



FILE NO: CH099235	COMPANY WELL FIELD COUNTY	LARAMIE ENERGY PICEANCE 28-09M VEGA MESA	STATE COLORADO
API NO: 05077102380000	LOCATION: SHL: LAT 39.250911 LONG -107.779353 BHL: LAT 39.249467 LONG -107.774656 SEC 28 TWP 9S RGE 93W		
Ver. 4.01 28-9S 93W 28-05 PAD PATTERSON 306	OTHER SERVICES BOND LOG		ELEVATIONS: KB 7600 FT DF GL 7578 FT
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB KB	ELEVATION 22 FT ABOVE P.D.	

DATE	26-Aug-2015
RUN	1
SERVICE ORDER	US099235
DEPTH DRILLER	7985 FT
DEPTH LOGGER	7922 FT
BOTTOM LOGGED INTERVAL	7912 FT
TOP LOGGED INTERVAL	2669 FT
TIME STARTED	13:30
TIME FINISHED	19:00
OPERATOR RIG TIME	5.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	48 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	247 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	25-AUG-2015
EQUIP. NO.	HL-6670
LOCATION	GRAND JCT.
RECORDED BY	P. EDWARDS
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

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	8123 FT

## REMARKS

RUN 1 TRIP 1: All data on this log is shifted using the Gamma Ray curve to the Baker Hughes bond log dated 25/AUG/2015 at the client's request.

The amount of linear shift is

Logged in PNC-3D mode.

BHT = 247 degF

Logged with zero PSI at wellhead.

SJ = 6246' - 6268'

SJ = 7149' - 7170'

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	10273848	FREE
1	1	RPM	8283PA	10160383	FREE
1	1	RPM	8281FA	10460082	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 Aug 26 18:43:38 2015

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH099235/n354h03.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 2655.500 ft BOTTOM DEPTH: 3318.669 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	Aug 26 17:56:04 2015	CASING COLLAR LOCATOR
F1:GR	Aug 26 17:56:04 2015	GAMMA RAY
F1:ISS	Aug 26 17:56:04 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 26 17:56:04 2015	LONG SPACE COUNT RATE
F1:RATO	Aug 26 17:56:04 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 26 17:56:04 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 26 17:56:04 2015	CORRECTED FORMATION SIGMA
F1:SS	Aug 26 17:56:04 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/CH099235/9M\_RPM\_GSAND.fvpdf [5"/100' Scale]  
 Plot Interval : 2669 - 3269 Feet

Data File 1 : F1 : HL6670:/dat1a/CH099235/n354h03GSAND9M.xtf  
 Created On : Aug 26 17:56:04 2015

Created On : Aug 20 17:50:04 2013  
Company : LARAMIE ENERGY  
Well : PICEANCE 28-09M  
Field : VEGA  
File Interval : 2629.5 - 3316.75 Feet  
OCT : n354h

GR BACKUP

ISS [iss]

0 1E+06

(1)

GAMMA RAY [gr]

0 150

(gAPI)

FEET

CCL  
(mV)

2700

GR

ISS

LS [ls]

0 29000

(1)

SS [ss]

0 29000

(1)

RATO [rato]

17 0

(1)

RICS [rics]

39 9

(1)

SGFC [sgfc]

60 0

(1)

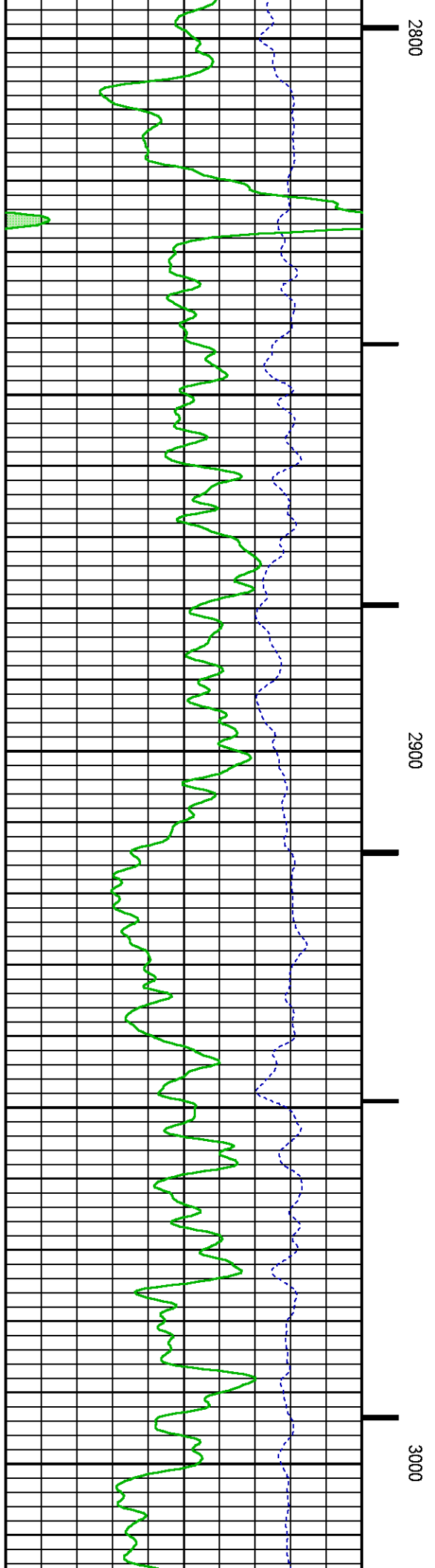
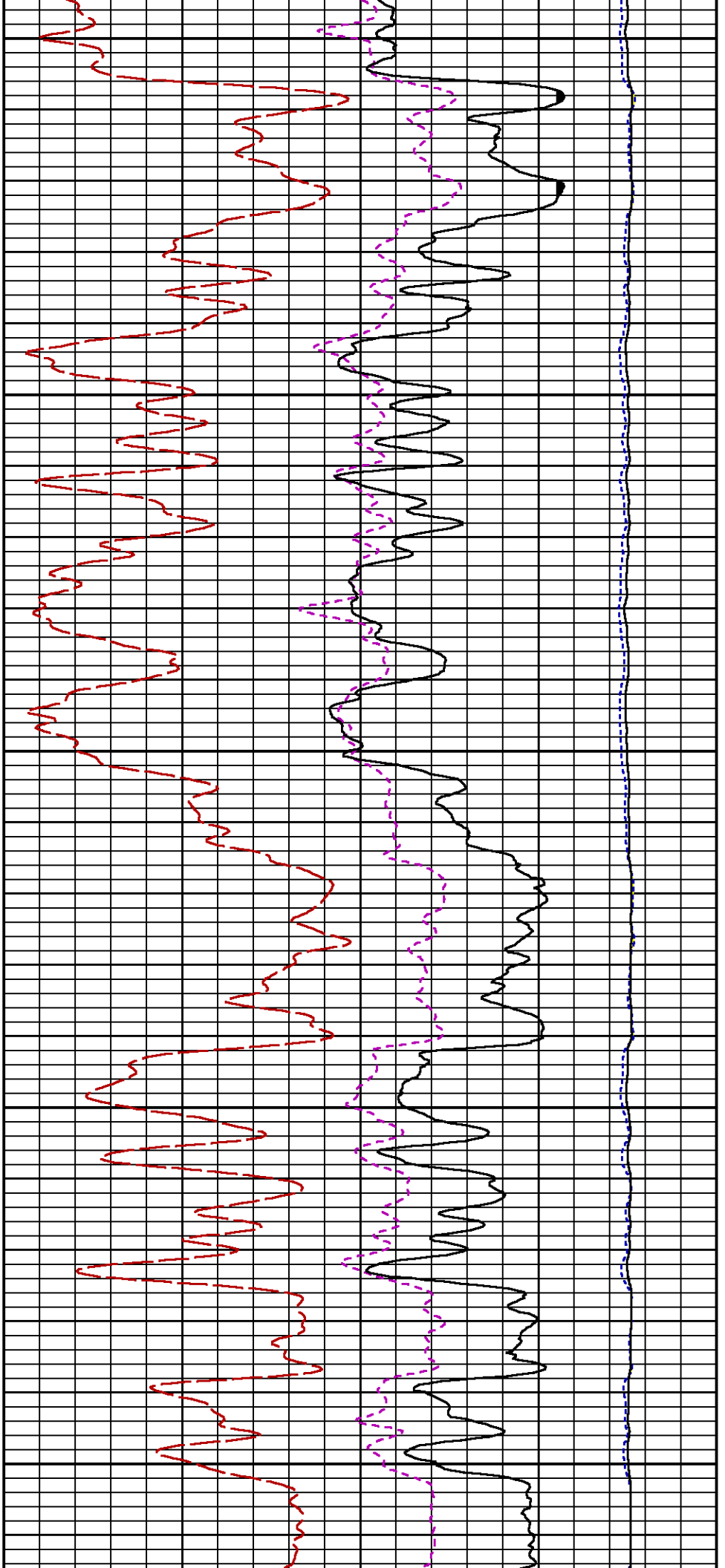
LS

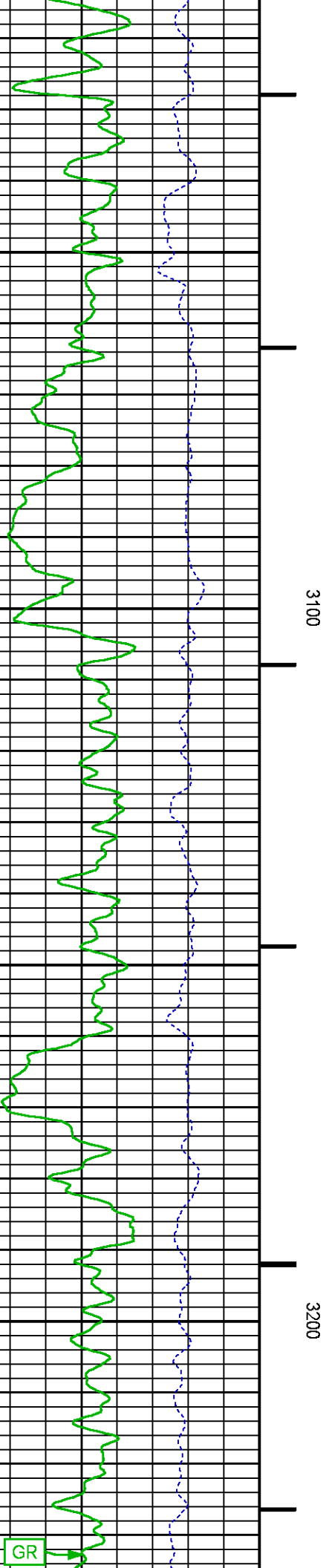
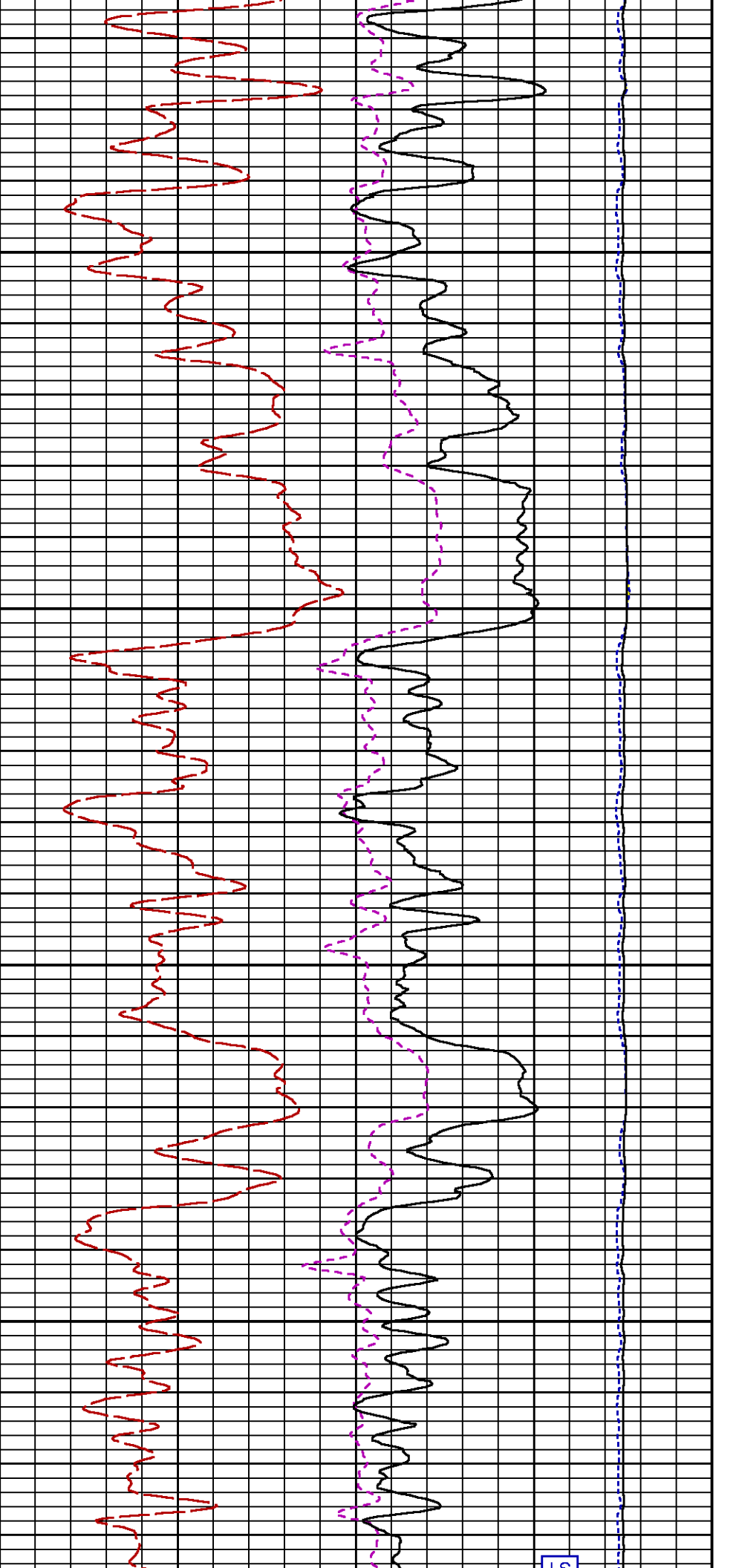
SS

SGFC

RATO

RICS







## CURVE DESCRIPTION REPORT

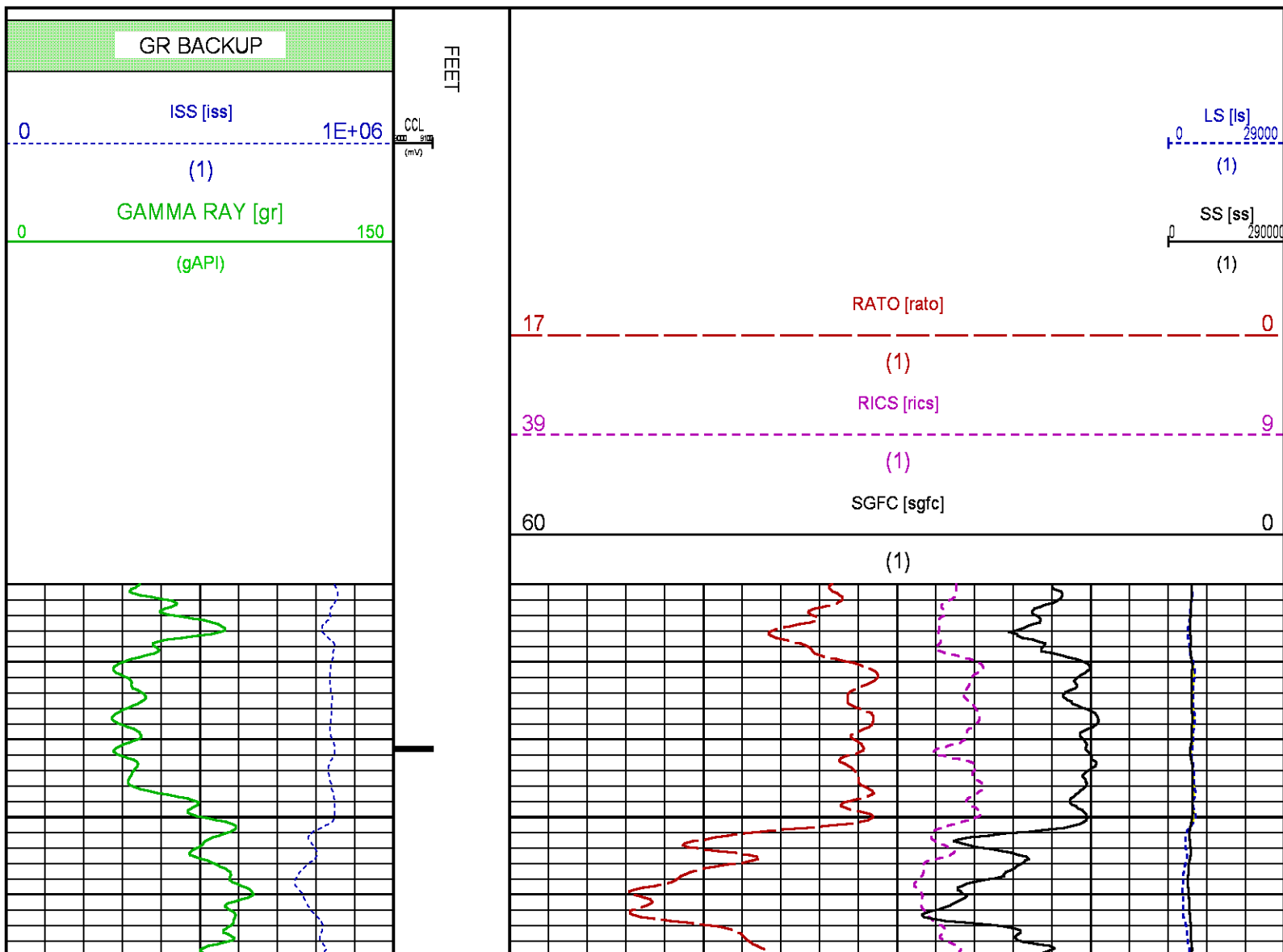
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 26 14:40:09 2015	CASING COLLAR LOCATOR
F1:GR	Aug 26 14:40:09 2015	GAMMA RAY
F1:ISS	Aug 26 14:40:09 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 26 14:40:09 2015	LONG SPACE COUNT RATE
F1:RATO	Aug 26 14:40:09 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 26 14:40:09 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 26 14:40:09 2015	CORRECTED FORMATION SIGMA
F1:SS	Aug 26 14:40:09 2015	SHORT SPACE COUNT RATE

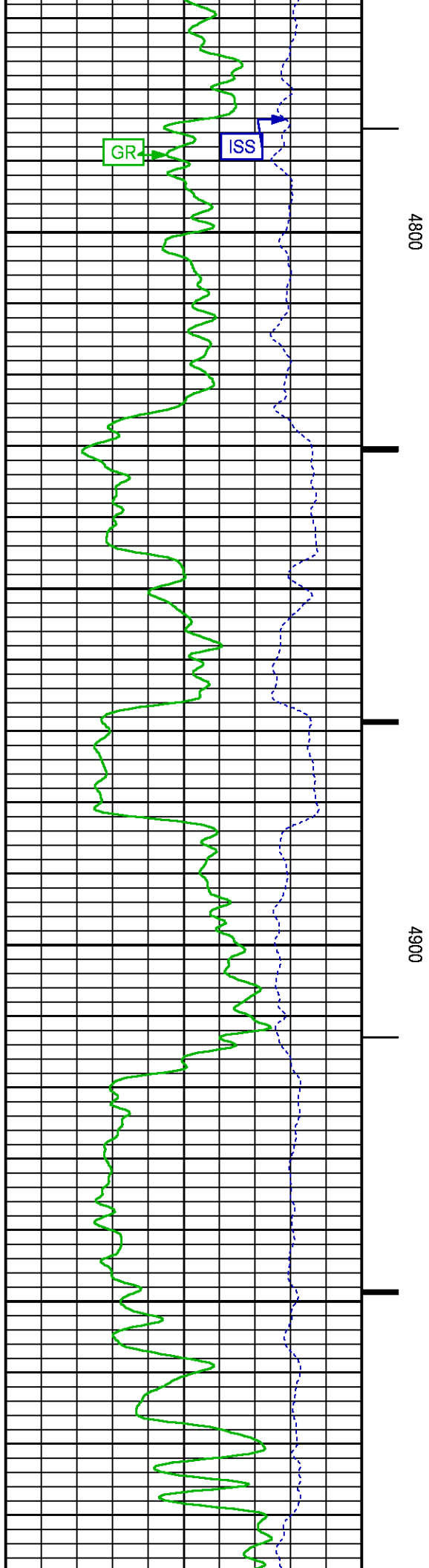
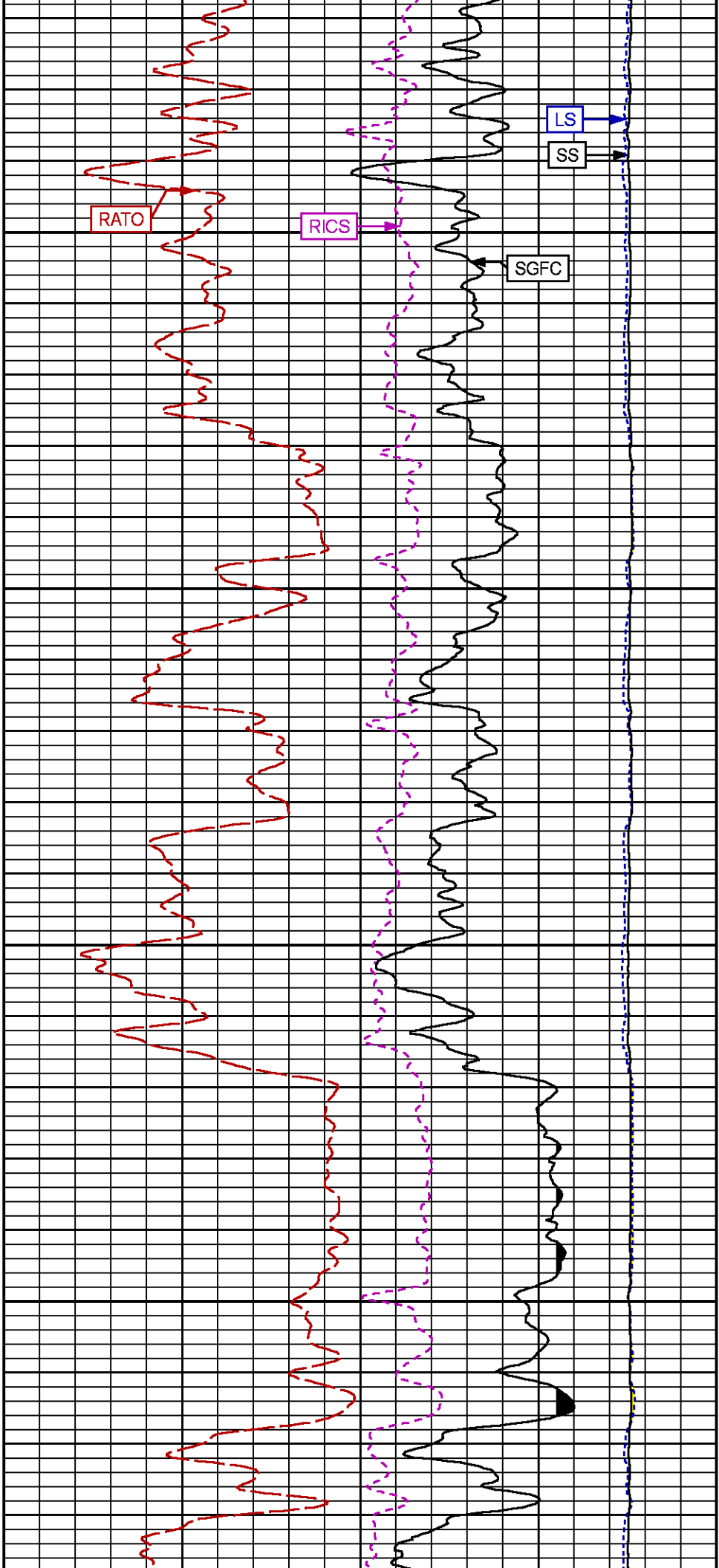
## CURVE MEASURE POINT OFFSET

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

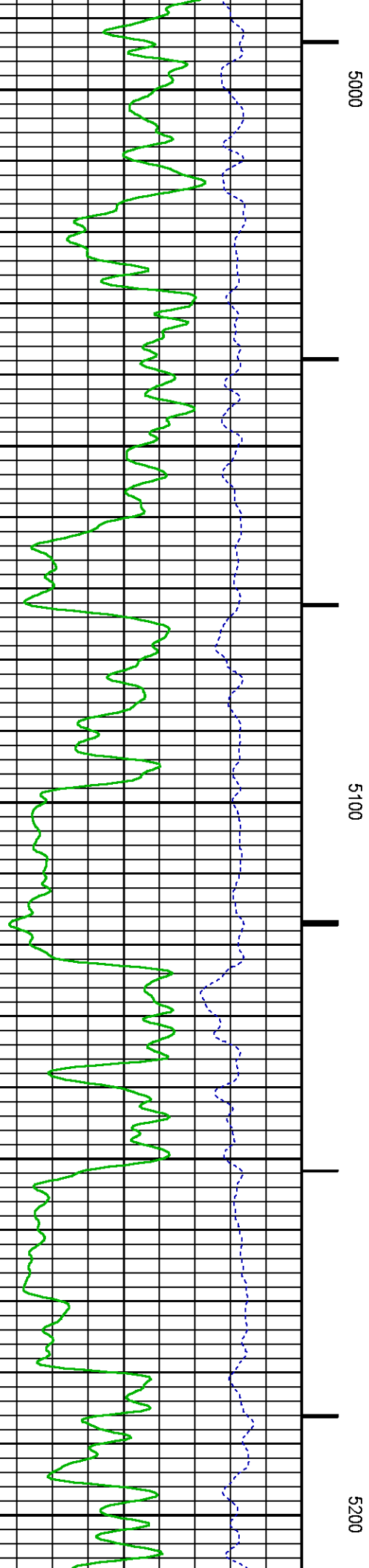
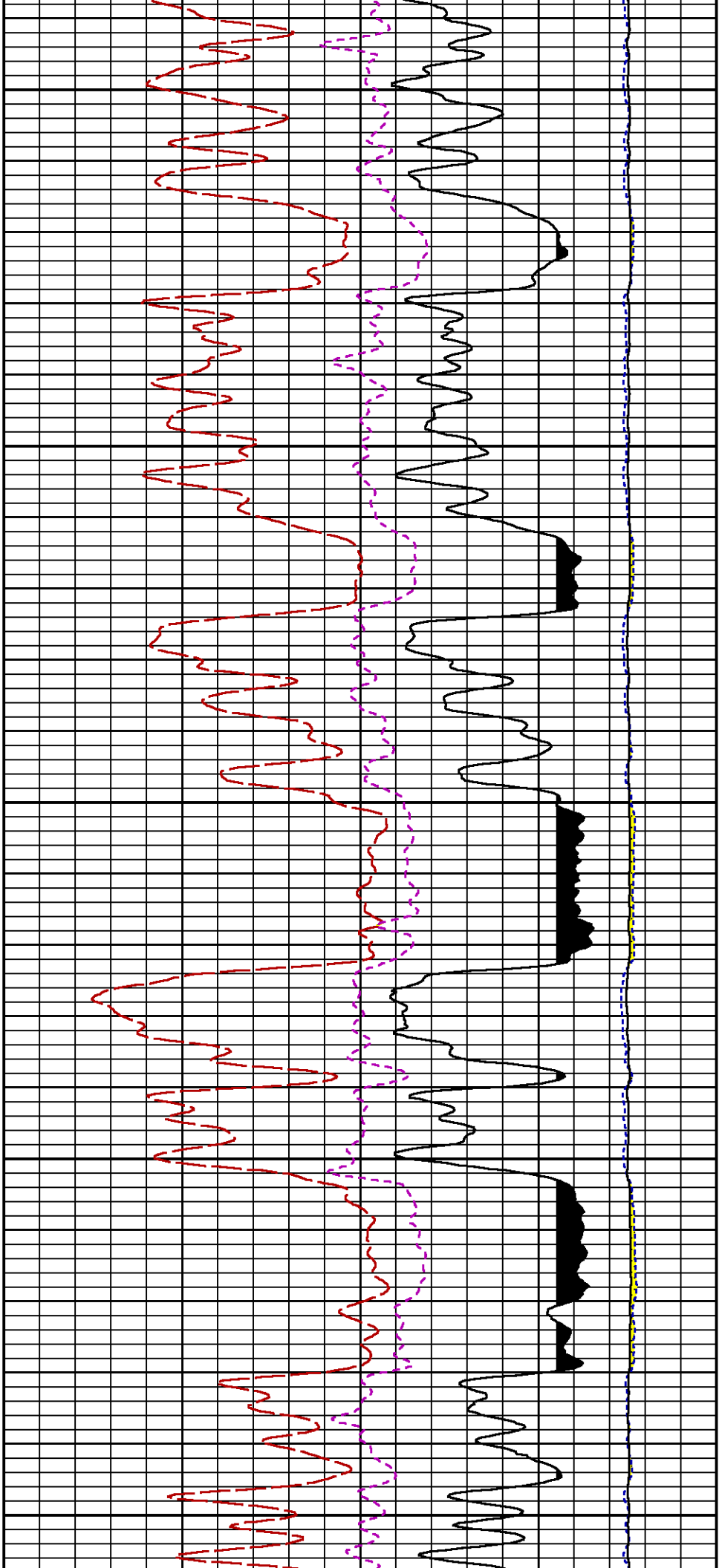
**Presentation** : HL6670:/dat1a/CH099235/9M\_RPM\_MAIN.fvpdf [5"/100' Scale]  
**Plot Interval** : 4720 - 7927 Feet

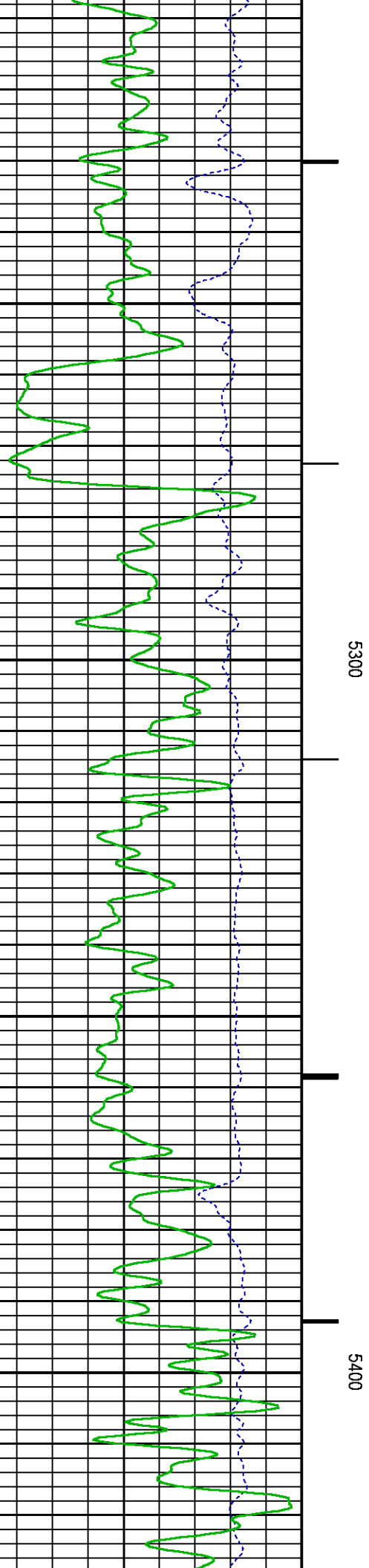
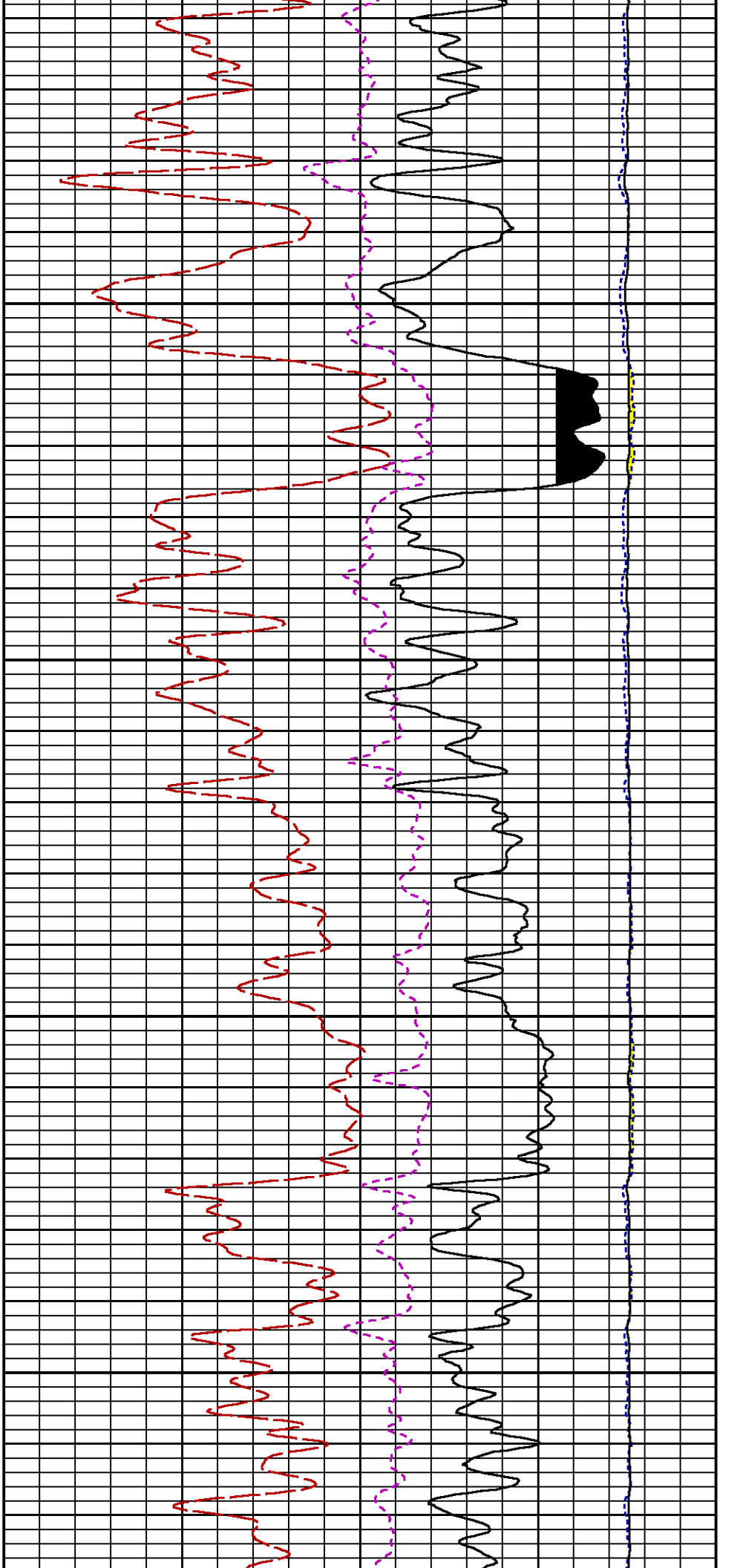
**Data File 1** : F1 : HL6670:/dat1a/CH099235/n354h02MAIN9M.xtf  
**Created On** : Aug 26 14:40:09 2015  
**Company** : LARAMIE ENERGY  
**Well** : PICEANCE 28-09M  
**Field** : VEGA  
**File Interval** : 4693.5 - 7942.75 Feet  
**OCT** : n354h

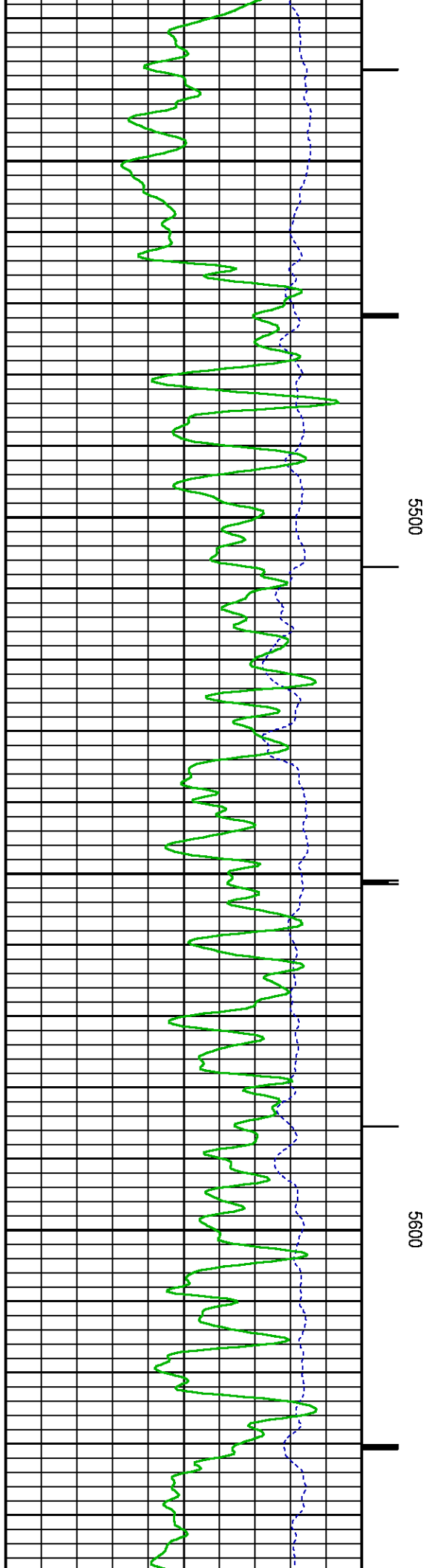
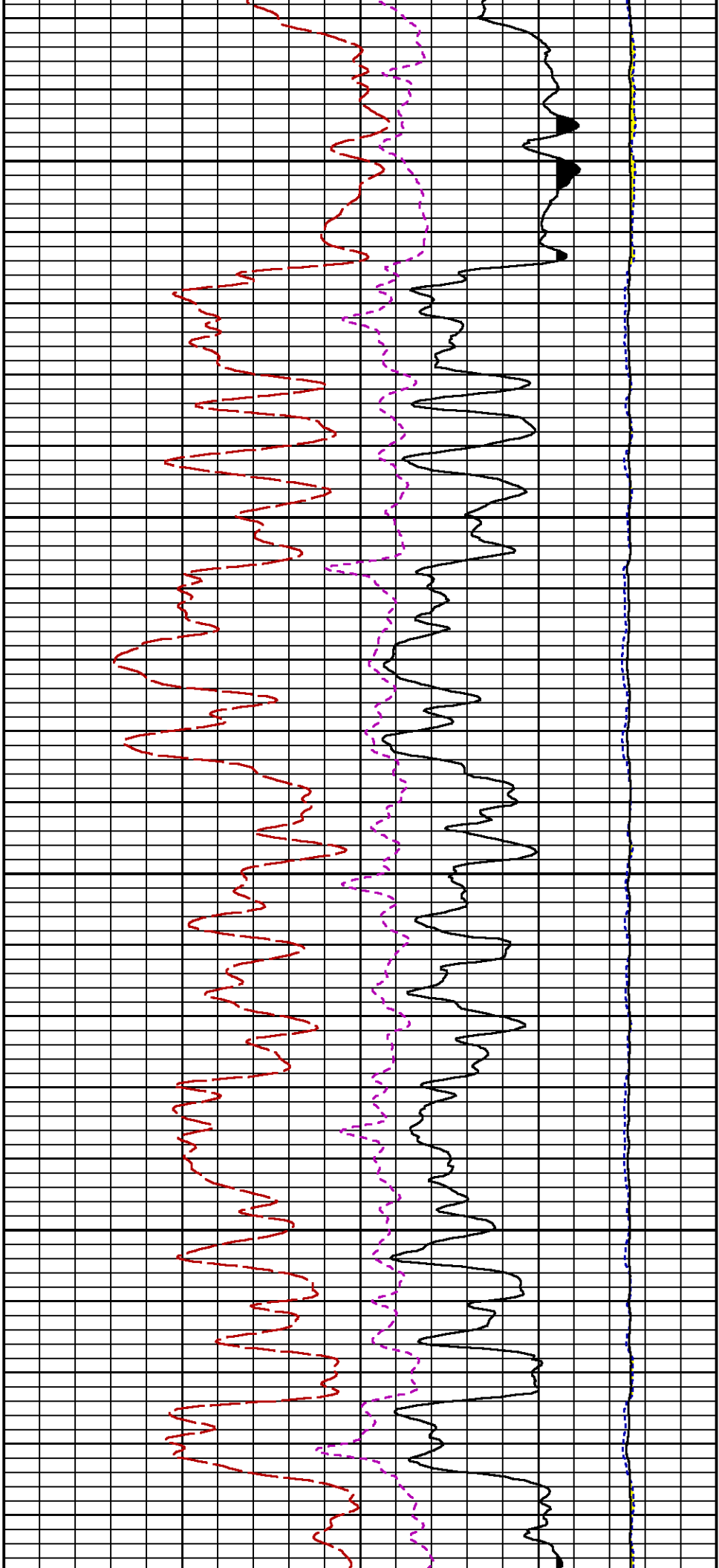


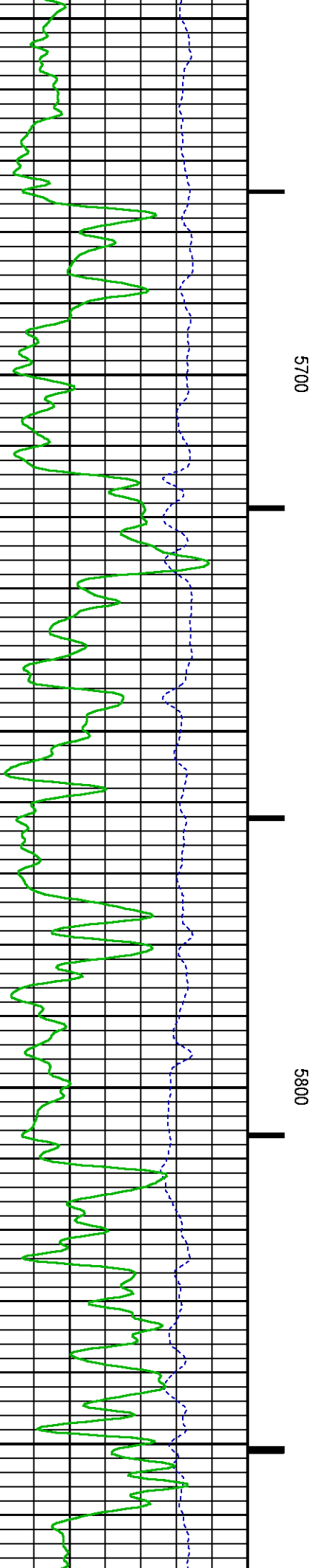
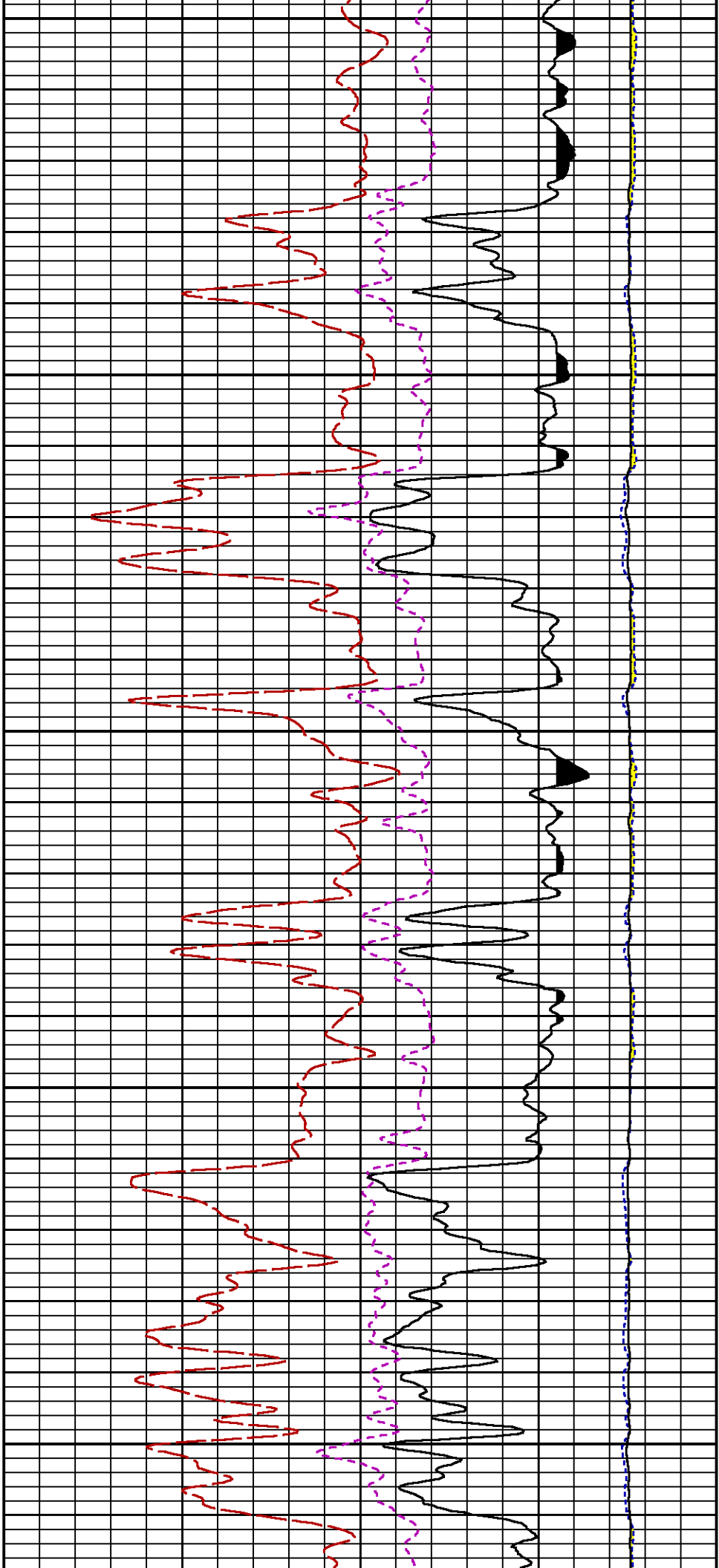


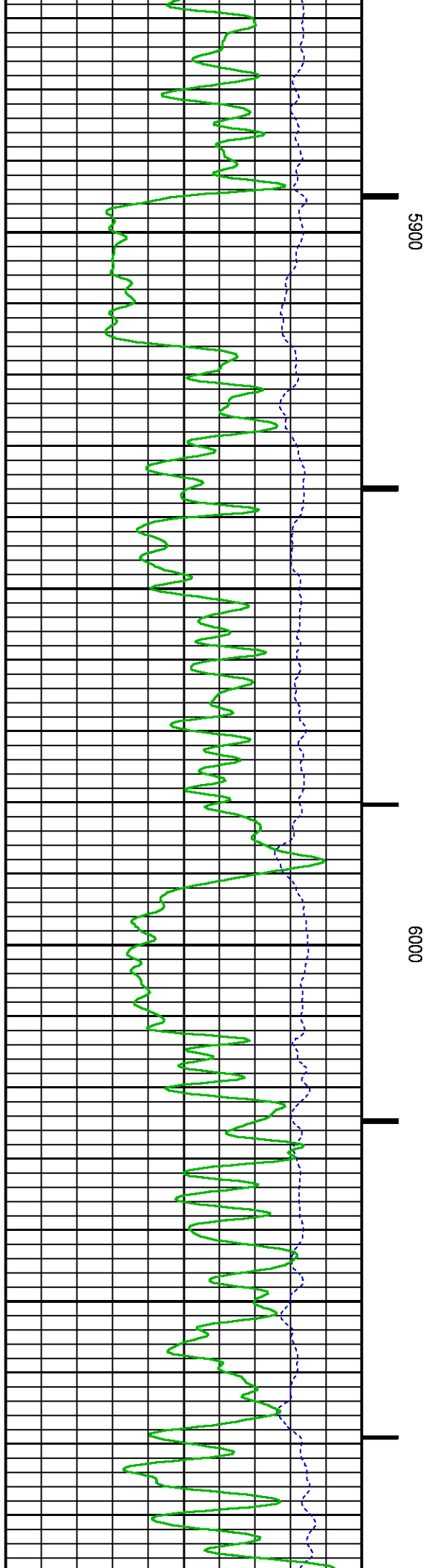
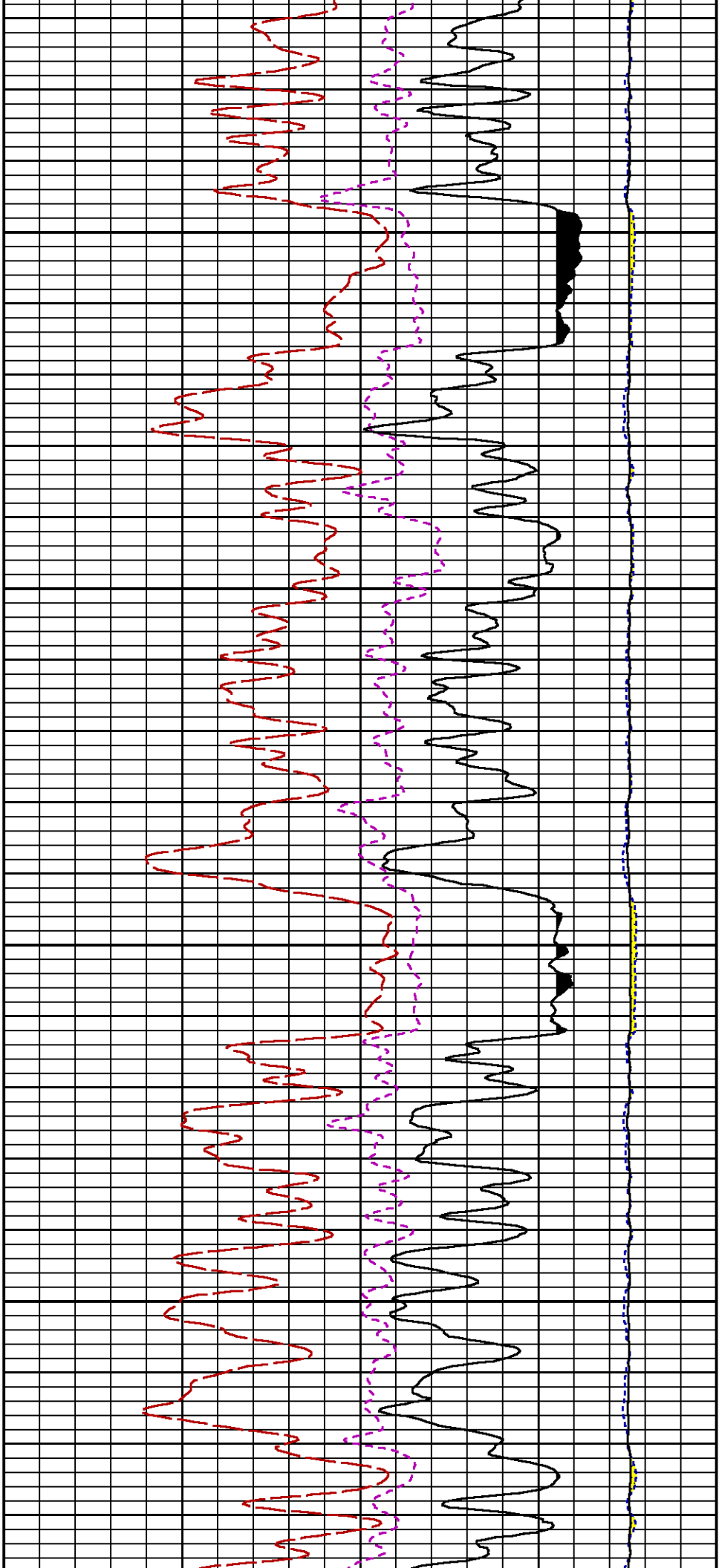


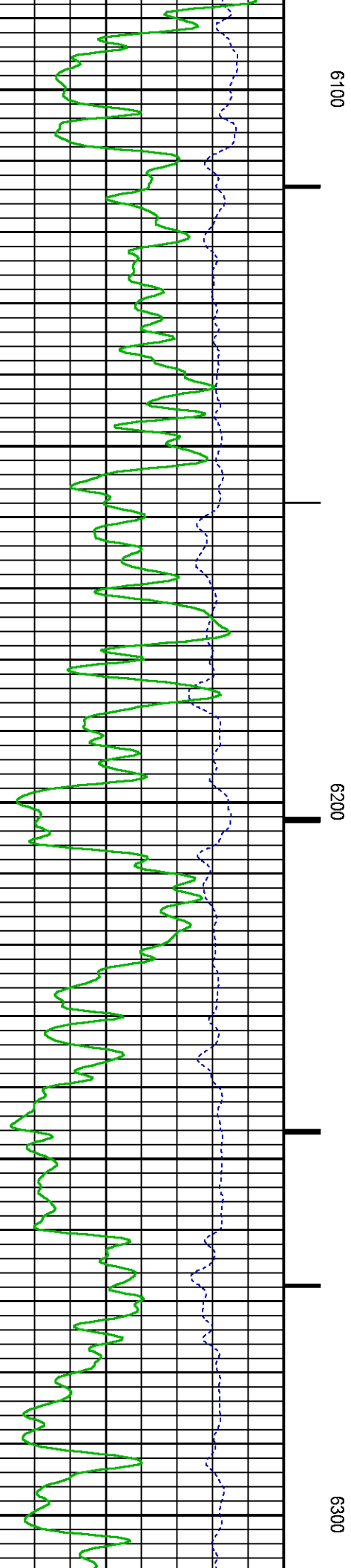
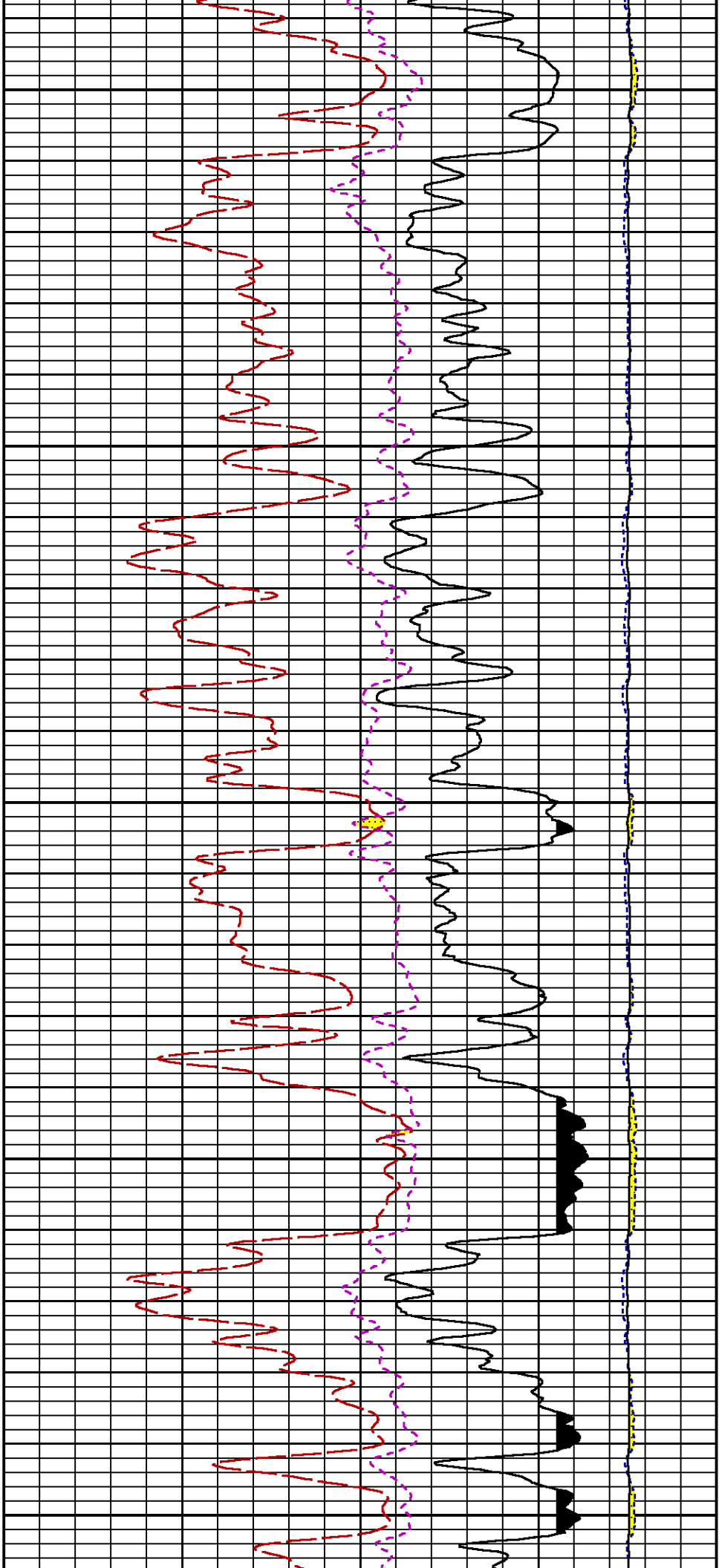


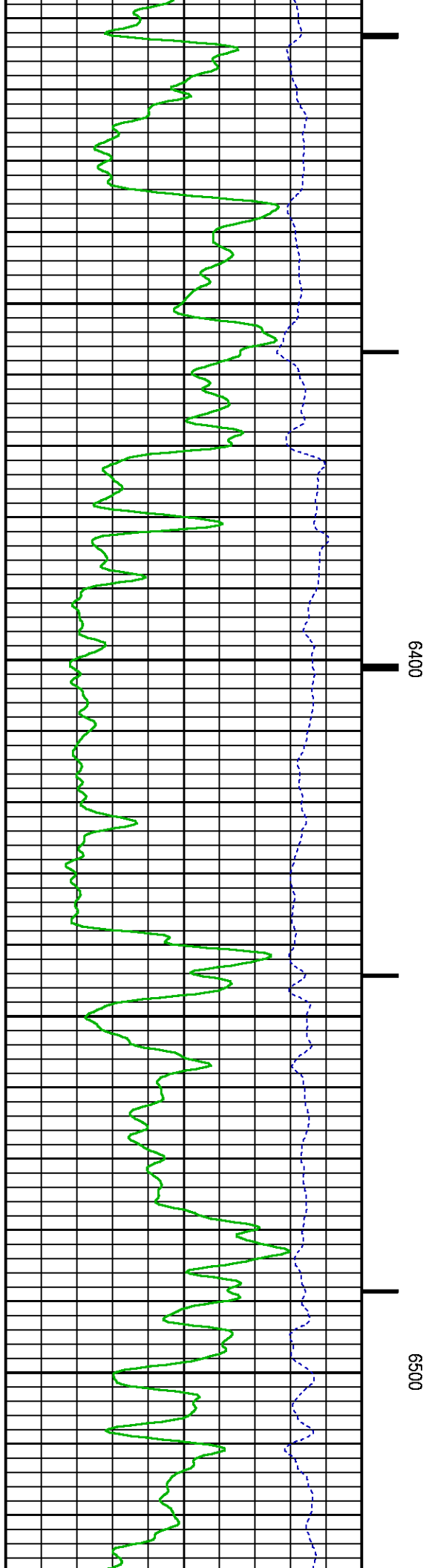
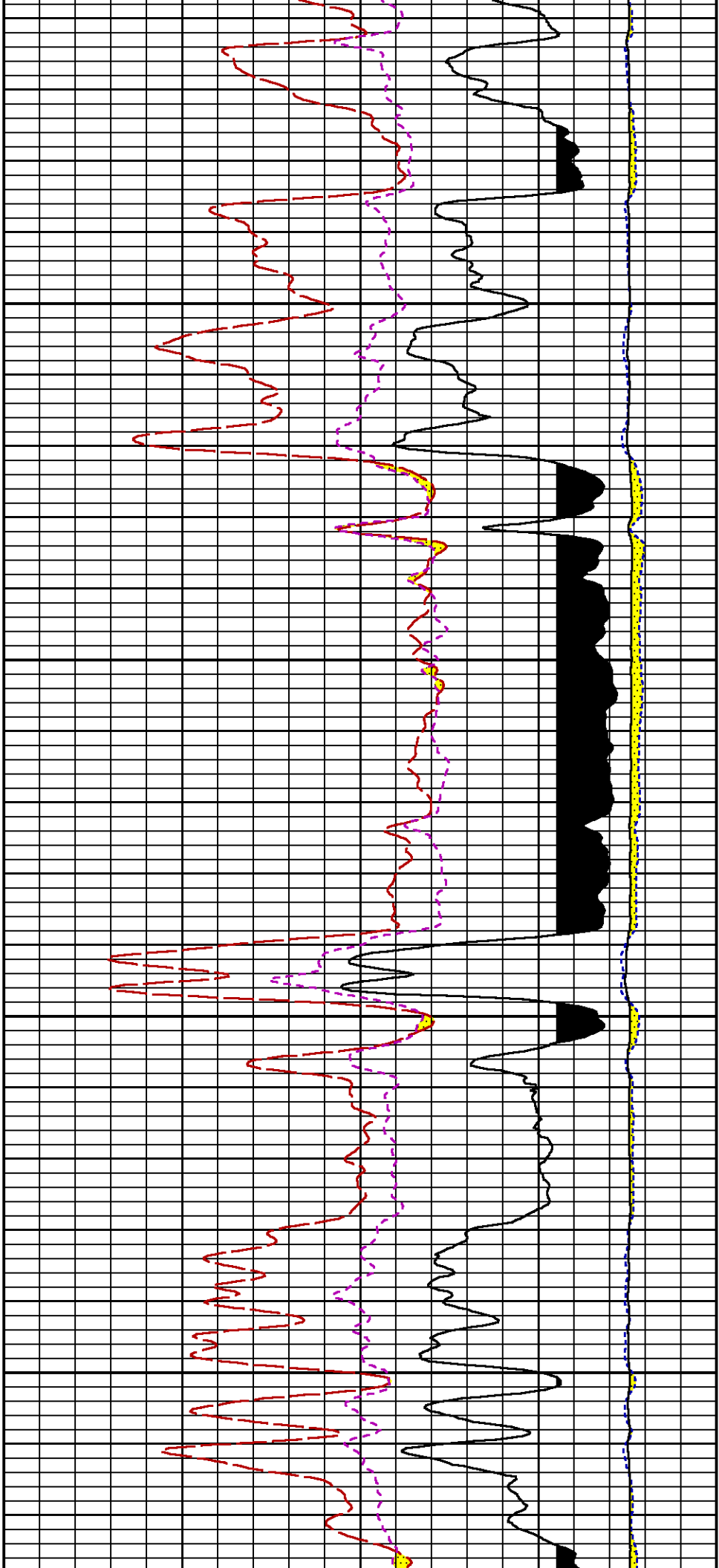


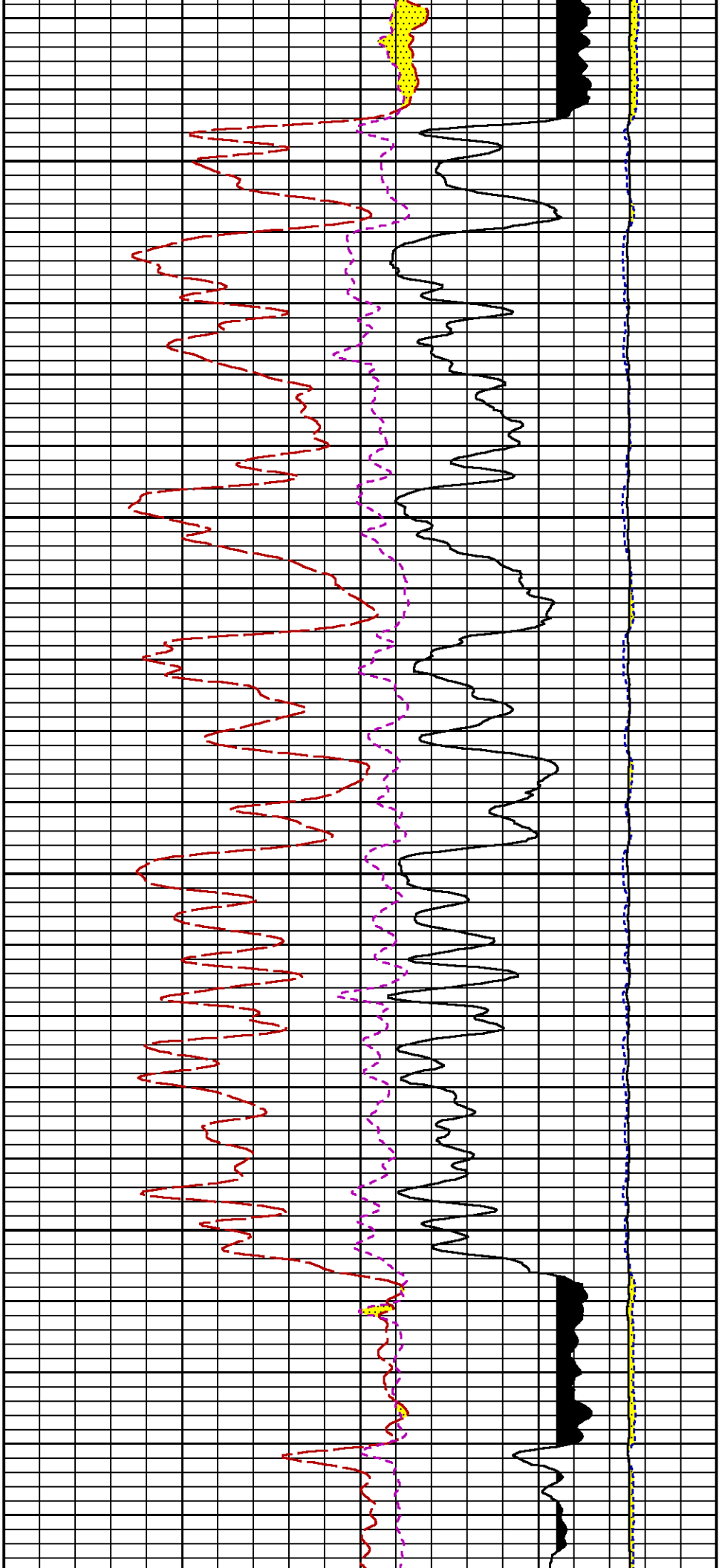






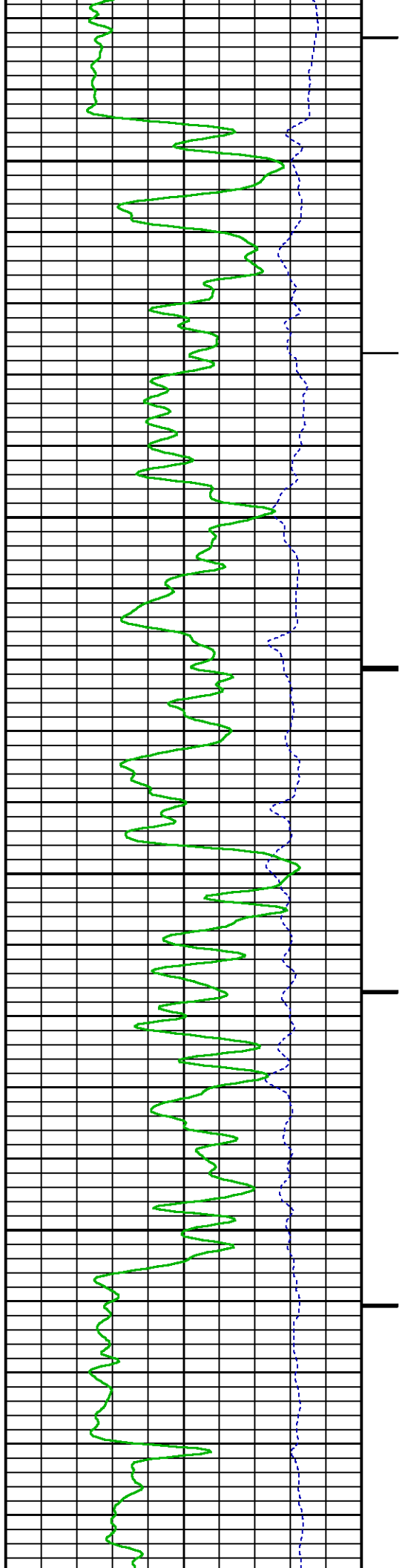




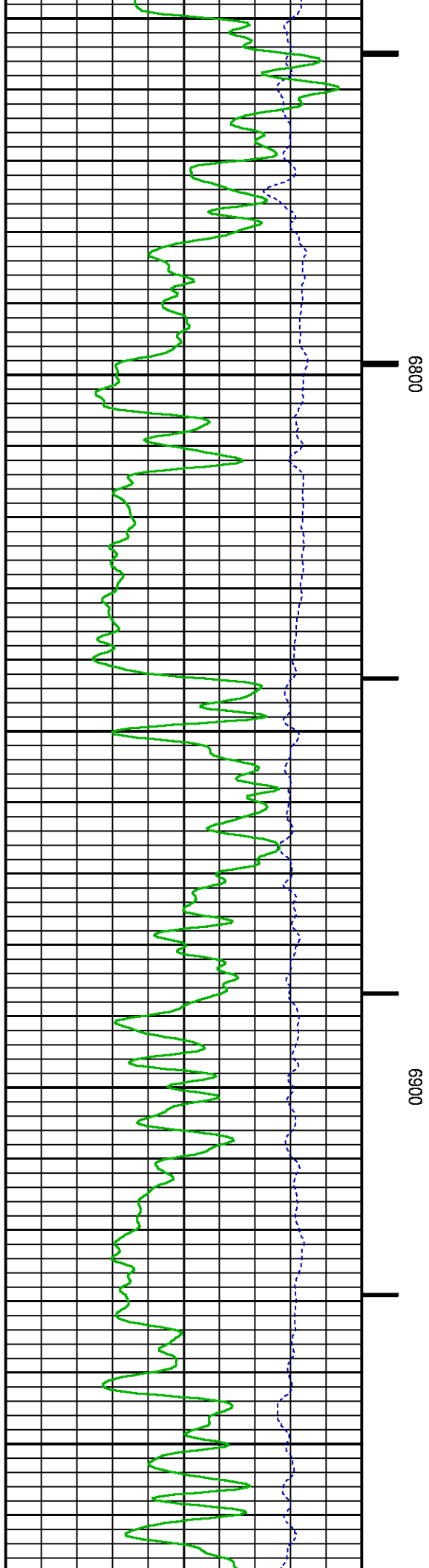
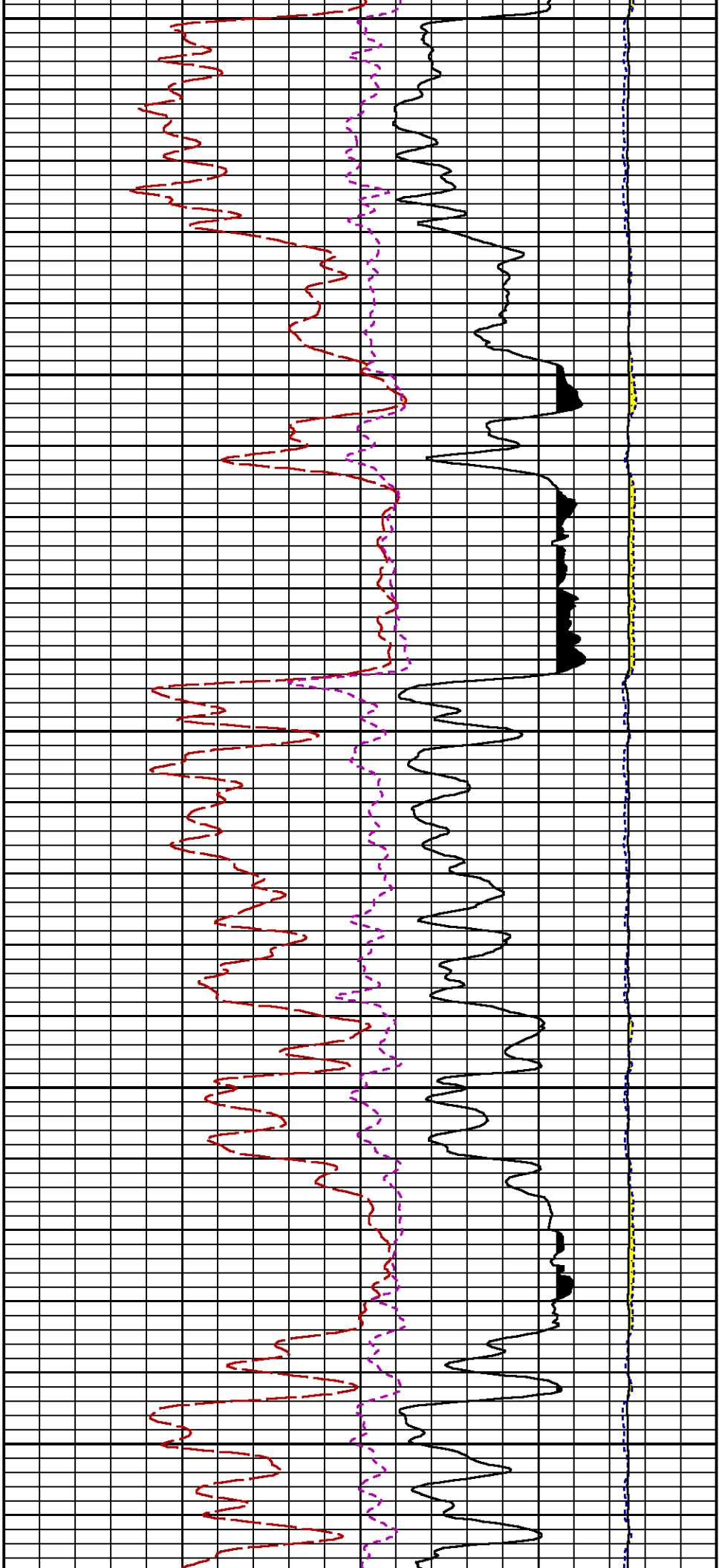


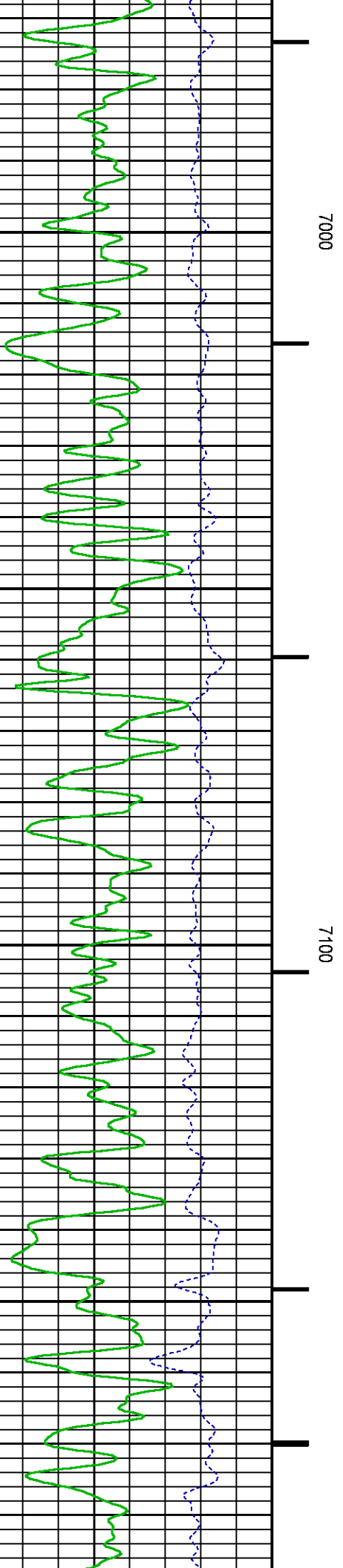
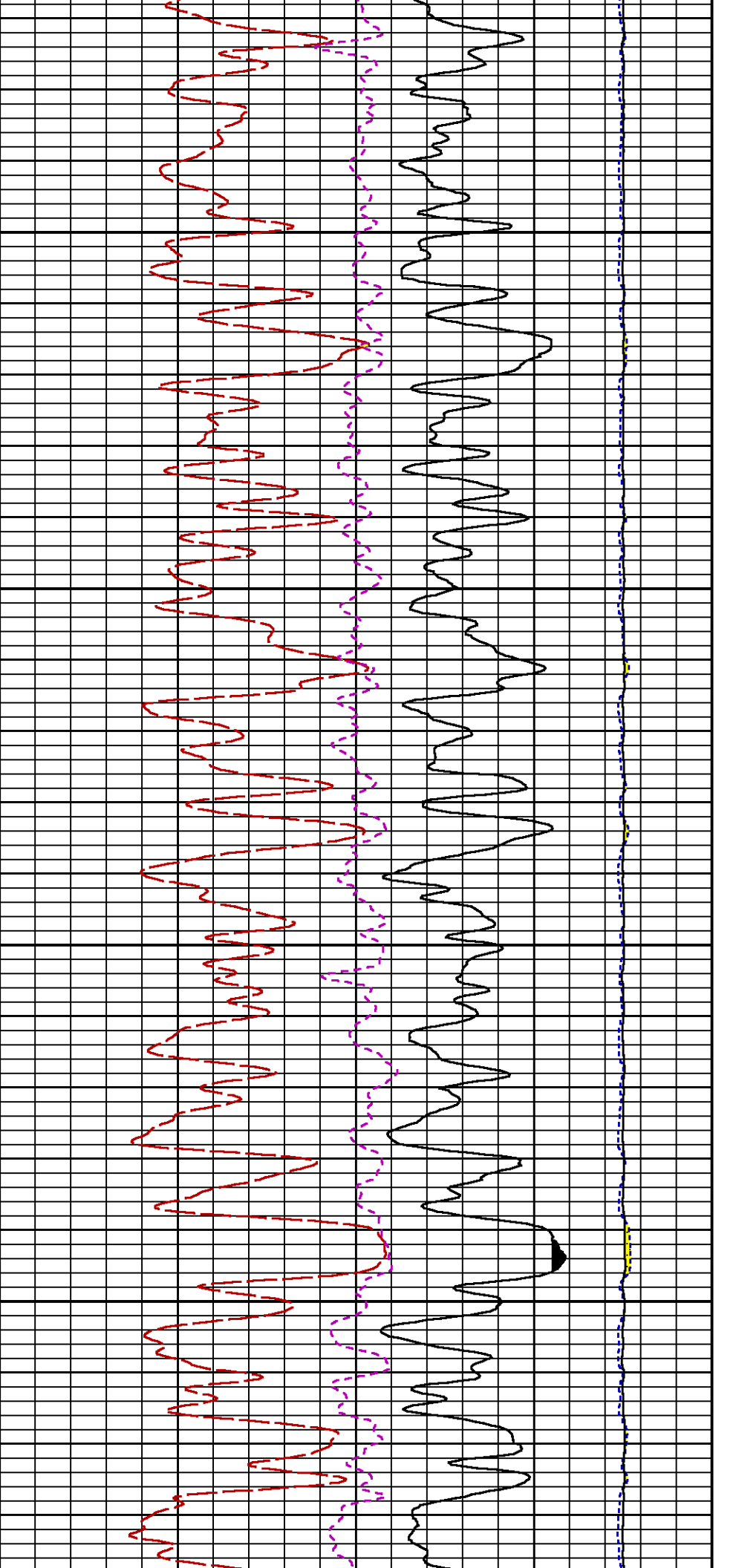
6600

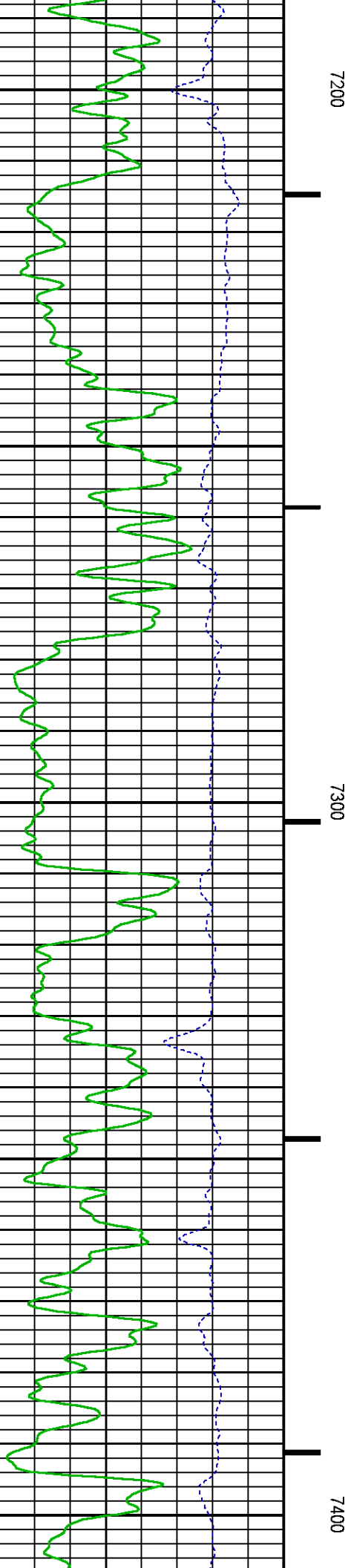
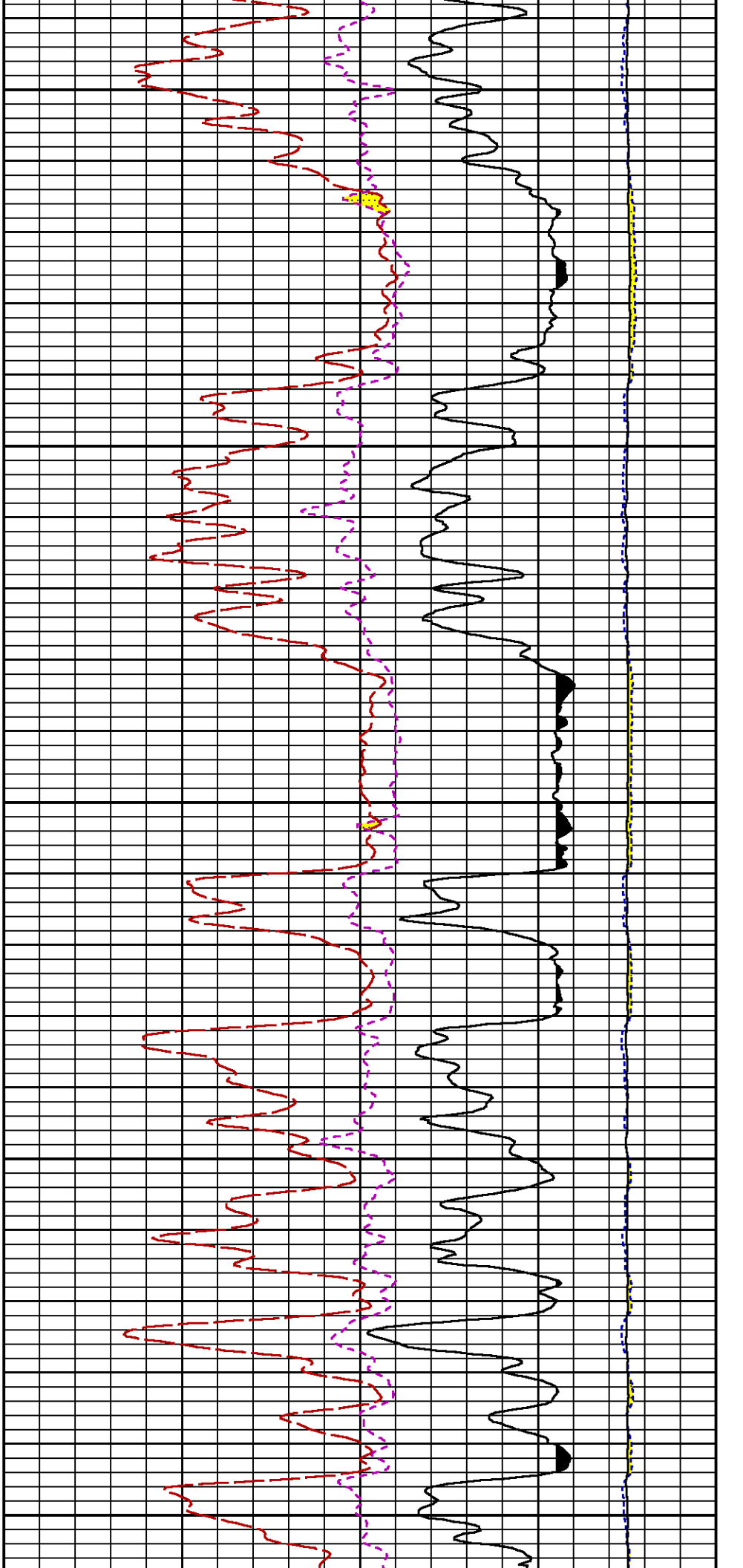
6700

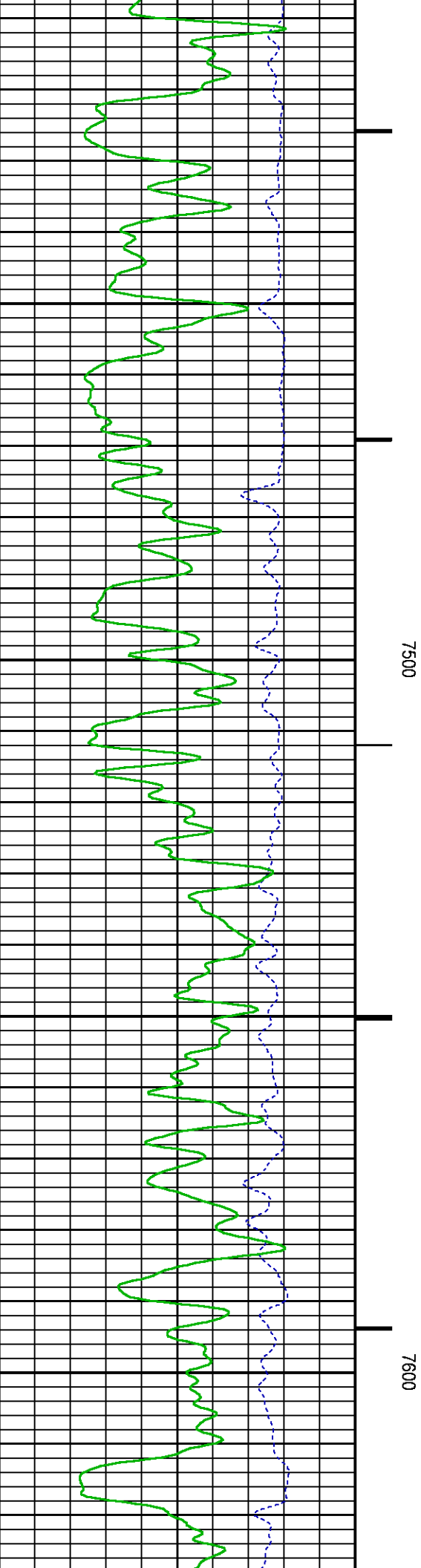
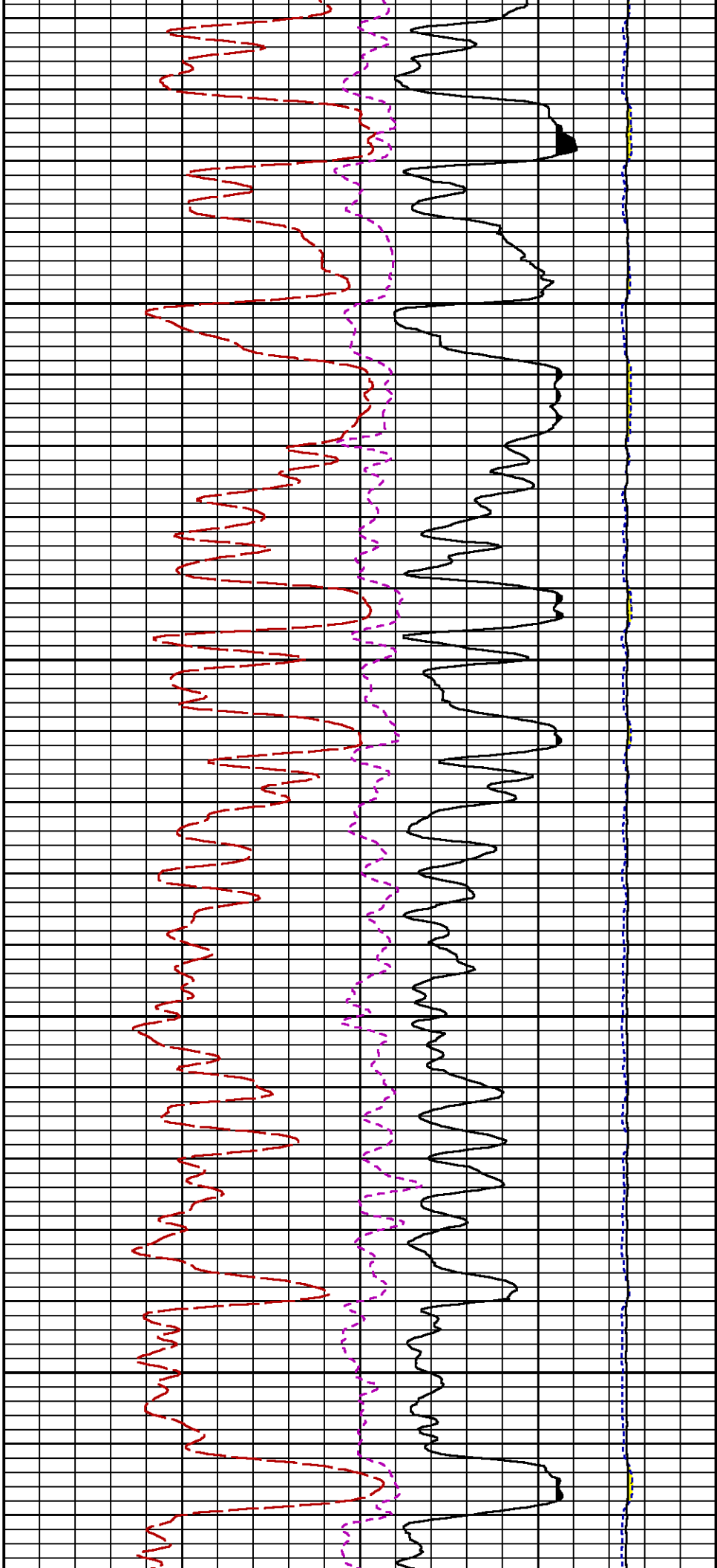


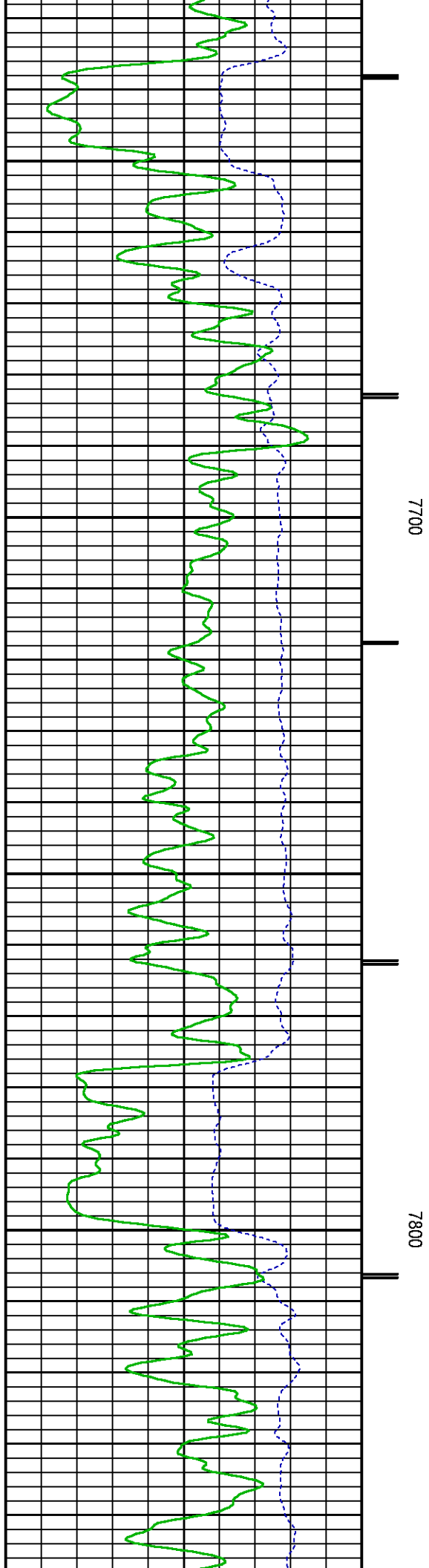
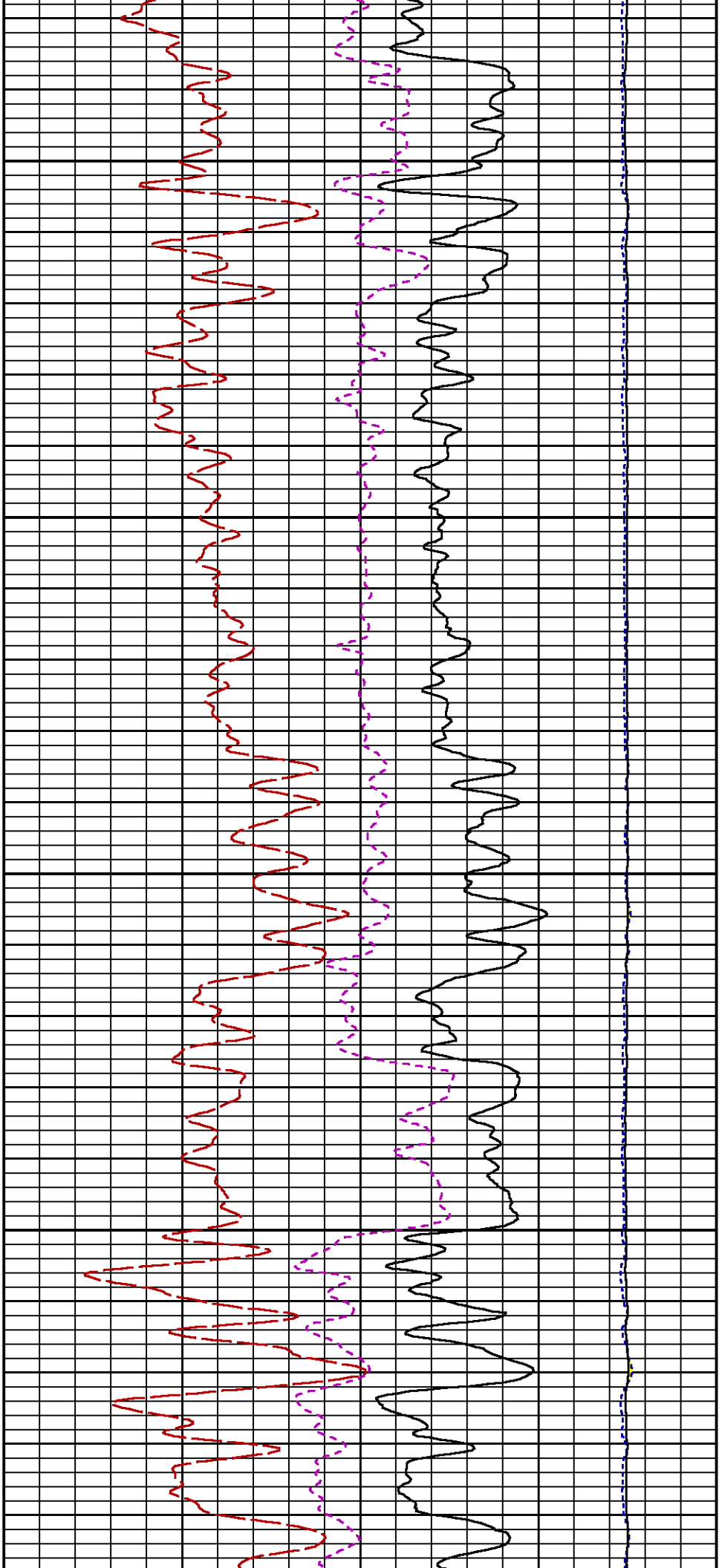


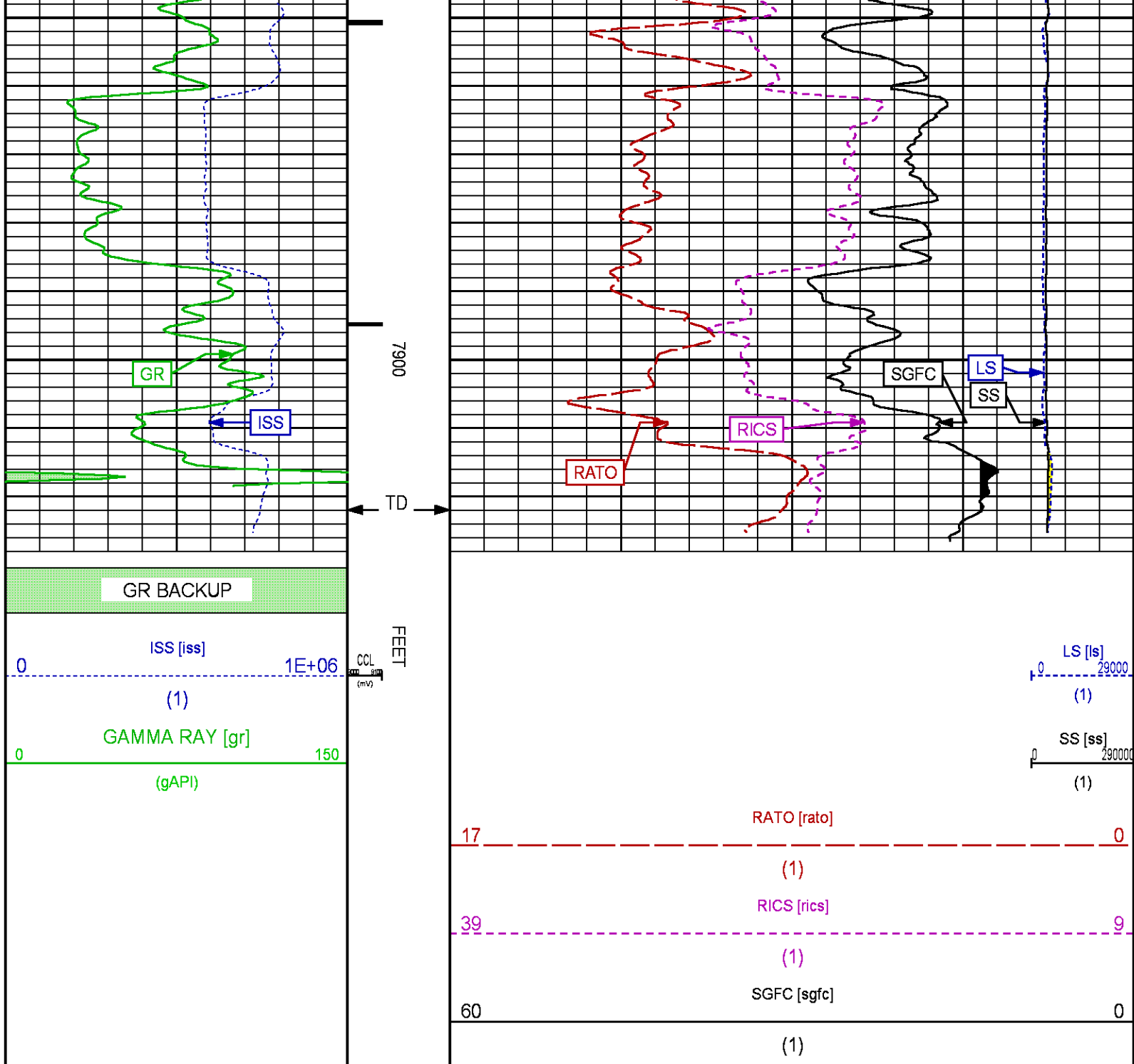












REPEAT SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013  
Updates: 1 Patches: 6

Plotted: Wed Aug 26 14:52:57 2015

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH099235/n354h01.prm  
LOGGING MODE: DEPTH DIRECTION: UP

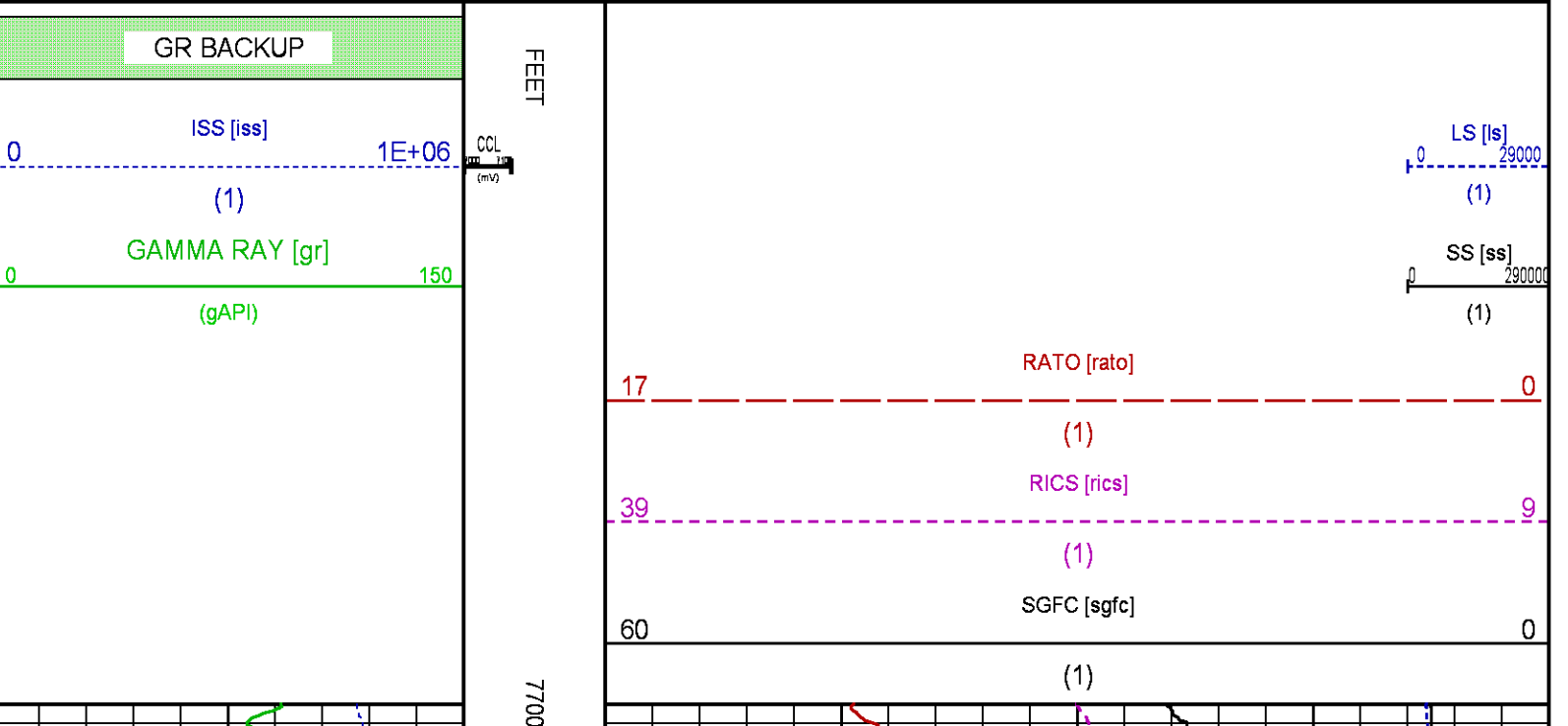
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM

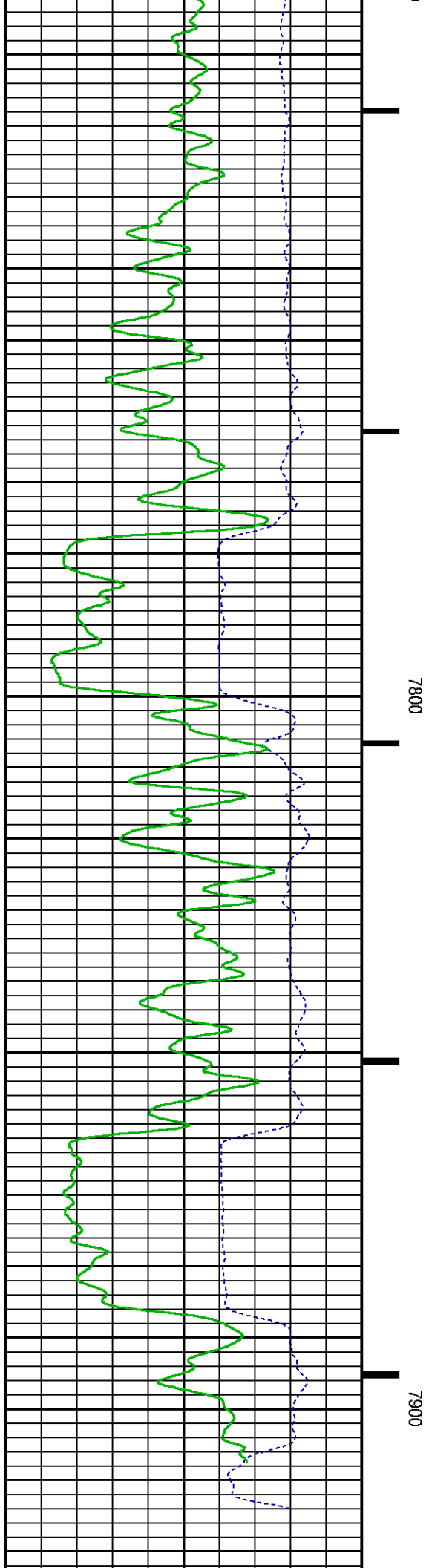
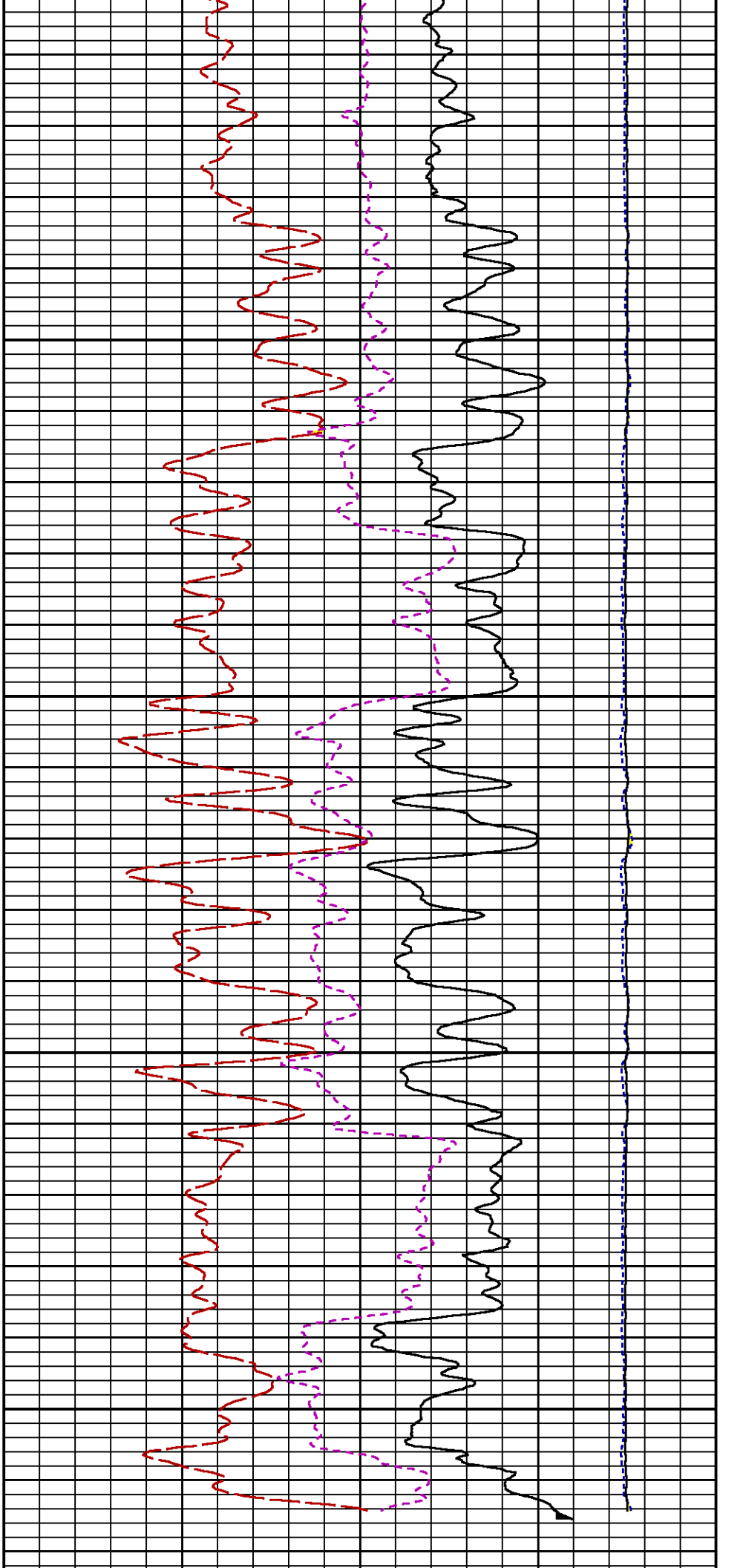
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP "
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	7.88	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Aug 26 14:17:55 2015	CASING COLLAR LOCATOR
F1:GR	Aug 26 14:17:55 2015	GAMMA RAY
F1:ISS	Aug 26 14:17:55 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Aug 26 14:17:55 2015	LONG SPACE COUNT RATE
F1:RATO	Aug 26 14:17:55 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Aug 26 14:17:55 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Aug 26 14:17:55 2015	CORRECTED FORMATION SIGMA
F1:SS	Aug 26 14:17:55 2015	SHORT SPACE COUNT RATE

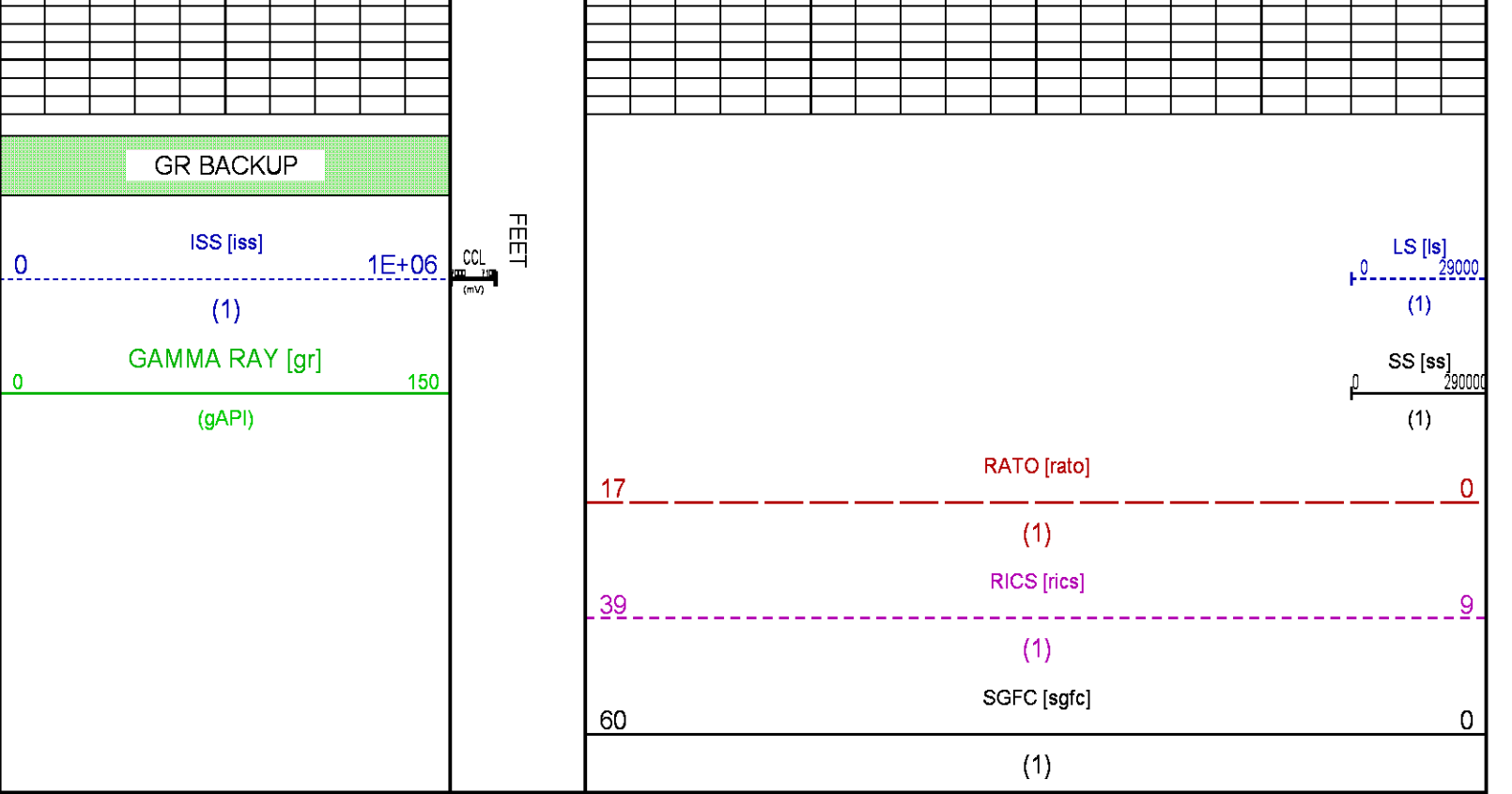
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation	: HL6670:/dat1a/CH099235/9M_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 7700 - 7935 Feet
Data File 1	: F1 : HL6670:/dat1a/CH099235/n354h01REPEAT9M.xtf
Created On	: Aug 26 14:17:55 2015
Company	: LARAMIE ENERGY
Well	: PICEANCE 28-09M
Field	: VEGA
File Interval	: 7649.25 - 7930.5 Feet
OCT	: n354h









CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH099235/n354h.tp1

GR PRIMARY CALIBRATION SUMMARY						
TOOL #:		DATE/TIME PERFORMED:				
UNIT #:		CALB JIG #:				
	BACKGROUND	CALBRTR ON	CR DIFF	MULT	BACKGROUND	CALBRTR ON
	(cts/s)	(cts/s)	(cts/s)		(gAPI)	(gAPI)
GR	57.91	263.98	206.1	1.019	59.02	269.02
						CALBRTR (gAPI)
						210

GR PRIMARY VERIFICATION SUMMARY						
TOOL #:		DATE/TIME PERFORMED:				
UNIT #:		VERI JIG #:				
	BACKGROUND	CALBRTR ON	MULT	BACKGROUND	CALBRTR ON	DIFF.
	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR	60.76	261.58	1.019	61.92	266.57	204.66
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY							
TOOL:		DATE/TIME PERFORMED:					
UNIT:		CALIBRATOR:		SOURCE:		HOURS:	
	ISS	Mtr Vlt	SS Gain	LS Gain	XLS Gain	EA Temp	Sync Delay
		(V)				(degF)	(usec)
							RCAL

Raw Data	802498	123	2239	2244	2201	140	7	0.9894
Interpolated	1300000	143	2222	2232	2198			
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	802498	5752	919	134	25.94	0.15	24.12	0.33
					25.3526.40	0.000.20	23.6024.80	0.000.40
	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	802498	164021	25202	85258	30386	8026	51670	12815
Fit Quality %		0.474	0.363	0.370	0.362	0.498	0.314	0.460
	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	802498	1.44	4.89	31.86	15.53	10.63	3.79	4.03
		1.421.45	3.555.52	22.2032.70	10.9916.34	10.0611.10	3.573.95	3.764.22
Fit Quality %		0.045	0.149	0.188	0.205	0.134	0.147	0.133
Reduced	1401524	1.44	4.90	31.88	15.54	10.64	3.79	4.04
		1.421.45	4.335.52	27.6032.70	13.7016.34	10.0611.10	3.573.95	3.764.22

### 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

### TPSITEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 11774568      DATE/TIME PERFORMED: Thu May 7 07:52:05 2015

UNIT #: 3880TA HL6670

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Ptf's	-1.089847E+01	1.064572E-01	3.162229E-07	5.808012E-11

### TPSPRES PRIMARY CALIBRATION SUMMARY

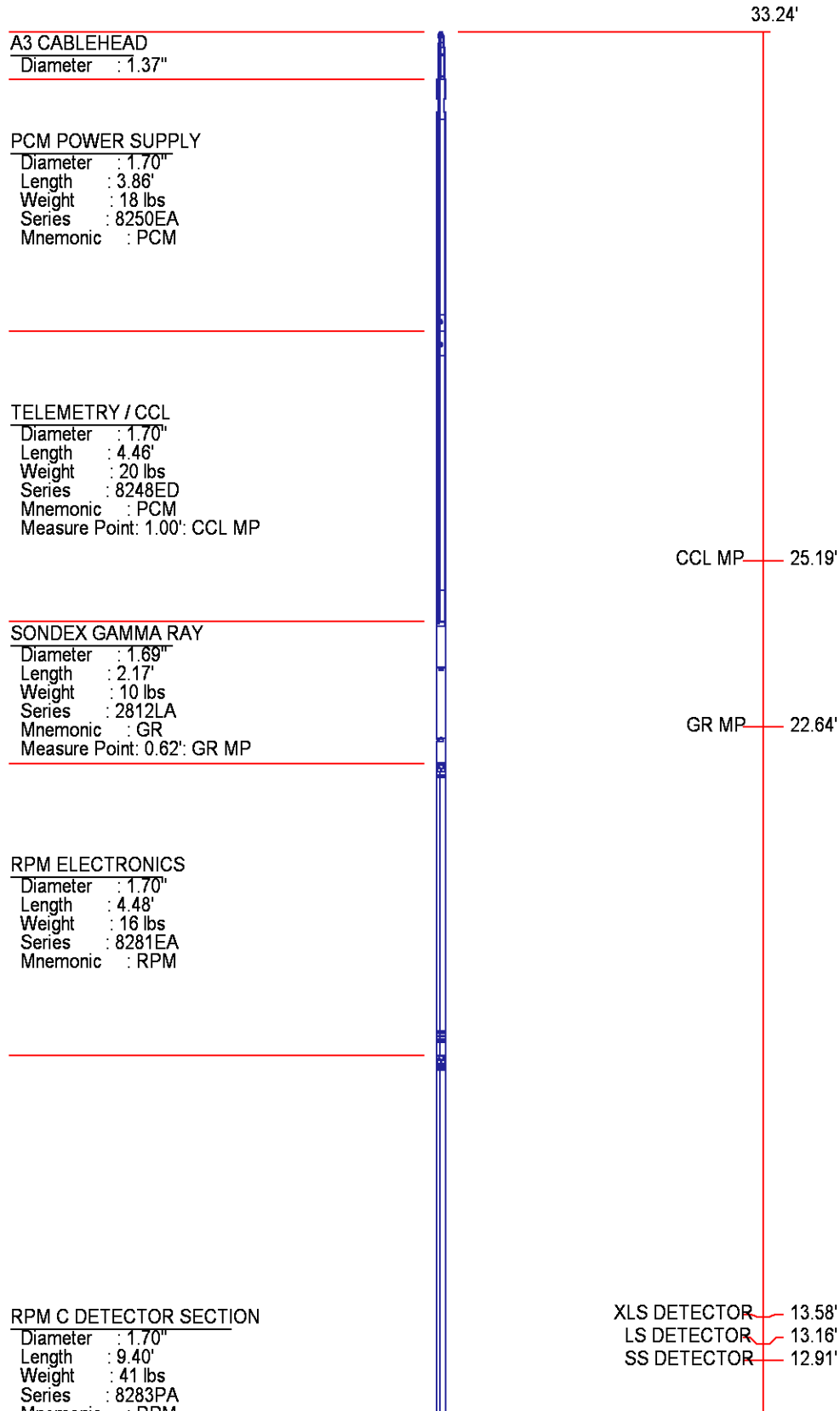
GAUGE #: 8255XA 11774568      DATE/TIME PERFORMED: Thu May 7 08:08:15 2015

UNIT #: 3880TA HL6670

	Temp	G	H	I	J
0		5.757116E+05	2.756916E+02	2.333345E-04	-6.169285E-09
1		-8.476257E+01	3.280890E-02	-2.151323E-06	8.959875E-11
2		6.895835E-01	-2.638656E-04	9.921076E-09	-4.102106E-13
3		-1.434187E-03	5.654808E-07	-1.414922E-11	5.870839E-16
4		1.408894E-16	7.548284E-20	2.001050E-24	-7.758373E-29
Coef Test	350.0	5.690279E+05	2.790962E+02	8.905545E-05	1.107021E-10

## INSTRUMENT CONFIGURATION

Source File: /dat1a/CH099235/RPM-tdg



Mnemonic : RPM  
Measure Point: 5.45': XLS DETECTOR  
Measure Point: 5.04': LS DETECTOR  
Measure Point: 4.79': SS DETECTOR

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

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <u>CH099235</u>
	WELL <u>PICEANCE 28-09M</u>		API NO: <u>05077102380000</u>
	FIELD <u>VEGA</u>	STATE <u>COLORADO</u>	
	COUNTY <u>MESA</u>		
LOCATION: SHL: LAT 39.250911 LONG -107.779353 BHL: LAT 39.249467 LONG -107.774656		ELEVATIONS: KB 7600 FT DF GL 7578 FT	28 9S 93W 28-05 PAD PATTERSON 306
SEC <u>28</u> TWP <u>9S</u> RGE <u>93W</u>		DATE <u>26-Aug-2015</u>	

