



FILE NO: CH146841	COMPANY <b>LARAMIE ENERGY LLC</b>
API NO: 05077105710000	WELL <b>SUP &amp; SHEP 0993-25-08W</b>
	FIELD <b>BUZZARD CREEK</b>
	COUNTY <b>MESA</b> STATE <b>COLORADO</b>

Ver. 4.12	LOCATION: SHL LAT: 39.244824 N LONG: 107.723428 W SEC 25 TWP 9S RGE 93W	OTHER SERVICES RAL
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PERMANENT DATUM	GL	ELEVATION	8078 FT	ELEVATIONS: KB 8108 FT DF GL 8078 FT
LOG MEASURED FROM	KB	30 FT	ABOVE P.D.	
DRILL. MEAS. FROM	KB			

DATE	25-Jan-2019
RUN	1
TRIP	1
SERVICE ORDER	US146841
DEPTH DRILLER	8586 FT
DEPTH LOGGER	8586 FT
BOTTOM LOGGED INTERVAL	8518 FT
TOP LOGGED INTERVAL	3077 FT
TIME STARTED	8:30
TIME FINISHED	14:00
OPERATOR RIG TIME	5.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	56 FT
LOGGED CEMENT TOP	1710 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	261 DEGF
REFERENCE LOG	BAKER HUGHES RAL
REFERENCE LOG DATE	23-Jan-2019
EQUIP. NO.	ML-4291
LOCATION	GRAND JCT.
RECORDED BY	TIM NEWELL
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: 6781' - 6802'

SJ: 7641' - 7662'

## EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	Z166326	FREE
1	1	TEL/CCL	8248ED	10387150	FREE
1	1	GR	8262XA	10456406	FREE
1	1	RPM	8281EA	10294755	FREE
1	1	RPM	8283PA	10322619	FREE
1	1	RPM	8281FA	10066699	FREE

11TEMP8255XA120518FREE

MAIN PASS PNC-3D G-SAND

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017  
Updates: 1 Patches: 1

Plotted: Fri Jan 25 16:11:08 2019

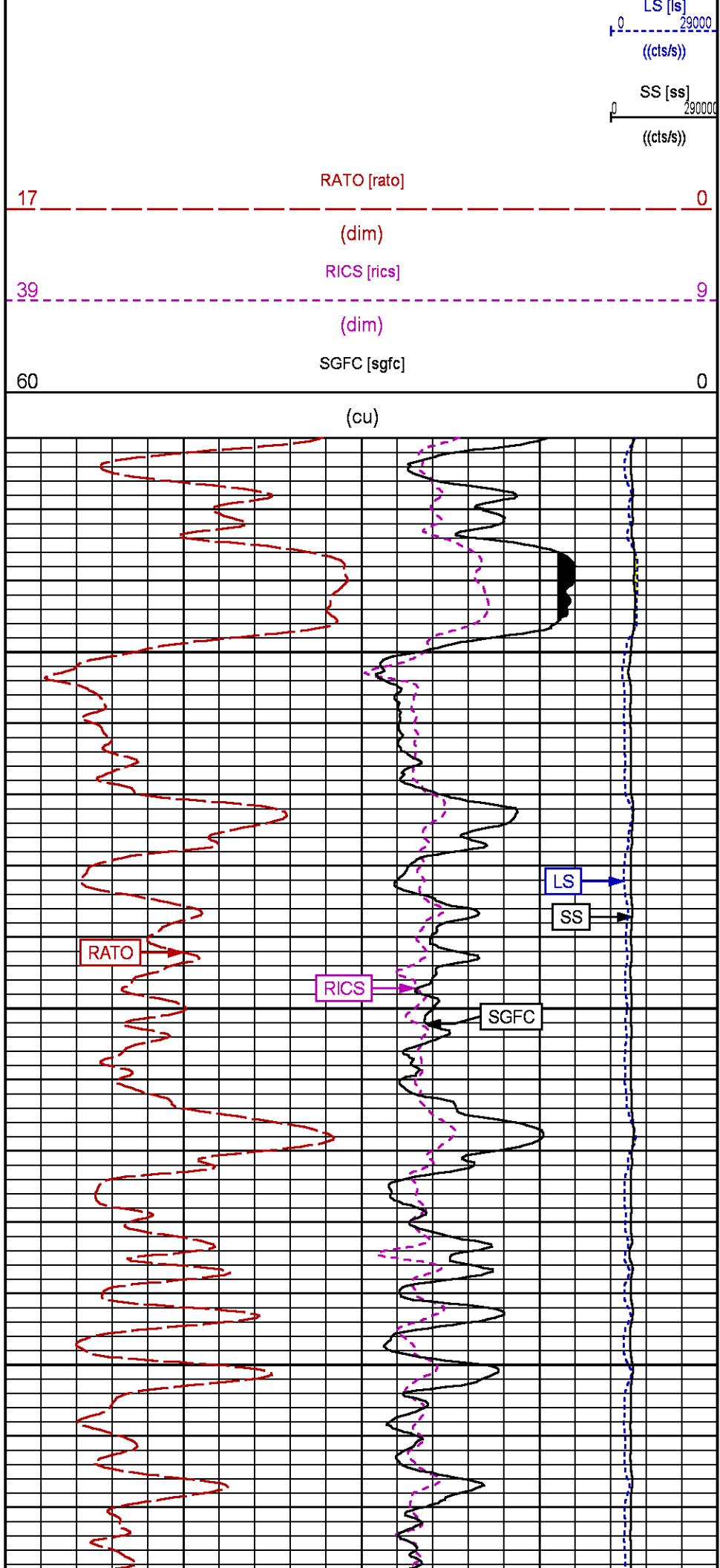
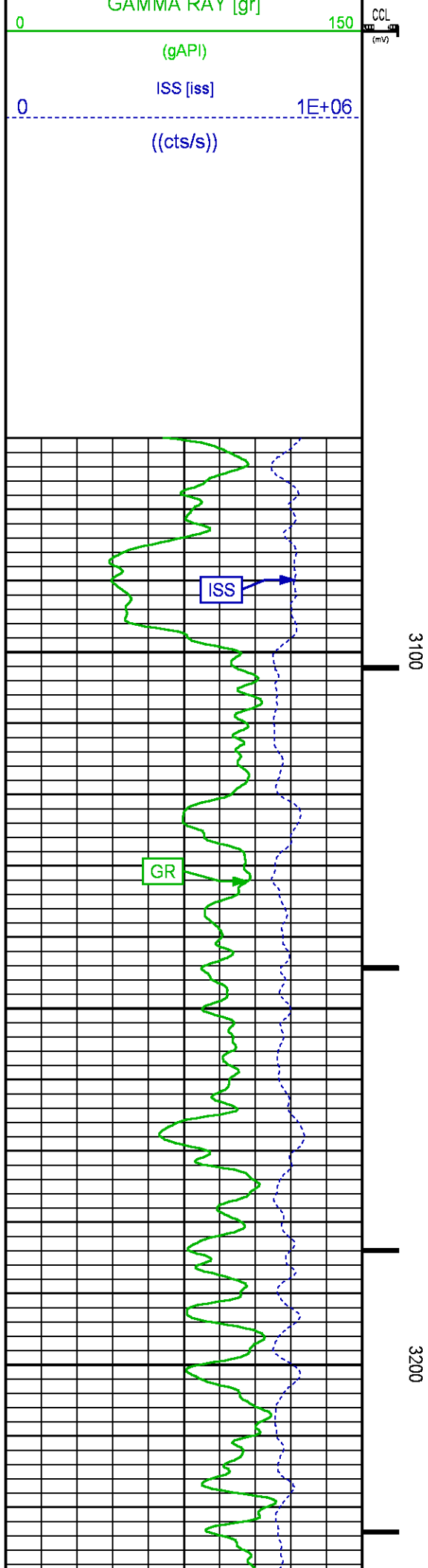
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/LARAMIE_SS_08W/p353h03.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 3050.422 ft BOTTOM DEPTH: 3704.048 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID / SLEEVE		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	8.75	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

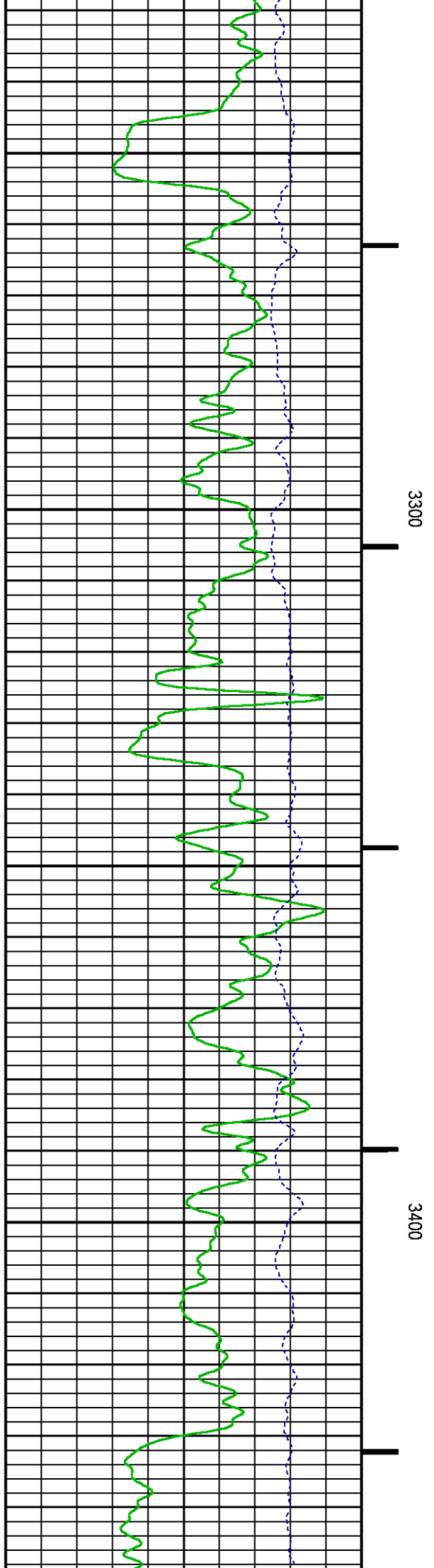
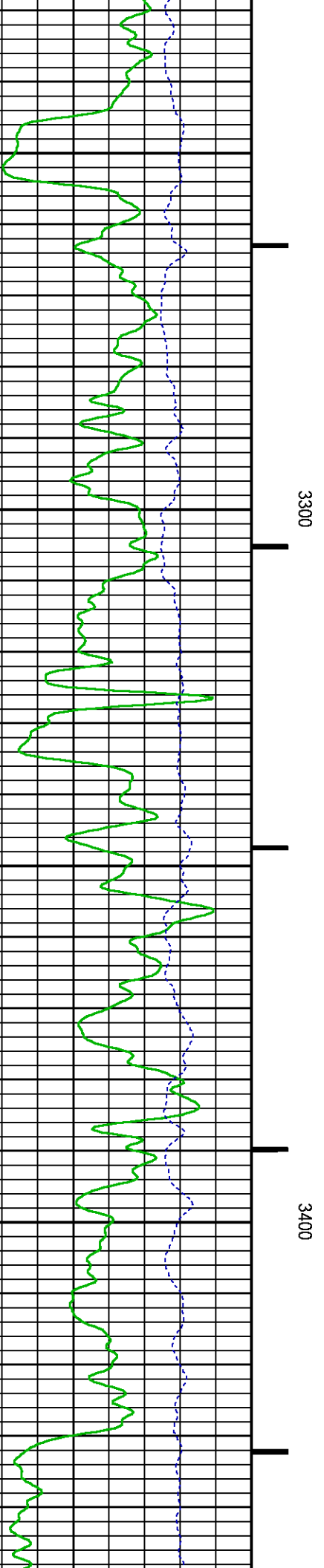
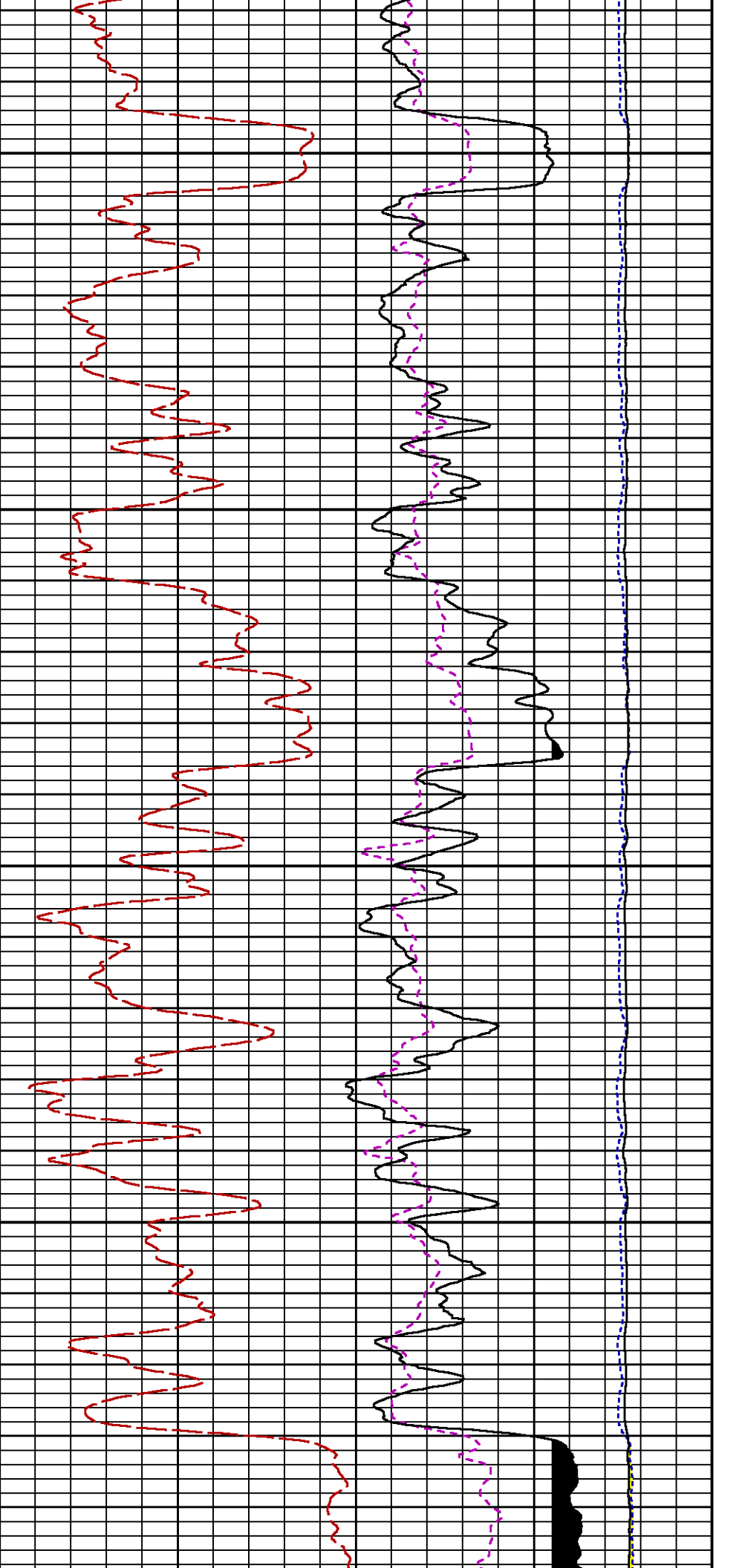
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 25 12:52:06 2019	CASING COLLAR LOCATOR
F1:GR	Jan 25 12:52:06 2019	GAMMA RAY
F1:ISS	Jan 25 12:52:06 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 12:52:06 2019	LONG SPACE COUNT RATE
F1:RATO	Jan 25 12:52:06 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 12:52:06 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 25 12:52:06 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Jan 25 12:52:06 2019	SHORT SPACE COUNT RATE

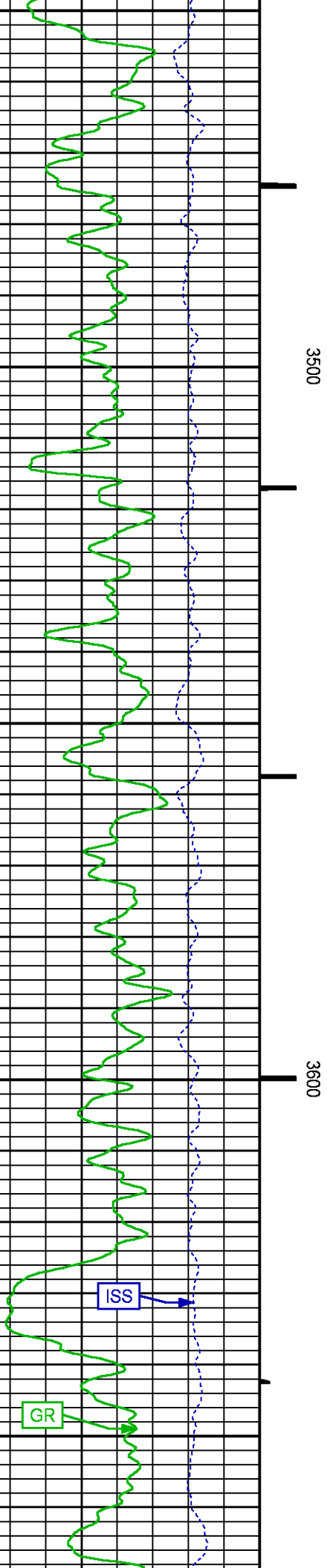
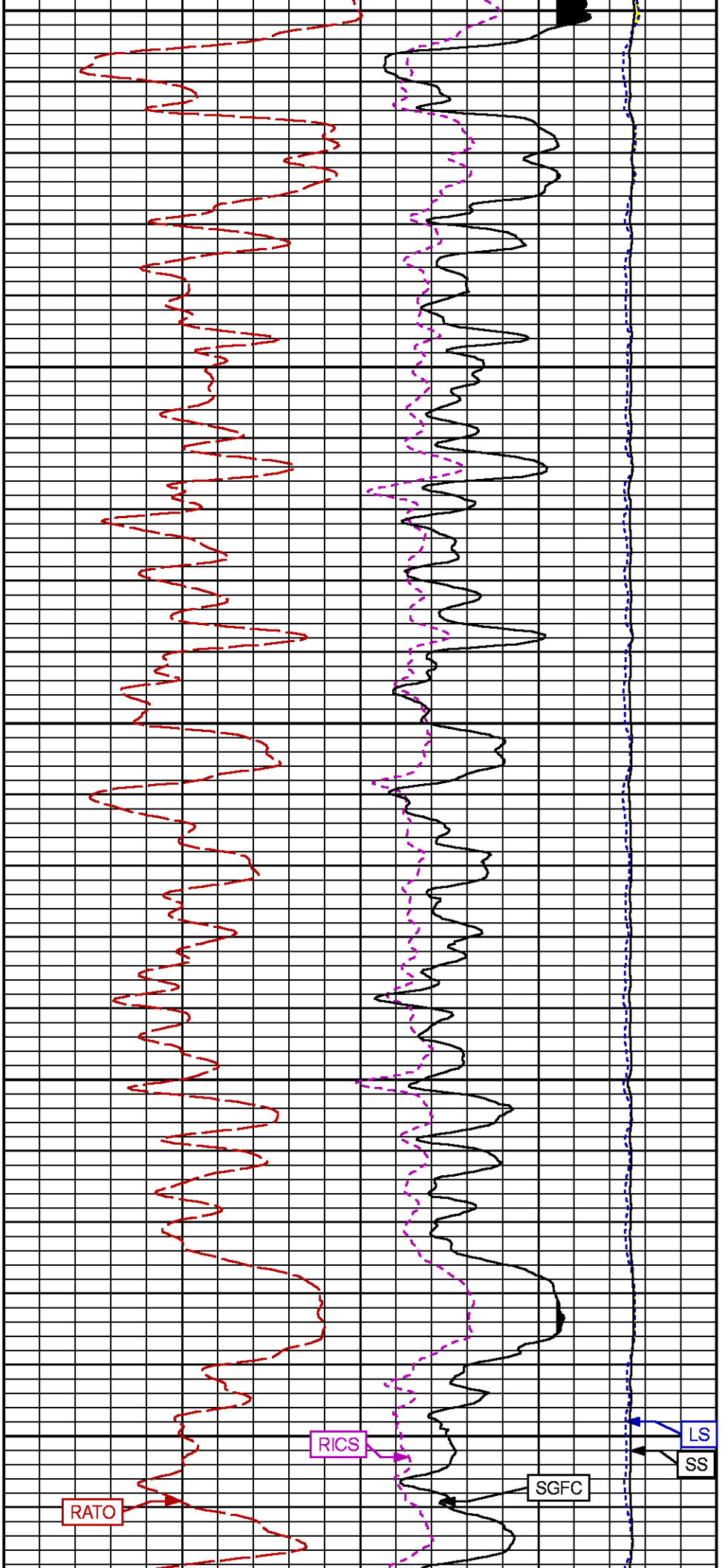
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

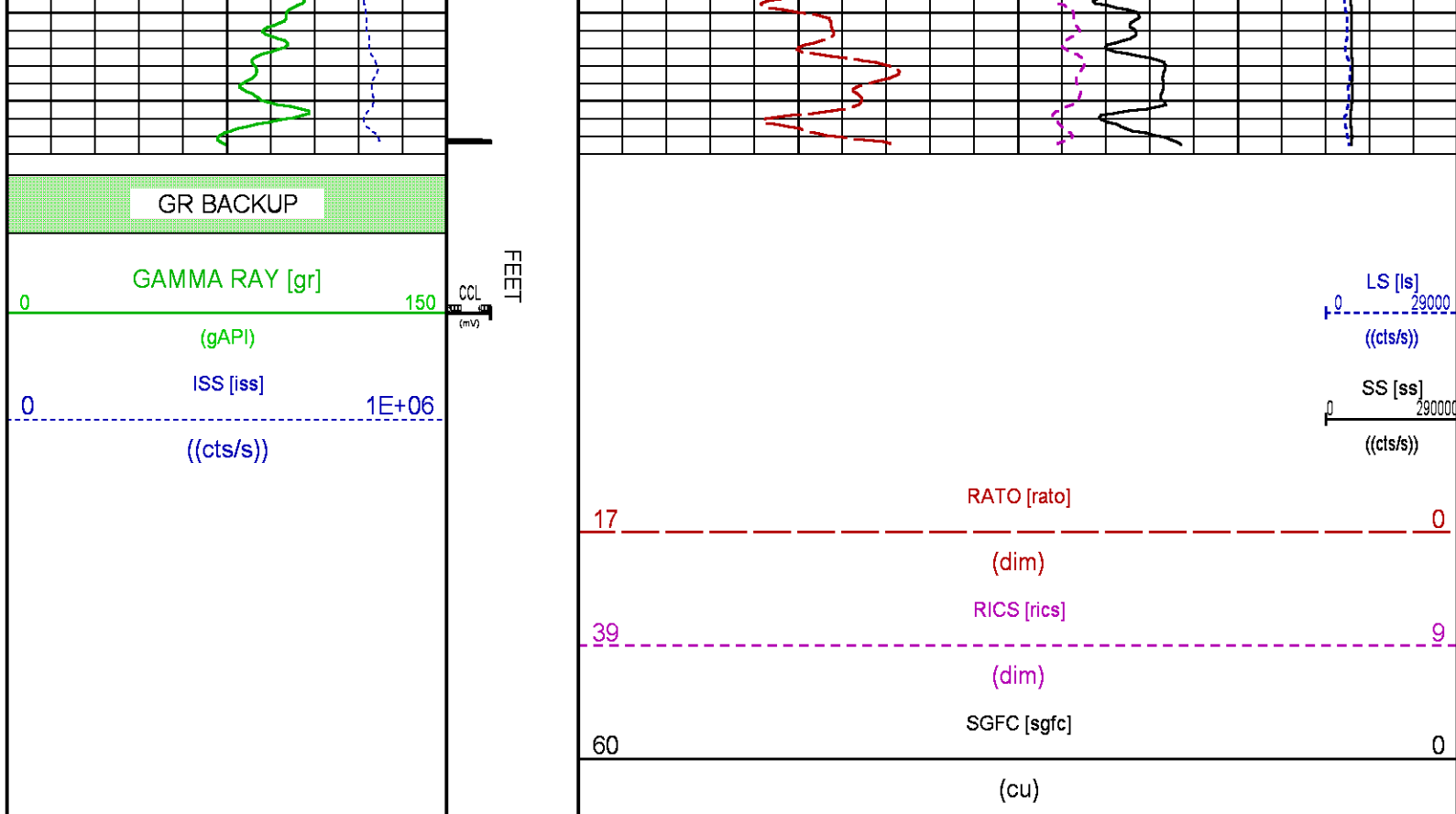
Presentation : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_GS.fvpdf [5"/100' Scale]  
Plot Interval : 3070 - 3685 Feet  
  
Data File 1 : F1 : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_GS.xtf  
Created On : Jan 25 12:52:06 2019  
Company : LARAMIE ENERGY LLC  
Well : SUP & SHEP 0993-25-08W  
Field : BUZZARD CREEK  
File Interval : 3041.5 - 3717.25 Feet  
OCT : p353h

GR BACKUP	FEET	
GAMMA RAY (F1)		









## MAIN PASS PNC-3D WILLIAMS FORK

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017

Updates: 1 Patches: 1

Plotted: Fri Jan 25 16:09:21 2019

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_SS\_08W/p353h02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 5179.798 ft BOTTOM DEPTH: 8531.037 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	8.75	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

### CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
51-CCL	Jan 25 00:00:15 2019	CASING COLLAR LOCATOR

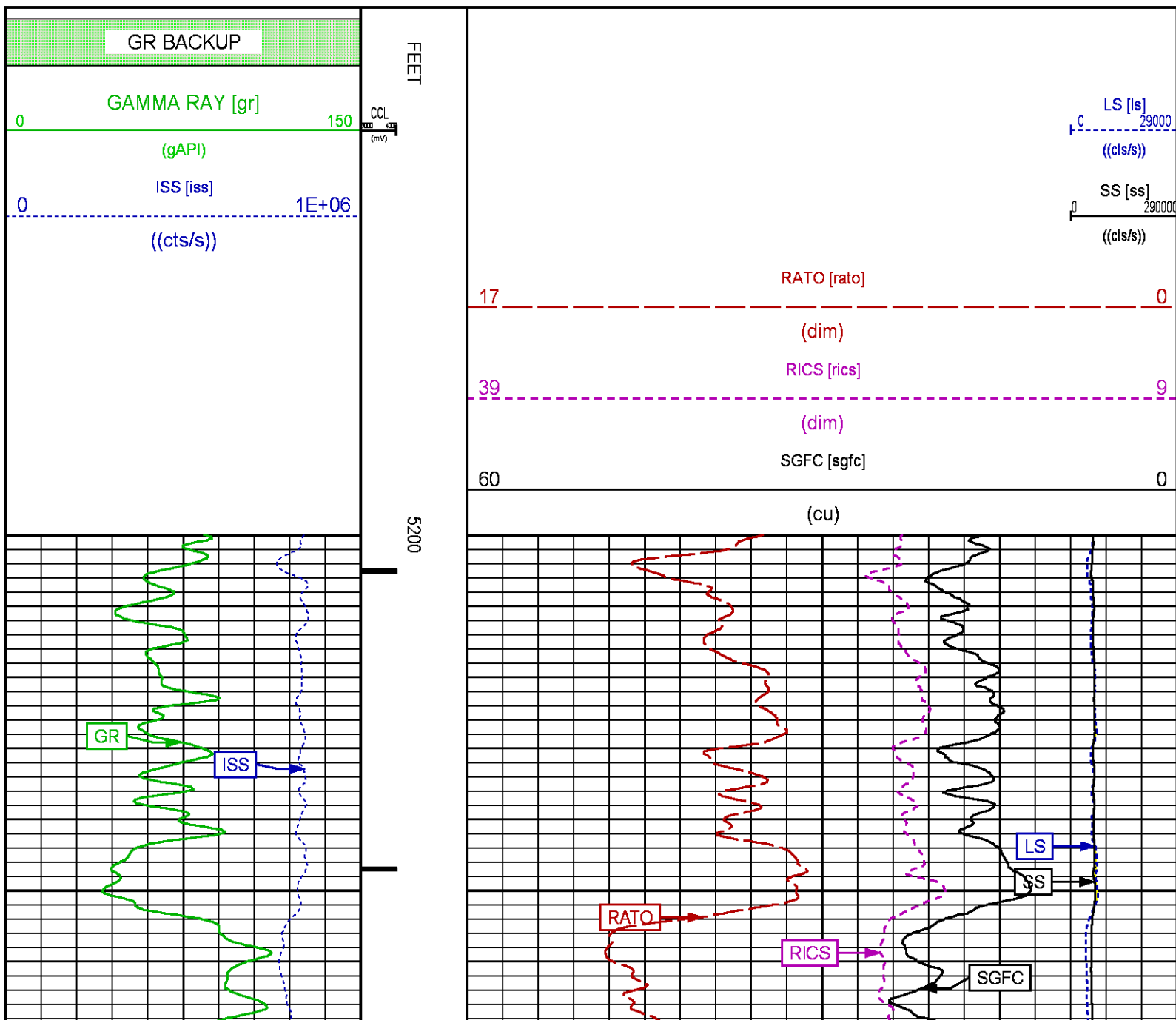
F1:CCL	Jan 25 09:20:15 2019	CASING COLLAR LOCATOR
F1:GR	Jan 25 09:20:15 2019	GAMMA RAY
F1:ISS	Jan 25 09:20:15 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 09:20:15 2019	LONG SPACE COUNT RATE
F1:RATO	Jan 25 09:20:15 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 09:20:15 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 25 09:20:15 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Jan 25 09:20:15 2019	SHORT SPACE COUNT RATE

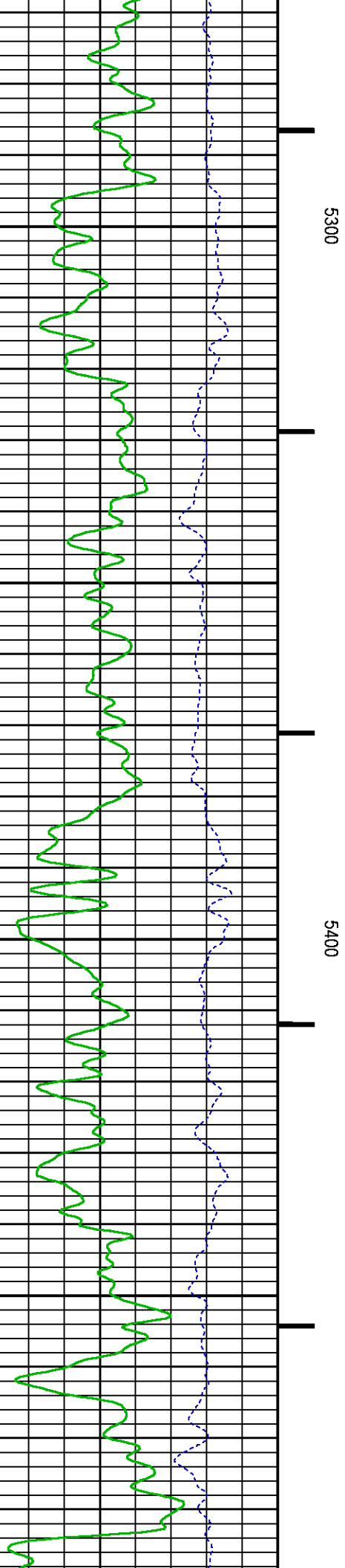
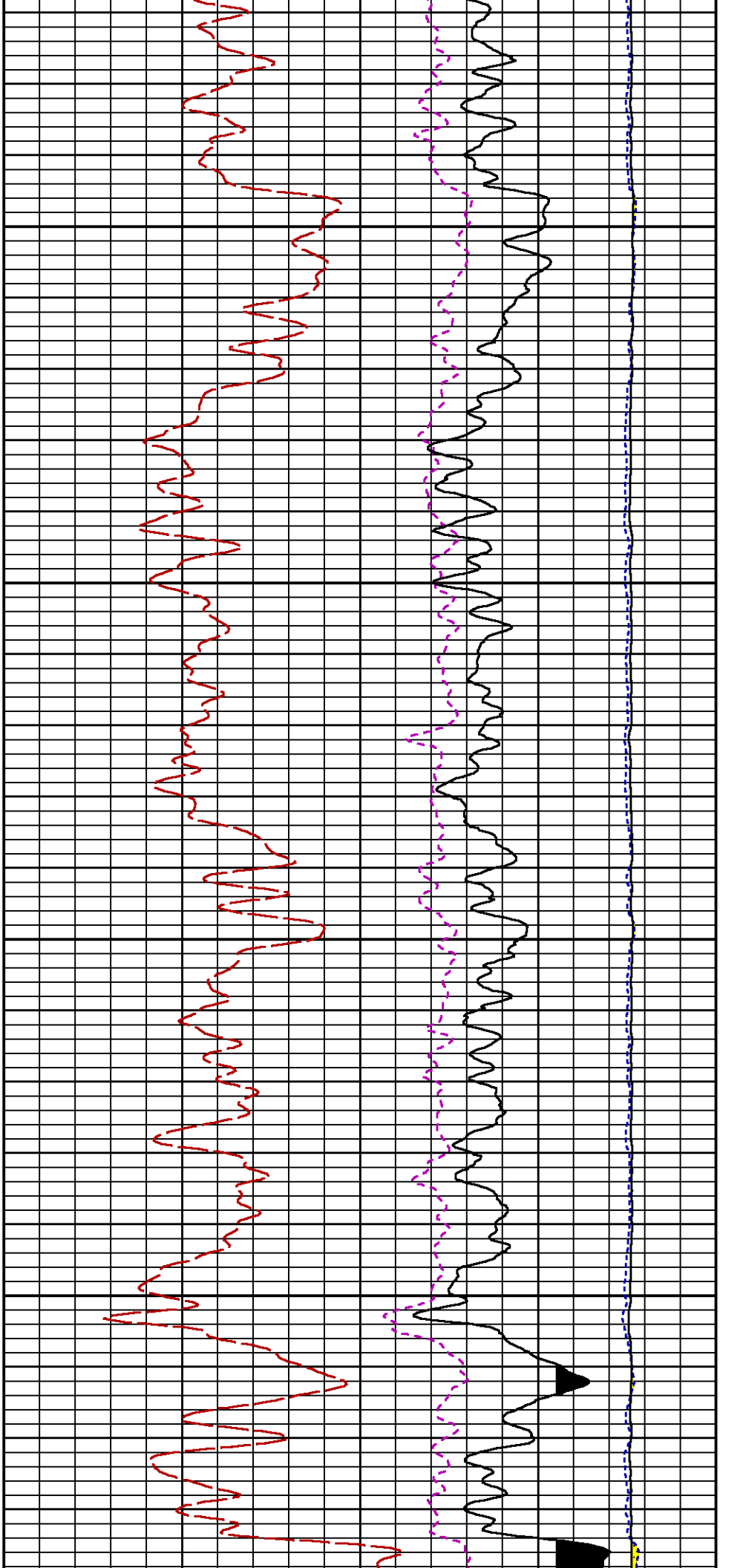
## CURVE MEASURE POINT OFFSET

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

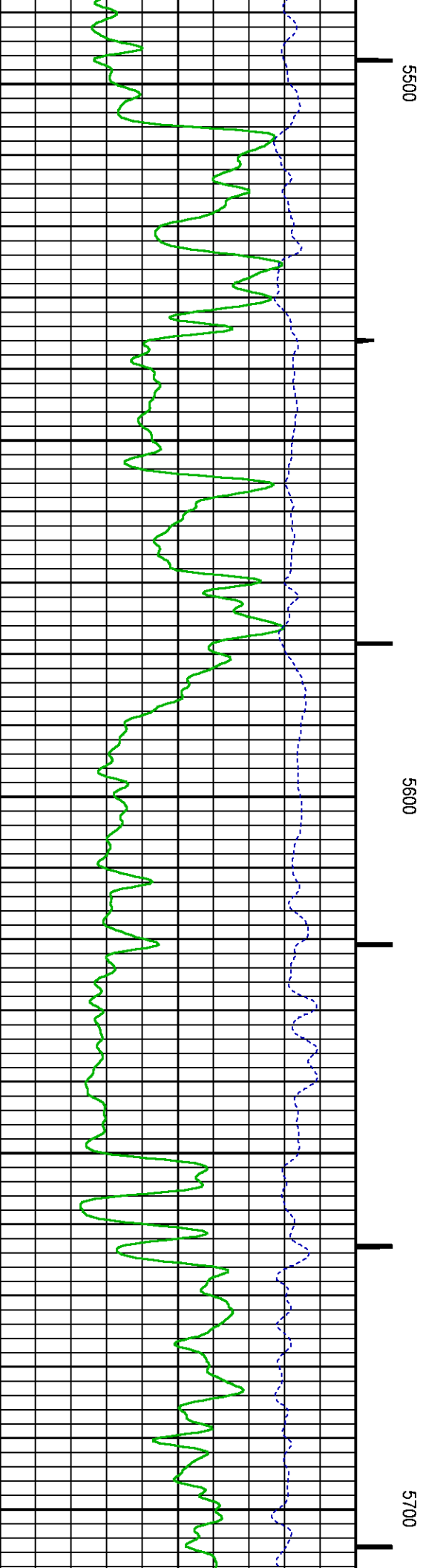
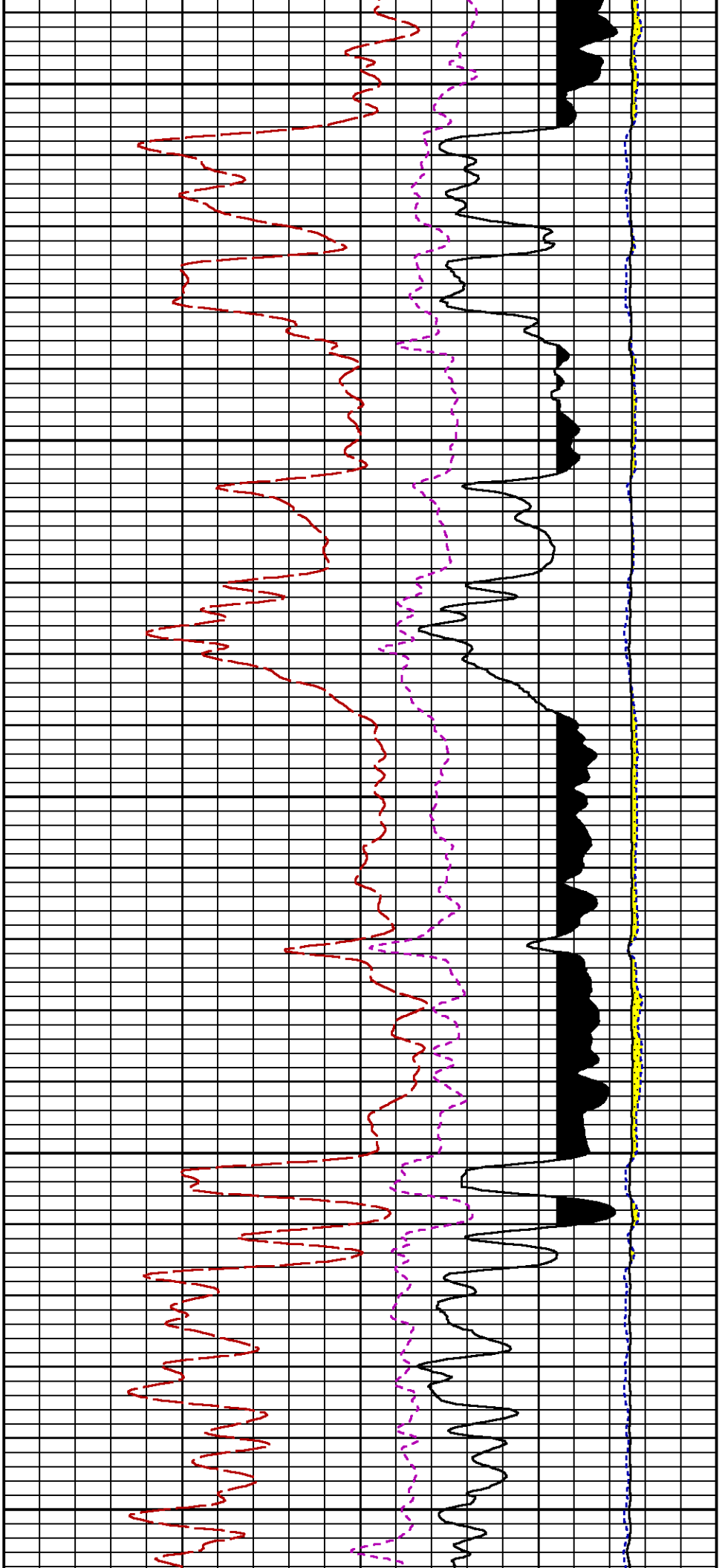
**Presentation** : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_WF.fvpdf [5"/100' Scale]  
**Plot Interval** : 5200 - 8530 Feet

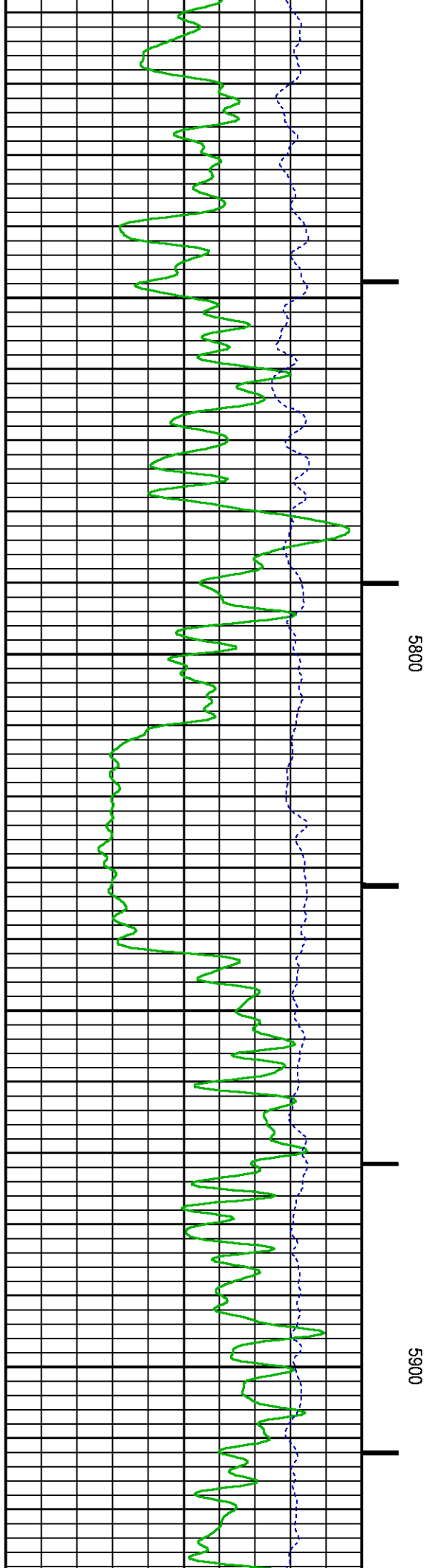
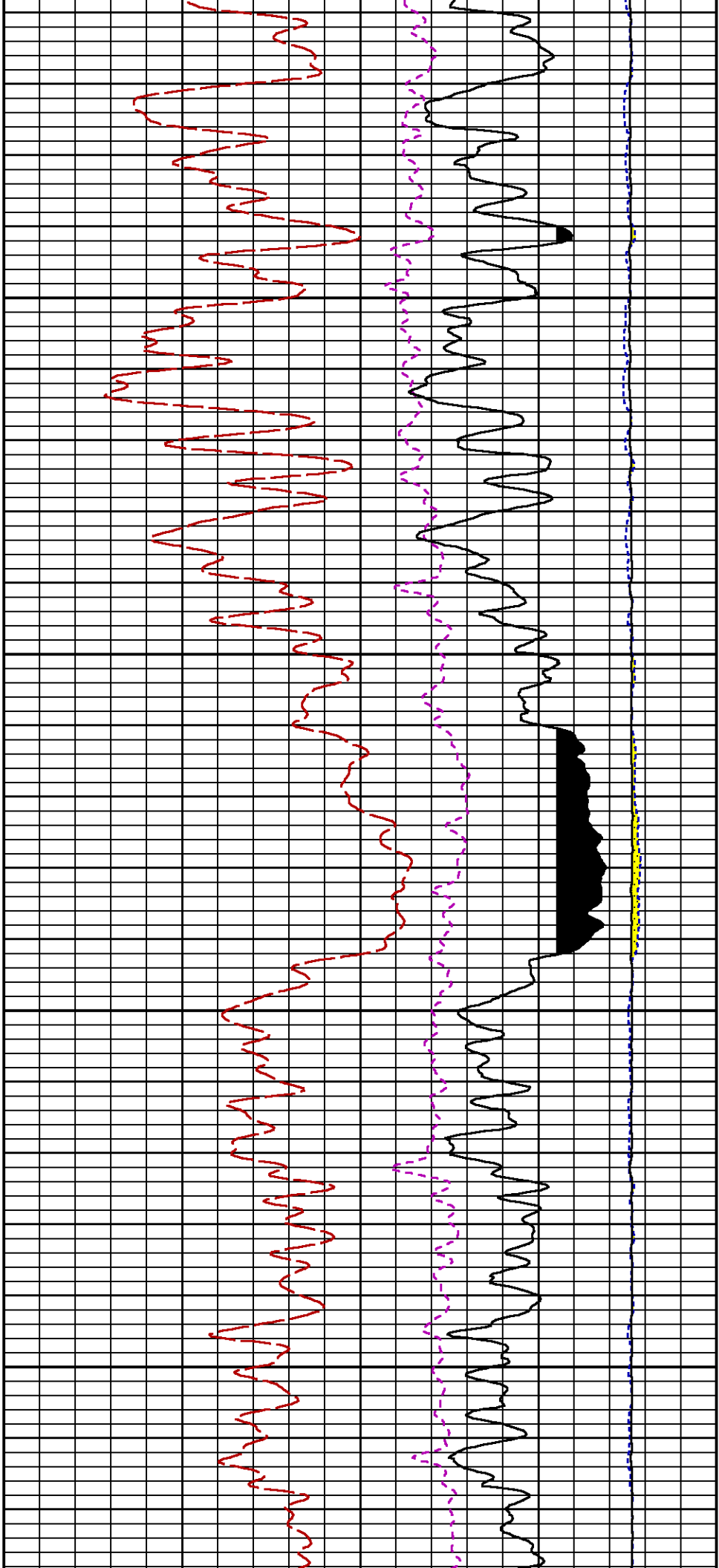
**Data File 1** : F1 : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_WF.xtf  
**Created On** : Jan 25 09:20:15 2019  
**Company** : LARAMIE ENERGY LLC  
**Well** : SUP & SHEP 0993-25-08W  
**Field** : BUZZARD CREEK  
**File Interval** : 5170.75 - 8543.25 Feet  
**OCT** : p353h

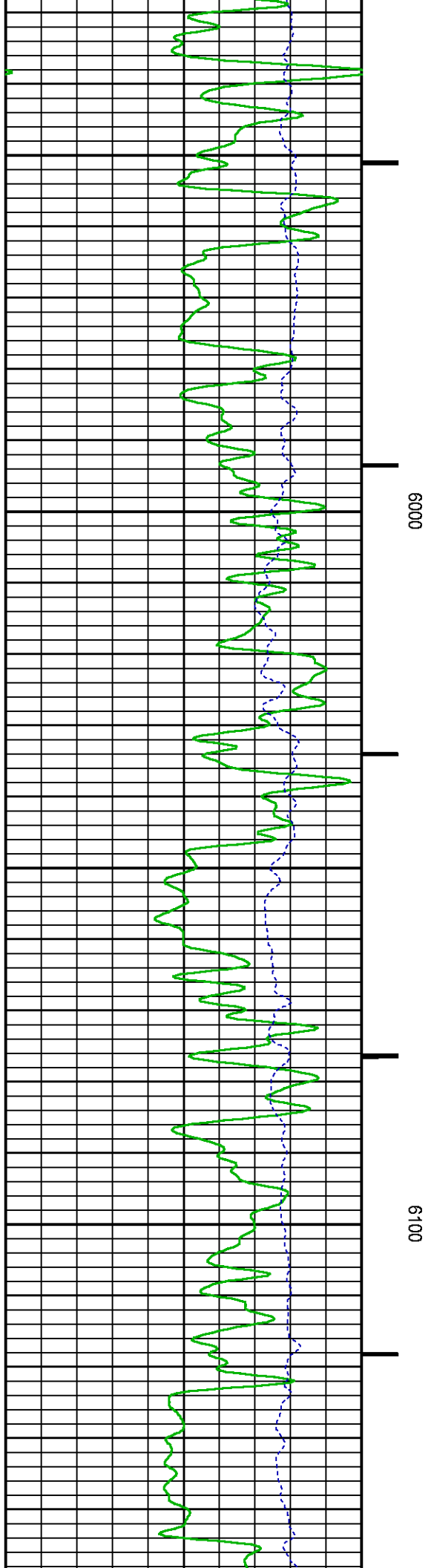
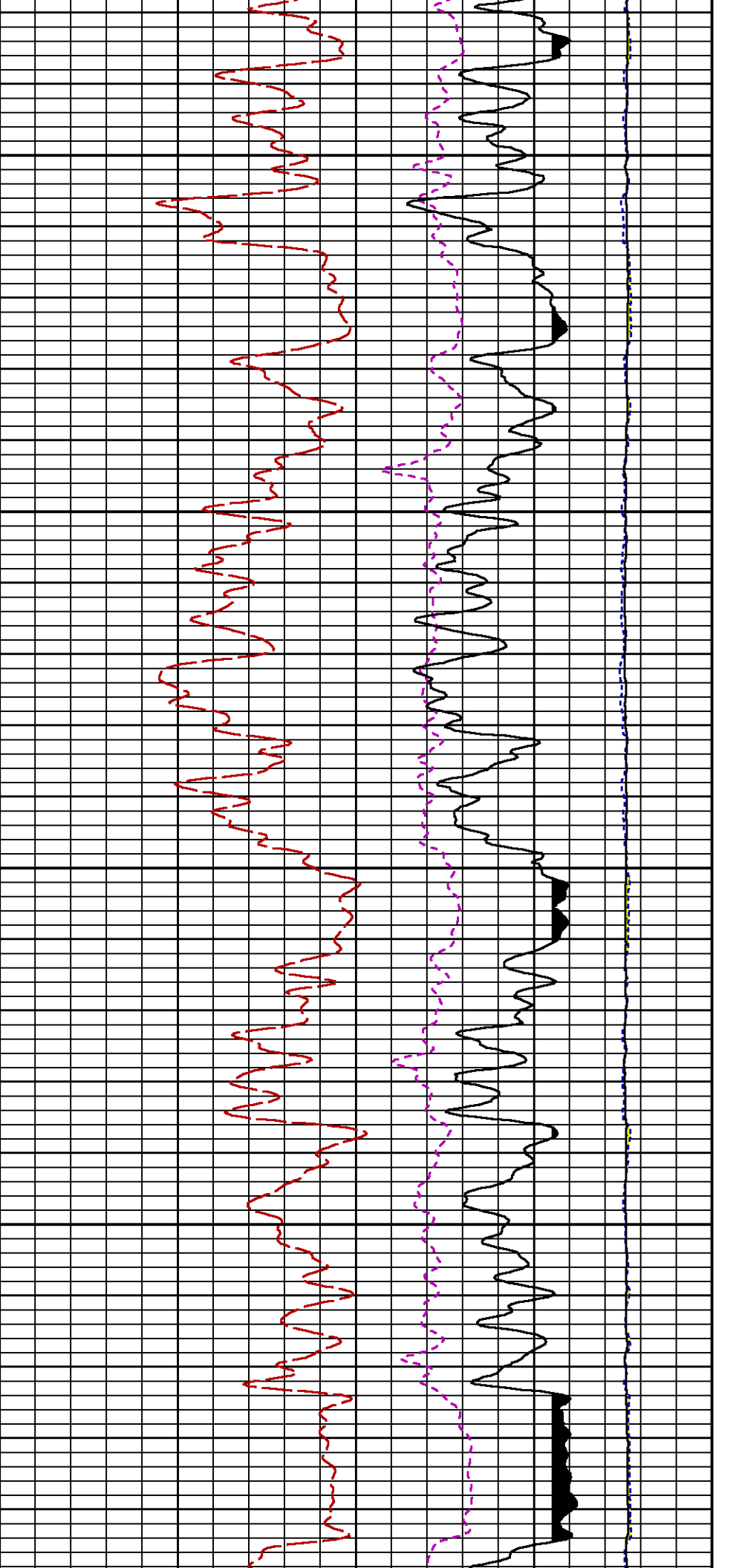


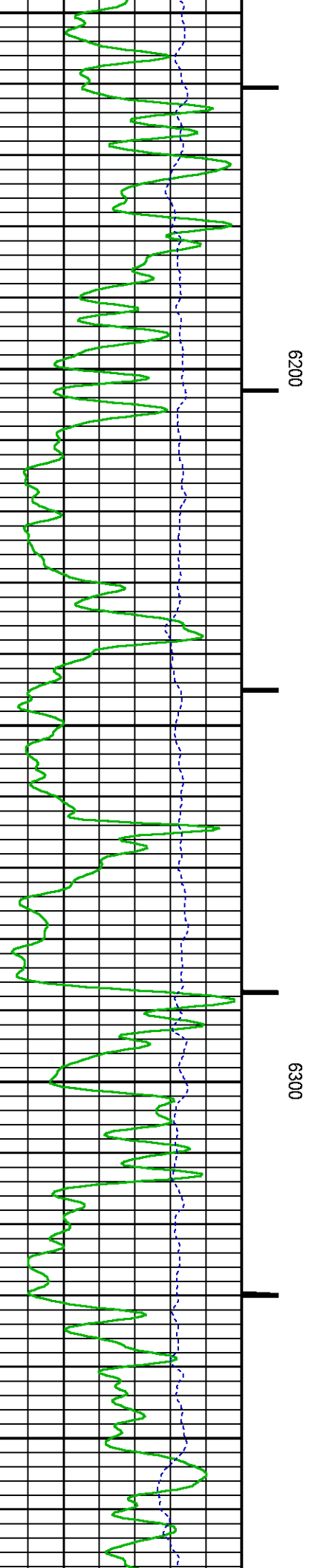
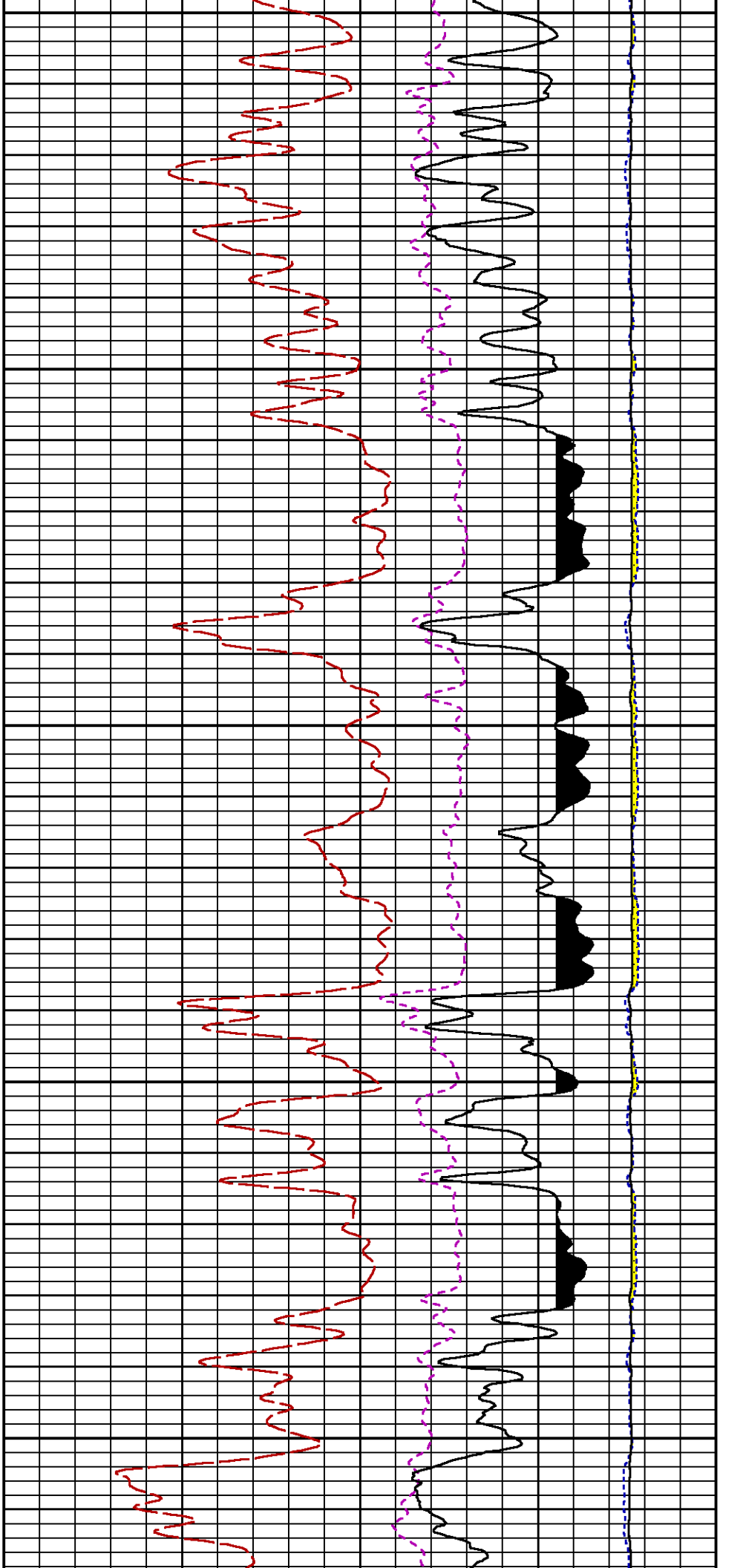


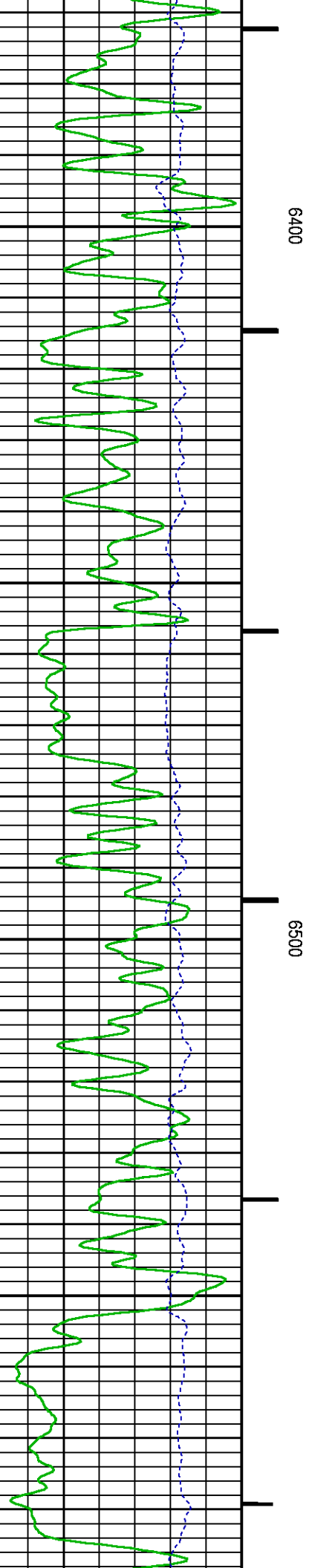
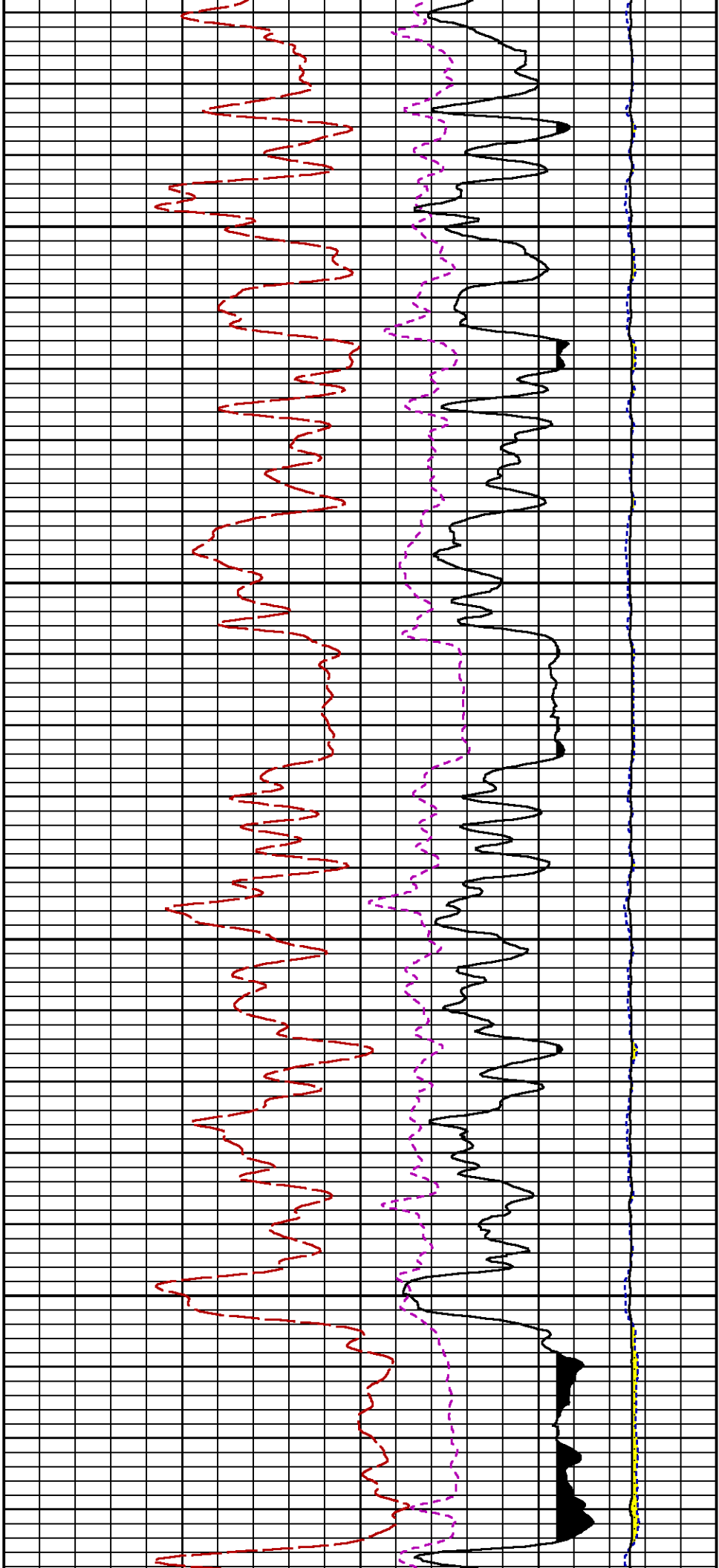


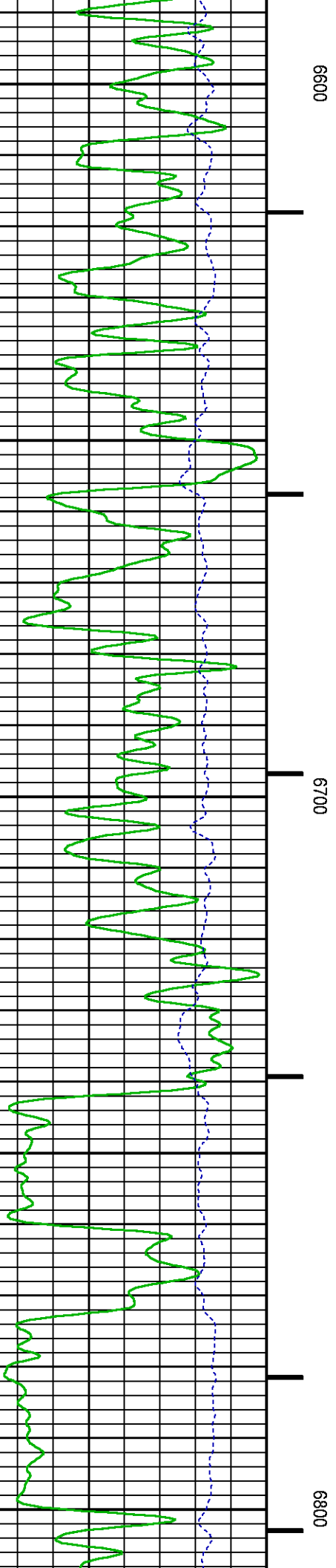
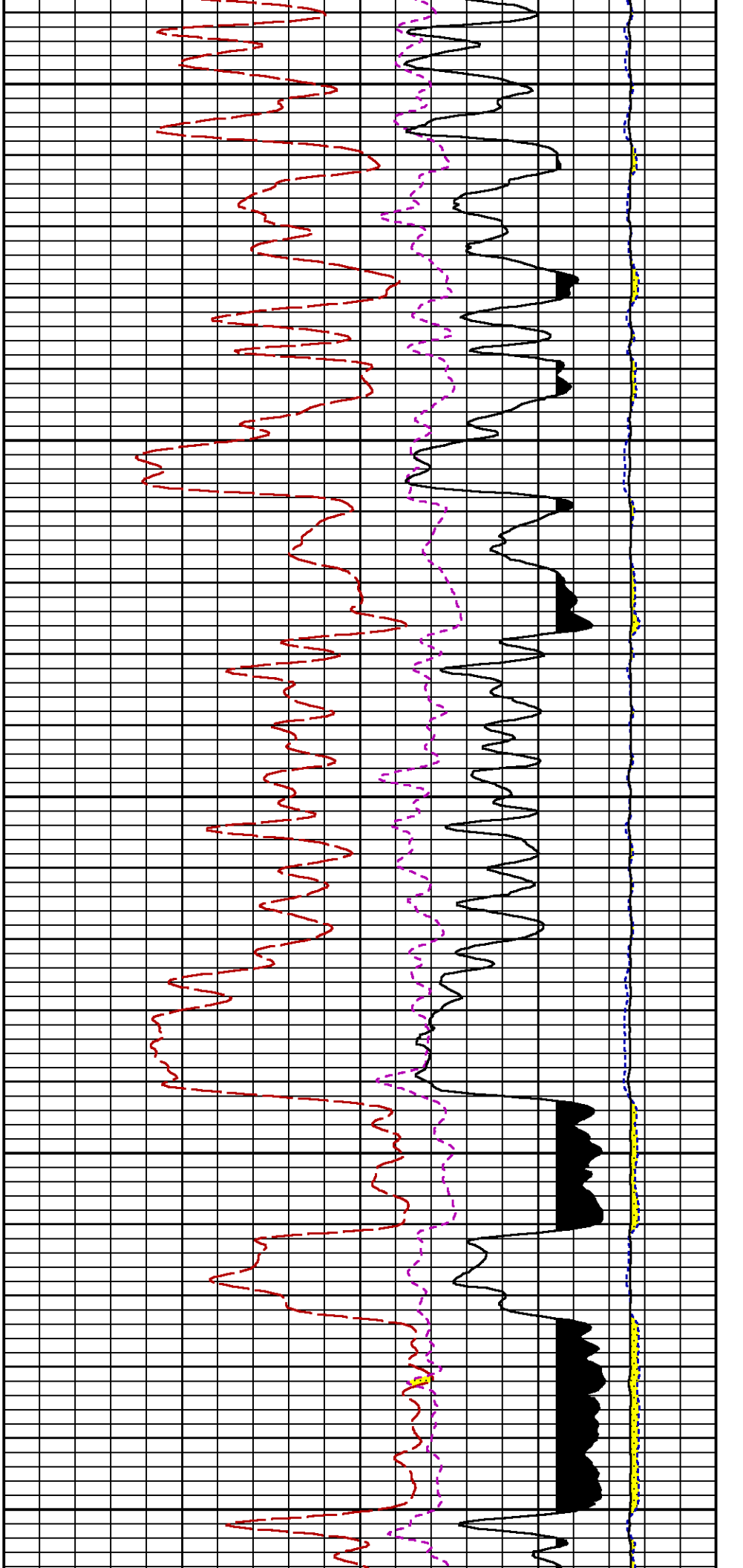


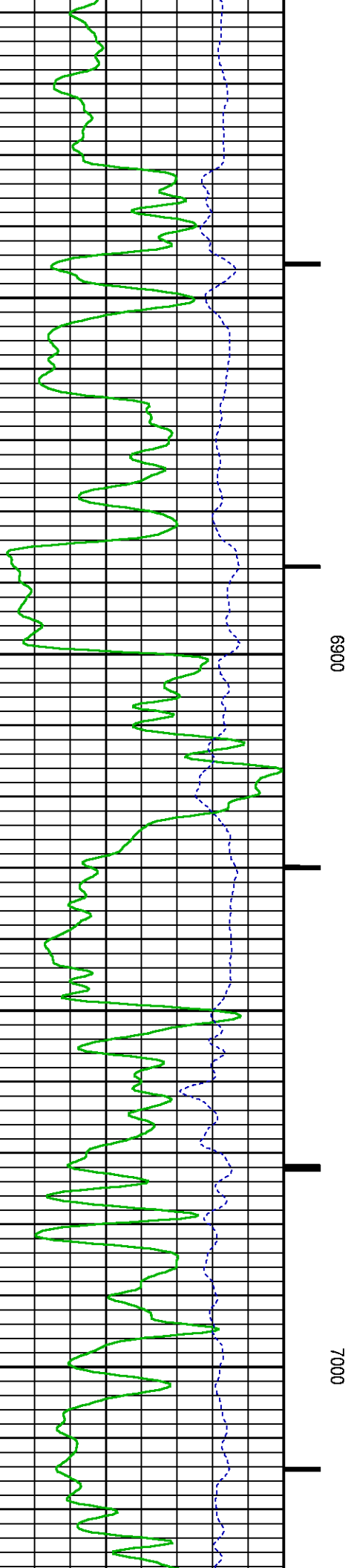
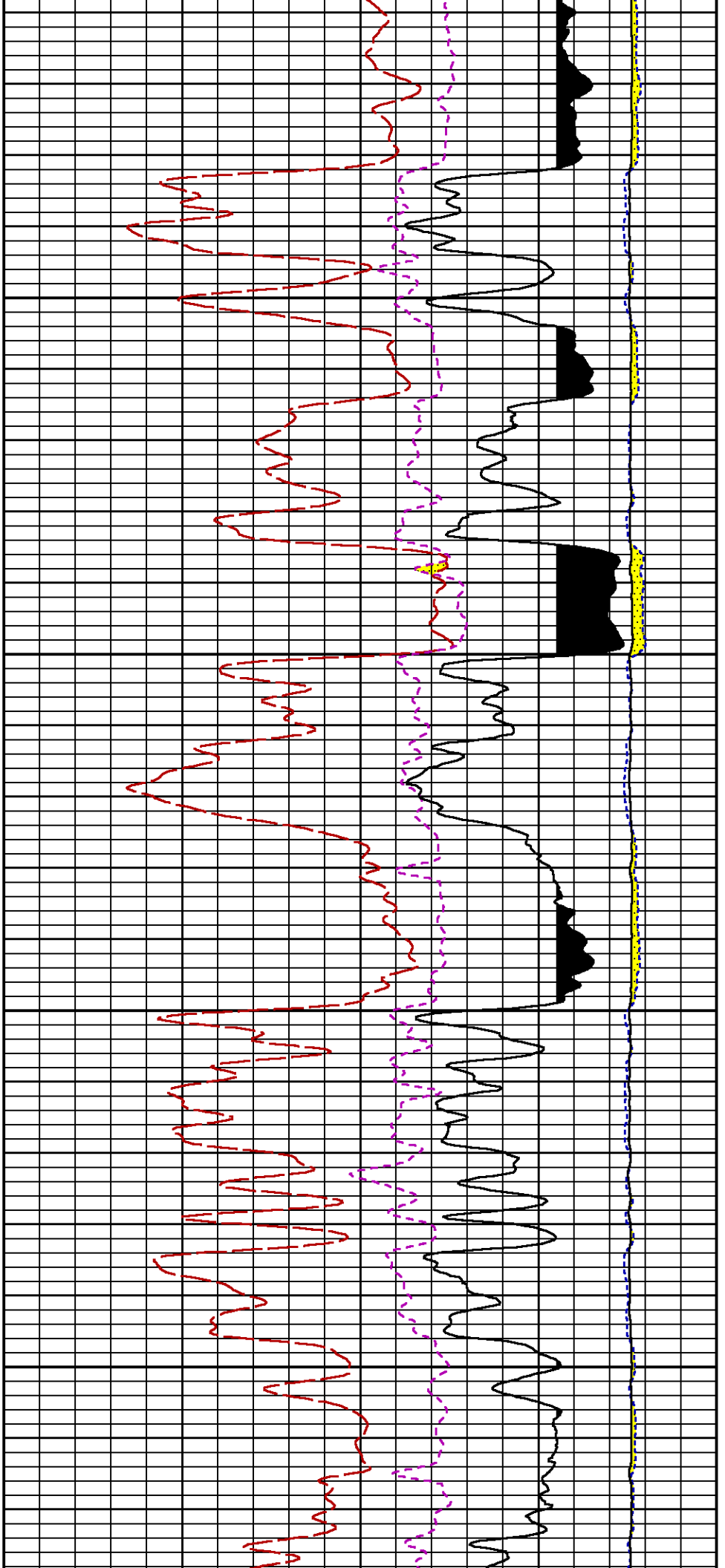


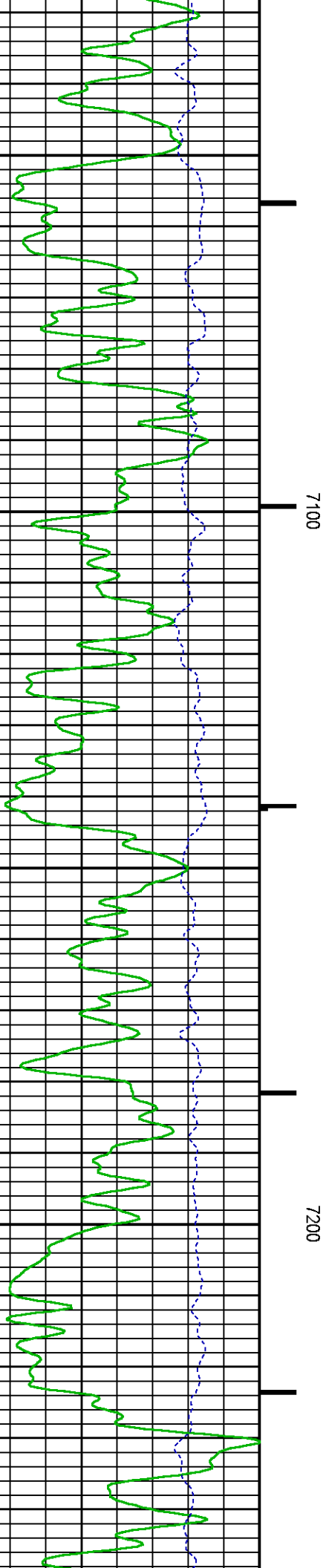
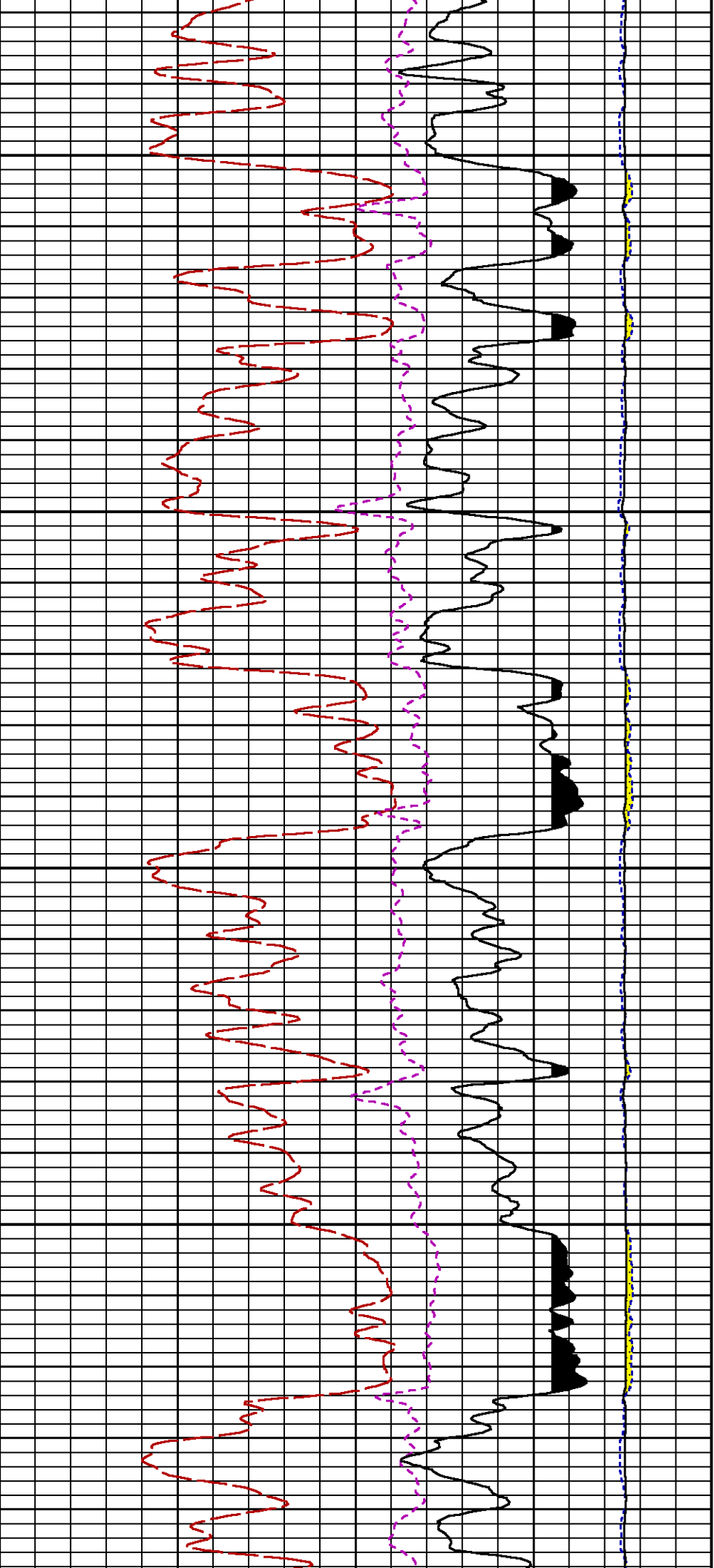




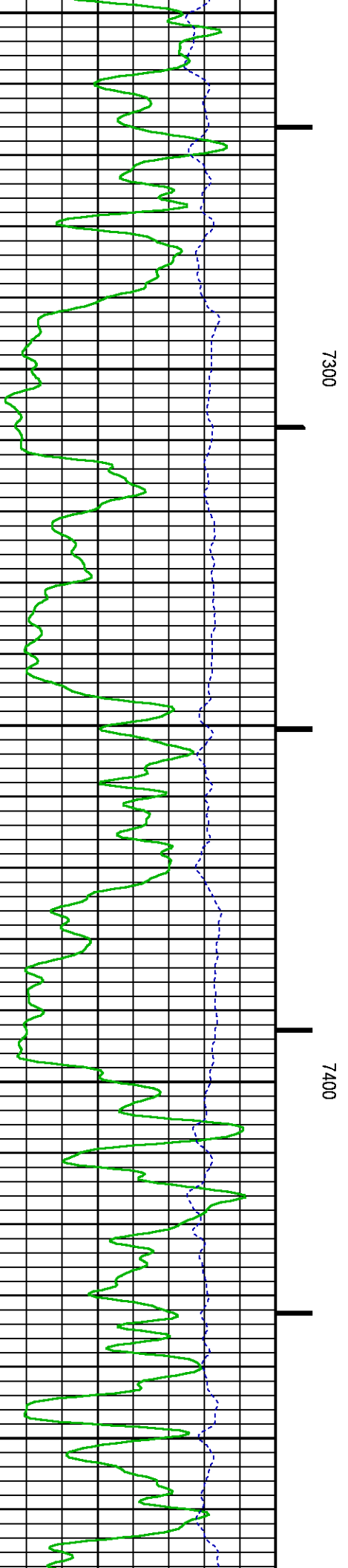
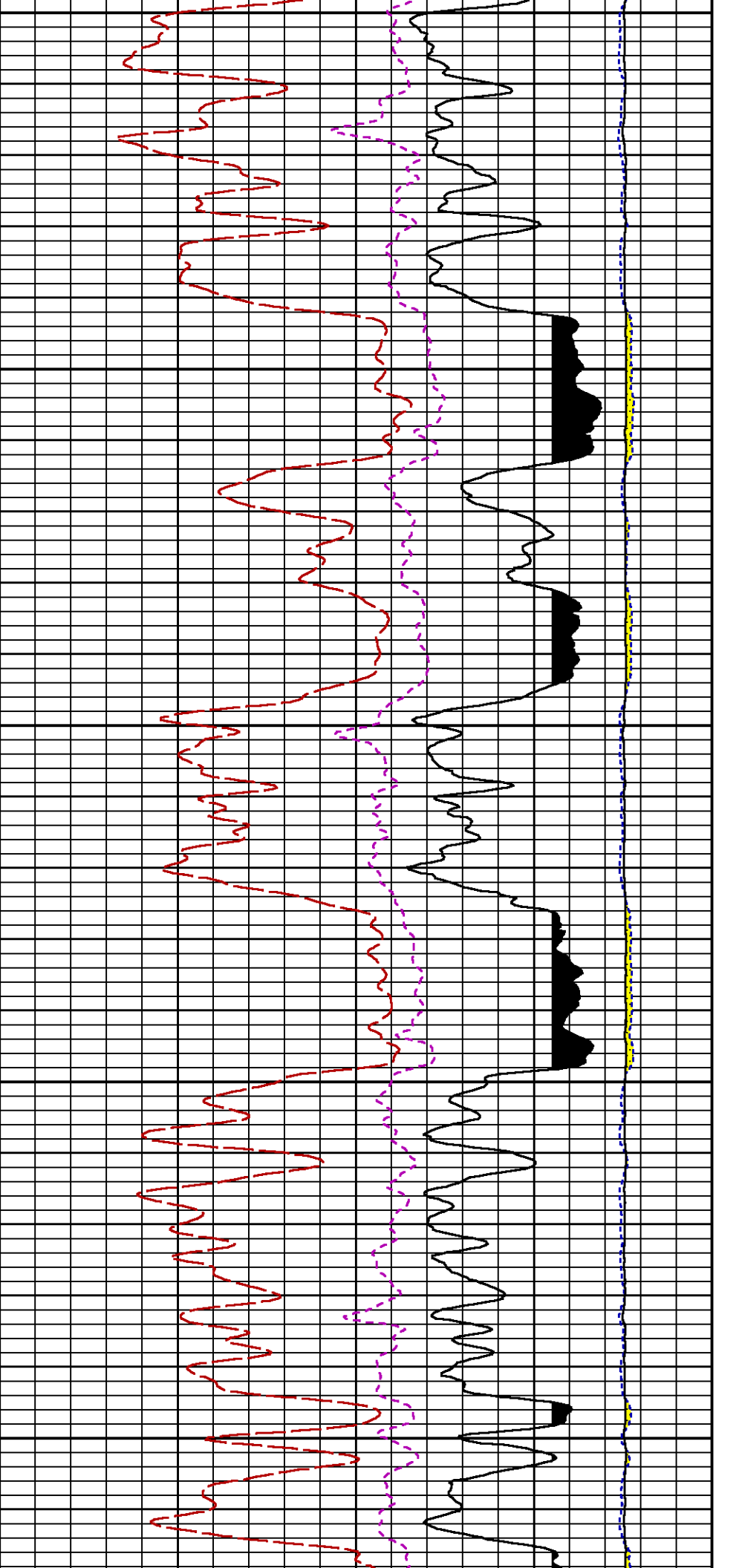


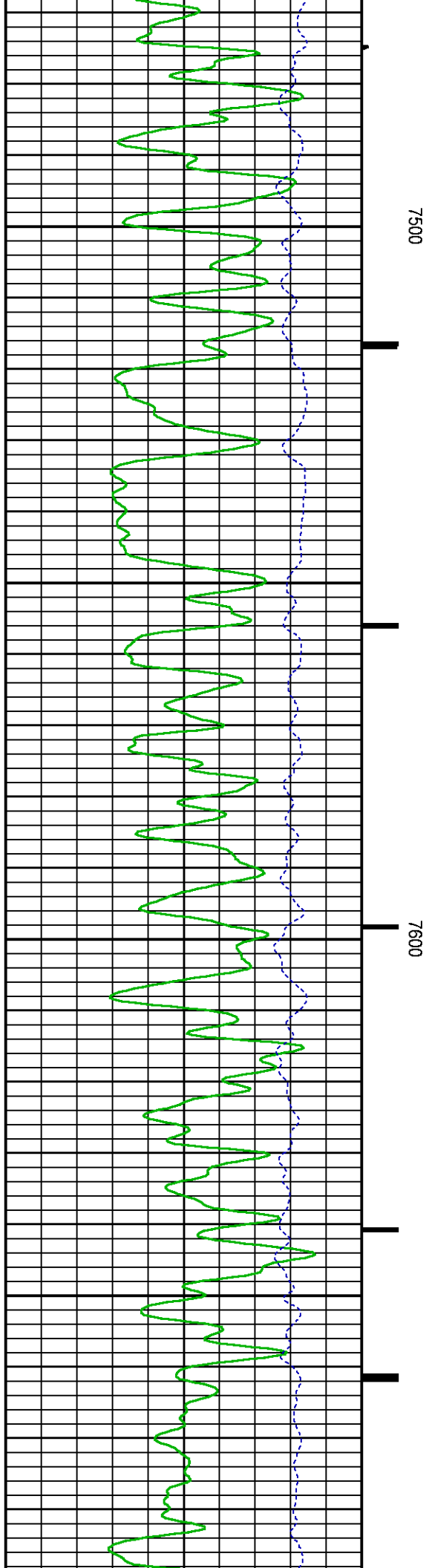
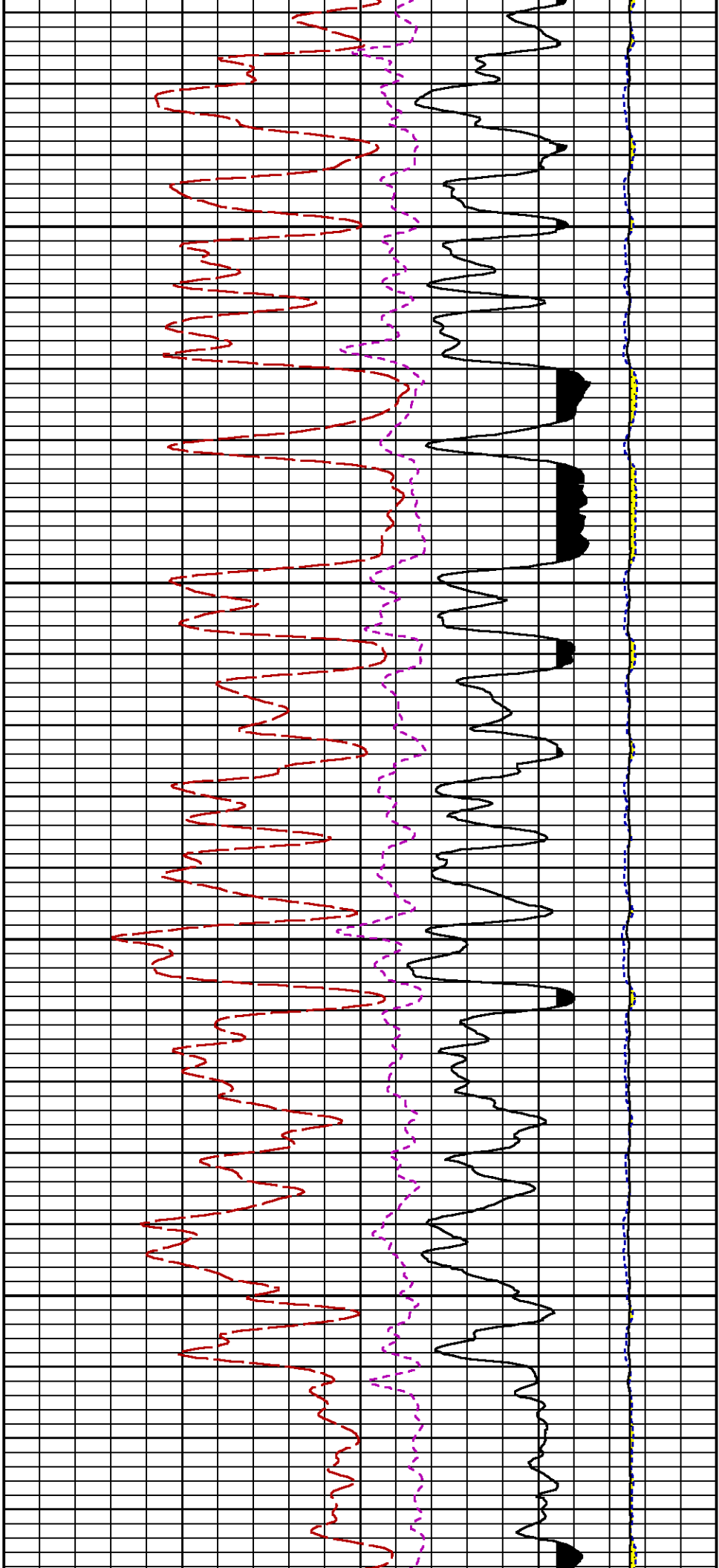


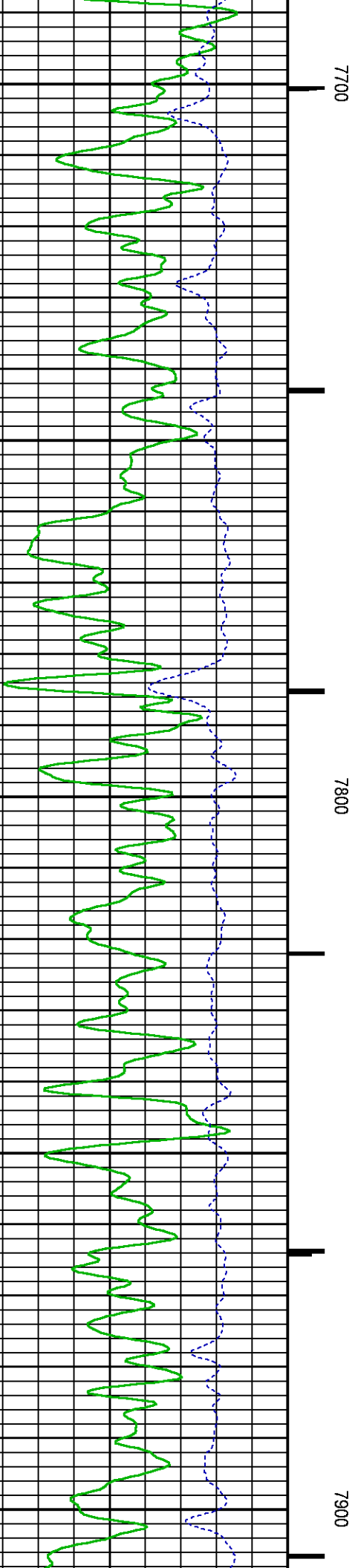
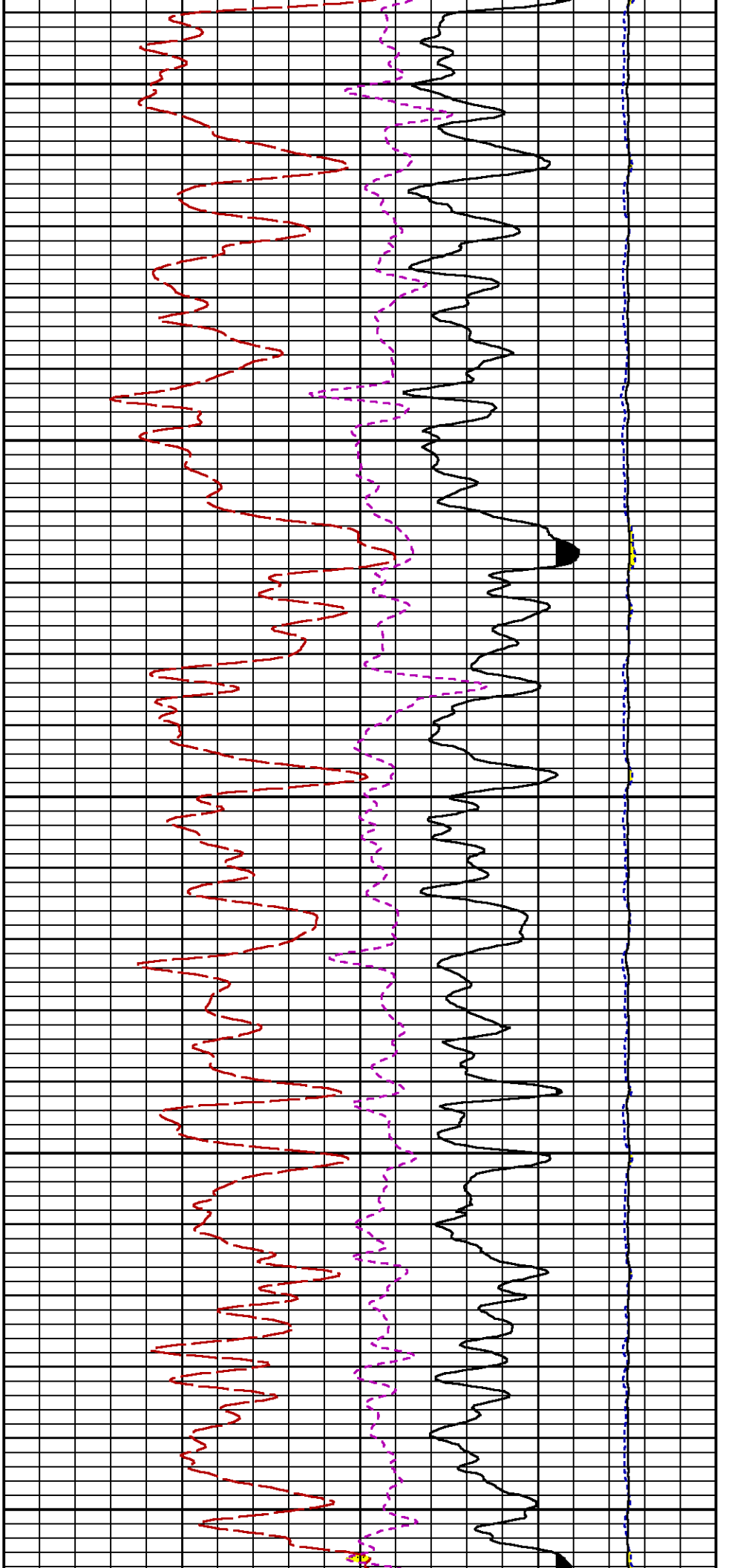


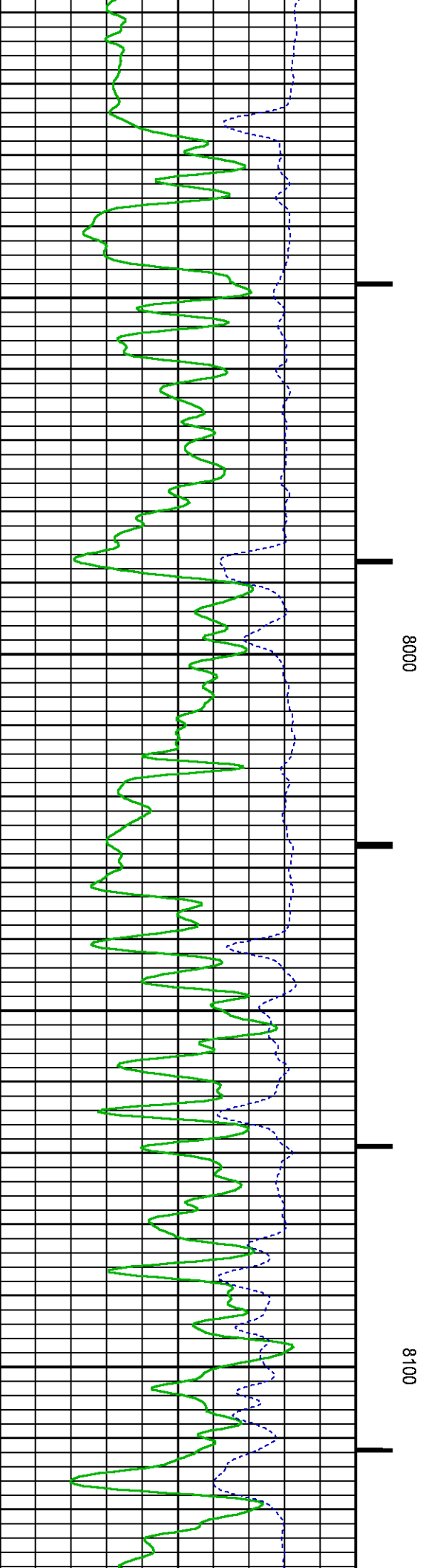
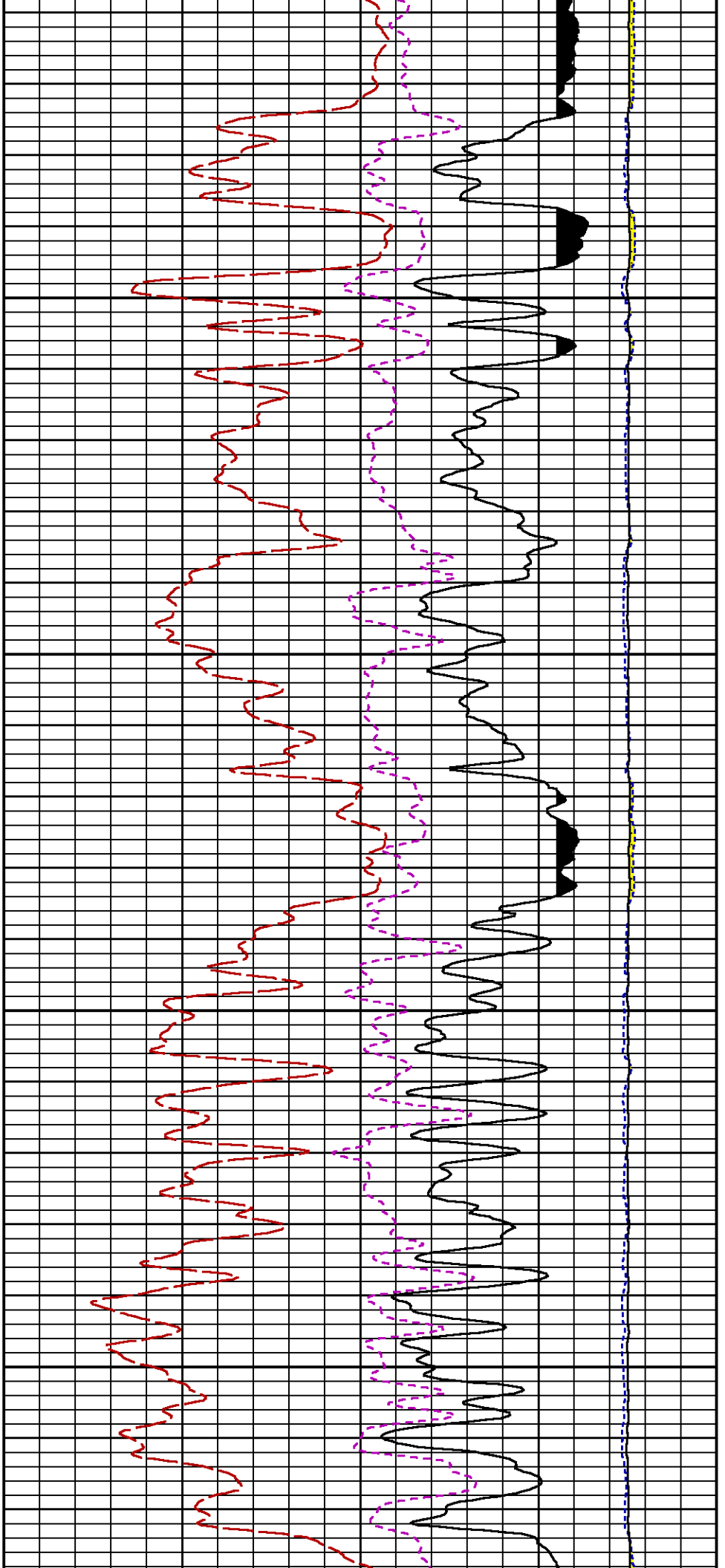


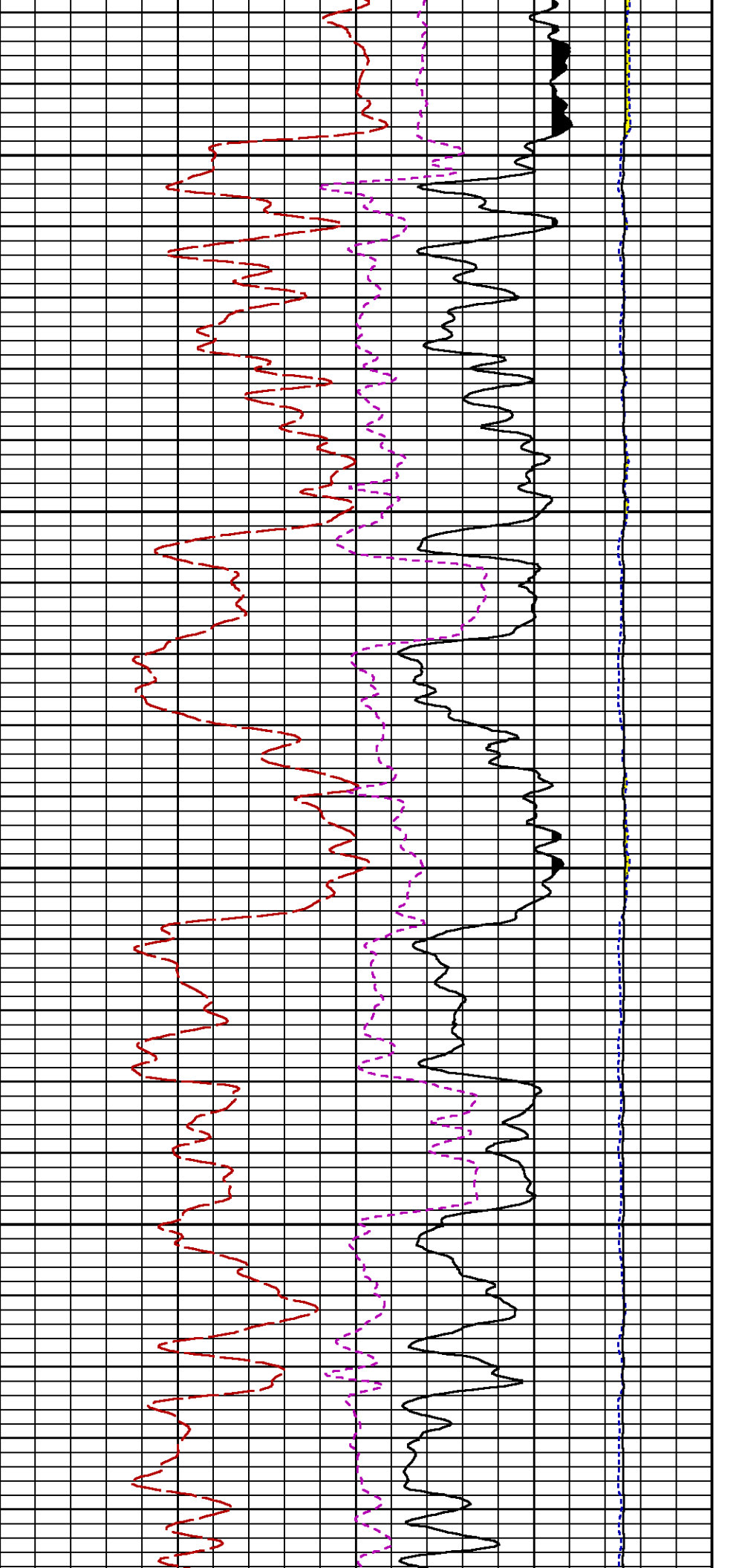






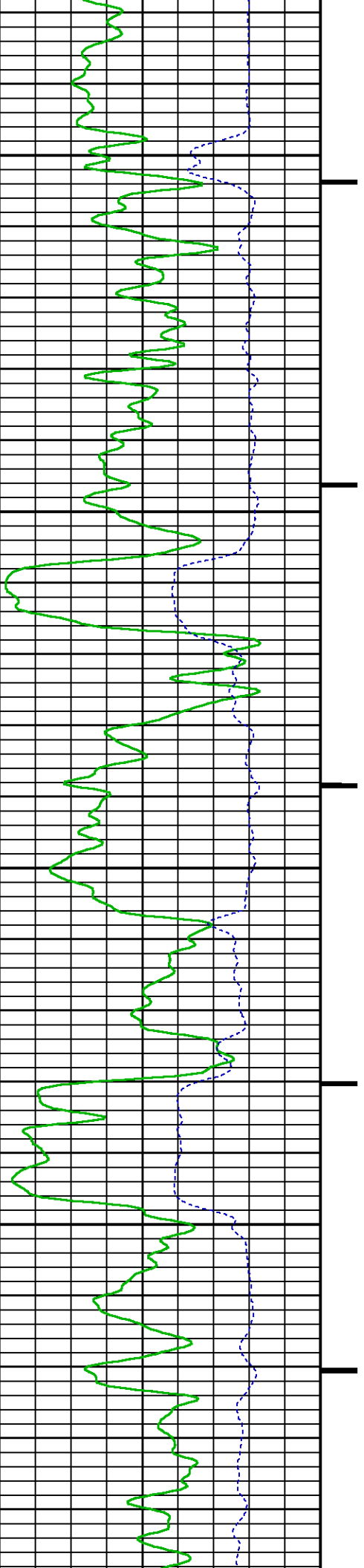


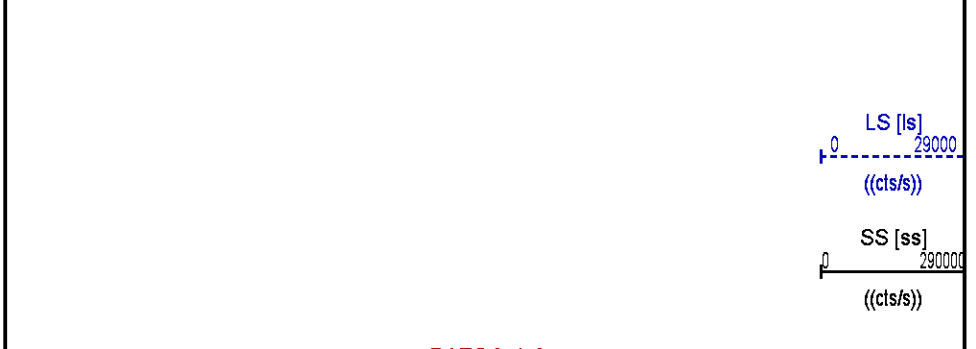
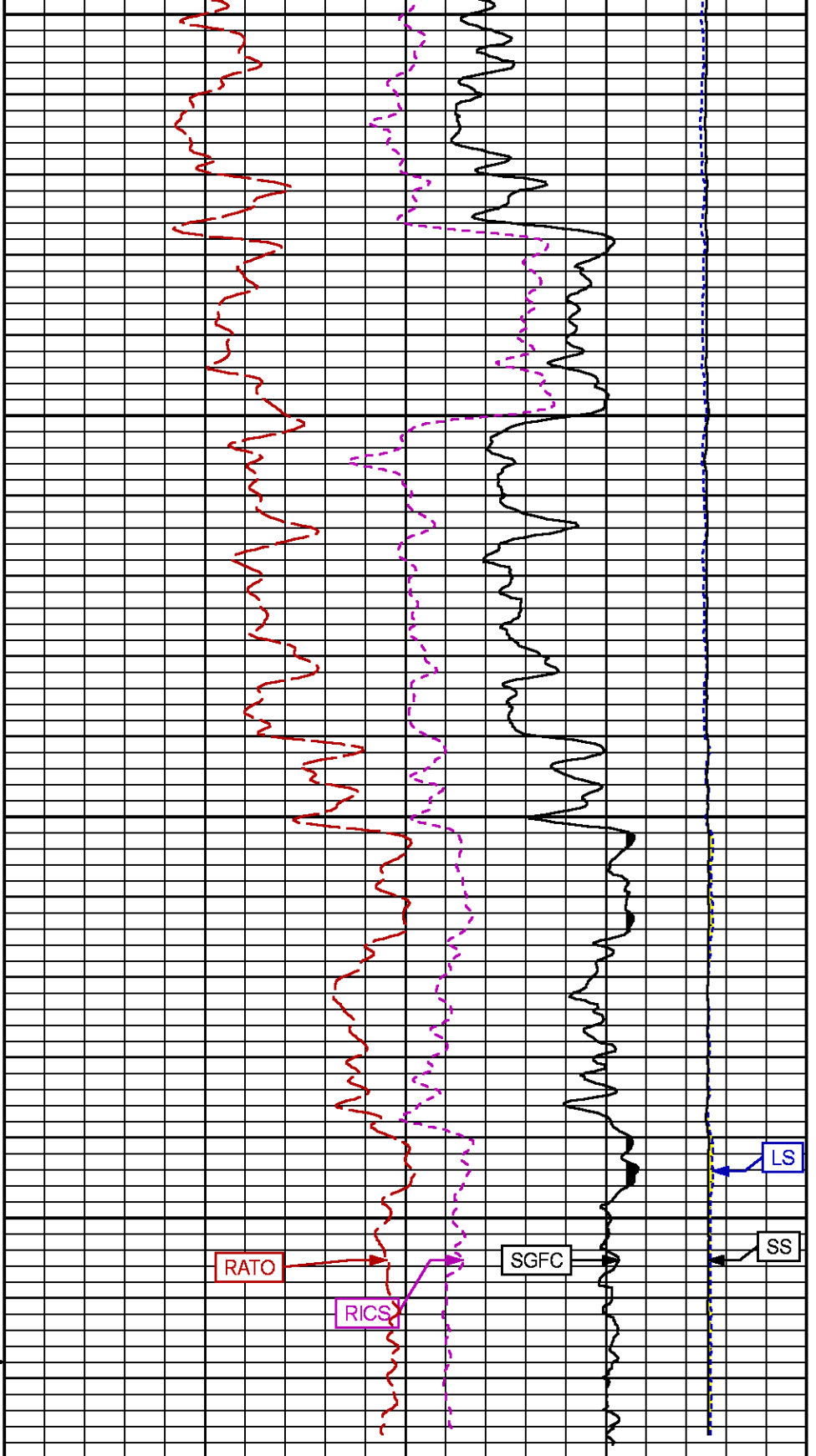
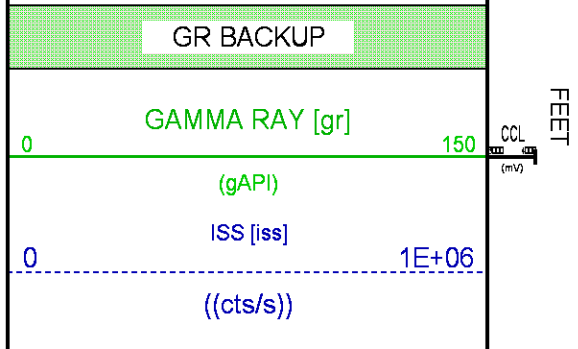
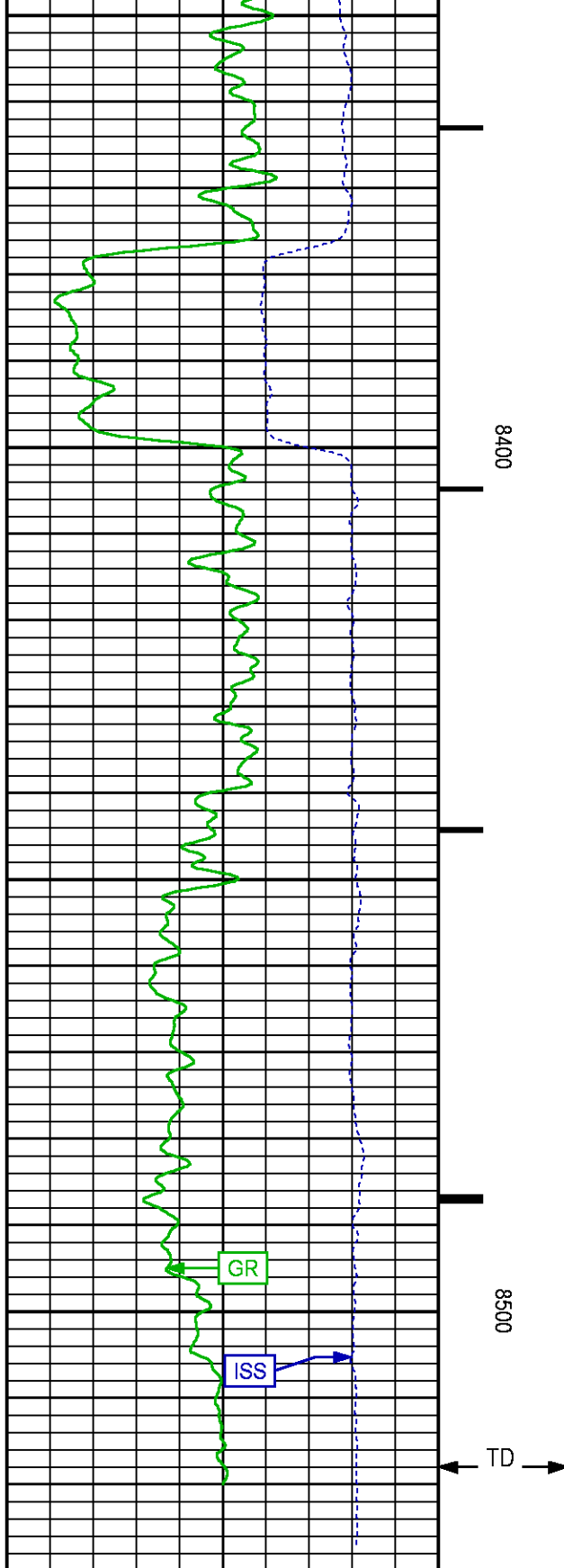




8200

8300





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

REPEAT LOG

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017  
Updates: 1 Patches: 1

Plotted: Fri Jan 25 16:14:02 2019

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_SS\_08W/p353h01.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 5751.500 ft BOTTOM DEPTH: 5990.114 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	8.75	in	" "
	LARGEST CASING OD	4.50	in	" "
	MATRIX	SANDSTONE		" "

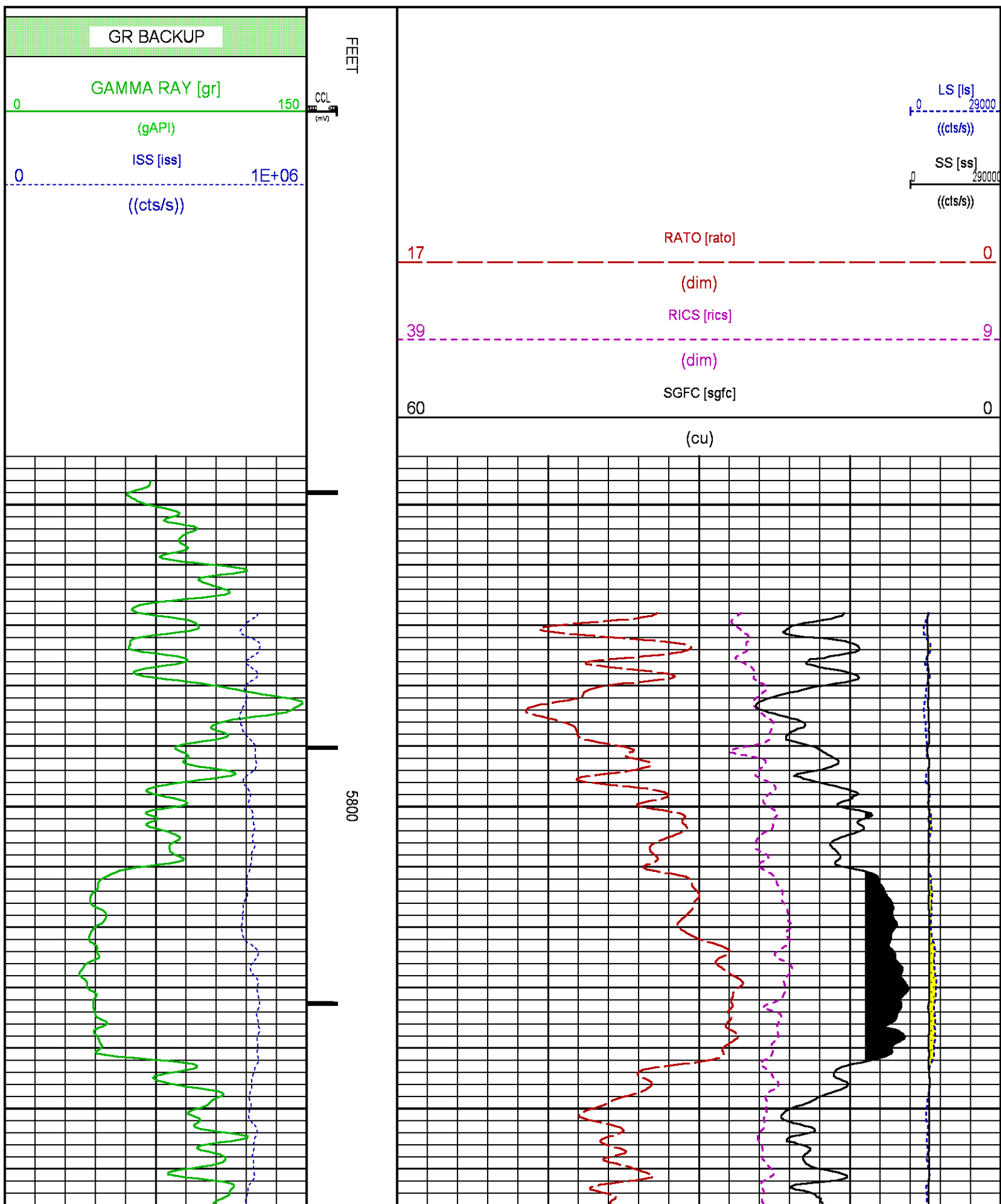
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jan 25 08:53:57 2019	CASING COLLAR LOCATOR
F1:GR	Jan 25 08:53:57 2019	GAMMA RAY
F1:ISS	Jan 25 08:53:57 2019	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jan 25 08:53:57 2019	LONG SPACE COUNT RATE
F1:RATO	Jan 25 08:53:57 2019	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jan 25 08:53:57 2019	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jan 25 08:53:57 2019	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	Jan 25 08:53:57 2019	SHORT SPACE COUNT RATE

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

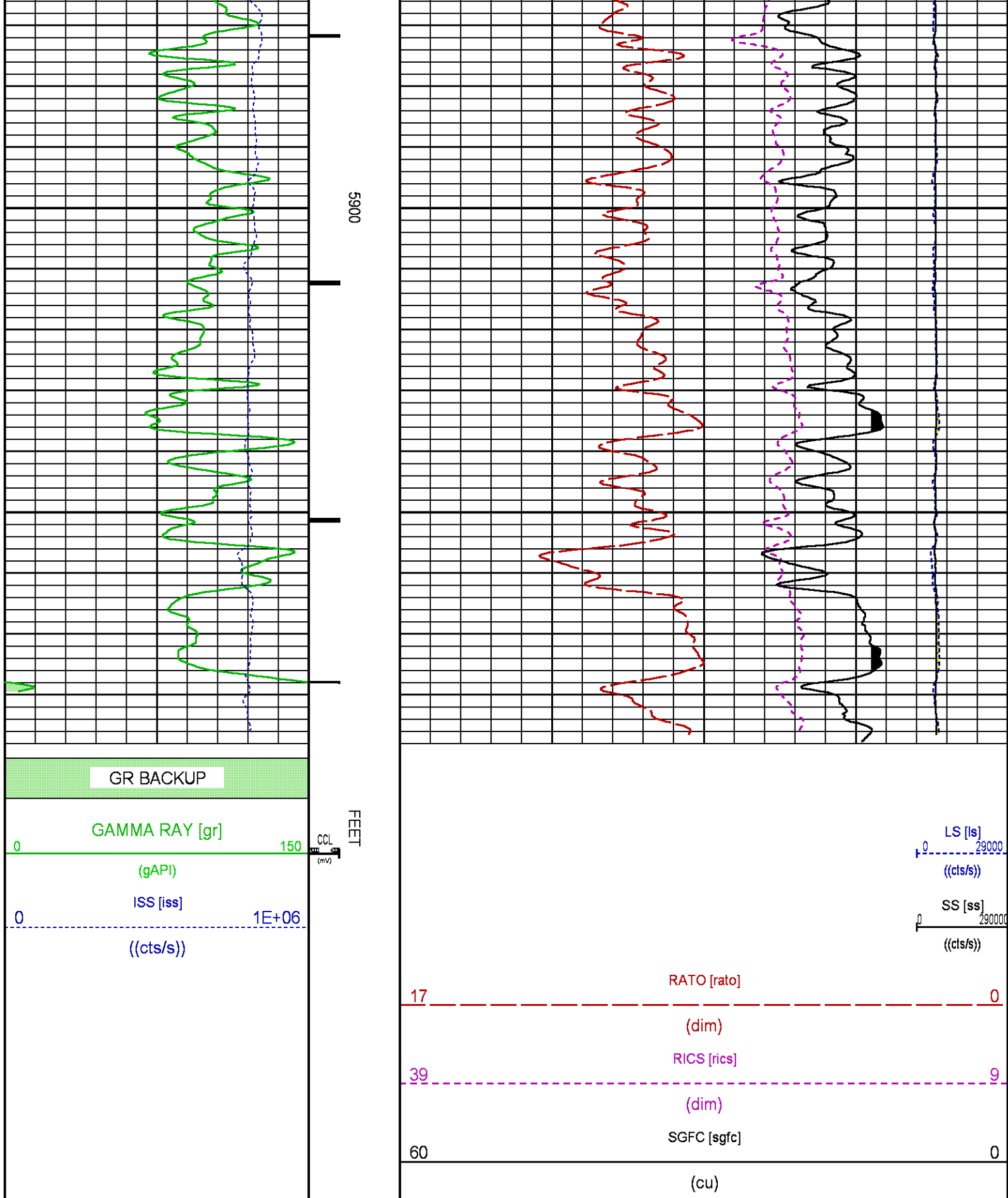
Presentation : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_REPEAT.fvpdf [5"/100' Scale]  
Plot Interval : 5742 - 6002.5 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE\_SS\_08W/08W\_RPM\_REPEAT.xff

Data File : F:\SysA\data\laramie\_SS\_08W/08W\_RPM\_REPEAT.xlt  
Created On : Jan 25 08:53:57 2019  
Company : LARAMIE ENERGY LLC  
Well : SUP & SHEP 0993-25-08W  
Field : BUZZARD CREEK  
File Interval : 5741.25 - 6002.75 Feet  
OCT : p353h







## GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10456406

DATE/TIME PERFORMED: Sat Jan 19 16:02:30 2019

UNIT #: 5753XD 111111

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	102.91	436.27	333.4	0.555	57.11	242.11	185

## GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10456406

DATE/TIME PERFORMED: Sat Jan 19 16:04:23 2019

UNIT #: 5753XD 111111

VERI JIG #: 4702NK BA-820

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	105.47	435.60	0.555	58.53	241.74	183.21
						175.00 195.00

## RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10322619

DATE/TIME PERFORMED: Sat Jan 19 15:35:34 2019

UNIT: 5753XD 111111

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 10220684

HOURS: 8281AA 123

	ISS	Mtr Vlts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	799100	126	2241	2196	2254	101	7.0	0.9863
Interpolated	1300000	151	2218	2188	2249			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	799100	6496	1031	161	25.99	0.14	24.20	0.32
					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	799100	174373	27141	90891	32397	8498	54870	13567
Fit Quality %		0.739	0.830	0.760	0.754	0.753	0.637	0.779

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	799100	1.43	4.58	29.45	14.56	10.70	3.81	4.05
		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 %		0.048	0.255	0.283	0.270	0.065	0.071	0.045
Reduced	1415487	1.43	4.58	29.40	14.55	10.69	3.81	4.04
		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 120518

DATE/TIME PERFORMED: Mon Jul 30 13:10:04 2018

UNIT #: 5753XD 10412898

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	1.263535E+01	1.089486E-01	6.182099E-07	-8.937567E-10

# INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE\_SS\_09W/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

## 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

## RPM C DETECTOR SECTION

Diameter : 1.70"  
Length : 9.40'  
Weight : 41 lbs

34.08'

CCL MP 26.03'

GR MP 22.90'

XLS MP 13.58'

LS MP 13.16'

SS MP 12.91'

Series : 8283PA  
Mnemonic : RPM  
Measure Point: 5.45': XLS MP  
Measure Point: 5.04': LS MP  
Measure Point: 4.79': SS MP

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

**BAKER  
HUGHES**  
a GE company



**ECLIPS**

**COMPANY**

LARAMIE ENERGY LLC

**WELL**

SUP & SHEP 0993-25-08W

**FIELD**

BUZZARD CREEK

**COUNTY**

MESA

**STATE**

COLORADO

**FILE NO:**

CH146841

**API NO:**

05077105710000

**LOCATION:**

SHL

LAT: 39.244824 N

LONG: 107.723428 W

SEC 25

TWP 9S

RGE 93W

**ELEVATIONS:**

KB 8108 FT

DF

GL 8078 FT

**DATE**

25-Jan-2019