



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

FILE NO:	COMPANY <u>LARAMIE ENERGY</u>		
API NO:	WELL <u>BRUTON 30-14E</u>		
<u>05077104710000</u>	FIELD <u>VEGA</u>	COUNTY <u>MESA</u>	STATE <u>COLORADO</u>
Version	LOCATION: SHL: 2606' FNL & 1874' FEL BHL: 1867' FSL & 1333' FEL SEC <u>30</u> TWP <u>9S</u> RGE <u>93W</u>		OTHER SERVICES NONE
PERMANENT DATUM	GL	ELEVATION	ELEVATIONS:
LOG MEASURED FROM	KB	30 FT	KB 7672 FT
DRILL MEAS. FROM	KB		DF
			GL 7642 FT

DATE	13-Dec-2017		
RUN	TRIP	1	1
SERVICE ORDER	5US1307050		
DEPTH DRILLER	7897 FT		
DEPTH LOGGER	7903 FT		
BOTTOM LOGGED INTERVAL	7903 FT		
TOP LOGGED INTERVAL	0 FT		
CASING DRILLER	8.625 IN	@ 1555 FT	@
CASING LOGGER	1553 FT		
BIT SIZE	7.875 IN		
TYPE OF FLUID IN HOLE	LSND		
DENSITY	VISCOSITY	9.9 LB/G	80 S
PH	FLUID LOSS	9.1	6.9 C3
SOURCE OF SAMPLE	FLOWLINE		
RM AT MEAS. TEMP.	1.24 OHMM	@ 67.54 DEGF	@
RMF AT MEAS. TEMP.	0.93 OHMM	@ 67.54 DEGF	@
RMC AT MEAS. TEMP.	1.545 OHMM	@ 67.54 DEGF	@
SOURCE OF RMF	RMC	CALCULATED	CALCULATED
RM AT BHT	0.51 OHMM	@ 203 DEGF	@
TIME SINCE CIRCULATION	10 HOURS		
MAX. RECORDED TEMP.	203 DEGF		
EQUIP. NO.	LOCATION	HL6670	GRAND JCT.
RECORDED BY	T. NEWELL		
WITNESSED BY	TYLER HALE		

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: HDIL ZDL CN GR RUN IN COMBINATION

CVOL AND BVOL PRESENTED IN CUBIC FEET

CVOL CALCULATED USING 4.5" 11.6 # CASING AND 7.875" BIT

CN MATRIX: SANDSTONE
CN RUN DECENTRALIZED

ZDL PROCESSING: RHO MATRIX 2.68 g/cc

RIG: H&P 522
CREW: J. PENA, C. BAYNE, A. SHAHNOOSHI

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10045153	FREE
1	1	TEL	3514XB	10226222	FREE
1	1	DGR	1329XA	179184	FREE

	1	CN	2446XA	10378389	DECENTRALIZED
1	1	ZDL	2234XA	10231795	PAD DEVICE
1	1	KNUCKLE	3939XA	167176	FREE
1	1	HDIL	1515EA/MA	10174847/179533	FREE

MAIN LOG 2"/100 FT SCALE

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Patches: 2

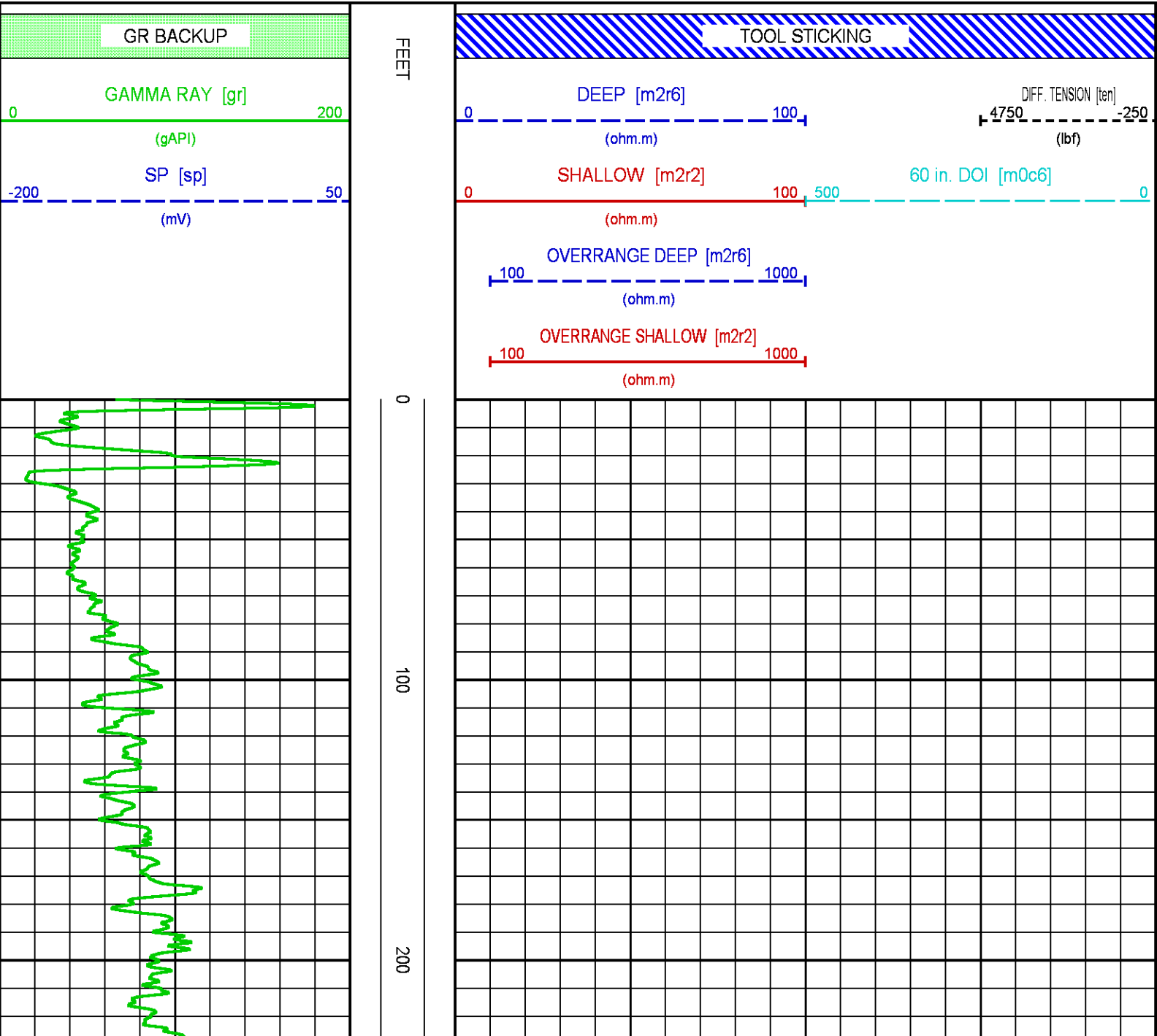
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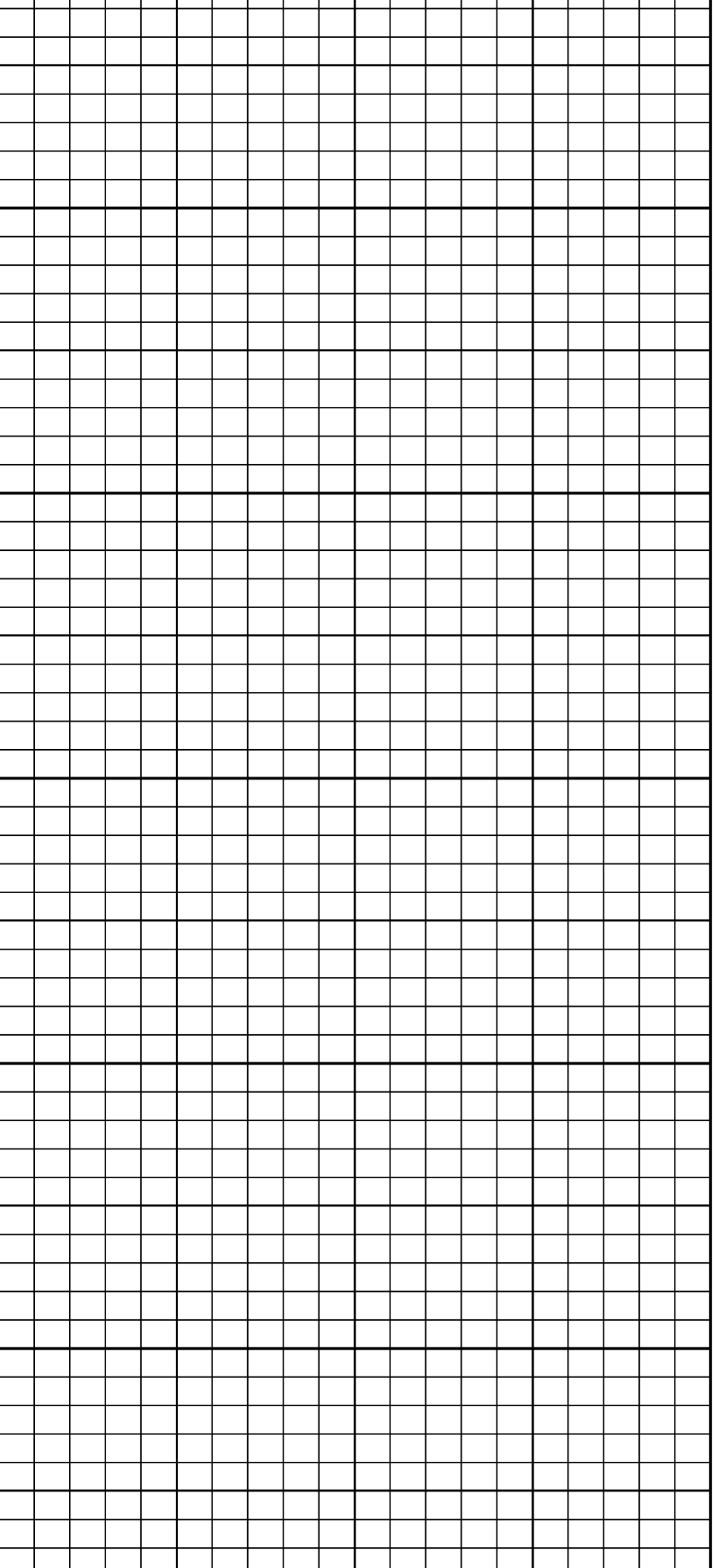
PARAMETER AND FILTER SUMMARY REPORT					
FILE: C:\dat1a\WELLDATA\Laramie\Bruton 30-14Elp87cb02.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 1458.250 ft BOTTOM DEPTH: 7913.729 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
SP-SPDH	FILTER ()	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	7.875	in	TOP	BOTTOM
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	67.5	degF	"	"
	MUD SAMPLE RES	1.236	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
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		"	"
HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"
CURVE DESCRIPTION REPORT					
CURVE NAME	CREATION DATE	CURVE DESCRIPTION			

F1:GR	N/A	GAMMA RAY
F1:M0C6	N/A	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:SP	N/A	SPONTANEOUS POTENTIAL
F1:TEN	N/A	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	-52.25	M2R2	-8.00	SP	-14.00		
M0C6	-8.00	M2R6	-8.00	TEN	0.00		

Presentation	: BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\HDIL_30-14E_MAIN.fvpdf [2"/100' Scale]
Plot Interval	: 0 - 7930 Feet
Data File 1	: F1 : BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\30-14E_HDILZDLCN_MAIN.xtf
Created On	: N/A
Company	: LARAMIE ENERGY
Well	: BRUTON 30-14E
Field	: VEGA
File Interval	: -13.75 - 7931.5 Feet
OCT	: p87cb





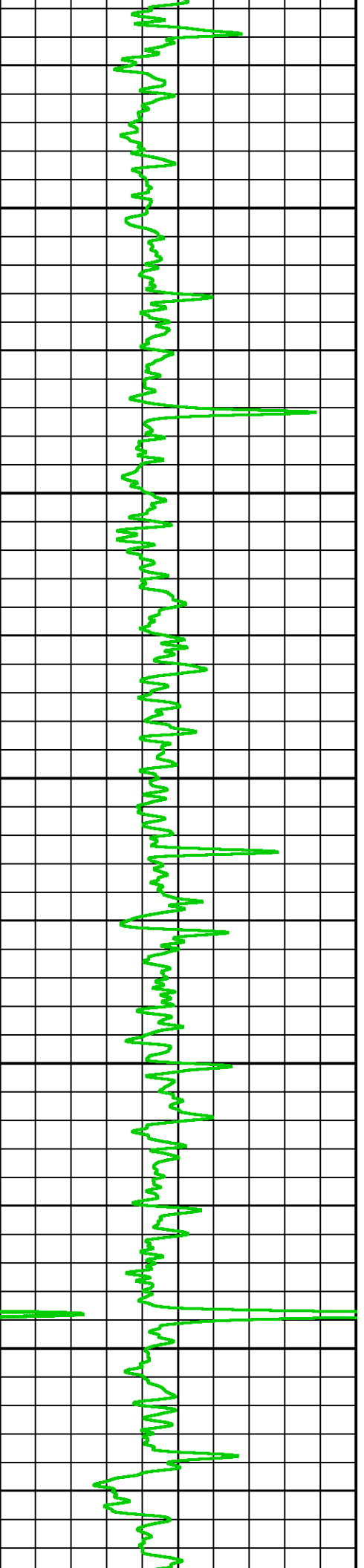
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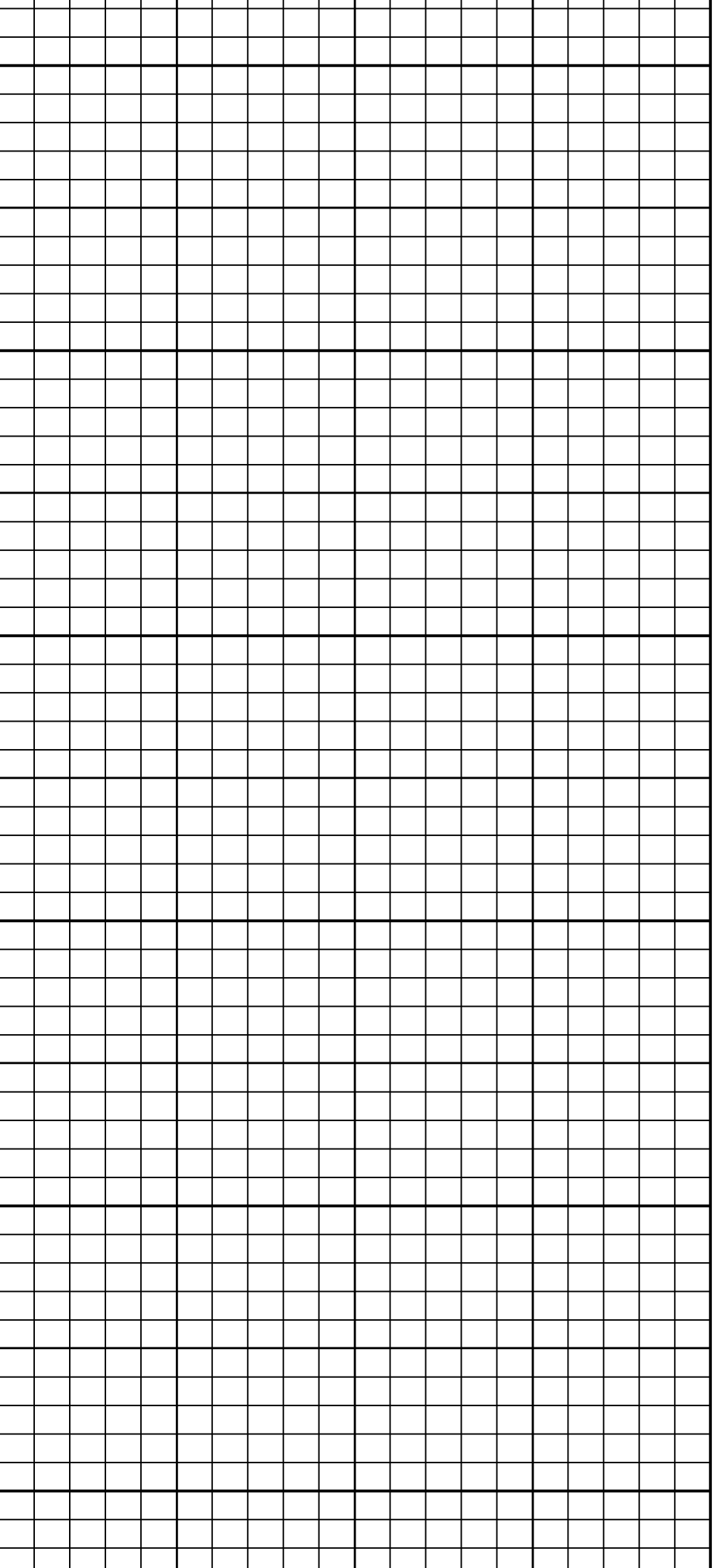
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600

700





800

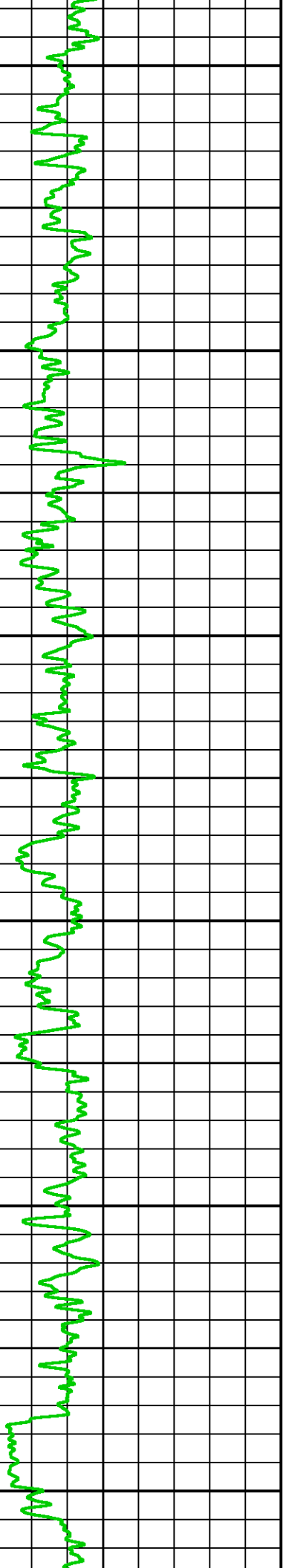
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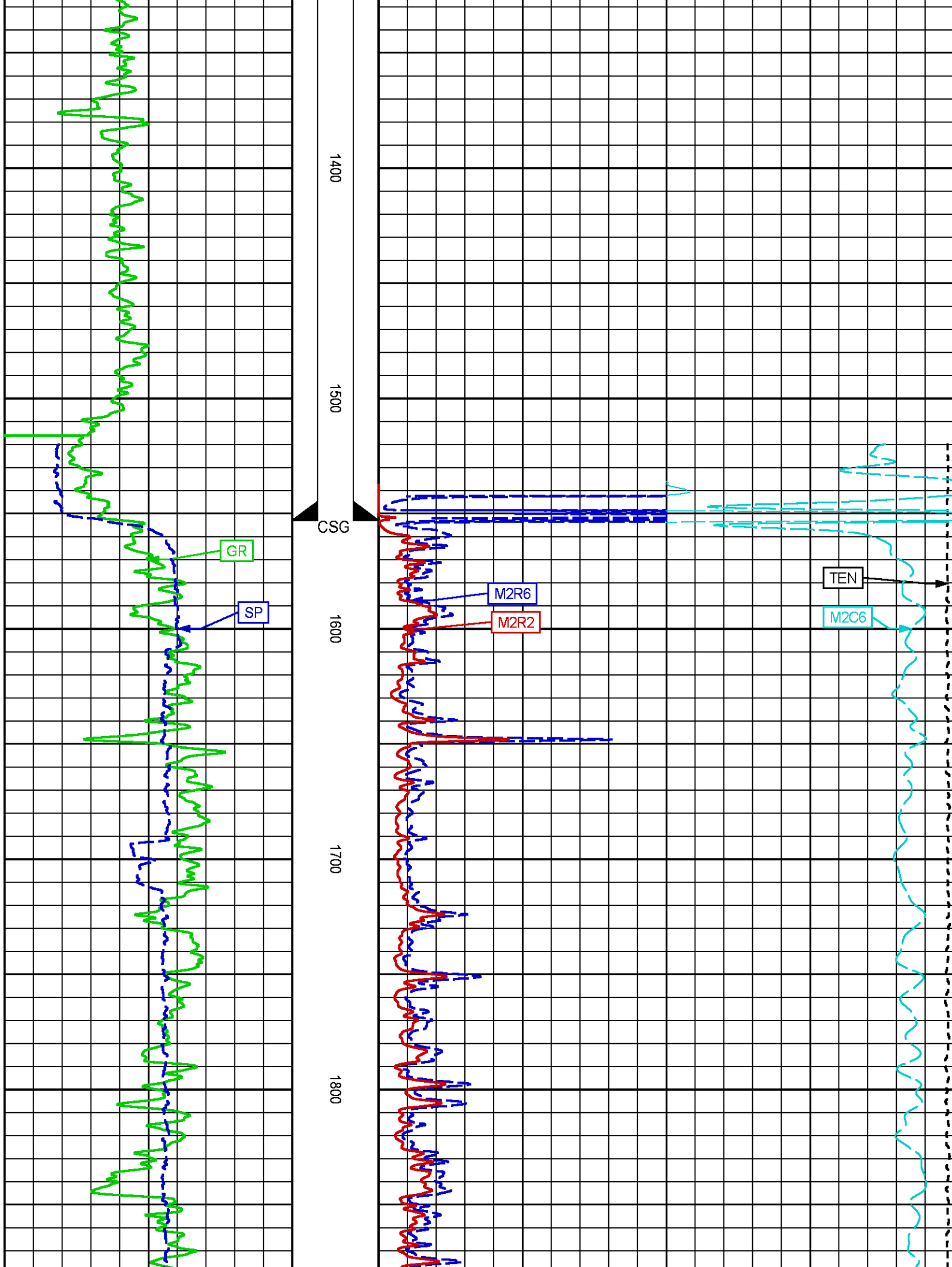
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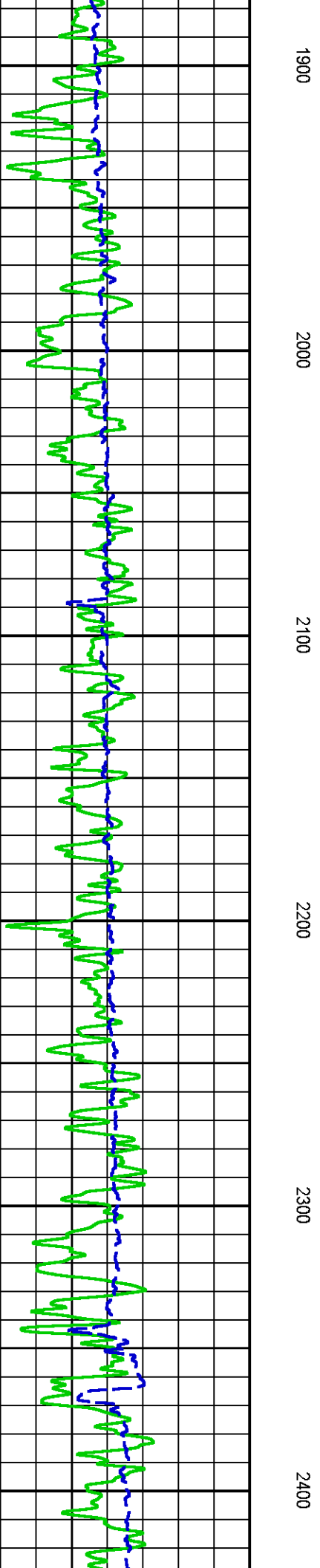
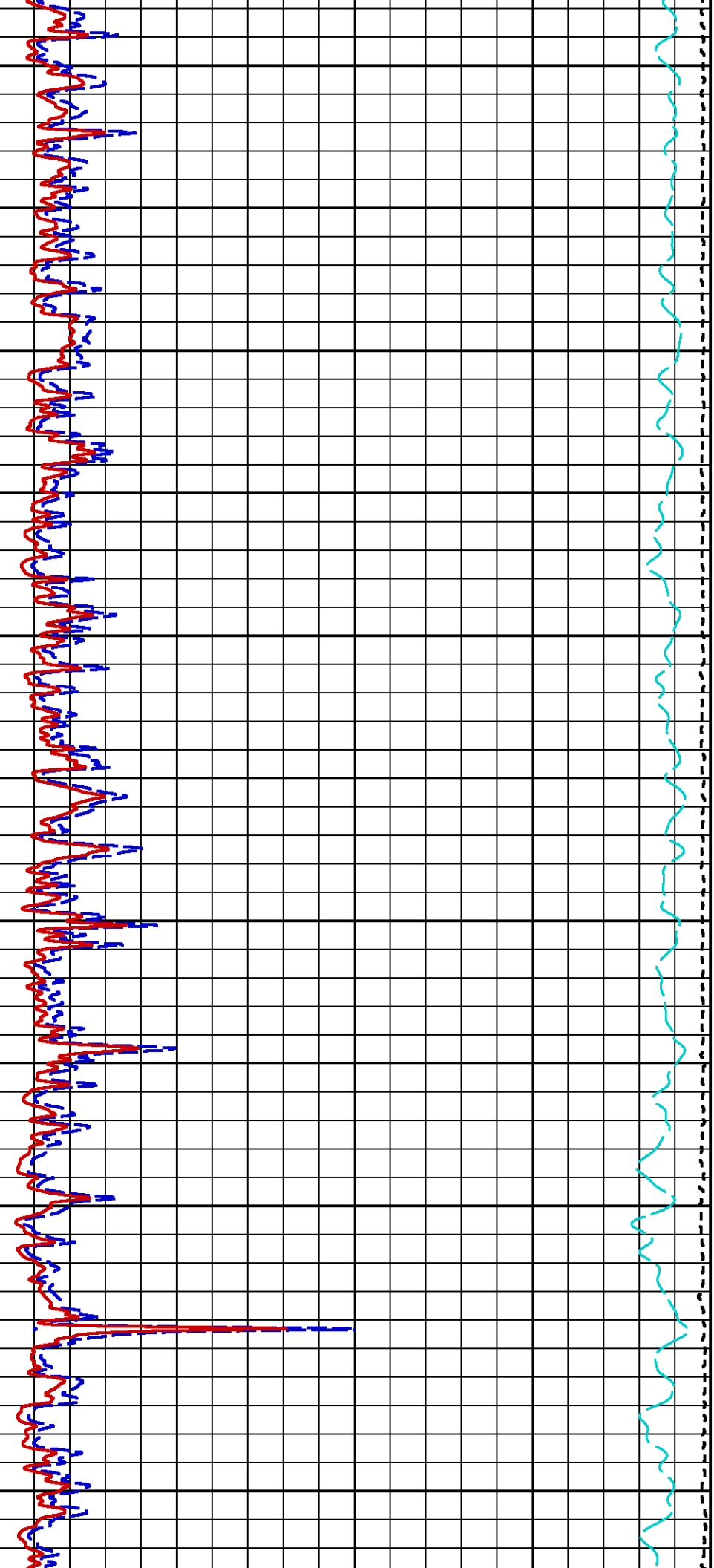
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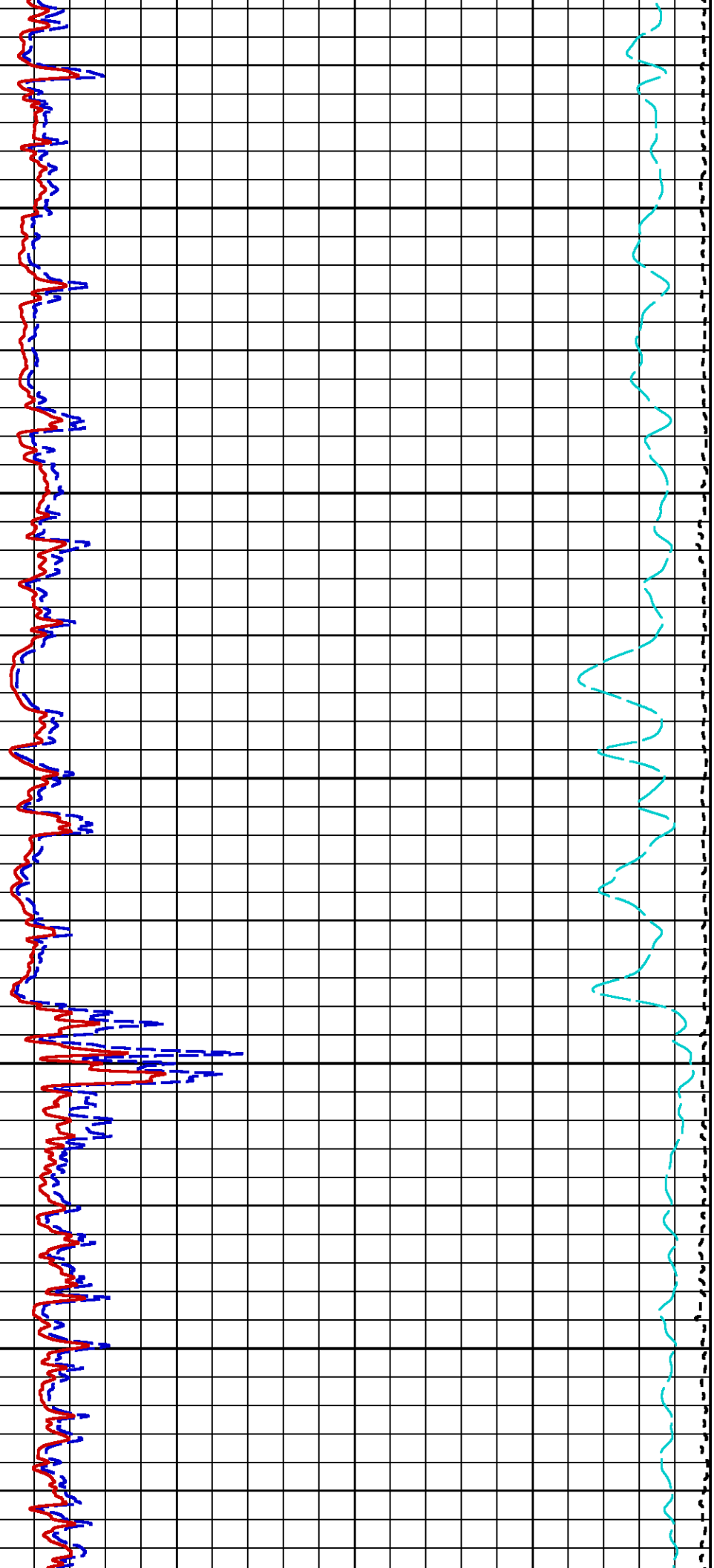
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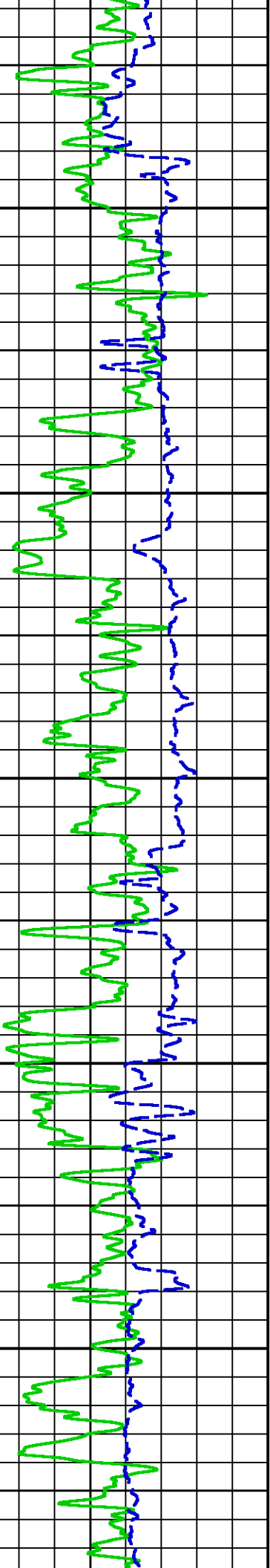
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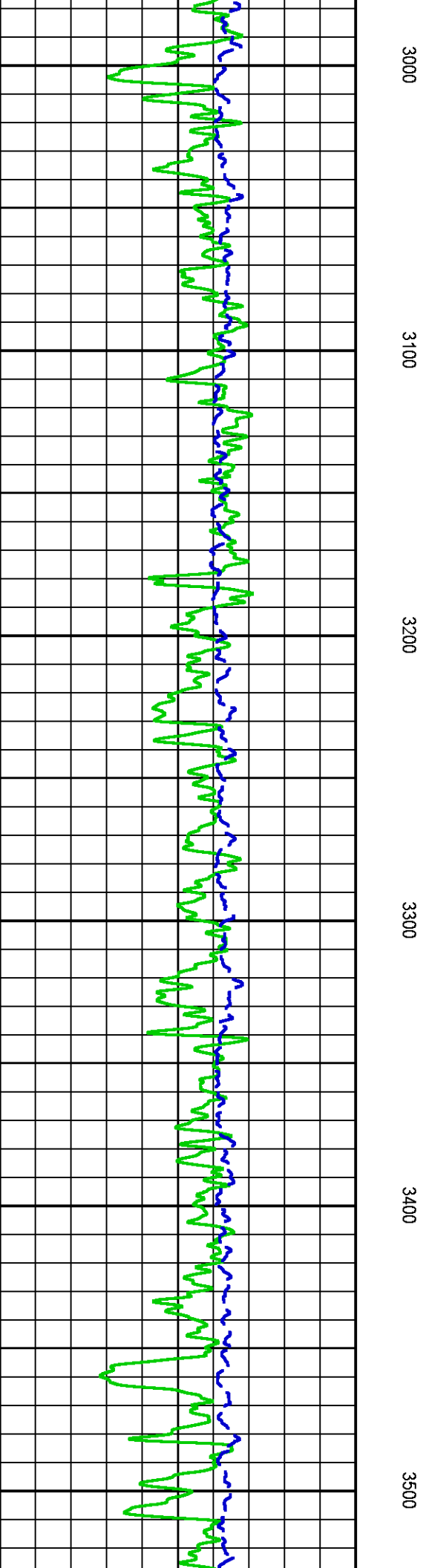
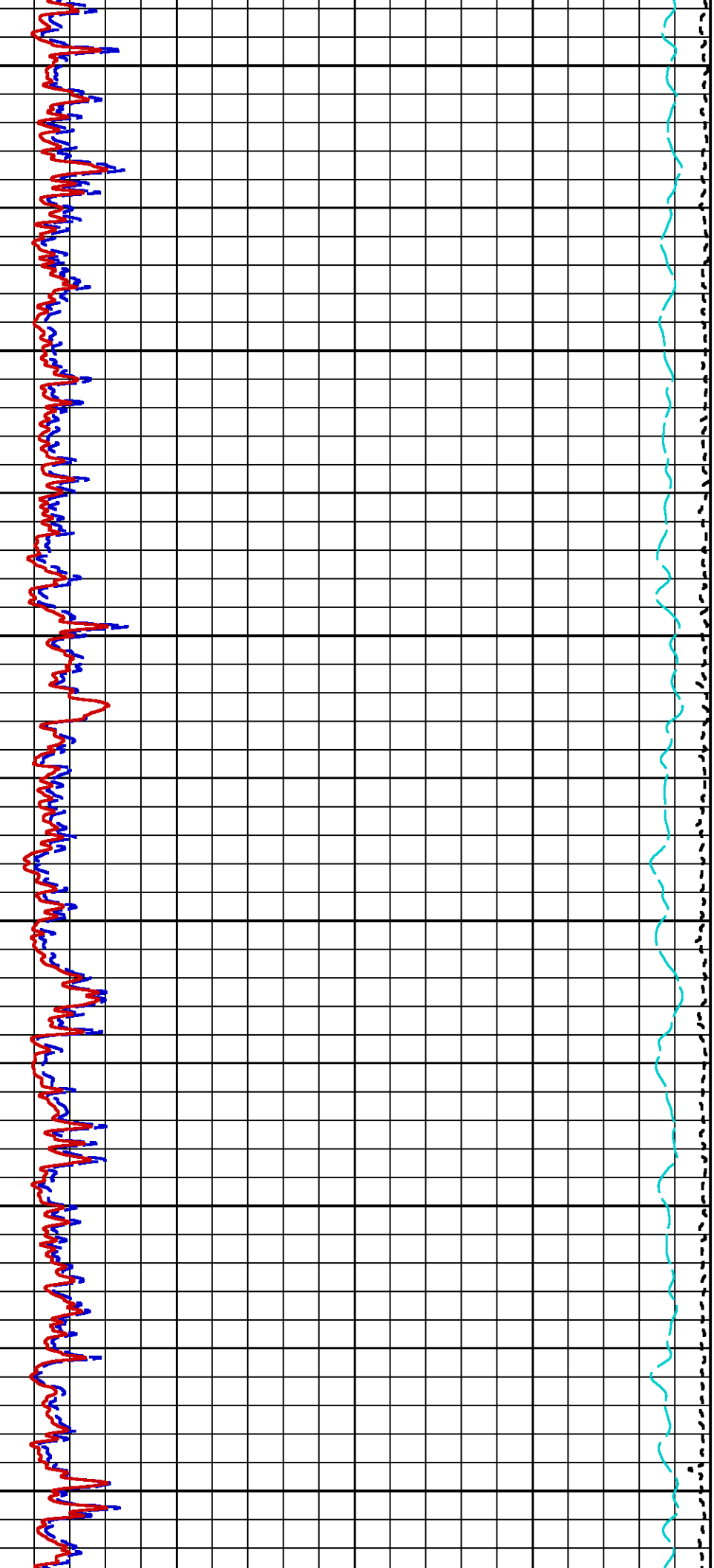
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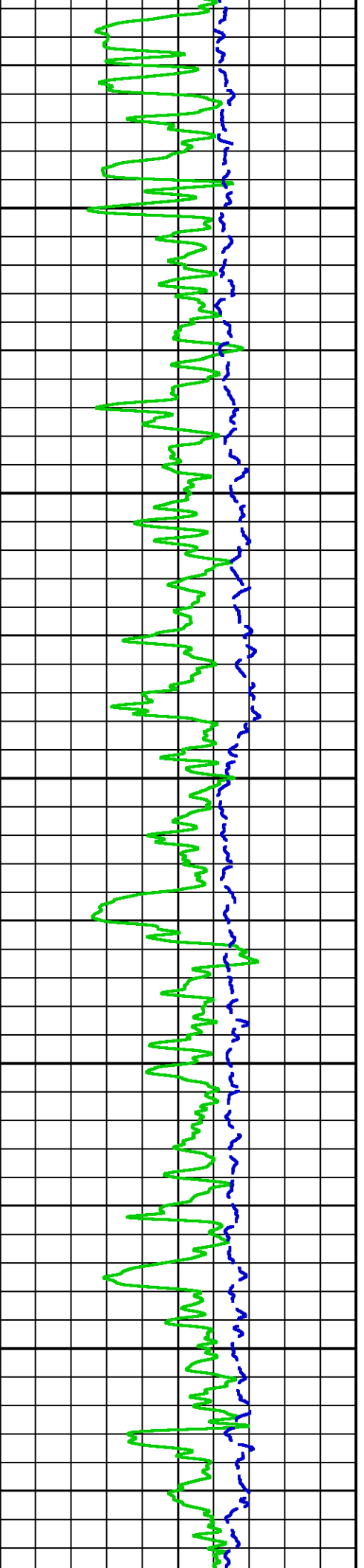
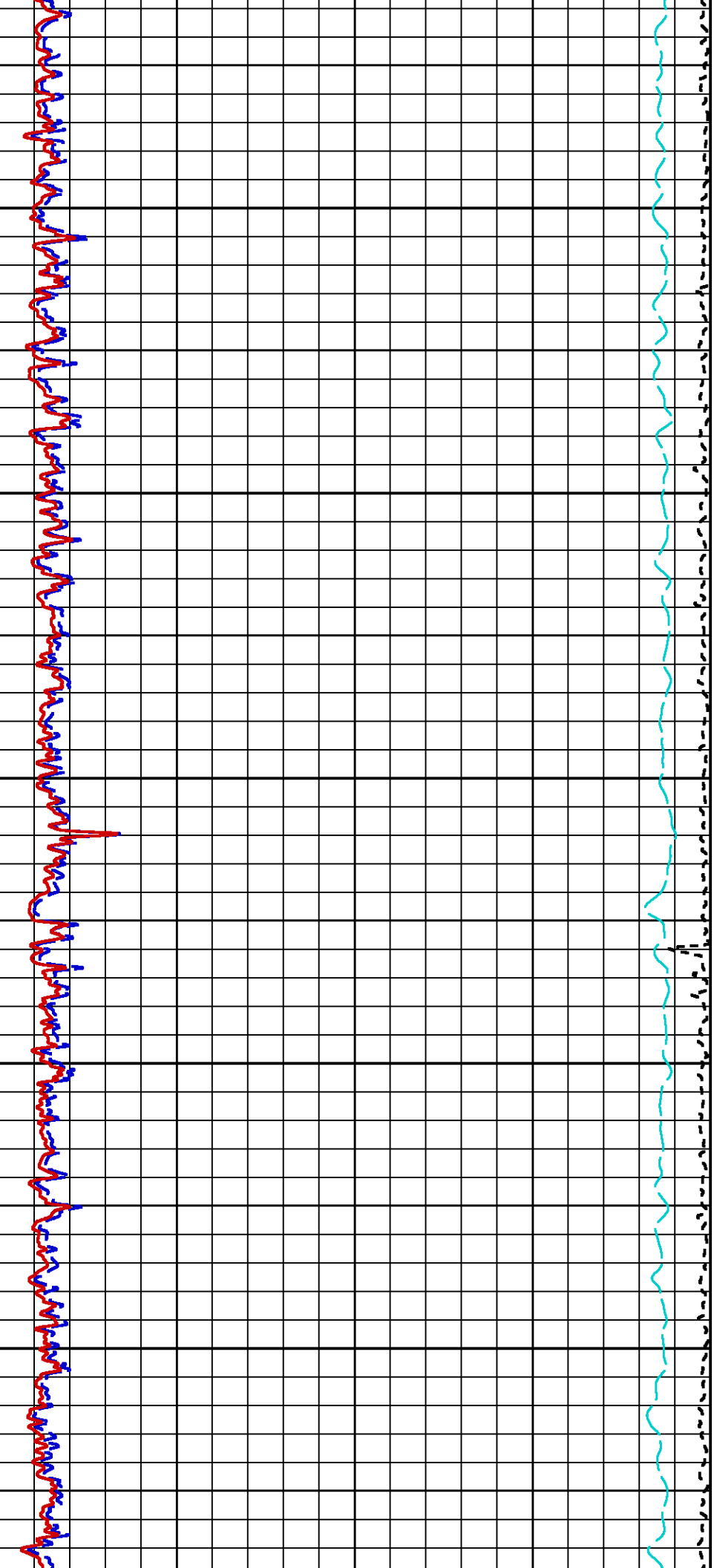
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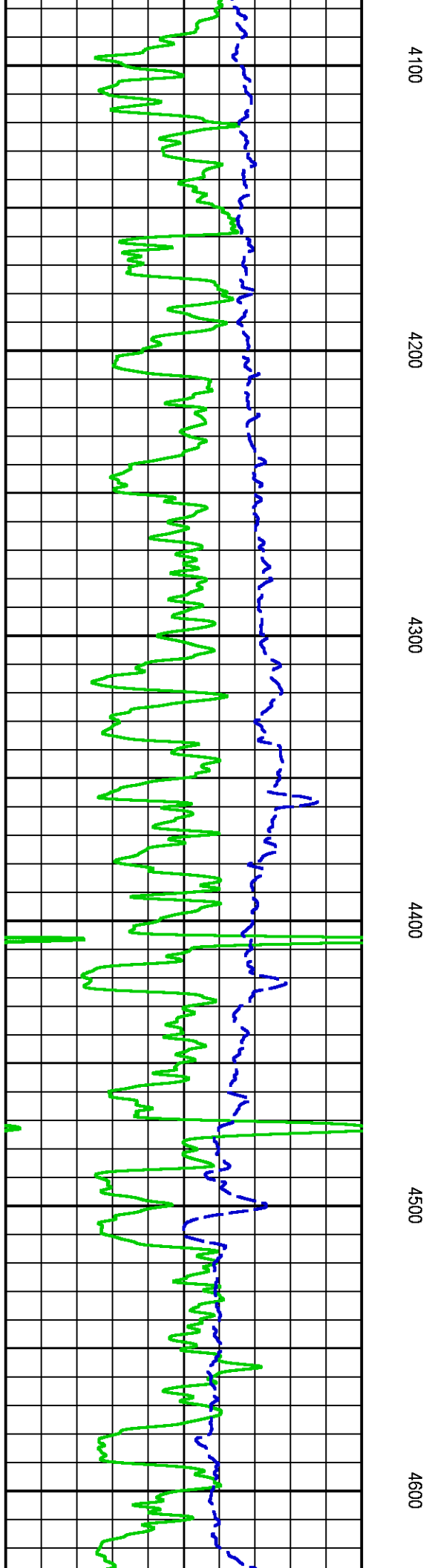
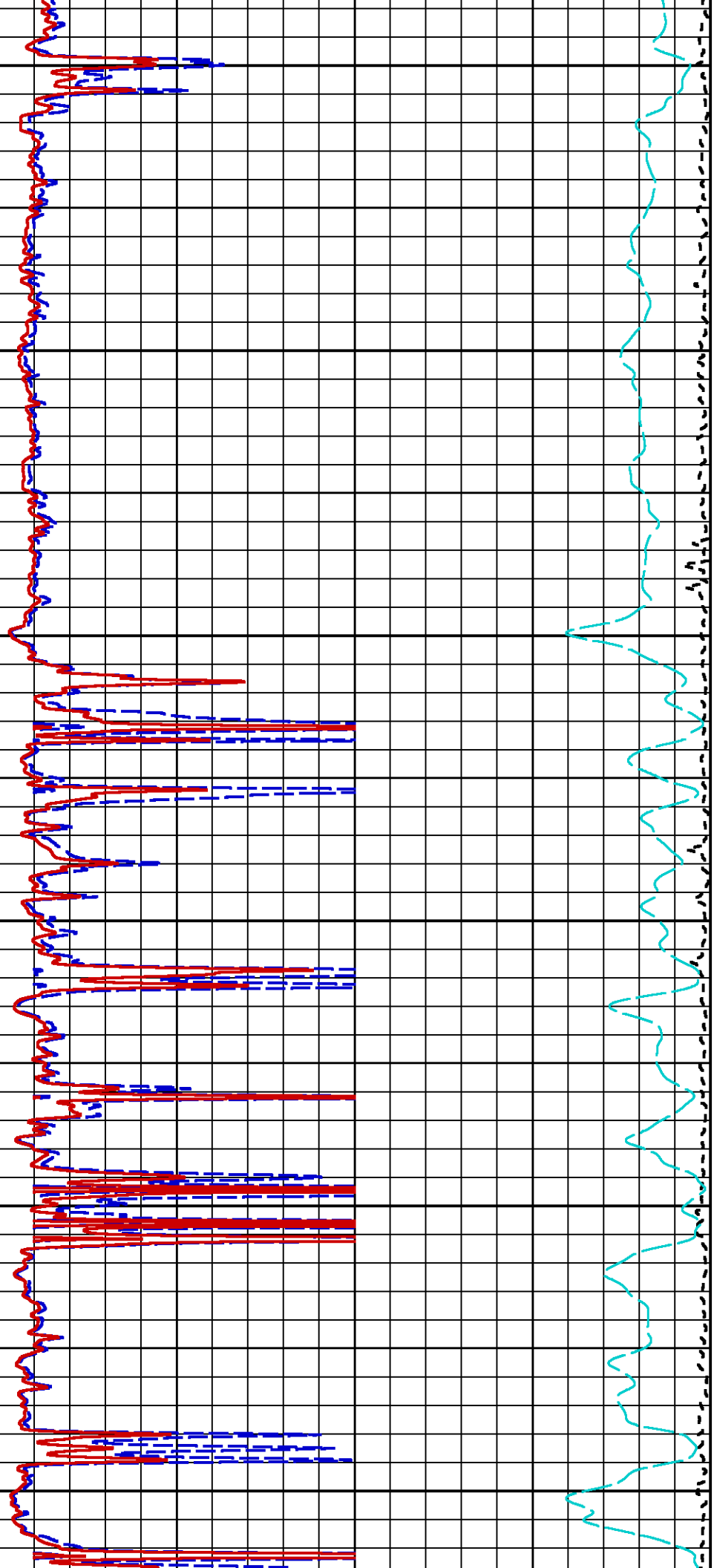
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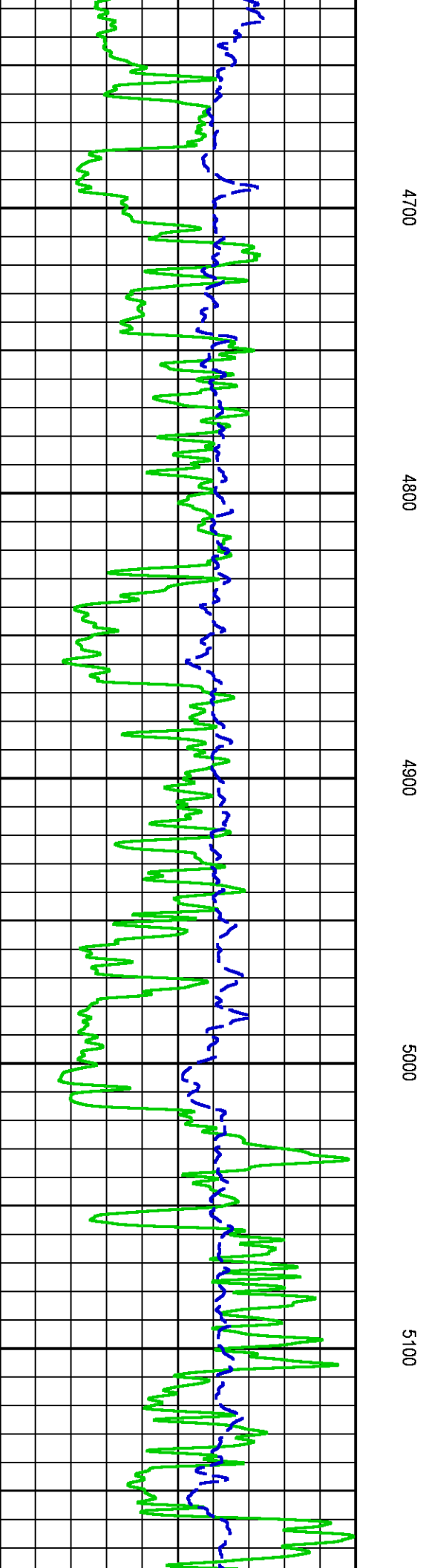
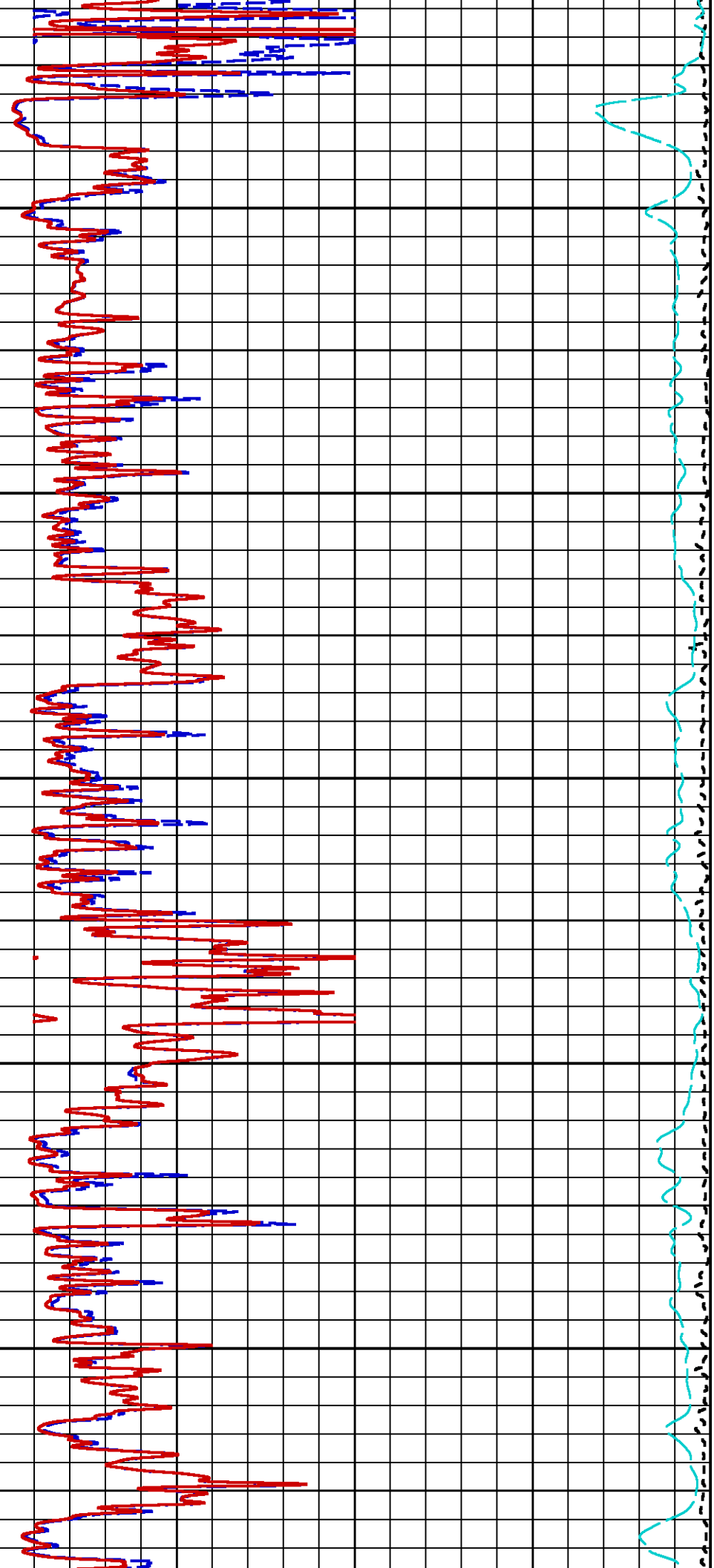
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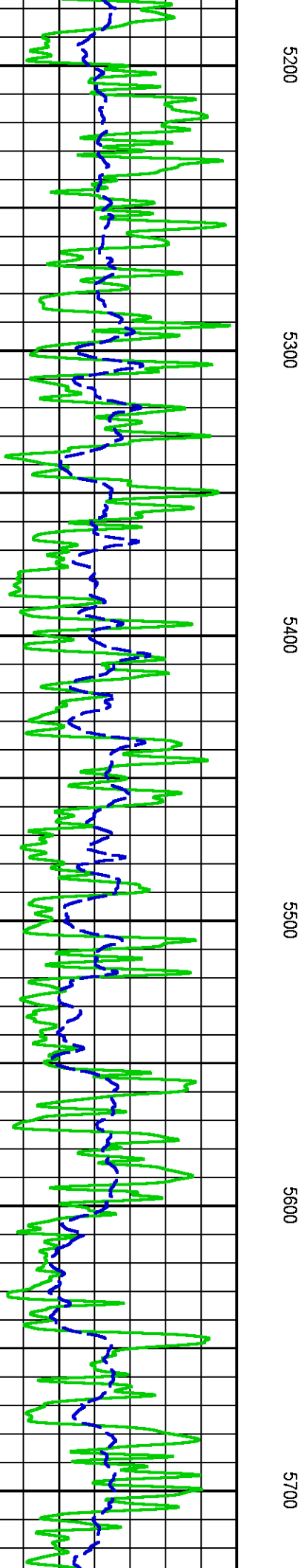
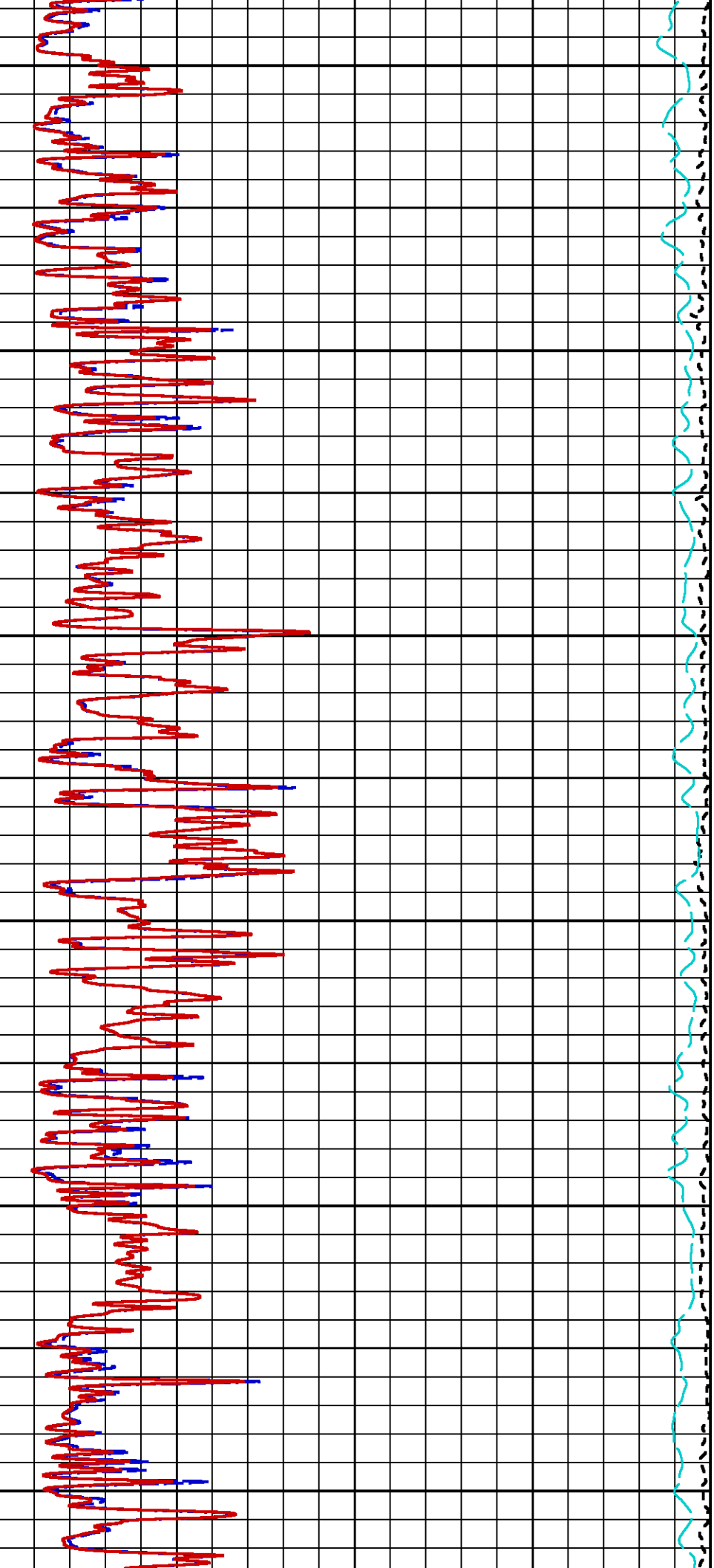


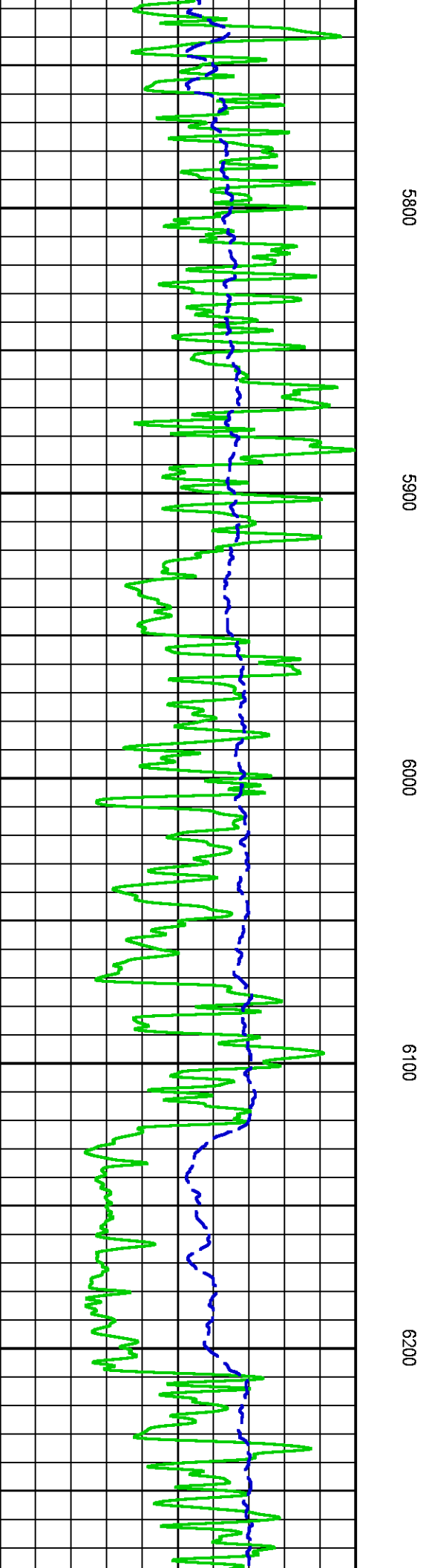
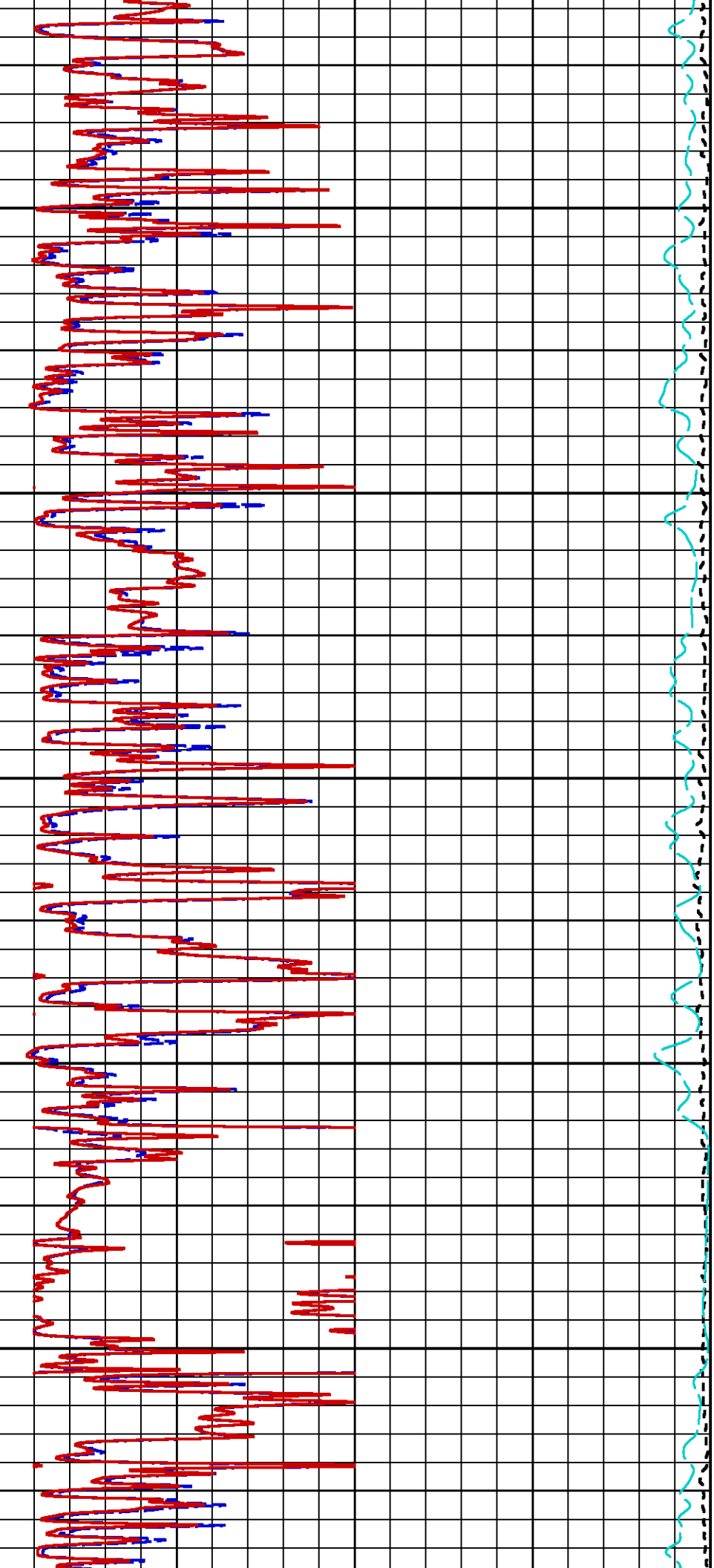


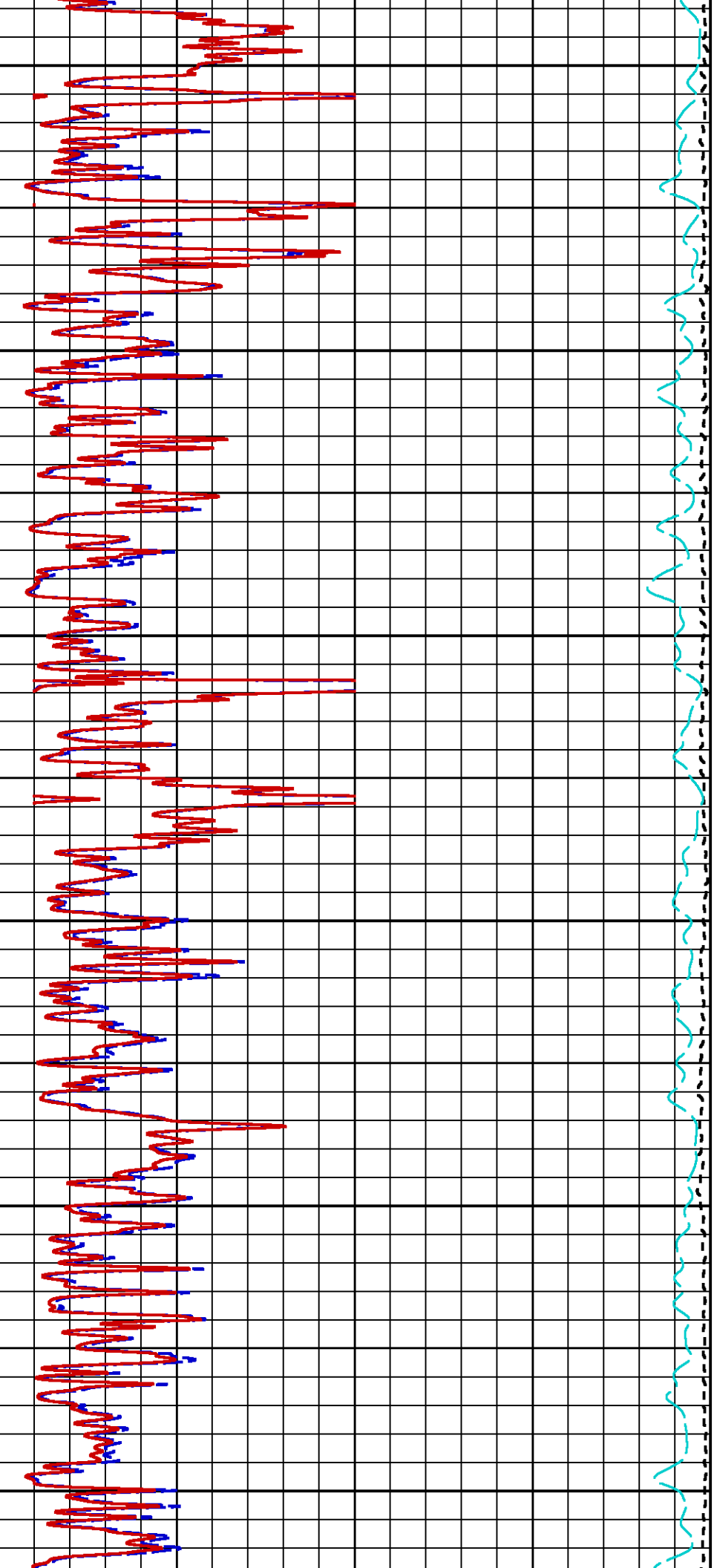












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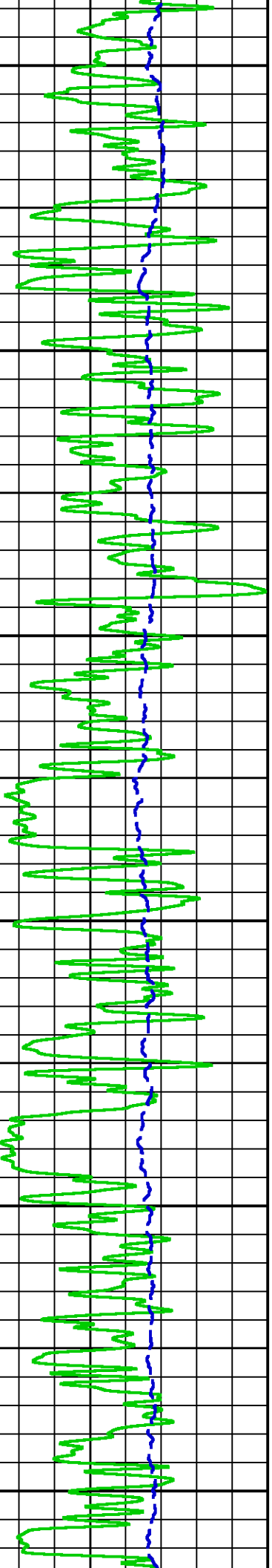
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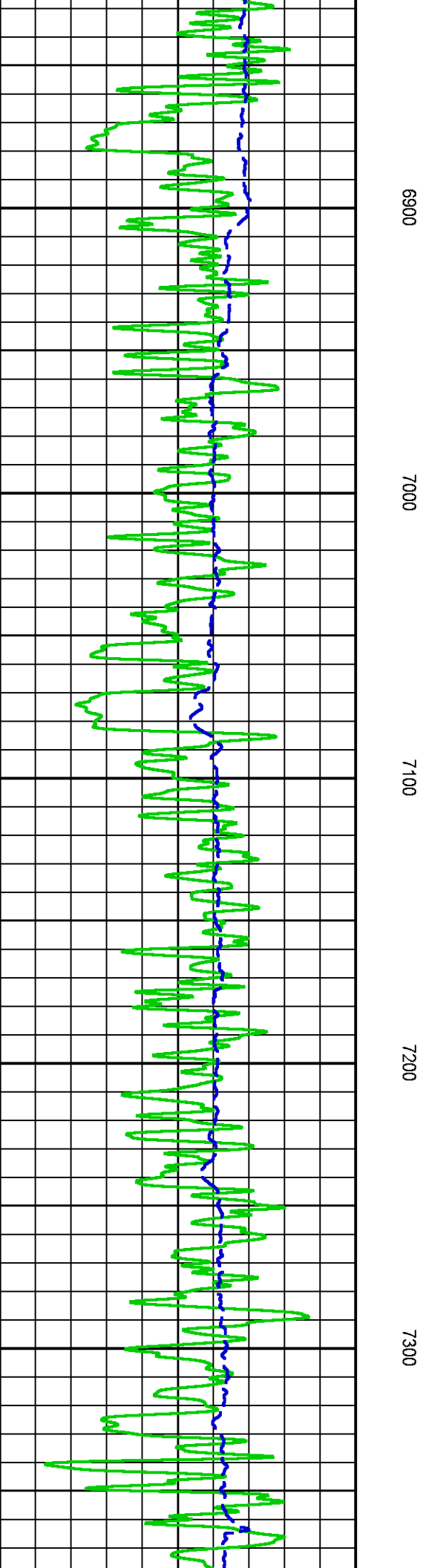
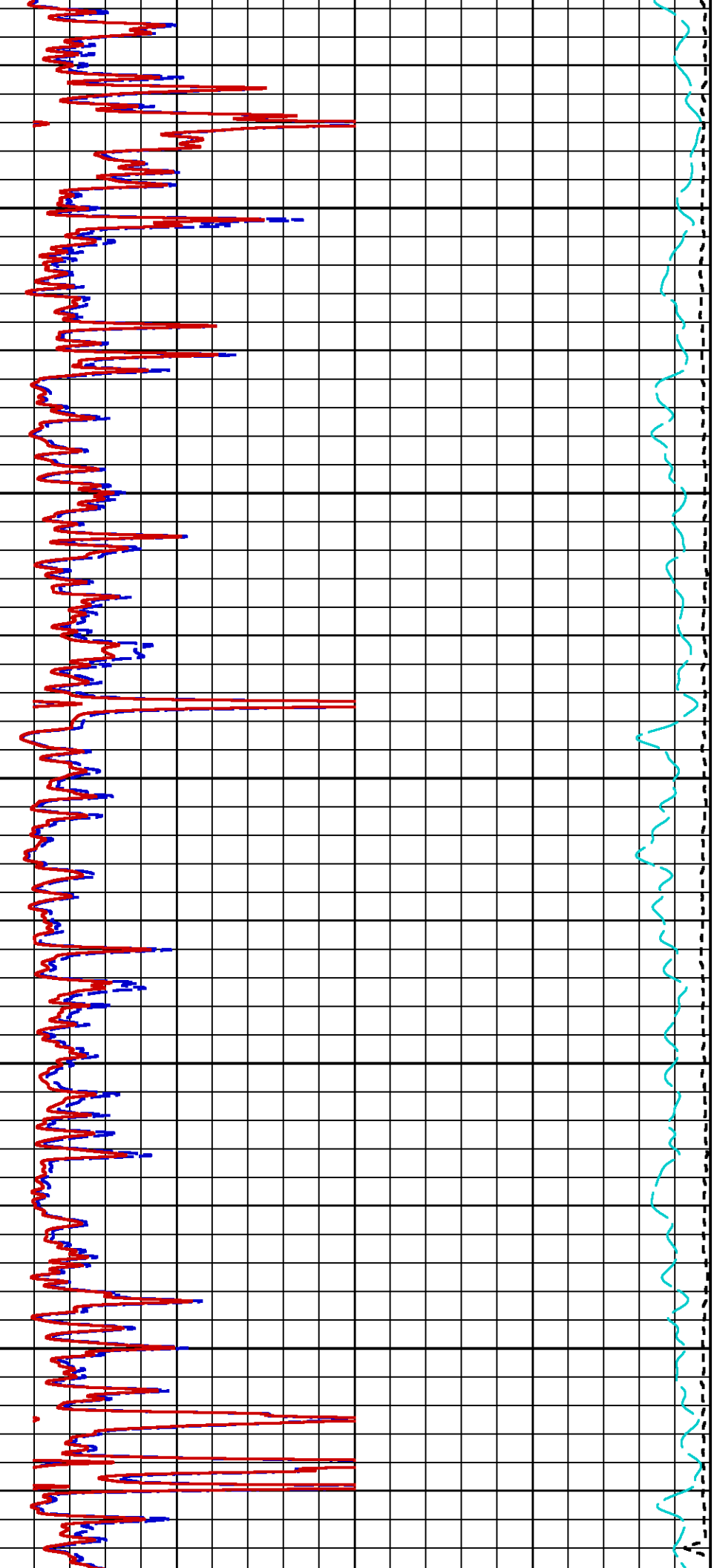
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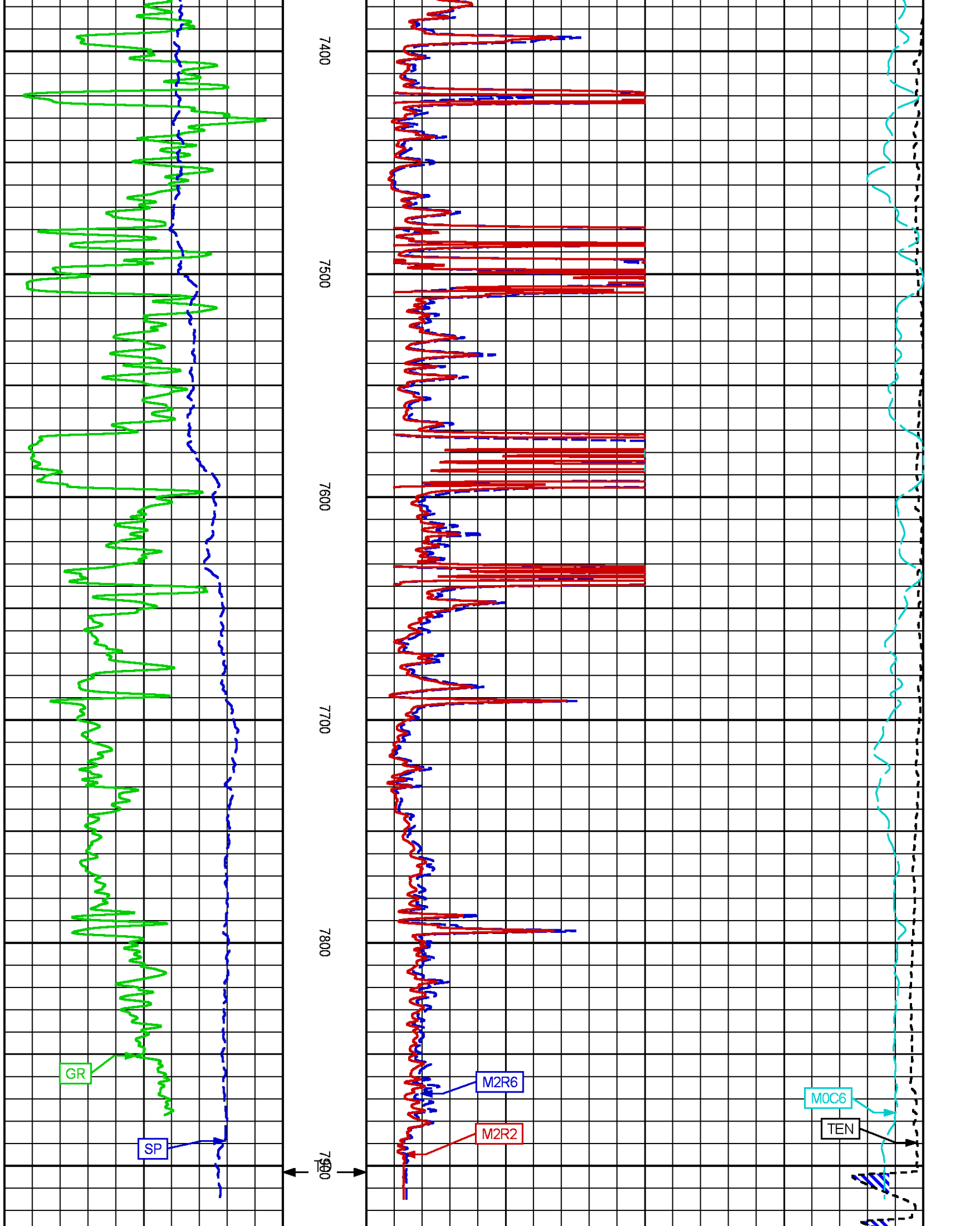
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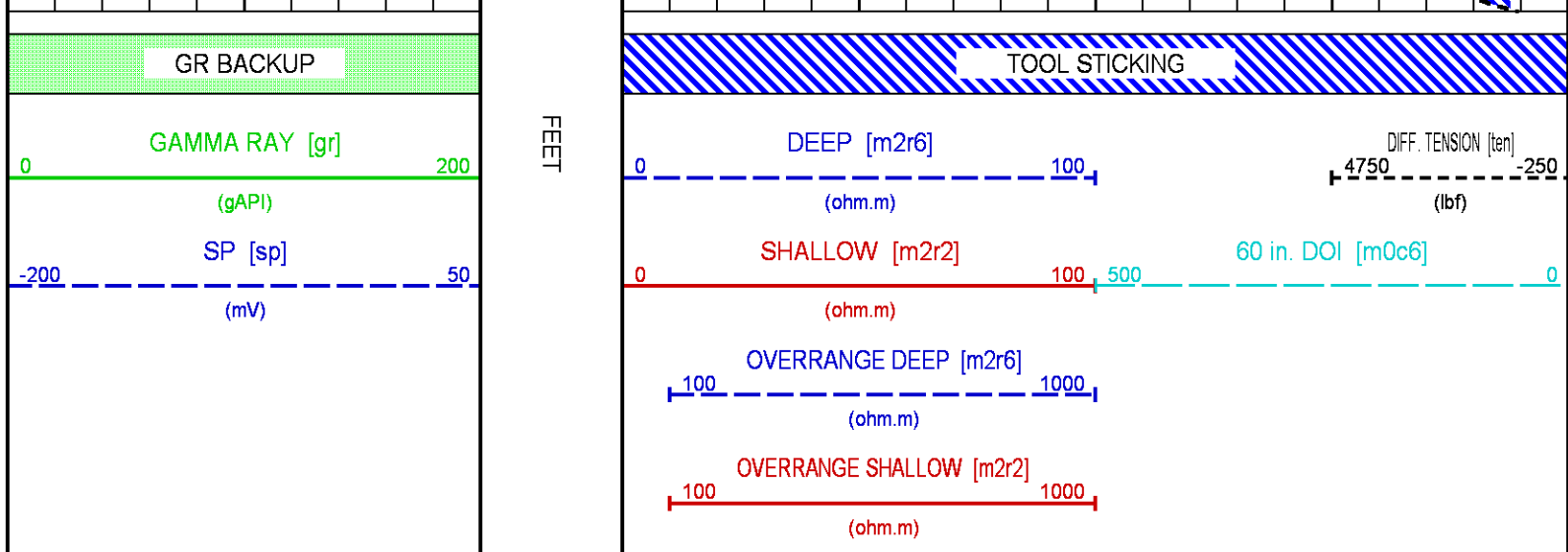
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6800









MAIN PASS SANDSTONE MATRIX 5"/100 FT SCALE

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Patches: 2

Plotted: Thu Dec 14 05:34:52 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\p87cb02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1458.250 ft BOTTOM DEPTH: 7913.729 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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)		"	"
	FILTER (.i)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	67.5	degF	"	"

BOREHOLE TEMP from GRADIENT	MUD SAMPLE RES	1.236	ohm.m	"	"
	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
BOREHOLE CORR DIAMETER SOURCE	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
	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		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	900	ppm	"	"
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	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"

PARAMETER AND FILTER SUMMARY REPORT					
FILE:	C:\dat1a\WELLDATA\I\aramie\Bruton 30-14E\p87cb03.prm				
LOGGING MODE:	DEPTH	DIRECTION:	UP		
TOP DEPTH:	19.250 ft	BOTTOM DEPTH:	1552.286 ft		
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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)		"	"
	FILTER (.i)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	67.5	degF	"	"
	MUD SAMPLE RES	1.236	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
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		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	900	ppm	"	"
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	"	"

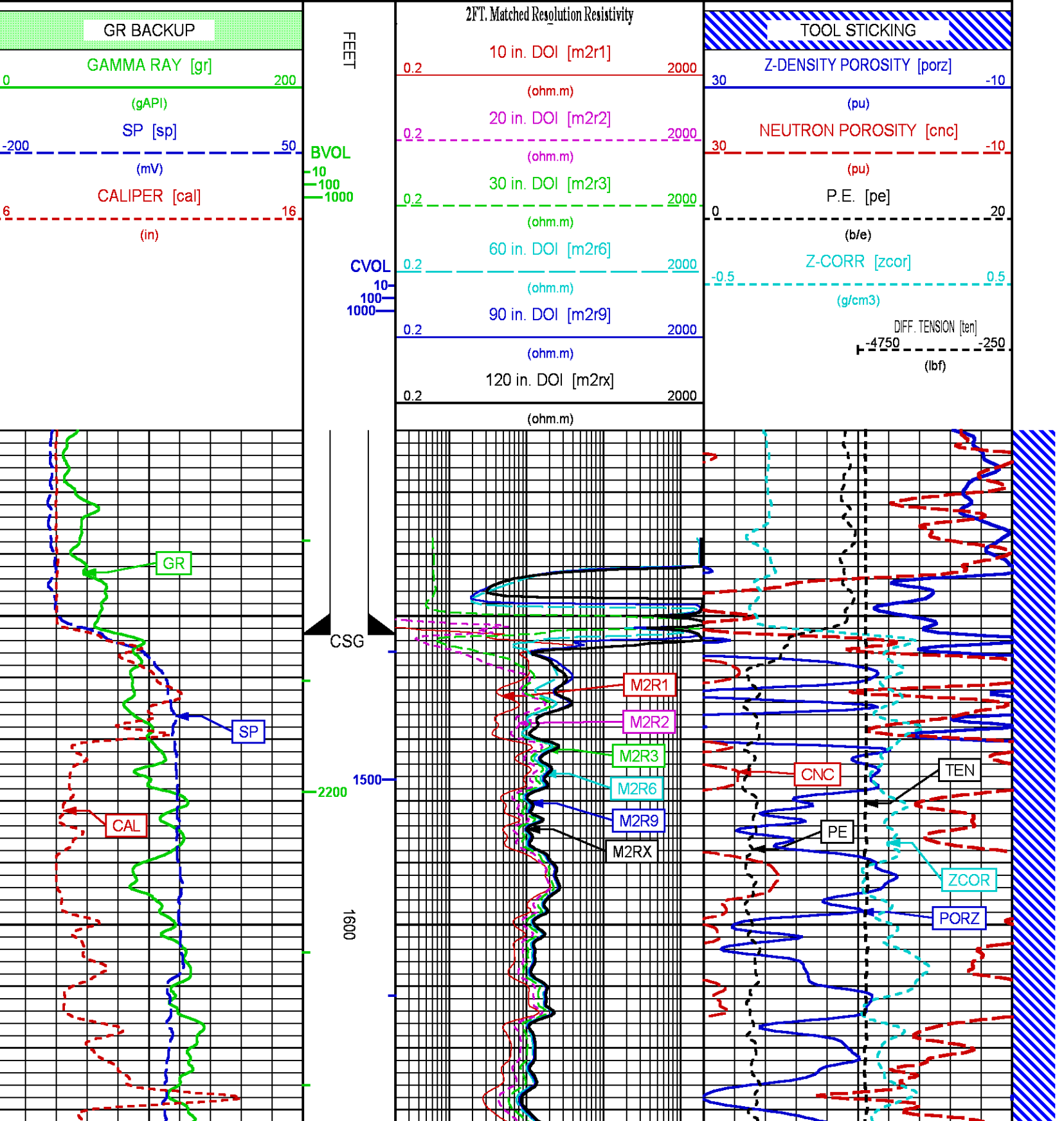
ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

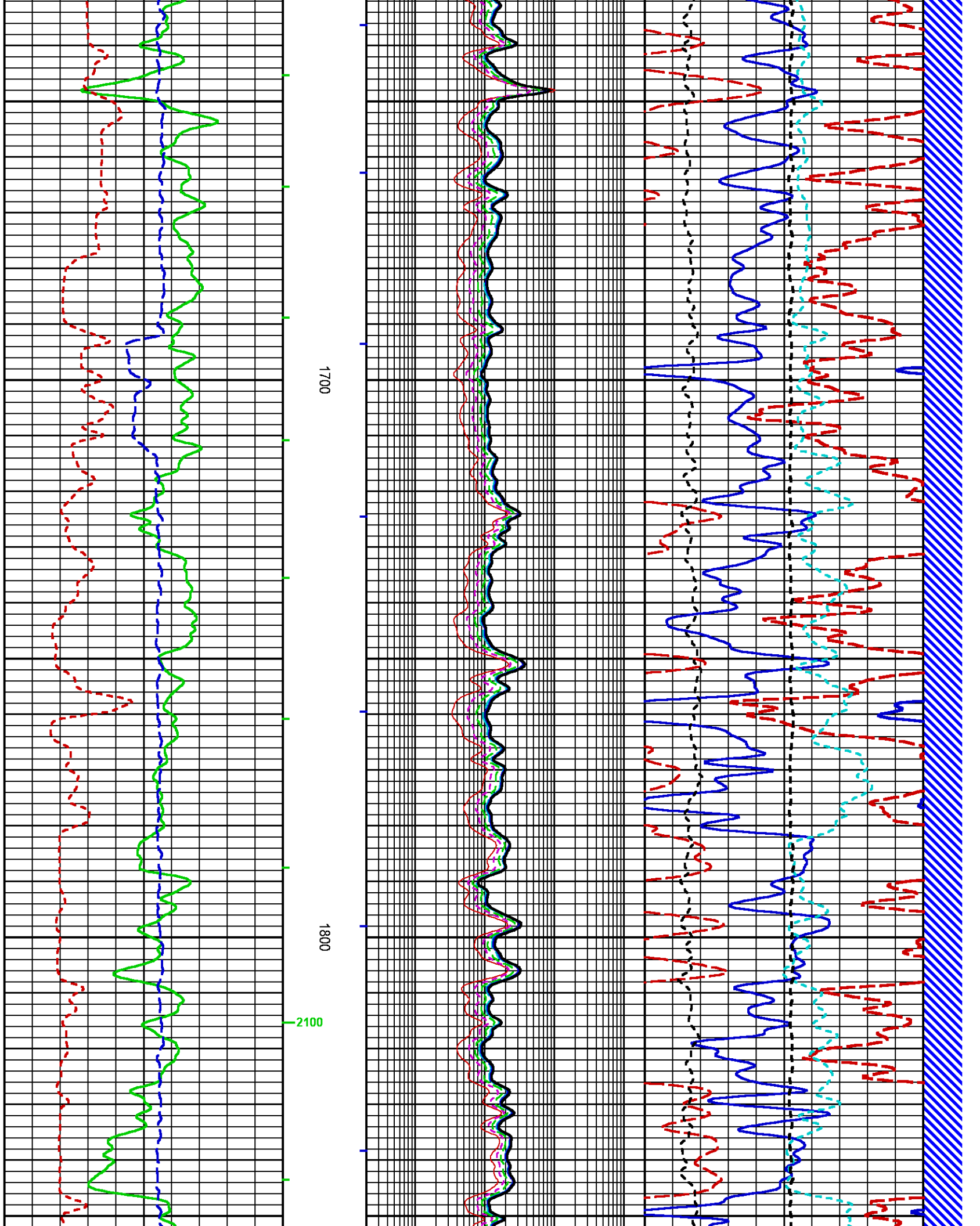
HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"

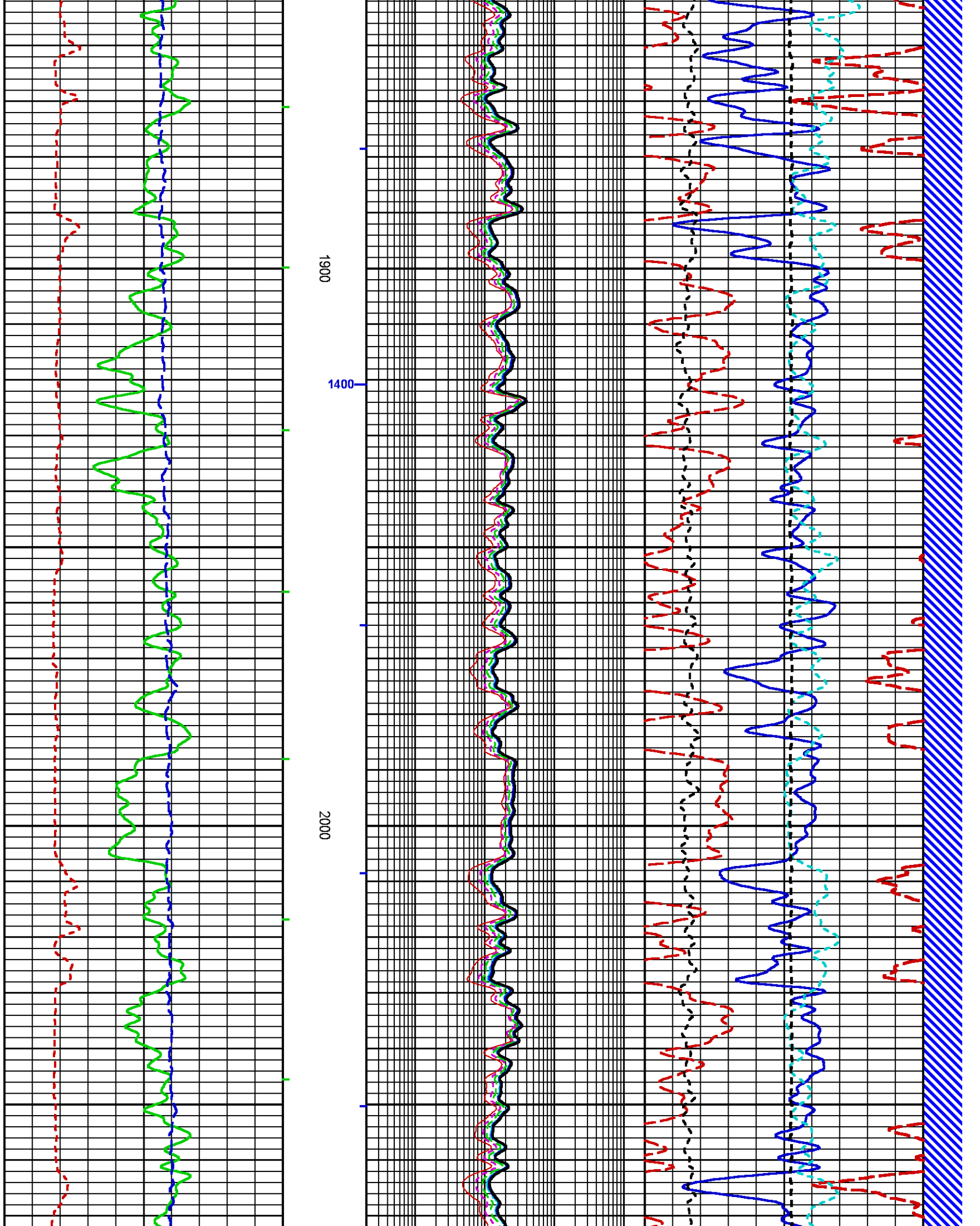
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNC	N/A	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:PE	N/A	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	N/A	POROSITY FOR SELECTABLE MATRIX
F1:SP	N/A	SPONTANEOUS POTENTIAL
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

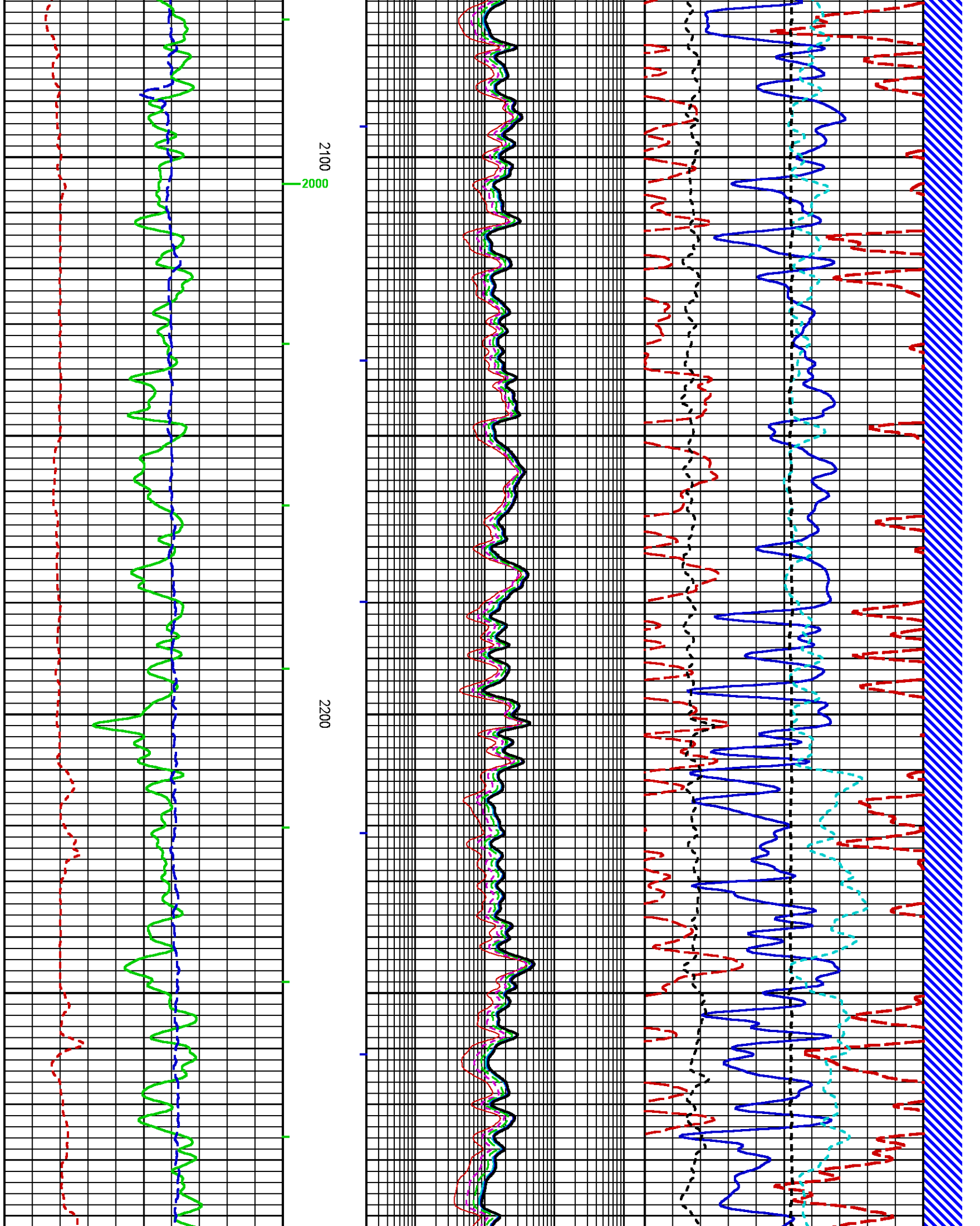
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CAL	-35.00	M2R2	-8.00	M2RX	-8.00	TEN	0.00
CNC	-45.25	M2R3	-8.00	PE	-34.25	ZCOR	-34.25
GR	-52.25	M2R6	-8.00	PORZ	-34.25		
M2R1	-8.00	M2R9	-8.00	SP	-14.00		

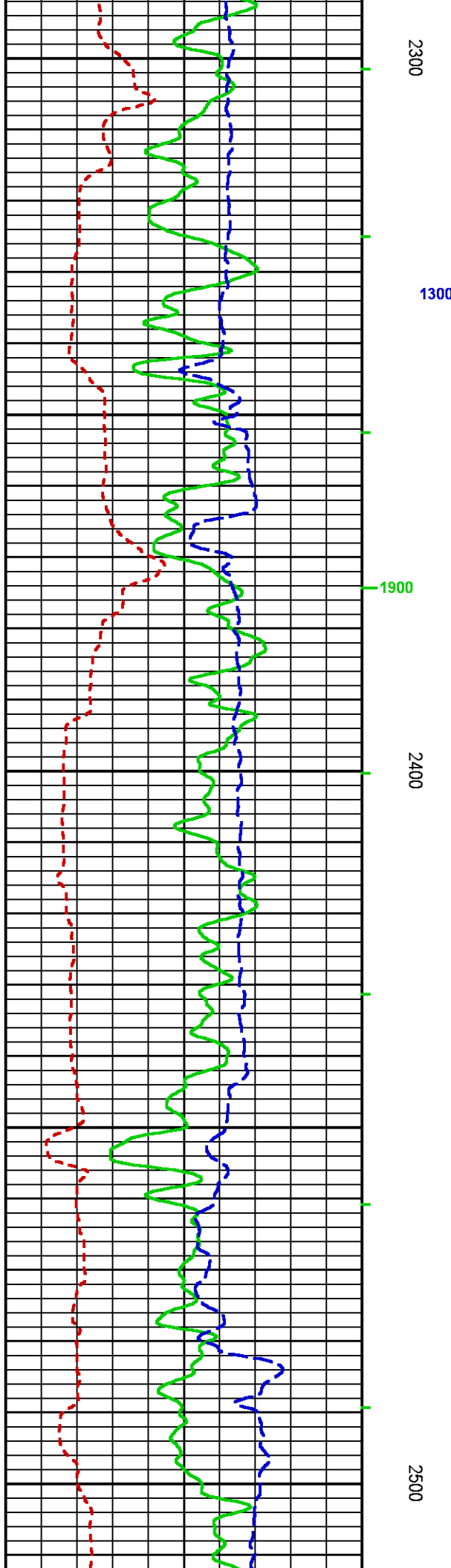
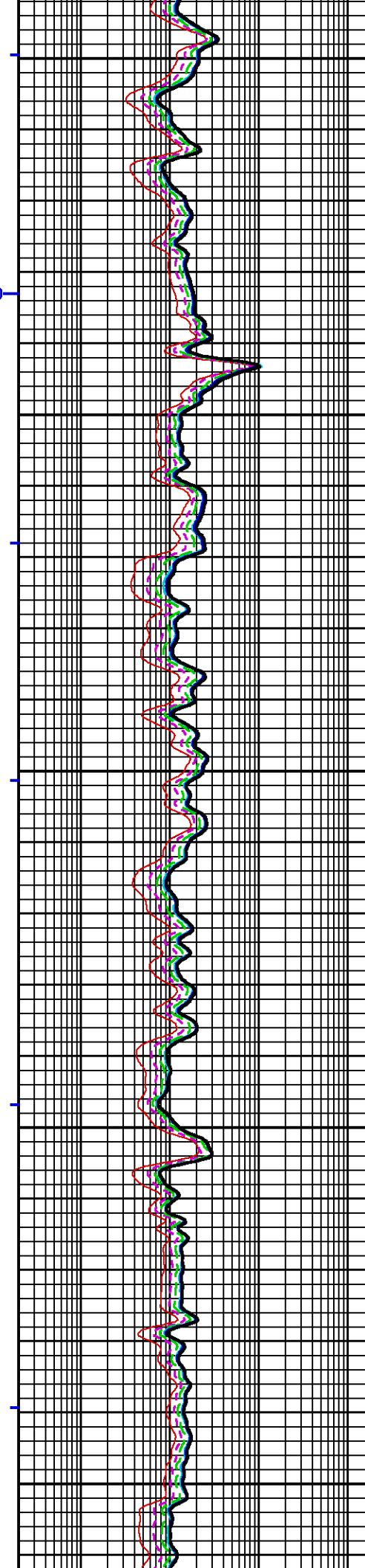
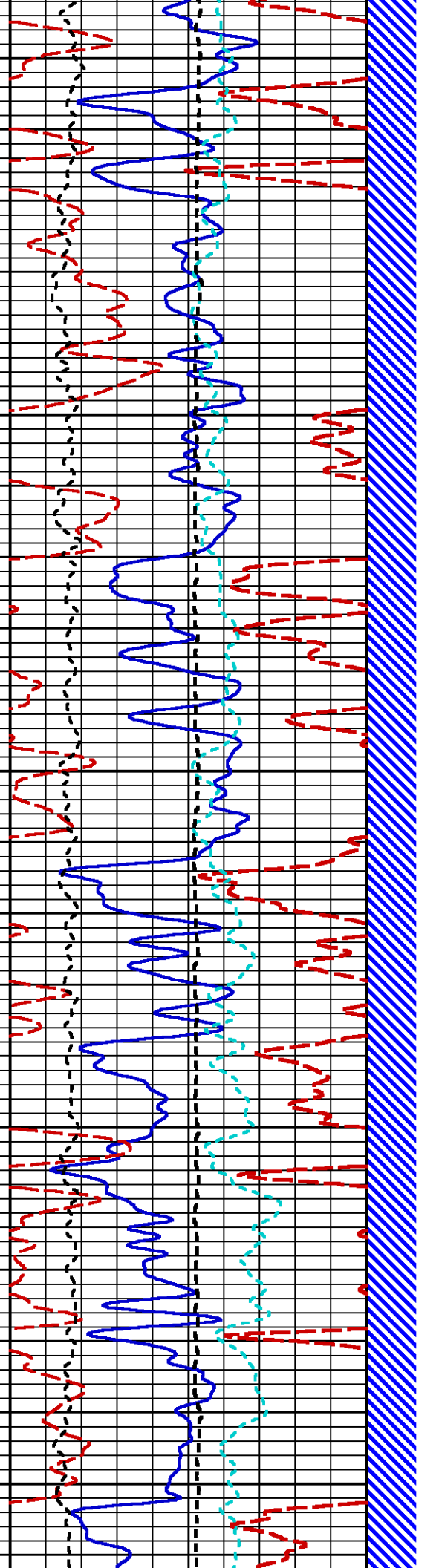
Presentation : BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\30-14E_HDILZDLCN_MAIN.fvpdf [5"/100" Scale]
Plot Interval : 1520 - 7915 Feet
Data File 1 : F1 : BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\30-14E_HDILZDLCN_MAIN.xtf
Created On : N/A
Company : LARAMIE ENERGY
Well : BRUTON 30-14E
Field : VEGA
File Interval : -13.75 - 7931.5 Feet
OCT : p87cb

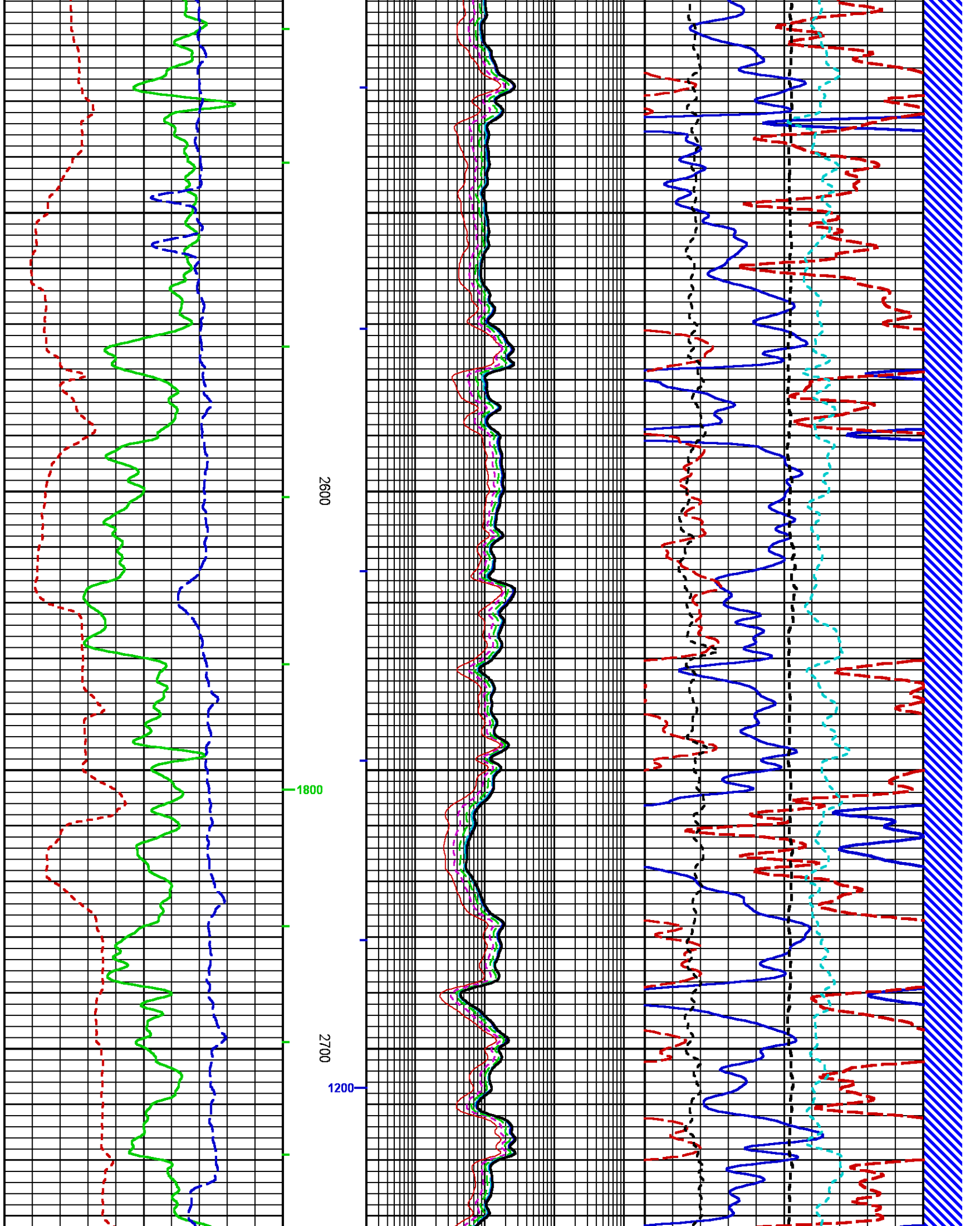


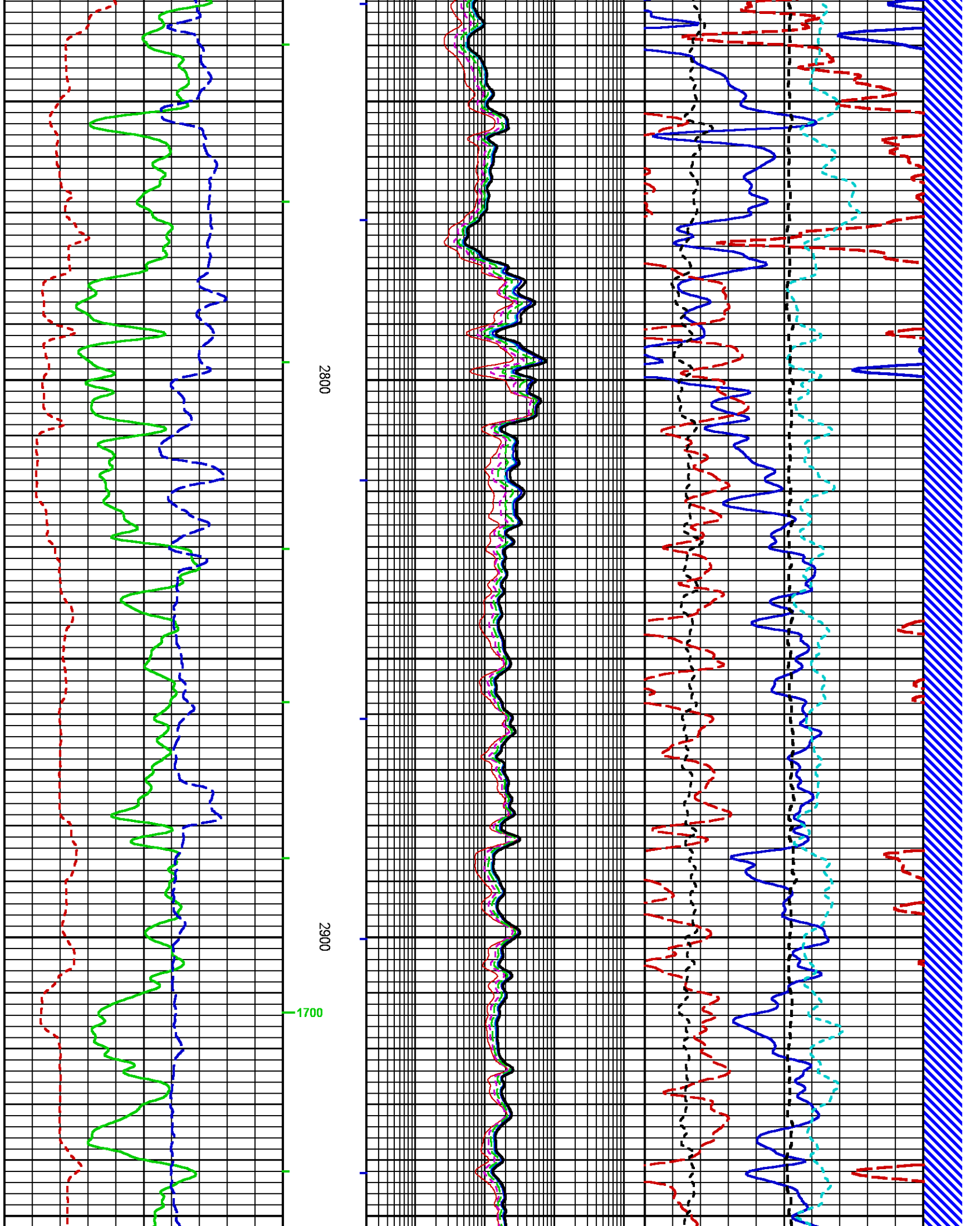


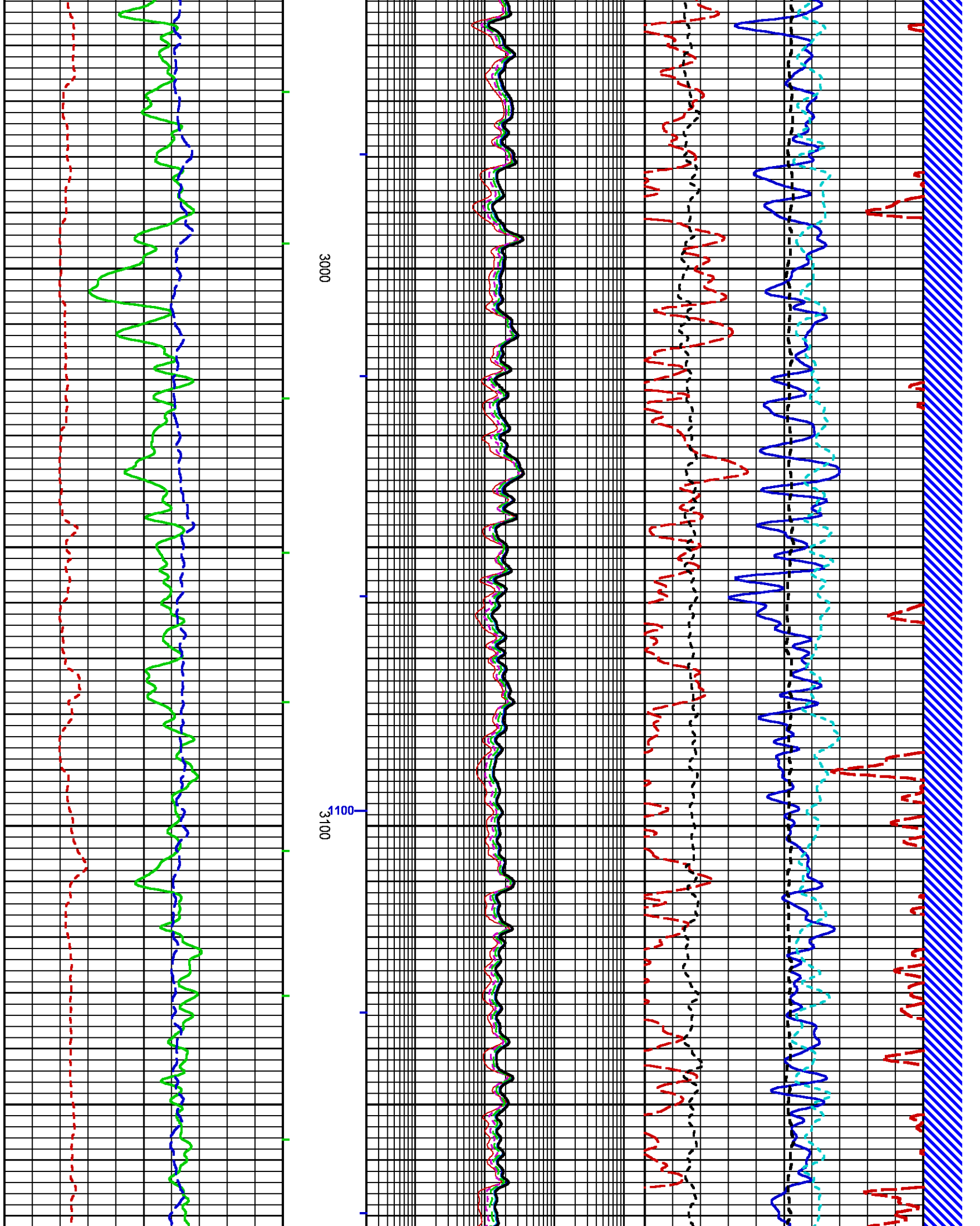


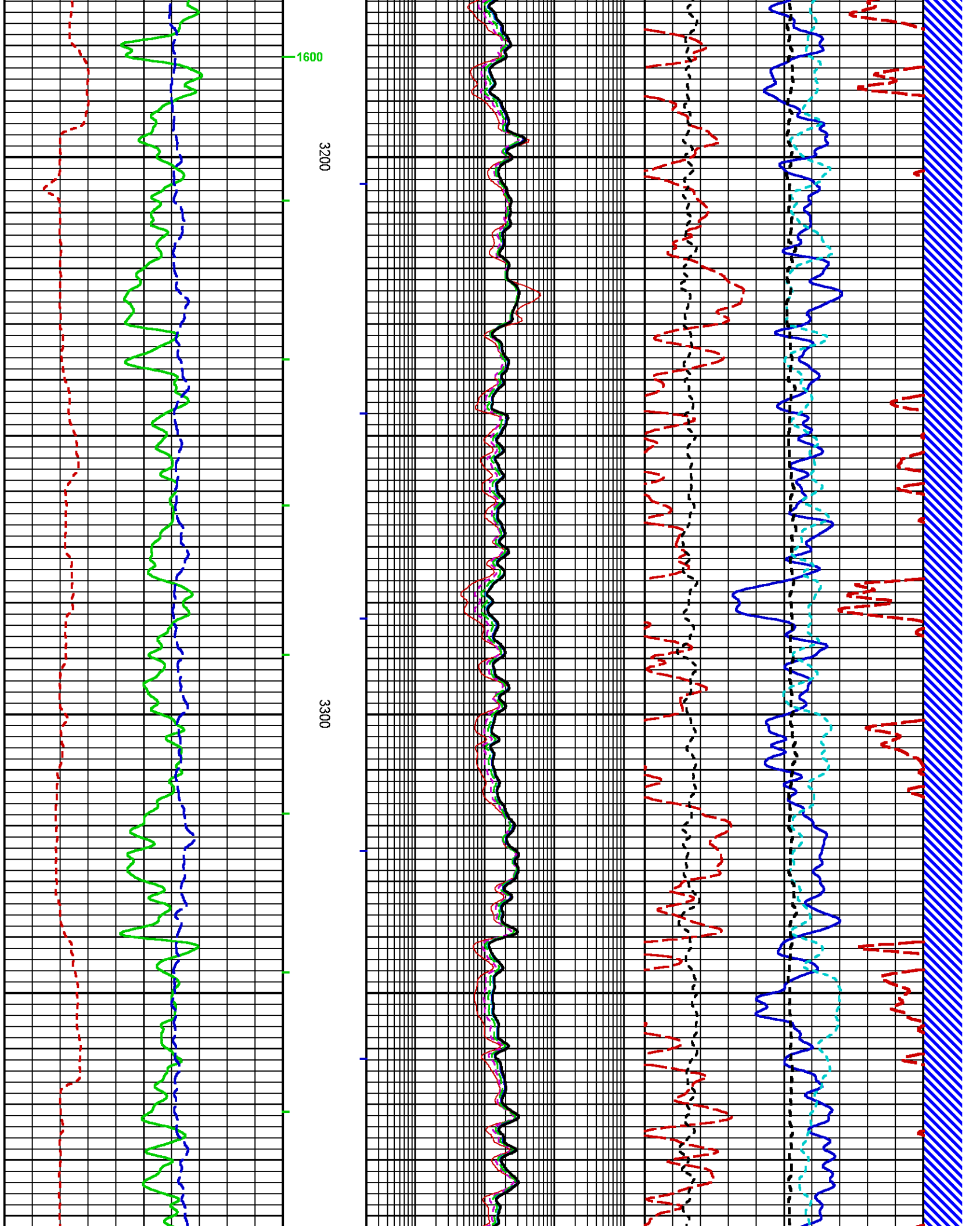


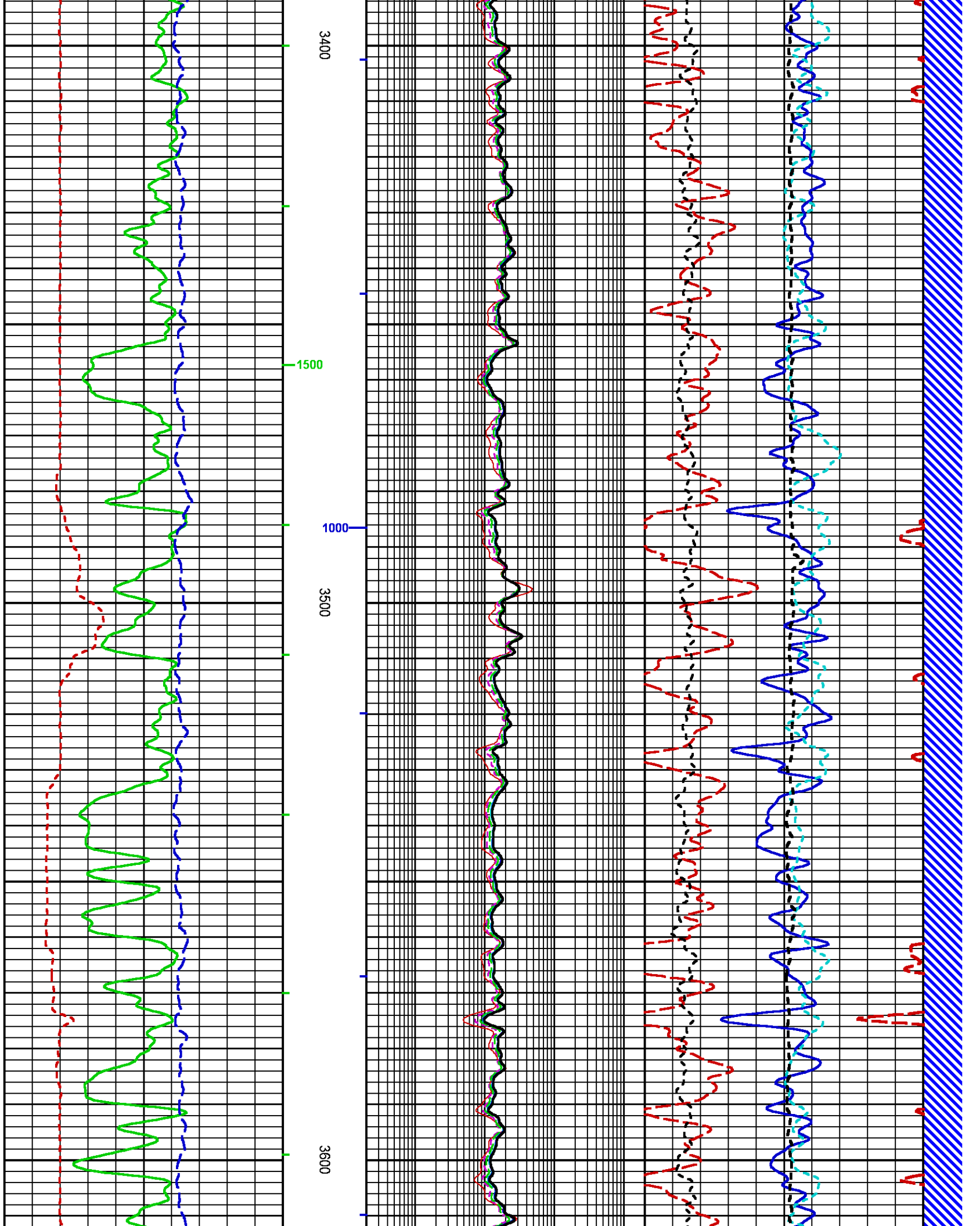


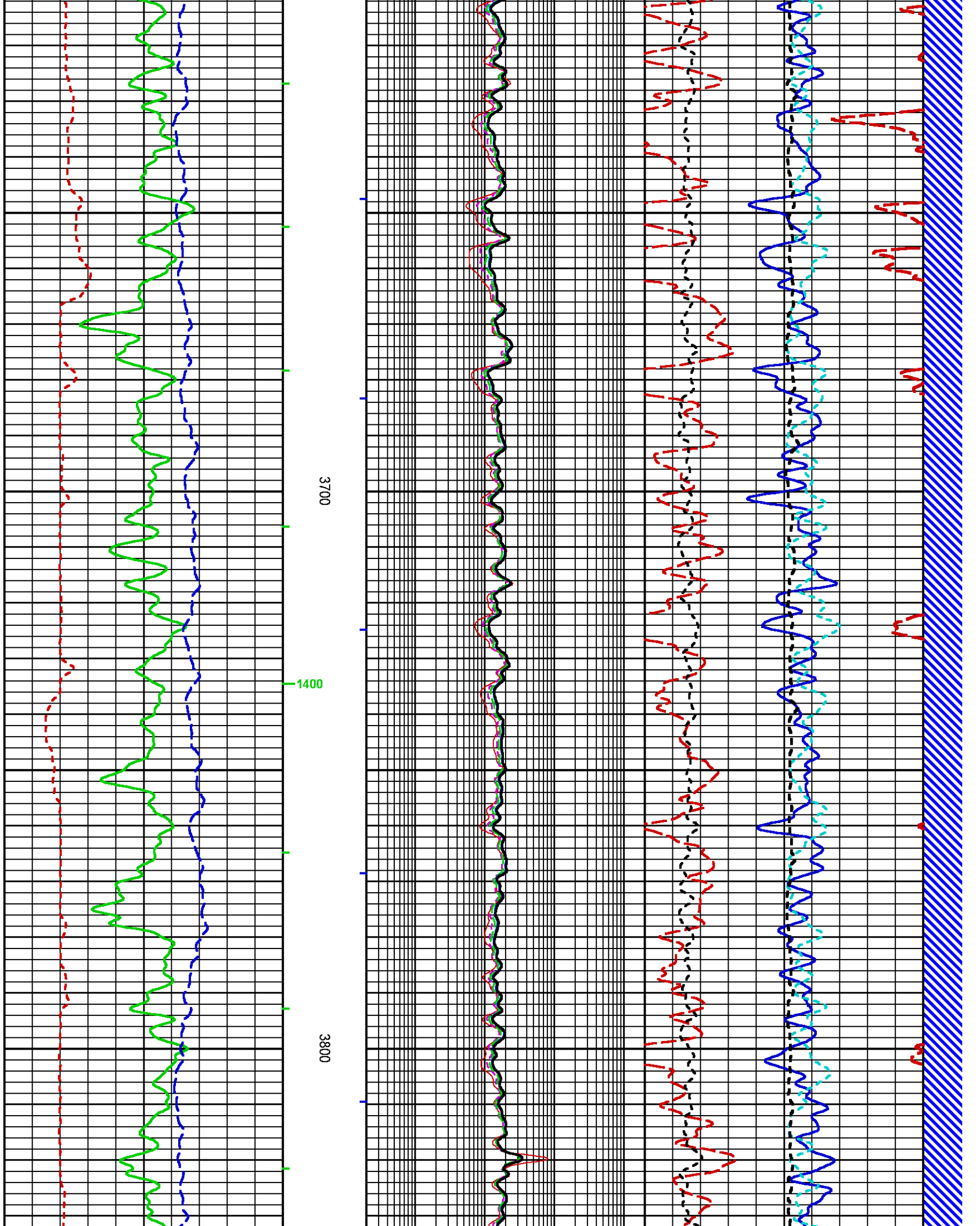


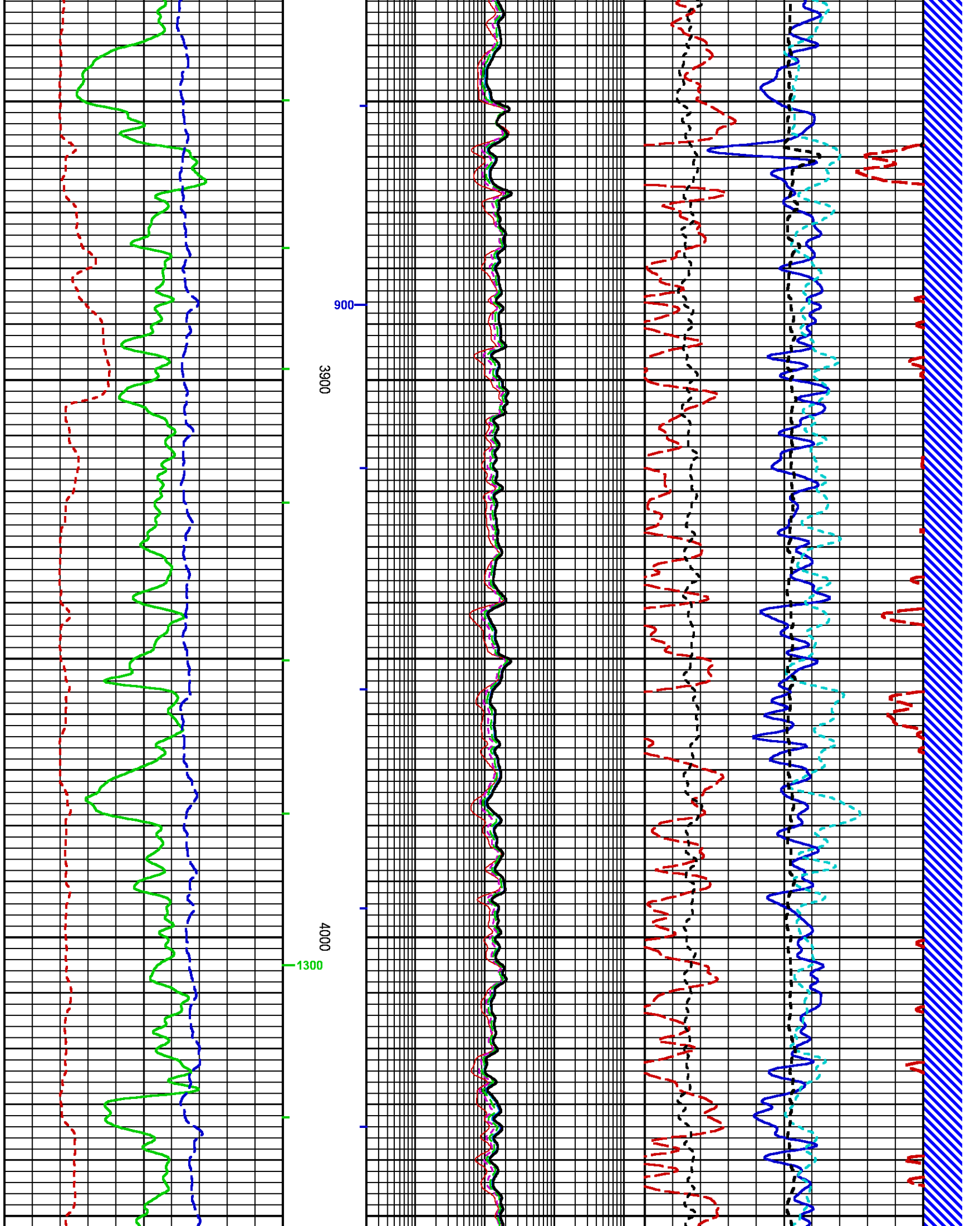


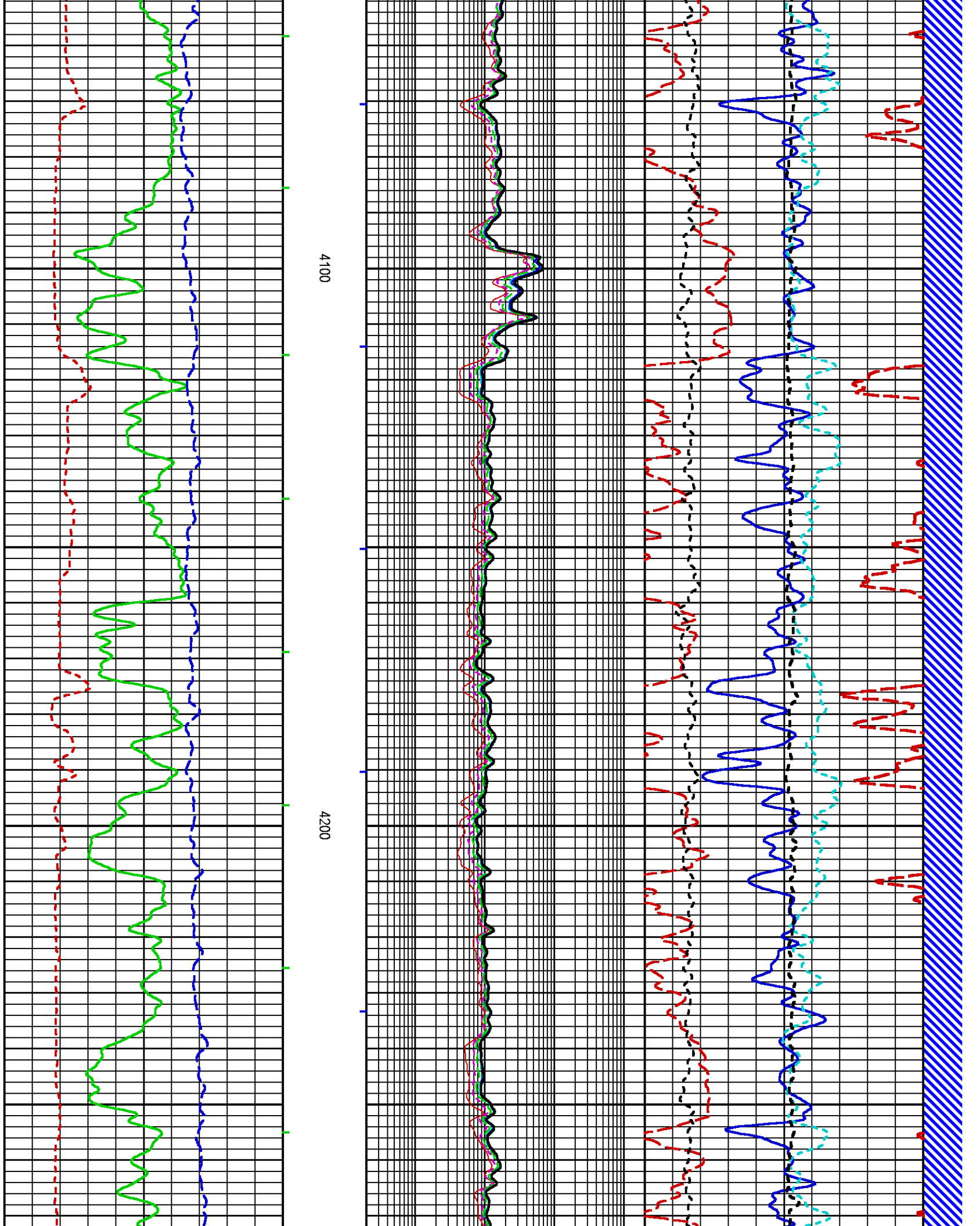


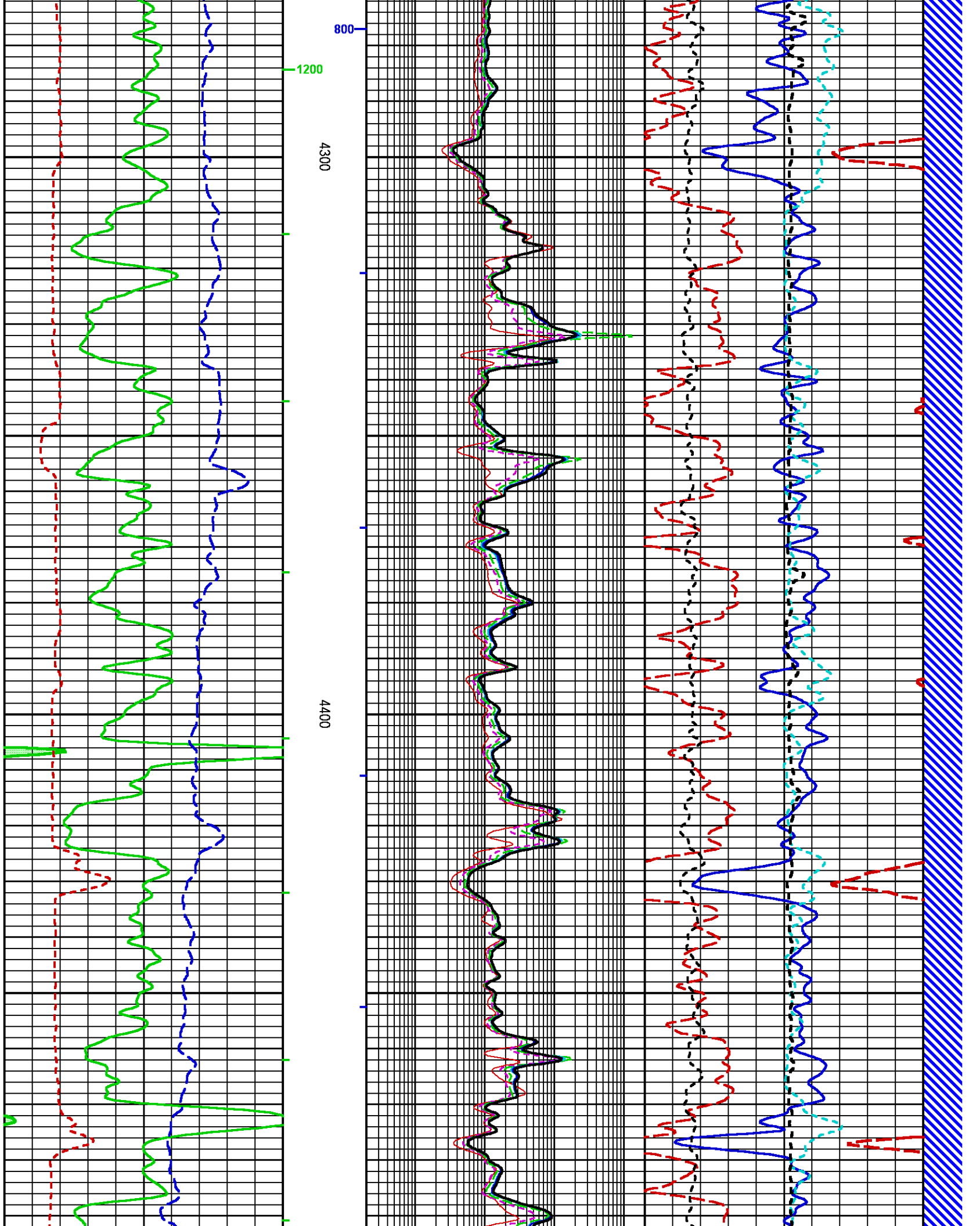


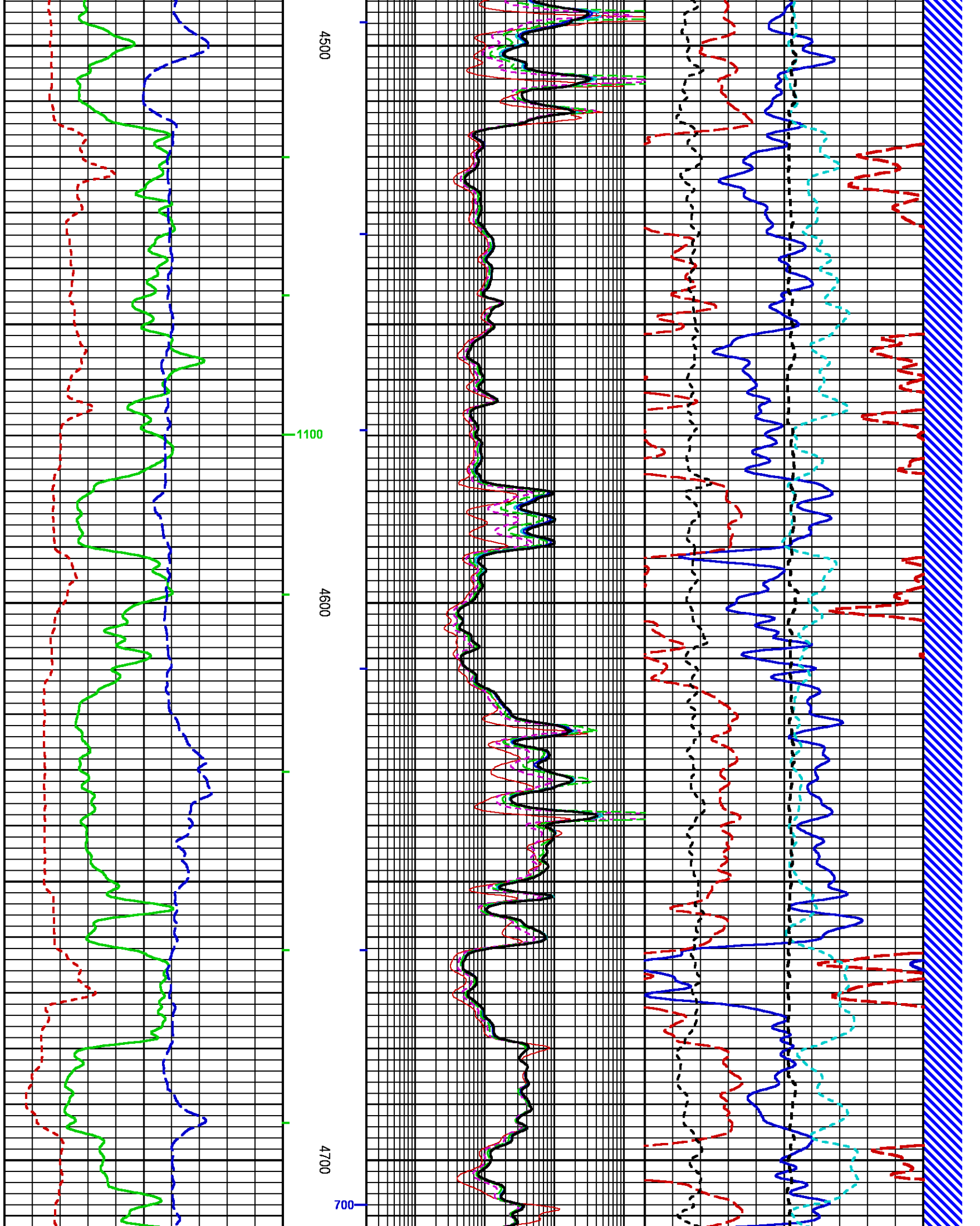


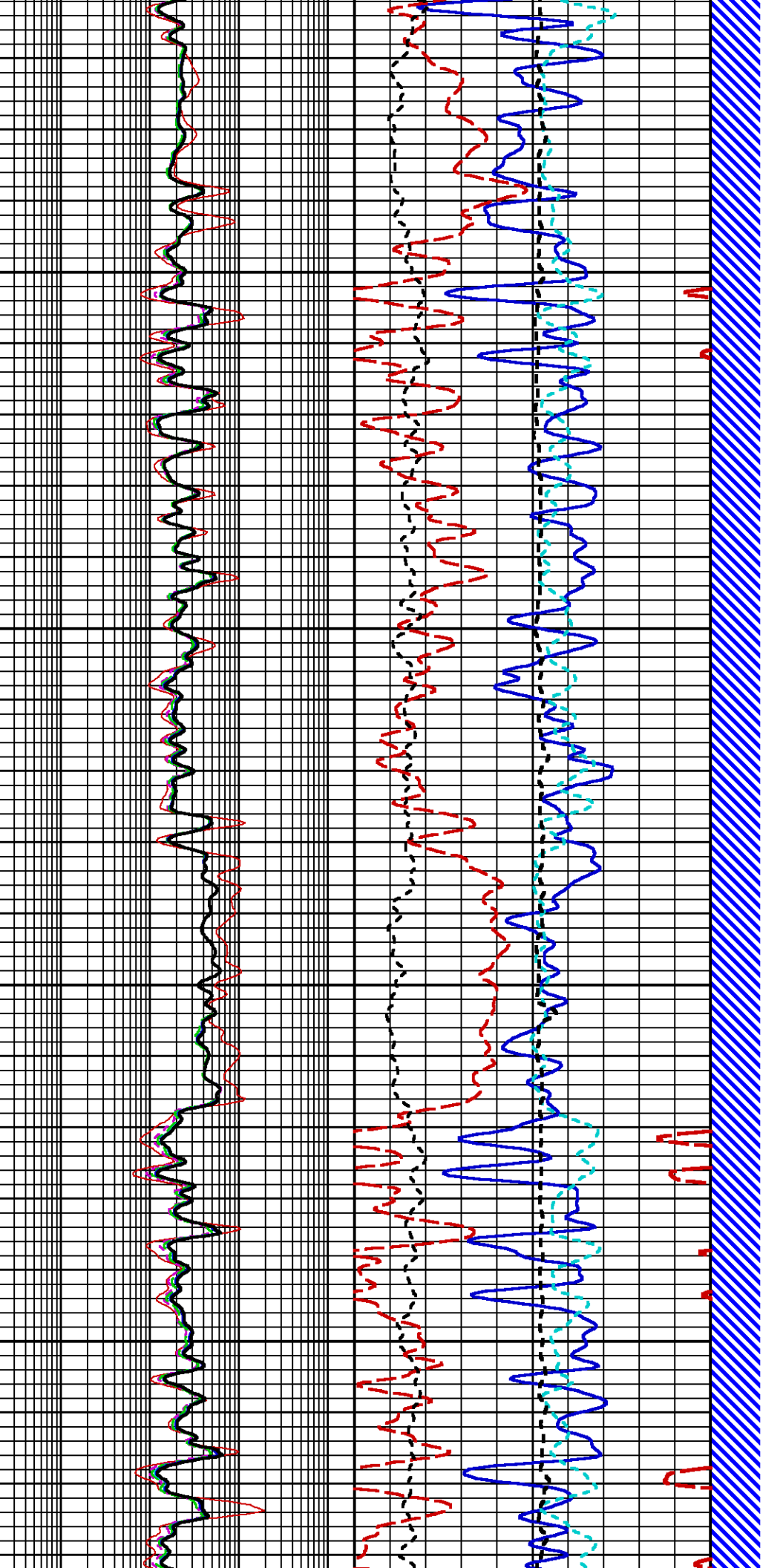








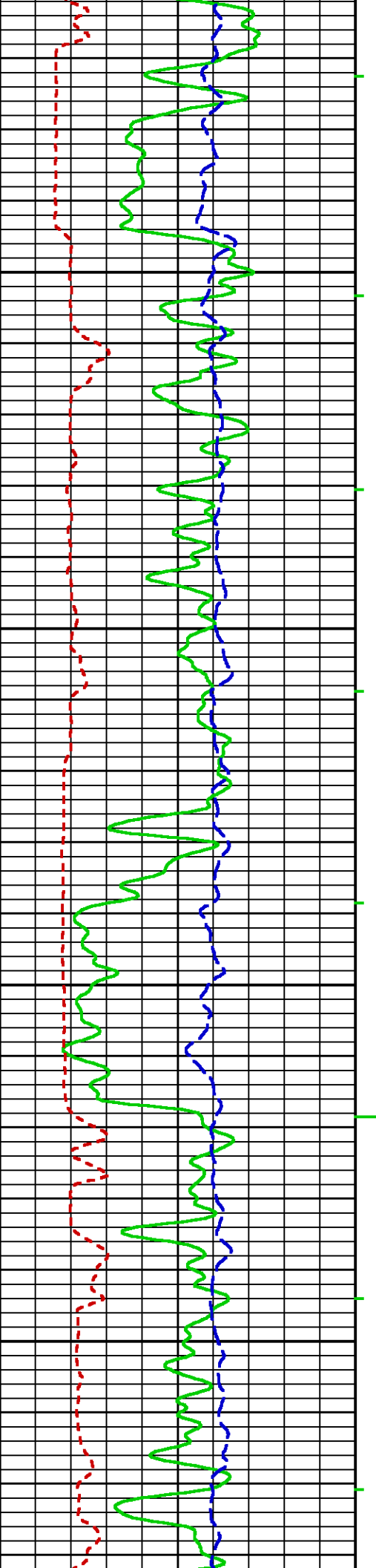


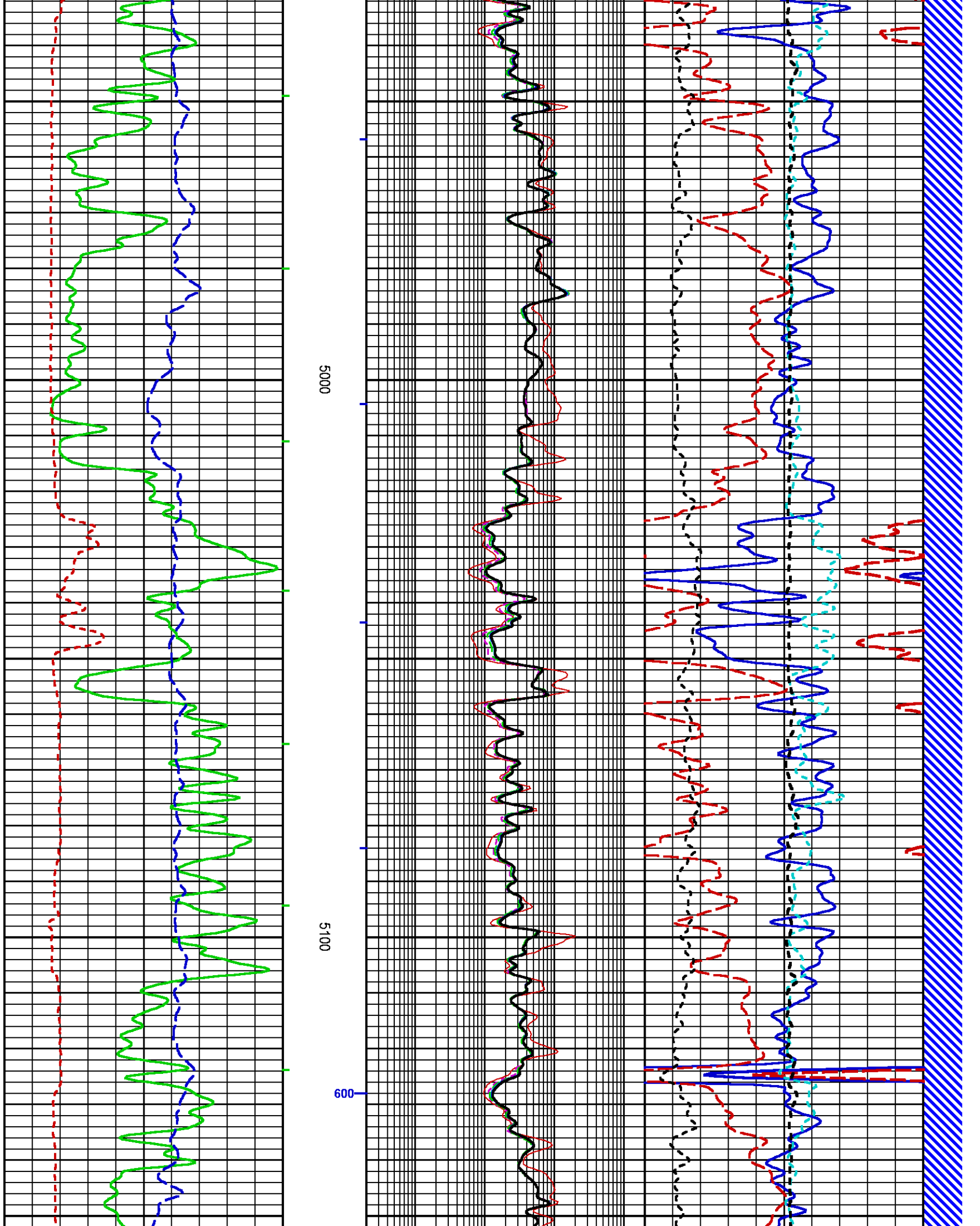


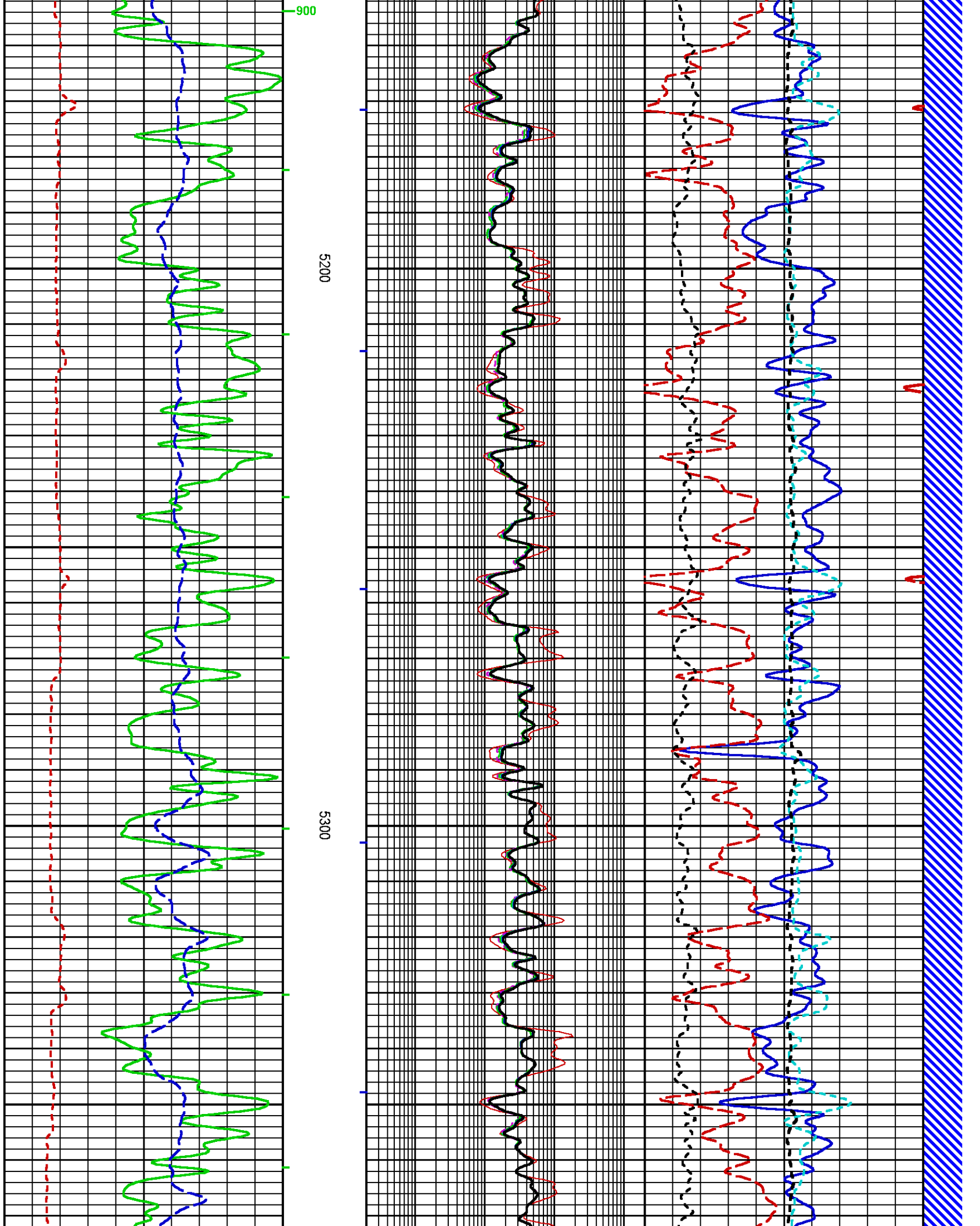
4800

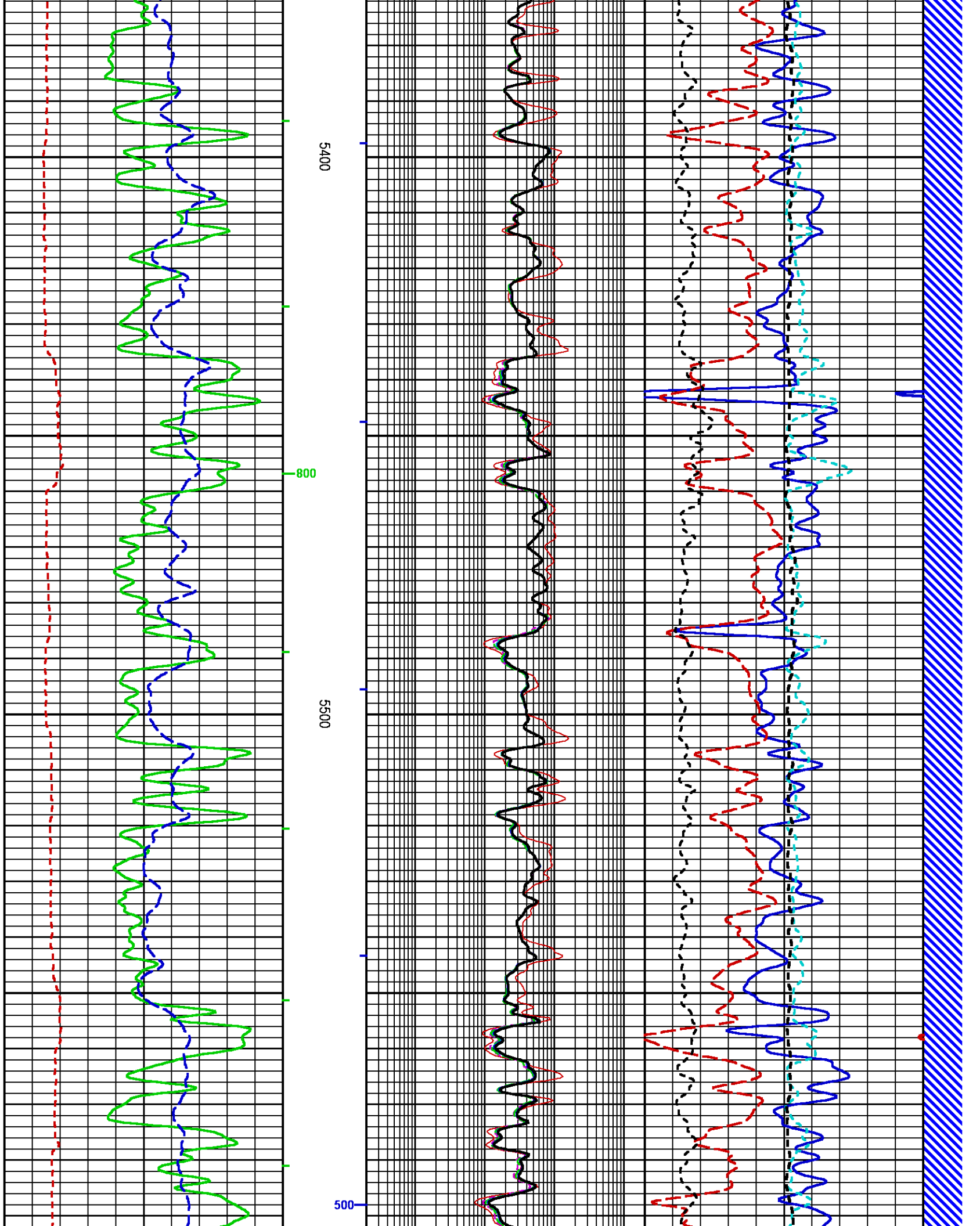
1000

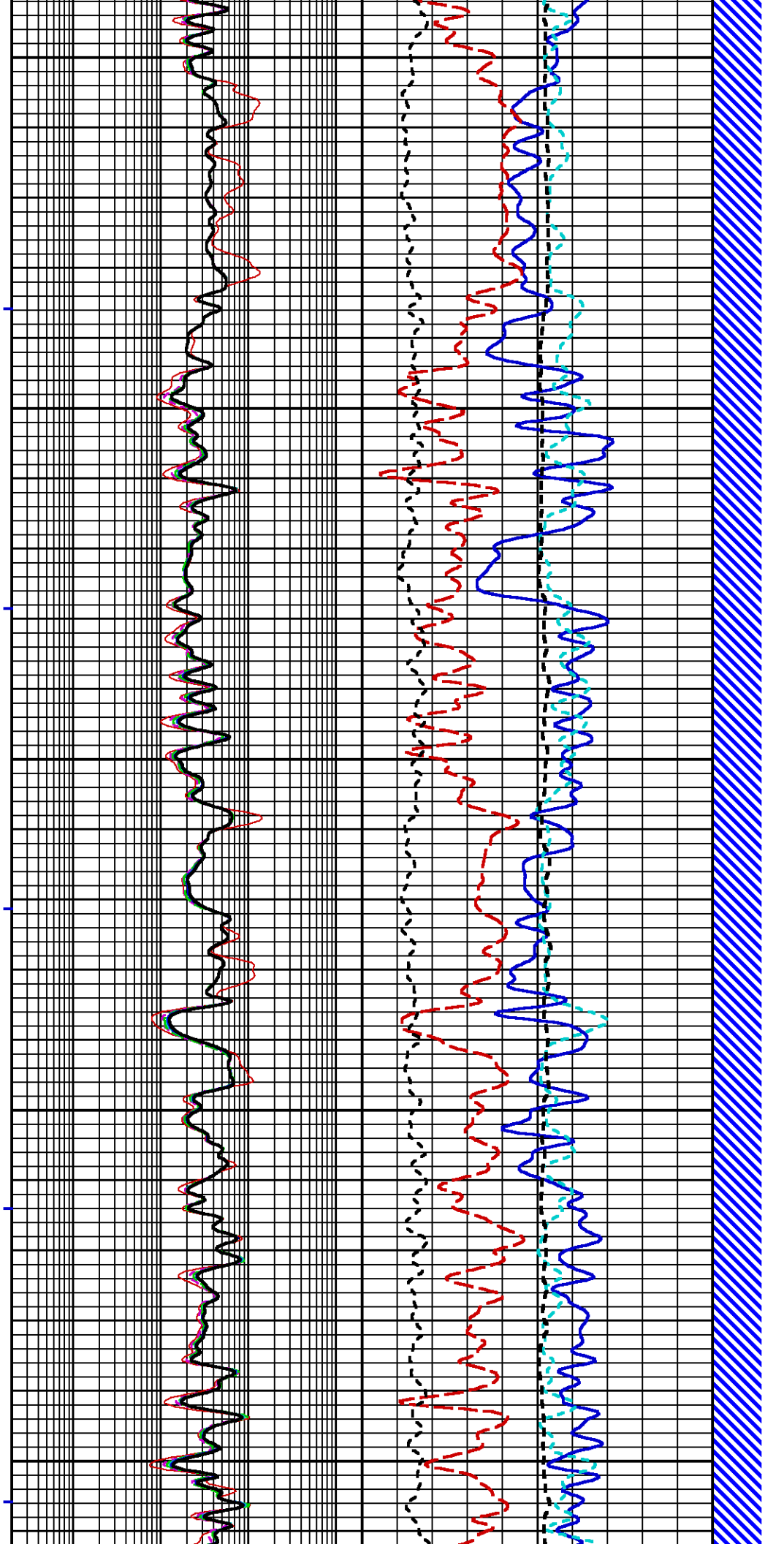
4900







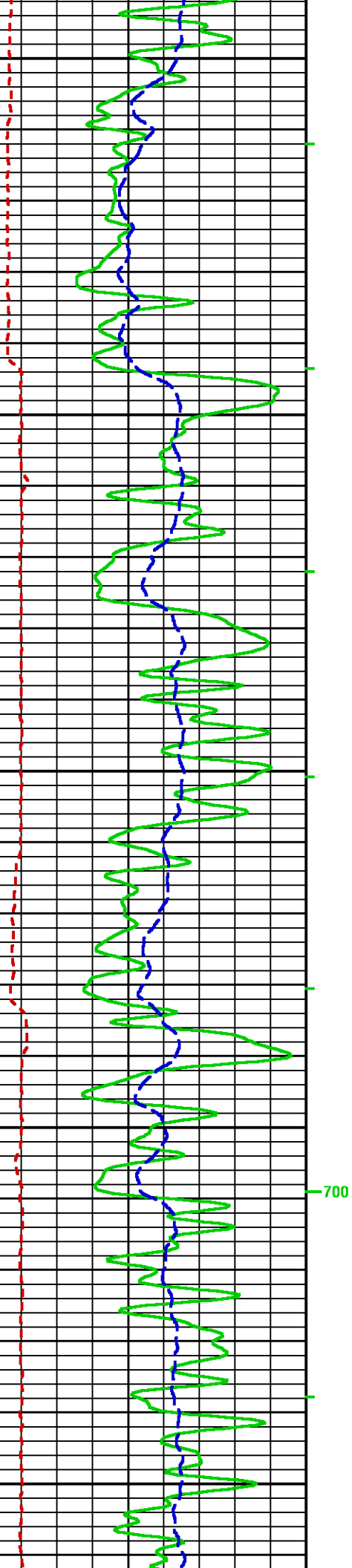




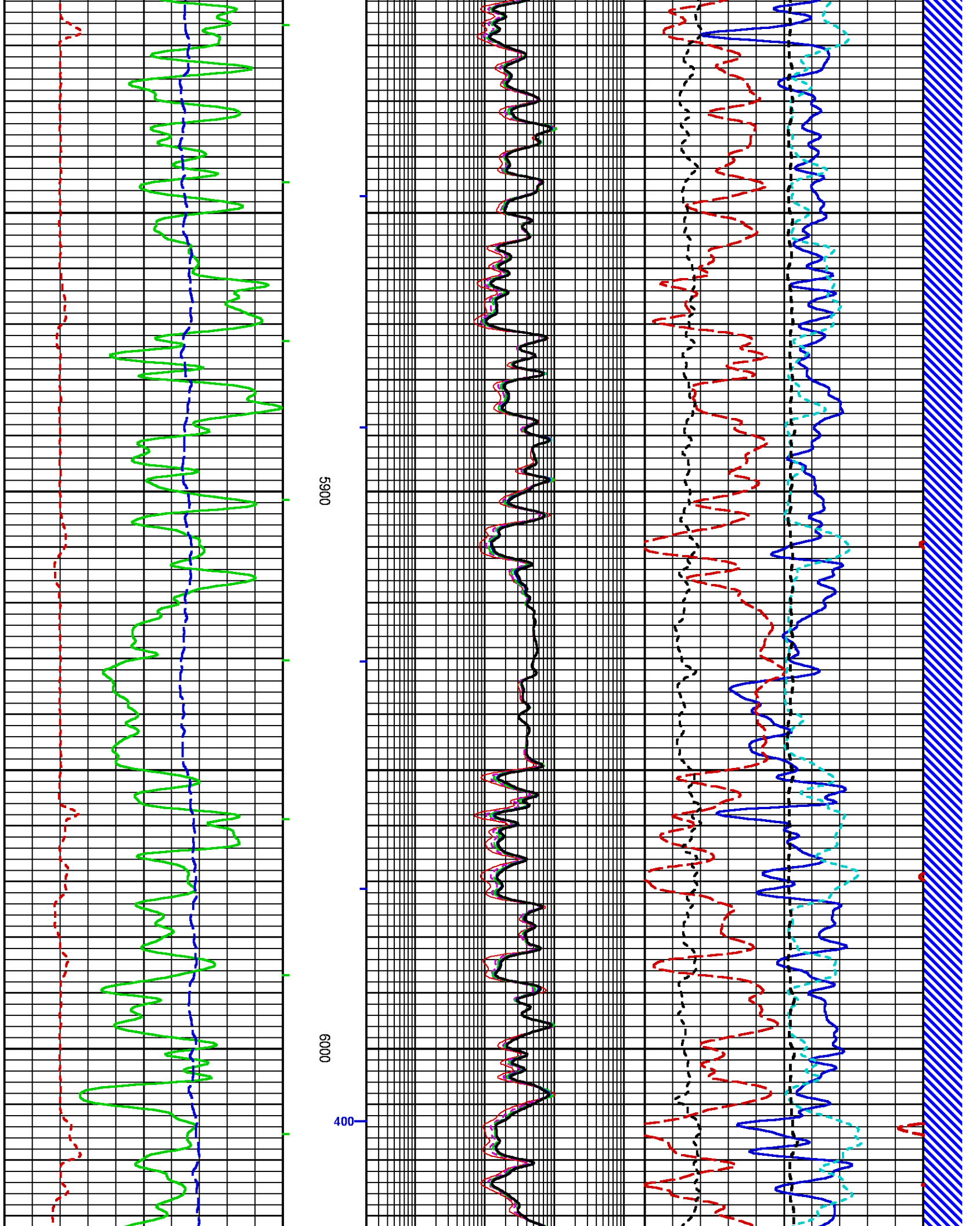
5600

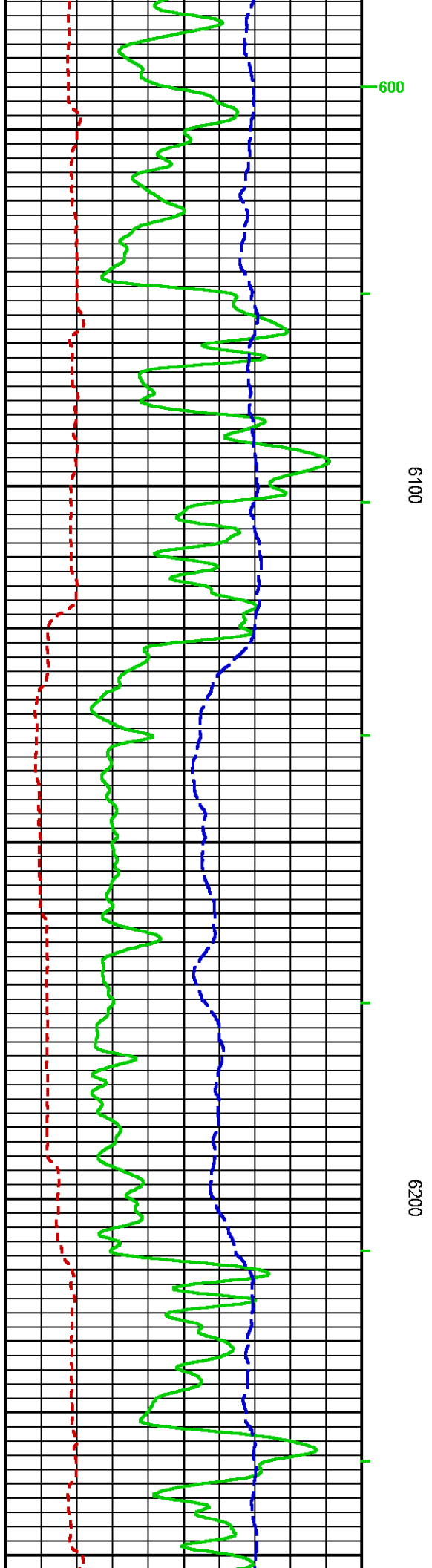
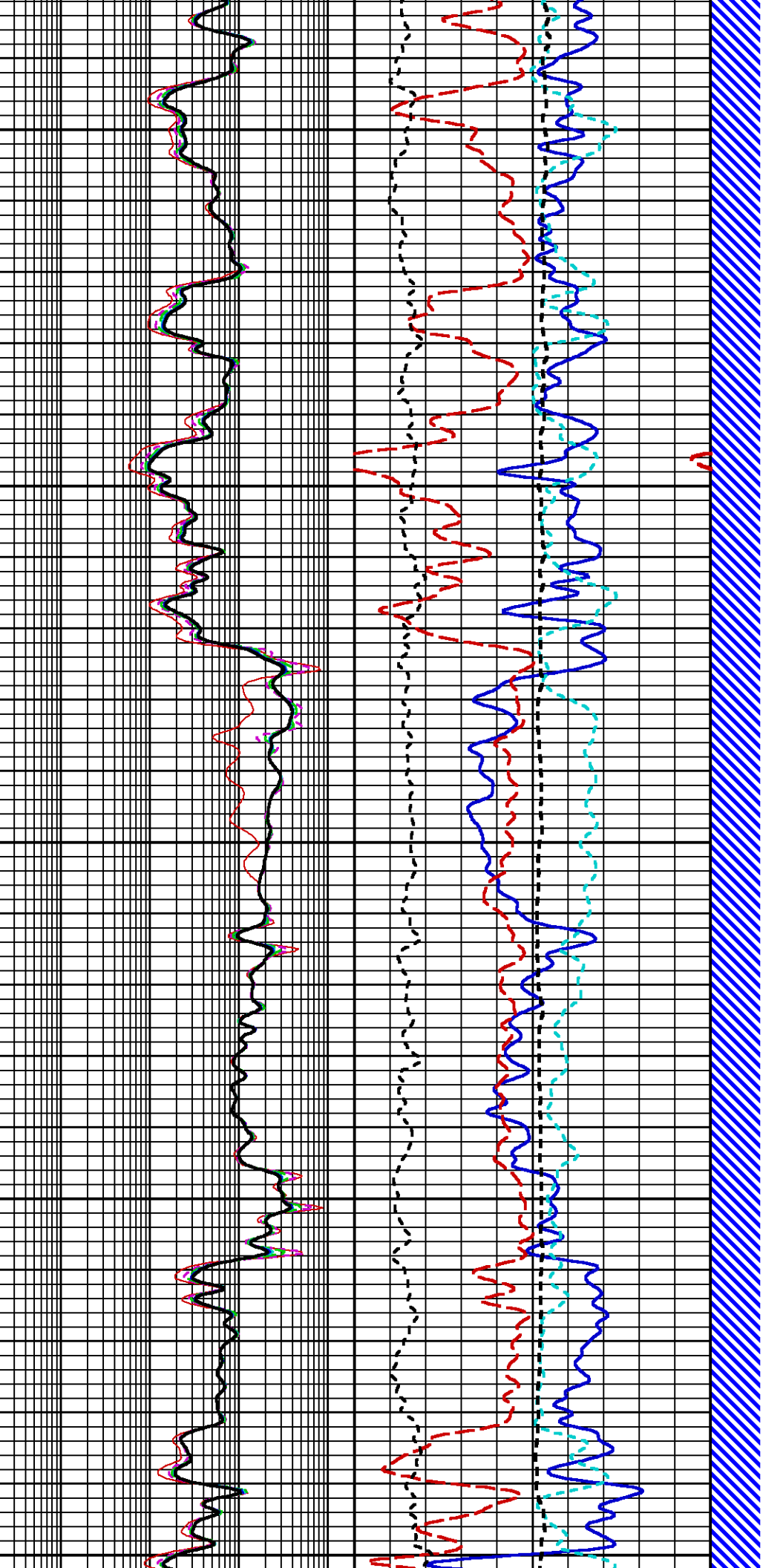
5700

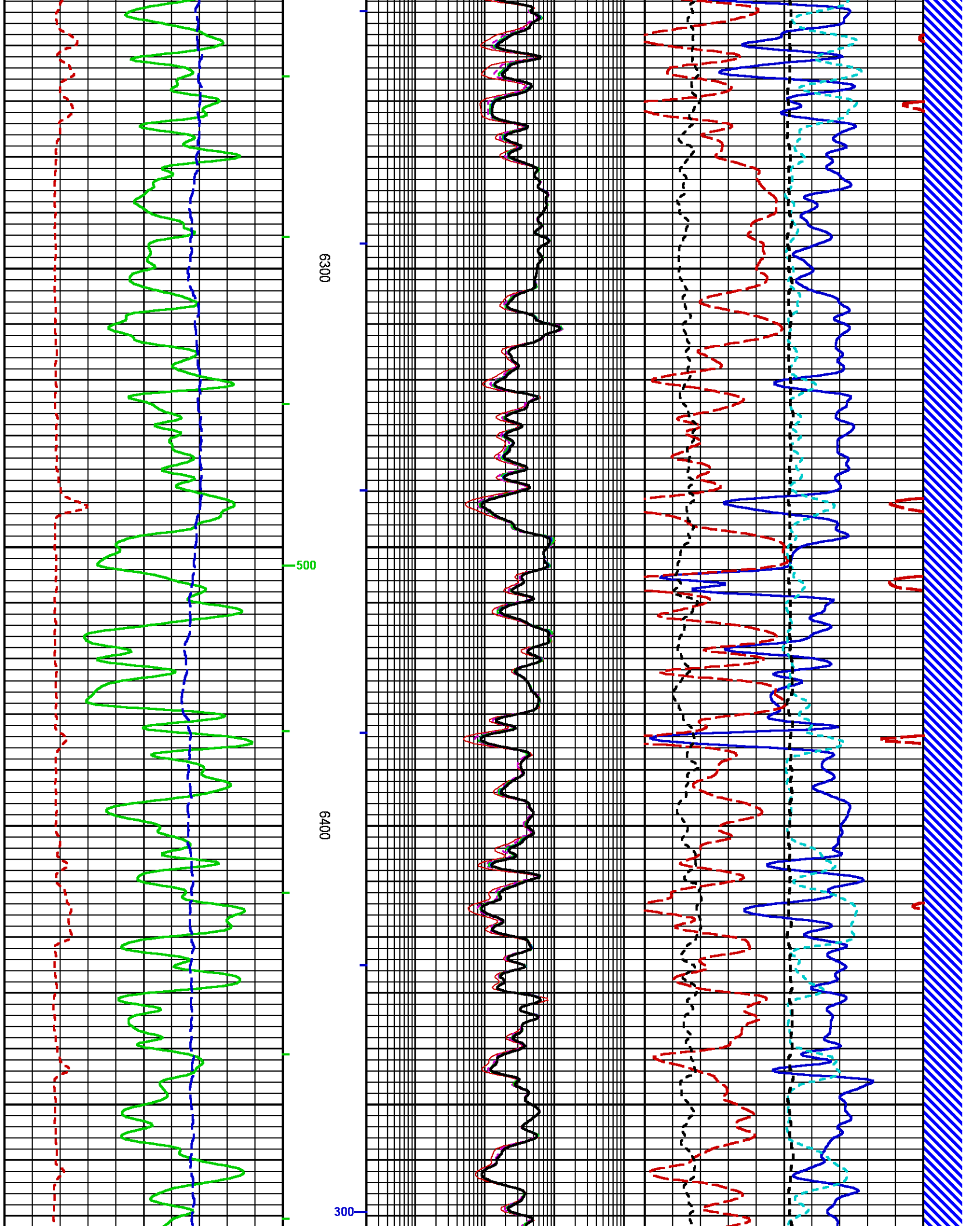
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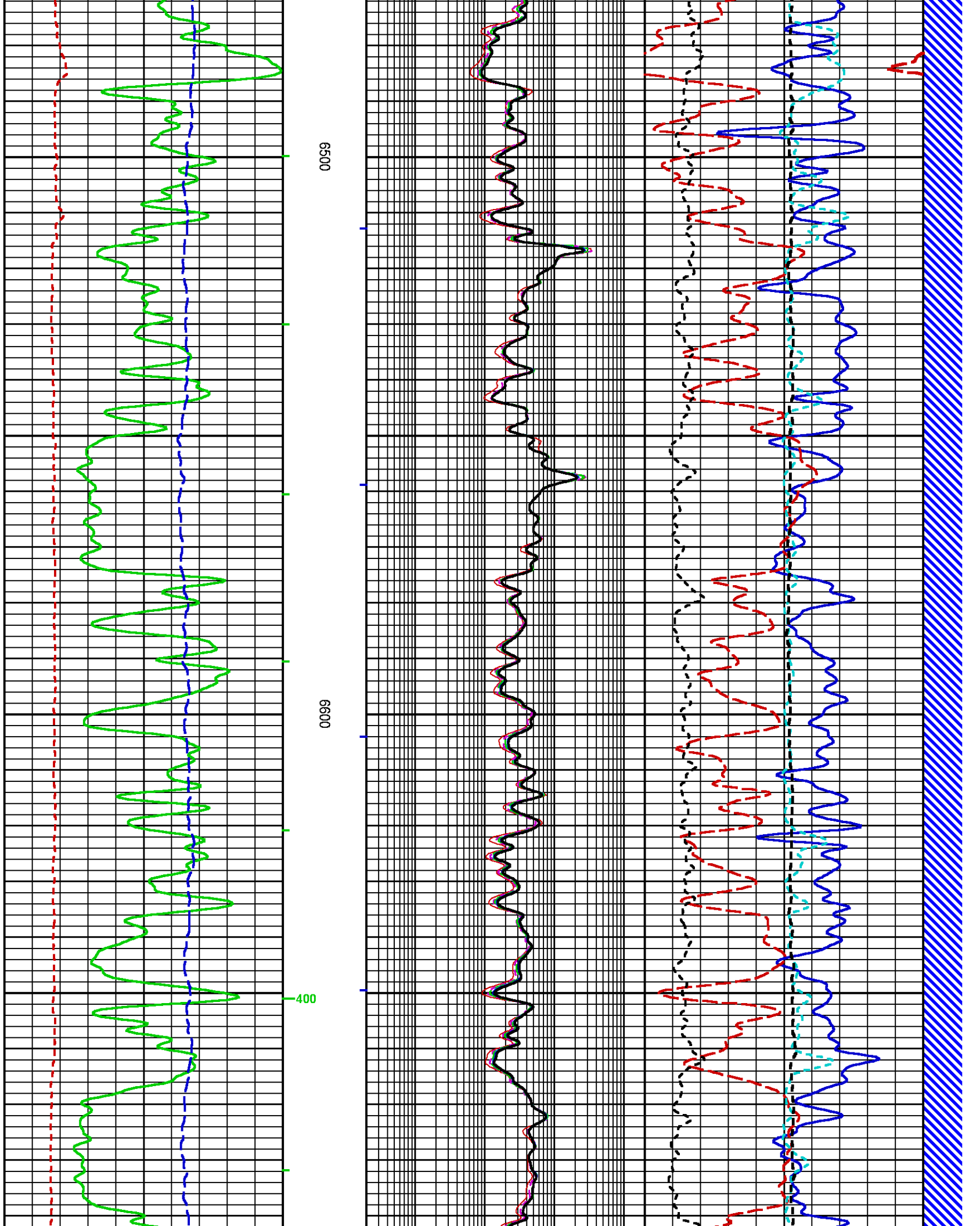


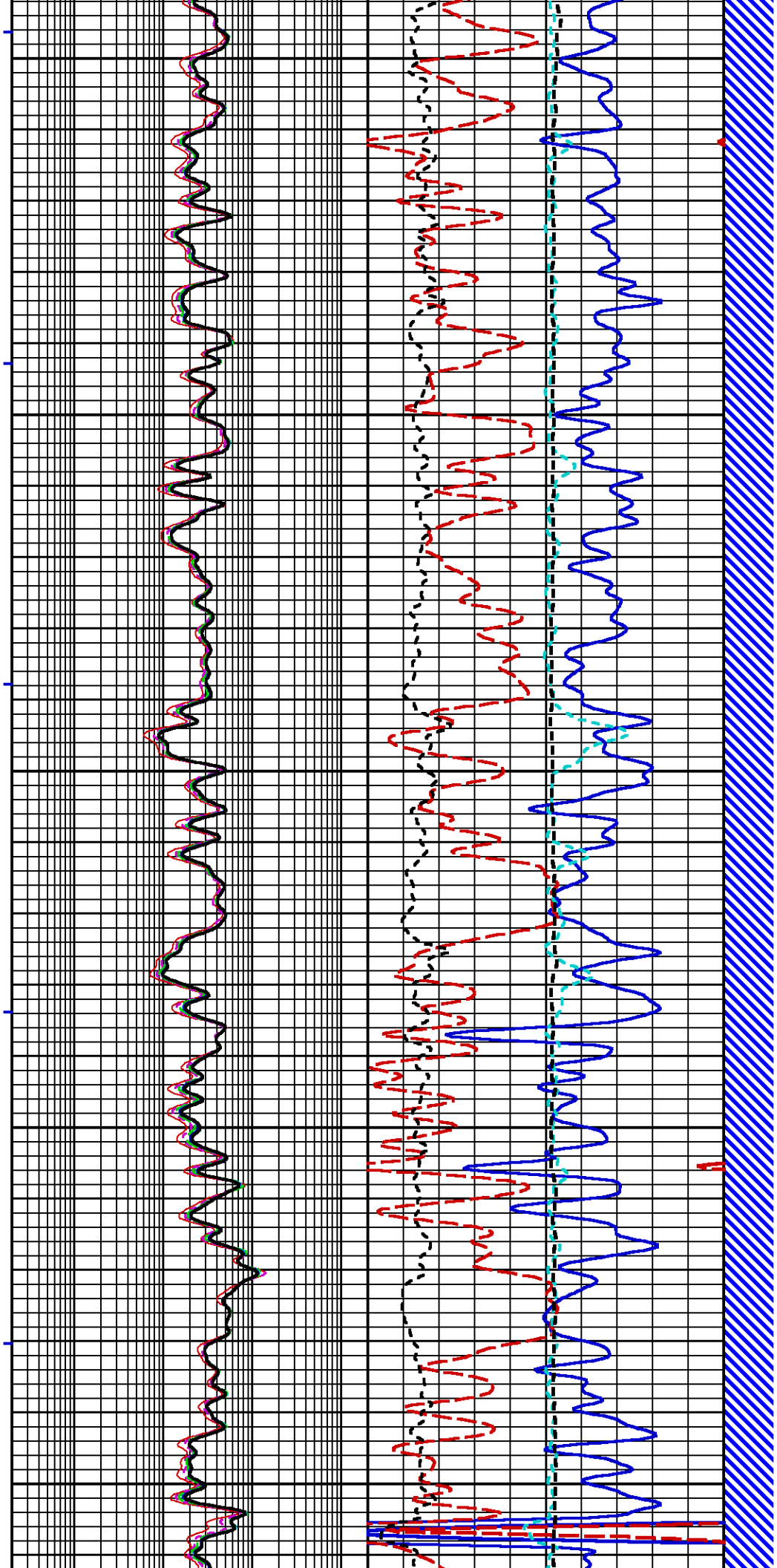
700







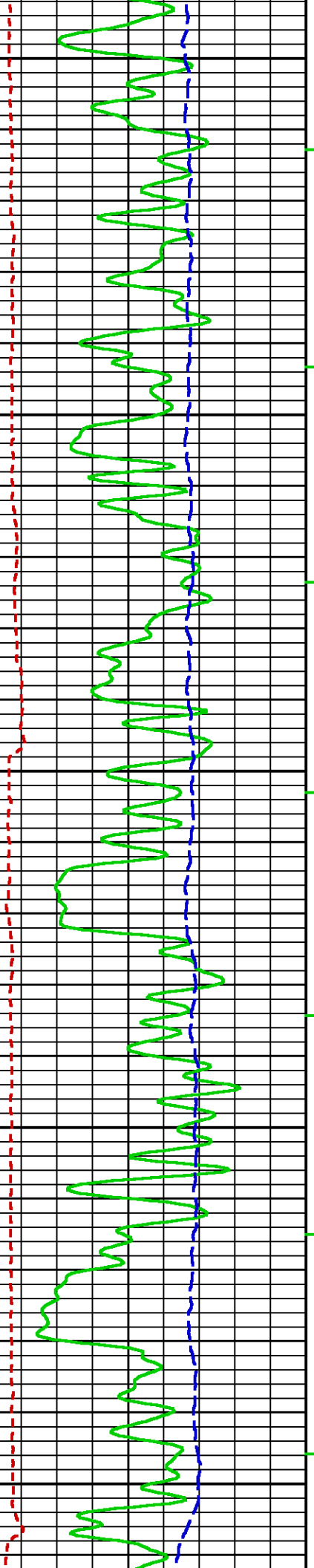


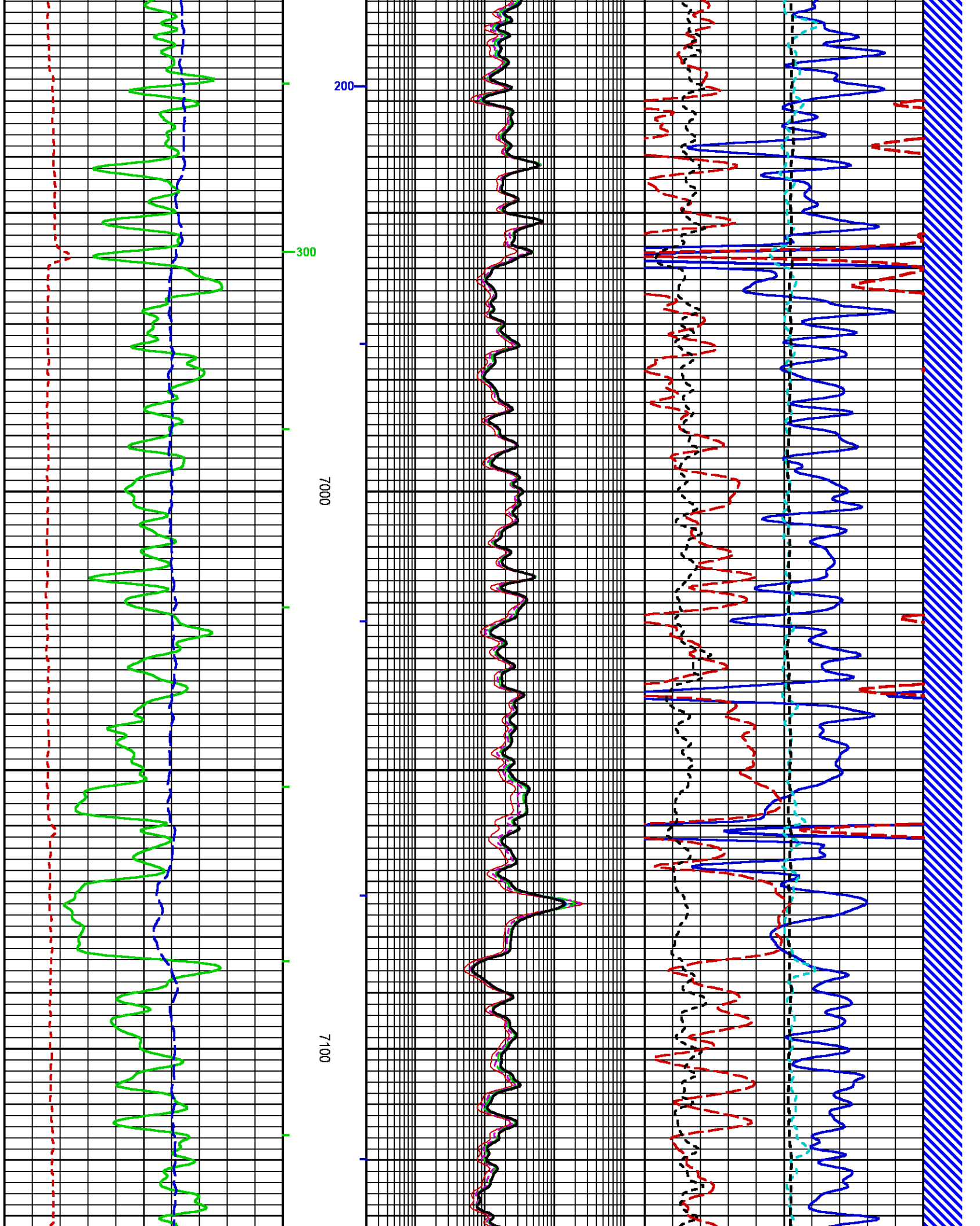


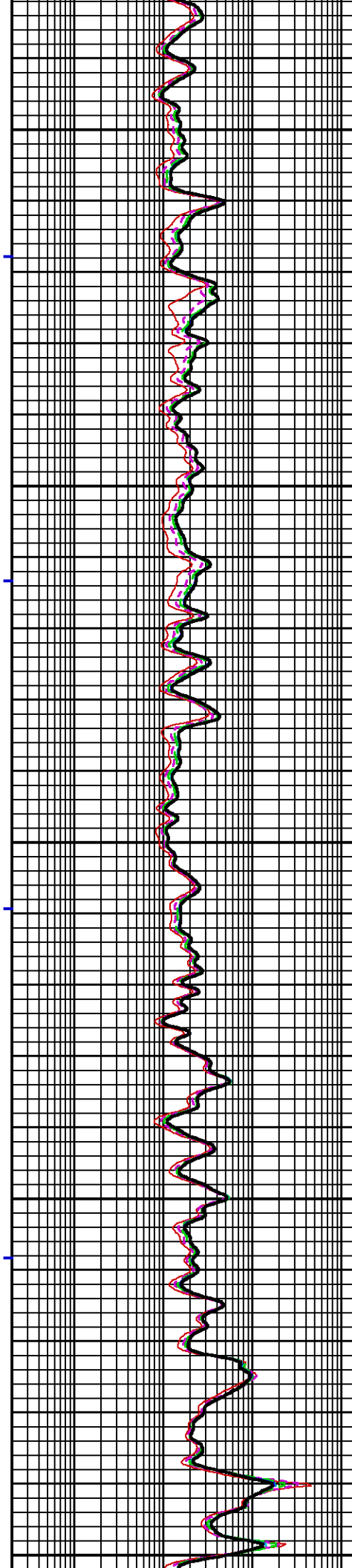
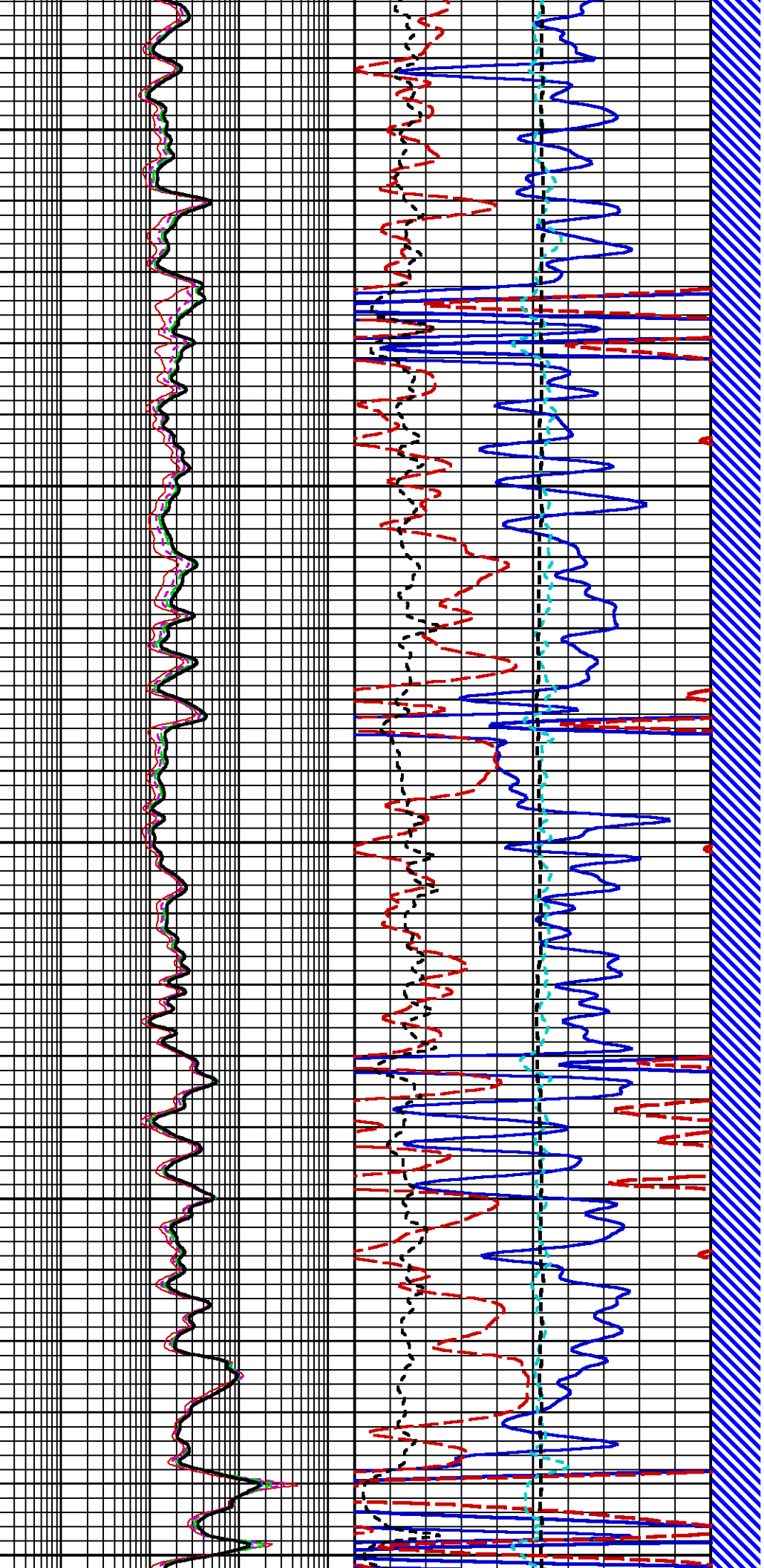
6700

6800

6900



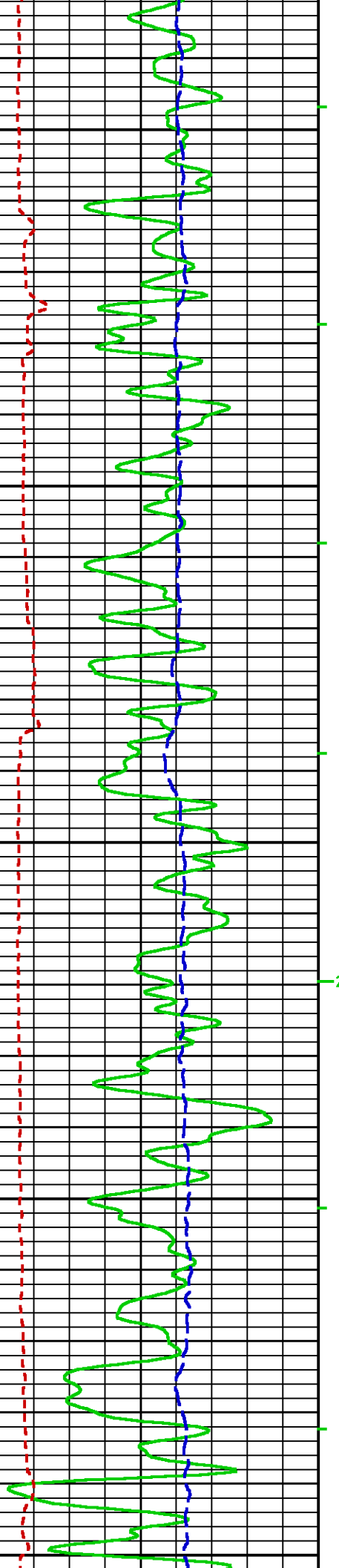


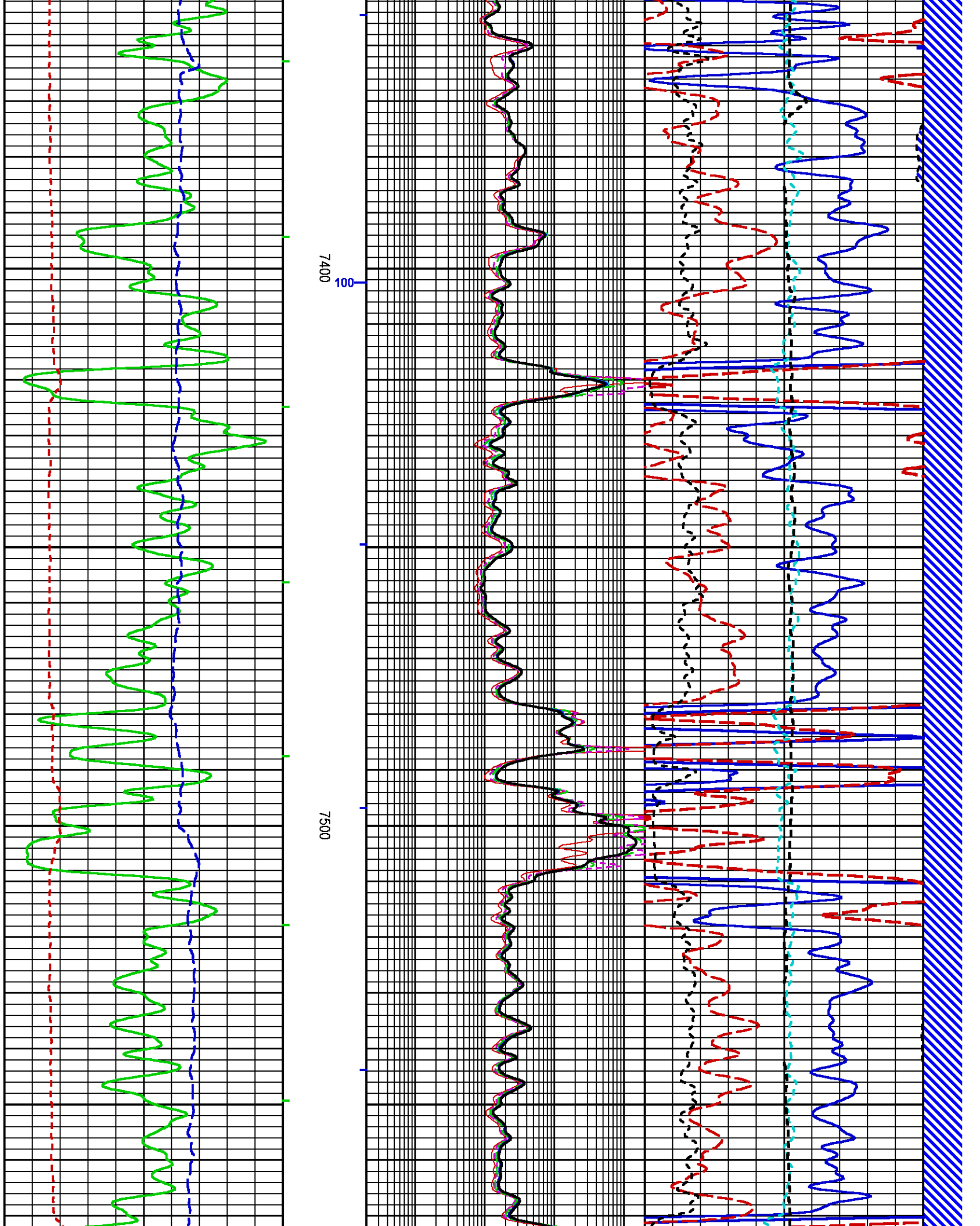


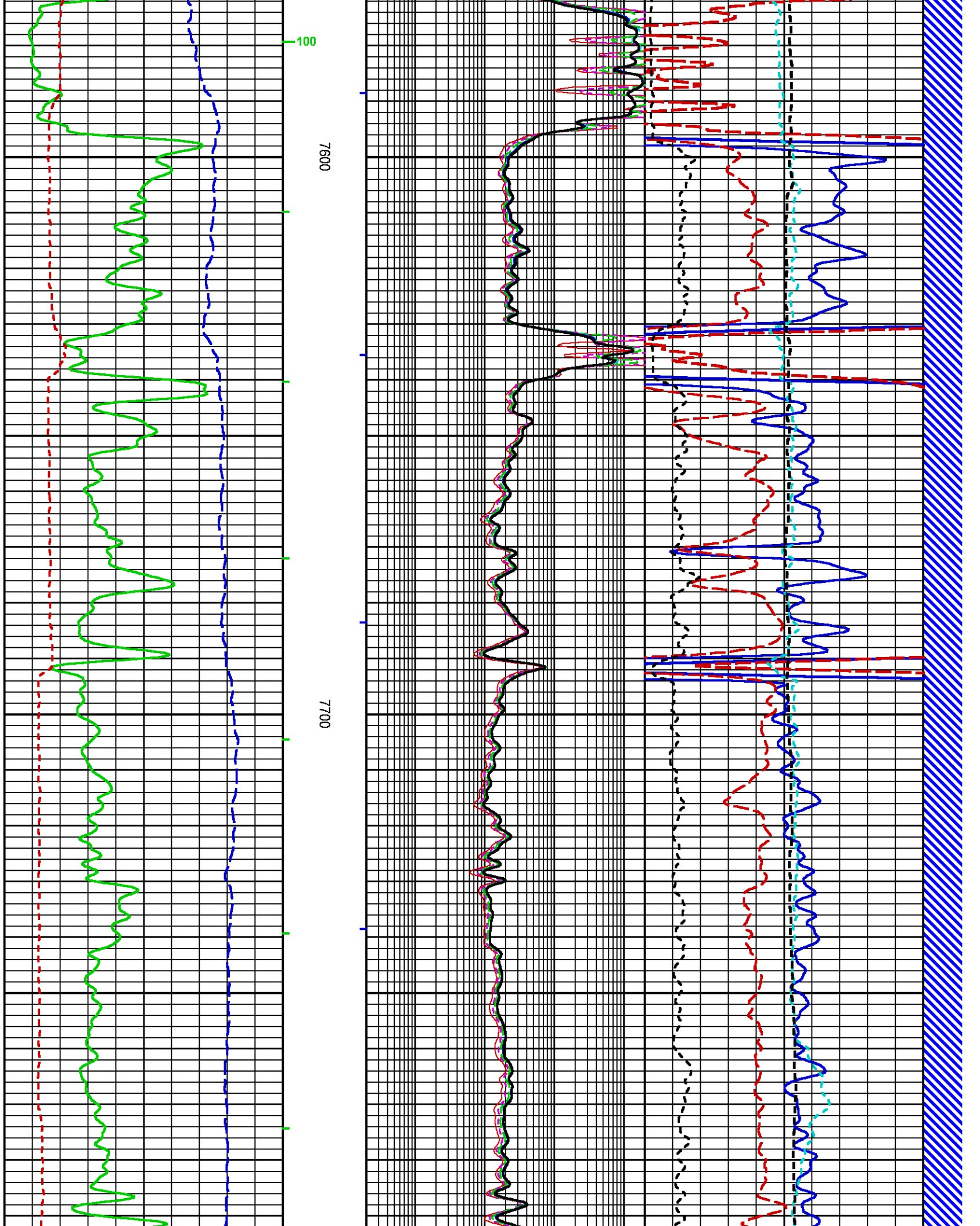
7200

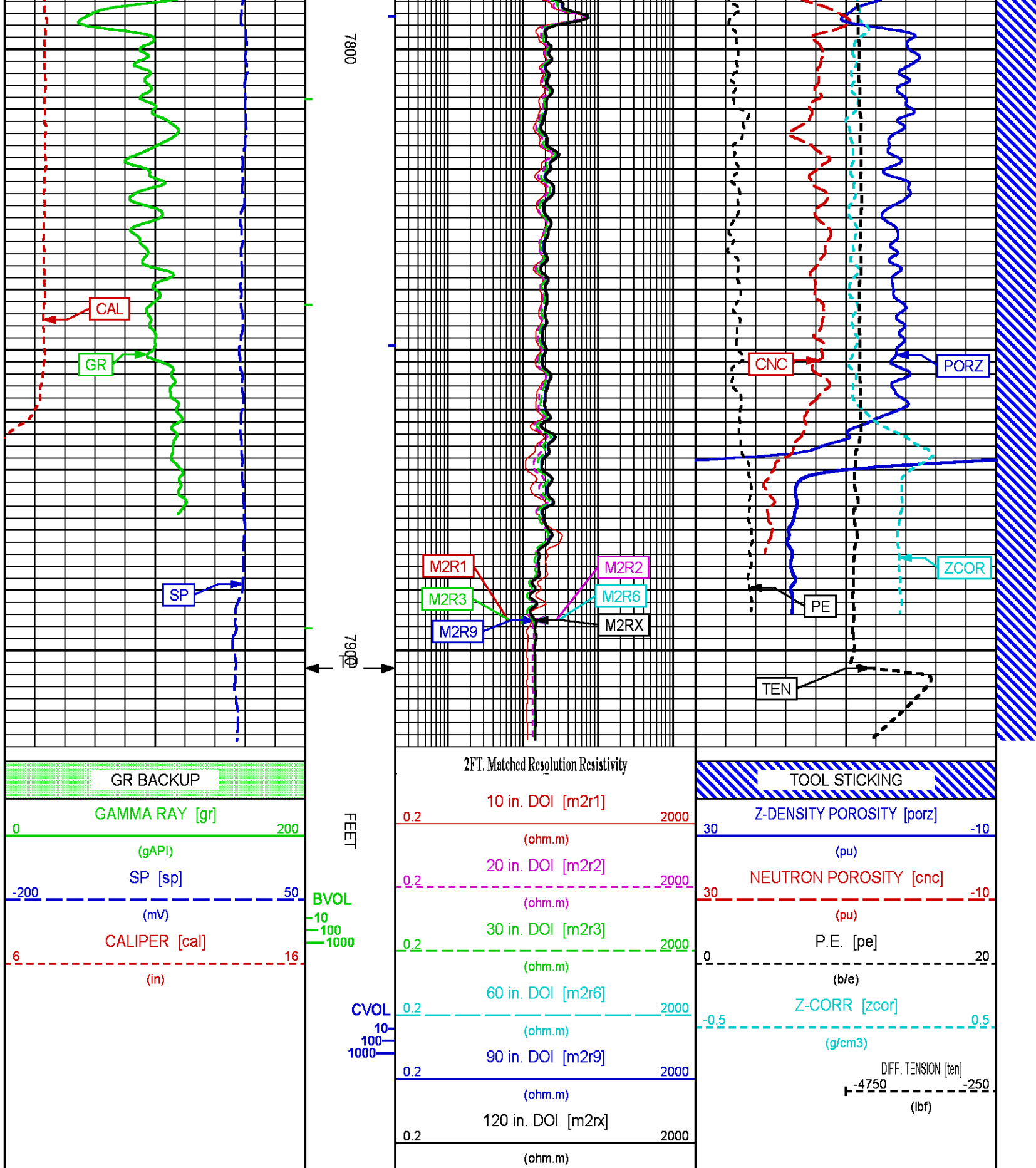
7300

200









REPEAT PASS SANDSTONE MATRIX 5"/100 FT SCALE

Plotted: Thu Dec 14 05:35:53 2017

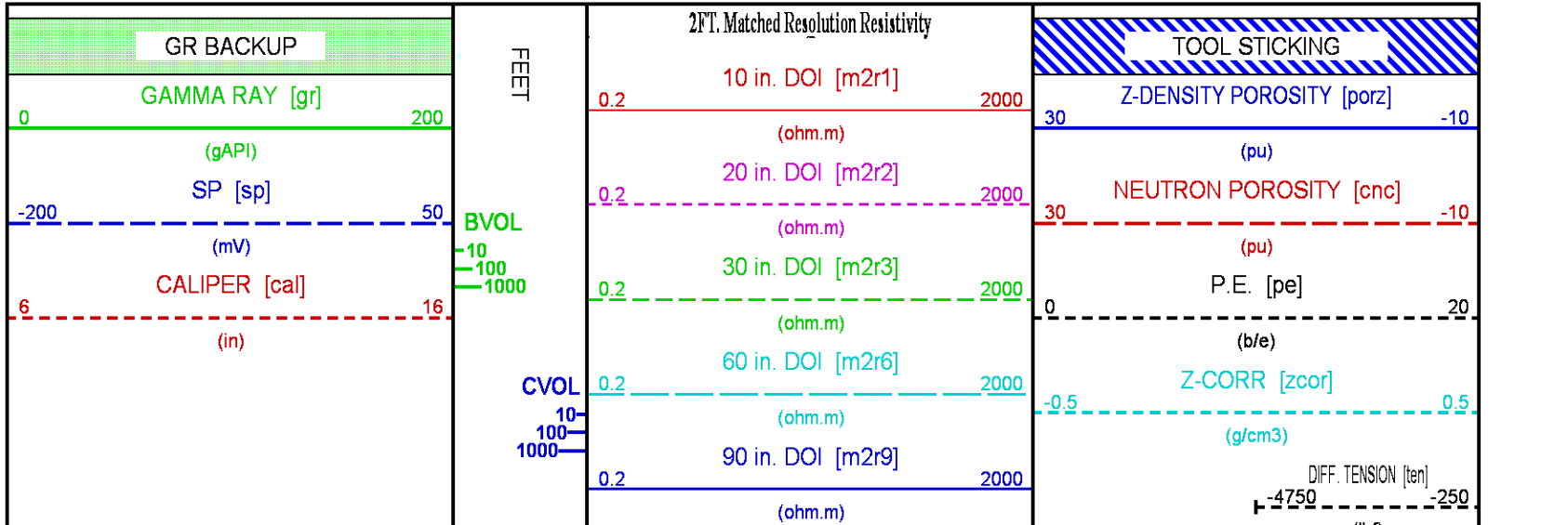
PARAMETER AND FILTER SUMMARY REPORT					
FILE: C:\dat1a\WELLDATA\Aramco\Bruton 30-14\p87cb01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 1450.250 ft BOTTOM DEPTH: 1840.272 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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)		"	"
	FILTER (.i)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	67.5	degF	"	"
	MUD SAMPLE RES	1.236	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
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		"	"
CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	900	ppm	"	"
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	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

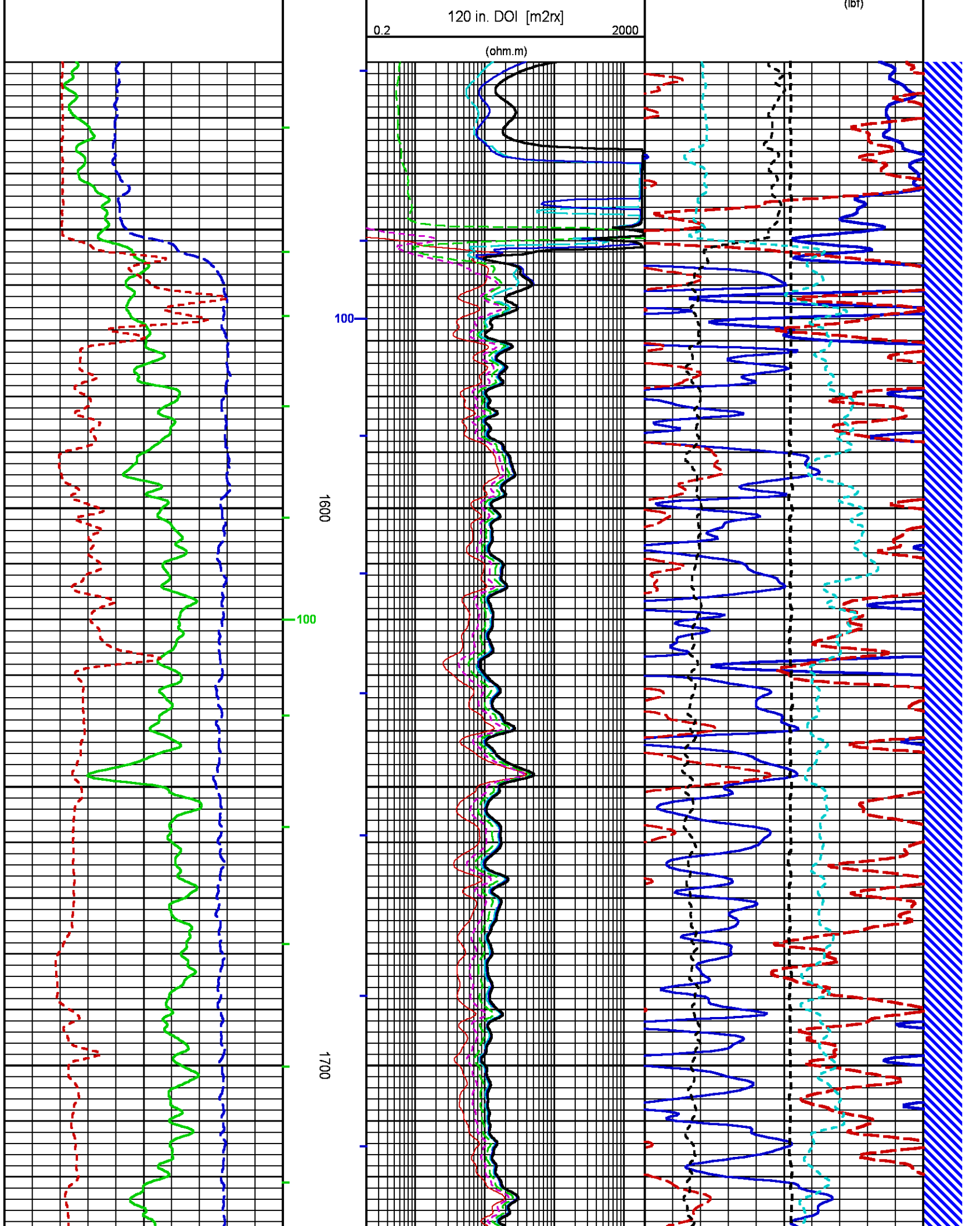
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min	"	"
HDIL PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		" "
	ABC to CALCULATE	STANDOFF		" "
	STANDOFF	1.50	in	" "
	TOOL POSITION	ECCENTERED		" "
	Rmud MULTIPLIER	1.000		" "
HDIL High RESISTIVITY Normalization	VRM Norm	ON		" "

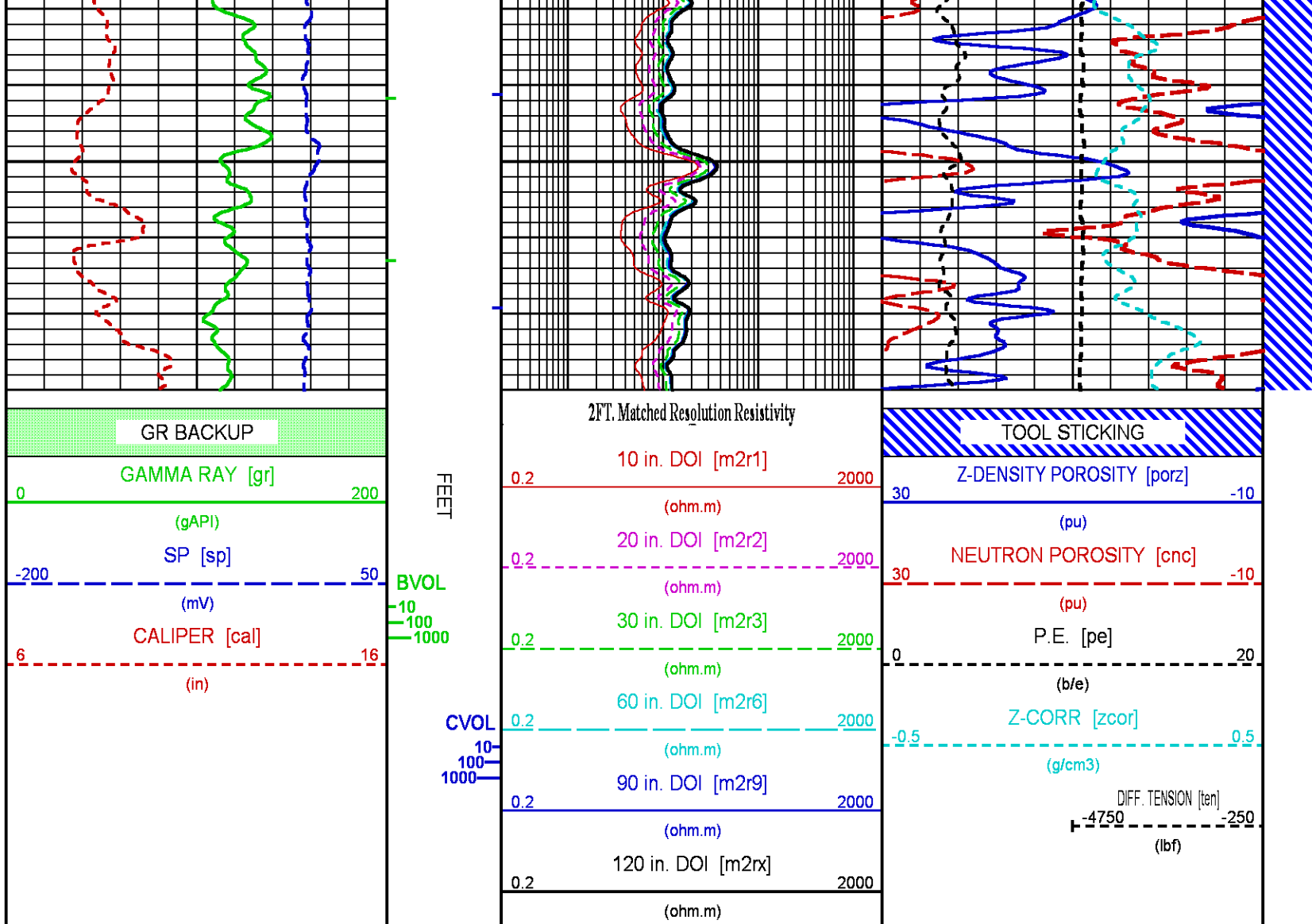
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNC	N/A	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:PE	N/A	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	N/A	POROSITY FOR SELECTABLE MATRIX
F1:SP	N/A	SPONTANEOUS POTENTIAL
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CAL	-35.00	M2R2	-8.00	M2RX	-8.00	TEN	0.00
CNC	-45.25	M2R3	-8.00	PE	-34.25	ZCOR	-34.25
GR	-52.25	M2R6	-8.00	PORZ	-34.25		
M2R1	-8.00	M2R9	-8.00	SP	-14.00		

Presentation	: BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\30-14E_HDILZDLCN_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 1520 - 1780 Feet
Data File 1	: F1 : BHIBX9FSY1:C:\dat1a\WELLDATA\Laramie\Bruton 30-14E\HDILZDLCNGR_30-14E_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY
Well	: BRUTON 30-14E
Field	: VEGA
File Interval	: 1386.75 - 1839.25 Feet
OCT	: p87cb







CALIBRATION / VERIFICATION SUMMARY

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Tue Nov 14 10:09:58 2017

UNIT #: 3882TD HL6728

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	153.51	1097.33	943.8	0.159	24.40	174.40	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Tue Nov 14 10:16:15 2017

UNIT #: 3882TD HL6728

VERI JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	151.36	1095.47	0.159	24.05	174.10	150.05

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10378389

DATE/TIME PERFORMED: Tue Nov 14 14:45:15 2017

UNIT #: 3882TD HL6728

CALIBRATOR #: 2437XB 120052

SOURCE #: 4717XS N_923

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	605.12	614.04				
SSN	1556.67	1606.69				
RATIO			2.61659	2.75100	1.05137	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10378389

DATE/TIME PERFORMED: Tue Nov 14 14:49:56 2017

UNIT #: 3882TD HL6728

ICE BLOCK #: 4717ND D_043

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	2032.28	2136.52				
SSN	4656.81	5135.18				
RATIO			2.40352	1.05137	2.52805	
CN						18.238

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Tue Nov 14 16:11:44 2017

UNIT #: 3882TD HL6728

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1230.8	2125.6	0.00796	-1.92546	7.875	15.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Wed Dec 13 18:29:57 2017

DAYS SINCE CAL: 29

UNIT #:

	I.D.	MULT	ADD	I.D. (in)
CALIPER	<input type="text" value="1372.0"/>	<input type="text" value="0.00796"/>	<input type="text" value="-2.90779"/>	<input type="text" value="8.017"/>

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: DATE/TIME PERFORMED: DAYS SINCE CAL: UNIT #:

	I.D.	MULT	ADD	I.D. (in)
CALIPER	<input type="text" value="1369.2"/>	<input type="text" value="0.00796"/>	<input type="text" value="-2.90779"/>	<input type="text" value="7.995"/>

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: DATE/TIME PERFORMED: UNIT: CALB BLKS: CS SRC:

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	<input type="text" value="225.9"/>	<input type="text" value="225.1"/>	<input type="text" value="1253.4"/>	<input type="text" value="1434.4"/>		
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	<input type="text" value="19252.8"/>	<input type="text" value="9976.9"/>	<input type="text" value="0.594"/>	<input type="text" value="1.700"/>	<input type="text" value="0.003"/>	<input type="text" value="2.160"/>
AL	<input type="text" value="11207.4"/>	<input type="text" value="1004.8"/>		<input type="text" value="2.698"/>	<input type="text" value="-0.010"/>	
AL + SHIM	<input type="text" value="15555.3"/>	<input type="text" value="1773.3"/>		<input type="text" value="2.619"/>	<input type="text" value="0.158"/>	
MG + SHIM (HI PE)	<input type="text" value="9164.0"/>	<input type="text" value="4646.7"/>	<input type="text" value="0.236"/>			<input type="text" value="8.500"/>
RATIO AL + SHIM/AL	<input type="text" value="1.39"/>	<input type="text" value="1.76"/>				
RATIO MG/AL	<input type="text" value="1.72"/>	<input type="text" value="9.93"/>				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: DATE/TIME PERFORMED: DAYS SINCE CAL: UNIT #:

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	<input type="text" value="1426.9"/>	<input type="text" value="224.2"/>	<input type="text" value="1260.0"/>
SS	<input type="text" value="1239.0"/>	<input type="text" value="223.9"/>	<input type="text" value="1236.0"/>

LV (V)	PAD CURRENT (mA)
<input type="text" value="5.0"/>	<input type="text" value="71.4"/>

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Wed Dec 13 22:41:11 2017

DAYS SINCE CAL: 29

UNIT #: CHANGE ME

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1426.0	223.3	1261.4
SS	1250.9	224.7	1239.2
	LV (V)	PAD CURRENT (mA)	
	5.0	71.0	

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 179553

DATE/TIME PERFORMED: Wed Nov 29 17:45:03 2017

UNIT #: 3882TD HL6741

GRCOND ID & DATE: 37 083096

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

Coil 0 R	-0.001	0.002	0.000	0.000	-0.002	0.000	-0.000	-0.004
Coil 0 Q	0.003	0.010	0.003	0.001	0.004	0.002	0.000	0.002
Coil 1 R	0.000	0.005	0.006	0.010	0.011	0.010	0.009	0.008
Coil 1 Q	-0.007	-0.012	-0.006	-0.005	-0.003	-0.000	0.001	0.002
Coil 2 R	0.004	-0.001	-0.002	-0.000	-0.001	-0.001	0.002	0.006
Coil 2 Q	-0.008	-0.007	0.001	-0.000	-0.005	-0.005	-0.002	-0.004
Coil 3 R	-0.003	-0.000	0.005	0.006	0.005	0.004	-0.000	0.002
Coil 3 Q	-0.004	-0.006	-0.001	-0.002	-0.000	0.002	0.003	0.003
Coil 4 R	-0.007	0.002	0.000	-0.003	0.002	0.005	0.006	0.005
Coil 4 Q	-0.009	-0.002	-0.004	-0.003	-0.001	-0.008	-0.003	0.003
Coil 5 R	-0.006	0.005	0.006	0.012	0.007	0.003	0.001	-0.012
Coil 5 Q	-0.012	0.004	0.002	-0.004	-0.004	0.004	0.004	0.007
Coil 6 R	-0.003	-0.013	-0.024	-0.011	-0.010	-0.001	0.017	0.015
Coil 6 Q	-0.010	-0.011	0.019	-0.000	-0.006	-0.017	-0.009	0.015

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

Coil 0 M	125.62	124.10	121.09	116.64	111.07	104.29	96.73	88.24
Coil 0 P	8.085	25.332	42.294	59.168	75.872	92.499	108.865	125.132
Coil 1 M	218.63	216.13	211.17	203.72	194.36	182.99	169.96	155.43
Coil 1 P	8.025	25.212	42.132	58.993	75.692	92.316	108.801	125.129
Coil 2 M	433.07	428.39	419.14	405.56	388.65	368.44	345.67	320.30
Coil 2 P	7.748	24.371	40.703	56.918	72.952	88.903	104.695	120.436
Coil 3 M	708.24	699.91	683.40	659.05	628.14	590.49	548.05	500.04
Coil 3 P	8.271	25.948	43.352	60.682	77.855	94.976	111.880	128.717
Coil 4 M	1136.5	1123.1	1096.3	1056.7	1006.8	946.5	878.2	802.0
Coil 4 P	8.355	26.251	43.860	61.374	78.734	96.007	113.077	130.055

Coil 4 P	0.000	20.201	40.000	61.014	70.104	80.007	110.071	100.000
Coil 5 M	2285.1	2257.9	2204.6	2125.3	2025.2	1903.7	1766.3	1612.2
Coil 5 P	8.501	26.682	44.574	62.390	80.044	97.638	115.048	132.374
Coil 6 M	5941.8	5865.6	5717.1	5501.7	5235.1	4917.7	4564.3	4175.0
Coil 6 P	8.418	26.666	44.546	62.266	79.779	97.162	114.299	131.360

AM Factor 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 R	601	46	-52	-95	-118	-131	-139	-145
Coil 0 Q	1423	592	368	248	166	103	52	9
Coil 1 R	540	93	29	5	-7	-14	-18	-21
Coil 1 Q	893	385	248	180	140	112	91	74
Coil 2 R	193.3	31.9	10.3	2.8	-0.8	-3.0	-4.5	-5.4
Coil 2 Q	364.5	152.9	99.4	75.2	61.8	53.3	47.9	43.8
Coil 3 R	47.3	6.2	1.3	-0.4	-1.2	-1.8	-2.2	-2.8
Coil 3 Q	91.3	39.7	28.5	24.7	23.4	23.4	24.0	24.3
Coil 4 R	11.36	0.58	-0.55	-1.06	-1.41	-1.52	-1.54	-1.55
Coil 4 Q	18.87	11.12	10.73	11.77	13.19	15.07	16.96	19.19
Coil 5 R	1.44	-1.06	-1.39	-1.34	-1.49	-1.53	-1.41	-1.48
Coil 5 Q	5.13	5.05	6.51	8.39	10.36	12.38	14.51	16.63
Coil 6 R	-2.91	-1.68	-1.29	-1.20	-0.98	-0.96	-0.95	-0.97
Coil 6 Q	-4.19	0.82	3.59	6.13	8.33	10.65	12.82	15.20

MM Factor 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 M	0.956	0.977	0.988	0.994	0.996	0.997	0.998	1.000
Coil 0 P	-0.812	-1.448	-1.220	-0.936	-0.761	-0.618	-0.559	-0.472
Coil 1 M	0.921	0.948	0.962	0.969	0.972	0.974	0.975	0.976
Coil 1 P	-1.131	-1.935	-1.632	-1.309	-1.080	-0.980	-0.854	-0.827
Coil 2 M	1.001	0.997	0.997	0.996	0.995	0.994	0.994	0.993
Coil 2 P	0.098	0.091	0.121	0.162	0.195	0.172	0.181	0.176
Coil 3 M	1.018	1.017	1.017	1.016	1.015	1.015	1.016	1.017
Coil 3 P	0.098	0.079	0.113	0.130	0.125	0.082	0.030	0.117
Coil 4 M	1.029	1.028	1.028	1.027	1.026	1.026	1.025	1.025
Coil 4 P	0.068	0.087	0.084	0.123	0.129	0.115	0.094	0.080
Coil 5 M	1.016	1.016	1.016	1.015	1.015	1.016	1.015	1.015
Coil 5 P	0.070	-0.008	0.041	0.051	0.021	-0.041	0.001	0.011
Coil 6 M	1.013	1.013	1.012	1.011	1.012	1.018	1.019	1.019
Coil 6 P	0.111	0.155	0.060	0.100	0.017	-0.090	-0.081	-0.211

PARMS TCID 0 TCID 1 Cal Temp T Factor
(degF)

IDs 1.414 0.852 61.5 1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1515MA 179553 DATE/TIME PERFORMED: Wed Dec 13 19:09:53 2017 DAYS SINCE CAL: 14

UNIT #: CHANGE ME

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

Coil 0 R	0.002	0.003	-0.000	-0.000	-0.006	-0.004	-0.004	-0.006
Coil 0 Q	0.004	0.012	0.004	0.007	0.004	0.001	-0.000	-0.000
Coil 1 R	0.005	0.000	0.001	0.000	0.000	0.001	0.000	0.000

Coil 1 R	0.005	0.003	0.001	0.002	-0.002	-0.001	-0.002	0.000
Coil 1 Q	-0.005	-0.003	0.002	0.004	0.001	-0.001	-0.001	-0.004
Coil 2 R	0.004	0.003	-0.000	-0.002	-0.005	-0.006	0.001	0.004
Coil 2 Q	-0.006	-0.003	0.003	0.003	-0.004	-0.004	-0.006	-0.007
Coil 3 R	-0.001	-0.005	0.002	0.003	-0.002	-0.002	-0.004	-0.004
Coil 3 Q	-0.003	-0.001	0.003	-0.000	0.003	0.002	0.002	-0.003
Coil 4 R	-0.010	-0.006	-0.007	-0.002	-0.005	-0.003	-0.001	0.004
Coil 4 Q	-0.012	0.004	-0.003	0.004	-0.010	-0.007	-0.009	-0.002
Coil 5 R	0.001	-0.004	-0.001	0.003	-0.001	0.002	-0.004	-0.001
Coil 5 Q	0.004	-0.000	0.010	0.008	0.006	-0.001	-0.001	-0.002
Coil 6 R	0.008	0.001	-0.023	-0.021	-0.005	-0.021	-0.004	0.018
Coil 6 Q	-0.017	0.013	-0.007	-0.000	-0.016	0.001	0.007	0.015

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

Coil 0 M	125.50	123.93	120.96	116.46	110.96	104.21	96.66	88.14
Coil 0 P	8.096	25.394	42.387	59.294	76.027	92.723	109.102	125.518
Coil 1 M	218.55	215.95	211.10	203.63	194.33	182.92	170.12	155.41
Coil 1 P	8.036	25.271	42.215	59.114	75.838	92.555	109.018	125.527
Coil 2 M	434.66	429.83	420.66	407.00	390.24	369.82	347.41	321.72
Coil 2 P	7.763	24.439	40.807	57.051	73.114	89.187	104.978	120.889
Coil 3 M	710.78	702.08	685.53	660.71	629.80	591.58	549.36	500.75
Coil 3 P	8.305	26.069	43.541	60.929	78.166	95.379	112.307	129.262
Coil 4 M	1139.0	1125.1	1098.3	1058.0	1008.2	947.2	879.6	802.5
Coil 4 P	8.380	26.350	44.010	61.567	78.961	96.334	113.417	130.509
Coil 5 M	2299.7	2271.9	2218.4	2138.3	2038.4	1915.2	1778.3	1622.2
Coil 5 P	8.521	26.770	44.725	62.595	80.304	97.996	115.441	132.875
Coil 6 M	5943.2	5865.3	5718.3	5502.4	5238.1	4919.2	4573.1	4180.0
Coil 6 P	8.432	26.749	44.657	62.435	79.983	97.492	114.634	131.818

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 179553

DATE/TIME PERFORMED: Wed Dec 13 21:56:31 2017

DAYS SINCE CAL: 14

UNIT #: CHANGE ME

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

Coil 0 R	0.002	0.001	-0.002	-0.002	-0.005	-0.003	-0.003	-0.006
Coil 0 Q	0.003	0.010	0.004	0.003	0.004	0.001	-0.000	0.001
Coil 1 R	0.006	0.005	-0.000	0.001	0.000	-0.001	-0.001	0.001
Coil 1 Q	-0.002	-0.001	0.000	0.002	-0.000	-0.001	-0.002	-0.003
Coil 2 R	0.001	0.000	-0.004	-0.003	-0.002	-0.002	-0.000	0.004
Coil 2 Q	-0.008	-0.008	0.001	-0.000	-0.005	-0.004	-0.003	-0.006
Coil 3 R	-0.001	-0.005	0.001	0.002	0.001	0.000	-0.003	-0.001
Coil 3 Q	0.000	-0.004	-0.000	-0.000	-0.002	-0.000	-0.001	-0.002
Coil 4 R	-0.013	-0.008	-0.009	-0.007	-0.014	0.002	-0.002	0.002
Coil 4 Q	-0.003	0.003	-0.002	-0.003	-0.005	-0.007	-0.004	-0.001
Coil 5 R	-0.004	0.010	0.000	0.005	-0.004	-0.004	-0.004	-0.007
Coil 5 Q	0.002	-0.006	-0.003	0.009	0.007	0.014	0.007	0.004
Coil 6 R	0.006	-0.023	-0.006	-0.025	-0.014	-0.014	0.000	0.002
Coil 6 Q	0.007	0.001	0.010	-0.008	-0.010	-0.020	-0.021	-0.004

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

Coil 0 M	125.51	123.92	120.75	116.21	110.44	103.59	95.80	87.13
Coil 0 P	8.140	25.472	42.527	59.431	76.219	92.818	109.307	125.481
Coil 1 M	218.53	215.88	210.67	203.11	193.36	181.81	168.42	153.55
Coil 1 P	8.078	25.357	42.365	59.251	76.044	92.666	109.237	125.491
Coil 2 M	433.80	428.88	419.05	405.16	387.51	366.79	343.29	317.21
Coil 2 P	7.801	24.515	40.943	57.187	73.322	89.276	105.162	120.821
Coil 3 M	709.74	700.95	683.41	658.34	626.06	587.55	543.65	494.62
Coil 3 P	8.337	26.128	43.648	61.023	78.308	95.428	112.439	129.172
Coil 4 M	1137.7	1123.6	1095.1	1054.4	1002.5	940.8	870.6	792.7
Coil 4 P	8.412	26.411	44.125	61.669	79.126	96.388	113.563	130.428
Coil 5 M	2293.6	2265.3	2208.7	2127.6	2023.1	1899.1	1757.3	1599.3
Coil 5 P	8.554	26.831	44.828	62.680	80.447	98.039	115.534	132.759
Coil 6 M	5941.7	5862.0	5706.7	5486.8	5210.7	4887.0	4525.5	4129.3
Coil 6 P	8.465	26.811	44.781	62.535	80.133	97.512	114.783	131.752

INSTRUMENT CONFIGURATION

CABLEHEAD

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

CABLEHEAD TOP 71.13'

TTRM SUB

Diameter : 3.63"
 Length : 3.83'
 Weight : 62 lbs
 Series : 3981XA
 Mnemonic : TTRM
 Measure Point: 1.38': TEMP MP
 Measure Point: 1.13': RM MP

TEMP MP 65.93'
 RM MP 65.68'

WTS COMMON REMOTE

Diameter : 3.63"
 Length : 6.36'
 Weight : 126 lbs
 Series : 3514XB
 Mnemonic : WTS



73.88'

DIGITAL SPECTRALOG

Diameter : 3.63"
Length : 7.31'
Weight : 130 lbs
Series : 1329XA
Mnemonic : DSL
Measure Point: 1.60': GR MP

GR MP — 52.48'

COMPENSATED NEUTRON

Diameter : 3.63"
Length : 7.59'
Weight : 150 lbs
Series : 2446XA
Mnemonic : CN
Measure Point: 2.63': LSN MP
Measure Point: 2.24': SSN MP

LSN MP — 45.92'

SSN MP — 45.52'

Z-DENSILOG

Diameter : 4.88"
Length : 11.22'
Weight : 360 lbs
Series : 2234XA
Mnemonic : ZDL
Measure Point: 3.19': CAL MP
Measure Point: 2.47': LSD MP
Measure Point: 2.07': SSD MP

CAL MP — 35.26'

LSD MP — 34.54'

SSD MP — 34.14'

KNUCKLE JOINT (DOUBLE)

Diameter : 3.38"
 Length : 4.65'
 Weight : 90 lbs
 Series : 3939XA
 Mnemonic : KNJT

HIGH DEFINITION INDUCTION TOOL

Diameter : 3.63"
 Length : 27.13'
 Weight : 415 lbs
 Series : 1515XA
 Mnemonic : HDIL
 Measure Point: 13.91': SP MP
 Measure Point: 7.44': XMTR MP

SP MP 14.19'

XMTR MP 7.72'

BULL PLUG 3 3/8

0.00'

TOTAL LENGTH: 73.88'
TOTAL WEIGHT: 1374 lbs
MAX DIAMETER: 0'4.88"

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY LARAMIE ENERGY
WELL BRUTON 30-14E
FIELD VEGA
COUNTY MESA STATE COLORADO

FILE NO:

API NO:

05077104710000

LOCATION:

SHL: 2606' FNL & 1874' FEL
BHL: 1867' FSL & 1333' FEL

ELEVATIONS:

KB 7672 FT
DF
GL 7642 FT

SEC 30 TWP 9S RGE 93W

DATE 13-Dec-2017