



FILE NO: COMPANY LARAMIE ENERGY

API NO: WELL PICEANCE FEDERAL 29-18E

05-077-10364-0000 FIELD VEGA

COUNTY MESA STATE COLORADO

Ver. 4.06 LOCATION: OTHER SERVICES

SHL: LAT:39.248795N; LONG:107.788006W
BHL: LAT:39.243580N; LONG:107.788356W

SEC 29 TWP 09 S RGE 93 W

PERMANENT DATUM GL ELEVATION 7631 FT
LOG MEASURED FROM KB 30 FT ABOVE P.D.
DRILL. MEAS. FROM KB

ELEVATIONS:
KB 7661 FT
DF
GL 7631 FT

DATE 30-MAY-2017

RUN 2 TRIP 1

SERVICE ORDER US123641J

DEPTH DRILLER 7995 FT

DEPTH LOGGER 7849 FT

BOTTOM LOGGED INTERVAL 7849 FT

TOP LOGGED INTERVAL 2450 FT

TIME STARTED 07:00

TIME FINISHED 13:00

OPERATOR RIG TIME 6 HRS

TYPE OF FLUID IN HOLE WATER

FLUID DENSITY NA

FLUID SALINITY NA

FLUID LEVEL 53 FT

LOGGED CEMENT TOP NA

WELLHEAD PRESSURE 0 PSI

MAXIMUM HOLE DEVIATION NA

NOMINAL LOGGING SPEED 15 FMIN

MAX. RECORDED TEMP. 242 DEGF

REFERENCE LOG BAKER HUGHES GR/CBL

REFERENCE LOG DATE 29-MAY-2017

EQUIP. NO. LOCATION HL-6670 WOODWARD

RECORDED BY S.YASSA

WITNESSED BY R.CATES/A.MCCARTHY

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	-	0 FT	7995 FT

REMARKS
RUN 2 TRIP 1: *2 OPERATIONS IN WELL*
OPERATION 2: CCL/GR/RPM RUN IN COMBINATION
LOGGED WITH 0 PSI AT THE WELLHEAD
SJ1: 6987'-6975'
SJ2: 6154' - 6132'
CREW: JOE.PENA , S.AKKOUCH

EQUIPMENT DATA				
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.
2	1	FEELER	2252 5A/2212 5B	15122221/1222221

2	1	TELEMETRY	8250 EA/8248 ED	1510000/11908681	FREE
2	1	GAMMA RAY	8262 XA	10317216	FREE
2	1	RPM ELEC	8281 EA	10309421	FREE
2	1	RPM	8283 PA/8281 FA	10414345/10401926	FREE
2	1	TEMP	8255 XA	120516	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: 9

Plotted: Tue May 30 13:58:55 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_PNC3D03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2452.000 ft BOTTOM DEPTH: 3103.500 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	8.75	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	May 30 13:12:42 2017	CASING COLLAR LOCATOR
F1:GR	May 30 13:12:42 2017	GAMMA RAY
F1:ISS	May 30 13:12:42 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	May 30 13:12:42 2017	LONG SPACE COUNT RATE
F1:RATO	May 30 13:12:42 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	May 30 13:12:42 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	May 30 13:12:42 2017	CORRECTED FORMATION SIGMA
F1:SS	May 30 13:12:42 2017	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 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/rpm_pnc3d+01-GSAND-29_18E-5.fvpdf [5"/100' Scale]
Plot Interval : 2426.5 - 3094 Feet

Data File 1 : F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_GSAND_18E.xtf
Created On : May 30 13:12:42 2017
Company : LARAMIE ENERGY
Well : PICEANCE 29-18E
Field : VEGA
File Interval : 2425.75 - 3102.75 Feet
OCT : RPM_PNC3

GR BACKUP

GAMMA RAY [gr]

(gAPI)

ISS [iss]

((cts/s))

FEET

CCL
(mV)

2500

GR

ISS

17

RATO [rato]

(dim)

39

RICS [rics]

(dim)

60

SGFC [sgfc]

(cu)

LS [ls]

((cts/s))

SS [ss]

((cts/s))

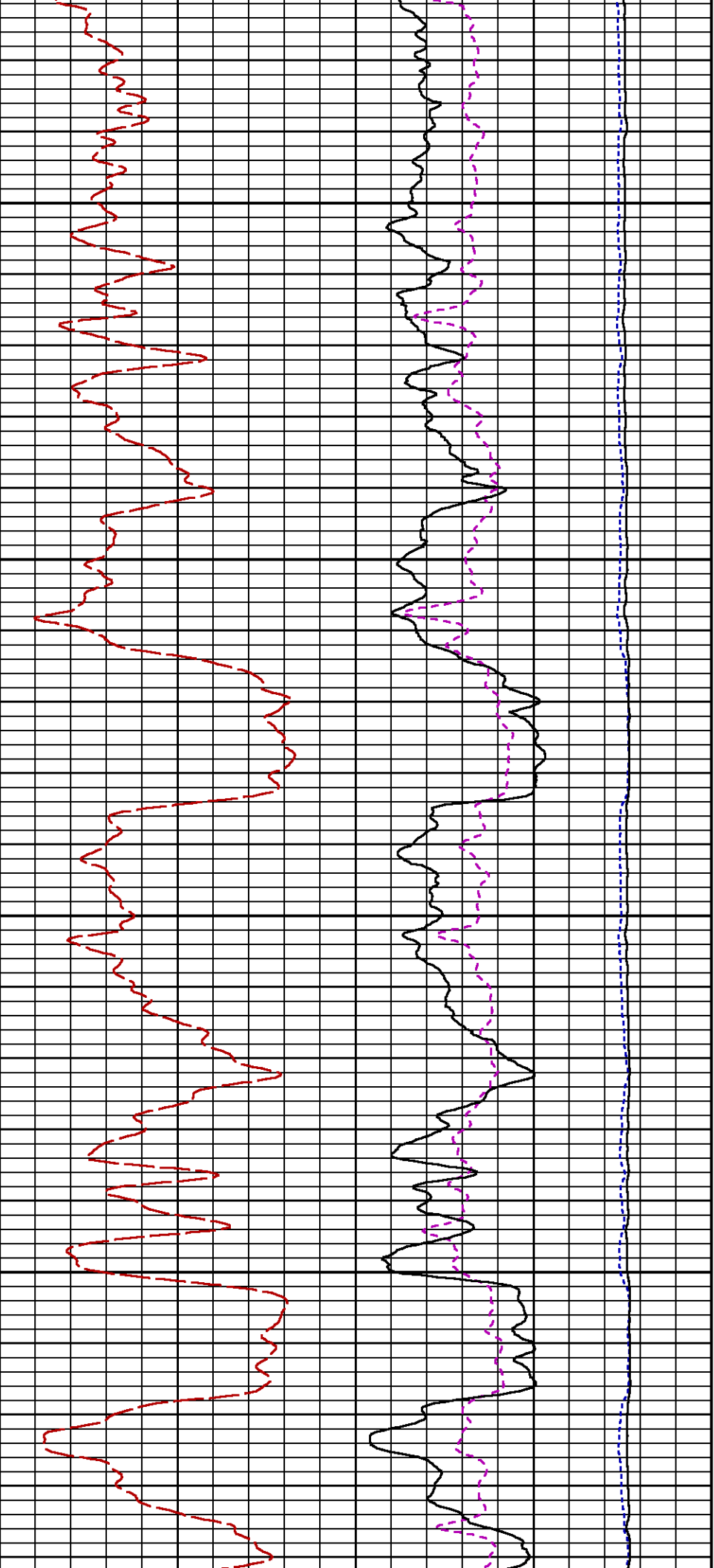
RATO

SGFC

RICS

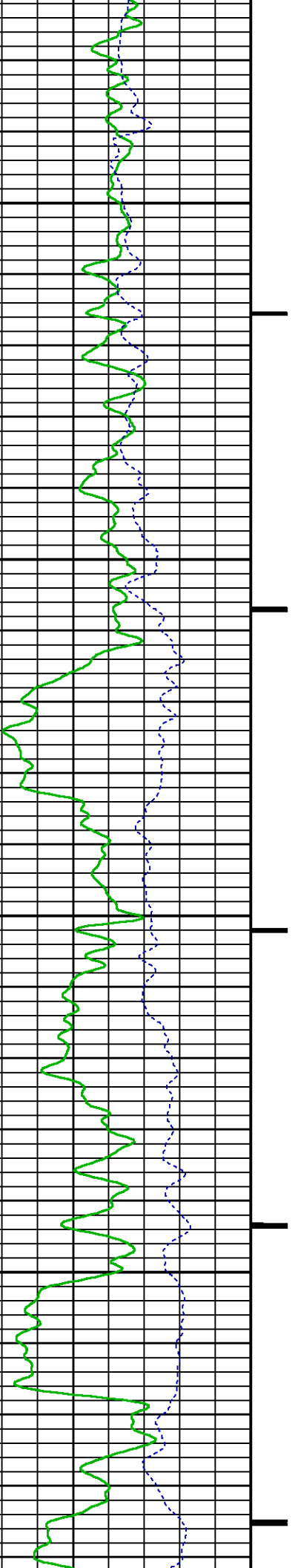
LS

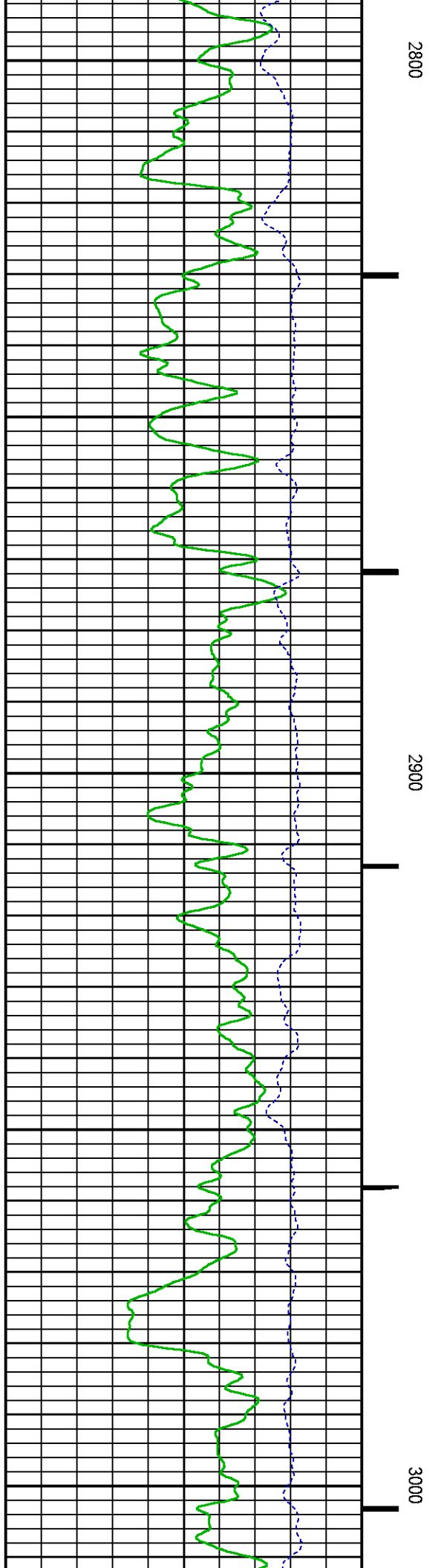
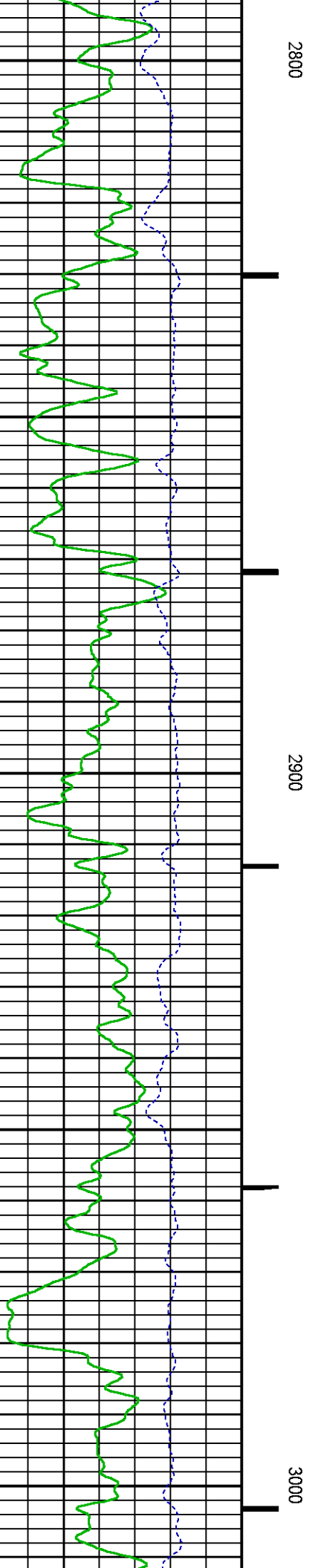
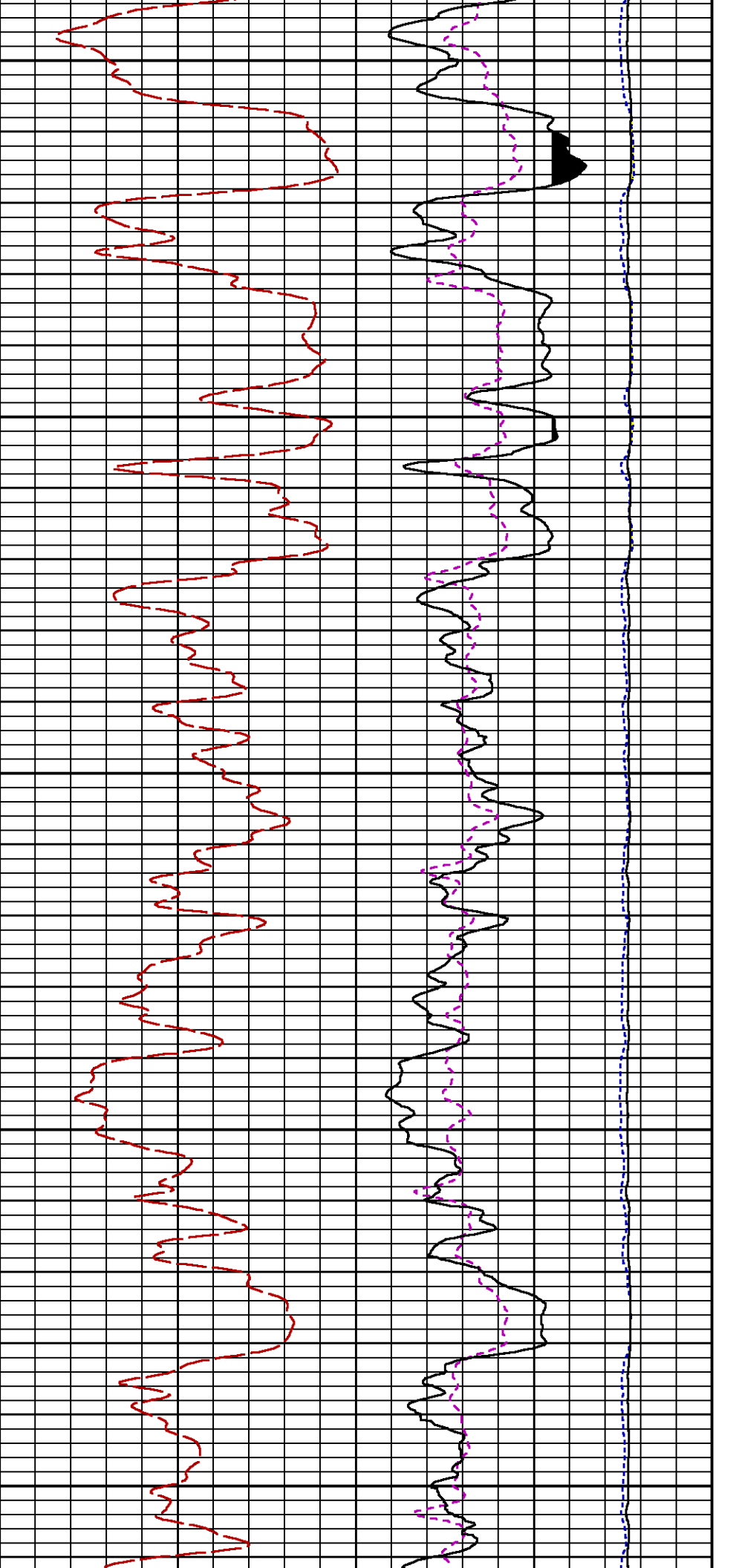
SS

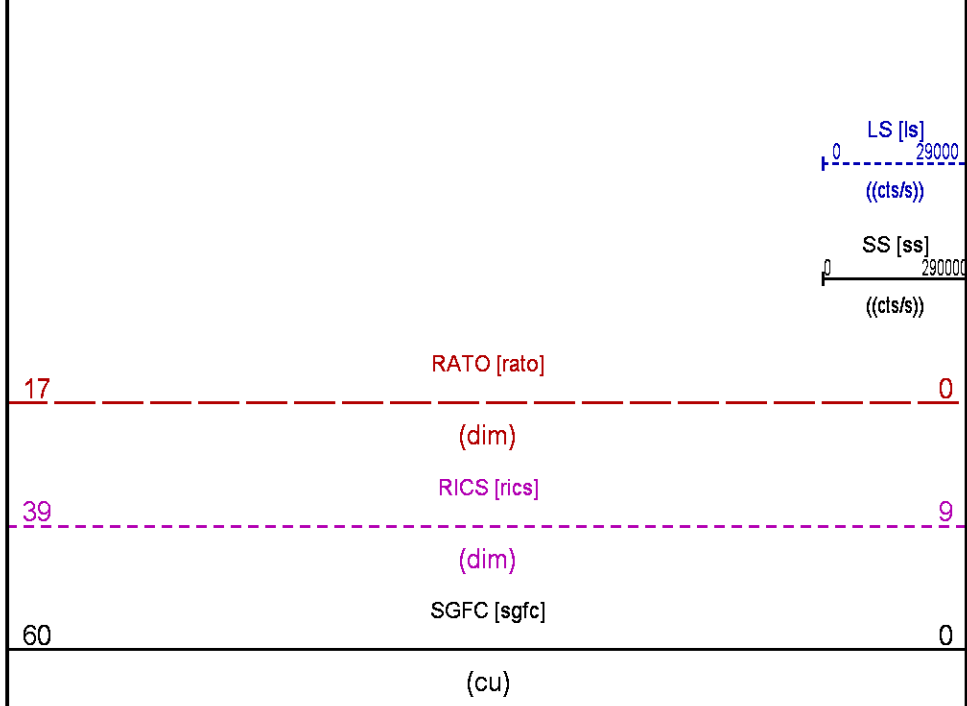
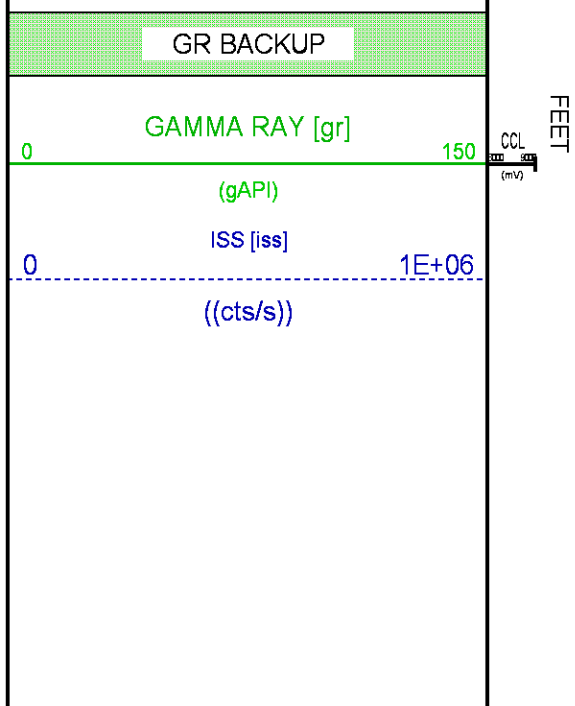
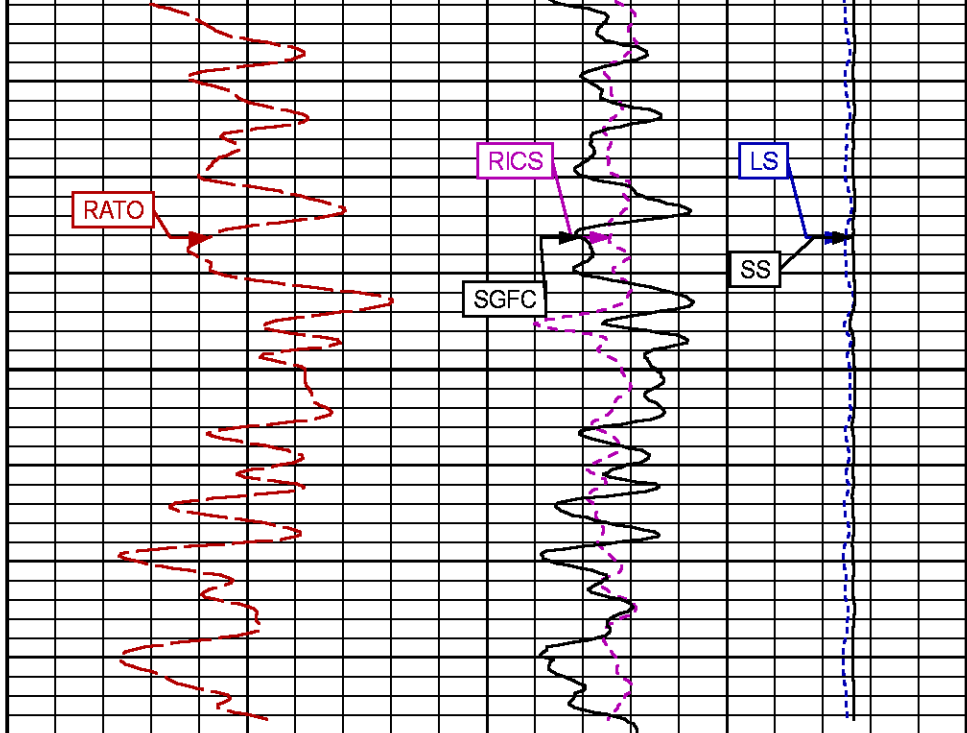
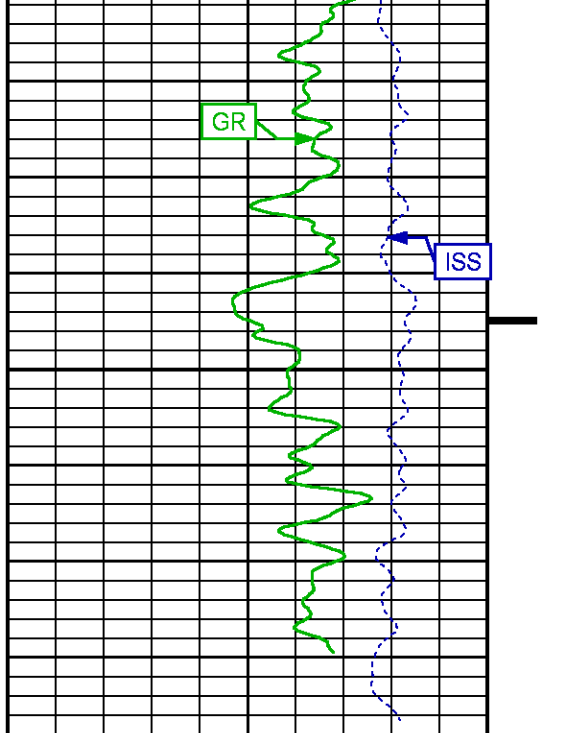


2600

2700







MAIN PNC 3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 9

Plotted: Tue May 30 13:02:59 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_PNC3D02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 4469.000 ft BOTTOM DEPTH: 7854.250 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	8.75	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

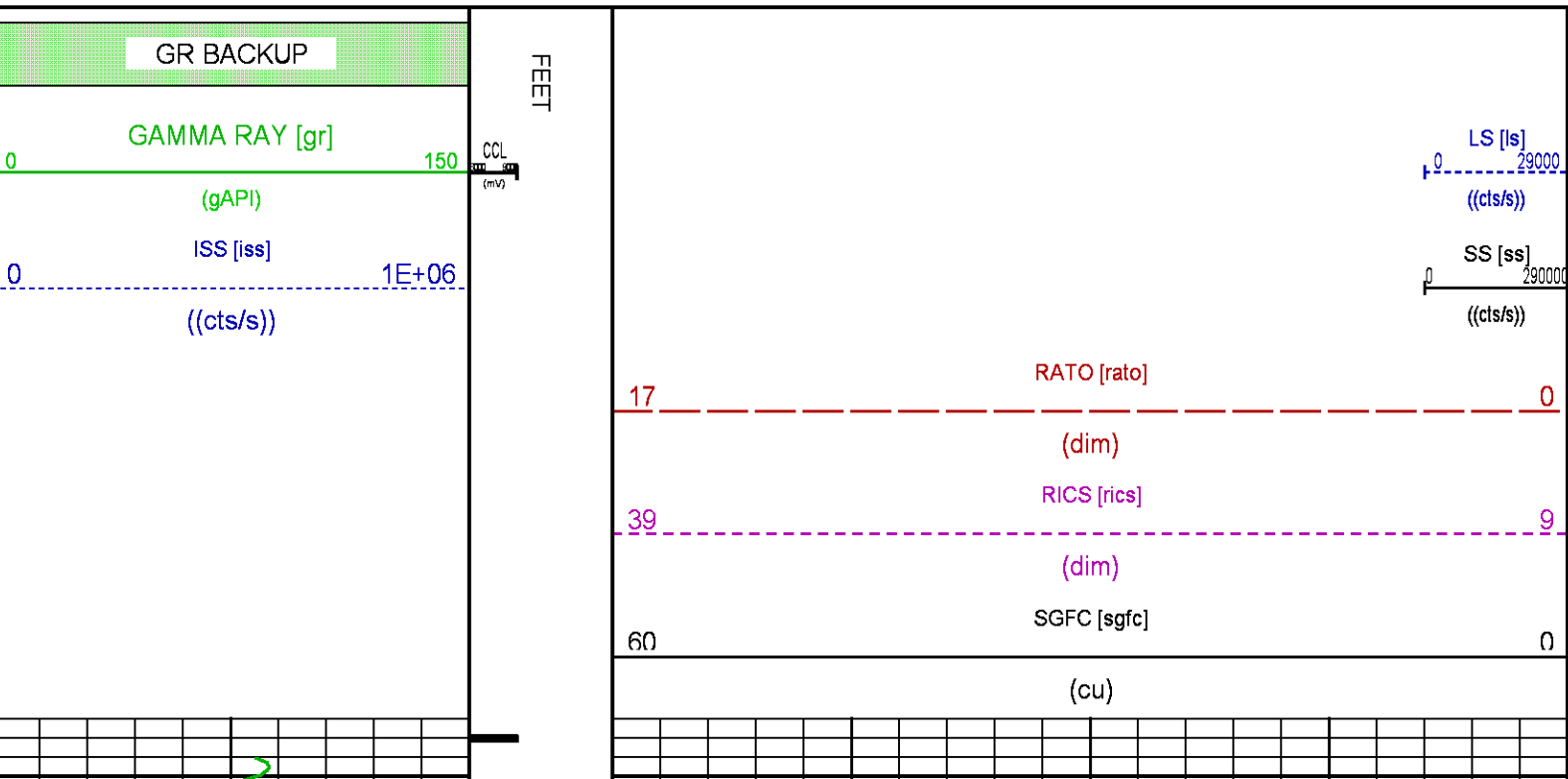
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	May 30 09:22:36 2017	CASING COLLAR LOCATOR
F1:GR	May 30 09:22:36 2017	GAMMA RAY
F1:ISS	May 30 09:22:36 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	May 30 09:22:36 2017	LONG SPACE COUNT RATE
F1:RATO	May 30 09:22:36 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	May 30 09:22:36 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	May 30 09:22:36 2017	CORRECTED FORMATION SIGMA
F1:SS	May 30 09:22:36 2017	SHORT SPACE COUNT RATE

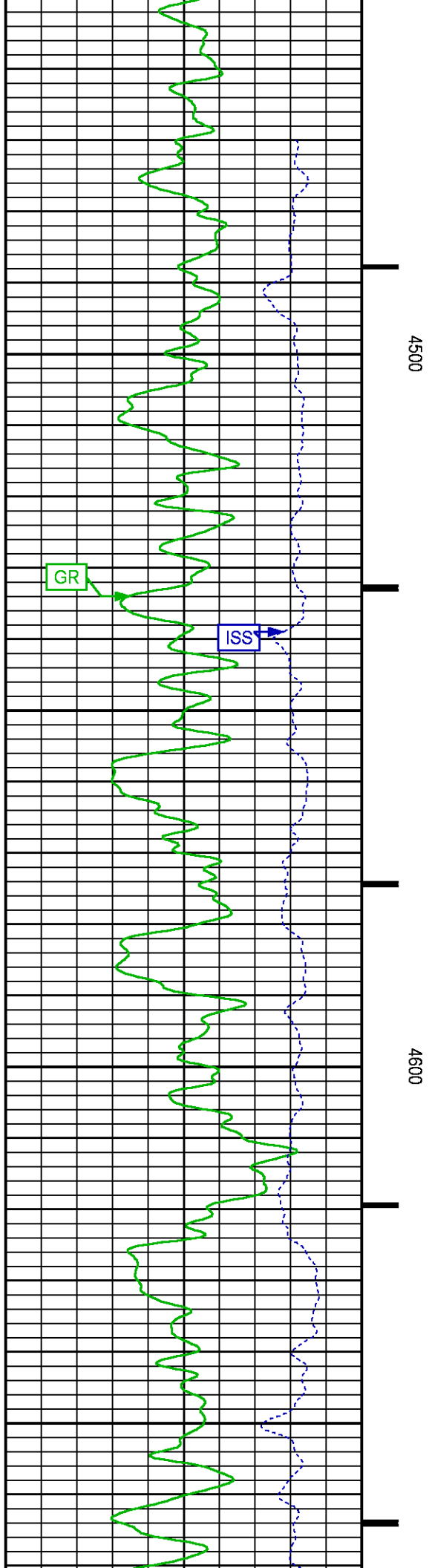
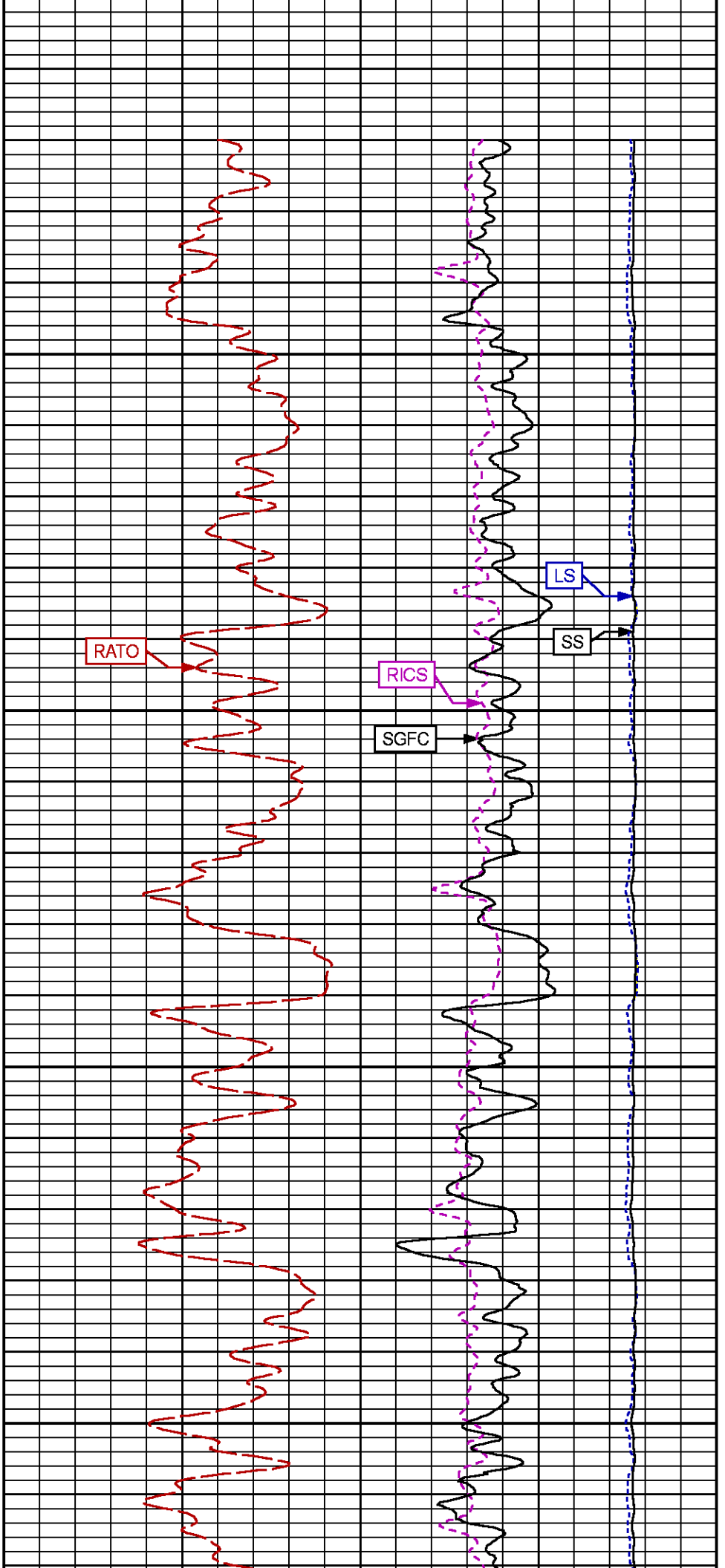
CURVE MEASURE POINT OFFSET

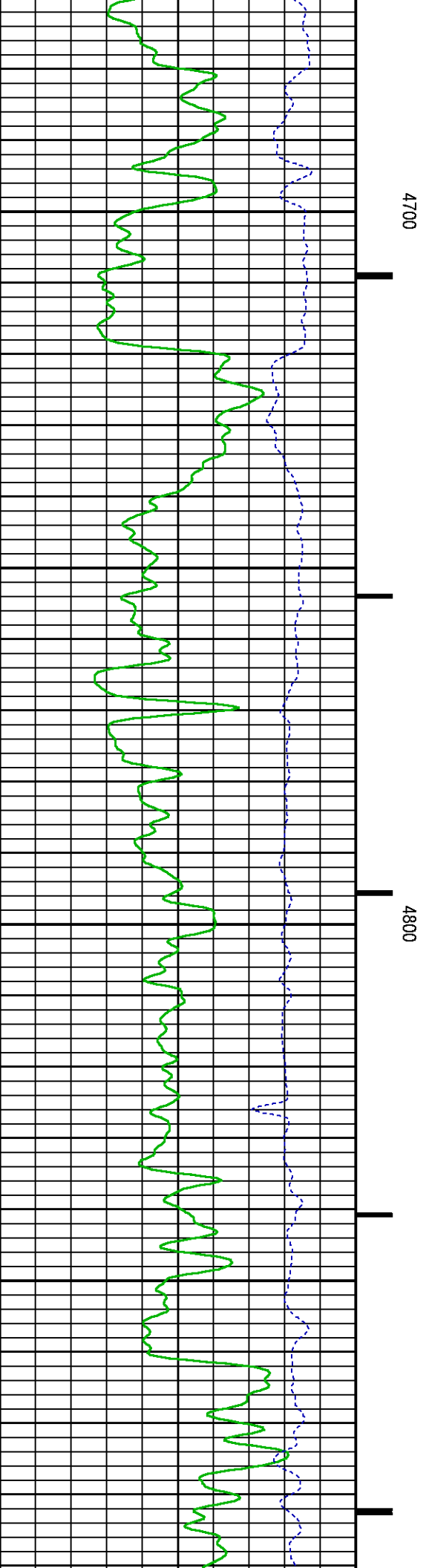
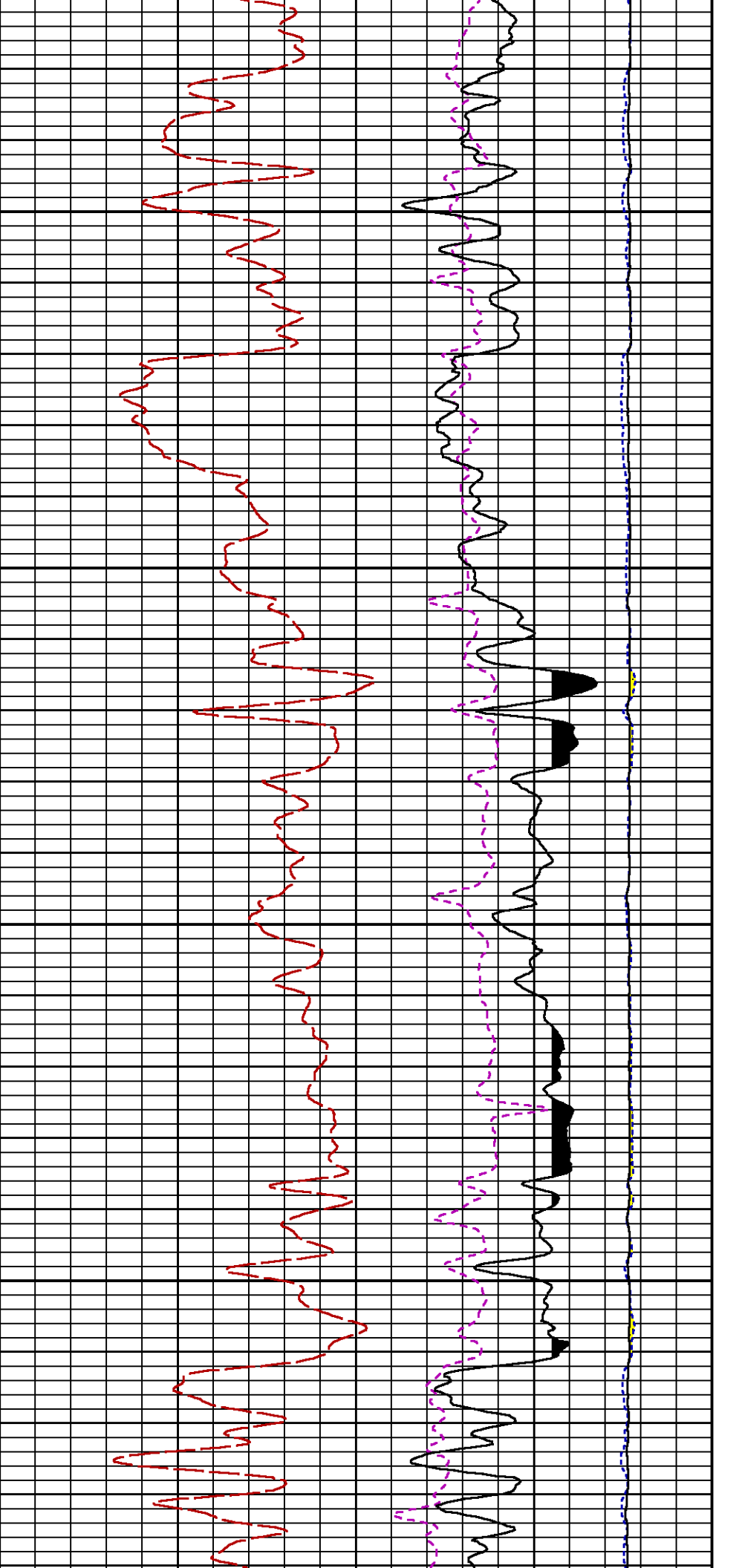
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

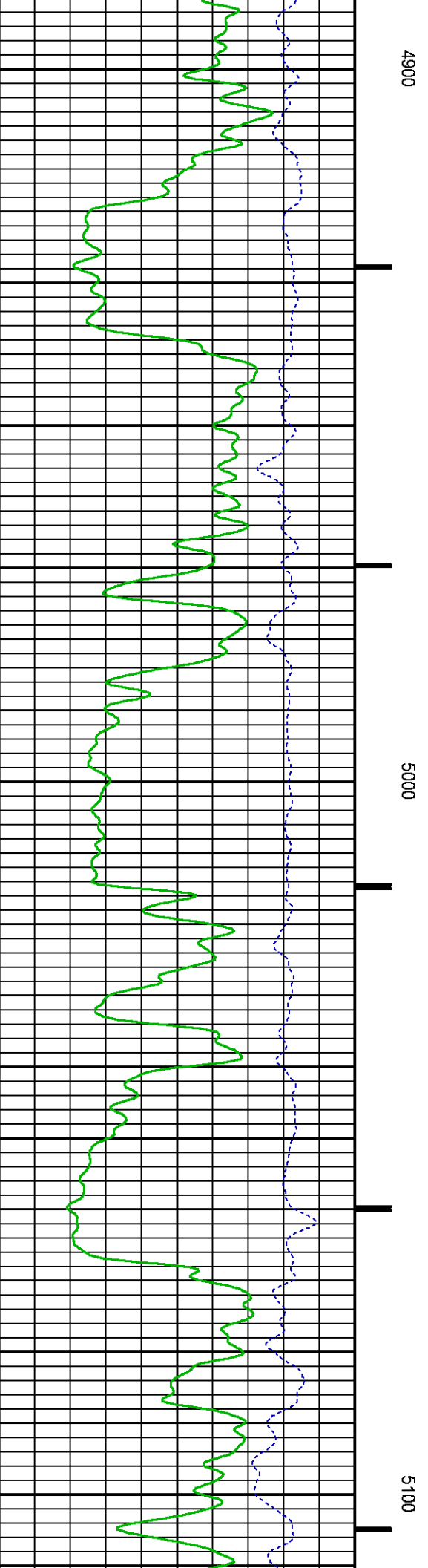
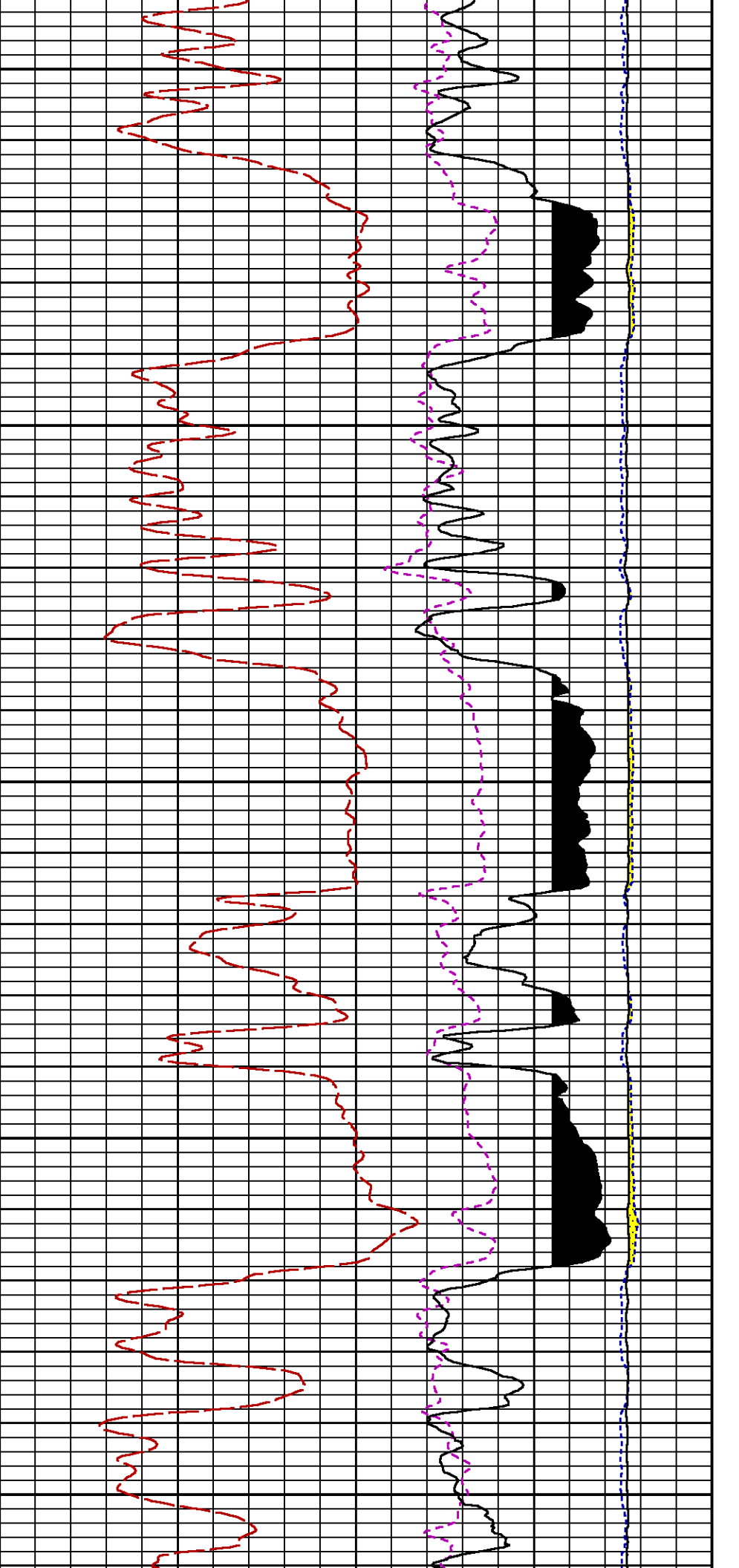
Presentation : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/rpm_pnc3d+01-MAIN-29_18E_5.fvpdf [5"/100' Scale]
Plot Interval : 4444 - 7850 Feet

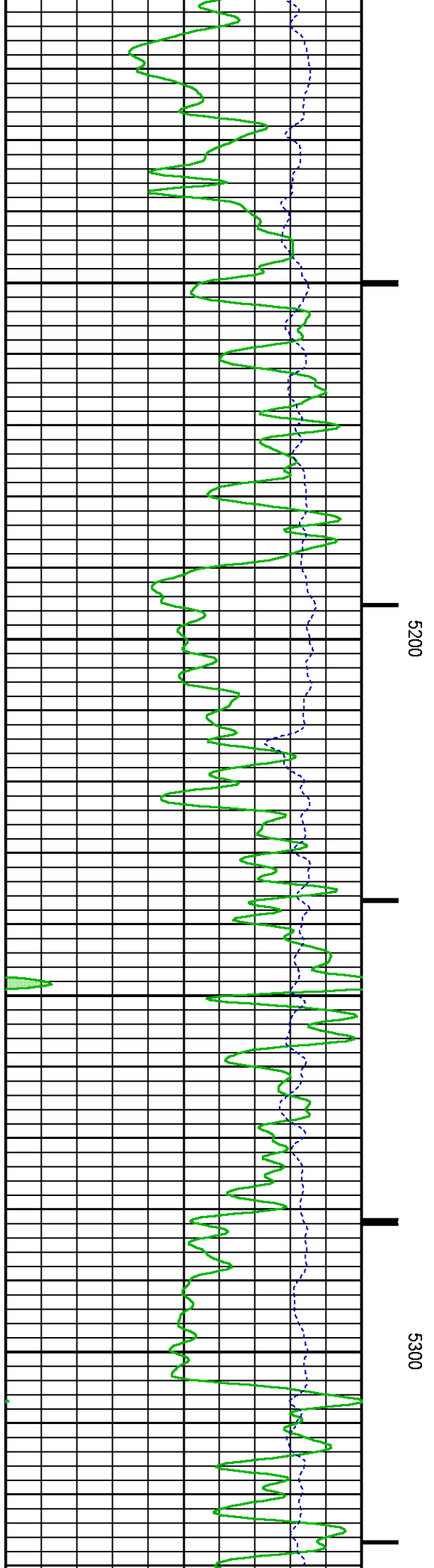
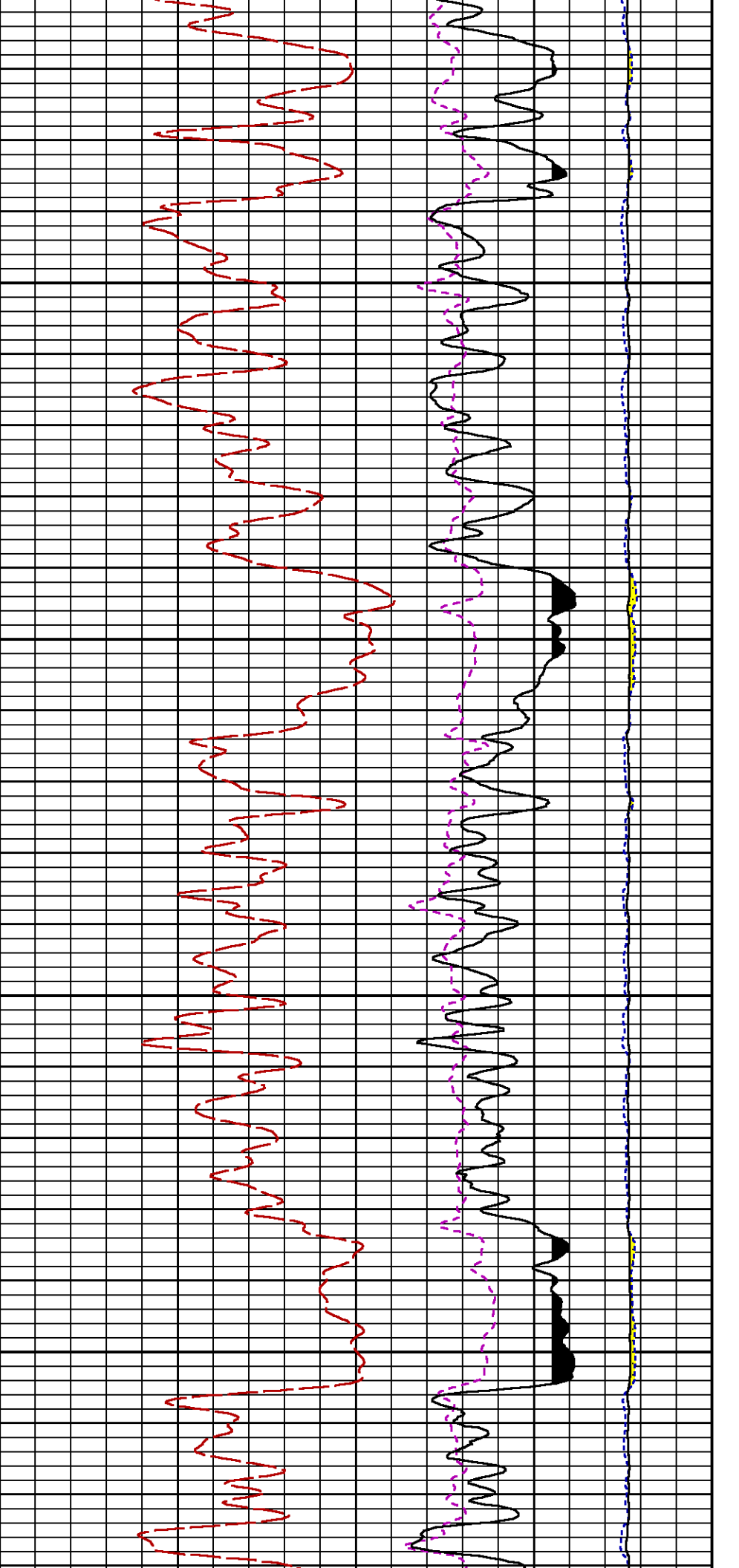
Data File 1 : F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_MAIN_18E.xtf
Created On : May 30 09:22:36 2017
Company : LARAMIE ENERGY
Well : PICEANCE 29-18E
Field : VEGA
File Interval : 4443.25 - 7854 Feet
OCT : RPM_PNC3

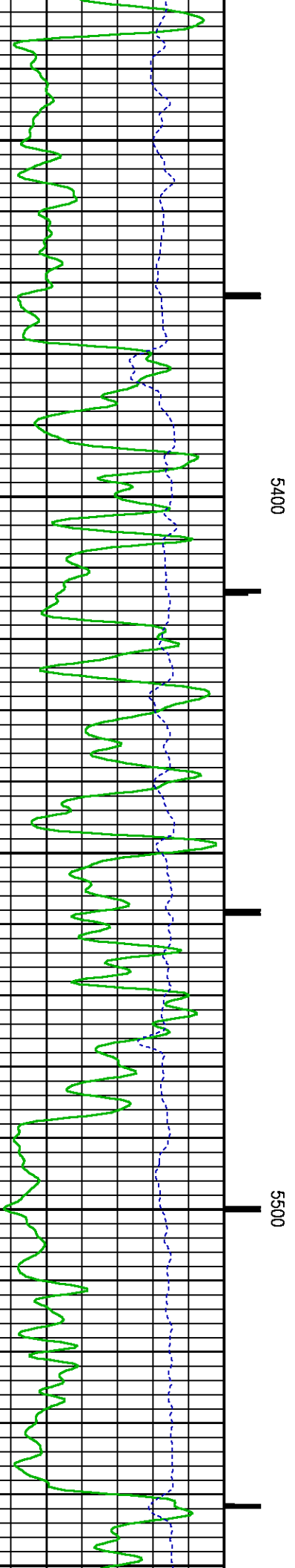
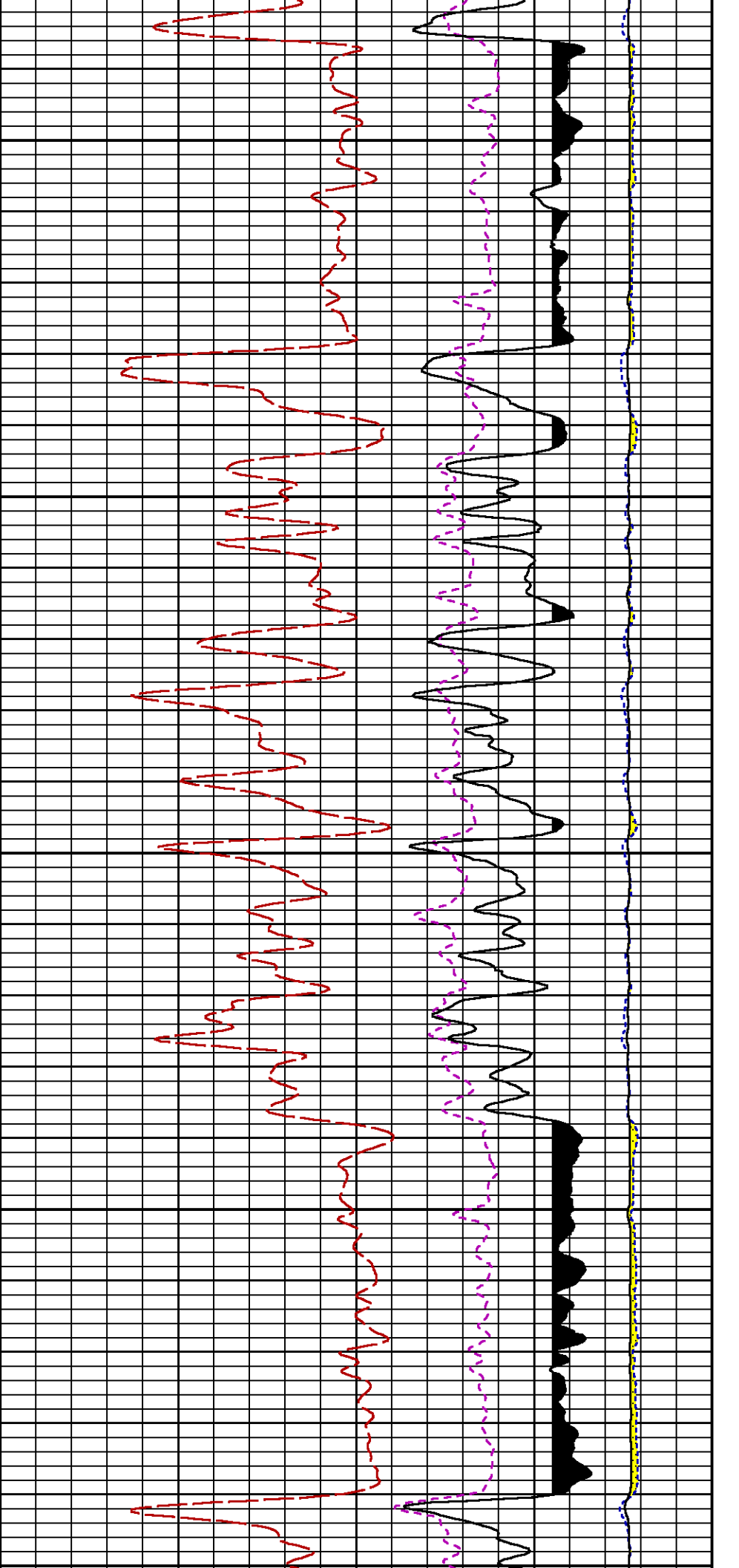


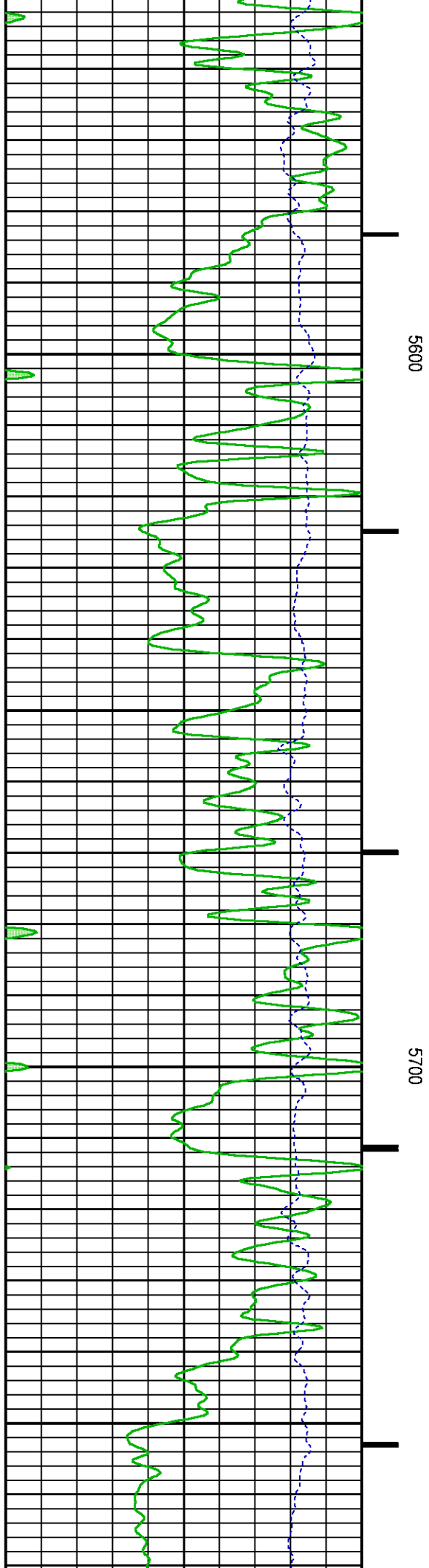
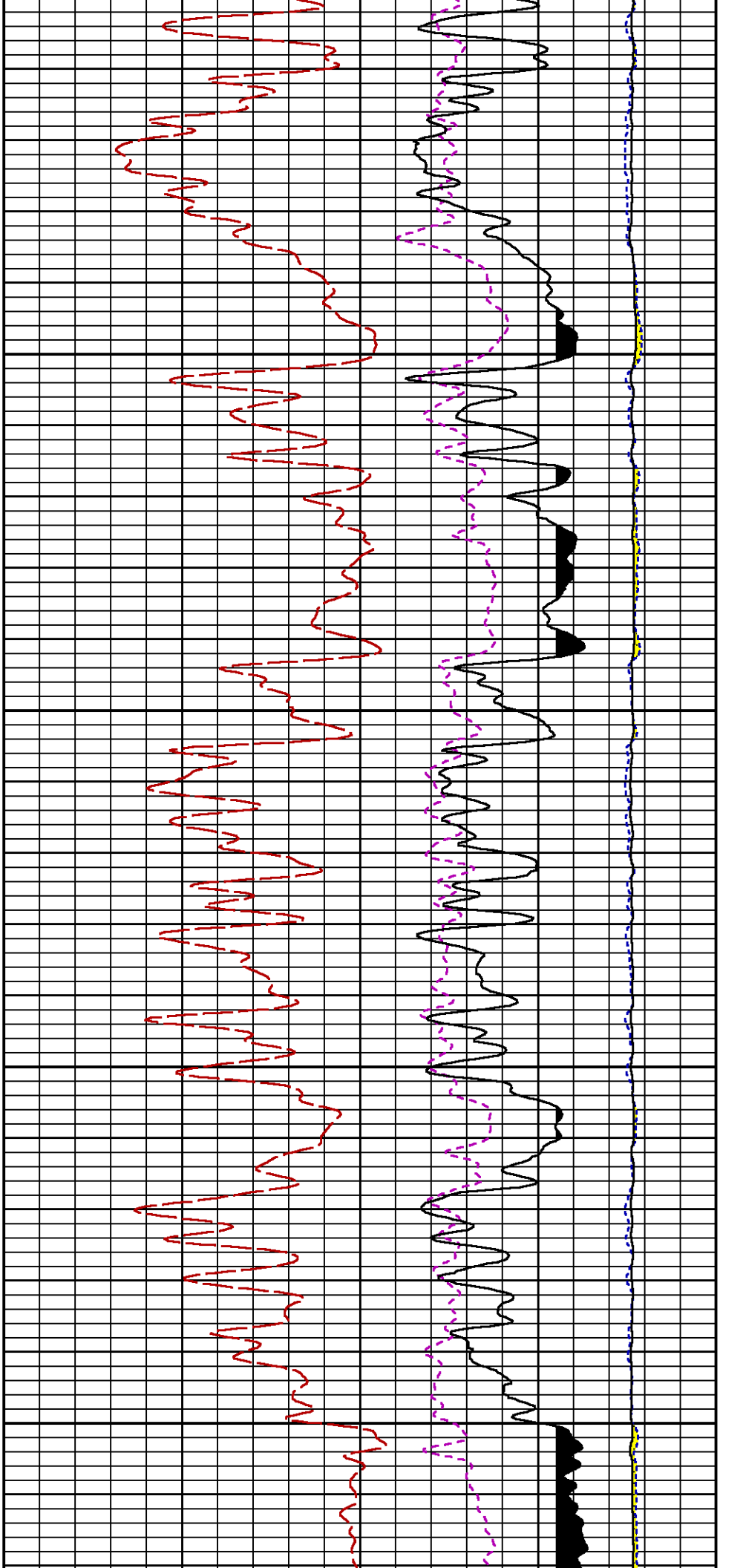


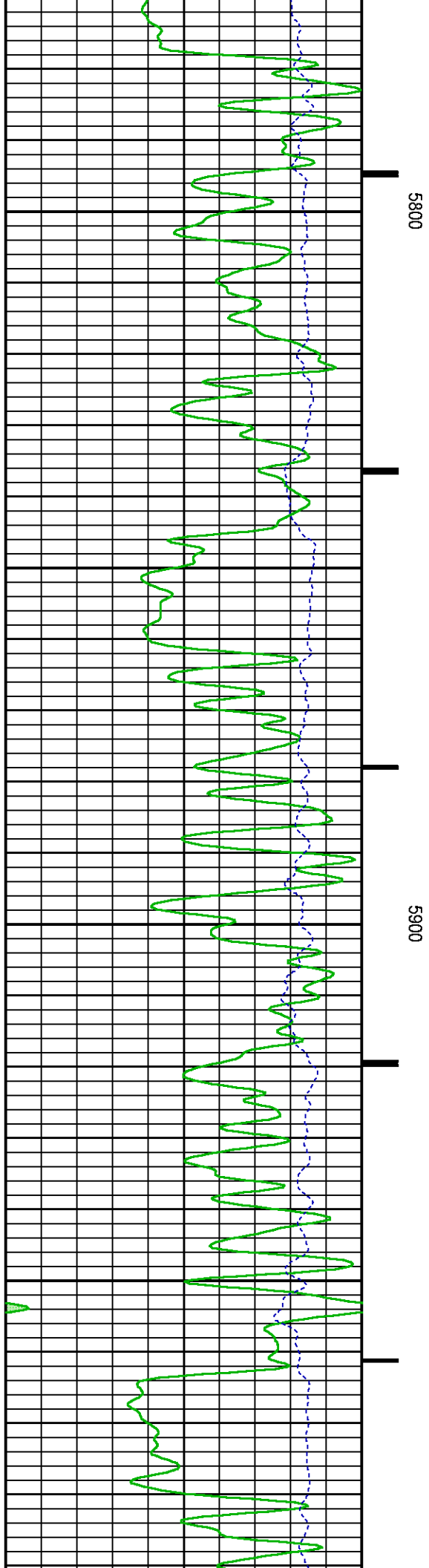
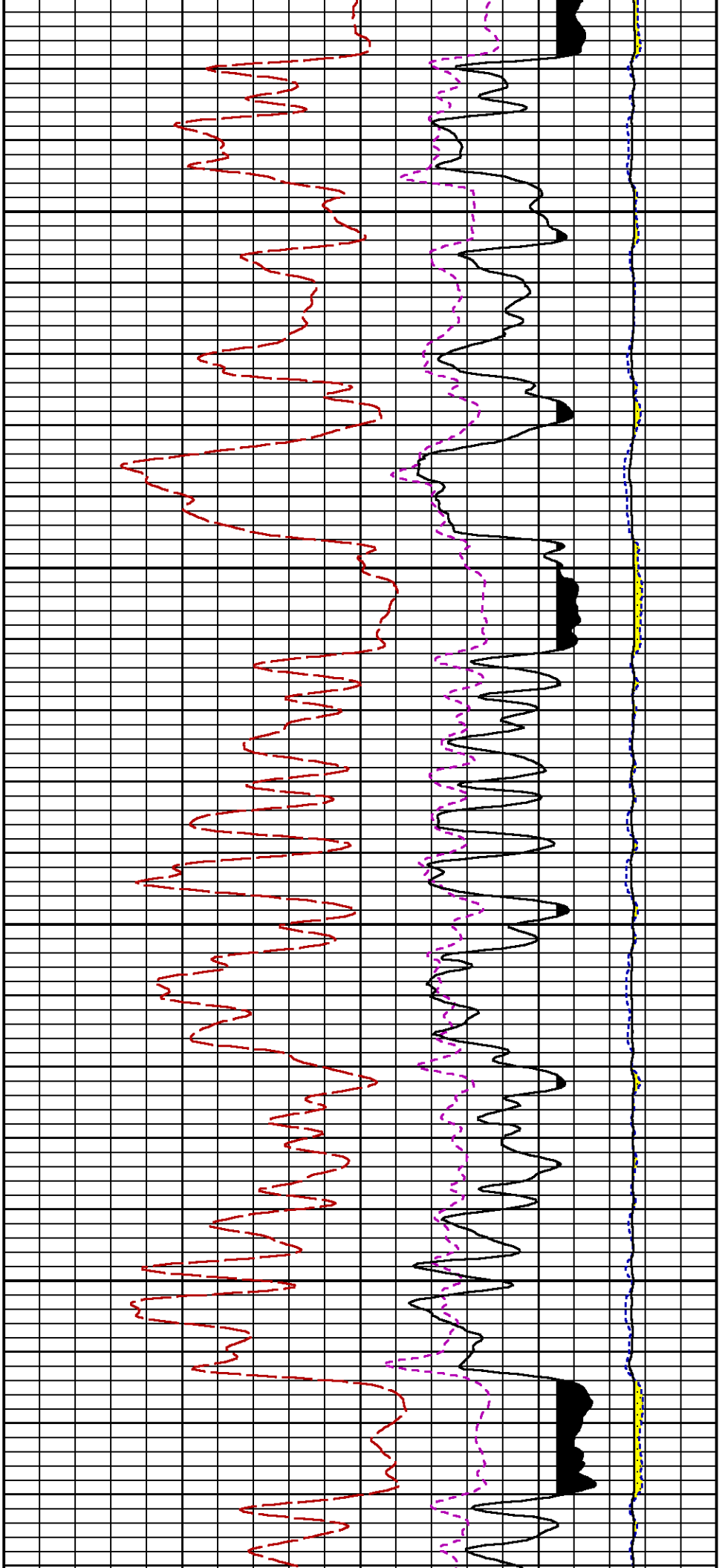


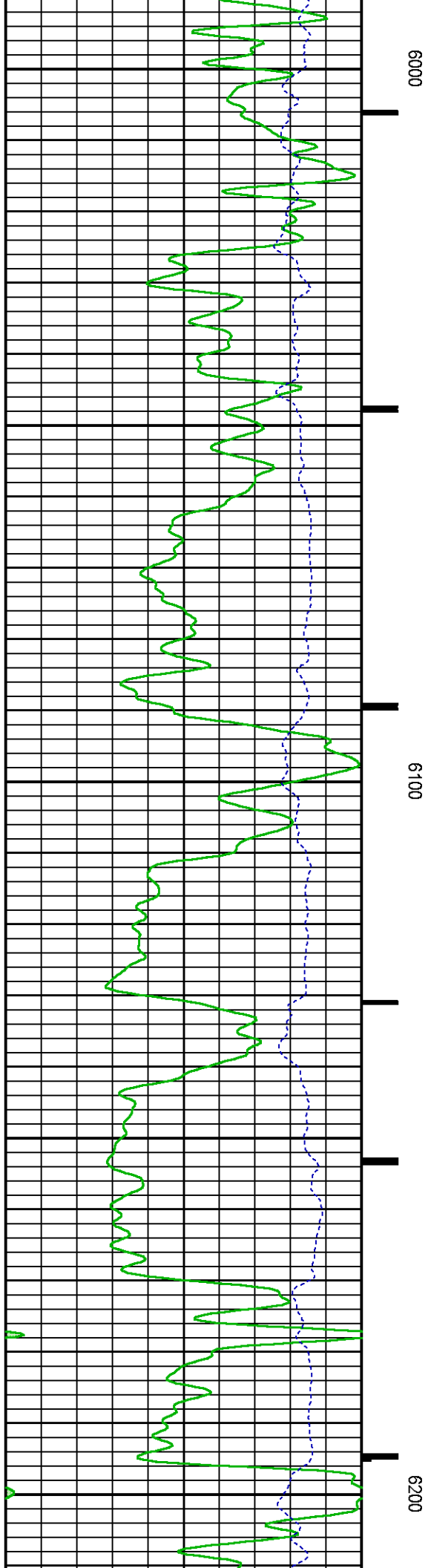
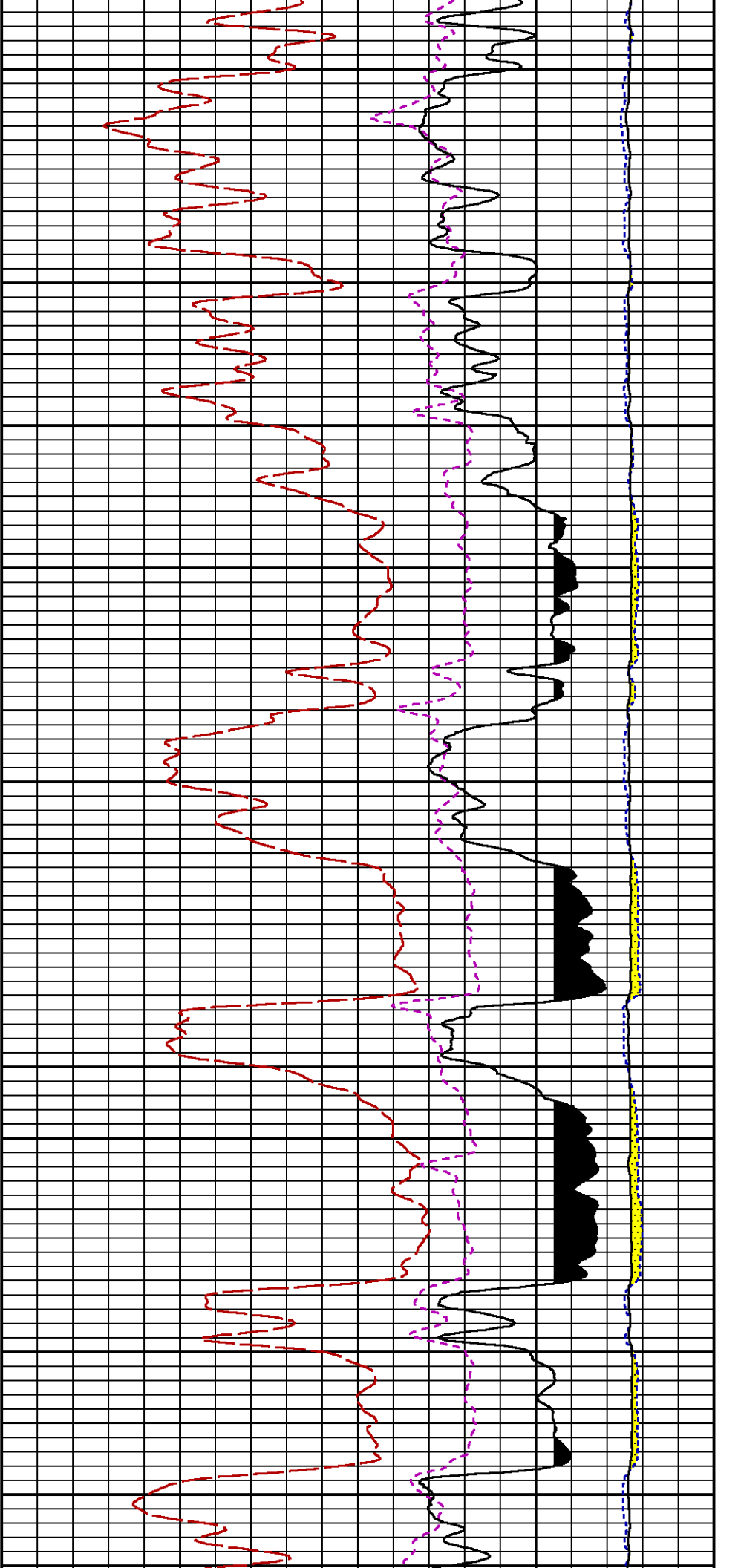


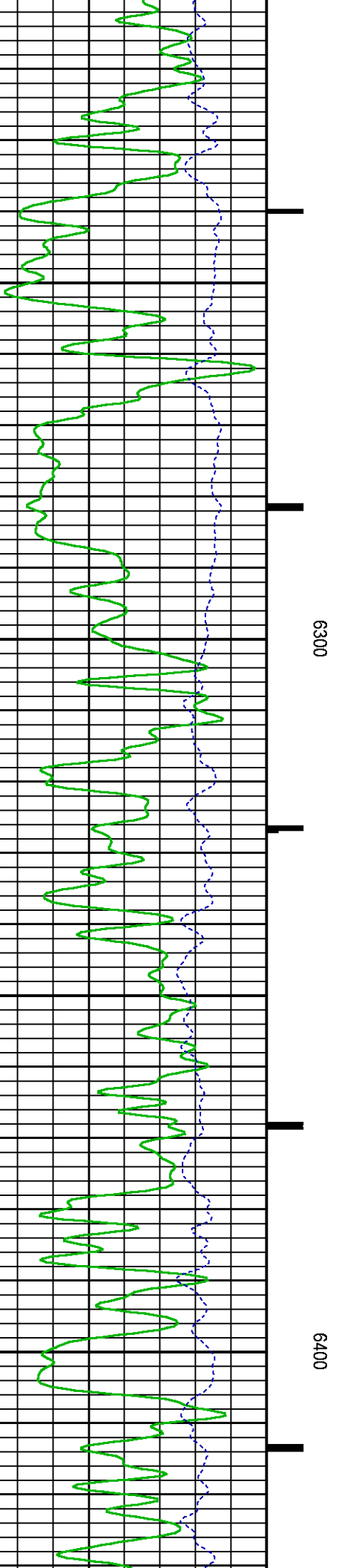
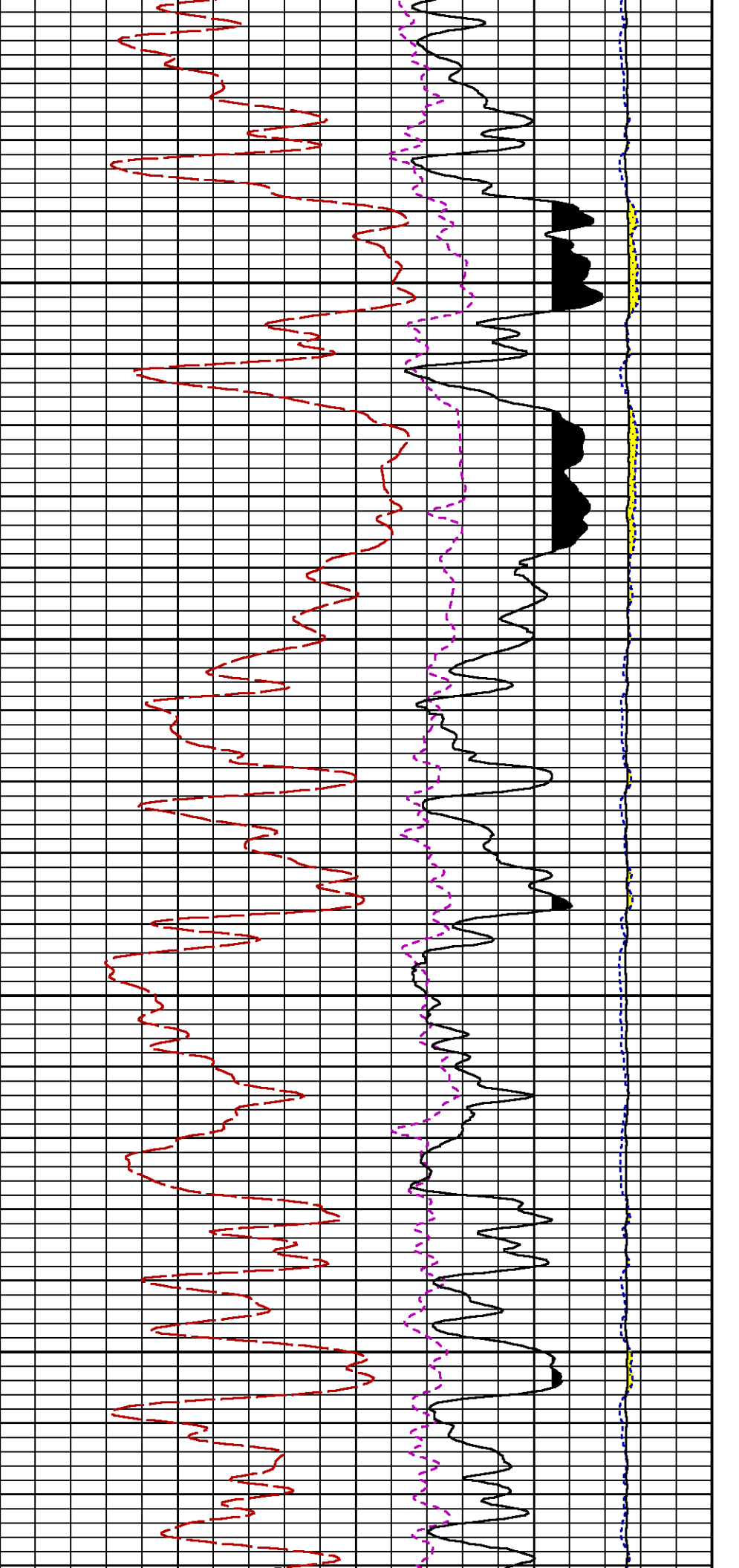


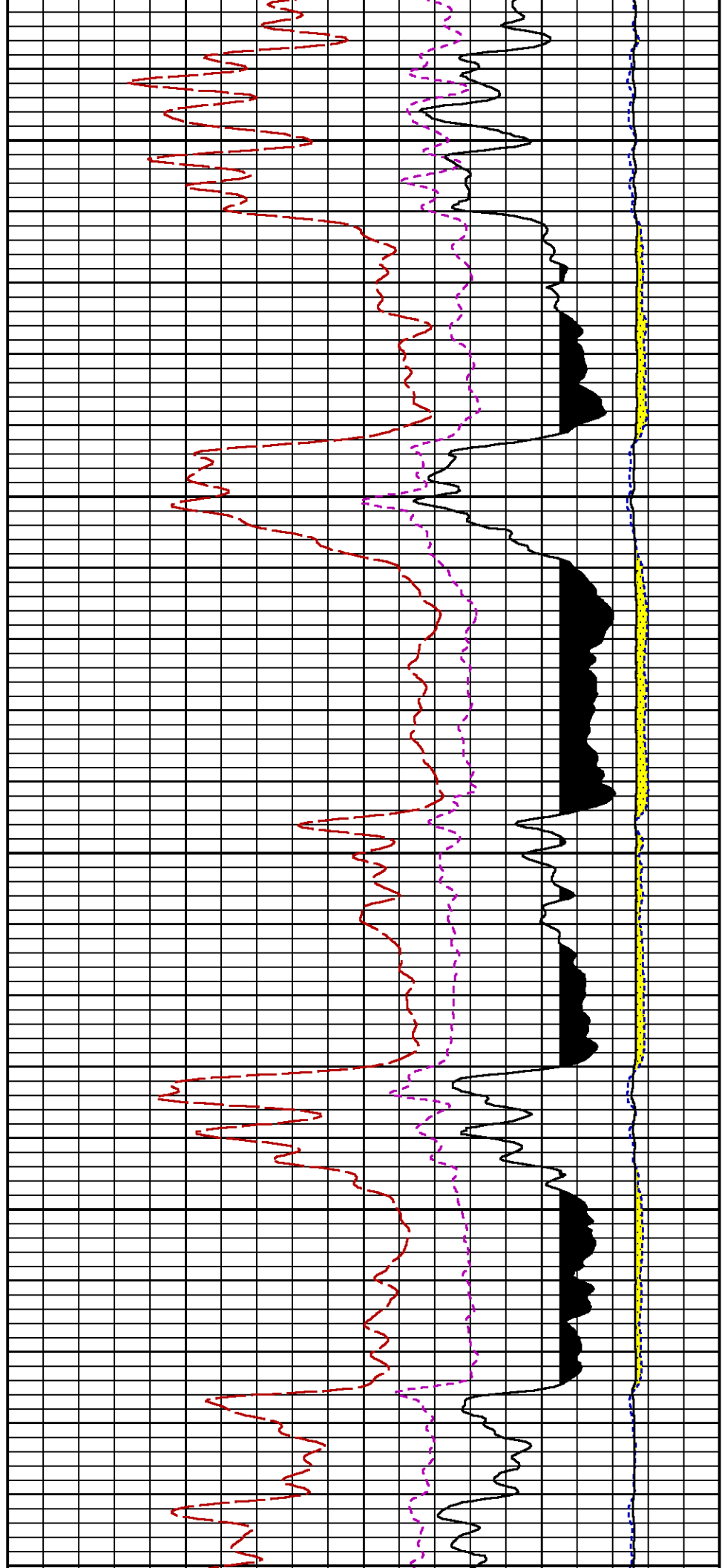
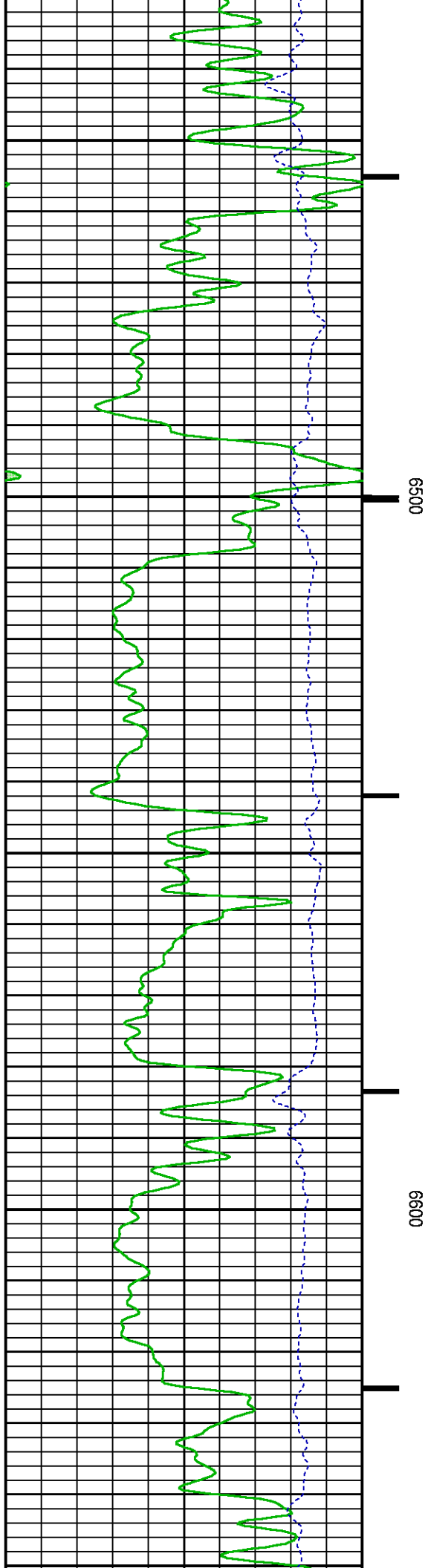


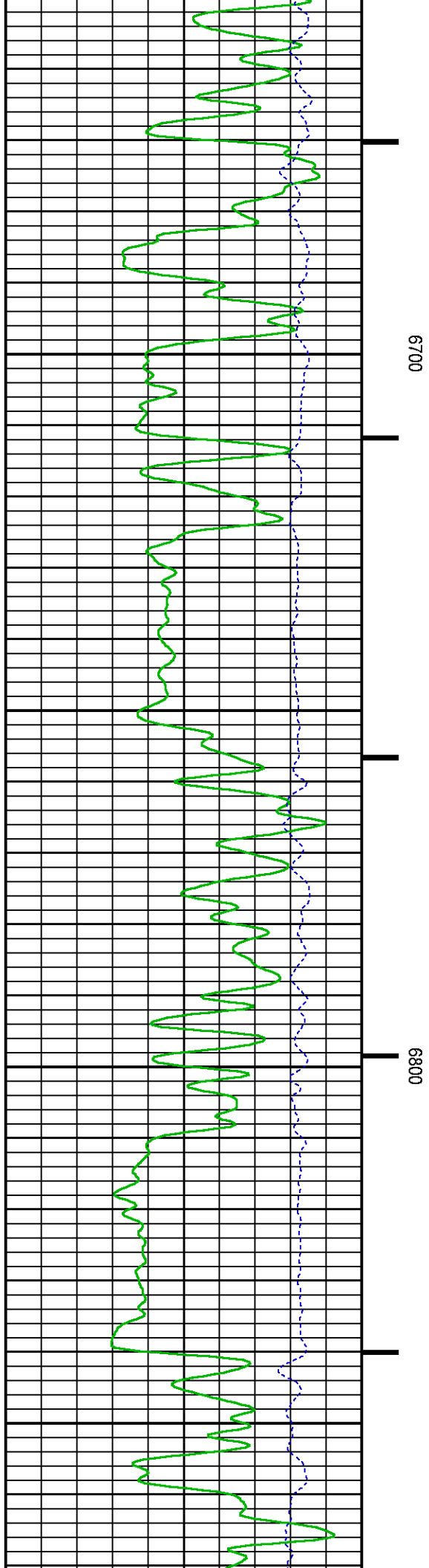
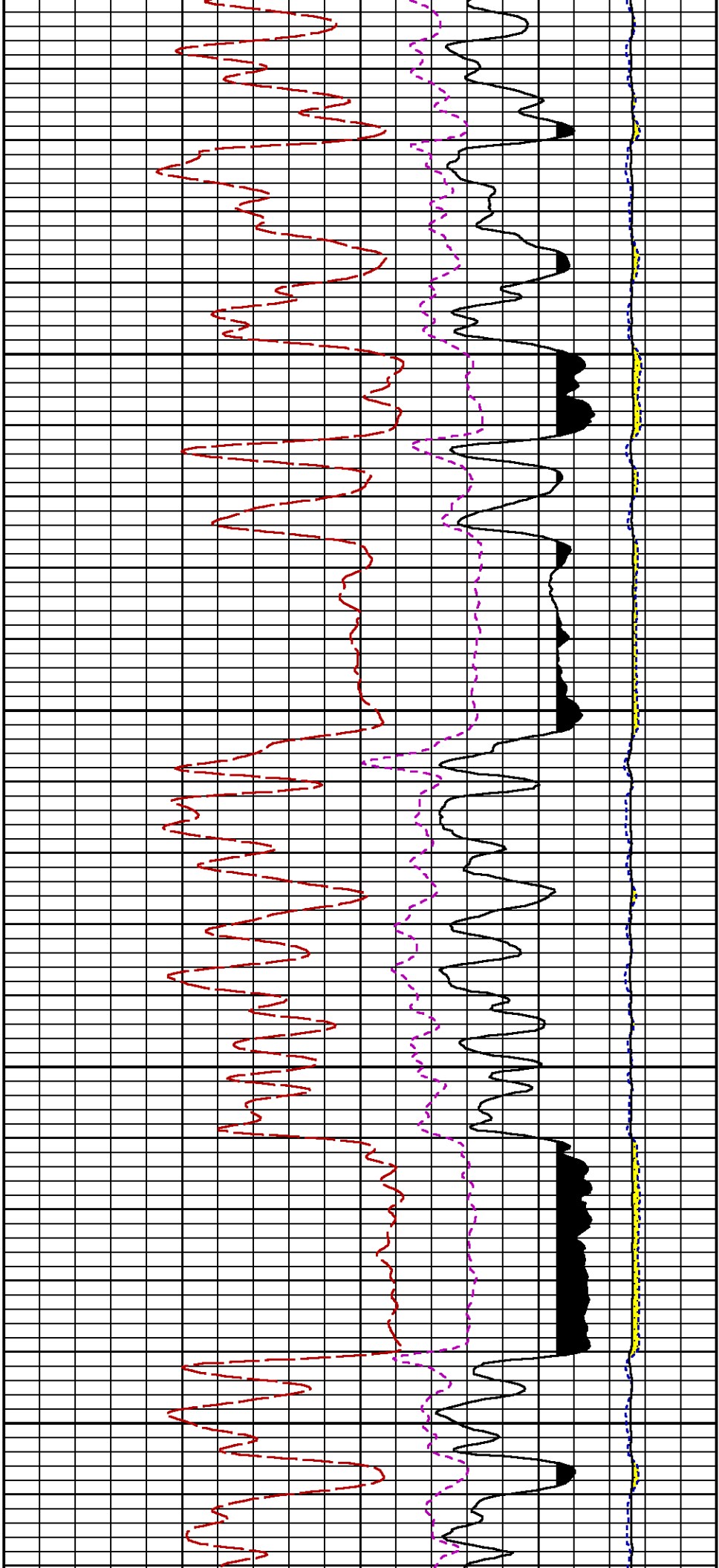


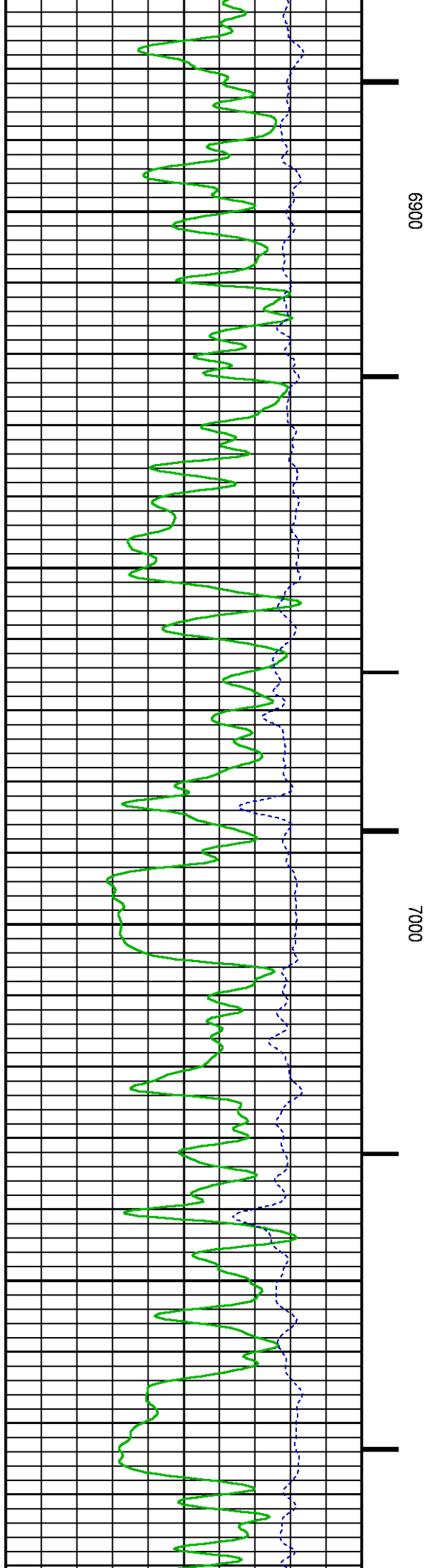
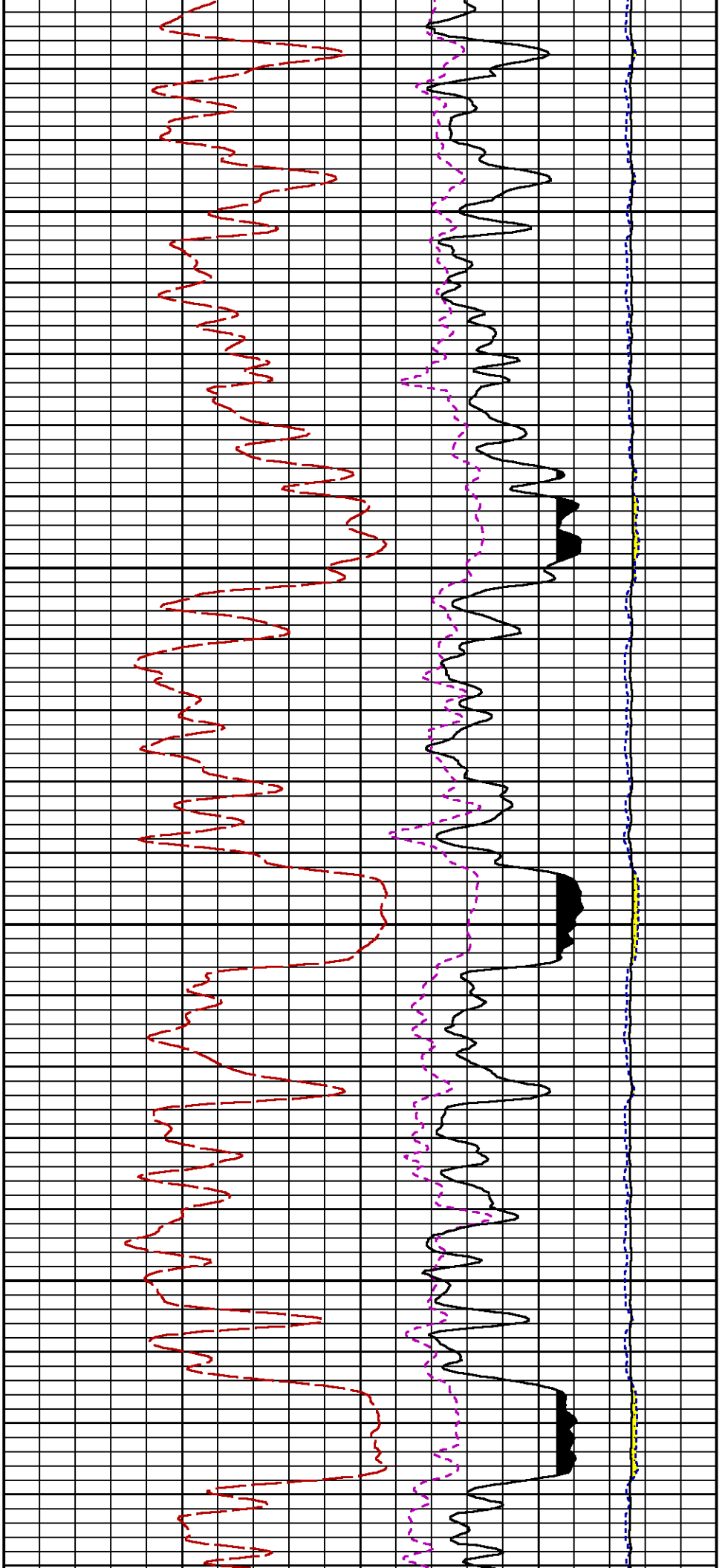


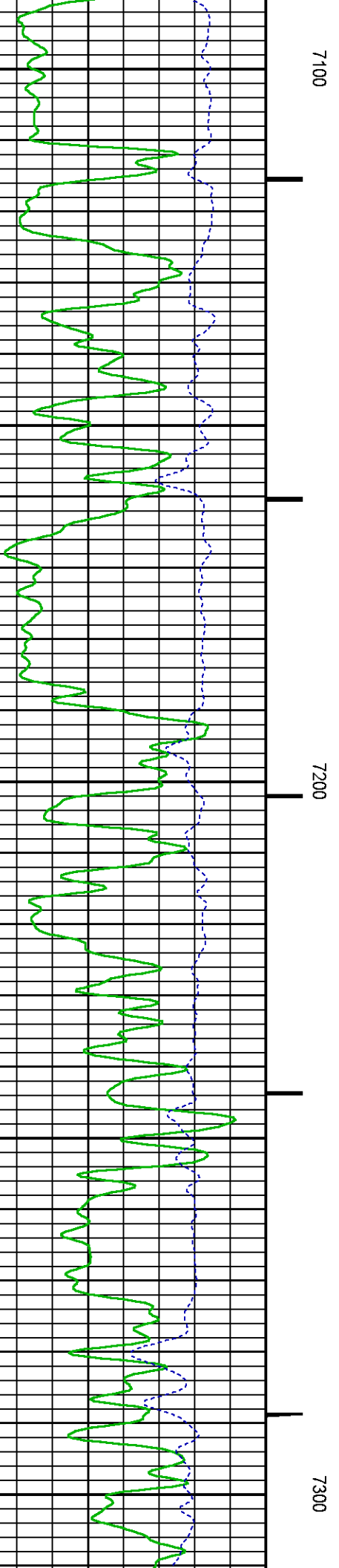
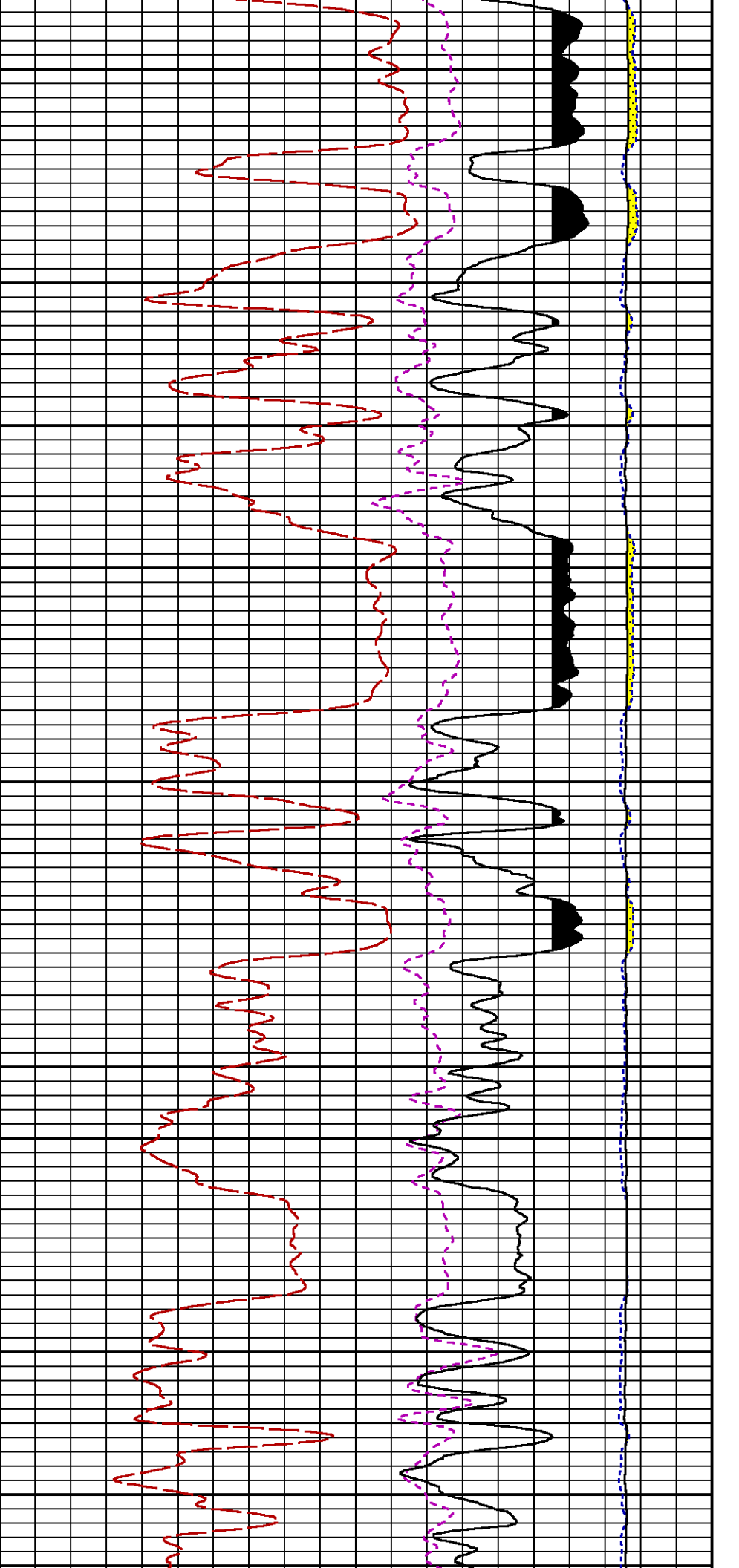


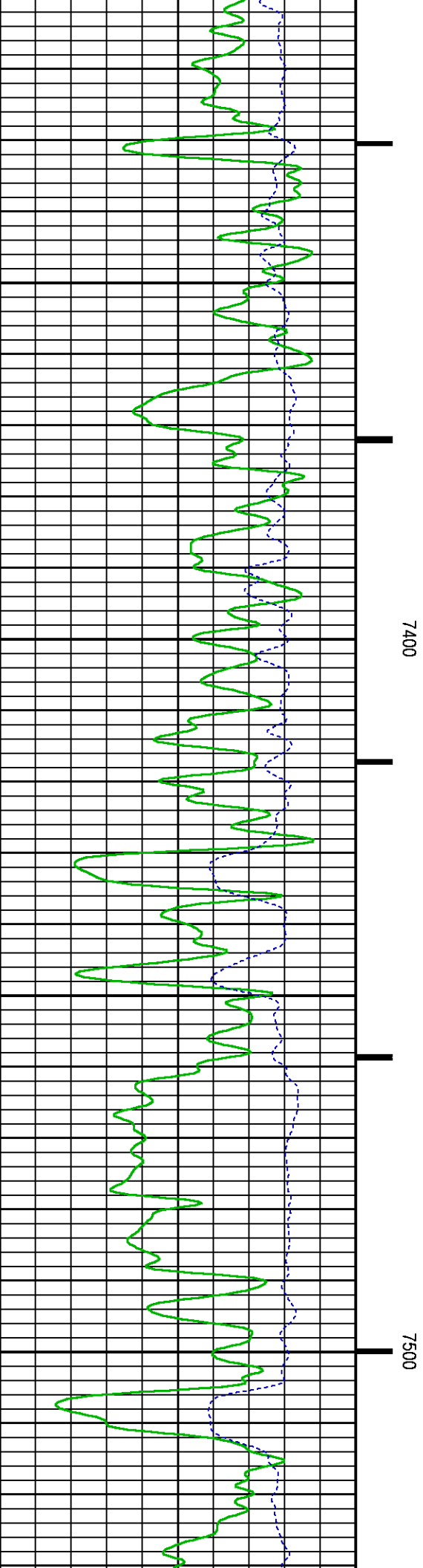
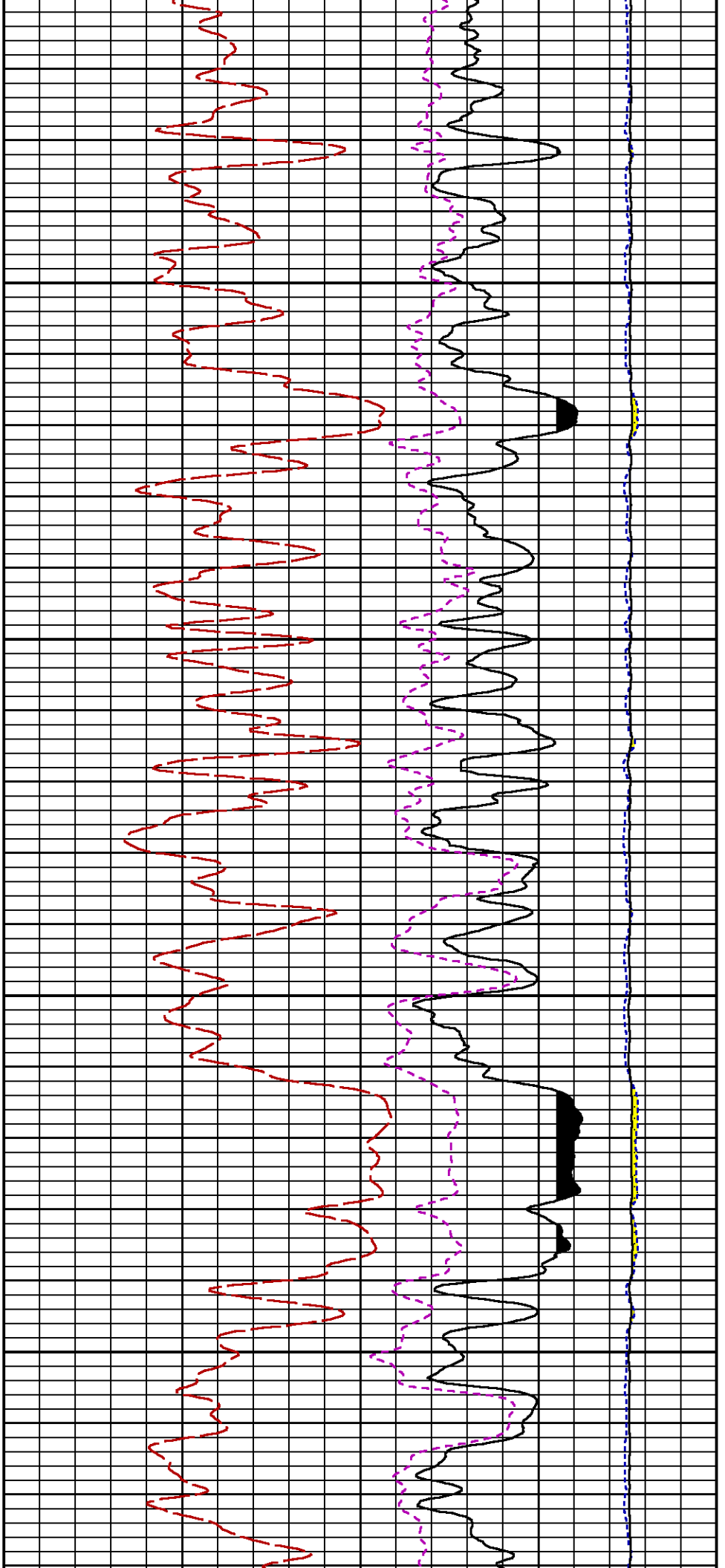


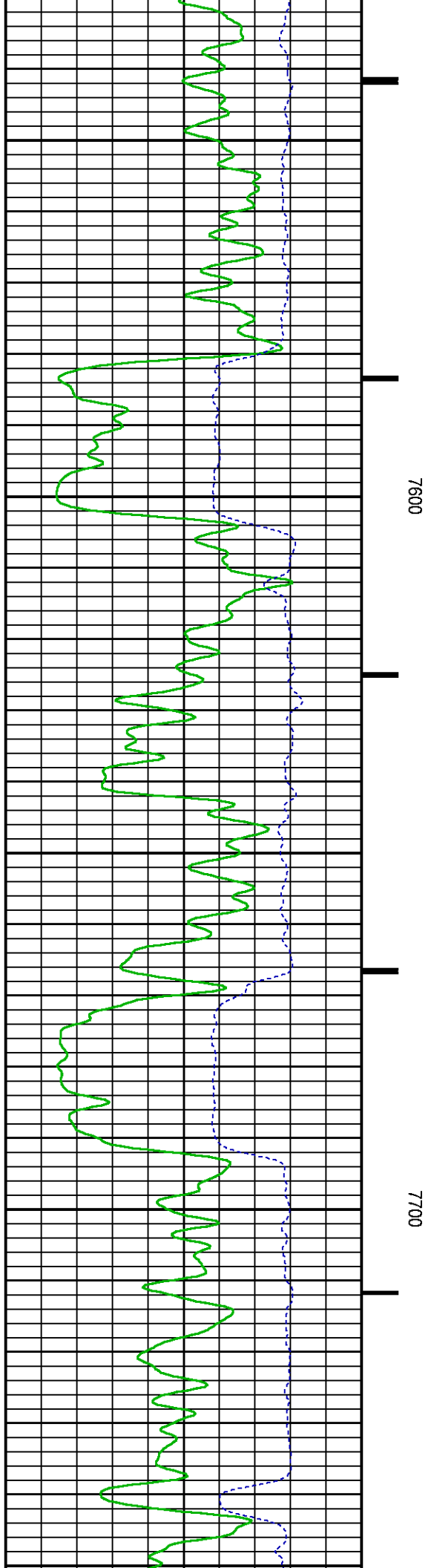
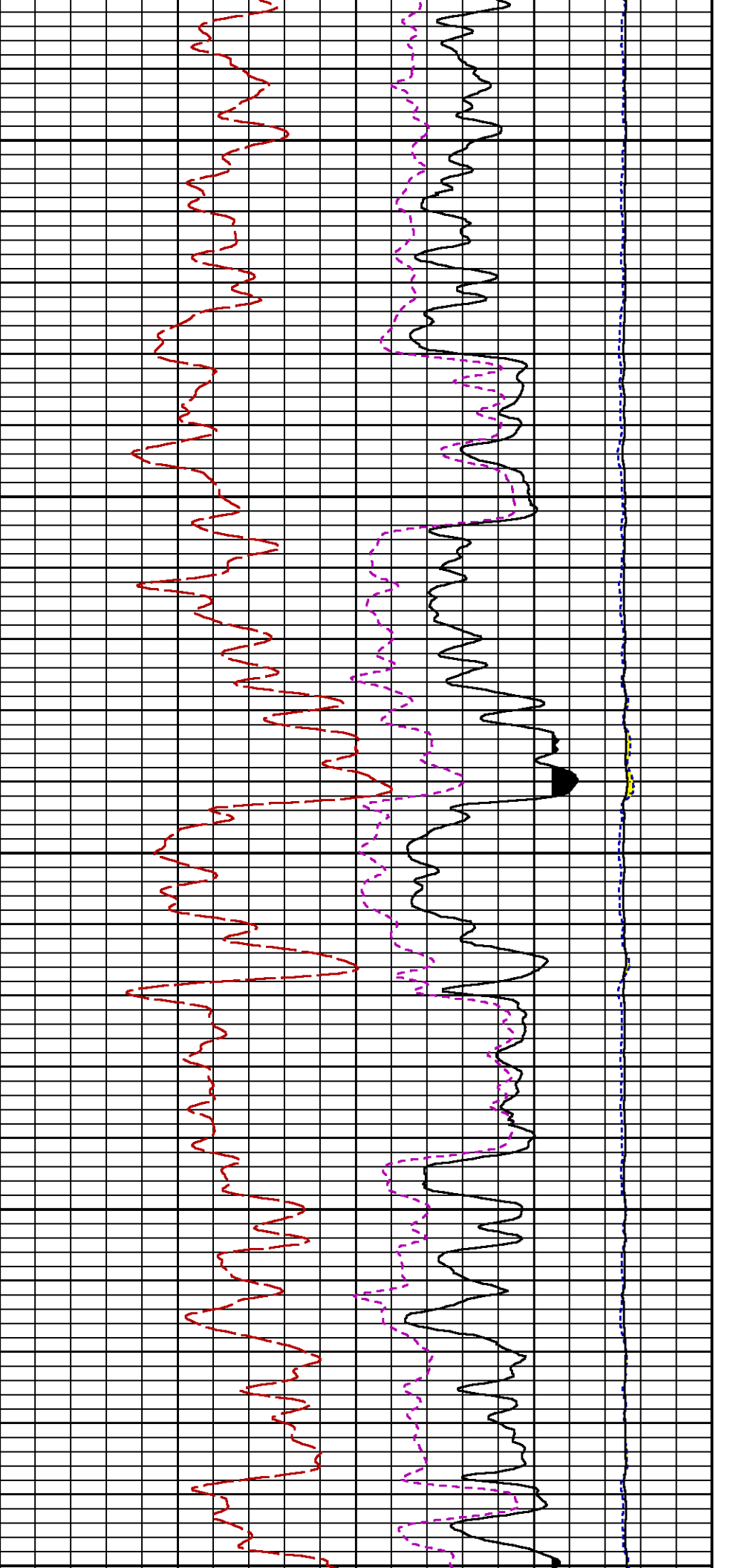


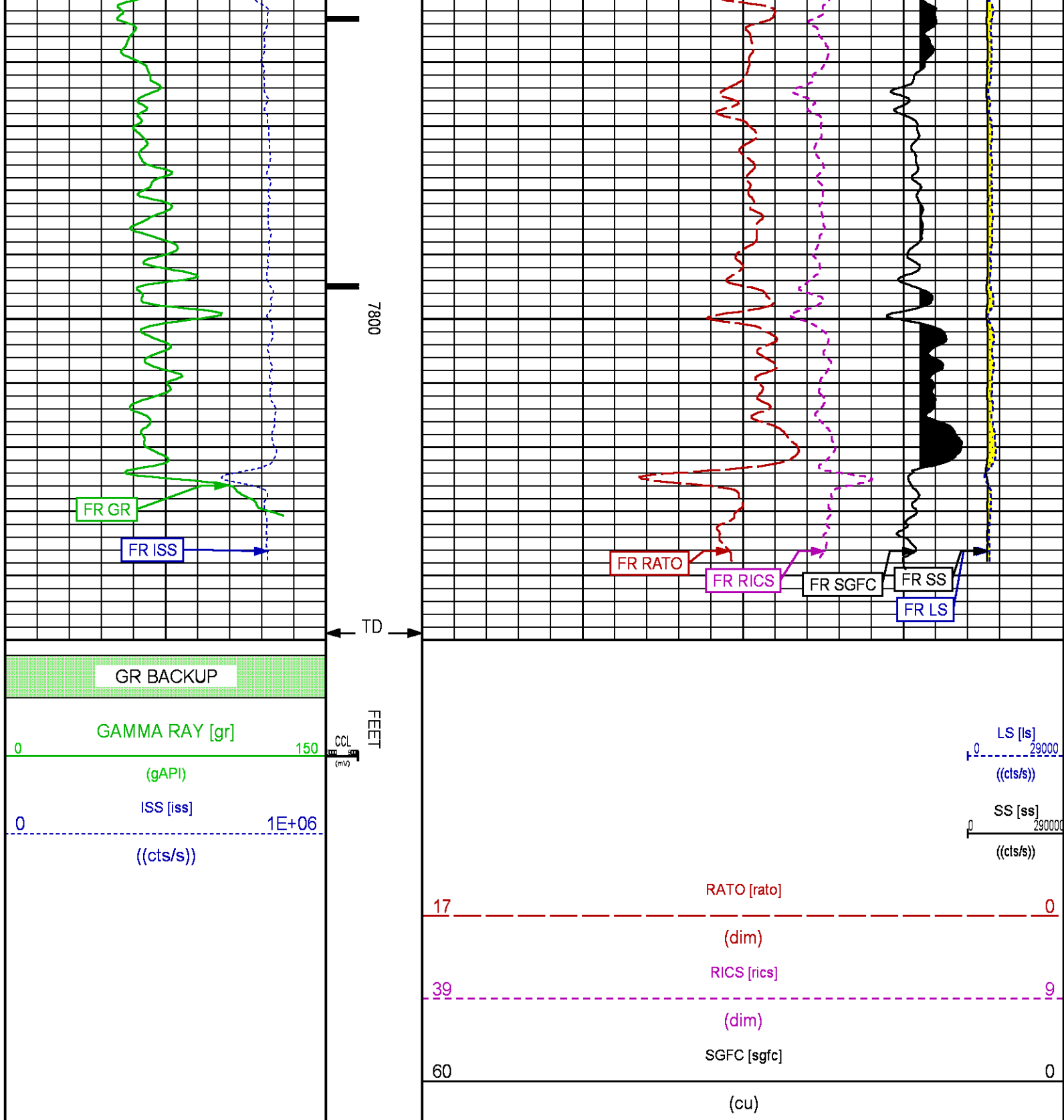












REPEAT PNC 3D MODE

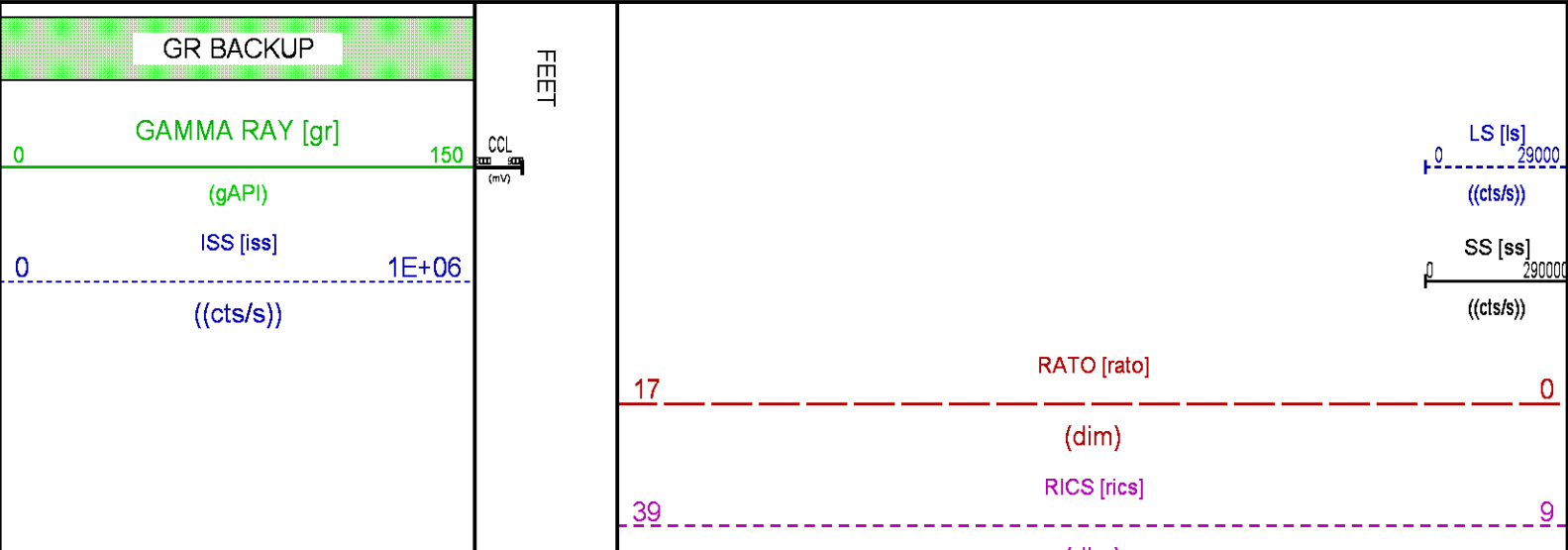
PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_PNC3D01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 7190.250 ft BOTTOM DEPTH: 7414.750 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
RPM PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	8.75	in	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	May 30 09:04:40 2017	CASING COLLAR LOCATOR
F1:GR	May 30 09:04:40 2017	GAMMA RAY
F1:ISS	May 30 09:04:40 2017	INELASTIC SHORT SPACE COUNT RATE
F1:LS	May 30 09:04:40 2017	LONG SPACE COUNT RATE
F1:RATO	May 30 09:04:40 2017	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	May 30 09:04:40 2017	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	May 30 09:04:40 2017	CORRECTED FORMATION SIGMA
F1:SS	May 30 09:04:40 2017	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 : cpu100:rpm_pnc3d+01-REPEAT-29_18E_5.fvpdf [5"/100' Scale]
Plot Interval : 7174.25 - 7414.75 Feet

Data File 1 : F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RPM_REPT_18E.xtf
Created On : May 30 09:04:40 2017
Company : LARAMIE ENERGY
Well : PICEANCE 29-18E
Field : VEGA
File Interval : 7173.5 - 7423.5 Feet
OCT : RPM_PNC3



60

SGFC [sgfc]

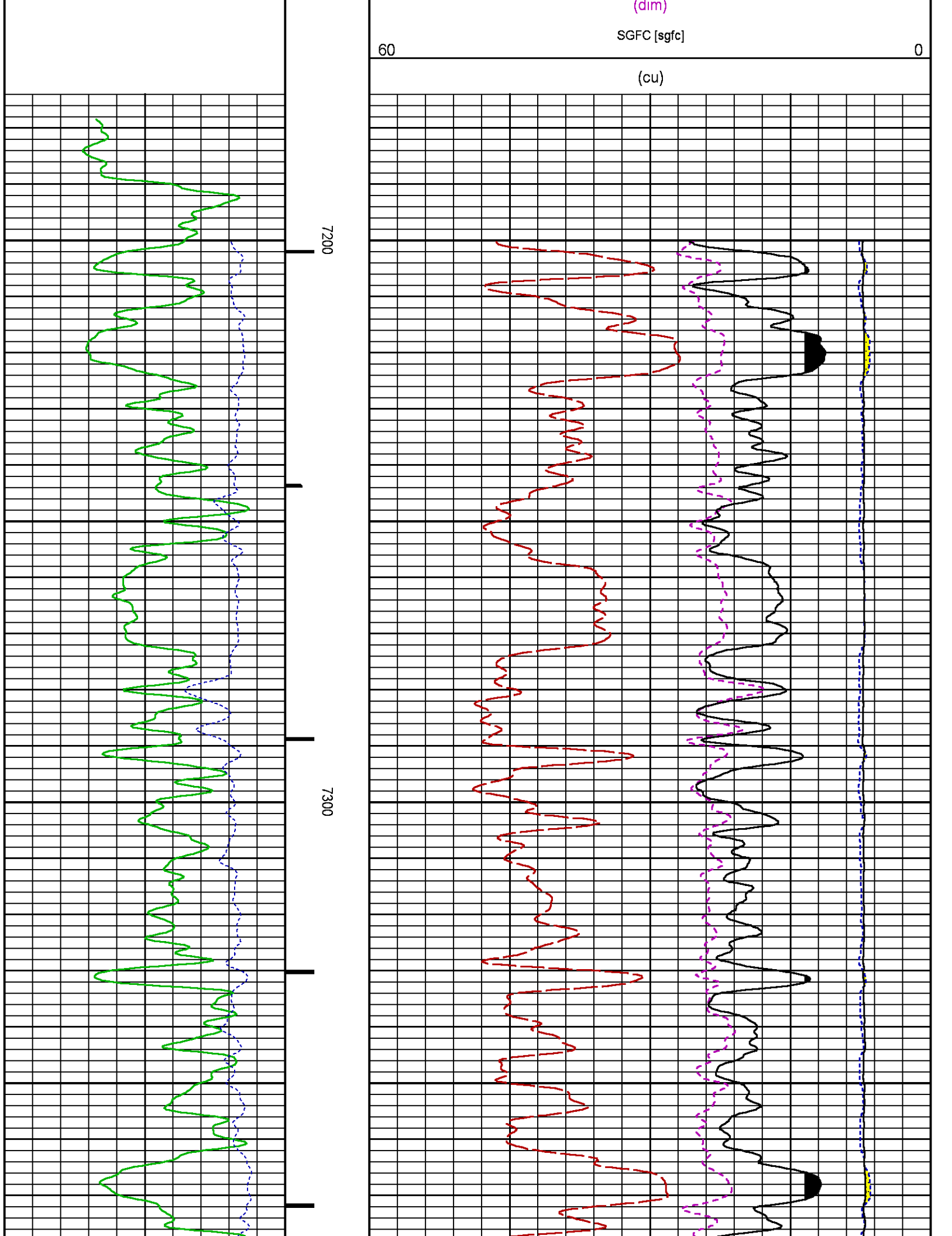
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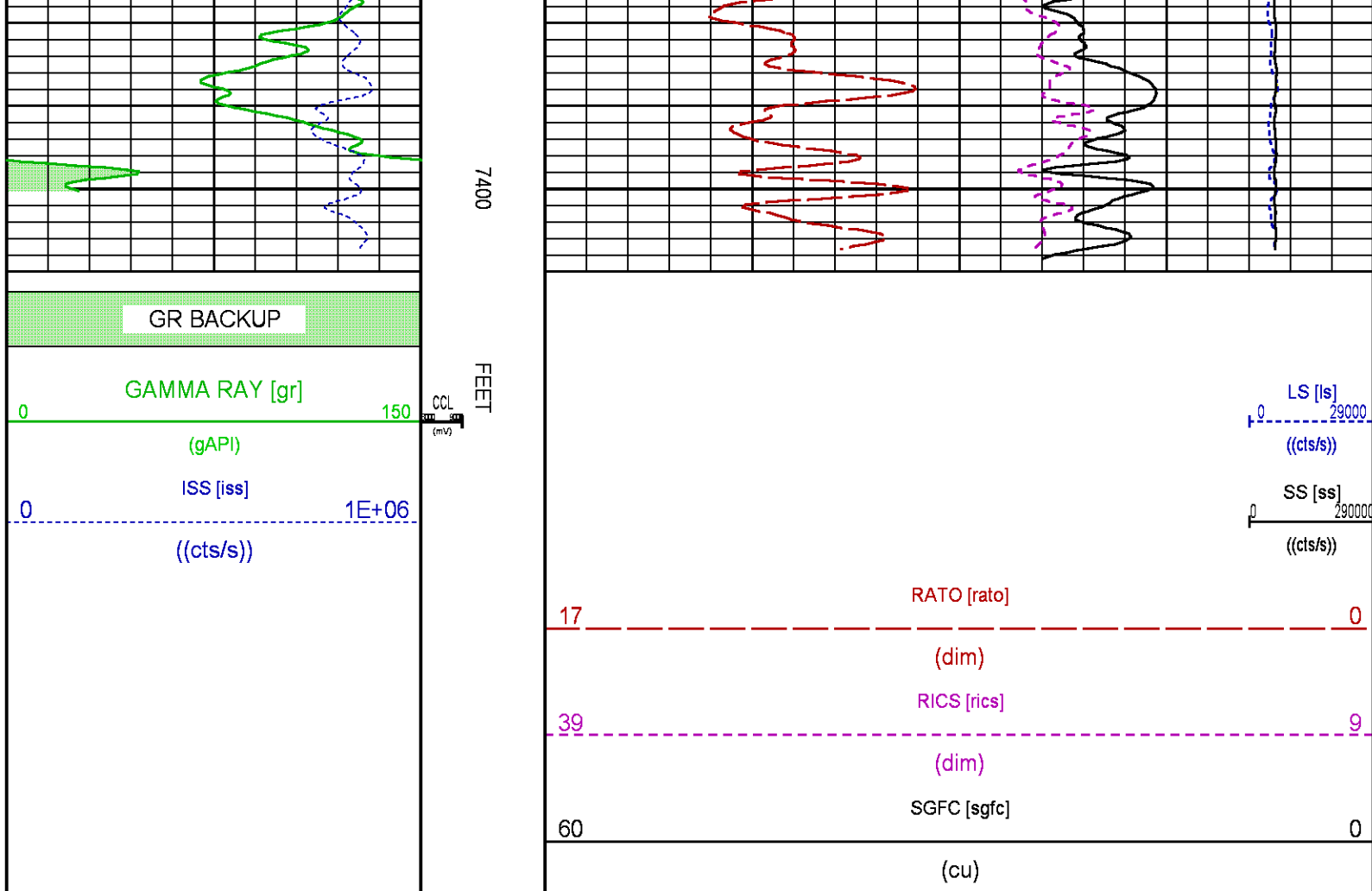
(cu)

(dim)

7200

7300





CALIBRATION / VERIFICATION SUMMARY

Source File: \dat1a\ARAME_PICEANCE_FEDERAL_29_18\ERPM_PNC3D tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA10317216 DATE/TIME PERFORMED: Tue Jan 17 13:40:53 2017

UNIT #: 3882ML ML4352 CALB JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	57.62	368.04	310.4	0.596	34.34	219.34	185

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA10317216 DATE/TIME PERFORMED: Tue Jan 17 13:43:12 2017

UNIT #: 3882ML ML4352 VERI JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	59.60	386.49	0.596	35.52	230.33	194.81

195.00 195.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

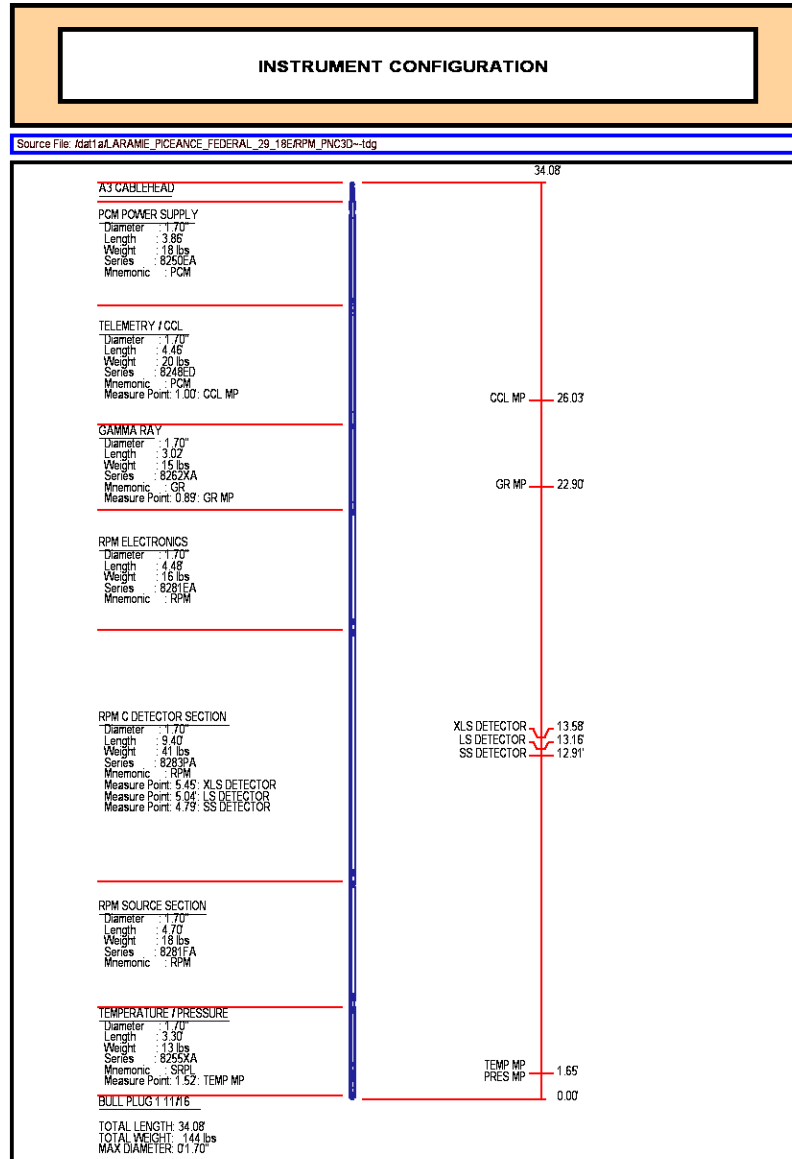
TOOL: 8283PA10414345 DATE/TIME PERFORMED: Tue Jan 17 16:42:57 2017


UNIT: 3882ML ML4352 CALIBRATOR: 2437XB 120052 SOURCE: 8281AA10160601 HOURS: 8281AA 434

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (uSec)	RCAL
Raw Data	804960	126	2324	2294	2282	87	10.0	0.9825
Interpolated	1300000	152	2301	2285	2279			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	804960	8856	1380	183	26.33	0.14	24.37	0.31

Raw Data	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
	804960	178738	27937	96894	34373	8975	58559	14423
Fit Quality %		1.070	1.179	1.032	1.045	1.208	0.910	1.204
Raw Data	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
	804960	1.43	4.50	28.82	13.75	10.80	3.83	4.06
Fit Quality %		0.089	0.129	0.161	0.220	0.140	0.141	0.129
Reduced	1379928	1.43	4.51	28.90	13.76	10.82	3.84	4.07



	COMPANY <u>LARAMIE ENERGY</u> WELL <u>PICEANCE FEDERAL 29-18E</u> FIELD <u>VEGA</u> COUNTY <u>MESA</u> STATE <u>COLORADO</u>	FILE NO: _____ API NO: <u>05-077-10364-0000</u>	
	LOCATION: SHL: LAT:39.248795N; LONG:107.788006W BHL: LAT:39.243580N; LONG:107.788356W	ELEVATIONS: KB 7561 FT DF GL 7531 FT	
	SEC <u>29</u> TWP <u>09 S</u> RGE <u>93 W</u>	DATE <u>30-MAY-2017</u>	

