



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

FILE NO:	COMPANY	LARAMIE ENERGY
API NO:	WELL	HG FED 35-01W
05077093060000	FIELD	ALKALI CREEK
	COUNTY	MESA
		STATE COLORADO
Version	LOCATION:	OTHER SERVICES
	LAT: 39.32834 N	NONE
	LONG: -107.63516 W	
	SEC 26	TWP 8S
		RGE 92W
PERMANENT DATUM	GL	ELEVATION
LOG MEASURED FROM	KB	14 FT
DRILL. MEAS. FROM	KB	ABOVE P.D.
		ELEVATIONS:
		KB 7999 FT
		DF
		GL 7985 FT

DATE	26-Nov-2017
RUN	1
TRIP	1
SERVICE ORDER	US129946
DEPTH DRILLER	8688 FT
DEPTH LOGGER	8674 FT
BOTTOM LOGGED INTERVAL	8674 FT
TOP LOGGED INTERVAL	0 FT
CASING DRILLER	8.625 IN
CASING LOGGER	1025 FT
BIT SIZE	7.875 IN
TYPE OF FLUID IN HOLE	LSND
DENSITY	9.5
VISCOSITY	60 S
PH	7.5
FLUID LOSS	7.5
SOURCE OF SAMPLE	MUD PIT
RM AT MEAS. TEMP.	4.36 OHMM
RMF AT MEAS. TEMP.	4.83 OHMM
RMC AT MEAS. TEMP.	2.54 OHMM
SOURCE OF RMF	RMC
RM AT BHT	1.69 OHMM
TIME SINCE CIRCULATION	12 HOURS
MAX. RECORDED TEMP.	201.7 DEGF
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	SINICKI
WITNESSED BY	SETTLES/CATES

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: ONE OPERATION IN THE WELL: HDIL/ZDL/CN/GR

HDIL WOULD NOT PASS THE BEFORE LOG VERIFICATIONS. THE VALIDITY OF THE DATA CANNOT BE GUARANTEED.

10", 20", AND 30" CURVES HAVE BEEN REMOVED FOR PRESENTATION PURPOSES AS THEY WERE THE MOST AFFECTED.

SP RESPONSE WAS ABNORMAL AND NOT PRESENTED.

INSTRUCTED BY ANDY MCCARTHY TO RUN THE TOOLS IN LIGHT OF THE TOOL ISSUES.

STICK AND PULL ALONG WITH BOREHOLE RUGOSITY HAS AFFECTED DATA QUALITY AND REPEATABILITY.

MATRIX = SANDSTONE

RHO MATRIX = 2.68 G/CC

BVOL AND CVOL ARE PRESENTED IN CUBIC FEET

CVOL CALCULATED USING A FUTURE CASING SIZE OF 4.5"

RIG: AZTEC 920

CREW: COFFELT/PENA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XB	10045153	FREE
1	1	WTS	3514XB	10226222	FREE
1	1	DSL	1329XA	179184	FREE
1	1	CN	2446XA	10342170	DECENTRALIZED
1	1	ZDL	2234XA	10231795	PAD DEVICE
1	1	KNJT	3939XA	167196	FREE
1	1	HDIL	1515EA/MA	177896/10326318	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

Plotted: Sun Nov 26 23:12:38 2017

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\LARAMIE_HG_FED_35-01\p763g03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 49.750 ft BOTTOM DEPTH: 8667.879 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 TENSION GR	FILTER ()	medium (1)		"	"
	FILTER ()	medium (1)		"	"
	FILTER ()	medium (1)		"	"
CALIPER	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
	FILTER ()	medium (1)		"	"
SP-SPDH	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	65.9	degF	"	"
	MUD SAMPLE RES	4.360	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		"	"

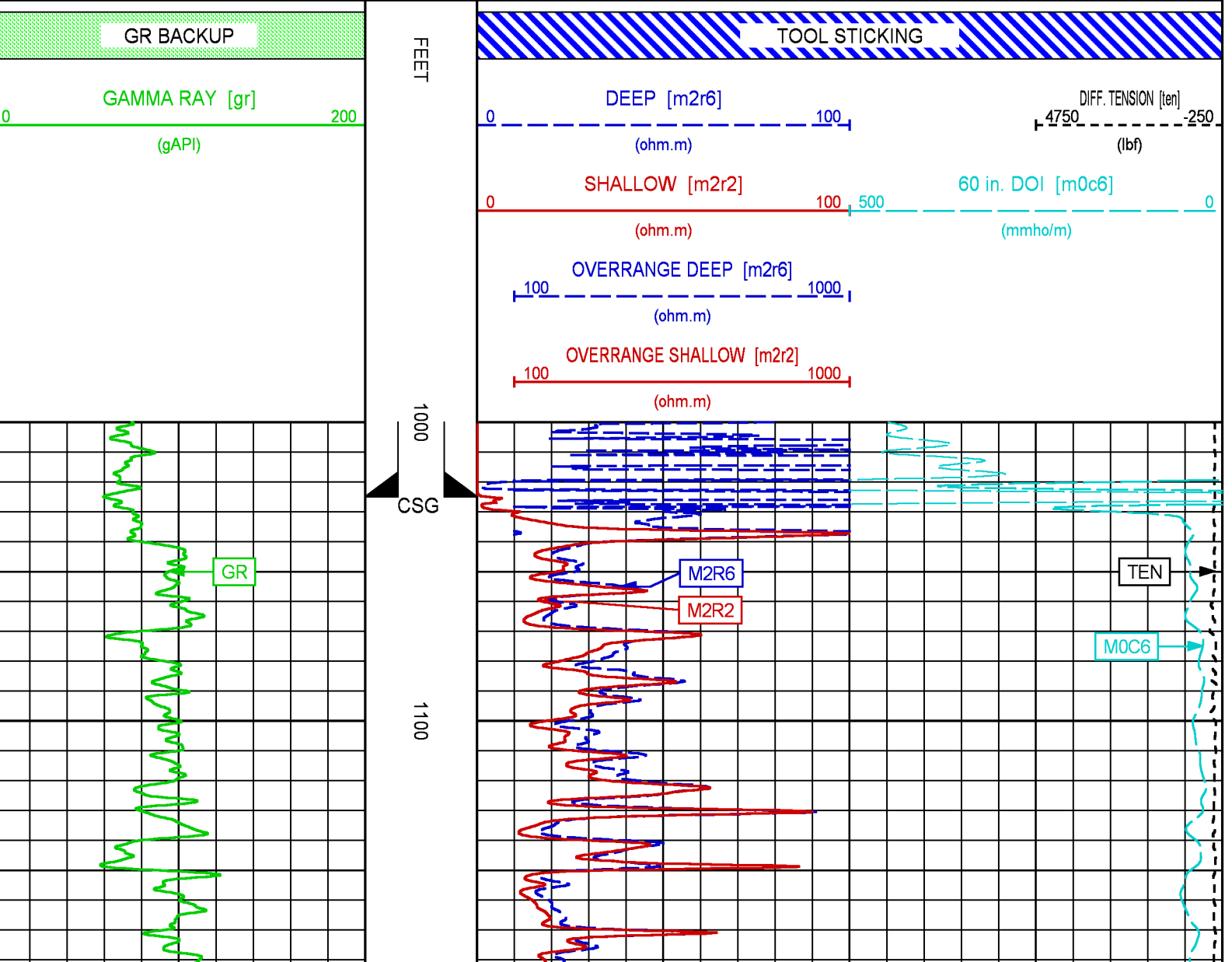
CURVE DESCRIPTION REPORT

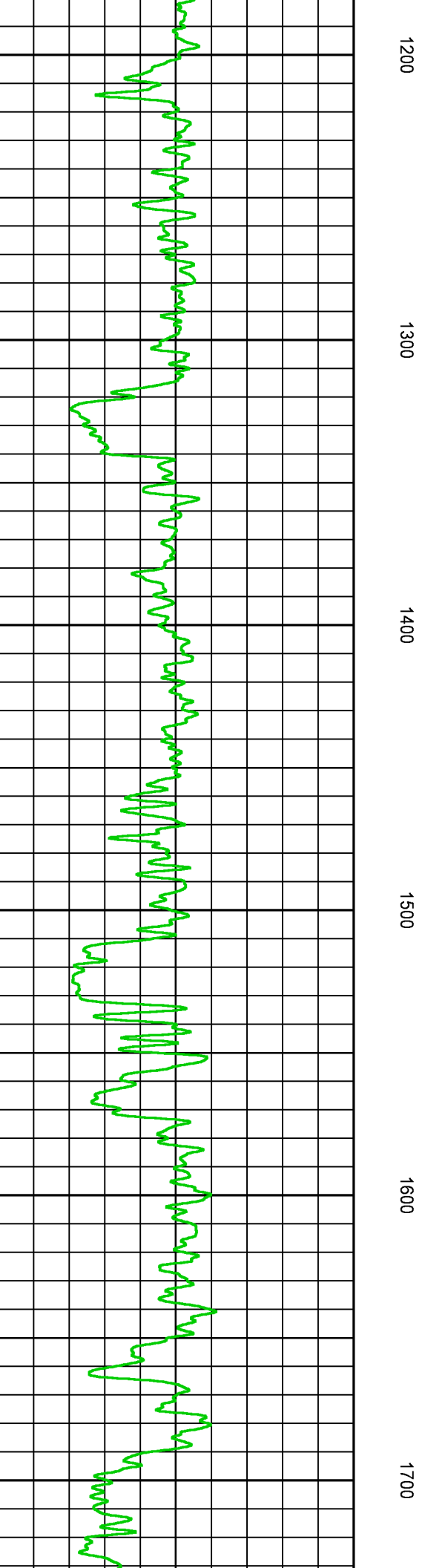
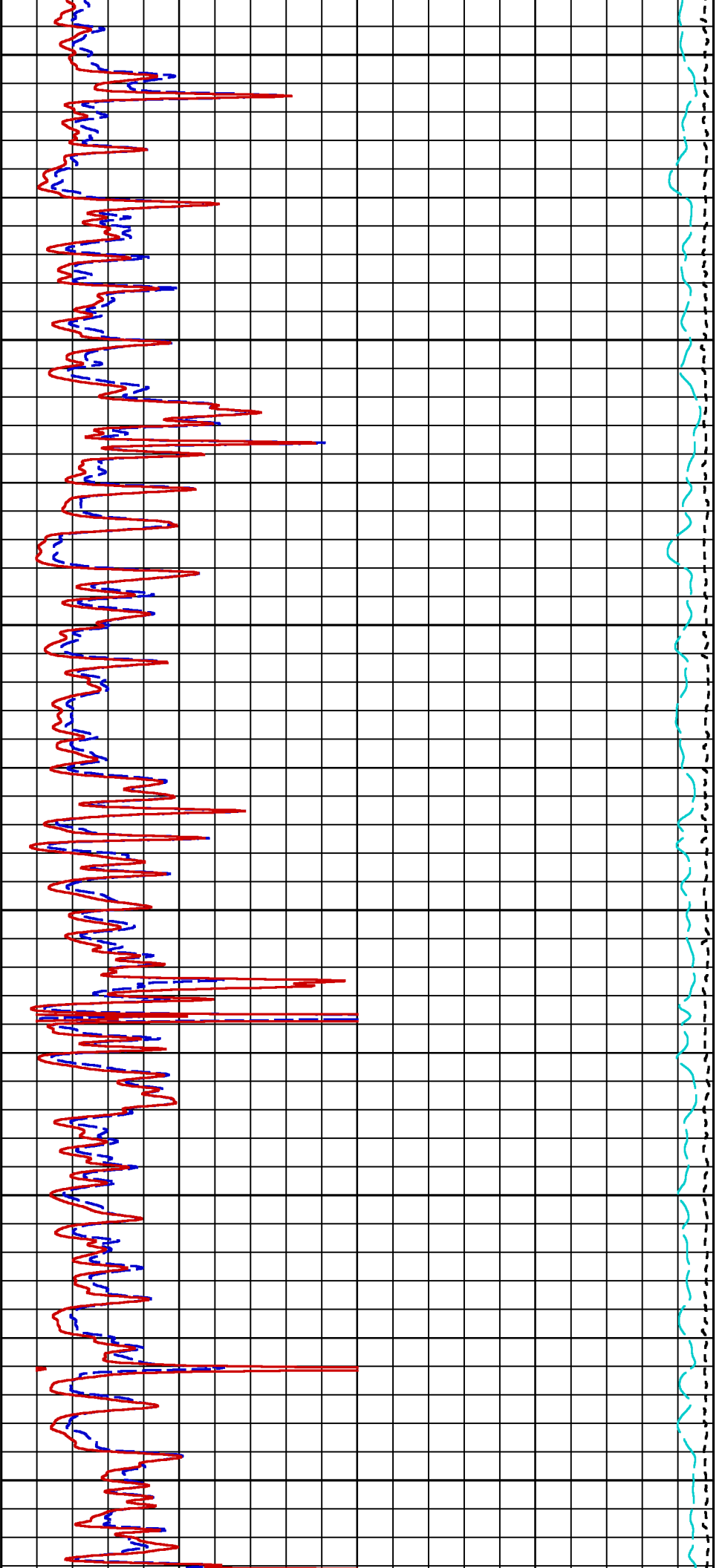
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	N/A	GAMMA RAY
F1:M0C6	N/A	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:TEN	N/A	DIFFERENTIAL TENSION

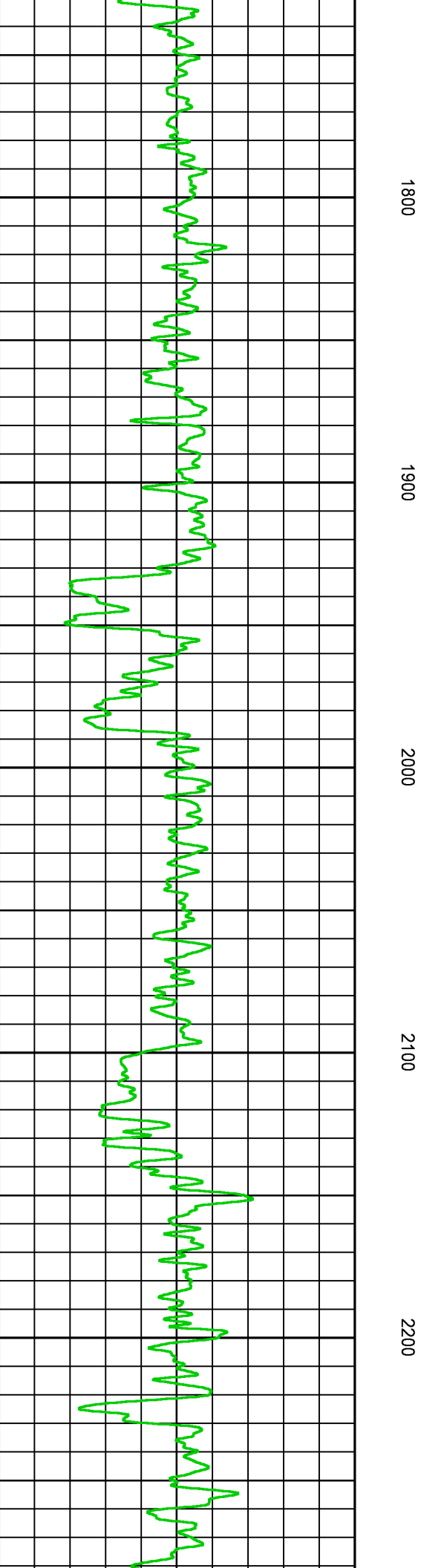
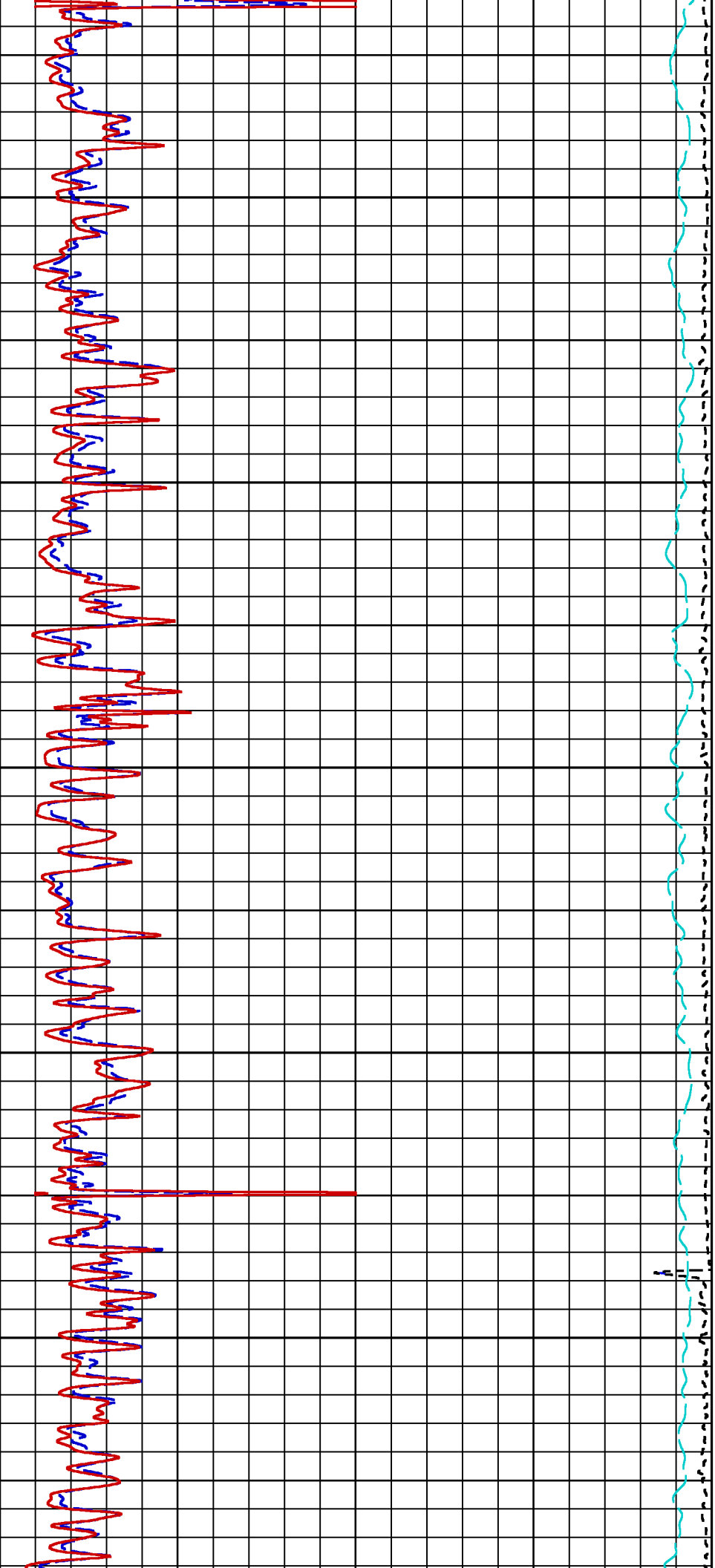
CURVE MEASURE POINT OFFSET

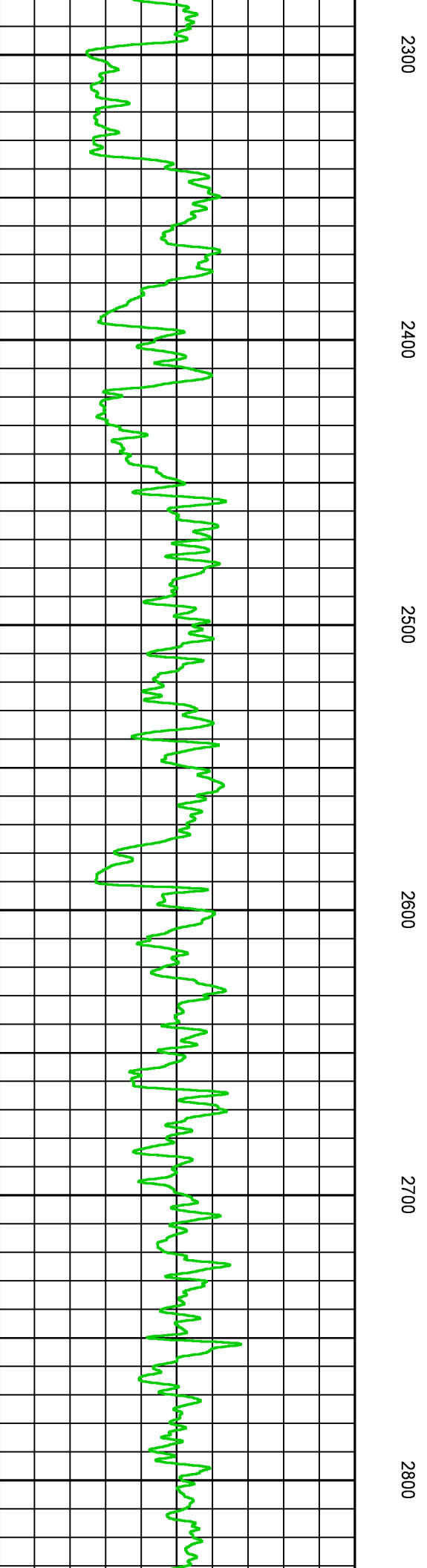
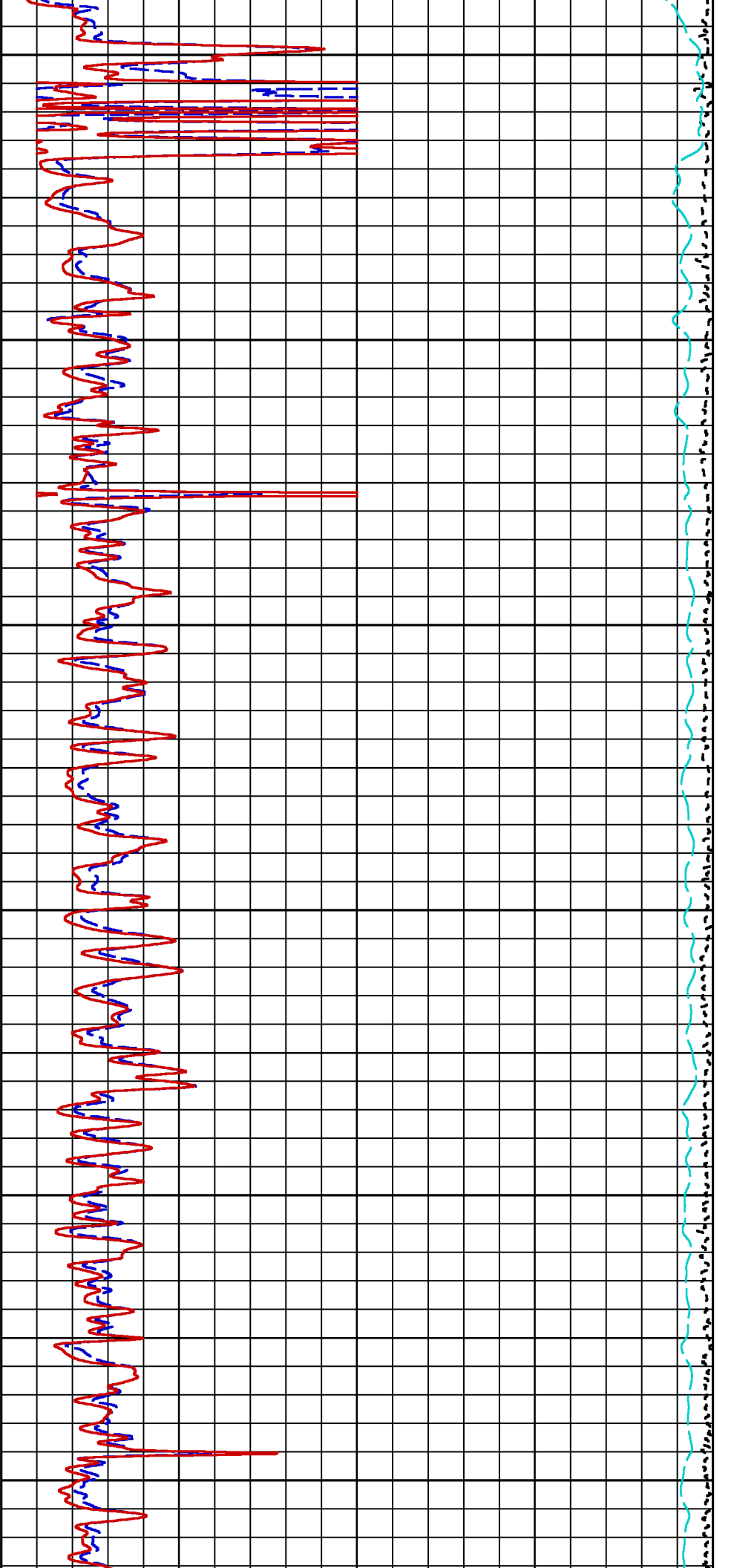
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	-52.25	M2R2	-8.00	TEN	0.00		
M0C6	-8.00	M2R6	-8.00				

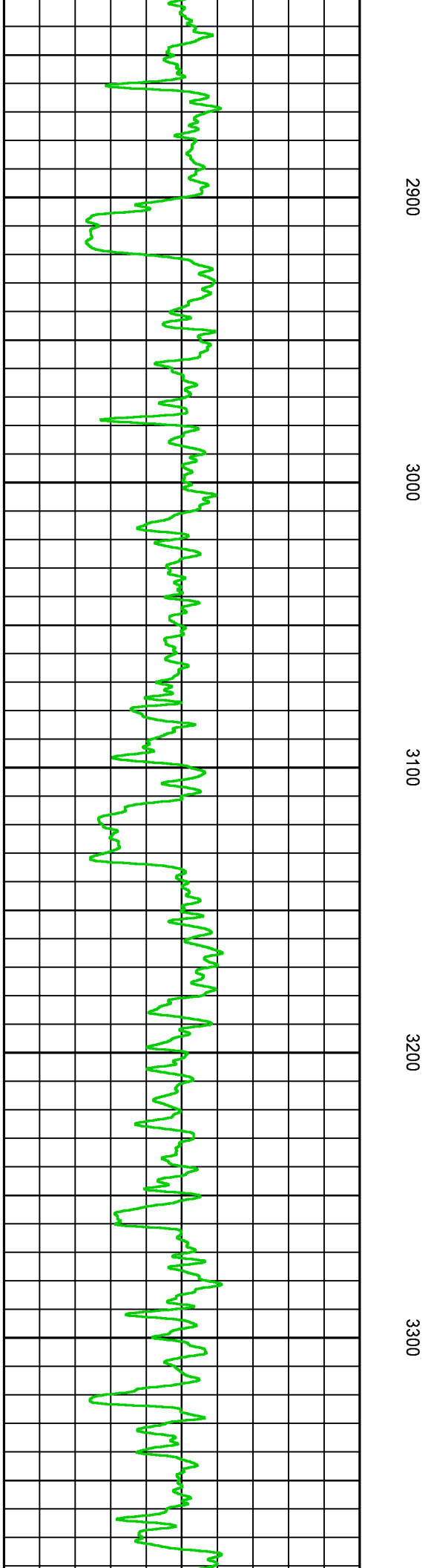
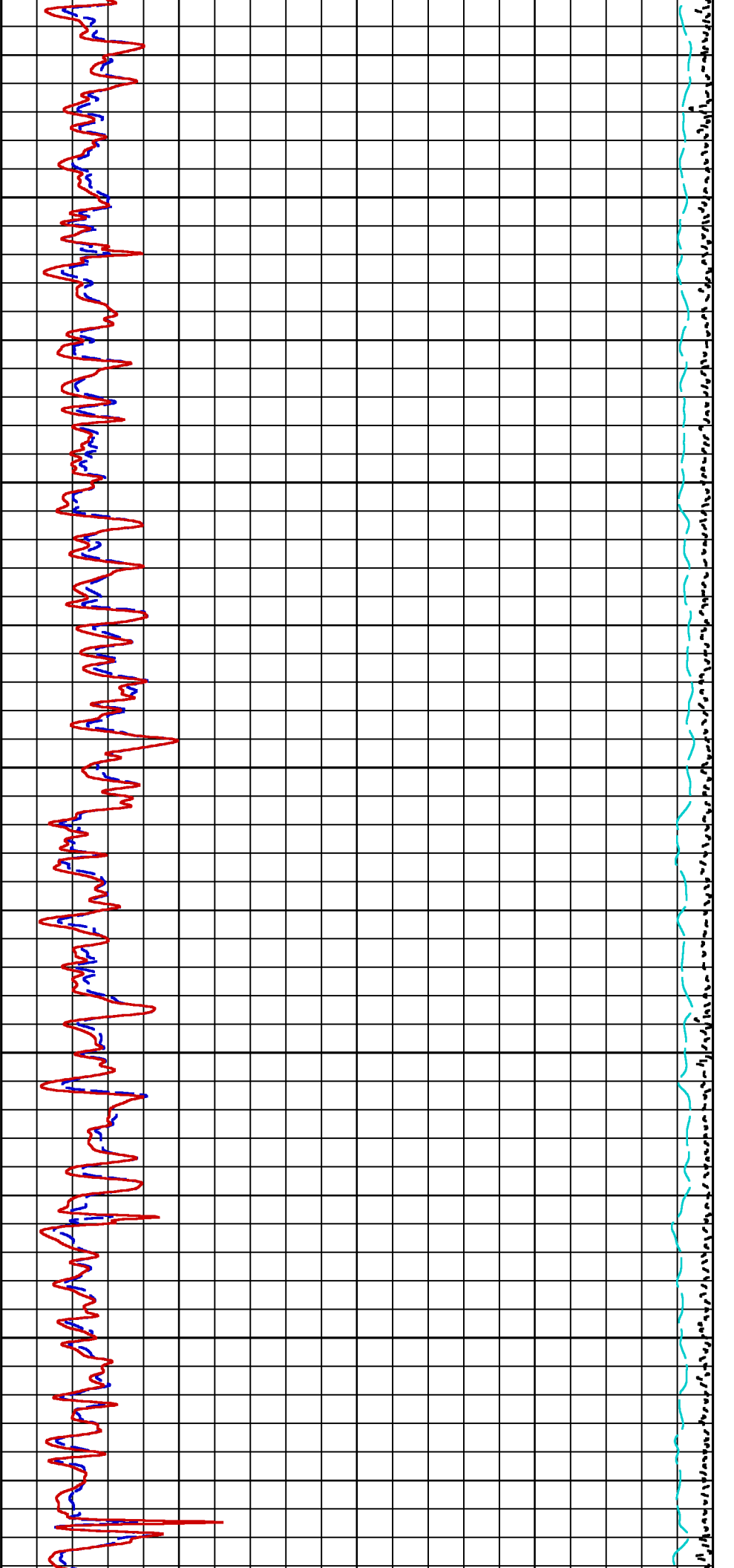
Presentation	: BHI3FJQNC2:C:\dat1a\LARAMIE_HG_FED_35-01\MAIN_HDILLIN.fvpdf [2"/100' Scale]
Plot Interval	: 1000 - 8679.5 Feet
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Created On	: N/A
Company	: LARAMIE ENERGY
Well	: HG FED 35-01W
Field	: ALKALI CREEK
File Interval	: 3.75 - 8680.75 Feet
OCT	: p763g

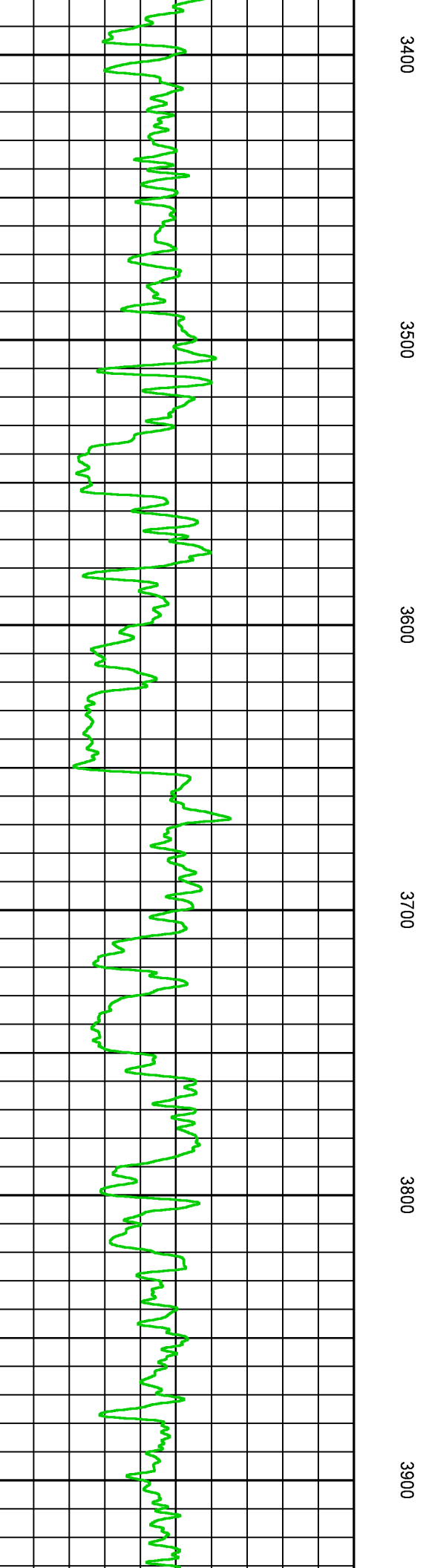
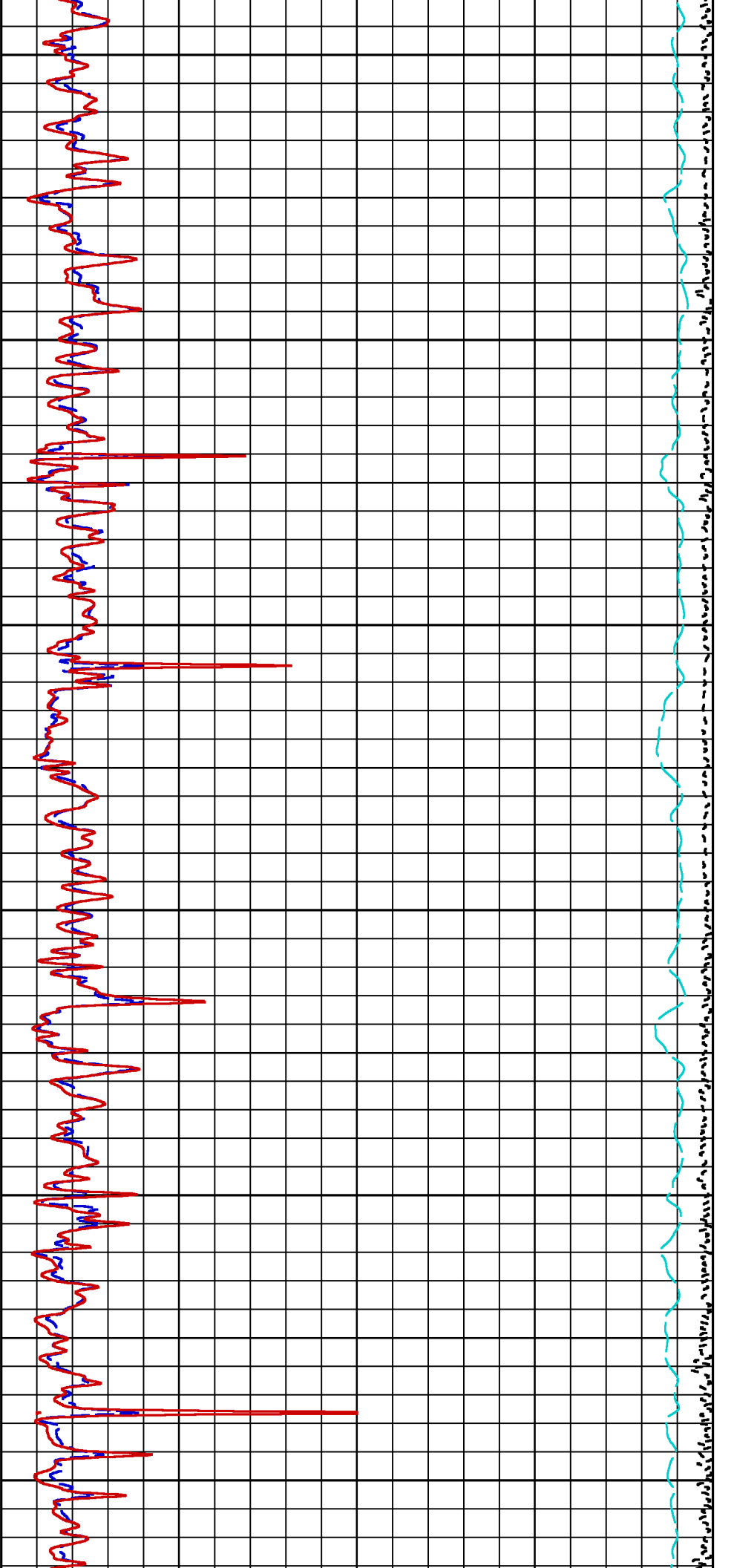


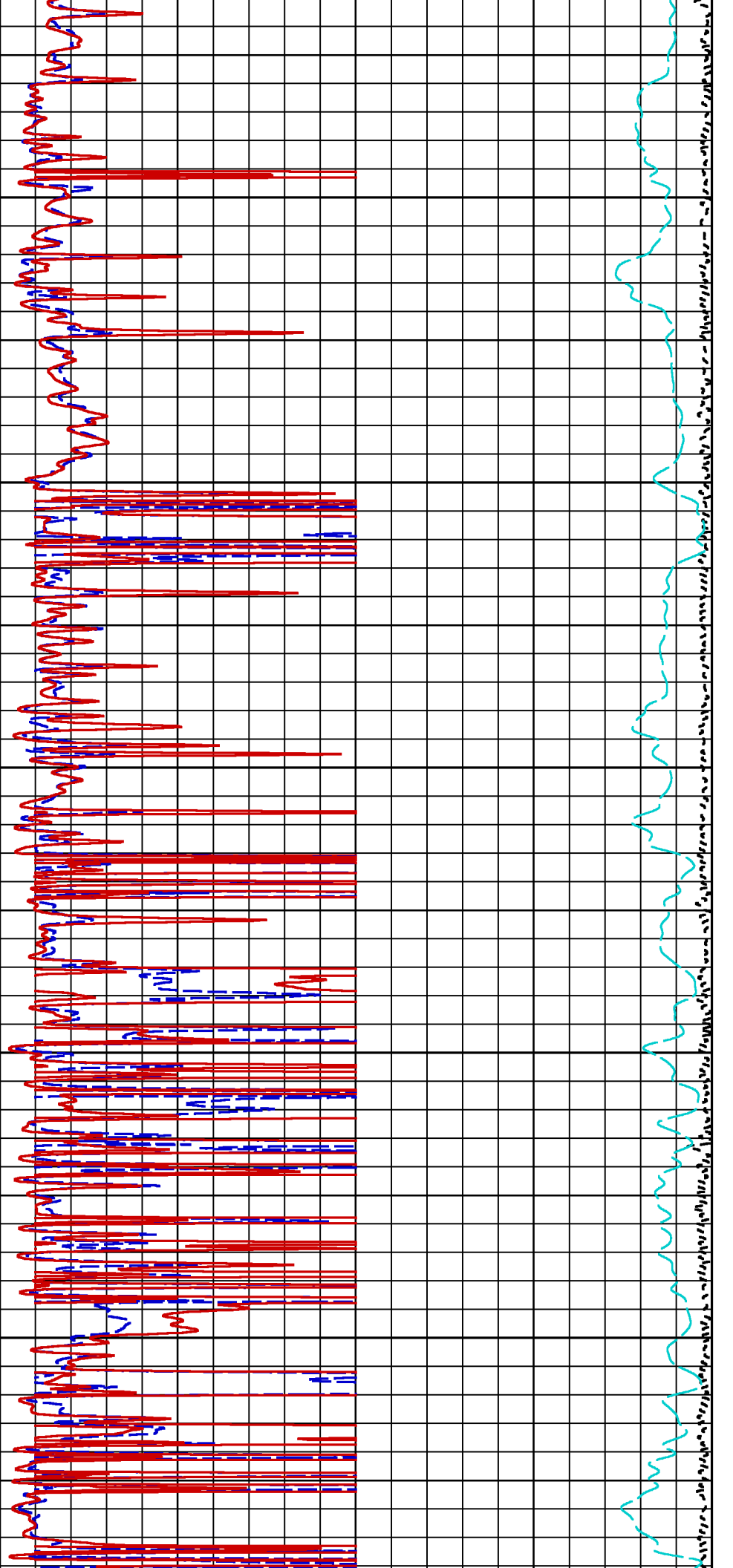












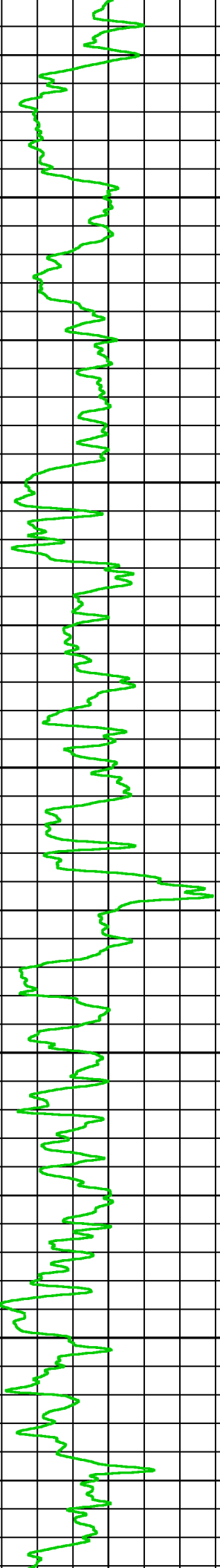
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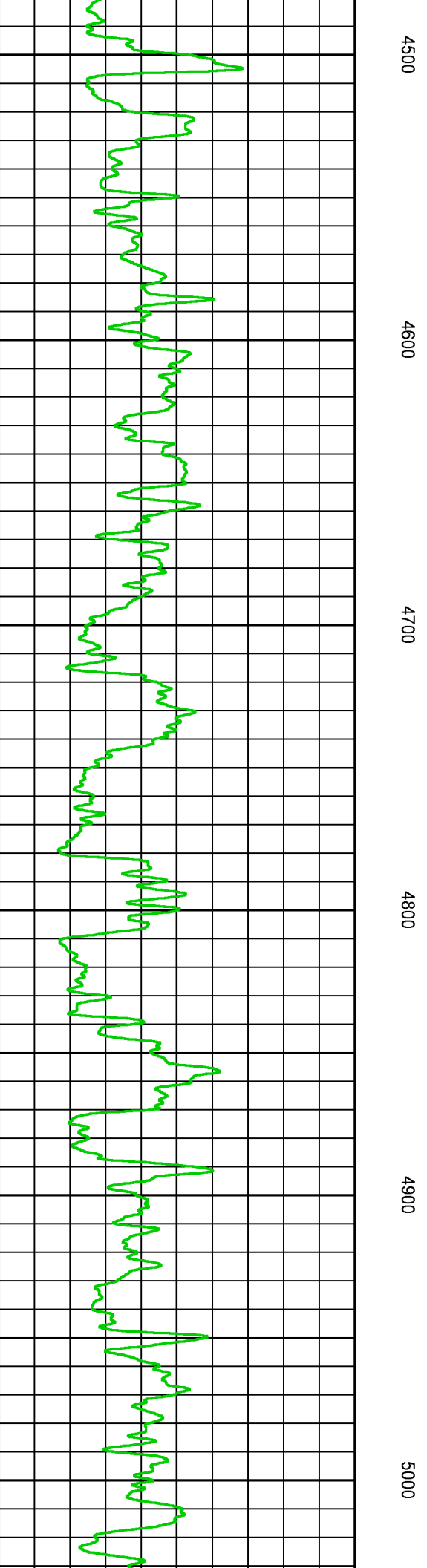
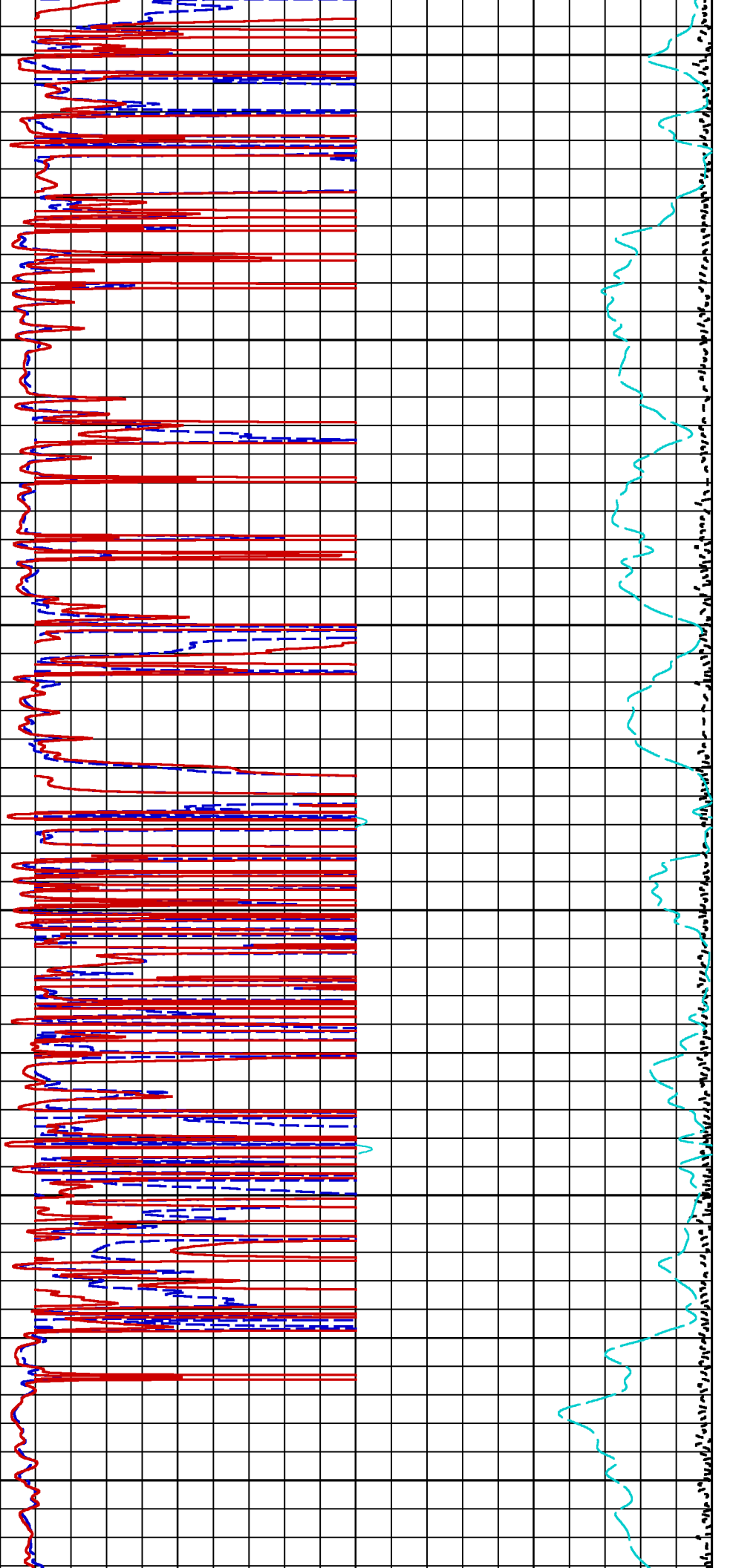
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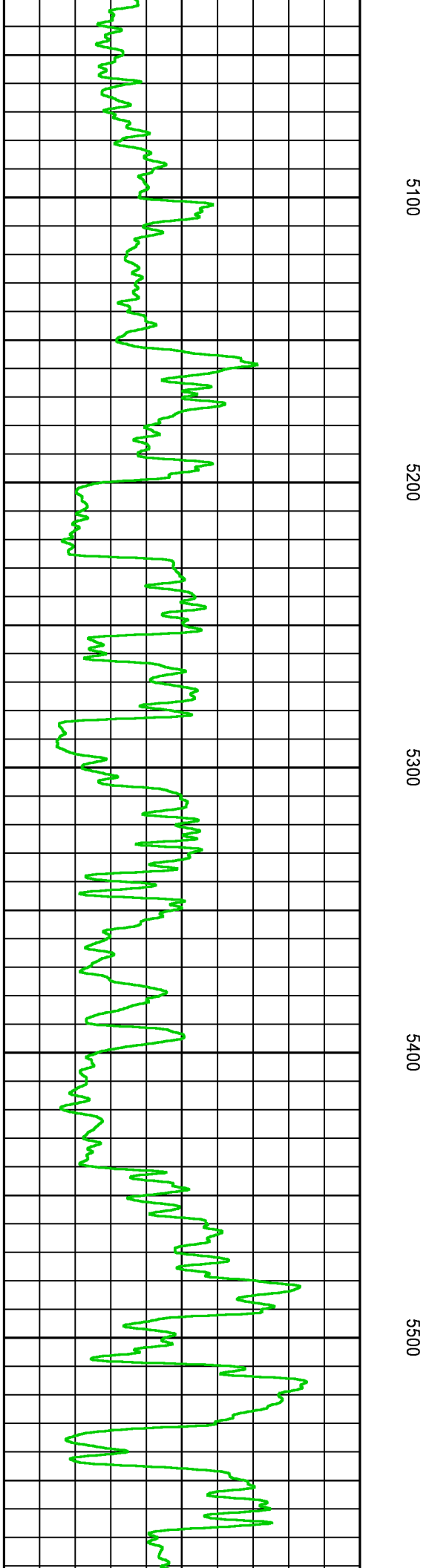
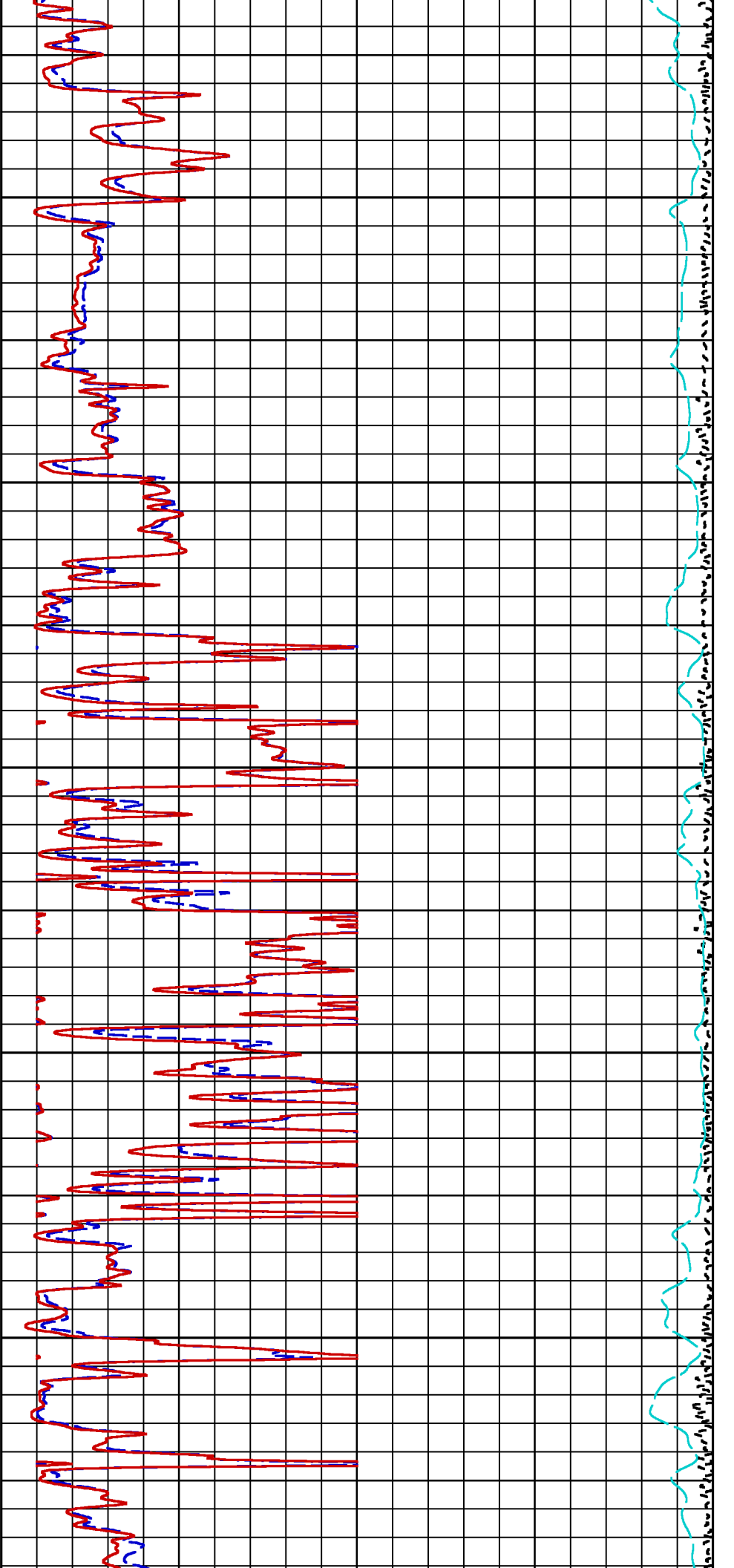
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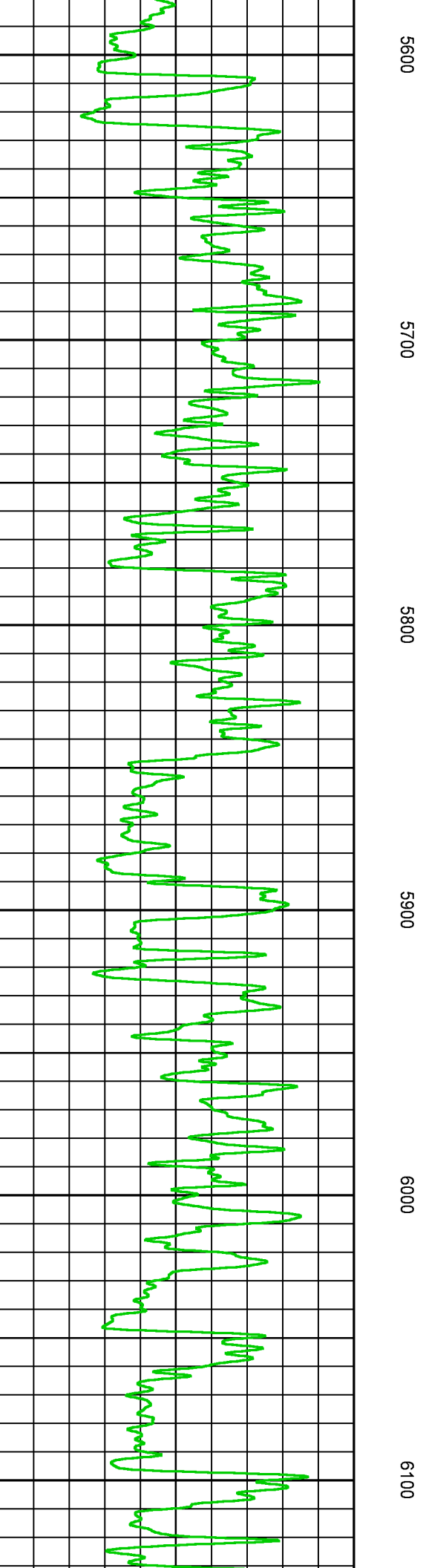
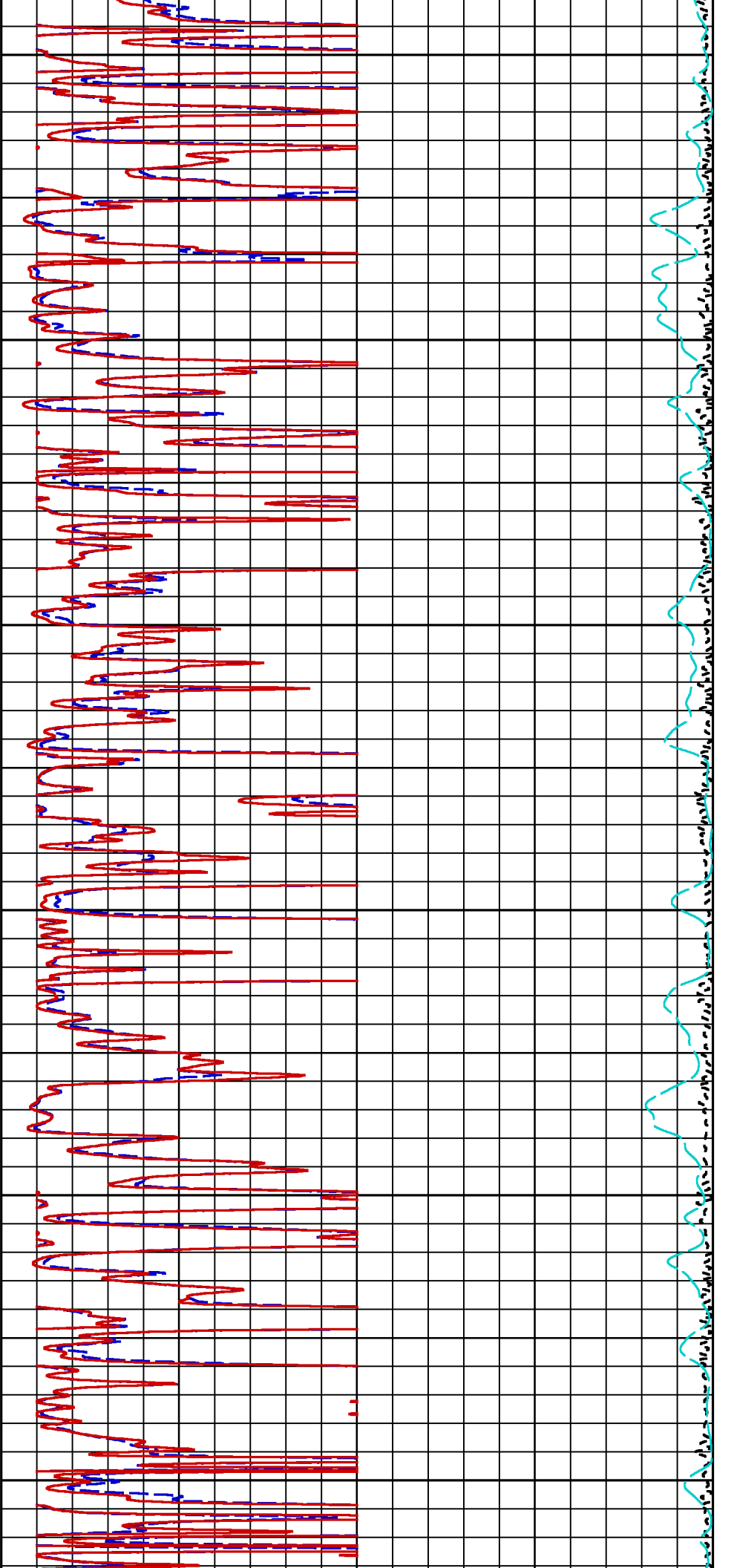
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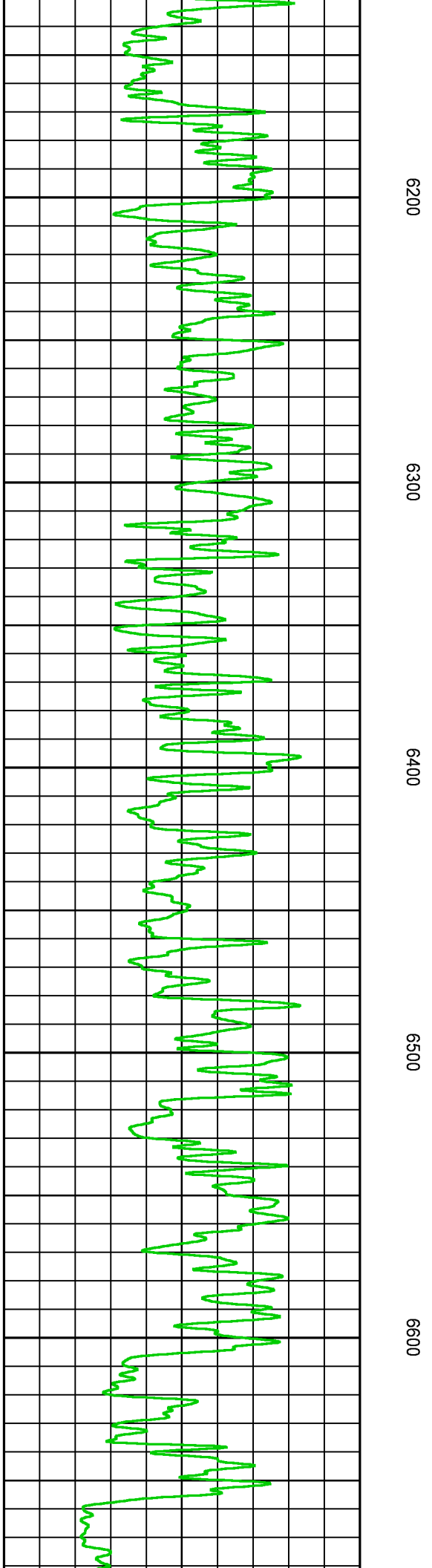
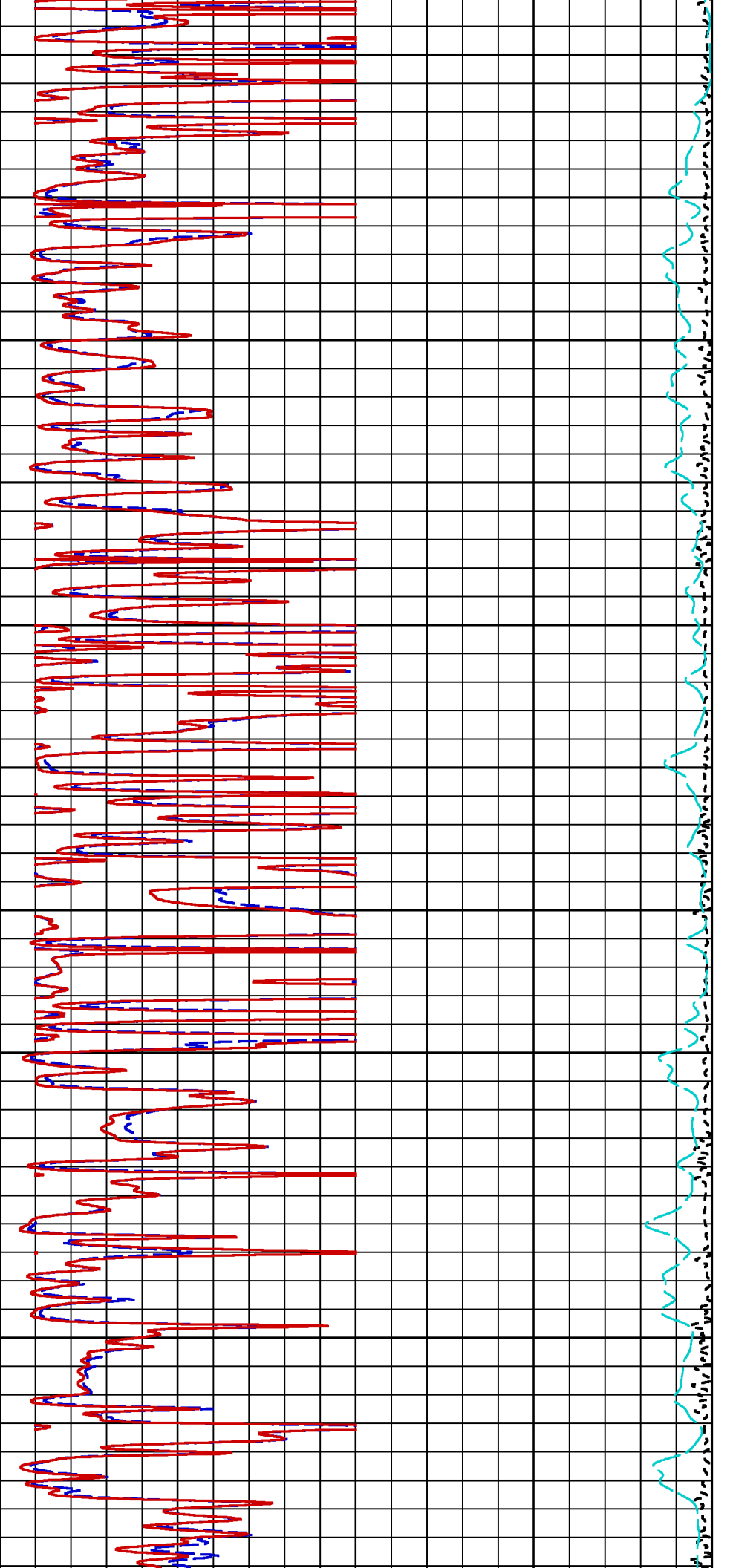
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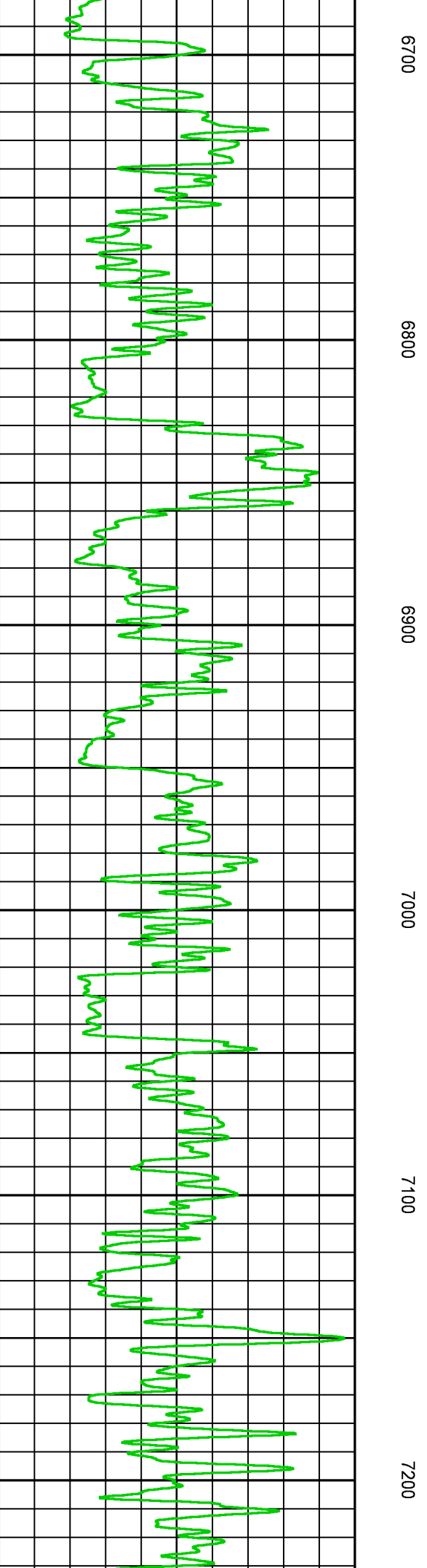
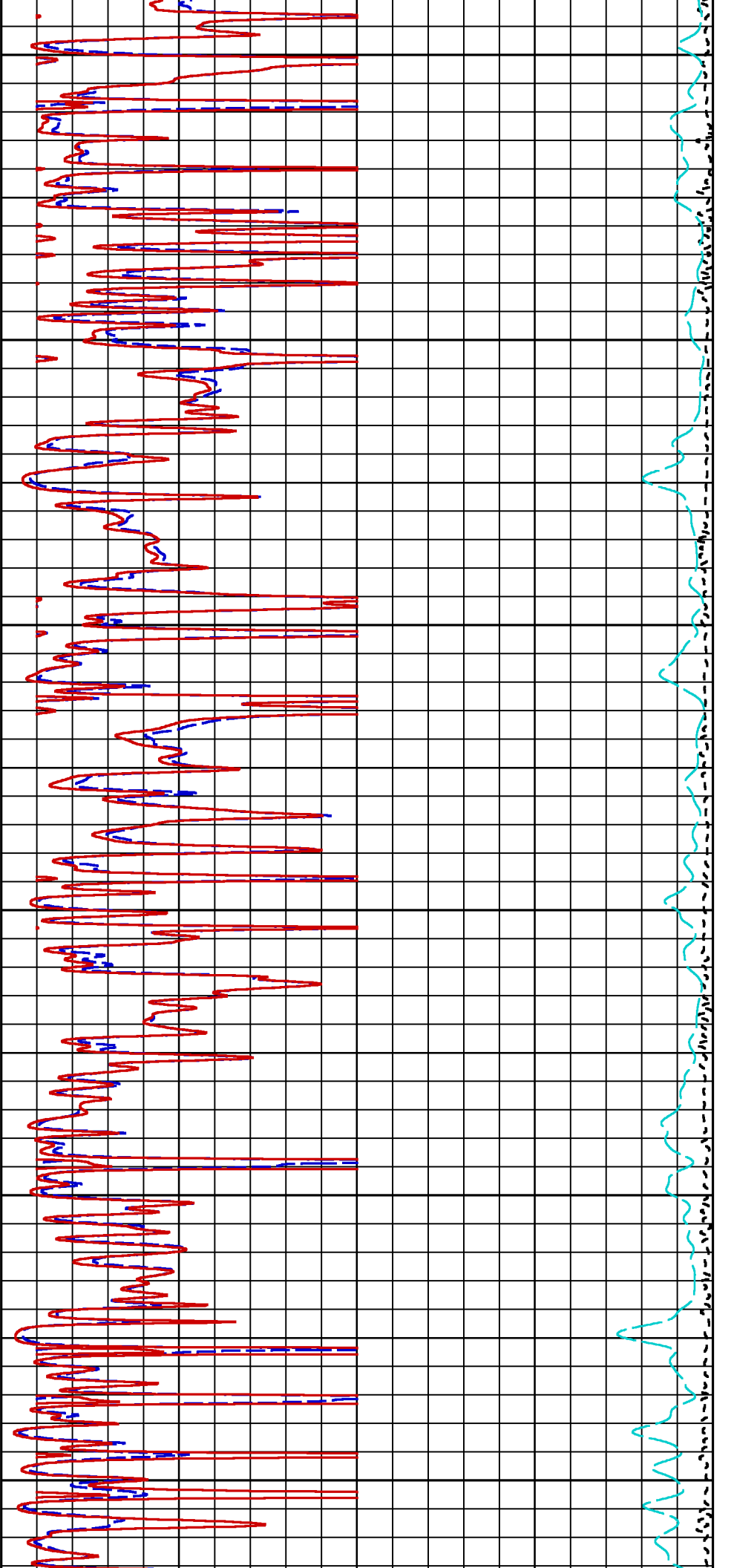


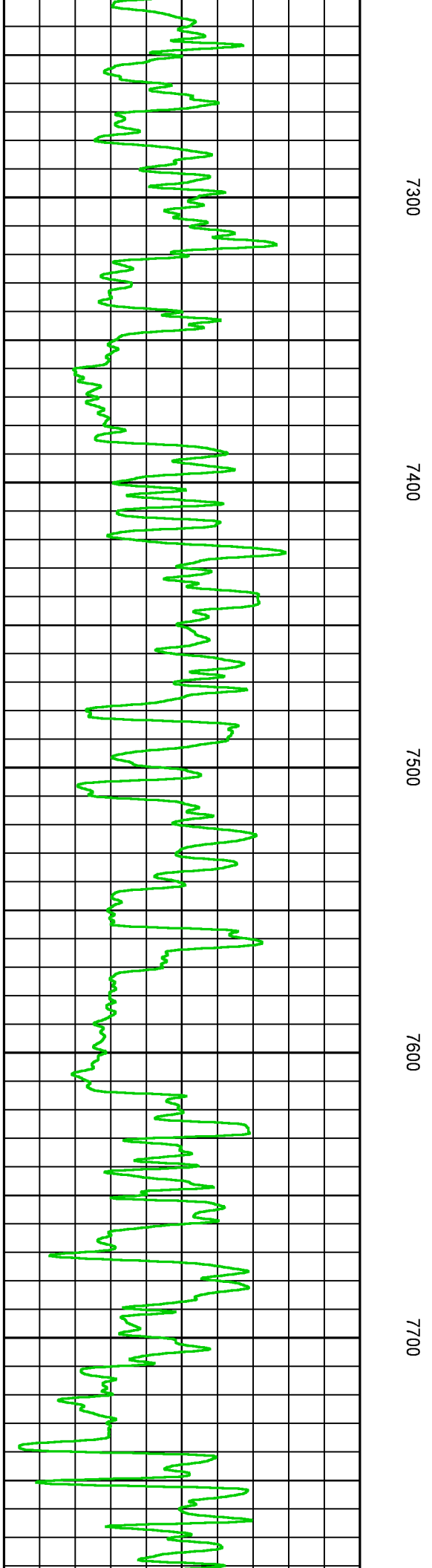
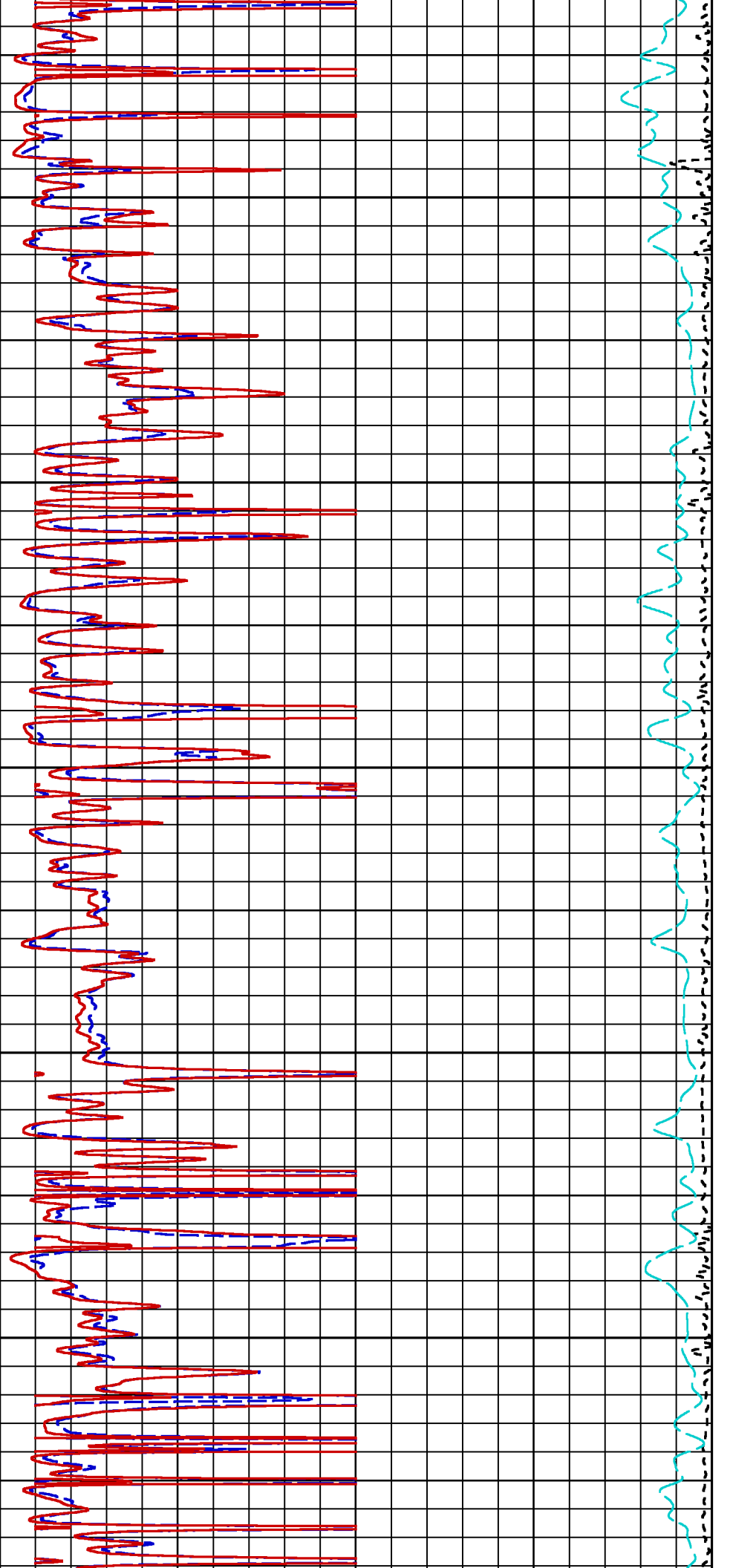


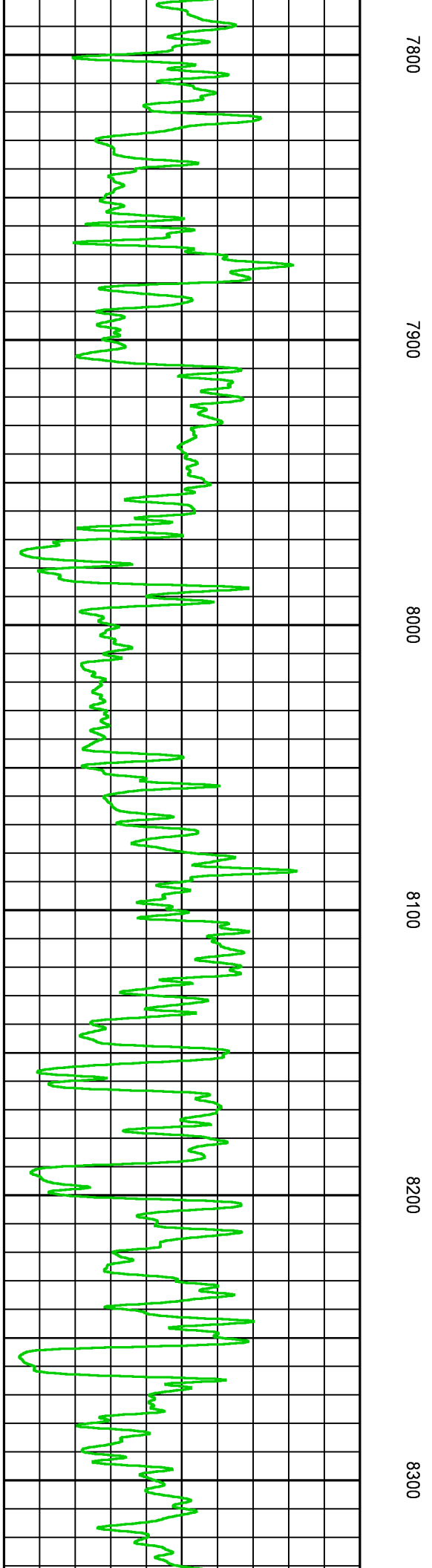
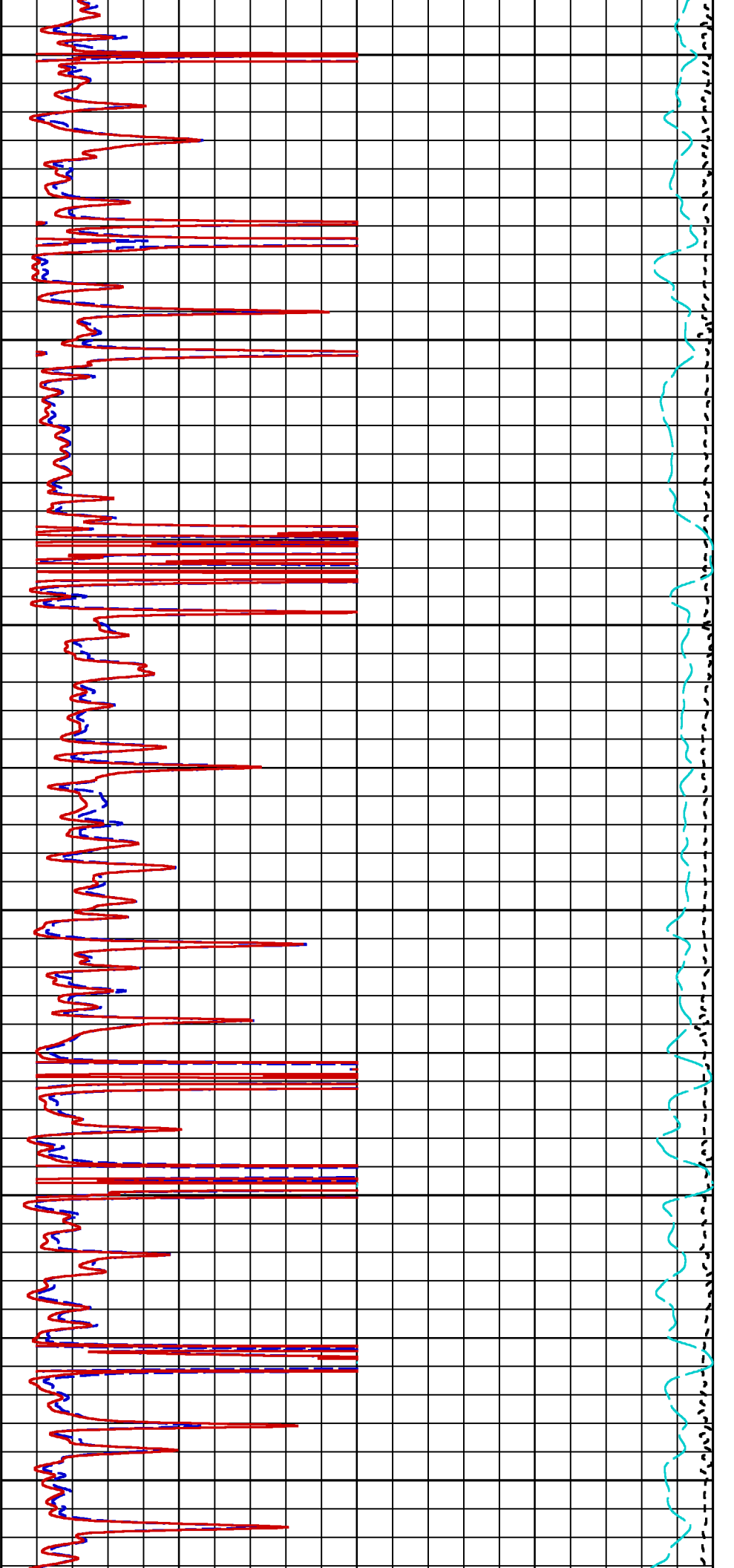


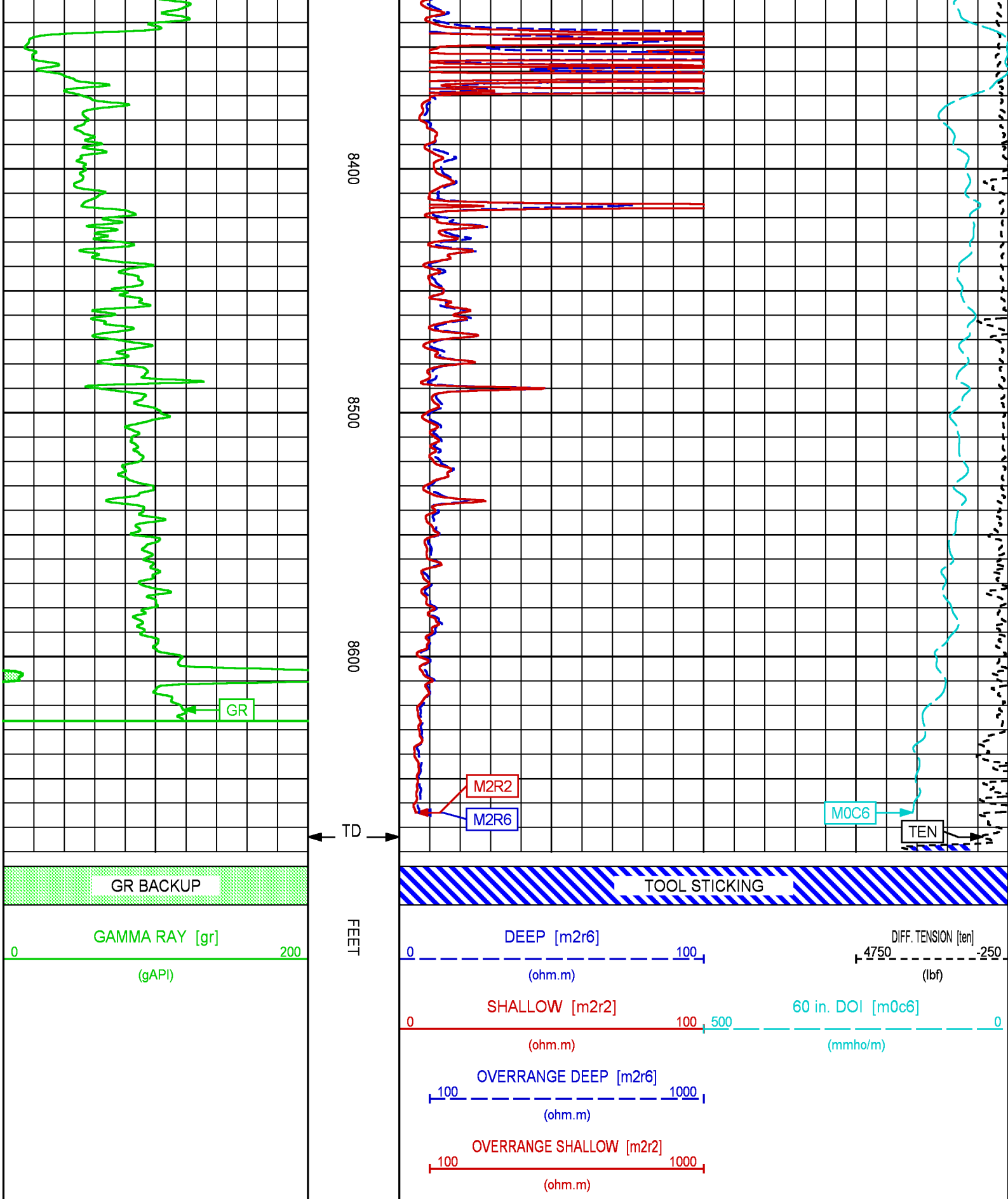












MAIN PASS SANDSTONE MATRIX 5"/100 FT SCALE

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

Patches: 2

Plotted: Sun Nov 26 23:04:54 2017

PARAMETER AND FILTER SUMMARY REPORT

File: C:\data1a\LARAMIE_HG_FED_35-01\p763g03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 49.750 ft BOTTOM DEPTH: 8667.879 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)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
CN CALIPER	FILTER ()	medium (1)		"	"
	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
ZDL MED RES	FILTER (.i)	medium (1)		"	"
	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
SP-SPDH	FILTER (soft*)	medium		"	"
	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	65.9	degF	"	"
	MUD SAMPLE RES	4.360	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		"	"
	CALIPER/FIXED DIA. (zdbh*)	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	600	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)	
MUD DENSITY	MUD DENSITY	9.00	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOMatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

ZDL	RHOfluid	DENX TRACKING	ON	1.000	g/cm3	"	"
TRACKING TIME		Logging Spd for Gain	Over 10 ft/min			"	"

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

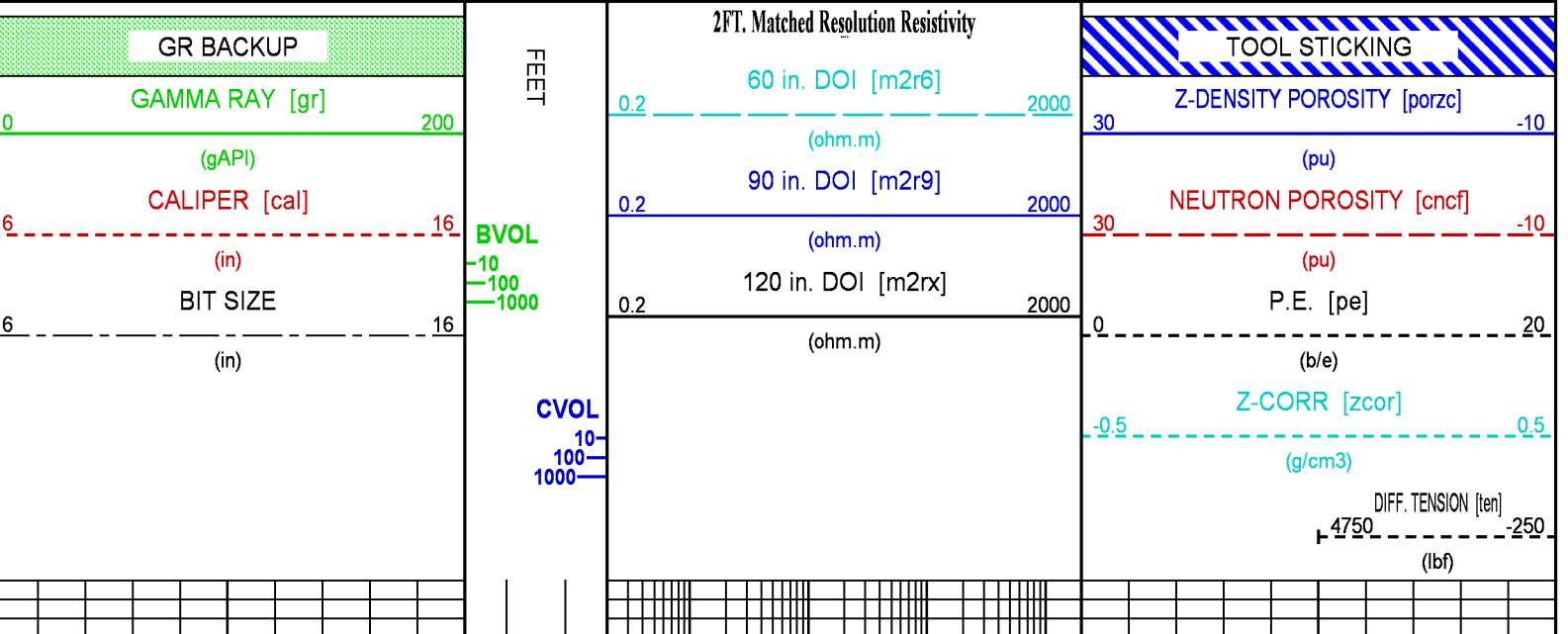
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 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:PORZC	N/A	CORRECTED POROSITY
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

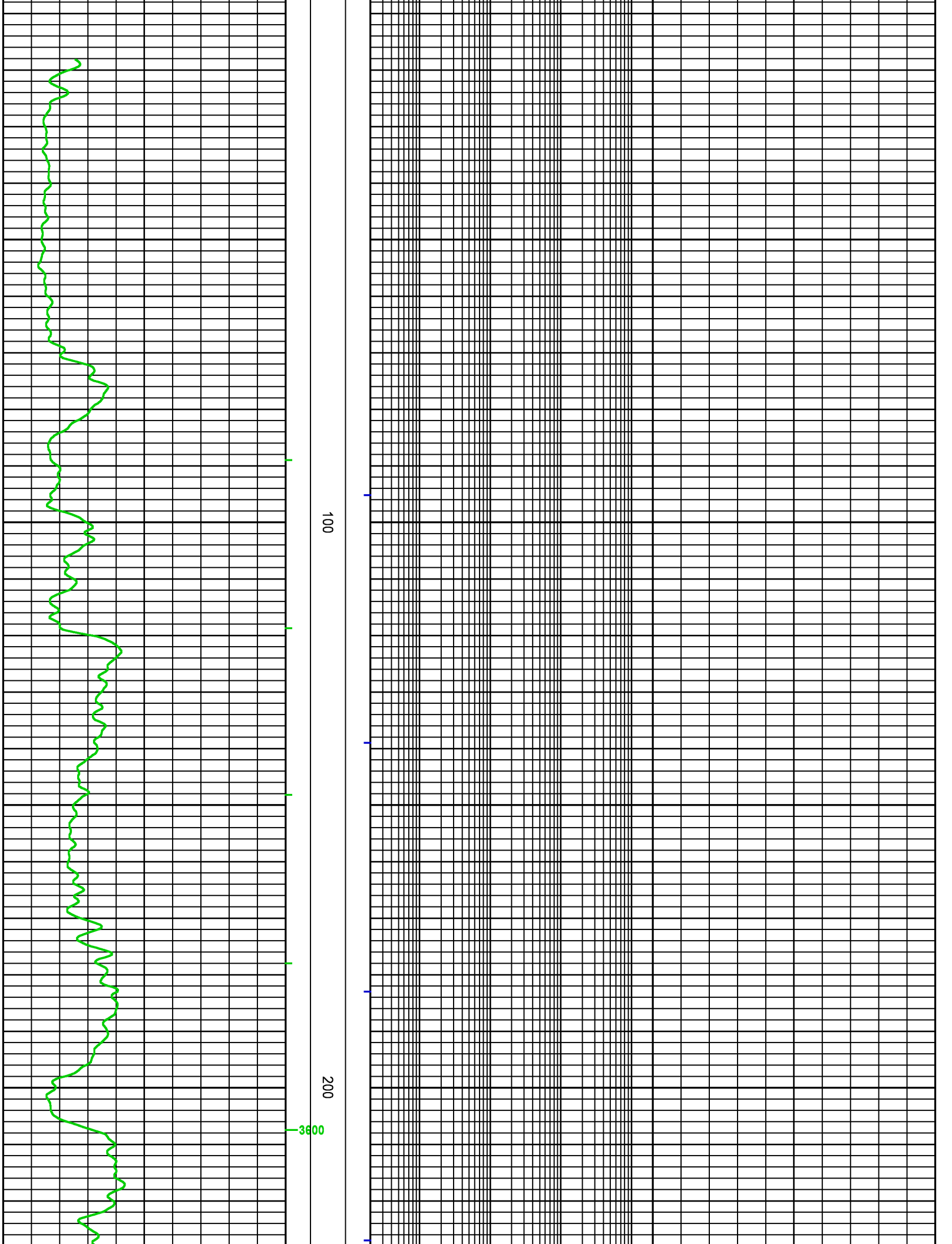
CURVE MEASURE POINT OFFSET

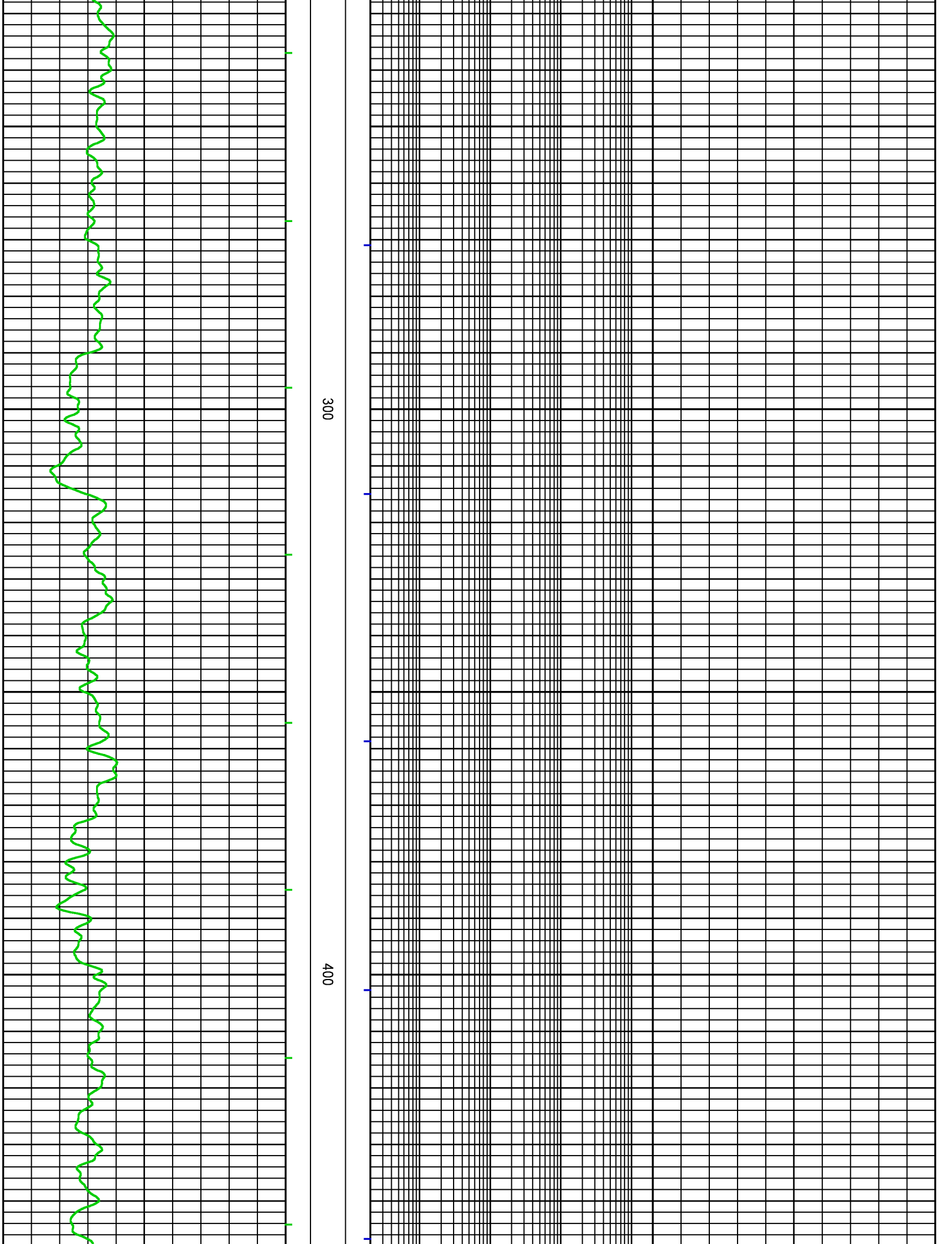
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	-52.25	M2RX	-8.00	TEN	0.00
CAL	-35.00	M2R6	-8.00	PE	-34.25	ZCOR	-34.25
CNCF	-45.25	M2R9	-8.00	PORZC	-34.25		

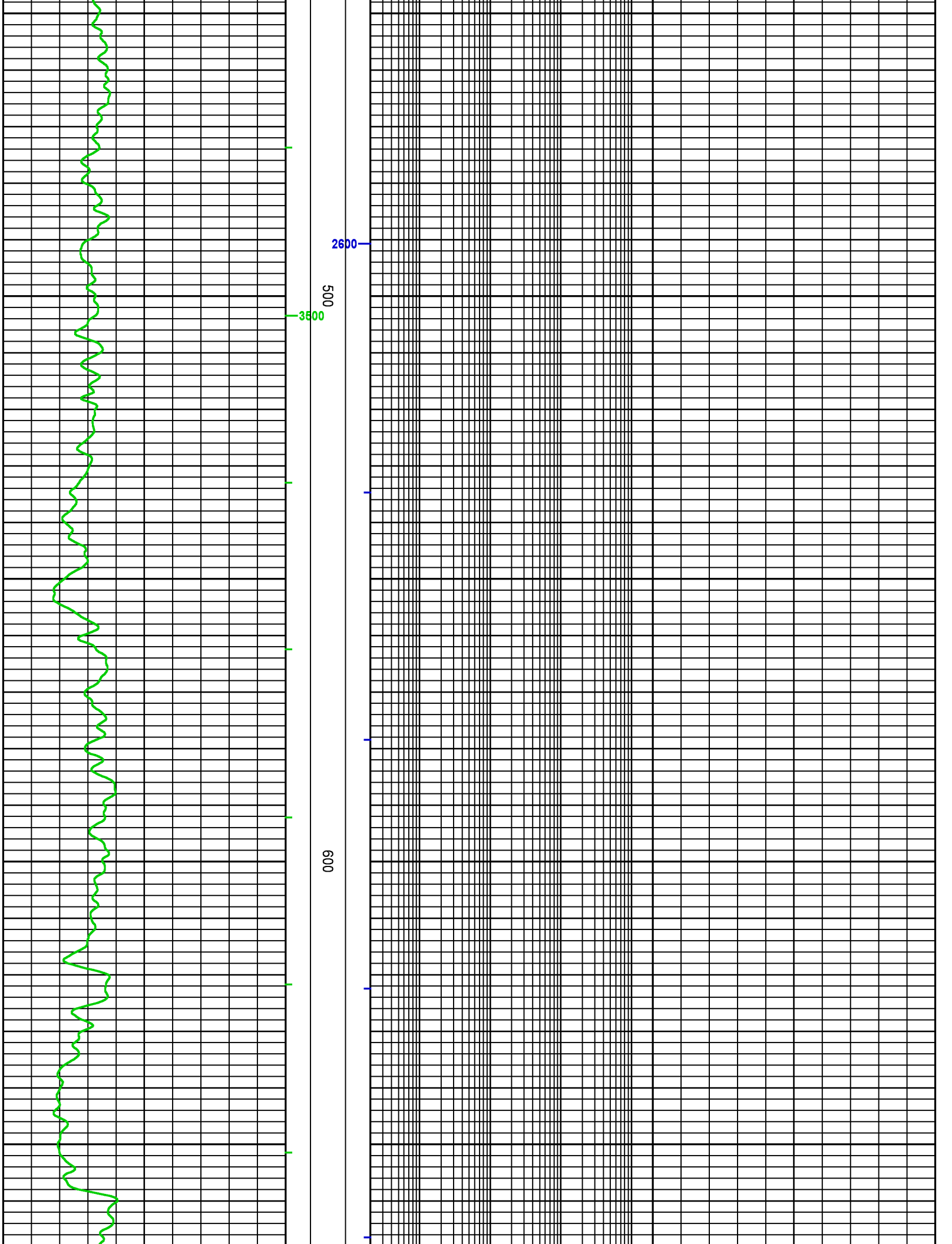
Presentation : BHI3FJQNC2:C:\dat1a\LARAMIE_HG_FED_35-01\MAIN.fvpdf [5"/100" Scale]
Plot Interval : 3.75 - 8680.75 Feet

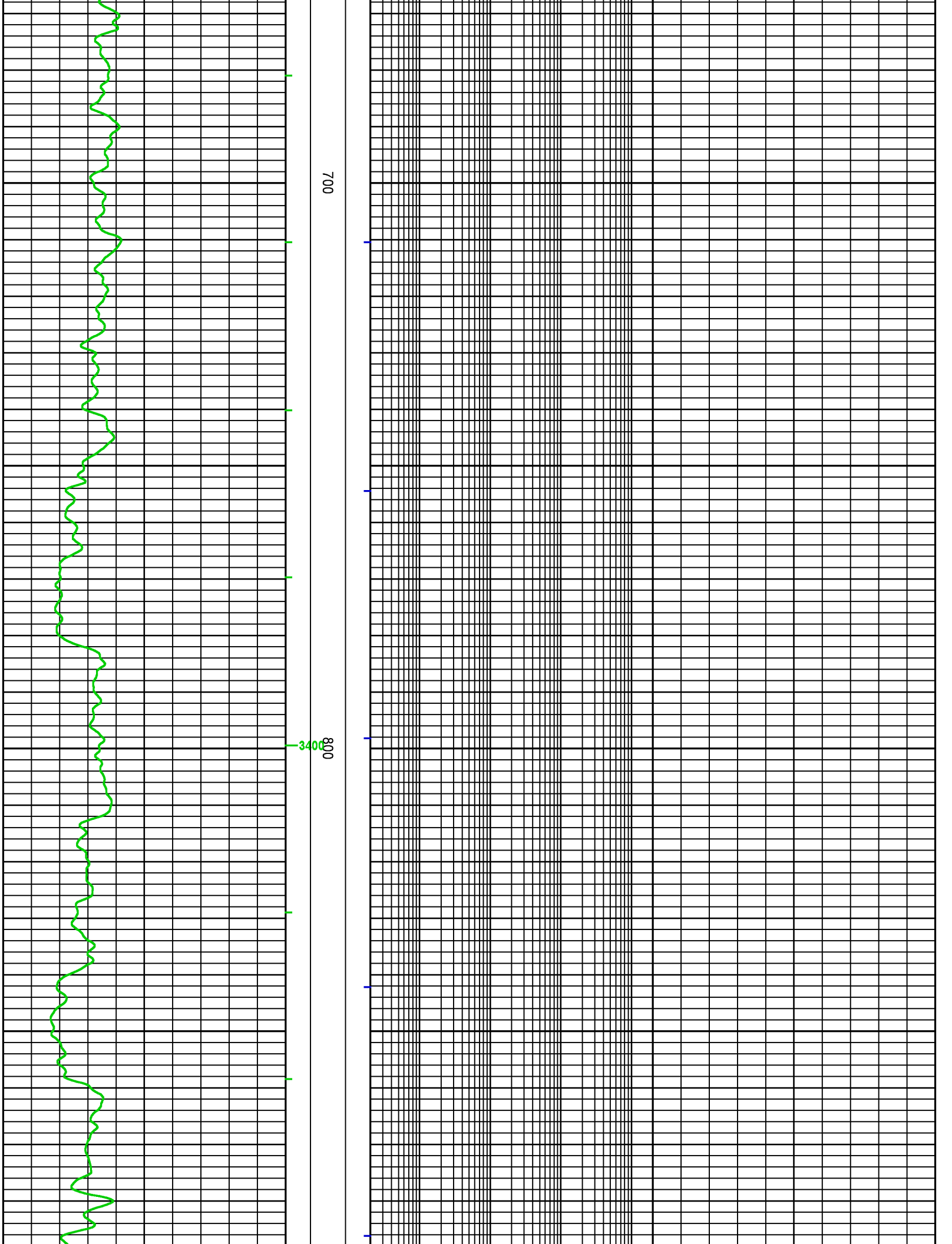
Data File 1 : F1 : BHI3FJQNC2:C:\dat1a\LARAMIE_HG_FED_35-01\p763g03_MAIN.xtf
Created On : N/A
Company : LARAMIE ENERGY
Well : HG FED 35-01W
Field : ALKALI CREEK
File Interval : 3.75 - 8680.75 Feet
OCT : p763g

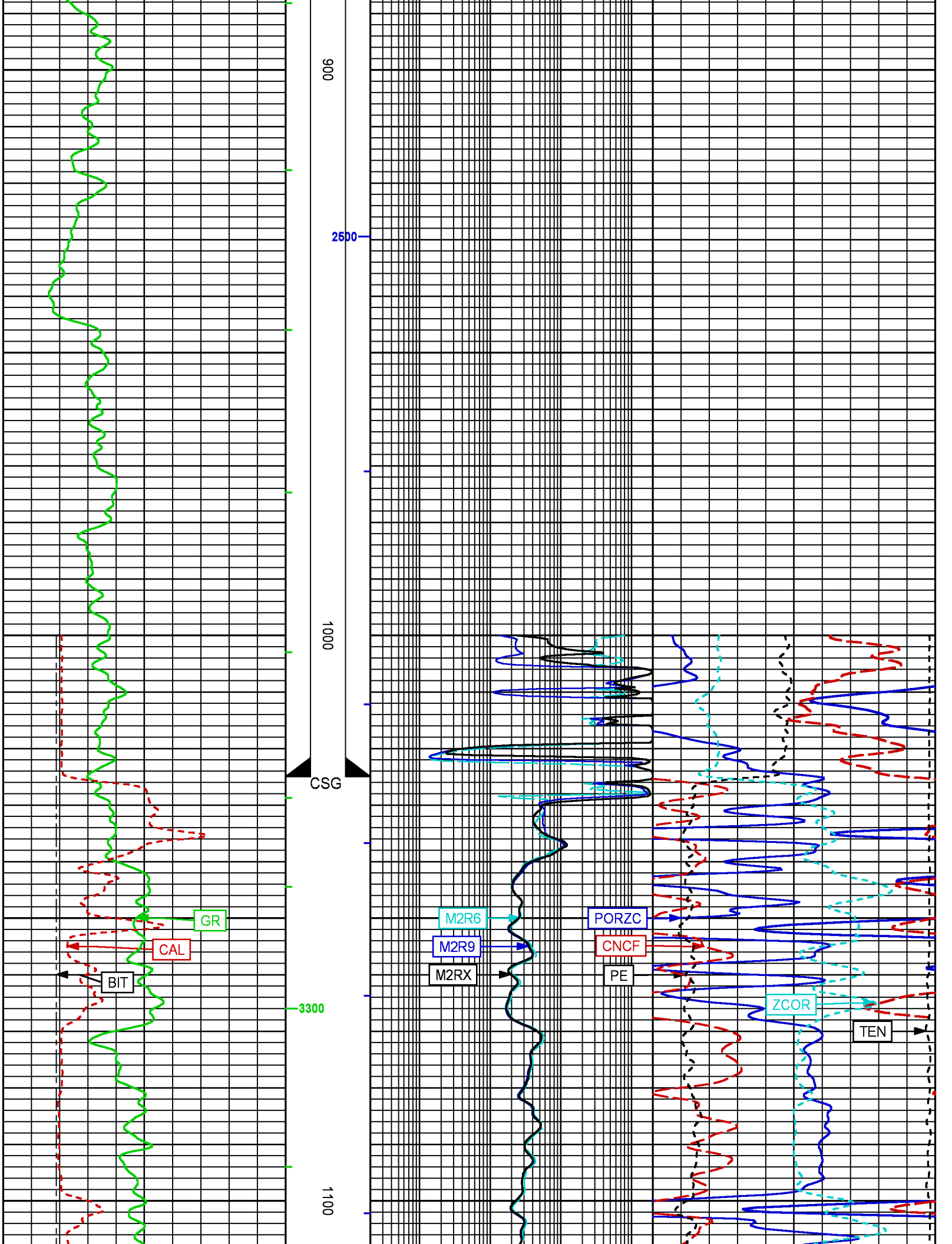


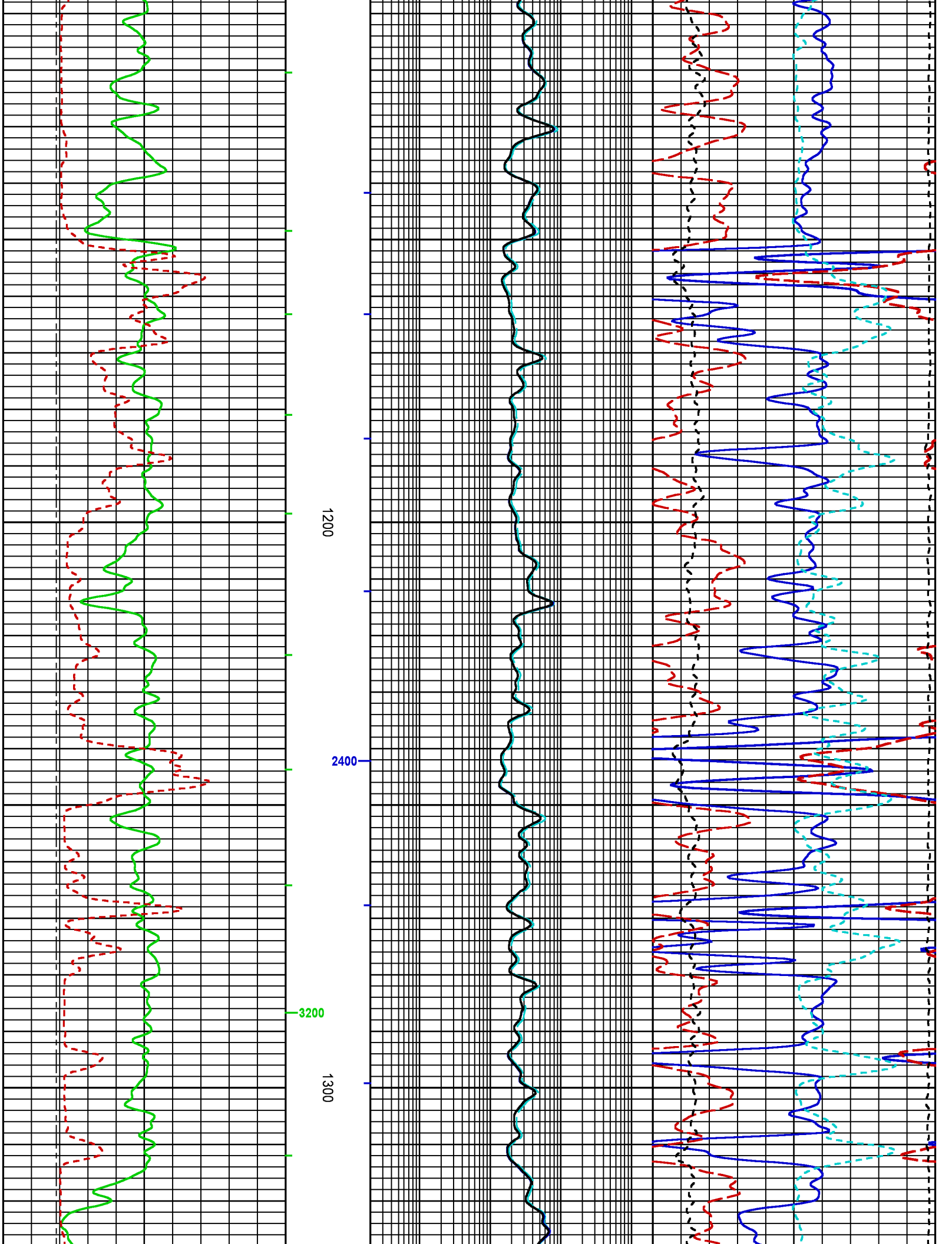


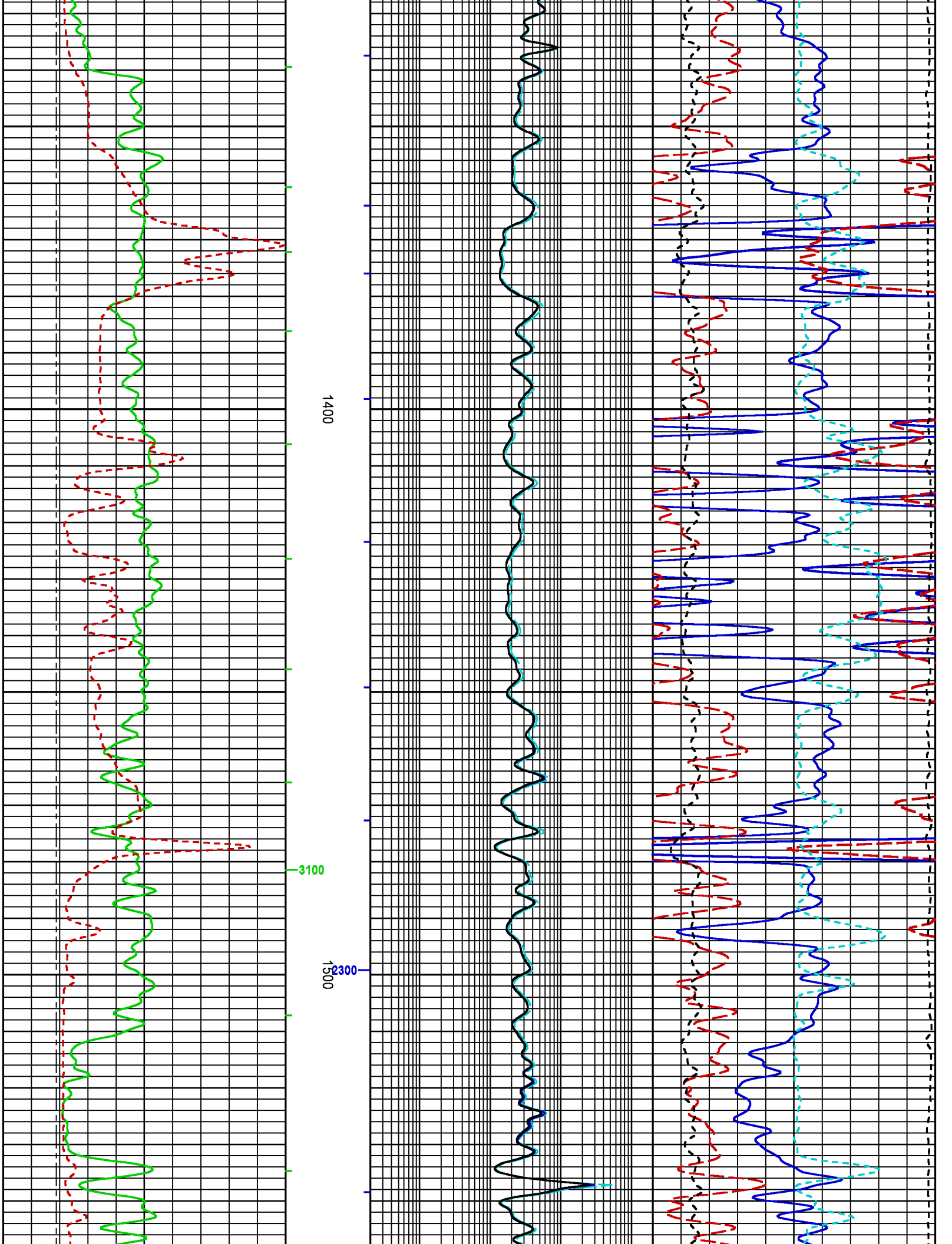


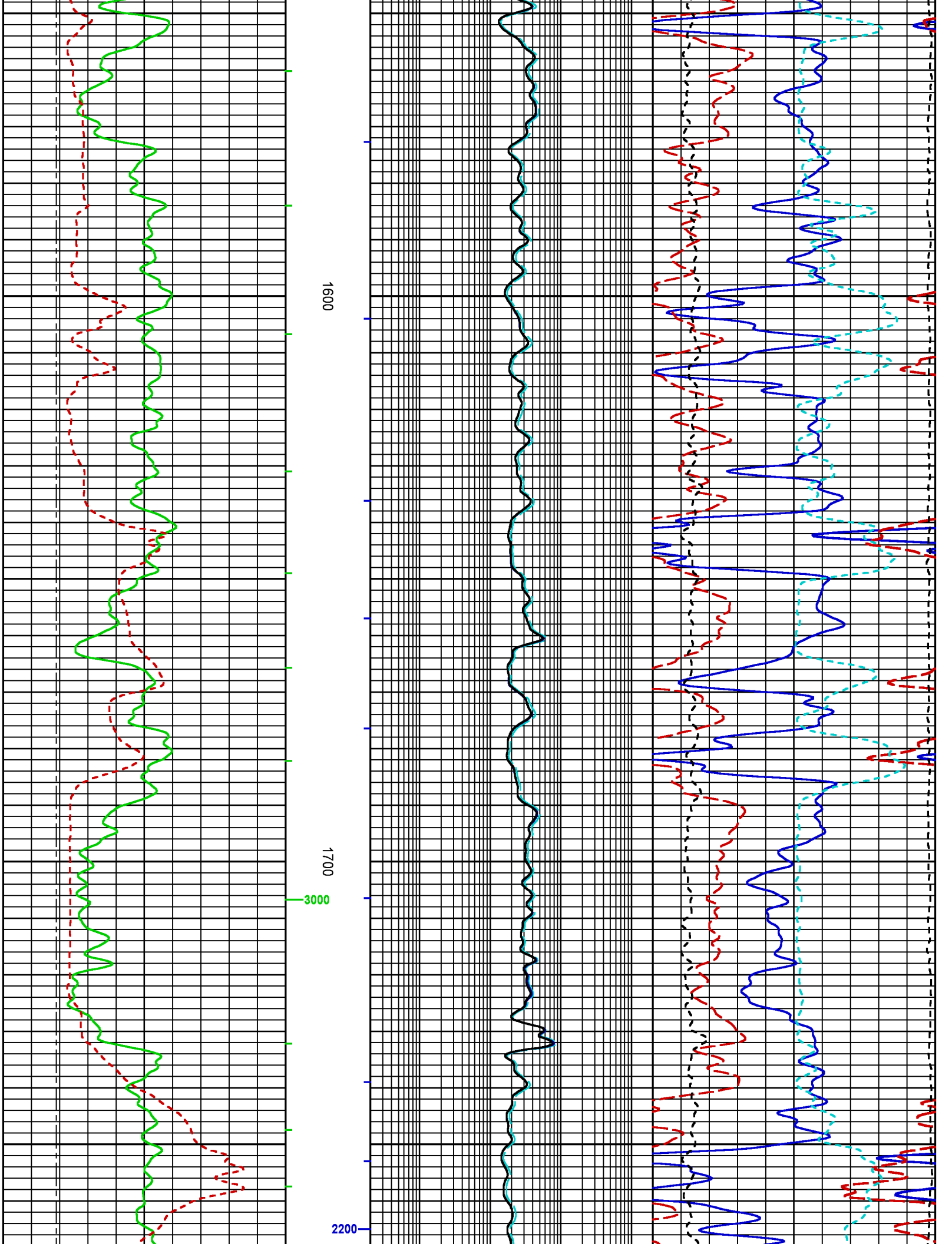


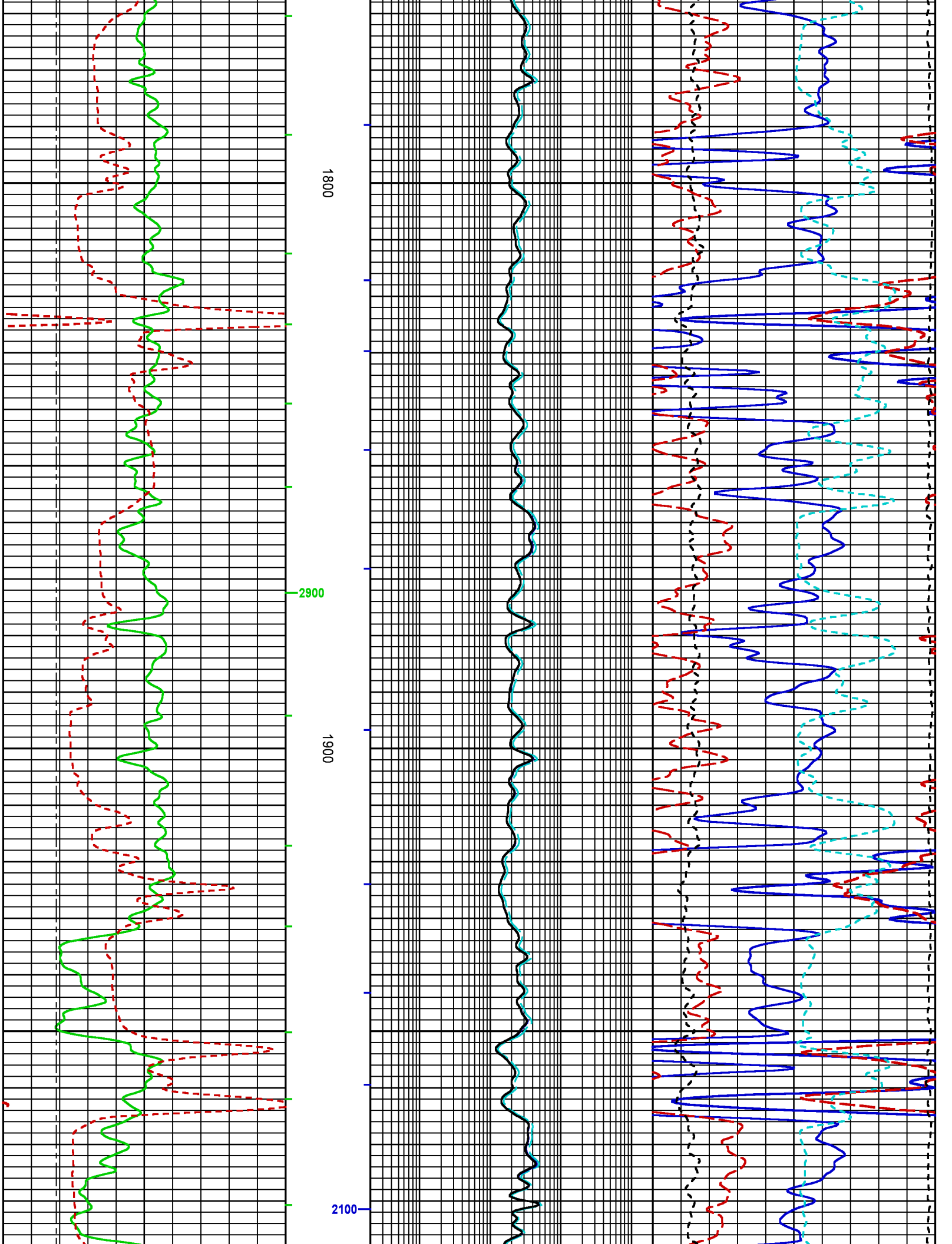


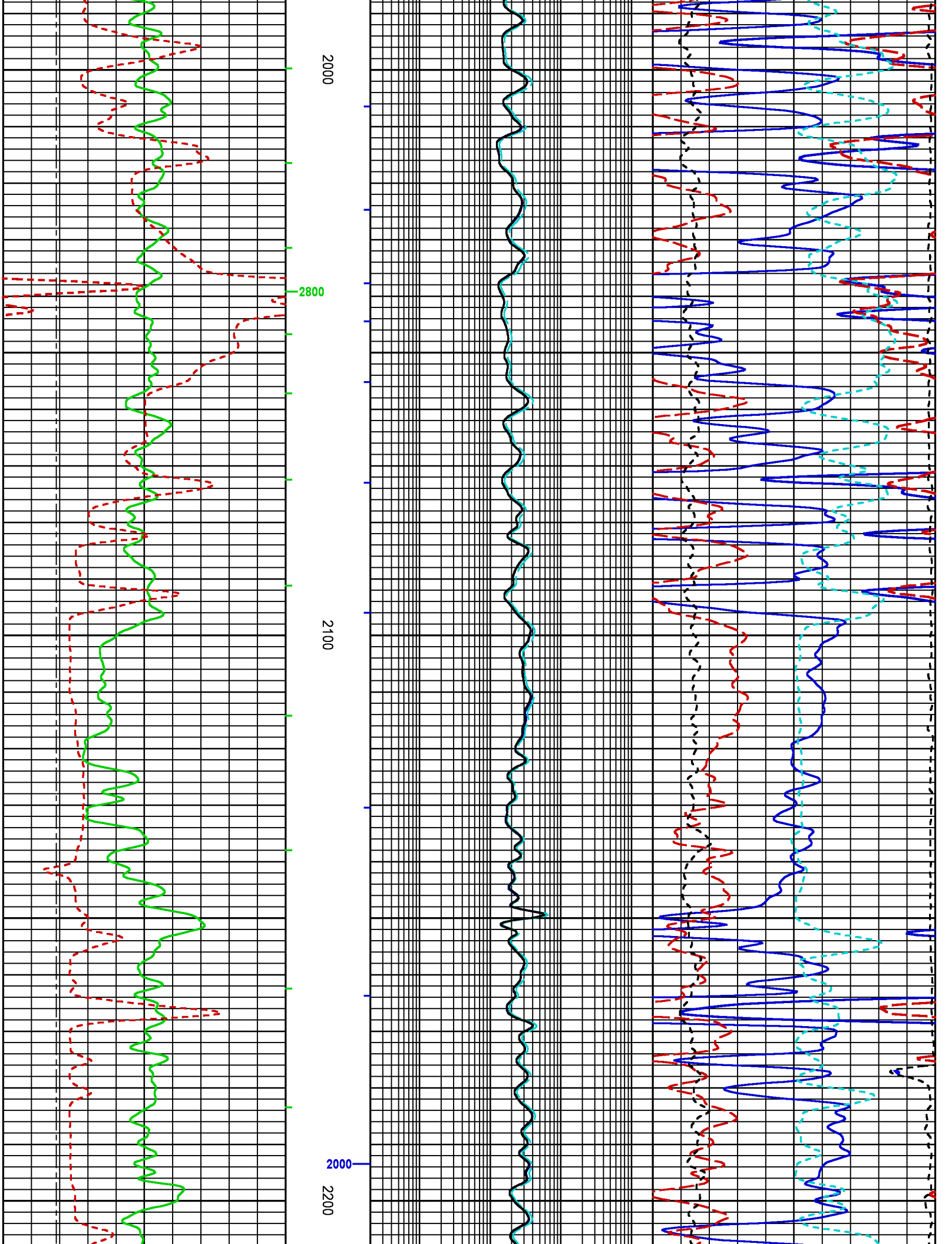


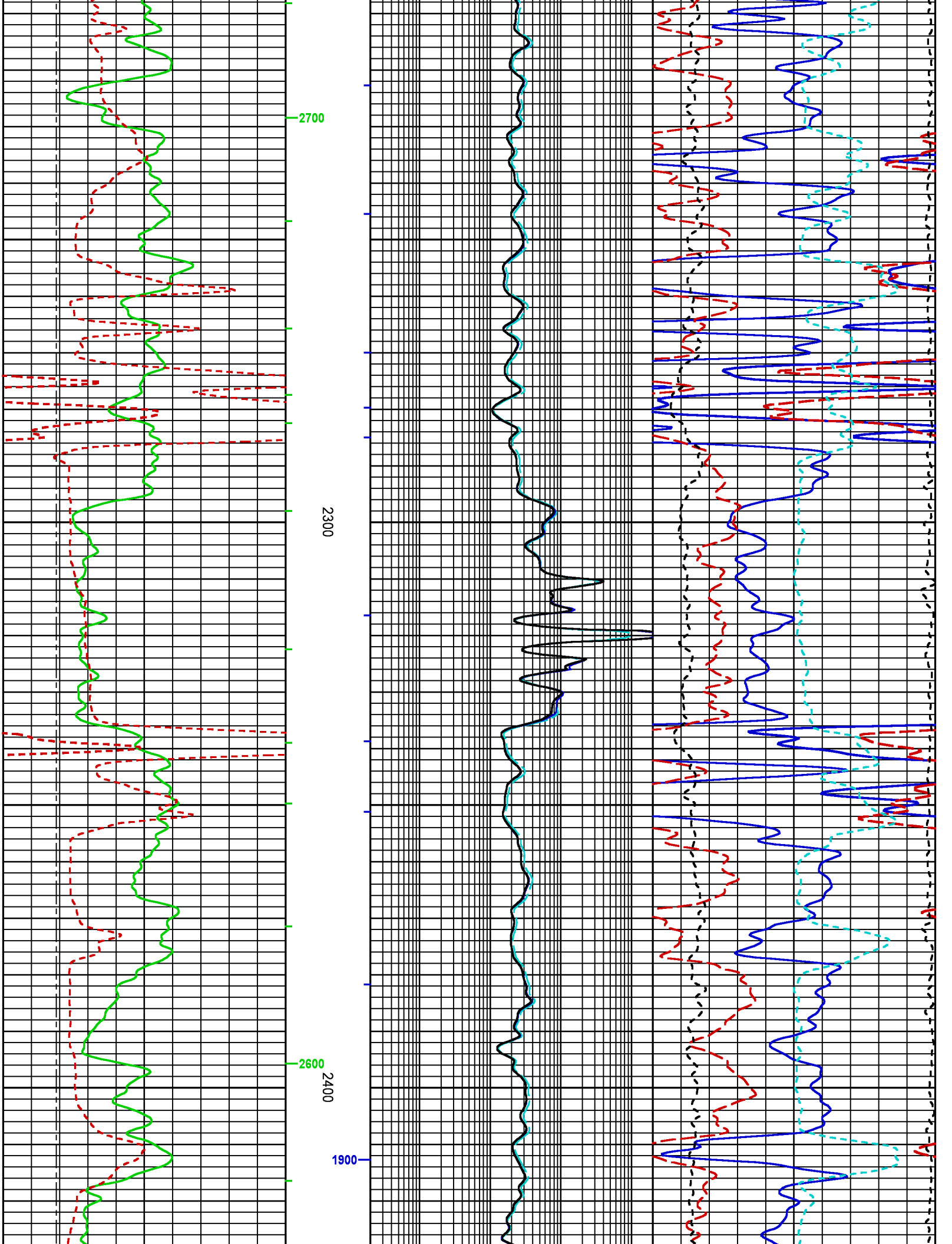


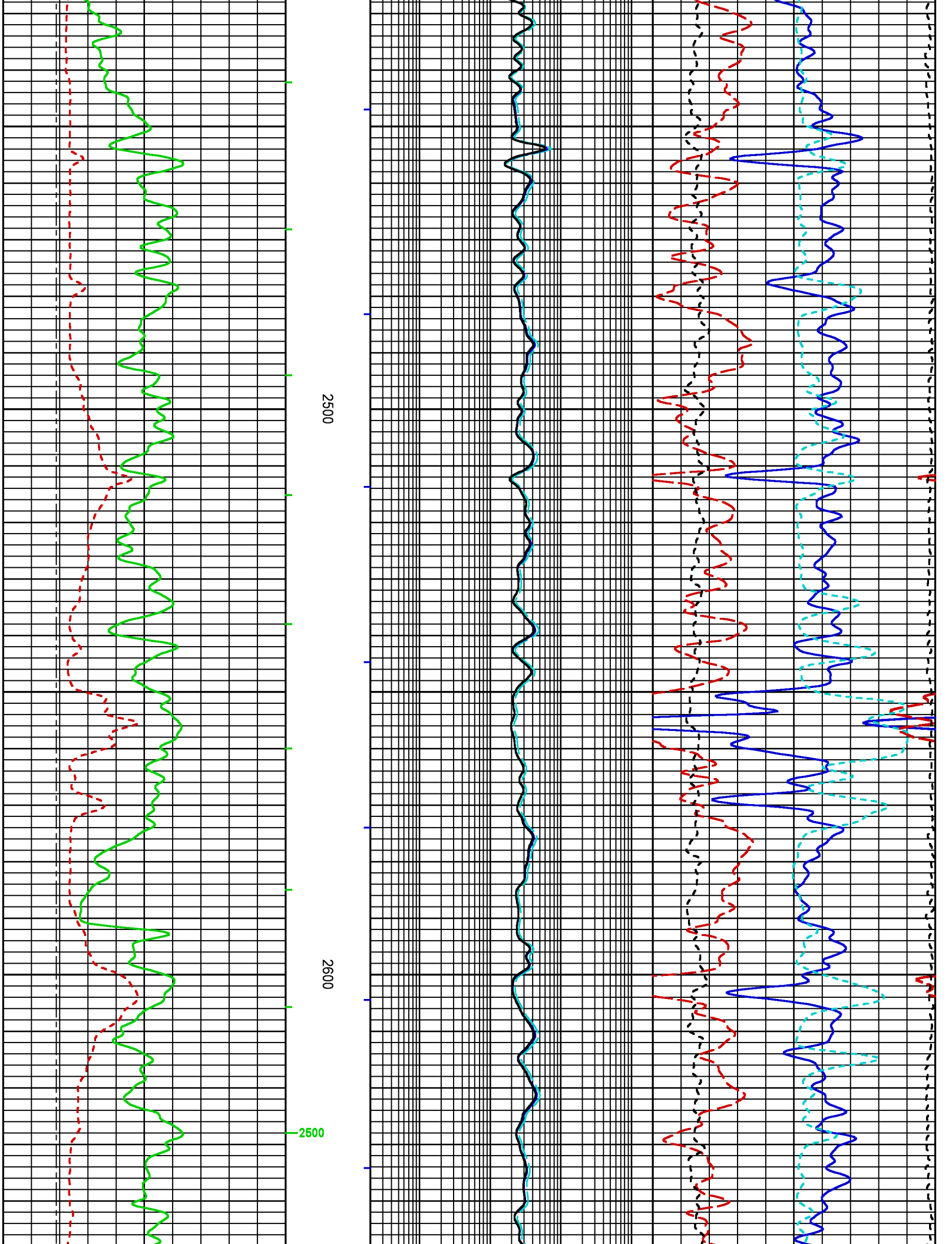


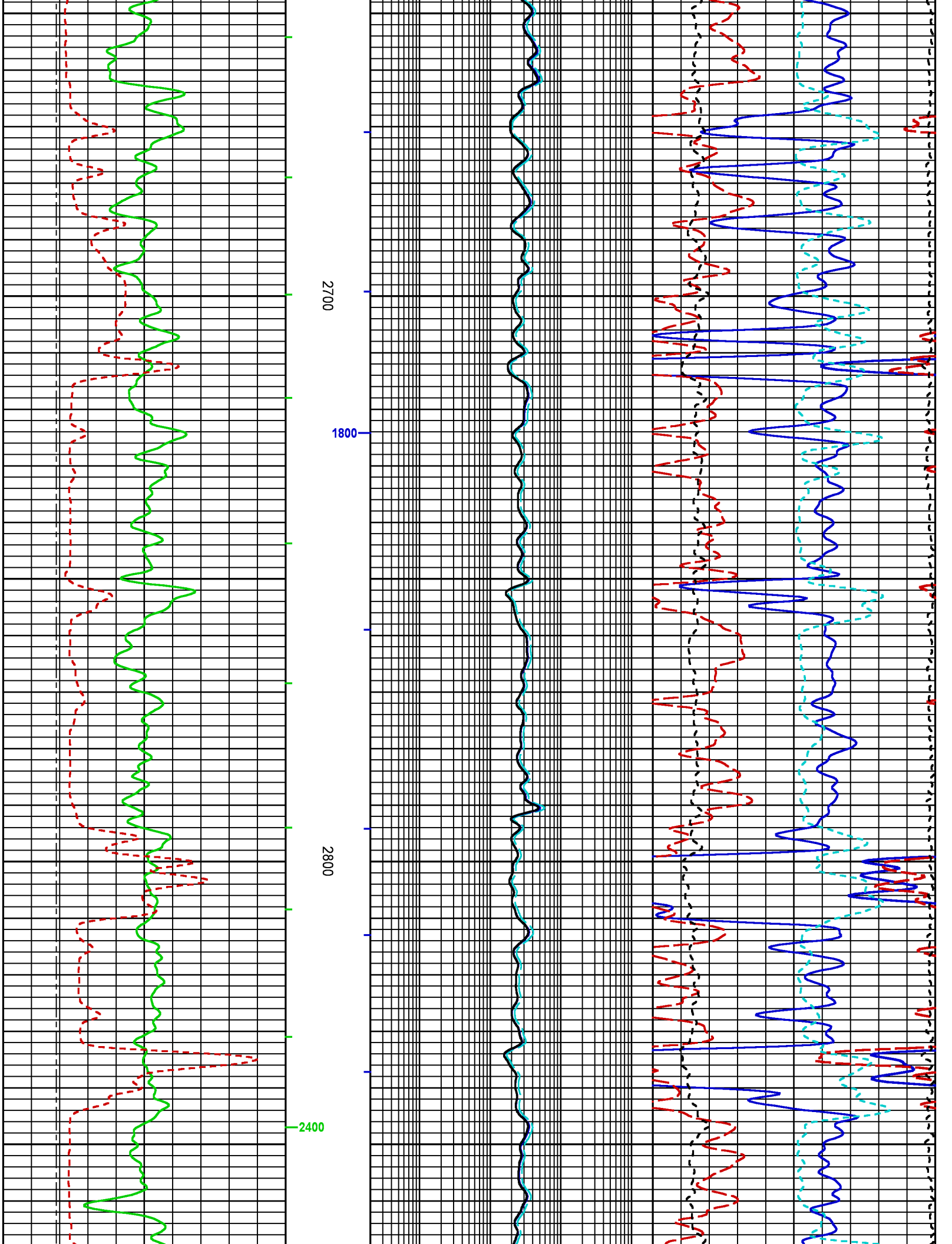


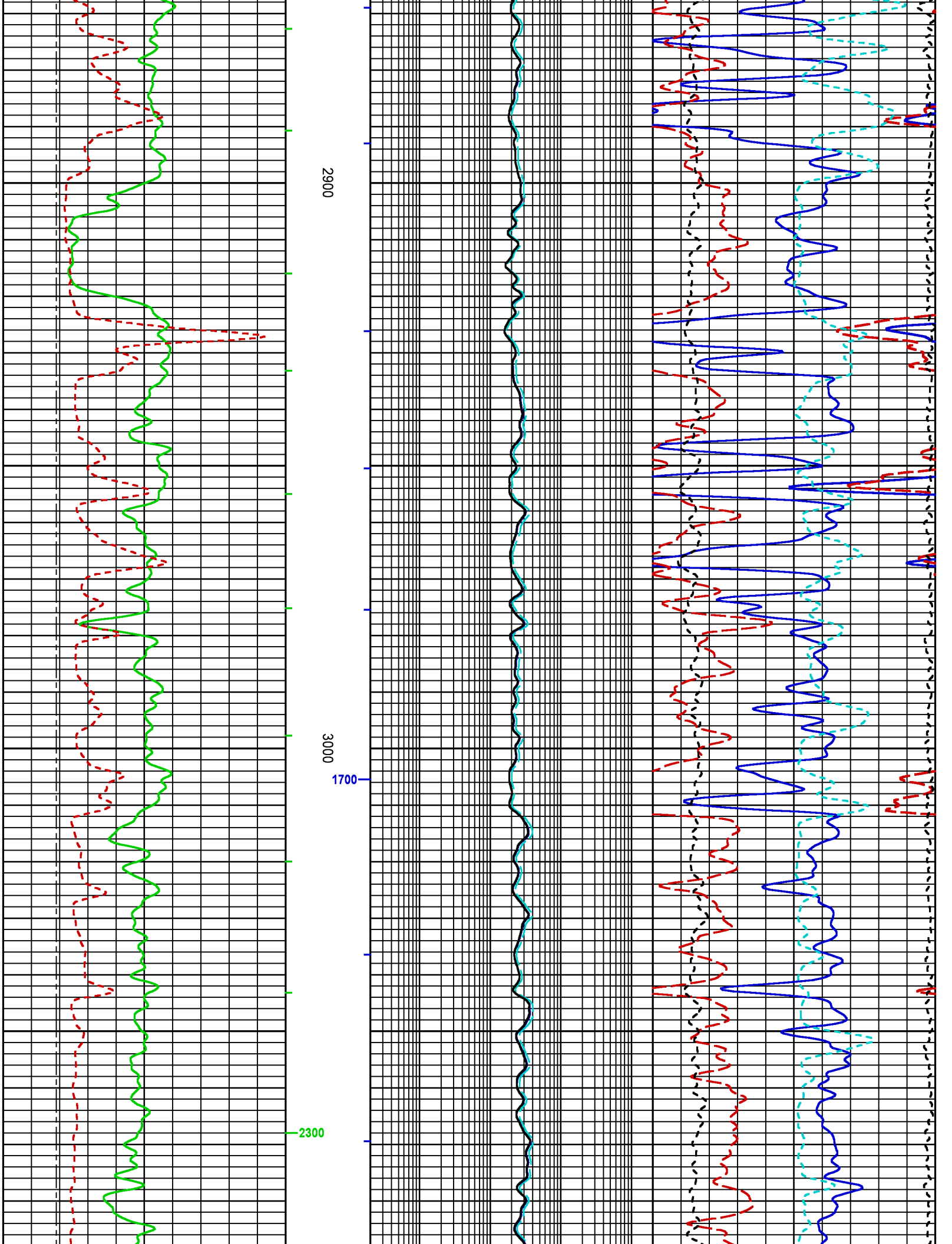


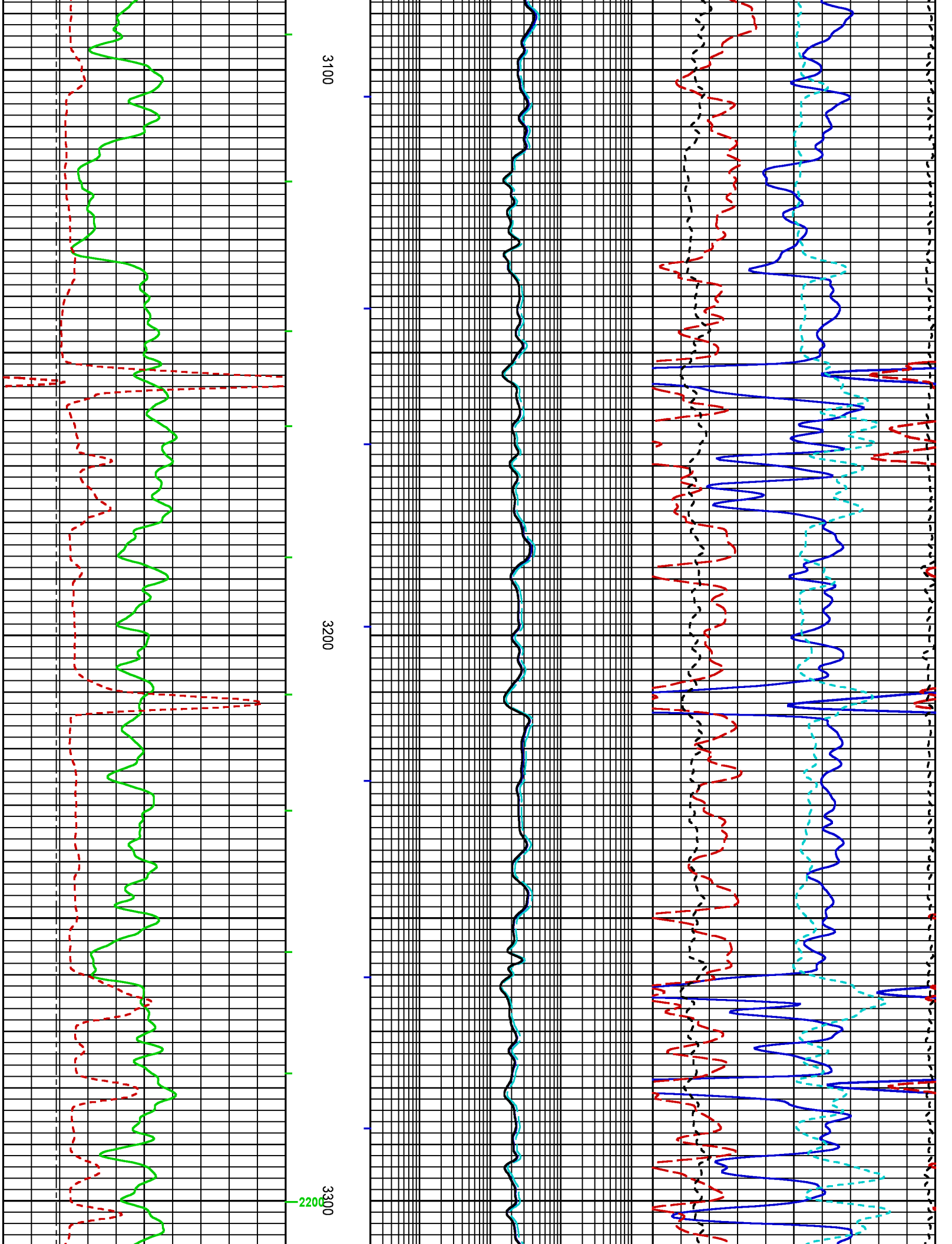


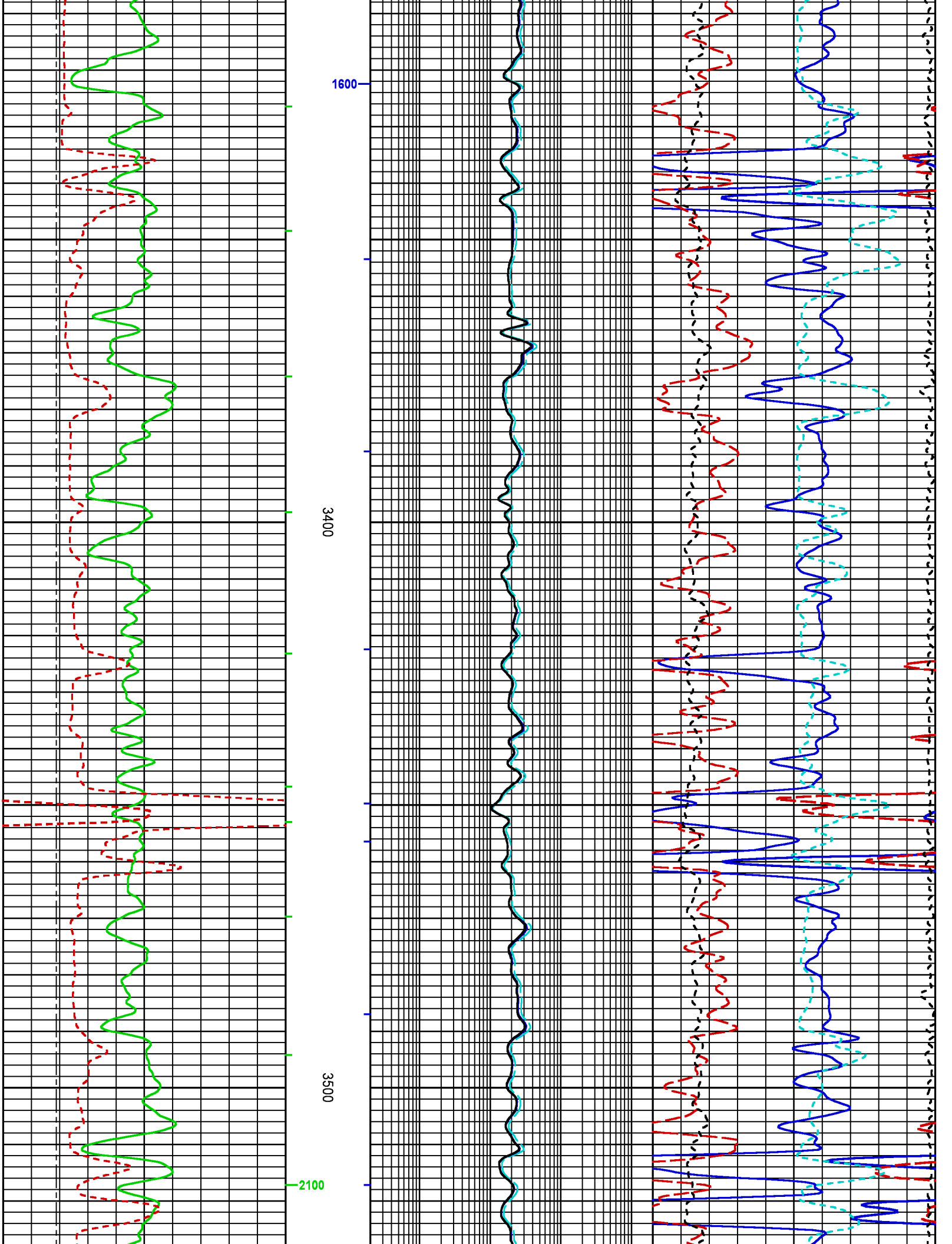


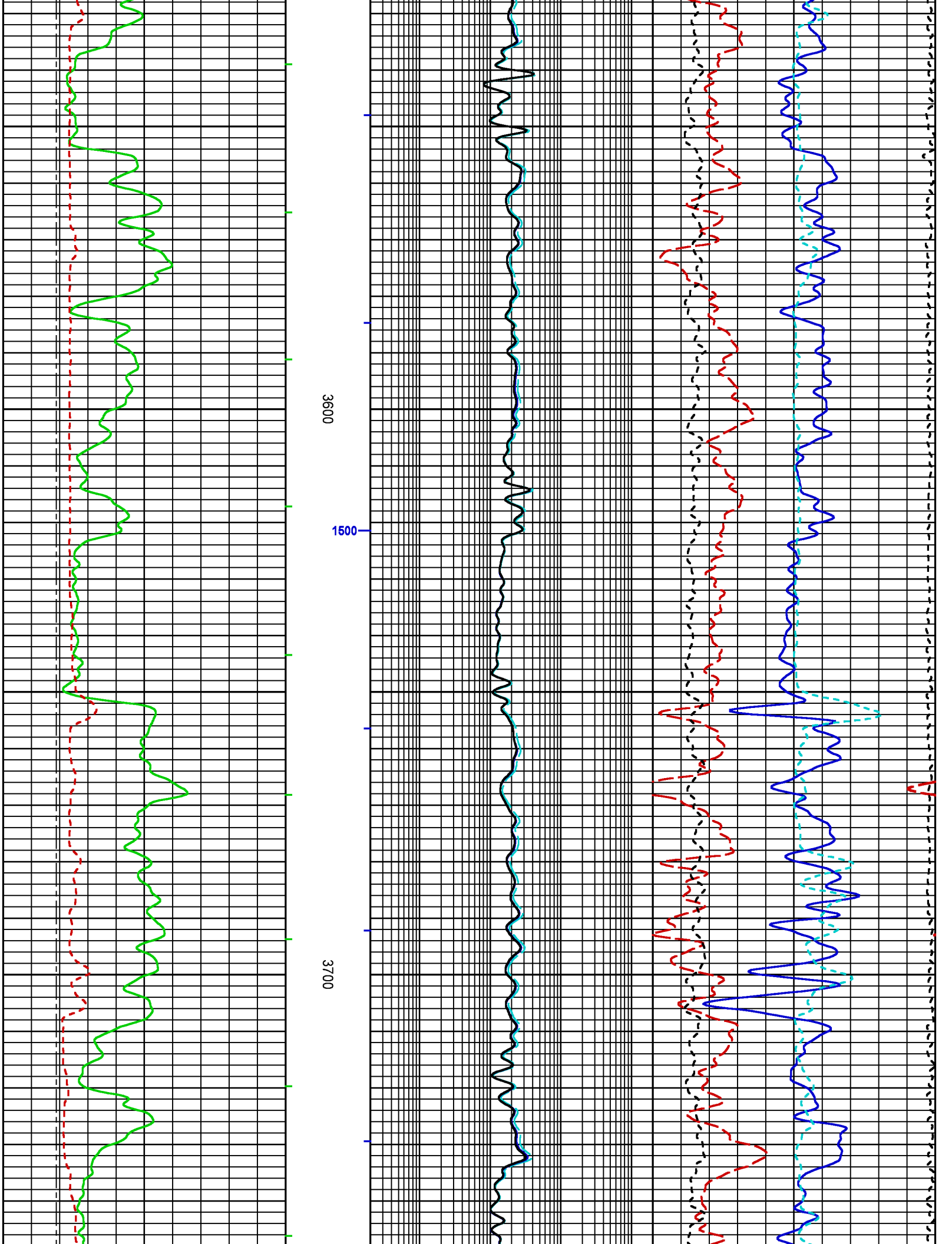


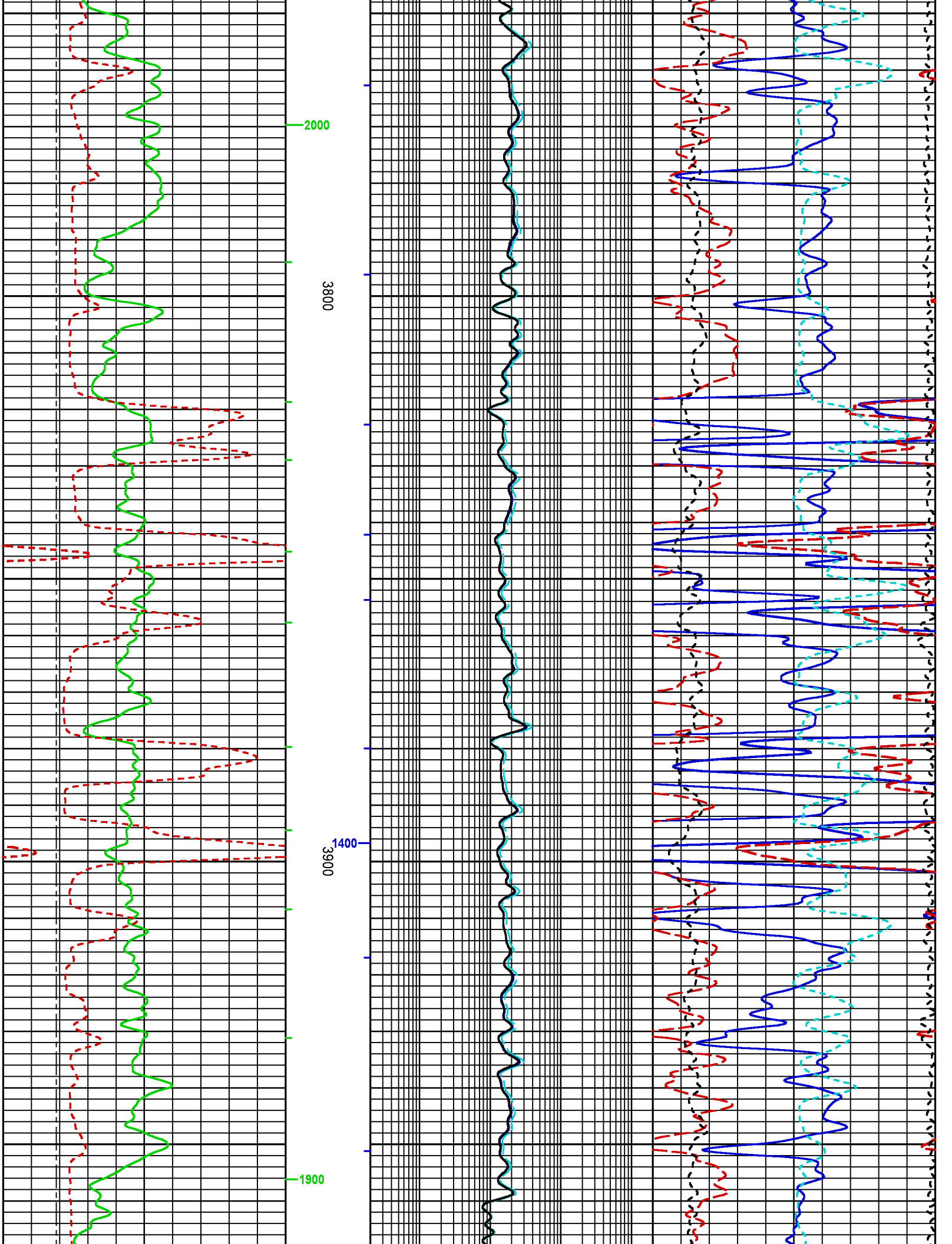


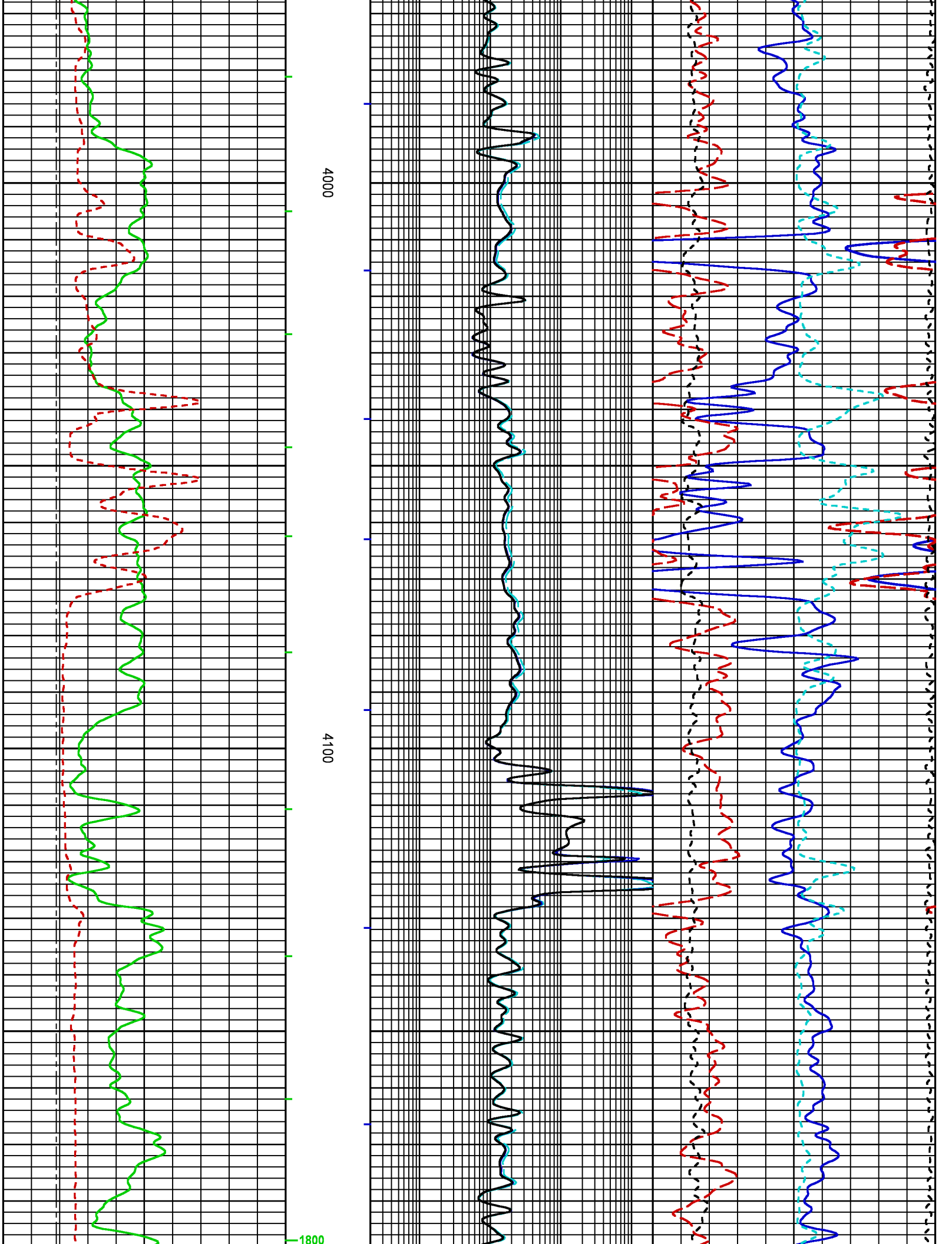


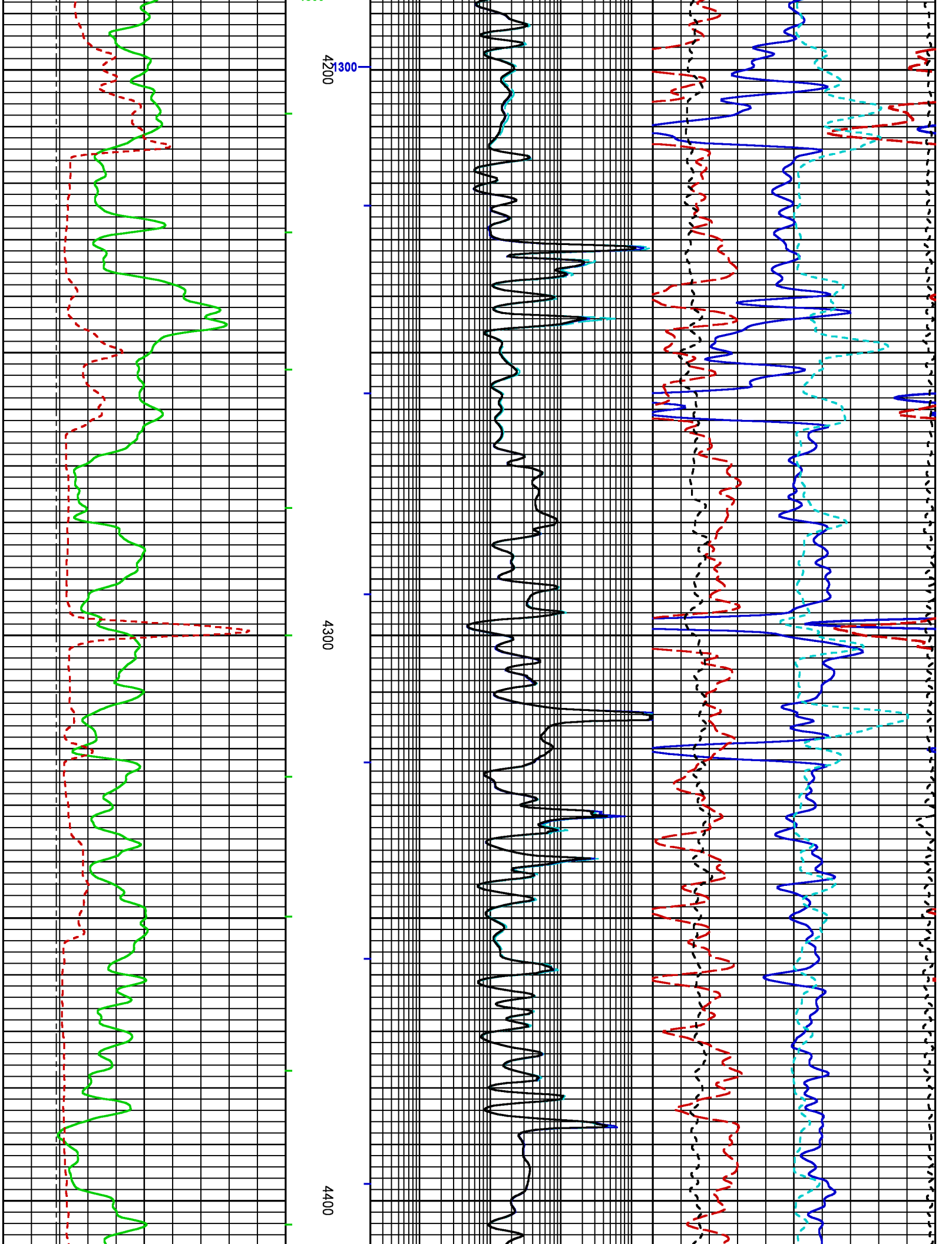


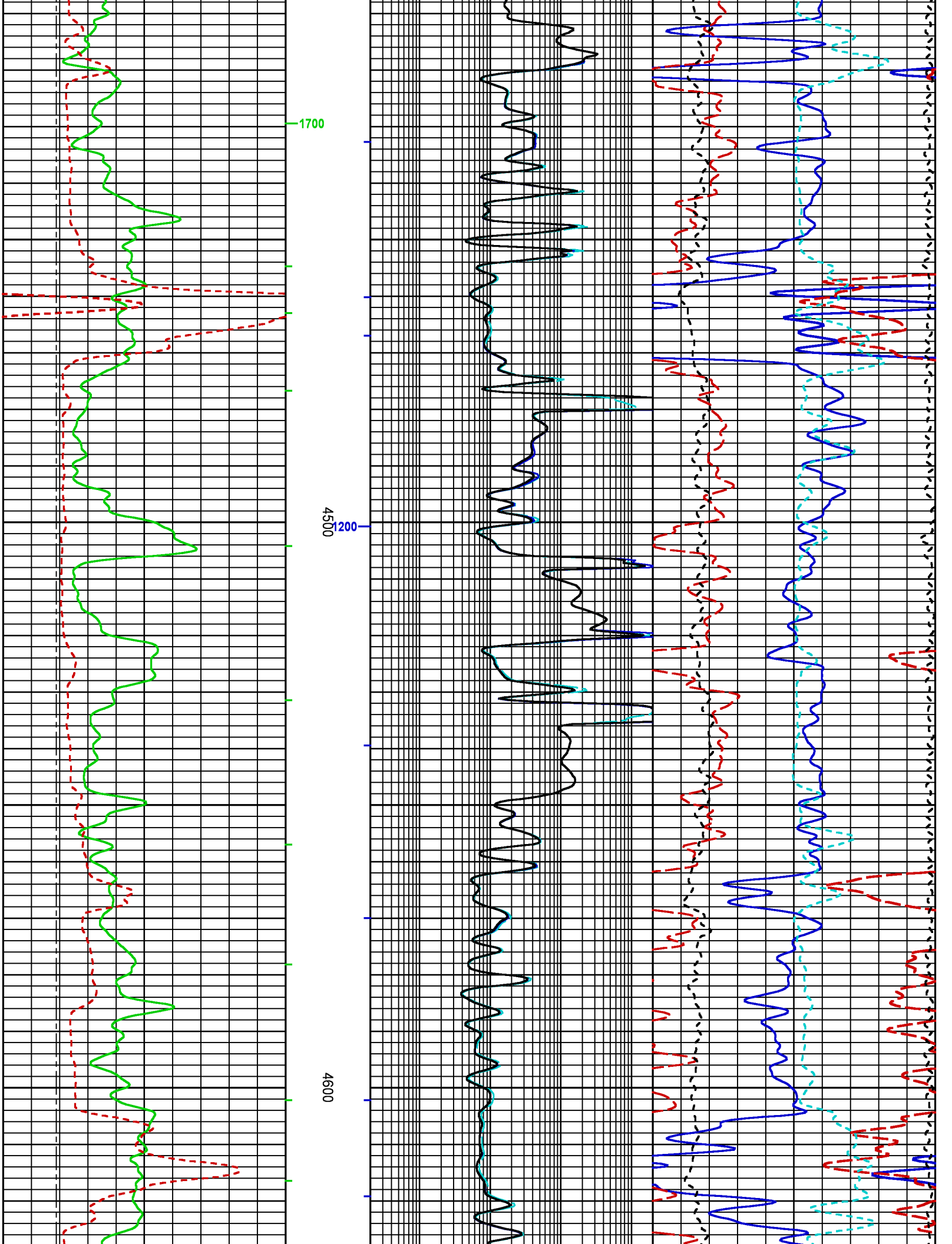


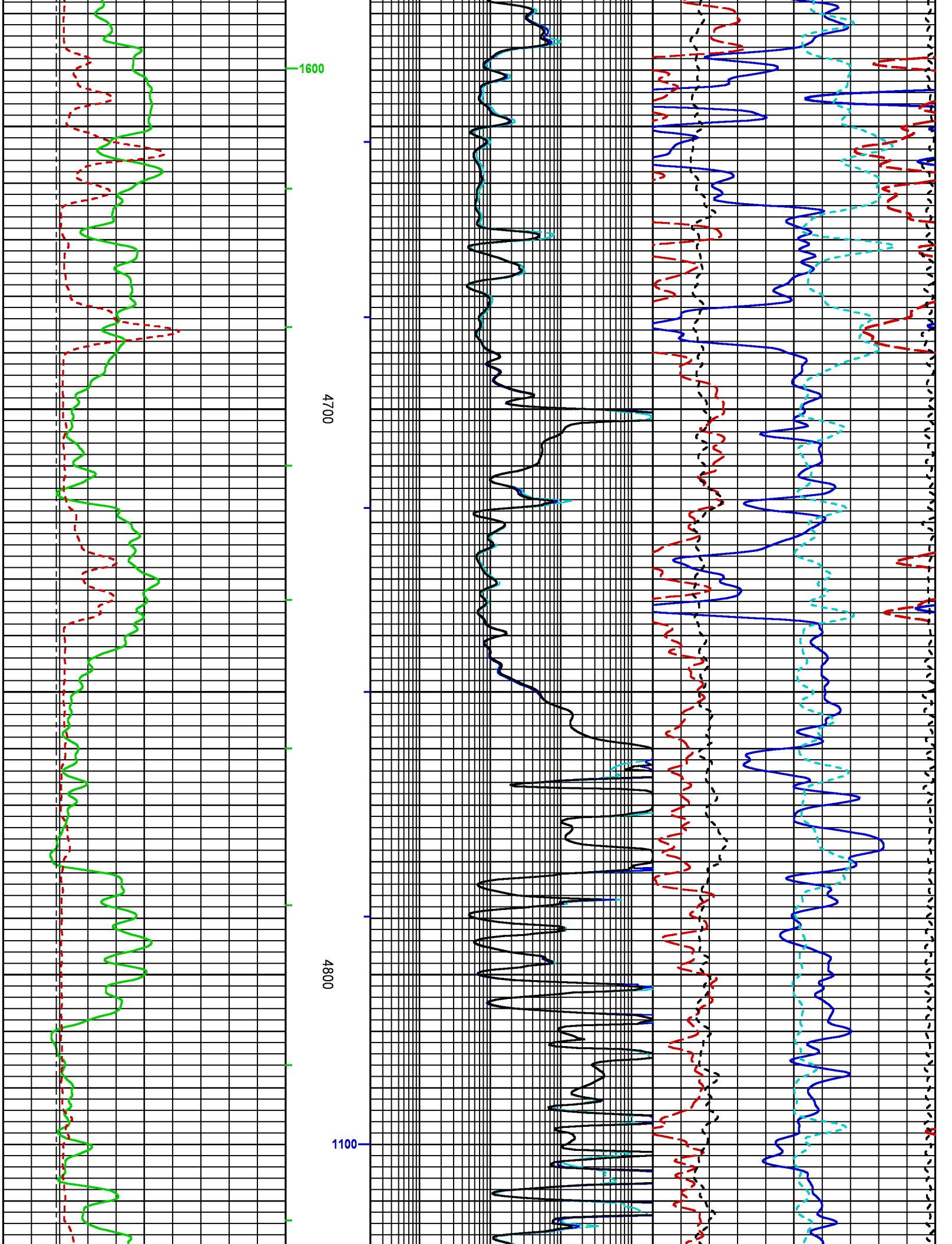


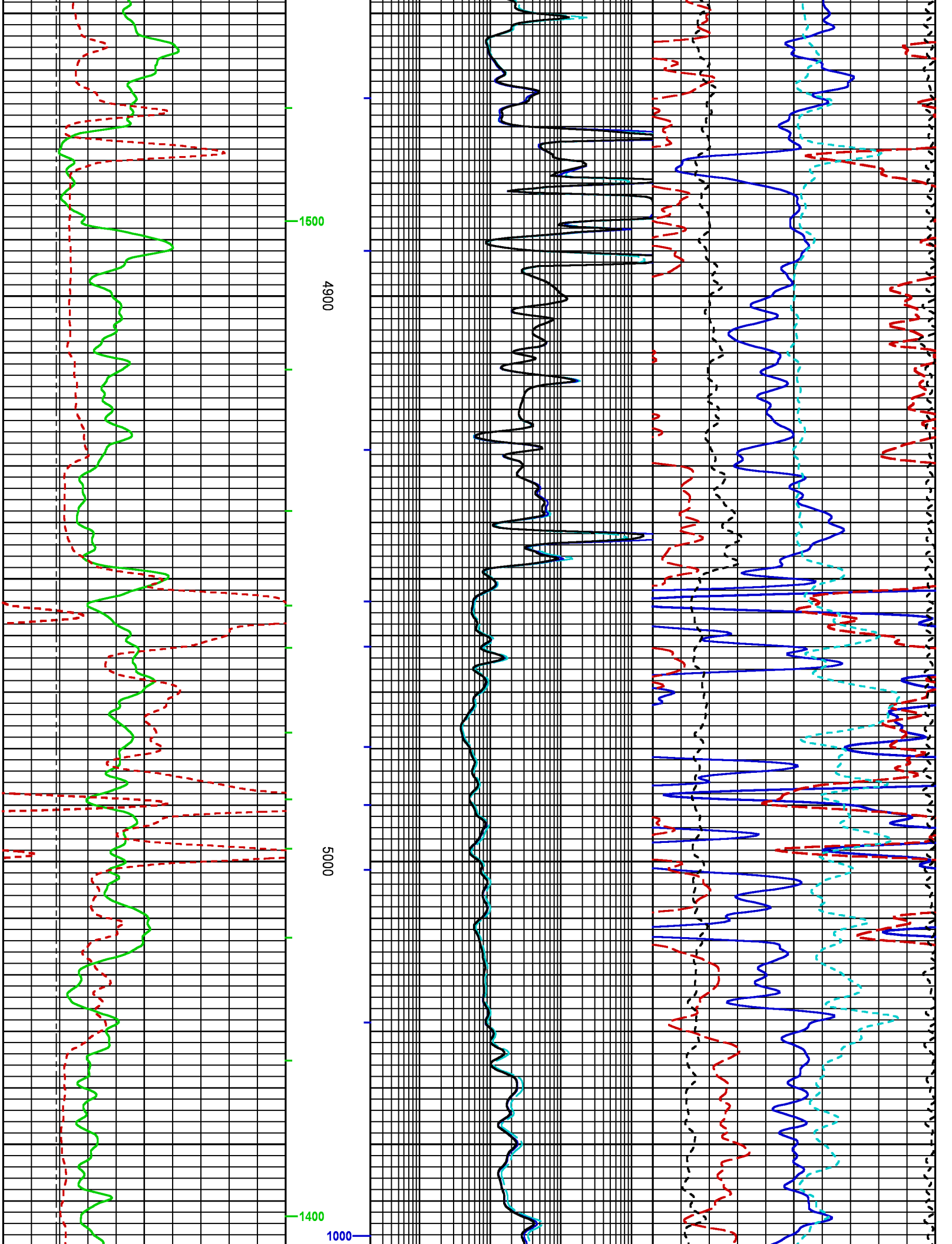


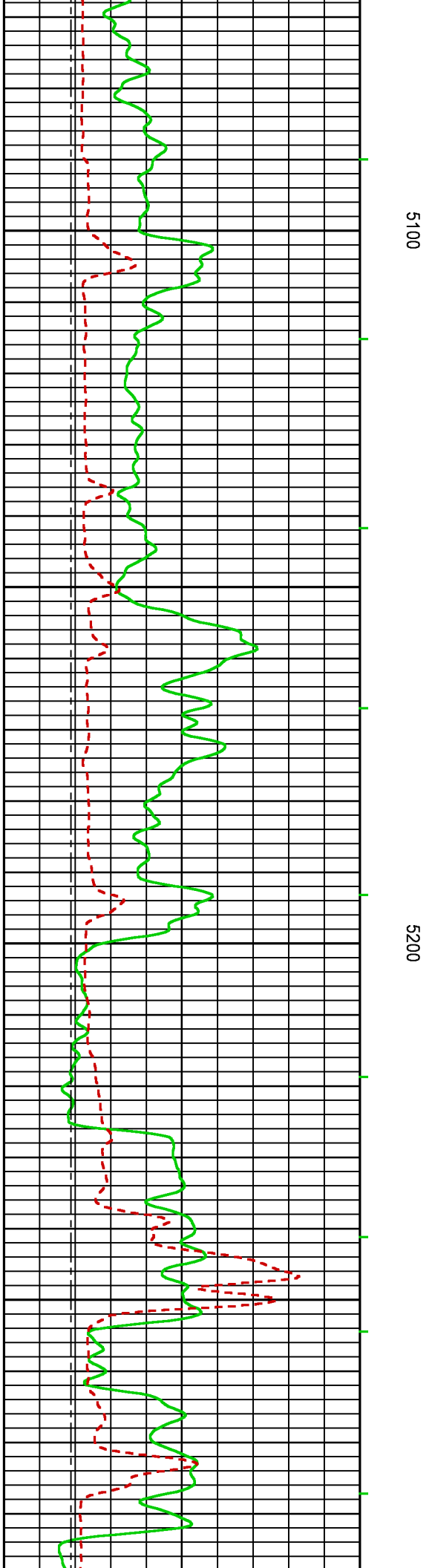
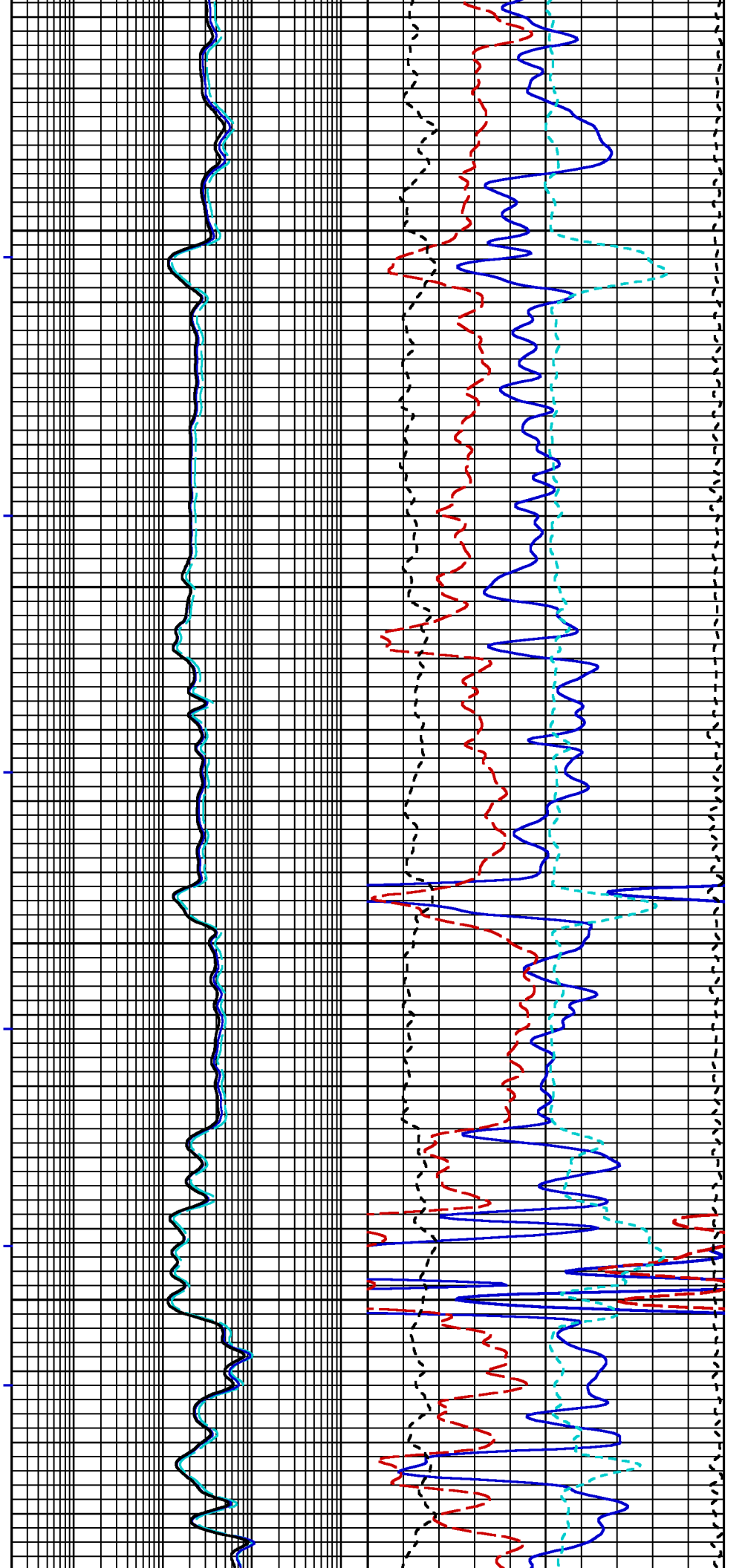


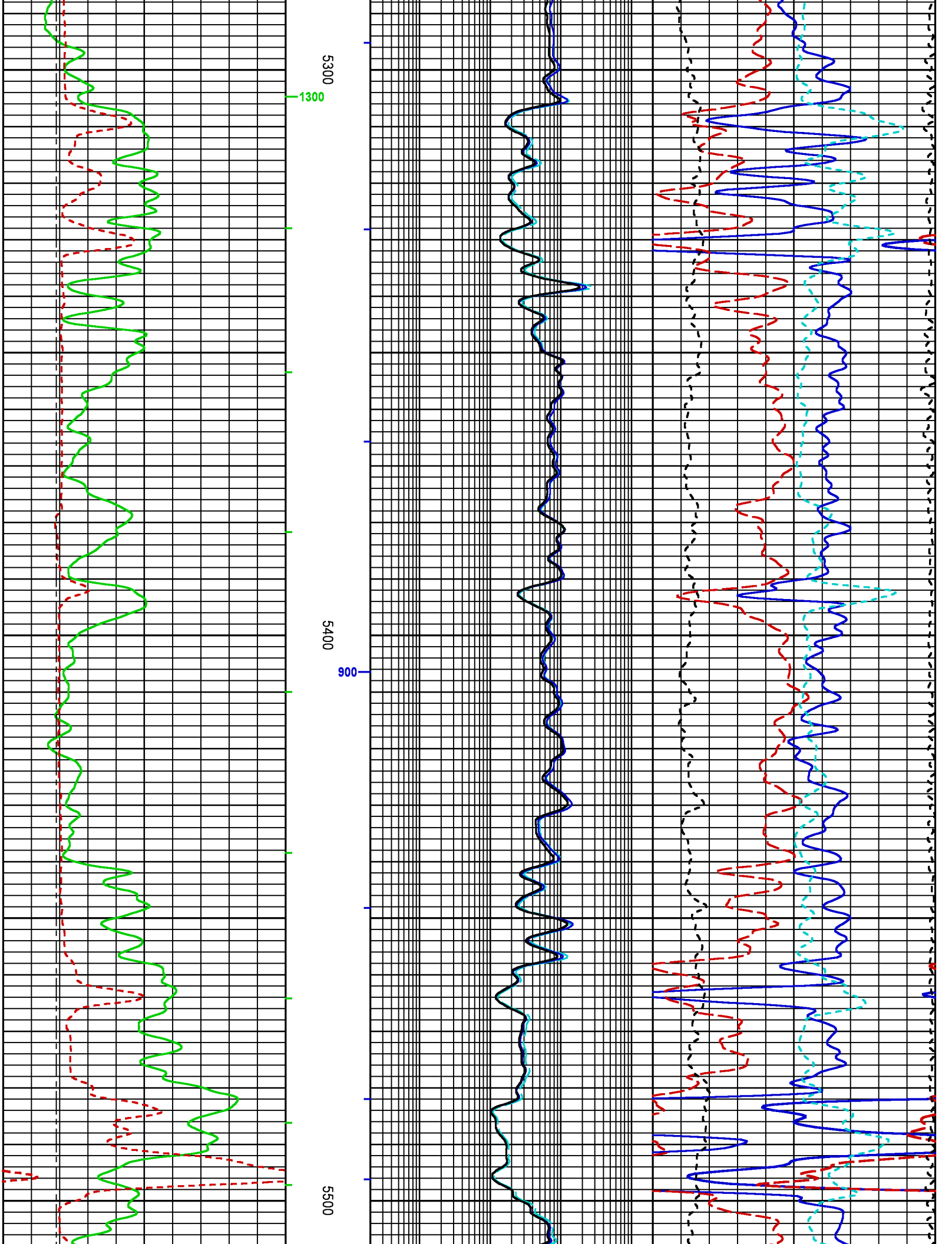


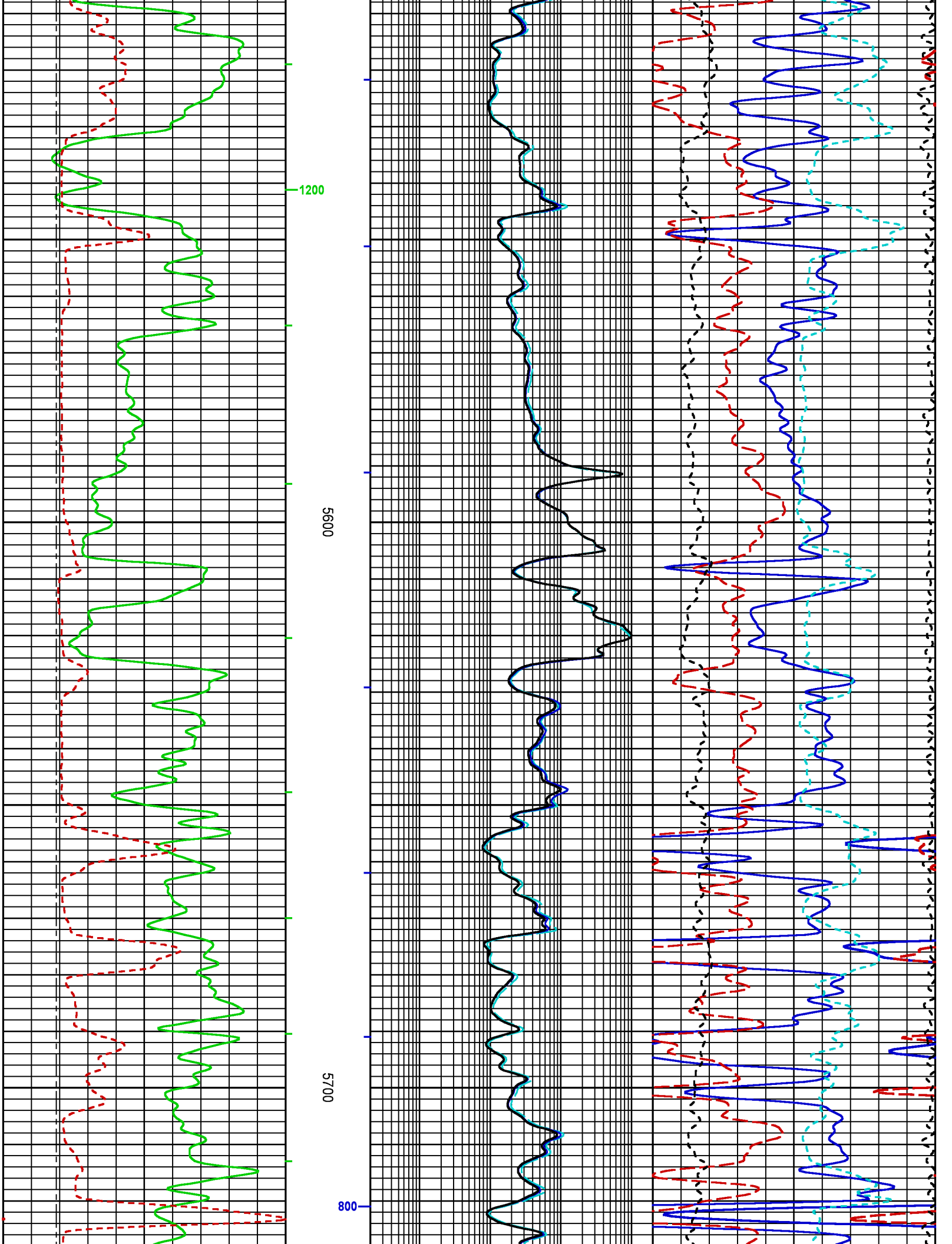


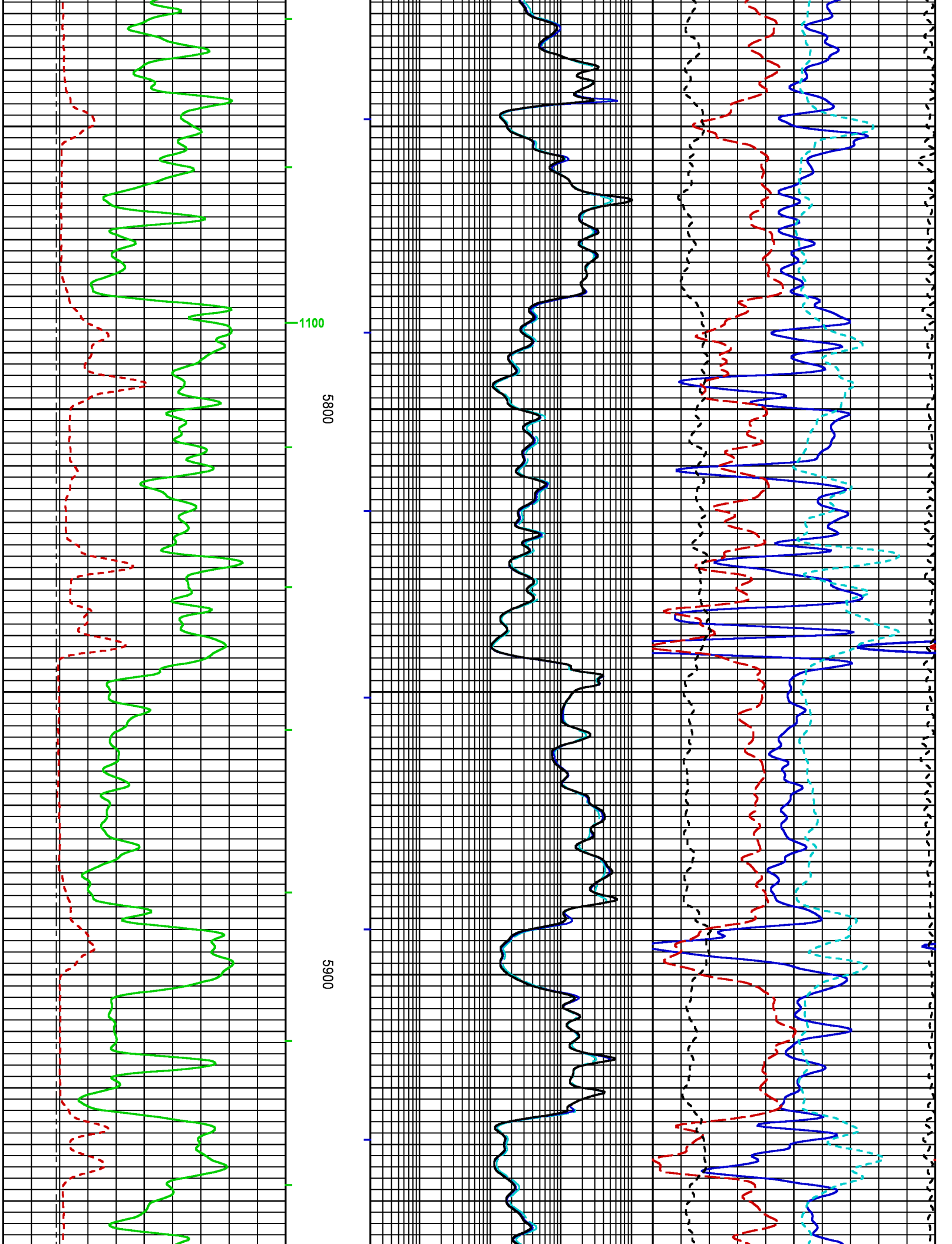


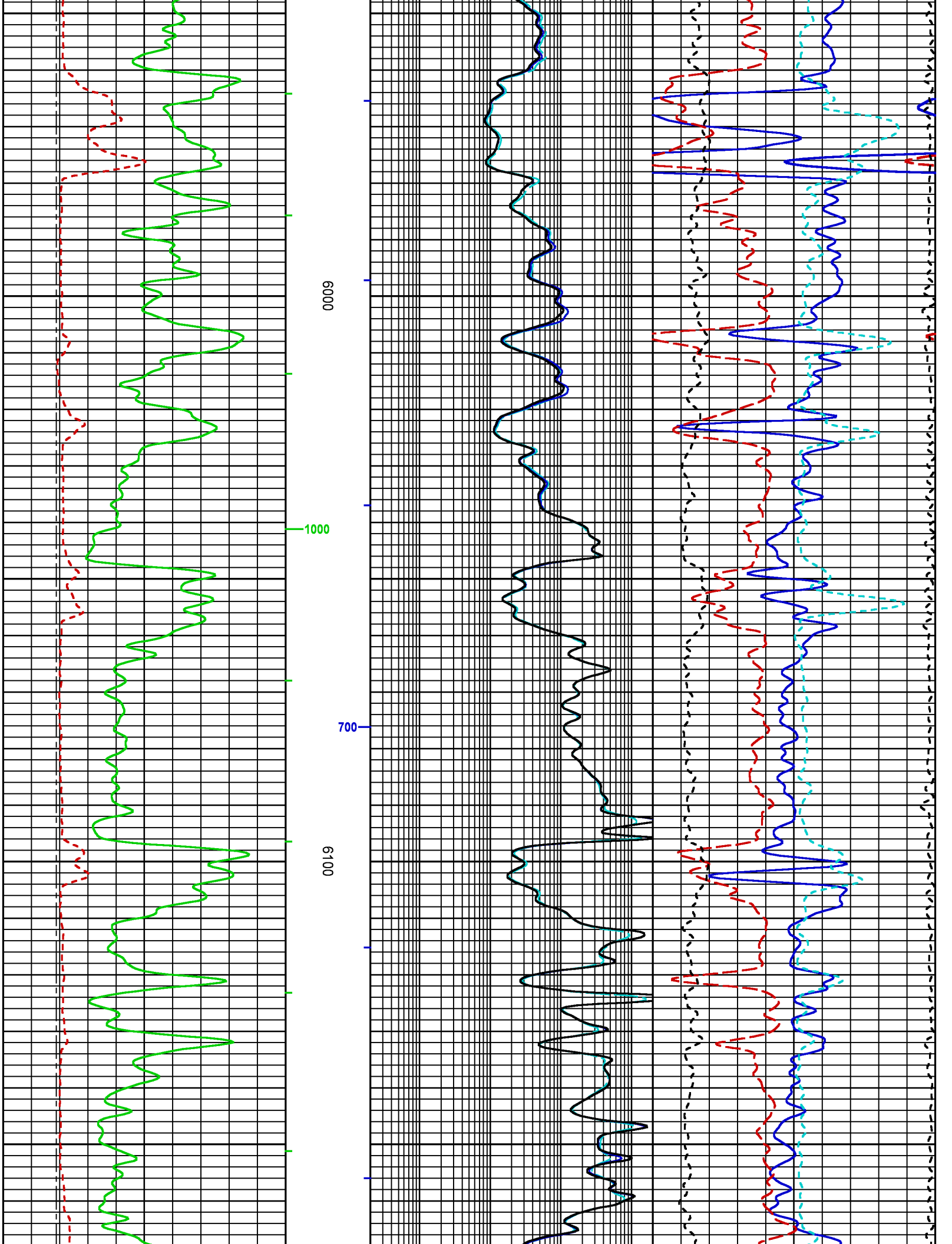


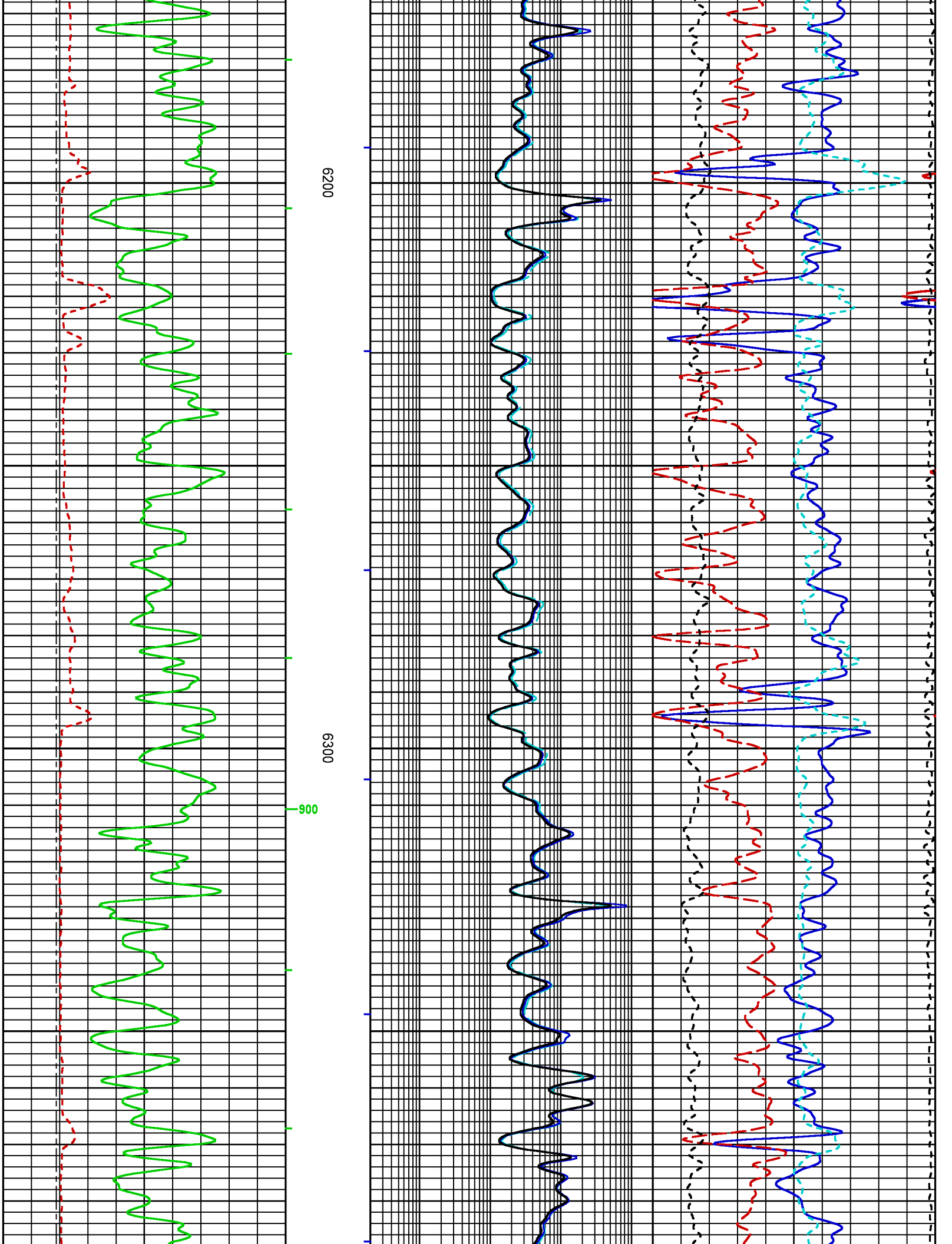


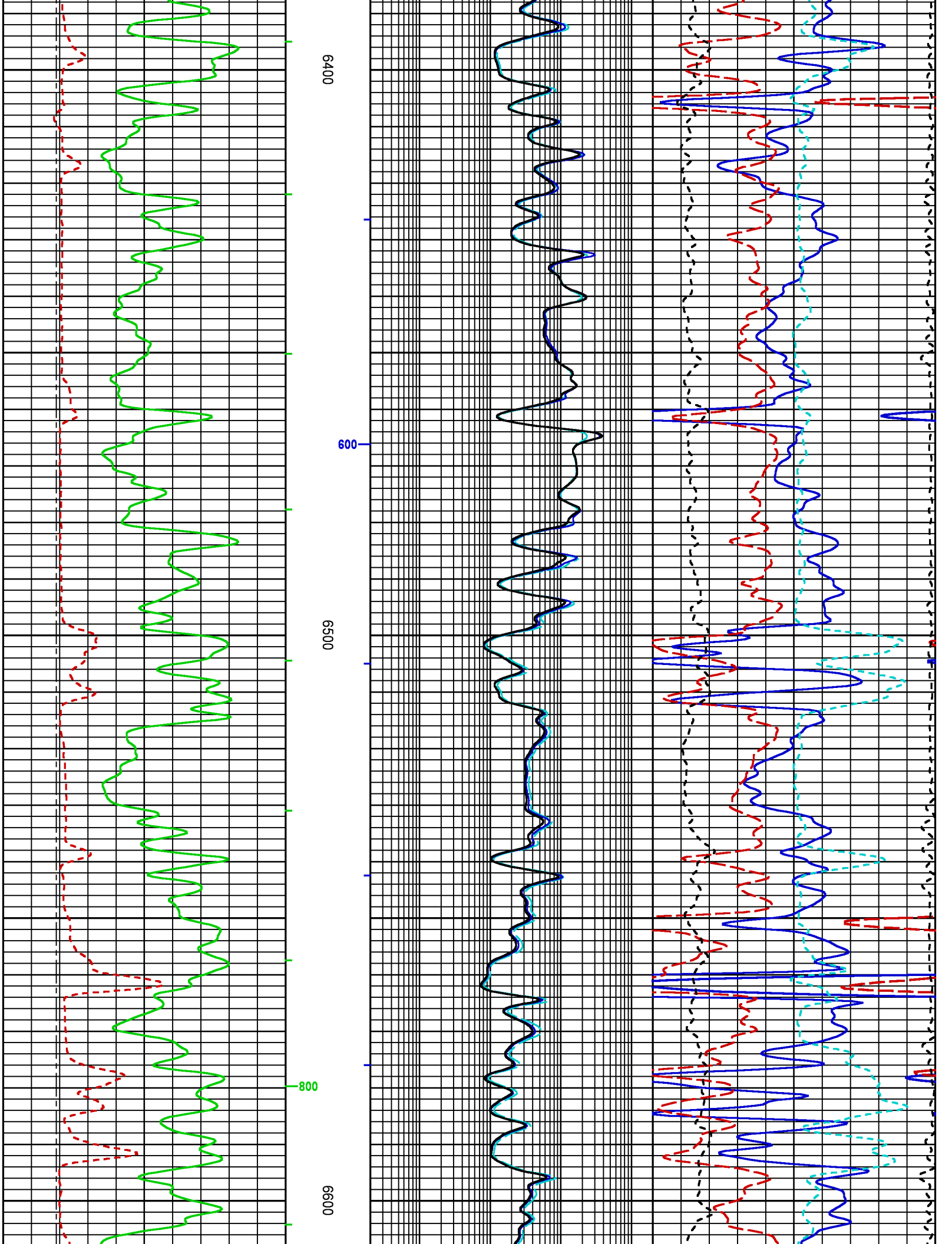


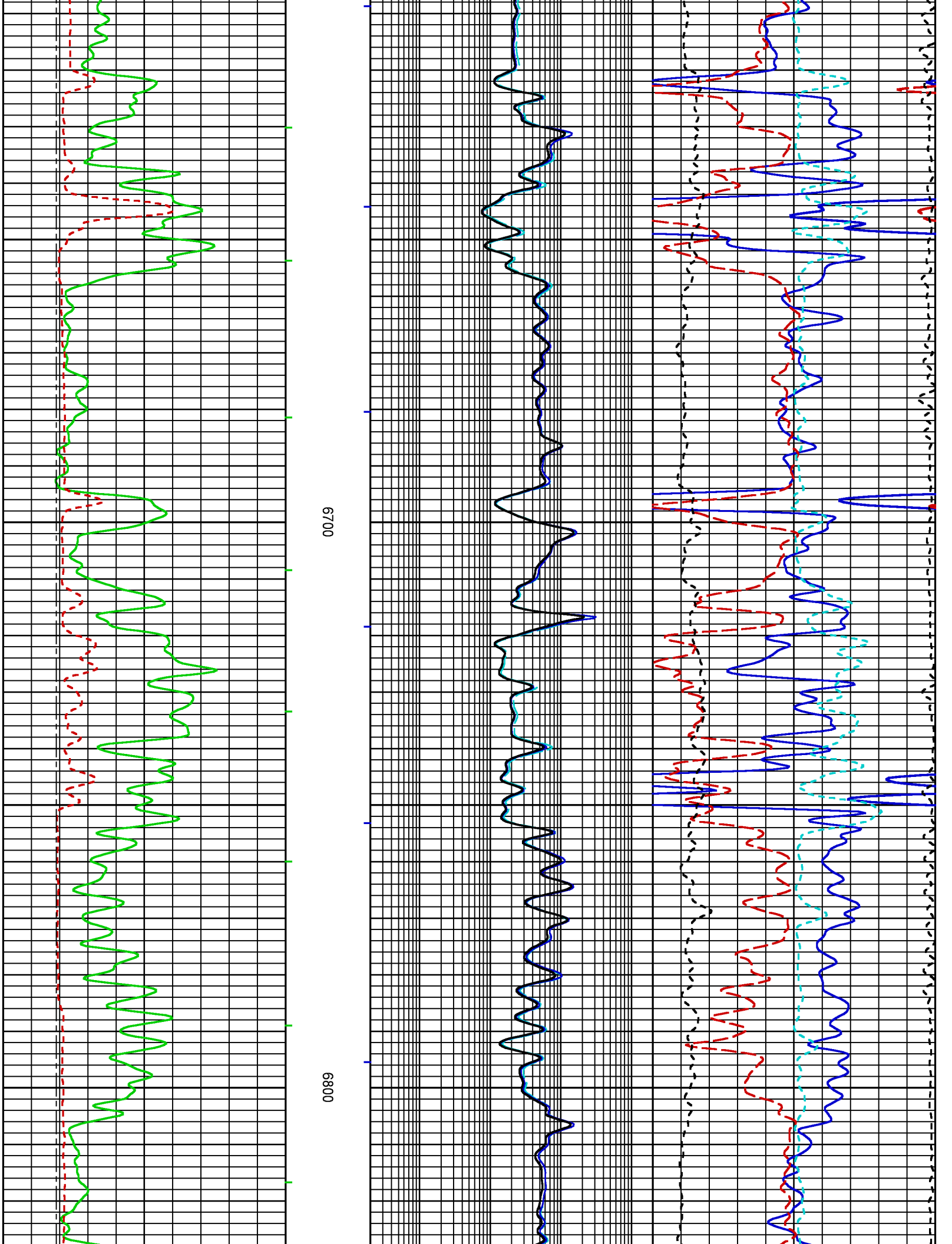


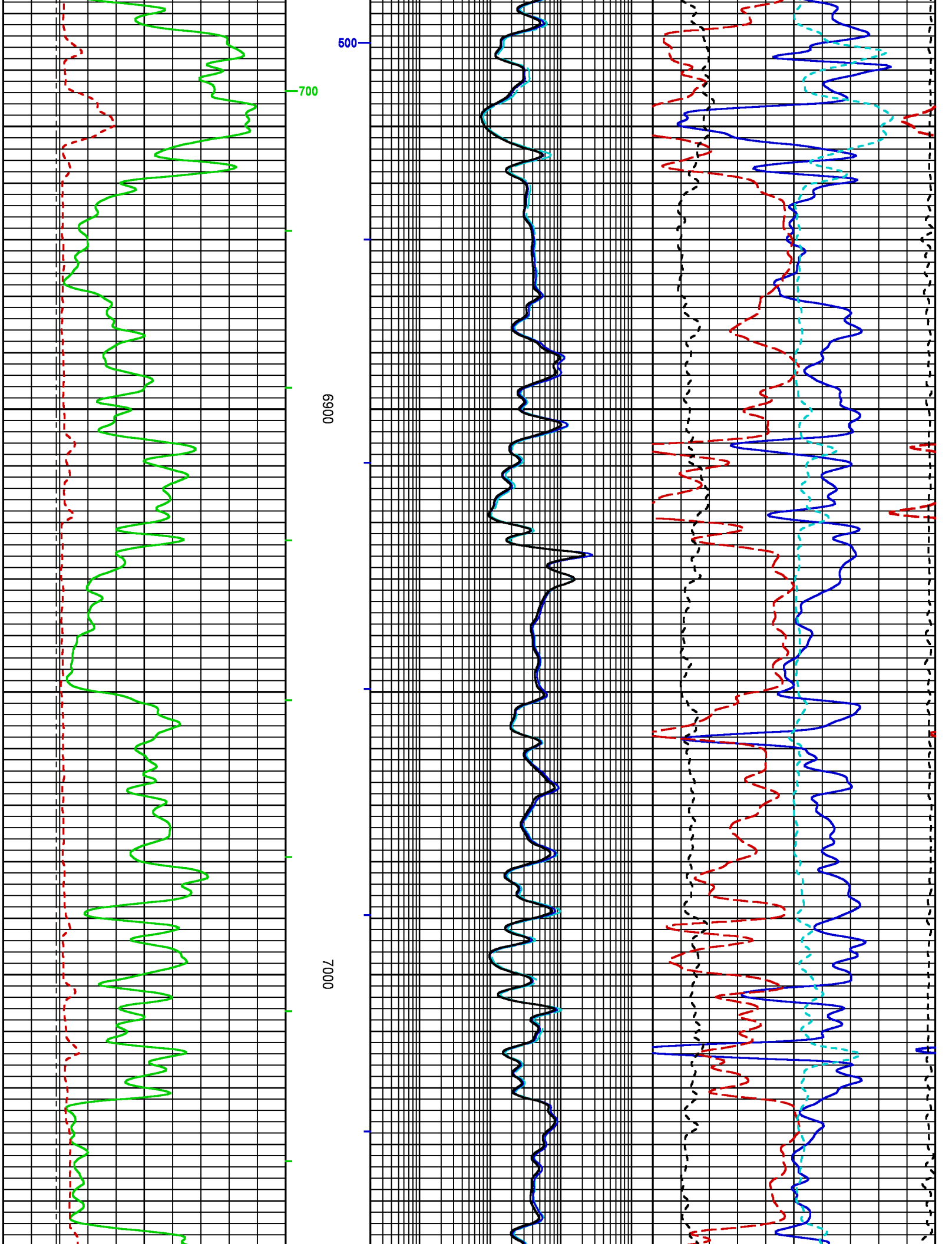


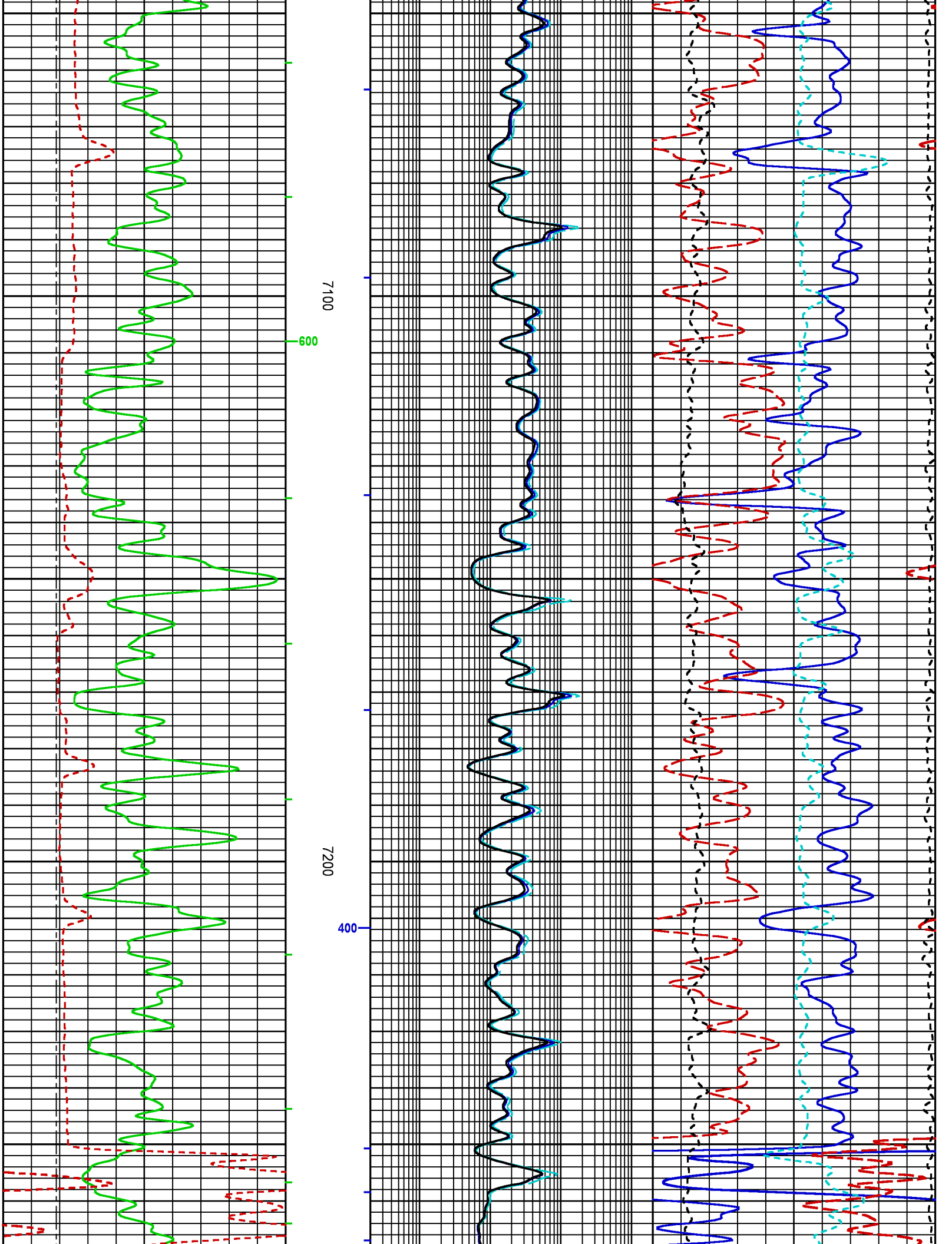


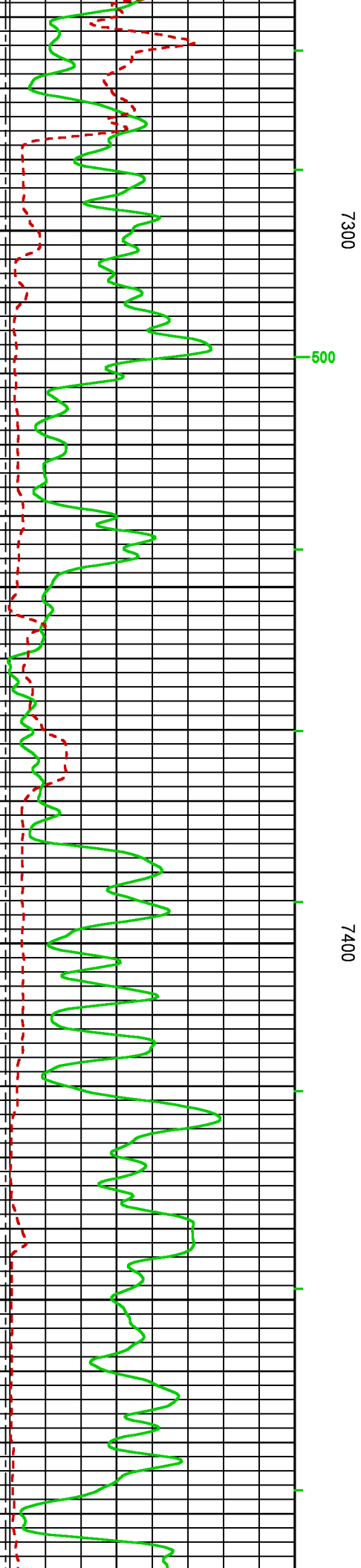
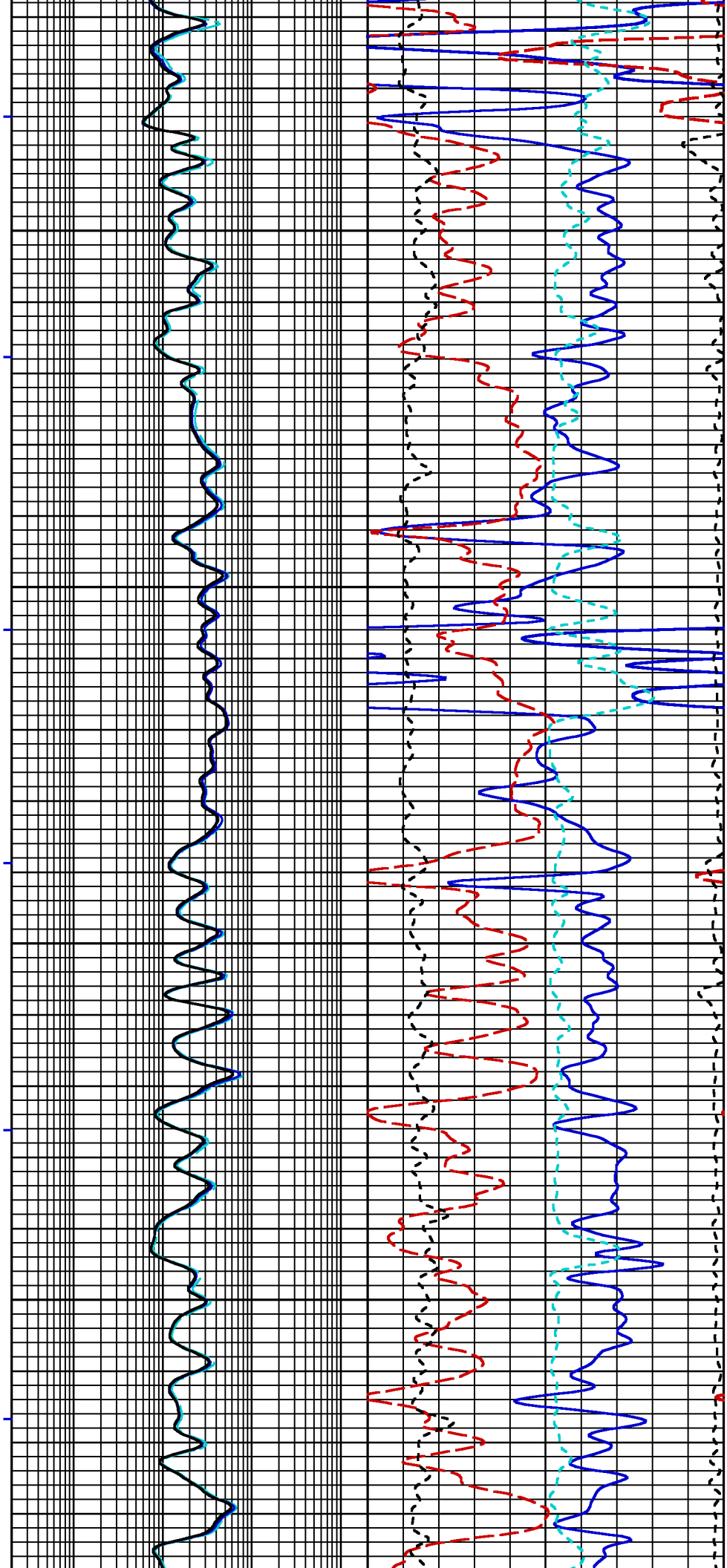


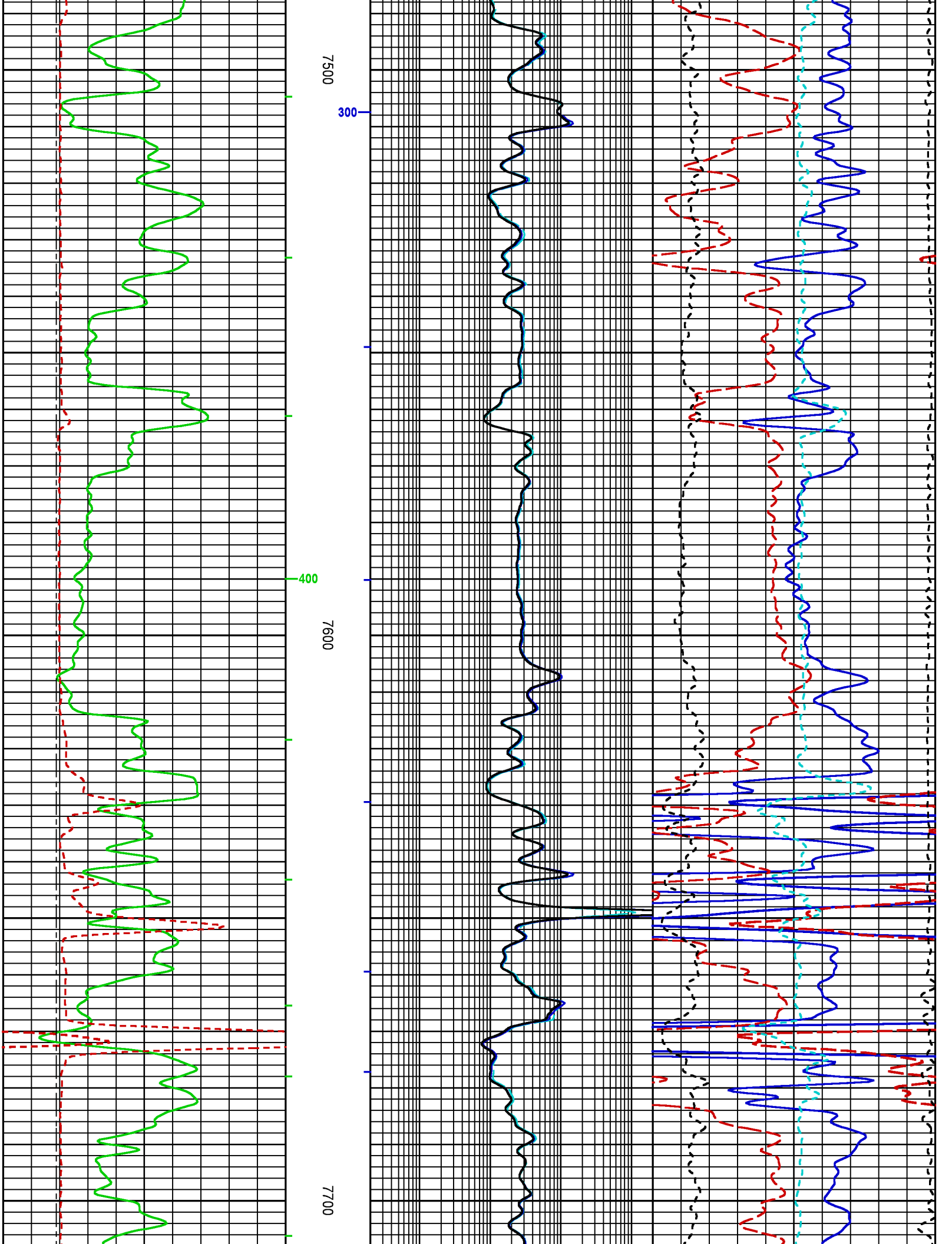


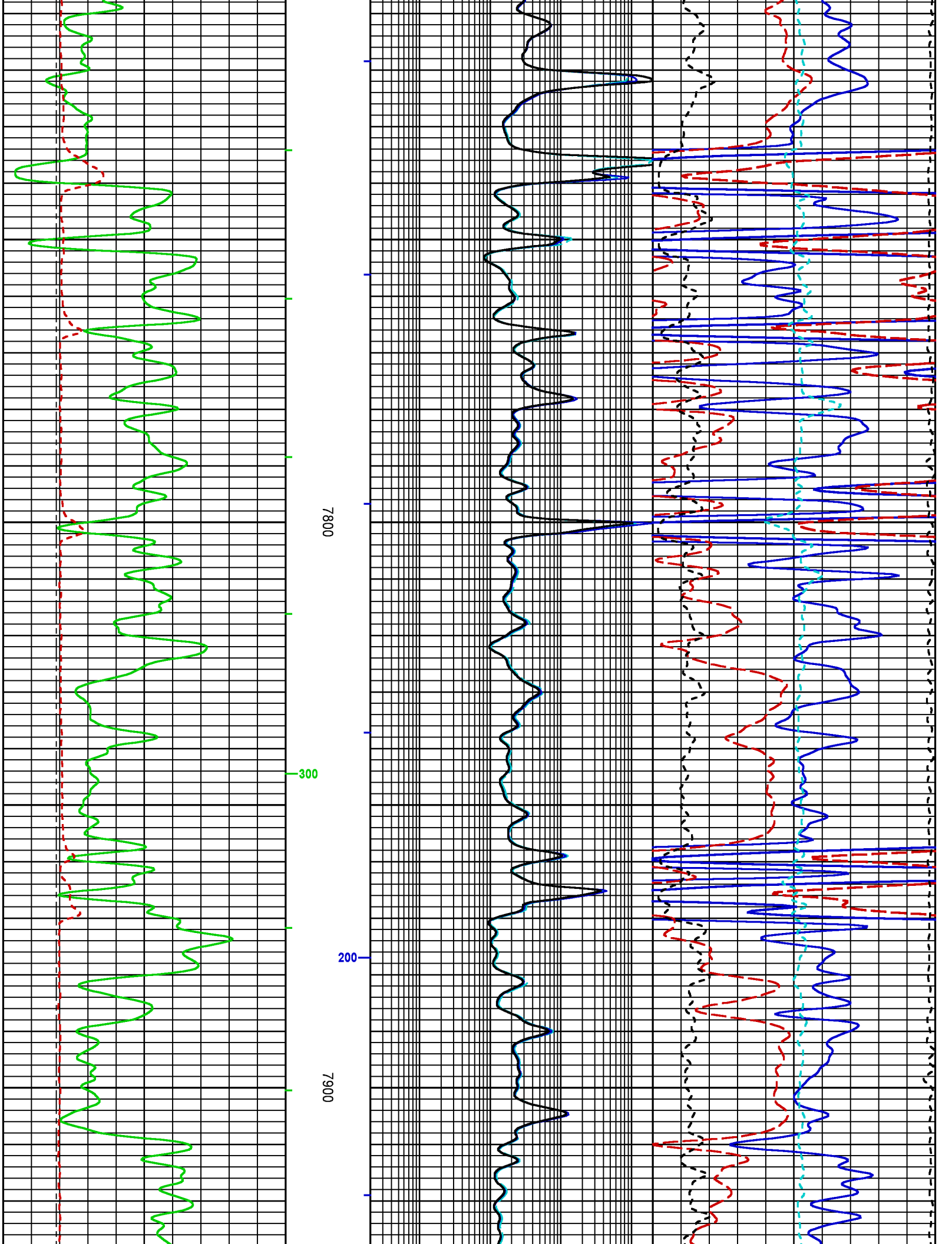


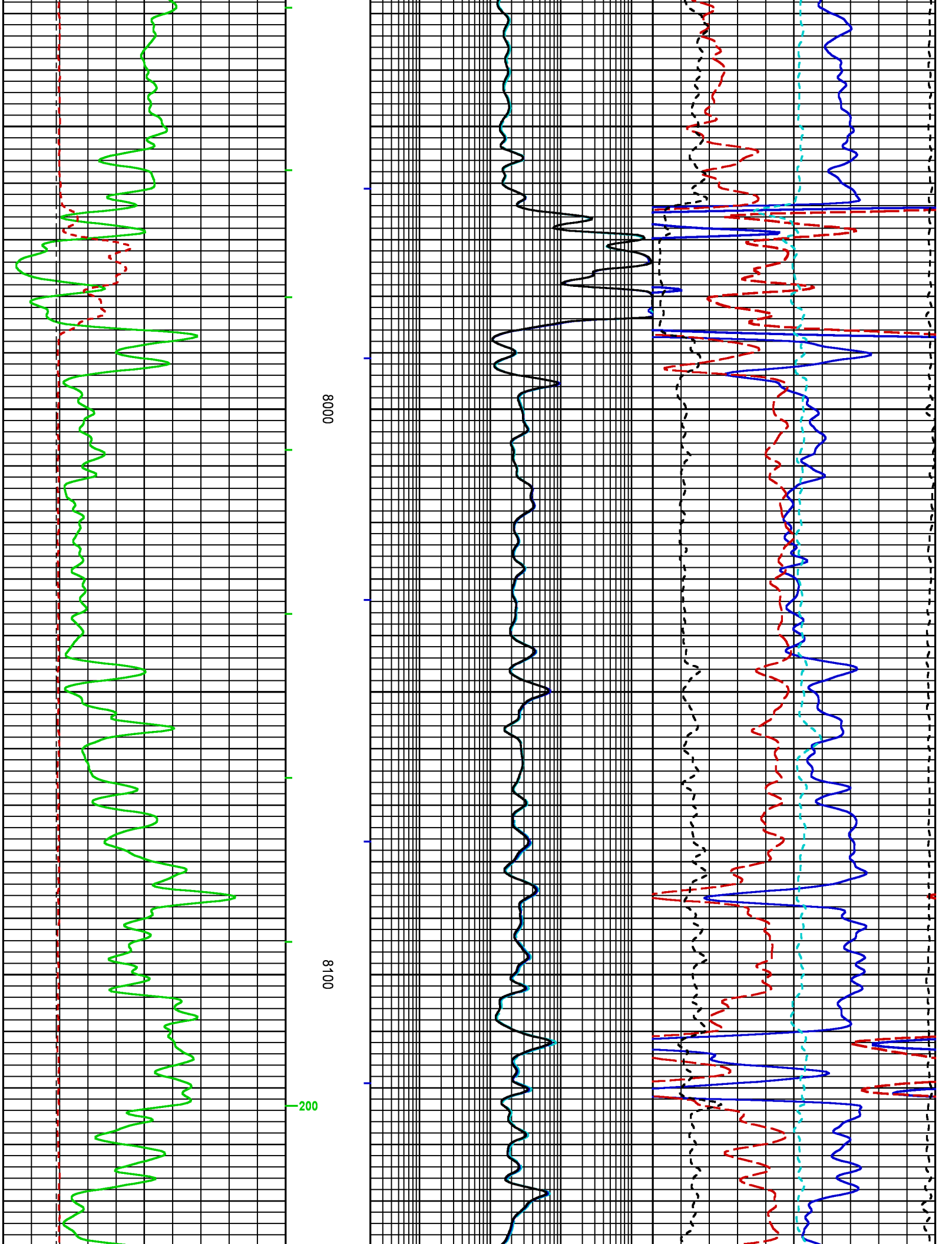


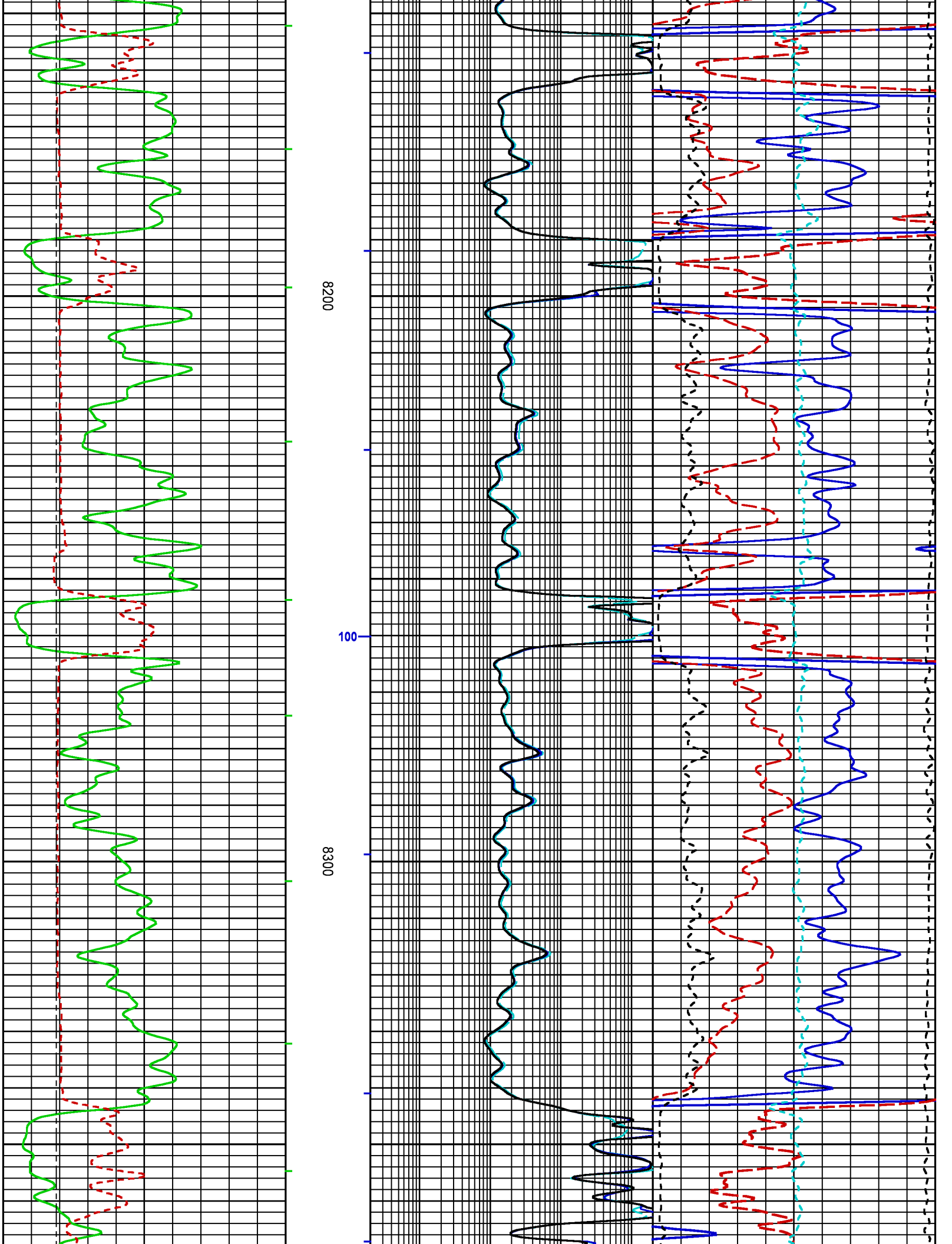


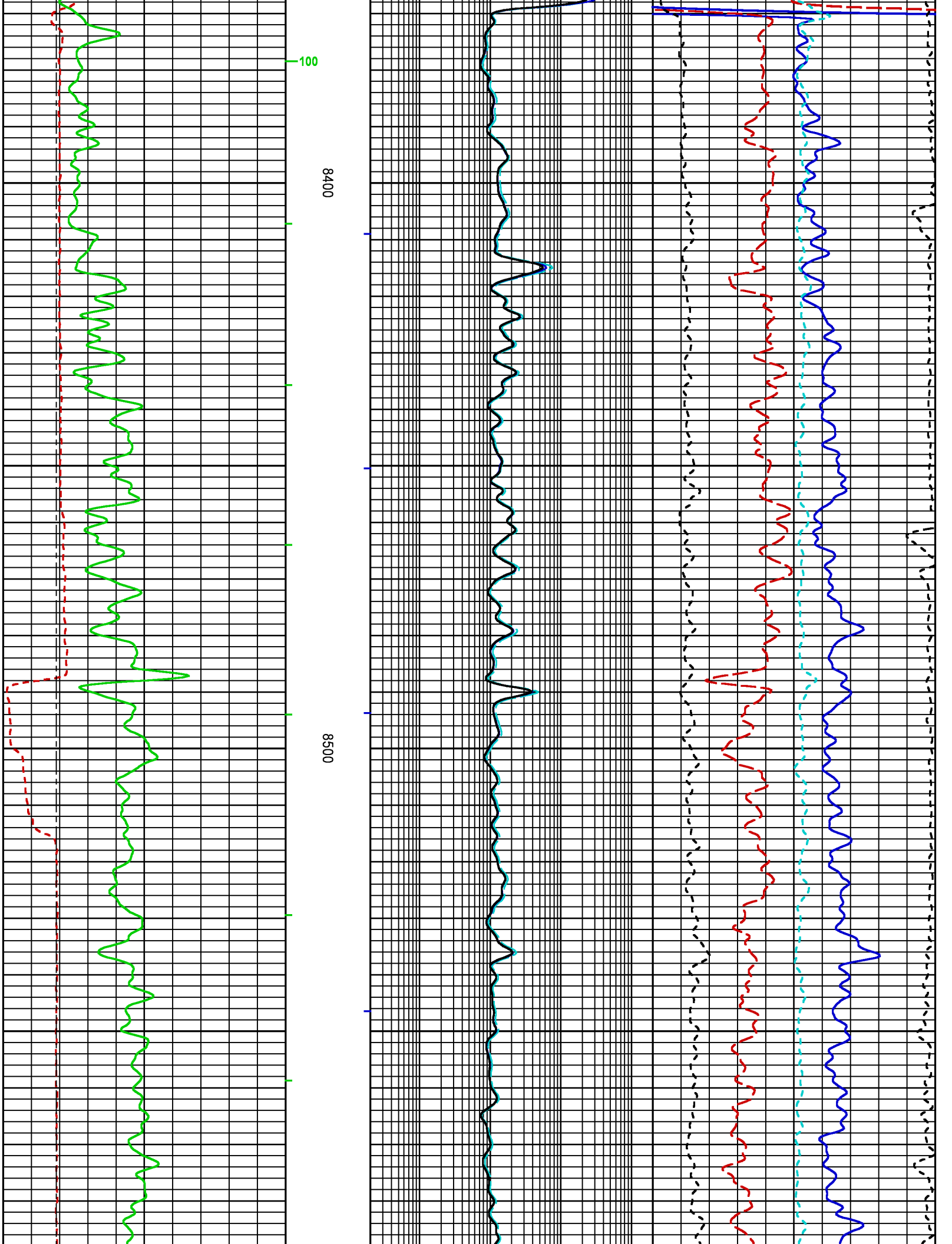


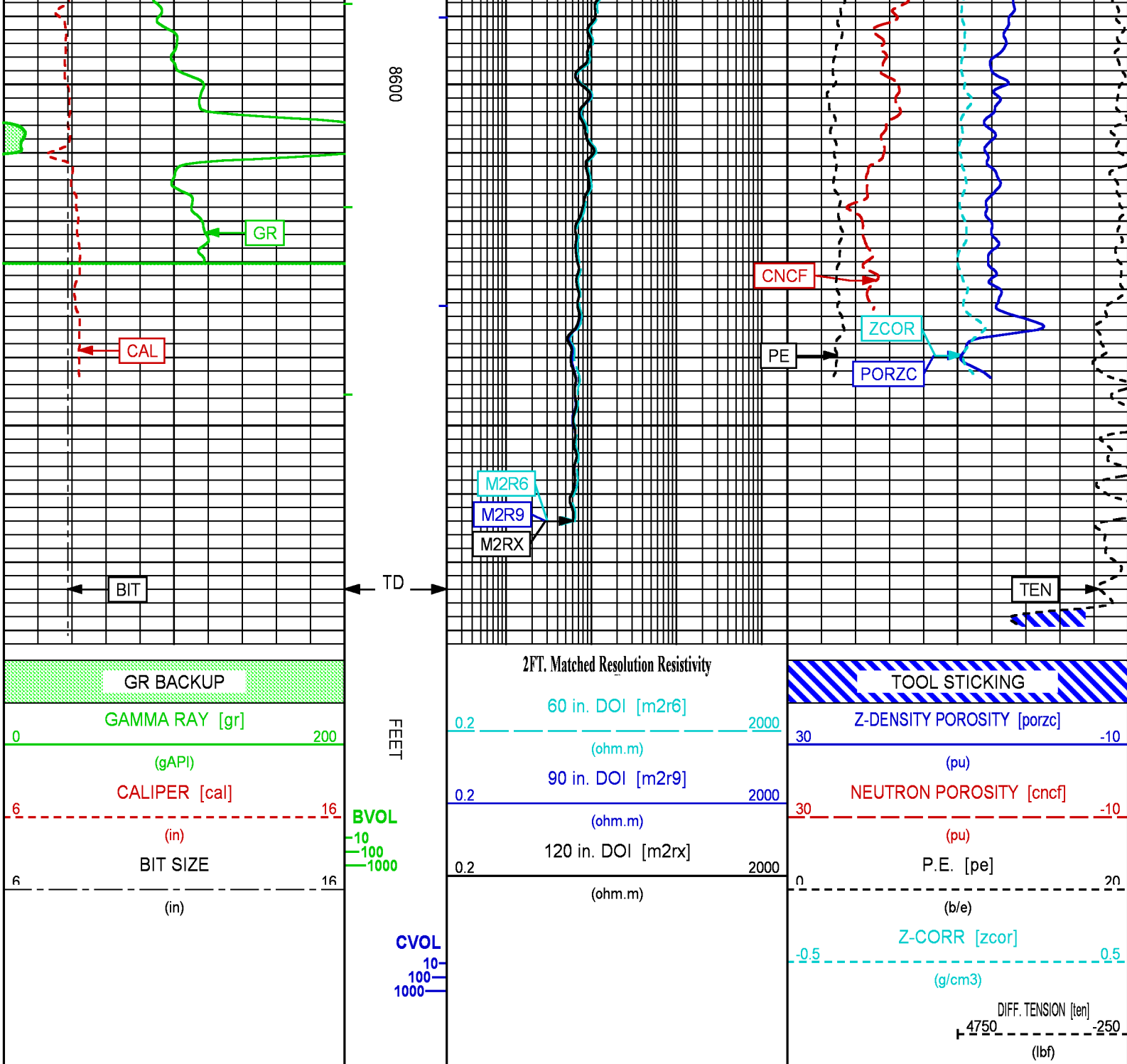












REPEAT PASS SANDSTONE MATRIX 5"/100 FT SCALE

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

Plotted: Sun Nov 26 23:05:17 2017

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\LARAMIE_HG_FED_35-01\p763g02.prm
LOGGING MODE: DEPTH DIRECTION: UP

LOGGING MODE: DEPTH		DIRECTION: UP		BOTTOM DEPTH: 1325.636 ft	
TOP DEPTH: 939.199 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)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	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 (.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	65.9	degF	"	"
	MUD SAMPLE RES	4.360	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		"	"
	CALIPER/FIXED DIA. (zdbh*)	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	600	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)	
MUD DENSITY	MUD DENSITY	9.00	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	"	"
	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		"	"
	VRM Norm	ON		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"

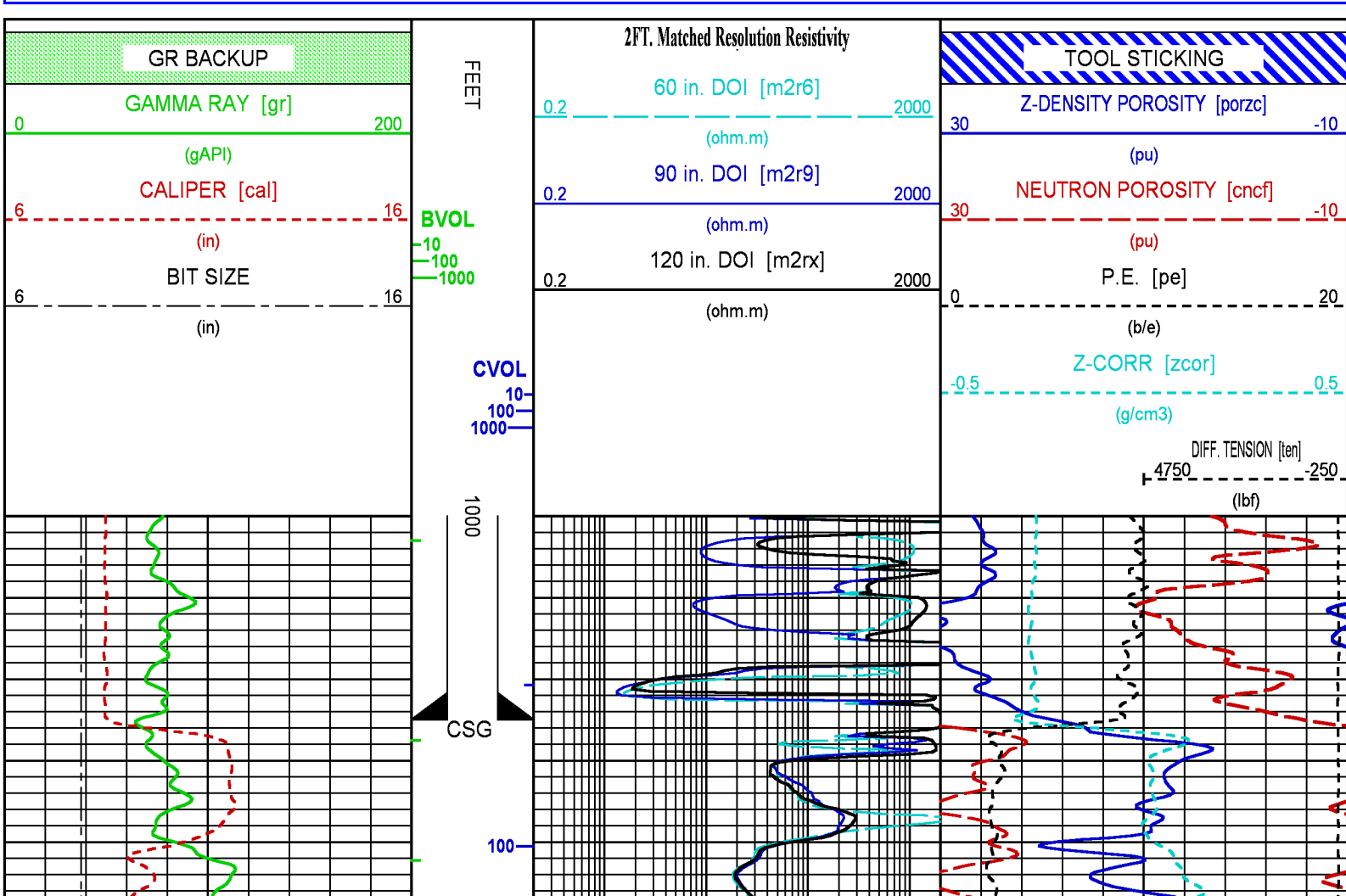
CURVE DESCRIPTION REPORT

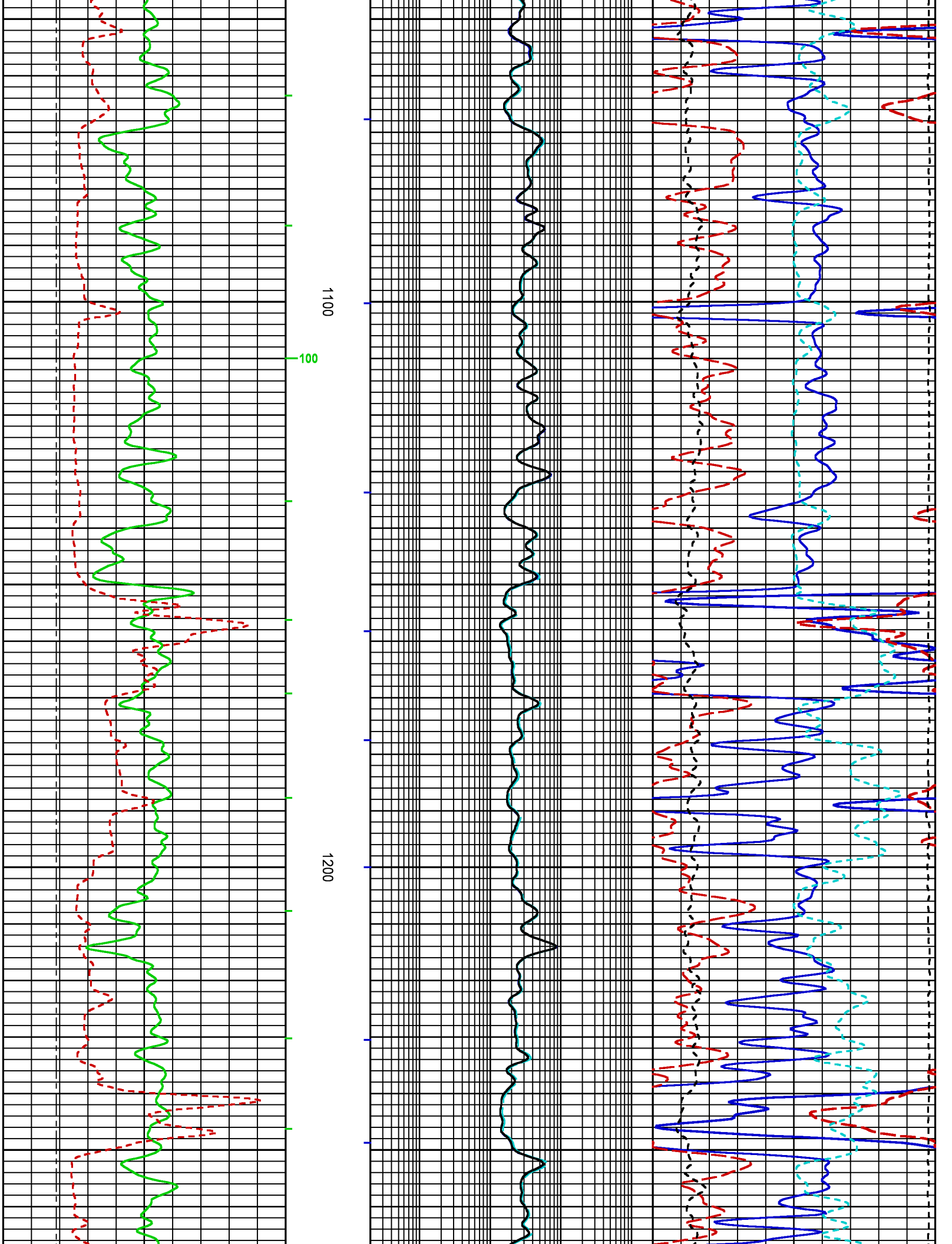
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 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:PORZC	N/A	CORRECTED POROSITY
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

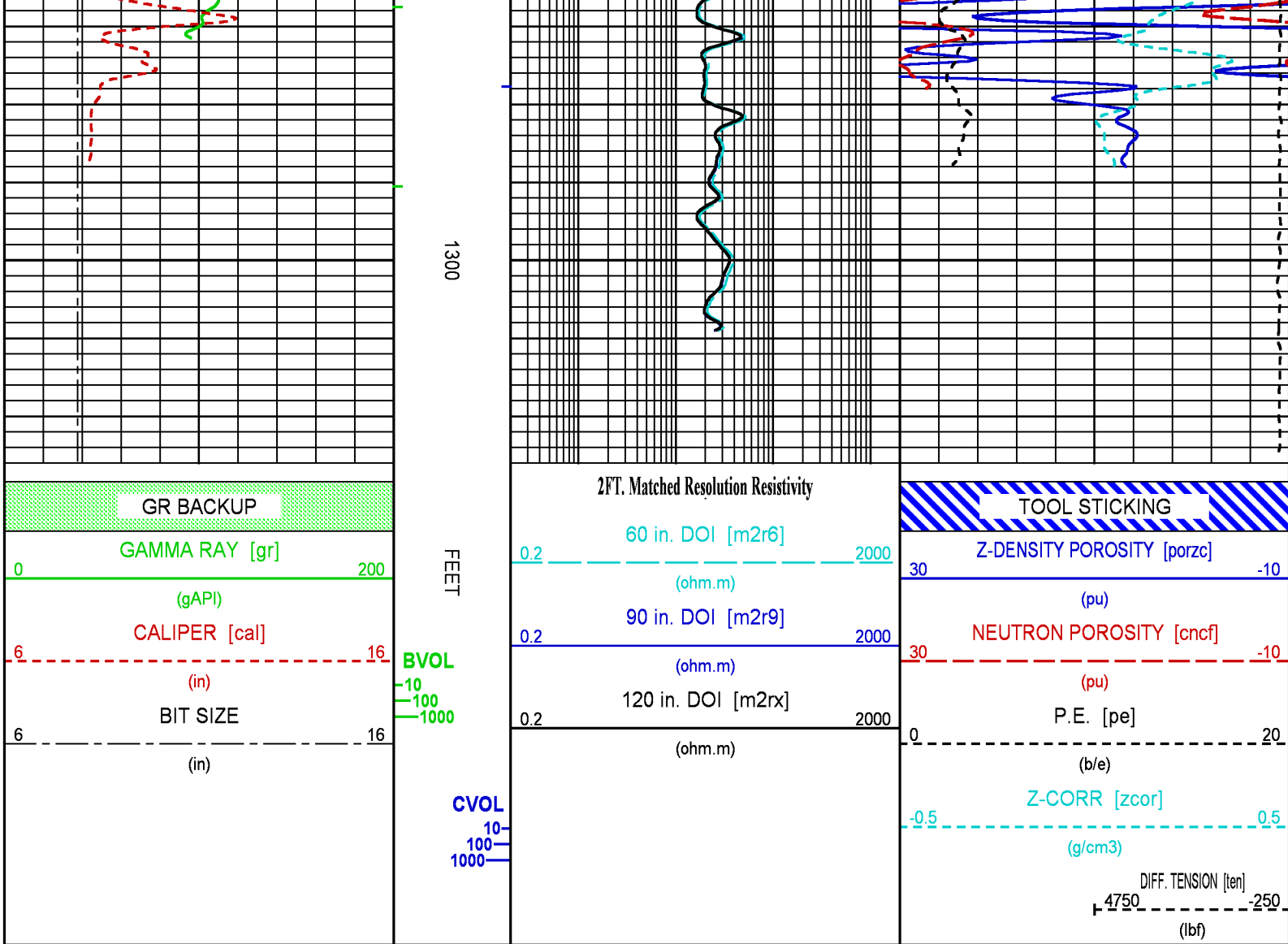
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	-52.25	M2RX	-8.00	TEN	0.00
CAL	-35.00	M2R6	-8.00	PE	-34.25	ZCOR	-34.25
CNCF	-45.25	M2R9	-8.00	PORZC	-34.25		

Presentation	: BHI3FJQNC2:C:\dat1a\LARAMIE_HG_FED_35-01\REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 1000 - 1325.75 Feet
Data File 1	: F1 : BHI3FJQNC2:C:\dat1a\LARAMIE_HG_FED_35-01\p763g02_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY
Well	: HG FED 35-01W
Field	: ALKALI CREEK
File Interval	: 873.5 - 1325.75 Feet
OCT	: p763g







CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\LARAMIE_HG_FED_35-01\p763g.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10045153

DATE/TIME PERFORMED: Thu Jul 27 22:12:51 2017

UNIT #: 3882TD HL6741

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (lbf)	Engr High (lbf)
CHT	24.93	774.79	3.33	-183.12	-100.00	2400.00

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	943.8 830.0 960.0	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	150.05 140.00 160.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10342170

DATE/TIME PERFORMED: Tue Nov 14 15:36:27 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	610.63	619.71				
SSN	1593.23	1645.66				
RATIO			2.65553	2.75100	1.03595 0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10342170

DATE/TIME PERFORMED: Tue Nov 14 15:42:27 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	2027.19	2130.92				

SSN 4691.86 5177.82

RATIO 2.42986 1.03595 2.51843

CN 18.107

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	LARGE RING
					(in)	(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: Sun Nov 26 11:53:04 2017 DAYS SINCE CAL: 11

UNIT #: HOIST 6670

	I.D.	MULT	ADD	I.D.
				(in)
CALIPER	1273.2	0.00796	-2.04107	8.097

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795 DATE/TIME PERFORMED: Sun Nov 26 18:19:48 2017 DAYS SINCE CAL: 12

UNIT #: HOIST 6670

	I.D.	MULT	ADD	I.D.
				(in)
CALIPER	1264.4	0.00796	-2.04107	8.027
				7.597 8.597

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 10231795 DATE/TIME PERFORMED: Tue Nov 14 17:19:45 2017

UNIT: 3882TD HL6728 CALB BLKS: 2225XA B94287 CS SRC: 4703NT 11344B

SS CS BK LS CS BK SS BKCD LS BKCD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BRGD (cps)	LS_BRGD (cps)
225.9	225.1	1253.4	1434.4
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)	19252.8	9976.9	0.594	1.700	0.003	2.160
			0.565 0.665			
AL	11207.4	1004.8		2.698	-0.010	
AL + SHIM	15555.3	1773.3		2.619	0.158	
MG + SHIM (HI PE)	9164.0	4646.7	0.236			8.500
			0.210 0.270			
RATIO AL + SHIM/AL	1.39	1.76				
	1.32 1.42	1.64 1.84				
RATIO MG/AL	1.72	9.93				
	1.65 1.78	9.40 10.20				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795 DATE/TIME PERFORMED: Sun Nov 26 11:33:06 2017 DAYS SINCE CAL: 11

UNIT #: HOIST 6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1436.5	224.2	1282.0
	1334.4 1534.4	220.0 230.0	1100.0 1550.0
SS	1255.5	226.5	1250.6
	1153.4 1353.4	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	78.5	
	4.8 5.3	50.0 120.0	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795 DATE/TIME PERFORMED: Sun Nov 26 18:18:41 2017 DAYS SINCE CAL: 12

UNIT #: HOIST 6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1428.2	226.1	1280.0
	1334.4 1534.4	220.0 230.0	1100.0 1550.0
SS	1261.2	225.2	1256.0
	1153.4 1353.4	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	79.1	

4.8	5.3	50.0	120.0
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HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 10326318

DATE/TIME PERFORMED: Mon Apr 25 10:12:13 2016

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	0.004 -0.200 0.200	0.010 -0.100 0.100	0.011 -0.100 0.100	0.015 -0.100 0.100	0.013 -0.100 0.100	0.017 -0.100 0.100	0.016 -0.100 0.100	0.012 -0.100 0.100
Coil 0 Q	0.000 -1.000 1.000	0.002 -0.200 0.200	-0.006 -0.100 0.100	-0.003 -0.100 0.100	0.002 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100	0.004 -0.100 0.100
Coil 1 R	0.005 -0.200 0.200	0.009 -0.100 0.100	0.005 -0.100 0.100	0.008 -0.100 0.100	0.007 -0.100 0.100	0.007 -0.100 0.100	0.006 -0.100 0.100	0.006 -0.100 0.100
Coil 1 Q	-0.005 -1.000 1.000	-0.005 -0.200 0.200	-0.002 -0.100 0.100	-0.000 -0.100 0.100	-0.002 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100
Coil 2 R	0.004 -0.200 0.200	0.007 -0.100 0.100	0.009 -0.100 0.100	0.012 -0.100 0.100	0.013 -0.100 0.100	0.015 -0.100 0.100	0.019 -0.100 0.100	0.020 -0.100 0.100
Coil 2 Q	-0.012 -1.000 1.000	-0.012 -0.200 0.200	-0.007 -0.100 0.100	-0.006 -0.100 0.100	-0.007 -0.100 0.100	-0.006 -0.100 0.100	-0.004 -0.100 0.100	-0.003 -0.100 0.100
Coil 3 R	-0.000 -0.100 0.100	0.002 -0.100 0.100	0.008 -0.100 0.100	0.013 -0.100 0.100	0.011 -0.100 0.100	0.015 -0.100 0.100	0.013 -0.100 0.100	0.013 -0.100 0.100
Coil 3 Q	-0.005 -0.500 0.500	-0.010 -0.200 0.200	-0.007 -0.100 0.100	-0.003 -0.100 0.100	-0.004 -0.100 0.100	0.000 -0.100 0.100	0.003 -0.100 0.100	0.003 -0.100 0.100
Coil 4 R	0.021 -0.200 0.200	-0.042 -0.200 0.200	-0.103 -0.200 0.200	-0.129 -0.200 0.200	-0.123 -0.200 0.200	-0.135 -0.200 0.200	-0.133 -0.200 0.200	-0.147 -0.200 0.200
Coil 4 Q	0.025 -1.000 1.000	0.103 -0.400 0.400	0.086 -0.200 0.200	0.057 -0.200 0.200	0.035 -0.200 0.200	0.024 -0.200 0.200	0.017 -0.200 0.200	0.002 -0.200 0.200
Coil 5 R	-0.015 -0.400 0.400	0.001 -0.400 0.400	0.002 -0.400 0.400	0.013 -0.400 0.400	0.012 -0.400 0.400	0.017 -0.400 0.400	0.015 -0.400 0.400	0.012 -0.400 0.400
Coil 5 Q	-0.002 -2.000 2.000	-0.005 -0.800 0.800	-0.008 -0.400 0.400	-0.006 -0.400 0.400	0.006 -0.400 0.400	0.001 -0.400 0.400	-0.001 -0.400 0.400	0.001 -0.400 0.400
Coil 6 R	-0.012 -1.000 1.000	-0.001 -1.000 1.000	-0.003 -1.000 1.000	0.002 -1.000 1.000	0.005 -1.000 1.000	0.018 -1.000 1.000	-0.001 -1.000 1.000	0.031 -1.000 1.000
Coil 6 Q	-0.008 -5.000 5.000	-0.002 -2.000 2.000	0.002 -1.000 1.000	-0.013 -1.000 1.000	-0.029 -1.000 1.000	-0.010 -1.000 1.000	-0.023 -1.000 1.000	-0.018 -1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	126.37 100.00 150.00	125.31 100.00 150.00	122.93 98.00 150.00	119.46 96.00 140.00	114.57 92.00 140.00	108.64 87.00 130.00	101.37 82.00 120.00	93.26 76.00 110.00
Coil 0 P	7.484 6.000 9.000	23.648 19.000 28.000	39.643 32.000 47.000	55.603 44.000 66.000	71.633 57.000 85.000	87.484 70.000 100.000	103.339 82.000 120.000	118.813 95.000 140.000
Coil 1 M	222.43 180.00 270.00	220.82 180.00 270.00	217.11 170.00 260.00	211.66 170.00 250.00	203.79 160.00 250.00	194.15 160.00 230.00	181.98 150.00 220.00	168.27 140.00 200.00
Coil 1 P	7.386 6.000 9.000	23.348 19.000 28.000	39.177 32.000 48.000	54.996 45.000 67.000	70.927 57.000 86.000	86.775 70.000 110.000	102.681 83.000 120.000	118.264 96.000 140.000
Coil 2 M	441.74 360.00 540.00	437.29 360.00 540.00	427.48 350.00 530.00	413.50 340.00 510.00	394.31 330.00 500.00	371.79 310.00 470.00	345.09 300.00 440.00	316.40 270.00 410.00
Coil 2 P	7.631 6.000 9.000	24.095 19.000 29.000	40.335 32.000 48.000	56.466 45.000 67.000	72.534 58.000 87.000	88.358 71.000 110.000	104.040 84.000 130.000	119.208 96.000 140.000

Coil 3 M	<div>717.53</div> <div>590.00880.00</div>	<div>711.56</div> <div>580.00870.00</div>	<div>698.23</div> <div>570.00850.00</div>	<div>679.29</div> <div>550.00830.00</div>	<div>652.43</div> <div>530.00800.00</div>	<div>620.53</div> <div>500.00760.00</div>	<div>581.19</div> <div>470.00710.00</div>	<div>537.63</div> <div>440.00650.00</div>
Coil 3 P	<div>7.680</div> <div>6.00010.000</div>	<div>24.182</div> <div>20.00029.000</div>	<div>40.512</div> <div>33.00049.000</div>	<div>56.789</div> <div>46.00069.000</div>	<div>73.107</div> <div>59.00089.000</div>	<div>89.272</div> <div>72.000110.000</div>	<div>105.531</div> <div>85.000130.000</div>	<div>121.376</div> <div>98.000150.000</div>
Coil 4 M	<div>1127.2</div> <div>900.01400.0</div>	<div>1118.4</div> <div>900.01300.0</div>	<div>1098.0</div> <div>900.01300.0</div>	<div>1068.9</div> <div>850.01300.0</div>	<div>1027.7</div> <div>800.01200.0</div>	<div>978.2</div> <div>800.01200.0</div>	<div>916.6</div> <div>750.01100.0</div>	<div>848.1</div> <div>700.01000.0</div>
Coil 4 P	<div>7.893</div> <div>6.00010.000</div>	<div>24.879</div> <div>20.00030.000</div>	<div>41.708</div> <div>33.00050.000</div>	<div>58.477</div> <div>46.00070.000</div>	<div>75.340</div> <div>60.00090.000</div>	<div>92.055</div> <div>73.000110.000</div>	<div>108.861</div> <div>86.000130.000</div>	<div>125.310</div> <div>99.000150.000</div>
Coil 5 M	<div>2312.4</div> <div>1900.02800.0</div>	<div>2295.4</div> <div>1800.02800.0</div>	<div>2256.3</div> <div>1800.02700.0</div>	<div>2199.9</div> <div>1800.02600.0</div>	<div>2118.1</div> <div>1700.02500.0</div>	<div>2018.6</div> <div>1600.02400.0</div>	<div>1892.3</div> <div>1500.02200.0</div>	<div>1749.3</div> <div>1400.02100.0</div>
Coil 5 P	<div>7.913</div> <div>6.00010.000</div>	<div>24.939</div> <div>20.00031.000</div>	<div>41.821</div> <div>34.00051.000</div>	<div>58.692</div> <div>48.00072.000</div>	<div>75.700</div> <div>62.00093.000</div>	<div>92.621</div> <div>76.000110.000</div>	<div>109.711</div> <div>89.000130.000</div>	<div>126.469</div> <div>100.000150.000</div>
Coil 6 M	<div>6070.8</div> <div>4700.07100.0</div>	<div>5997.3</div> <div>4700.07000.0</div>	<div>5844.8</div> <div>4600.06900.0</div>	<div>5632.0</div> <div>4400.06600.0</div>	<div>5352.9</div> <div>4200.06400.0</div>	<div>5035.3</div> <div>4000.06000.0</div>	<div>4663.6</div> <div>3700.05600.0</div>	<div>4267.1</div> <div>3400.05100.0</div>
Coil 6 P	<div>8.298</div> <div>7.00010.000</div>	<div>26.400</div> <div>22.00032.000</div>	<div>44.153</div> <div>36.00054.000</div>	<div>61.701</div> <div>51.00076.000</div>	<div>79.149</div> <div>65.00098.000</div>	<div>96.305</div> <div>80.000120.000</div>	<div>113.423</div> <div>94.000140.000</div>	<div>130.076</div> <div>110.000160.000</div>

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	<div>483</div> <div>-200800</div>	<div>-89</div> <div>-500200</div>	<div>-164</div> <div>-600100</div>	<div>-188</div> <div>-60050</div>	<div>-198</div> <div>-50020</div>	<div>-201</div> <div>-50020</div>	<div>-202</div> <div>-50020</div>	<div>-203</div> <div>-50020</div>
Coil 0 Q	<div>1863</div> <div>-30006000</div>	<div>697</div> <div>-10002000</div>	<div>402</div> <div>-10001200</div>	<div>254</div> <div>-500900</div>	<div>158</div> <div>-400700</div>	<div>88</div> <div>-400600</div>	<div>32</div> <div>-400500</div>	<div>-17</div> <div>-400400</div>
Coil 1 R	<div>568</div> <div>450650</div>	<div>77</div> <div>20130</div>	<div>14</div> <div>-3060</div>	<div>-7</div> <div>-5040</div>	<div>-16</div> <div>-5530</div>	<div>-21</div> <div>-6020</div>	<div>-23</div> <div>-6010</div>	<div>-25</div> <div>-6010</div>
Coil 1 Q	<div>1011</div> <div>02500</div>	<div>418</div> <div>0900</div>	<div>260</div> <div>0600</div>	<div>186</div> <div>0450</div>	<div>141</div> <div>0350</div>	<div>111</div> <div>0300</div>	<div>89</div> <div>0250</div>	<div>72</div> <div>0250</div>
Coil 2 R	<div>189.4</div> <div>140.0230.0</div>	<div>29.8</div> <div>0.051.0</div>	<div>9.7</div> <div>-10.025.0</div>	<div>3.0</div> <div>-15.015.0</div>	<div>-0.1</div> <div>-16.010.0</div>	<div>-1.9</div> <div>-16.07.0</div>	<div>-3.3</div> <div>-16.05.0</div>	<div>-4.3</div> <div>-16.03.0</div>
Coil 2 Q	<div>388.0</div> <div>-200.01000.0</div>	<div>159.4</div> <div>0.0350.0</div>	<div>103.4</div> <div>0.0220.0</div>	<div>78.2</div> <div>0.0160.0</div>	<div>64.6</div> <div>0.0130.0</div>	<div>55.9</div> <div>0.0110.0</div>	<div>49.7</div> <div>0.0100.0</div>	<div>45.3</div> <div>0.090.0</div>
Coil 3 R	<div>43.3</div> <div>37.062.0</div>	<div>3.4</div> <div>0.012.0</div>	<div>-0.8</div> <div>-3.06.0</div>	<div>-1.9</div> <div>-4.04.0</div>	<div>-2.2</div> <div>-5.02.0</div>	<div>-2.2</div> <div>-5.01.0</div>	<div>-2.6</div> <div>-6.01.0</div>	<div>-2.7</div> <div>-6.01.0</div>
Coil 3 Q	<div>52.5</div> <div>-140.0280.0</div>	<div>26.0</div> <div>-40.0100.0</div>	<div>19.5</div> <div>-20.070.0</div>	<div>17.9</div> <div>-10.060.0</div>	<div>17.8</div> <div>-10.050.0</div>	<div>18.6</div> <div>-10.050.0</div>	<div>19.8</div> <div>-10.050.0</div>	<div>20.3</div> <div>-10.050.0</div>
Coil 4 R	<div>7.60</div> <div>2.0018.00</div>	<div>-1.29</div> <div>-3.006.00</div>	<div>-2.54</div> <div>-3.503.00</div>	<div>-3.29</div> <div>-3.902.00</div>	<div>-3.82</div> <div>-4.202.00</div>	<div>-4.29</div> <div>-4.502.00</div>	<div>-4.42</div> <div>-4.702.00</div>	<div>-4.13</div> <div>-5.002.00</div>
Coil 4 Q	<div>4.90</div> <div>-100.00100.00</div>	<div>5.26</div> <div>-30.0050.00</div>	<div>6.39</div> <div>-20.0040.00</div>	<div>8.59</div> <div>-10.0040.00</div>	<div>11.32</div> <div>-10.0040.00</div>	<div>14.46</div> <div>-10.0045.00</div>	<div>17.86</div> <div>-10.0050.00</div>	<div>21.24</div> <div>-10.0060.00</div>
Coil 5 R	<div>0.13</div> <div>-2.005.80</div>	<div>-1.35</div> <div>-3.202.40</div>	<div>-1.40</div> <div>-4.503.10</div>	<div>-1.36</div> <div>-4.703.20</div>	<div>-1.47</div> <div>-4.803.20</div>	<div>-1.21</div> <div>-5.003.30</div>	<div>-1.41</div> <div>-5.203.40</div>	<div>-1.36</div> <div>-5.403.50</div>
Coil 5 Q	<div>9.47</div> <div>-60.0070.00</div>	<div>6.46</div> <div>-20.0030.00</div>	<div>7.79</div> <div>-20.0030.00</div>	<div>9.70</div> <div>-20.0035.00</div>	<div>11.94</div> <div>-20.0045.00</div>	<div>14.10</div> <div>-20.0050.00</div>	<div>16.47</div> <div>-20.0060.00</div>	<div>18.62</div> <div>-30.0070.00</div>
Coil 6 R	<div>-3.23</div> <div>-4.801.00</div>	<div>-2.09</div> <div>-5.703.80</div>	<div>-1.85</div> <div>-6.504.90</div>	<div>-1.66</div> <div>-6.905.40</div>	<div>-1.53</div> <div>-7.305.80</div>	<div>-1.24</div> <div>-7.506.00</div>	<div>-1.48</div> <div>-7.706.10</div>	<div>-1.30</div> <div>-7.906.30</div>
Coil 6 Q	<div>-6.42</div> <div>-30.0030.00</div>	<div>0.53</div> <div>-20.0025.00</div>	<div>3.74</div> <div>-20.0035.00</div>	<div>6.55</div> <div>-30.0050.00</div>	<div>9.01</div> <div>-35.0060.00</div>	<div>11.62</div> <div>-40.0070.00</div>	<div>13.97</div> <div>-50.0080.00</div>	<div>16.38</div> <div>-60.00100.00</div>

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	<div>1.036</div> <div>0.9001.100</div>	<div>1.027</div> <div>0.9001.100</div>	<div>1.019</div> <div>0.9001.100</div>	<div>1.017</div> <div>0.9001.100</div>	<div>1.014</div> <div>0.9001.100</div>	<div>1.013</div> <div>0.9001.100</div>	<div>1.012</div> <div>0.9001.100</div>	<div>1.012</div> <div>0.9001.100</div>
Coil 0 P	<div>0.394</div> <div>-2.0002.000</div>	<div>0.688</div> <div>-2.0002.000</div>	<div>0.695</div> <div>-2.0002.000</div>	<div>0.616</div> <div>-2.0002.000</div>	<div>0.554</div> <div>-2.0002.000</div>	<div>0.442</div> <div>-2.0002.000</div>	<div>0.344</div> <div>-2.0002.000</div>	<div>0.285</div> <div>-2.0002.000</div>
Coil 1 M	<div>1.019</div> <div>0.9001.100</div>	<div>1.011</div> <div>0.9001.100</div>	<div>1.002</div> <div>0.9001.100</div>	<div>0.999</div> <div>0.9001.100</div>	<div>0.997</div> <div>0.9001.100</div>	<div>0.995</div> <div>0.9001.100</div>	<div>0.994</div> <div>0.9001.100</div>	<div>0.994</div> <div>0.9001.100</div>

Coil 1 P	0.376	0.674	0.700	0.614	0.502	0.412	0.260	0.195
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000
Coil 2 M	1.005	1.002	1.001	1.000	0.999	0.999	0.998	0.998
	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100
Coil 2 P	0.066	0.080	0.089	0.130	0.131	0.123	0.069	0.070
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000
Coil 3 M	1.019	1.018	1.017	1.017	1.016	1.016	1.016	1.017
	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100
Coil 3 P	0.075	0.044	0.057	0.065	0.033	-0.037	-0.073	-0.050
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000
Coil 4 M	1.051	1.050	1.049	1.048	1.048	1.048	1.045	1.046
	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100
Coil 4 P	0.047	0.084	0.100	0.121	0.130	0.110	0.075	-0.005
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000
Coil 5 M	1.050	1.050	1.049	1.048	1.047	1.049	1.047	1.047
	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100
Coil 5 P	0.009	-0.060	-0.034	-0.054	-0.126	-0.246	-0.215	-0.305
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000
Coil 6 M	1.038	1.039	1.038	1.036	1.035	1.041	1.040	1.039
	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100	0.9001.100
Coil 6 P	0.042	0.114	0.024	0.079	-0.047	-0.188	-0.159	-0.341
	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000	-2.0002.000

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	1.669	0.907	78.6	1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #:	1515MA 10326318	DATE/TIME PERFORMED:	Sun Nov 26 14:16:58 2017	DAYS SINCE CAL:	580
UNIT #:		HOIST 6670			

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.003	-0.003	-0.005	-0.001	-0.004	-0.001	-0.002	-0.004
	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 0 Q	0.013	0.012	0.010	0.001	0.003	0.001	0.000	0.000
	-1.0001.000	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 1 R	-0.001	0.001	-0.000	0.001	-0.000	-0.000	-0.000	-0.002
	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 1 Q	0.003	0.004	0.007	0.001	0.001	0.001	0.001	0.001
	-1.0001.000	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 2 R	0.003	0.009	-0.026	-0.007	-0.008	0.006	0.014	0.013
	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 2 Q	-0.022	-0.003	0.023	-0.003	-0.008	-0.013	-0.010	-0.004
	-1.0001.000	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 3 R	-0.002	0.004	-0.005	0.003	0.005	0.003	0.000	-0.000
	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 3 Q	-0.016	-0.015	0.002	-0.002	-0.003	0.000	0.004	0.003
	-0.5000.500	-0.2000.200	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100	-0.1000.100
Coil 4 R	-0.012	0.001	-0.003	-0.003	-0.008	0.002	0.004	0.002
	-0.2000.200	-0.2000.200	-0.2000.200	-0.2000.200	-0.2000.200	-0.2000.200	-0.2000.200	-0.2000.200
Coil 4 Q	0.005	0.009	0.019	-0.000	-0.001	-0.001	-0.004	-0.001

Coil 4 Q	-0.003	0.003	-0.003	0.003	-0.003	0.003	-0.003	0.003
	-1.000	1.000	-0.400	0.400	-0.200	0.200	-0.200	0.200
Coil 5 R	-0.002	0.004	-0.001	-0.000	0.006	0.004	-0.007	-0.007
	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400
Coil 5 Q	-0.008	0.001	0.007	0.004	0.006	-0.003	0.006	-0.005
	-2.000	2.000	-0.800	0.800	-0.400	0.400	-0.400	0.400
Coil 6 R	-0.009	-0.018	-0.035	0.001	-0.037	0.004	0.003	-0.004
	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000
Coil 6 Q	-0.029	-0.015	-0.007	-0.009	0.001	-0.016	0.004	-0.023
	-5.000	5.000	-2.000	2.000	-1.000	1.000	-1.000	1.000

ELEC. GAINS

10 KHz

30 KHz

50 KHz

70 KHz

90 KHz

110 KHz

130 KHz

150 KHz

Coil 0 M	124.02	122.97	121.09	117.46	112.69	106.41	98.80	90.86
	100.00	150.00	100.00	150.00	98.00	150.00	96.00	140.00
Coil 0 P	7.368	23.253	38.910	54.805	70.720	86.508	101.858	116.862
	6.000	9.000	19.000	28.000	32.000	47.000	44.000	66.000
Coil 1 M	223.51	221.90	219.05	213.25	205.52	195.15	182.20	168.47
	180.00	270.00	180.00	270.00	170.00	260.00	170.00	250.00
Coil 1 P	7.302	23.064	38.611	54.433	70.371	86.236	101.720	117.016
	6.000	9.000	19.000	28.000	32.000	48.000	45.000	67.000
Coil 2 M	679.55	685.53	701.41	707.26	738.35	746.84	789.53	805.95
	360.00	540.00	360.00	540.00	350.00	530.00	340.00	510.00
Coil 2 P	15.681	33.424	55.790	76.637	99.332	120.357	142.326	163.092
	6.000	9.000	19.000	29.000	32.000	48.000	45.000	67.000
Coil 3 M	714.25	708.37	698.36	678.56	652.94	619.06	577.79	534.76
	590.00	880.00	580.00	870.00	570.00	850.00	550.00	830.00
Coil 3 P	7.549	23.755	39.740	55.920	72.173	88.319	104.063	119.553
	6.000	10.000	20.000	29.000	33.000	49.000	46.000	69.000
Coil 4 M	1145.2	1136.4	1121.1	1088.5	1046.6	992.0	925.4	855.8
	900.0	1400.0	900.0	1300.0	850.0	1300.0	800.0	1200.0
Coil 4 P	7.654	24.102	40.369	56.758	73.302	89.719	105.671	121.417
	6.000	10.000	20.000	30.000	33.000	50.000	46.000	70.000
Coil 5 M	2315.7	2299.2	2271.6	2207.8	2126.6	2016.1	1881.4	1739.3
	1900.0	2800.0	1800.0	2800.0	1800.0	2700.0	1800.0	2600.0
Coil 5 P	7.818	24.625	41.315	58.129	75.157	92.083	108.620	124.992
	6.000	10.000	20.000	31.000	34.000	51.000	48.000	72.000
Coil 6 M	6043.9	5972.3	5853.6	5626.1	5347.1	4997.7	4604.3	4215.6
	4700.0	7100.0	4700.0	7000.0	4600.0	6900.0	4400.0	6600.0
Coil 6 P	8.158	25.963	43.418	60.869	78.349	95.425	111.842	127.981
	7.000	10.000	22.000	32.000	36.000	54.000	51.000	76.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #:

1515MA 10326318

DATE/TIME PERFORMED:

Sun Nov 26 18:22:13 2017

DAYS SINCE CAL:

580

UNIT #:

HOIST 6670

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	0.005	-0.001	-0.004	-0.001	-0.002	-0.005
	-0.083	0.077	-0.063	0.057	-0.035	0.025	-0.031	0.029
Coil 0 Q	0.011	0.012	-0.002	0.001	0.003	0.001	0.000	0.000
	-0.027	0.053	-0.108	0.132	-0.020	0.040	-0.029	0.031
Coil 1 R	0.001	-0.000	0.004	-0.000	-0.001	-0.001	-0.003	-0.003
	-0.081	0.079	-0.049	0.051	-0.030	0.030	-0.029	0.031

Coil 1 Q	0.005	0.004	-0.004	0.002	0.001	0.001	0.000	0.001
	-0.397 0.403	-0.096 0.104	-0.023 0.037	-0.029 0.031	-0.029 0.031	-0.029 0.031	-0.029 0.031	-0.029 0.031
Coil 2 R	0.002	0.002	0.003	-0.003	-0.003	-0.003	0.003	0.006
	-0.067 0.073	-0.021 0.039	-0.056 0.004	-0.037 0.023	-0.038 0.022	-0.024 0.036	-0.016 0.044	-0.017 0.043
Coil 2 Q	-0.011	-0.005	-0.005	-0.001	-0.006	-0.006	-0.005	-0.001
	-0.372 0.328	-0.103 0.097	-0.007 0.053	-0.033 0.027	-0.038 0.022	-0.043 0.017	-0.040 0.020	-0.034 0.026
Coil 3 R	0.002	0.001	0.011	0.002	0.005	0.004	0.002	-0.001
	-0.042 0.038	-0.036 0.044	-0.045 0.035	-0.037 0.043	-0.035 0.045	-0.037 0.043	-0.040 0.040	-0.040 0.040
Coil 3 Q	-0.016	-0.011	-0.012	-0.002	-0.000	0.001	0.002	0.000
	-0.216 0.184	-0.095 0.065	-0.038 0.042	-0.042 0.038	-0.043 0.037	-0.040 0.040	-0.036 0.044	-0.037 0.043
Coil 4 R	-0.002	0.001	0.001	-0.001	0.000	0.002	0.001	0.003
	-0.072 0.048	-0.059 0.061	-0.063 0.057	-0.063 0.057	-0.068 0.052	-0.058 0.062	-0.056 0.064	-0.058 0.062
Coil 4 Q	0.007	0.004	-0.017	-0.002	0.001	-0.007	-0.006	0.002
	-0.295 0.305	-0.091 0.109	-0.041 0.079	-0.060 0.060	-0.061 0.059	-0.061 0.059	-0.064 0.056	-0.061 0.059
Coil 5 R	0.003	0.008	0.006	0.000	0.000	-0.001	0.008	0.003
	-0.122 0.118	-0.116 0.124	-0.121 0.119	-0.120 0.120	-0.114 0.126	-0.116 0.124	-0.127 0.113	-0.127 0.113
Coil 5 Q	-0.001	-0.003	-0.009	-0.003	0.001	0.002	0.007	0.001
	-0.608 0.592	-0.249 0.251	-0.113 0.127	-0.116 0.124	-0.114 0.126	-0.123 0.117	-0.114 0.126	-0.125 0.115
Coil 6 R	-0.022	-0.030	0.039	-0.009	-0.008	0.005	0.006	0.019
	-0.309 0.291	-0.318 0.282	-0.335 0.265	-0.299 0.301	-0.337 0.263	-0.296 0.304	-0.297 0.303	-0.304 0.296
Coil 6 Q	-0.035	0.004	0.044	-0.004	-0.007	-0.008	-0.004	0.008
	-1.529 1.471	-0.615 0.585	-0.307 0.293	-0.309 0.291	-0.299 0.301	-0.316 0.284	-0.296 0.304	-0.323 0.277

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	123.99	122.91	120.56	117.12	112.27	106.43	99.26	91.32
	121.54 126.50	120.51 125.43	118.67 123.52	115.12 119.81	110.43 114.94	104.28 108.53	96.83 100.78	89.04 92.67
Coil 0 P	7.399	23.323	39.079	54.818	70.580	86.185	101.841	117.046
	4.368 10.368	20.253 26.253	35.910 41.910	51.805 57.805	67.720 73.720	83.508 89.508	98.858 104.858	113.862 119.862
Coil 1 M	223.27	221.58	217.78	212.22	204.25	194.56	182.26	168.42
	219.04 227.98	217.47 226.34	214.67 223.43	208.99 217.52	201.41 209.63	191.24 199.05	178.55 185.84	165.10 171.84
Coil 1 P	7.343	23.171	38.832	54.523	70.298	85.961	101.767	117.180
	4.302 10.302	20.064 26.064	35.611 41.611	51.433 57.433	67.371 73.371	83.236 89.236	98.720 104.720	114.016 120.016
Coil 2 M	565.70	559.58	546.86	528.58	503.85	474.66	440.25	403.17
	665.96 693.14	671.82 699.24	687.38 715.44	693.12 721.41	723.58 753.12	731.90 761.77	773.74 805.32	789.83 822.07
Coil 2 P	7.711	24.199	40.475	56.627	72.724	88.536	104.274	119.451
	12.681 18.681	30.424 36.424	52.790 58.790	73.637 79.637	96.332 102.332	117.357 123.357	139.326 145.326	160.092 166.092
Coil 3 M	714.01	707.63	694.13	675.05	648.15	616.06	576.68	533.16
	699.96 728.53	694.20 722.54	684.40 712.33	664.99 692.13	639.88 666.00	606.68 631.44	566.24 589.35	524.07 545.46
Coil 3 P	7.604	23.902	40.009	56.073	72.166	88.108	104.143	119.797
	4.549 10.549	20.755 26.755	36.740 42.740	52.920 58.920	69.173 75.173	85.319 91.319	101.063 107.063	116.553 122.553
Coil 4 M	1145.2	1135.2	1113.4	1081.7	1037.4	984.9	920.0	848.4
	1122.3 1168.1	1113.6 1159.1	1098.7 1143.6	1066.7 1110.2	1025.7 1067.6	972.2 1011.9	906.9 943.9	838.7 873.0
Coil 4 P	7.696	24.211	40.520	56.802	73.124	89.301	105.534	121.360
	4.654 10.654	21.102 27.102	37.369 43.369	53.758 59.758	70.302 76.302	86.719 92.719	102.671 108.671	118.417 124.417
Coil 5 M	2316.1	2298.4	2258.8	2200.5	2118.4	2017.5	1890.9	1746.4
	2269.3 2362.0	2253.2 2345.2	2226.1 2317.0	2163.7 2252.0	2084.0 2169.1	1975.8 2056.4	1843.8 1919.0	1704.5 1774.0
Coil 5 P	7.858	24.728	41.447	58.170	74.994	91.754	108.674	125.307
	4.818 10.818	21.625 27.625	38.315 44.315	55.129 61.129	72.157 78.157	89.083 95.083	105.620 111.620	121.992 127.992
Coil 6 M	6041.3	5965.7	5814.7	5598.9	5319.6	5001.5	4629.7	4235.1
	5923.1 6164.8	5852.8 6091.7	5736.5 5970.6	5513.6 5738.6	5240.1 5454.0	4897.8 5097.7	4512.2 4696.4	4131.3 4299.9
Coil 6 P	8.205	26.089	43.624	60.931	78.115	95.025	111.913	128.316
	5.158 11.158	22.963 28.963	40.418 46.418	57.869 63.869	75.349 81.349	92.425 98.425	108.842 114.842	124.981 130.981

INSTRUMENT CONFIGURATION

Source File: C:\dat1a\LARAMIE_HG_FED_35-01\TOOL-tdg.meta

CABLEHEAD

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

73.88'
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

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

BULL PLUG 3 3/8

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

SP MP 14.19'

XMTR MP 7.72'

0.00'

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY LARAMIE ENERGY

WELL HG FED 35-01W

FIELD ALKALI CREEK

COUNTY MESA **STATE** COLORADO

FILE NO:

API NO:

05077093060000

LOCATION:

LAT: 39.32834 N

LONG: -107.63516 W

ELEVATIONS:

KB 7999 FT

DF

GL 7985 FT

SEC 26 **TWP** 8S **RGE** 92W

DATE 26-Nov-2017

