



HIGH DEFINITION INDUCTION LOGSM
COMPENSATED Z-DENS LOGSM
GAMMA RAY LOG
CALIPER LOG

FILE NO: US095854J	COMPANY LARAMIE ENERGY	
API NO: 05077097680000	WELL GUNDERSON 29-11E	
	FIELD VEGA	
	COUNTY MESA	
	STATE COLORADO	
Ver. 4.01 SEC 29 T9S R93W PAD 29-09 PATTERSON 306	LOCATION: SHL: 2401' FNL 1119' FEL BHL: 2637' FNL 853' FEL SEC 29 T9S R93W	OTHER SERVICES NONE
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7531 FT KB 22 FT ABOVE P.D. KB	ELEVATIONS: KB 7553 FT DF GL 7531 FT

DATE	04-Apr-2015
RUN	1
SERVICE ORDER	US095854J
DEPTH DRILLER	7805 FT
DEPTH LOGGER	7793 FT
BOTTOM LOGGED INTERVAL	7790 FT
TOP LOGGED INTERVAL	0 FT
CASING DRILLER	8.625 IN @ 1546 FT
CASING LOGGER	1546 FT
BIT SIZE	7.875 IN
TYPE OF FLUID IN HOLE	LSND
DENSITY	9.8 LB/G
PH	10
SOURCE OF SAMPLE	MUD TANK
RM AT MEAS. TEMP.	1.83 OHMM @ 68 DEGF
RMF AT MEAS. TEMP.	1.37 OHMM @ 68 DEGF
RMC AT MEAS. TEMP.	2.29 OHMM @ 68 DEGF
SOURCE OF RMF	RMC
RM AT BHT	0.71 OHMM @ 186.9 DEGF
TIME SINCE CIRCULATION	8 HOURS
MAX. RECORDED TEMP.	186.9 DEGF
EQUIP. NO.	6685
RECORDED BY	W. QUIGLEY
WITNESSED BY	MR. ROGER FOSTER

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	1546 FT	7793 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
8.625 IN	24 LB/F		0 FT	1546 FT

REMARKS

RUN 1 TRIP 1: HDIL ZDL CN GR RAN IN COMBINATION

BVOL CVOL CALCULATED IN CUBIC FT
CVOL CALCULATED USING PROPOSED 4.5" CASING
CALIPER VERIFIED INSIDE CASING

RHO MATRIX: 2.68 G/CC
RHO FLUID: 1.00 G/CC

CN MATRIX: SANDSTONE
CN RAN DECENTRALIZED

HDIL RAN WITH 1.5" STANDOFF ON BOTTOM W/ HOLEFINDER
ABC TO CALCULATE MUD CONDUCTIVITY

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES
CREW: OLSON/COATE/EDWARDS/QUIGLEY
RIG: PATTERSON 306

HAD TO CLOSE CALIPER FROM 2694'-2716' DUE TO OBSTRUCTION
GR TOOL STOPPED READING FROM 2712'-2986'. COULD NOT RE-LOG DUE TO OBSTRUCTION
GR FAILED AFTER LOG CHECKS BUT SHOWS GOOD REPEATABILITY, DATA IS VALID

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWVL	3950XA	10119949	FREE
1	1	TTMA	3980XA	10120299	FREE
1	1	FOC TEL	3518FB	10137522	FREE
1	1	GR	3518EB	10139870	DECENTRALIZED
1	1	CN	2436XA	10137930	DECENTRALIZED
1	1	ZDL	2223XA	10102922	CALIPER DEVICE
1	1	KNCL	3930XA/3930XA	10087279/10139400	FREE
1	1	HDIL	1530XA	10118612	STOOD OFF

MAIN LOG 2"/100FT SCALE

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

Updates: 1 Patches: 6

Plotted: Sat Apr 4 22:42:52 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/95854J/n970b103.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1423.649 ft BOTTOM DEPTH: 7806.735 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	7.875	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	68.0	degF	"	"
	MUD SAMPLE RES	1.830	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	68.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
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MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"
	ABC to CALCULATE			"
	STANDOFF	1.50	in	"
	TOOL POSITION	ECCENTERED		"
	Rmud MULTIPLIER	1.000		"

CURVE DESCRIPTION REPORT

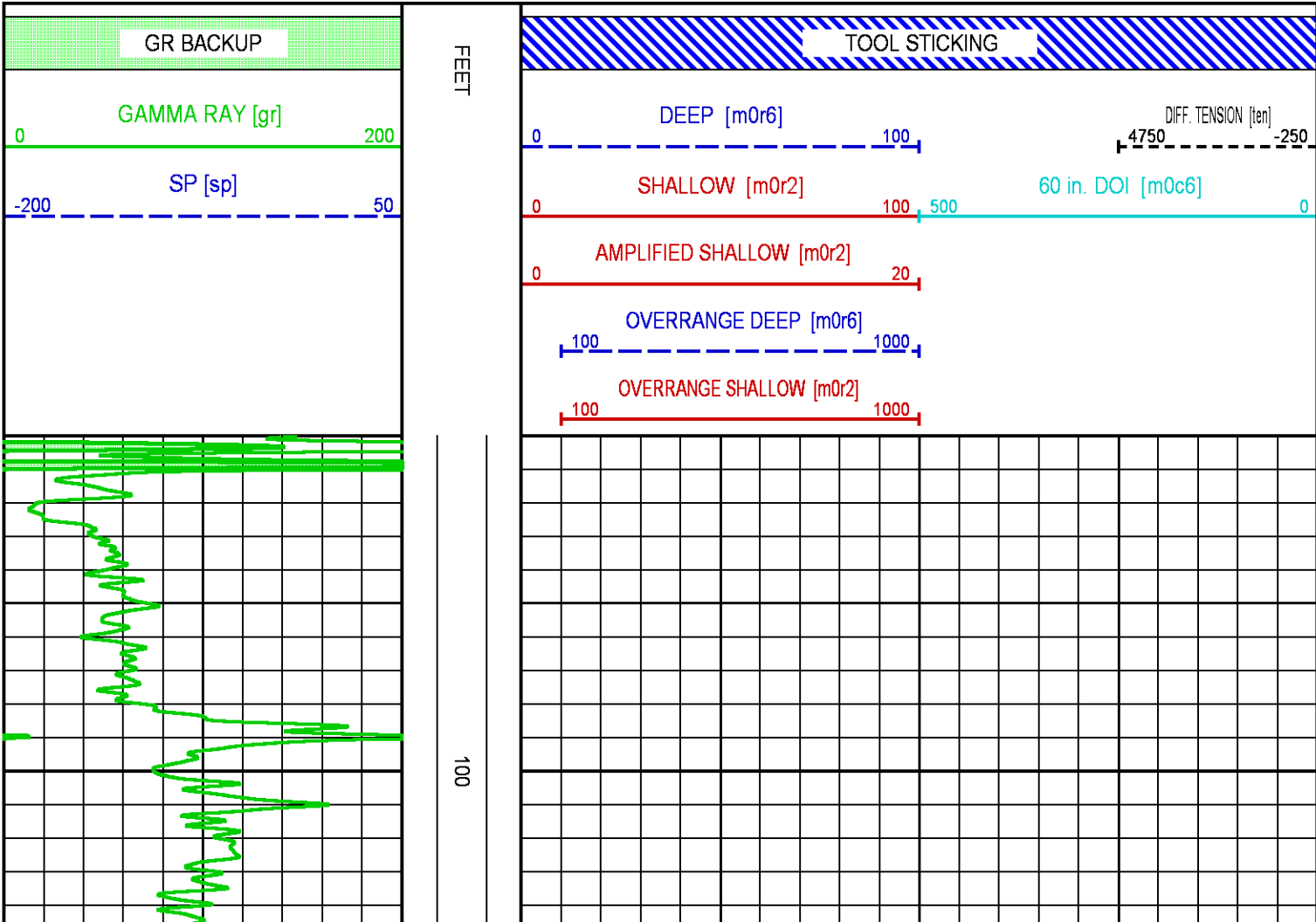
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Apr 4 19:47:46 2015	GAMMA RAY
F1:M0C6	Apr 4 19:47:46 2015	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	Apr 4 19:47:46 2015	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	Apr 4 19:47:46 2015	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Apr 4 19:47:46 2015	SPONTANEOUS POTENTIAL
F1:TEN	Apr 4 19:47:46 2015	DIFFERENTIAL TENSION

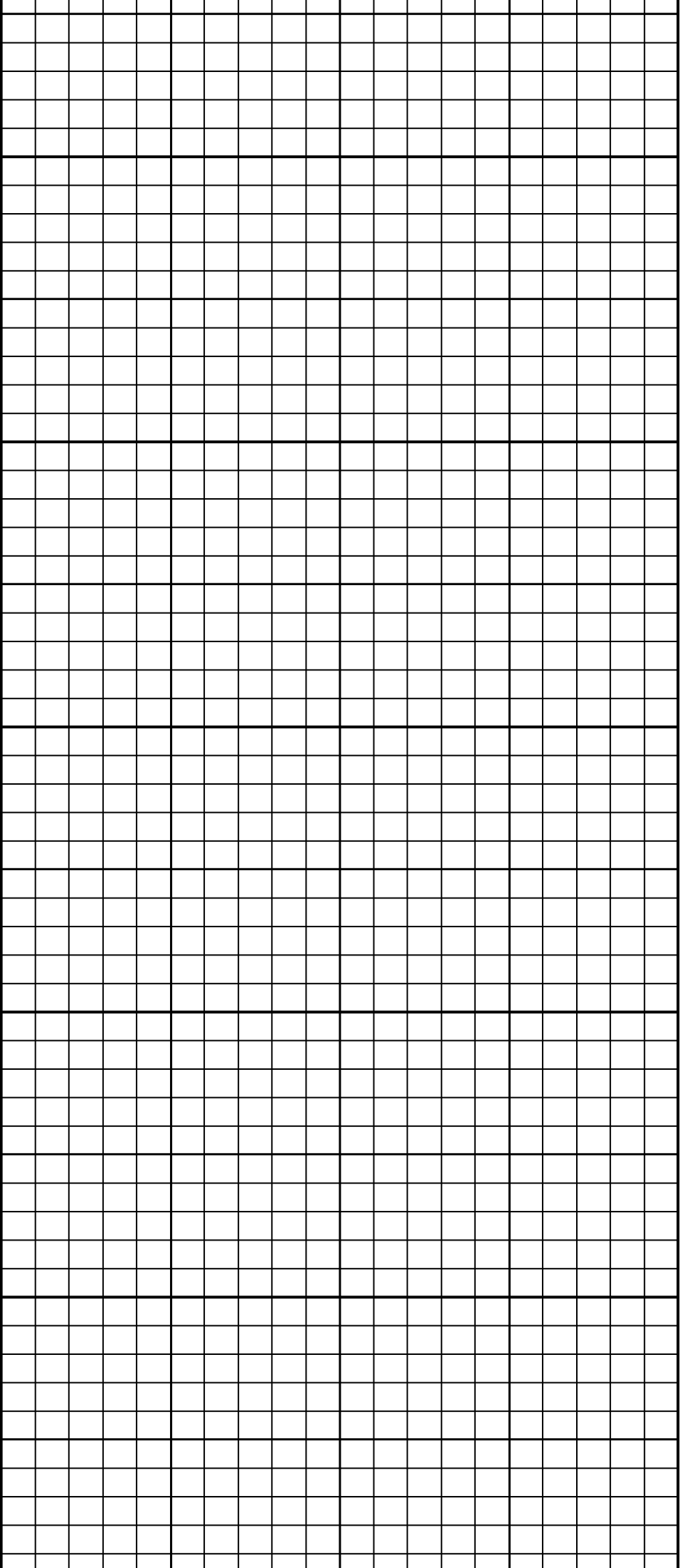
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	35.00	M0R2	2.75	SP	1.25		
M0C6	2.75	M0R6	2.75	TEN	0.00		

Presentation : cas6685:/dat1a/95854J/2IN.fvpdf [2"/100' Scale]
Plot Interval : 0.25 - 7809 Feet

Data File 1 : F1 : cas6685:/dat1a/95854J/n970b103_MAIN.xtf
Created On : Apr 4 19:47:46 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-11E
Field : VEGA
File Interval : 0 - 7809 Feet
OCT : n970b1





200

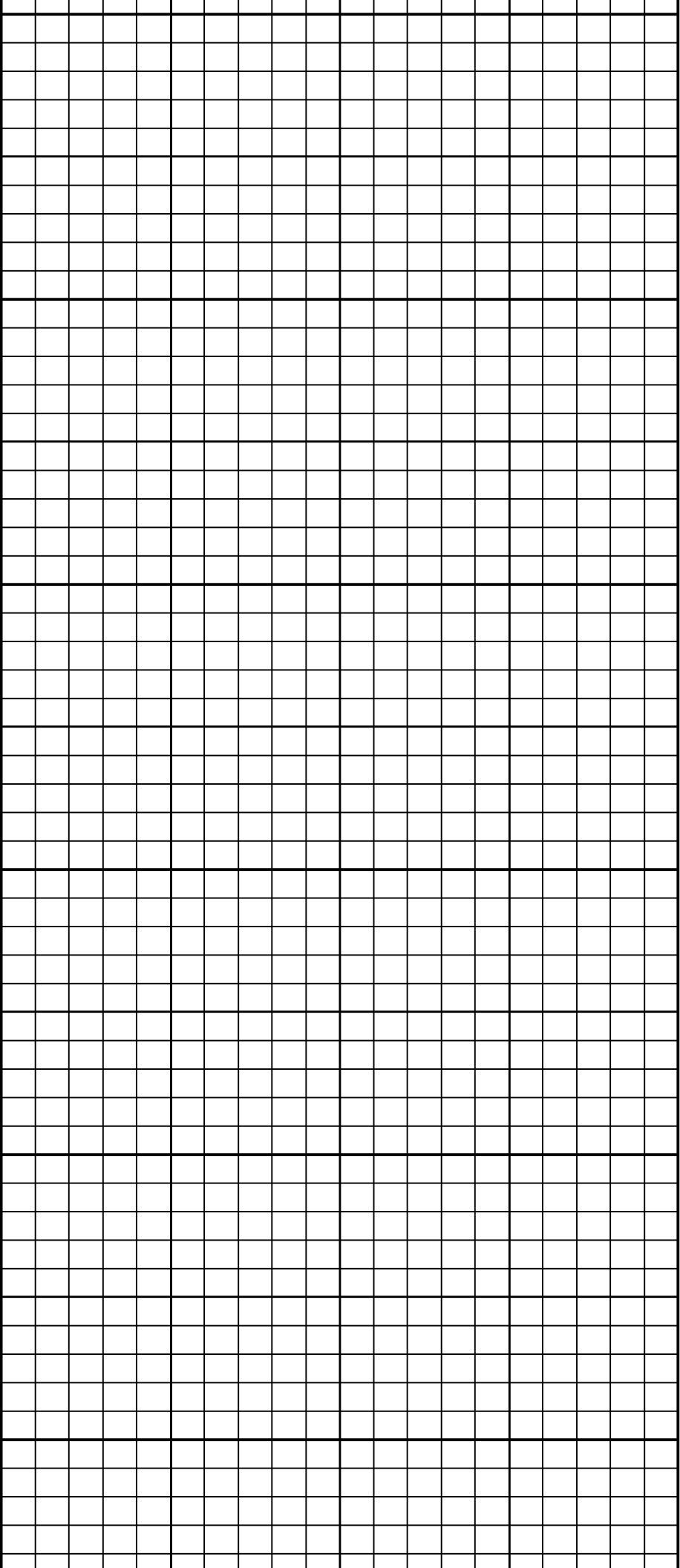
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400

500

600





700

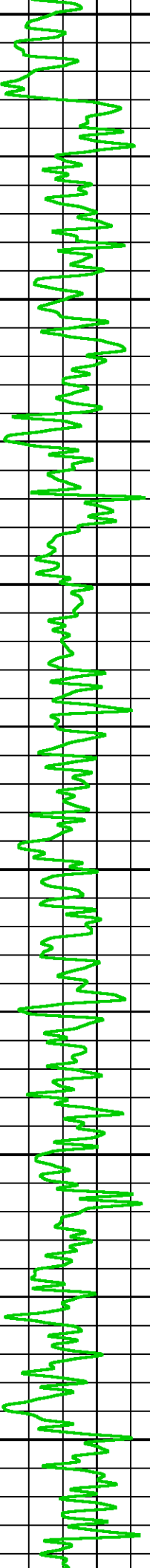
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900

1000

1100

1200



1300 1400 1500 1600 1700

CSG

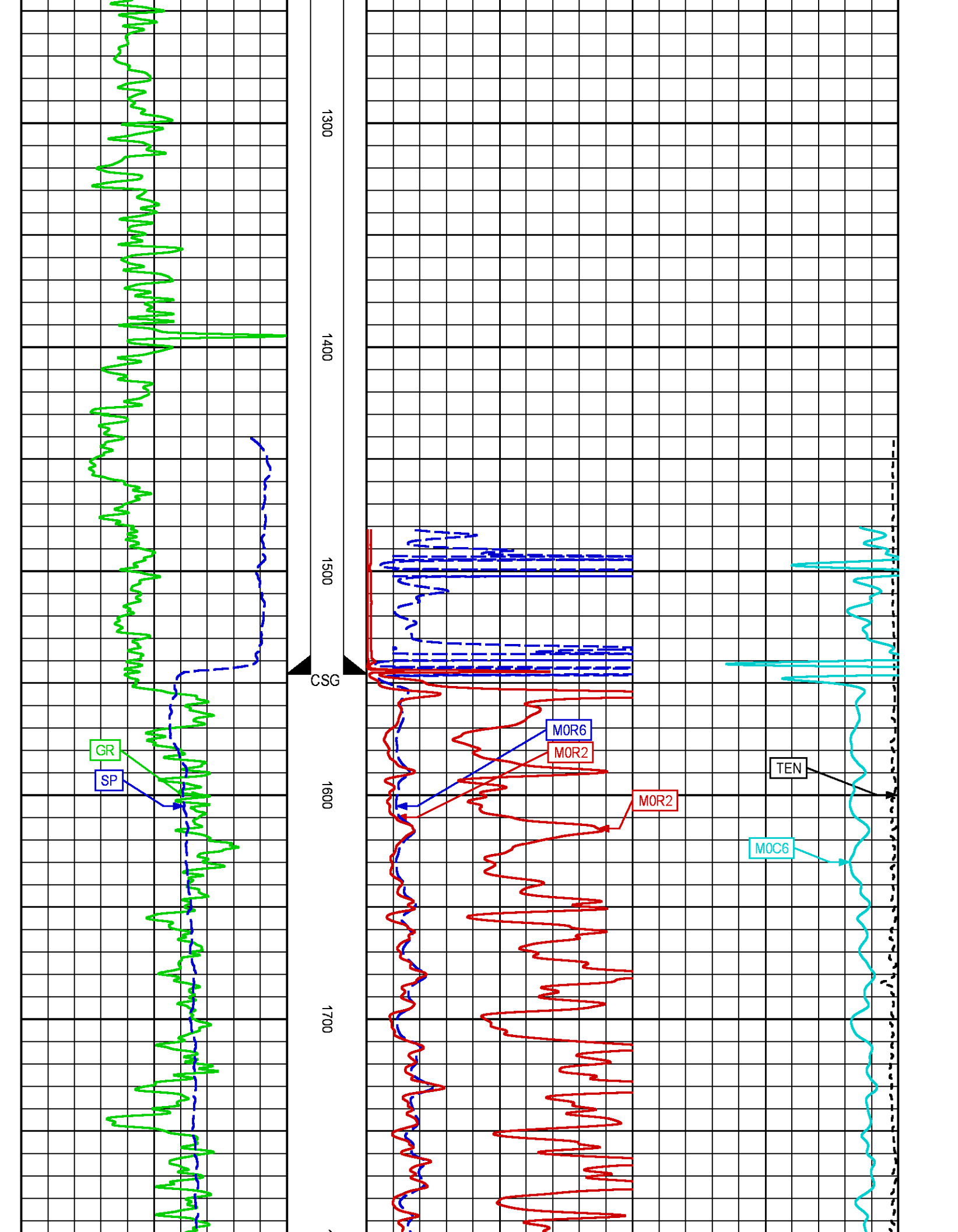
GR
SP

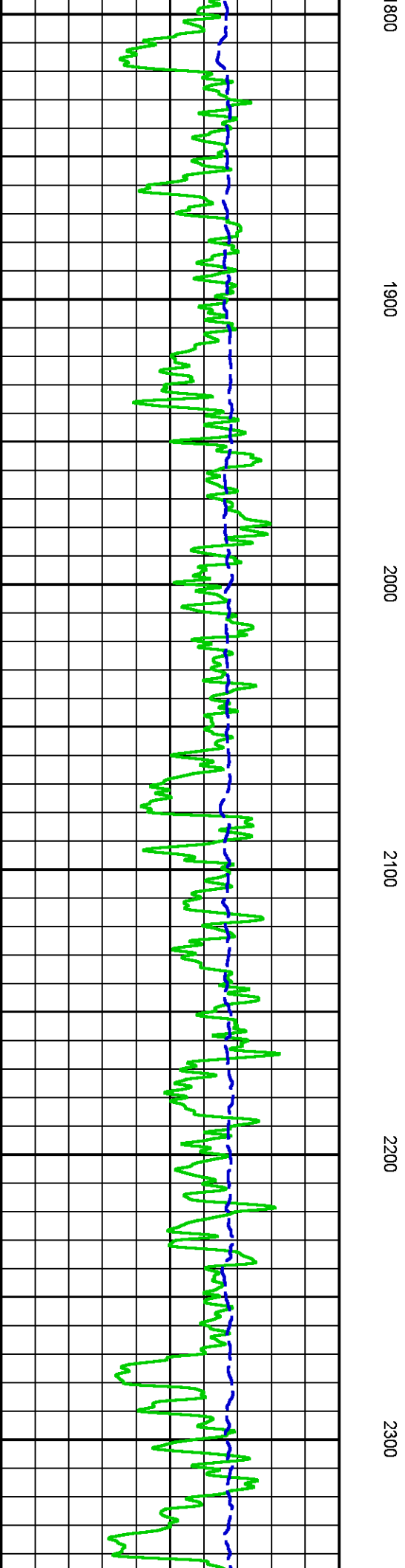
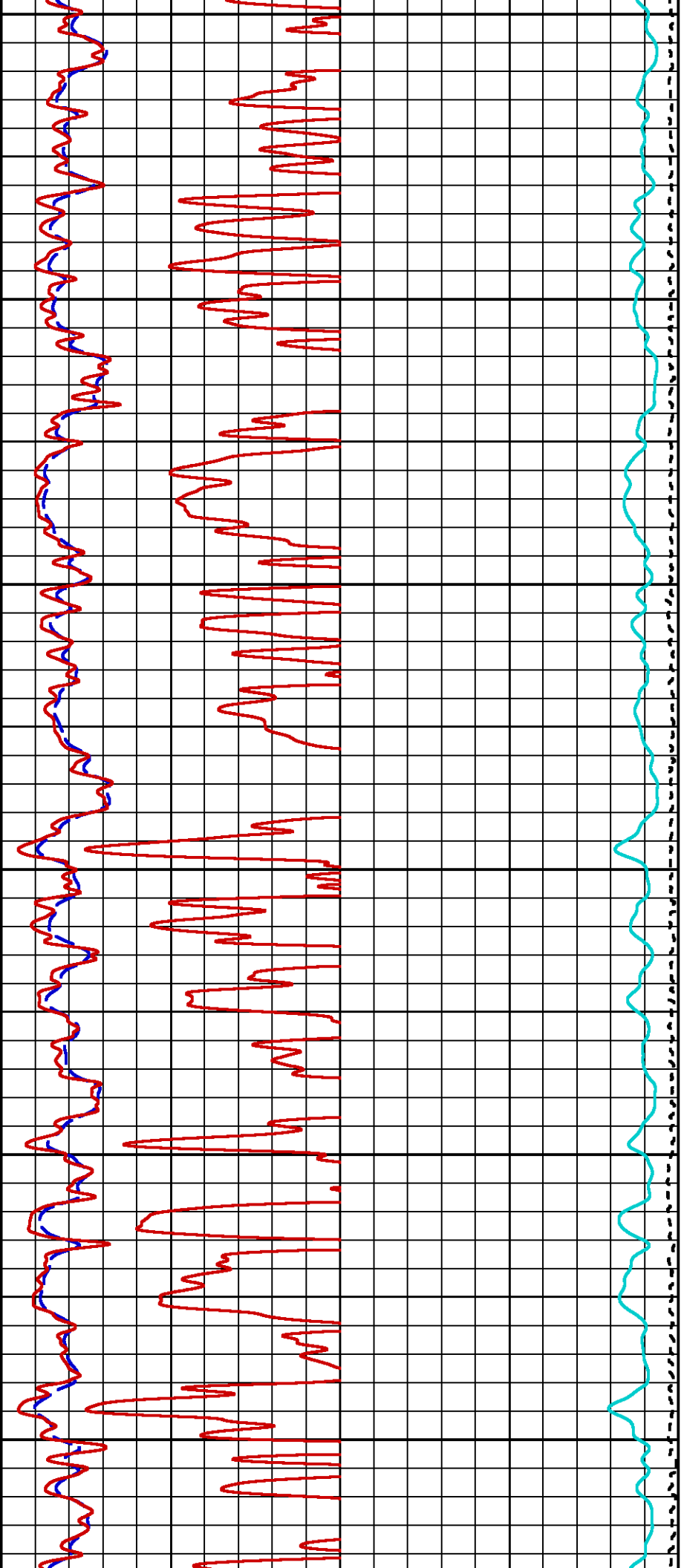
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MOR2

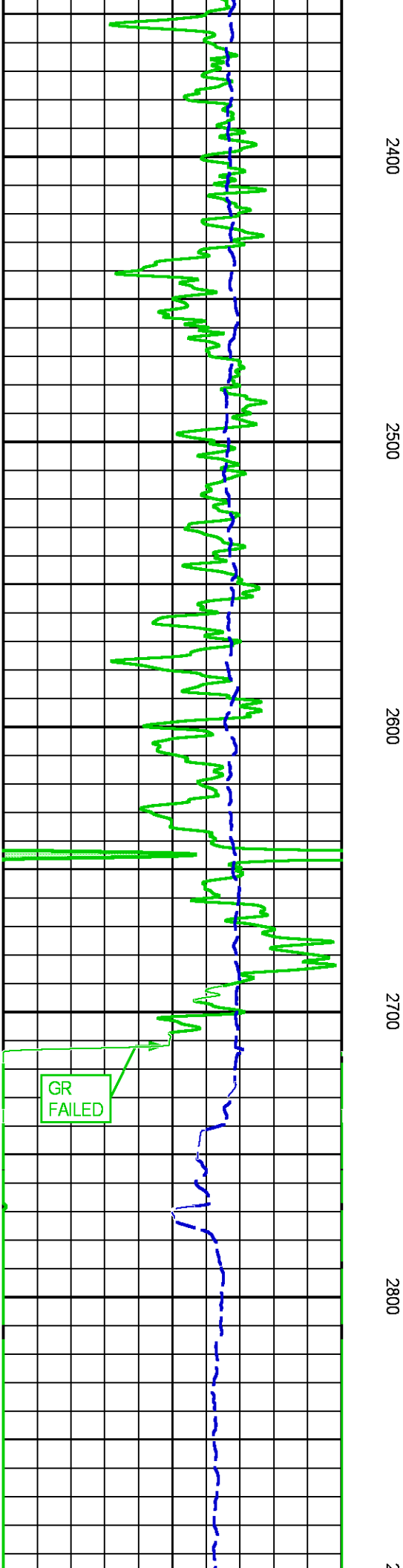
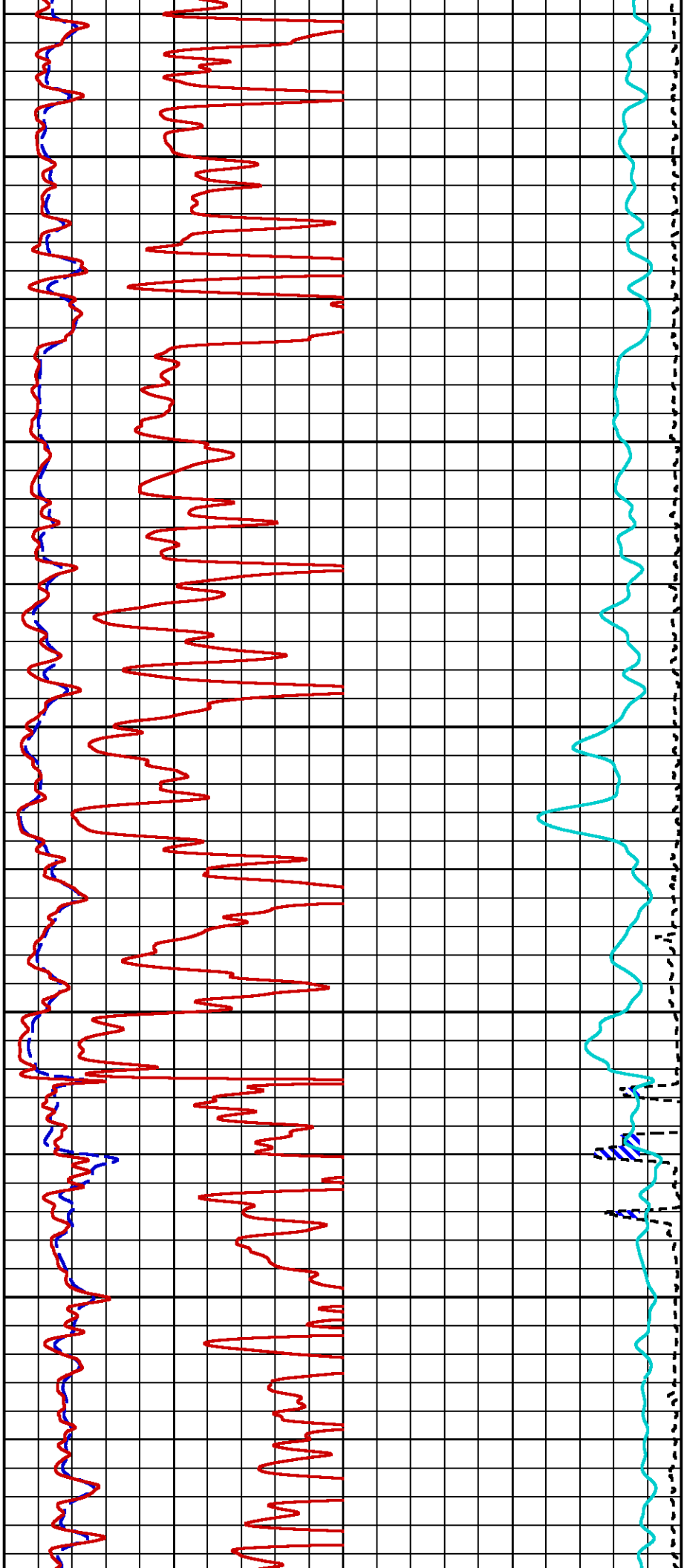
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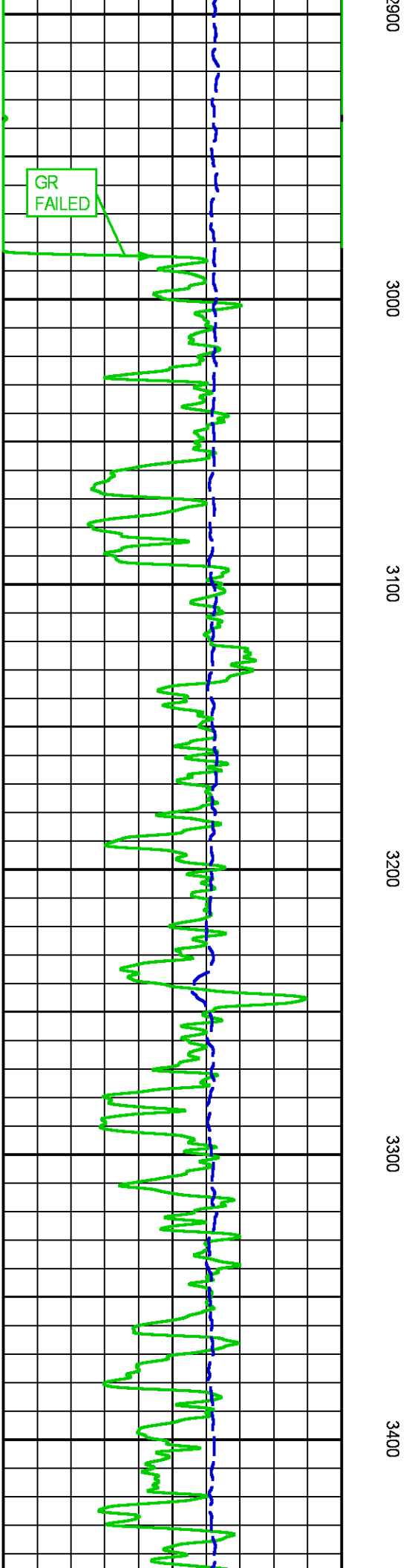
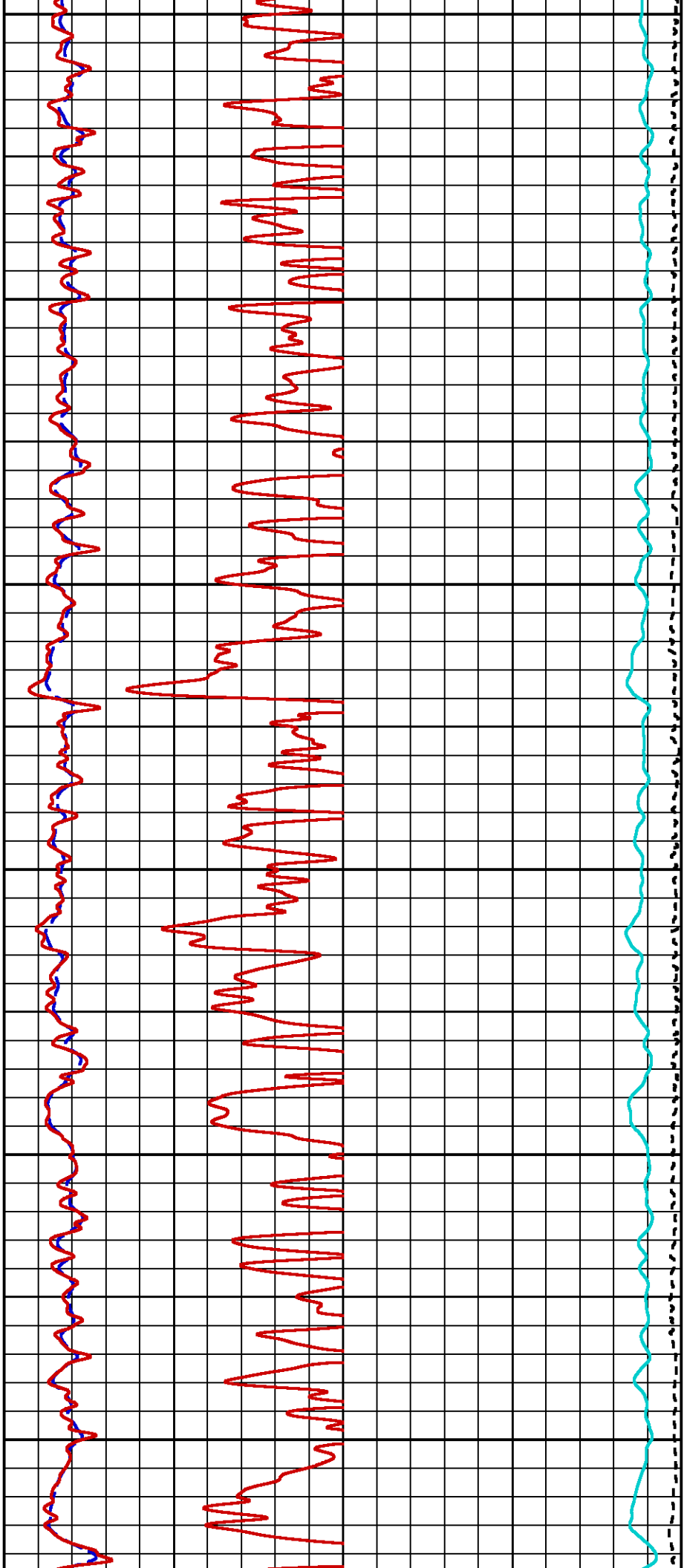
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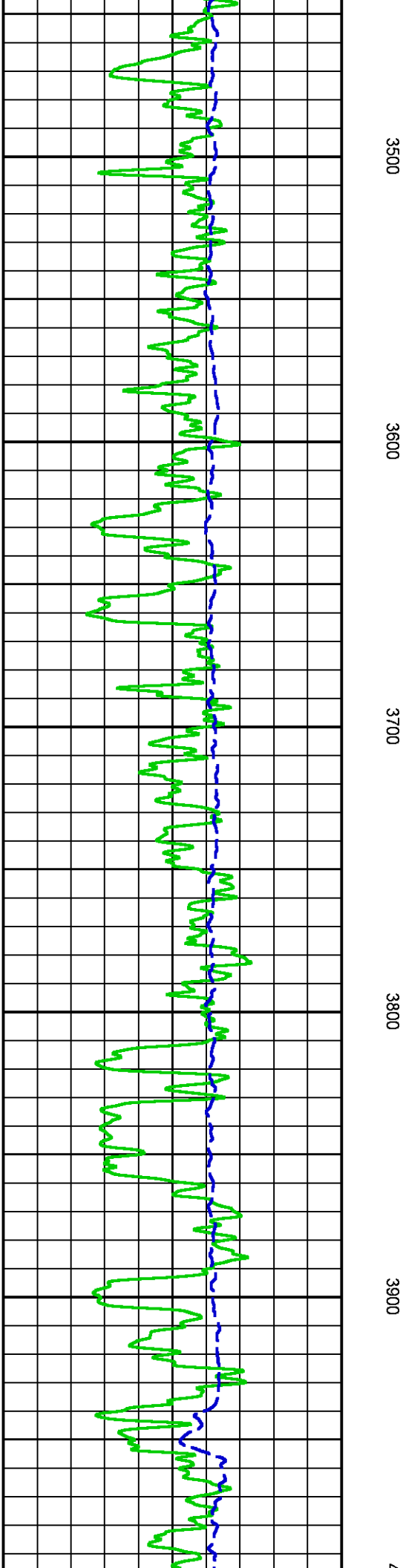
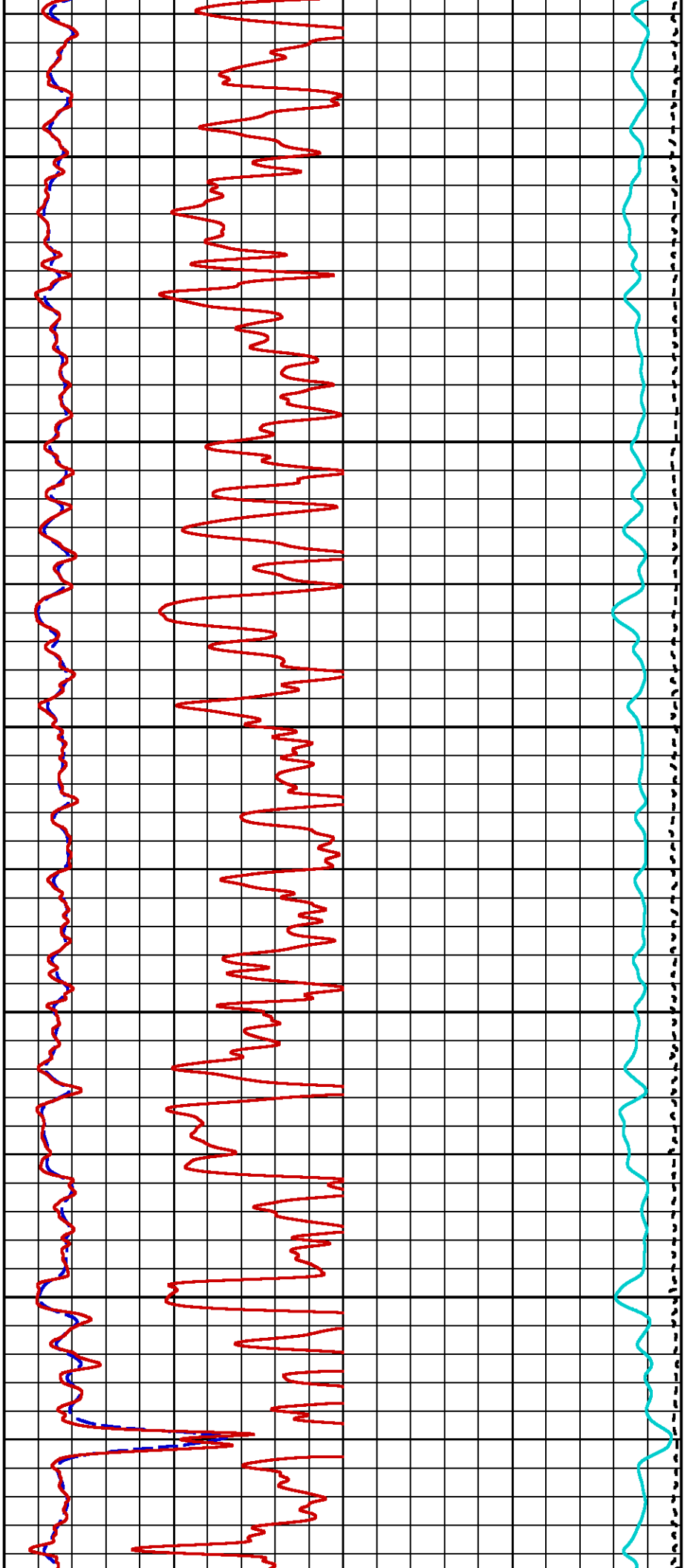
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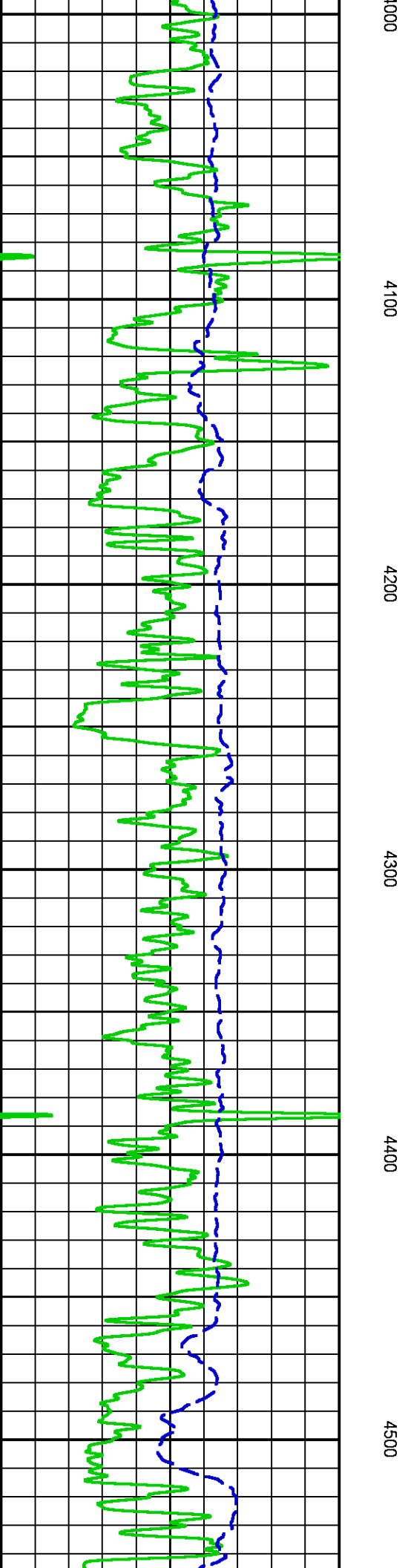
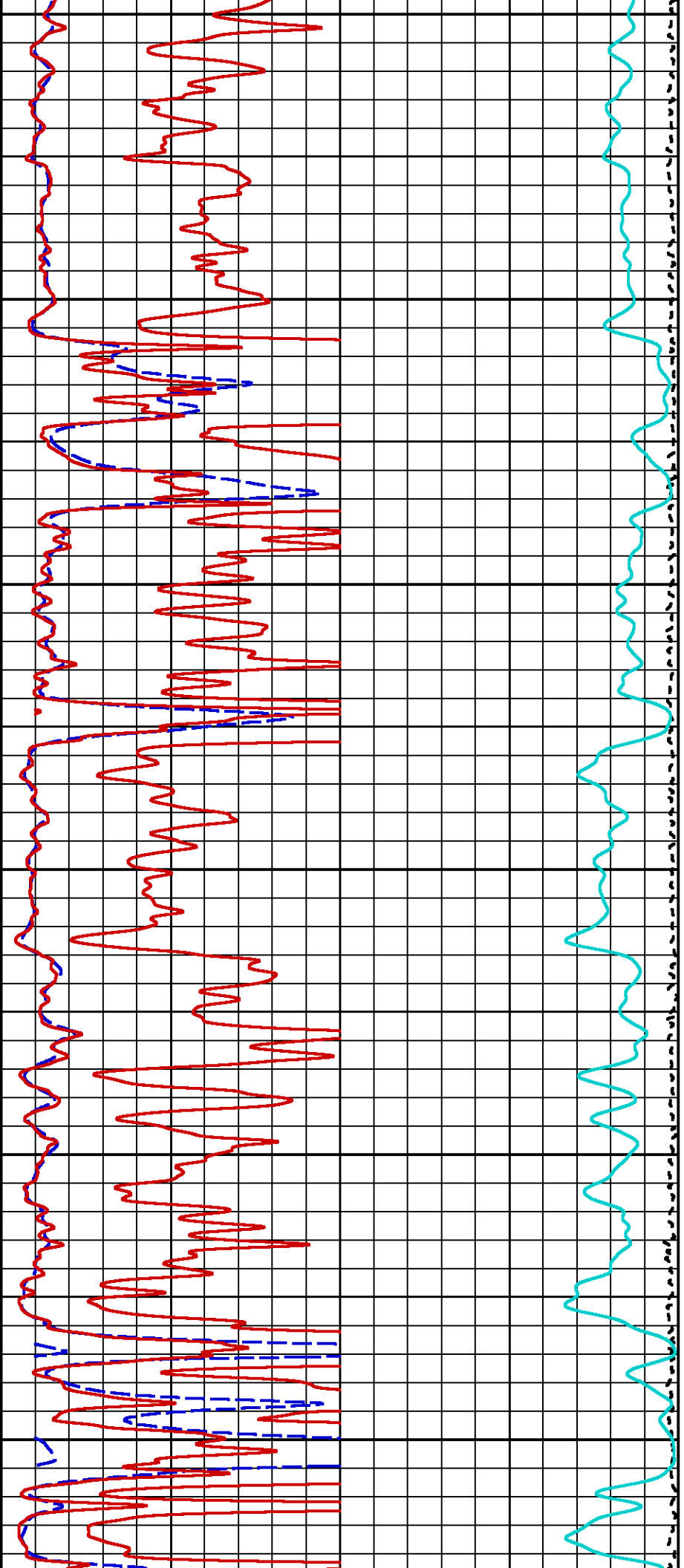


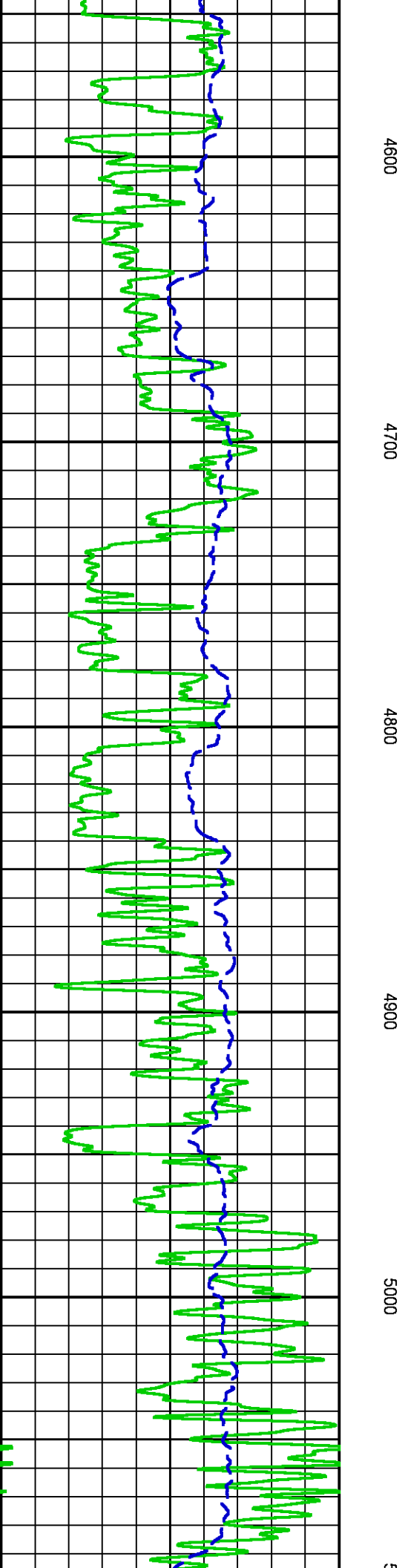
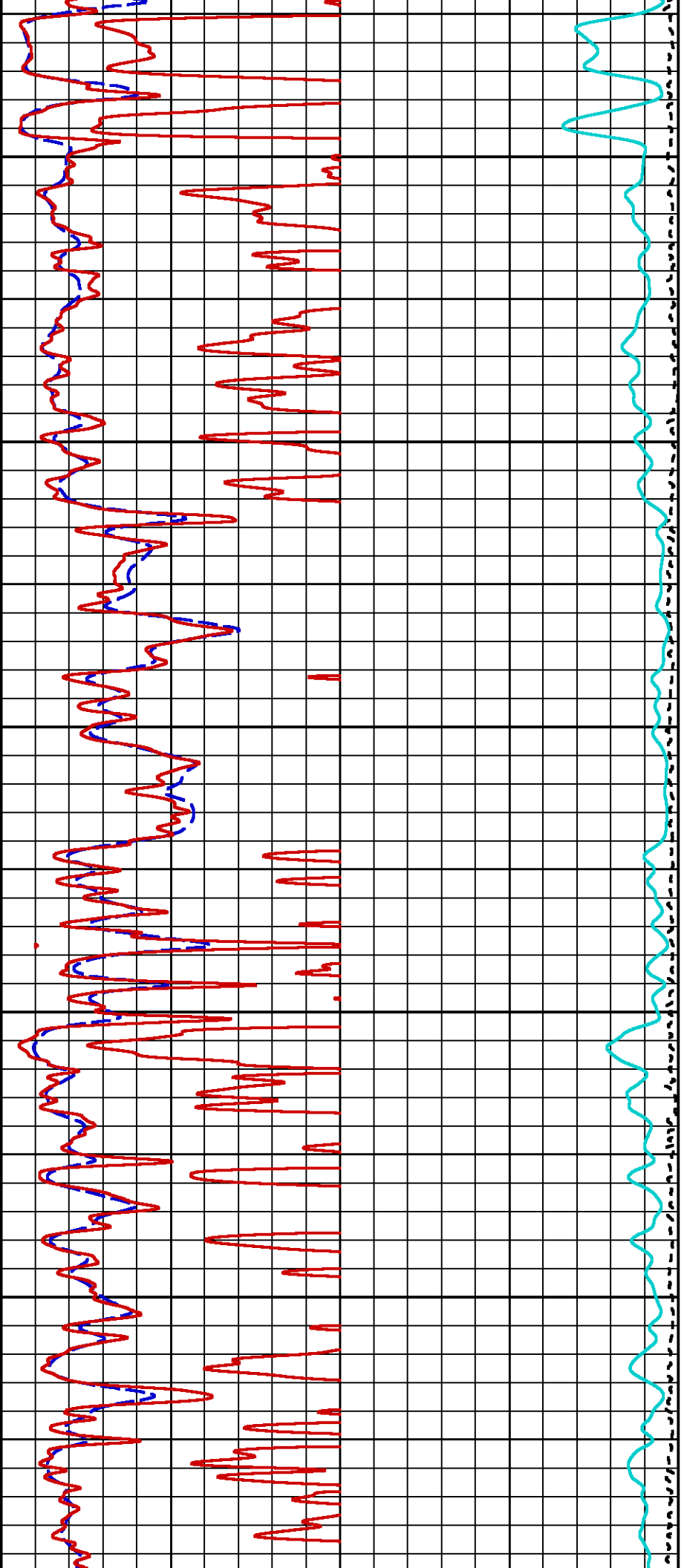


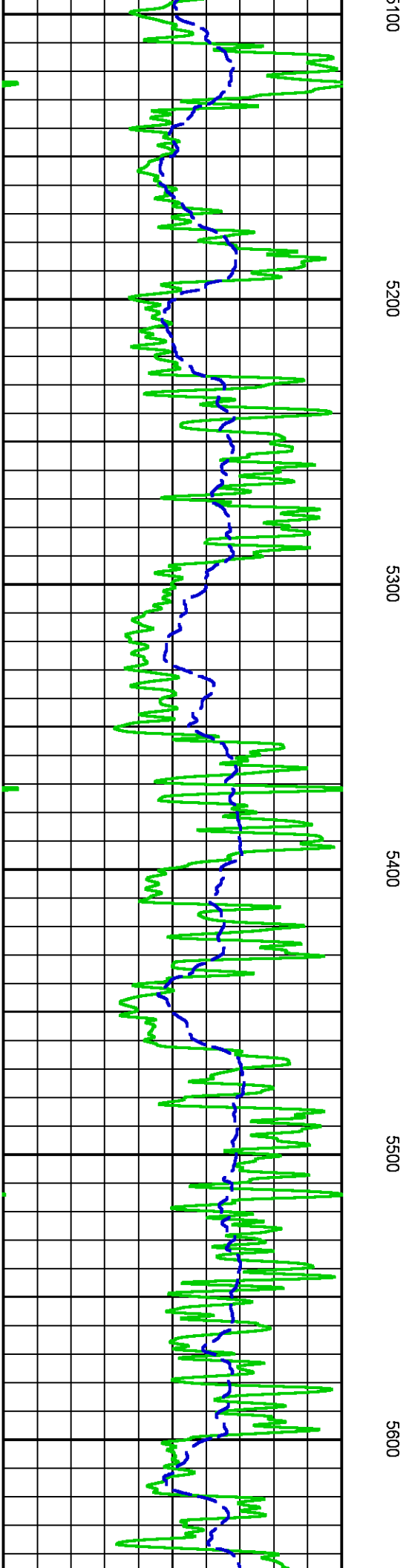
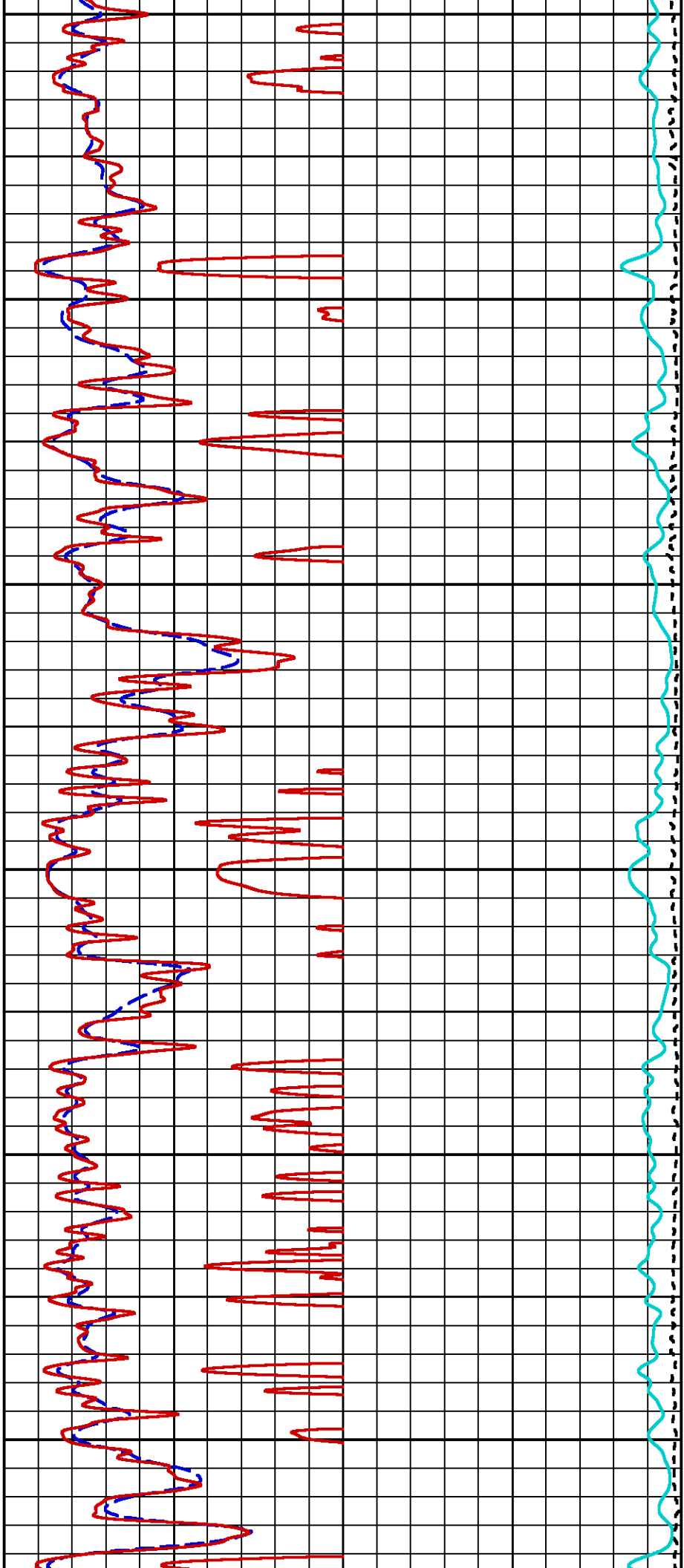


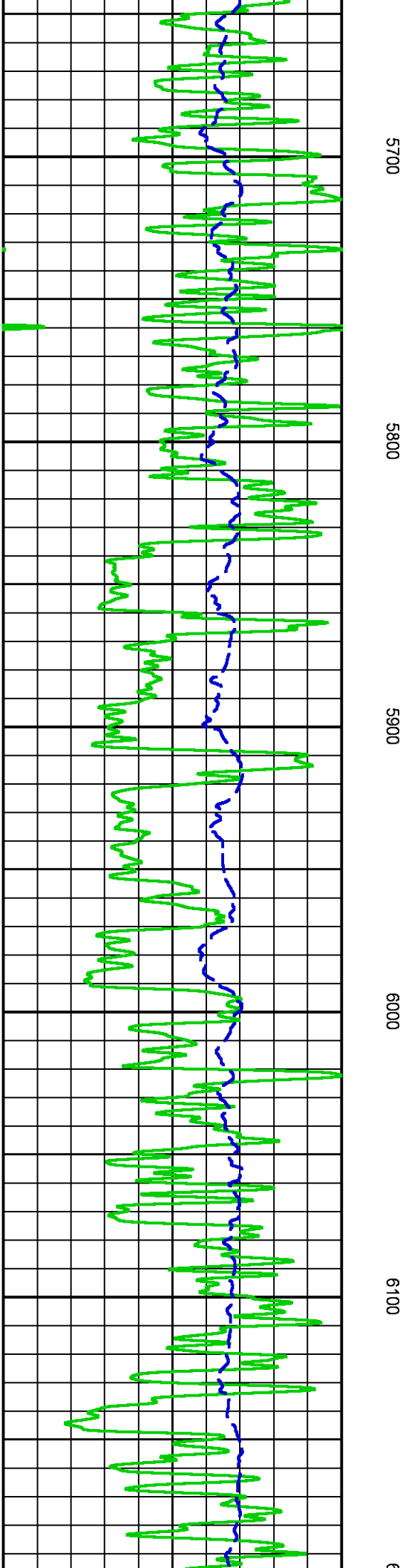
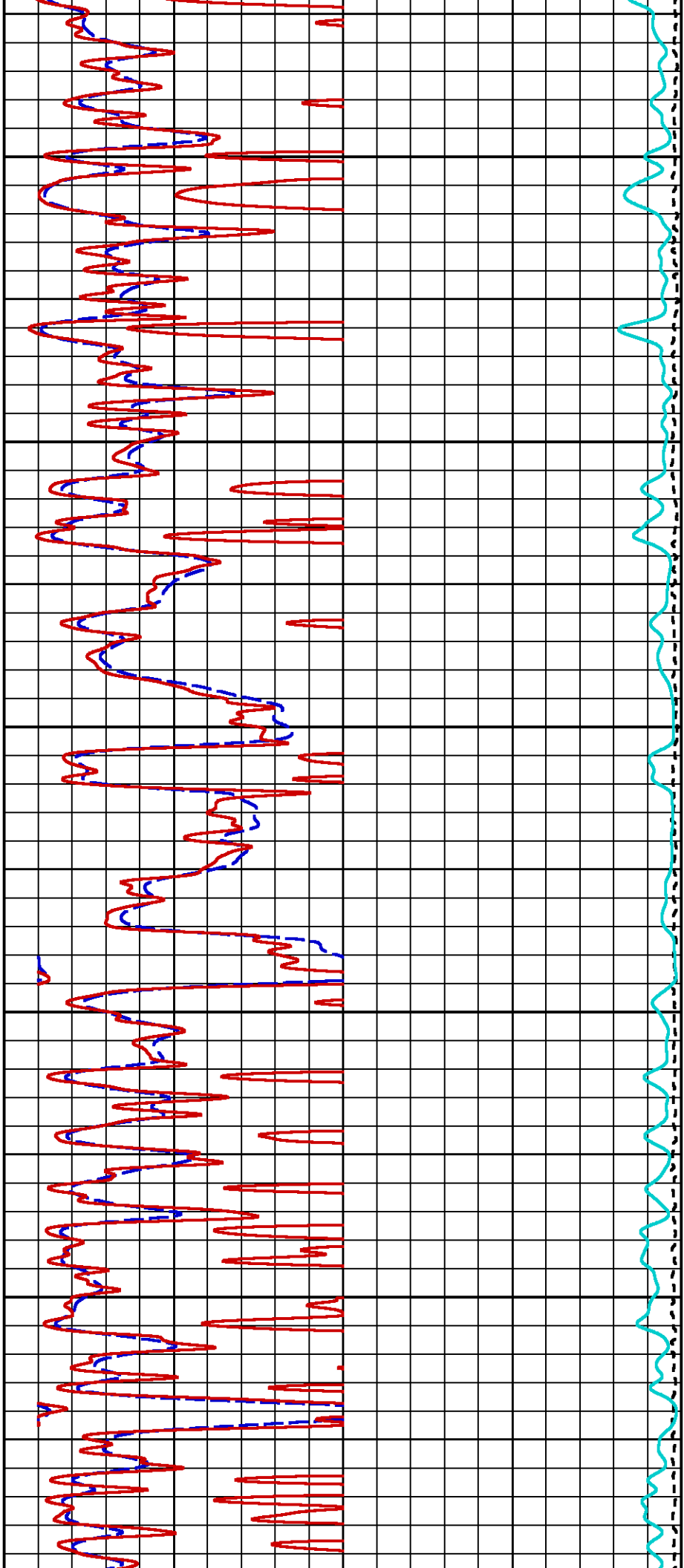


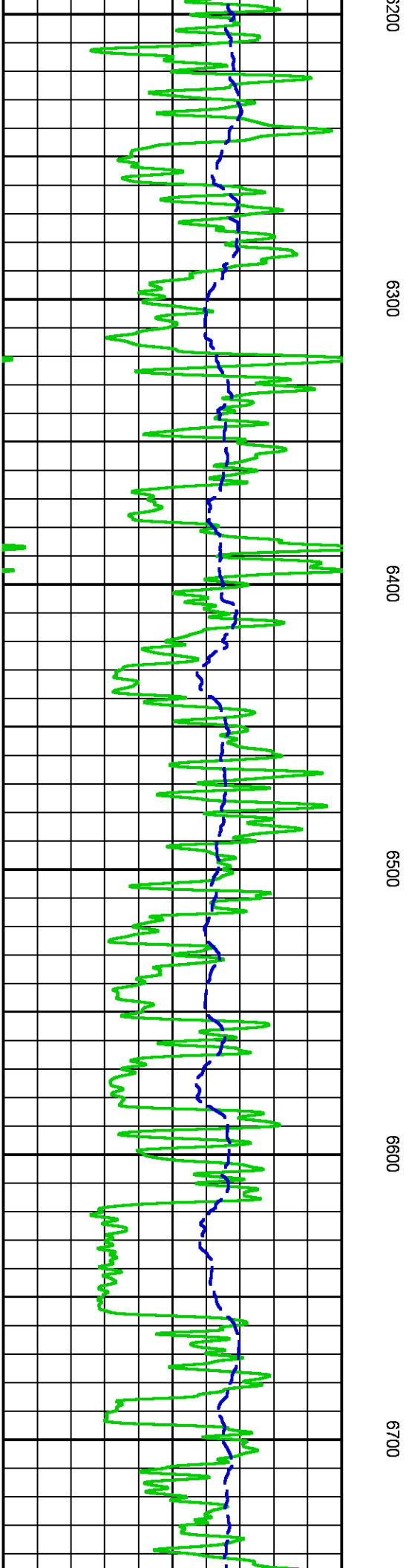
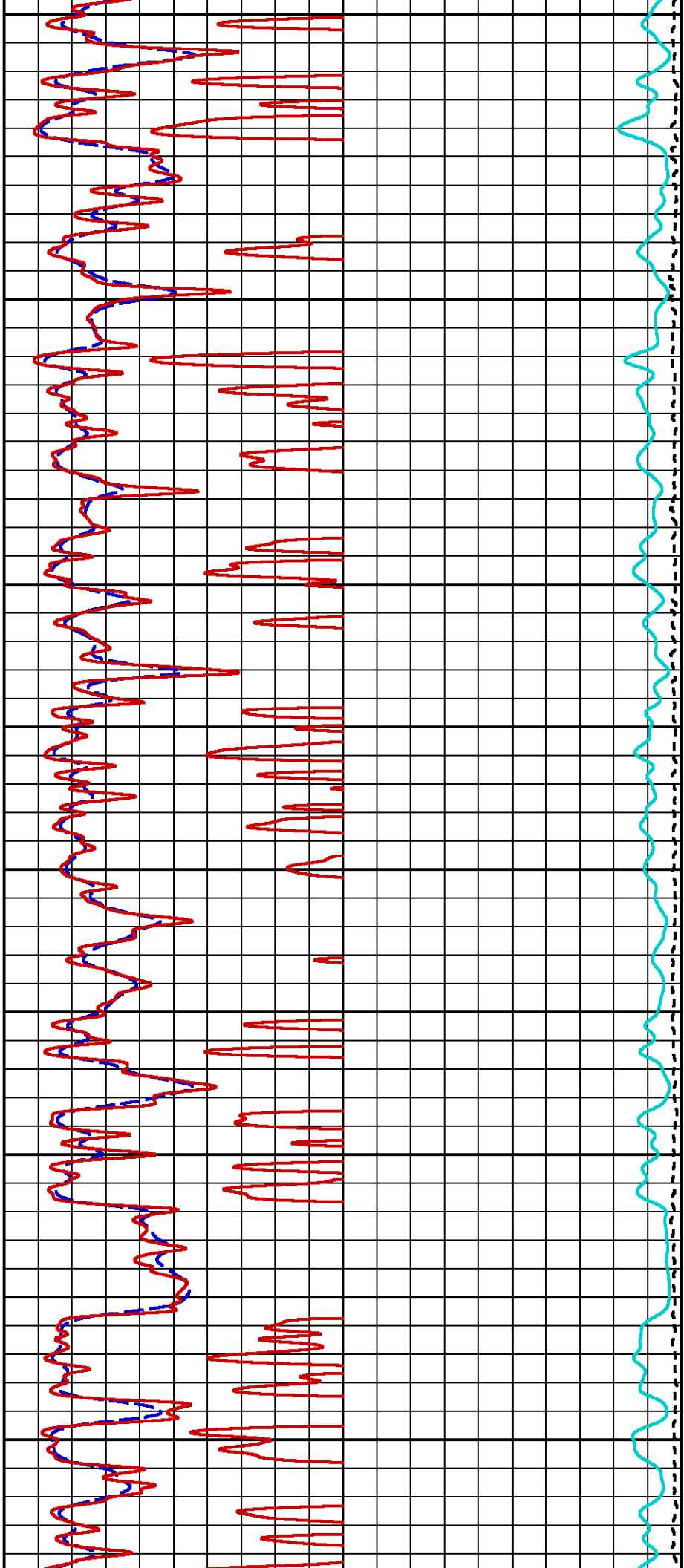


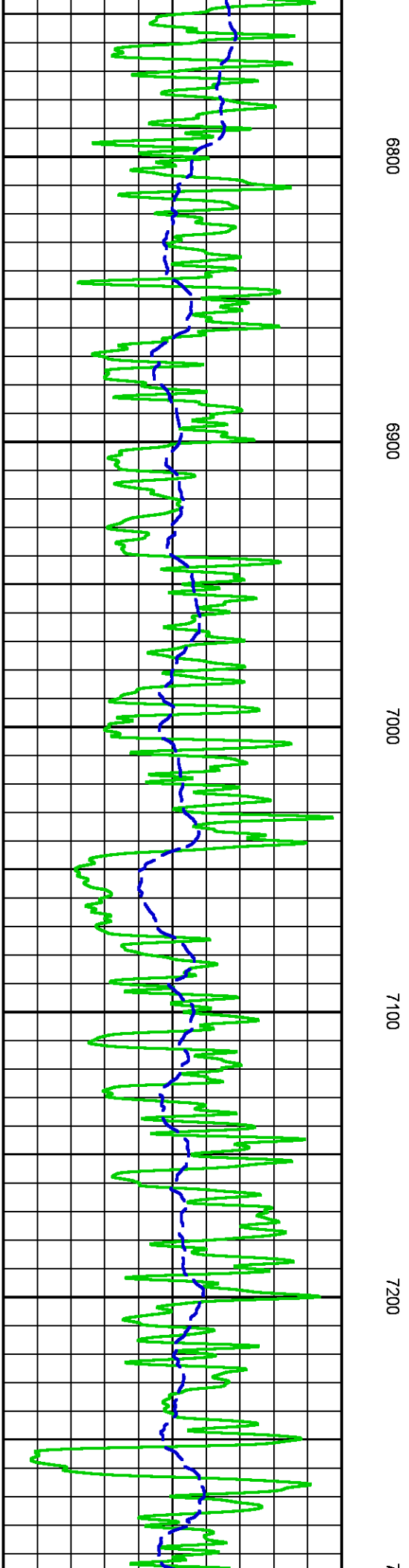
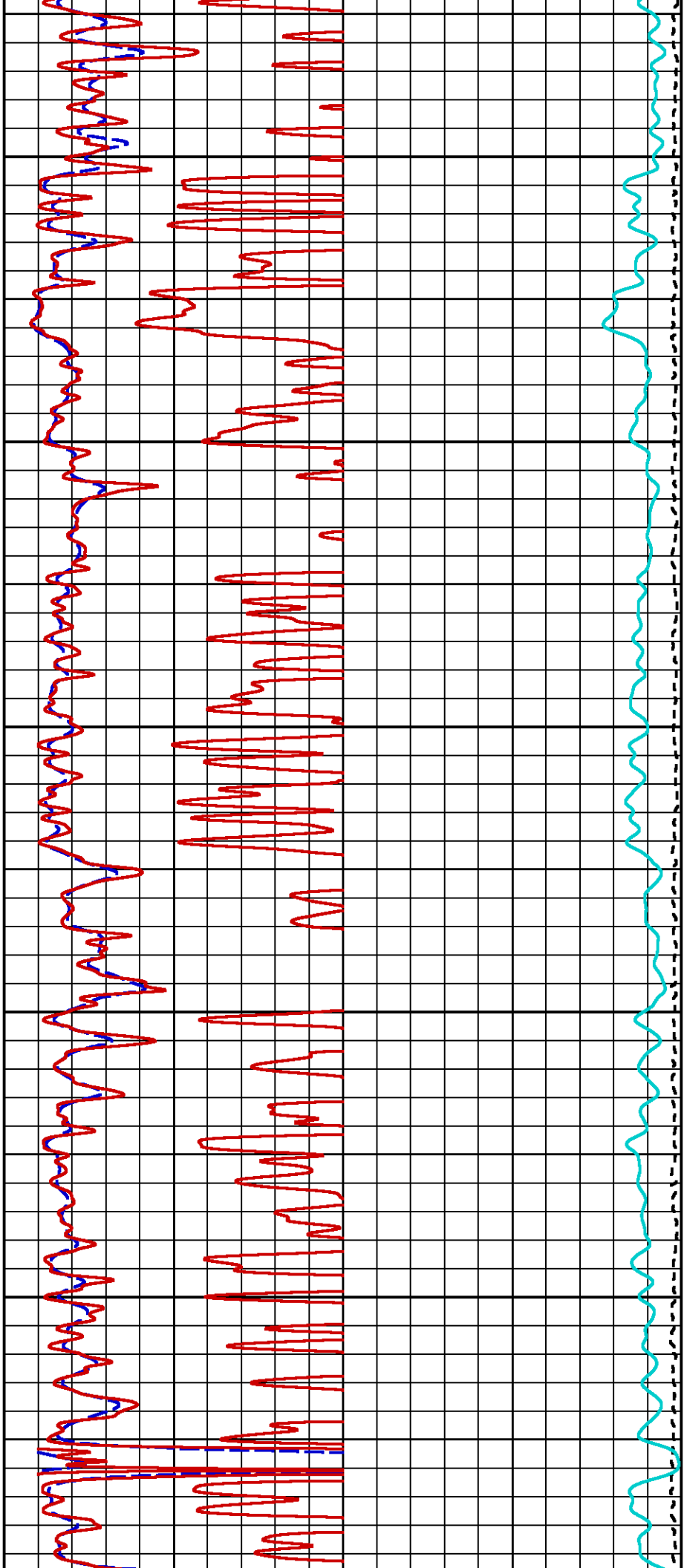


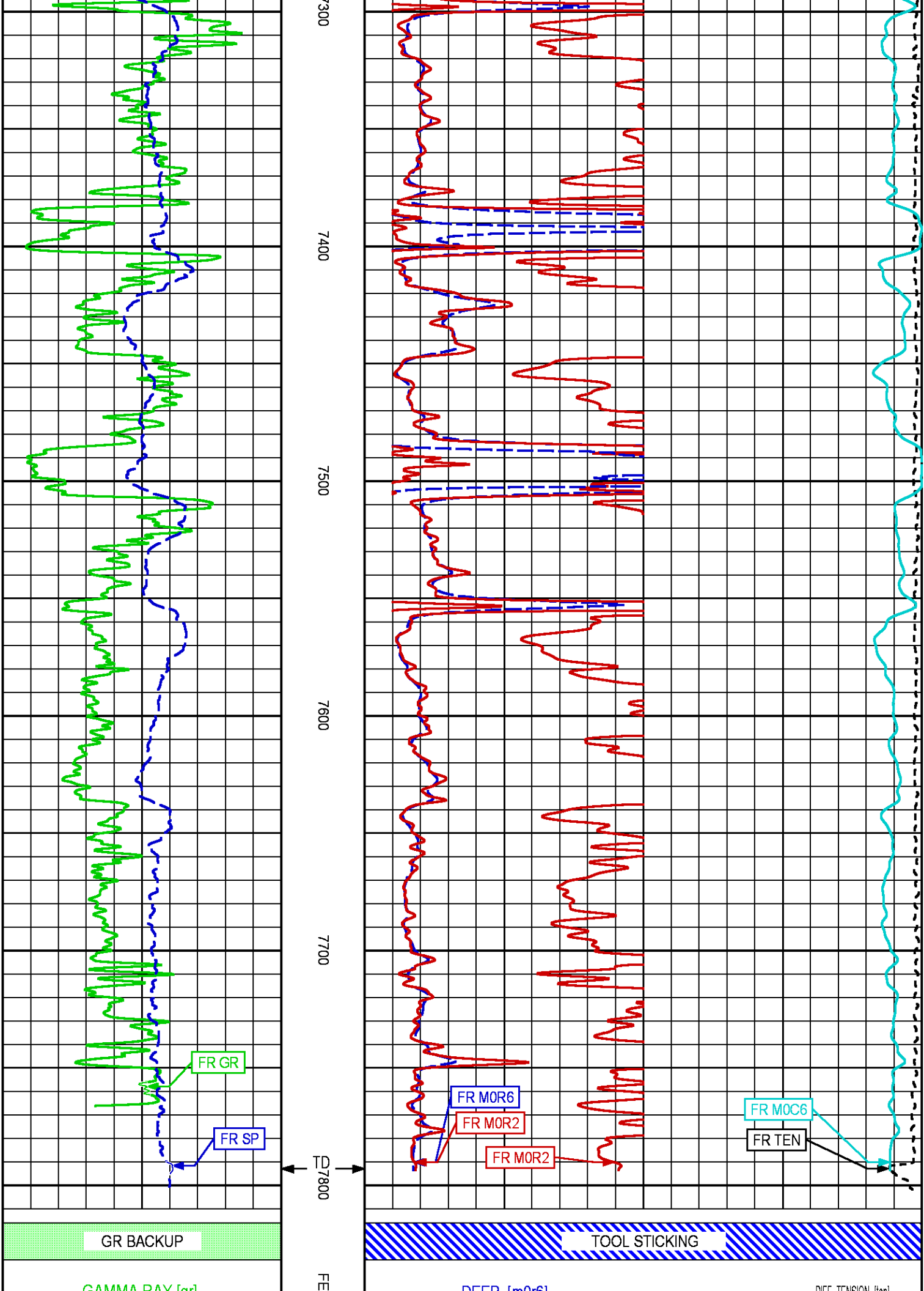


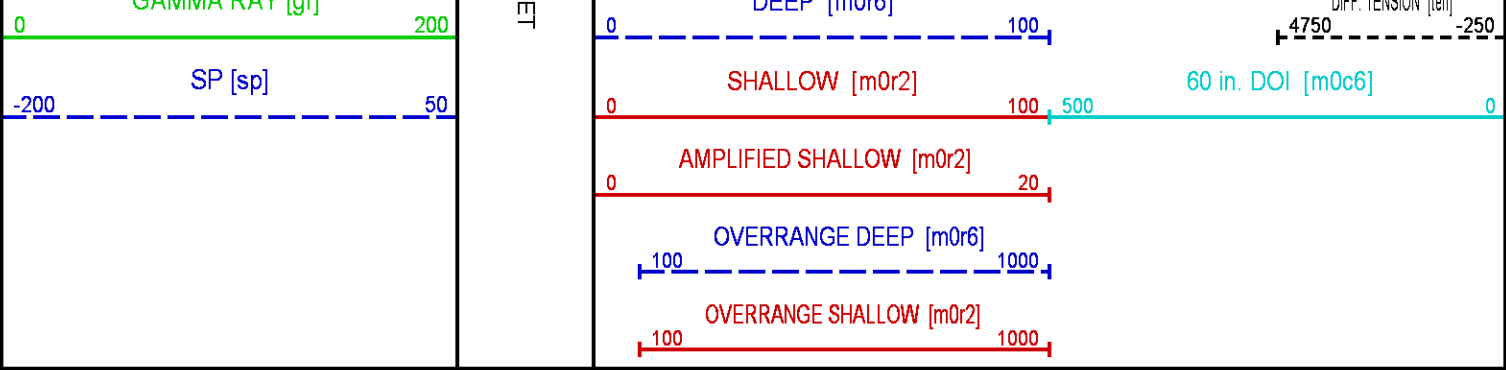












MAIN LOG 5"/100FT SCALE

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

Plotted: Sat Apr 4 22:39:53 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/95854J/n970b103.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1423.649 ft BOTTOM DEPTH: 7806.735 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	7.875	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	68.0	degF	"	"
	MUD SAMPLE RES	1.830	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	68.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	700	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

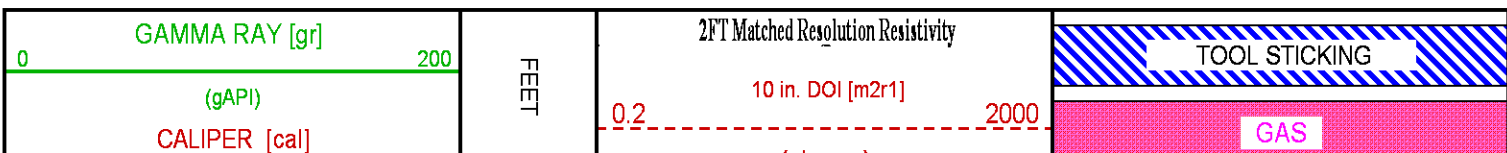
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Apr 4 19:47:46 2015	BIT SIZE
F1:BVOL	Apr 4 19:47:46 2015	BOREHOLE VOLUME
F1:CAL	Apr 4 19:47:46 2015	CALIPER
F1:CNCF	Apr 4 19:47:46 2015	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Apr 4 19:47:46 2015	CEMENT VOLUME
F1:GR	Apr 4 19:47:46 2015	GAMMA RAY
F1:M2R1	Apr 4 19:47:46 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Apr 4 19:47:46 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Apr 4 19:47:46 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Apr 4 19:47:46 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Apr 4 19:47:46 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Apr 4 19:47:46 2015	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Apr 4 19:47:46 2015	POROSITY FOR SELECTABLE MATRIX
F1:SP	Apr 4 19:47:46 2015	SPONTANEOUS POTENTIAL
F1:TEN	Apr 4 19:47:46 2015	DIFFERENTIAL TENSION
F1:ZCOR	Apr 4 19:47:46 2015	DENSITY CORRECTION

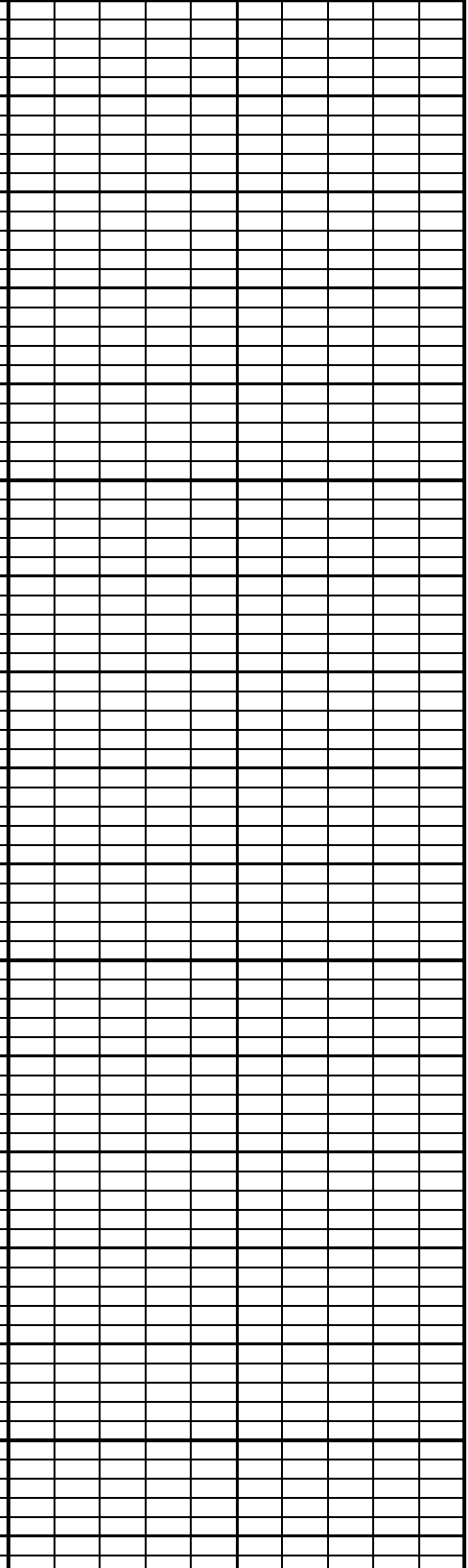
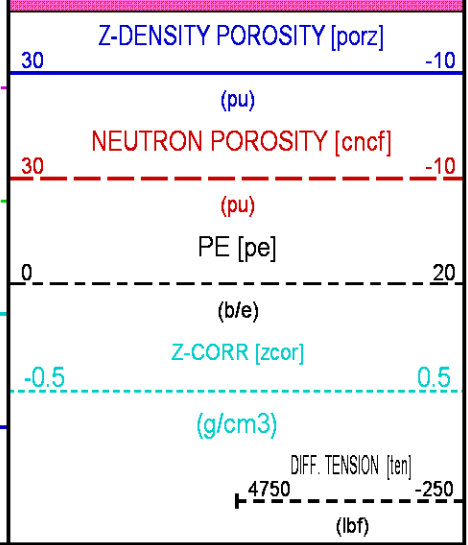
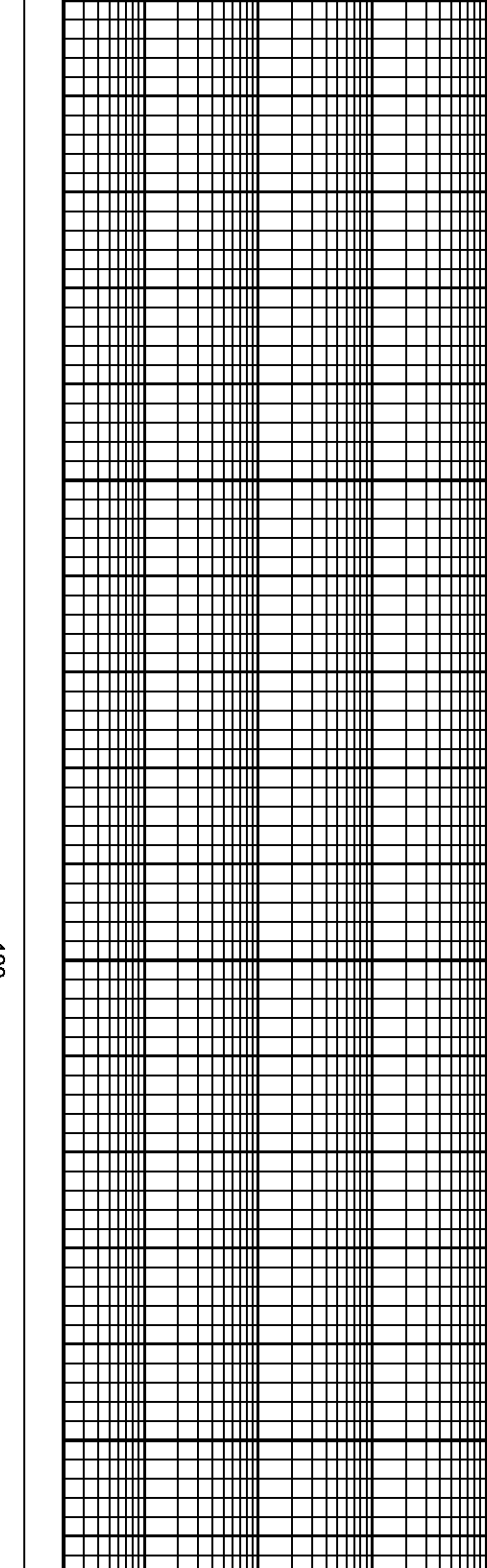
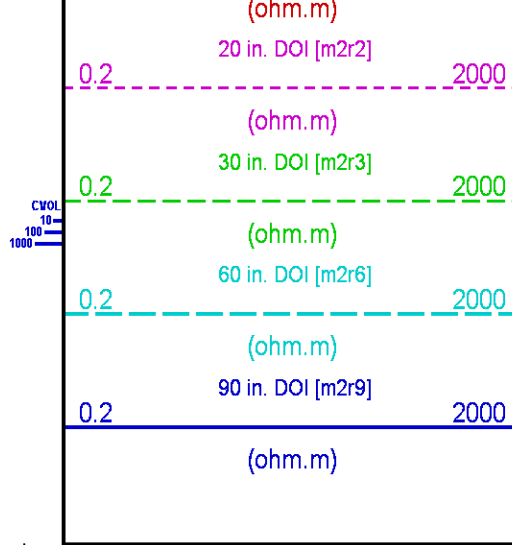
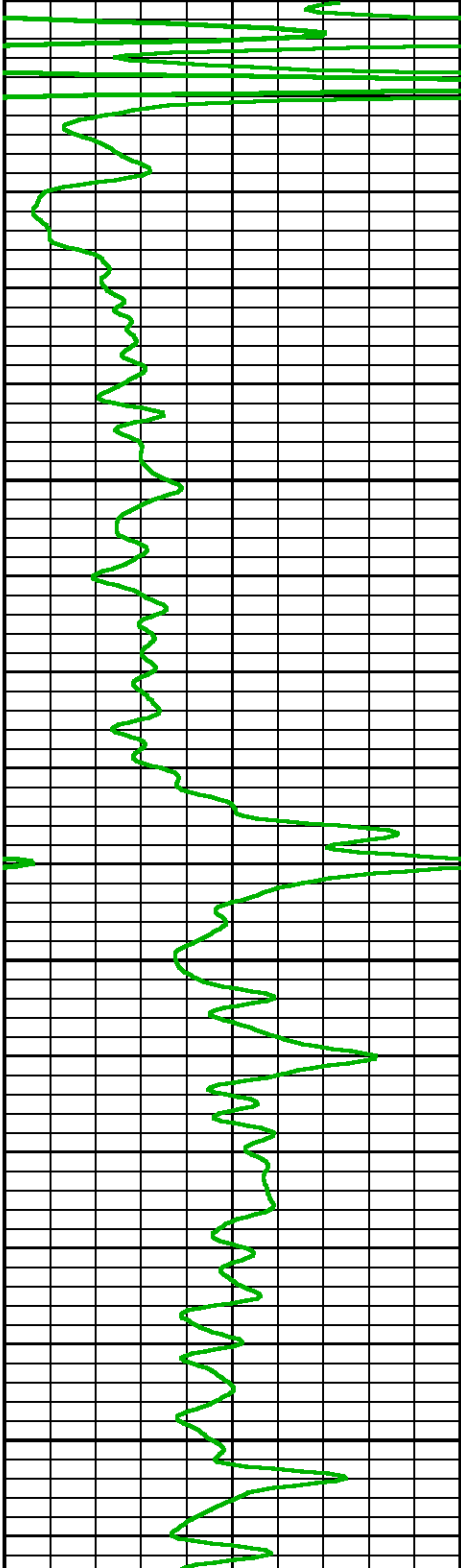
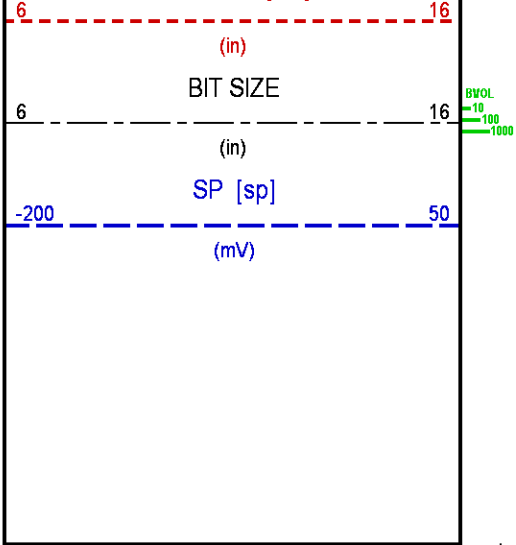
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	2.75	M2R9	2.75	TEN	0.00
CAL	18.12	M2R2	2.75	PE	18.00	ZCOR	18.00
CNCF	27.38	M2R3	2.75	PORZ	18.00		
GR	35.00	M2R6	2.75	SP	1.25		

Presentation : cas6685:/dat1a/95854J/MAIN.fvpdf [5"/100' Scale]
Plot Interval : 0.25 - 7809 Feet

Data File 1 : F1 : cas6685:/dat1a/95854J/n970b103_MAIN.xtf
Created On : Apr 4 19:47:46 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-11E
Field : VEGA
File Interval : 0 - 7809 Feet
OCT : n970b1



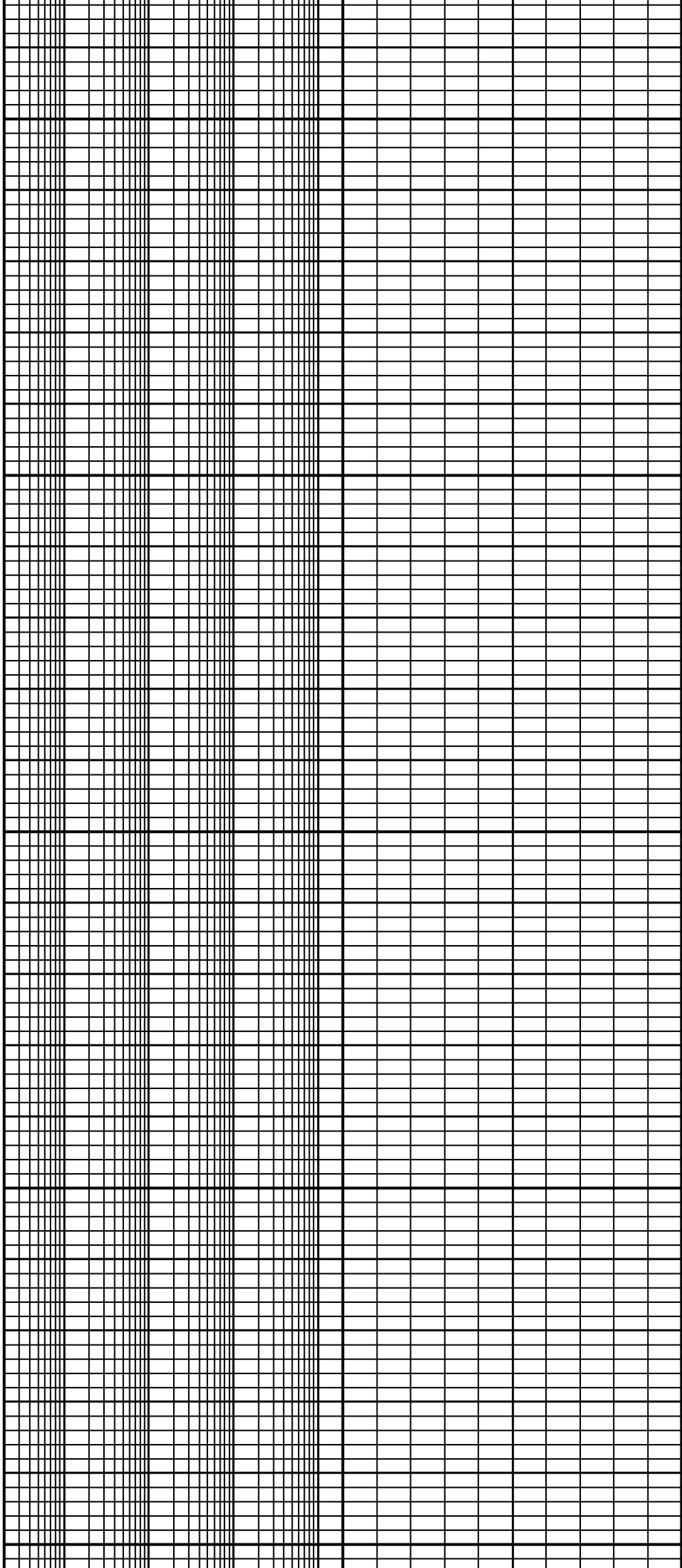


100

200

300





400

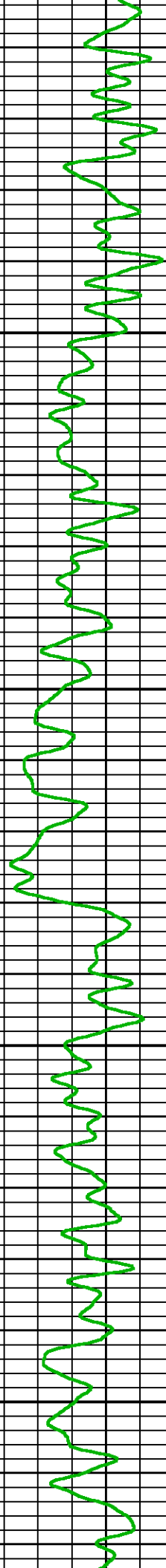
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600



700

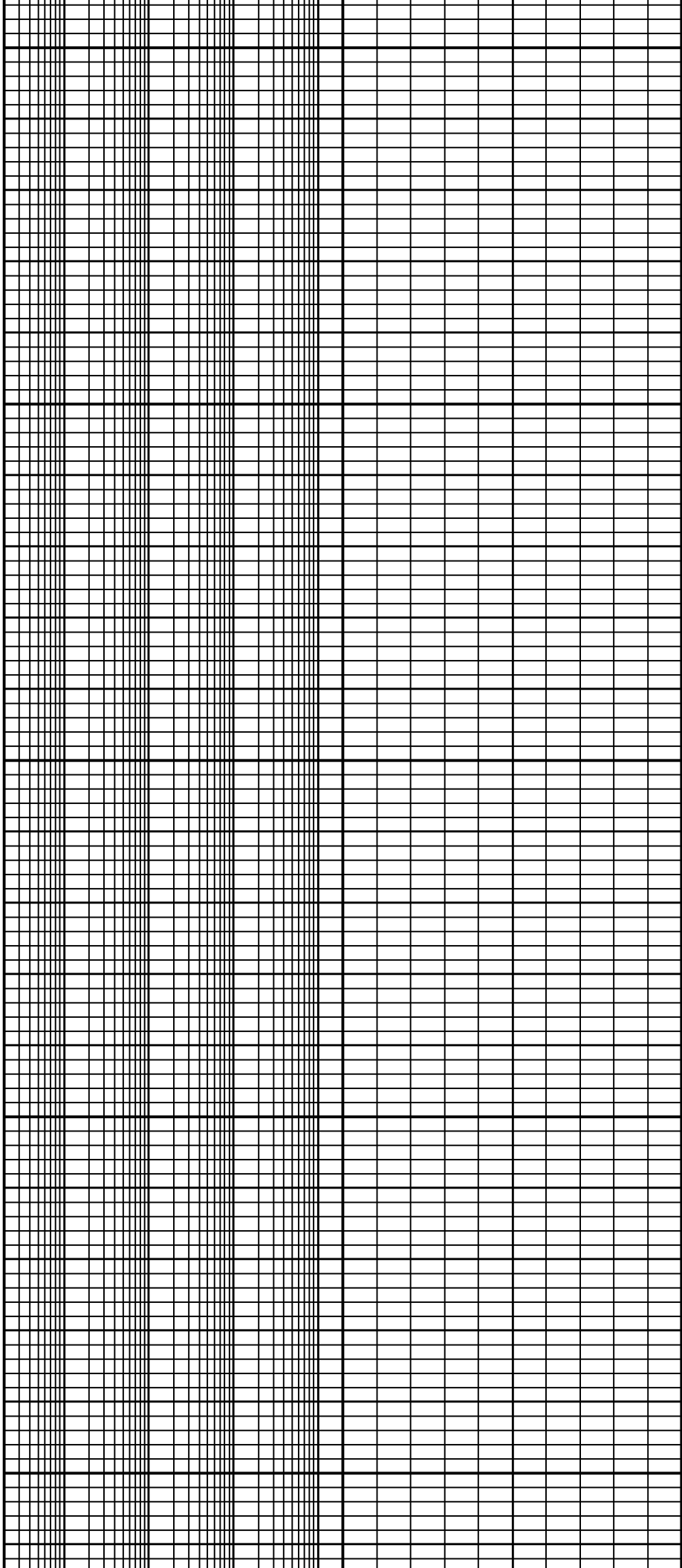
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900

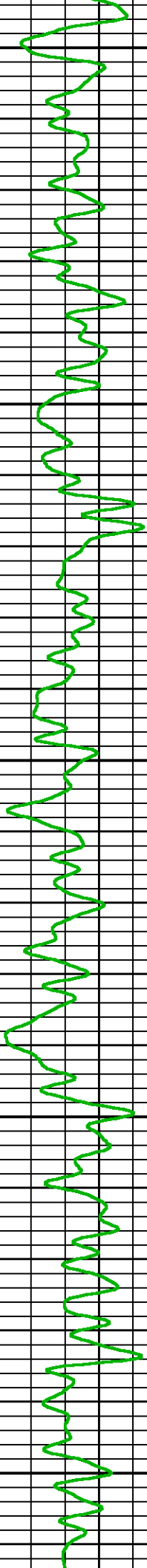
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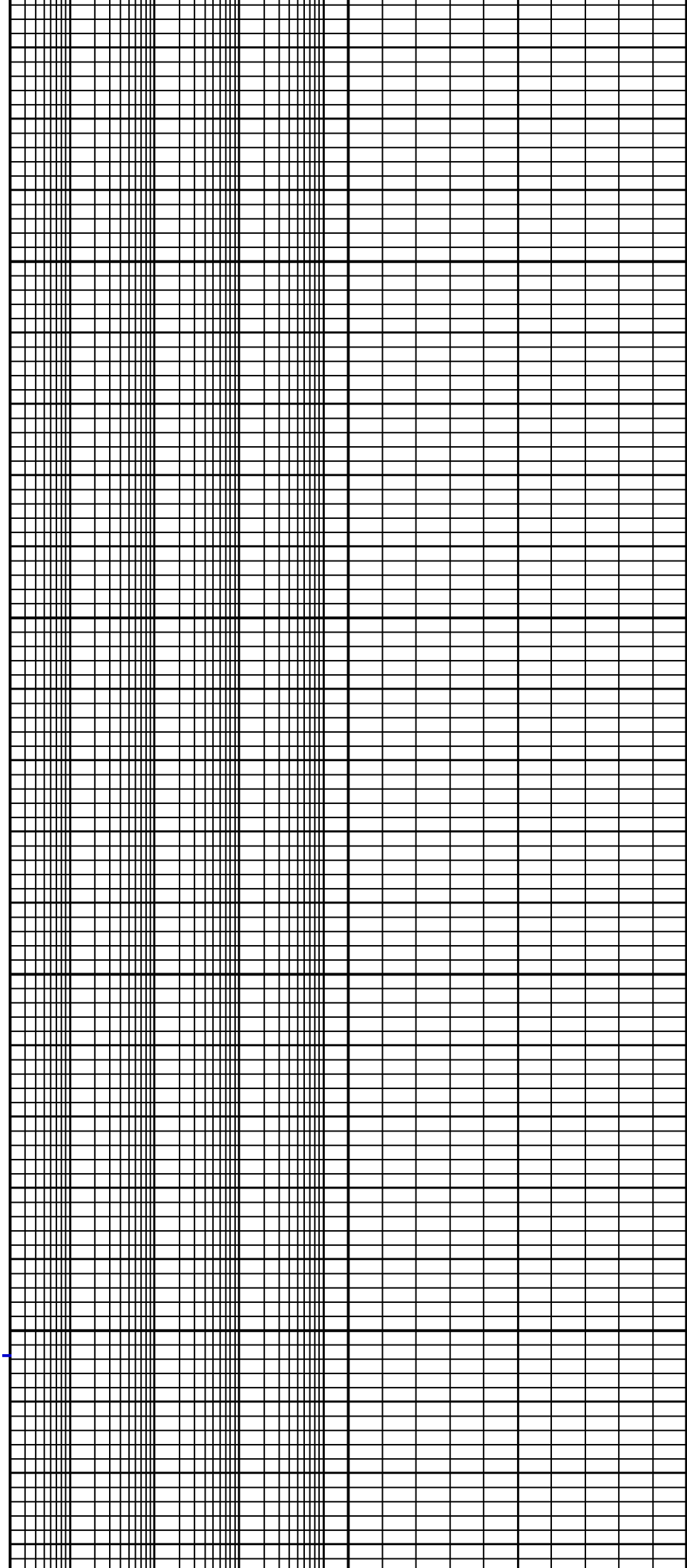




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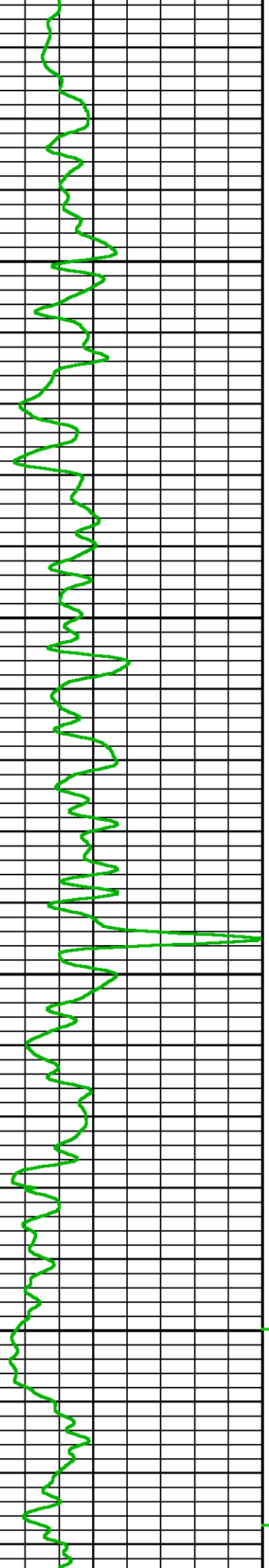
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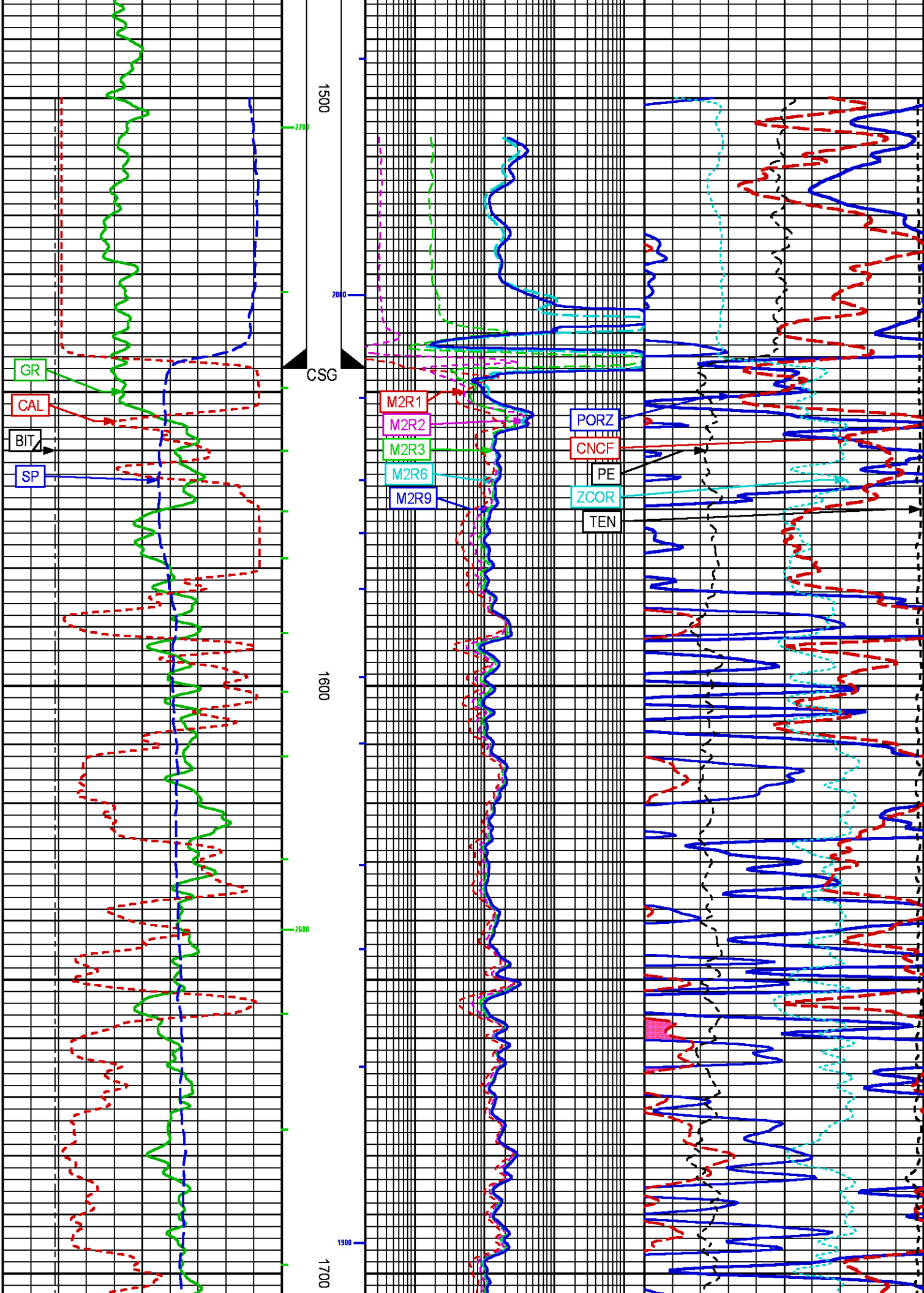


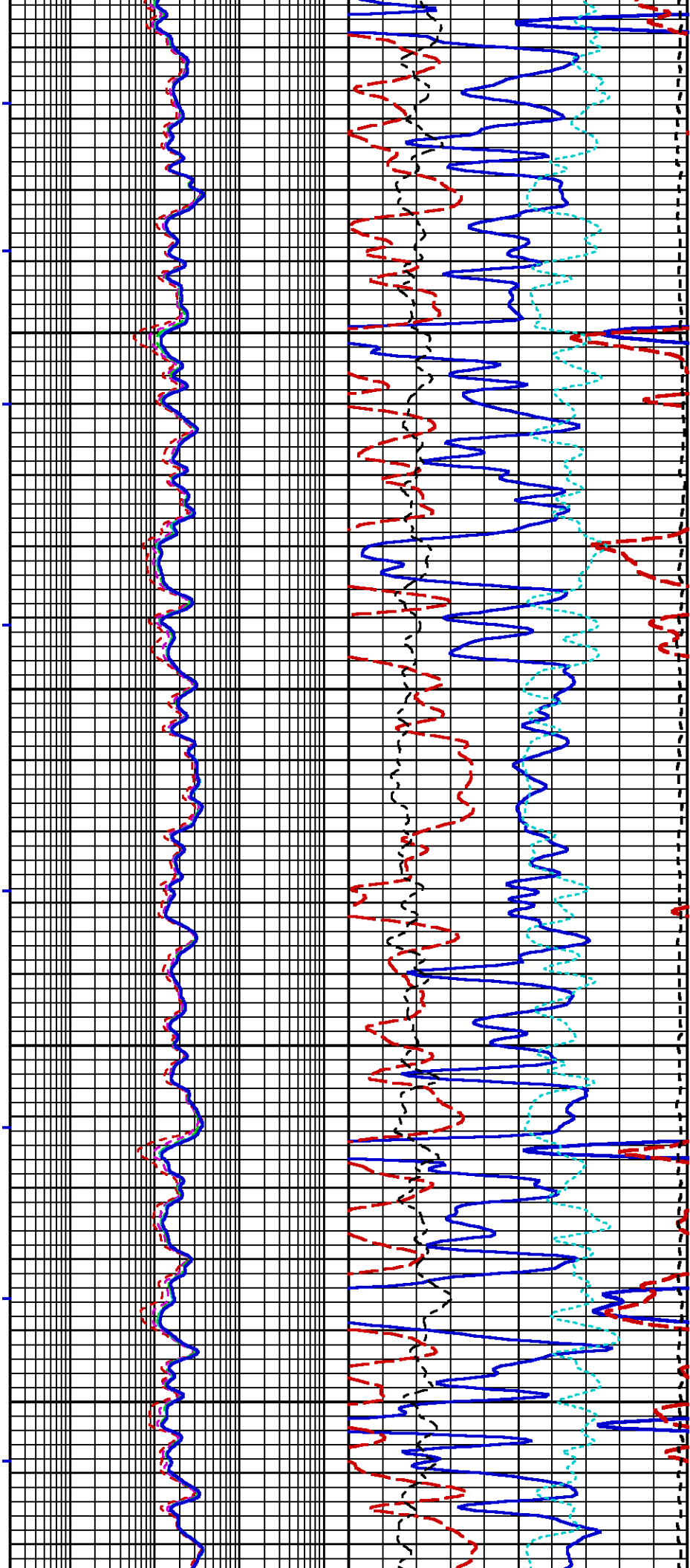


1300

1400

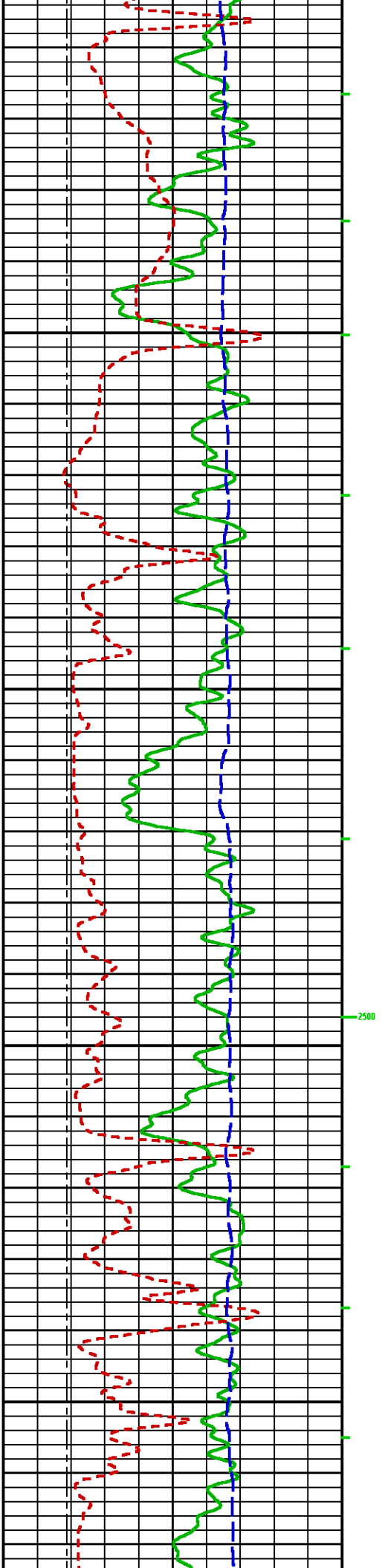




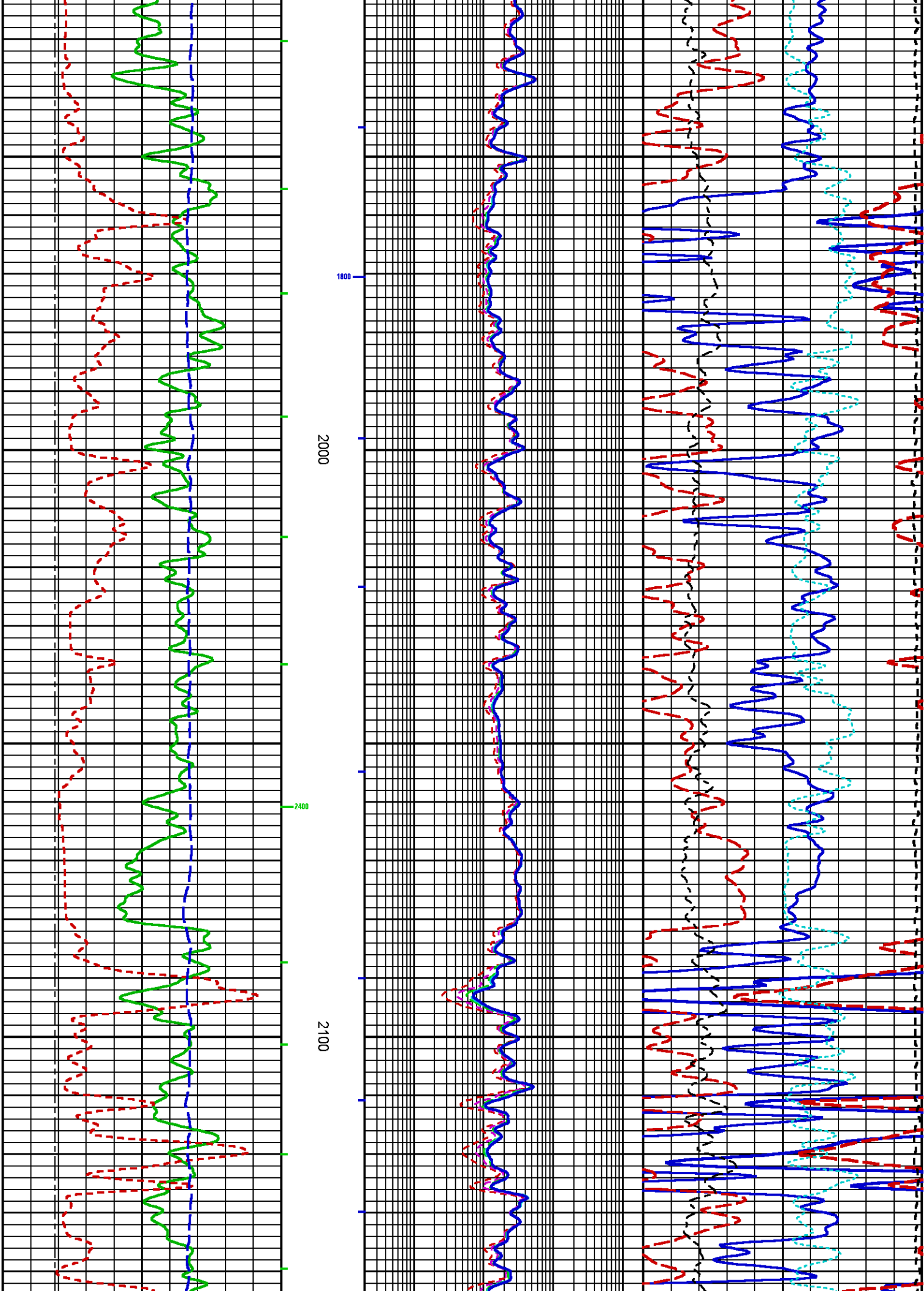


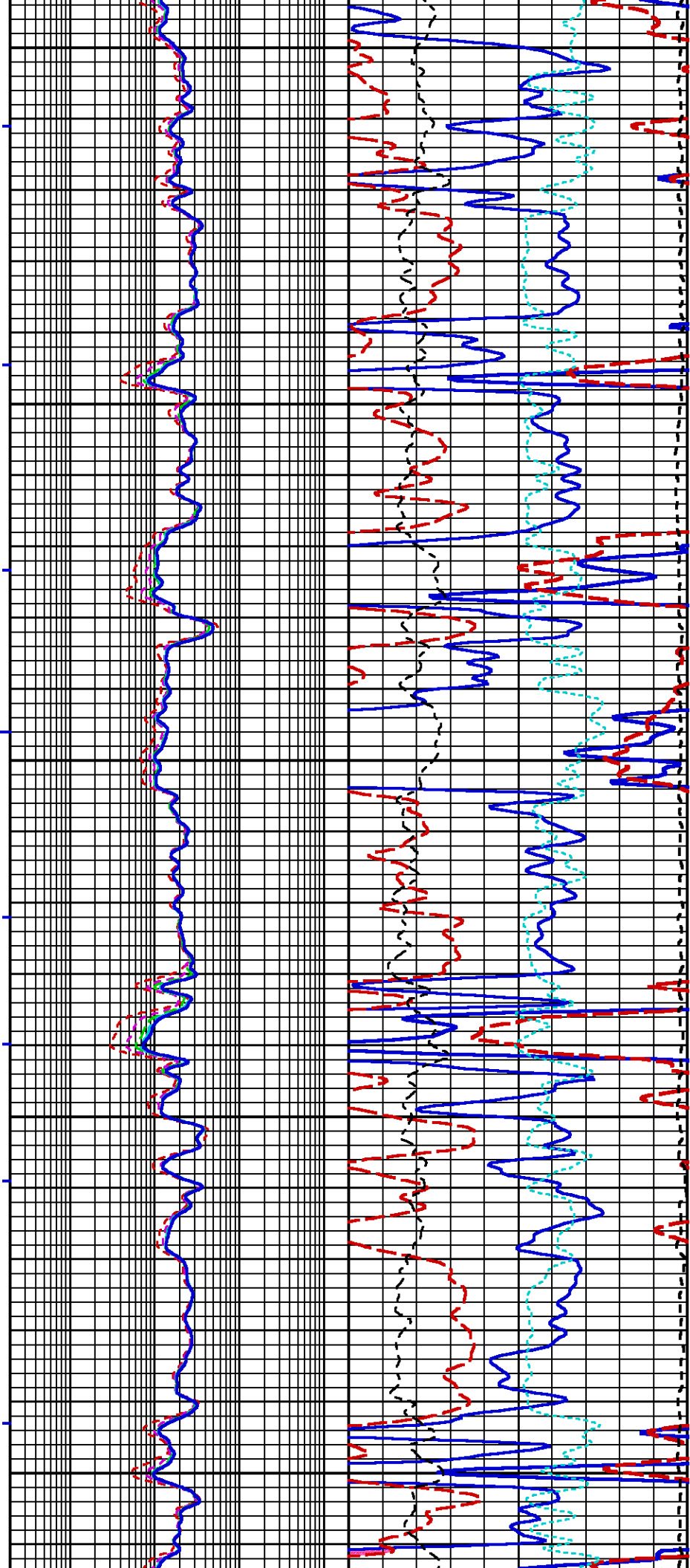
1800

1900



2500



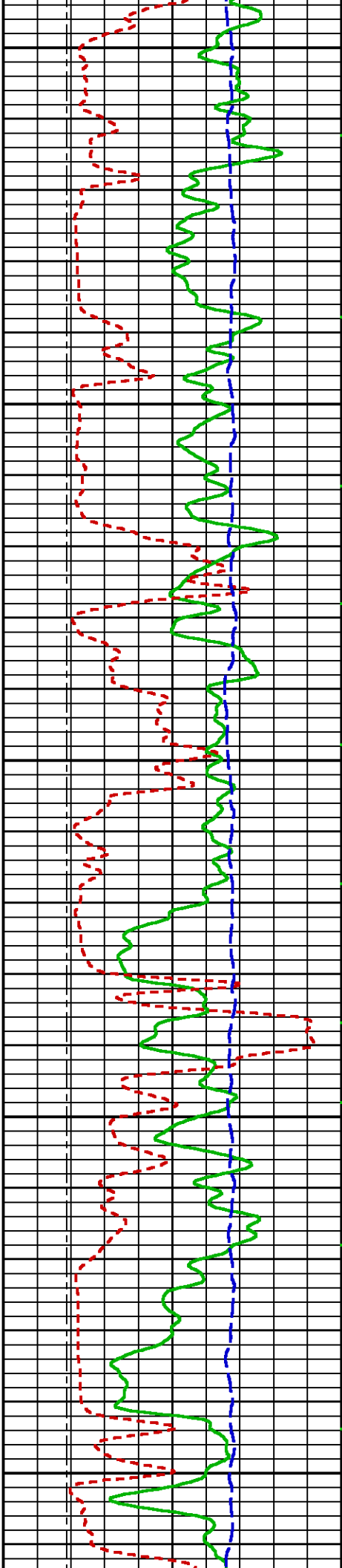


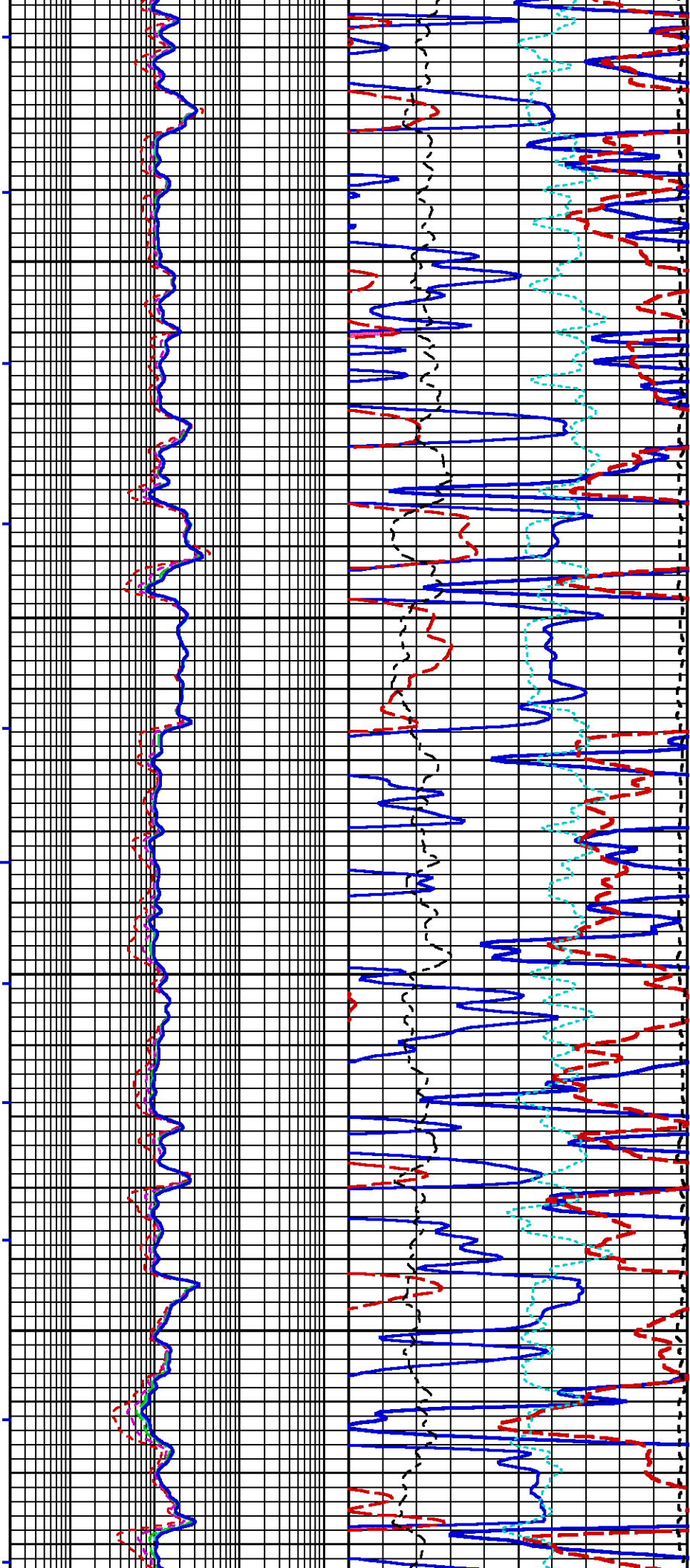
2200

1700

2300

2300



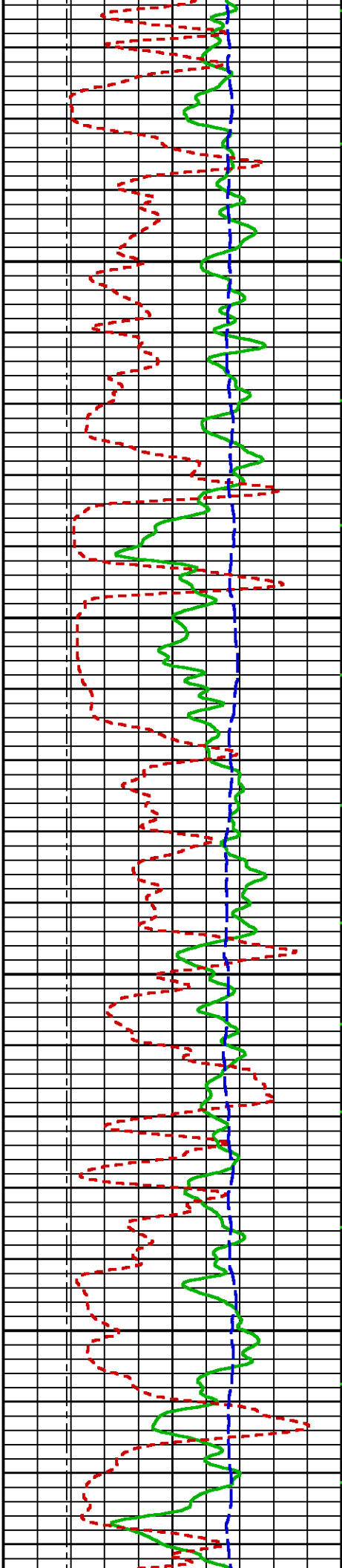


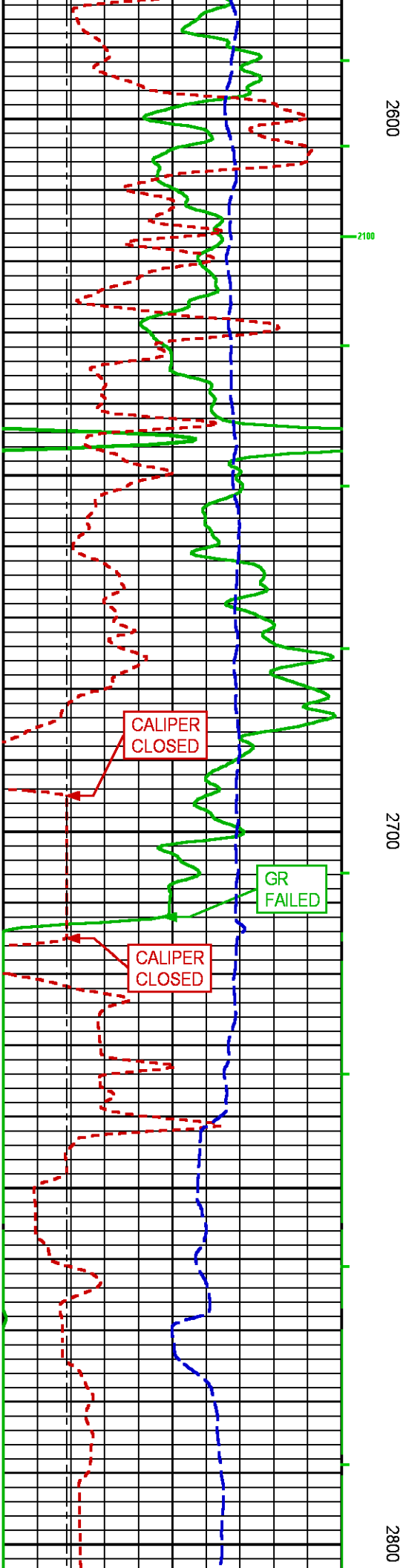
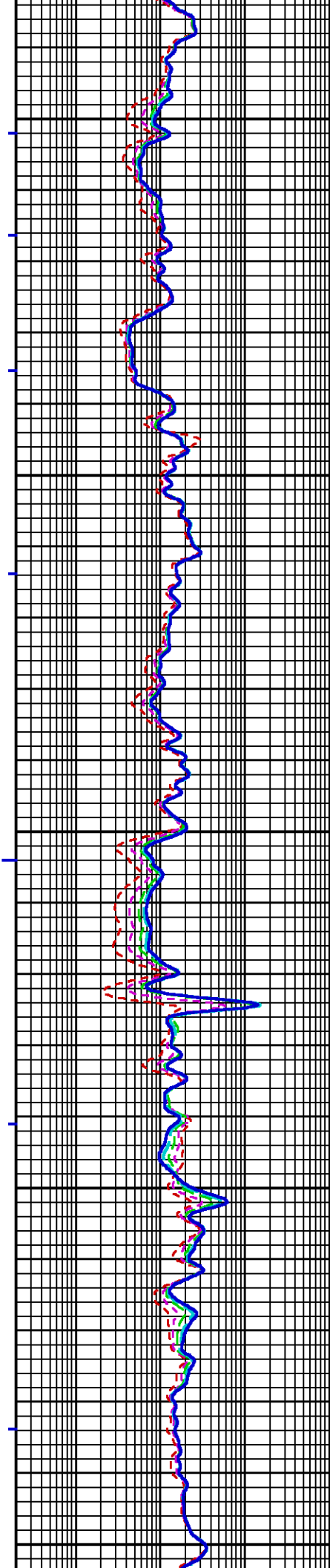
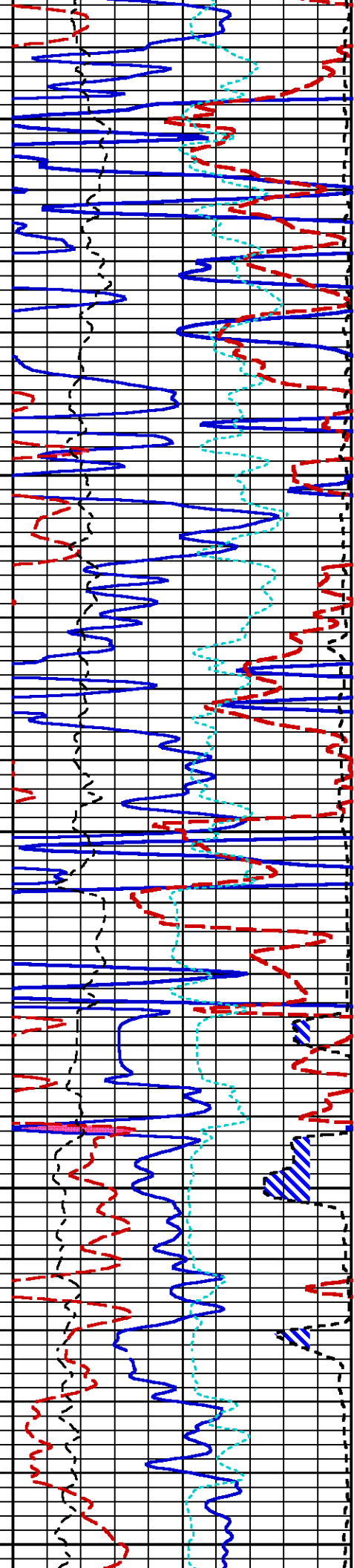
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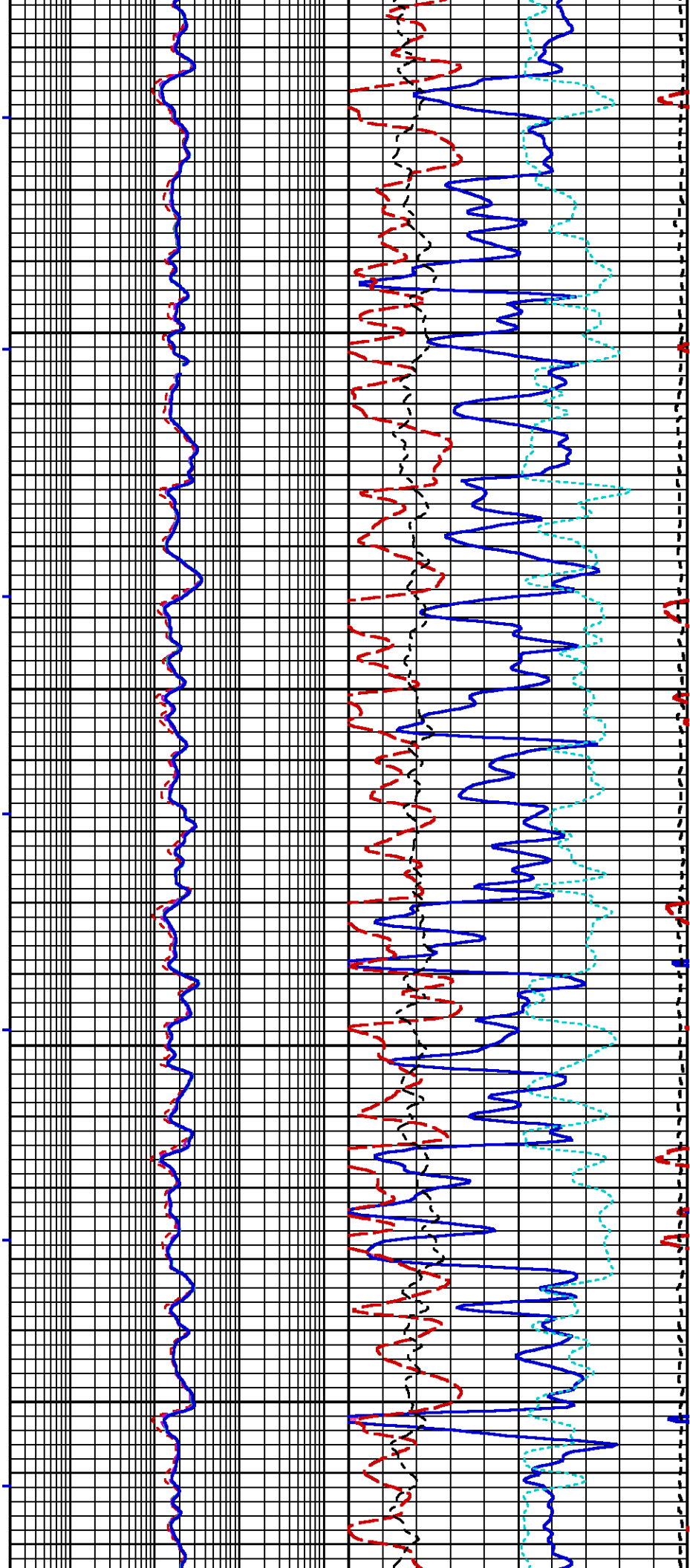
1600

2500

2200



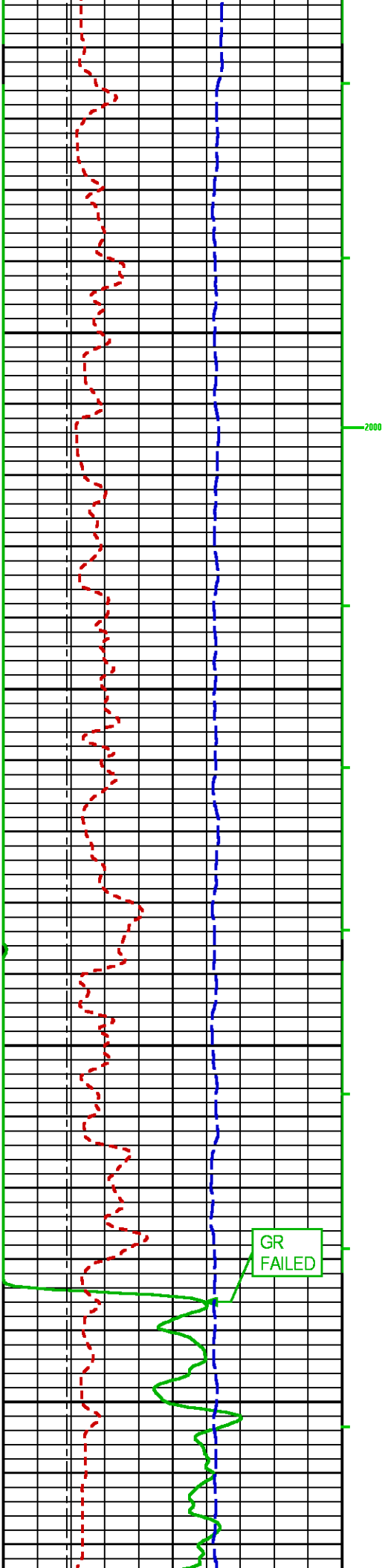


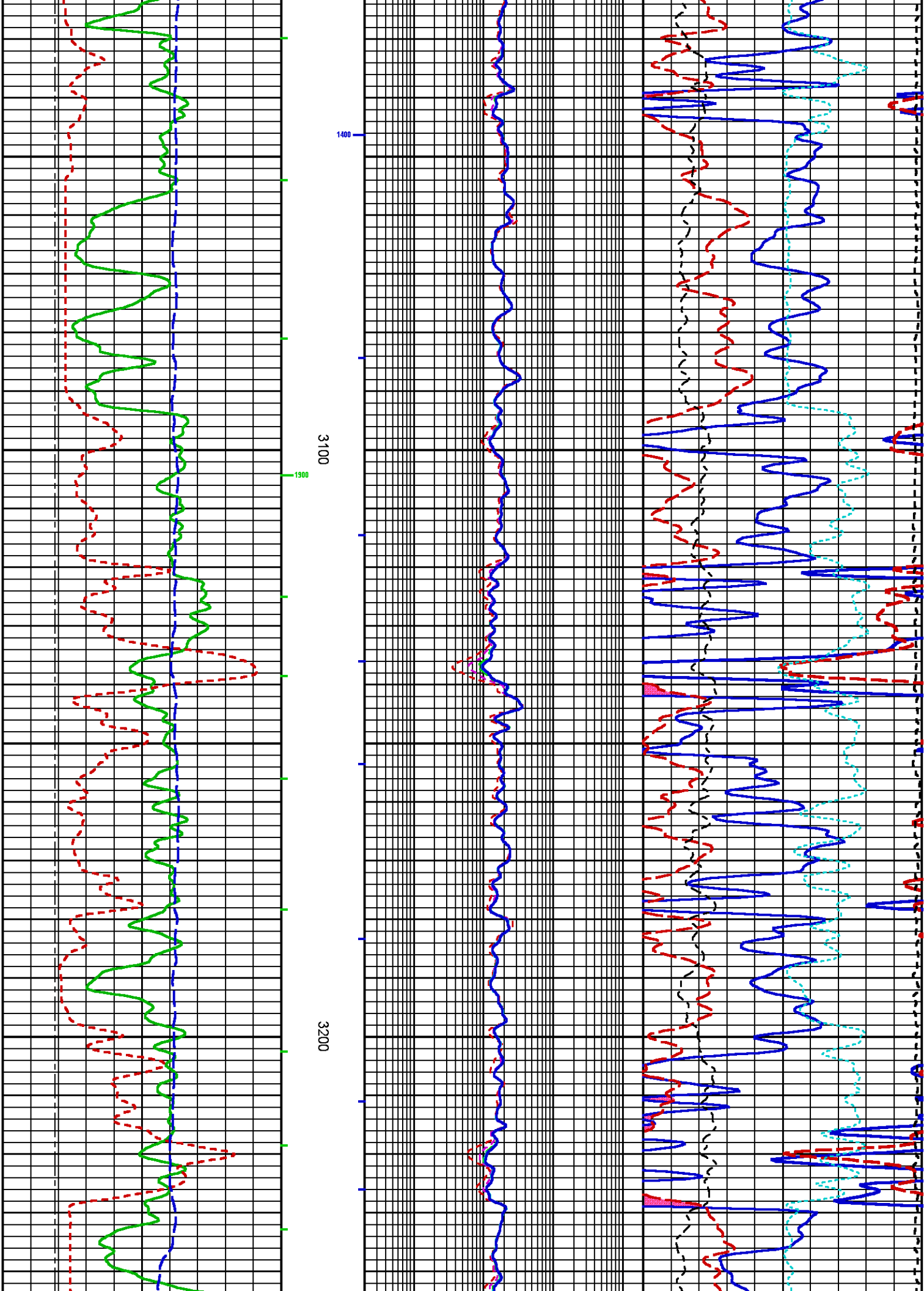


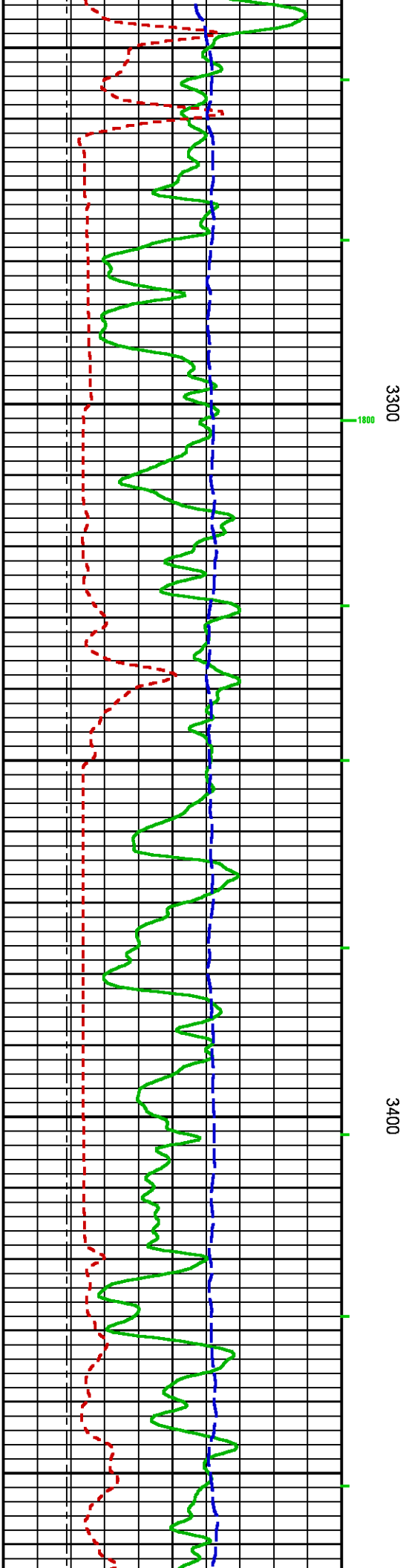
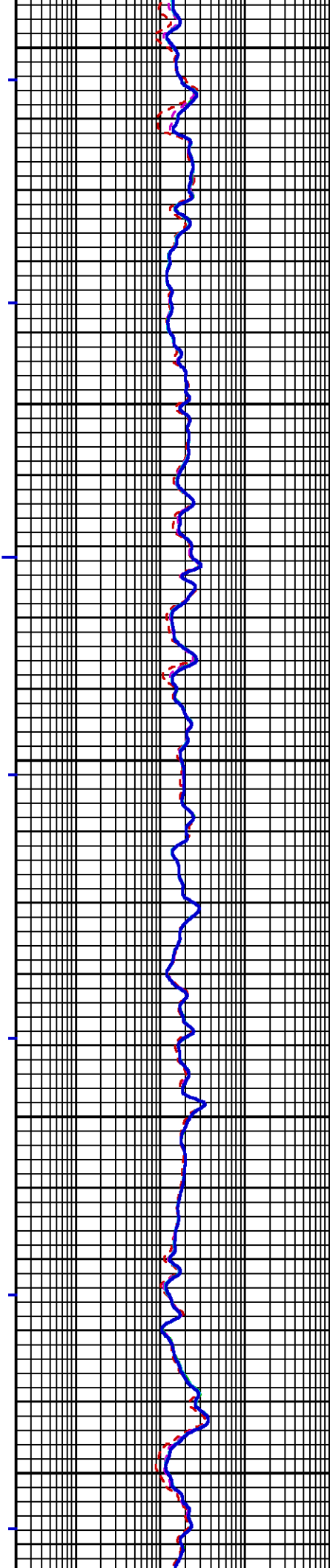
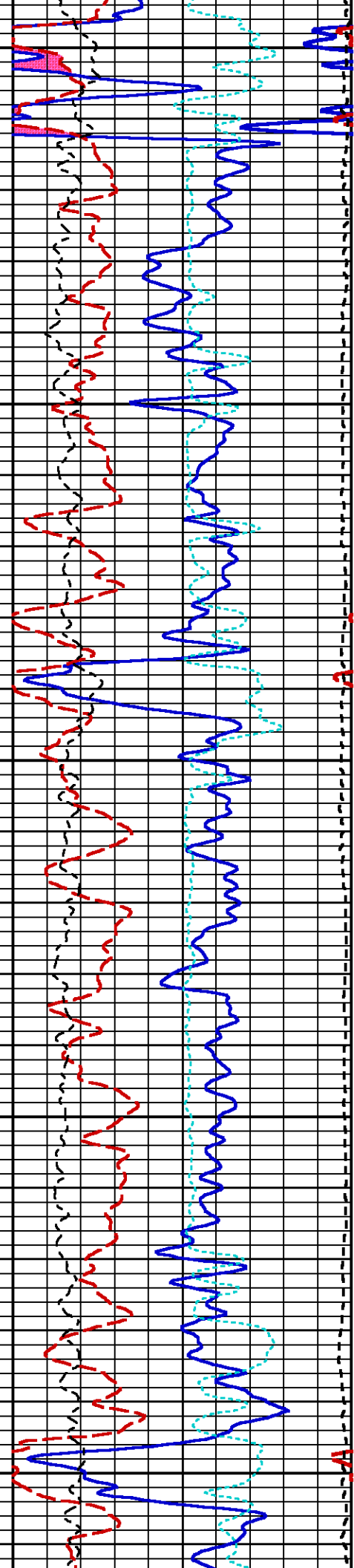
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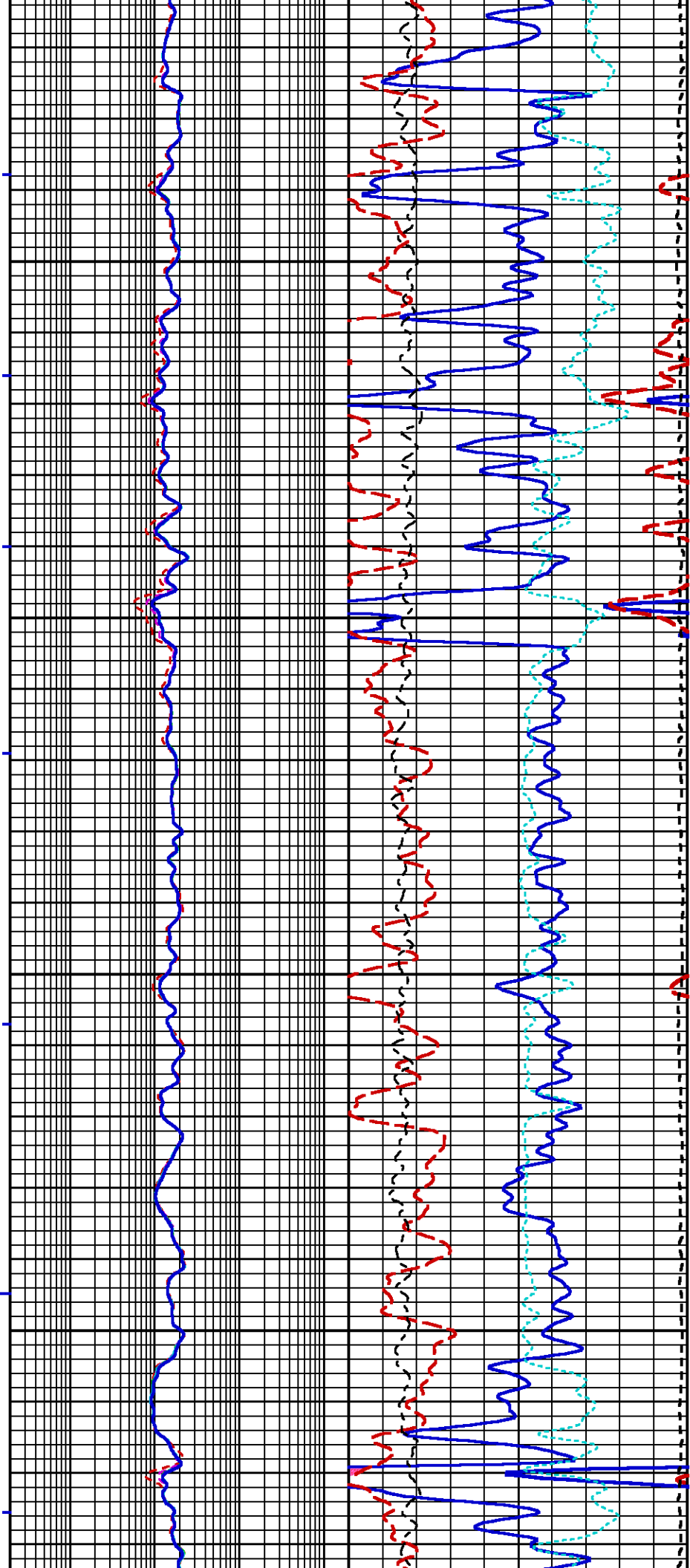
3000

GR
FAILED





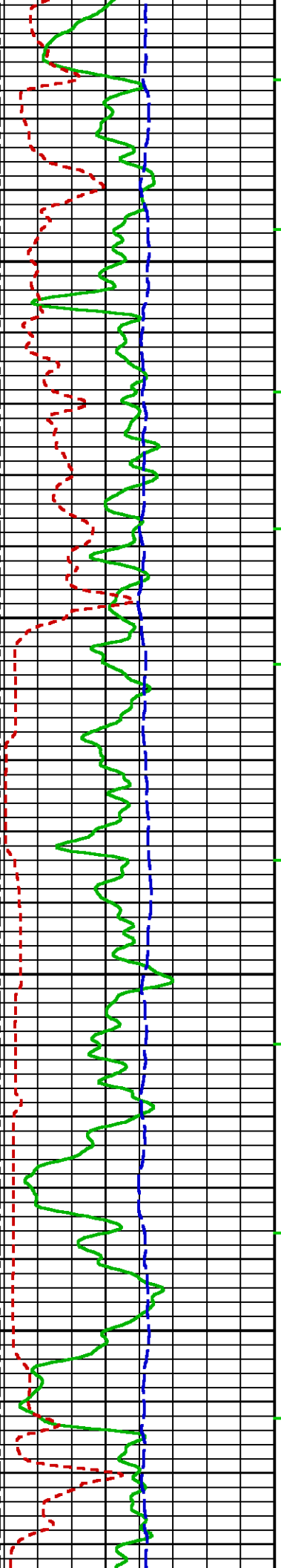


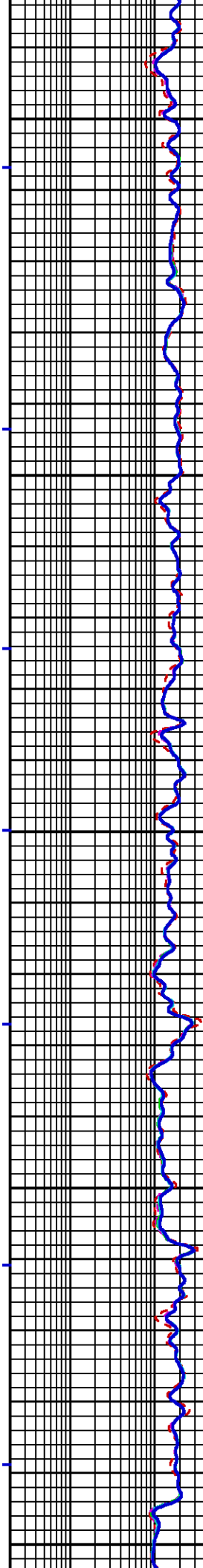
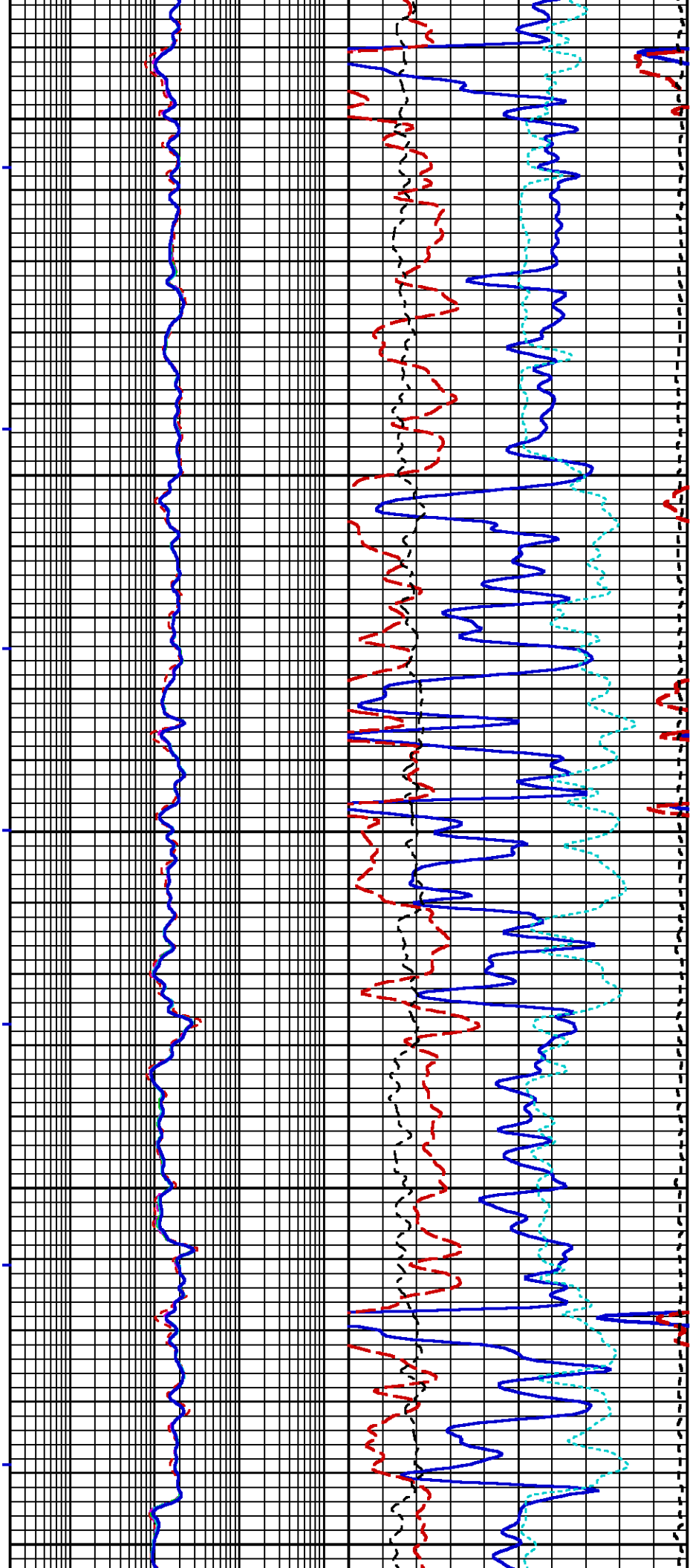


3500

3600

1700



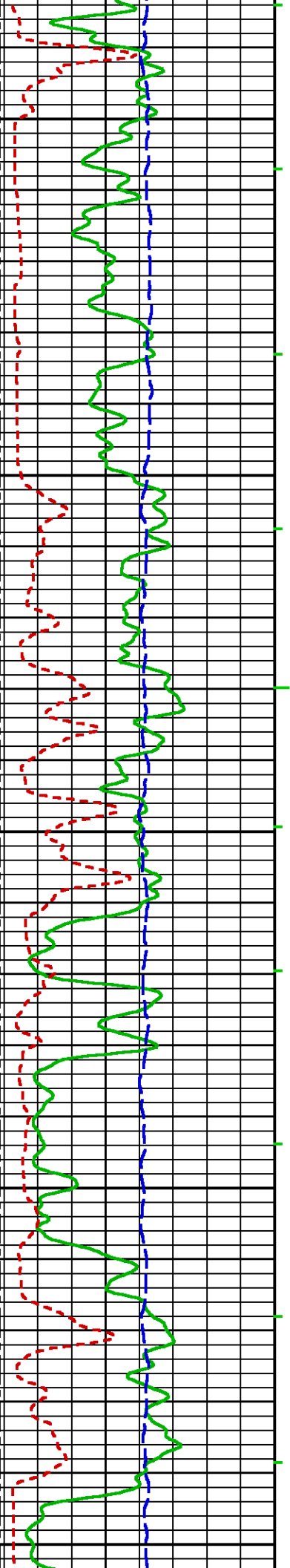


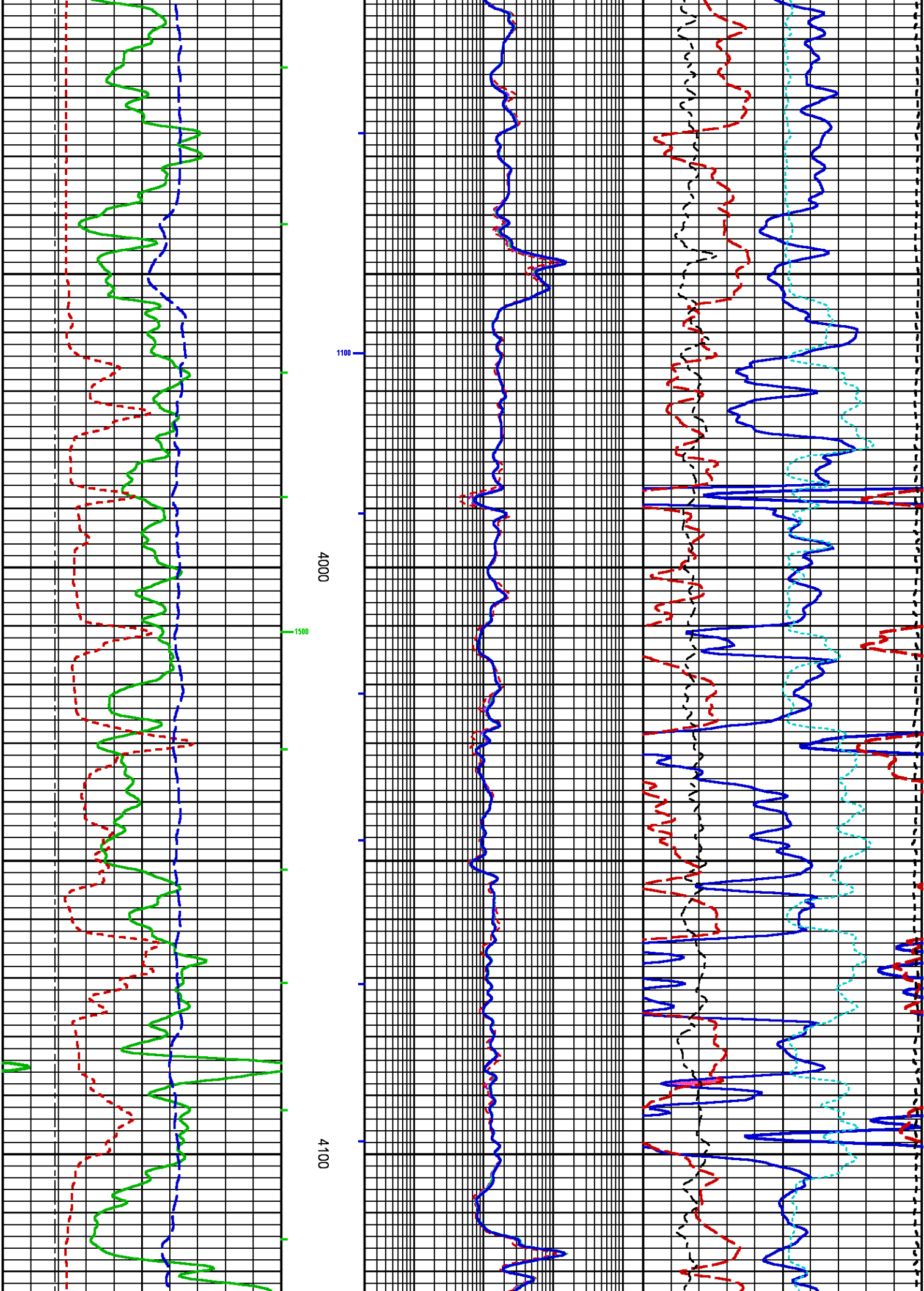
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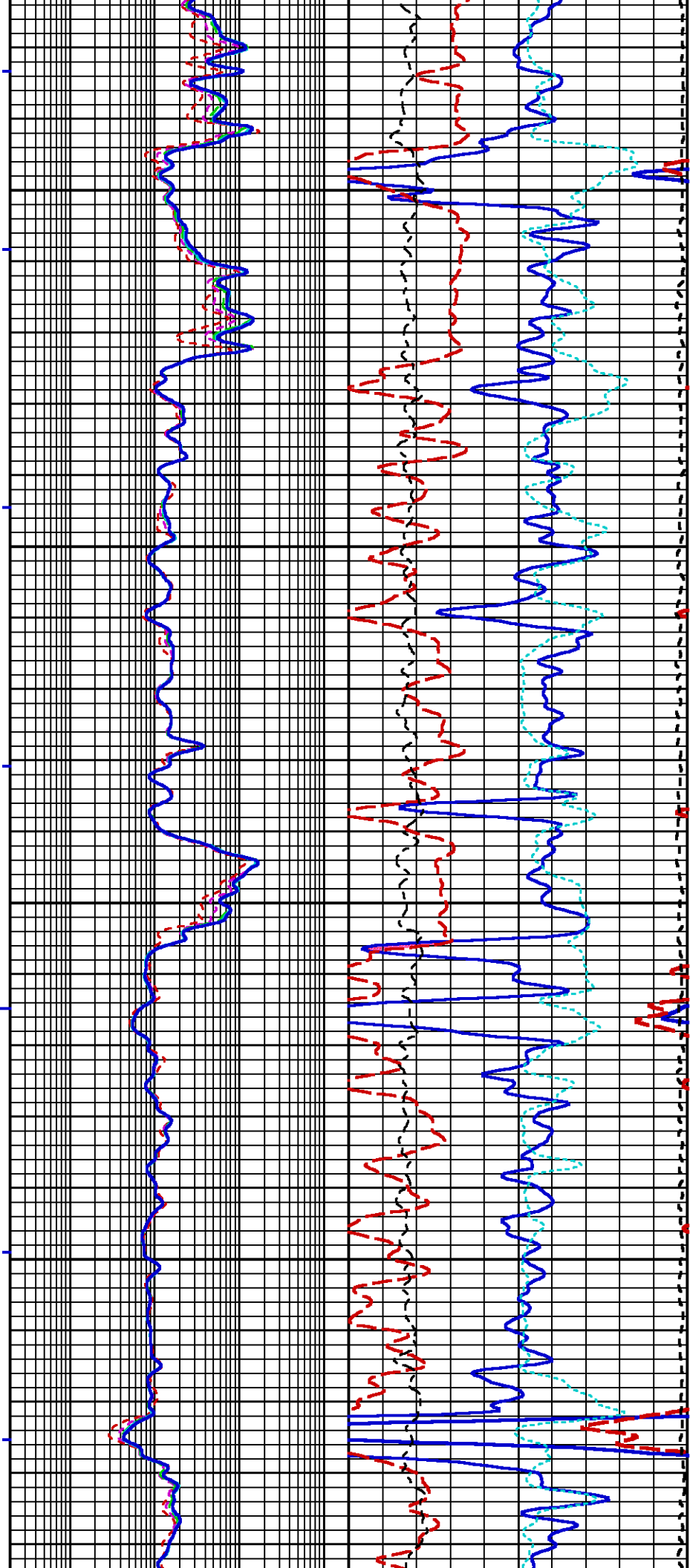
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3900

1600



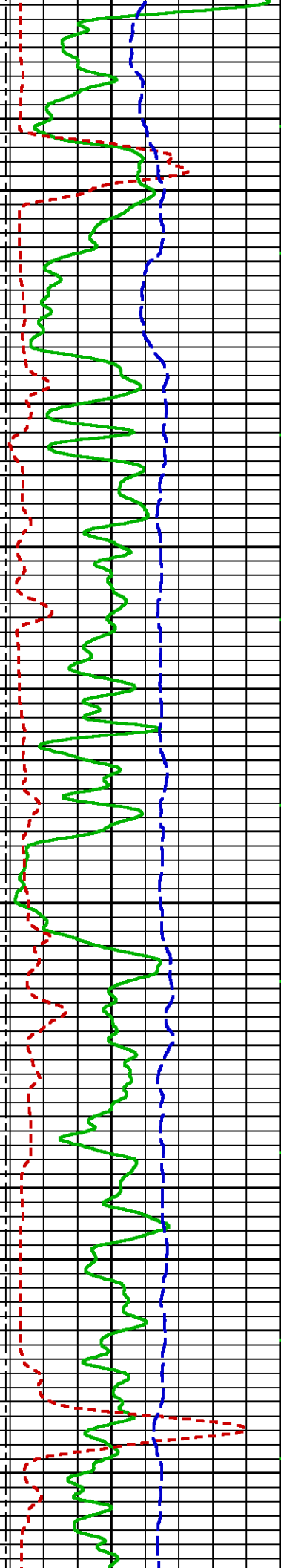


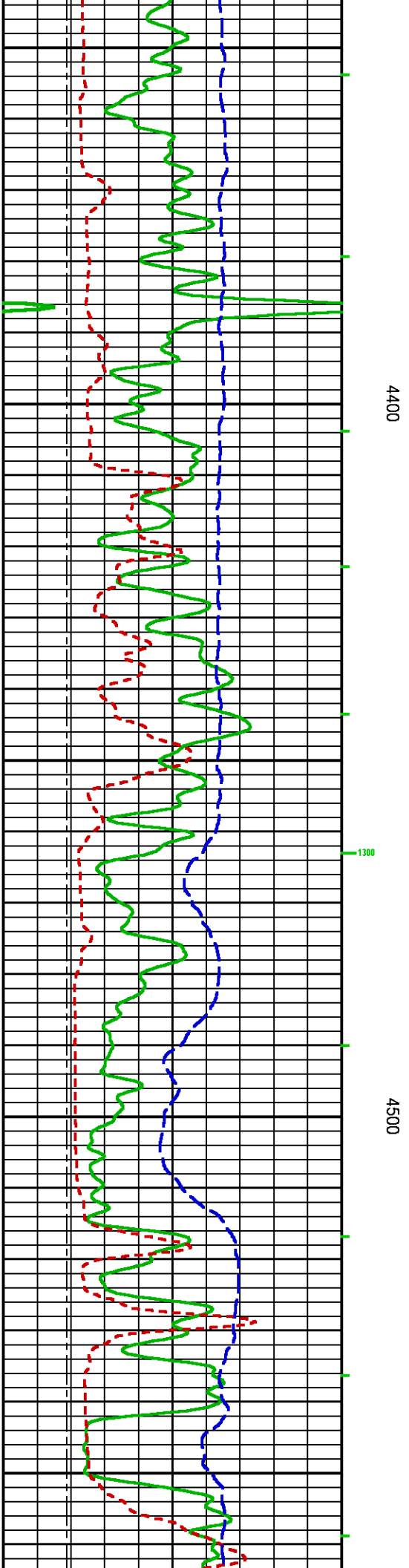
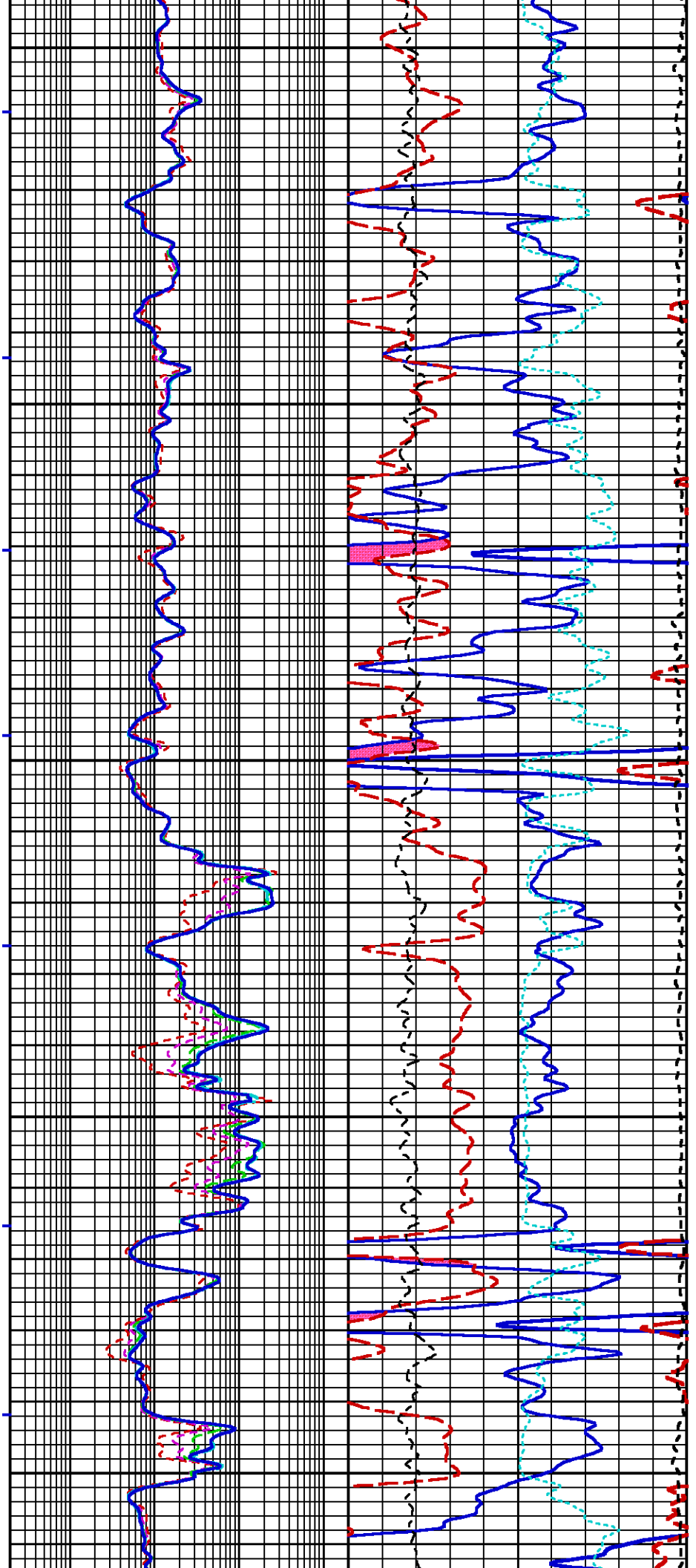


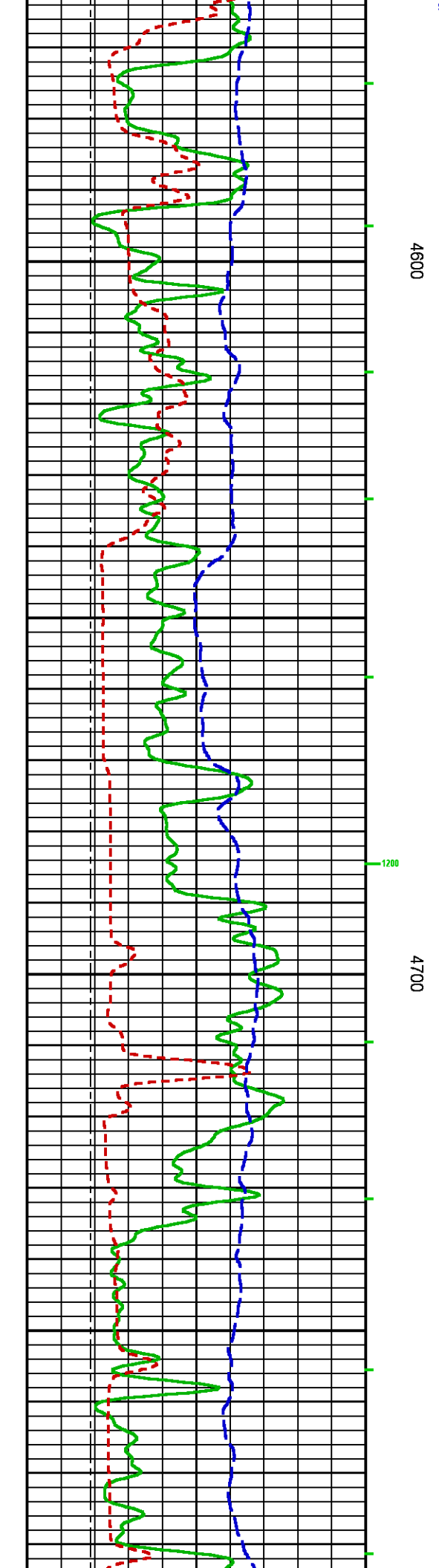
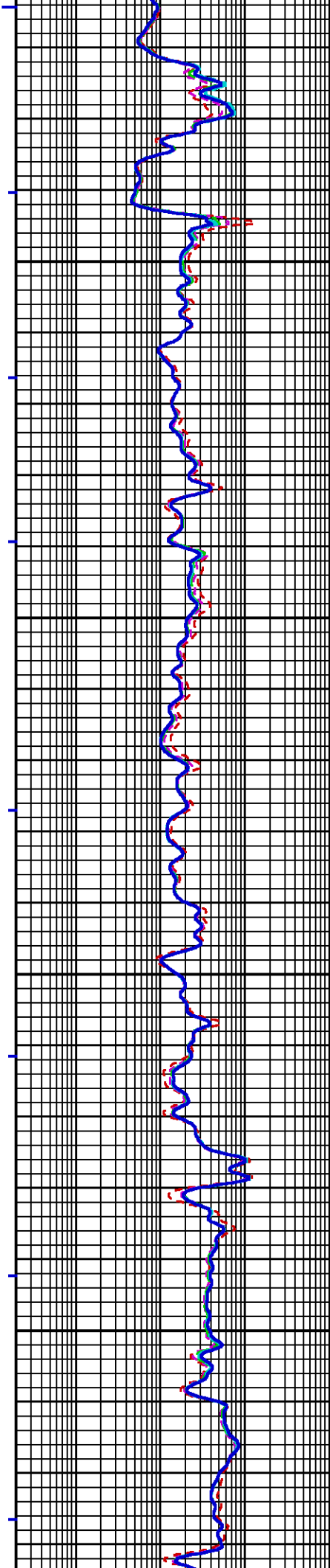
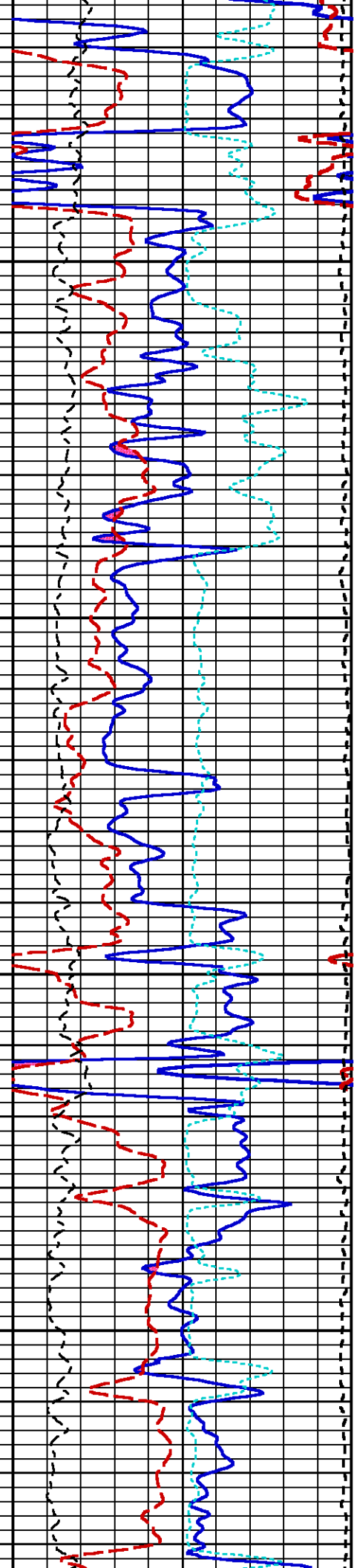
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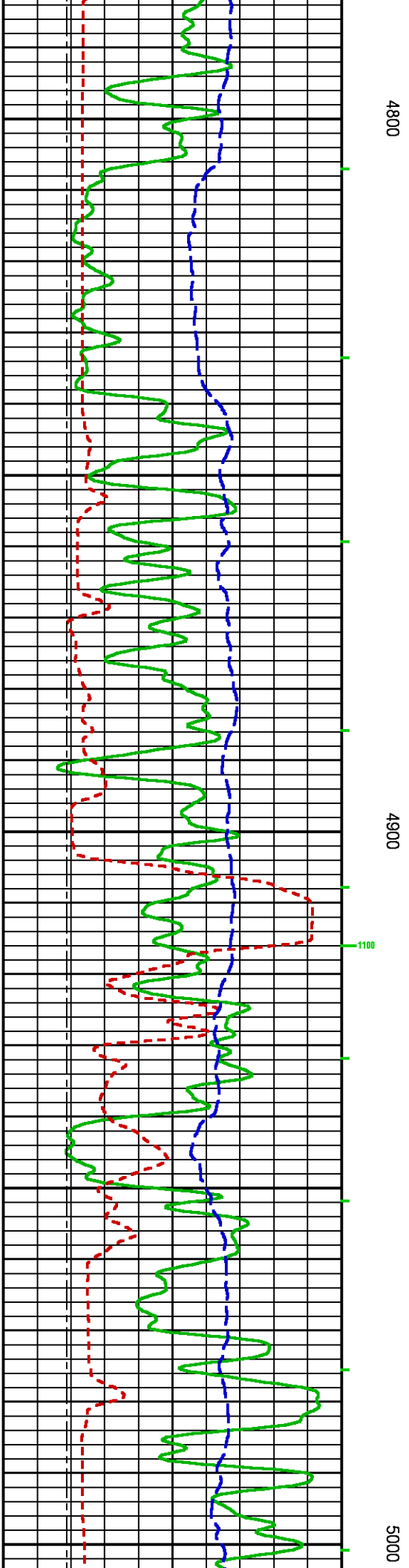
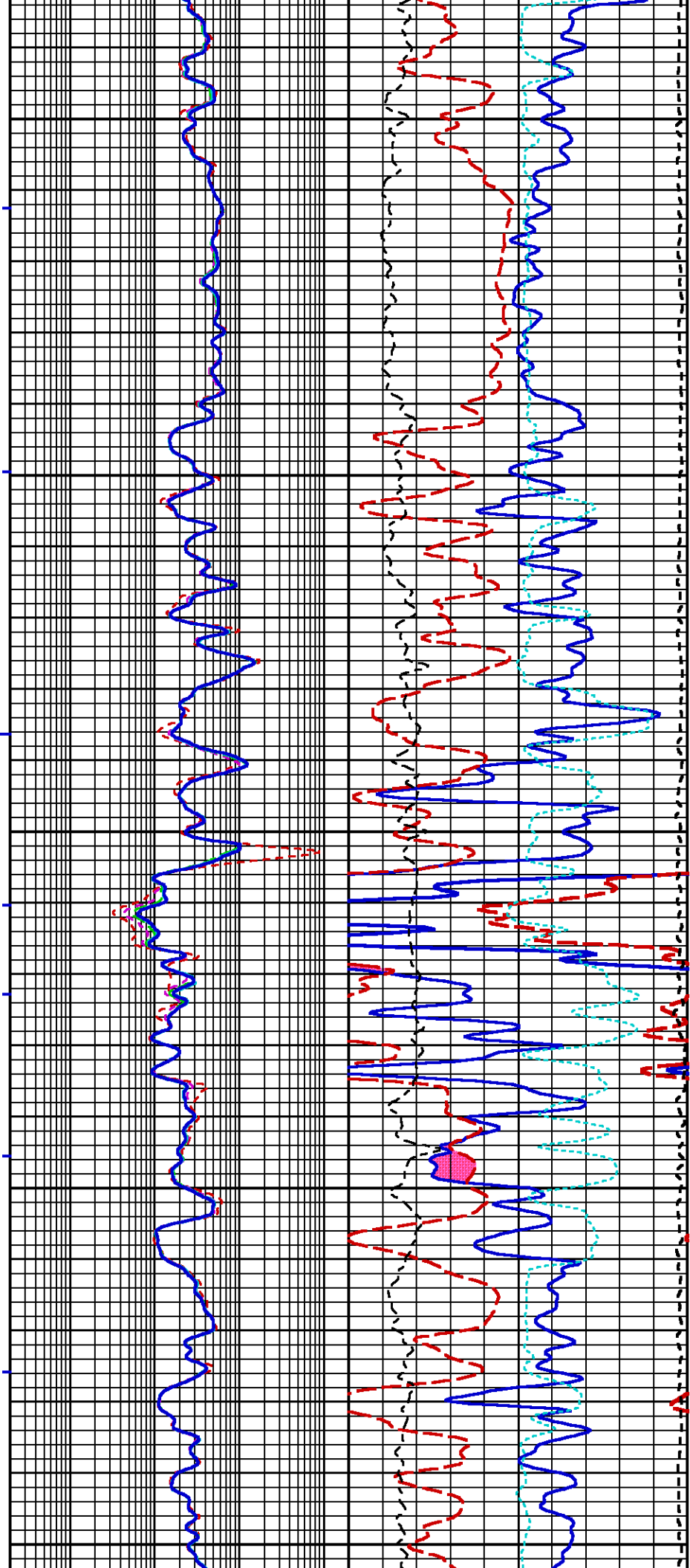
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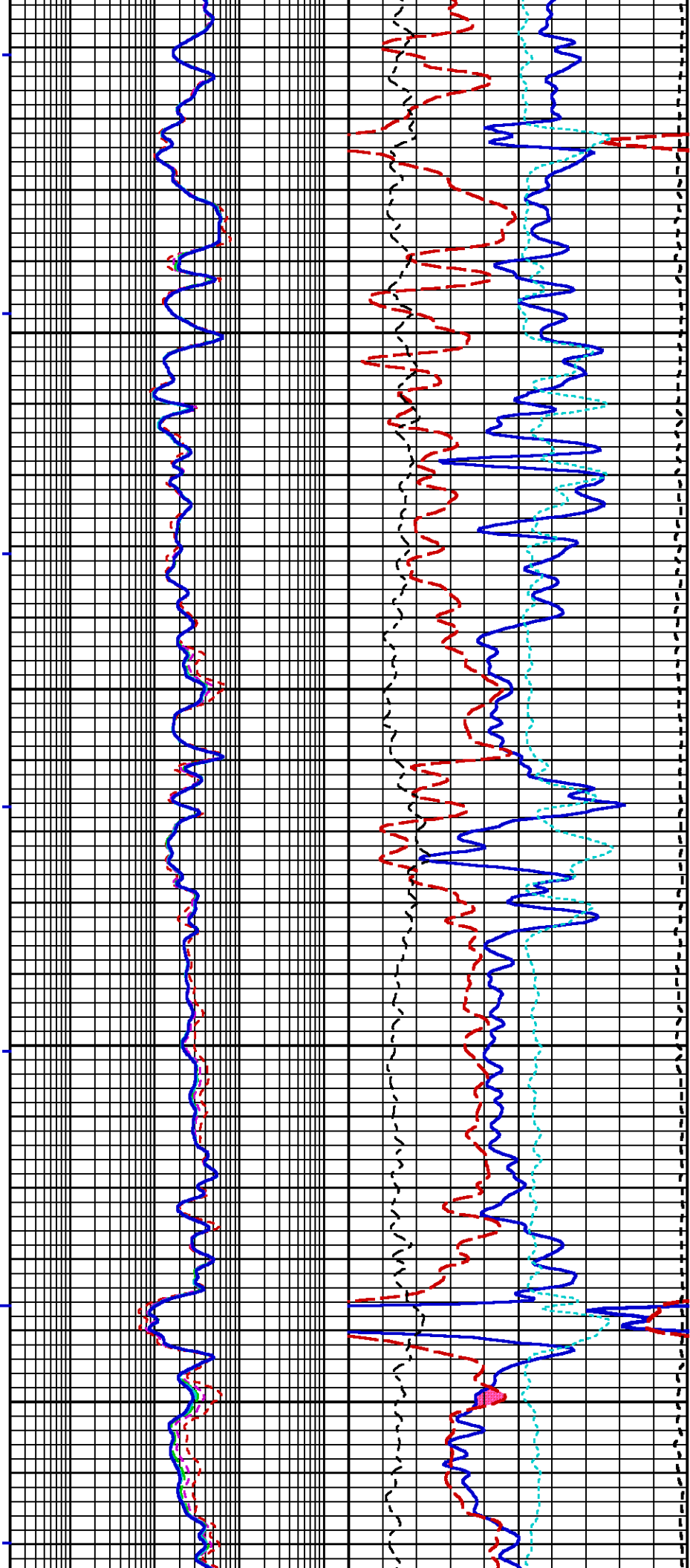
4300









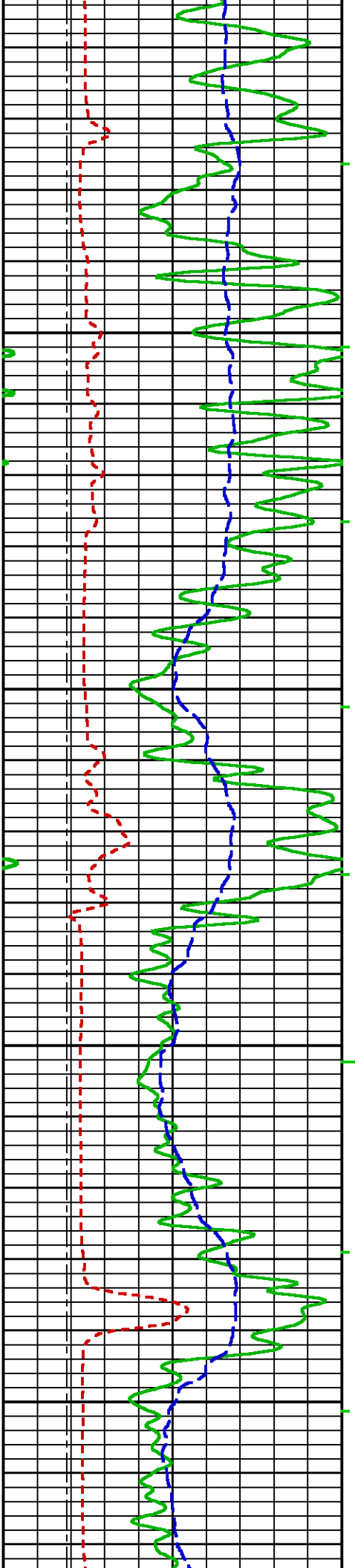


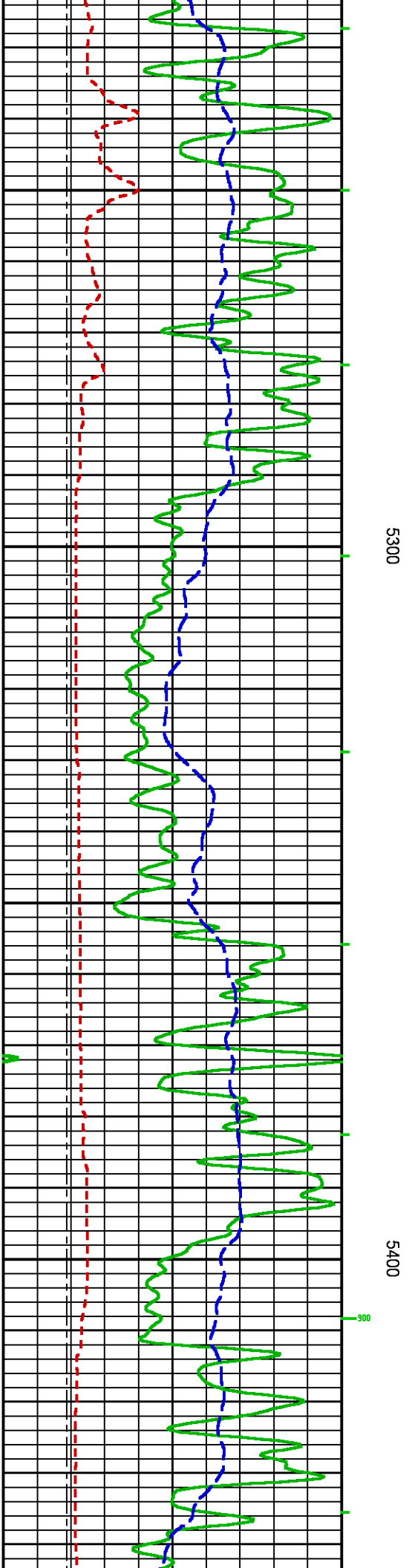
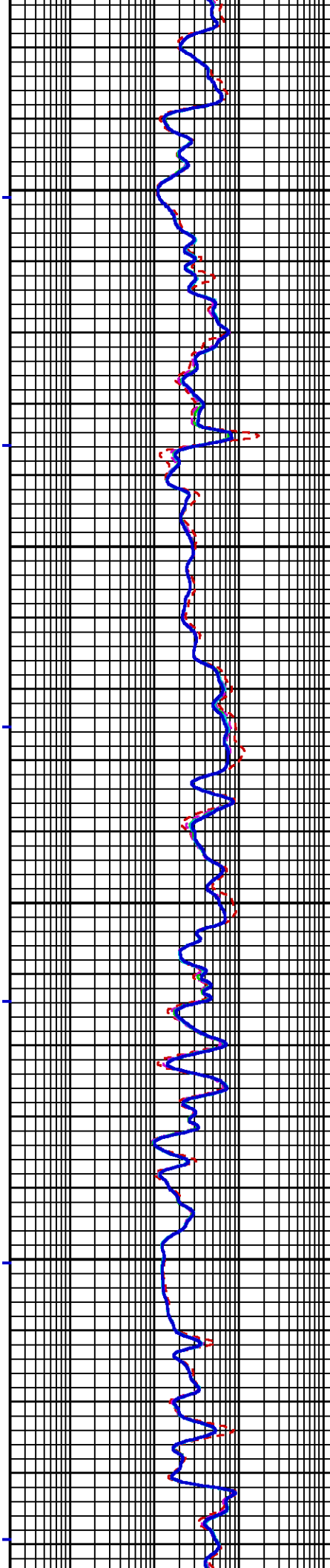
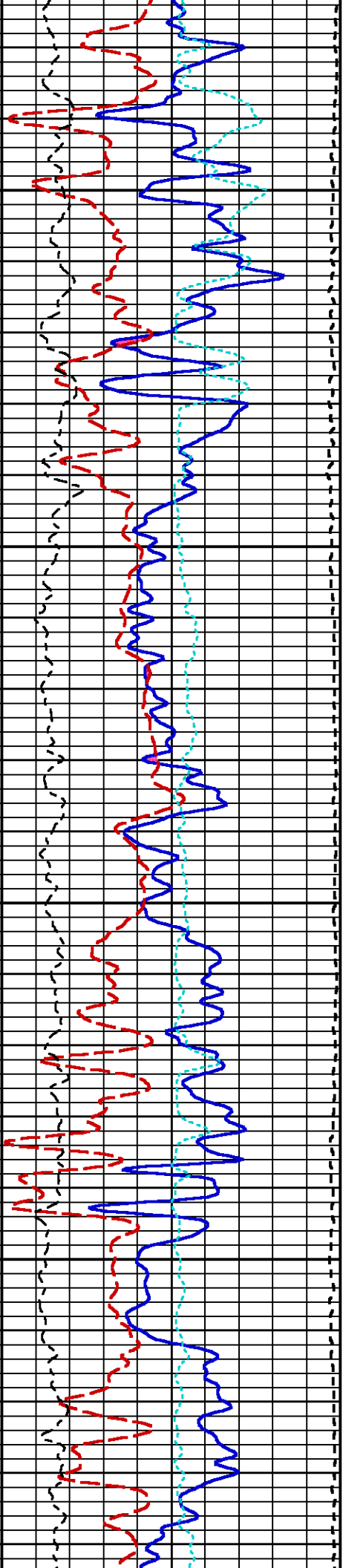
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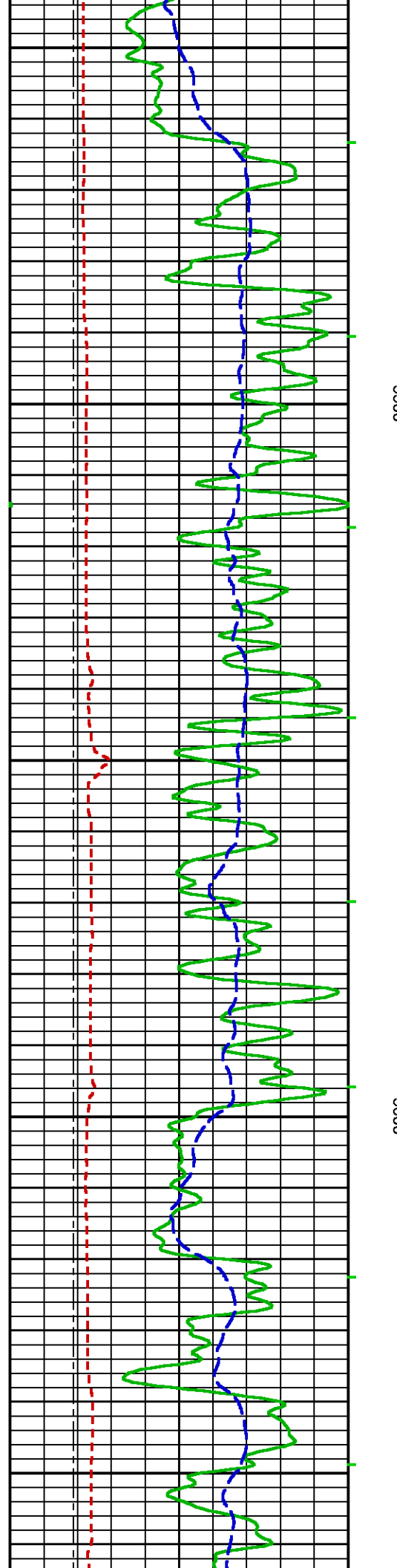
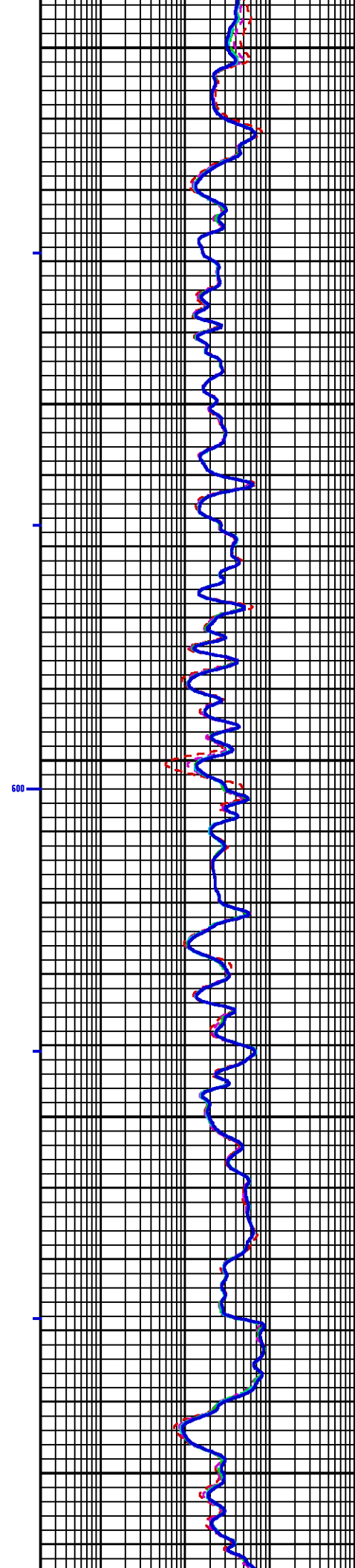
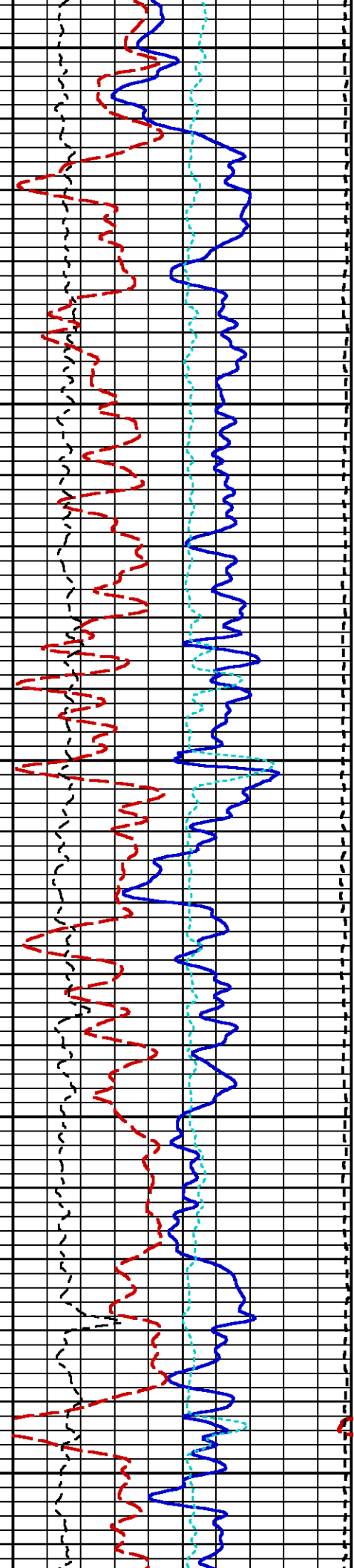
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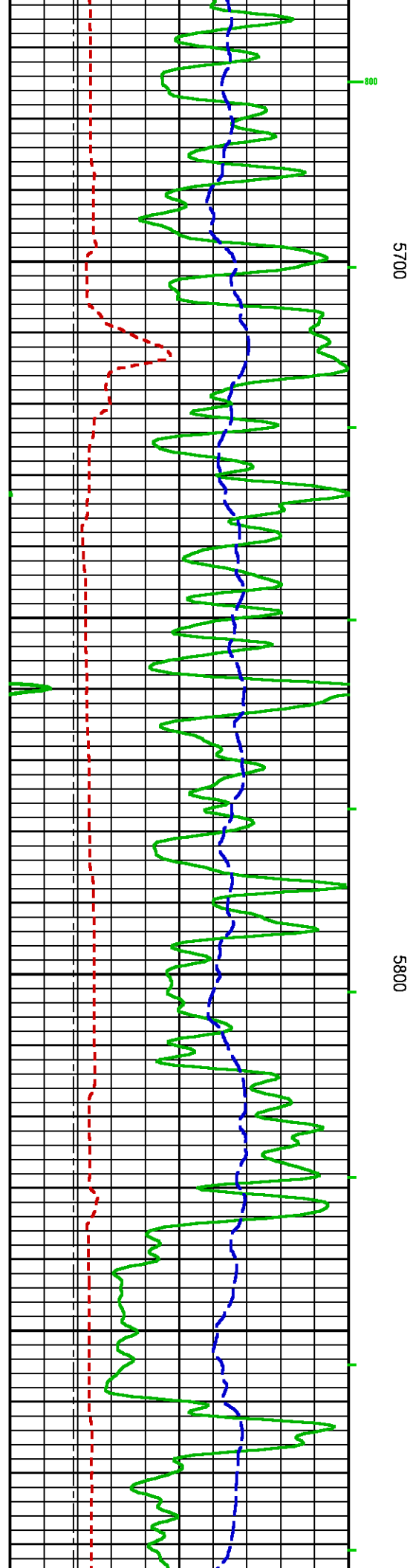
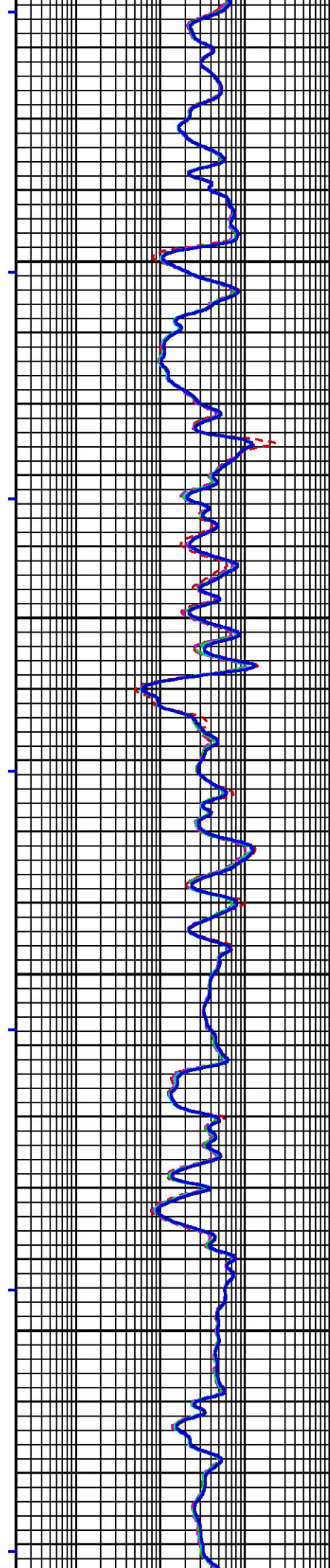
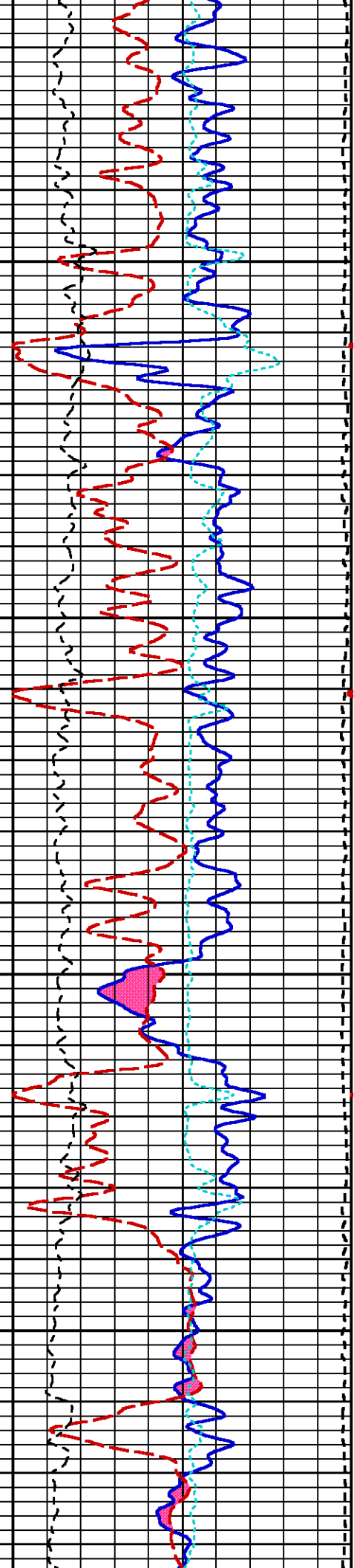
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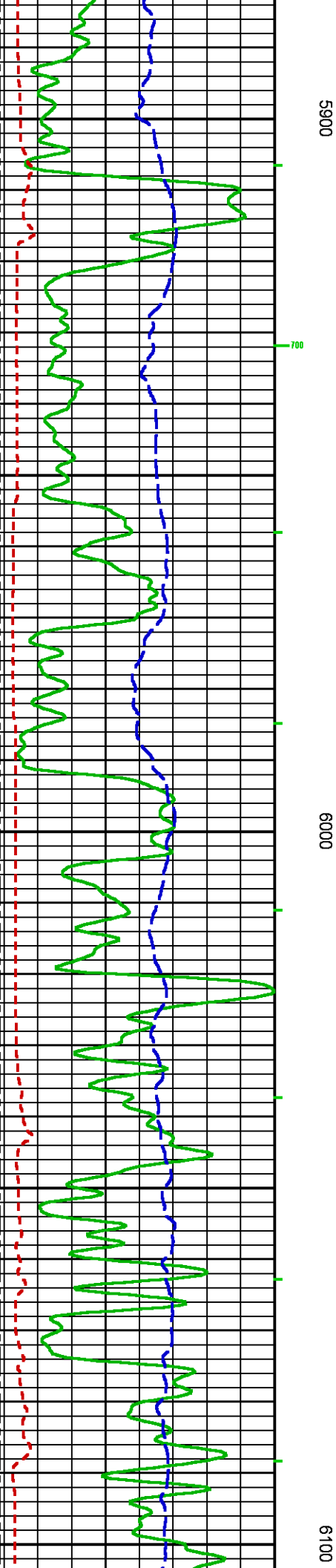
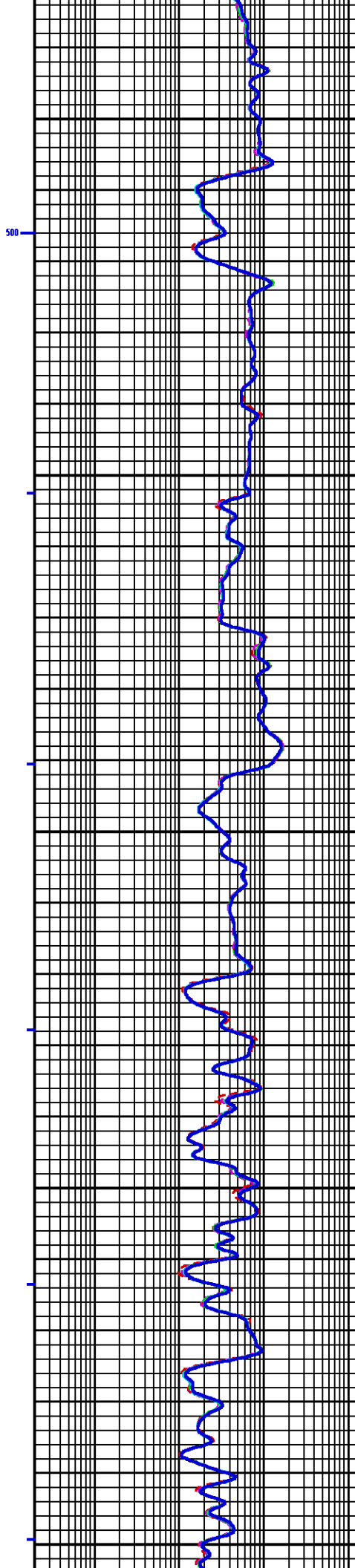
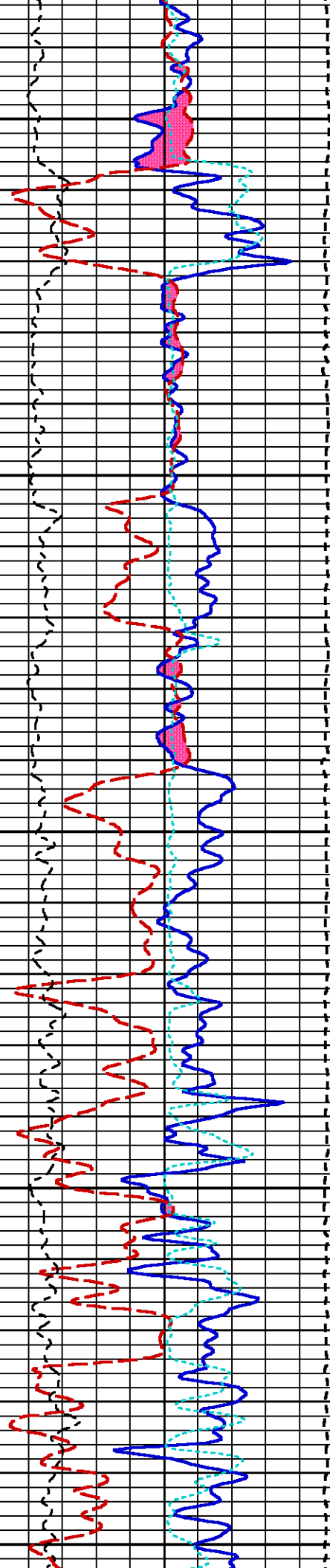
1000

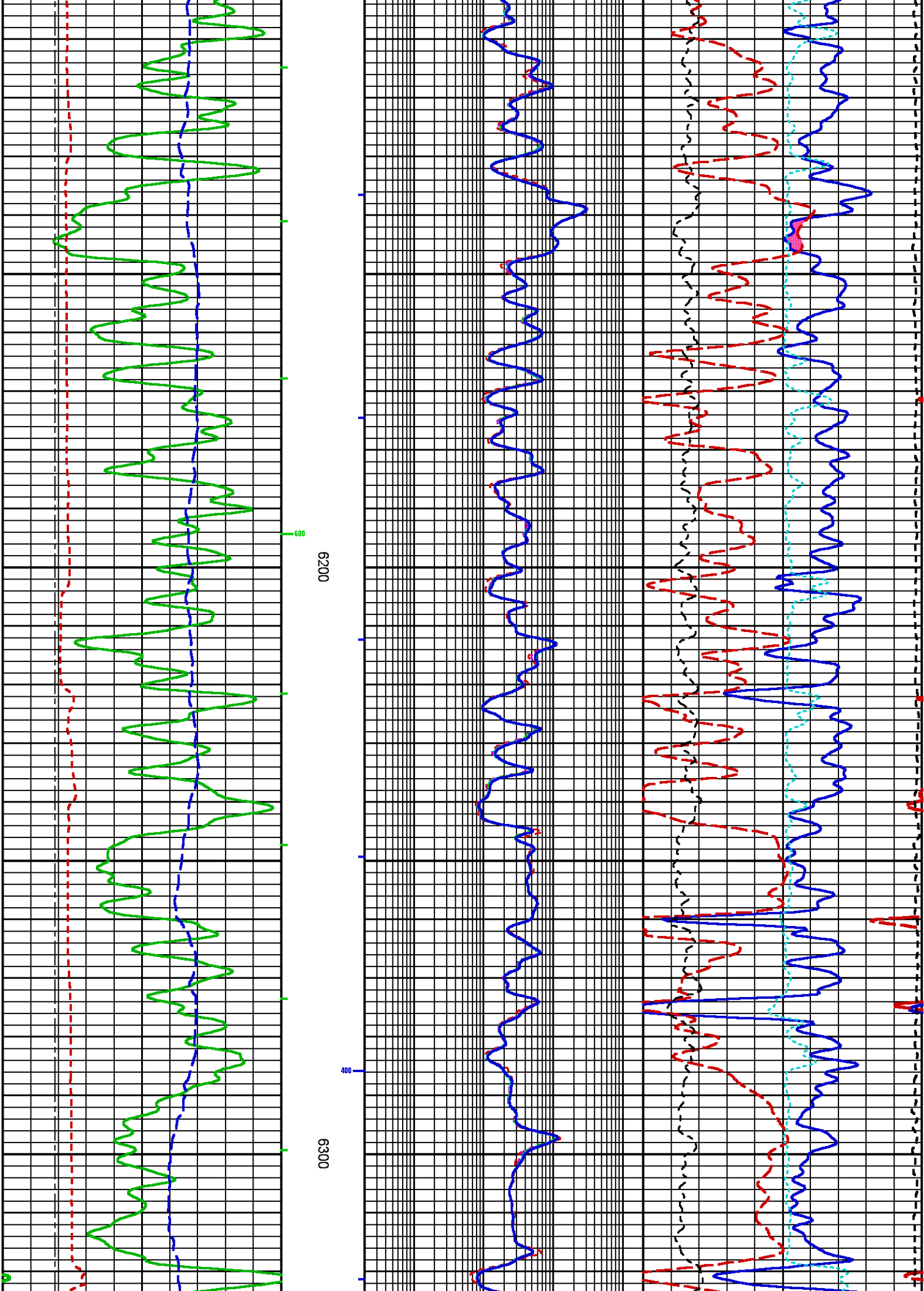


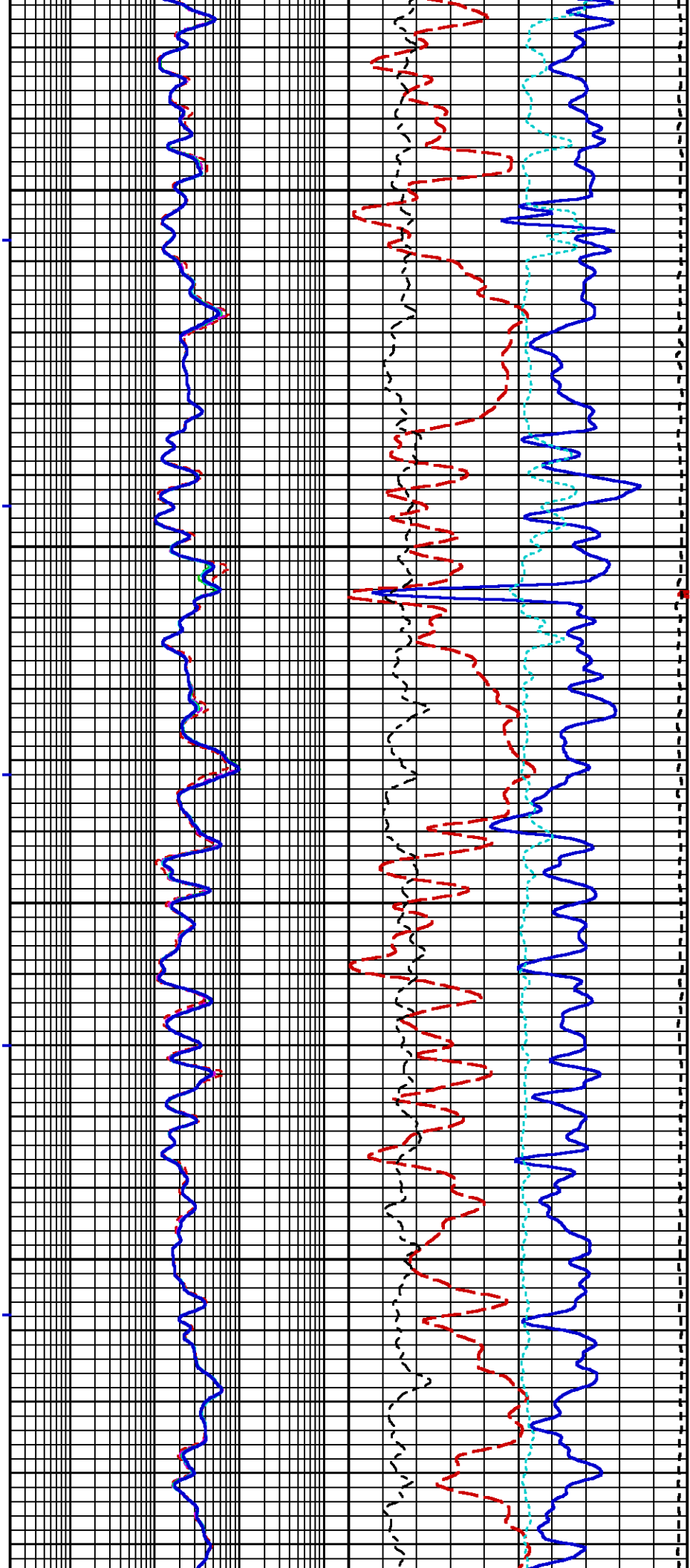






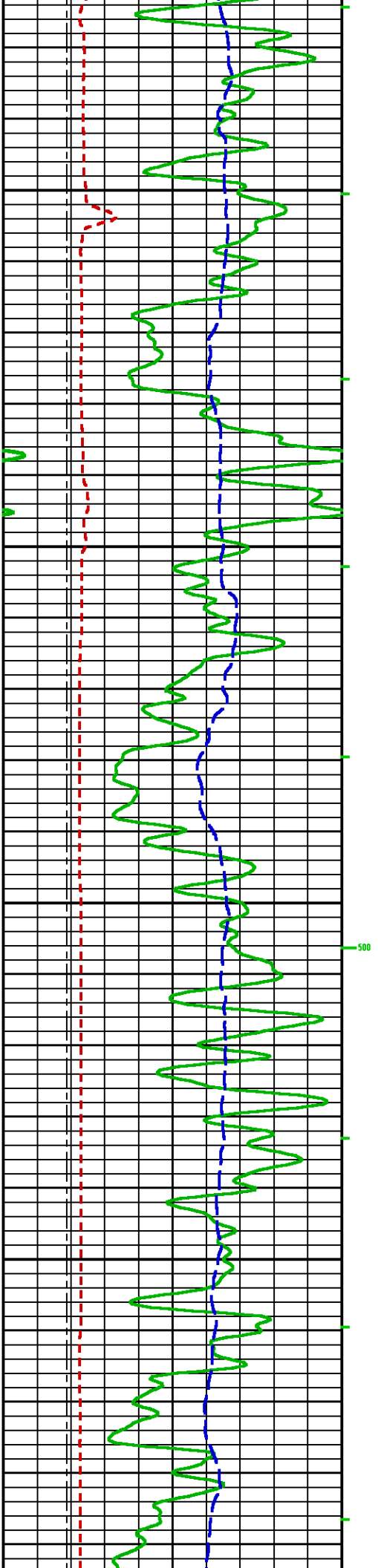


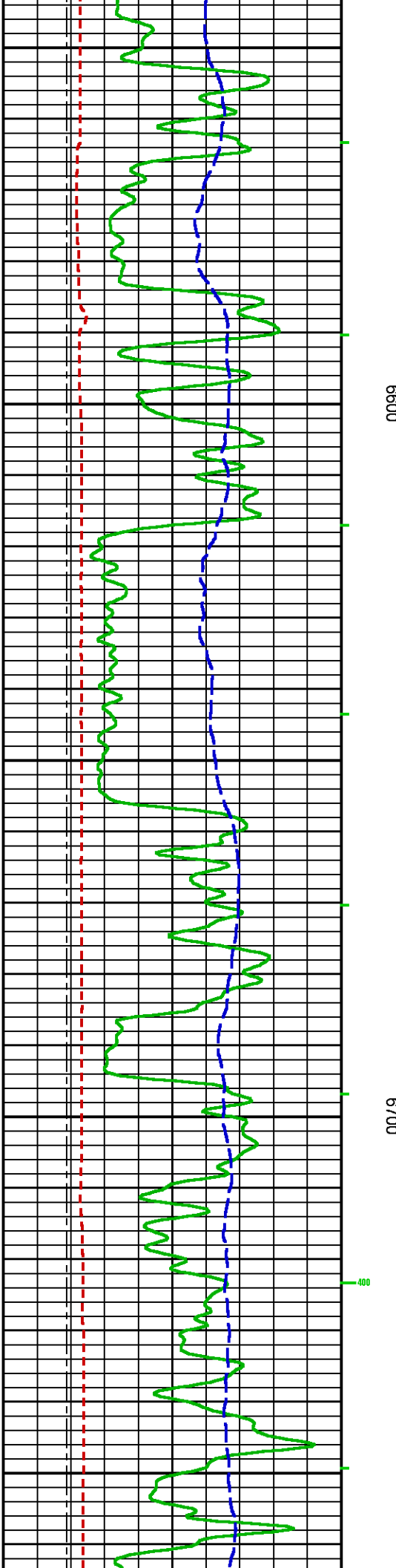
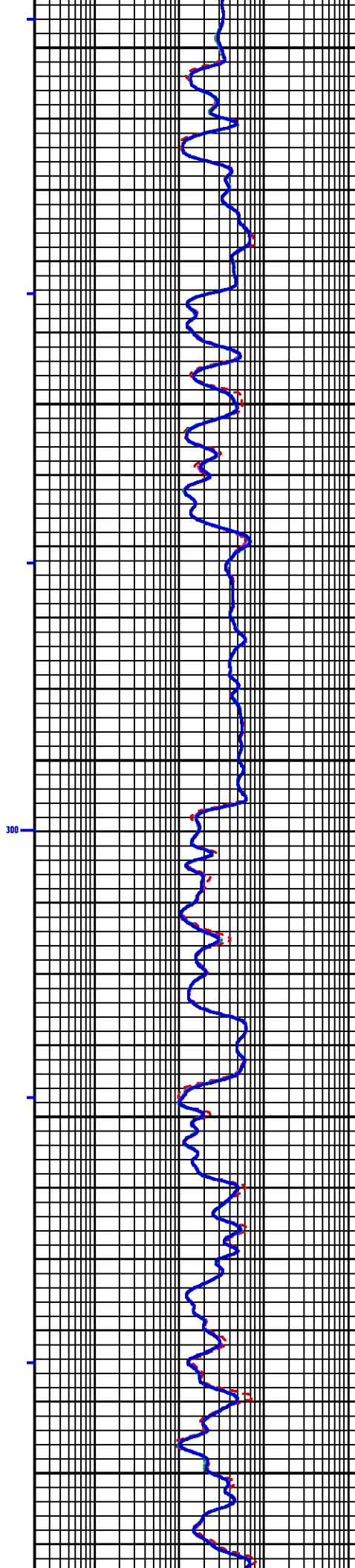
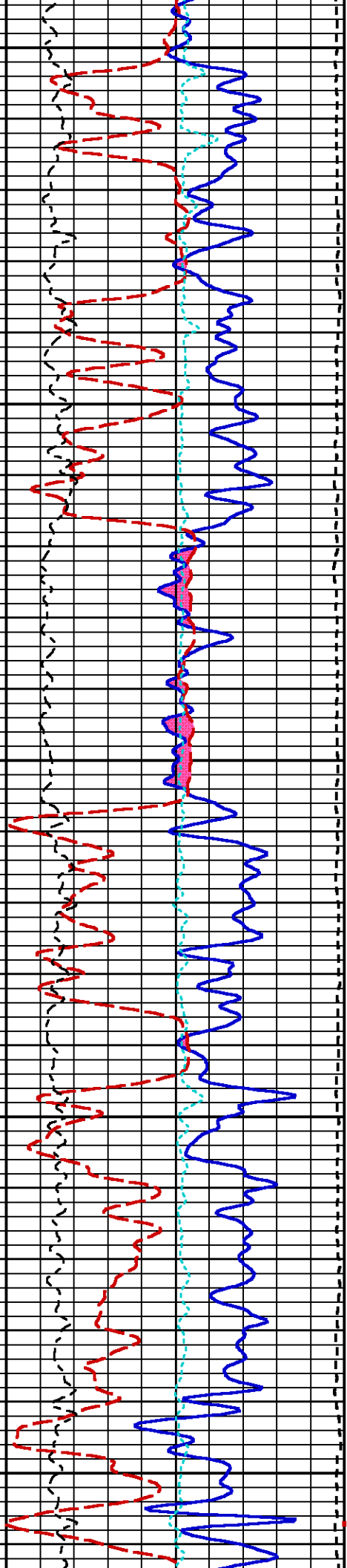


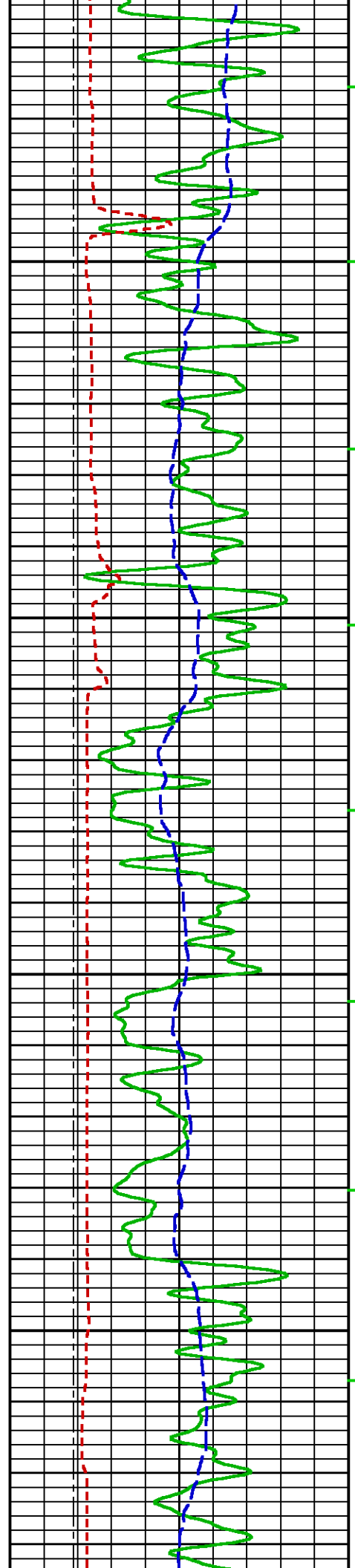


6400

6500

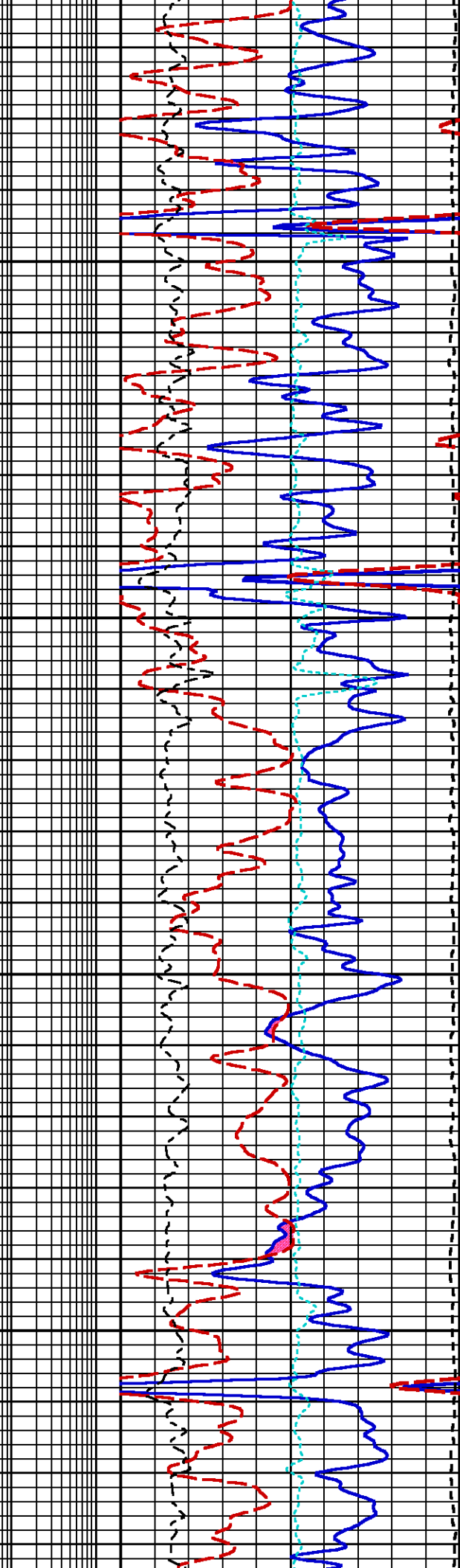
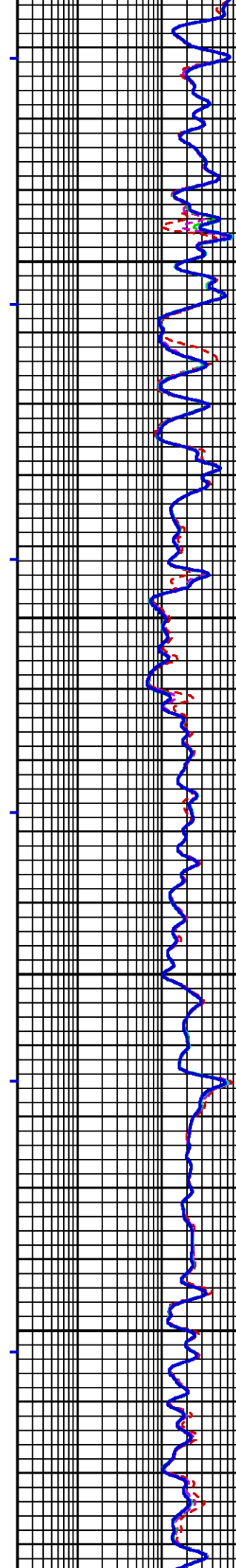


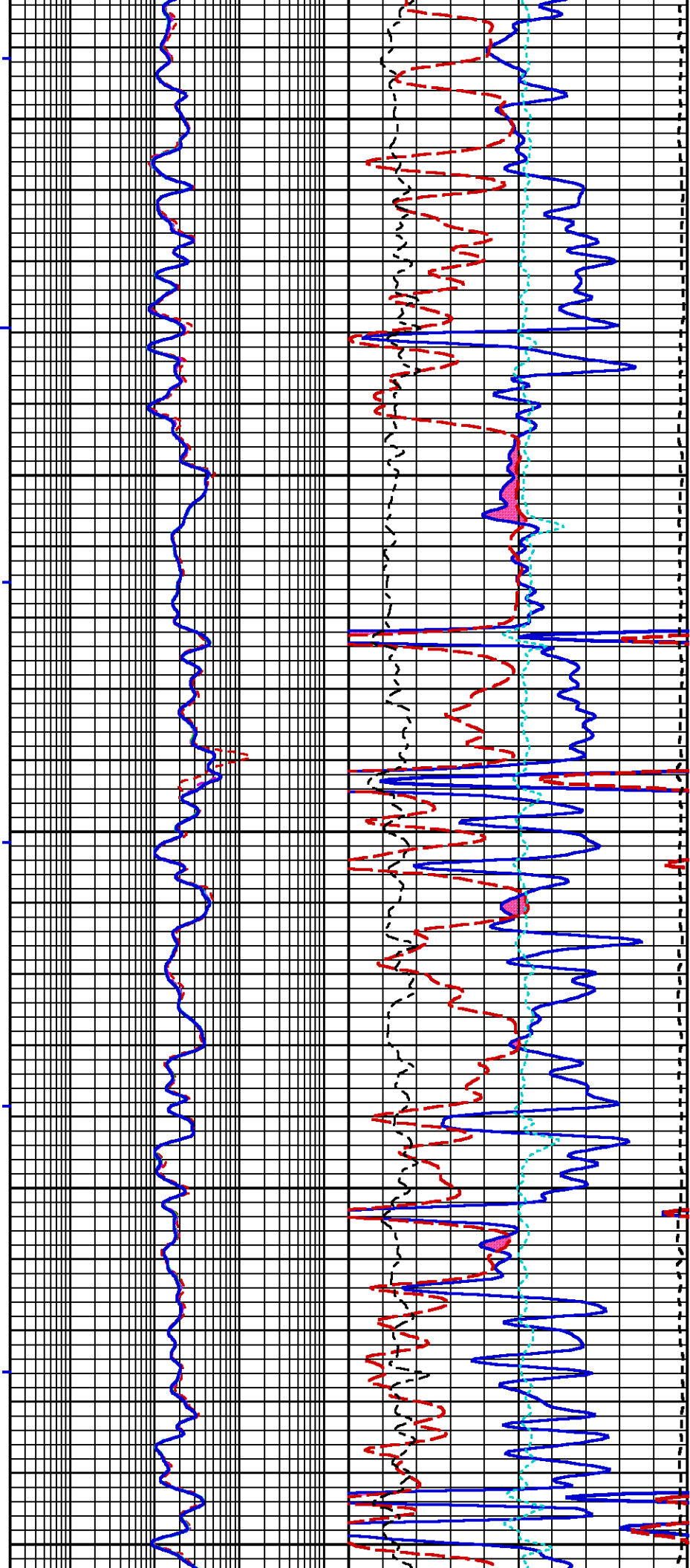




0069

0089



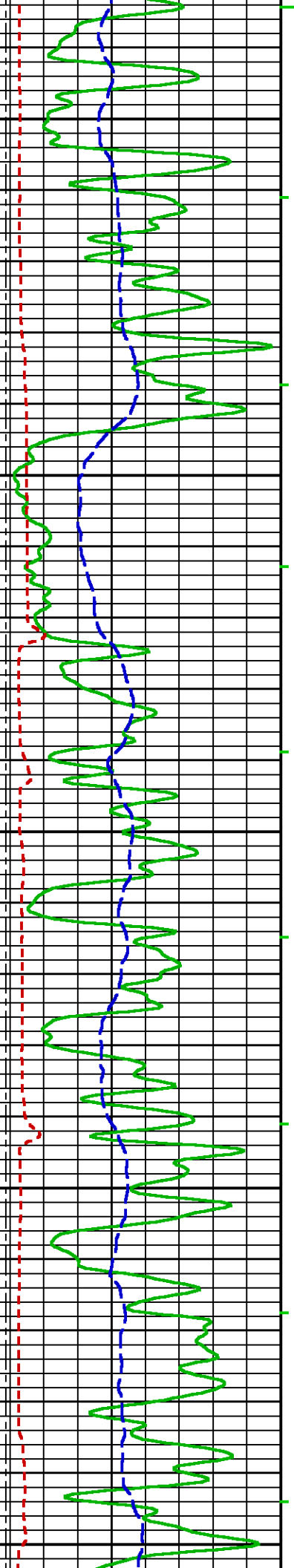


7000

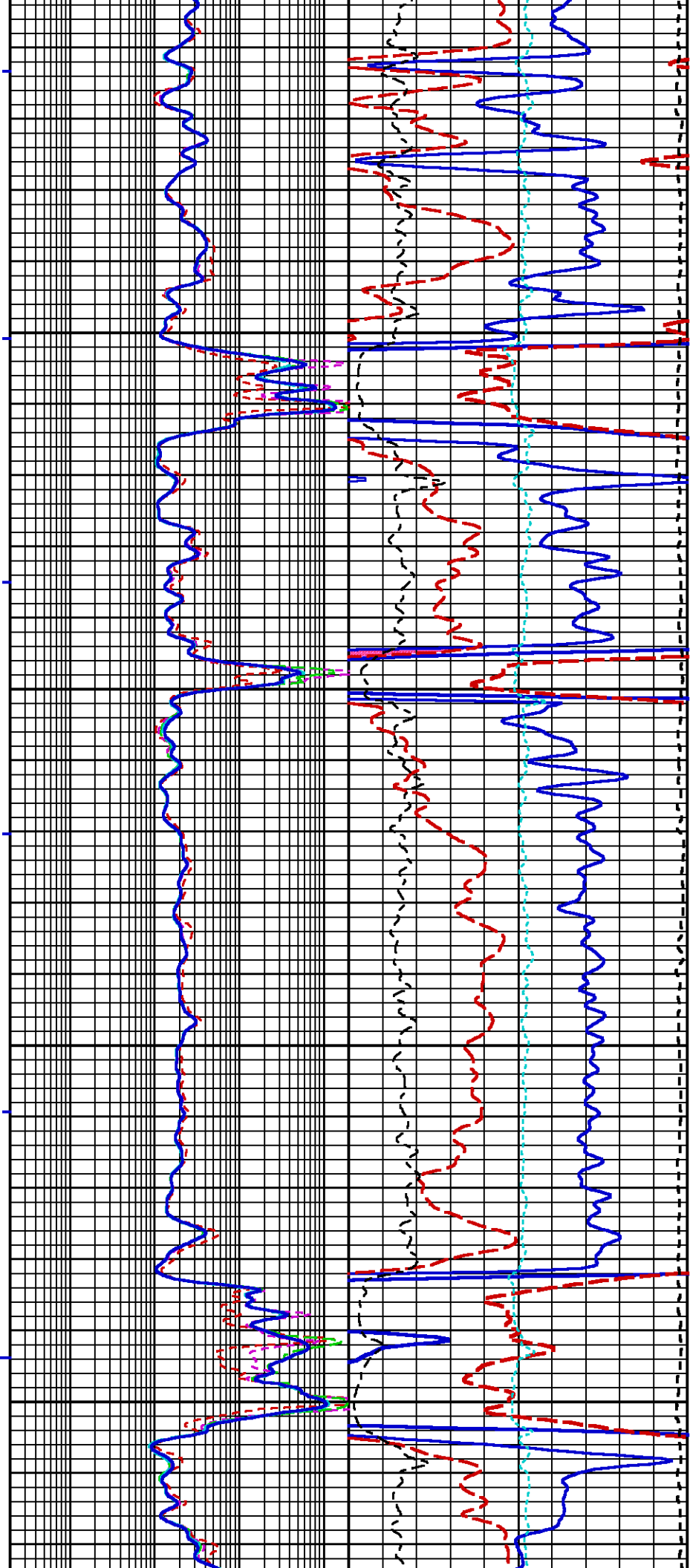
200

7100

7200



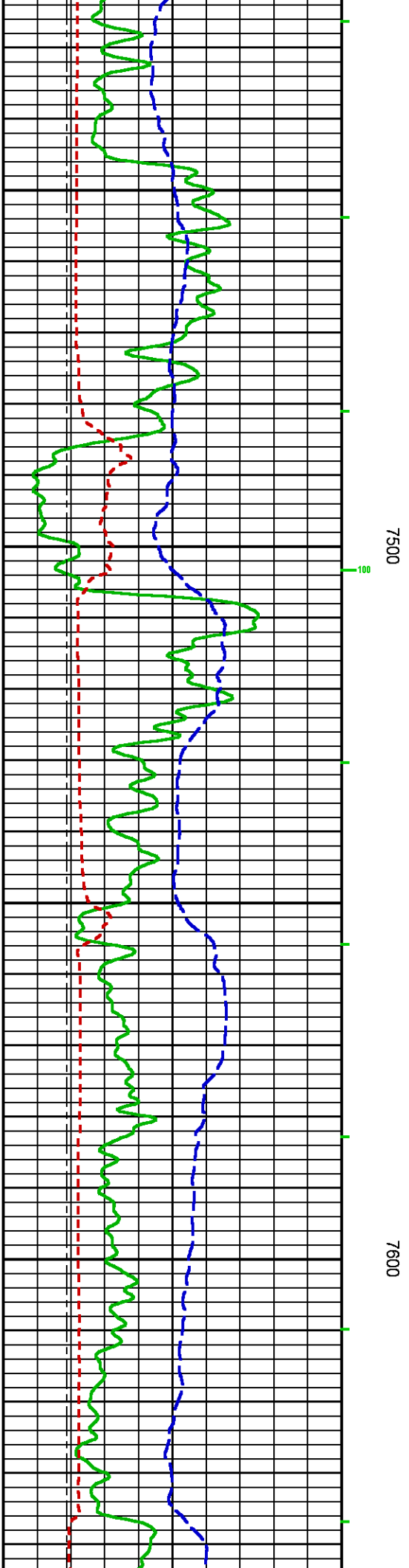
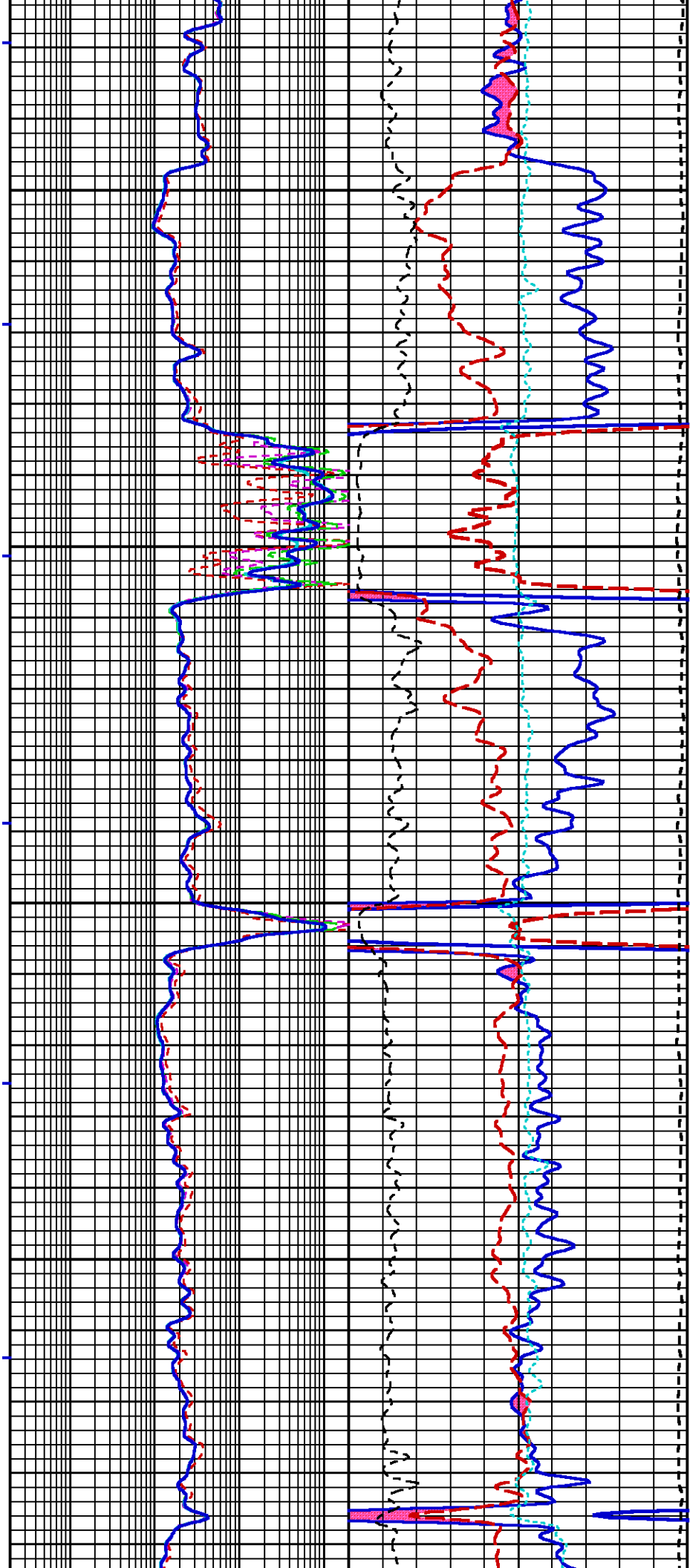
300

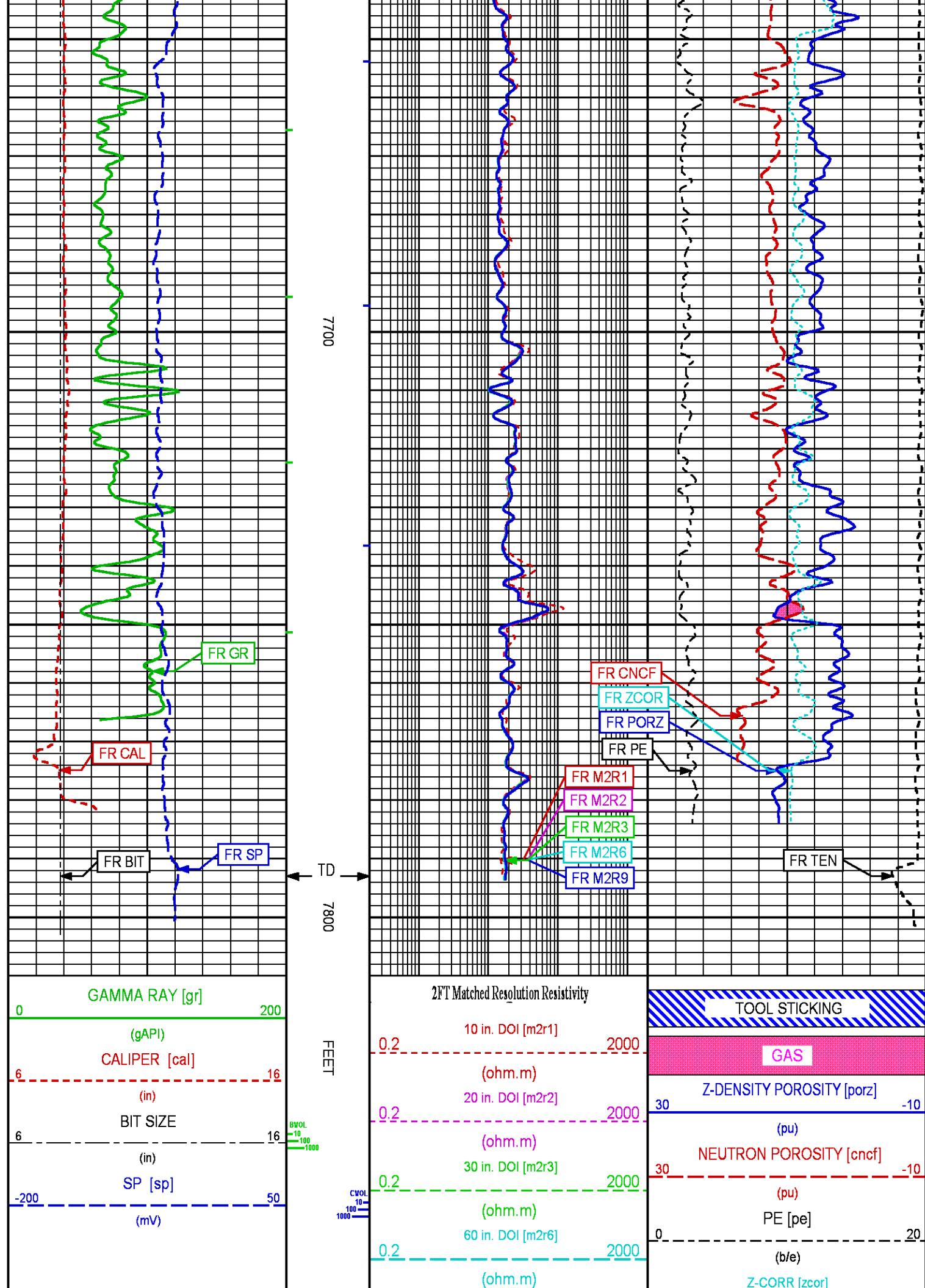


7300

7400

200





		90 in. DOI [m2r9]	-0.5	0.5
	0.2	2000	(g/cm3)	
	(ohm.m)		DIFF. TENSION [ten]	
			4750	-250
			(lbf)	

REPEAT LOG 5"/100FT SCALE

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

Plotted: Sat Apr 4 22:46:33 2015

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/95854J/n970b102.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 7421.750 ft BOTTOM DEPTH: 7802.411 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MFD RES	FII TFR \	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"
BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	7.875	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	68.0	degF	"	"
	MUD SAMPLE RES	1.830	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	68.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
ACCELERATION PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM
CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	700	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"

CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF	"	"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF	"	"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

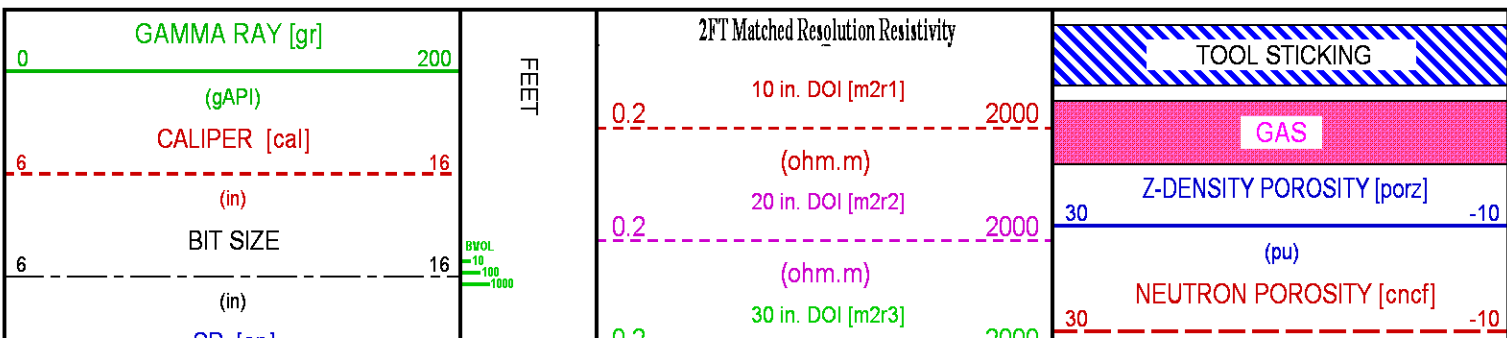
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Apr 4 19:33:25 2015	BIT SIZE
F1:BVOL	Apr 4 19:33:25 2015	BOREHOLE VOLUME
F1:CAL	Apr 4 19:33:25 2015	CALIPER
F1:CNCF	Apr 4 19:33:25 2015	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Apr 4 19:33:25 2015	CEMENT VOLUME
F1:GR	Apr 4 19:33:25 2015	GAMMA RAY
F1:M2R1	Apr 4 19:33:25 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Apr 4 19:33:25 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Apr 4 19:33:25 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Apr 4 19:33:25 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Apr 4 19:33:25 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Apr 4 19:33:25 2015	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Apr 4 19:33:25 2015	POROSITY FOR SELECTABLE MATRIX
F1:SP	Apr 4 19:33:25 2015	SPONTANEOUS POTENTIAL
F1:TEN	Apr 4 19:33:25 2015	DIFFERENTIAL TENSION
F1:ZCOR	Apr 4 19:33:25 2015	DENSITY CORRECTION

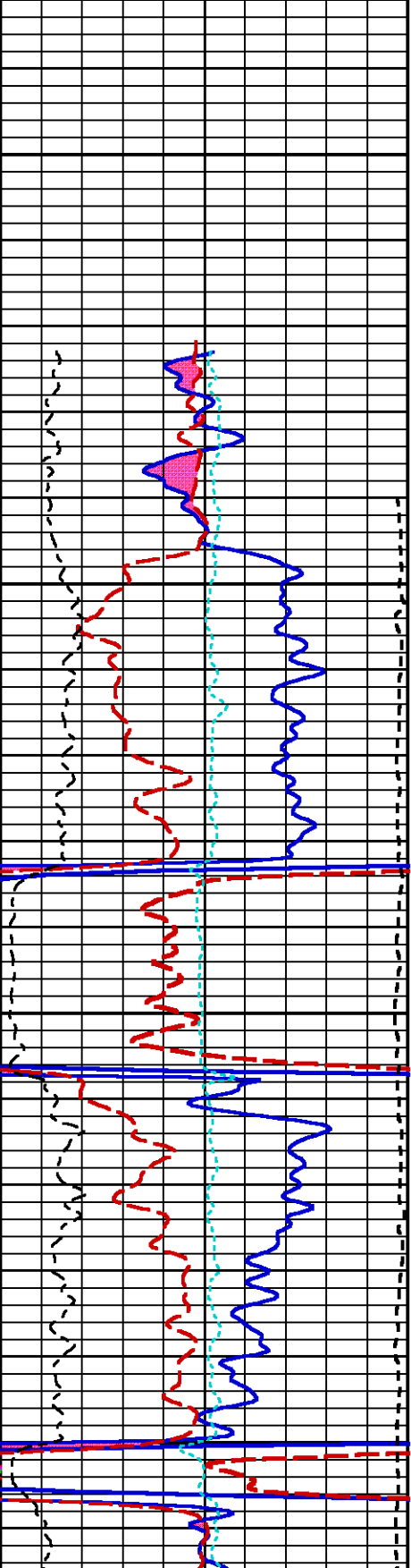
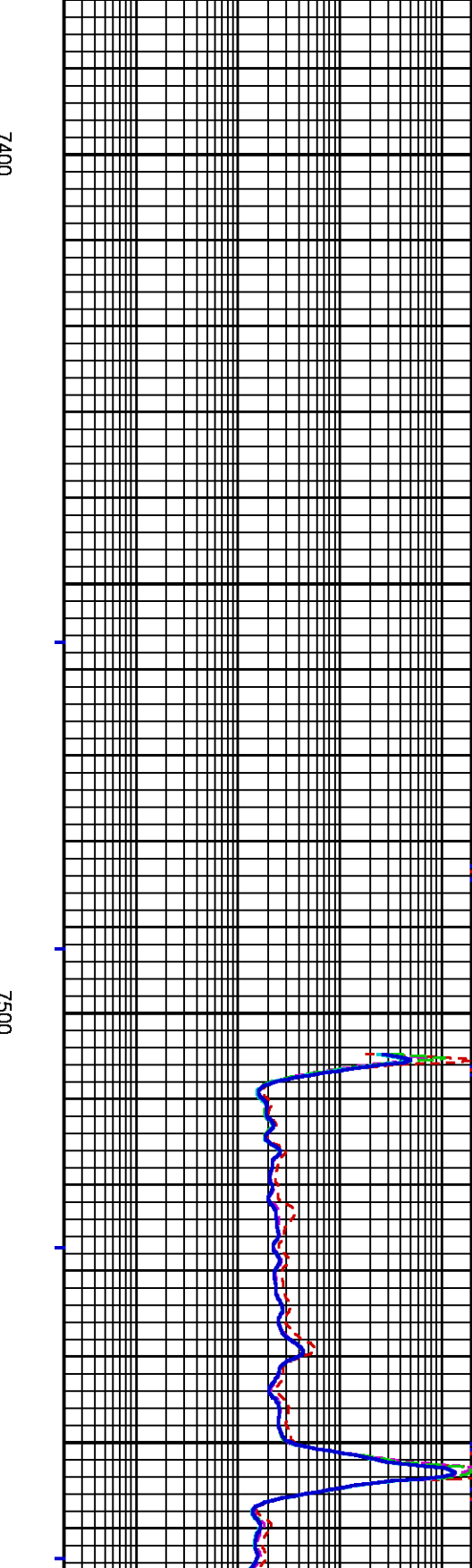
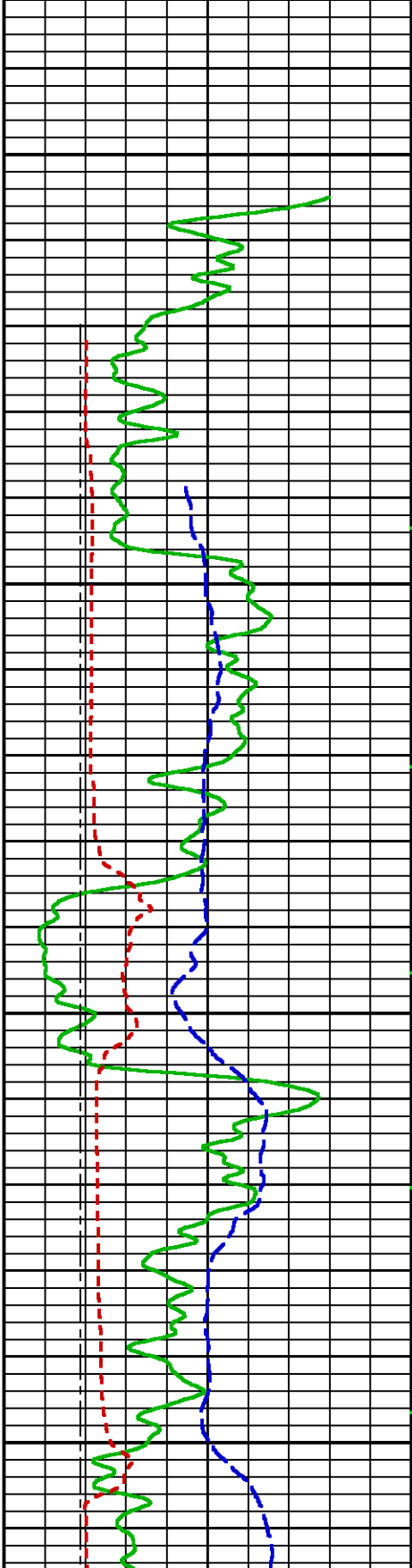
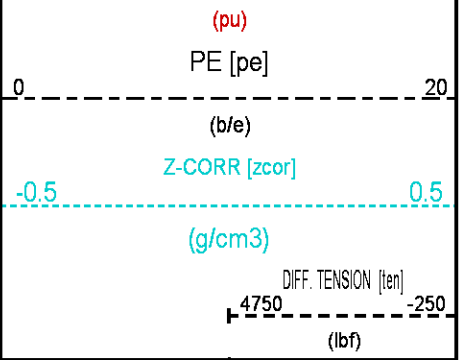
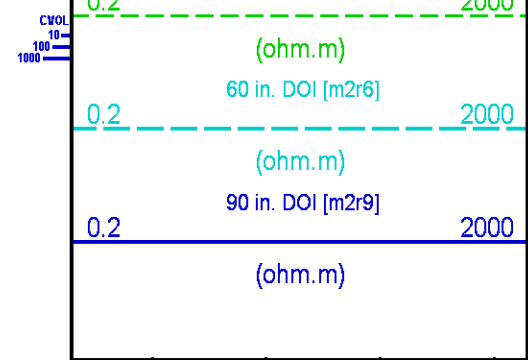
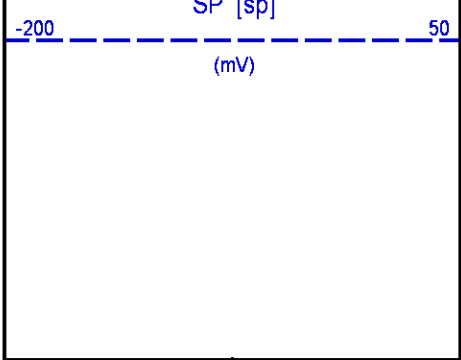
CURVE MEASURE POINT OFFSET

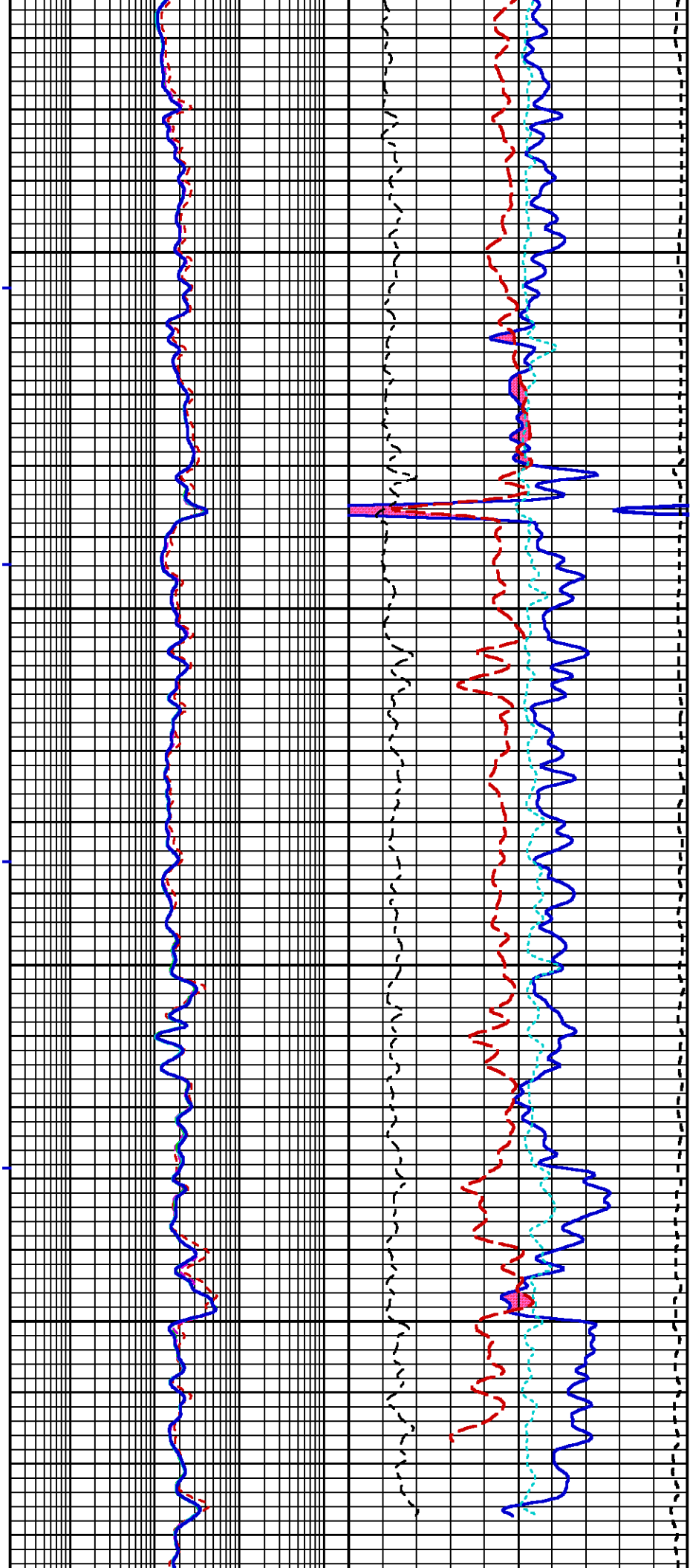
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	2.75	M2R9	2.75	TEN	0.00
CAL	18.12	M2R2	2.75	PE	18.00	ZCOR	18.00
CNCF	27.38	M2R3	2.75	PORZ	18.00		
GR	35.00	M2R6	2.75	SP	1.25		

Presentation : cas6685:/dat1a/95854J/REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 7383.25 - 7802.5 Feet

Data File 1 : F1 : cas6685:/dat1a/95854J/n970b102_REPEAT.xtf
Created On : Apr 4 19:33:25 2015
Company : LARAMIE ENERGY
Well : GUNDERSON 29-11E
Field : VEGA
File Interval : 7383.25 - 7802.5 Feet
OCT : n970b1

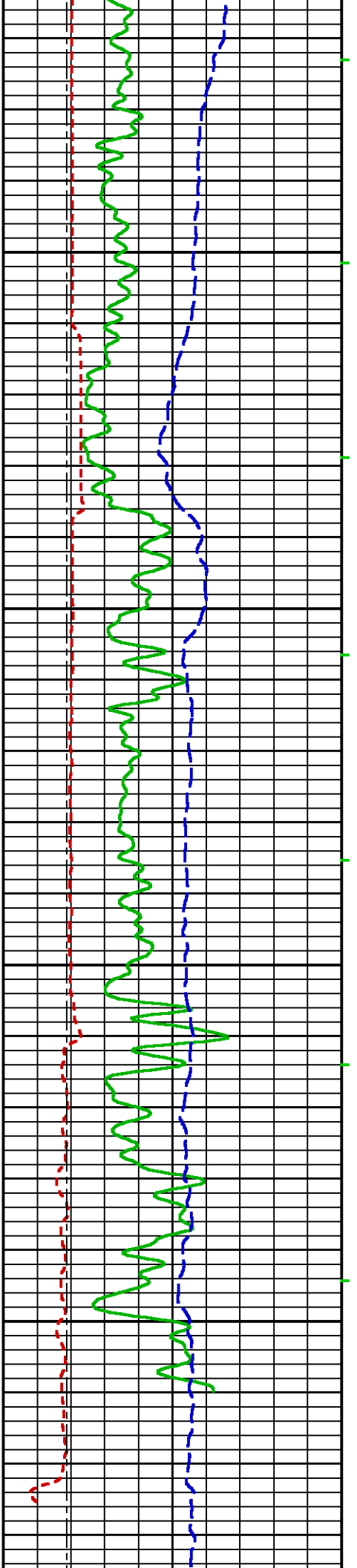


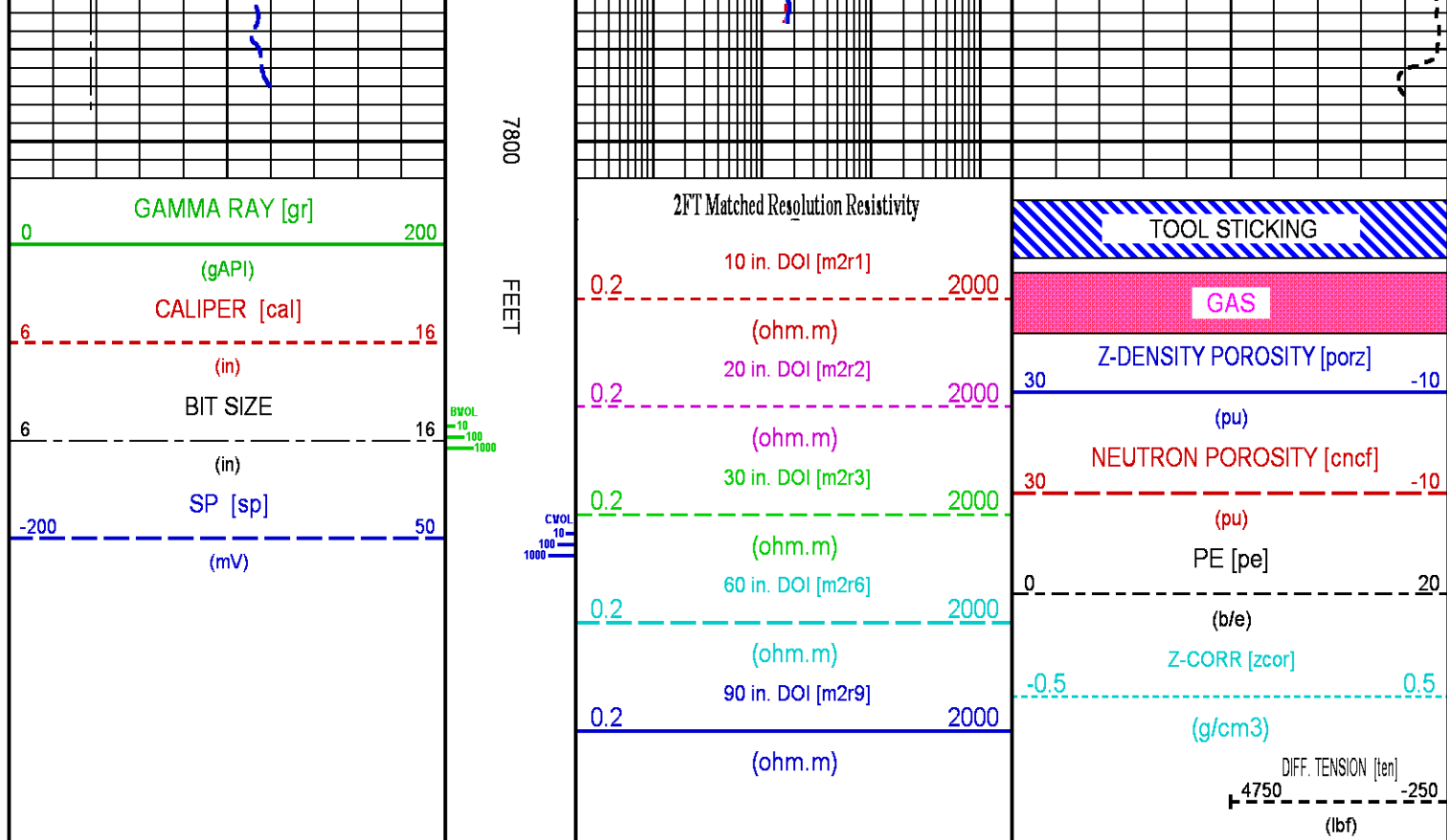




7600

7700





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/95854J/n970b1.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10120299

DATE/TIME PERFORMED: Sat Apr 4 18:14:55 2015

UNIT #: 3885TC 6685

ACCEL #: 3980XA 10120299

ACCEL CAL DATE: 13:43 05/21/2004

GAIN OFFSET
(ohm.m)
Rm K Factors 0.14570 -0.01679

	Sig Low (ohm)	Sig High (ohm)	Mult Factor	Add Factor	Engr Low (ohm)	Engr High (ohm)
Rm Measurements	0.25	9.97	1.002786	0.000360	0.25	10.00
	0.20 0.30	8.00 12.00				

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299

DATE/TIME PERFORMED: Sat Apr 4 18:15:23 2015

DAYS SINCE CAL: 0

UNIT #: 3885TC 6685

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18827	498.47	9.97	997.30
	18030 19630	491.36 505.76	8.00 12.00	980.00 1020.00
ZERO	-23331	-436.02	0.249	997.490
	-24131 -22531	-443.20 -428.80	0.200 0.300	980.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10120299

DATE/TIME PERFORMED: Sat Apr 4 21:57:06 2015

DAYS SINCE CAL: 0

UNIT #: 3885TC 6685

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	18838	499.79	9.96	997.95
	18030 19630	491.36 505.76	8.00 12.00	980.00 1020.00
ZERO	-23331	-436.02	0.249	995.589
	-24131 -22531	-443.20 -428.80	0.200 0.300	980.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870

DATE/TIME PERFORMED: Sat Apr 4 14:12:28 2015

Unit #: 3885TC 6685

Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
219.27	920.41	185	0.264	57.86	242.86
			0.230 0.280		

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870

DATE/TIME PERFORMED: Sat Apr 4 18:15:17 2015

DAYS SINCE CAL: 0

UNIT #: 3885TC 6685

Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	73.65	1361.00
929.00 1027.00	536.00	1237.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870

DATE/TIME PERFORMED: Sat Apr 4 21:57:09 2015

DAYS SINCE CAL: 0

UNIT #: 3885TC 6685 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	115.32	1714.34
929.00 1027.00	536.00	1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Mon Mar 30 10:31:50 2015

UNIT #: 3885TC 6685 CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4758.55	825.90	5.76163	0.99572	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Sat Apr 4 18:15:20 2015 DAYS SINCE CAL: 5

UNIT #: 3885TC 6685 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.42	0.99762	65.5	1355.7	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Sat Apr 4 21:56:27 2015 DAYS SINCE CAL: 5

UNIT #: 3885TC 6685 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
992.07	994.09	0.99797	107.6	1362.5	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Fri Mar 27 12:11:17 2015

UNIT #: 3885TC 6685

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1412.0		
LARGE RING (Arm)	11.000	2664.0	0.00319	2.48882
PAD CLOSED		1502.4	0.00250	-3.75600

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Sat Apr 4 18:36:59 2015 DAYS SINCE CAL: 8

UNIT #: 3885TC 6685

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1776.0	0.00319	1.76888	7.4
PAD	1764.0	0.00250	-3.75600	0.7

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	8.097	8.1
		7.7 8.5

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Sat Apr 4 21:53:11 2015 DAYS SINCE CAL: 8

UNIT #: 3885TC 6685

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1796.0	0.00319	1.76888	7.5
PAD	1752.0	0.00250	-3.75600	0.6

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	8.097	8.1
		7.7 8.5

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10102922 DATE/TIME PERFORMED: Fri Mar 27 12:43:50 2015

UNIT: 3885TC 6685 CALB BLKS: 2225XA 094292F CS SRC: 4705XA 16068B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
224.5	224.4	1235.7	1364.1
220.0 230.0	220.0 230.0		

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	35545.5	12004.6	0.753	1.679	0.000	1.900
			0.720 0.890			
AL	22235.9	1347.0		2.667	-0.016	
AL + SHIM	29490.3	2340.8		2.558	0.098	
MG + SHIM (HI PE)	17429.1	5674.9	0.297			8.550
			0.280 0.360			
RATIO AL + SHIM/AL	1.33	1.74				
	1.30 1.40	1.60 1.80				
RATIO MG/AL	1.60	8.91				
	1.58 1.70	8.55 9.55				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Sat Apr 4 18:15:50 2015 DAYS SINCE CAL: 8

UNIT #: 3885TC 6685

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.9	1393.3
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22354.8	224.2	1336.0
	22344.8 22364.8	220.0 230.0	1250.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	68.8	
	4.8 5.2	50.0 120.0	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Sat Apr 4 21:56:00 2015 DAYS SINCE CAL: 8

UNIT #: 3885TC 6685

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.2	1437.0
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22354.8	223.8	1334.7
	22344.8 22364.8	220.0 230.0	1250.0 1550.0

LV PAD CURRENT

(V)		(mA)	
5.0		68.8	
4.8	5.2	50.0	120.0

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10118612

DATE/TIME PERFORMED: Thu Nov 13 11:27:23 2014

UNIT #: 3885TC 6685

GRCOND ID & DATE: 86 101801

ZERO DATA(mv) 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 R	-0.0013 -0.2000 0.2000	0.0002 -0.1000 0.1000	0.0004 -0.1000 0.1000	0.0001 -0.1000 0.1000	-0.0004 -0.1000 0.1000	0.0004 -0.1000 0.1000	-0.0001 -0.1000 0.1000	0.0002 -0.1000 0.1000
Coil 0 Q	0.0014 -0.5000 0.5000	0.0004 -0.2000 0.2000	0.0005 -0.1000 0.1000	-0.0002 -0.1000 0.1000	-0.0003 -0.1000 0.1000	-0.0002 -0.1000 0.1000	0.0004 -0.1000 0.1000	0.0001 -0.1000 0.1000
Coil 1 R	0.0056 -0.2000 0.2000	0.0011 -0.1000 0.1000	-0.0005 -0.1000 0.1000	0.0003 -0.1000 0.1000	-0.0007 -0.1000 0.1000	0.0001 -0.1000 0.1000	-0.0015 -0.1000 0.1000	0.0030 -0.1000 0.1000
Coil 1 Q	0.0023 -0.5000 0.5000	-0.0026 -0.2000 0.2000	0.0007 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0011 -0.1000 0.1000	0.0002 -0.1000 0.1000	-0.0002 -0.1000 0.1000	0.0012 -0.1000 0.1000
Coil 2 R	0.0063 -0.2000 0.2000	-0.0033 -0.1000 0.1000	0.0024 -0.1000 0.1000	-0.0022 -0.1000 0.1000	0.0012 -0.1000 0.1000	0.0005 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0031 -0.1000 0.1000
Coil 2 Q	0.0001 -0.5000 0.5000	0.0033 -0.2000 0.2000	0.0011 -0.1000 0.1000	0.0008 -0.1000 0.1000	-0.0003 -0.1000 0.1000	0.0023 -0.1000 0.1000	-0.0000 -0.1000 0.1000	-0.0013 -0.1000 0.1000
Coil 3 R	0.0198 -0.3000 0.3000	0.0001 -0.1000 0.1000	0.0002 -0.1000 0.1000	0.0003 -0.1000 0.1000	0.0016 -0.1000 0.1000	0.0004 -0.1000 0.1000	0.0018 -0.1000 0.1000	0.0012 -0.1000 0.1000
Coil 3 Q	0.0043 -0.5000 0.5000	-0.0042 -0.2000 0.2000	-0.0046 -0.1000 0.1000	-0.0012 -0.1000 0.1000	-0.0021 -0.1000 0.1000	-0.0025 -0.1000 0.1000	0.0015 -0.1000 0.1000	0.0008 -0.1000 0.1000
Coil 4 R	0.0695 -0.5000 0.5000	-0.0020 -0.2000 0.2000	-0.0046 -0.2000 0.2000	0.0073 -0.2000 0.2000	0.0013 -0.2000 0.2000	0.0001 -0.2000 0.2000	-0.0007 -0.2000 0.2000	-0.0006 -0.2000 0.2000
Coil 4 Q	0.0079 -1.0000 1.0000	-0.0151 -0.4000 0.4000	0.0055 -0.2000 0.2000	0.0001 -0.2000 0.2000	-0.0050 -0.2000 0.2000	0.0005 -0.2000 0.2000	-0.0027 -0.2000 0.2000	-0.0020 -0.2000 0.2000
Coil 5 R	0.1371 -1.2000 1.2000	-0.0130 -0.4000 0.4000	-0.0208 -0.4000 0.4000	0.0039 -0.4000 0.4000	0.0009 -0.4000 0.4000	0.0073 -0.4000 0.4000	0.0111 -0.4000 0.4000	0.0065 -0.4000 0.4000
Coil 5 Q	0.0671 -1.5000 1.5000	-0.0297 -0.8000 0.8000	0.0011 -0.4000 0.4000	-0.0003 -0.4000 0.4000	-0.0049 -0.4000 0.4000	0.0028 -0.4000 0.4000	0.0009 -0.4000 0.4000	-0.0174 -0.4000 0.4000

ELEC. GAINS 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 M	161.66 136.00 186.00	160.27 134.00 184.00	157.39 131.00 181.00	153.10 126.00 176.00	147.45 122.00 170.00	140.43 118.00 161.00	132.23 112.00 150.00	122.85 105.00 139.00
Coil 0 P	7.658 6.000 9.000	25.280 21.000 30.000	42.458 35.000 50.000	59.597 49.000 71.000	76.731 63.000 91.000	93.874 77.000 109.000	111.025 92.000 130.000	128.123 106.000 151.000
Coil 1 M	281.20 238.00 328.00	278.93 235.00 325.00	274.21 230.00 320.00	267.16 225.00 312.00	257.82 218.00 302.00	246.25 208.00 288.00	232.56 196.00 266.00	216.79 184.00 244.00
Coil 1 P	7.531 6.000 9.000	25.002 21.000 30.000	42.015 35.000 51.000	58.991 49.000 71.000	75.982 63.000 92.000	93.004 78.000 112.000	110.067 93.000 130.000	127.121 107.000 151.000
Coil 2 M	569.81 479.00 659.00	565.09 474.00 654.00	555.37 463.00 643.00	540.73 450.00 622.00	521.32 432.00 602.00	497.29 412.00 572.00	468.62 390.00 540.00	436.05 359.00 499.00
Coil 2 P	7.741 6.000 9.000	25.479 21.000 31.000	42.798 35.000 51.000	60.077 49.000 71.000	77.385 63.000 92.000	94.734 76.000 115.000	112.084 92.000 135.000	129.437 105.000 155.000
Coil 3 M	921.28 772.00 1060.00	913.04 764.00 1050.00	896.11 752.00 1030.00	871.04 728.00 1010.00	837.87 700.00 970.00	797.33 665.00 925.00	750.17 628.00 868.00	695.49 589.00 799.00
Coil 3 P	7.658 6.000 9.000	25.280 21.000 30.000	42.458 35.000 50.000	59.597 49.000 71.000	76.731 63.000 91.000	93.874 77.000 109.000	111.025 92.000 130.000	128.123 106.000 151.000

Coil 4 M	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>	<div>0.9001.1000.001</div>
Coil 4 P	<div>0.002-1.5001.500</div>	<div>0.057-1.5001.500</div>	<div>0.116-1.5001.500</div>	<div>0.171-1.5001.500</div>	<div>0.232-1.5001.500</div>	<div>0.263-1.5001.500</div>	<div>0.300-1.5001.500</div>	<div>0.331-1.5001.500</div>
Coil 5 M	<div>1.0010.9001.100</div>	<div>1.0000.9001.100</div>	<div>1.0000.9001.100</div>	<div>0.9990.9001.100</div>	<div>0.9980.9001.100</div>	<div>0.9960.9001.100</div>	<div>0.9960.9001.100</div>	<div>0.9940.9001.100</div>
Coil 5 P	<div>0.001-1.5001.500</div>	<div>0.060-1.5001.500</div>	<div>0.136-1.5001.500</div>	<div>0.170-1.5001.500</div>	<div>0.227-1.5001.500</div>	<div>0.333-1.5001.500</div>	<div>0.313-1.5001.500</div>	<div>0.365-1.5001.500</div>
<div> <div>PARMS</div> <div>TCID 0</div> <div>TCID 1</div> <div>Cal Temp (degF)</div> <div>T Factor</div> </div> <div> <div>IDs</div> <div>2.563</div> <div>0.840</div> <div>38.8</div> <div>1.00</div> </div>								

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #:	1530XA 10118612	DATE/TIME PERFORMED:	Sat Apr 4 18:16:33 2015	DAYS SINCE CAL:	142
	UNIT #: 3885TC 6685				

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	<div>0.001-0.2000.200</div>	<div>0.000-0.1000.100</div>	<div>-0.001-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>-0.001-0.1000.100</div>	<div>-0.000-0.1000.100</div>
Coil 0 Q	<div>-0.000-0.5000.500</div>	<div>0.001-0.2000.200</div>	<div>0.001-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>0.000-0.1000.100</div>
Coil 1 R	<div>0.009-0.2000.200</div>	<div>0.002-0.1000.100</div>	<div>-0.002-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>0.001-0.1000.100</div>
Coil 1 Q	<div>0.006-0.5000.500</div>	<div>-0.003-0.2000.200</div>	<div>0.001-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>0.000-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>0.000-0.1000.100</div>
Coil 2 R	<div>0.002-0.2000.200</div>	<div>-0.000-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>-0.001-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>-0.003-0.1000.100</div>	<div>0.003-0.1000.100</div>	<div>-0.001-0.1000.100</div>
Coil 2 Q	<div>-0.003-0.5000.500</div>	<div>0.003-0.2000.200</div>	<div>-0.001-0.1000.100</div>	<div>-0.002-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>-0.000-0.1000.100</div>
Coil 3 R	<div>0.028-0.3000.300</div>	<div>-0.003-0.1000.100</div>	<div>0.003-0.1000.100</div>	<div>0.003-0.1000.100</div>	<div>0.002-0.1000.100</div>	<div>-0.001-0.1000.100</div>	<div>0.001-0.1000.100</div>	<div>-0.003-0.1000.100</div>
Coil 3 Q	<div>-0.002-0.5000.500</div>	<div>-0.002-0.2000.200</div>	<div>0.005-0.1000.100</div>	<div>-0.001-0.1000.100</div>	<div>-0.005-0.1000.100</div>	<div>-0.002-0.1000.100</div>	<div>-0.000-0.1000.100</div>	<div>-0.001-0.1000.100</div>
Coil 4 R	<div>0.064-0.5000.500</div>	<div>-0.004-0.2000.200</div>	<div>-0.004-0.2000.200</div>	<div>0.007-0.2000.200</div>	<div>0.009-0.2000.200</div>	<div>-0.002-0.2000.200</div>	<div>-0.002-0.2000.200</div>	<div>0.003-0.2000.200</div>
Coil 4 Q	<div>-0.001-1.0001.000</div>	<div>-0.006-0.4000.400</div>	<div>0.002-0.2000.200</div>	<div>0.002-0.2000.200</div>	<div>-0.000-0.2000.200</div>	<div>0.001-0.2000.200</div>	<div>-0.000-0.2000.200</div>	<div>-0.004-0.2000.200</div>
Coil 5 R	<div>0.169-1.2001.200</div>	<div>-0.011-0.4000.400</div>	<div>-0.009-0.4000.400</div>	<div>0.002-0.4000.400</div>	<div>0.004-0.4000.400</div>	<div>-0.002-0.4000.400</div>	<div>0.004-0.4000.400</div>	<div>-0.005-0.4000.400</div>
Coil 5 Q	<div>0.041-1.5001.500</div>	<div>-0.028-0.8000.800</div>	<div>0.003-0.4000.400</div>	<div>-0.000-0.4000.400</div>	<div>-0.001-0.4000.400</div>	<div>0.004-0.4000.400</div>	<div>0.006-0.4000.400</div>	<div>-0.007-0.4000.400</div>

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	<div>161.40136.00186.00</div>	<div>159.98134.00184.00</div>	<div>157.09131.00181.00</div>	<div>152.81126.00176.00</div>	<div>147.12122.00170.00</div>	<div>140.16118.00161.00</div>	<div>131.94112.00150.00</div>	<div>122.54105.00139.00</div>
Coil 0 P	<div>7.716-1.00012.000</div>	<div>25.34219.00030.000</div>	<div>42.54335.00050.000</div>	<div>59.70149.00071.000</div>	<div>76.85663.00091.000</div>	<div>94.03477.000110.000</div>	<div>111.20292.000130.000</div>	<div>128.321105.000151.000</div>
Coil 1 M	<div>281.19237.00327.00</div>	<div>278.86235.00325.00</div>	<div>274.12230.00320.00</div>	<div>267.08225.00312.00</div>	<div>257.67218.00302.00</div>	<div>246.10208.00288.00</div>	<div>232.39196.00266.00</div>	<div>216.64184.00244.00</div>
Coil 1 P	<div>7.014-1.00012.000</div>	<div>25.07419.00030.000</div>	<div>42.10635.00050.000</div>	<div>59.00649.00071.000</div>	<div>76.10463.00091.000</div>	<div>93.15277.000110.000</div>	<div>110.0192.000130.000</div>	<div>127.000105.000151.000</div>

Coil 1 P	7.611	25.071	42.100	59.093	76.104	93.158	110.243	127.328
	-1.000 12.000	19.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	105.000 153.000
Coil 2 M	568.35	563.52	553.72	539.18	519.79	495.81	467.38	434.67
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.784	25.530	42.865	60.162	77.486	94.851	112.254	129.636
	-1.000 12.000	19.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 3 M	921.19	912.86	895.93	871.01	837.81	797.14	749.34	694.93
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	589.00 799.00
Coil 3 P	7.892	25.852	43.387	60.872	78.341	95.819	113.273	130.710
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 72.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1447.8	1434.5	1407.4	1367.6	1314.2	1249.6	1173.5	1088.7
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.858	25.781	43.279	60.725	78.170	95.606	113.021	130.395
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	105.000 156.000
Coil 5 M	2939.1	2917.5	2871.1	2802.4	2709.6	2594.8	2456.3	2299.4
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3080.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.612	25.083	42.162	59.232	76.341	93.514	110.792	128.099
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	78.000 114.000	93.000 135.000	106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #:

1530XA 10118612

DATE/TIME PERFORMED:

Sat Apr 4 21:56:31 2015

DAYS SINCE CAL:

142

UNIT #:

3885TC 6685

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.002	-0.000	0.000	0.001	-0.000	0.000	-0.001	-0.000
	-0.079 0.081	-0.060 0.060	-0.031 0.029	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.031 0.029	-0.030 0.030
Coil 0 Q	0.002	0.001	0.000	-0.001	0.000	0.000	0.000	-0.000
	-0.040 0.040	-0.119 0.121	-0.029 0.031	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030	-0.030 0.030
Coil 1 R	0.008	0.002	-0.001	0.001	-0.001	0.001	-0.001	0.001
	-0.071 0.089	-0.048 0.052	-0.032 0.028	-0.029 0.031	-0.030 0.030	-0.029 0.031	-0.030 0.030	-0.029 0.031
Coil 1 Q	0.007	-0.001	0.001	0.001	-0.001	-0.000	0.001	0.001
	-0.394 0.406	-0.103 0.097	-0.029 0.031	-0.029 0.031	-0.030 0.030	-0.030 0.030	-0.029 0.031	-0.030 0.030
Coil 2 R	0.001	0.001	0.001	0.001	-0.001	-0.001	-0.001	-0.003
	-0.068 0.072	-0.030 0.030	-0.030 0.030	-0.031 0.029	-0.030 0.030	-0.033 0.027	-0.027 0.033	-0.031 0.029
Coil 2 Q	-0.006	0.003	-0.000	0.002	-0.000	0.001	-0.003	0.000
	-0.353 0.347	-0.097 0.103	-0.031 0.029	-0.032 0.028	-0.029 0.031	-0.029 0.031	-0.030 0.030	-0.030 0.030
Coil 3 R	0.027	-0.001	0.003	0.003	0.000	-0.006	-0.000	0.003
	-0.012 0.068	-0.043 0.037	-0.037 0.043	-0.037 0.043	-0.038 0.042	-0.041 0.039	-0.039 0.041	-0.043 0.037
Coil 3 Q	0.004	0.000	0.004	-0.002	-0.001	0.002	-0.001	-0.004
	-0.202 0.198	-0.082 0.078	-0.035 0.045	-0.041 0.039	-0.045 0.035	-0.042 0.038	-0.040 0.040	-0.041 0.039
Coil 4 R	0.066	-0.011	-0.002	0.006	-0.000	0.002	0.000	0.001
	0.004 0.124	-0.064 0.056	-0.064 0.056	-0.053 0.067	-0.051 0.069	-0.062 0.058	-0.062 0.058	-0.057 0.063
Coil 4 Q	-0.005	-0.010	-0.001	0.001	0.004	0.008	-0.004	0.000
	-0.301 0.299	-0.106 0.094	-0.058 0.062	-0.058 0.062	-0.060 0.060	-0.059 0.061	-0.060 0.060	-0.064 0.056
Coil 5 R	0.170	-0.010	-0.018	-0.003	-0.009	-0.009	0.011	0.005
	0.049 0.289	-0.131 0.109	-0.129 0.111	-0.118 0.122	-0.116 0.124	-0.122 0.118	-0.116 0.124	-0.125 0.115
Coil 5 Q	0.038	-0.026	0.013	0.004	0.001	0.011	-0.003	-0.013
	-0.559 0.641	-0.278 0.222	-0.117 0.123	-0.120 0.120	-0.121 0.119	-0.116 0.124	-0.114 0.126	-0.127 0.113
ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.10	159.66	156.78	152.48	146.82	139.84	131.59	122.23

	158.17	164.63	156.78	163.18	153.95	160.24	149.75	155.87	144.18	150.07	137.35	142.96	129.31	134.58	120.09	124.99
Coil 0 P	7.377	25.284	42.572	59.791	76.999	94.219	111.421	128.596								
	4.716	10.716	22.342	28.342	39.543	45.543	56.701	62.701	73.856	79.856	91.034	97.034	108.202	114.202	125.321	131.321
Coil 1 M	281.18	278.82	274.08	266.96	257.59	246.04	232.26	216.40								
	275.57	286.81	273.28	284.44	268.64	279.80	261.74	272.42	252.52	262.83	241.18	251.02	227.74	237.04	212.30	220.97
Coil 1 P	7.294	25.021	42.134	59.188	76.247	93.336	110.465	127.576								
	4.611	10.611	22.071	28.071	39.100	45.100	56.093	62.093	73.104	79.104	90.158	96.158	107.243	113.243	124.328	130.328
Coil 2 M	566.95	562.10	552.35	537.72	518.43	494.51	466.08	433.38								
	556.98	579.71	552.25	574.79	542.64	564.79	528.40	549.97	509.39	530.18	485.89	505.72	458.03	476.73	425.98	443.36
Coil 2 P	7.410	25.457	42.879	60.239	77.617	95.029	112.464	129.895								
	4.784	10.784	22.530	28.530	39.865	45.865	57.162	63.162	74.486	80.486	91.851	97.851	109.254	115.254	126.636	132.636
Coil 3 M	920.77	912.36	895.48	870.30	837.12	796.58	748.66	694.18								
	902.77	939.62	894.60	931.12	878.01	913.85	853.59	888.43	821.05	854.57	781.19	813.08	734.35	764.33	681.03	708.83
Coil 3 P	7.529	25.784	43.407	60.947	78.473	95.991	113.496	130.948								
	4.892	10.892	22.852	28.852	40.387	46.387	57.872	63.872	75.341	81.341	92.819	98.819	110.273	116.273	127.710	133.710
Coil 4 M	1450.1	1436.6	1409.5	1369.1	1315.7	1250.7	1174.7	1089.0								
	1418.9	1476.8	1405.8	1463.2	1379.3	1435.6	1340.2	1394.9	1287.9	1340.5	1224.6	1274.6	1150.0	1197.0	1066.9	1110.4
Coil 4 P	7.501	25.711	43.296	60.804	78.283	95.757	113.216	130.582								
	4.858	10.858	22.781	28.781	40.279	46.279	57.725	63.725	75.170	81.170	92.606	98.606	110.021	116.021	127.395	133.395
Coil 5 M	2932.1	2910.1	2864.4	2794.7	2702.1	2586.4	2448.8	2290.3								
	2880.3	2997.9	2859.1	2975.8	2813.7	2928.6	2746.3	2858.4	2655.4	2763.8	2542.9	2646.7	2407.2	2505.4	2253.4	2345.3
Coil 5 P	7.290	25.028	42.183	59.311	76.463	93.708	110.979	128.302								
	4.612	10.612	22.083	28.083	39.162	45.162	56.232	62.232	73.341	79.341	90.514	96.514	107.792	113.792	125.099	131.099

INSTRUMENT CONFIGURATION

Source File: /dat1a/95854J/n970b1~.ldg

CABLEHEAD
 Diameter : 3.38"
 Length : 5.50'
 Weight : 24 lbs
 Series : CABL338
 Mnemonic : CBLH
 Measure Point: 2.75': CABLEHEAD TOP

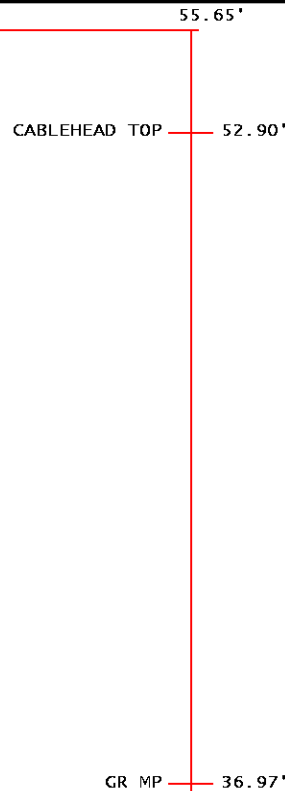
WTS ADAPTOR
 Diameter : 3.62"

FOCUS SWIVEL
 Diameter : 3.13"
 Length : 2.58'
 Weight : 50 lbs
 Series : 3950XA
 Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL
 Diameter : 3.13"
 Length : 4.31'
 Weight : 61 lbs
 Series : 3980XA
 Mnemonic : TTMA

FOCUS TELEMETRY (POWER SECTION)
 Diameter : 3.13"
 Length : 3.71'
 Weight : 48 lbs
 Series : 3518FB
 Mnemonic : TMGR

FOCUS EB/EG TELEMETRY GAMMA RAY
 Diameter : 3.12"
 Length : 5.83'
 Weight : 63 lbs
 Series : 3518EG
 Mnemonic : GR
 Measure Point: 34': GR MP



Measure Point: 4.24': GR MP

FOCUS COMPENSATED NEUTRON

Diameter : 3.13"
Length : 4.81'
Weight : 65 lbs
Series : 2436XA
Mnemonic : CN
Measure Point: 1.92': LSN MP
Measure Point: 1.46': SSN MP

LSN MP 29.83'
SSN MP 29.38'

FOCUS Z-DENSILOG

Diameter : 3.75"
Length : 9.58'
Weight : 200 lbs
Series : 2223XA
Mnemonic : ZDL
Measure Point: 4.33': CR1 MP
Measure Point: 1.69': LSD / CR2 MP
Measure Point: 1.29': SSD MP

CR1 MP 22.67'

LSD / CR2 MP 20.02'
SSD MP 19.63'

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'

FOCUS HIGH DEFINITION INDUCTION TOOL

Diameter : 3.13"
Length : 13.33'
Weight : 115 lbs
Series : 1530XA
Mnemonic : HDIL
Measure Point: 7.17': COIL 5 MP
Measure Point: 5.67': COIL 4 MP
Measure Point: 4.17': COIL 3 MP
Measure Point: 3.67': COIL 2 MP
Measure Point: 3.17': COIL 1 MP
Measure Point: 2.67': COIL 0 MP
Measure Point: 1.14': SP MP

COIL 5 MP 9.17'

COIL 4 MP 7.67'

COIL 3 MP 6.17'
COIL 2 MP 5.67'
COIL 1 MP 5.17'
COIL 0 MP 4.67'

SP MP 3.14'

FOCUS PINEAPPLE / CABBAGE

HOLE FINDER

Diameter : 2.62"
Length : 1.50'

0.00'

TOTAL LENGTH: 55.65'
TOTAL WEIGHT: 831 lbs
MAX DIAMETER: 0'6.13'



COMPANY LARAMIE ENERGY
WELL GUNDERSON 29-11E
FIELD VEGA
COUNTY MESA STATE COLORADO

FILE NO: US095854J
API NO: 05077097680000

LOCATION:
SHL: 2401' FNL 1119' FEL
BHL: 2637' FNL 853' FEL
SEC 29 TWP 9S RGE 93W

ELEVATIONS:

KB 7553 FT
DF
GL 7531 FT

SEC 29 T9S R93W
PAD 29-09
PATTERSON 306

DATE 04-Apr-2015