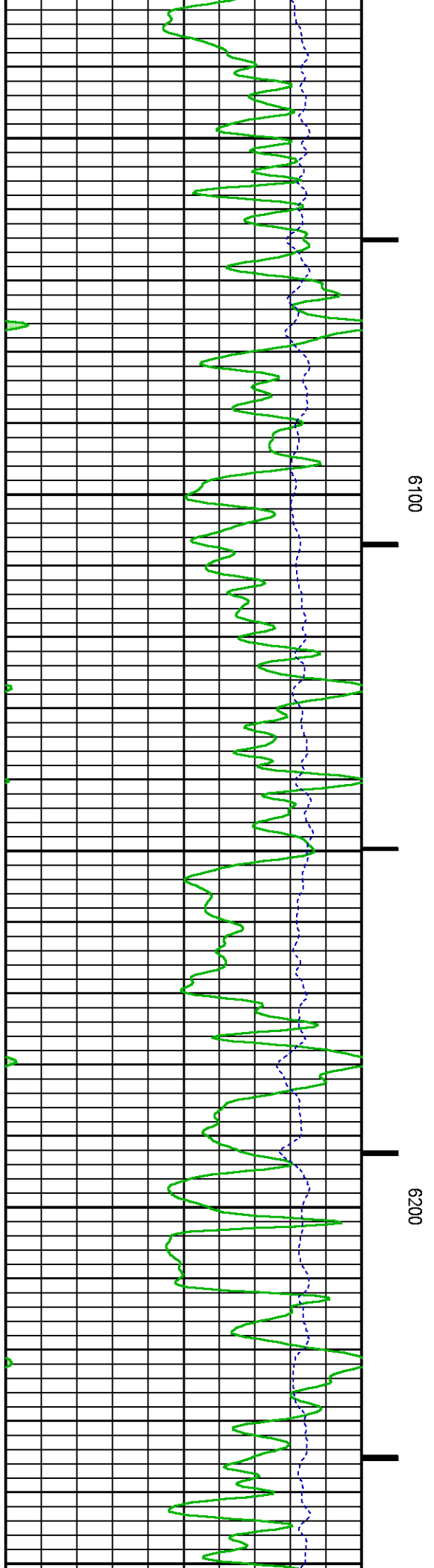
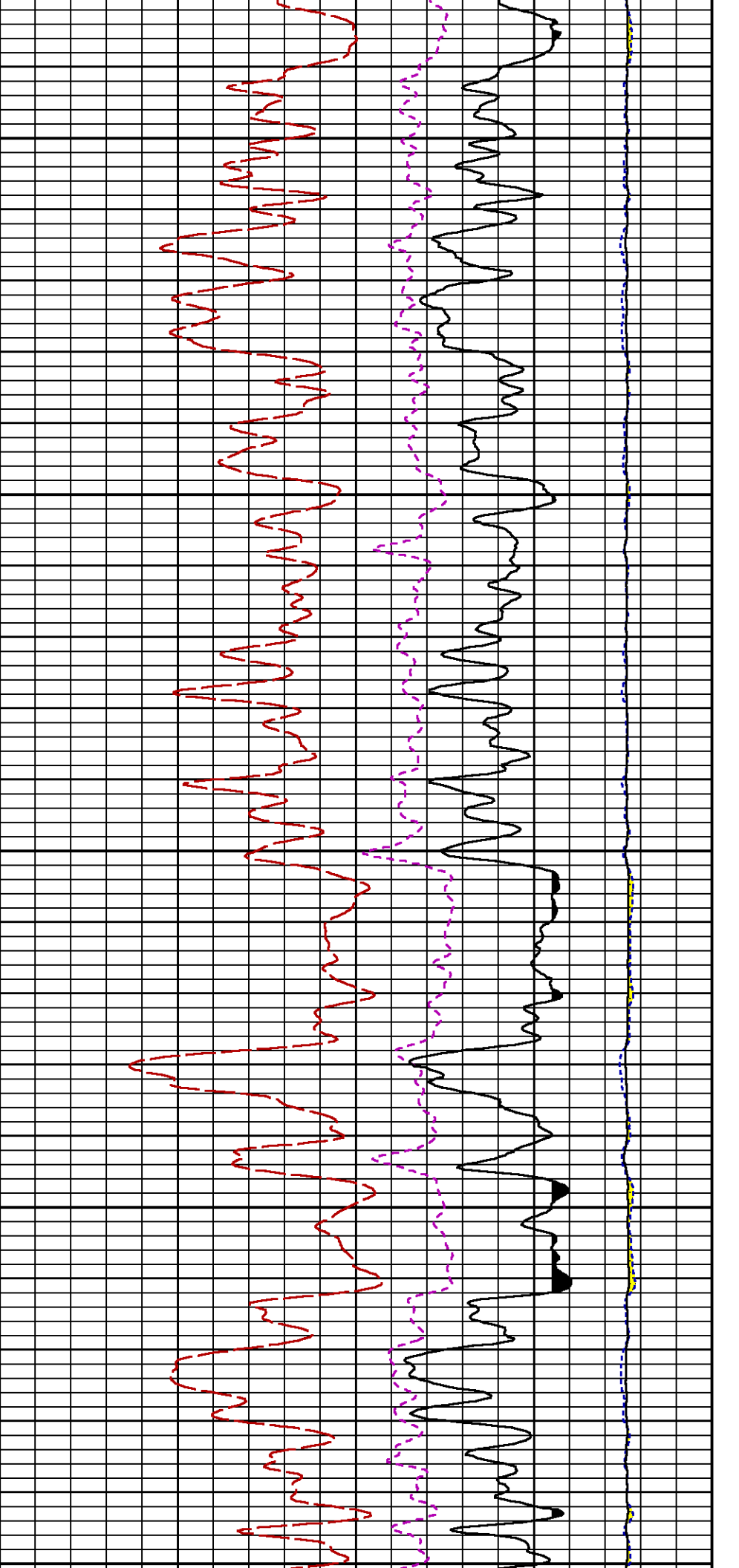


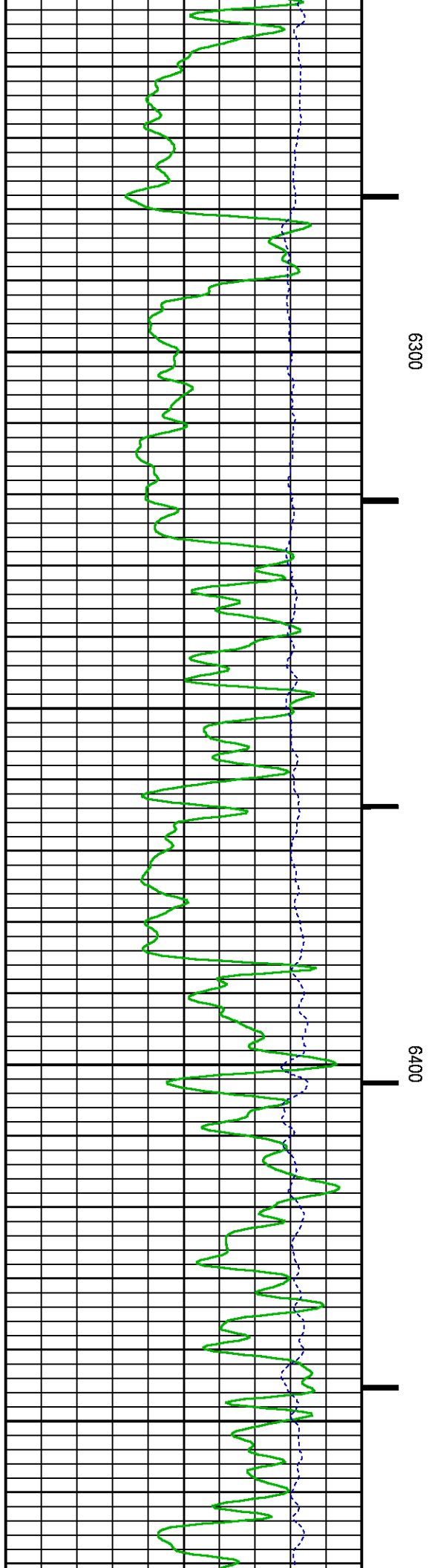
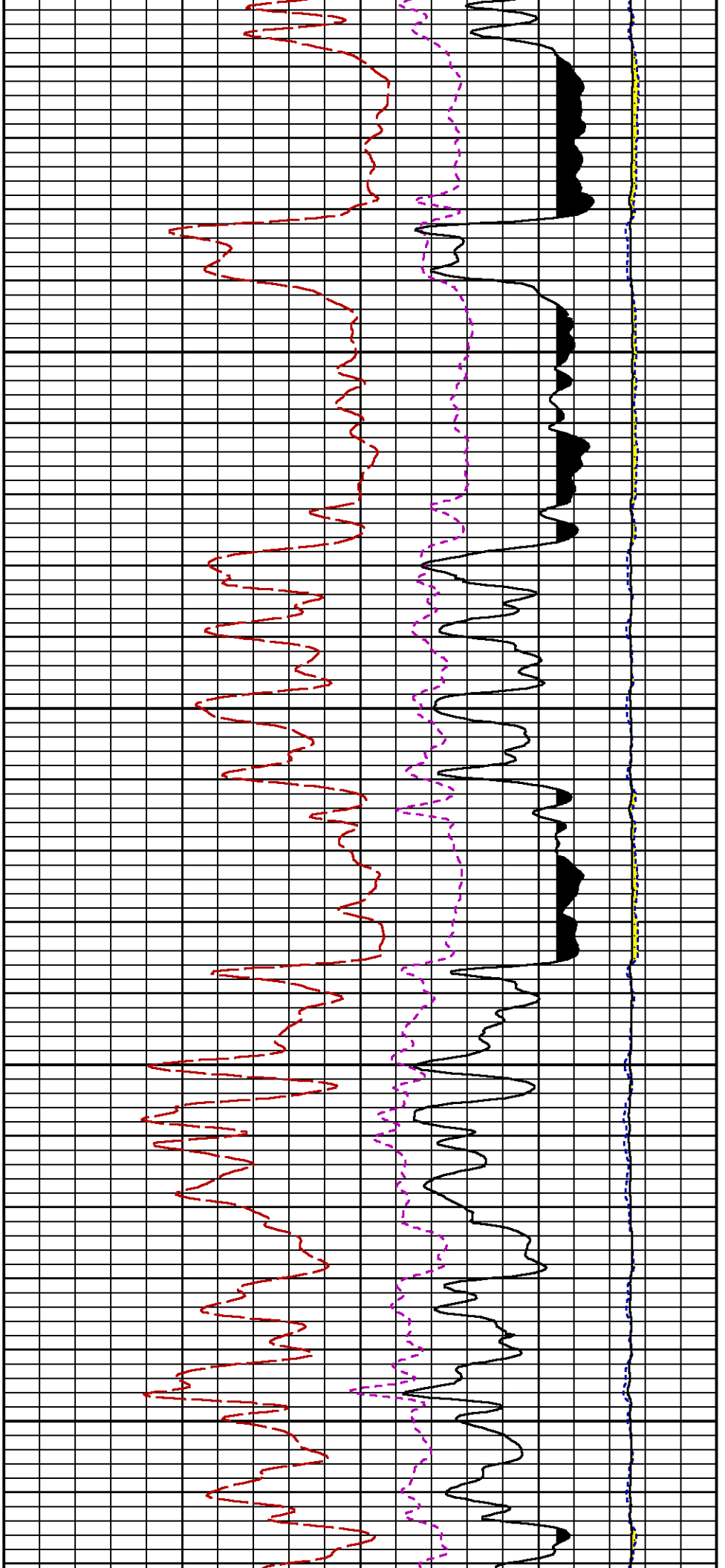


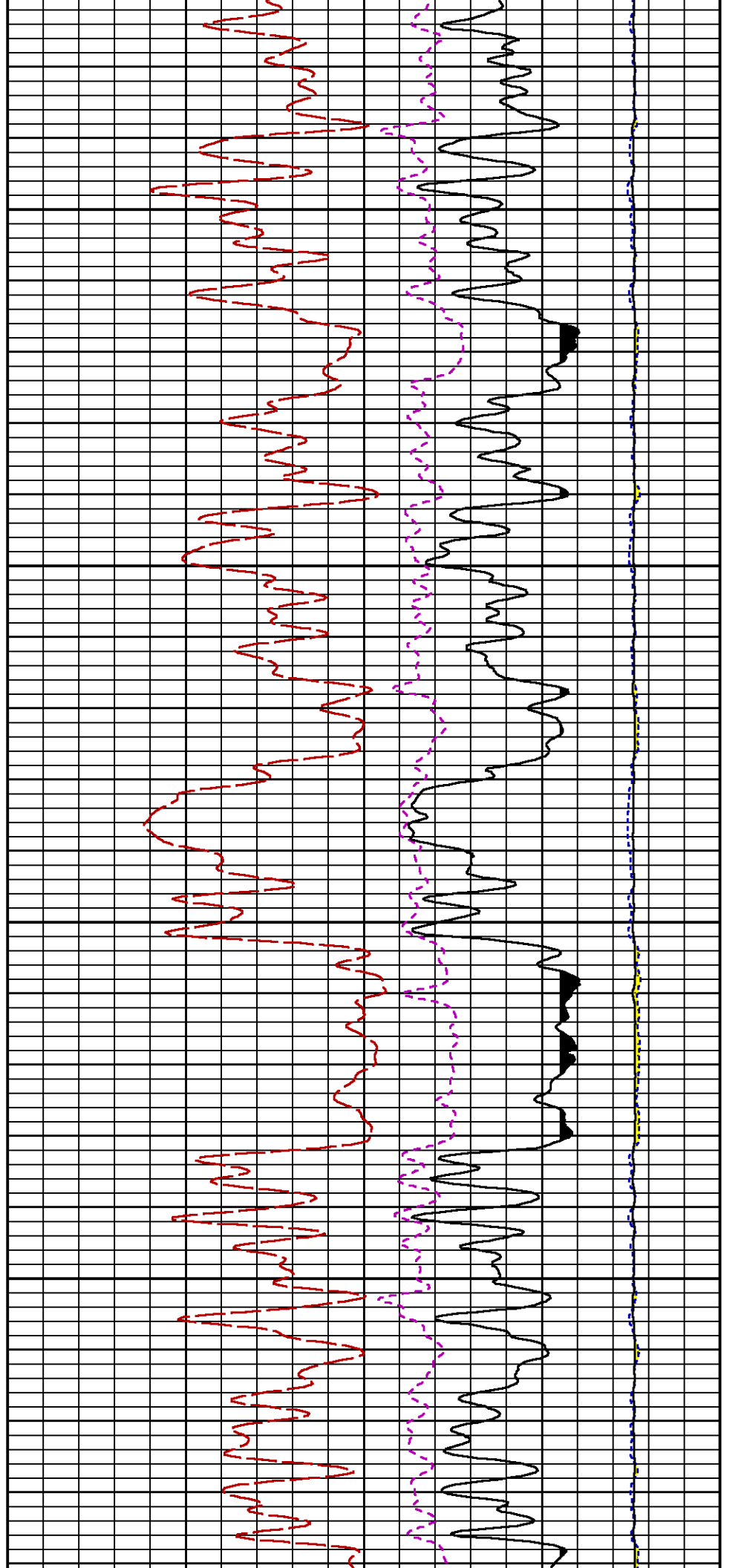
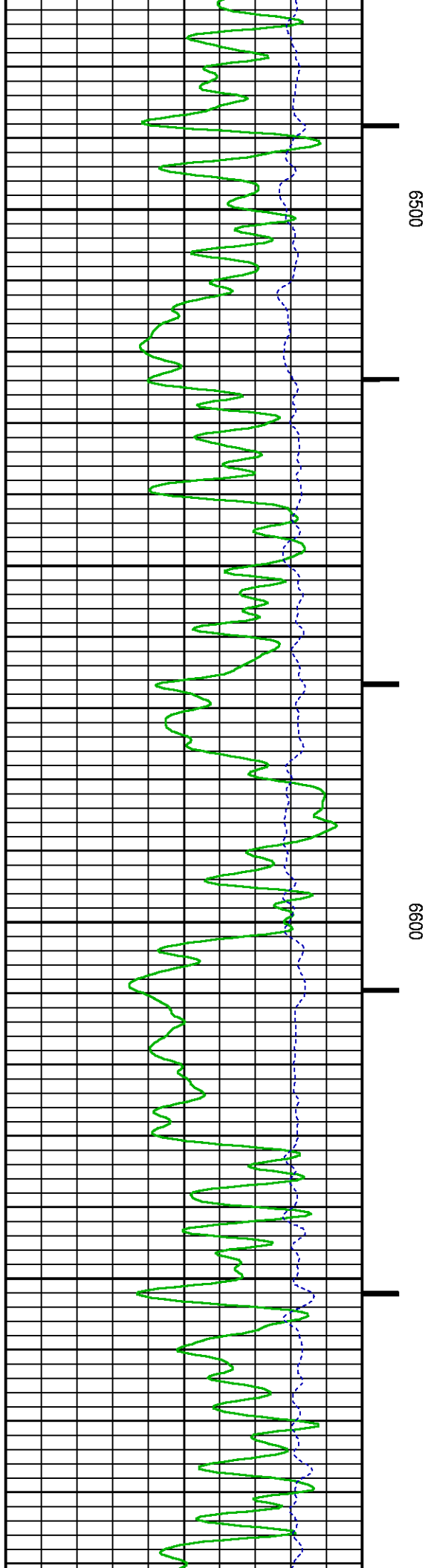


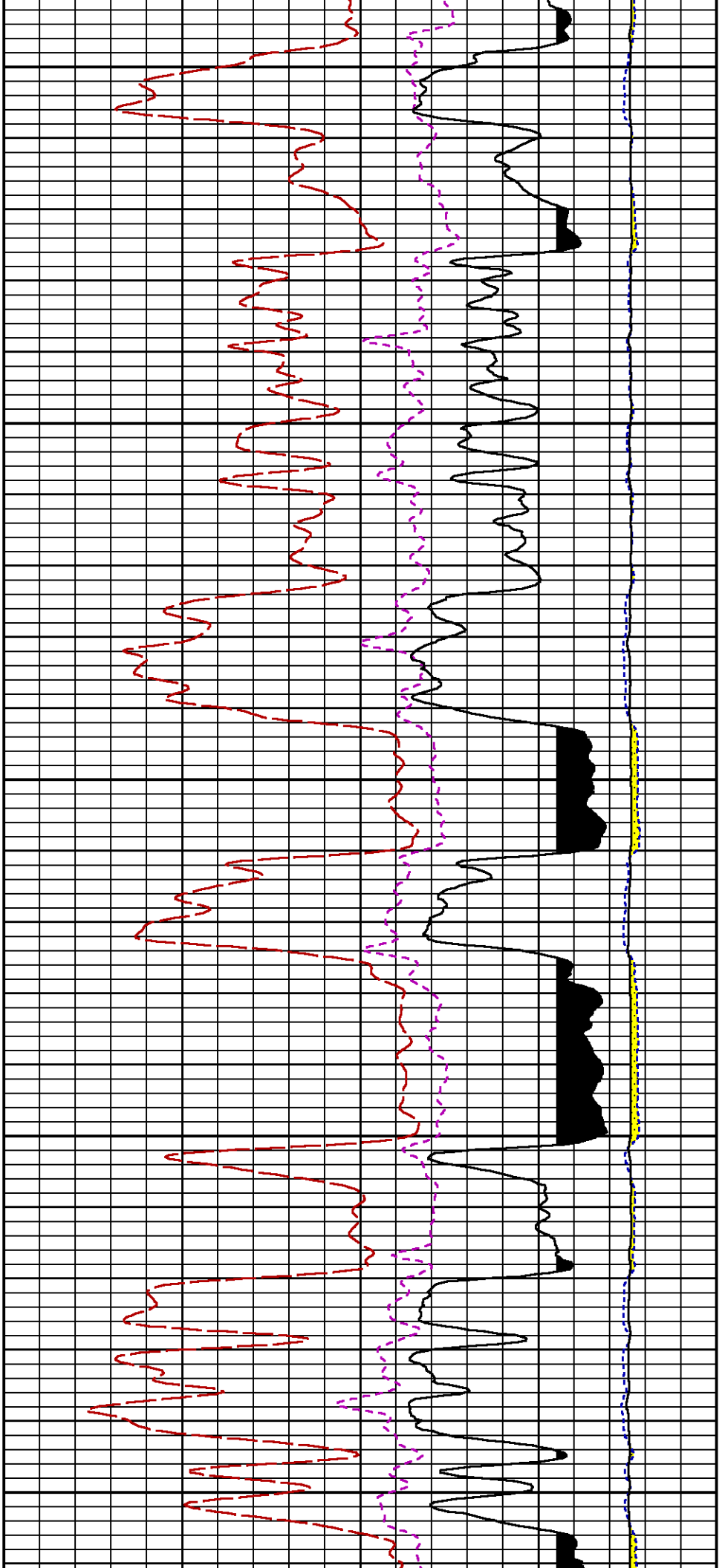










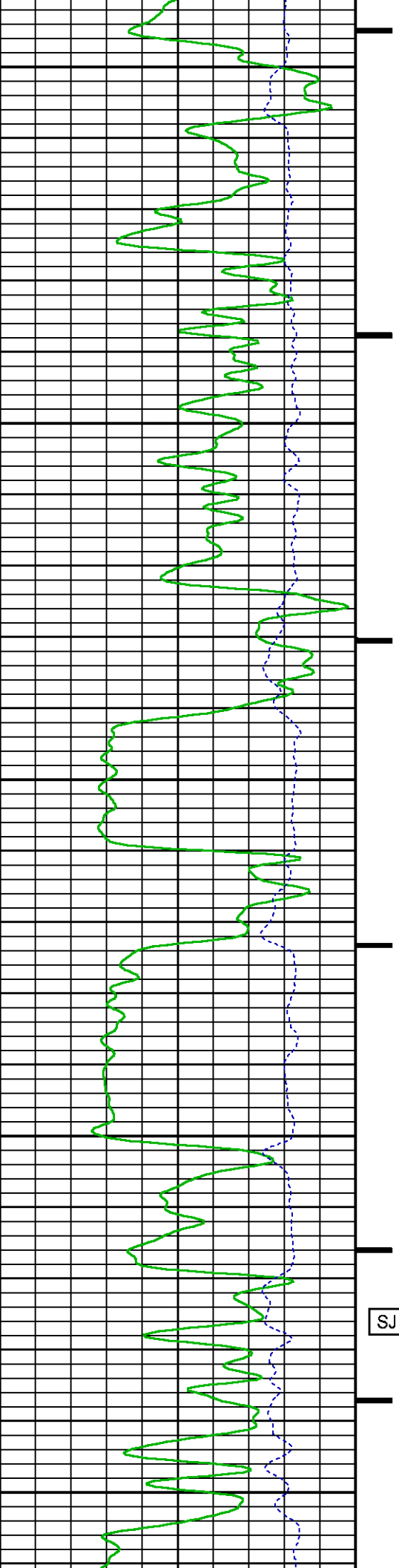


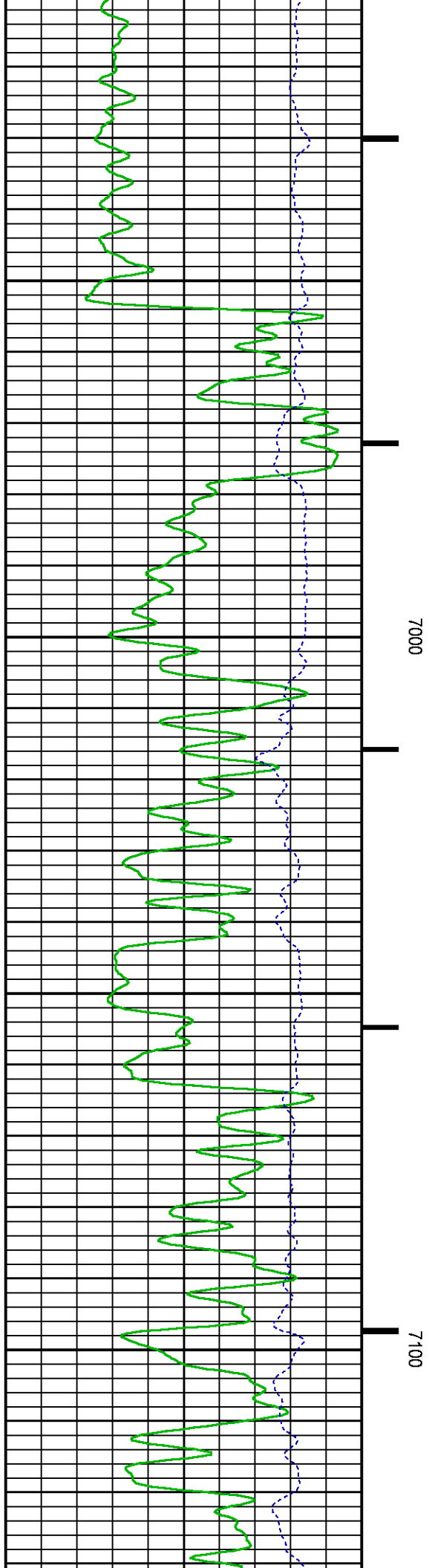
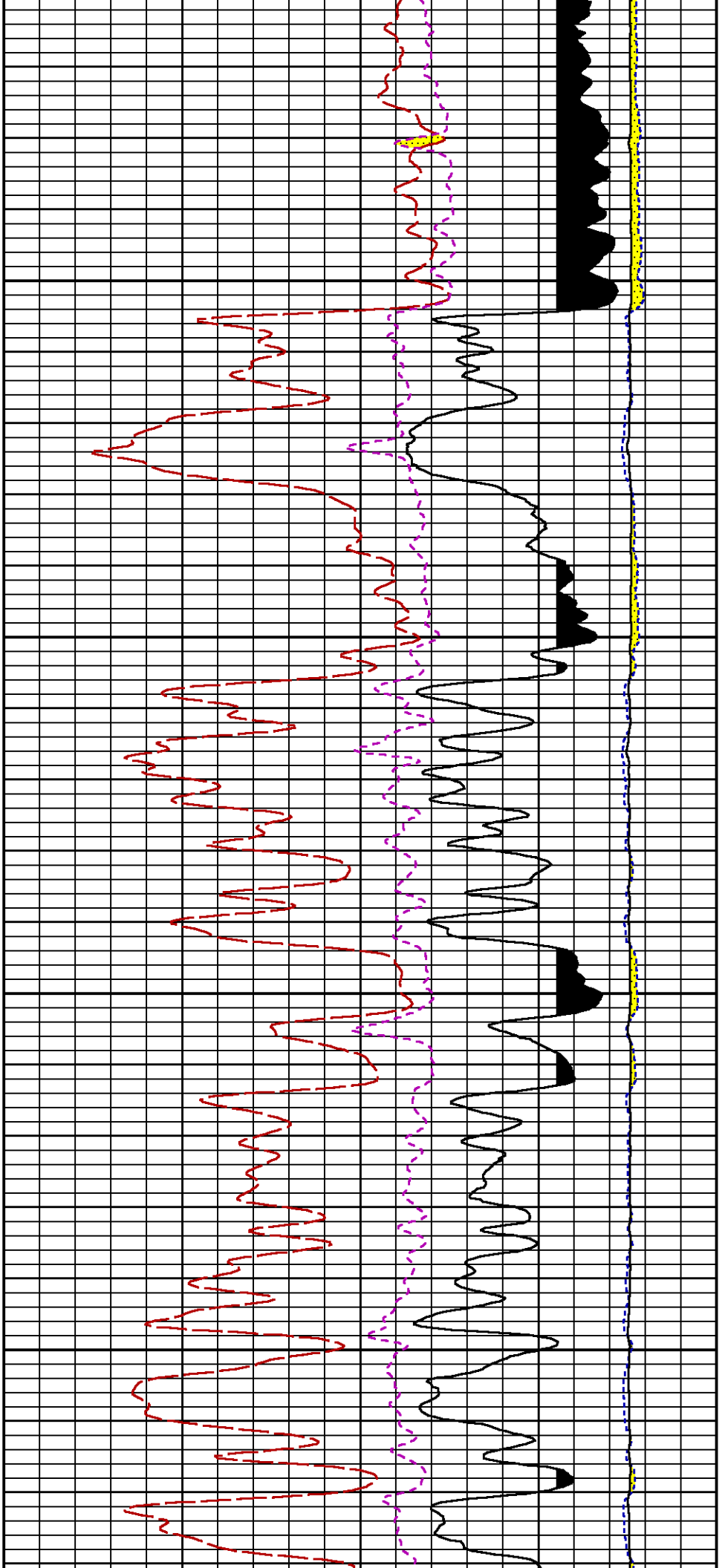
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6800

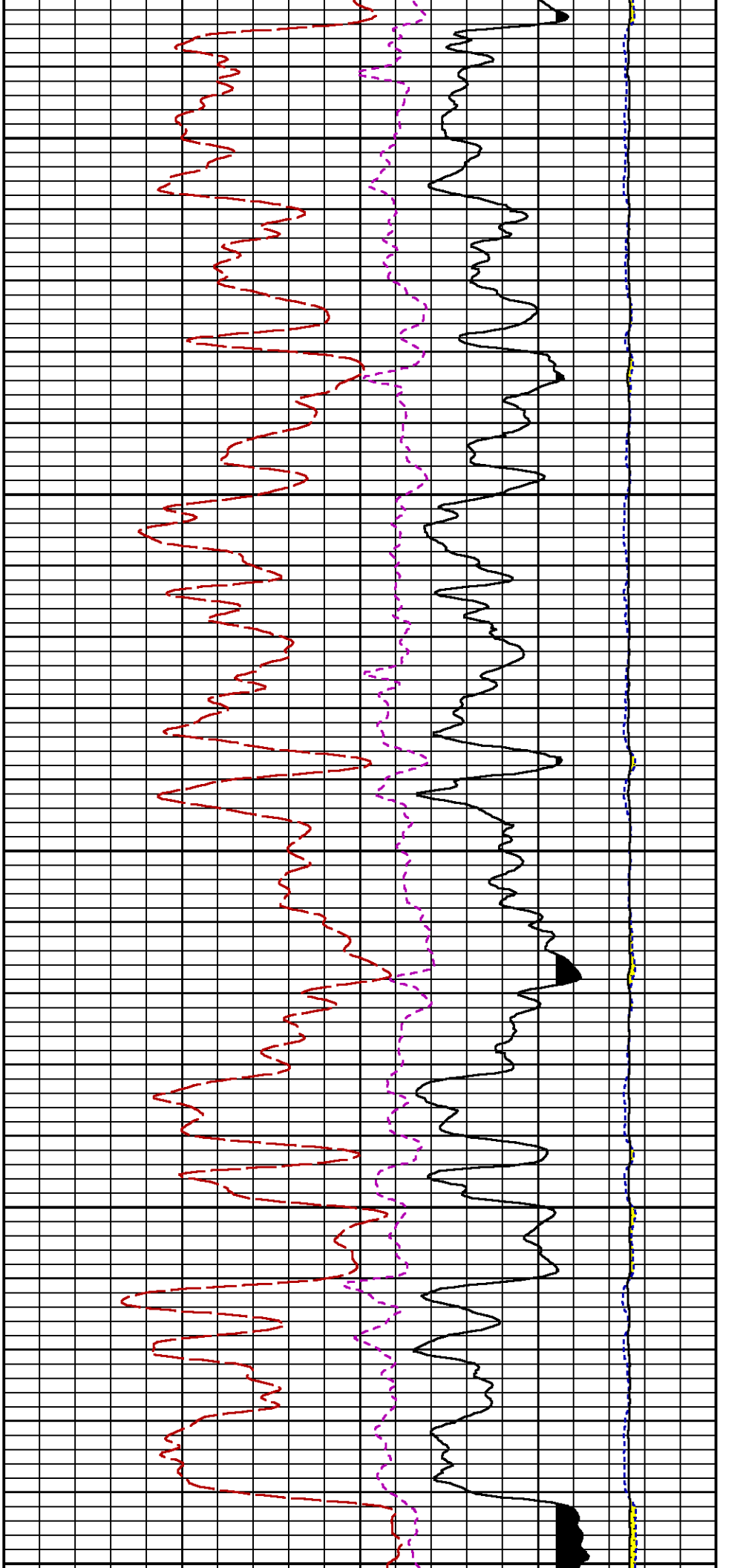
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6900



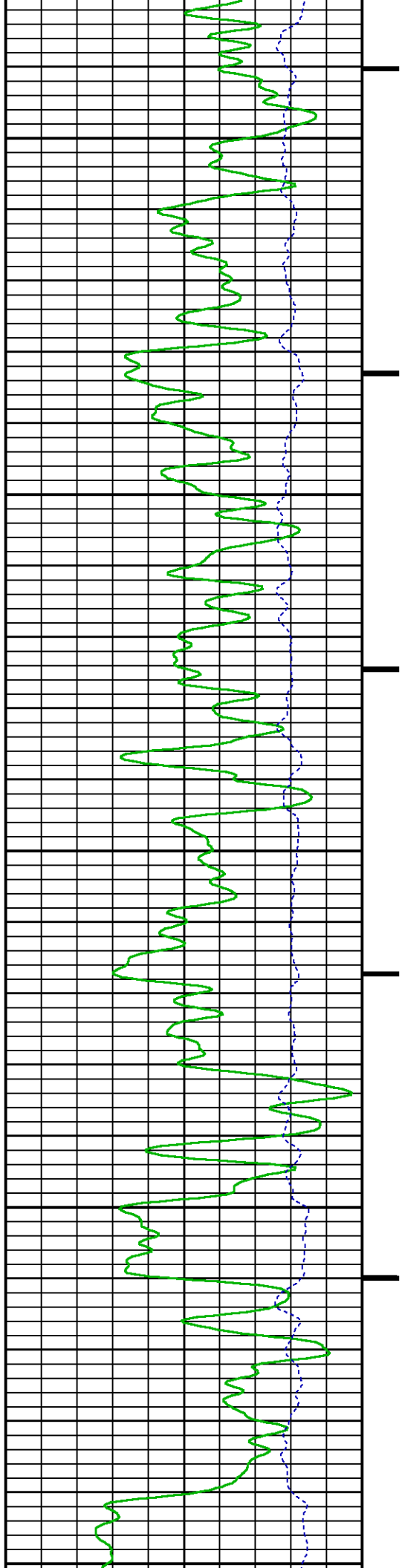


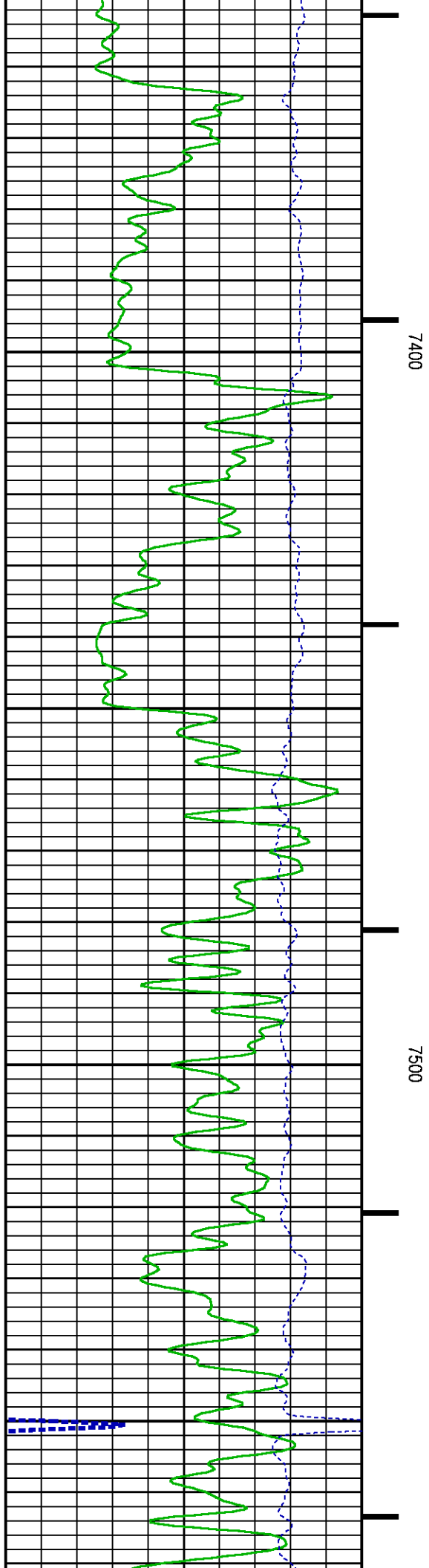
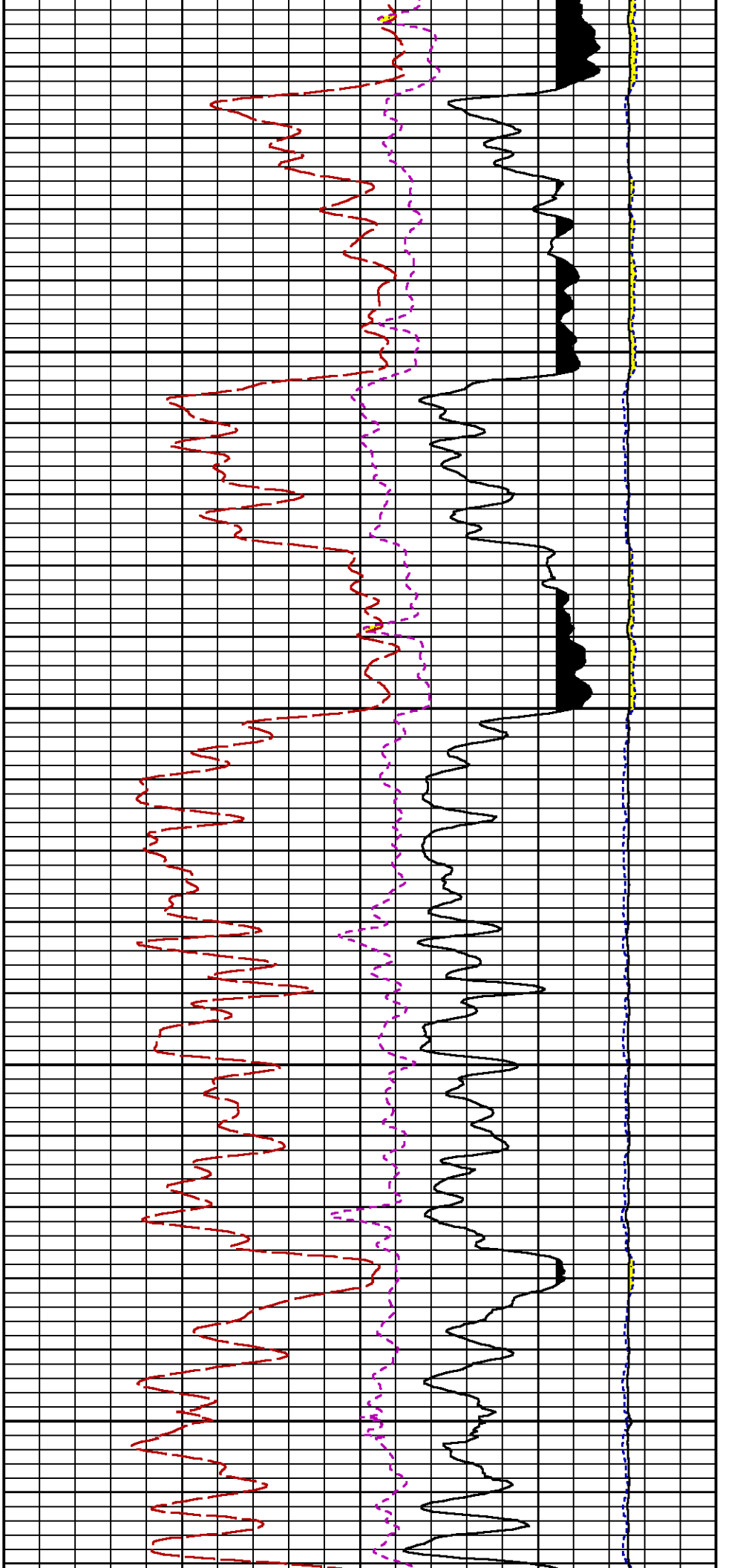


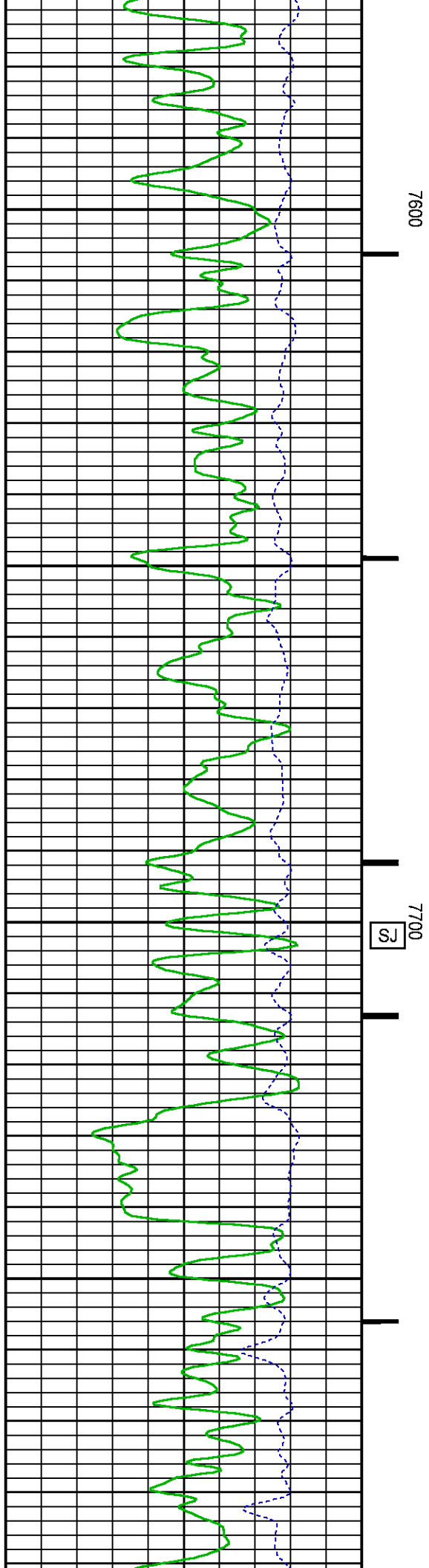
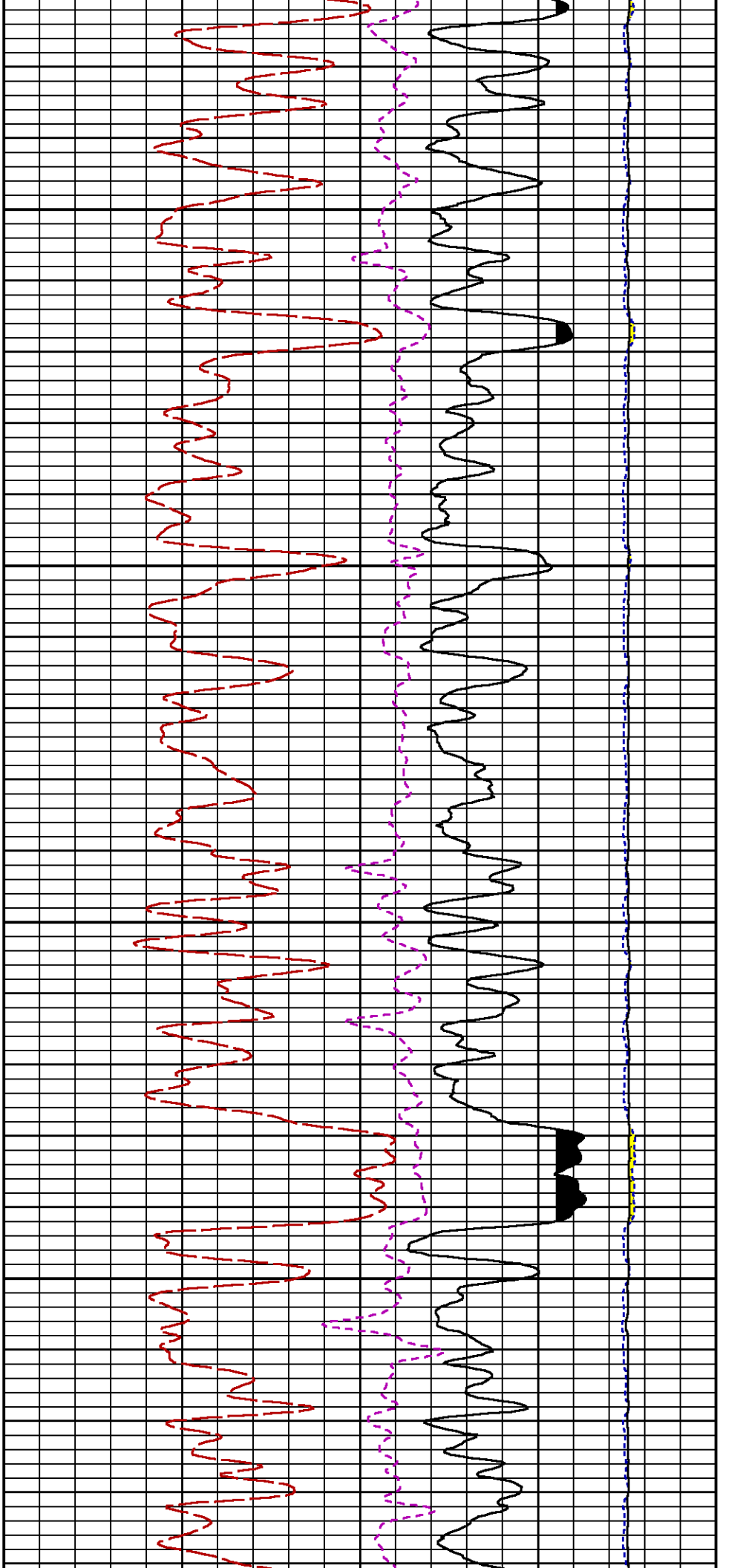


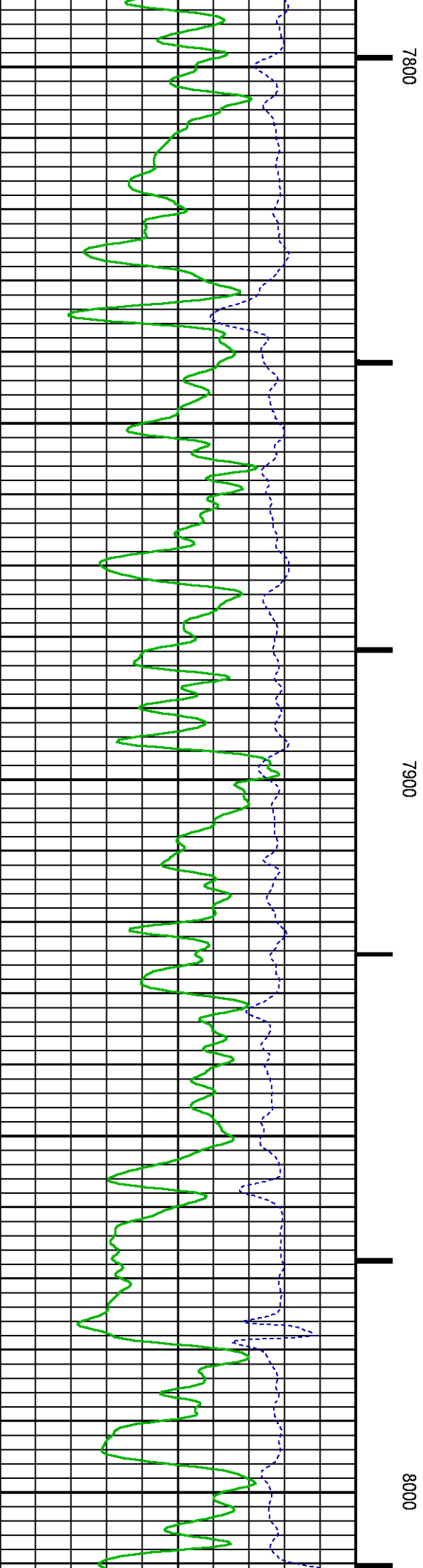
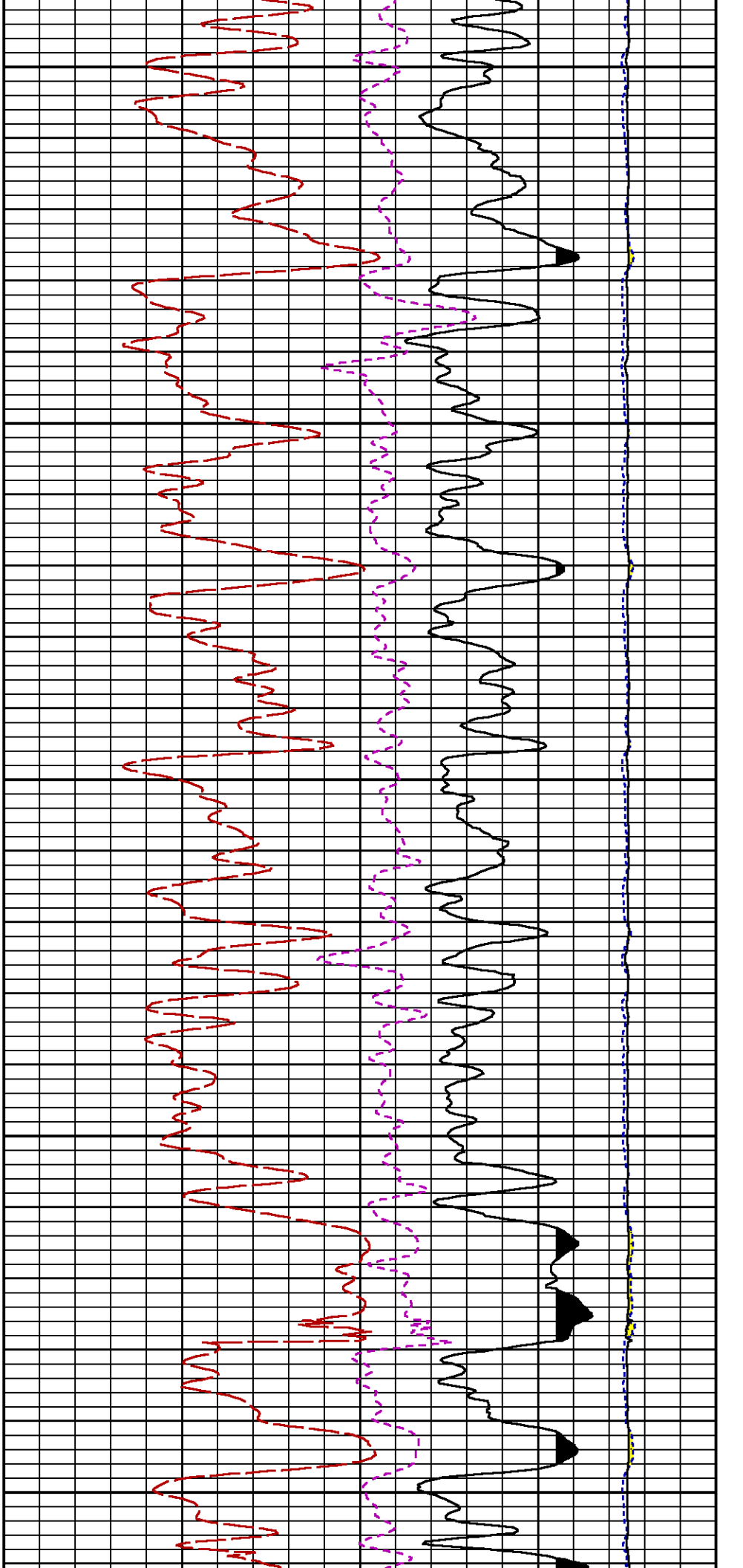
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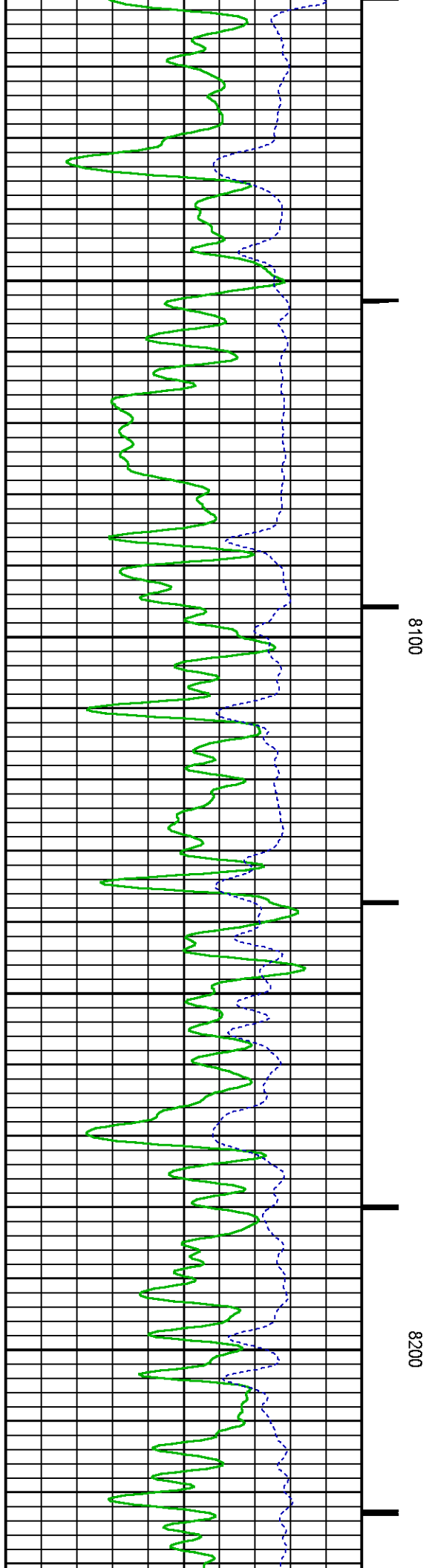
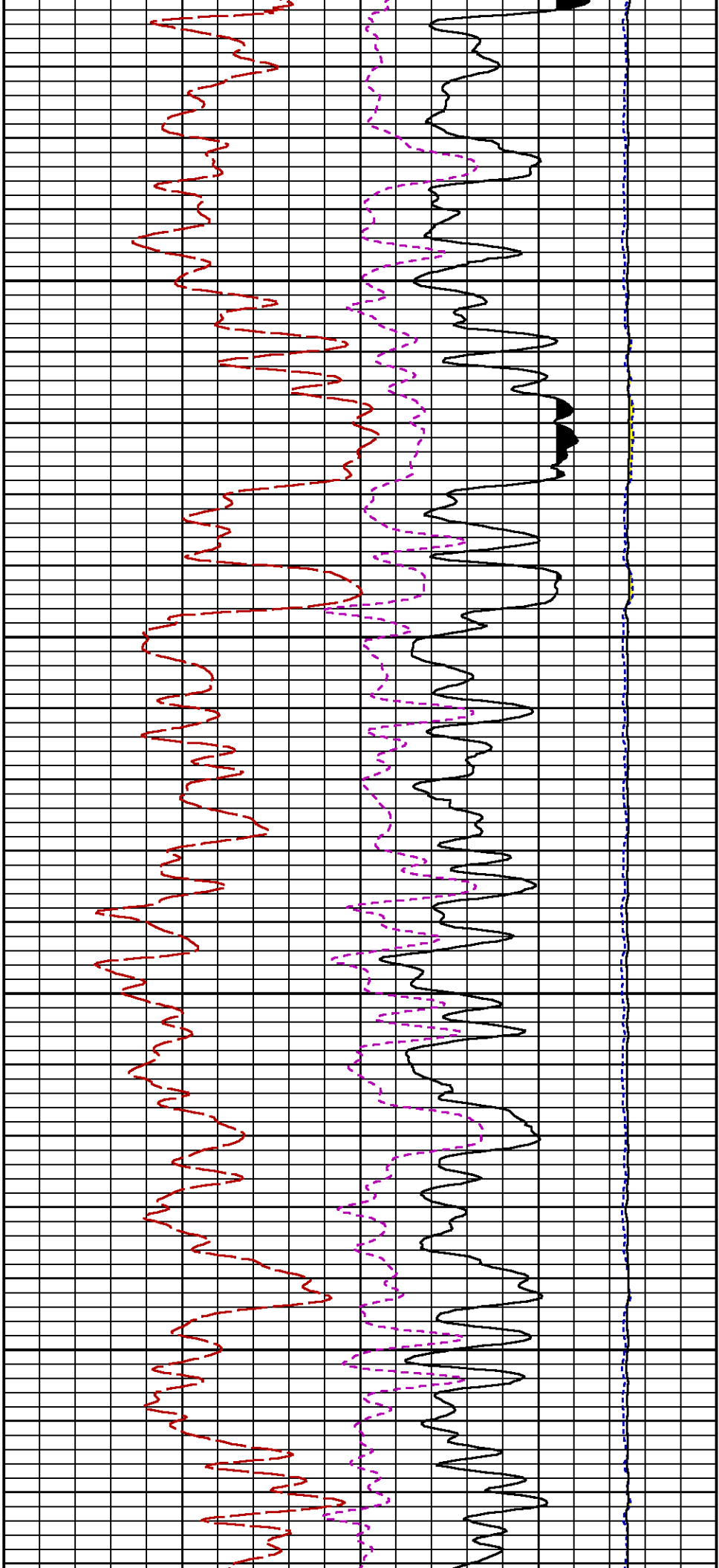
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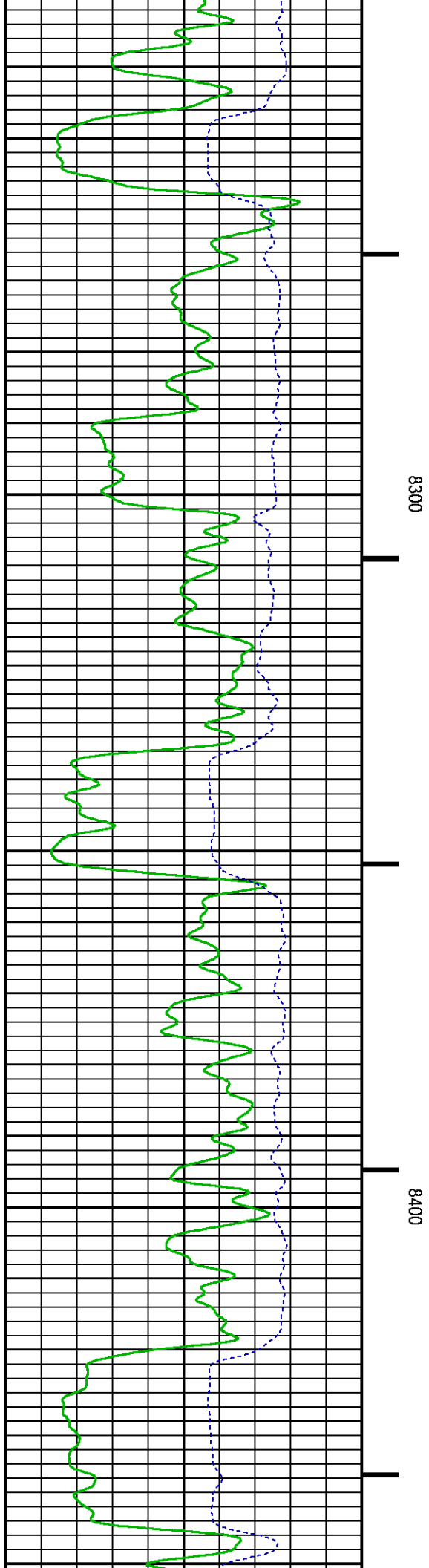
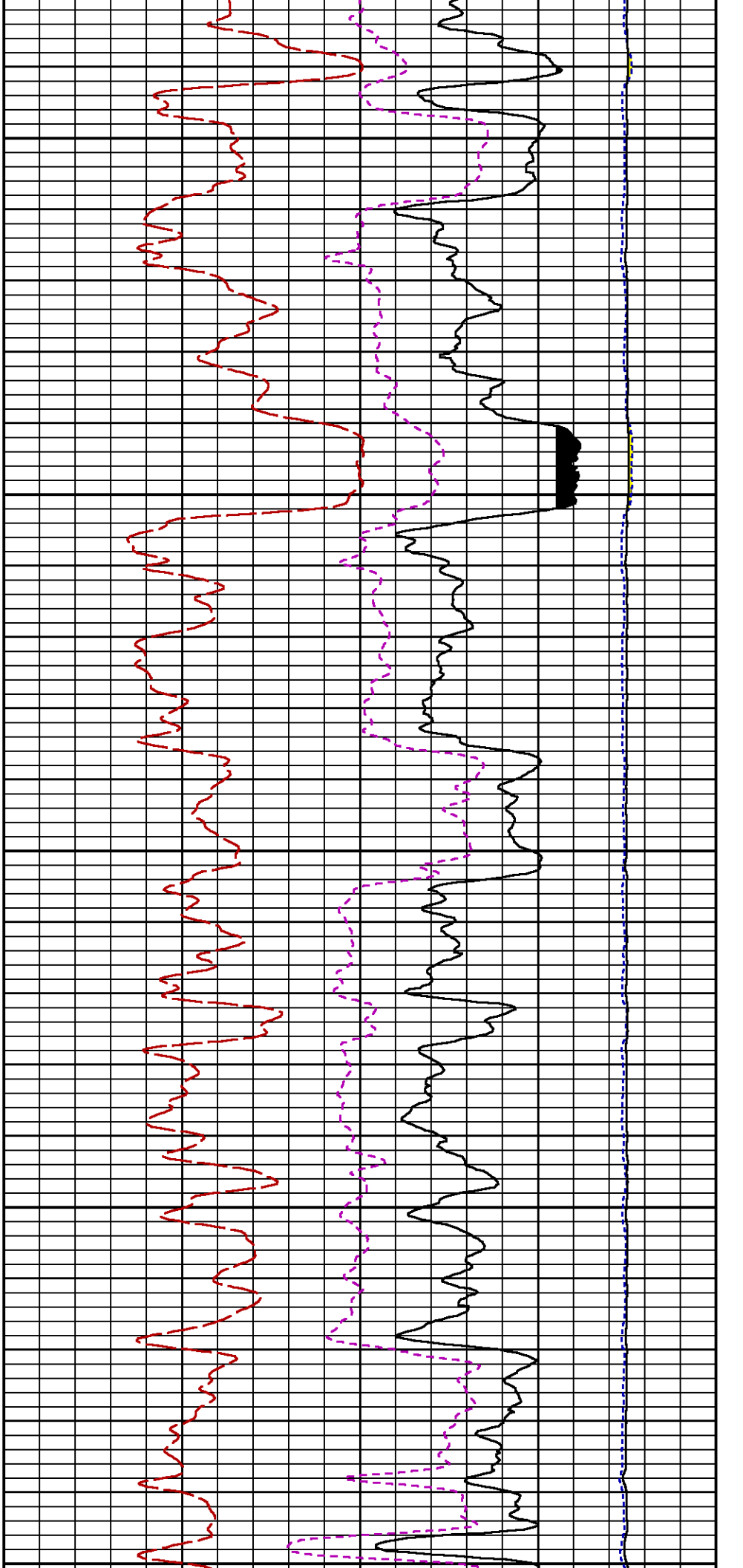


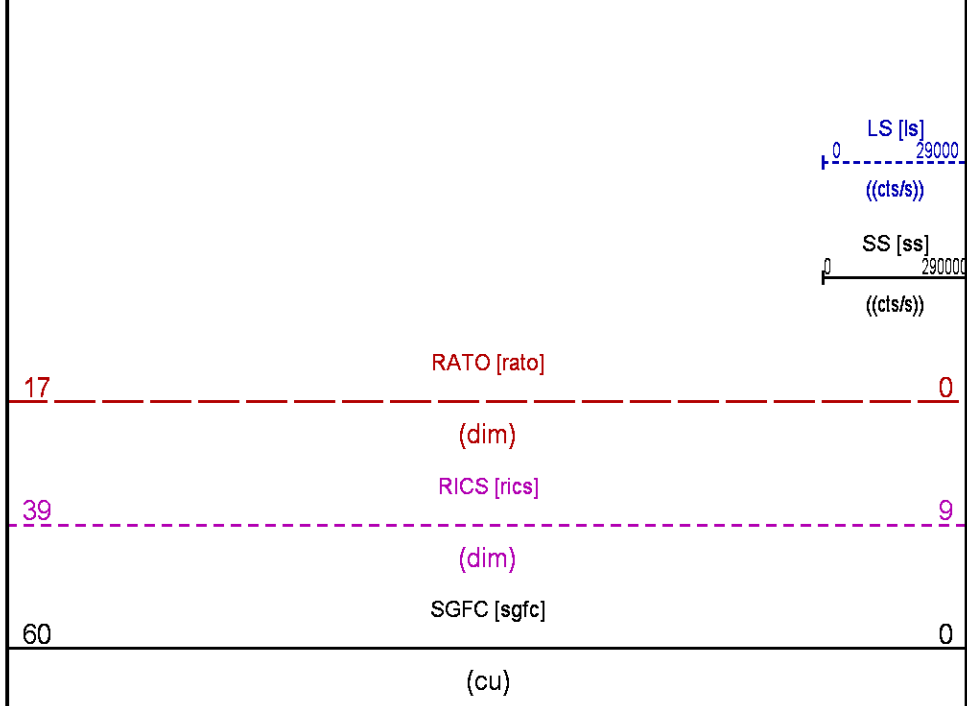
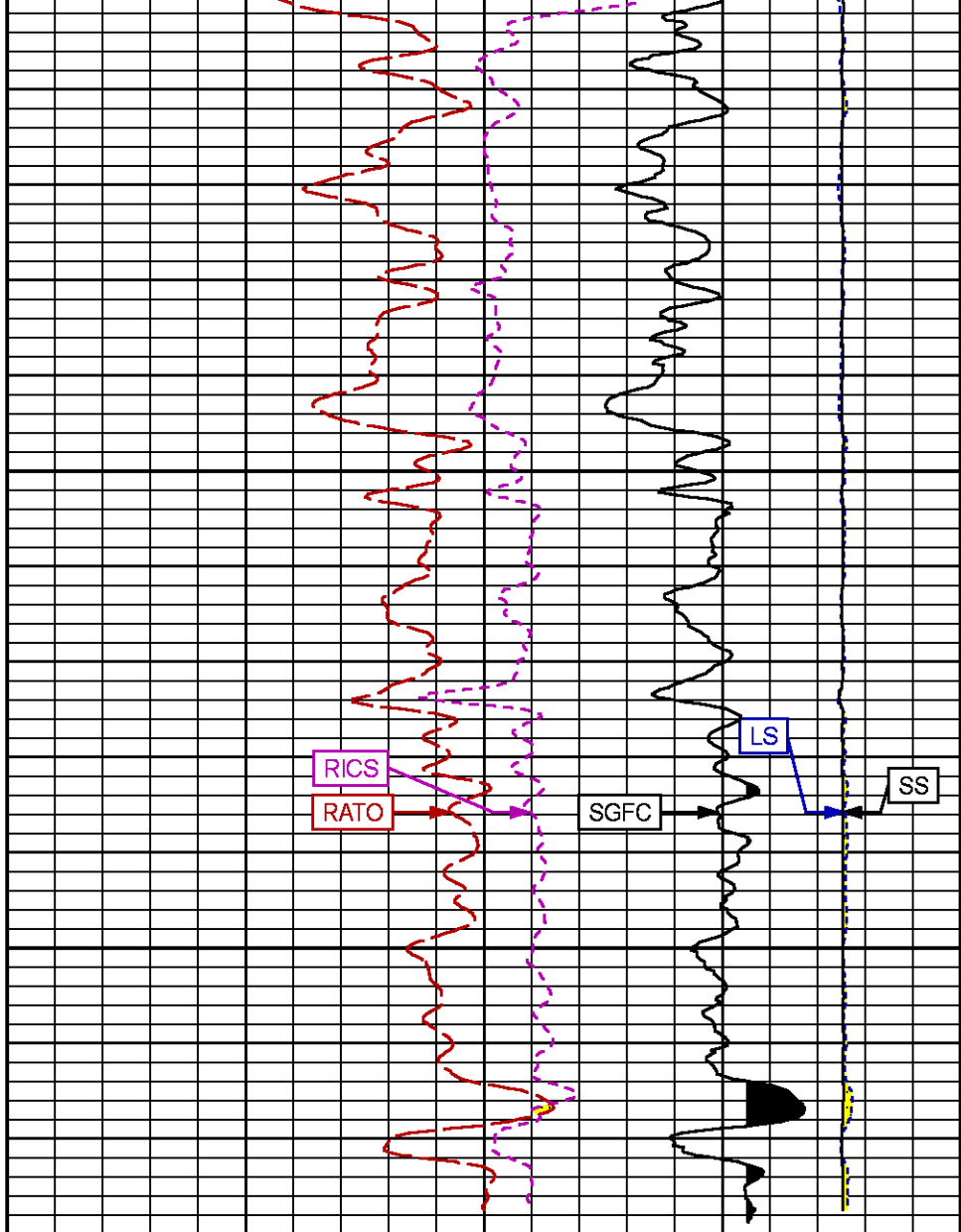
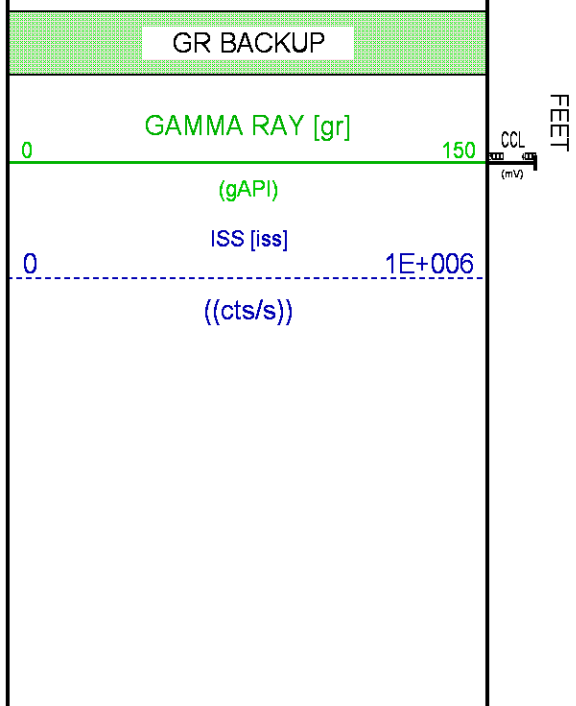
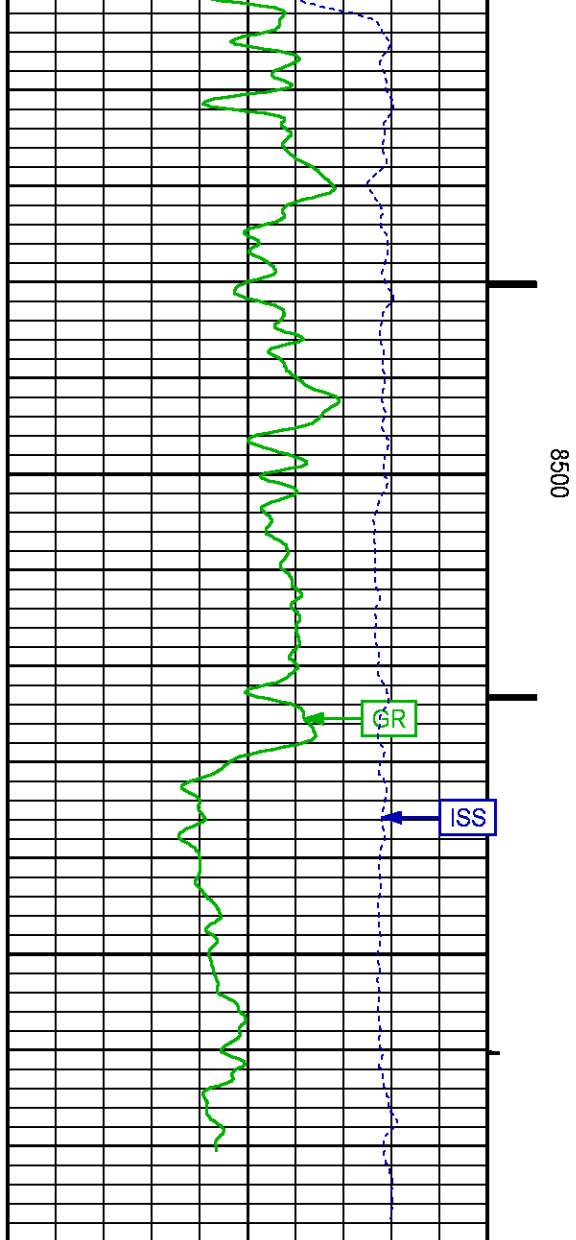












# REPEAT PASS PNC-3D WILLIAMS FORK

ECLIPS 7.0wu1 PC-ECLIPS General Release Rel 7.0w Update 1 Wed Jul 25 15:19:34 Central Daylight Time 2018  
Patches: 1

Plotted: Thu Feb 14 01:35:49 2019

## PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07W\p353h02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 5691.145 ft BOTTOM DEPTH: 6002.199 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 / SLEEVE		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	8.50	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

## CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Feb 13 14:55:48 2019	CASING COLLAR LOCATOR
F1:GR	Feb 13 14:55:48 2019	GAMMA RAY
F1:ISS	Feb 13 14:55:48 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Feb 13 14:55:48 2019	LONG SPACE COUNT RATE
F1:RATO	Feb 13 14:55:48 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Feb 13 14:55:48 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Feb 13 14:55:48 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Feb 13 14:55:48 2019	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 : BHIHXP1N2:C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07W\07W\_RPM\_REPEAT.fvpdf [5"/100' Scale]  
Plot Interval : 5665.25 - 5999.5 Feet

Data File 1 : F1 : BHIHXP1N2:C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07W\p353h02.aff  
Created On : Feb 13 14:55:48 2019  
Company : LARAMIE ENERGY LLC  
Well : SUP & SHEP 099326-07W  
Field : BUZZARD CREEK  
File Interval : 5664.5 - 6001 Feet  
OCT : p353h





((cts/s))

5700

5800

17

RATO [rato]

0

(dim)

39

RICS [rics]

9

(dim)

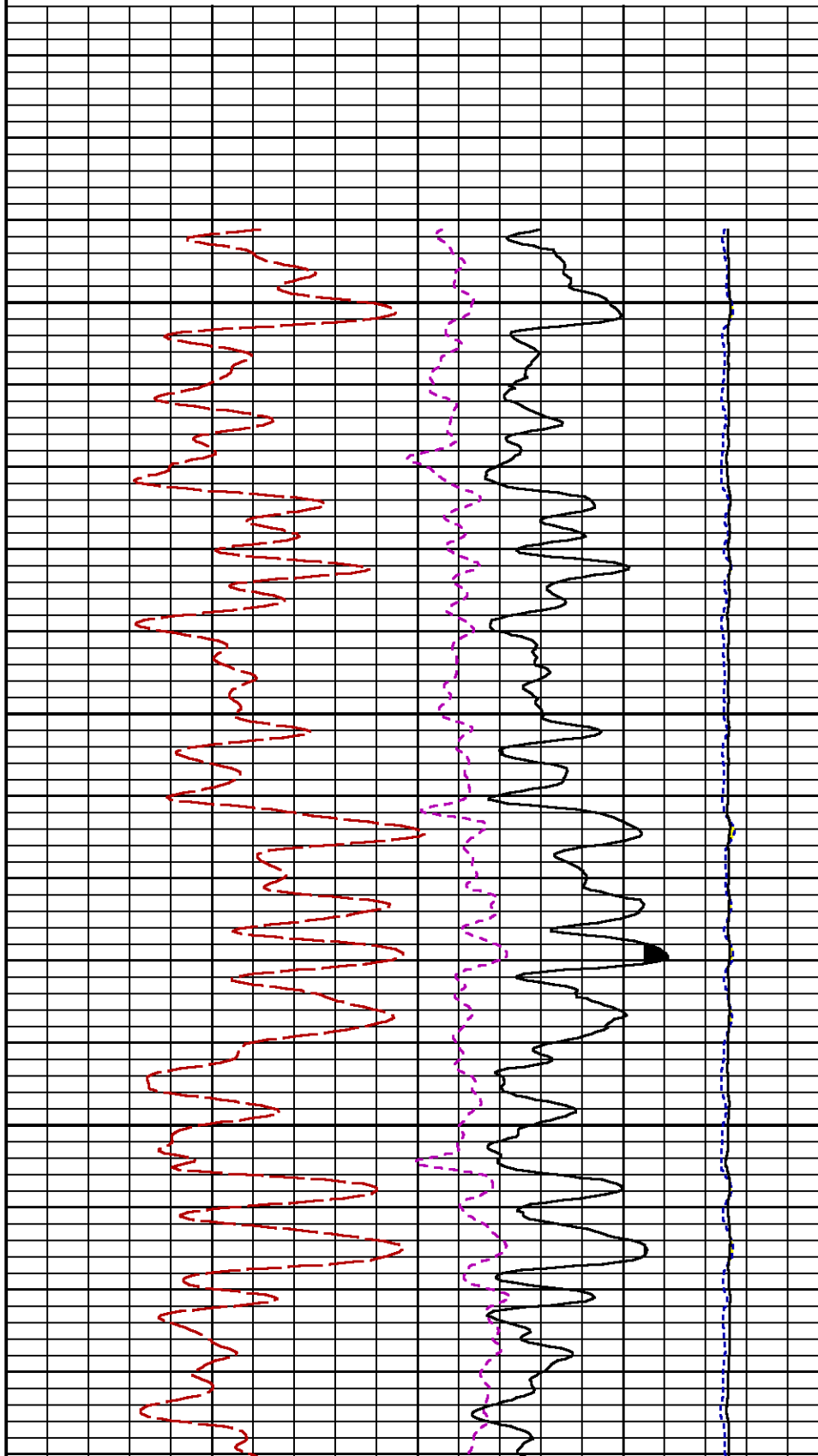
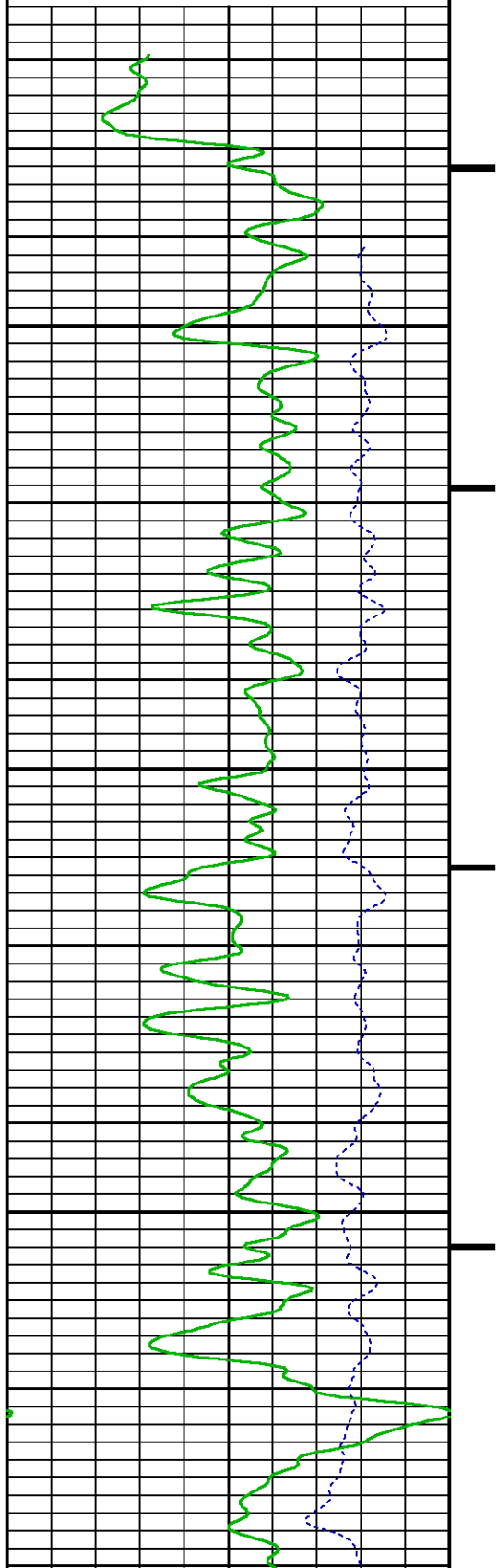
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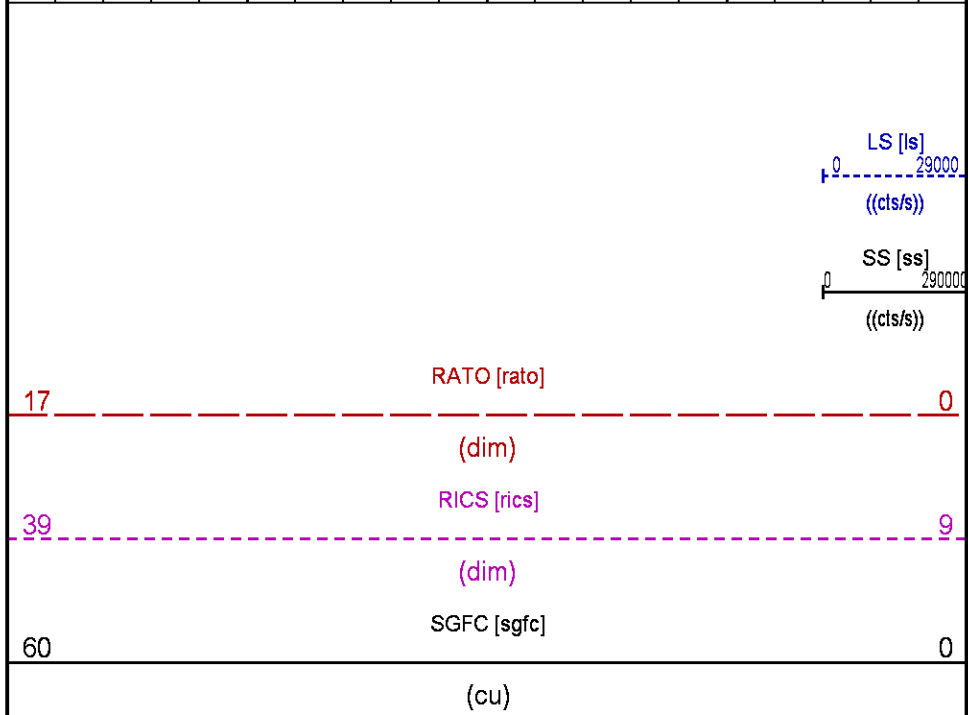
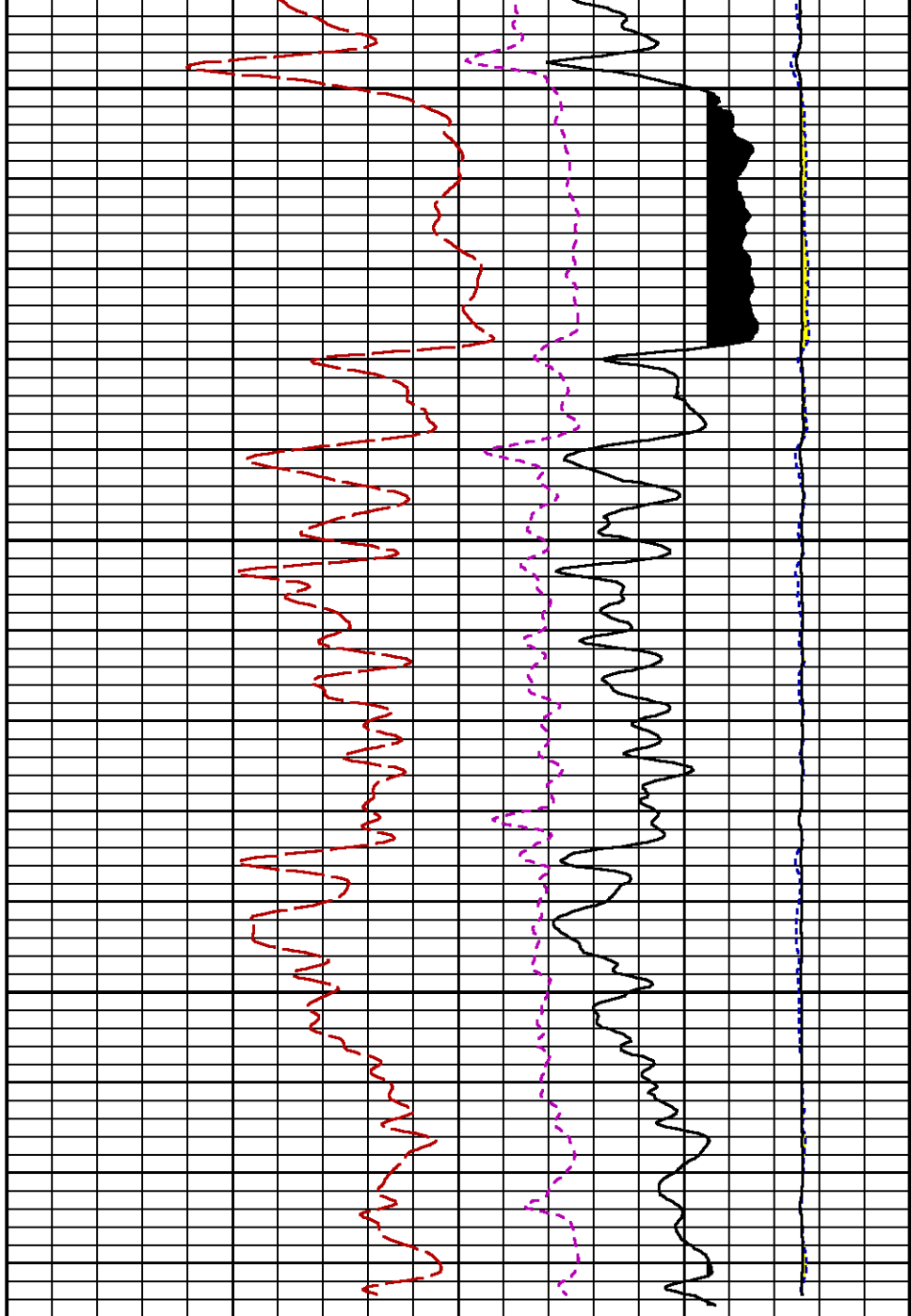
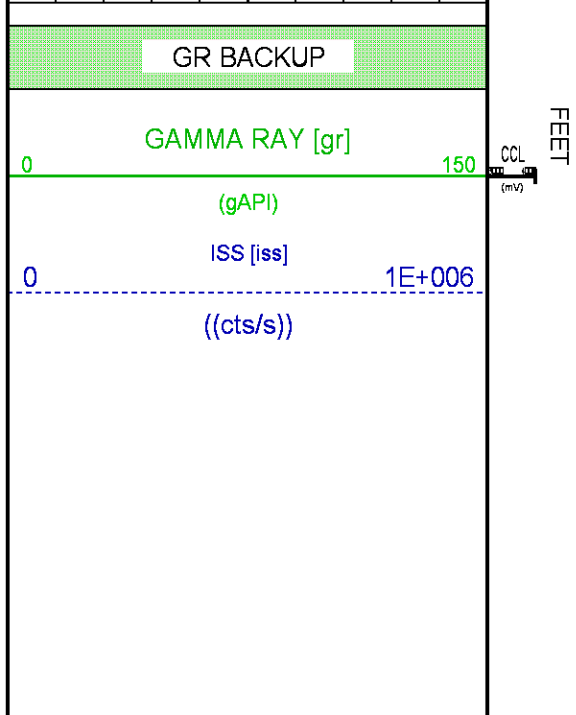
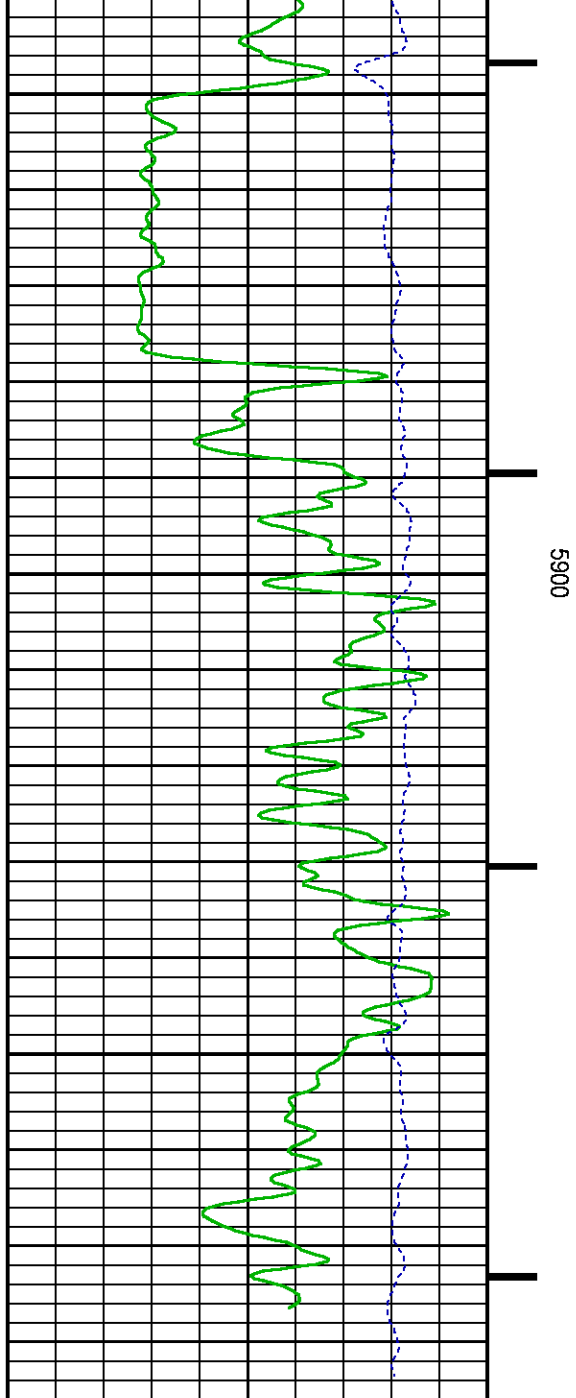
SGFC [sgfc]

0

(cu)

((cts/s))





## CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07Wp353h.tp1

### GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10456403

DATE/TIME PERFORMED: Tue Feb 12 16:43:06 2019

UNIT #: CHANGE ME

CALB JIG #: 4702NK BA-820

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	102.13	433.09	331.0	0.559	57.09	242.09	185

### GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10456403

DATE/TIME PERFORMED: Tue Feb 12 16:45:28 2019

UNIT #: CHANGE ME

VERI JIG #: 4702NK BA-820

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	98.07	430.91	0.559	54.82	240.87	186.06
						175.00 195.00

### RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 11768879

DATE/TIME PERFORMED: Tue Feb 12 18:20:01 2019

UNIT: CHANGE ME

CALIBRATOR: 2437XB 11264

SOURCE: 8281AA 10220690

HOURS: 8281AA 115

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	813419	123	2242	2172	2178	102	8.0	0.9729
Interpolated	1300000	145	2220	2164	2171			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	813419	6947	1104	152	26.12	0.14	24.34	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	813419	177068	27169	91193	32373	8366	55167	13454
Fit Quality %		0.881	0.973	0.916	0.892	1.018	0.798	0.958
	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
			ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS
Raw Data	813419	1.43	4.59	29.95	14.75	10.90	3.87	4.10
		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 %		0.047	0.176	0.190	0.182	0.074	0.093	0.069
Reduced	1389073	1.43	4.61	30.11	14.80	10.90	3.87	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 1073217

DATE/TIME PERFORMED:

Wed Feb 13 14:18:17 2019

UNIT #:

CHANGE ME

T(0)

T(1)

T(2)

T(3)

Corr Coeff for Temp

1.235350E+01

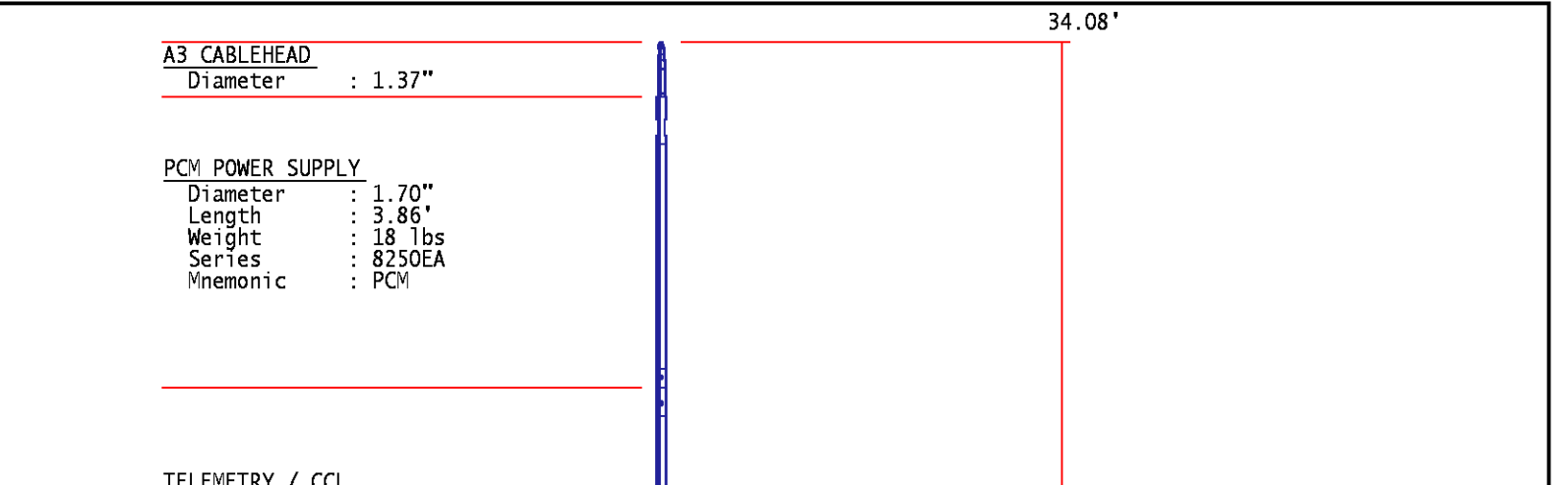
1.089486E-01

6.182099E-07

-8.937567E-10

INSTRUMENT CONFIGURATION

Source File: C:\dat1a\Laramie\_Sup\_Shep\_0993-25-07\WARPM-tdg.meta



TELEMETRY / CCL  
Diameter : 1.70"  
Length : 4.46'  
Weight : 20 lbs  
Series : 8248ED  
Mnemonic : PCM  
Measure Point: 1.00': CCL MP

CCL MP — 26.03'

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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'

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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 MP  
Measure Point: 5.04': LS MP  
Measure Point: 4.79': SS MP

XLS MP — 13.58'  
LS MP — 13.16'  
SS MP — 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"

**BAKER  
HUGHES**  
a GE company



**ECLIPS**

**COMPANY**

**LARAMIE ENERGY LLC**

**WELL**

**SUP & SHEP 0993-25-07W**

**FIELD**

**BUZZARD CREEK**

**COUNTY**

**MESA**

**STATE**

**COLORDAO**

**FILE NO:**

**CH146479**

**API NO:**

**05077105750000**

**LOCATION:**

**SHL**

**LAT: 39.244836 N**

**LONG: 107.724361 W**

**SEC 25**

**TWP 9S**

**RGE 93W**

**ELEVATIONS:**

**KB 8108 FT**

**DF**

**GL 8078 FT**

**DATE**

**13-FEB-2019**