



FILE NO: CH098111	COMPANY WELL FIELD COUNTY	LARAMIE ENERGY GUNDERSON 29-09M VEGA MESA STATE COLORADO
API NO: 05077097630000	LOCATION: Ver. 4.01 SEC 29 T9S R93W 29-09 PAD PATTERSON 306	OTHER SERVICES BOND LOG
SHL: 2406' FNL 1239' FEL BHL: 2150' FNL 2611' FEL SEC 29 TWP 9S RGE 93W		ELEVATIONS: KB 7653 FT DF GL 7631 FT
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB KB	ELEVATION 7631 FT 22 FT ABOVE P.D.

DATE	23-Jul-2015
RUN	1
SERVICE ORDER	US098111J
DEPTH DRILLER	7844 FT
DEPTH LOGGER	7812 FT
BOTTOM LOGGED INTERVAL	7802 FT
TOP LOGGED INTERVAL	2549 FT
TIME STARTED	8:00
TIME FINISHED	14:30
OPERATOR RIG TIME	6.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	36 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	237 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	22-Jul-2015
EQUIP. NO.	6685
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	7949 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	7949 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 9 FEET
BHT = 237 degF
SJ = 6051' - 6073'
SJ = 6957' - 6979'
THANK YOU FOR CHOOSING BAKER HUGHES ... THE BEST CHOICE!

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	10317216	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10238007	FREE
1	1	TEMP	8255XA	176973	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: 7

Plotted: Thu Jul 23 14:10:55 2015

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/CH098111/n353a05.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 2545.250 ft BOTTOM DEPTH: 3174.553 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 23 13:24:34 2015	CASING COLLAR LOCATOR
F1:GR	Jul 23 13:24:34 2015	GAMMA RAY
F1:ISS	Jul 23 13:24:34 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 23 13:24:34 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 23 13:24:34 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 23 13:24:34 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 23 13:24:34 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 23 13:24:34 2015	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 : cas6685:/dat1a/CH098111/9M_RPM_GSAND.fvpdf [5"/100' Scale]
 Plot Interval : 2545 - 3160 Feet

Data File 1 : F1 : cas6685:/dat1a/CH098111/9M_RPM_GSAND.xtf
 Created On : Jul 23 13:24:34 2015
 Company : LARAMIE ENERGY
 Well : GUNDERSON 29-09M
 Field : NECA

Field : VEGA
File Interval : 2520.75 - 3174.75 Feet
OCT : n353a

GR BACKUP

FEET

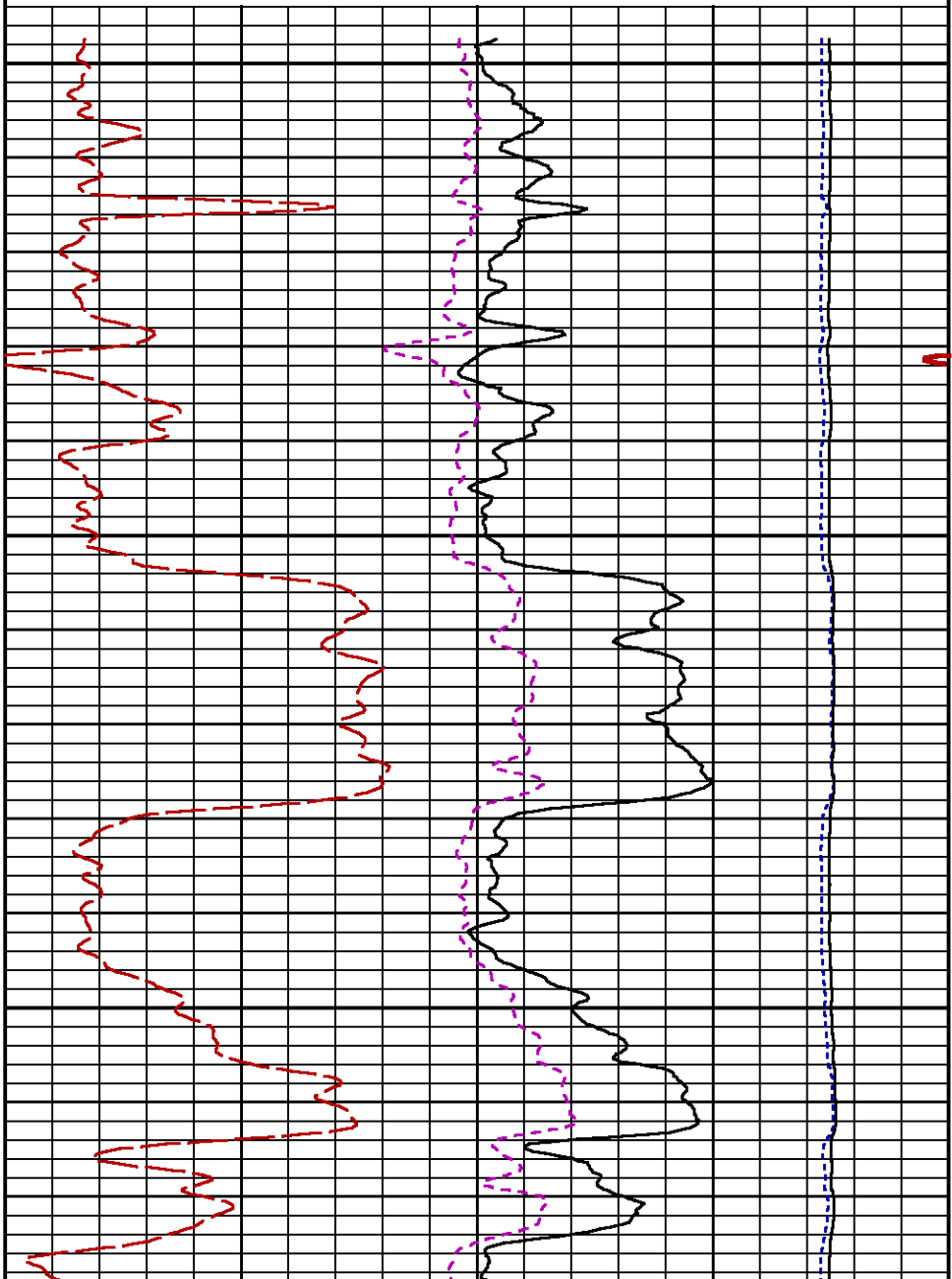
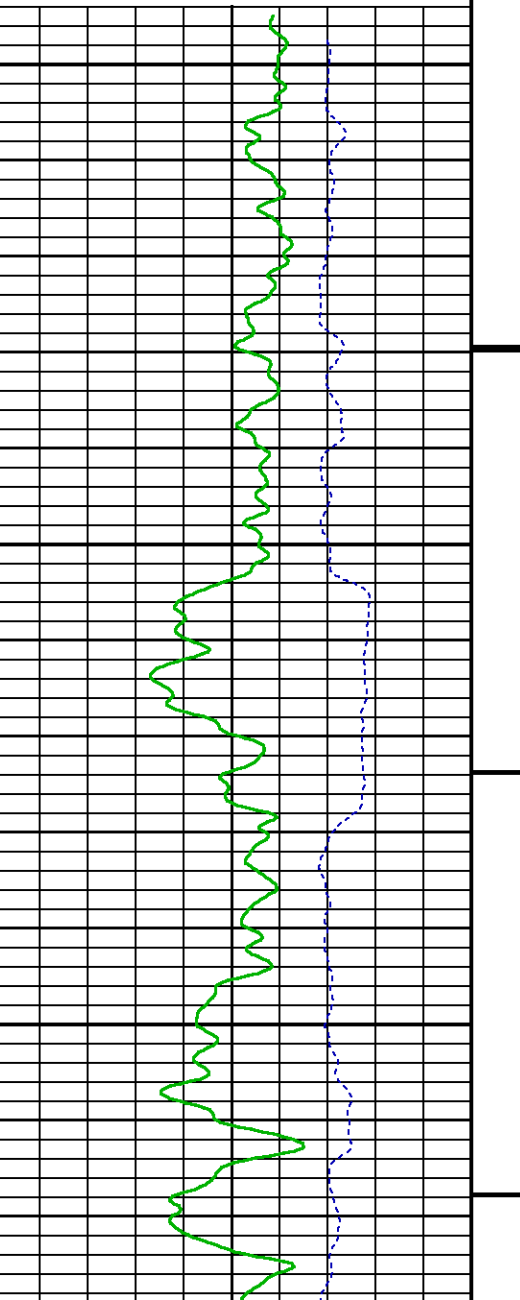
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(cts/s)
GAMMA RAY [gr] 0 150
(gAPI)

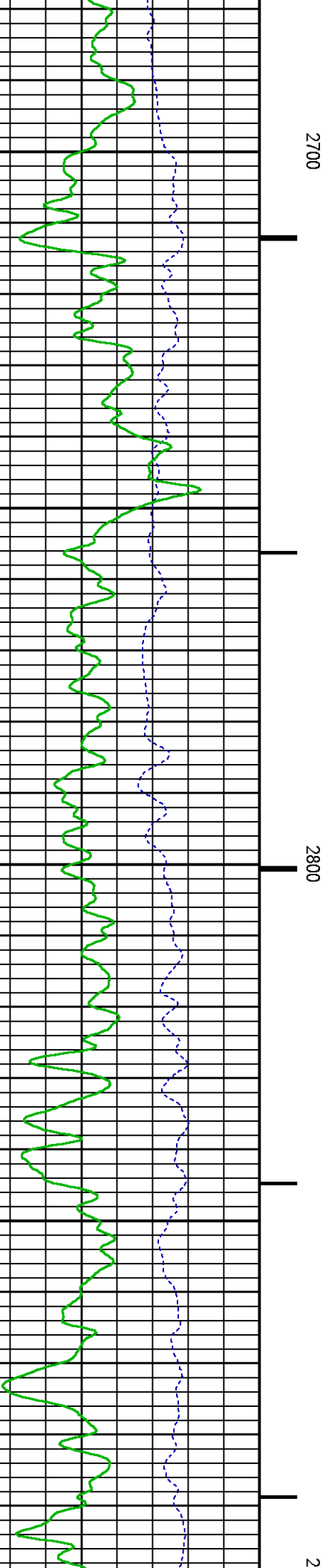
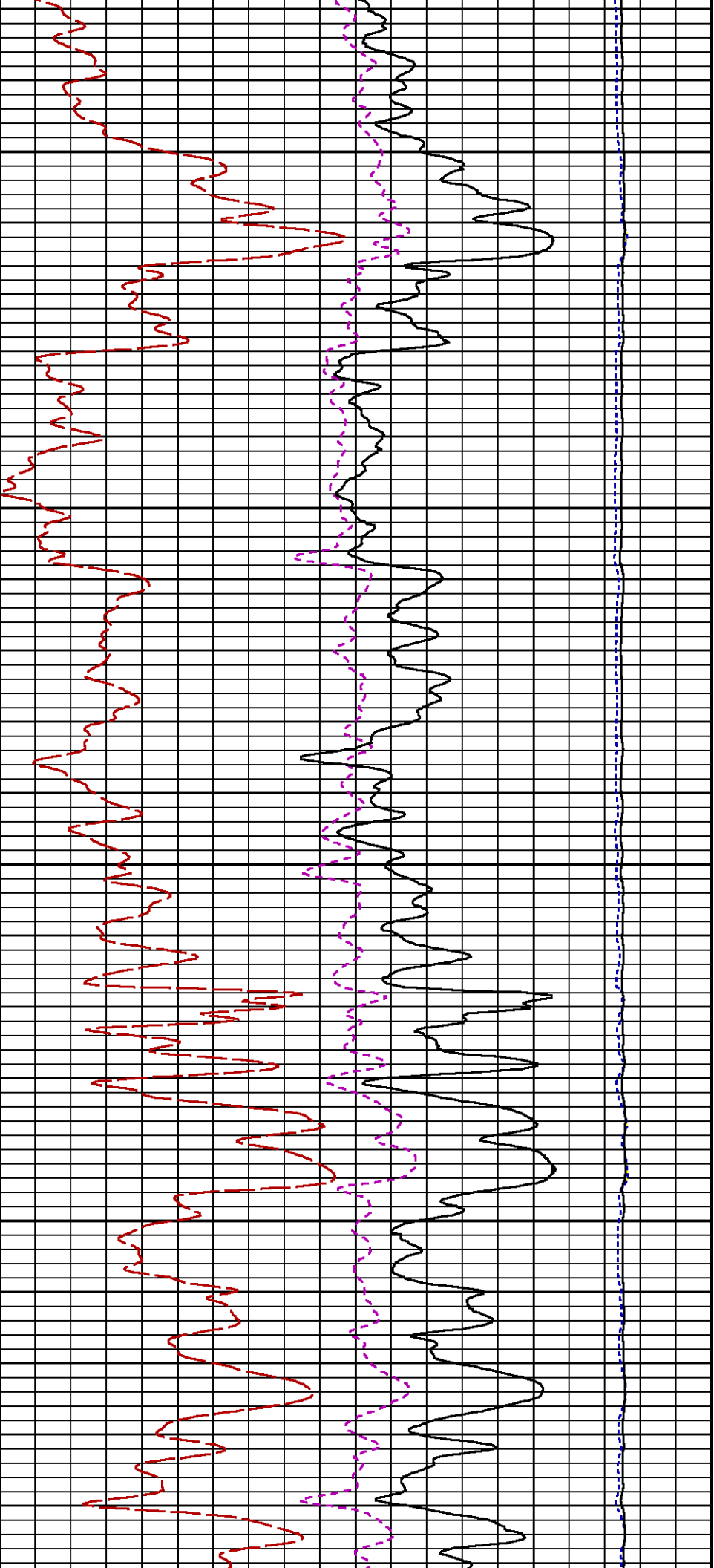
CCL
(mV)

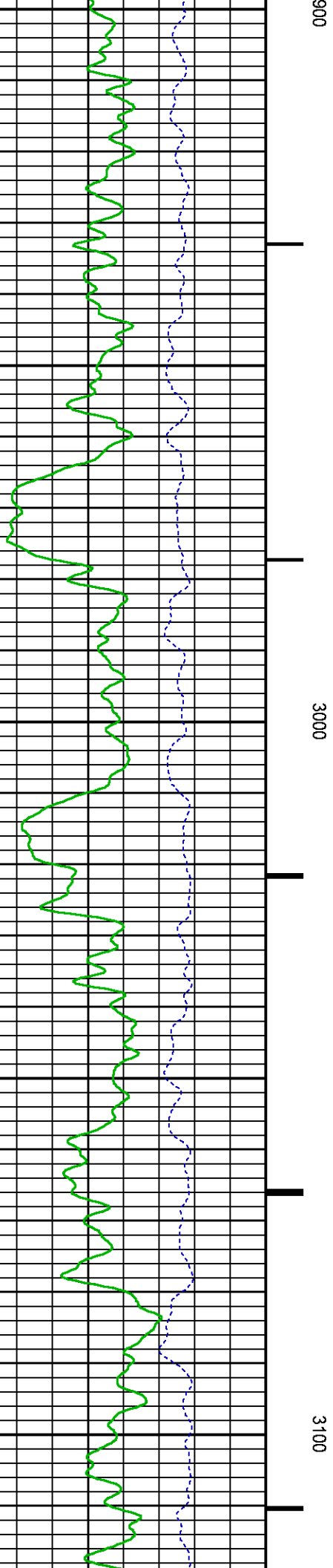
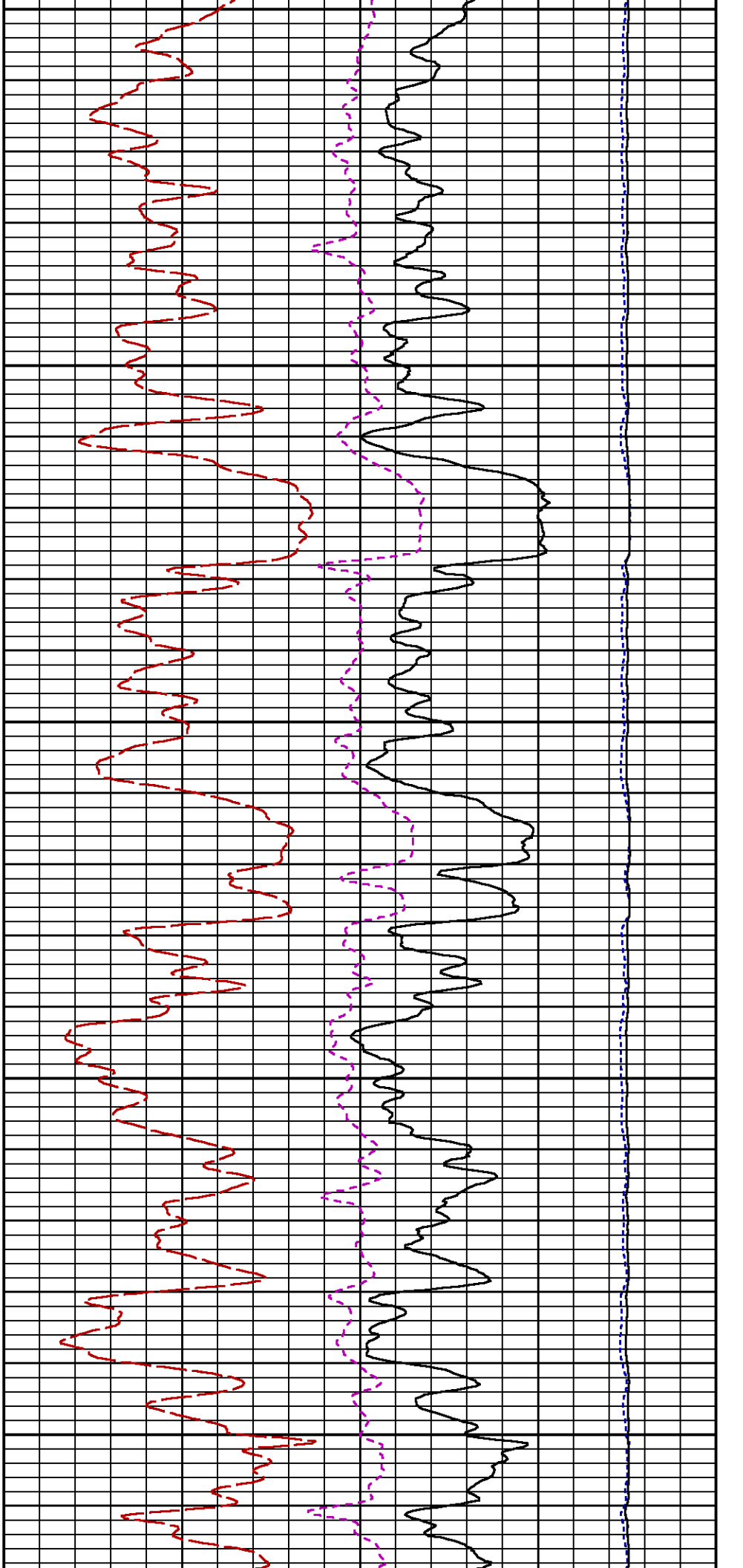
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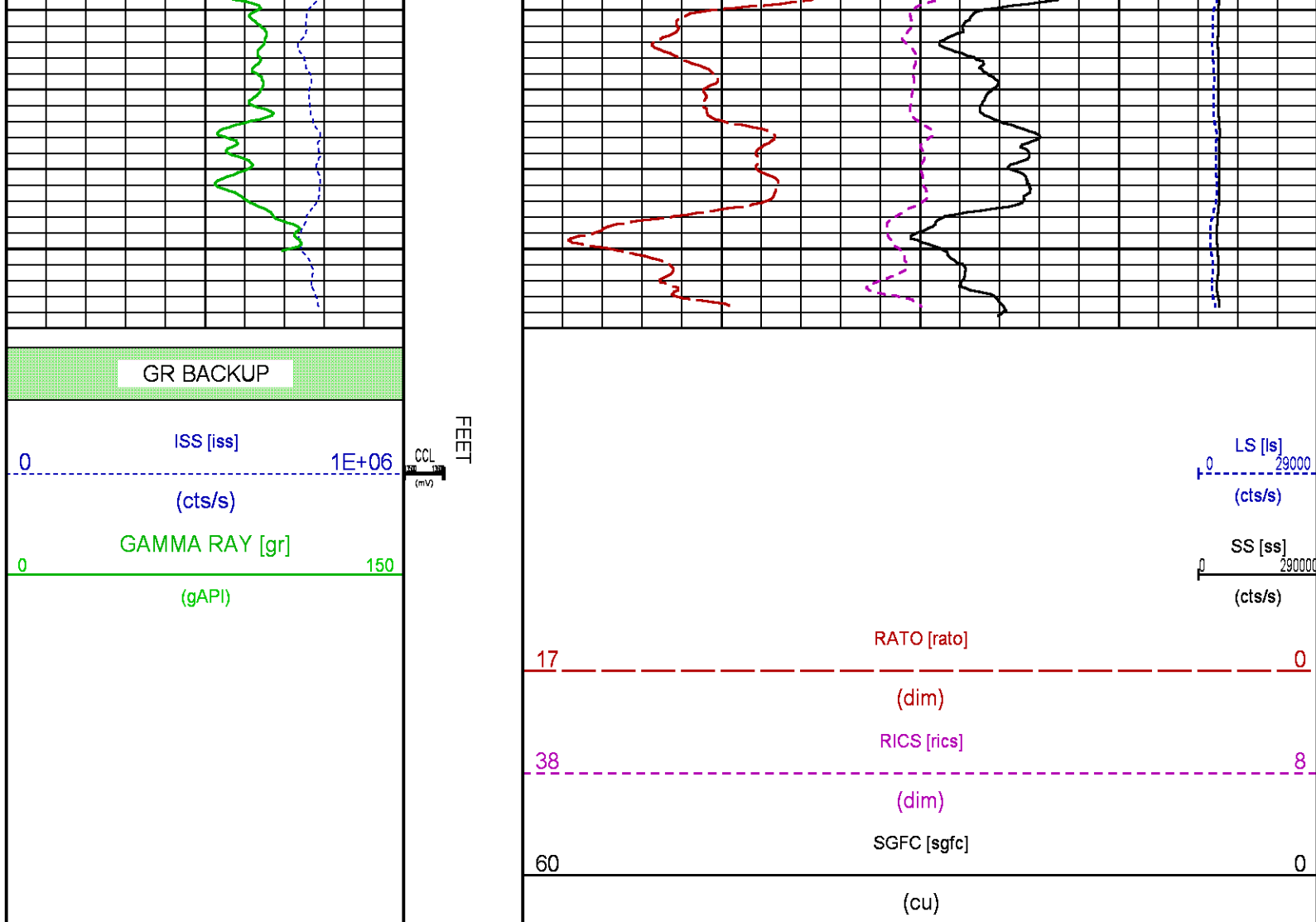
LS [ls] 0 29000
(cts/s)
SS [ss] 0 290000
(cts/s)

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









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: 7

Plotted: Thu Jul 23 13:36:10 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH098111/n353a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 6292.500 ft BOTTOM DEPTH: 7819.080 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		"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH098111/n353a03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4518.750 ft BOTTOM DEPTH: 6420.500 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

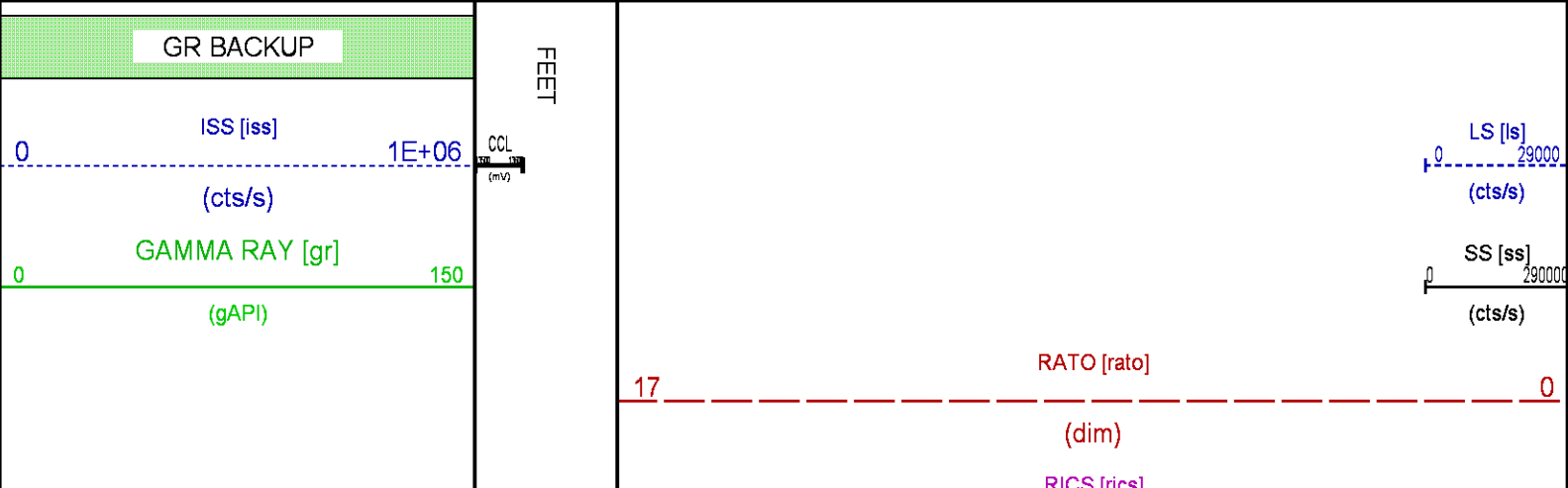
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F1:GR	Jul 23 11:02:42 2015	GAMMA RAY
F1:ISS	Jul 23 11:02:42 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 23 11:02:42 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 23 11:02:42 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 23 11:02:42 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 23 11:02:42 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 23 11:02:42 2015	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 : cas6685:/dat1a/CH098111/9M_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 4515 - 7820 Feet

Data File 1 : F1 : cas6685:/dat1a/CH098111/9MRPMMMAIN.xtf
Created On : Jul 23 09:12:49 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-09M
Field : VEGA
File Interval : 4492.25 - 7815 Feet
OCT : n353a



38

RISC [risc]

8

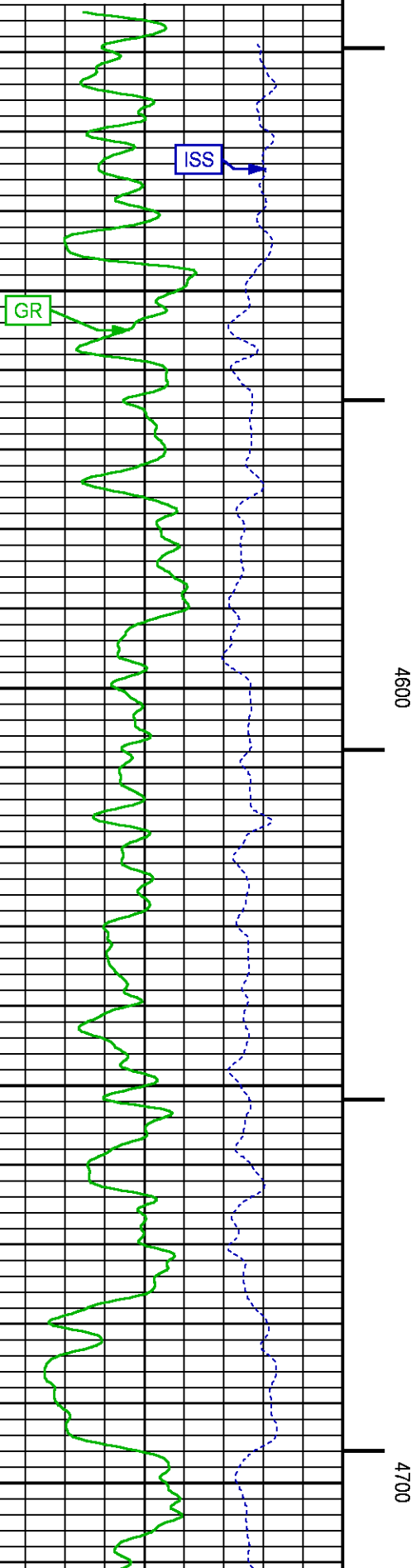
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SGFC [sgfc]

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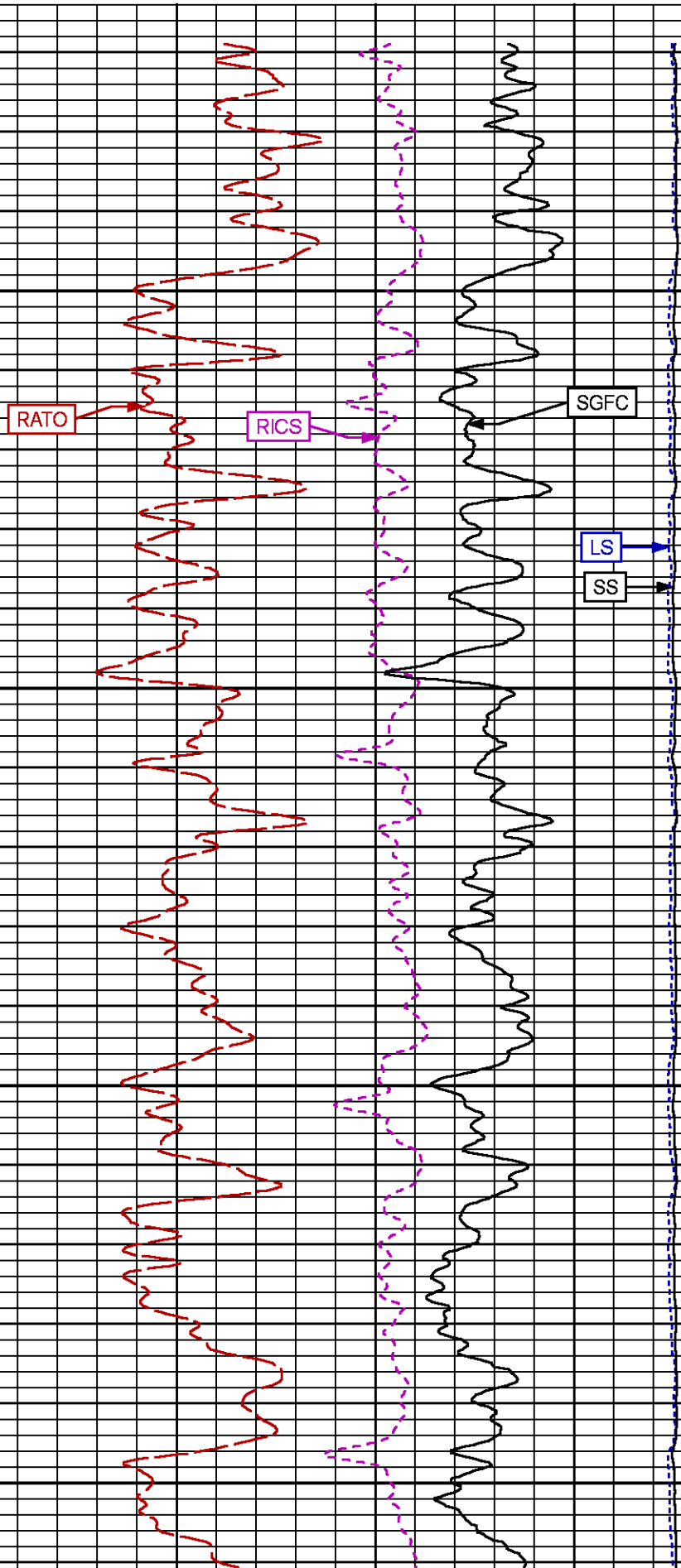
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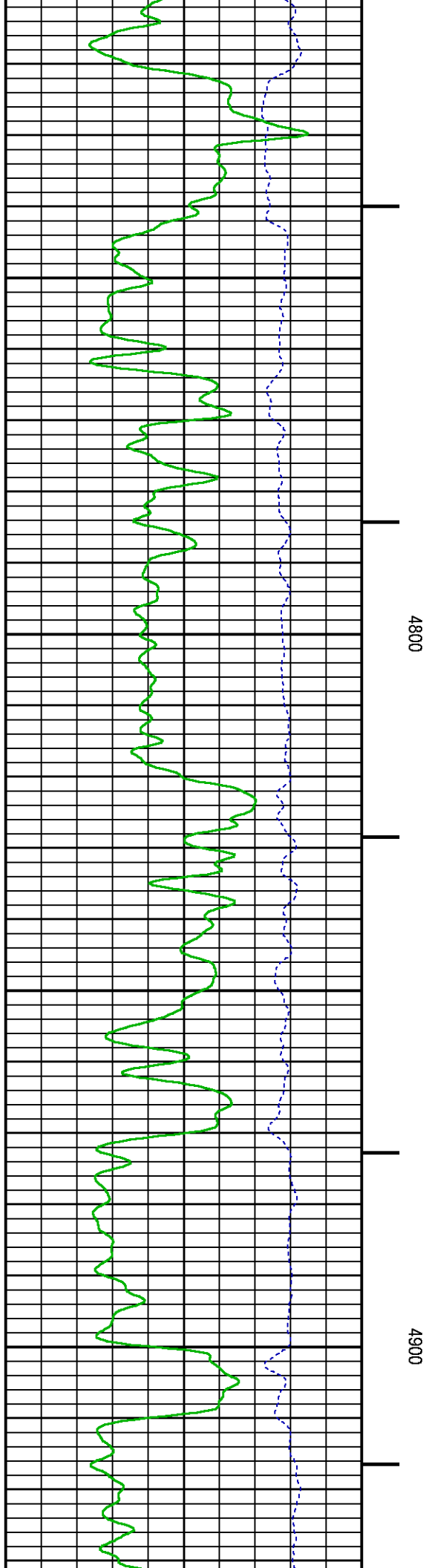
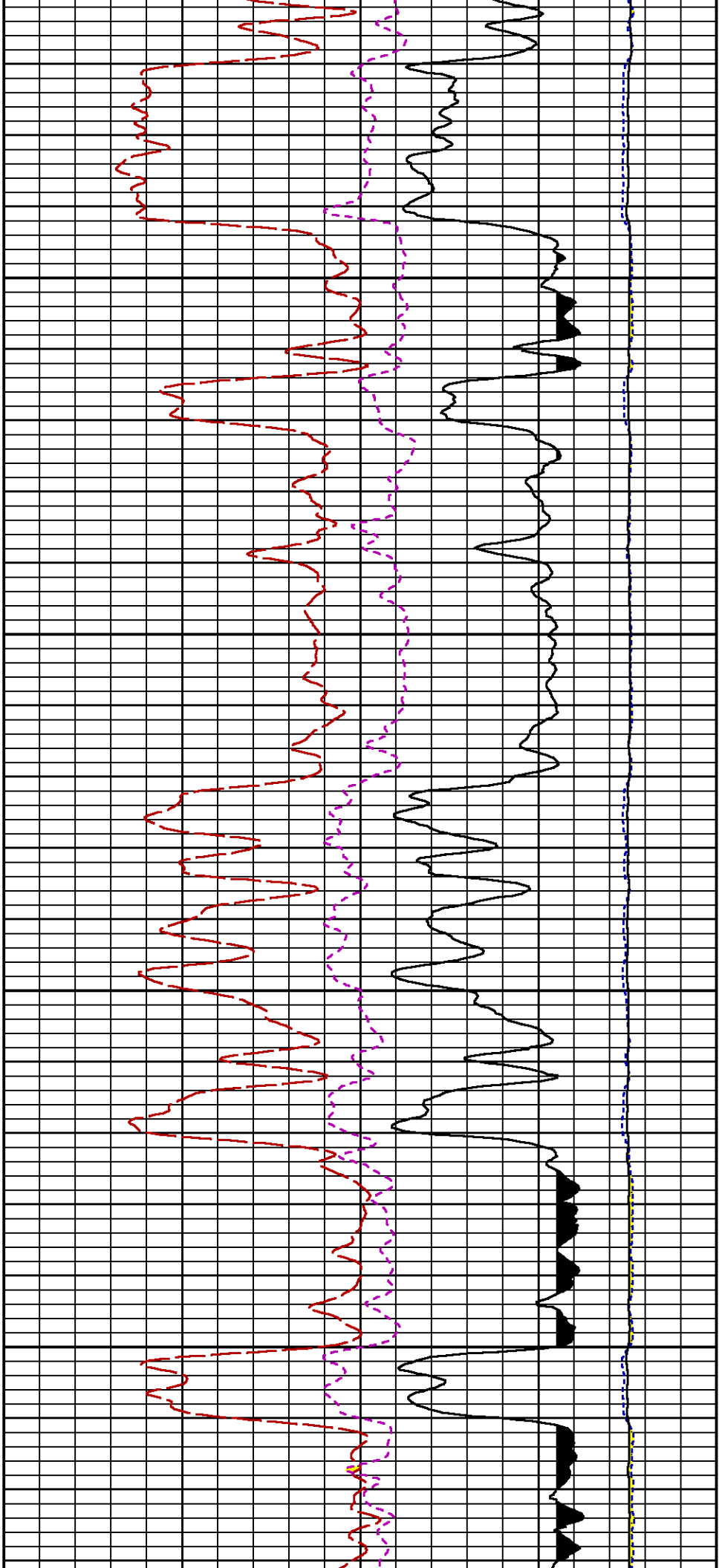
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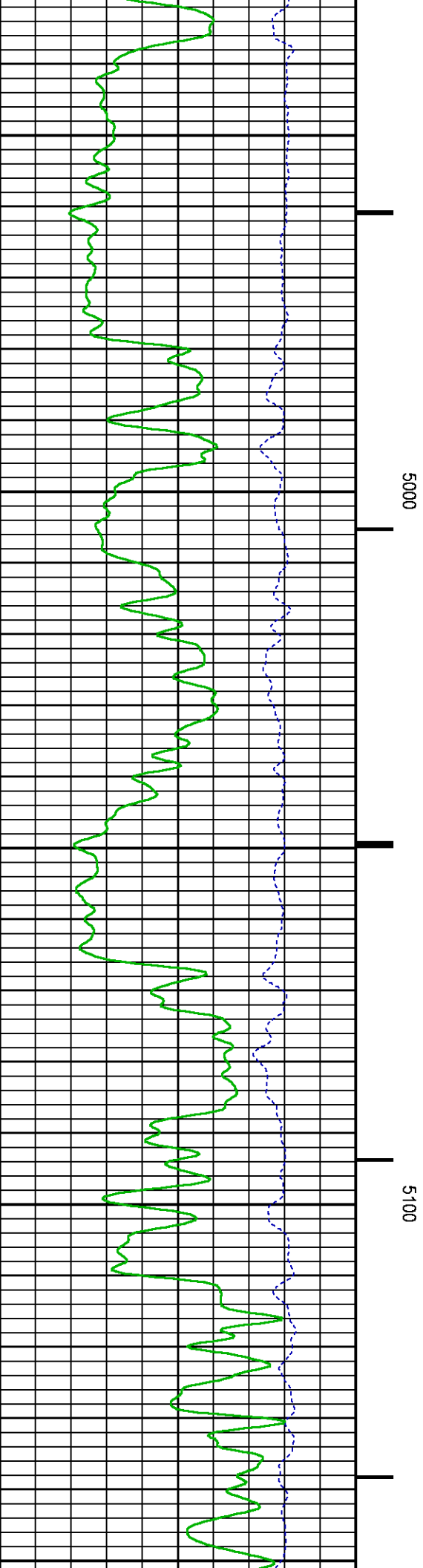
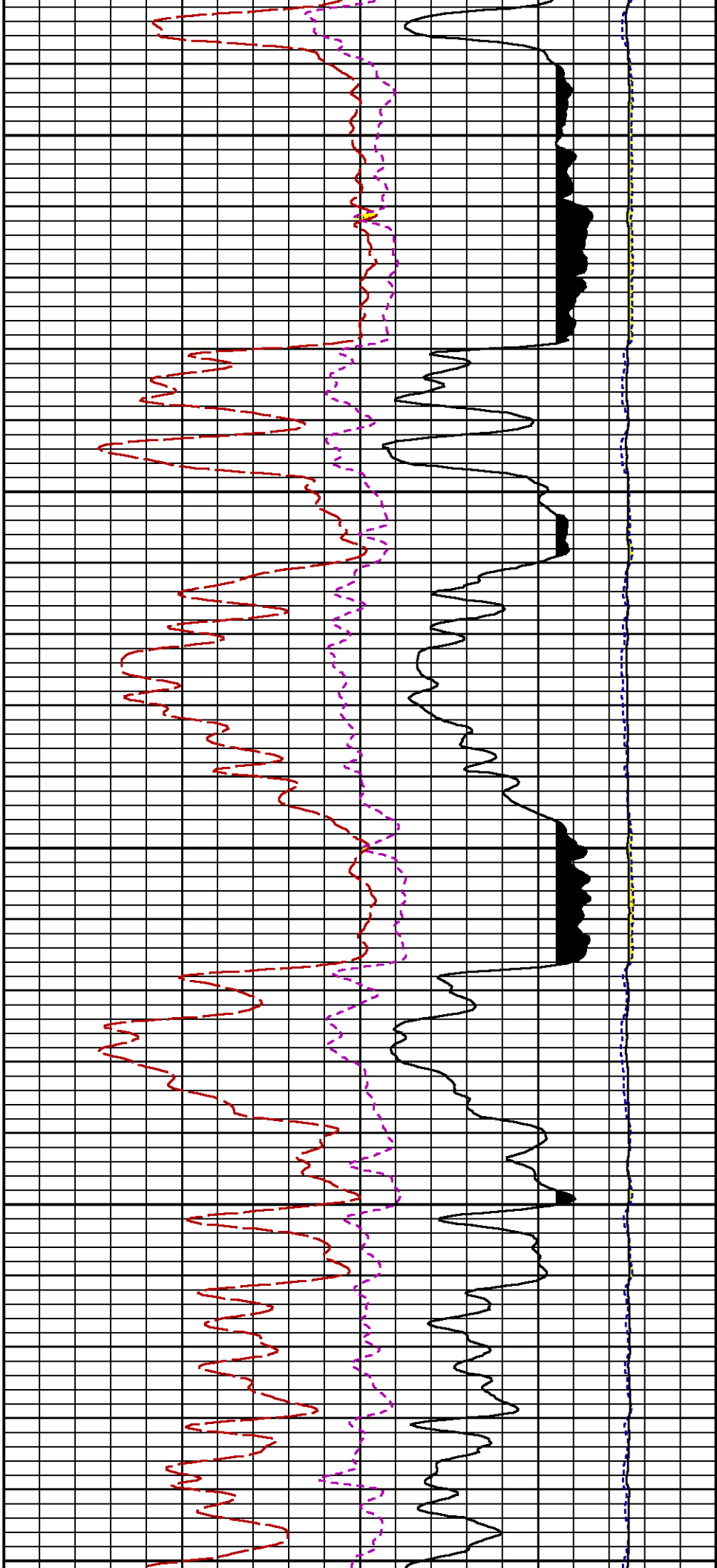


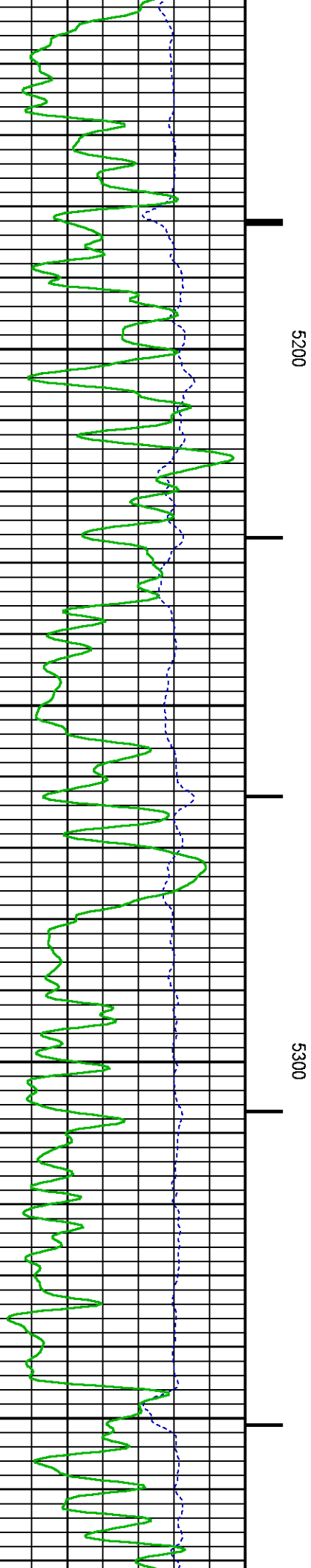
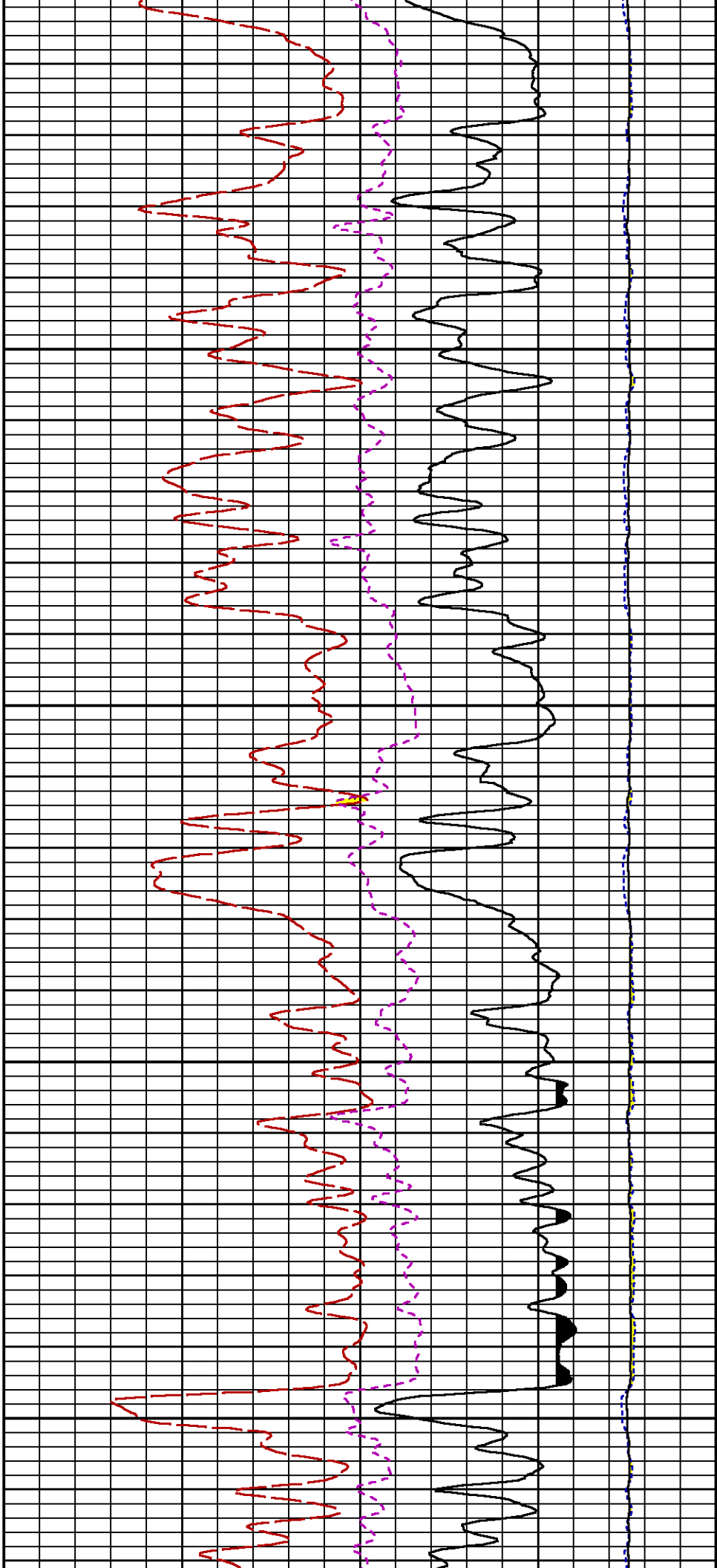
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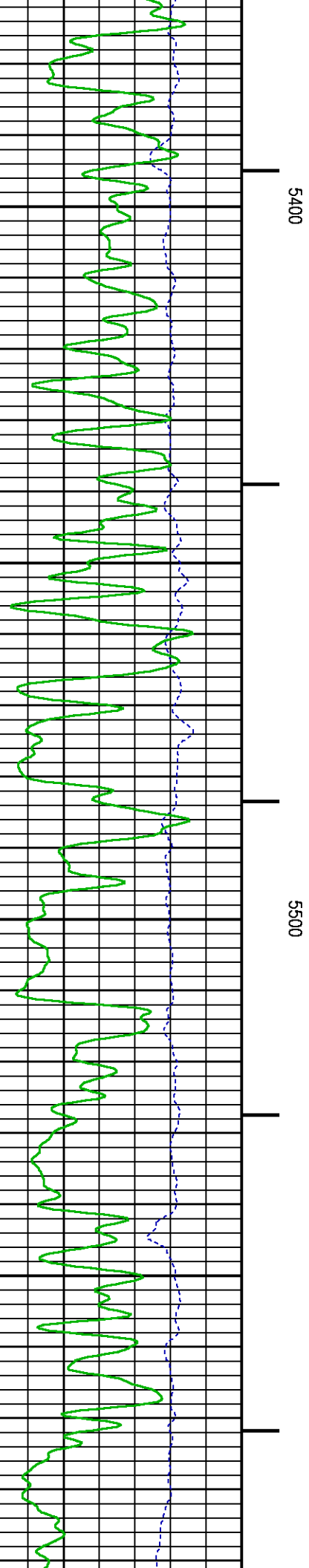
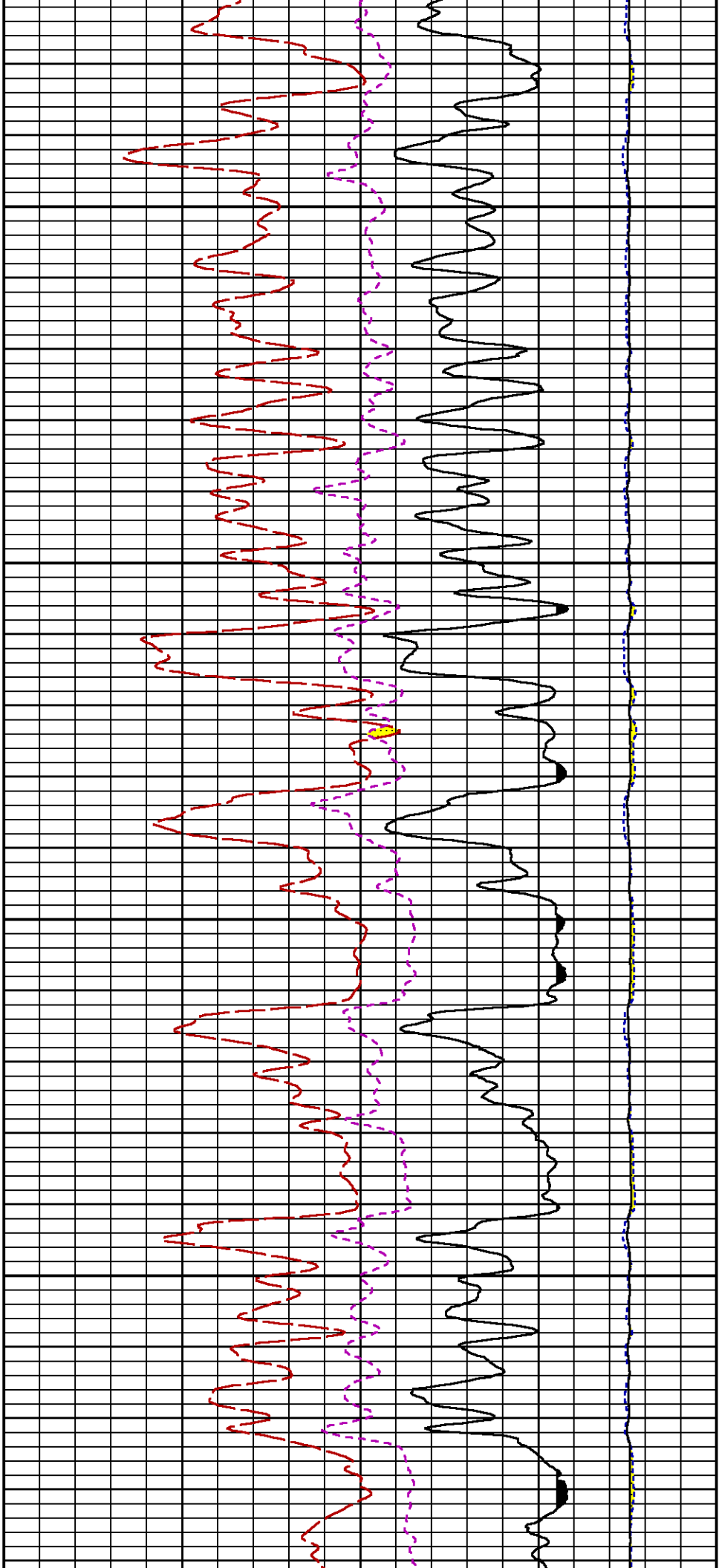
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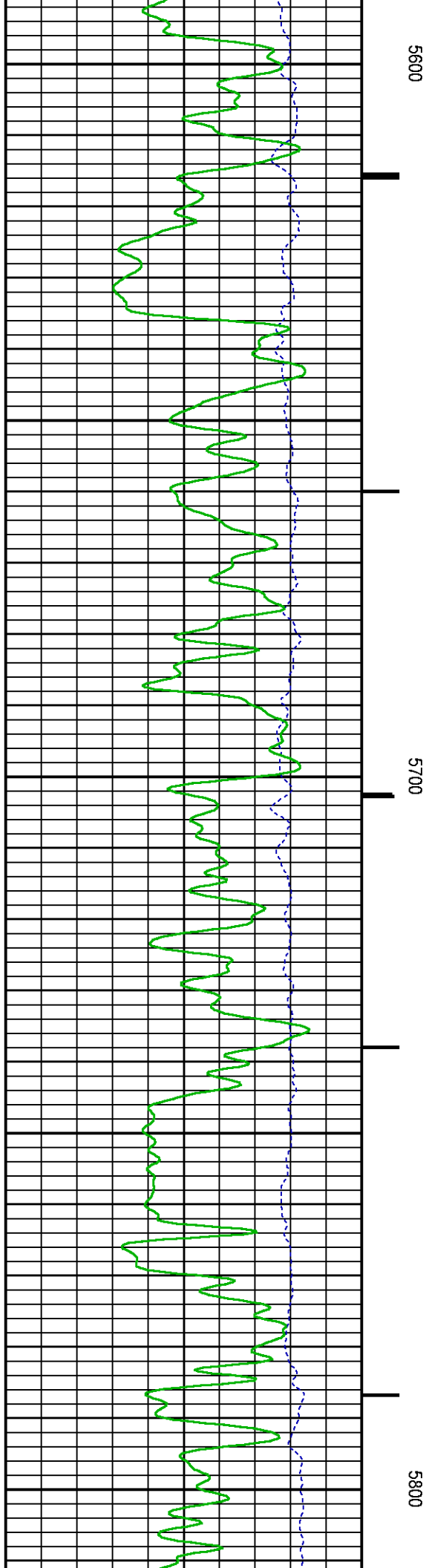
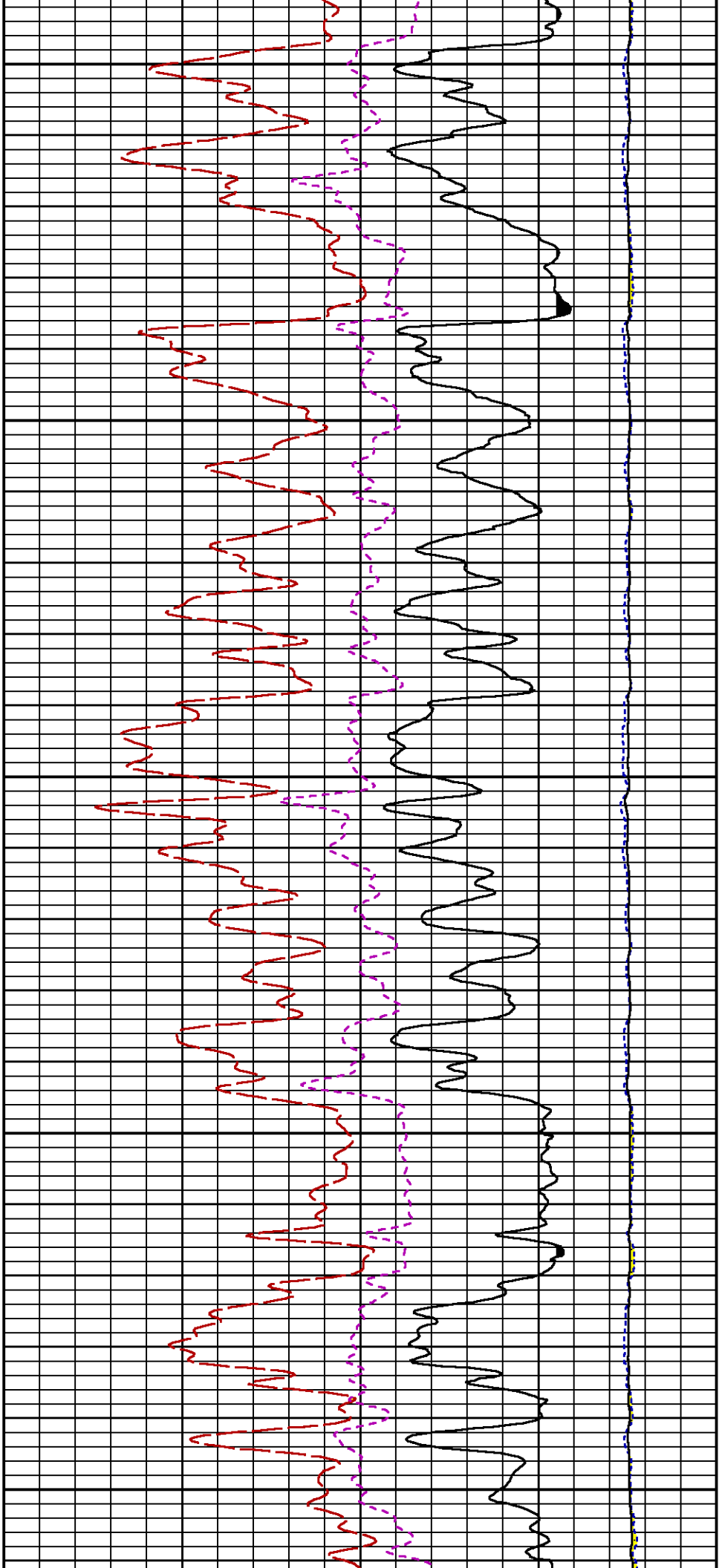


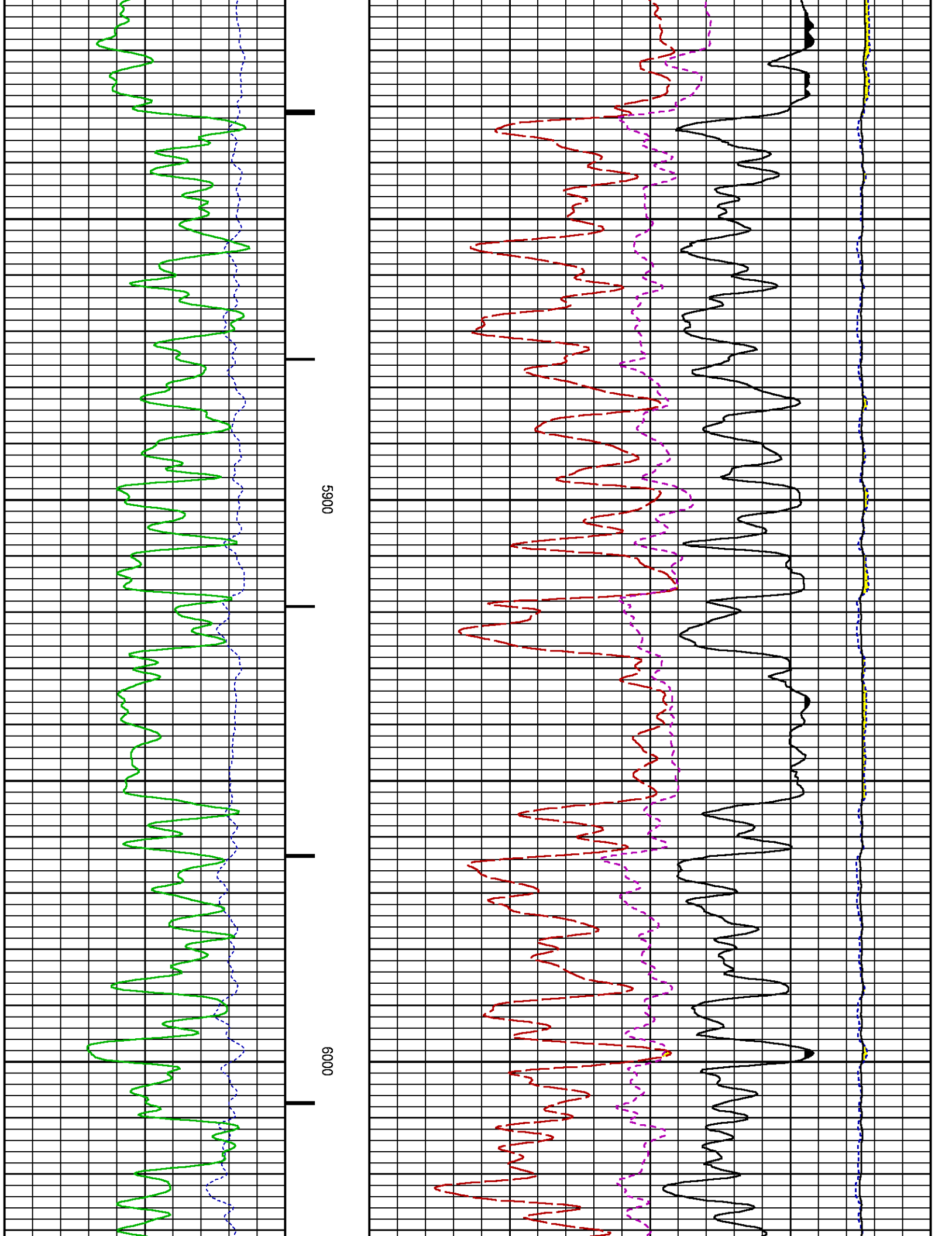


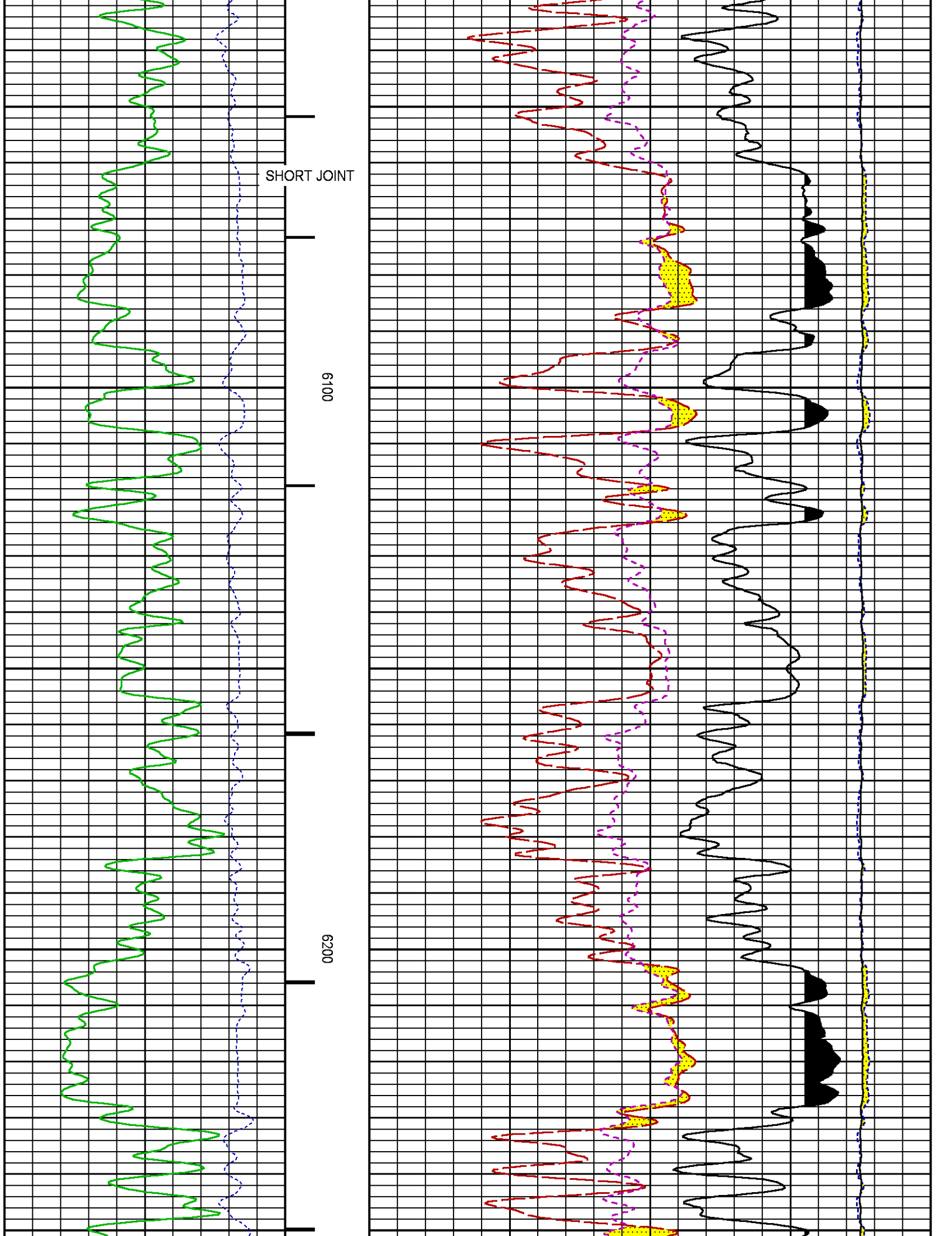


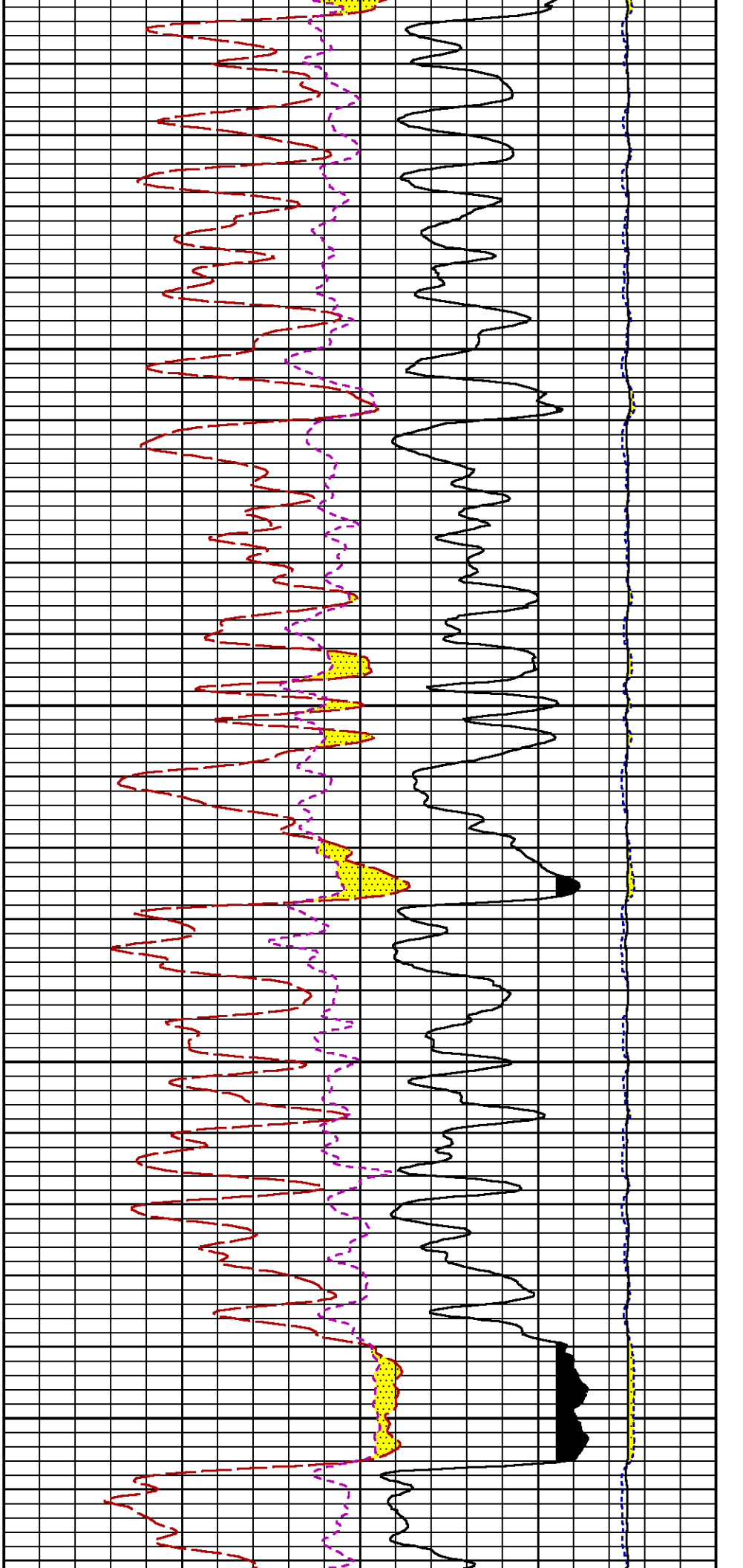






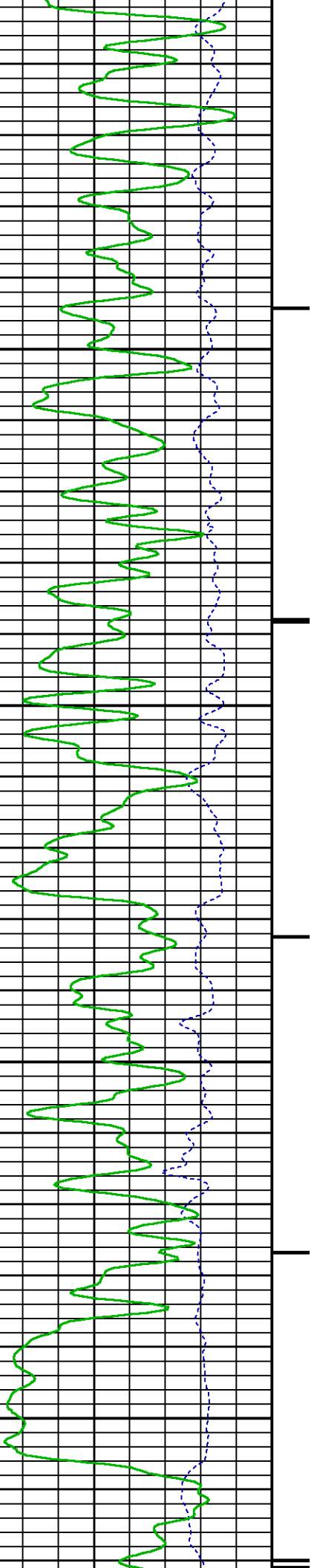


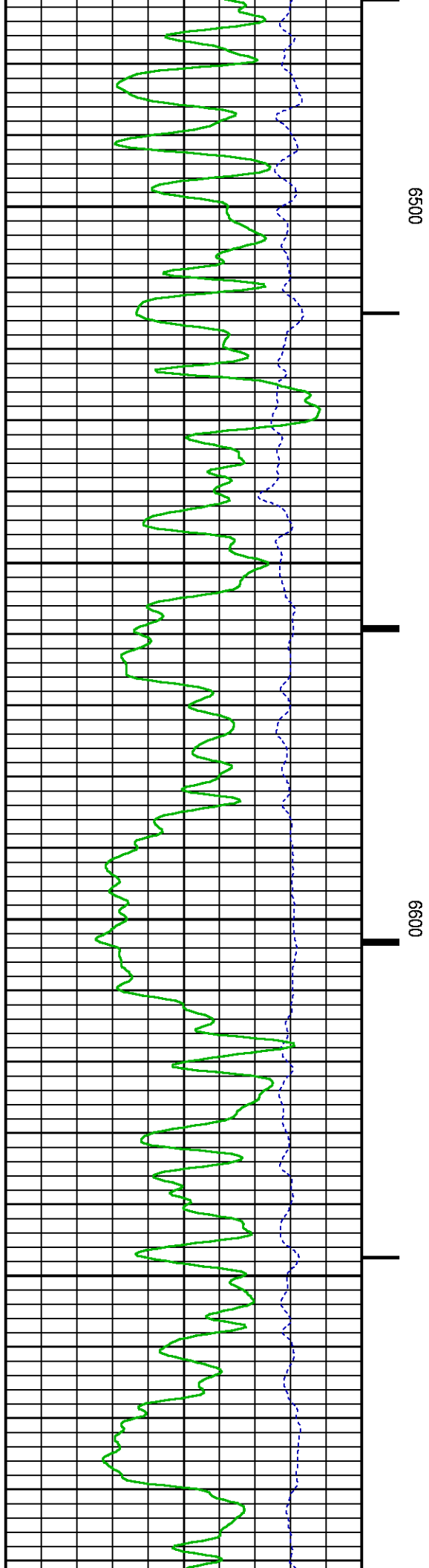
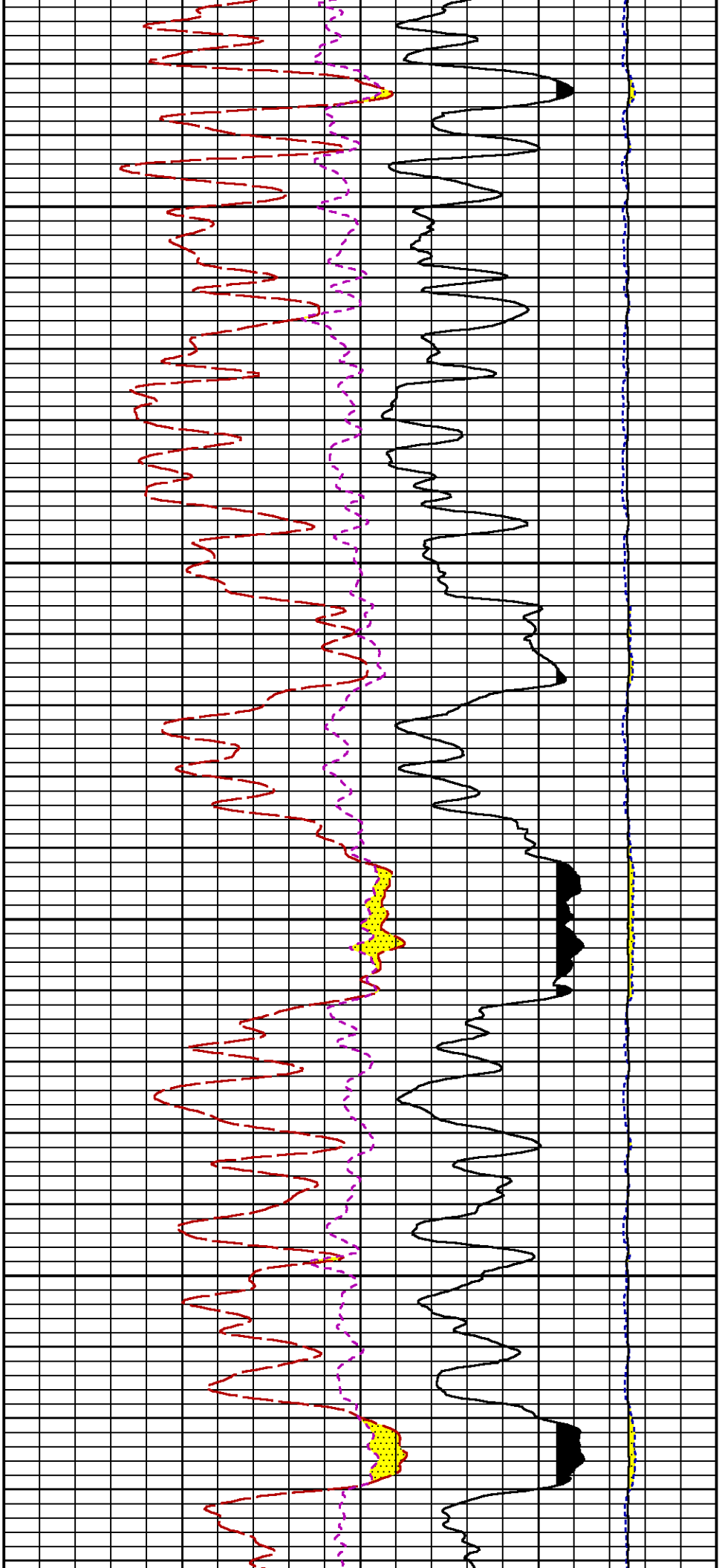


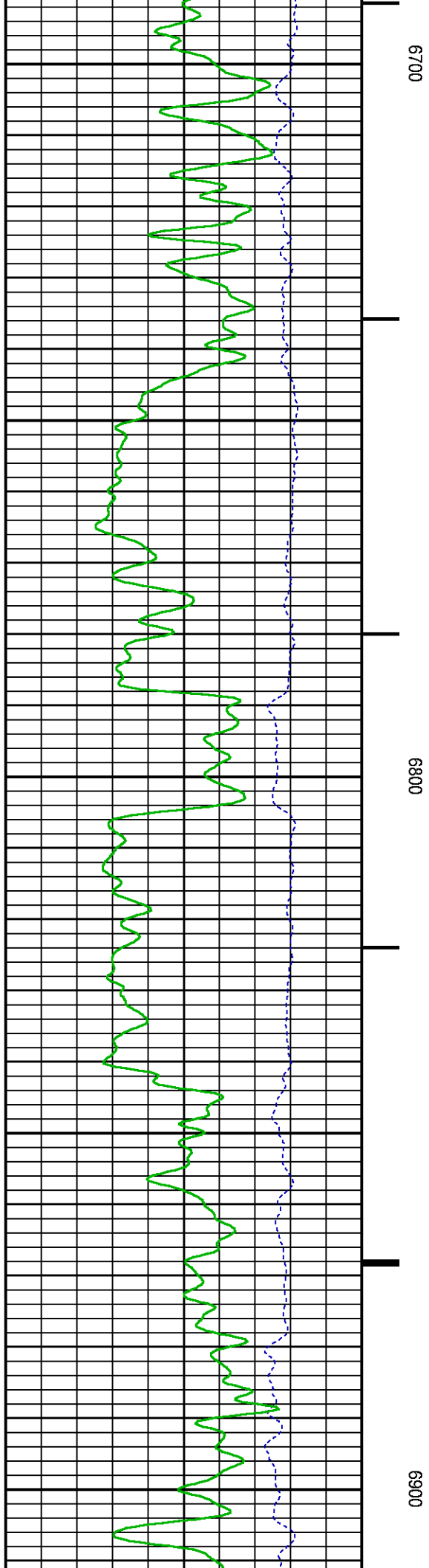
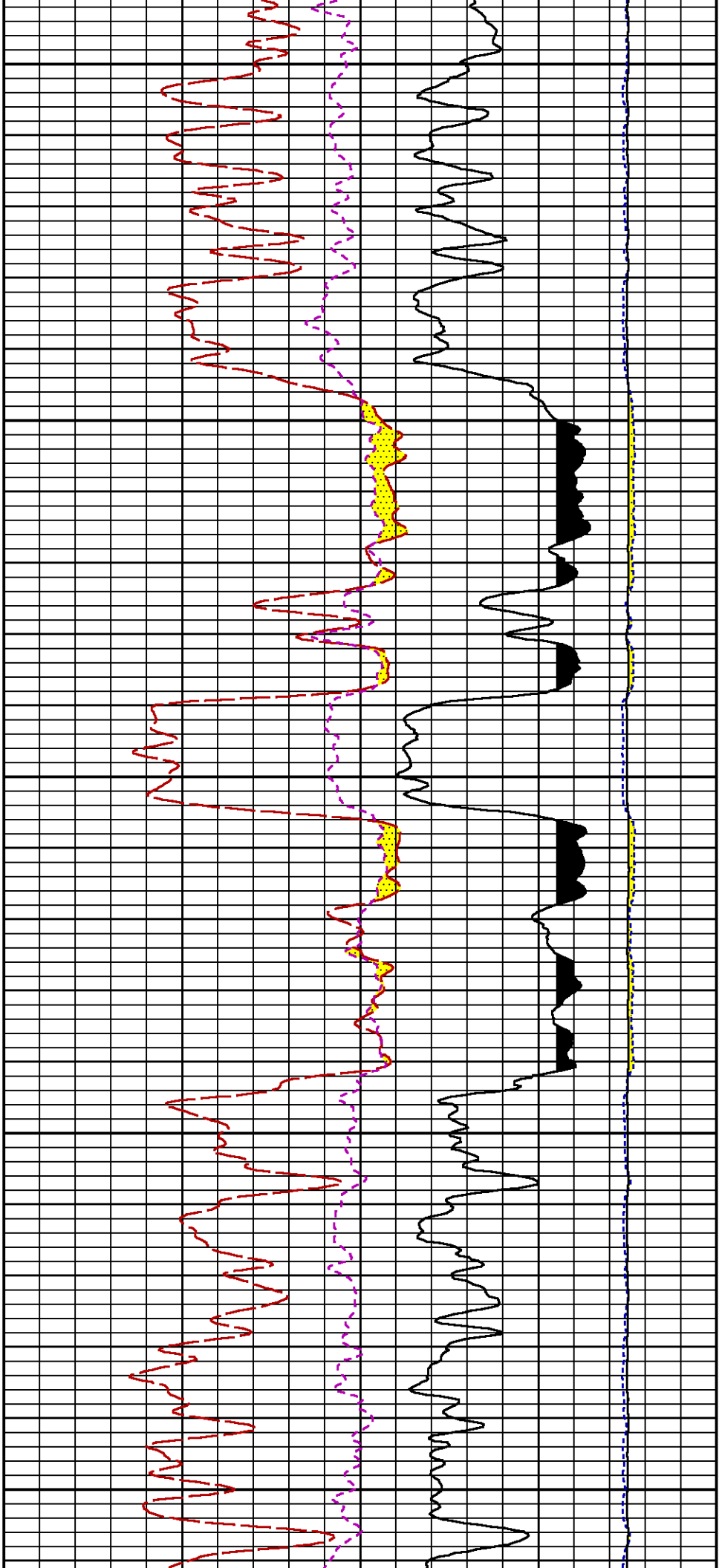


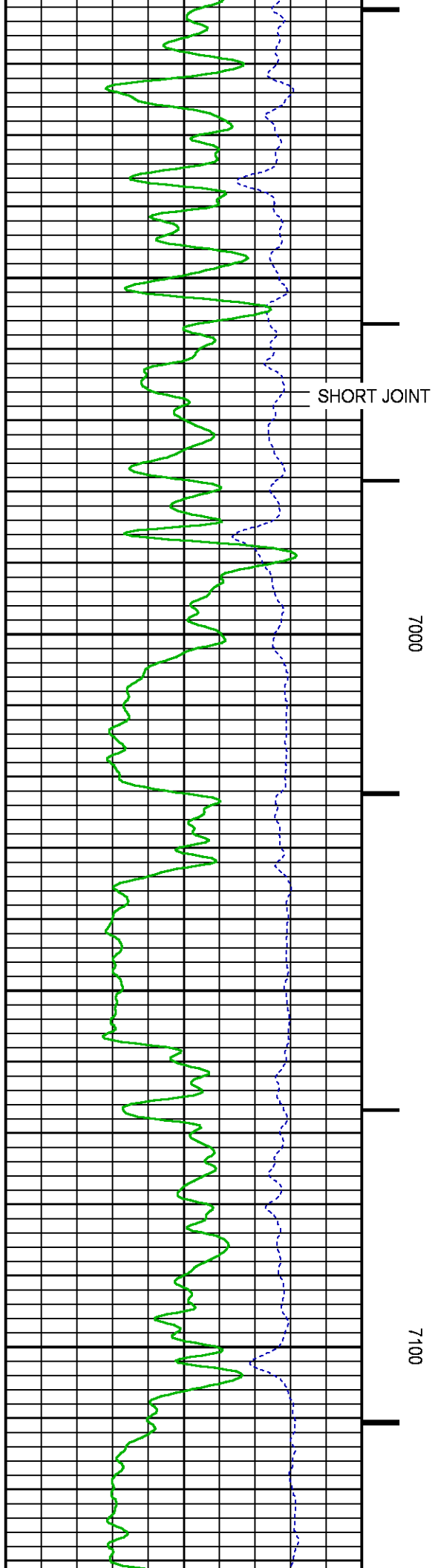
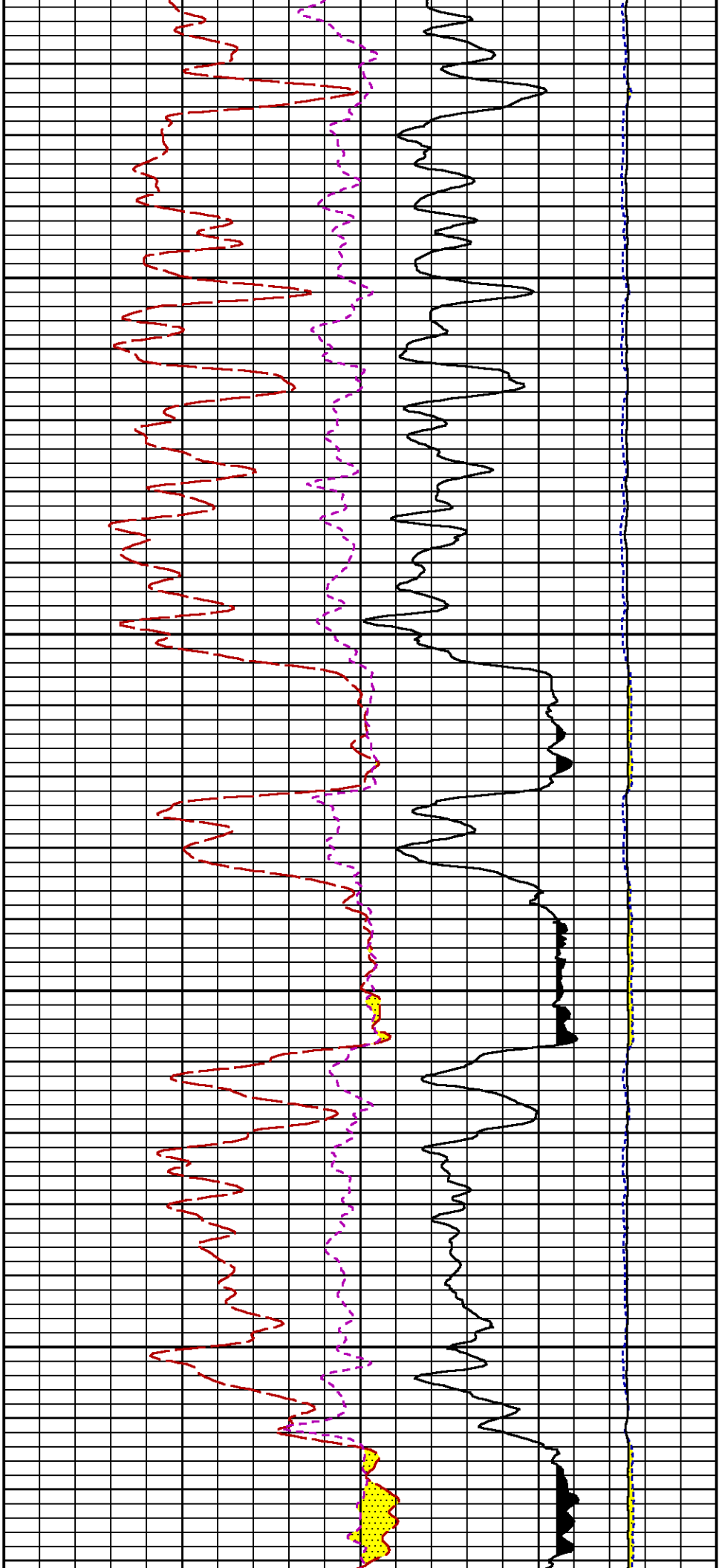
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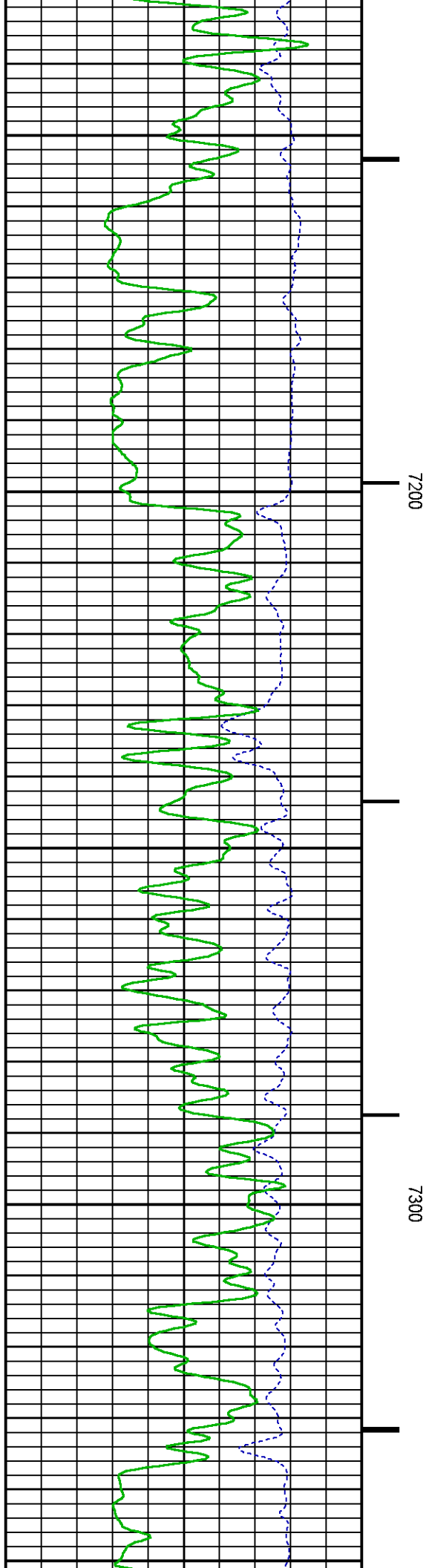
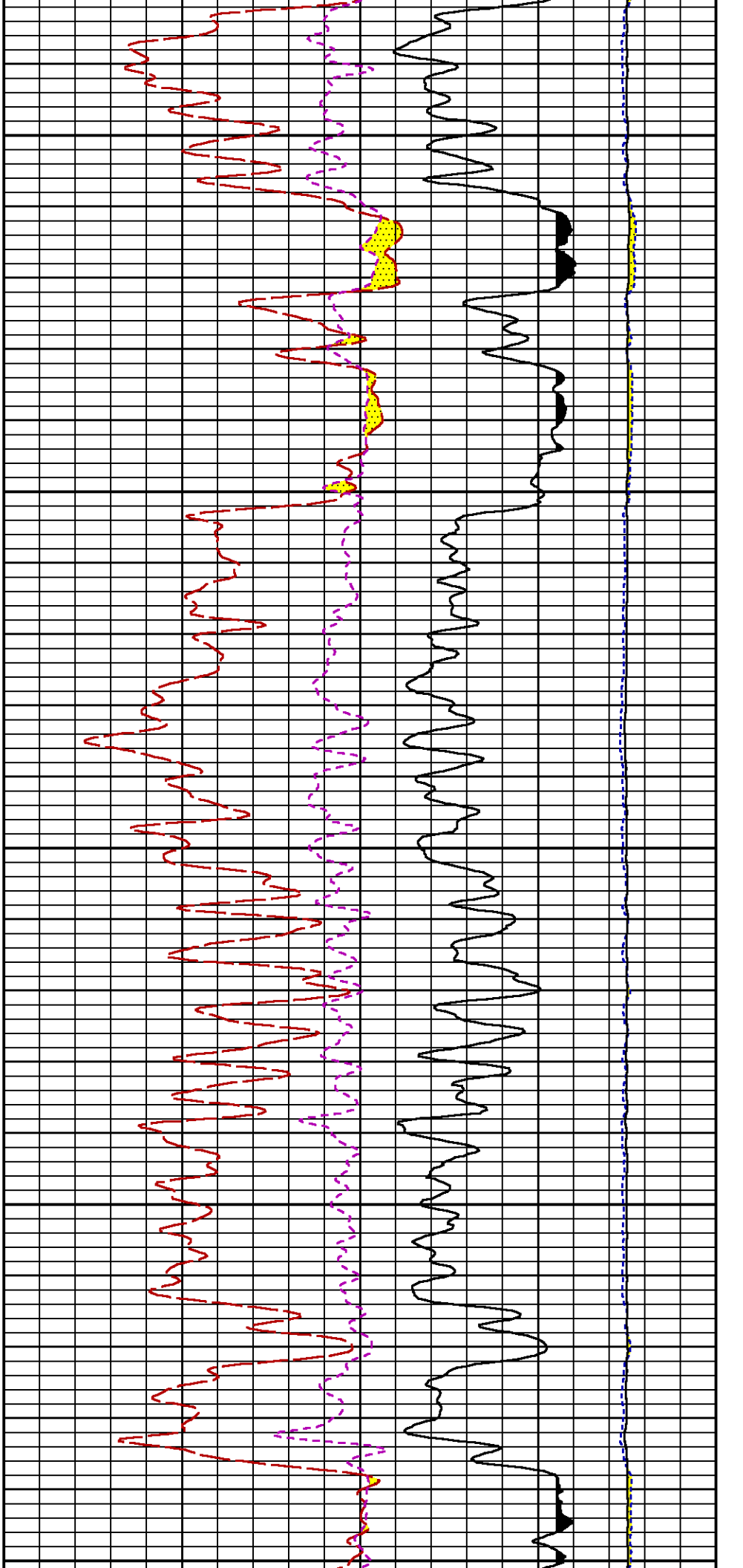
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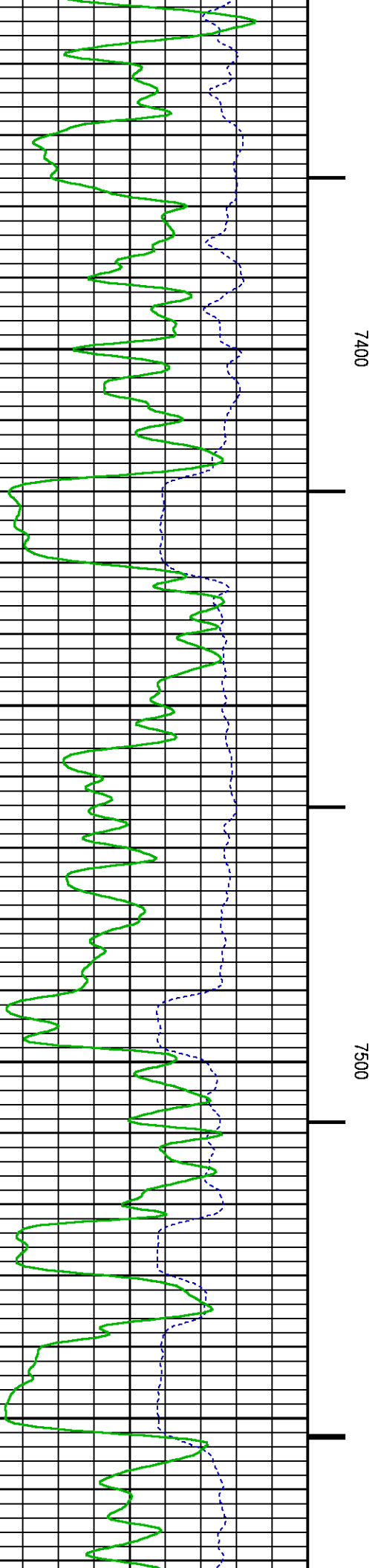
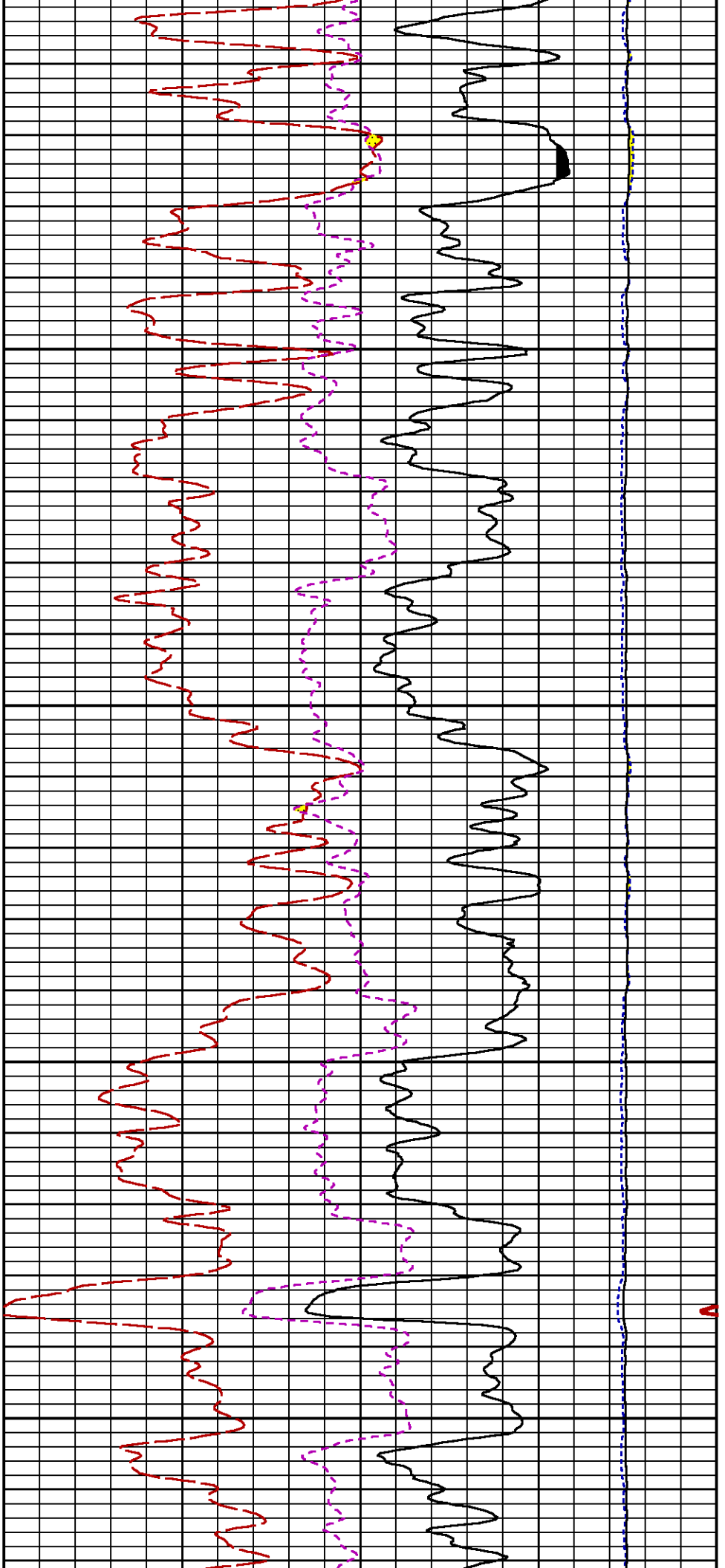


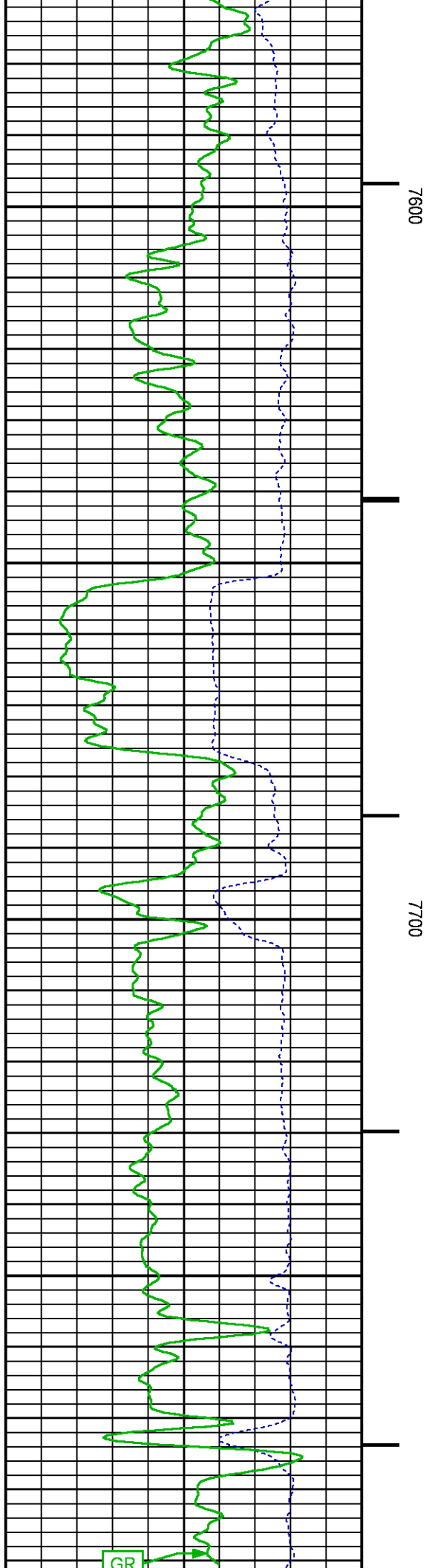
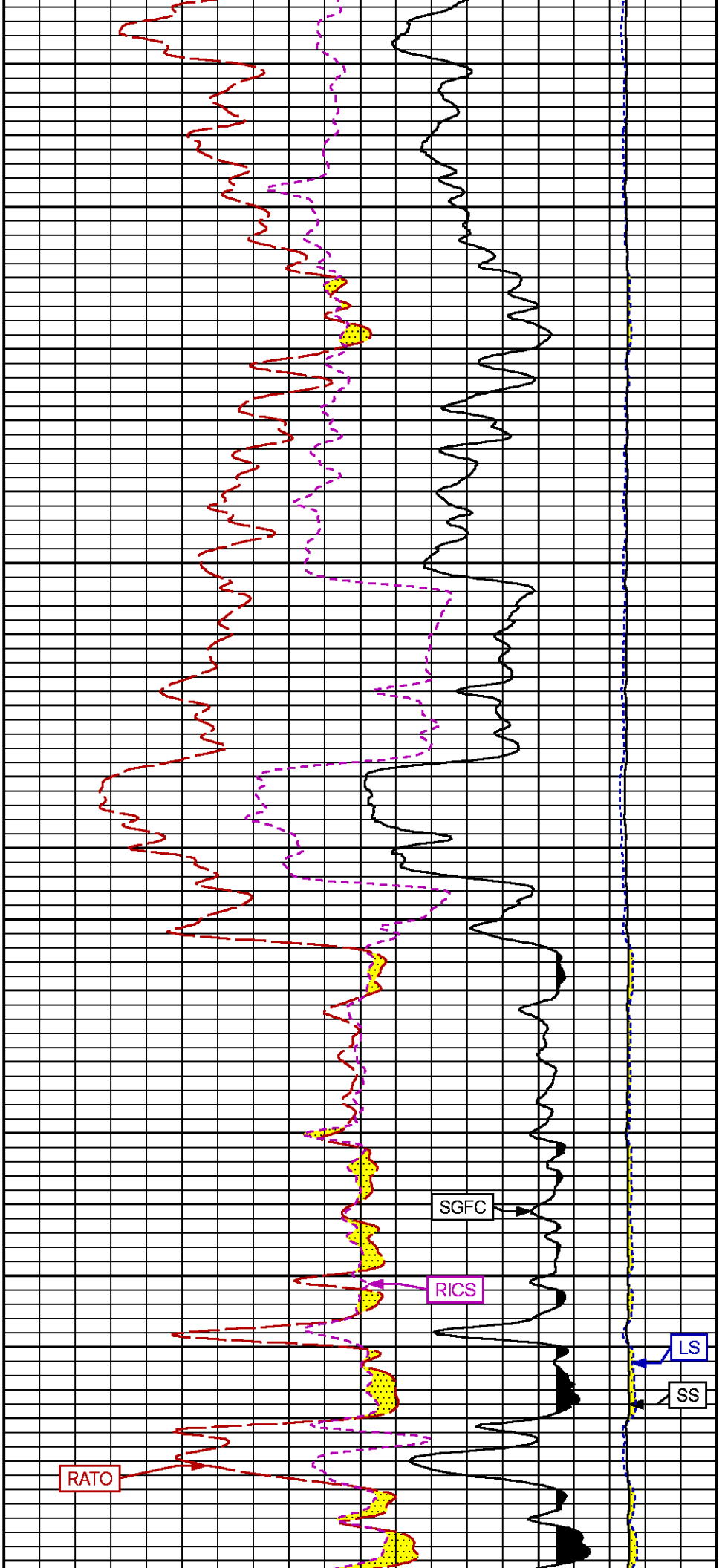


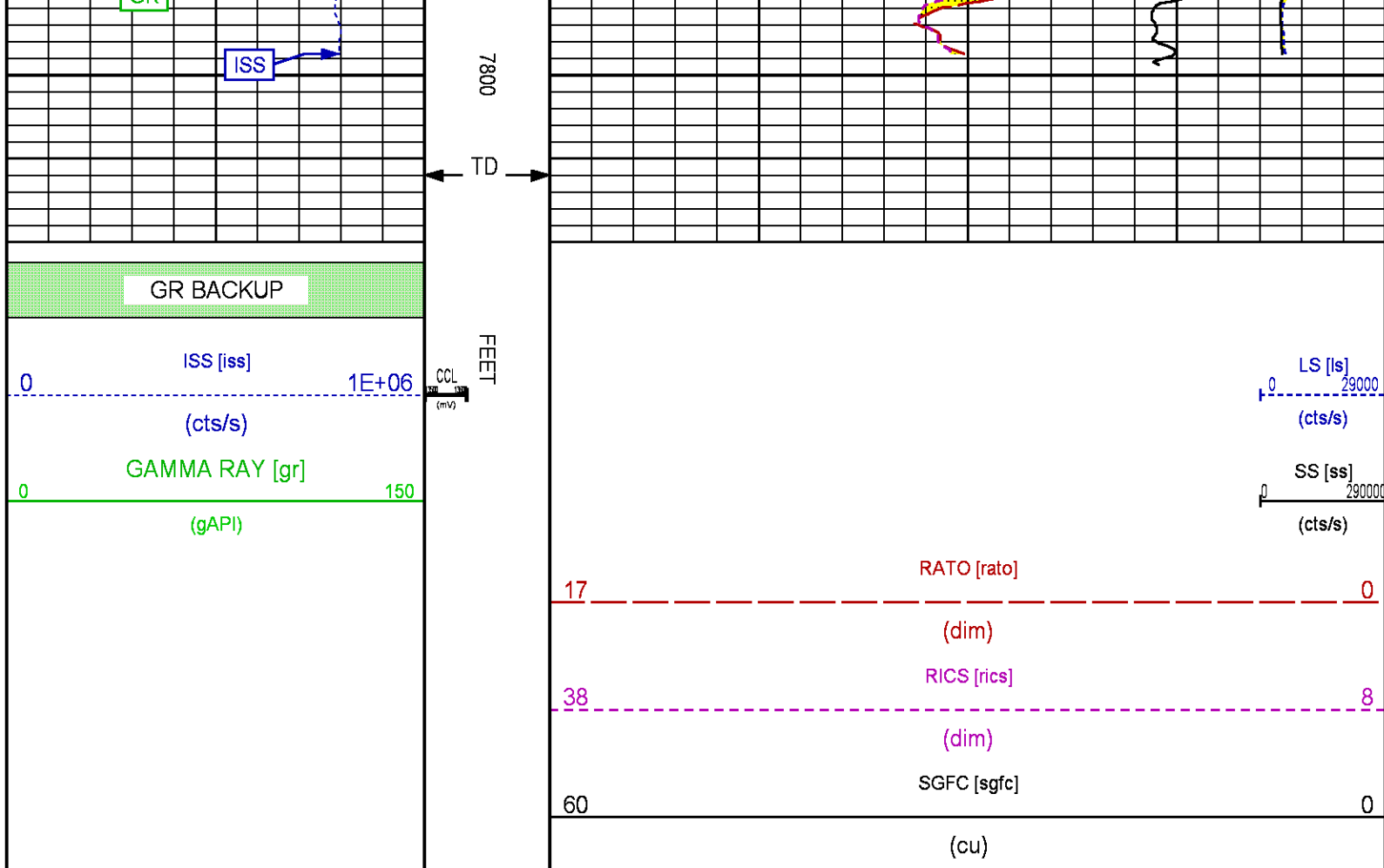












REPEAT SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 7

Plotted: Thu Jul 23 12:13:15 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH098111/n353a01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7588.750 ft BOTTOM DEPTH: 7821.500 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		" "

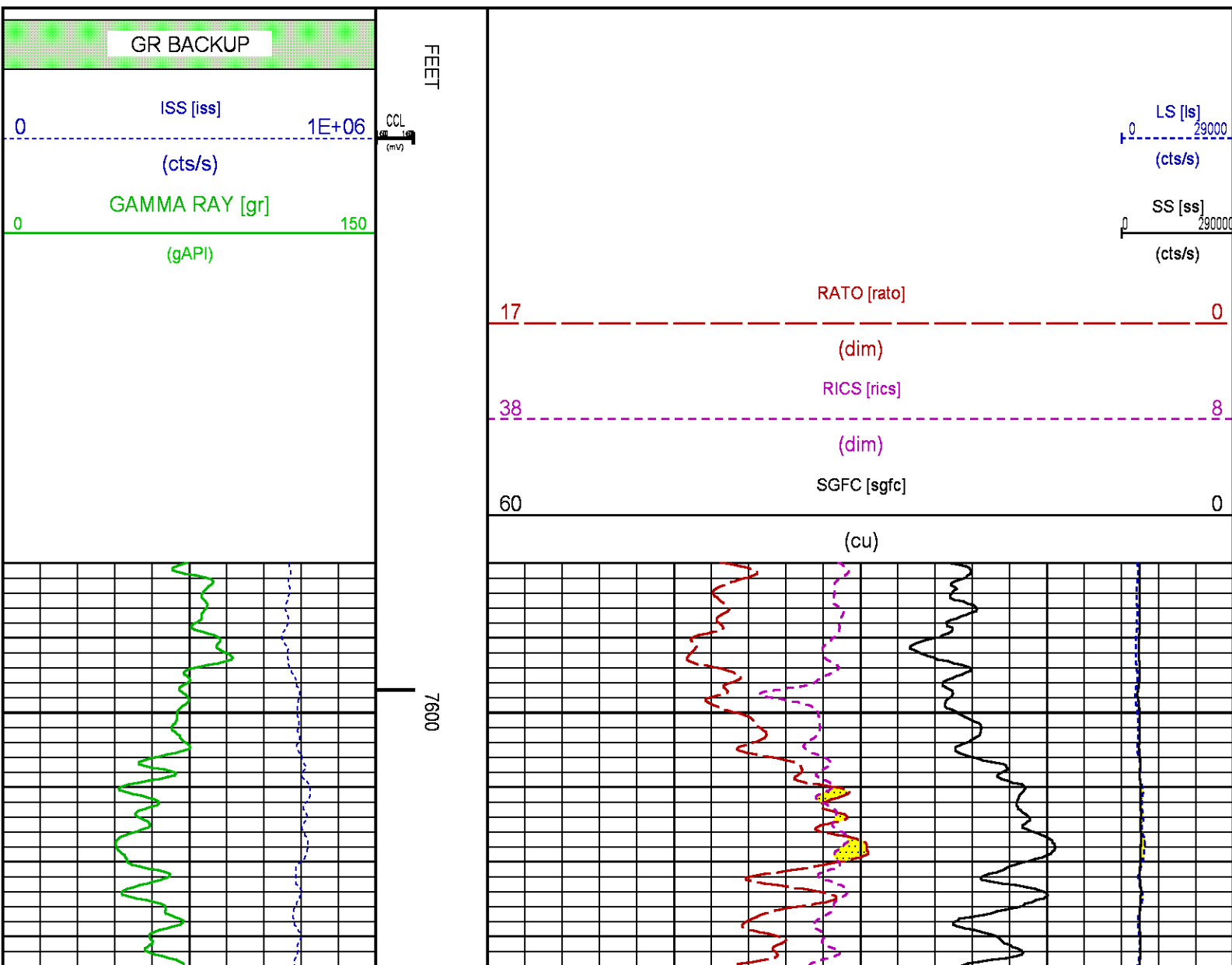
CURVE DESCRIPTION REPORT

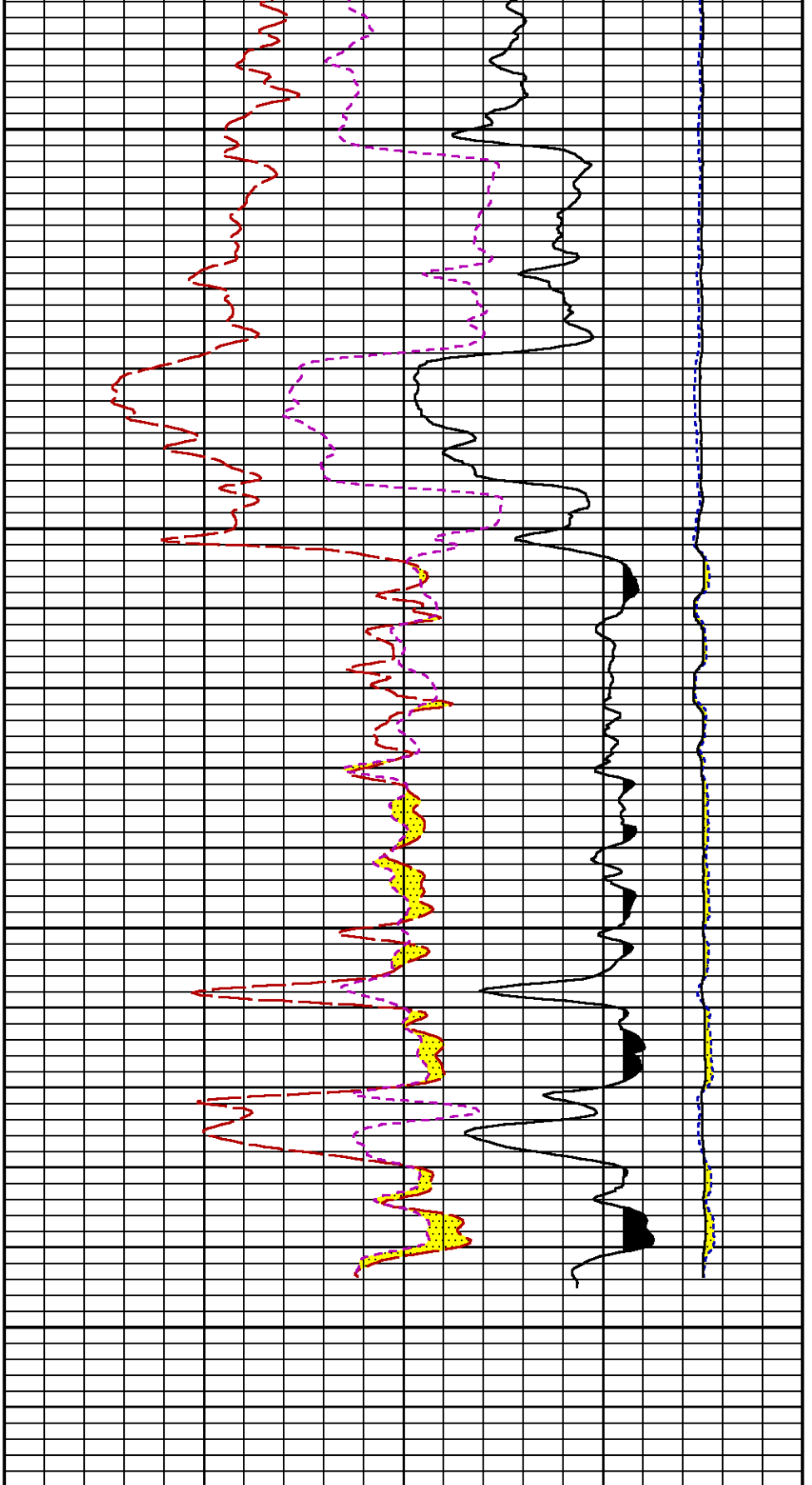
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Jul 23 08:51:46 2015	CASING COLLAR LOCATOR
F1:GR	Jul 23 08:51:46 2015	GAMMA RAY
F1:ISS	Jul 23 08:51:46 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Jul 23 08:51:46 2015	LONG SPACE COUNT RATE
F1:RATO	Jul 23 08:51:46 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Jul 23 08:51:46 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Jul 23 08:51:46 2015	CORRECTED FORMATION SIGMA
F1:SS	Jul 23 08:51:46 2015	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	: cas6685:/dat1a/CH098111/9M_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 7580 - 7820 Feet
Data File 1	: F1 : cas6685:/dat1a/CH098111/9M_RPM_REPEAT.xtf
Created On	: Jul 23 08:51:46 2015
Company	: LARAMIE ENERGY
Well	: GUNDERSON 29-09M
Field	: VEGA
File Interval	: 7551.5 - 7810 Feet
OCT	: n353a





LS [ls]
0 29000
(cts/s)

SS [ss]
0 290000
(cts/s)

7700

7800

FEET

CCL
(mV)

GR BACKUP

ISS [iss]

1E+06

(cts/s)

GAMMA RAY [gr]

150

(API)

0

0

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
	ISS/ILS		ISS/IXS		ISS/CSS	SS/LS	SS2/LS	CSS/CLS
Raw Data	793554	1.44	4.79	30.48	15.22	10.72	3.82	4.06
	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 %	0.029	0.233	0.096	0.144	0.024	0.041	0.055	
Reduced	1396032	1.44	4.79	30.43	15.18	10.73	3.82	4.06
	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 176973 DATE/TIME PERFORMED: Thu Jun 19 09:53:23 2014

UNIT #: 3880TA HL6670

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-1.889935E+01	1.004280E-01	1.215976E-06	-1.293045E-10

INSTRUMENT CONFIGURATION

Source File: /dat1a/CH098111/RPM-tdg

A3 CABLEHEAD

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

34.08'

CCL MP 26.03'

GR MP 22.90'

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 0.00'

BULL PLUG 1 11/16

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

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <u>CH098111</u>
	WELL <u>GUNDERSON 29-09M</u>		API NO: <u>05077097630000</u>
	FIELD <u>VEGA</u>	STATE <u>COLORADO</u>	
	COUNTY <u>MESA</u>		
LOCATION: SHL: 2406' FNL 1239' FEL BHL: 2150' FNL 2611' FEL		ELEVATIONS: KB 7553 FT DF GL 7531 FT	SEC 29 T9S R93W 29-09 PAD PATTERSON 306
SEC <u>29</u> TWP <u>9S</u> RGE <u>93W</u>		DATE <u>23-Jul-2015</u>	