



FILE NO: CH097899	COMPANY LARAMIE ENERGY
API NO: 05077097620000	WELL GUNDERSON 29-09E
	FIELD VEGA
	COUNTY MESA
	STATE COLORADO

Ver. 4.01	LOCATION:	OTHER SERVICES
SEC 29 T9S R93W	SHL: 2393' FNL 1140' FEL	BOND LOG
PAD 29-09	BHL: 2140' FNL 851' FEL	
PATTERSON 306	SEC 29 TWP 9S RGE 93W	

PERMANENT DATUM	GL	ELEVATION	7631 FT	ELEVATIONS:
LOG MEASURED FROM	KB	22 FT	ABOVE P.D.	KB 7653 FT
DRILL. MEAS. FROM	KB			DF
				GL 7631 FT

DATE	15-JUL-2015
RUN	1
SERVICE ORDER	US097899
DEPTH DRILLER	7820 FT
DEPTH LOGGER	7691 FT
BOTTOM LOGGED INTERVAL	7681 FT
TOP LOGGED INTERVAL	2506 FT
TIME STARTED	13:00
TIME FINISHED	19:00
OPERATOR RIG TIME	6 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	32 FT
LOGGED CEMENT TOP	SEE LOG
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	244 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	14-JUL-2015
EQUIP. NO.	6670
LOCATION	GRAND JCT.
RECORDED BY	P. EDWARDS
WITNESSED BY	J. 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
7.875 IN	22 FT	7820 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	7820 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 14/JUL/2015 at the client's request.

Logged with zero PSI at wellhead.

BHT = 244 degF

SJ = 5963' - 5985'

SJ = 6867' - 6890'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	DCM	025051	12502051	22 FT

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 15 18:28:35 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH29_9E/n354h03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 2504.500 ft BOTTOM DEPTH: 3133.250 ft

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

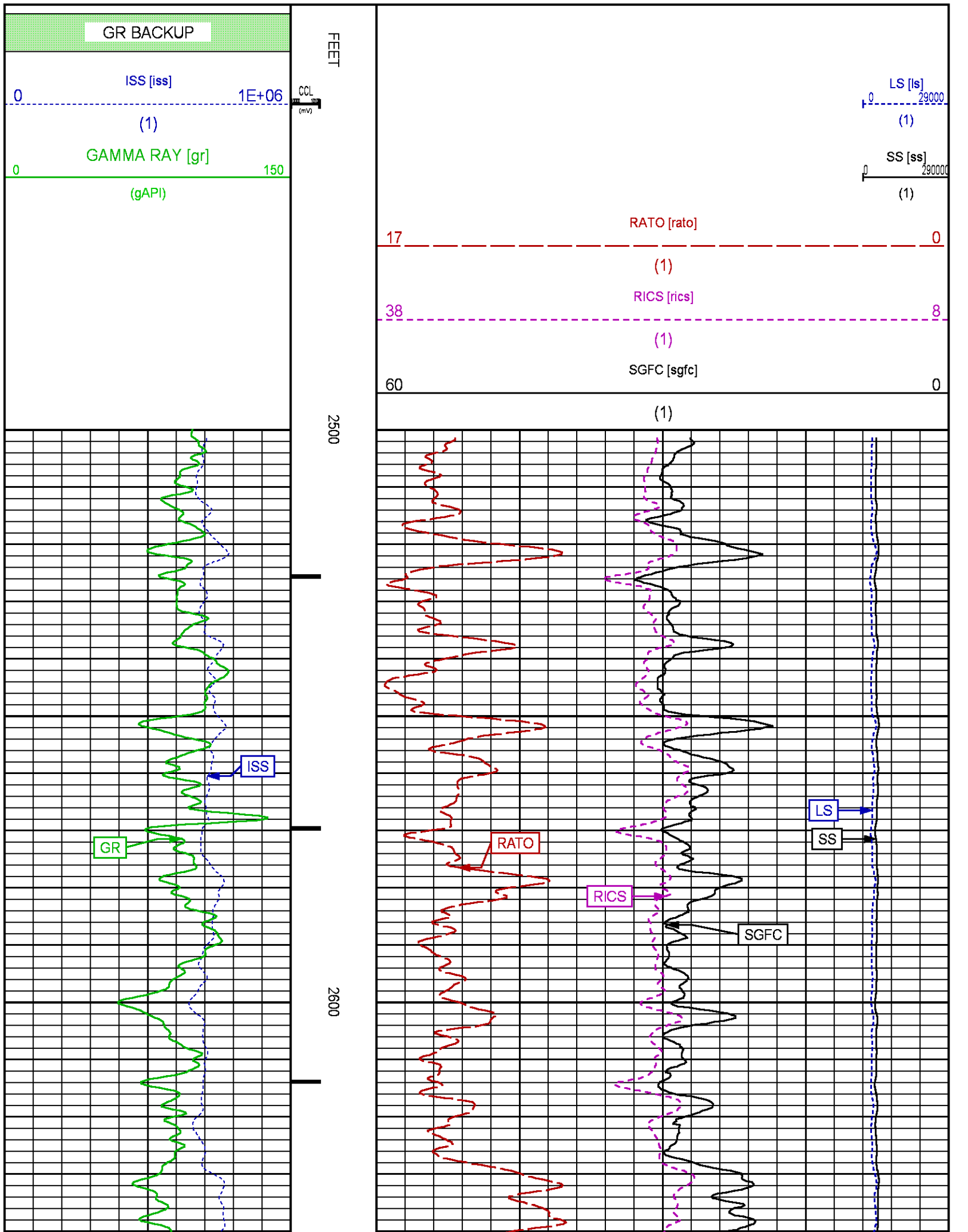
RPM PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	7.88	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

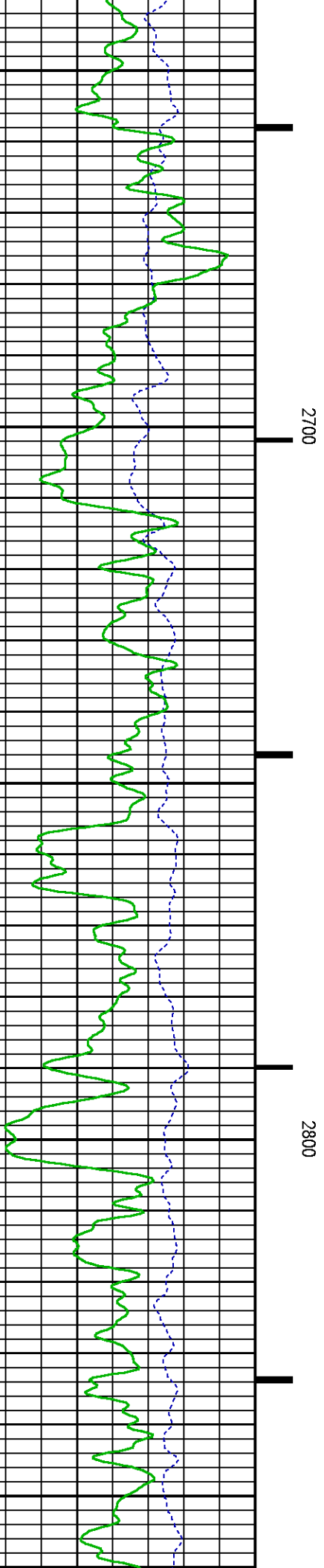
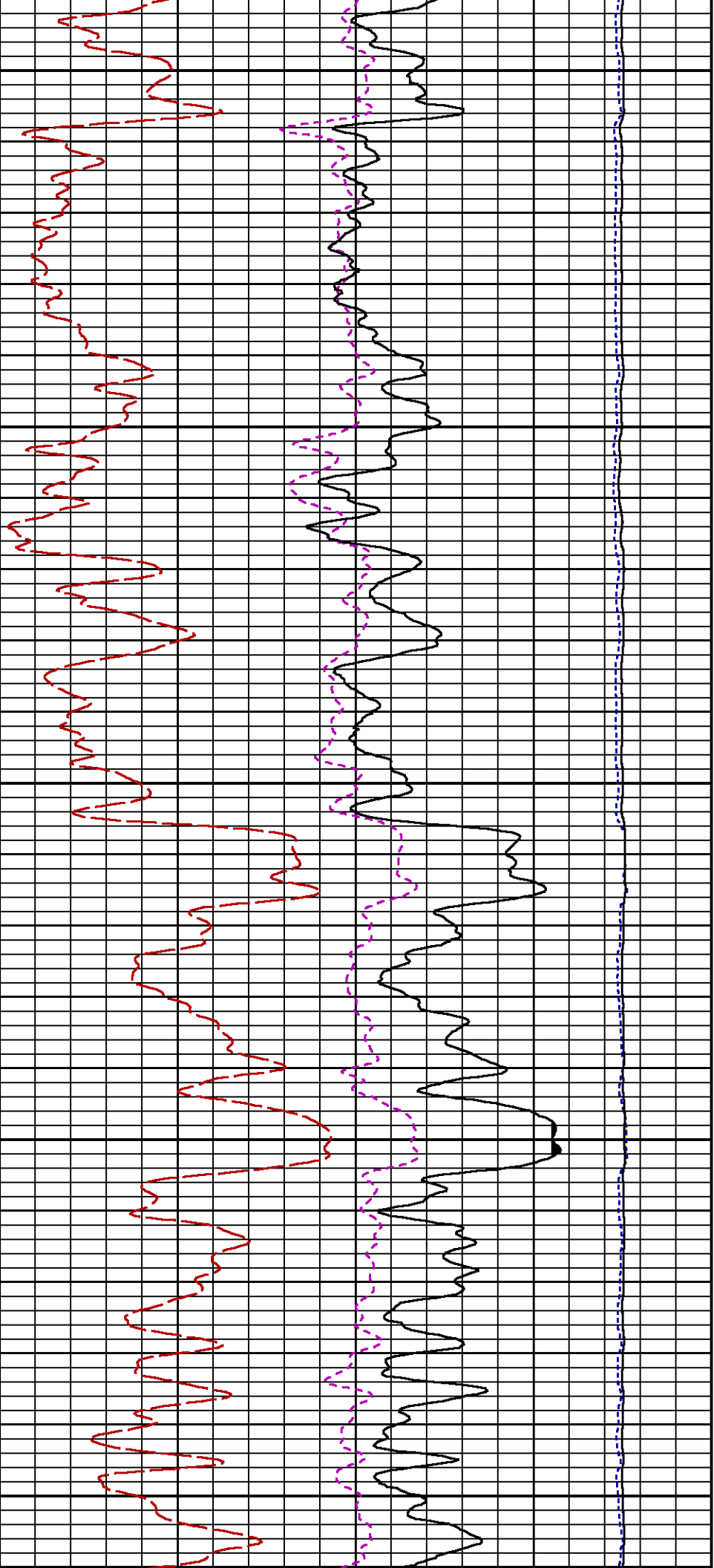
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 15 17:32:30 2015	CASING COLLAR LOCATOR
F1:GR	Jul 15 17:32:30 2015	GAMMA RAY
F1:ISS	Jul 15 17:32:30 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 15 17:32:30 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 15 17:32:30 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 15 17:32:30 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 15 17:32:30 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 15 17:32:30 2015	SHORT SPACE COUNT RATE

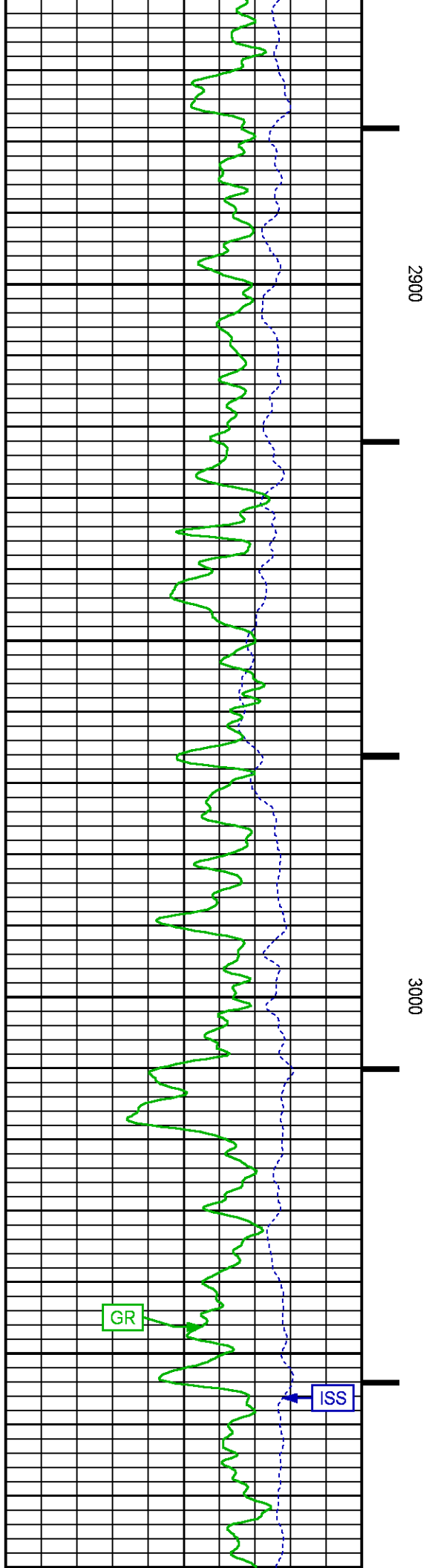
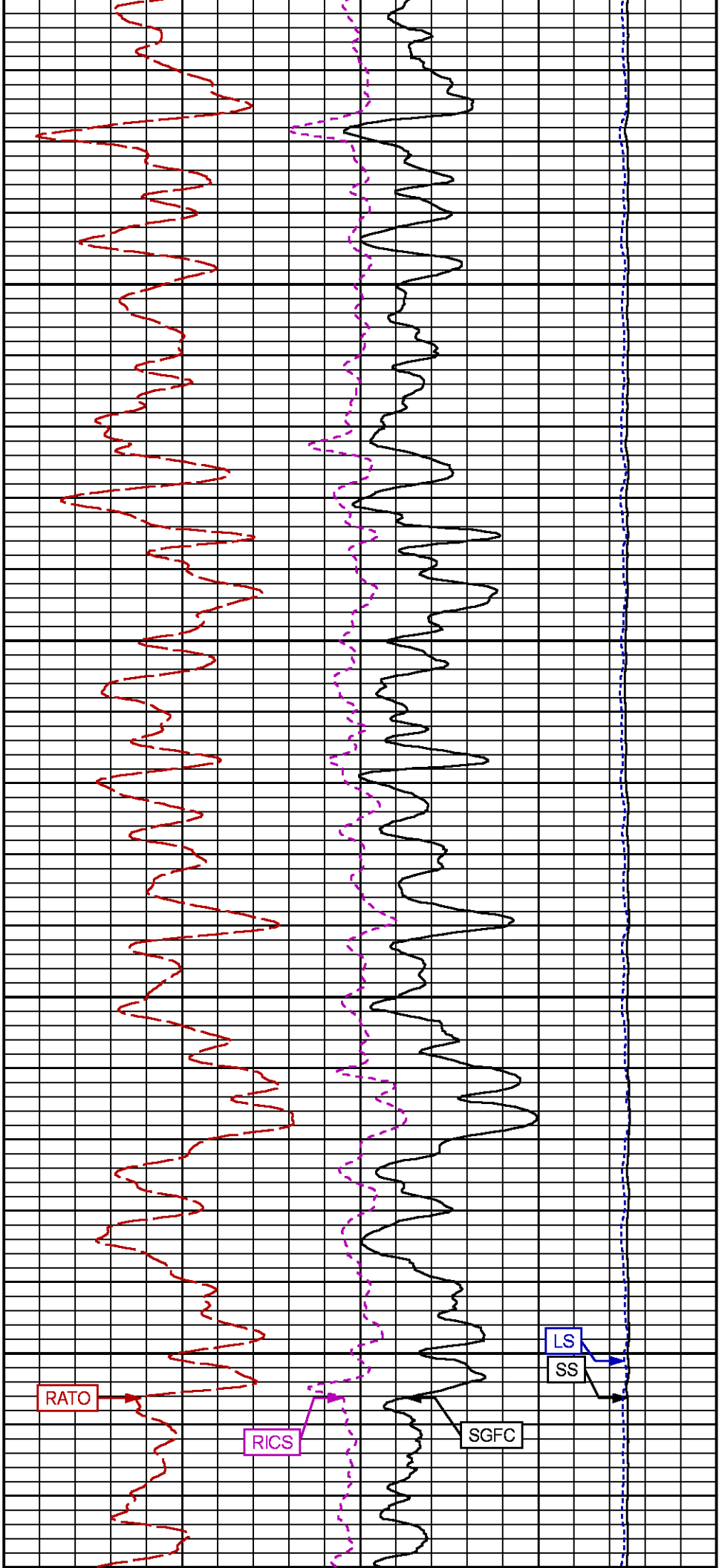
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

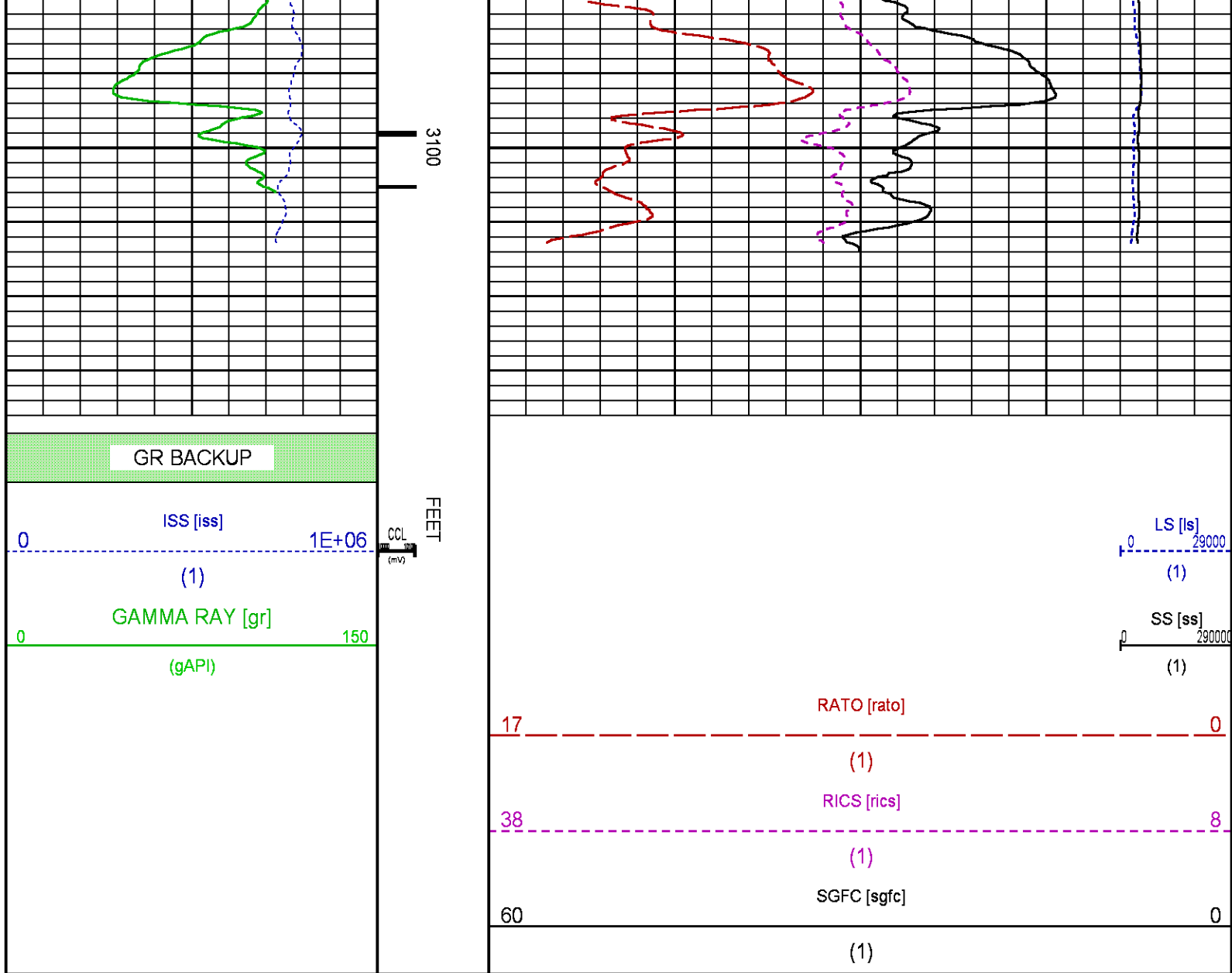
Presentation : HL6670:/dat1a/CH29_9E/RPM_GSAND.fvpdf [5"/100' Scale]
 Plot Interval : 2500 - 3135 Feet

Data File 1 : F1 : HL6670:/dat1a/CH29_9E/n354h03GSAND9E.xtf
 Created On : Jul 15 17:32:30 2015
 Company : LARAMIE ENERGY
 Well : GUNDERSON 29-9E
 Field : VEGA
 File Interval : 2475.75 - 3129 Feet
 OCT 25 11:00 AM '15









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 15 18:30:10 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH29_9E/n354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4434.000 ft BOTTOM DEPTH: 7700.000 ft

SYMMETRIC FILTER

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

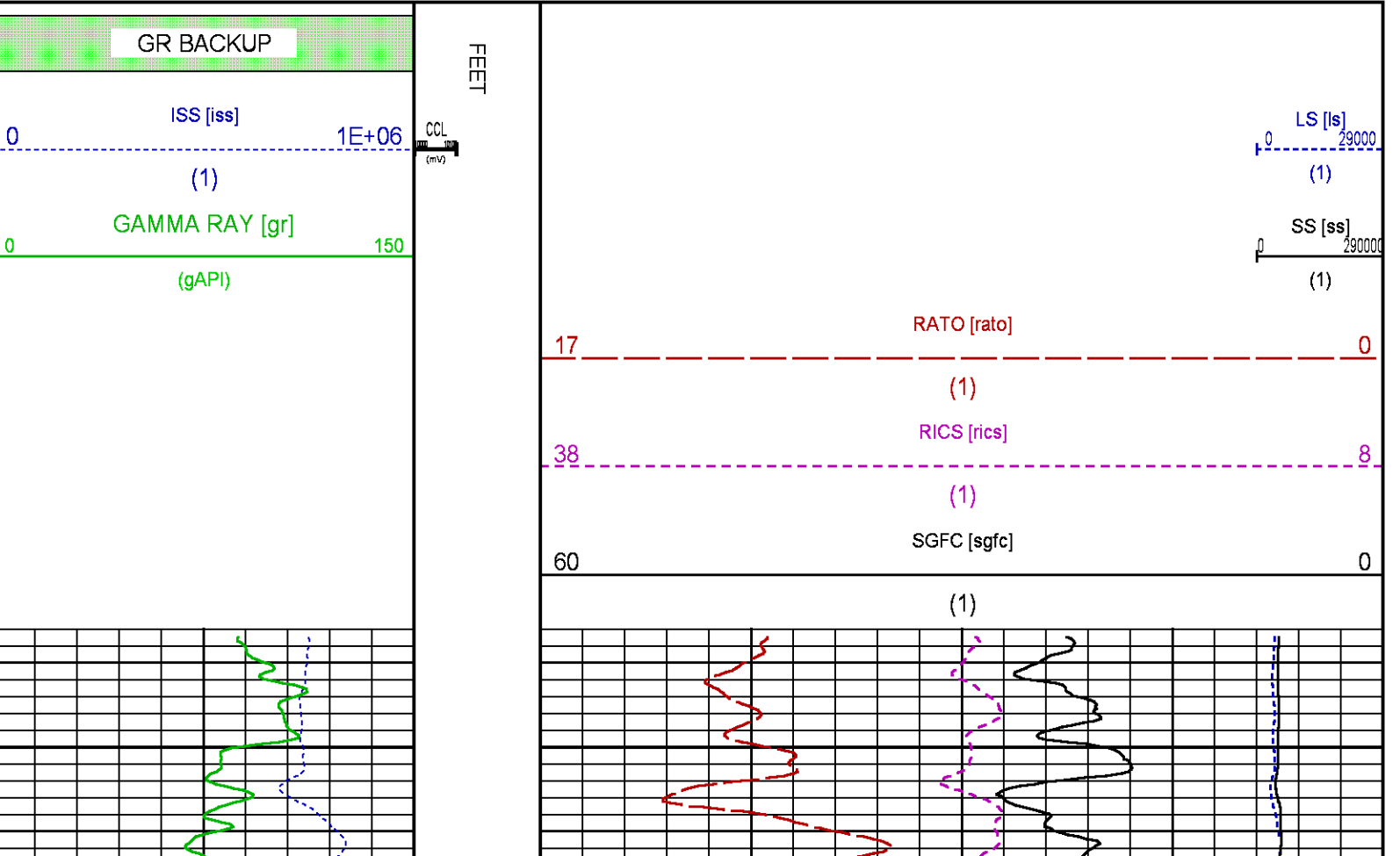
RPM PROCESSING

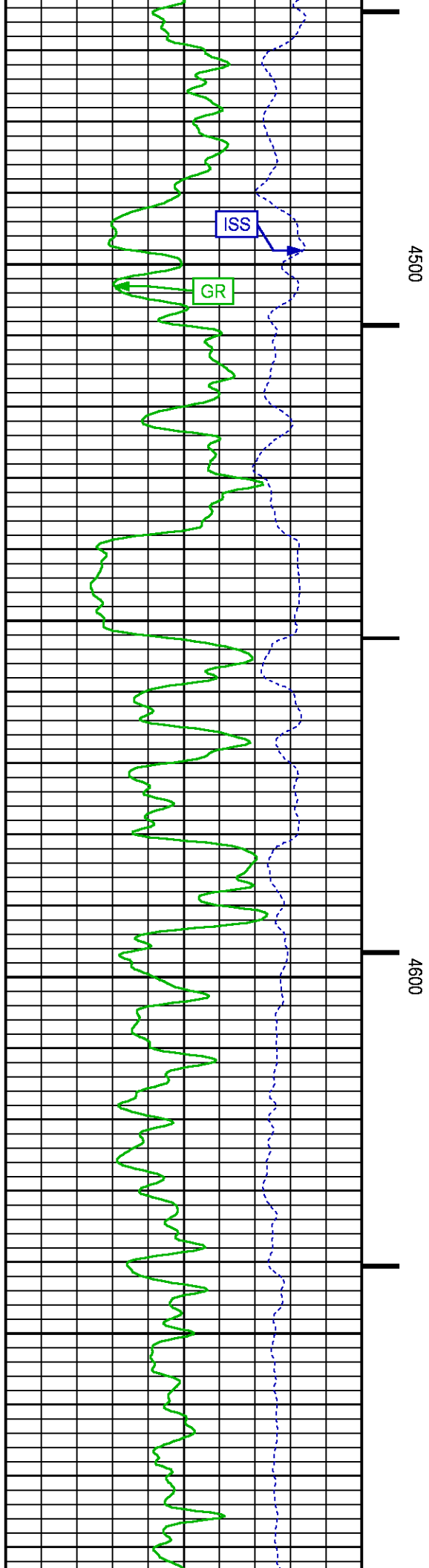
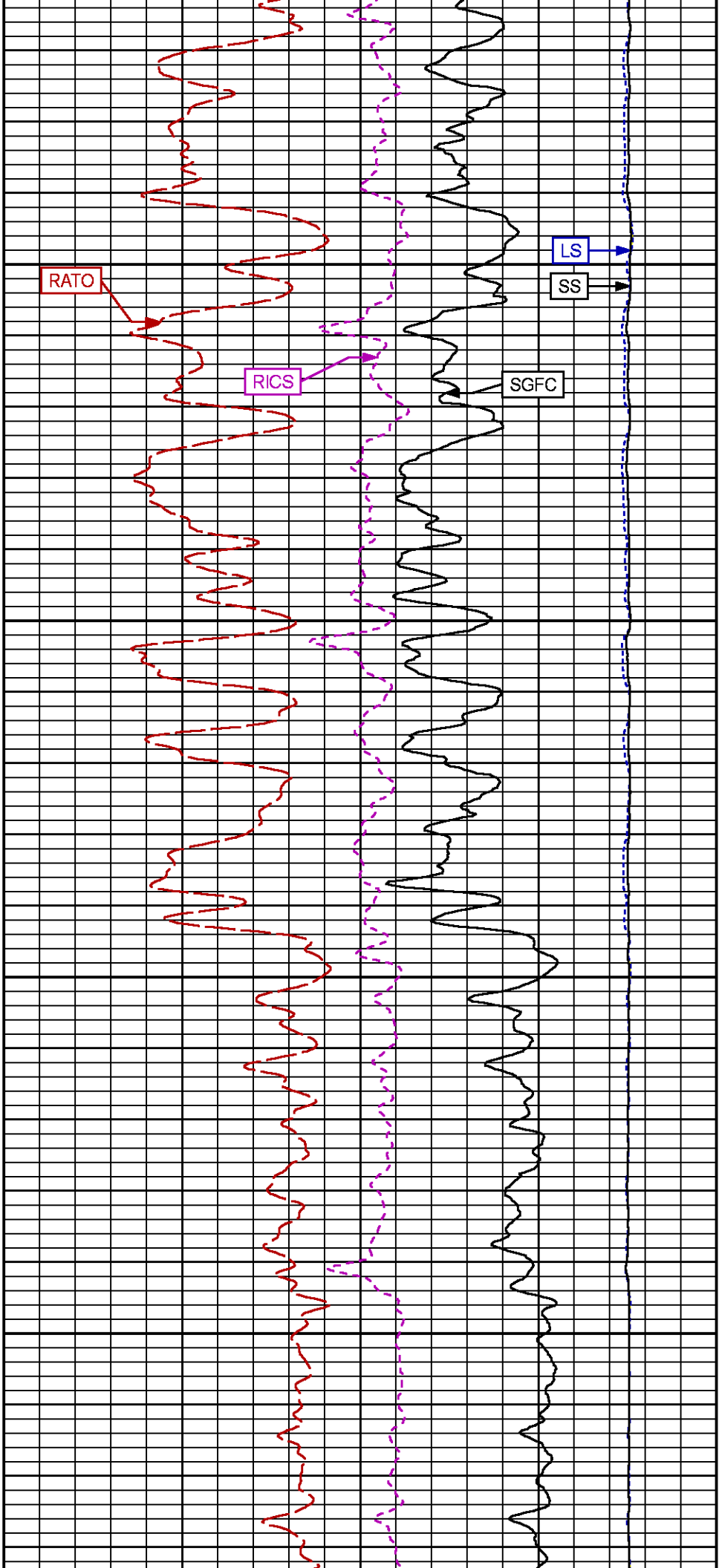
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	7.88	in	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

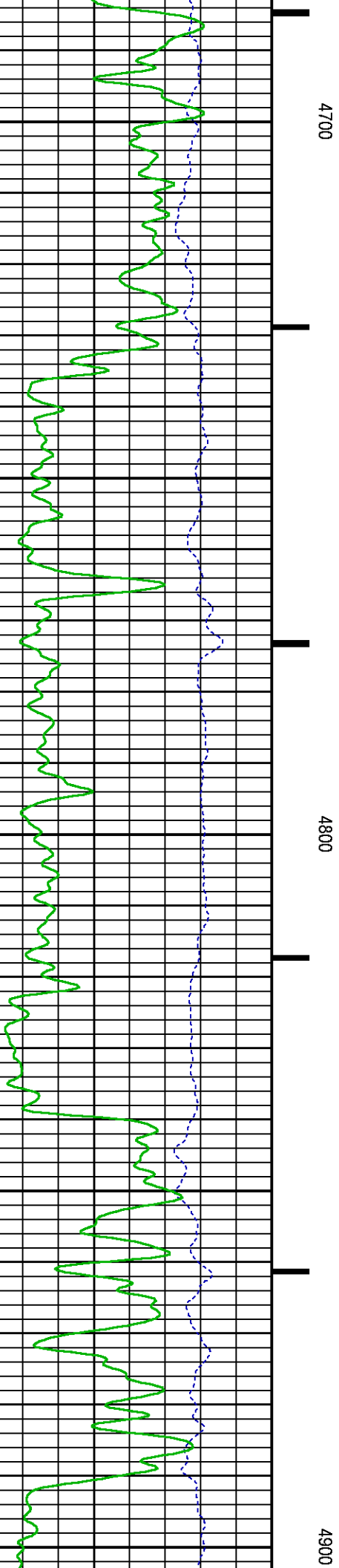
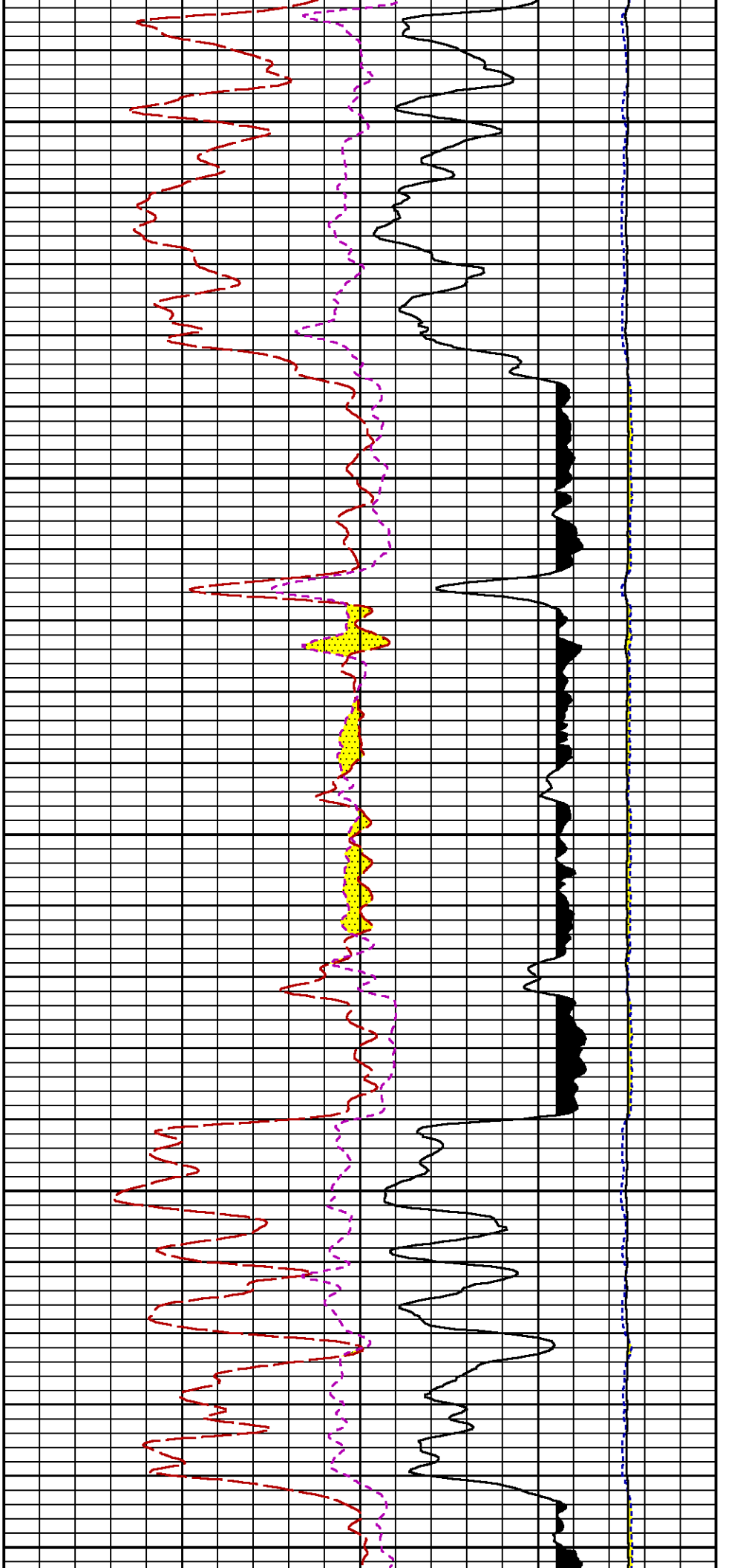
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 15 14:07:09 2015	CASING COLLAR LOCATOR
F1:GR	Jul 15 14:07:09 2015	GAMMA RAY
F1:ISS	Jul 15 14:07:09 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 15 14:07:09 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 15 14:07:09 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 15 14:07:09 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 15 14:07:09 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 15 14:07:09 2015	SHORT SPACE COUNT RATE

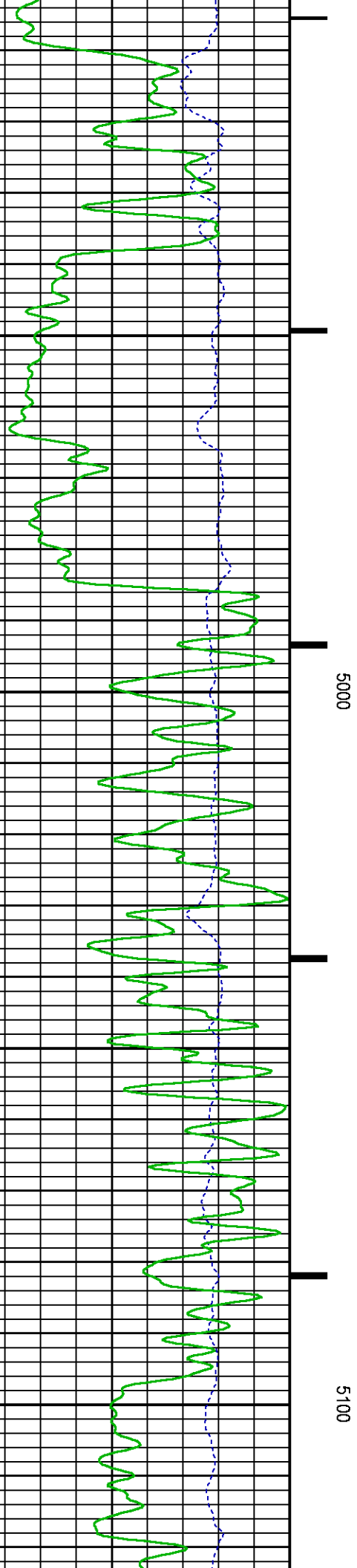
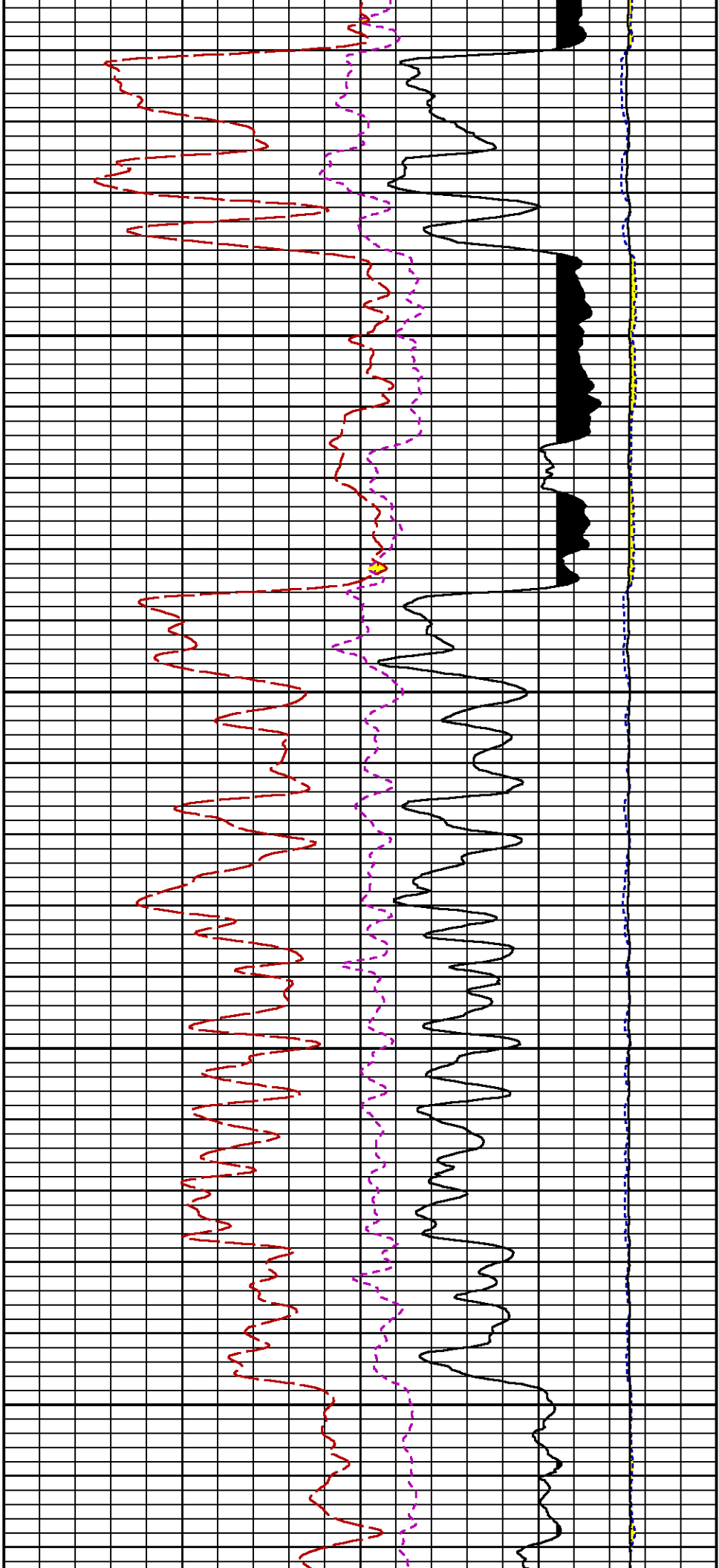
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

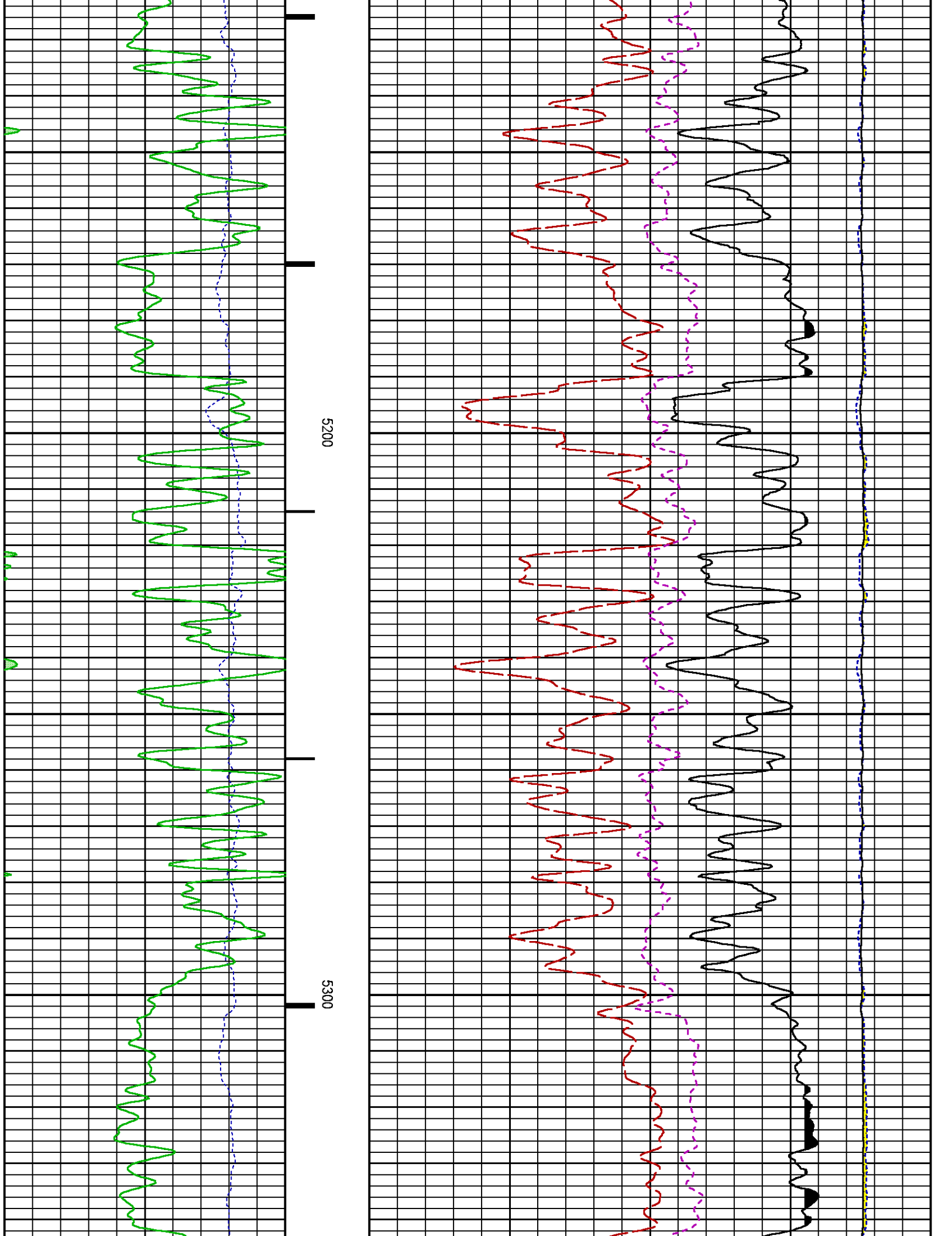
Presentation	: HL6670:/dat1a/CH29_9E/RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 4437 - 7696 Feet
Data File 1	: F1 : HL6670:/dat1a/CH29_9E/n354h02MAIN9E.xtf
Created On	: Jul 15 14:07:09 2015
Company	: LARAMIE ENERGY
Well	: GUNDERSON 29-9E
Field	: VEGA
File Interval	: 4405.25 - 7695.75 Feet
OCT	: n354h

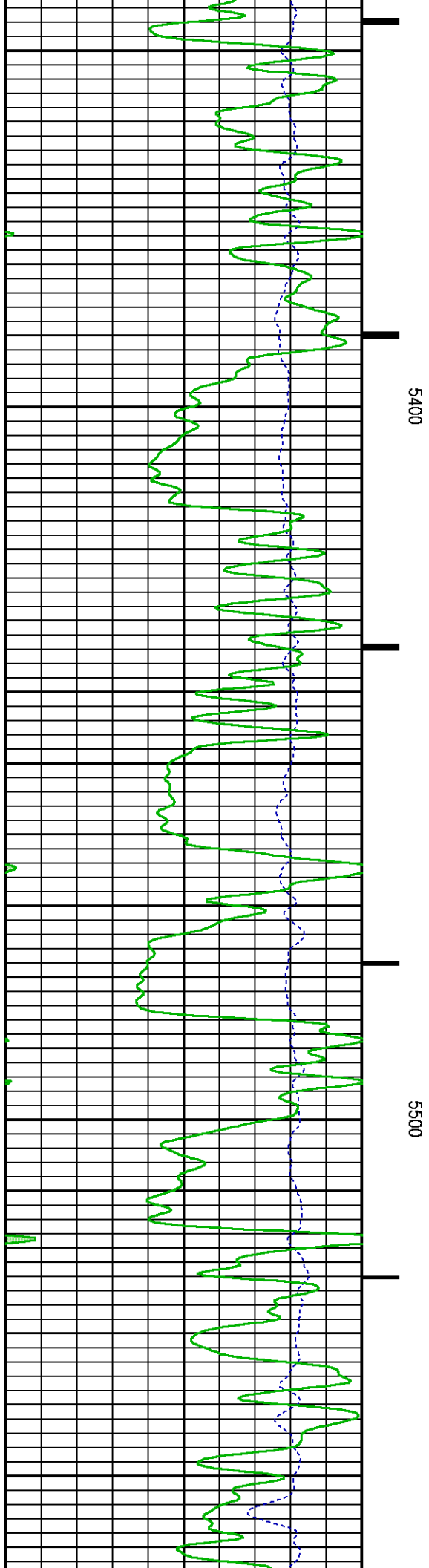
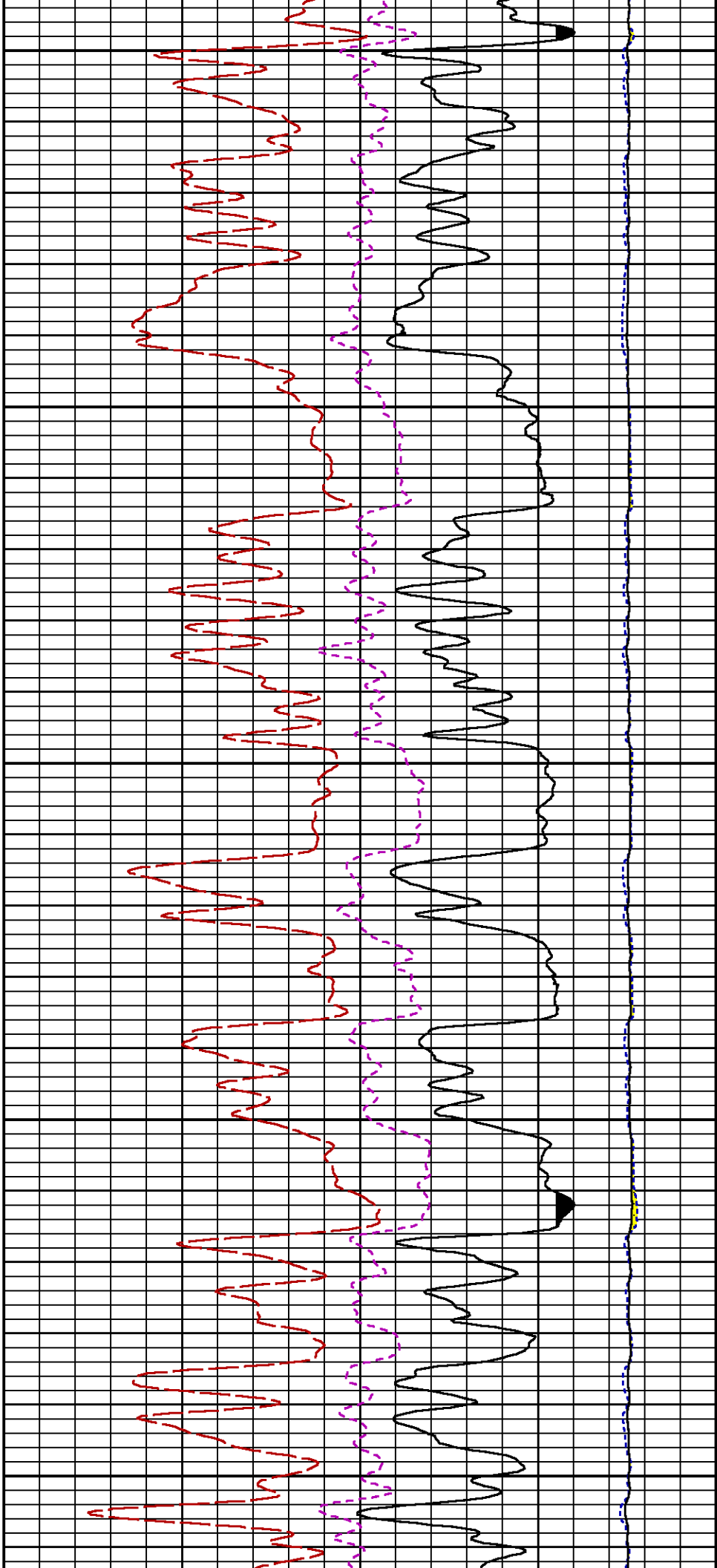


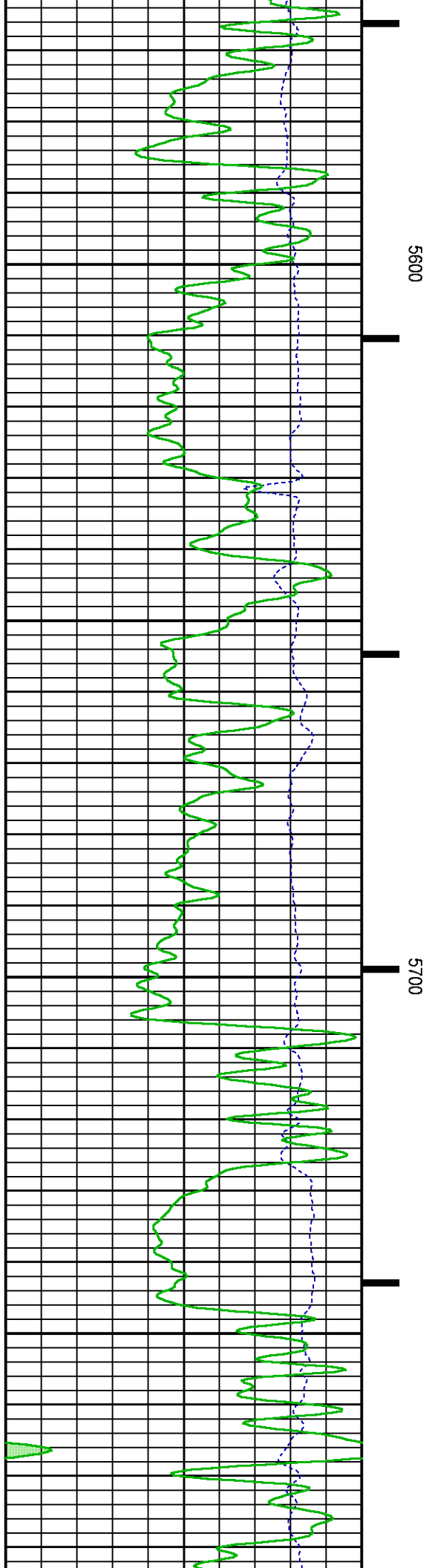
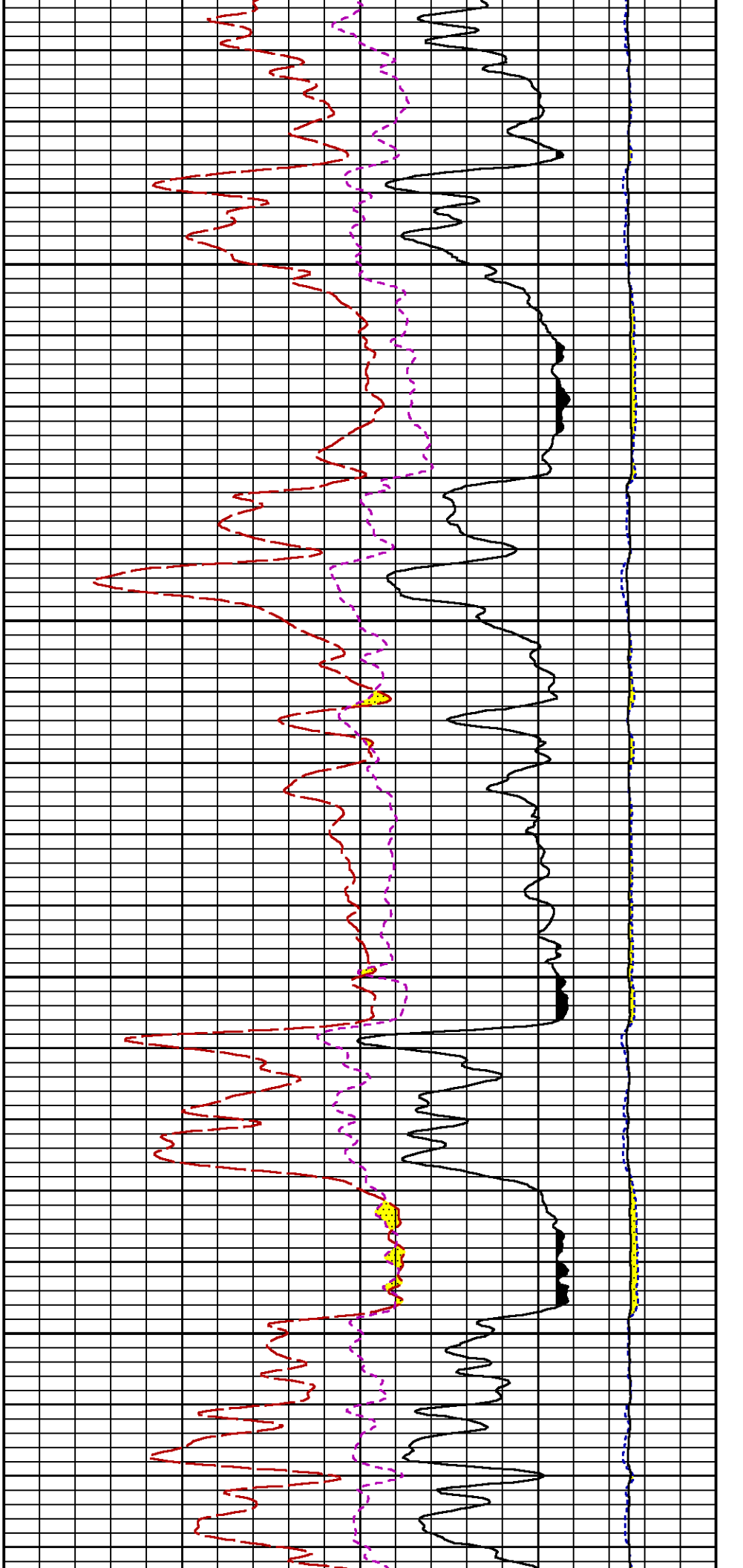


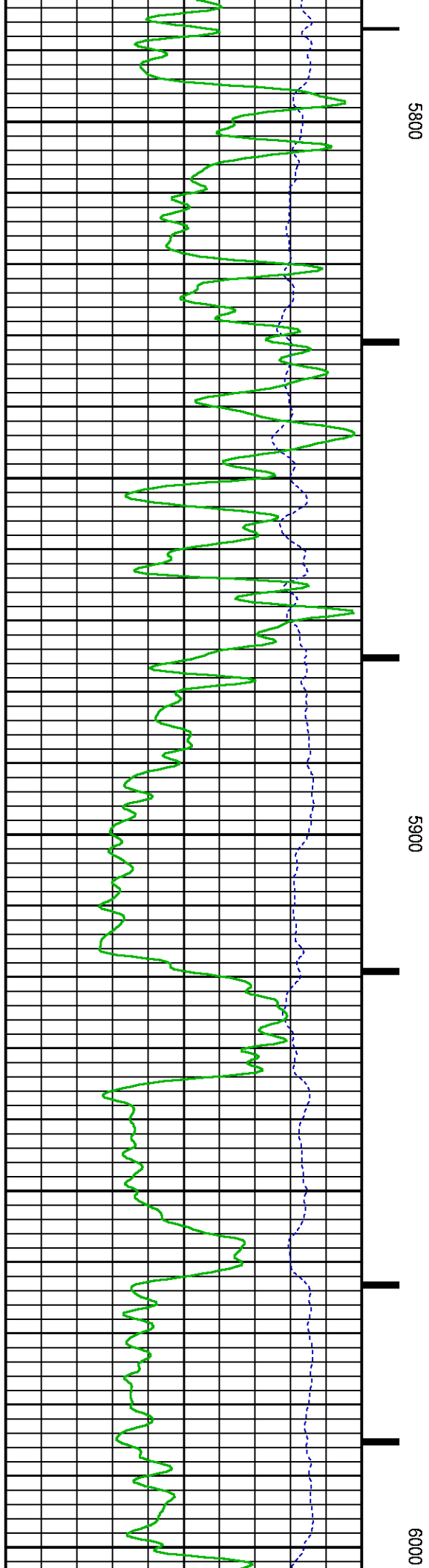
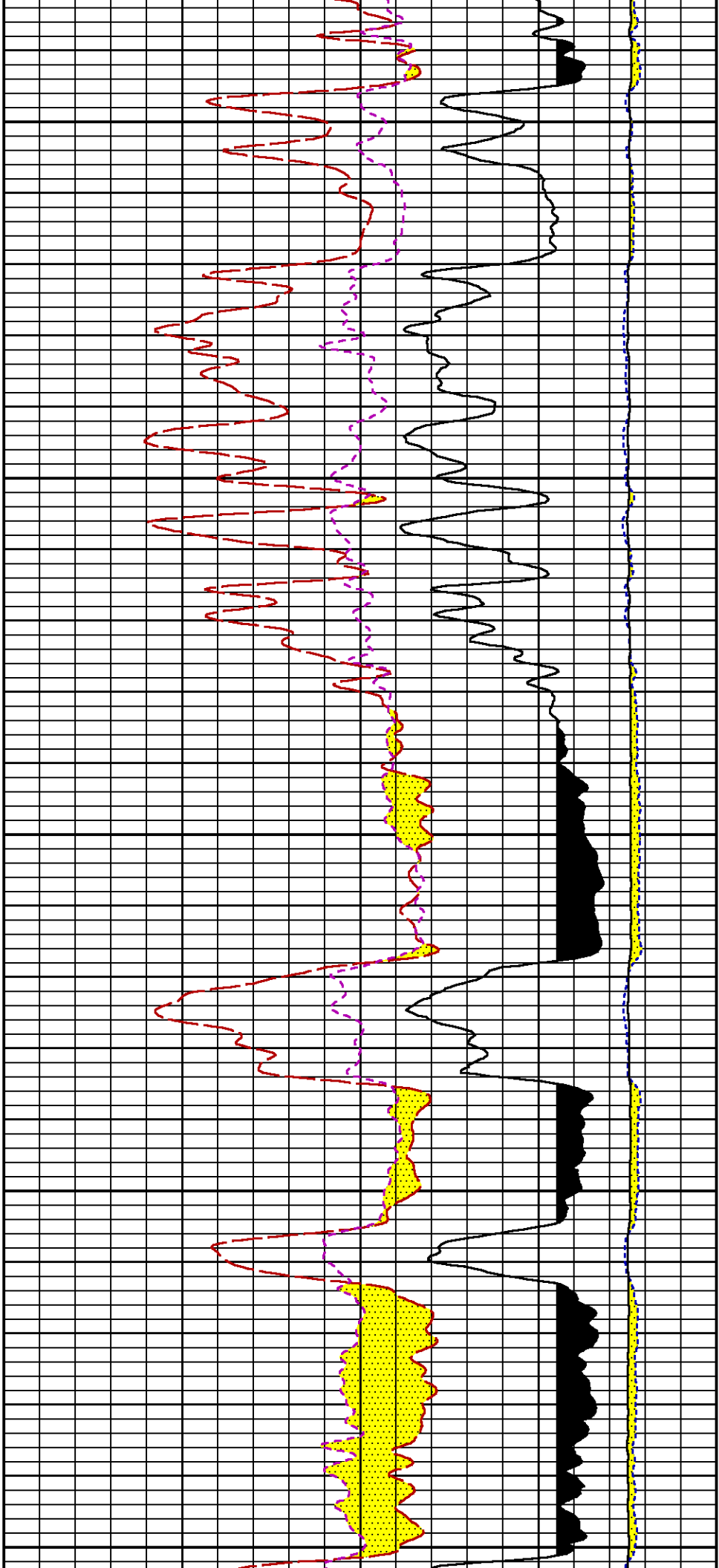


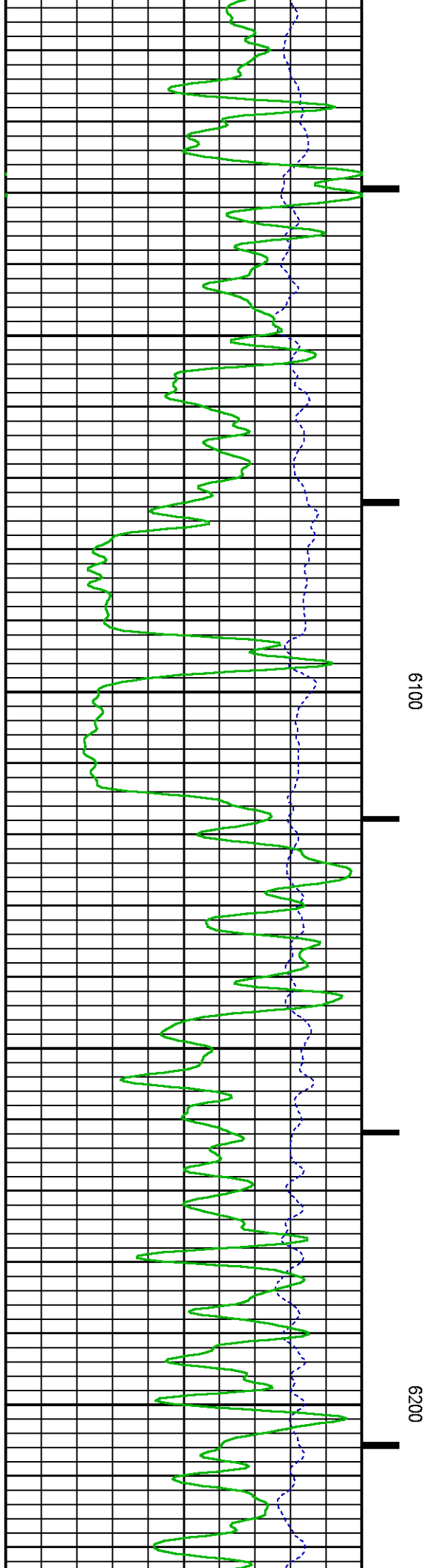
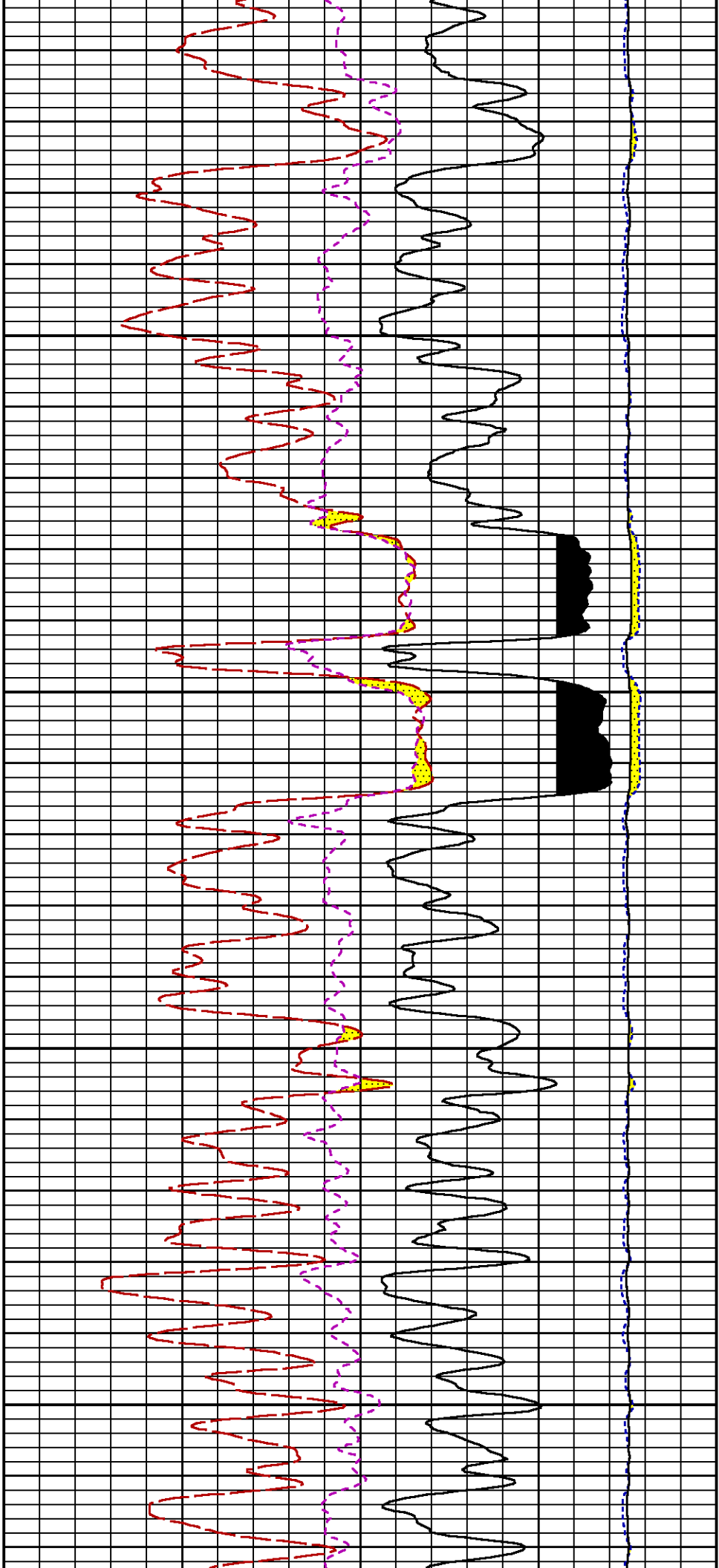


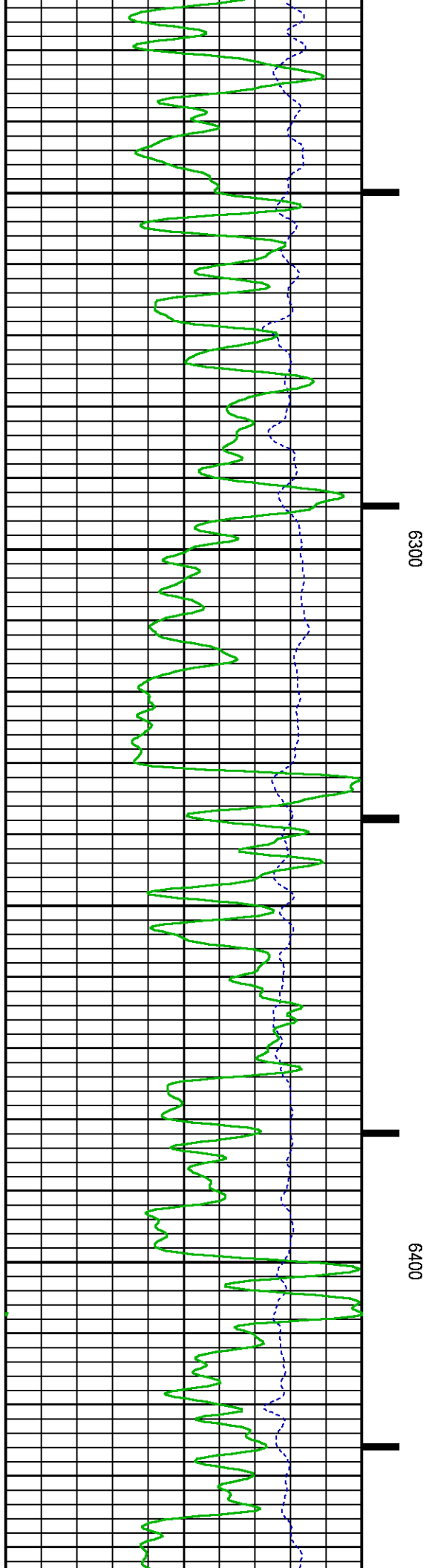
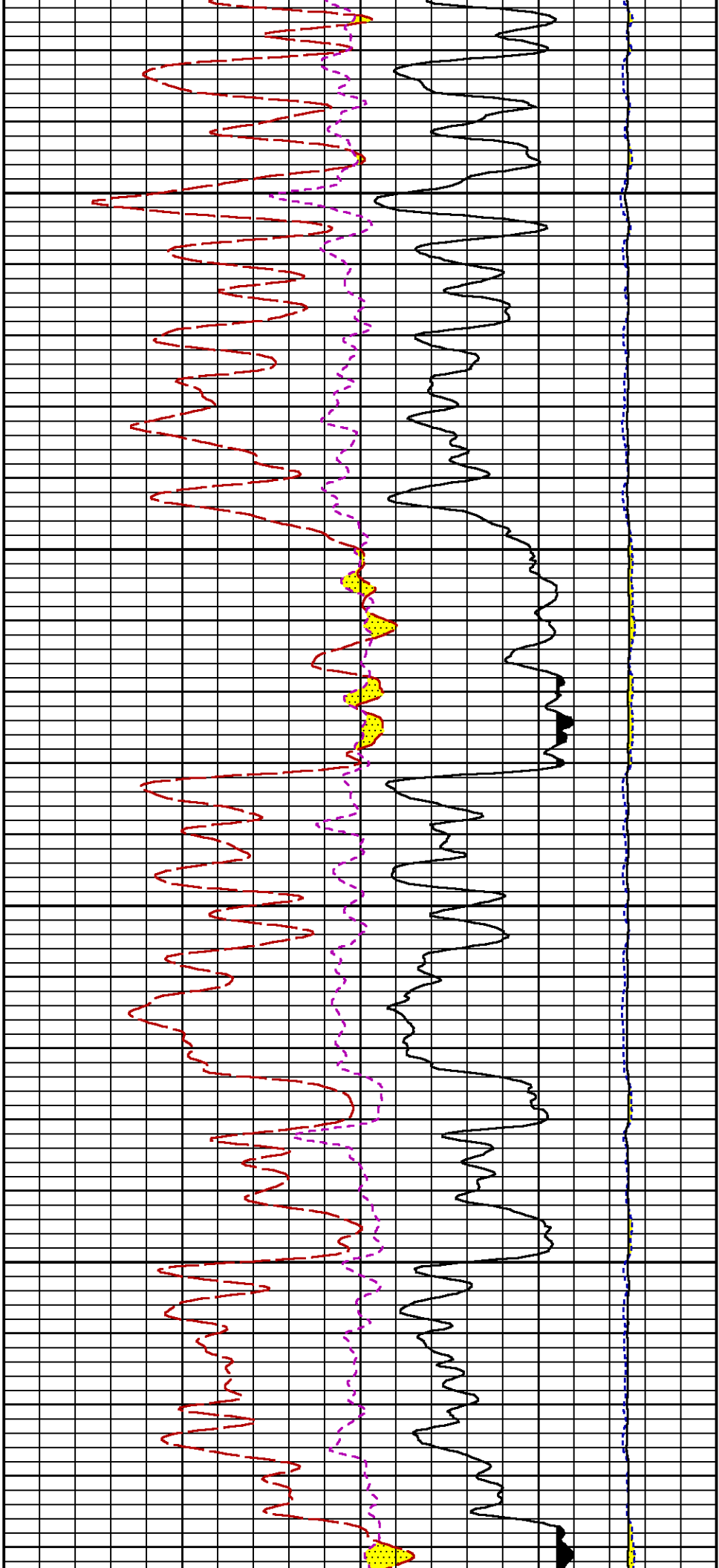


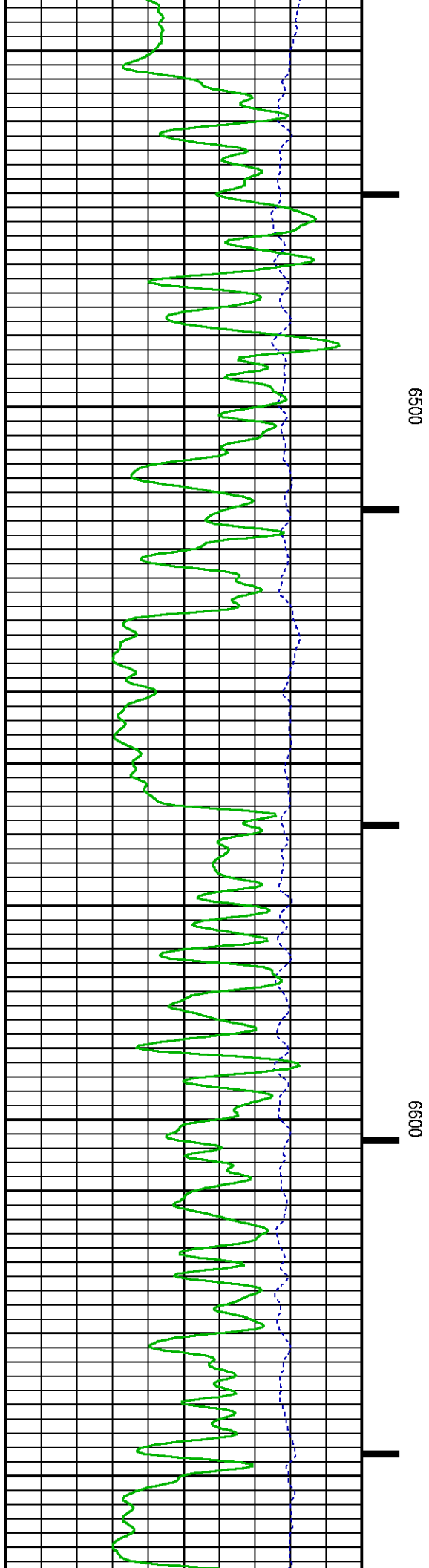
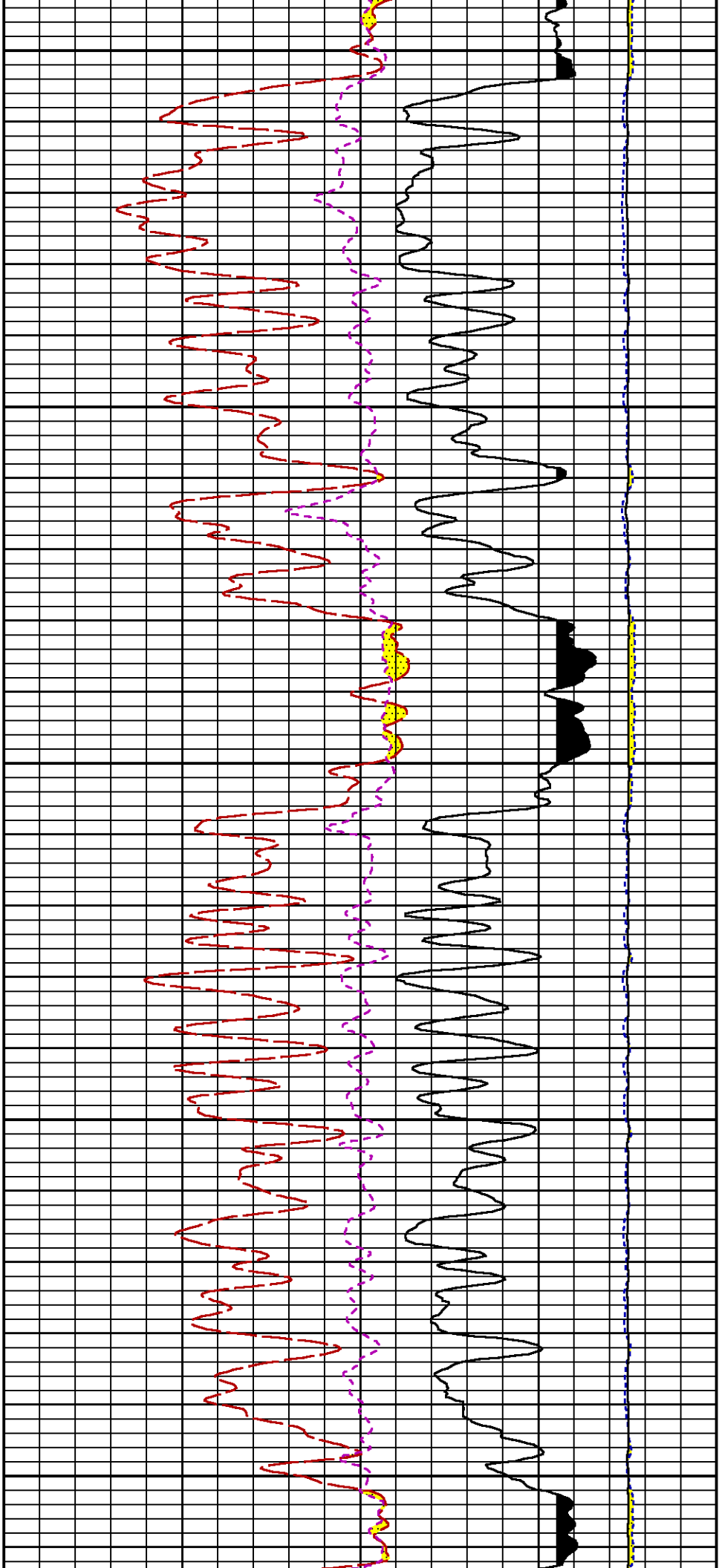


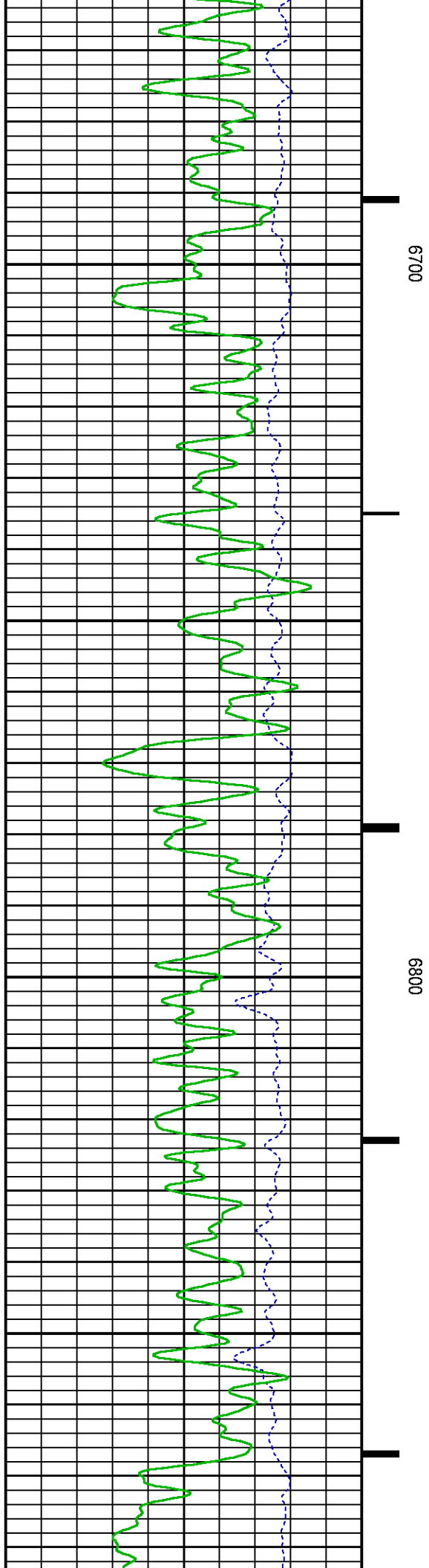
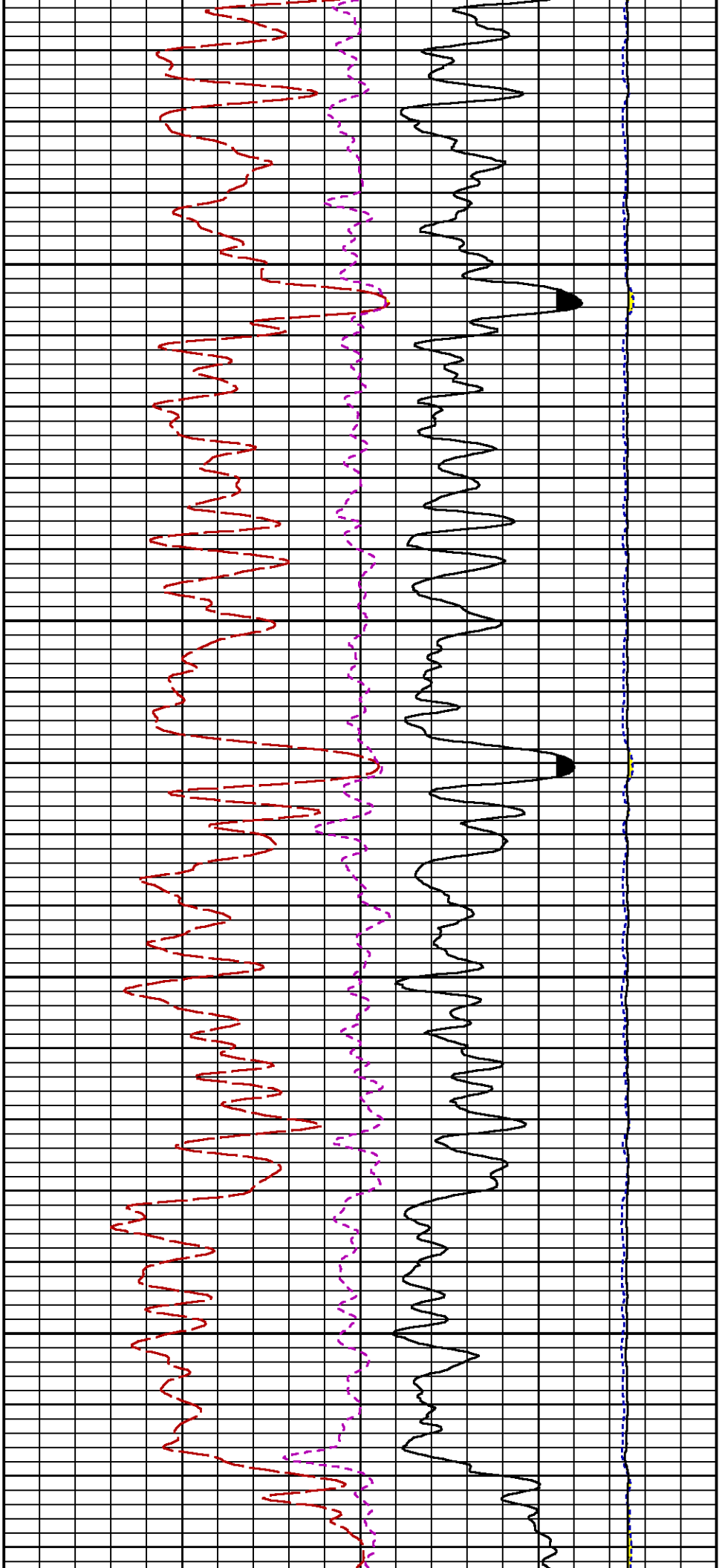


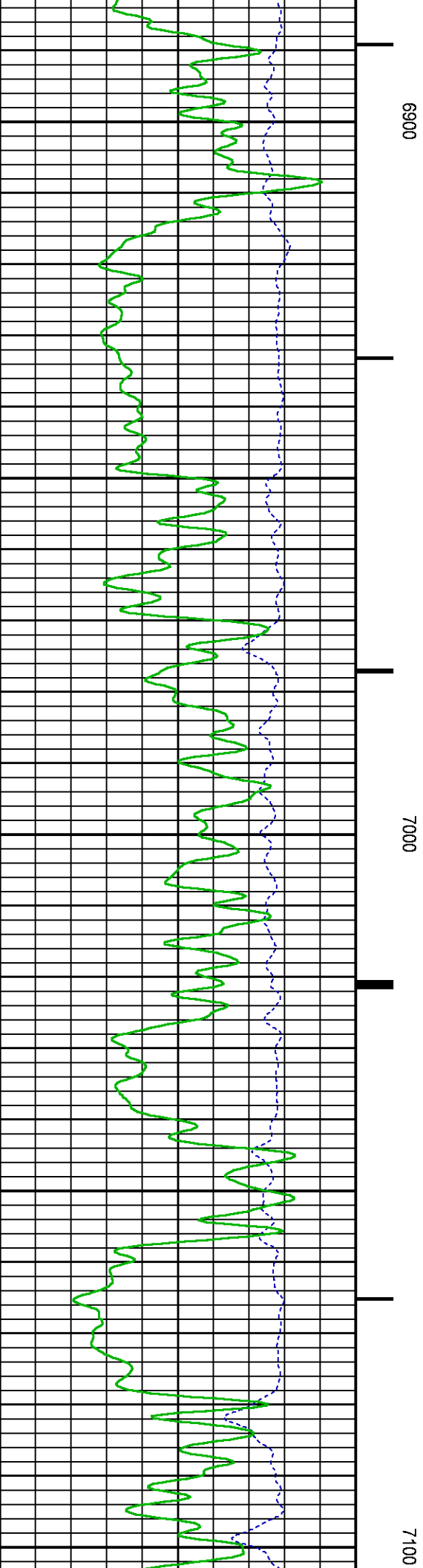
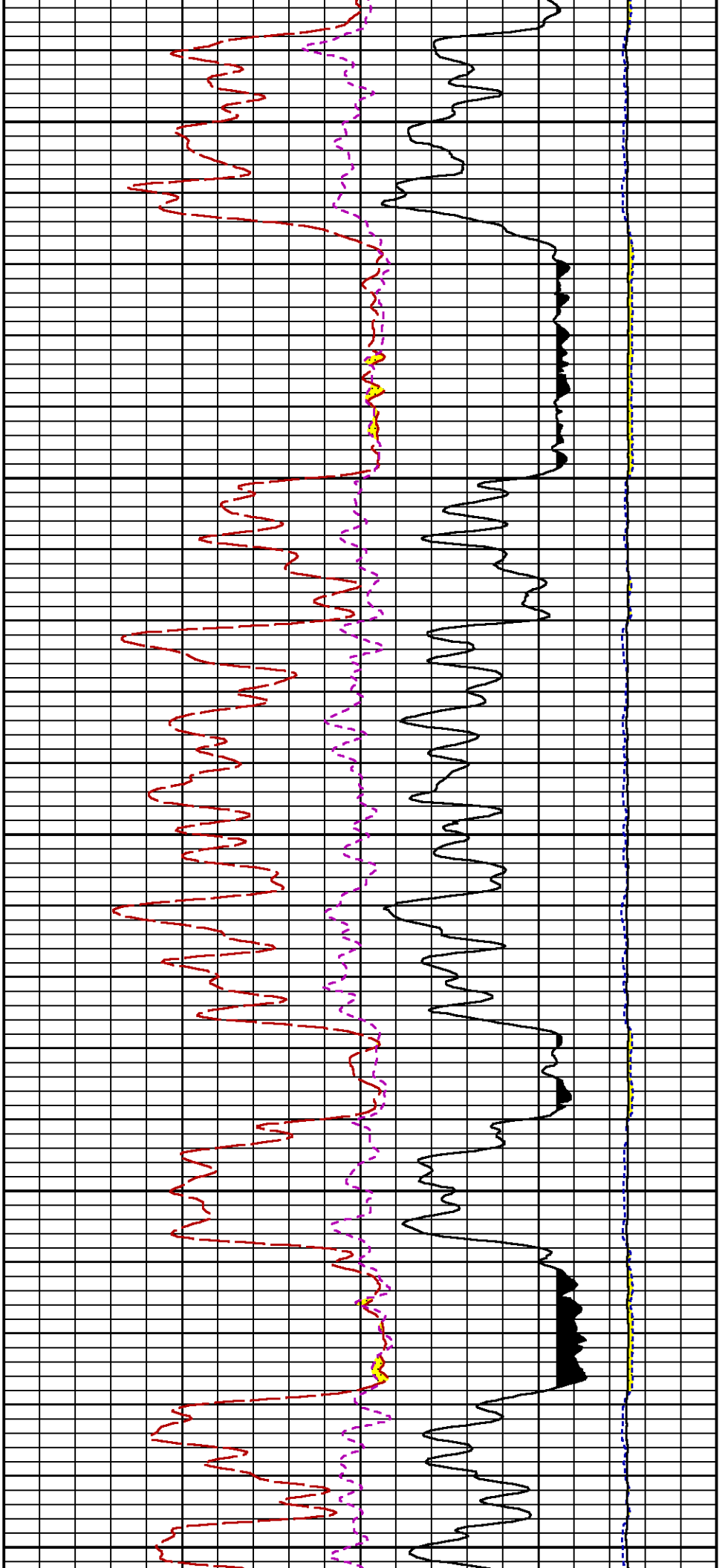


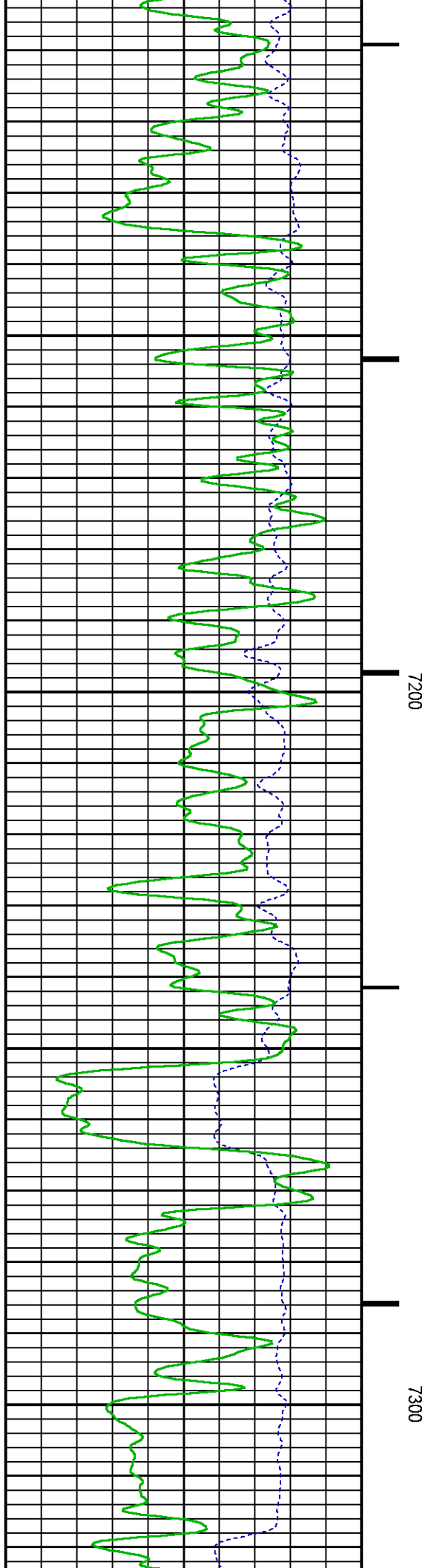
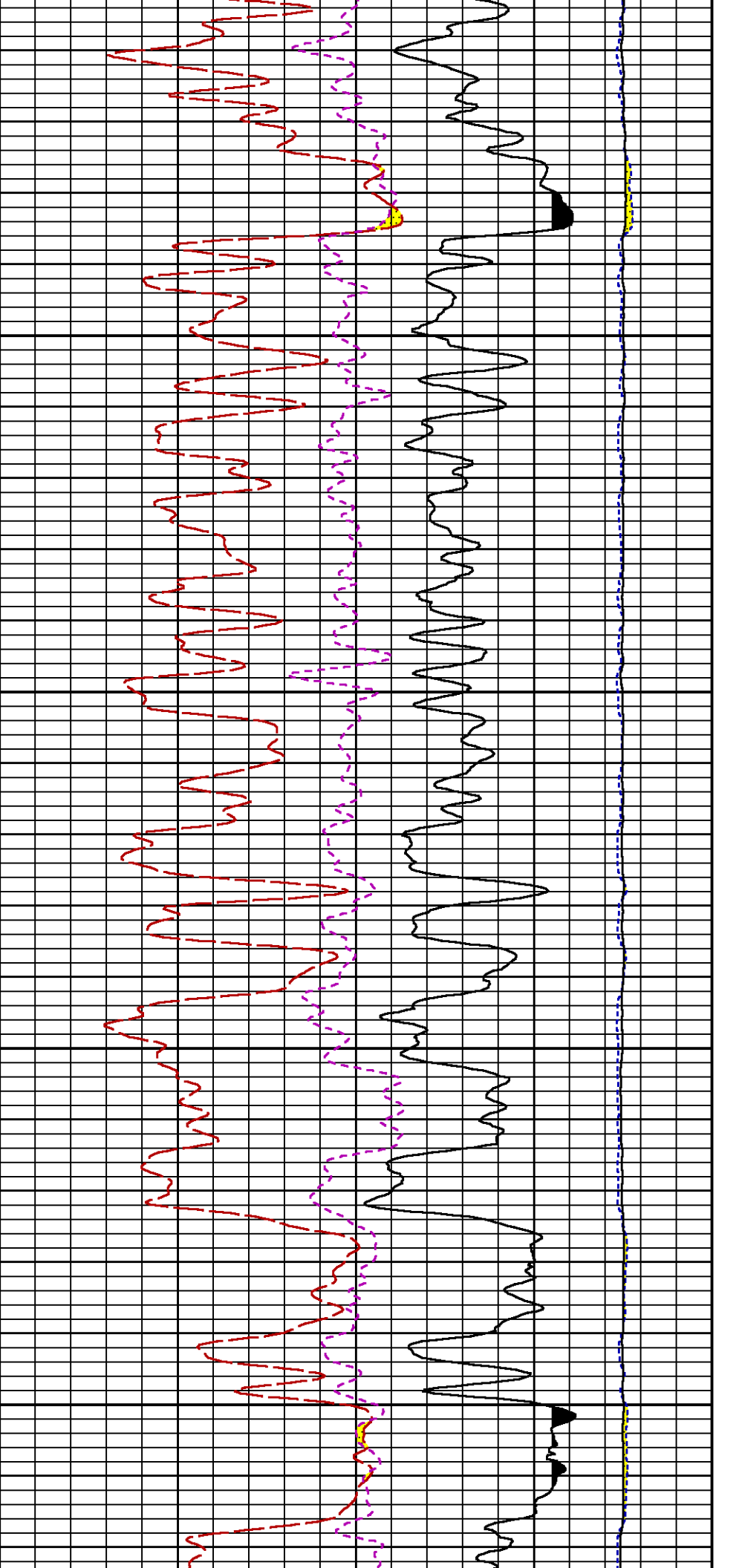


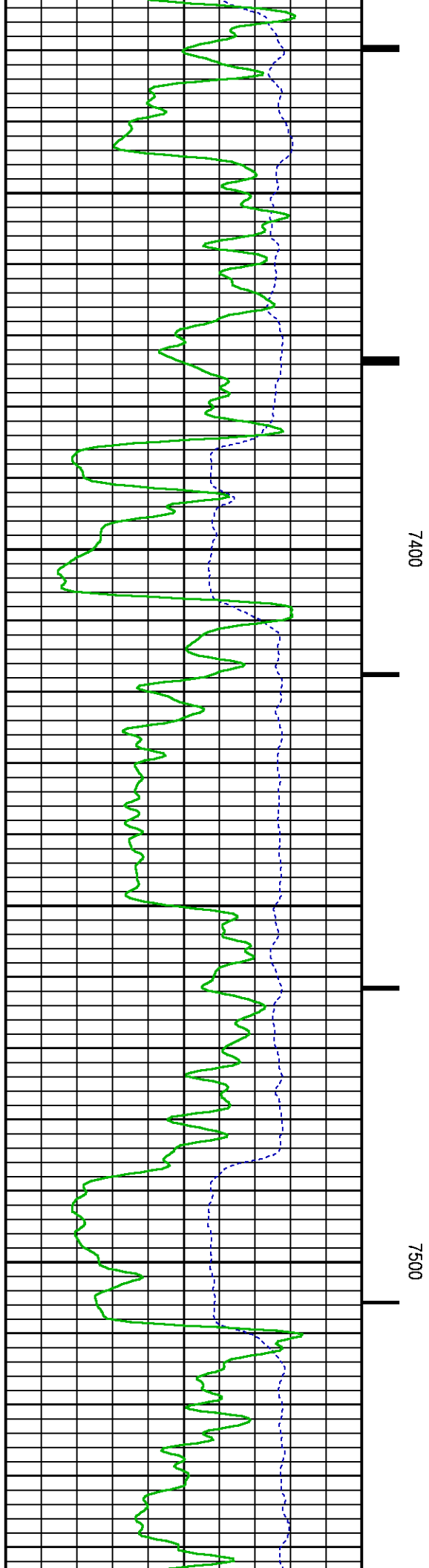
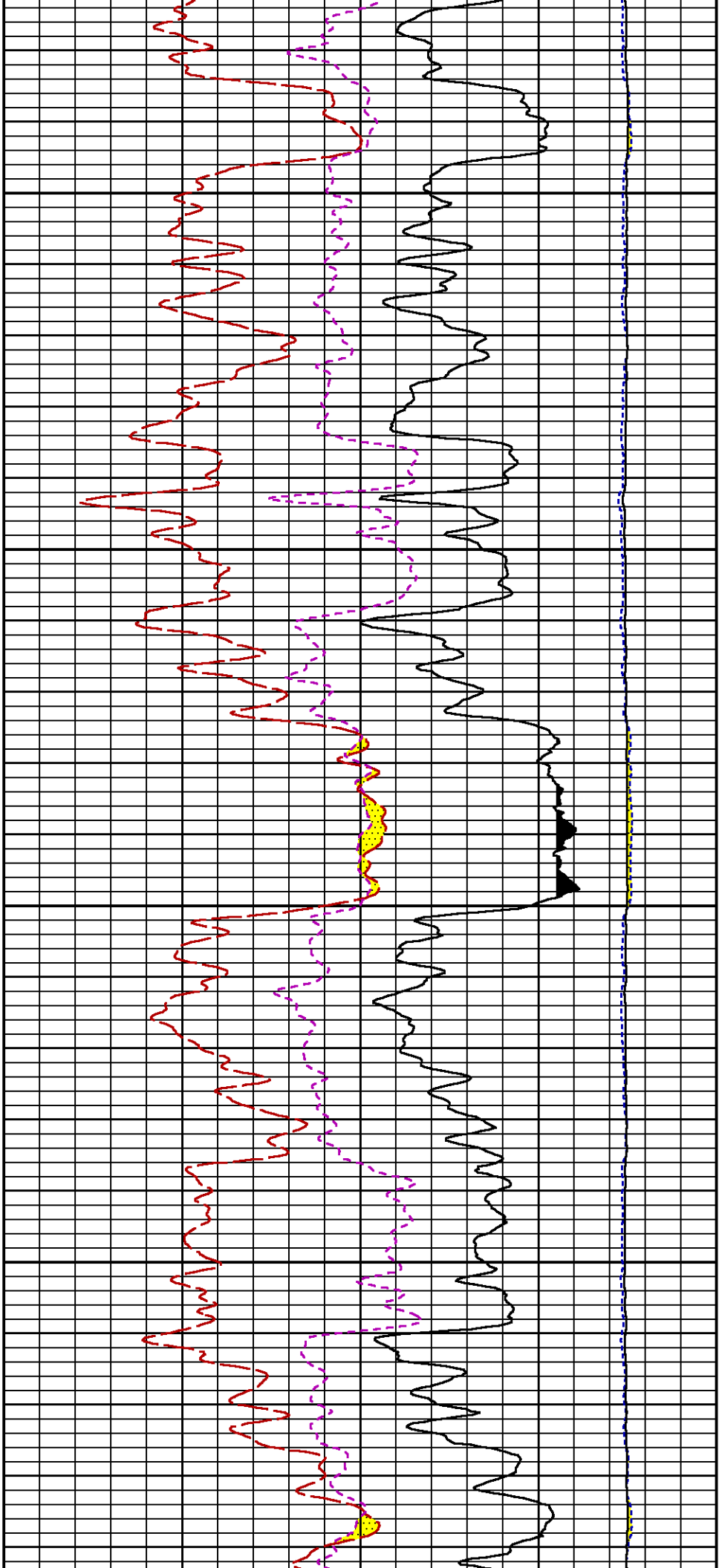


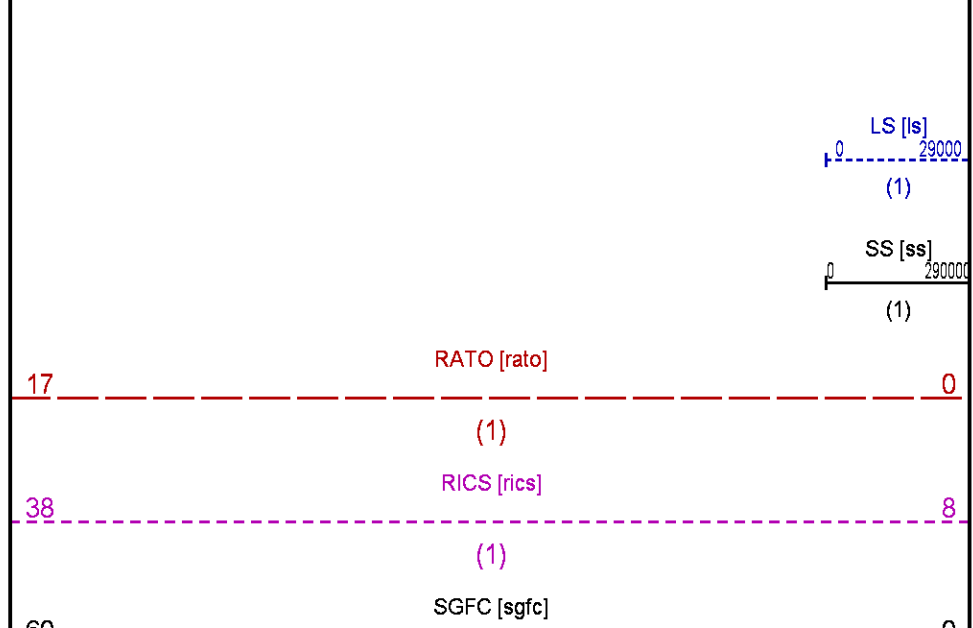
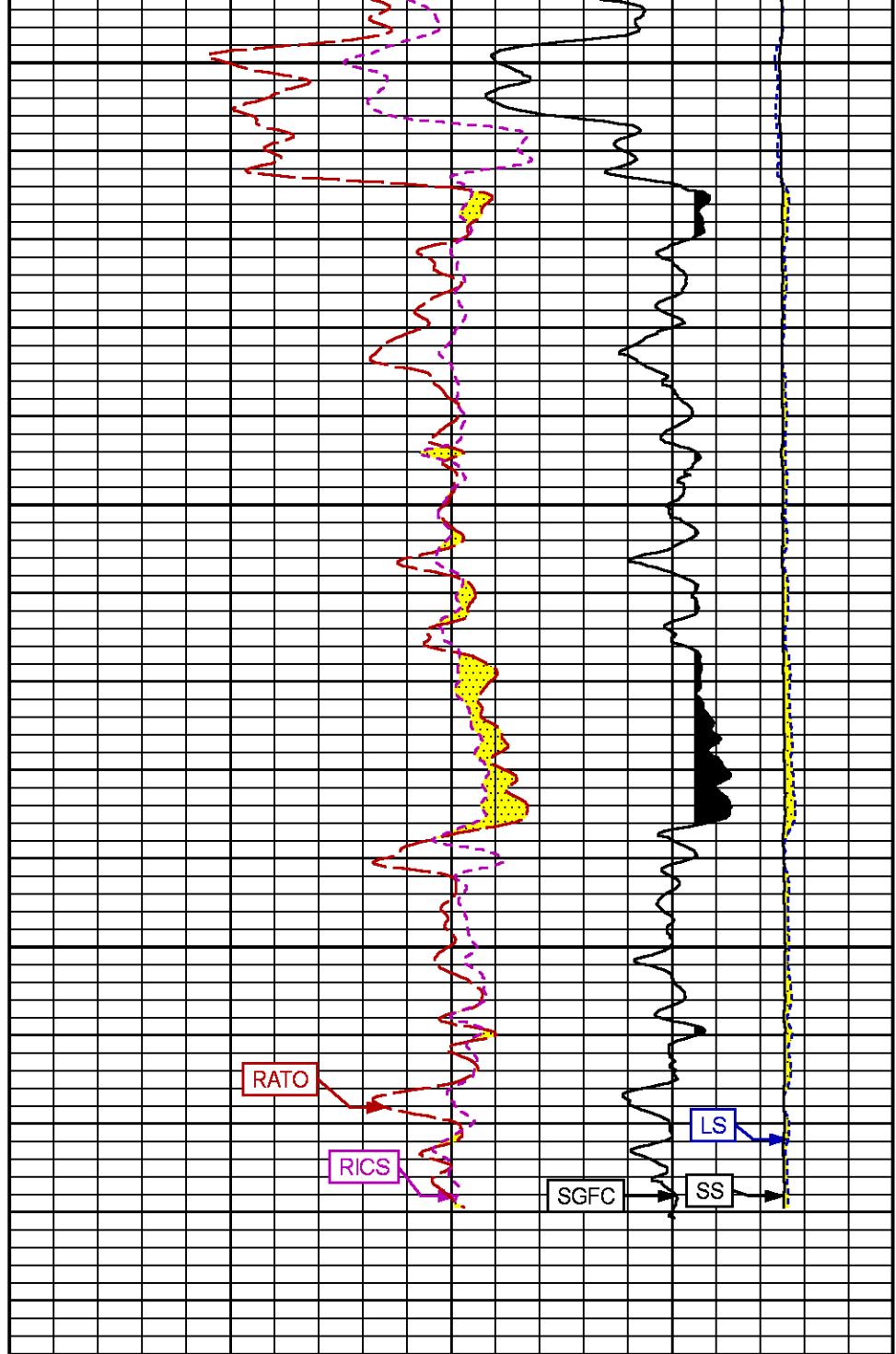
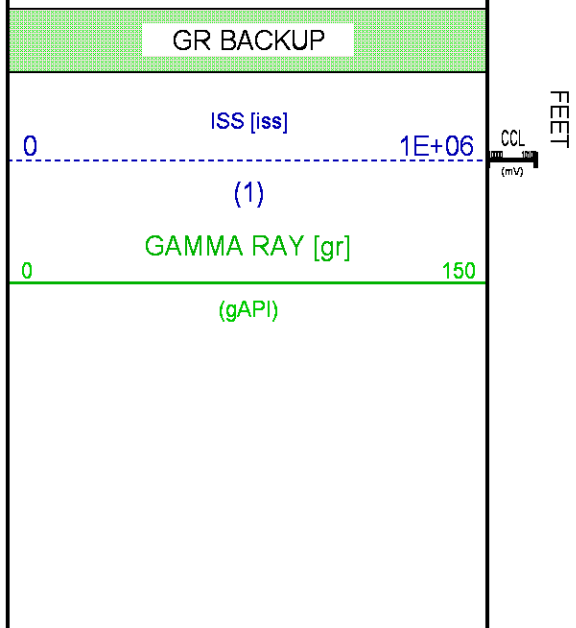
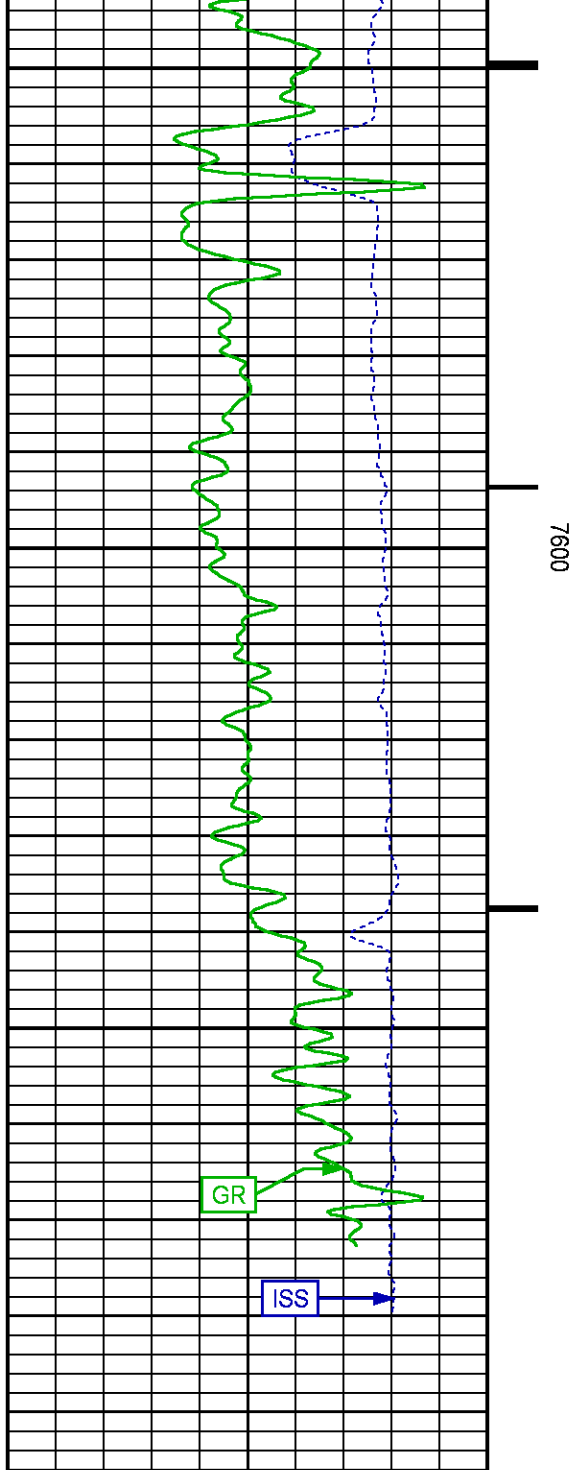












REPEAT SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 1 Patches: 6

Plotted: Wed Jul 15 17:39:45 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH29_9E/n354h01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 7457.000 ft BOTTOM DEPTH: 7693.500 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 15 13:48:27 2015	CASING COLLAR LOCATOR
F1:GR	Jul 15 13:48:27 2015	GAMMA RAY
F1:ISS	Jul 15 13:48:27 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 15 13:48:27 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 15 13:48:27 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 15 13:48:27 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 15 13:48:27 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 15 13:48:27 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

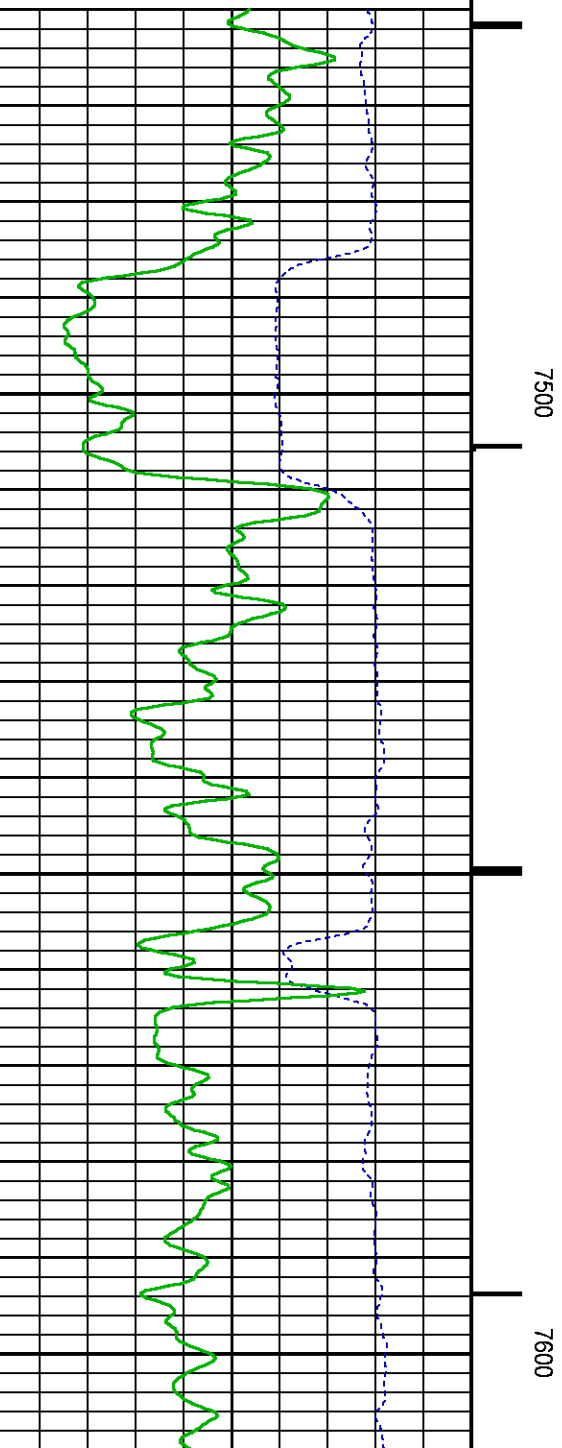
Presentation : HL6670:/dat1a/CH29_9E/RPM_REPEAT.fvpdf [5"/100' Scale]
 Plot Interval : 7460 - 7696 Feet

Data File 1 : F1 : HL6670:/dat1a/CH29_9E/n354h01REPEAT9E.xtf
 Created On : Jul 15 13:48:27 2015
 Company : LARAMIE ENERGY
 Well : GUNDERSON 29-9E
 Field : VEGA
 File Interval : 7428 - 7689.25 Feet
 OCT : n354h

GR BACKUP

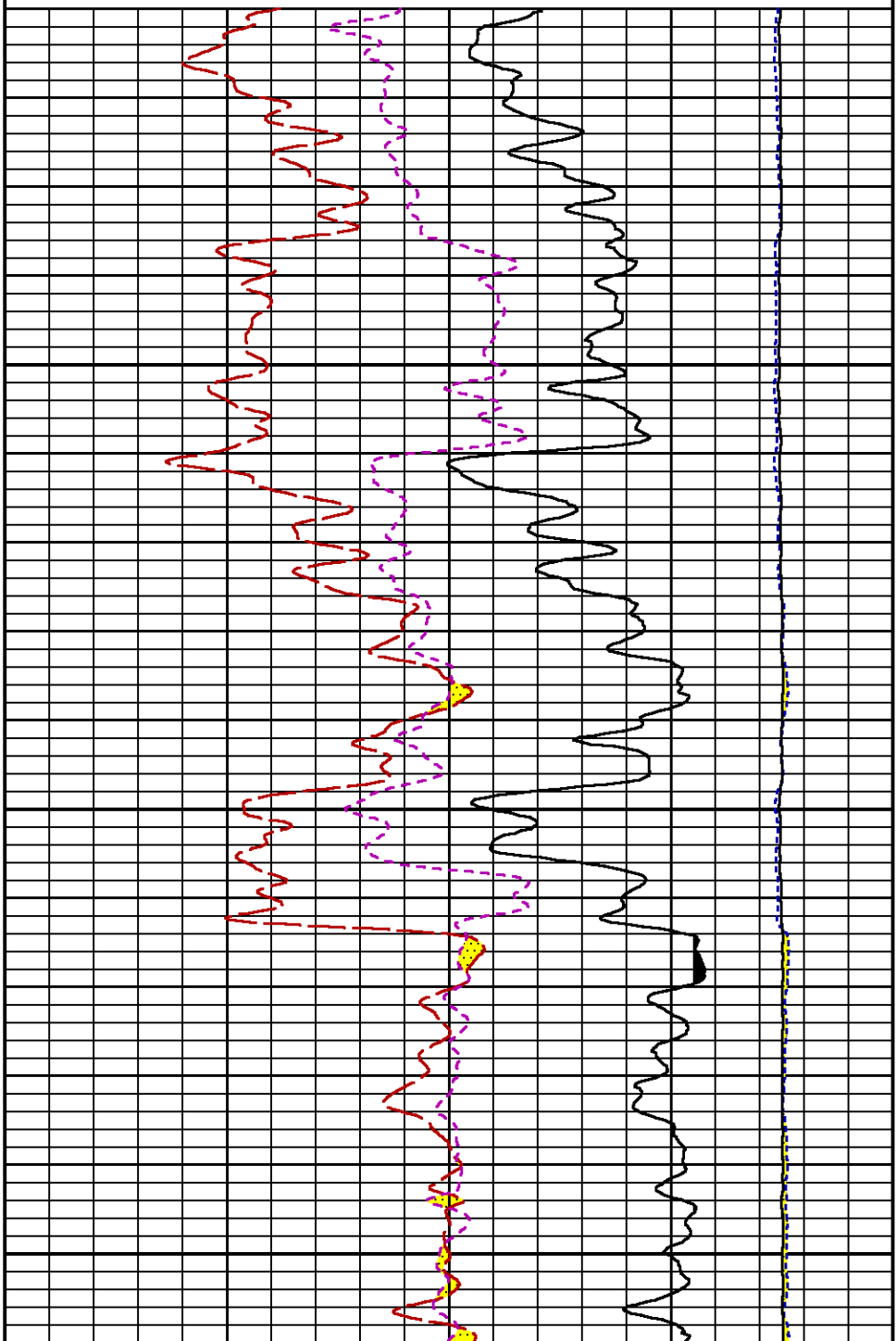
FEET

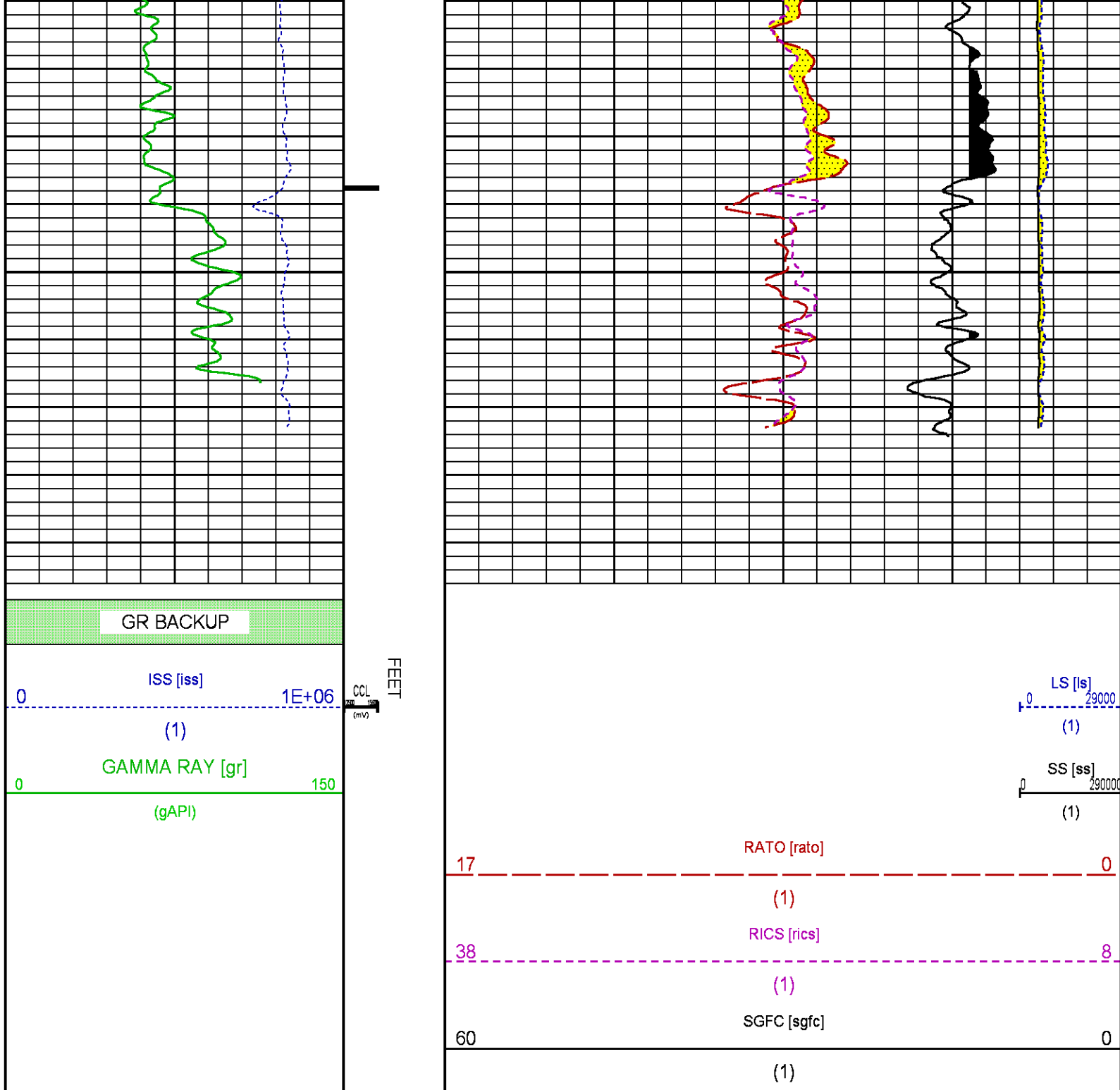
ISS [iss] 0 1E+06 CCL (mV) (1)
GAMMA RAY [gr] 0 150 (gAPI)



LS [ls] 0 29000 (1)
SS [ss] 0 290000 (1)

RATO [rato] 17 0 (1)
RICS [rics] 38 8 (1)
SGFC [sgfc] 60 0 (1)





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH29_9E/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 CALBRTR ON
(cts/s) (cts/s)

CR DIFF
(cts/s)

MULT

BACKGROUND CALBRTR ON
(gAPI) (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
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	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	RIN13	RICS	RATO	RTWO	RONE
		ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	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

TPSITEEMP 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 Ptfes	-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/CH29_9E/n354h~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

SONDEX GAMMA RAY

Diameter : 1.69"
Length : 2.17'
Weight : 10 lbs
Series : 2812LA
Mnemonic : GR
Measure Point: 0.62': GR MP

33.24'

CCL MP 25.19'

GR MP 22.64'

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 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'

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

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

0.00'

**COMPANY**LARAMIE ENERGY**WELL**GUNDERSON 29-09E**FIELD**VEGA**COUNTY**MESA**STATE**COLORADO**FILE NO:**CH097899**API NO:**05077097620000**LOCATION:**SHL: 2393' FNL 1140' FELBHL: 2140' FNL 851' FEL**ELEVATIONS:**KB 7553 FTDFGL 7531 FTSEC 29 T9S R93WPAD 29-09PATTERSON 306**SEC** 29**TWP** 9S**RGE** 93W**DATE**15-Jul-2015

