



FILE NO:	COMPANY	LARAMIE ENERGY LLC
API NO:	WELL	NICHOLS 0994-24-04E
05077104200000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.10	LOCATION:	OTHER SERVICES
	SHL: 39.264540 N; 107.830679 W	RAL
	BHL: 39.267392 N; 107.826029 W	
	SEC 24 TWP 9 S RGE 94 W	

PERMANENT DATUM	GL	ELEVATION	7137 FT	ELEVATIONS: KB 7161 FT DF 7160 FT GL 7137 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.	
DRILL. MEAS. FROM	KB			

DATE	26-Jan-2018
RUN	1
TRIP	1
SERVICE ORDER	US132019
DEPTH DRILLER	7633 FT
DEPTH LOGGER	7541 FT
BOTTOM LOGGED INTERVAL	7541 FT
TOP LOGGED INTERVAL	2366 FT
TIME STARTED	13:00
TIME FINISHED	18:30
OPERATOR RIG TIME	5.5 HRS
TYPE OF FLUID IN HOLE	FRESH WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	48 FT
LOGGED CEMENT TOP	1840 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	237 DEGF
REFERENCE LOG	NA
REFERENCE LOG DATE	NA
EQUIP. NO.	ML-4291
LOCATION	GRAND JUNCT
RECORDED BY	M.MENTZER
WITNESSED BY	MR. MATT SETTLES

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 2:TEMP/RPM/GR/CCL RUN IN COMBINATION

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 5827' - 5847'
SJ: 6717' - 6737'

CREW: J.PENA, C.GOLOBY

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	2	TELEMETRY	8248 EA/8250 ED	111745584/10193585	FREE
1	2	GR	8262 XA	10317216	FREE
1	2	RPM ELEC	8281 EA	10179238	FREE
1	2	RPM	8283 PA/8281 FA	10190200/10318654	FREE
1	2	TEMP	8255 XA	11774568	FREE

MAIN PASS GRAND SANDS PNC 3D MODE

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

Patches: 2

Plotted: Fri Jan 26 18:45:49 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_04E/p353h03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2363.500 ft BOTTOM DEPTH: 3018.250 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	" "
	LARGEST CASING OD	7.00	in	" "
	MATRIX	SANDSTONE		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	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_NICHOLS_0994_24_04E/LARAMIE_RPM+01-MAIN-RPM_MN_GS_04E-5.fvpdf [5"/100' Scale]
Plot Interval : 2337.5 - 3008.25 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_04E/RPM_MN_GS_04E.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : NICHOLS 0994-24-4E
Field : VEGA
File Interval : 2336.75 - 3018.25 Feet
OCT : p353h

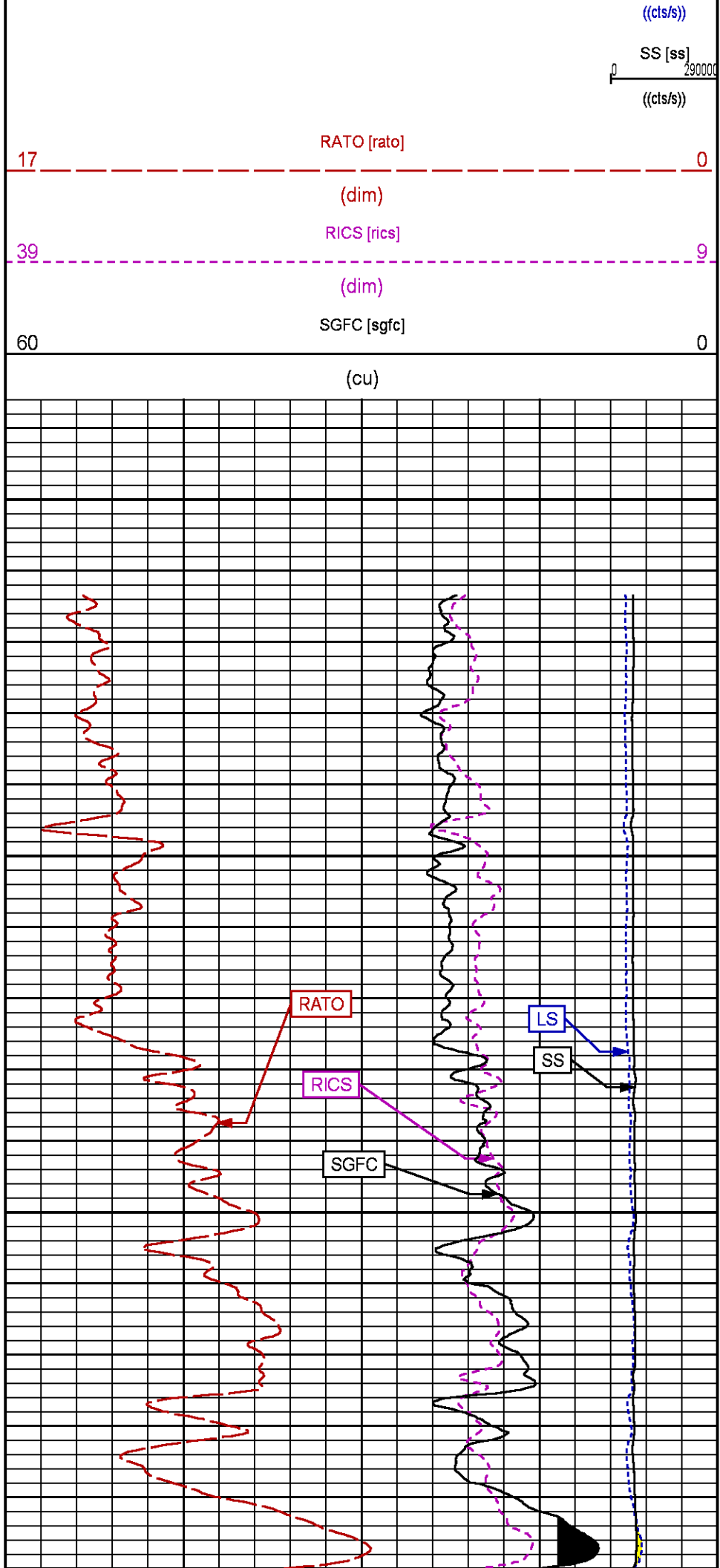
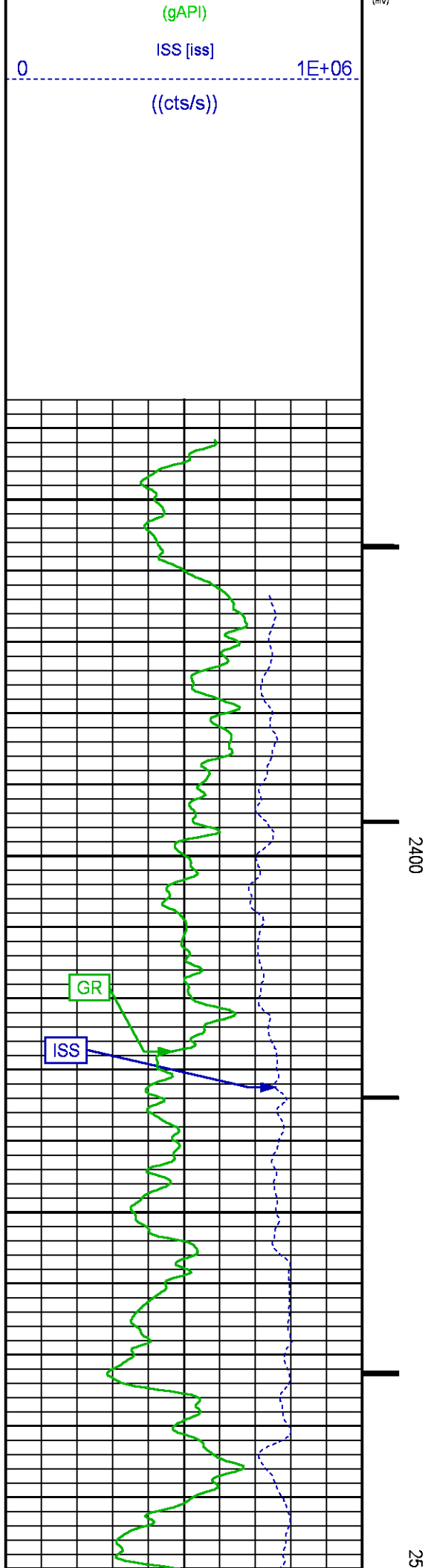
GR BACKUP

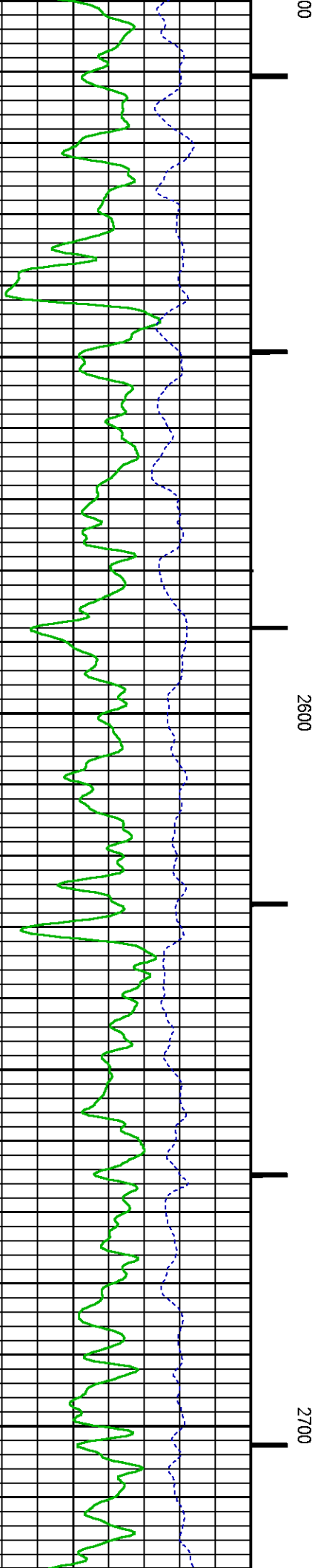
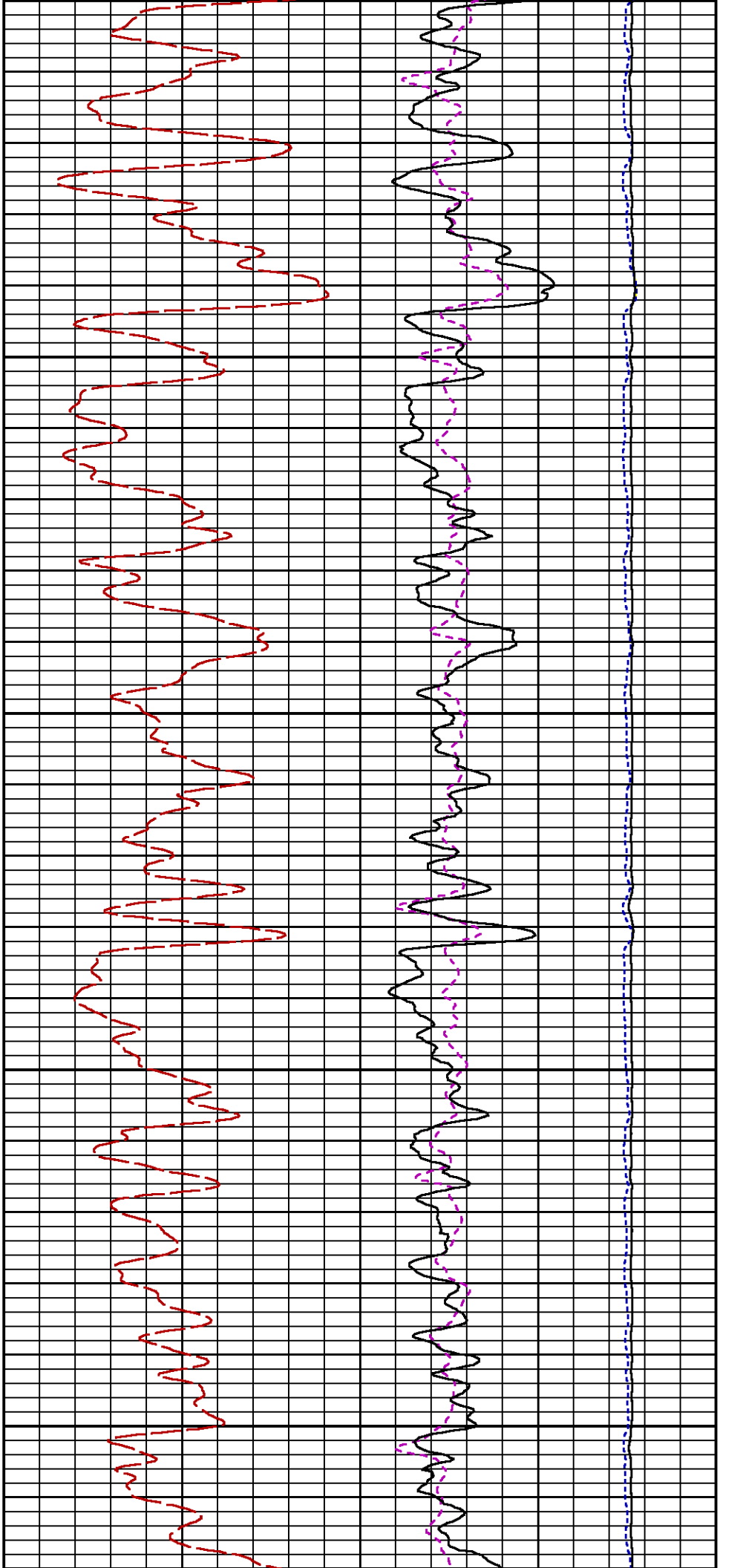
GAMMA RAY [gr]

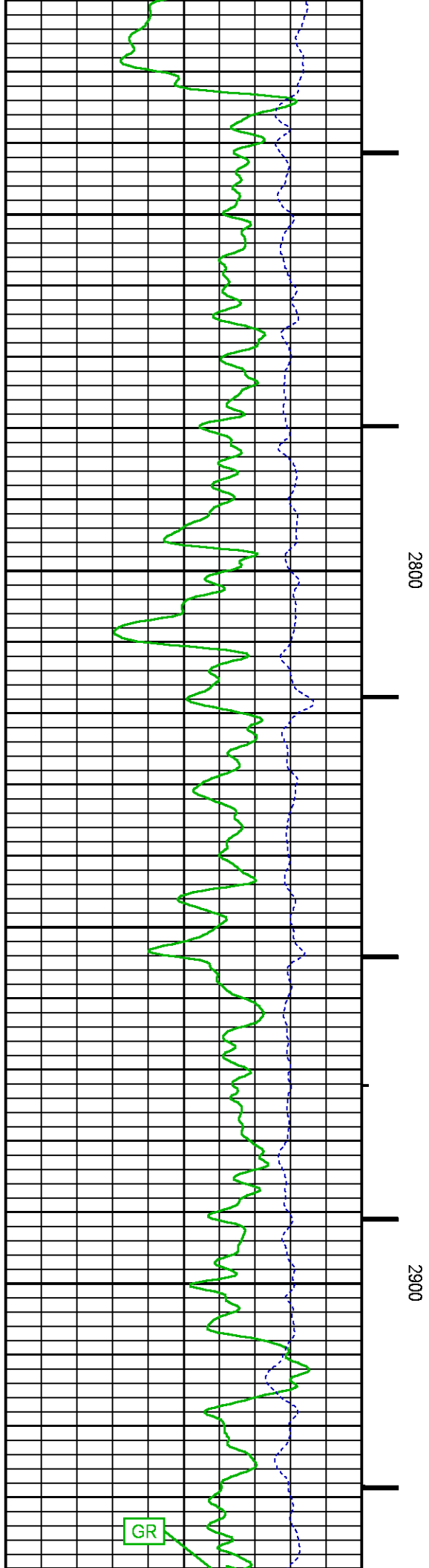
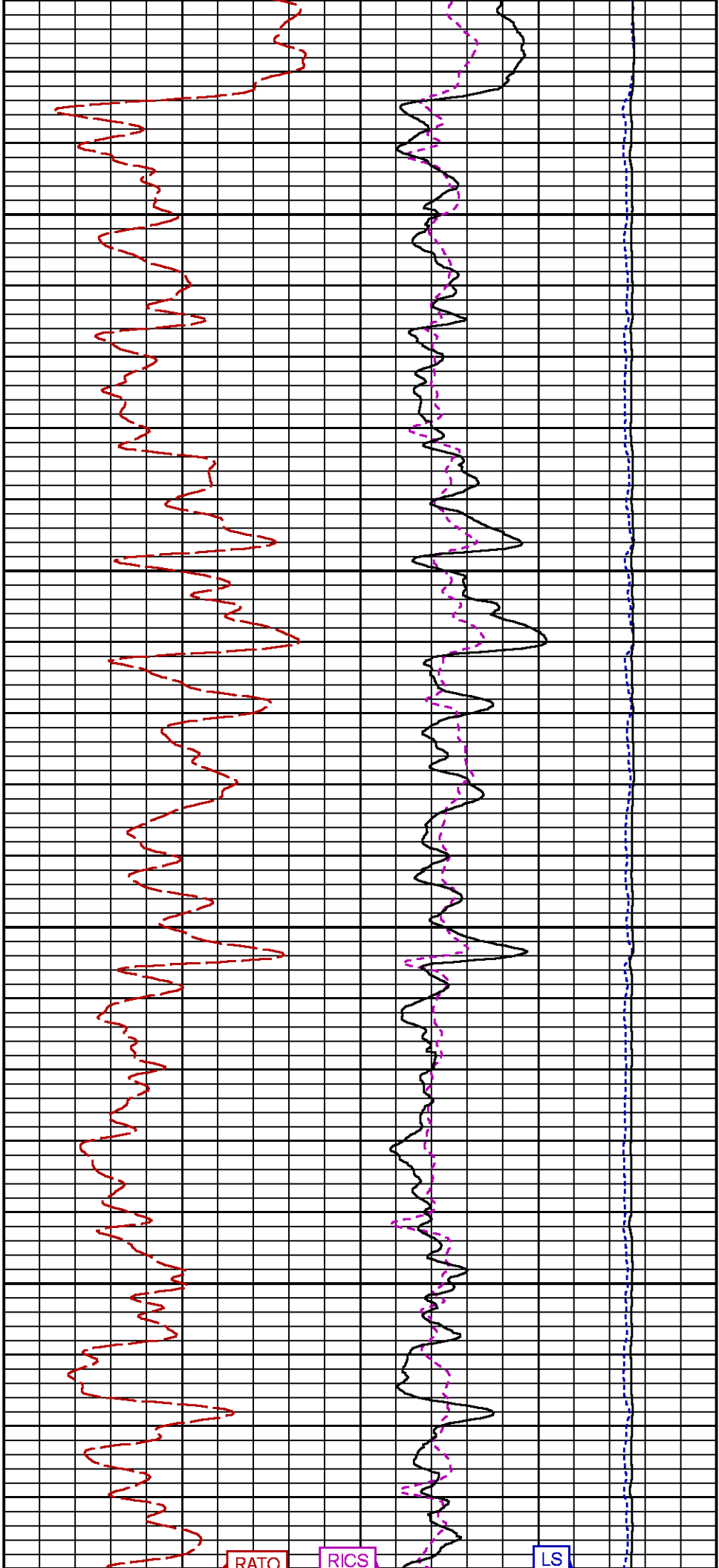
FEET

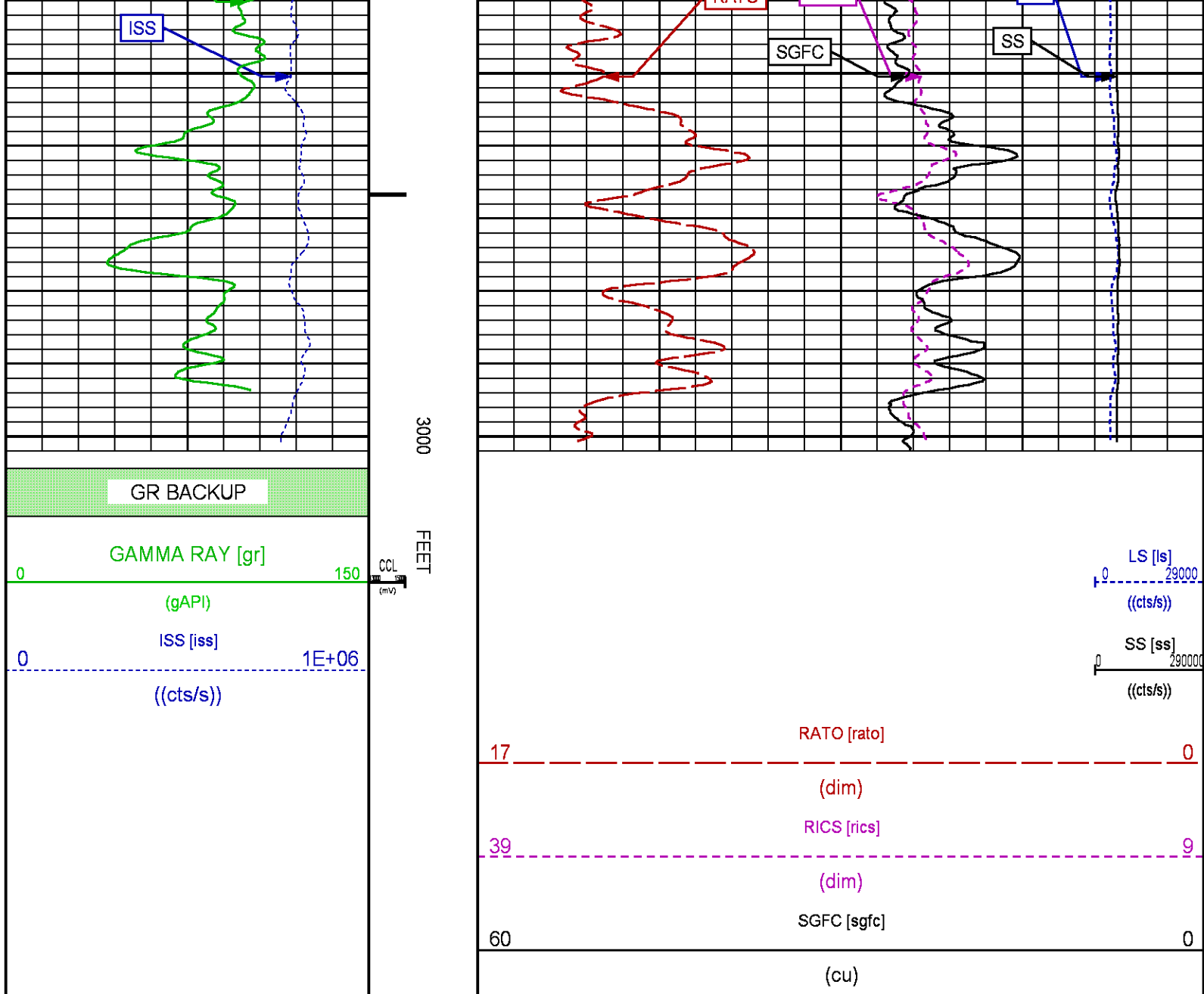
LS [ls]

29000









MAIN PASS PNC WILLIAMS FORK 3D MODE

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

Patches: 2

Plotted: Fri Jan 26 17:56:47 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994_24_04E/p353h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4256.750 ft BOTTOM DEPTH: 7549.250 ft

SYMMETRIC FILTER

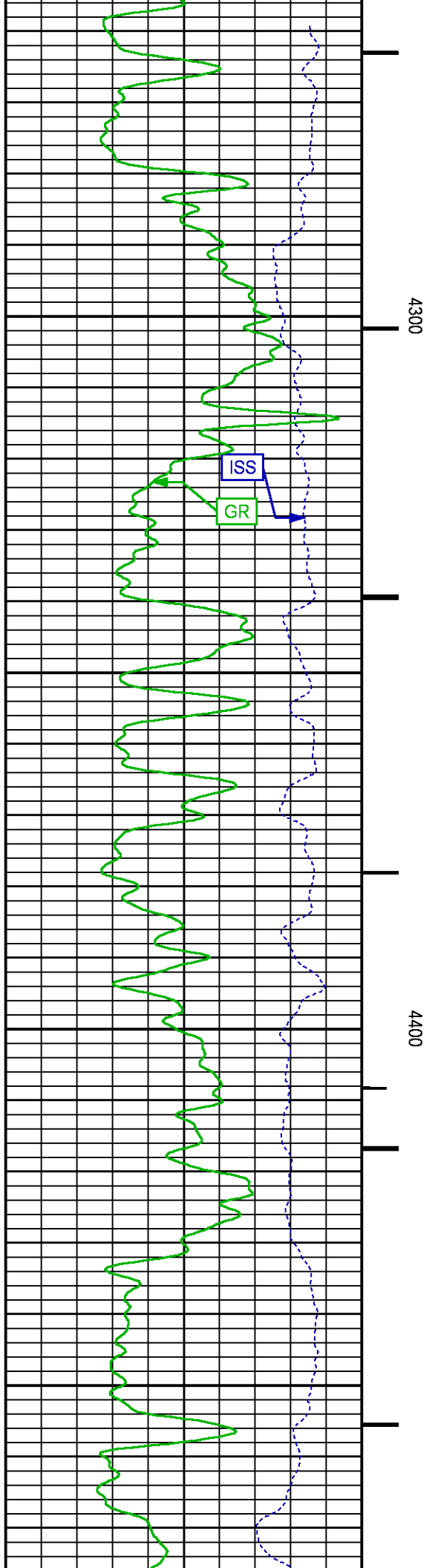
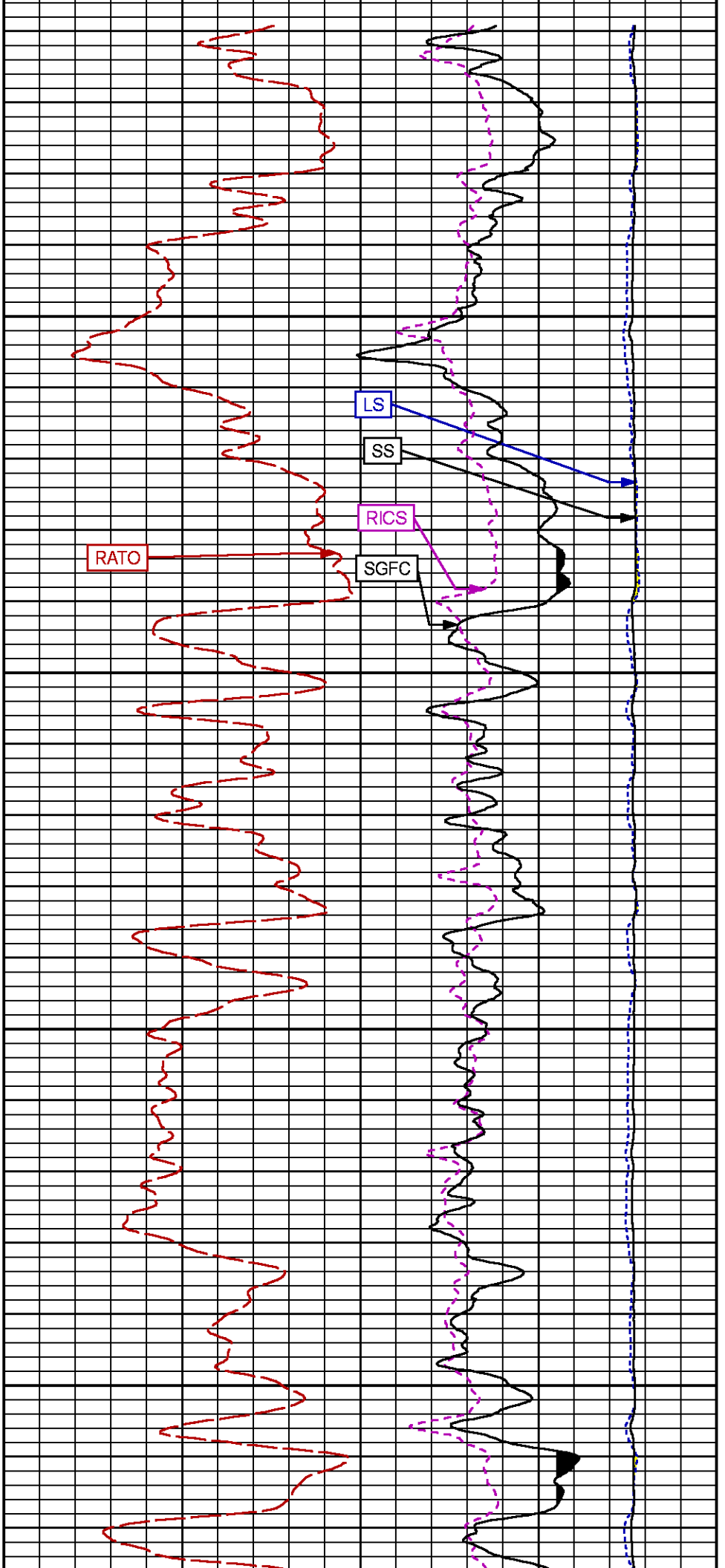
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM

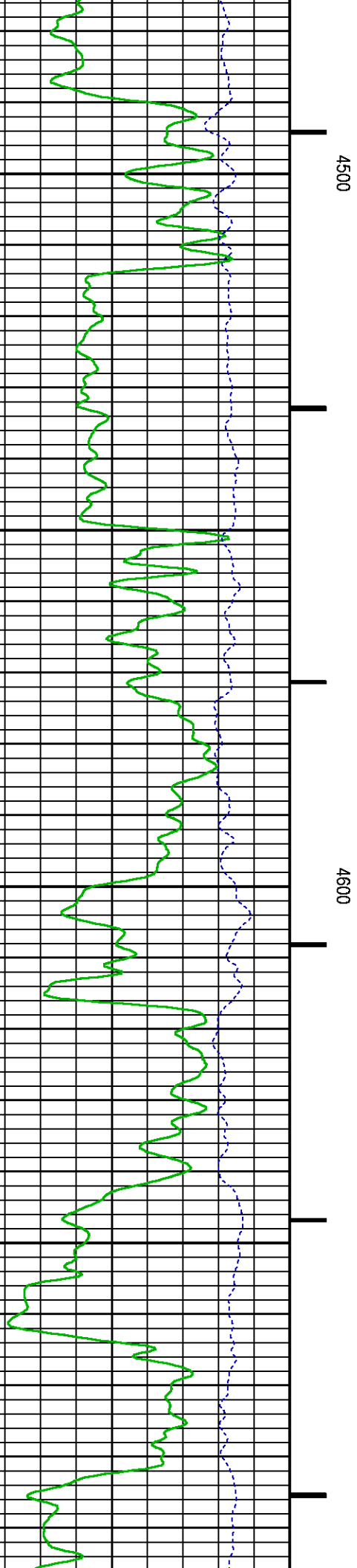
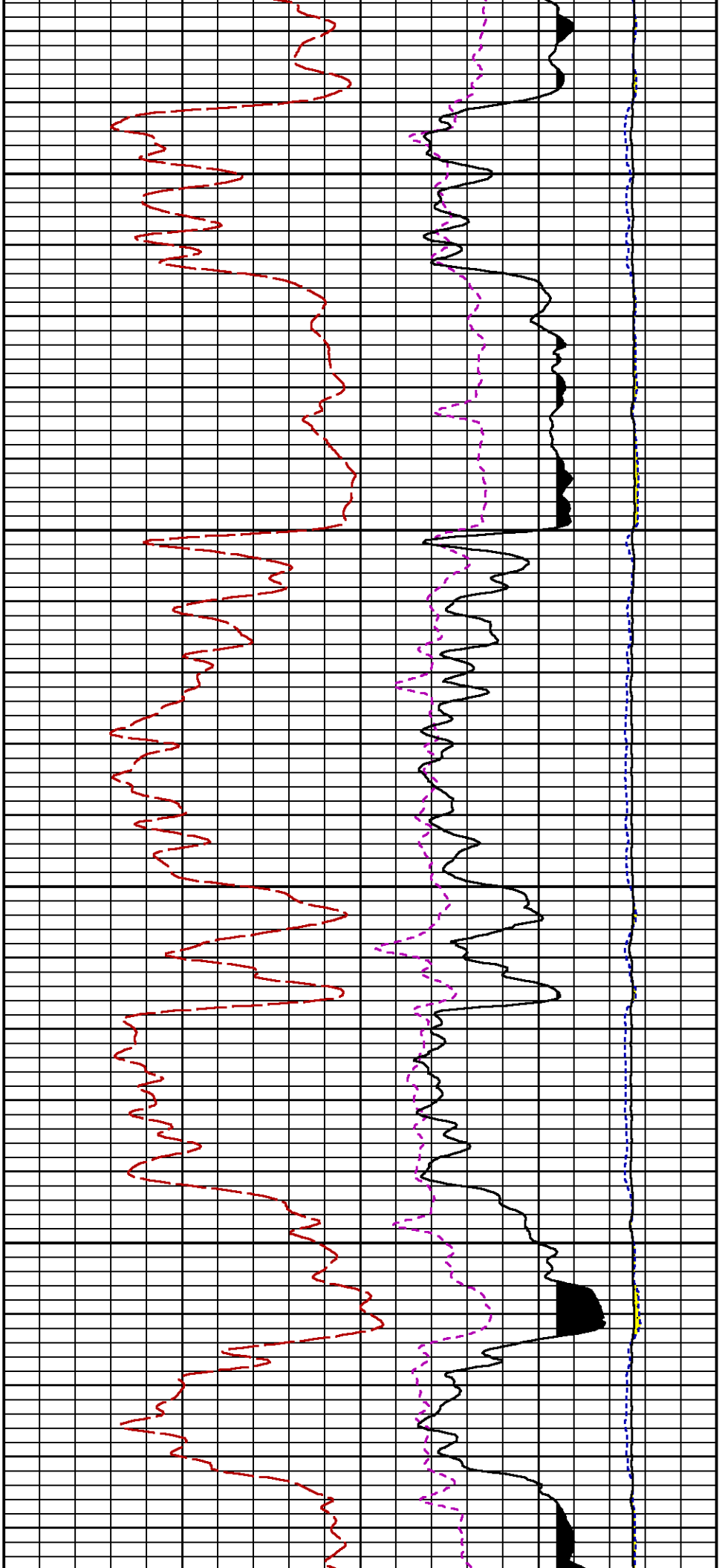
RPM PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	7.88	in	"	"
	LARGEST CASING OD	7.00	in	"	"
	MATRIX	SANDSTONE		"	"

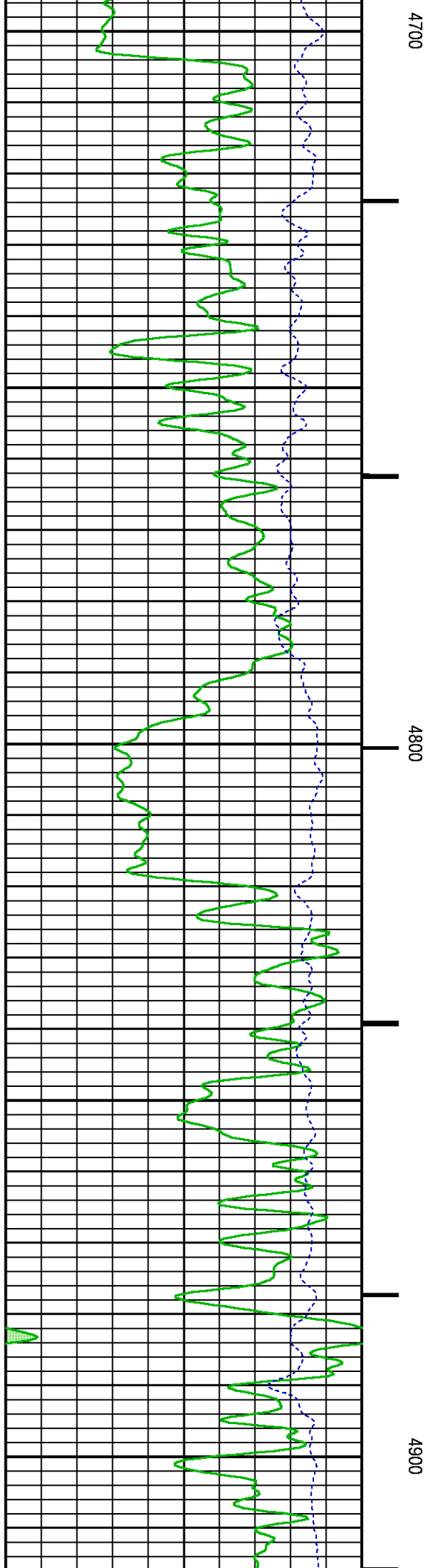
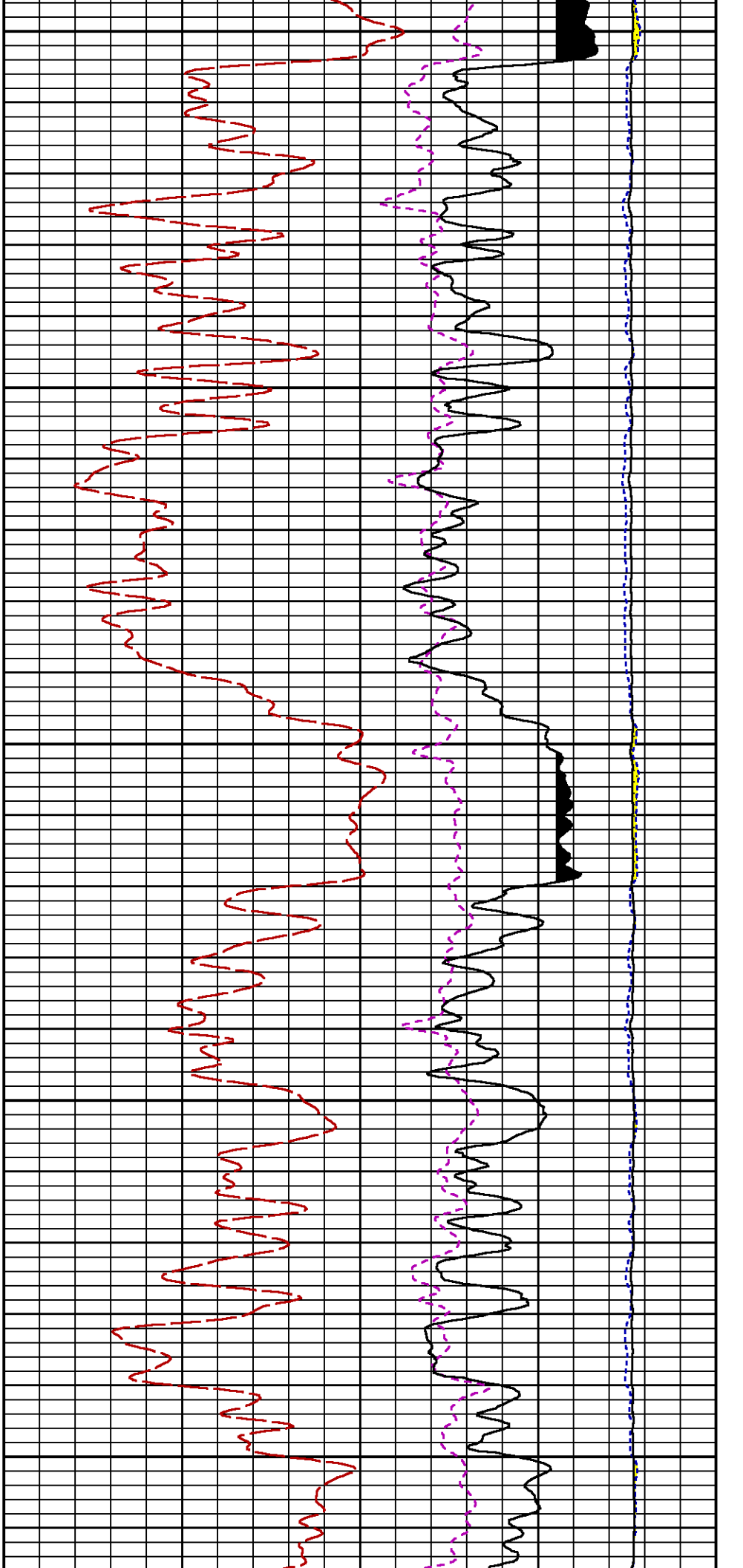
Curve Description Report		
Curve Name	Creation Date	Curve Description
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

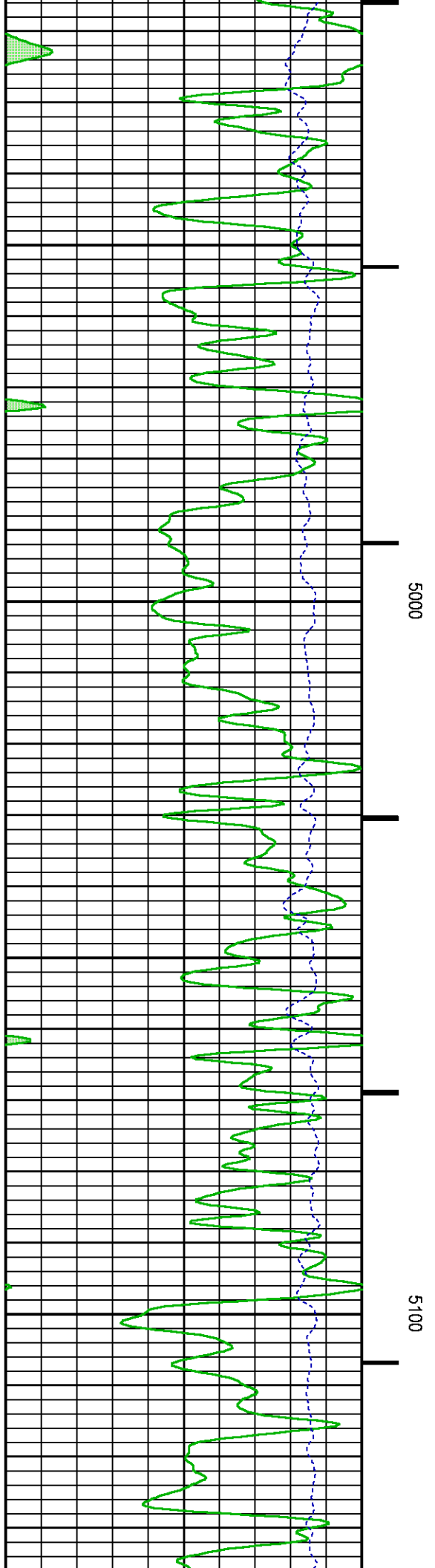
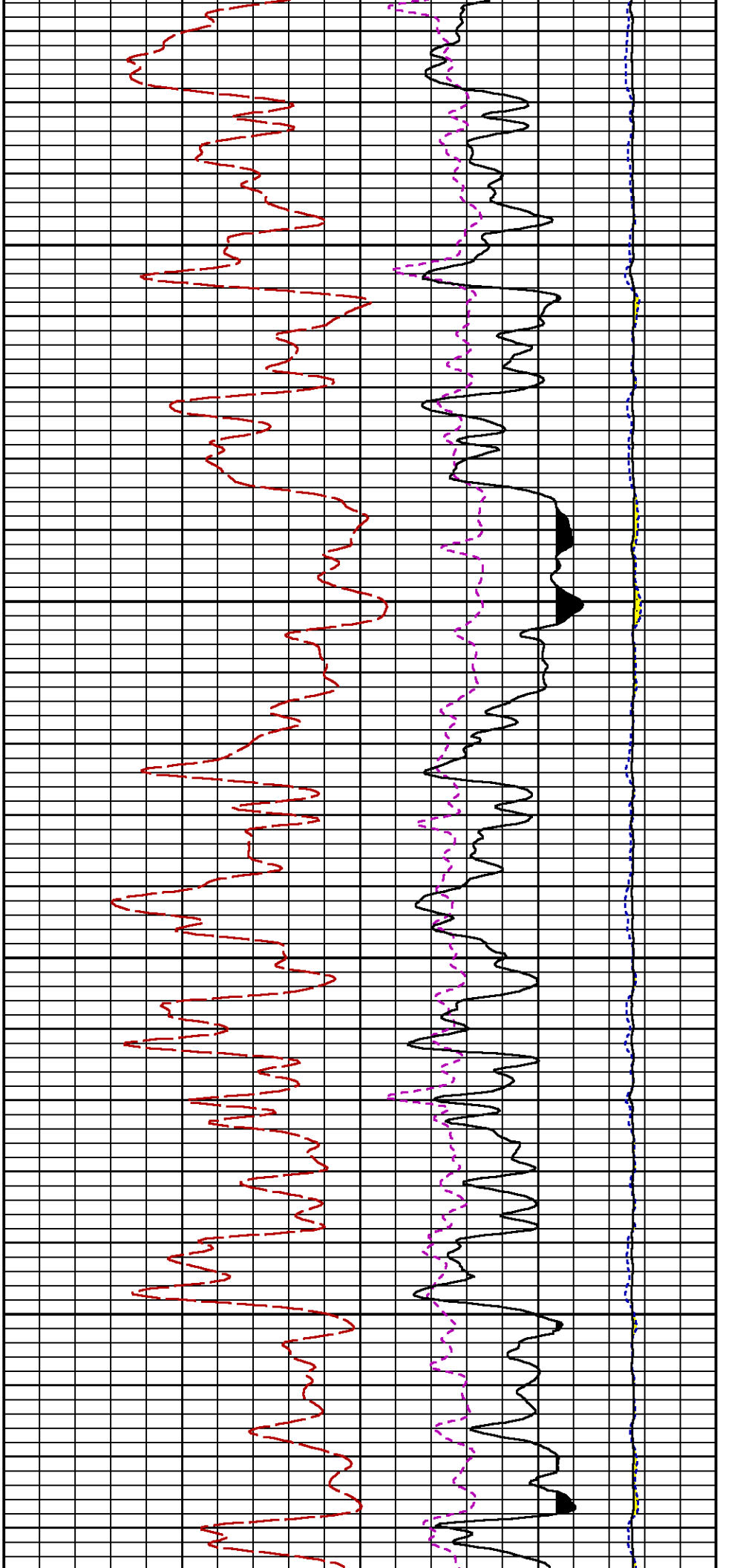
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

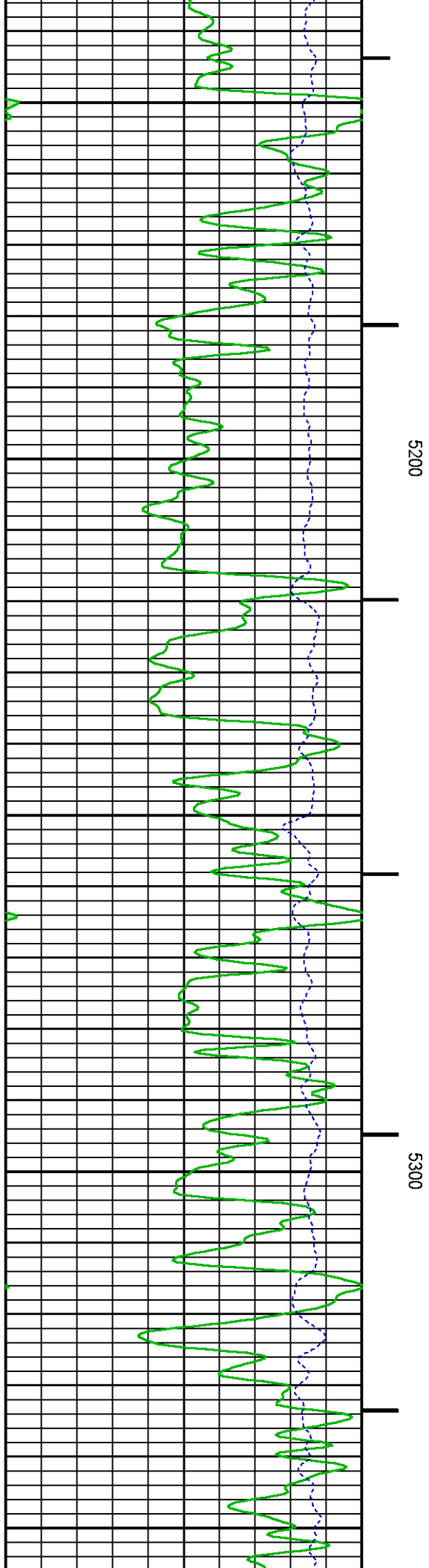
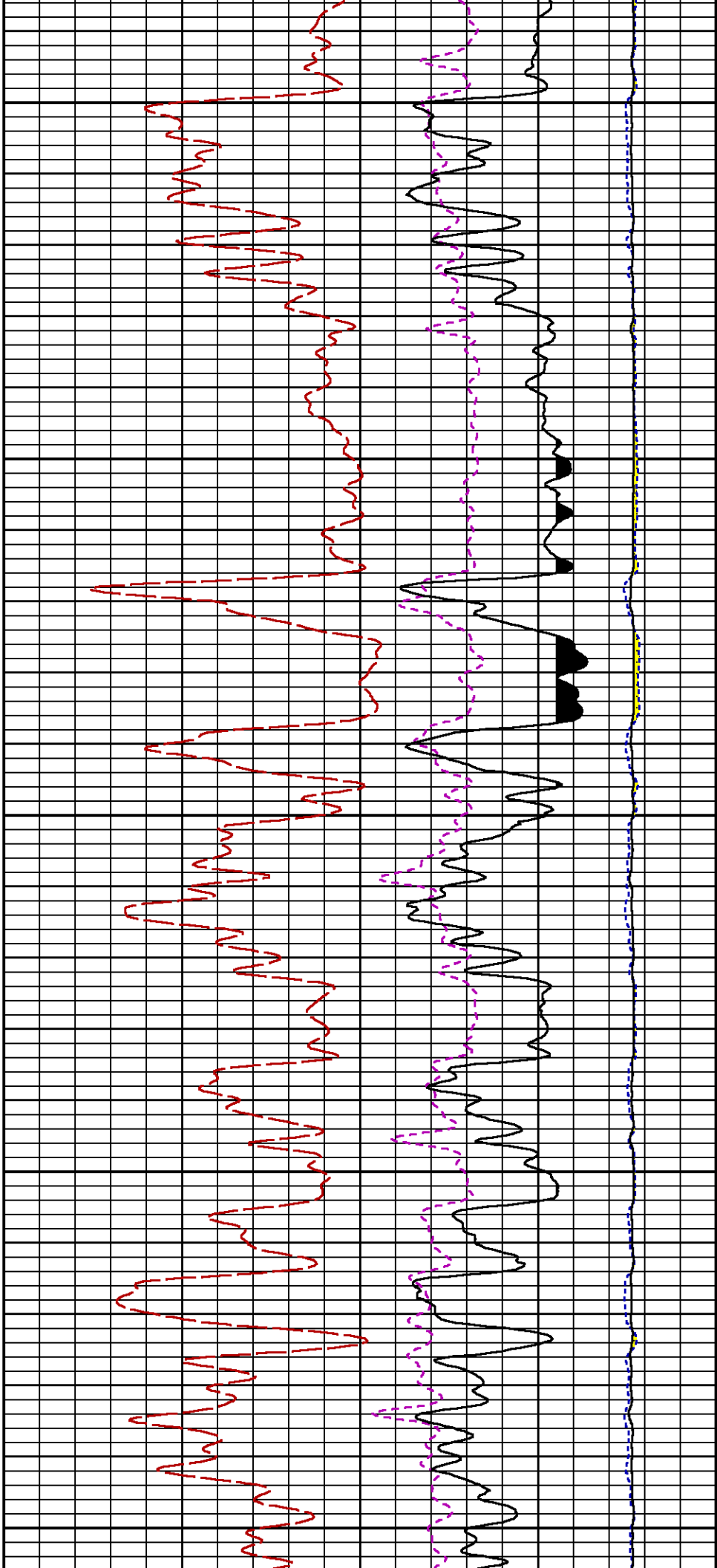
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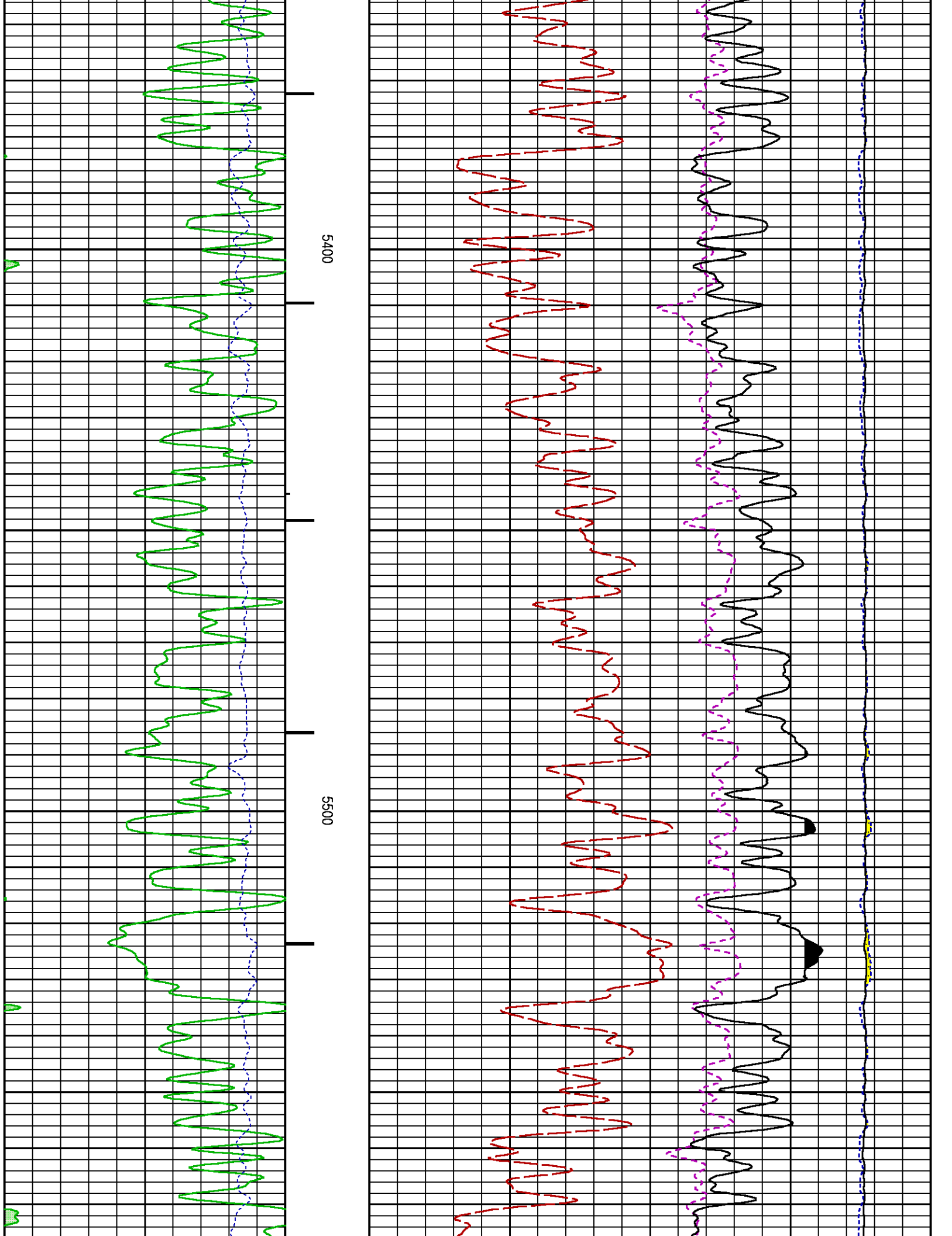


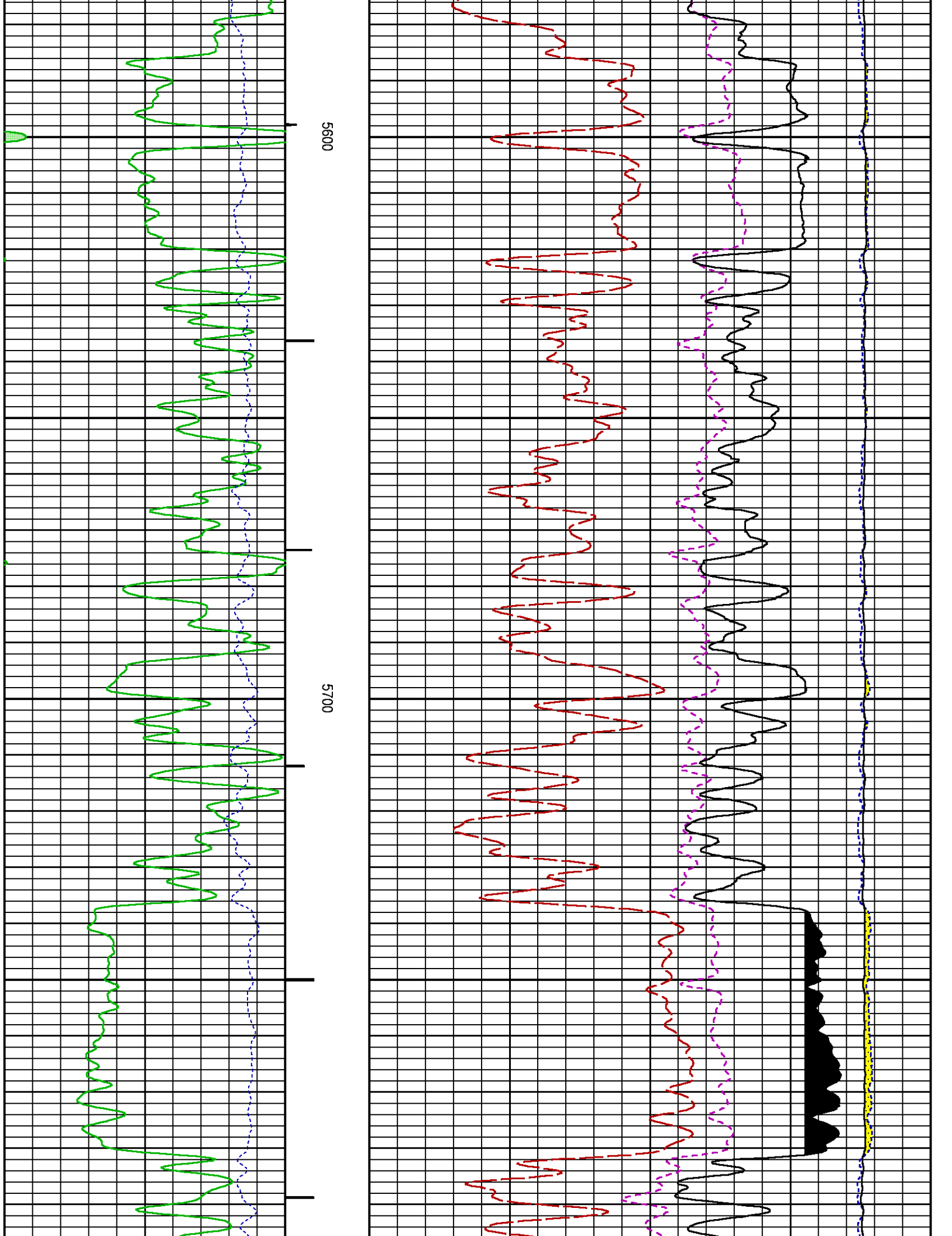


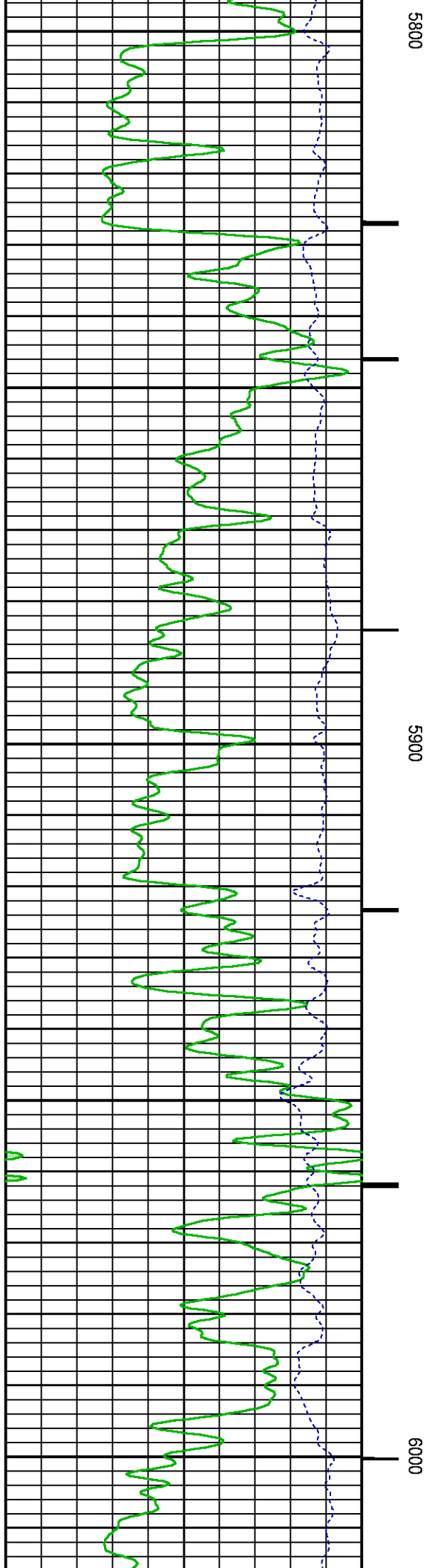
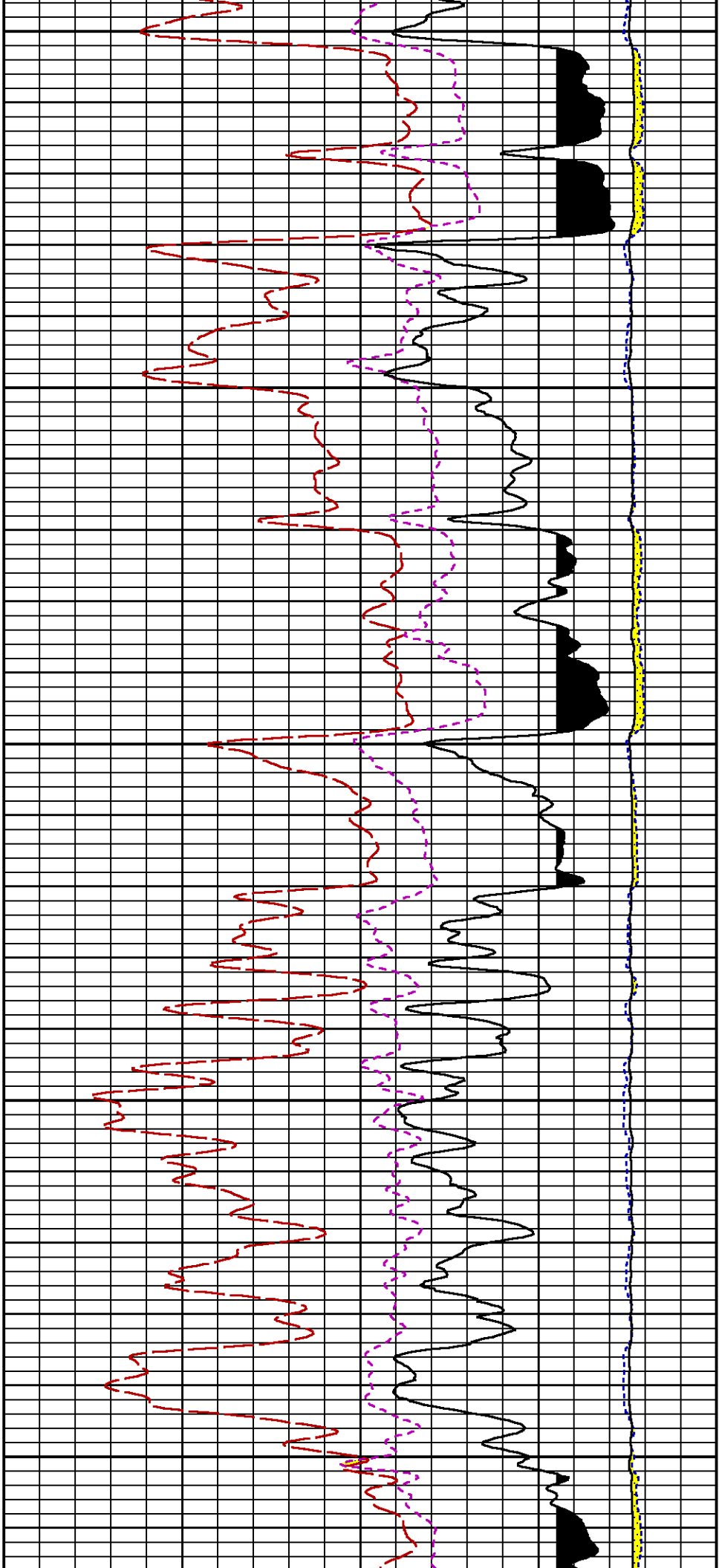


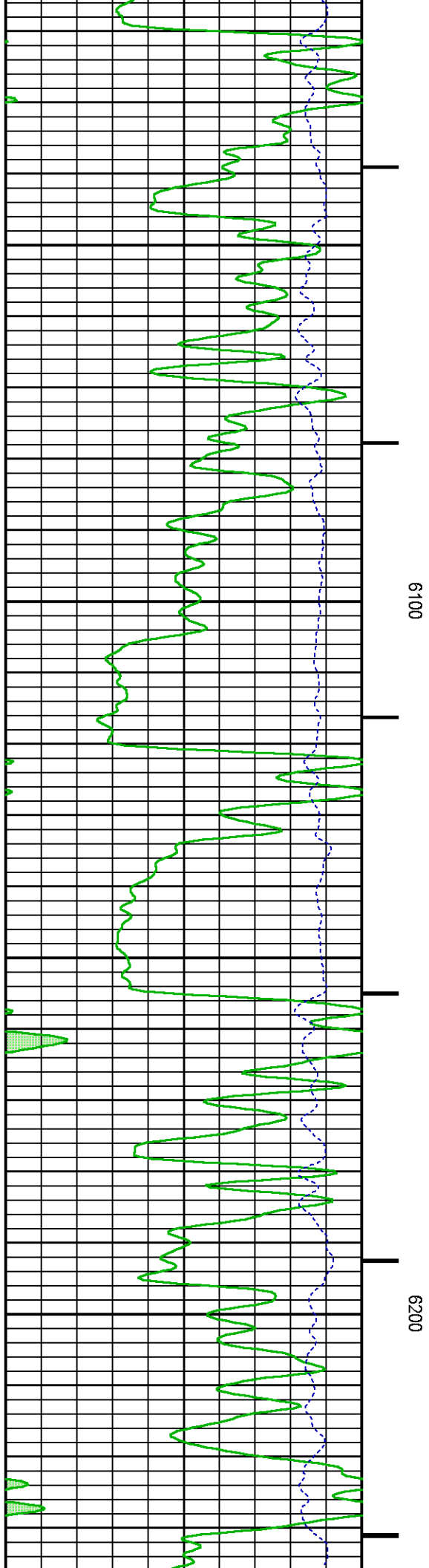
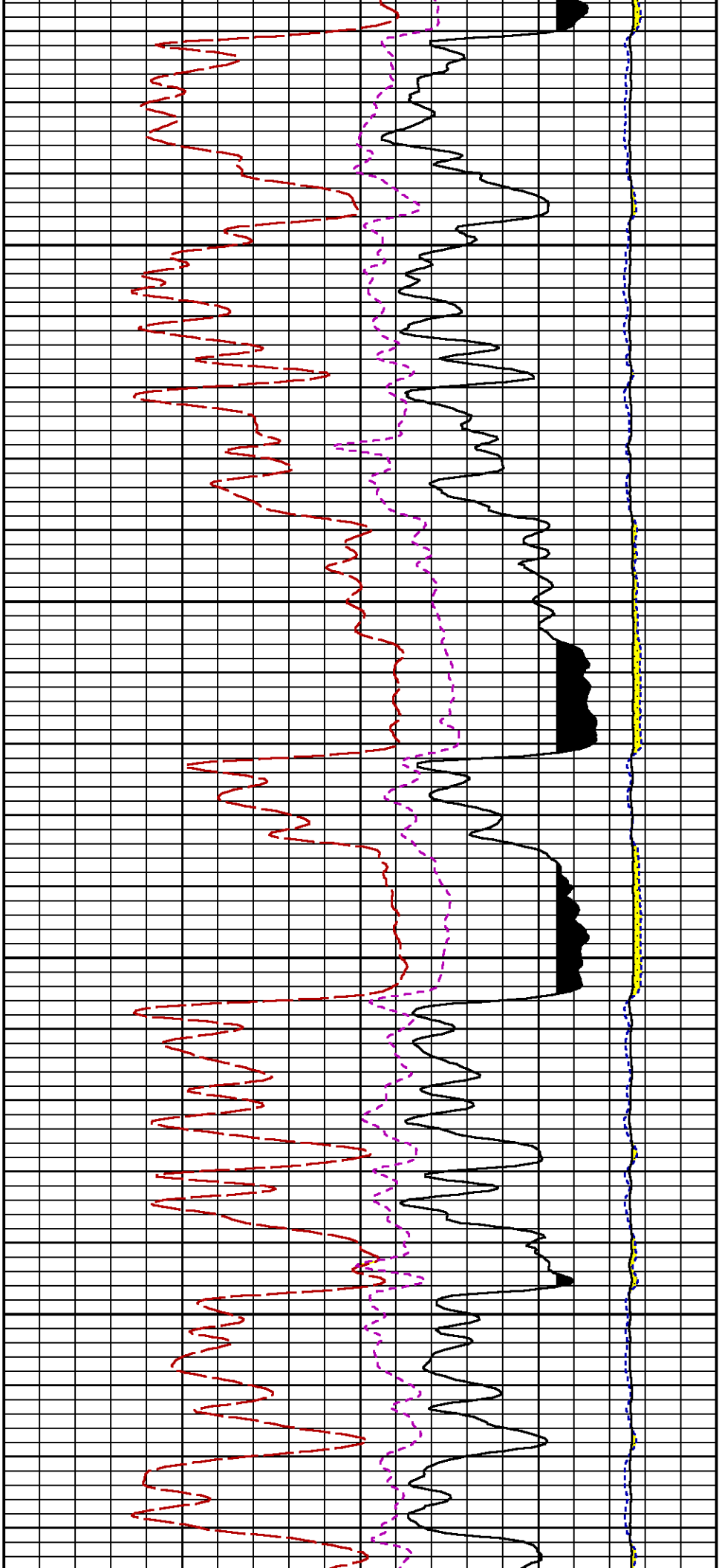


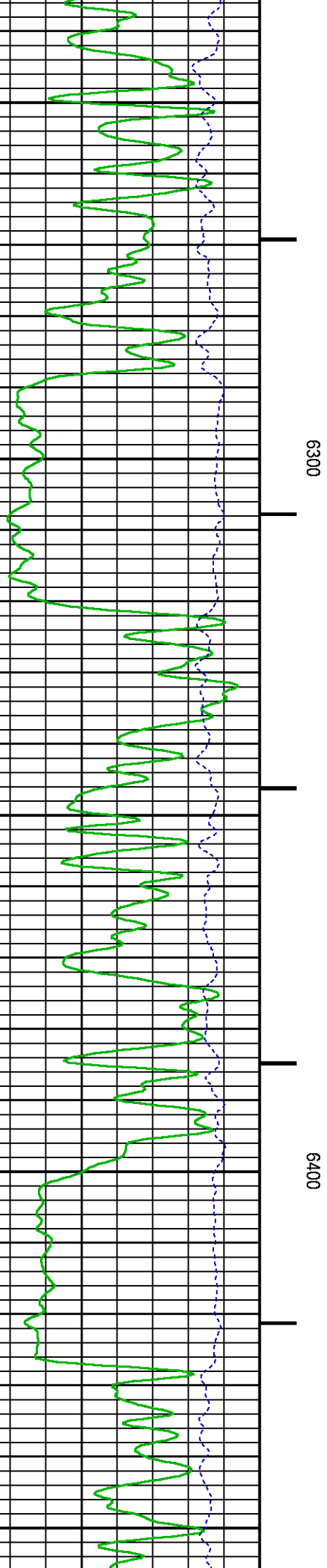
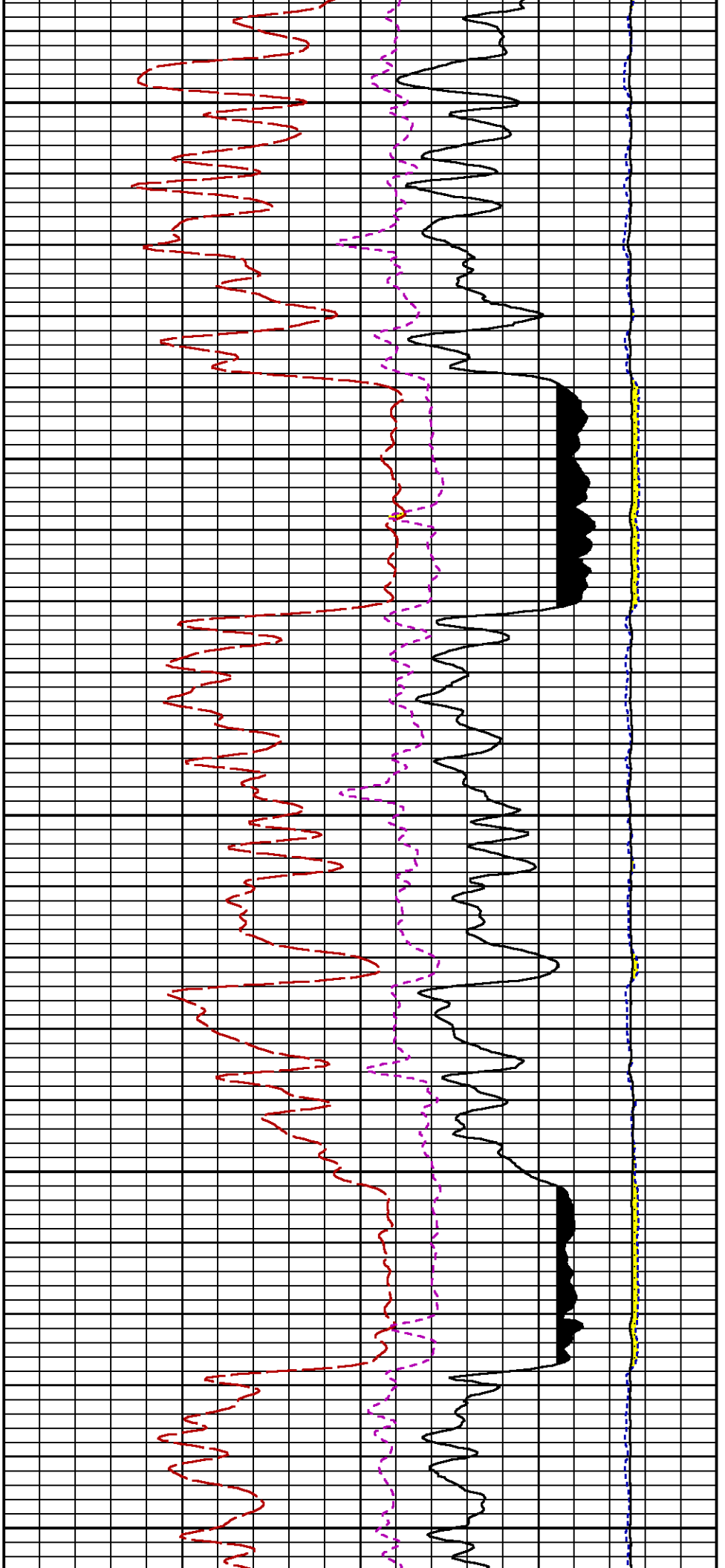


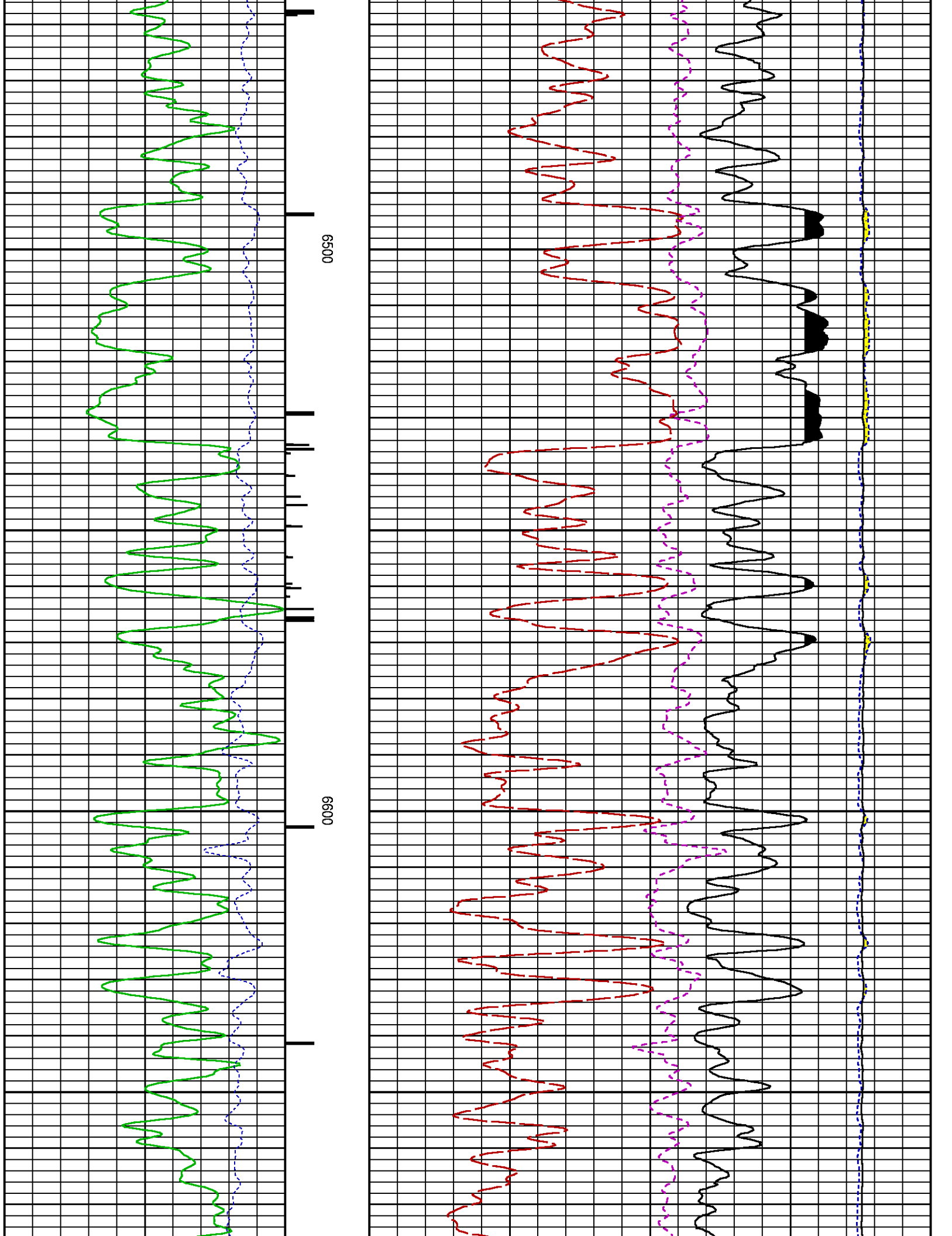


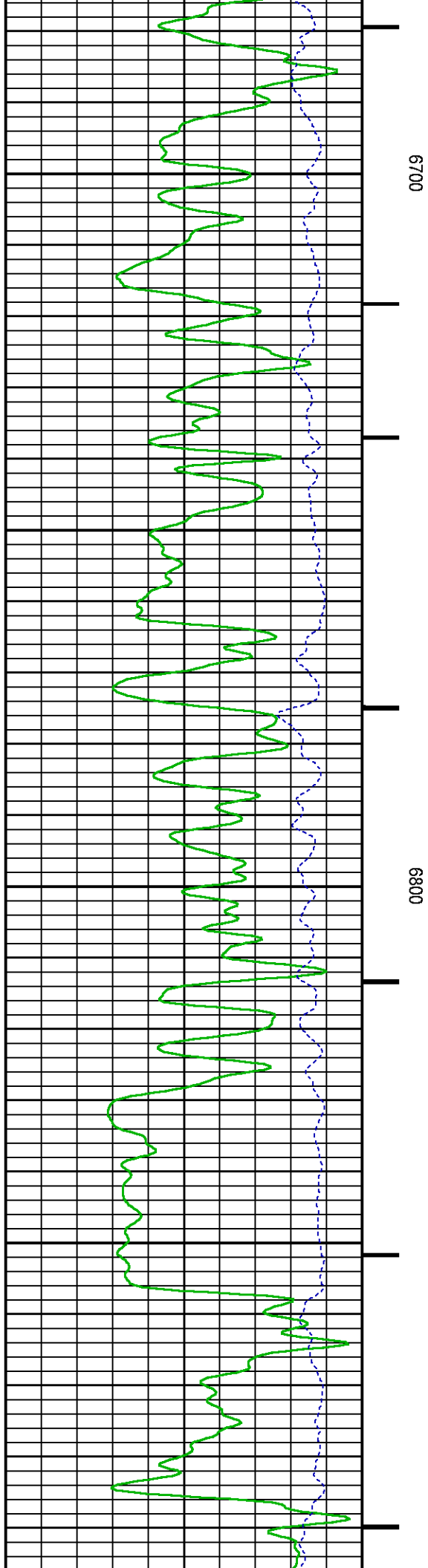
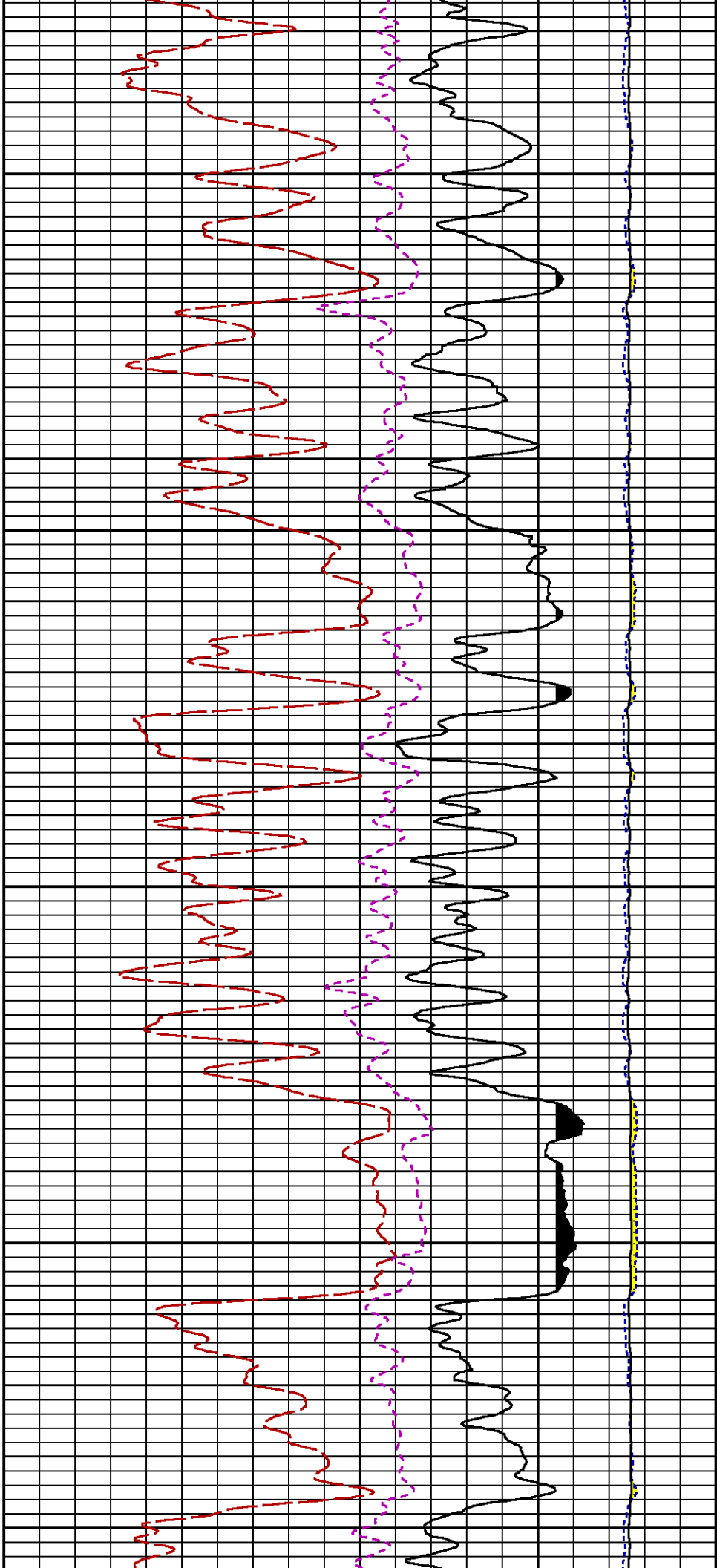


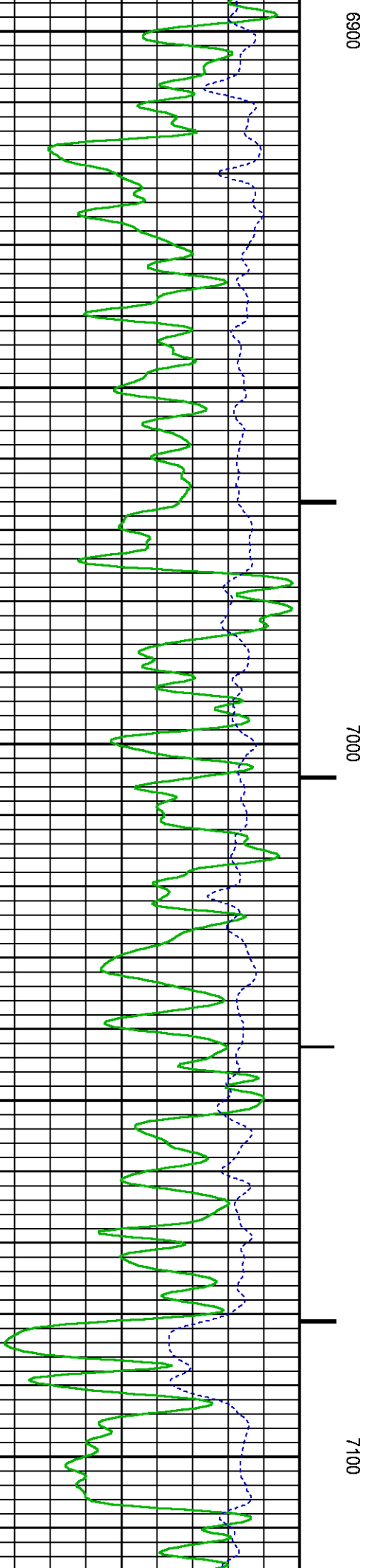
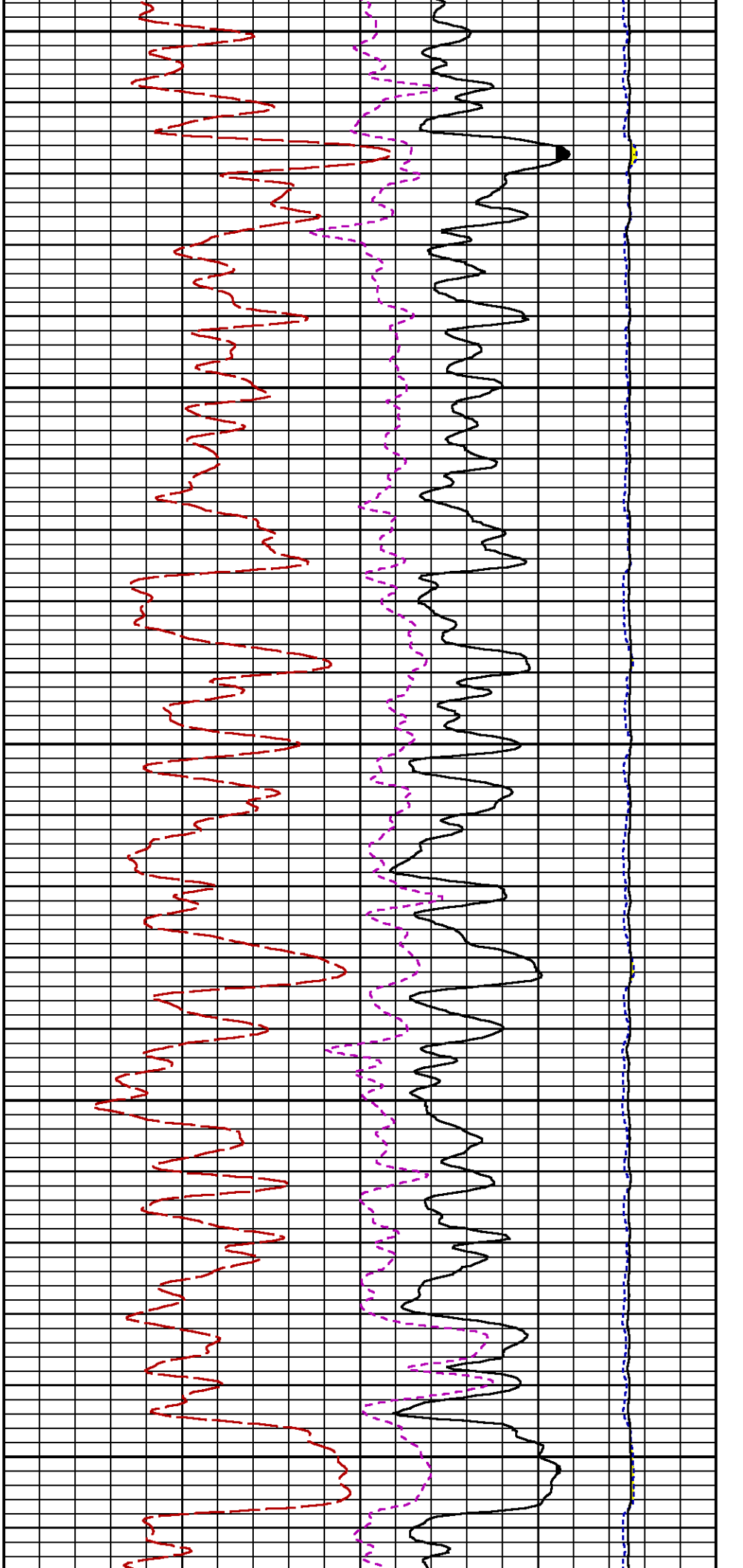


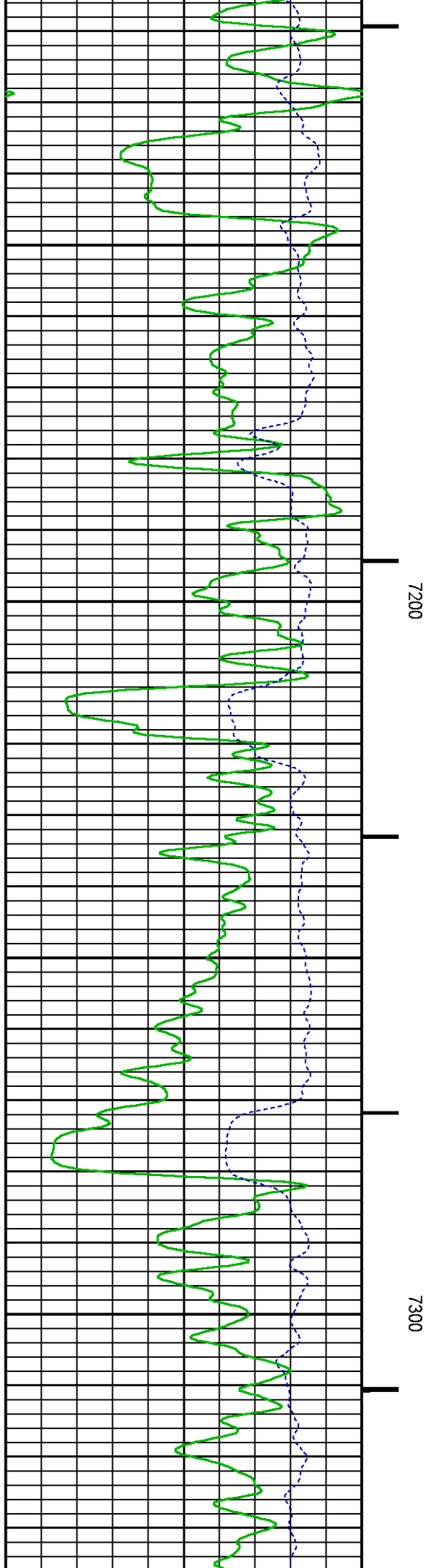
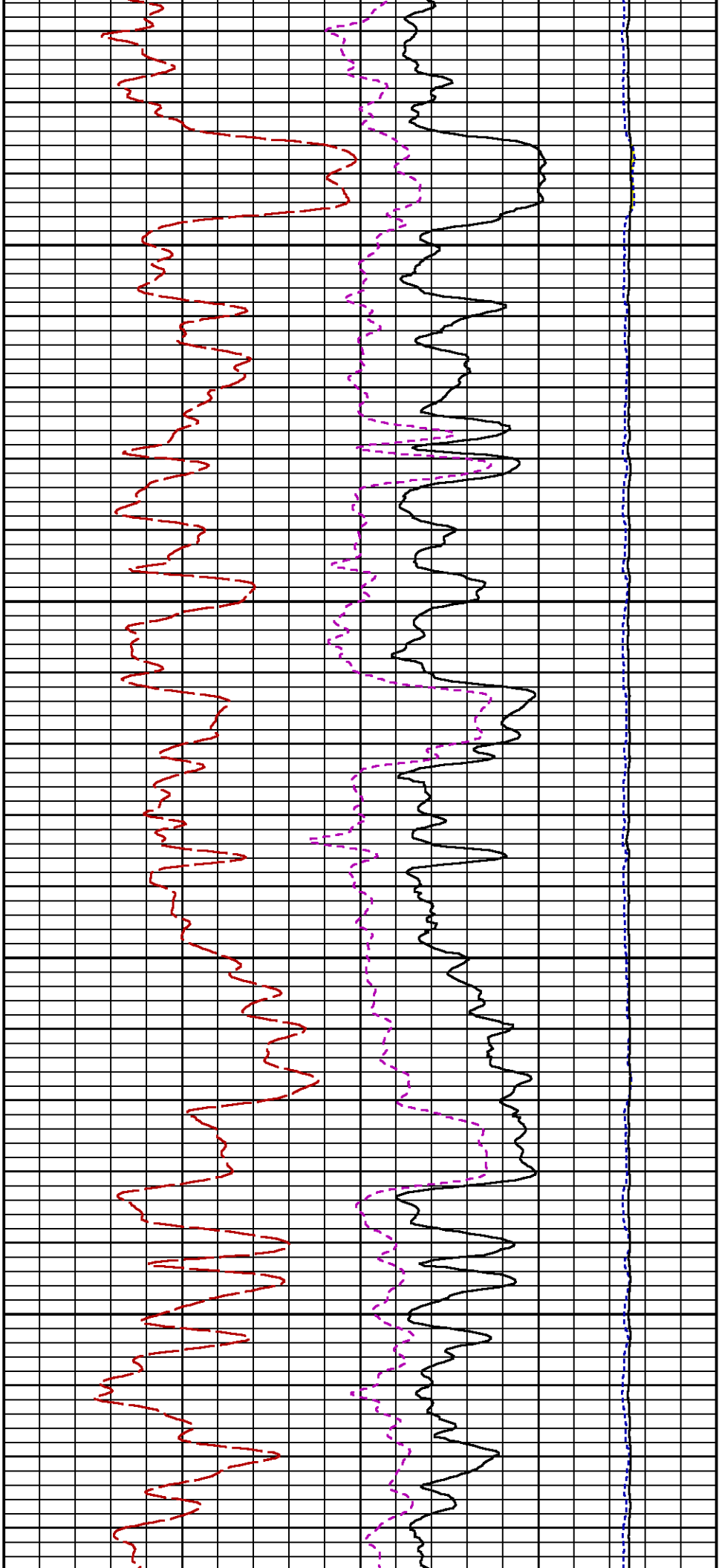


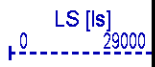
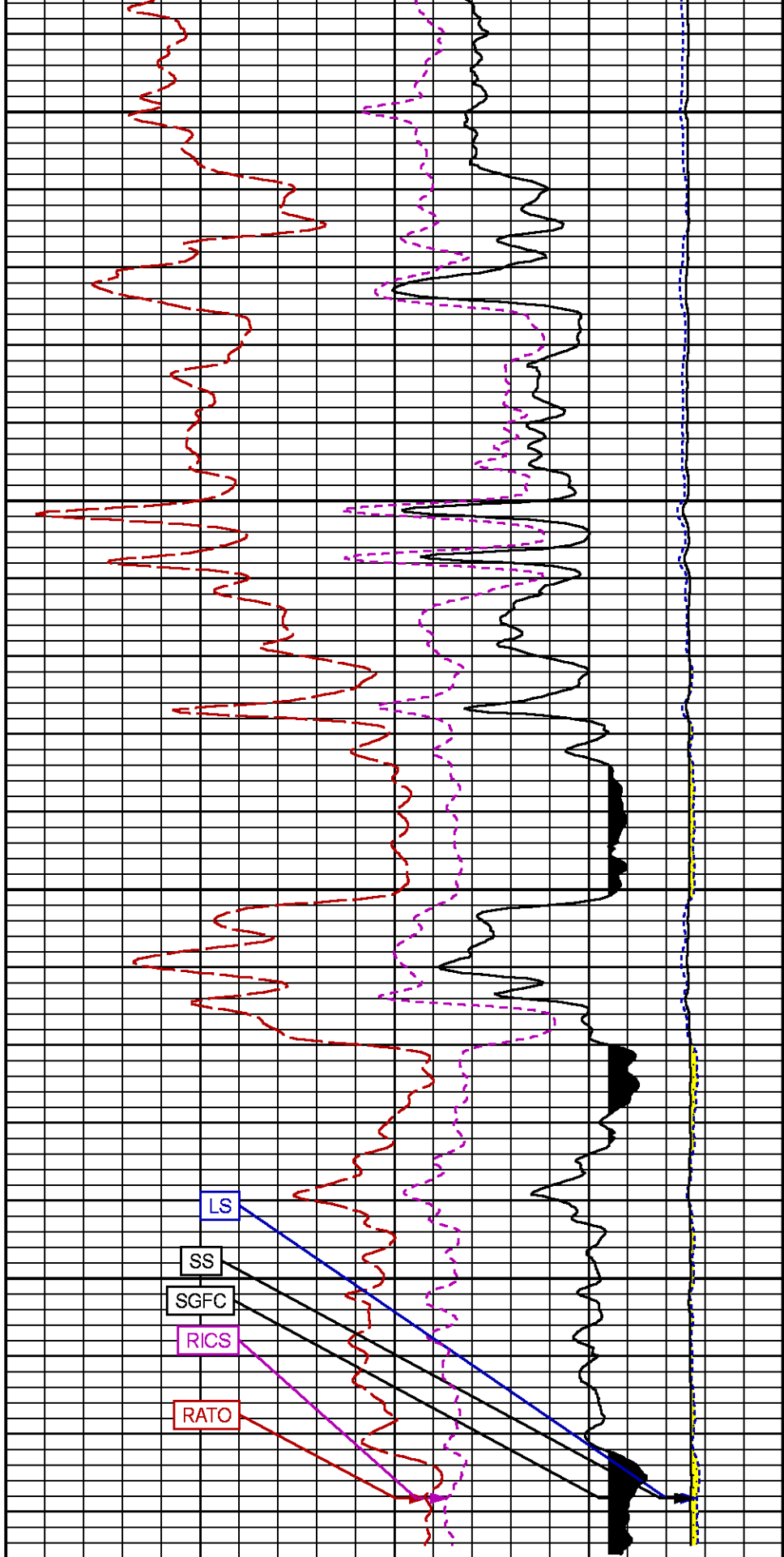
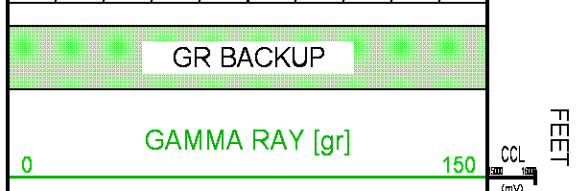
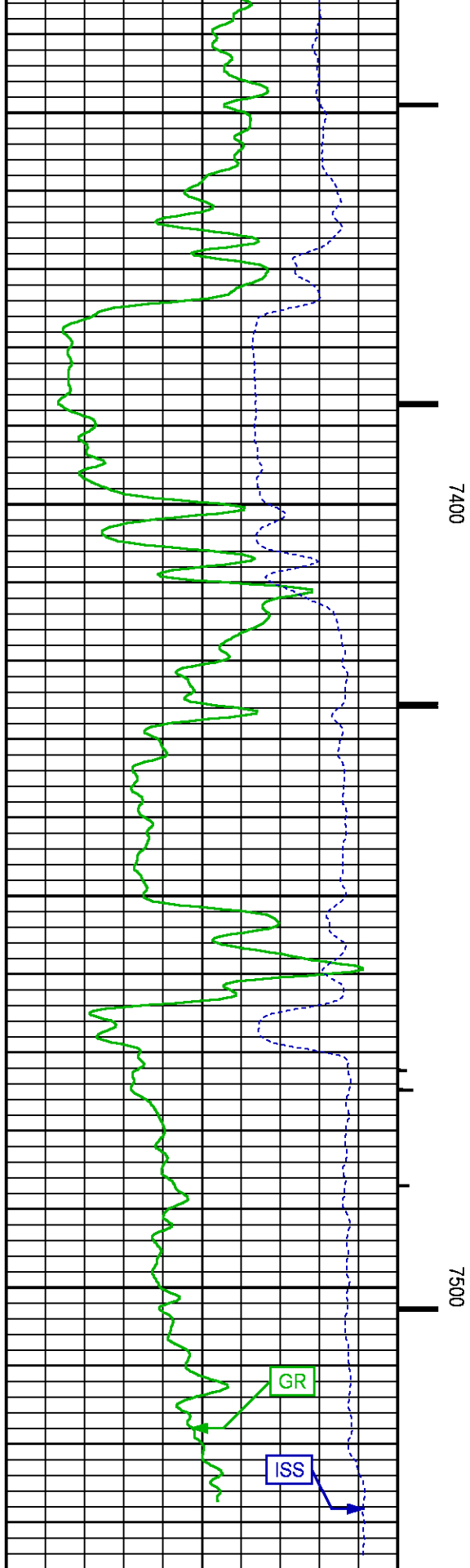












<div><div>(gAPI)</div><div>ISS [iss]</div><div>01E+06</div><div>((cts/s))</div></div>				<div><div></div><div>SS [ss]</div><div>0290000</div><div>((cts/s))</div></div>	
		RATO [rato]			
		(dim)			
		RICS [rics]			
		(dim)			
		SGFC [sgfc]			
		(cu)			

REPEAT PASS PNC 3D MODE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 2

Plotted: Fri Jan 26 14:02:59 2018

PARAMETER AND FILTER SUMMARY REPORT					
<div> <div>FILE: /dat1a/LARAMIE_NICHOLS_0994_24_04E/p353h01.prm</div> <div> <div>LOGGING MODE: DEPTH</div> <div>DIRECTION: UP</div> </div> <div> <div>TOP DEPTH: 4698.750 ft</div> <div>BOTTOM DEPTH: 4924.500 ft</div> </div> </div>					
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	"	"
	LARGEST CASING OD	7.00	in	"	"
	MATRIX	SANDSTONE		"	"

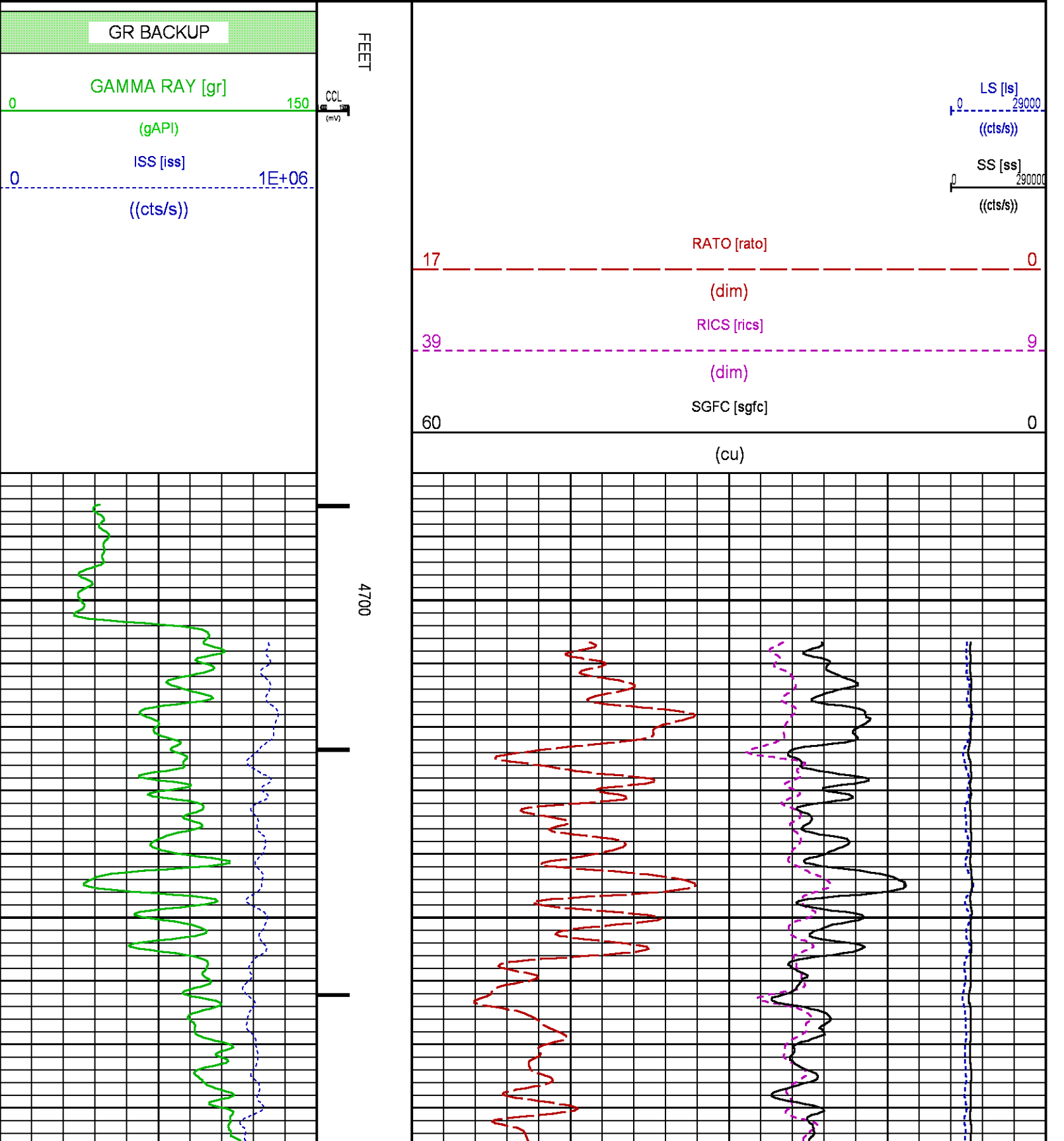
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE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

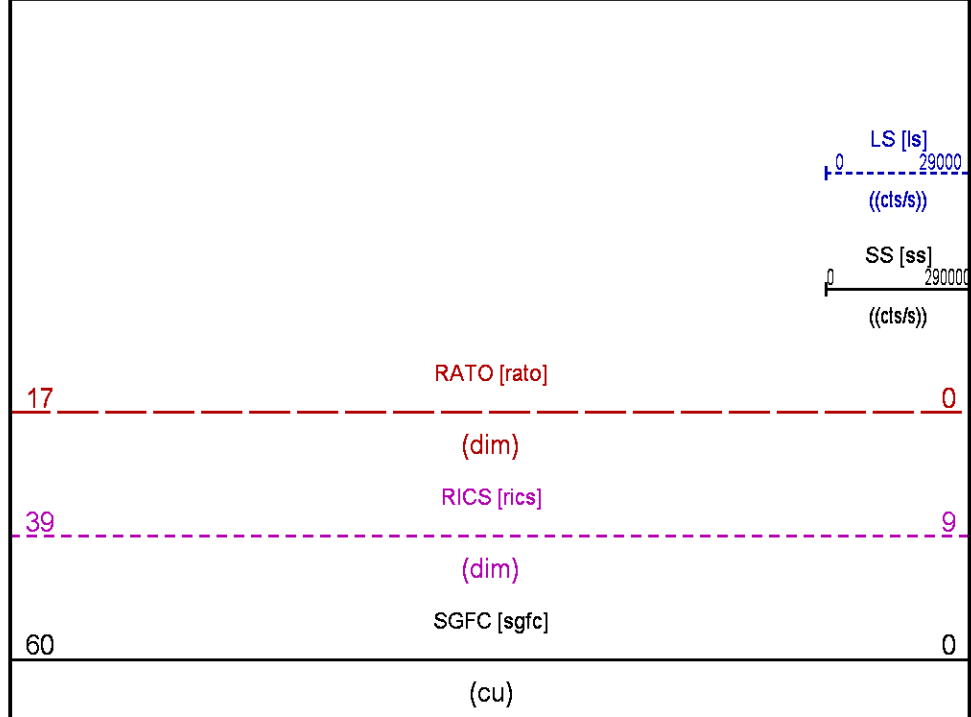
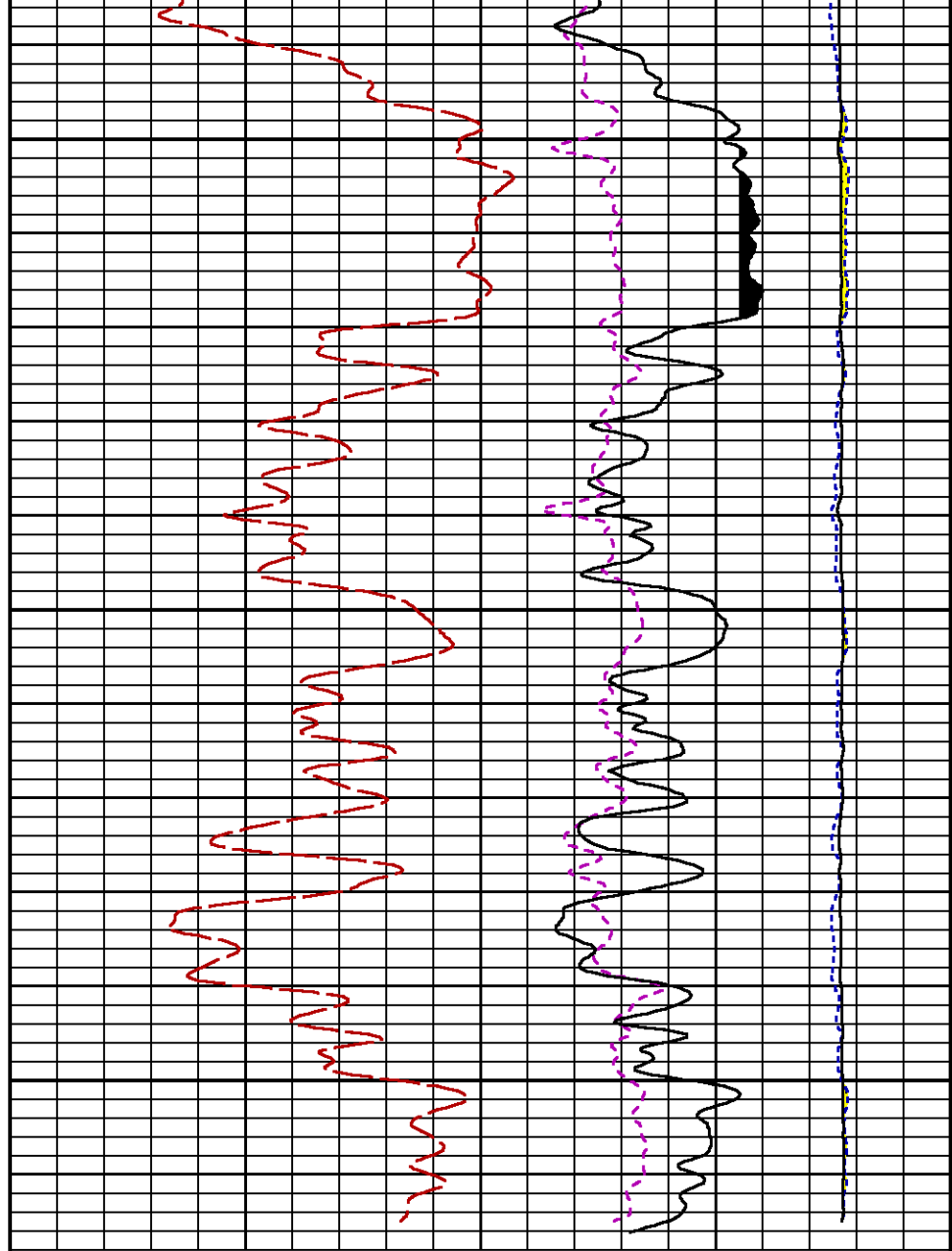
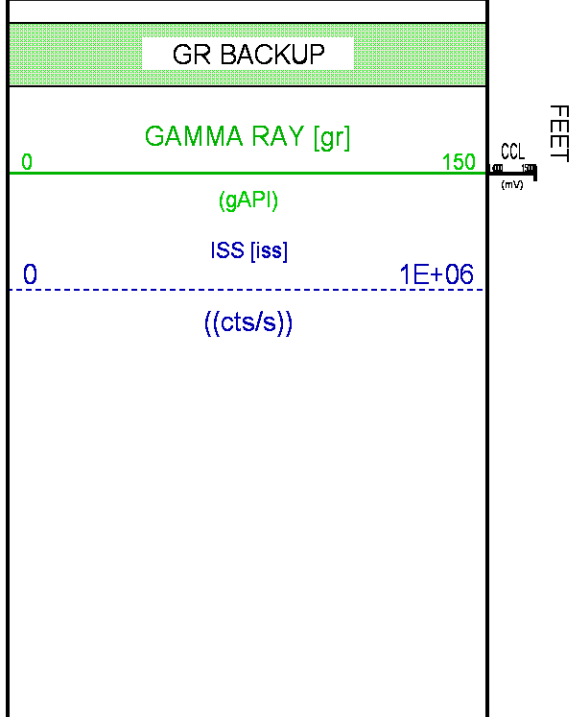
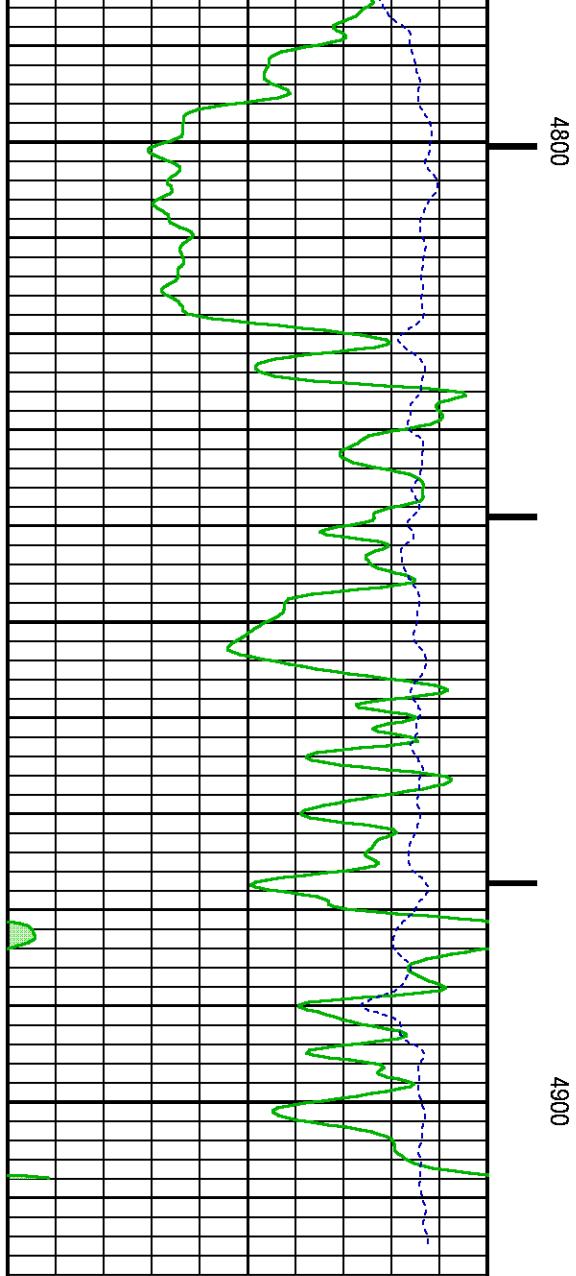
CURVE MEASURE POINT OFFSET					
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)

CCL	-26.00	ISS	-12.75	RATO	-12.75	SGFC	-12.75
GR	-23.00	LS	-12.75	RICS	-12.75	SS	-12.75

Presentation : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_04E/LARAMIE_RPM+01-REPEAT-RPM_RPT_04E-5.fvpdf [5"/100' Scale]
Plot Interval : 4680.75 - 4922.5 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994_24_04E/RPM_RPT_04E.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : NICHOLS 0994-24-4E
Field : VEGA
File Interval : 4680 - 4931.25 Feet
OCT : p353h





CALIBRATION / VERIFICATION SUMMARY

Source File: Adat1a1.ARAMIE_NICHOLS_0994_24_04E/p353h1p1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA10317216 DATE/TIME PERFORMED: Sat Jan 20 08:55:31 2018
UNIT #: 4352 ML4352 CALB JIG #: 4702NKDA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	58.42	336.96	278.5	0.664	38.80	223.80	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA10317216 DATE/TIME PERFORMED: Sat Jan 20 08:58:00 2018
UNIT #: 4352 ML4352 VERI JIG #: 4702NKDA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	59.02	336.93	0.664	39.20	223.79	184.59
						175.03 - 195.03

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA10190200 DATE/TIME PERFORMED: Sat Jan 20 11:23:45 2018
UNIT: 3882TD HL6728 CALIBRATOR: 2437XB120052 SOURCE: 8281AA10408960 HOURS: 8281AA98

	ISS	Mr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	809388	126	2266	2230	2285	93	9.5	0.9606
Interpolated	1300000	153	2243	2224	2277			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	809388	7357	1127	150	26.22	0.14	24.24	0.31
					26.76 - 26.40	0.03 - 0.03	23.40 - 24.60	0.03 - 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	809388	175615	27609	96901	34428	8787	58424	14068
Fit Quality %		1.010	1.290	1.259	1.256	1.310	1.081	1.352

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
			ISSALS	ISSAXS	ISSACSS	SSALS	SS2ALS	CSS/CLS
Raw Data	809388	1.43	4.61	29.33	13.85	11.03	3.92	4.15
		1.42 - 1.45	4.55 - 5.02	22.00 - 32.00	10.00 - 16.00	10.00 - 11.00	3.50 - 3.95	3.76 - 4.25
Fit Quality %		0.057	0.296	0.312	0.307	0.010	0.041	0.063
Reduced	1401166	1.43	4.62	29.41	13.90	11.03	3.92	4.16
		1.42 - 1.45	4.55 - 5.02	22.00 - 32.00	10.00 - 16.00	10.00 - 11.00	3.50 - 3.95	3.76 - 4.25

TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA11774568 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

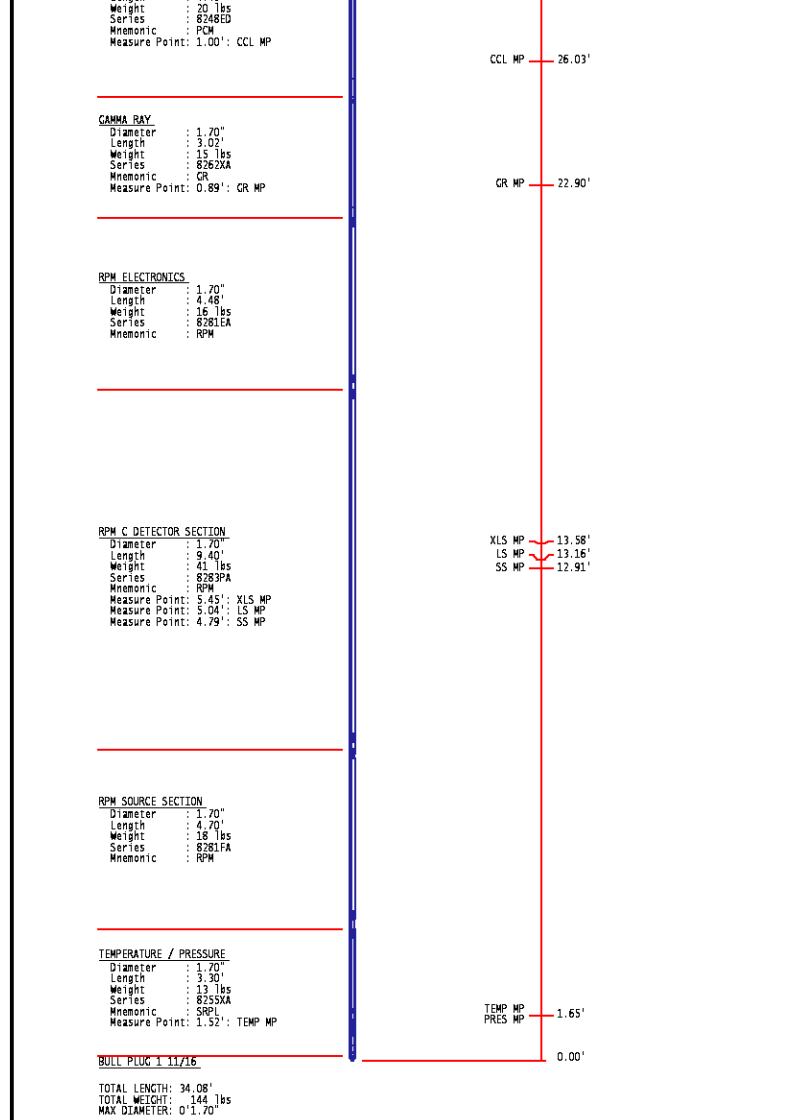
Source File: Adat1a1.ARAMIE_NICHOLS_0994_24_08ERPM_3D_TEMP1dg

A3 CABLEHEAD
Diameter : 1.37"

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

TELEMETRY / CCL
Diameter : 1.70"
Length : 4.46"

34.08"



COMPANY LARAMIE ENERGY LLC
WELL NICHOLS 0994-24-04E
FIELD VEGA
COUNTY MESA **STATE** COLORADO

FILE NO: _____
API NO: 05077104200000

LOCATION:
 SHL: 39.264540 N; 107.830679 W
 BHL: 39.267392 N; 107.826029 W
SEC 24 **TWP** 9 S **RGE** 94 W

ELEVATIONS:
 KB 7161 FT
 DF 7160 FT
 GL 7137 FT
DATE 26-Jan-2018