



FILE NO: CH097904	COMPANY WELL FIELD COUNTY	LARAMIE ENERGY GUNDERSON 29-14E VEGA MESA STATE COLORADO
API NO: 05077102300000	LOCATION: Ver. 4.01 SEC 29 T9S R93W PAD 29-09 PATTERSON 306	OTHER SERVICES BOND LOG
SHL: LAT 39.248804 LONG -107.787901 BHL: LAT 39.246113 LONG -107.786788 SEC 29 TWP 9S RGE 93W		
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB ELEVATION 22 FT ABOVE P.D.	KB DF GL ELEVATIONS: 7653 FT 7631 FT

DATE	22-Jul-2015
RUN	TRIP
SERVICE ORDER	US097904
DEPTH DRILLER	7715 FT
DEPTH LOGGER	7664 FT
BOTTOM LOGGED INTERVAL	7654 FT
TOP LOGGED INTERVAL	22 FT
TIME STARTED	10:30
TIME FINISHED	16:30
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	46 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	242 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	22-Jul-2015
EQUIP. NO.	6670
LOCATION	T. NEWELL GRAND JCT.
RECORDED BY	JOHN GRUBICH
WITNESSED BY	

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	7873 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	7873 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 22/JULY/2015 AT THE CLIENT'S REQUEST.

THE AMOUNT OF LINEAR SHIFT IS 5 FEET.

BHT = 242 degF

SJ = 5915' - 5937'  
SJ = 6818' - 6840'

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: Wed Jul 22 15:54:07 2015

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/CH097904/n354h03.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 2446.500 ft BOTTOM DEPTH: 3077.250 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 22 15:12:27 2015	CASING COLLAR LOCATOR
F1:GR	Jul 22 15:12:27 2015	GAMMA RAY
F1:ISS	Jul 22 15:12:27 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 22 15:12:27 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 22 15:12:27 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 22 15:12:27 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 22 15:12:27 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 22 15:12:27 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/CH097904/14E\_RPM\_GSAND.fvpdfl [5"/100' Scale]  
 Plot Interval : 2460 - 3070 Feet

Data File 1 : F1 : HL6670:/dat1a/CH097904/14E\_RPM\_GSAND.xtf  
 Created On : Jul 22 15:12:27 2015  
 Company : LARAMIE ENERGY  
 Well : GUNDERSON 29-14E  
 Field : NECA

Field : VEGA  
File Interval : 2438.5 - 3093.75 Feet  
OCT : n354h

GR BACKUP

FEET

ISS [iss]

(1)

GAMMA RAY [gr]

(gAPI)

CCL  
(mV)

2500

LS [ls]

(1)

SS [ss]

(1)

RATO [rato]

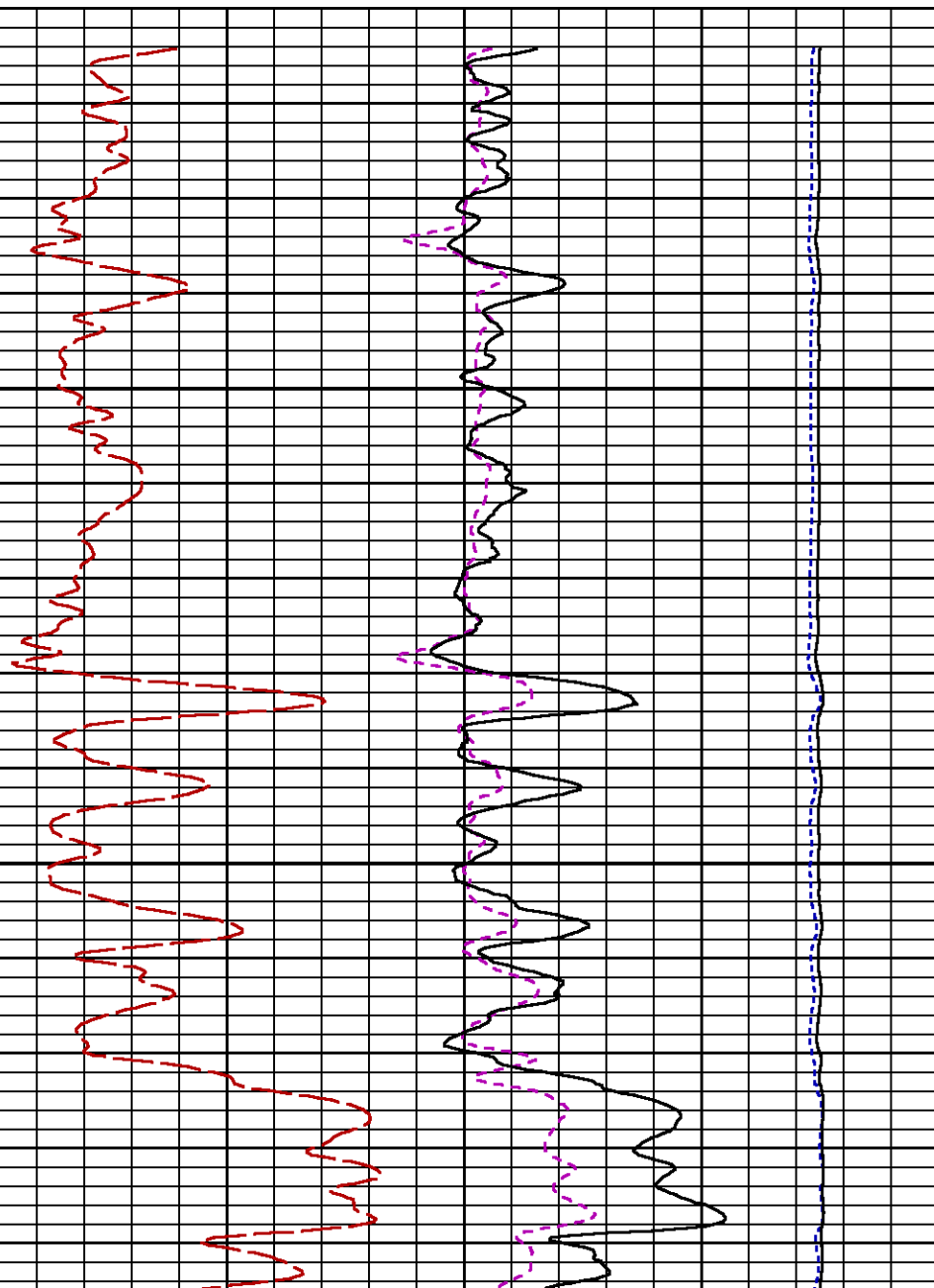
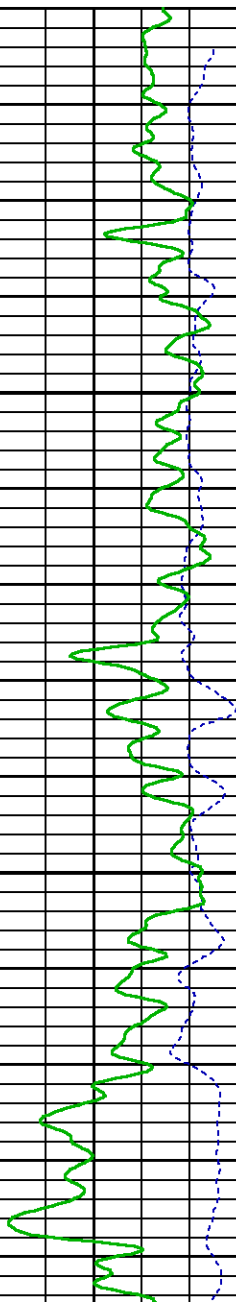
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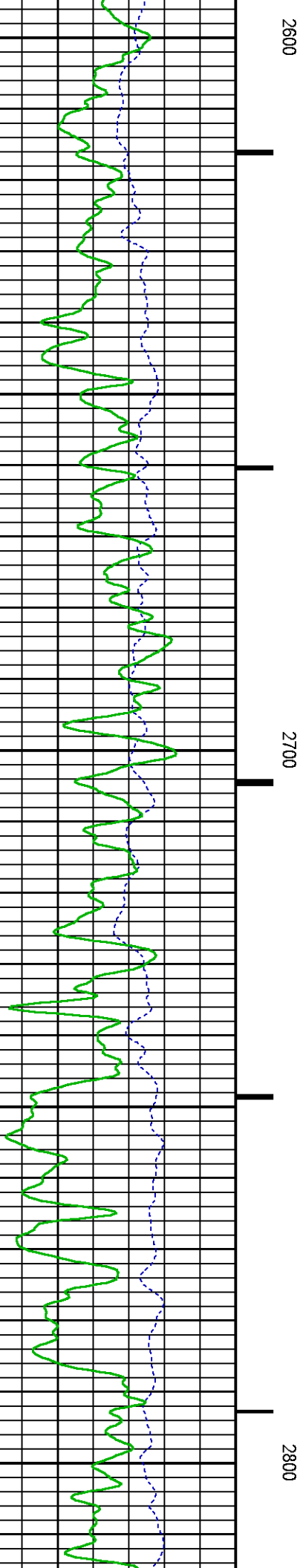
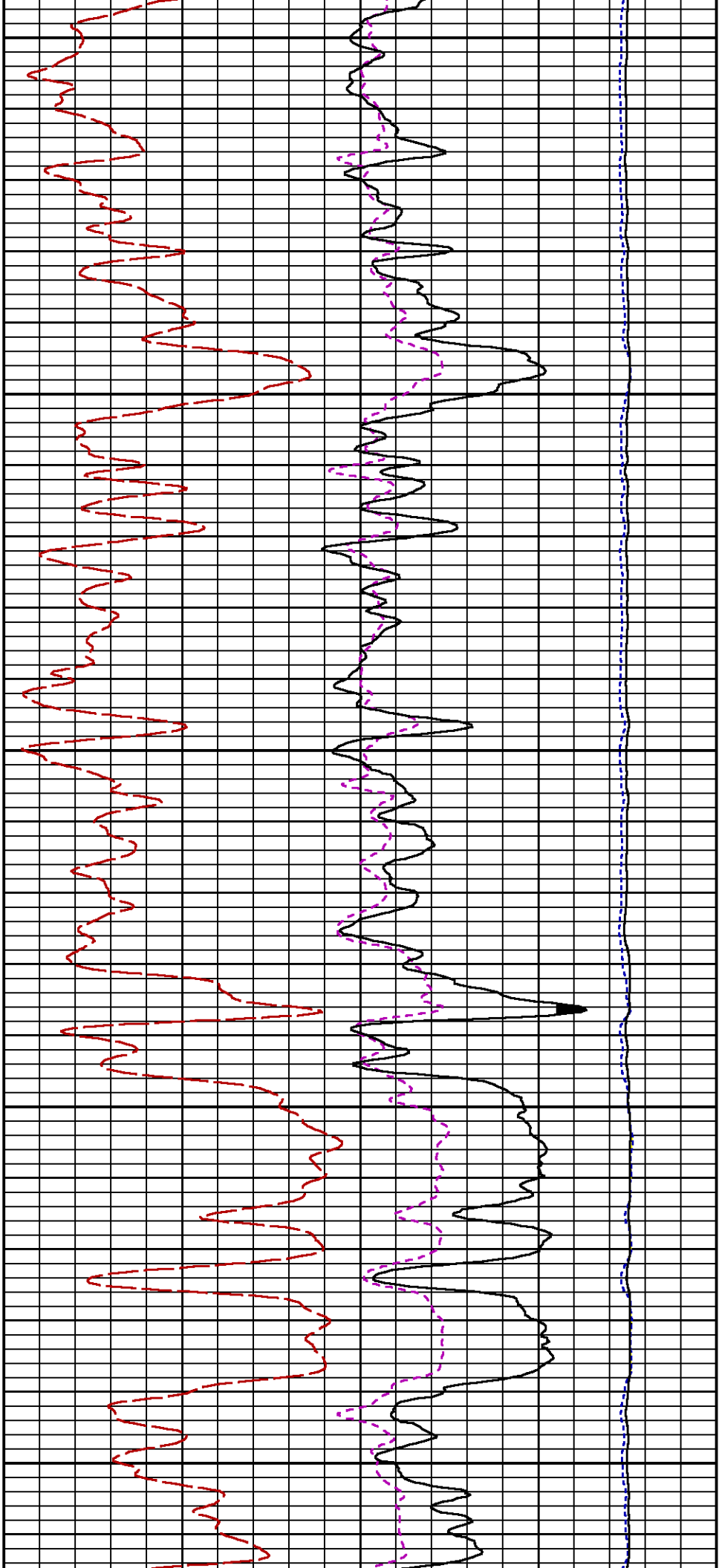
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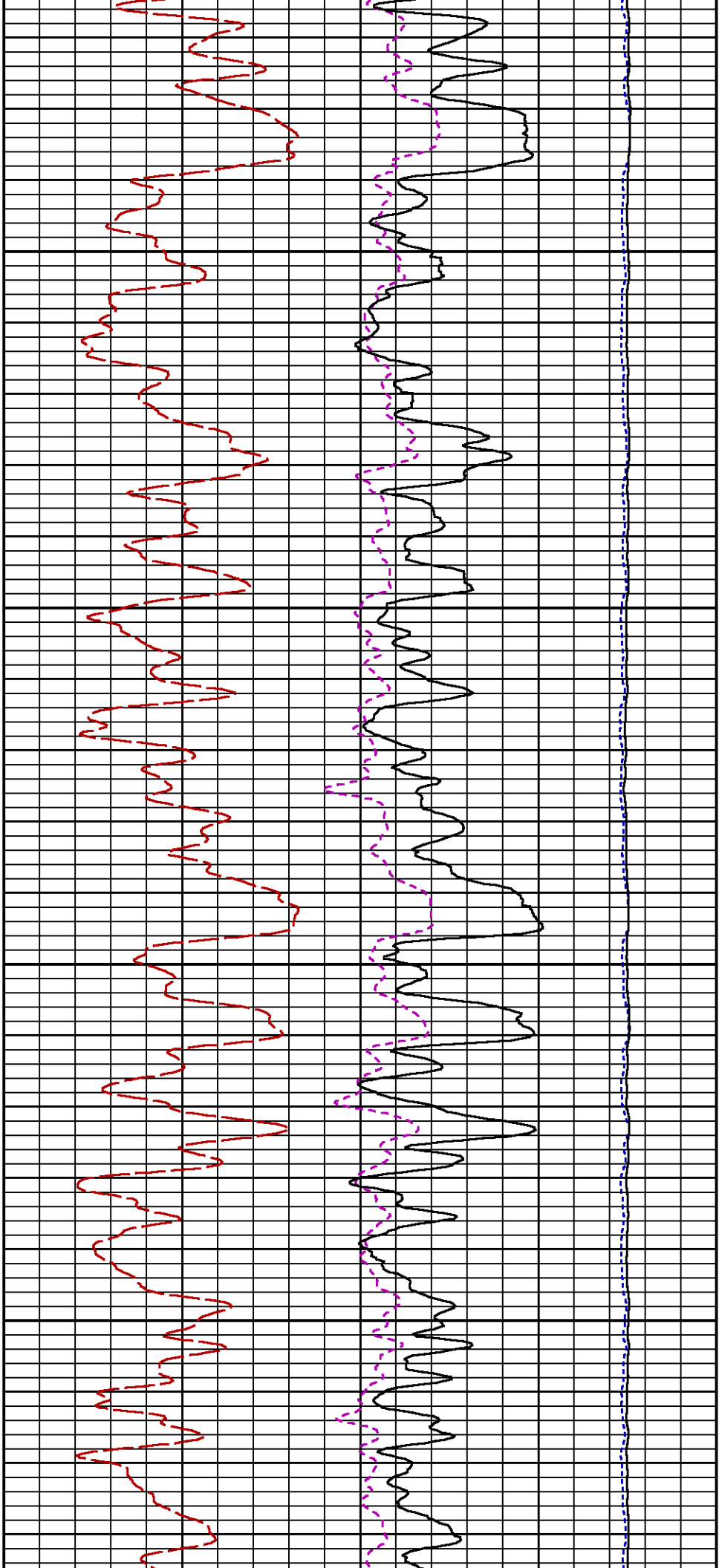
(1)

SGFC [sgfc]

(1)

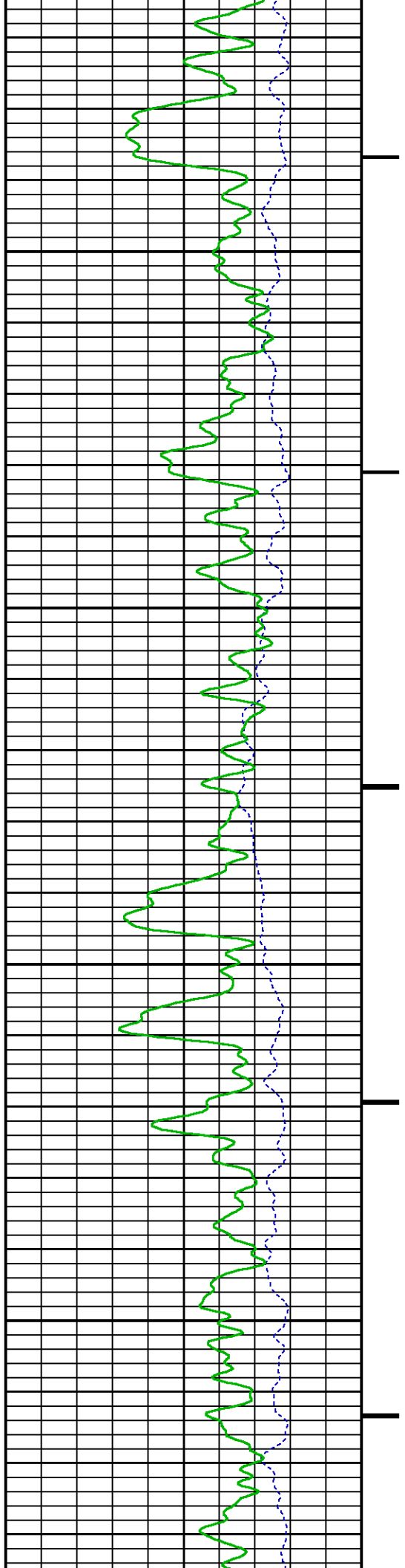


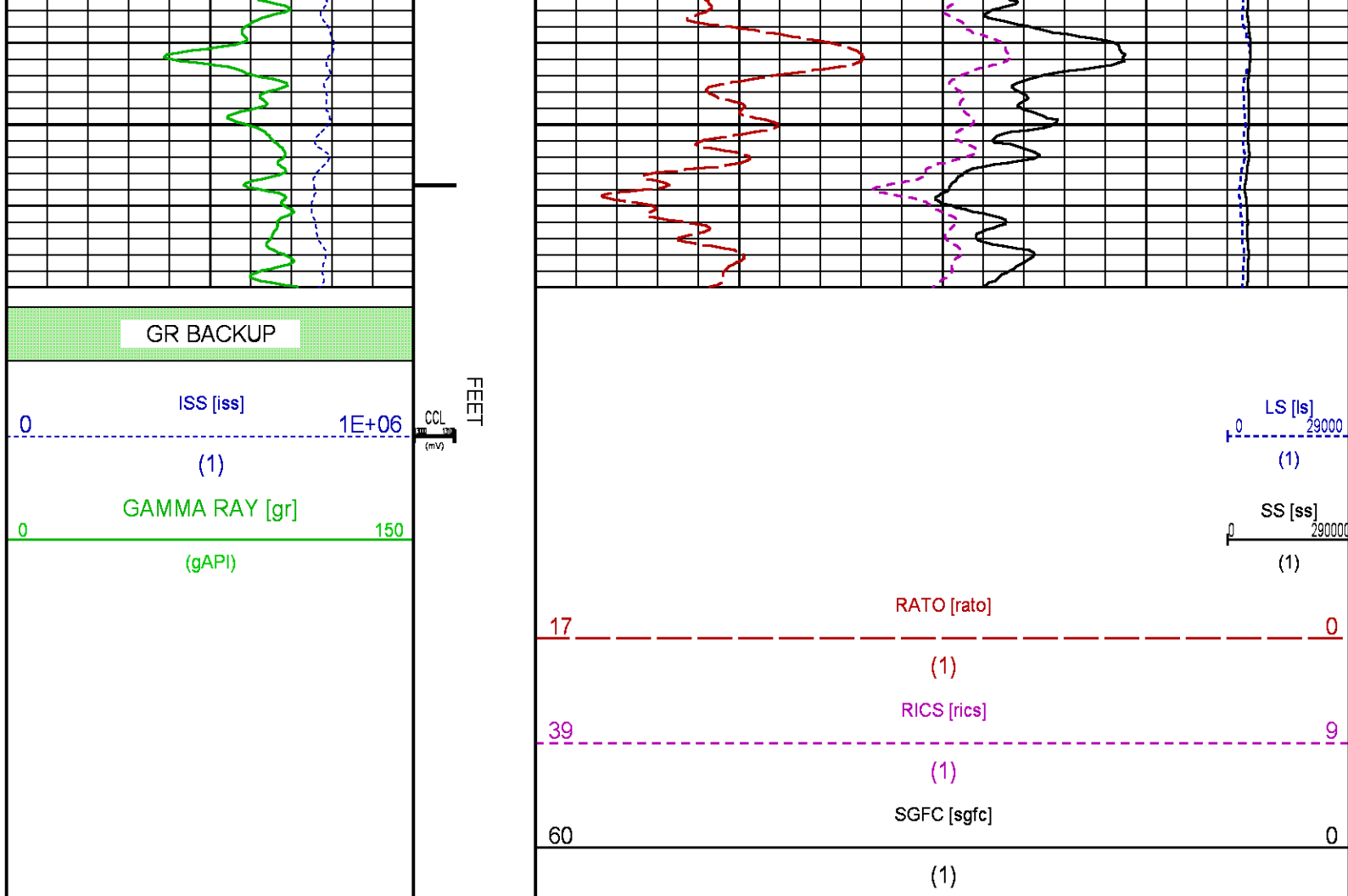




2900

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: Wed Jul 22 15:30:39 2015

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH097904/n354h02.prm  
 LOGGING MODE: DEPTH 4433.000 ft DIRECTION: UP  
 TOP DEPTH: 4433.000 ft BOTTOM DEPTH: 7669.235 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

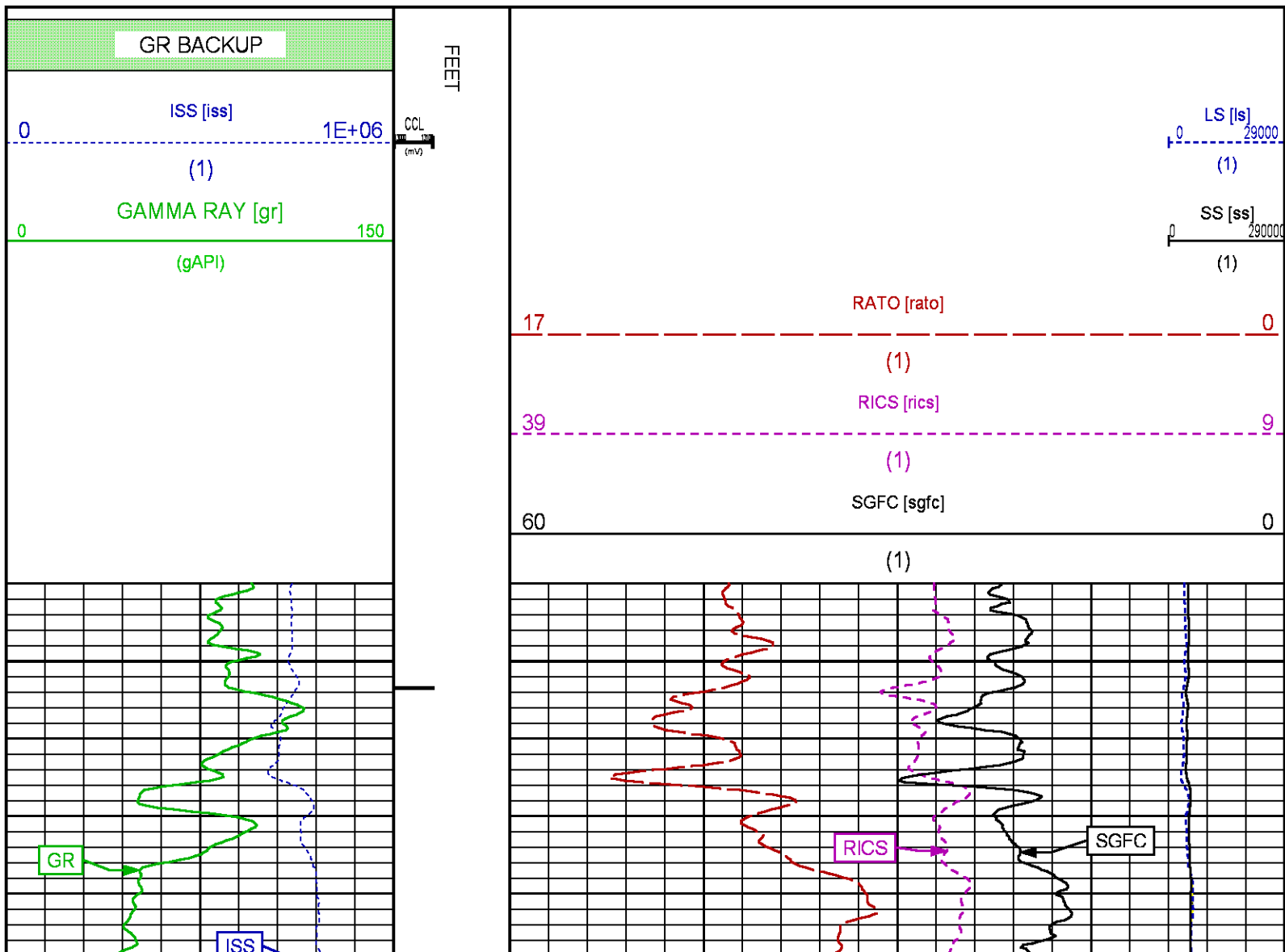
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 22 11:40:07 2015	CASING COLLAR LOCATOR
F1:GR	Jul 22 11:40:07 2015	GAMMA RAY
F1:ISS	Jul 22 11:40:07 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 22 11:40:07 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 22 11:40:07 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 22 11:40:07 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 22 11:40:07 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 22 11:40:07 2015	SHORT SPACE COUNT RATE

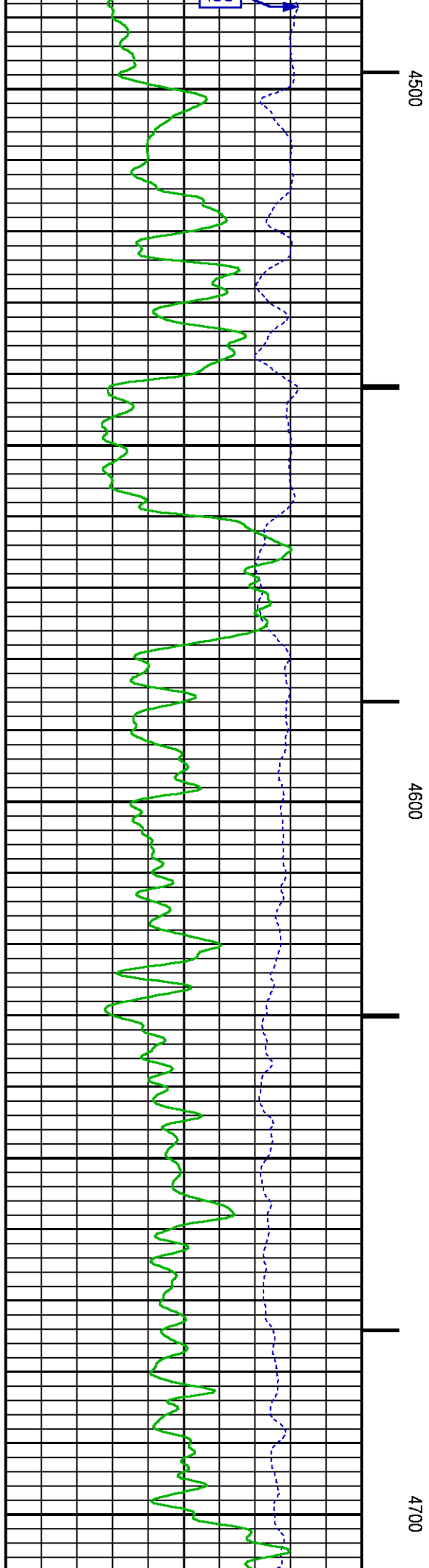
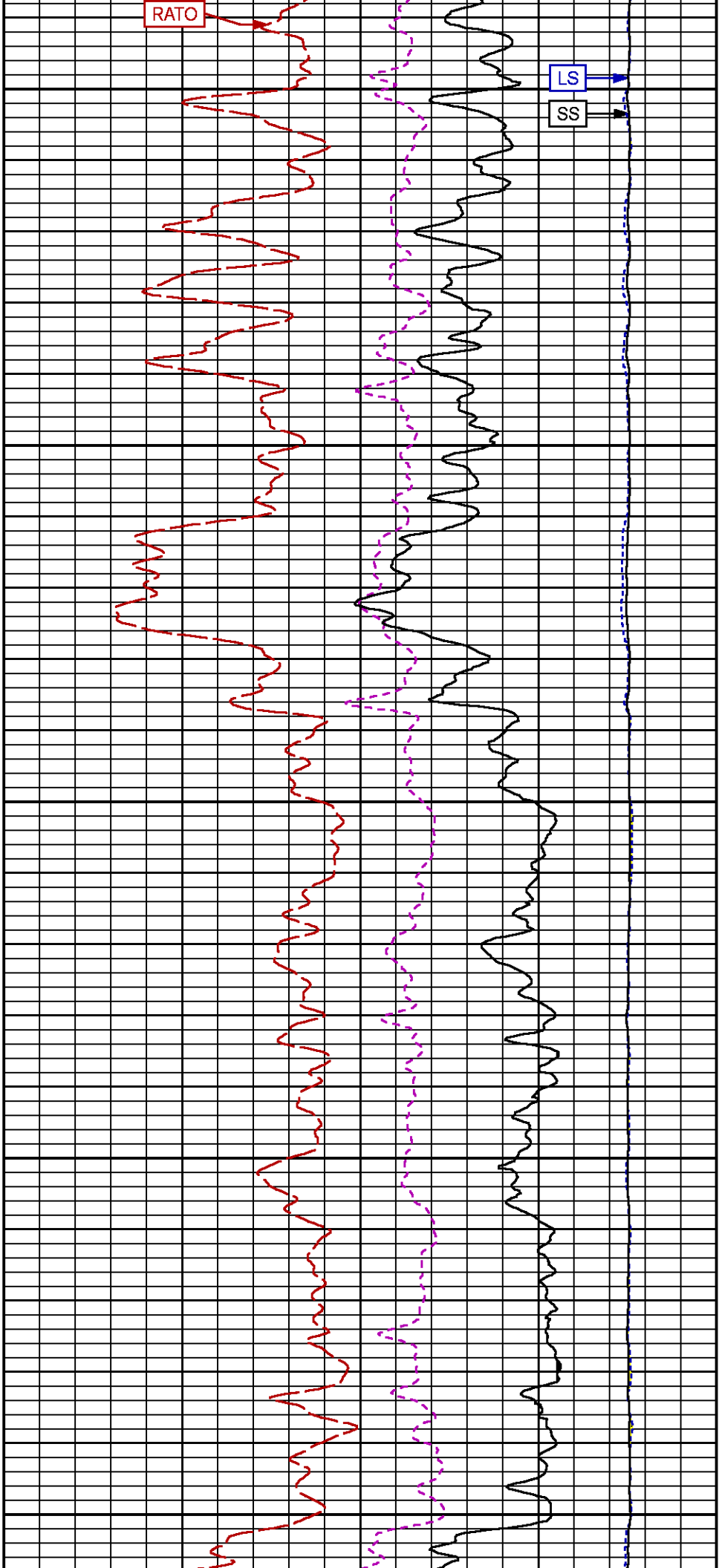
## CURVE MEASURE POINT OFFSET

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

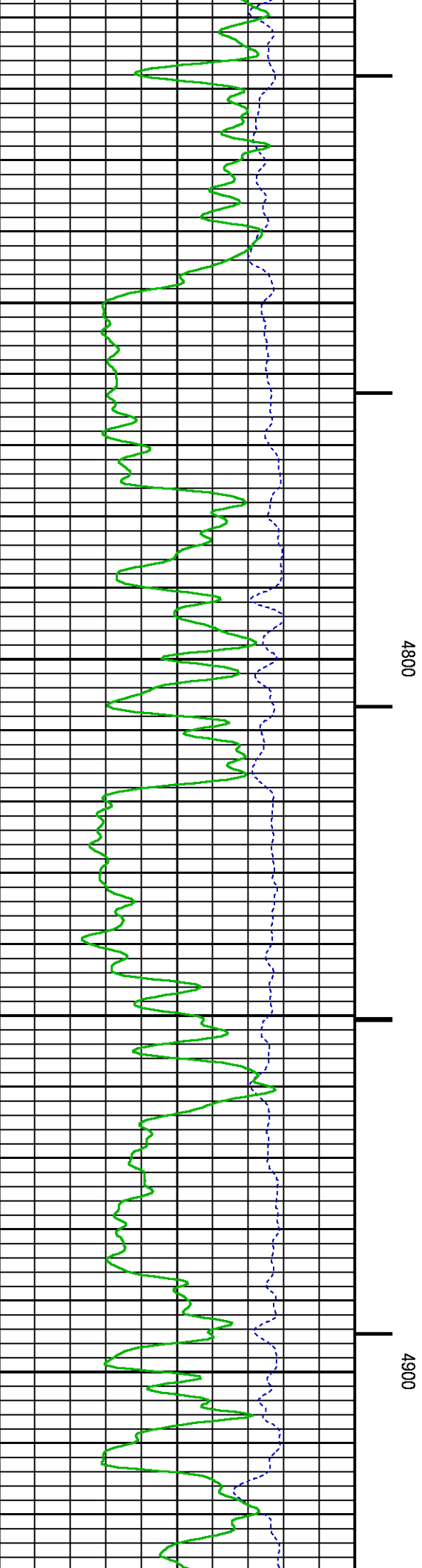
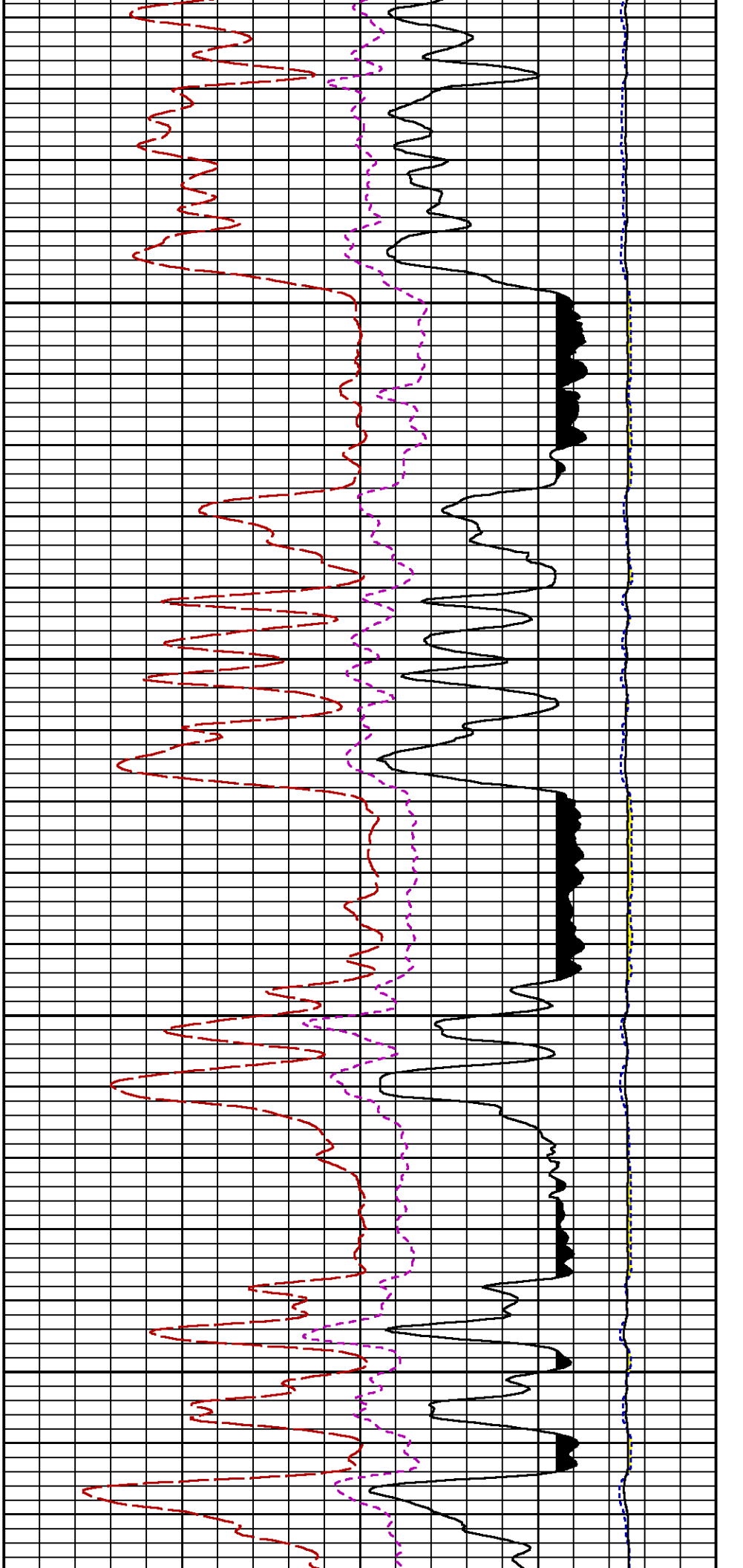
**Presentation** : HL6670:/dat1a/CH097904/14E\_RPM\_MAIN.fvpdf [5"/100' Scale]  
**Plot Interval** : 4440 - 7675 Feet

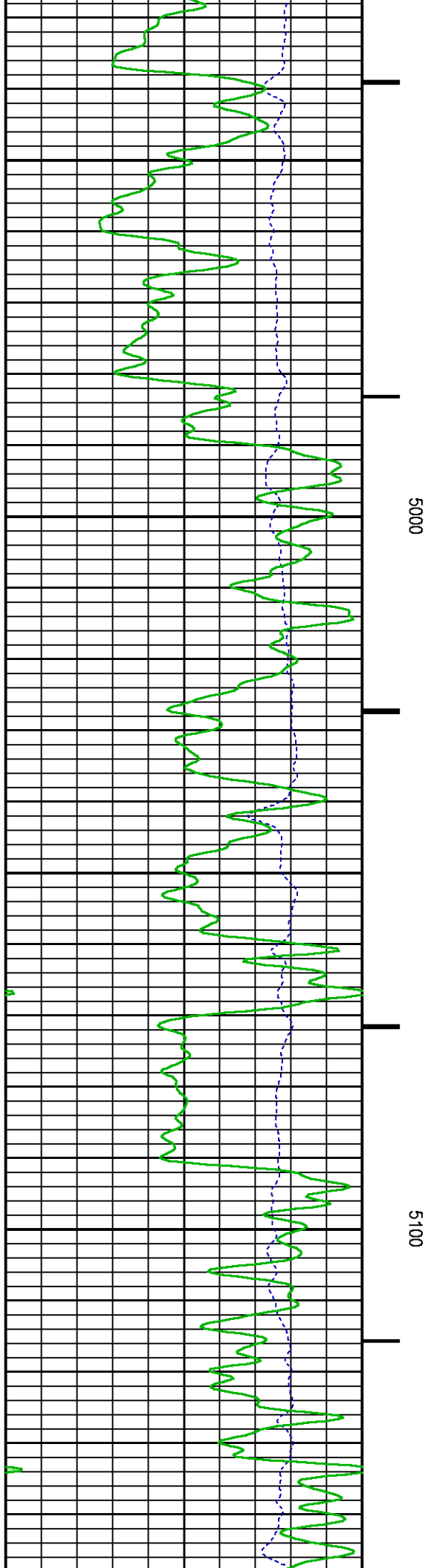
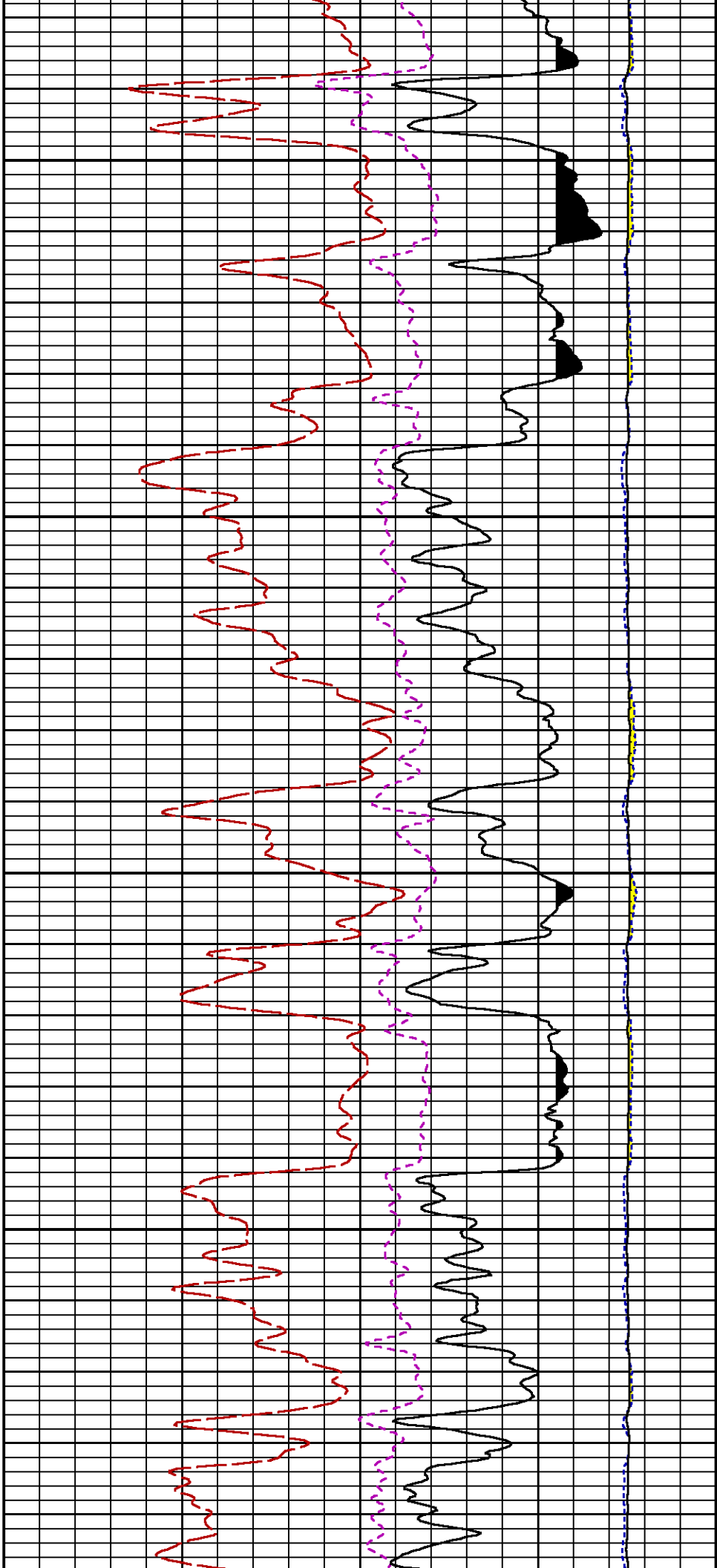
**Data File 1** : F1 : HL6670:/dat1a/CH097904/14E\_RPM\_MAIN.xtf  
**Created On** : Jul 22 11:40:07 2015  
**Company** : LARAMIE ENERGY  
**Well** : GUNDERSON 29-14E  
**Field** : VEGA  
**File Interval** : 4407.75 - 7666.75 Feet  
**OCT** : n354h

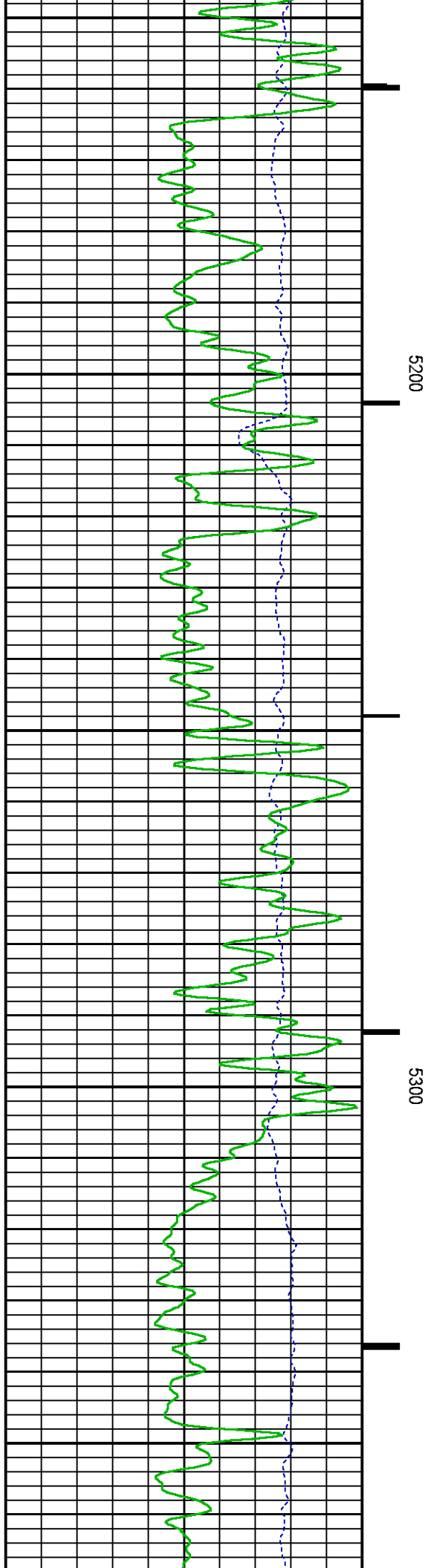
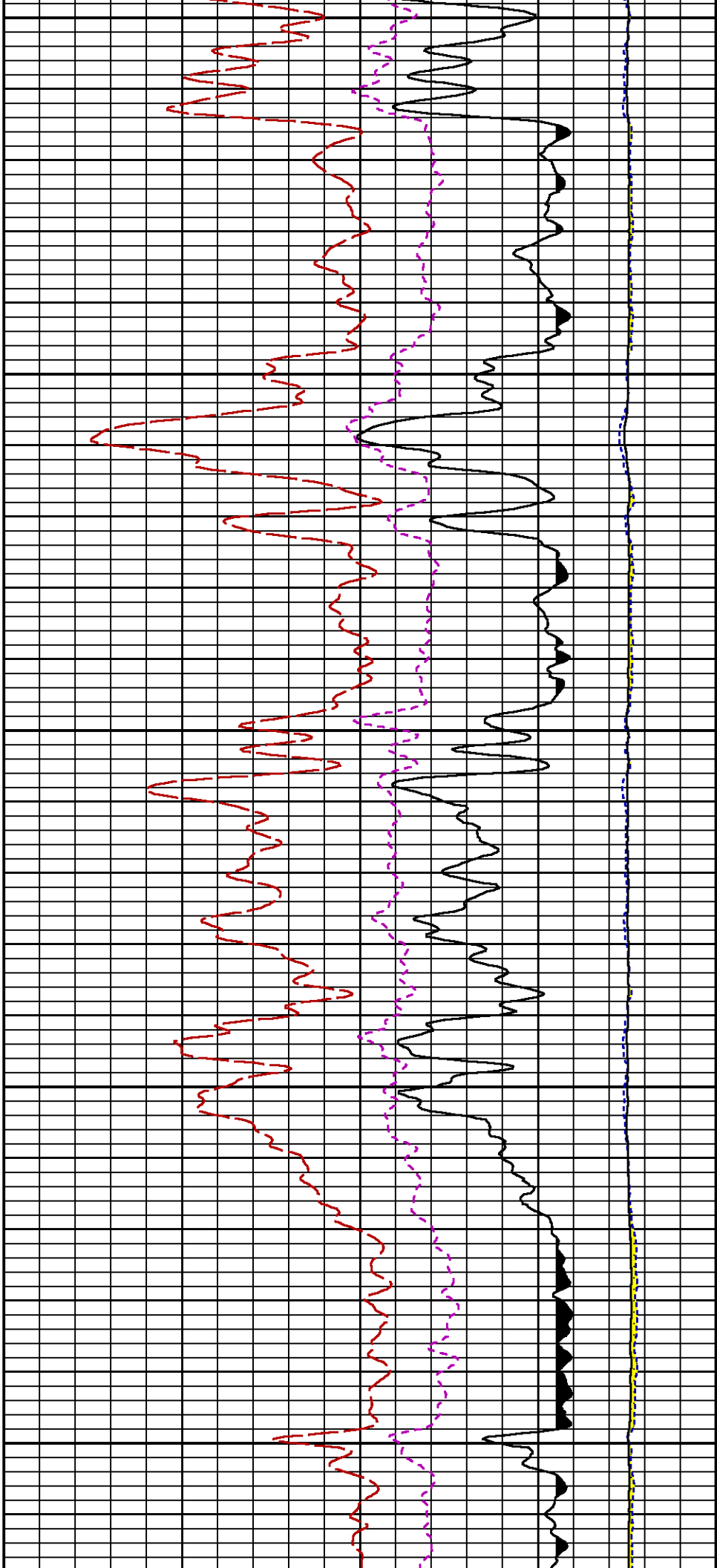


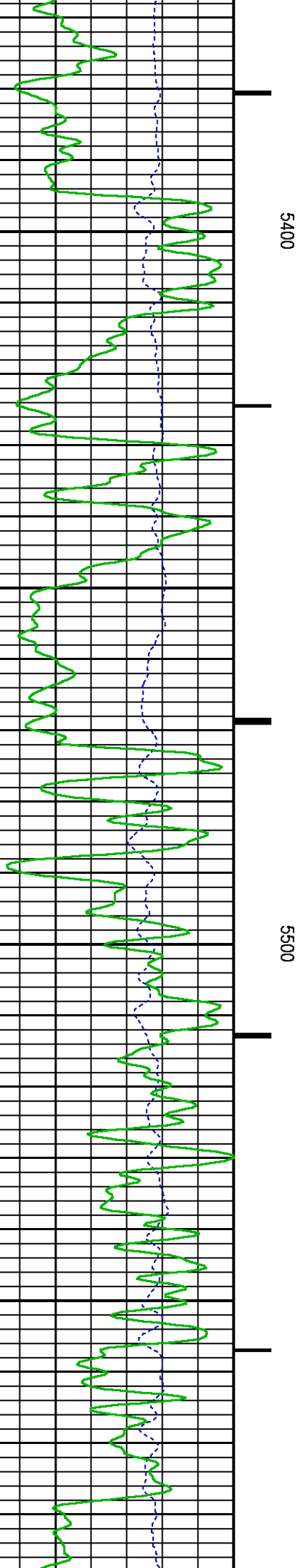
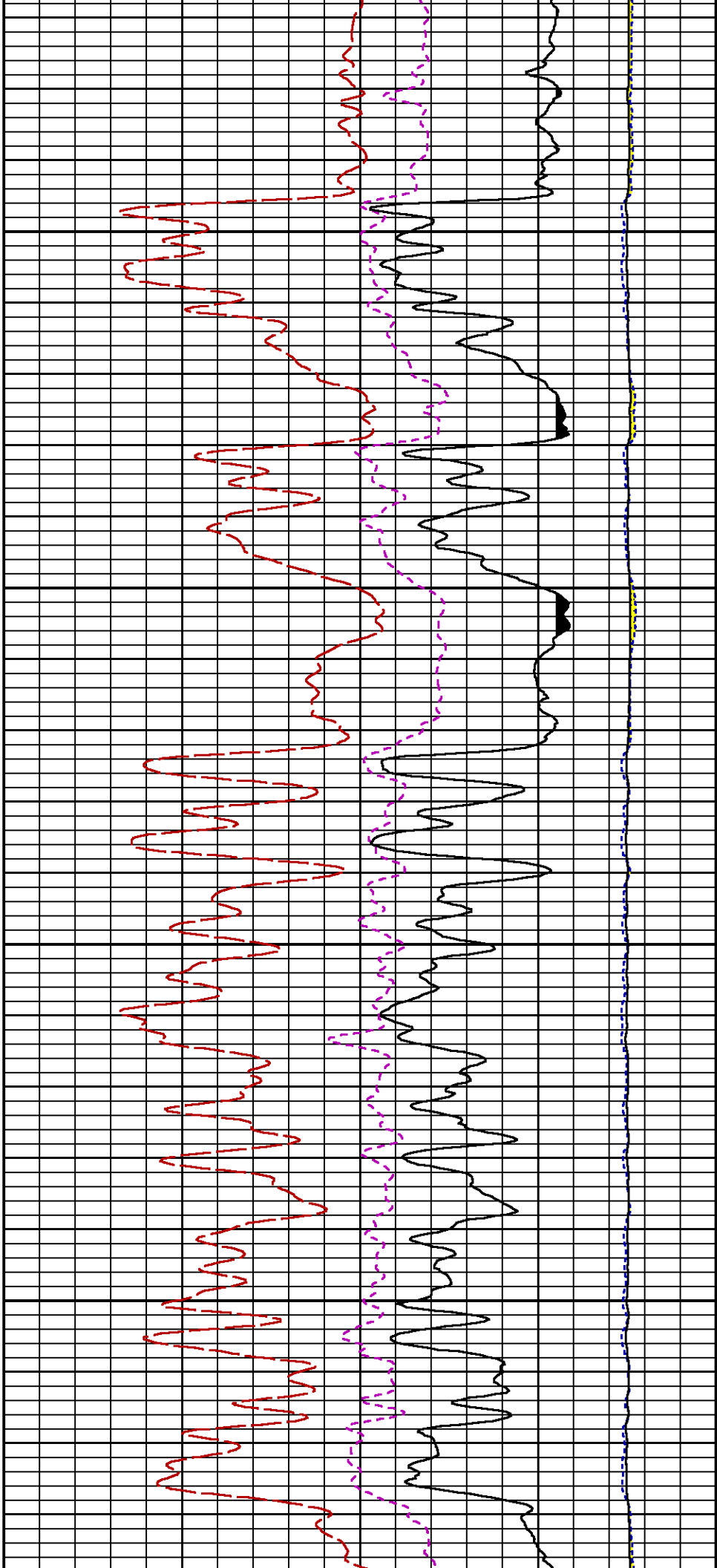


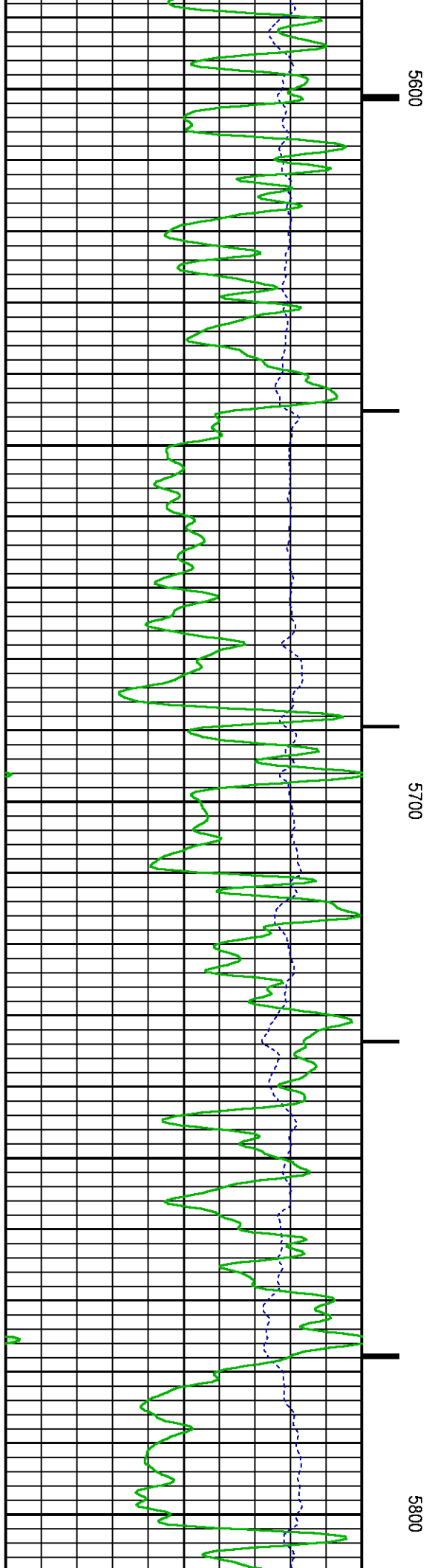
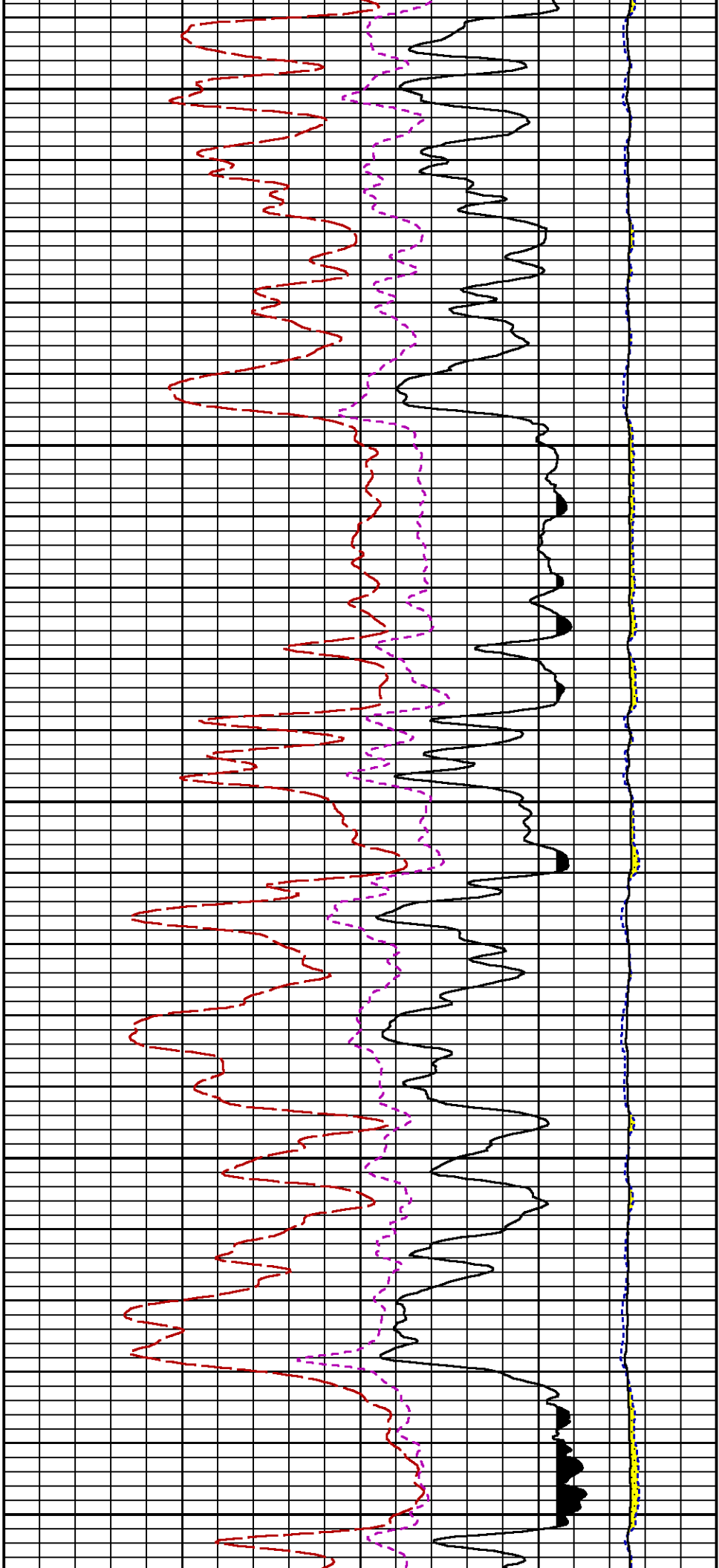


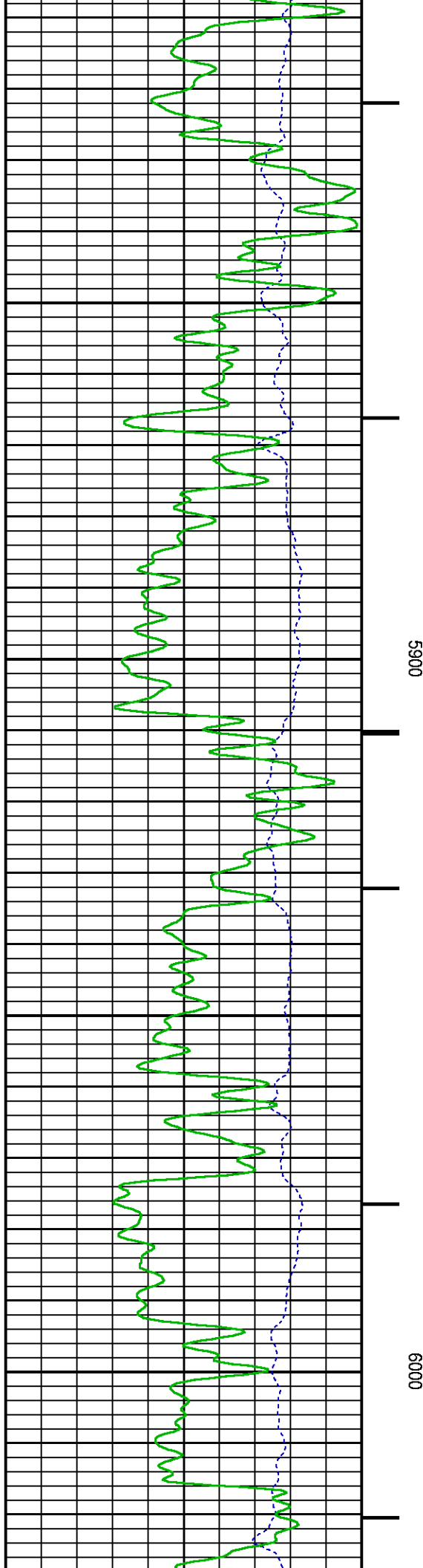
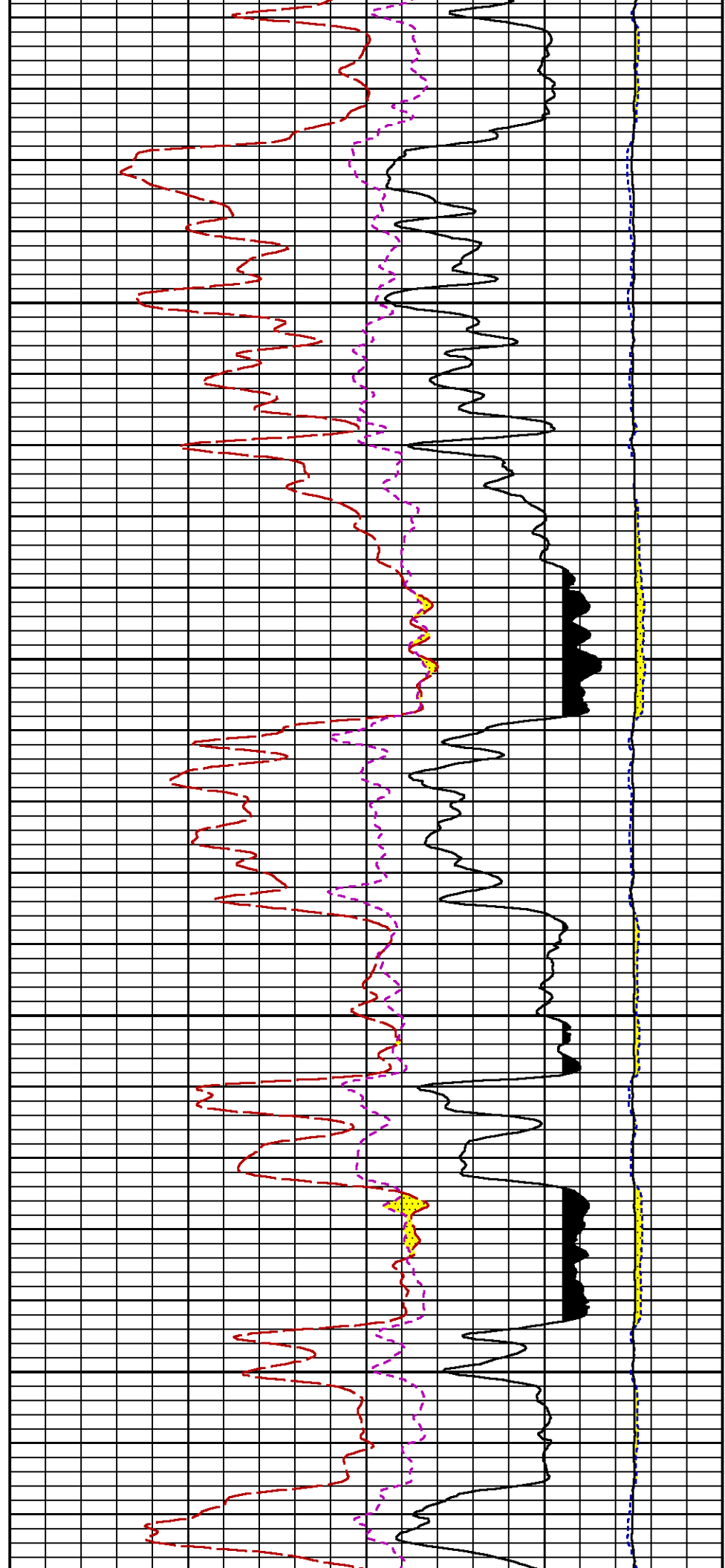


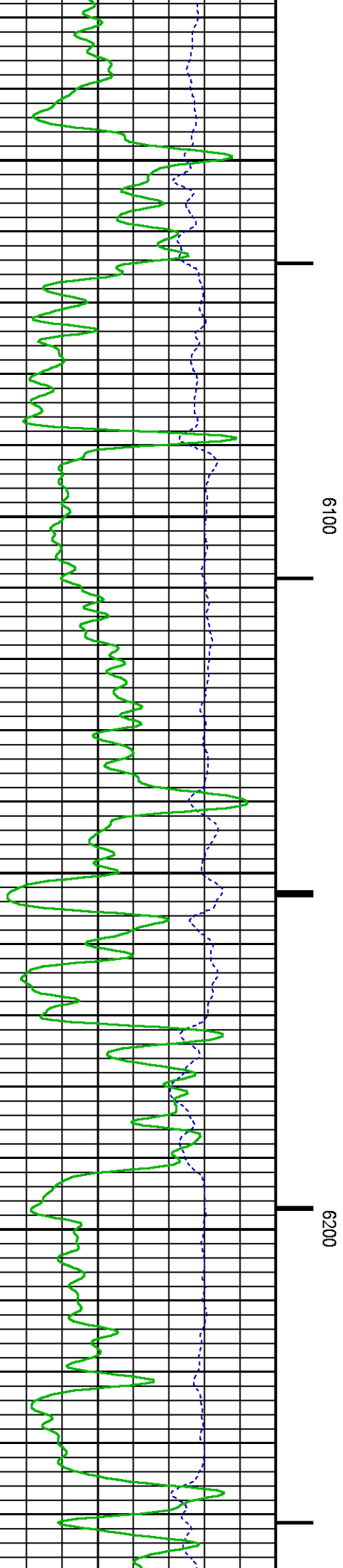
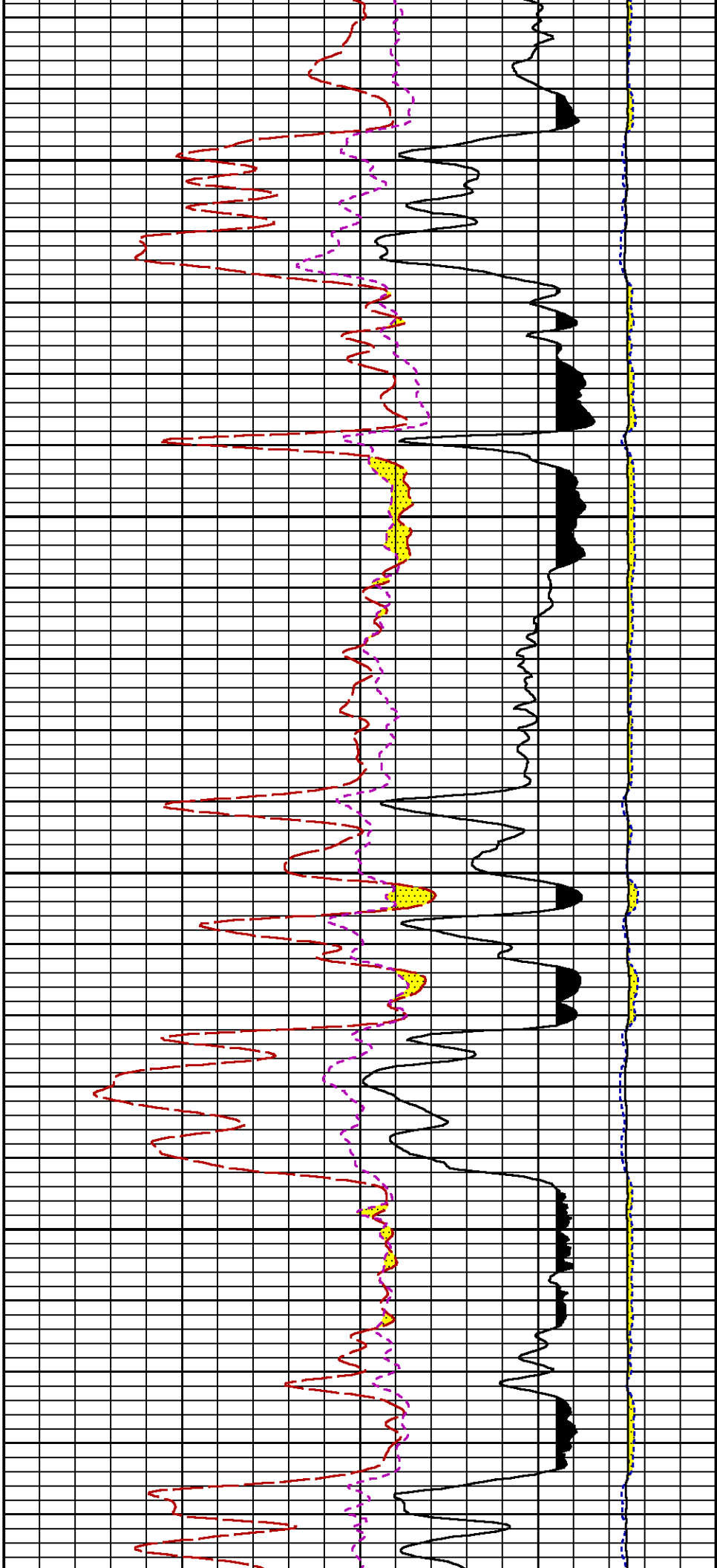


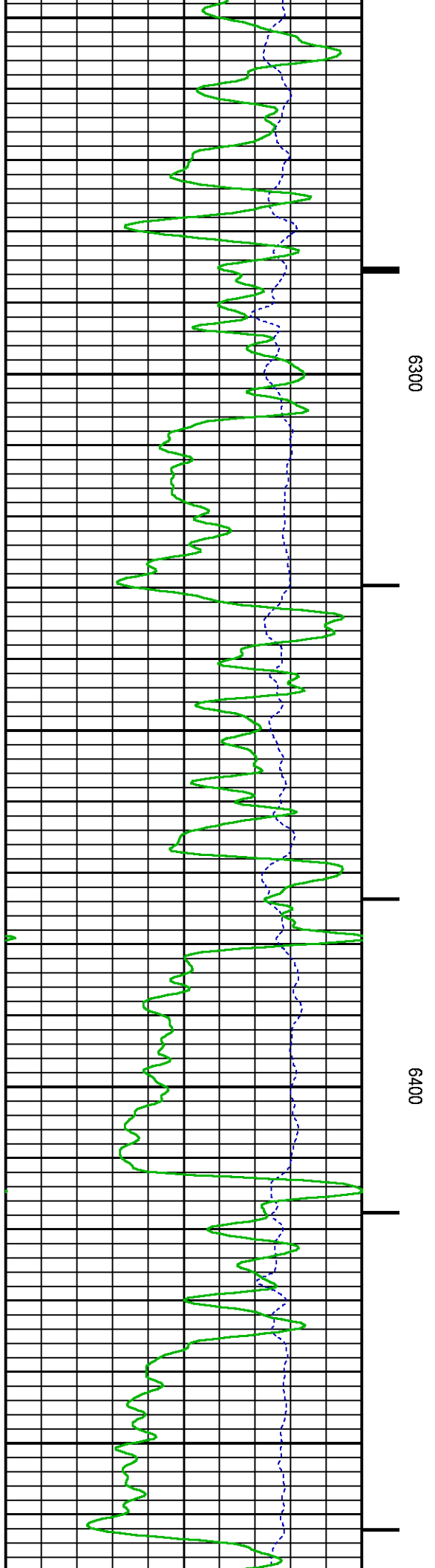
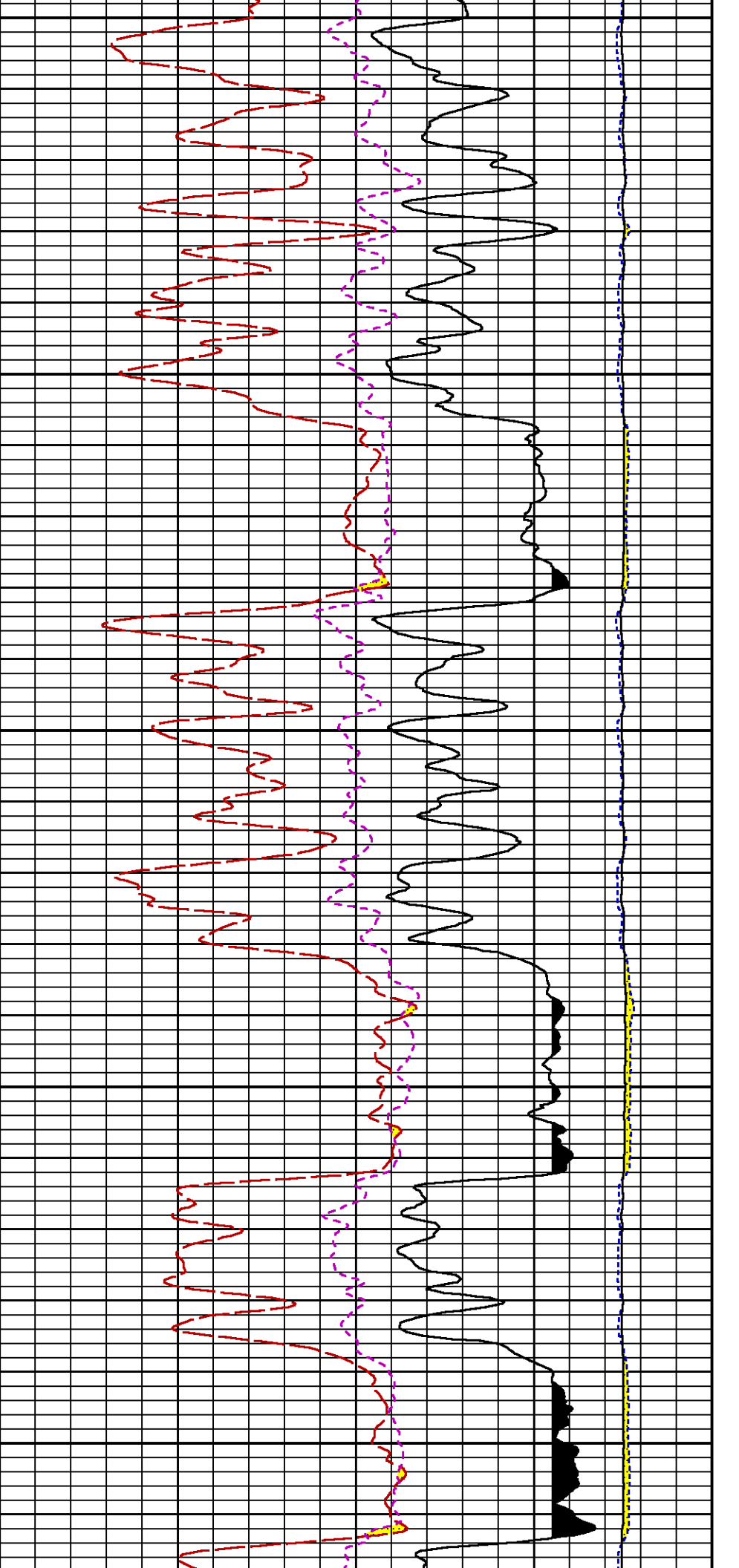




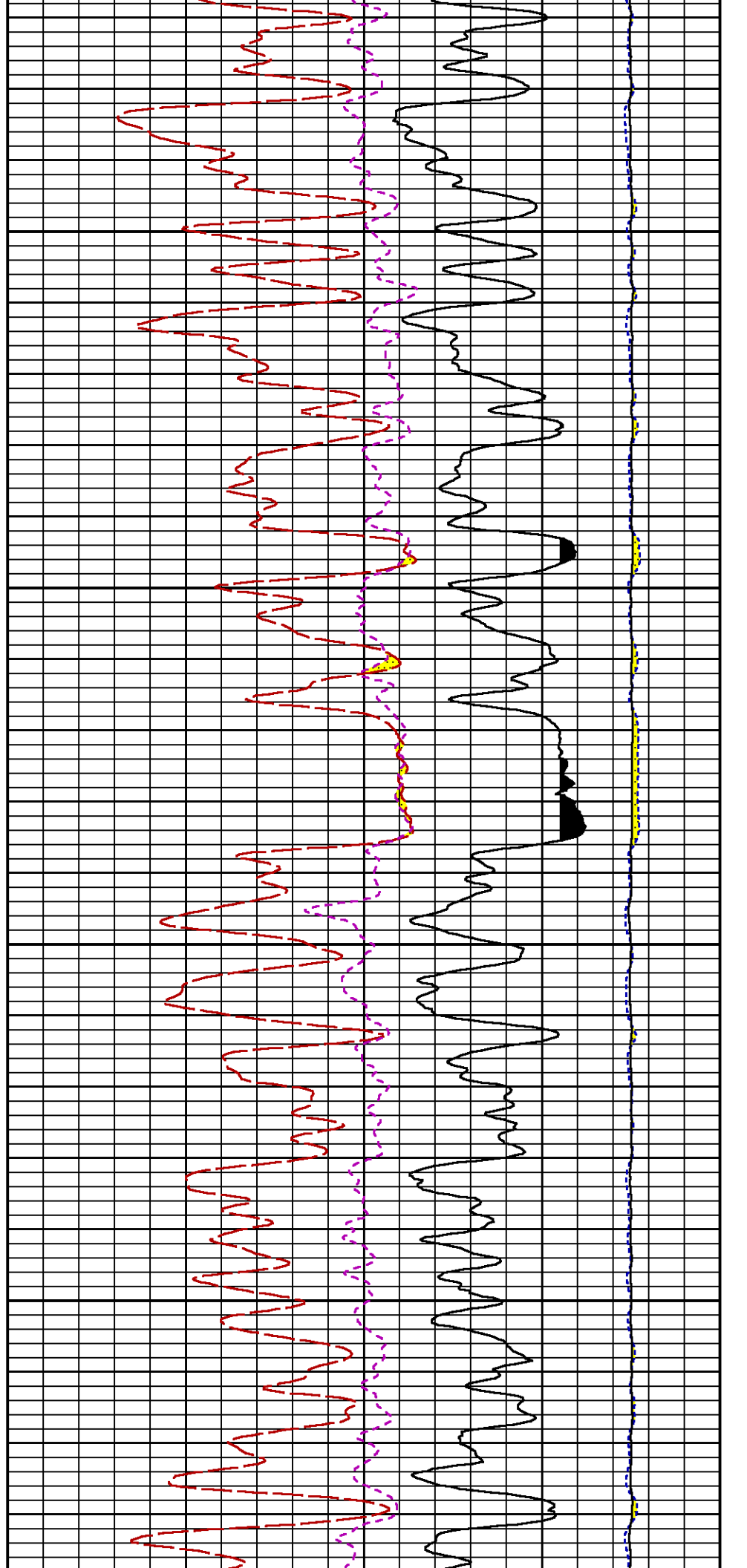
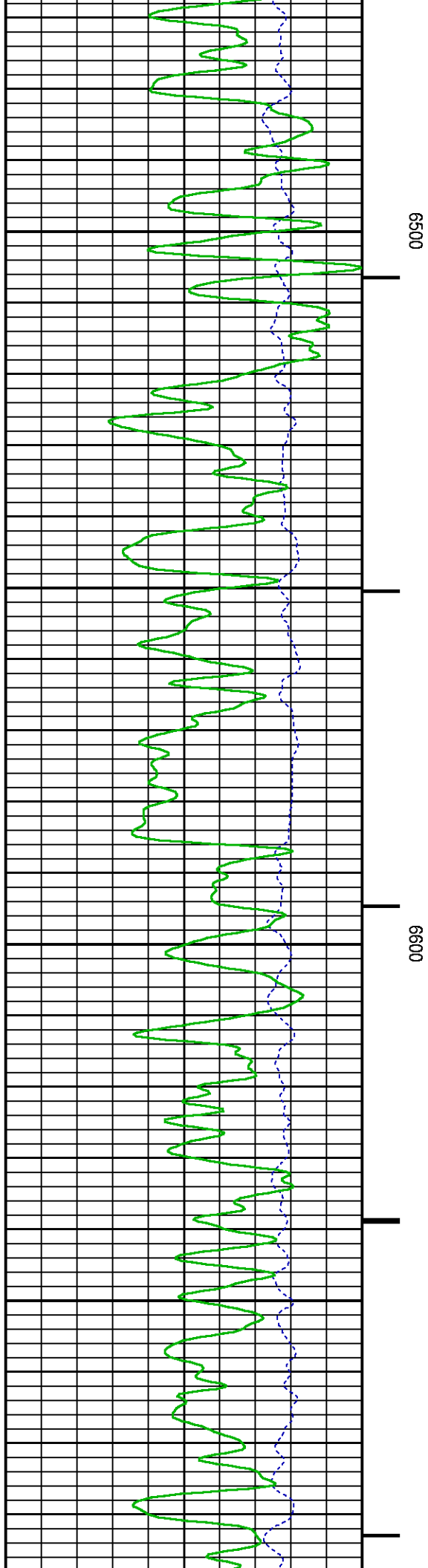


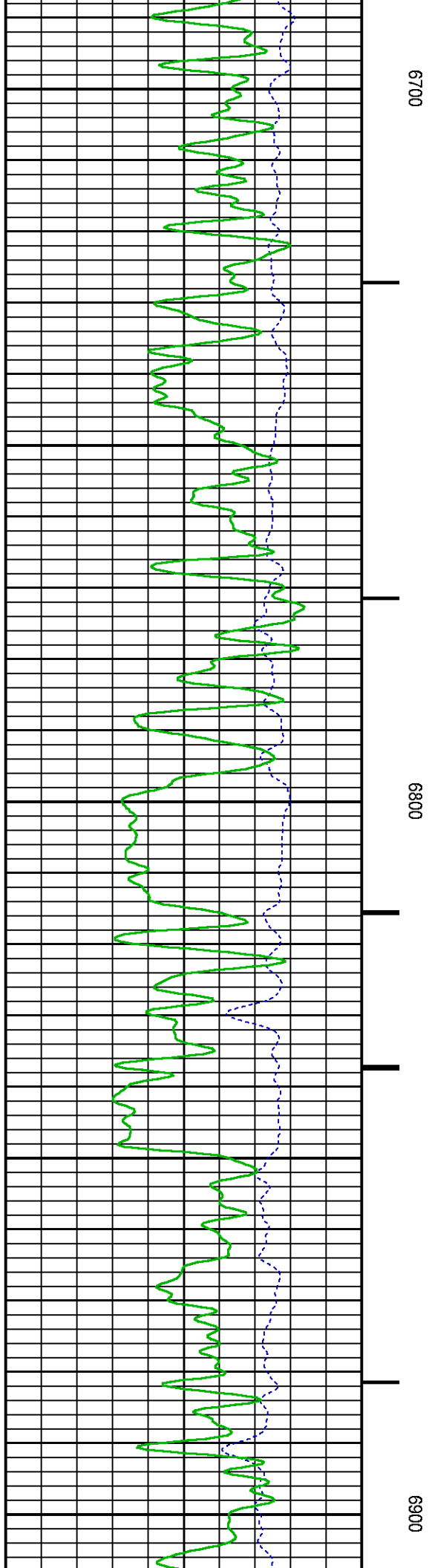
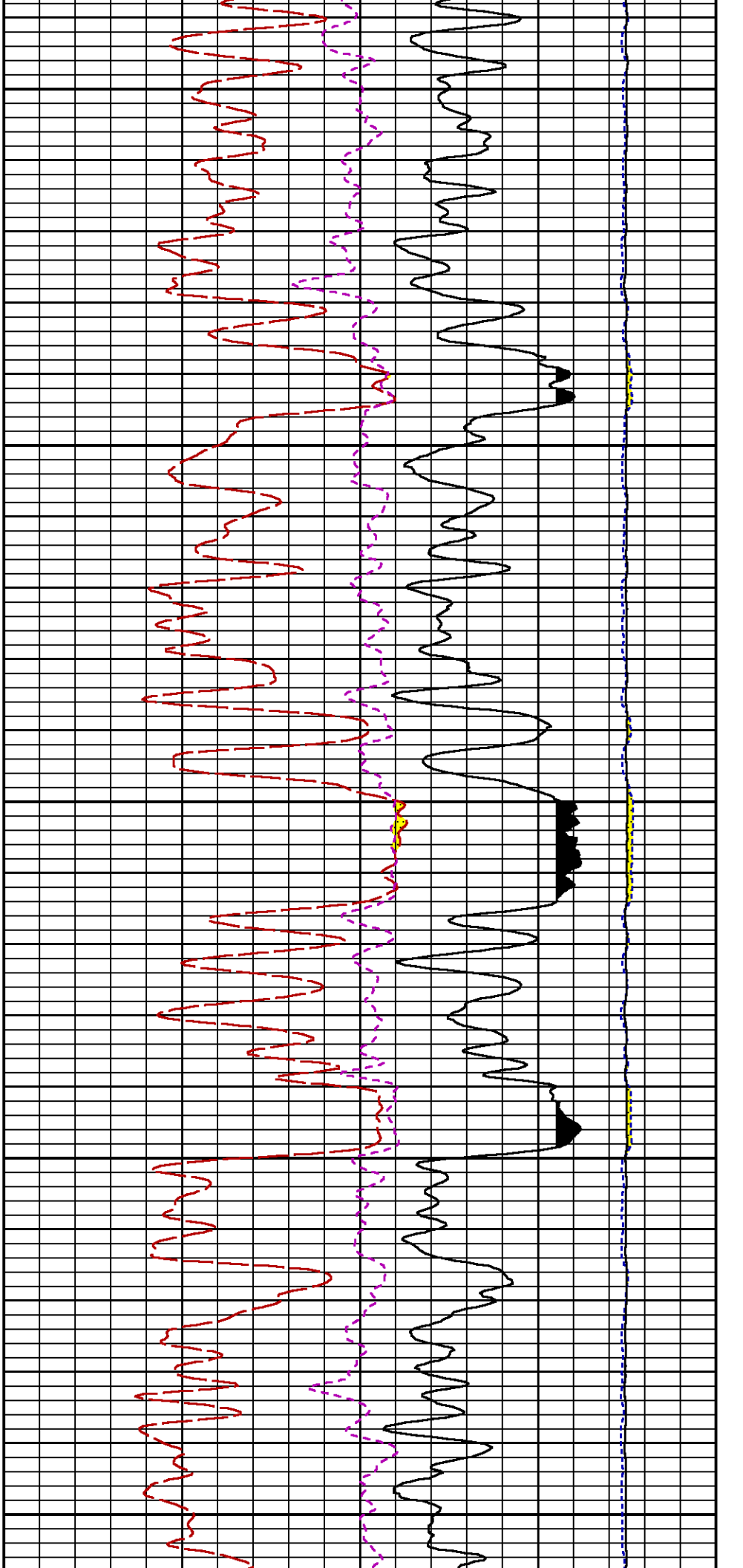


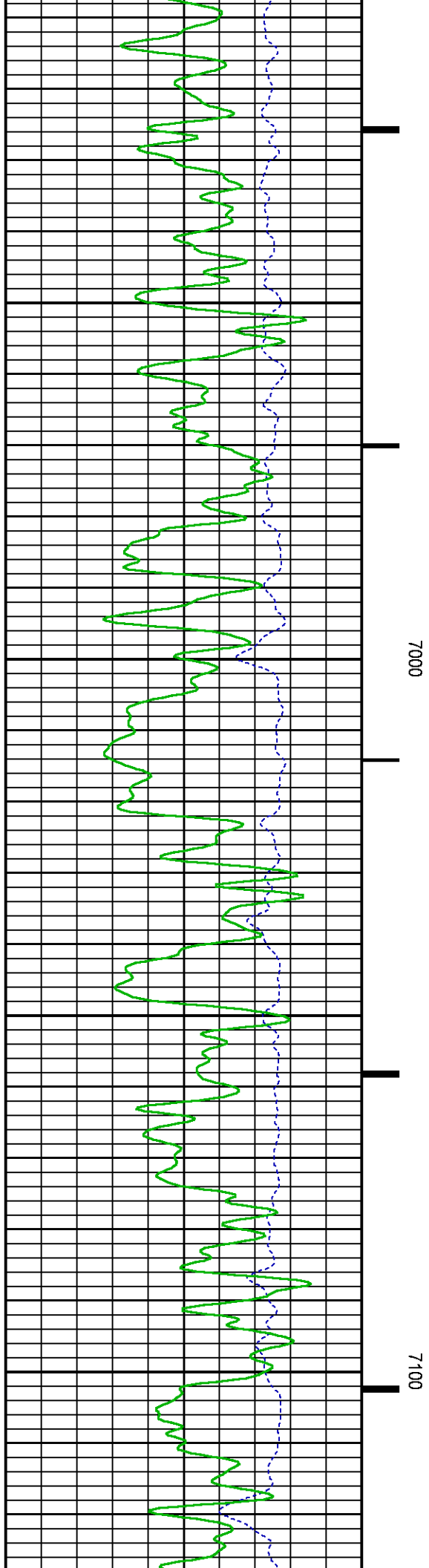
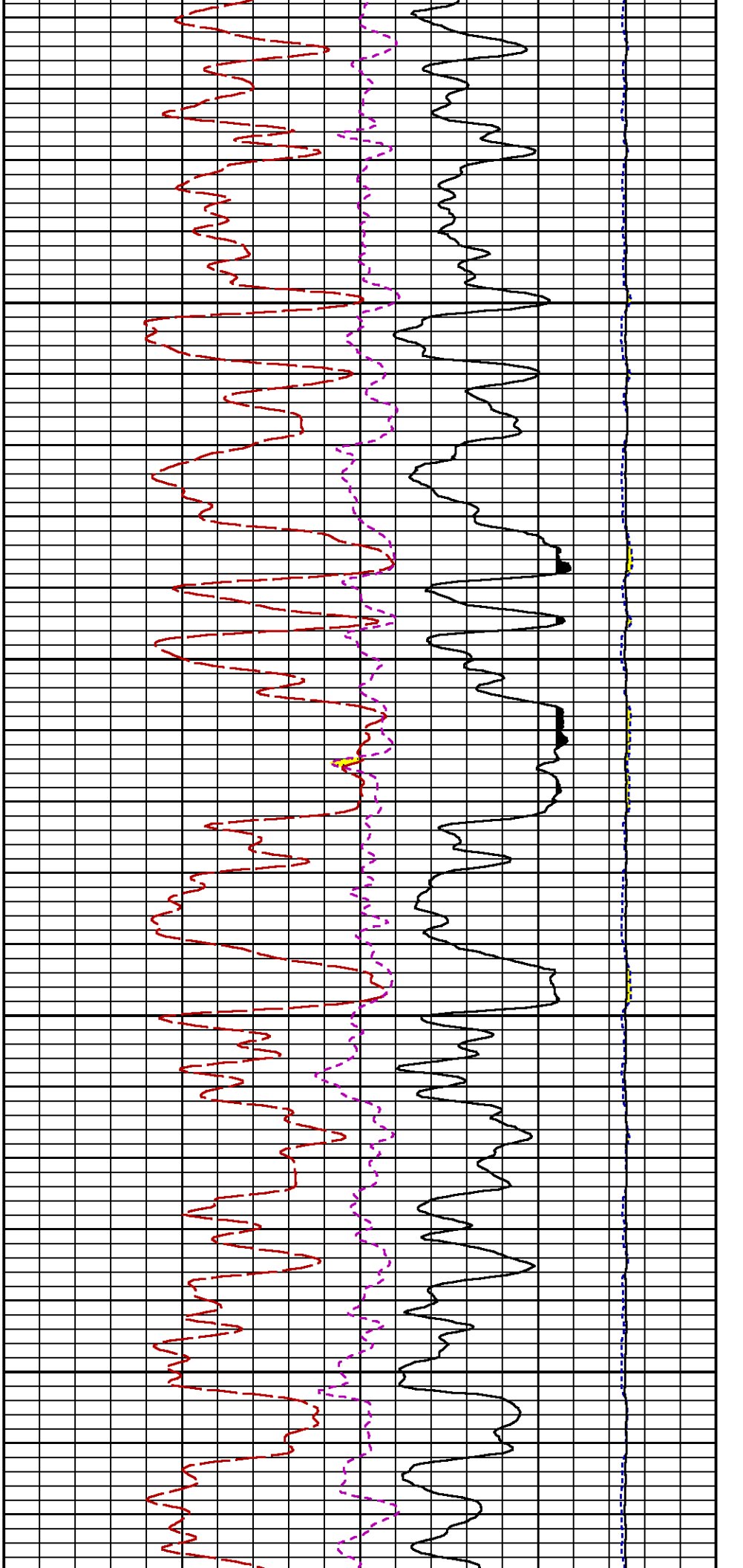


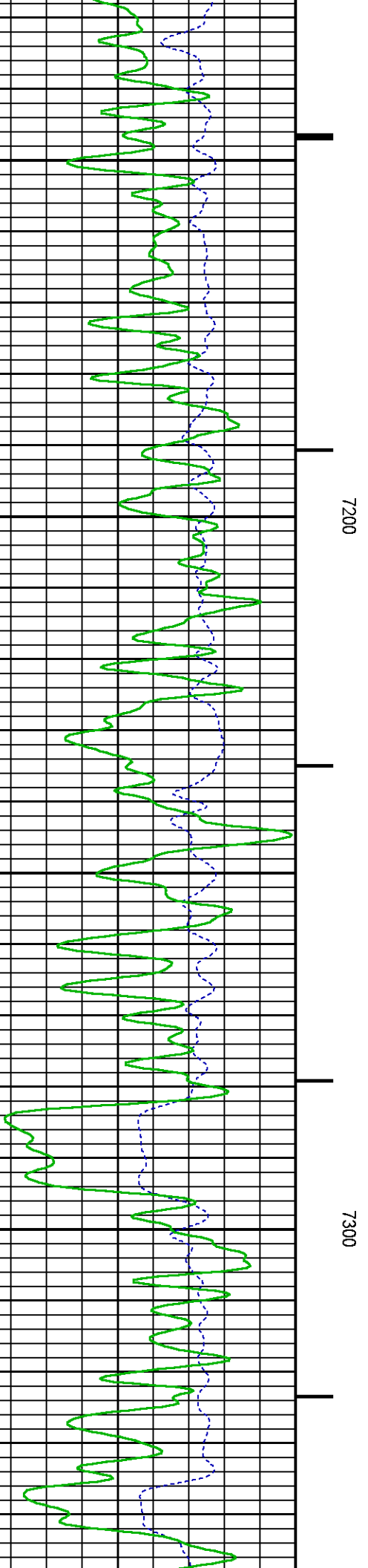
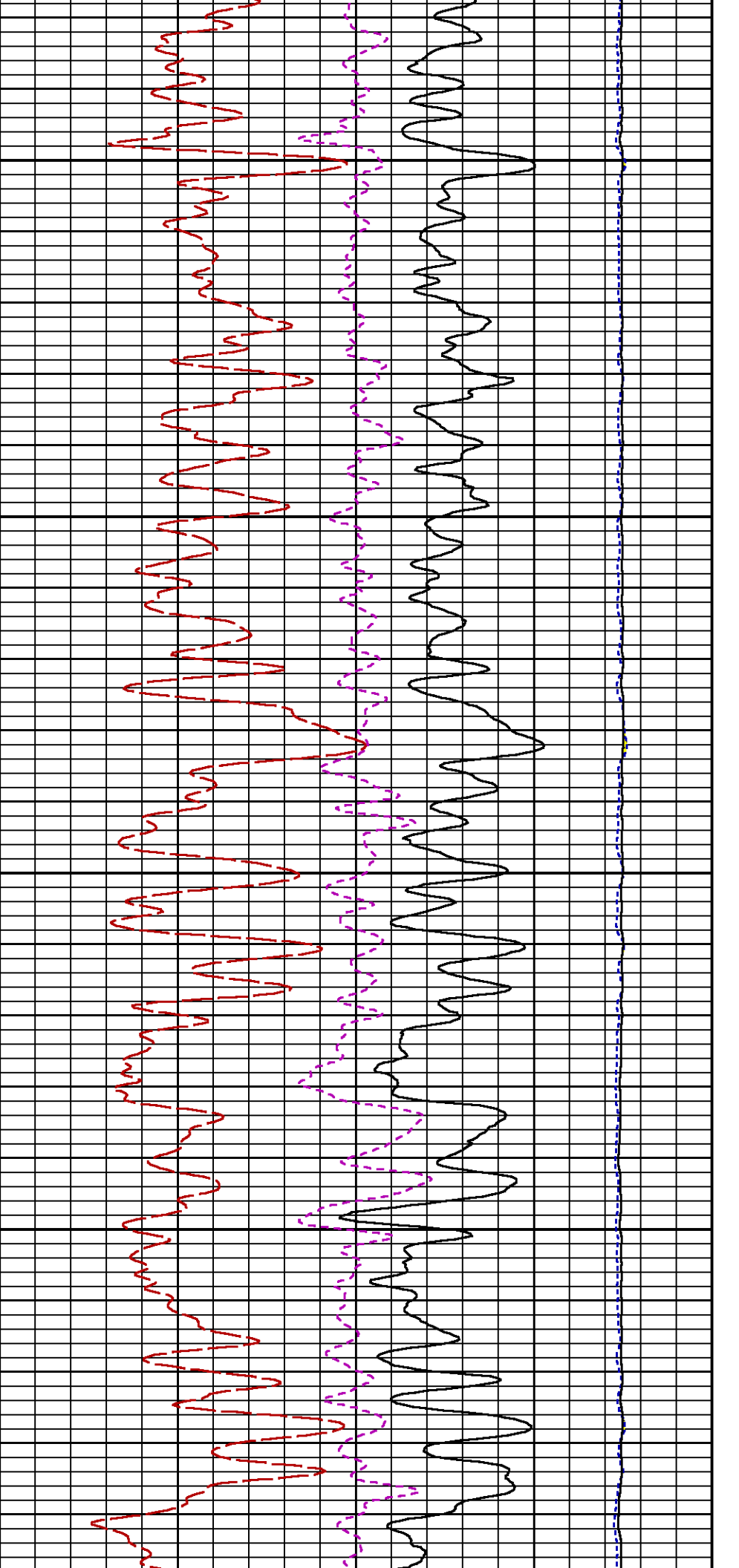


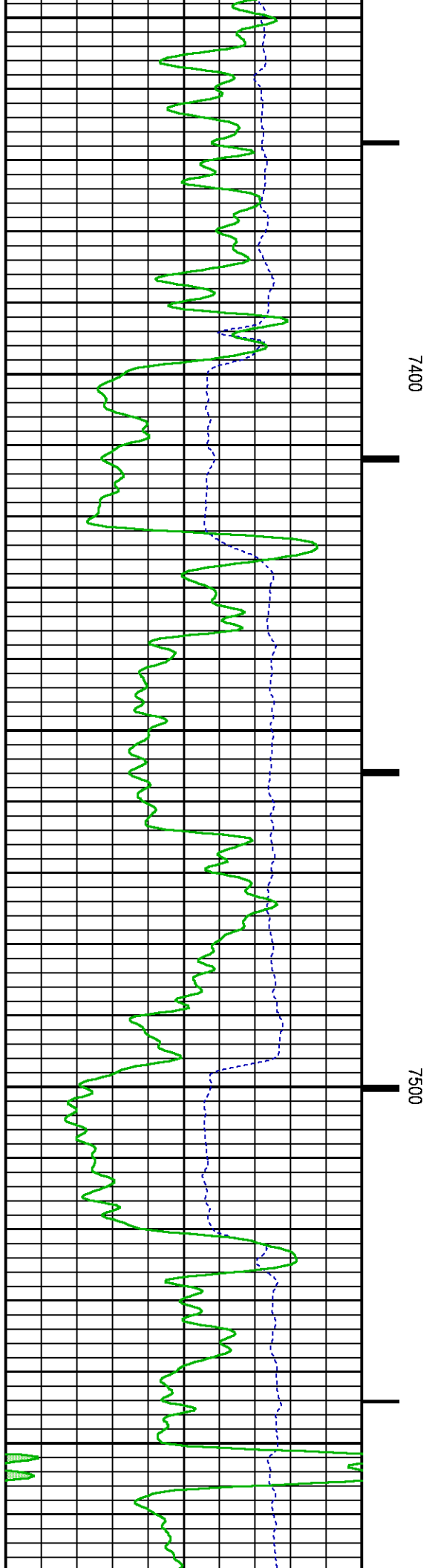
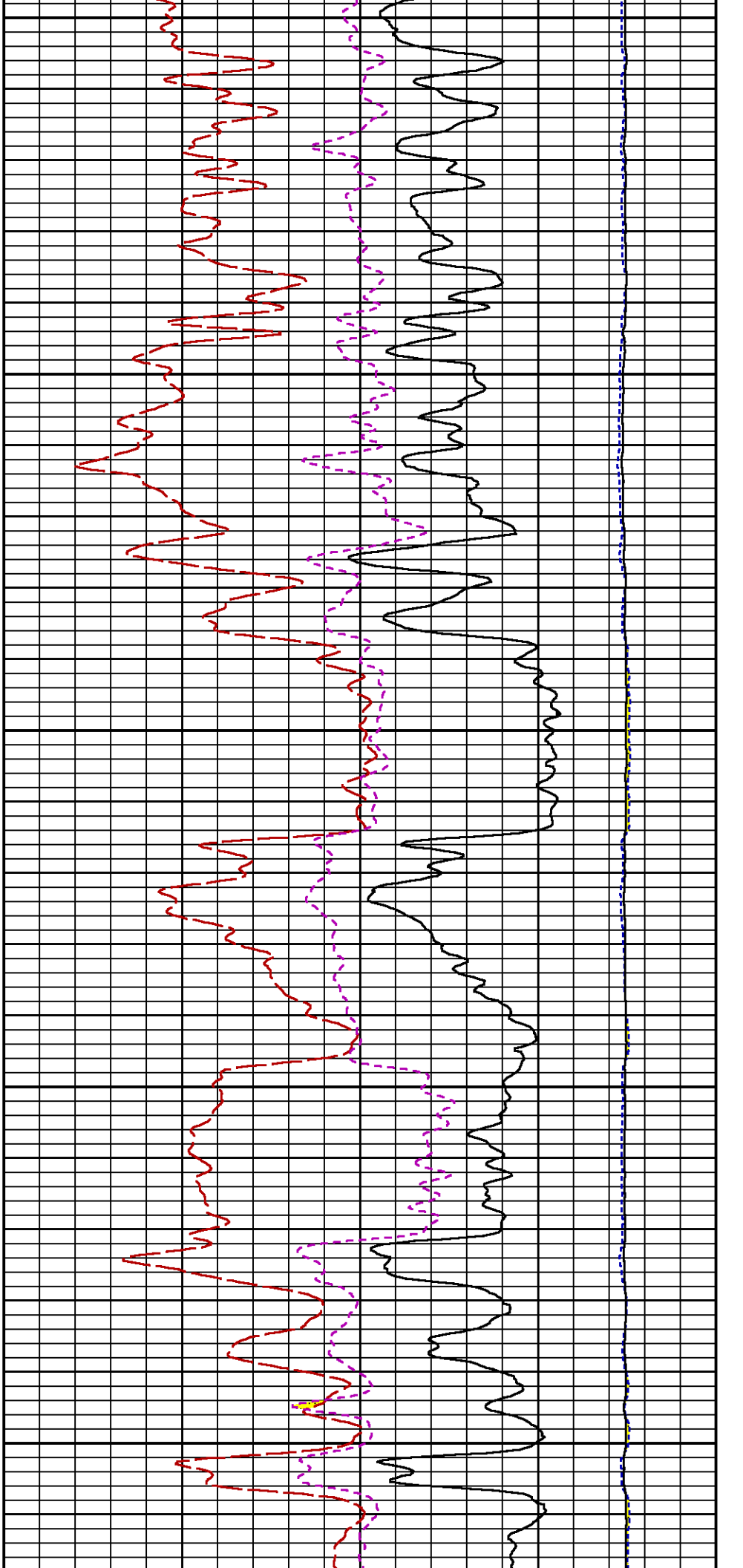


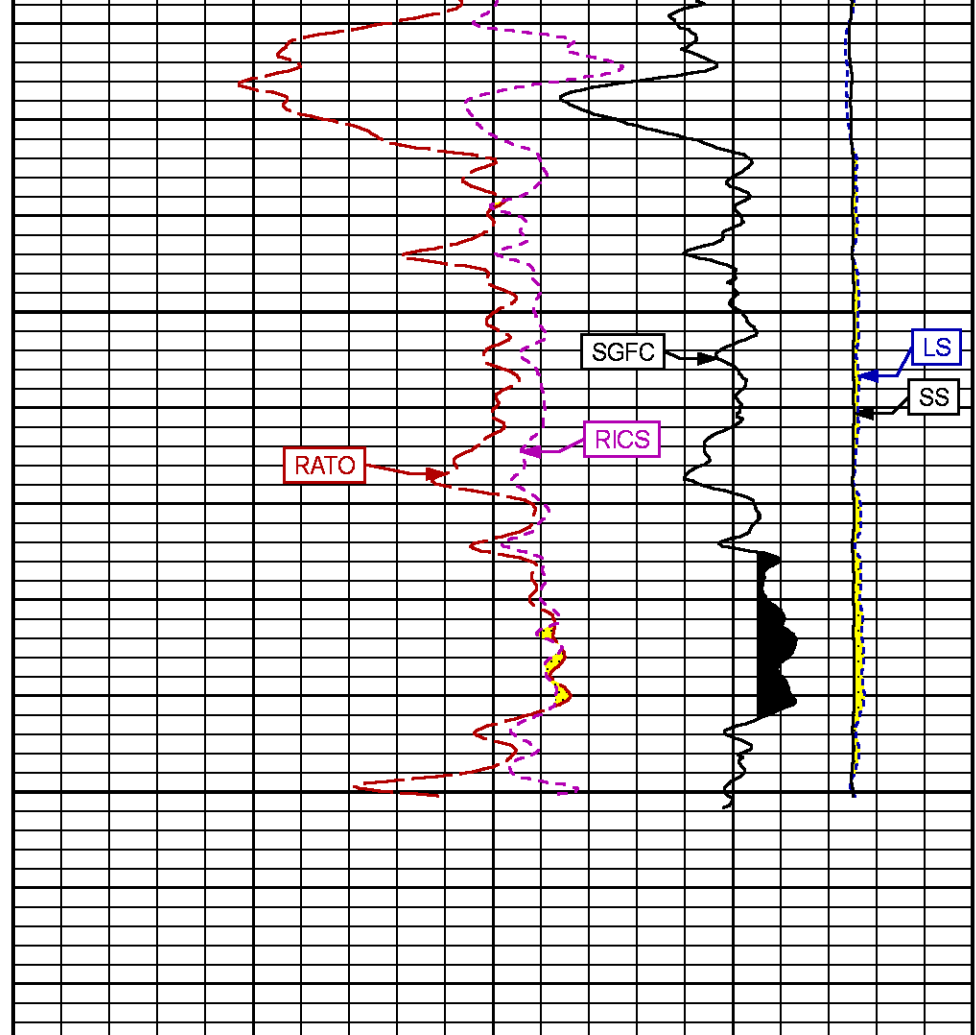
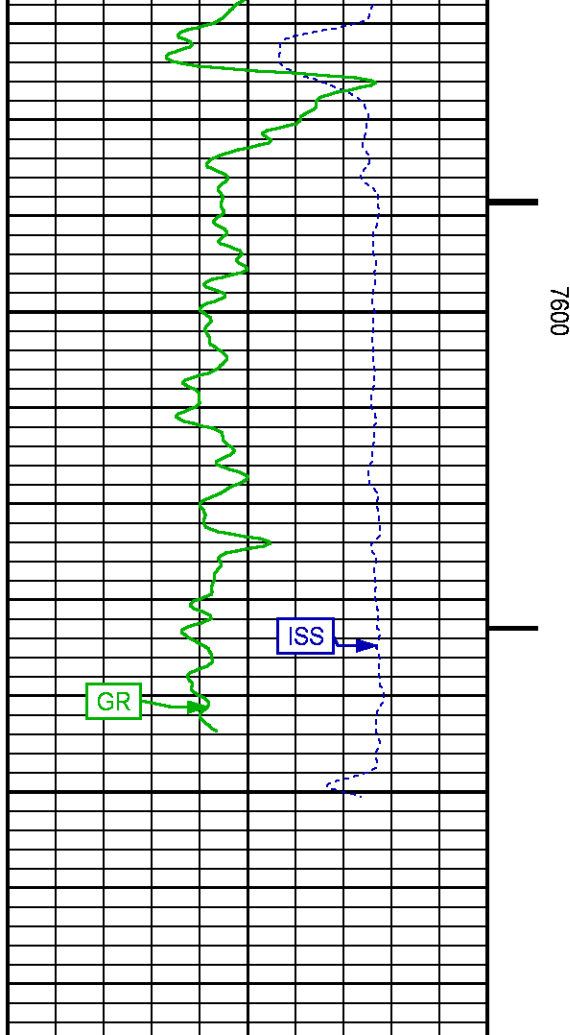












GR BACKUP		
ISS [iss]	0	1E+06
(1)		
GAMMA RAY [gr]	0	150
(gAPI)		

LS [ls]	0	29000
(1)		
SS [ss]	0	290000
(1)		
RATO [rato]	17	0
(1)		
RICS [rics]	39	9
(1)		
SGFC [sgfc]	60	0
(1)		

REPEAT SECTION PNC-3D MODE

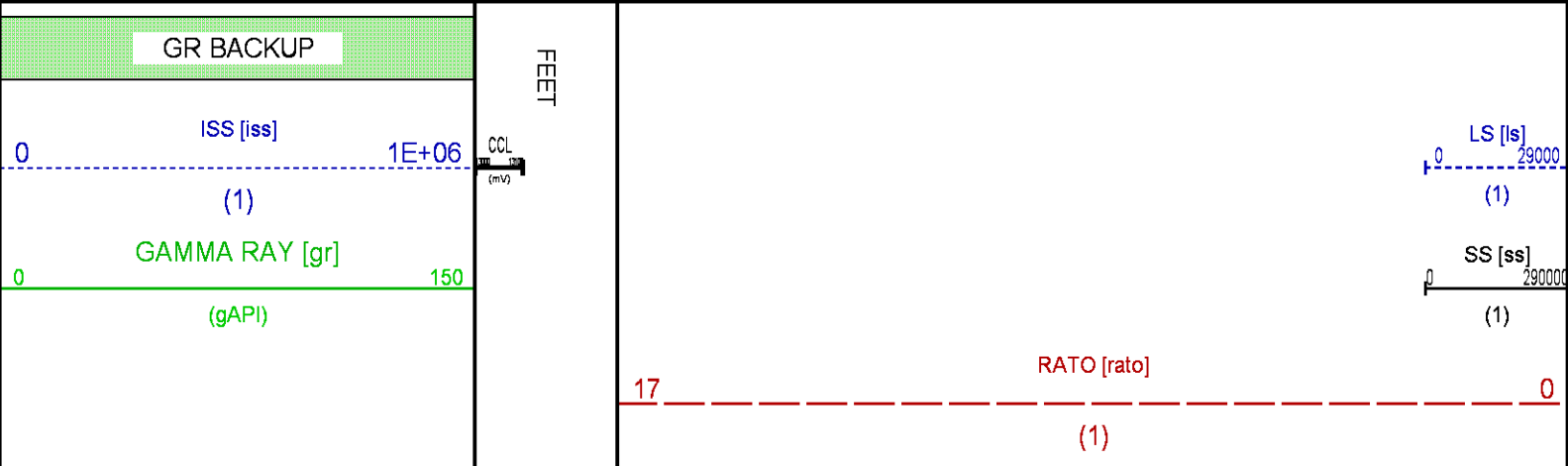
Plotted: Wed Jul 22 13:26:07 2015

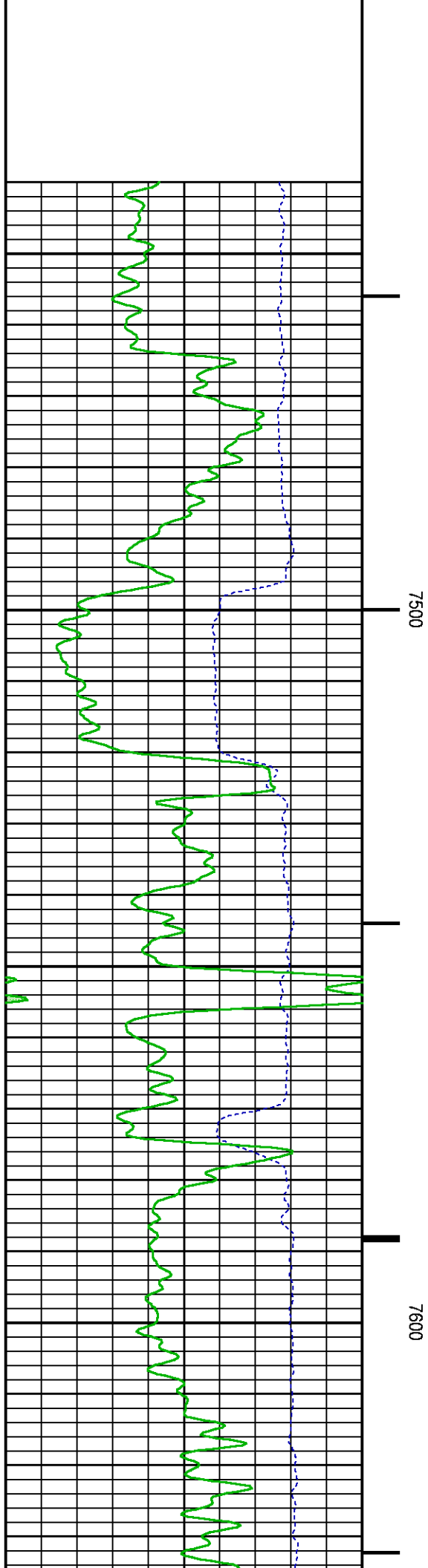
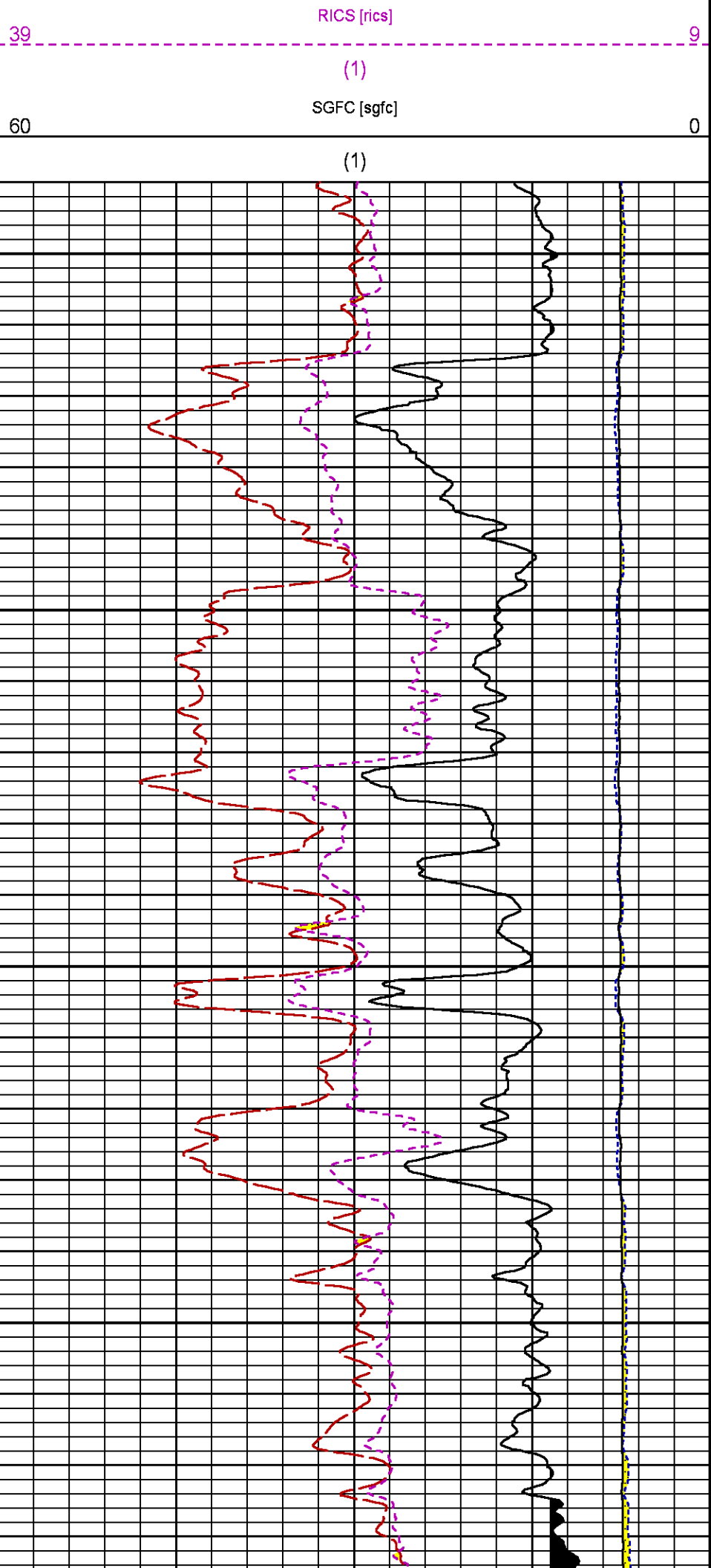
PARAMETER AND FILTER SUMMARY REPORT				
FILE: /dat1a/CH097904/n354h01.prm LOGGING MODE: DEPTH                      DIRECTION: UP TOP DEPTH: 7408.500 ft                    BOTTOM DEPTH: 7677.896 ft				
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ( )	medium (1)		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 22 11:11:14 2015	CASING COLLAR LOCATOR
F1:GR	Jul 22 11:11:14 2015	GAMMA RAY
F1:ISS	Jul 22 11:11:14 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 22 11:11:14 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 22 11:11:14 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 22 11:11:14 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 22 11:11:14 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 22 11:11:14 2015	SHORT SPACE COUNT RATE

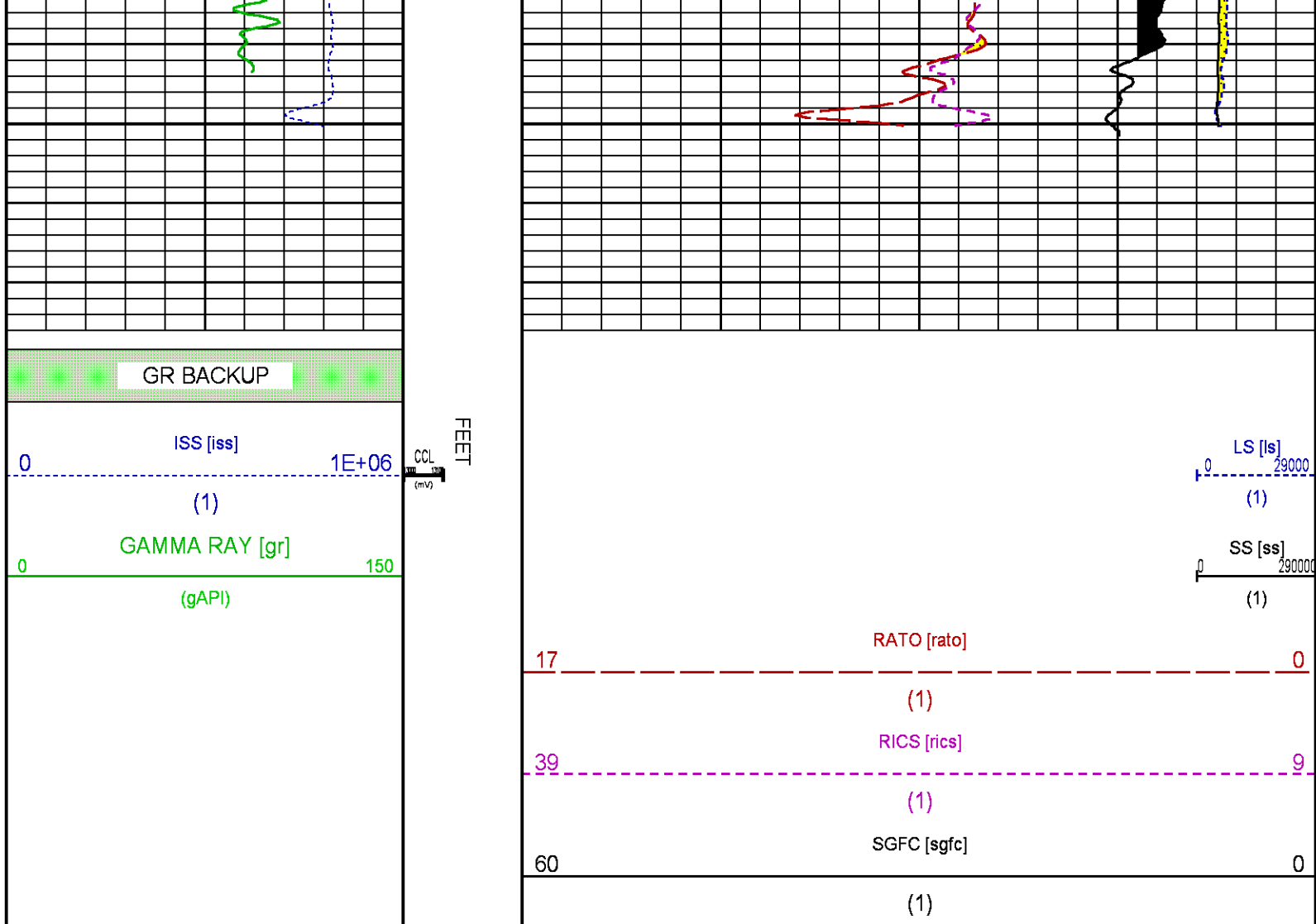
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation	: HL6670:/dat1a/CH097904/14E_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 7440 - 7675 Feet
Data File 1	: F1 : HL6670:/dat1a/CH097904/14E_RPM_REPEAT.xtf
Created On	: Jul 22 11:11:14 2015
Company	: LARAMIE ENERGY
Well	: GUNDERSON 29-14E
Field	: VEGA
File Interval	: 7376.5 - 7666.5 Feet
OCT	: n354h









## CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH097904/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 Vits (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

33.24'

A3 CABLEHEAD  
Diameter : 1.37"

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



Source File: /dat1a/CH097904/RPM-tdg

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TELEMETRY / CCL

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

CCL MP — 25.19'

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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'

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RPM ELECTRONICS

Diameter : 1.70"  
Length : 4.48'  
Weight : 16 lbs  
Series : 8281EA  
Mnemonic : RPM

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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'

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RPM SOURCE SECTION

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

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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: 33.24'  
TOTAL WEIGHT: 140 lbs  
MAX DIAMETER: 0'1.70"

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <u>CH097904</u>
	WELL <u>GUNDERSON 29-14E</u>		API NO: <u>05077102300000</u>
	FIELD <u>VEGA</u>		
	COUNTY <u>MESA</u>	STATE <u>COLORADO</u>	
LOCATION: SHL: LAT 39.248804 LONG -107.787901 BHL: LAT 39.246113 LONG -107.786788		ELEVATIONS: KB 7553 FT DF GL 7531 FT	SEC 29 T9S R93W PAD 29-09 PATTERSON 306
SEC <u>29</u> TWP <u>9S</u> RGE <u>93W</u>		DATE <u>22-Jul-2015</u>	

