



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

FILE NO: OH094015
API NO: 05045223440000
COMPANY: WPX ENERGY
WELL: YOUBERG RU 341-7
FIELD: RULISON
COUNTY: GARFIELD STATE CO

Ver. 3.87
7 7S 93W
RU 42-7 PAD
NABORS 574
LOCATION: SHL: 2445' FNL & 379' FEL
BHL: 768' FNL & 347' FEL
SEC 7 TWP 7S RGE 93W
OTHER SERVICES

PERMANENT DATUM GL ELEVATION 7737 FT
LOG MEASURED FROM KB 26 FT ABOVE P.D.
DRILL. MEAS. FROM KB
ELEVATIONS:
KB 7763 FT
DF
GL 7737 FT

DATE	16-Jan-2015
RUN	1
TRIP	1
SERVICE ORDER	US094015
DEPTH DRILLER	10199 FT
DEPTH LOGGER	10202 FT
BOTTOM LOGGED INTERVAL	10192 FT
TOP LOGGED INTERVAL	0 FT
CASING DRILLER	9625 IN @ 1130 FT
CASING LOGGER	1130 FT
BIT SIZE	8.75 IN
TYPE OF FLUID IN HOLE	LSND
DENSITY	10.7 LB/G
VISCOSITY	120 CP
PH	8.9
FLUID LOSS	0 CC
SOURCE OF SAMPLE	FLOWLINE
RM AT MEAS. TEMP.	1.36 OHMM @ 70 DEGF
RMF AT MEAS. TEMP.	1.02 OHMM @ 70 DEGF
RMC AT MEAS. TEMP.	1.70 OHMM @ 70 DEGF
SOURCE OF RMF	RMC
RM AT BHT	0.44 OHMM @ 210 DEGF
TIME SINCE CIRCULATION	11 HOURS
MAX. RECORDED TEMP.	210 DEGF
EQUIP. NO.	HL-6670
LOCATION	GRAND JCT.
RECORDED BY	NEWELL
WITNESSED BY	GARY VALLAD

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BOREHOLE RECORD		
BIT SIZE	FROM	TO
13.5 IN	0 FT	1130 FT
8.75 IN	1130 FT	10199 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.3 LB/F		0 FT	1130 FT

REMARKS

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

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

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

CN MATRIX: SANDSTONE
CN RAN DECENTRALIZED

HDIL RAN WITH 1.5" STANDOFFS
ABC TO CALCULATE: MUD CONDUCTIVITY

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3950XA	10102176	FREE
1	1	TTMA	3980XA	10121559	FREE
1	1	TEL/GR	3518FB/EG	10126400 / 10139870	FREE
1	1	NEUTRON	2436XA	10137930	DECENTRALIZED
1	1	DENSITY	2223XA	10102922	PAD DEVICE
1	1	KNUCKLE	3930XA	10102172	FREE
1	1	HDIL	1530XA	10118612	STOOD OFF

MAIN LOG 2"/100FT SCALE

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

Updates: 1 Patches: 4

Plotted: Fri Jan 16 07:44:00 2015

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/OH094015/n970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1008.151 ft BOTTOM DEPTH: 10209.871 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	8.750	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	66.0	degF	"	"
	MUD SAMPLE RES	0.450	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	"	"

ACCELERATION PROCESSING

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

HDIL PROCESSING

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

CURVE DESCRIPTION REPORT

CURVE NAME CREATION DATE CURVE DESCRIPTION

F1:GR	Jan 16 03:08:43 2015	GAMMA RAY
F1:M0C6	Jan 16 03:08:43 2015	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	Jan 16 03:08:43 2015	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	Jan 16 03:08:43 2015	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Jan 16 03:08:43 2015	SPONTANEOUS POTENTIAL
F1:TEN	Jan 16 03:08:43 2015	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

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

Presentation : HL6670:/dat1a/OH094015/WPX_2IN.fvpdf [2"/100' Scale]
Plot Interval : 0 - 10220 Feet

Data File 1 : F1 : HL6670:/dat1a/OH094015/341_MAINLOG.xtf
Created On : Jan 16 07:38:50 2015
Company : WPX ENERGY
Well : YOUNBERG RU 341-7
Field : RULISON
File Interval : 6 - 10247.8 Feet
OCT : n970a

GR BACKUP

GAMMA RAY [gr]

0 200

SP [sp]

-200 50

FEET

0

100

TOOL STICKING

DEEP [m0r6]

0 100

DIFF. TENSION [ten]

4750 -250

SHALLOW [m0r2]

0 100 500 60 in. DOI [m0c6] 0

AMPLIFIED SHALLOW [m0r2]

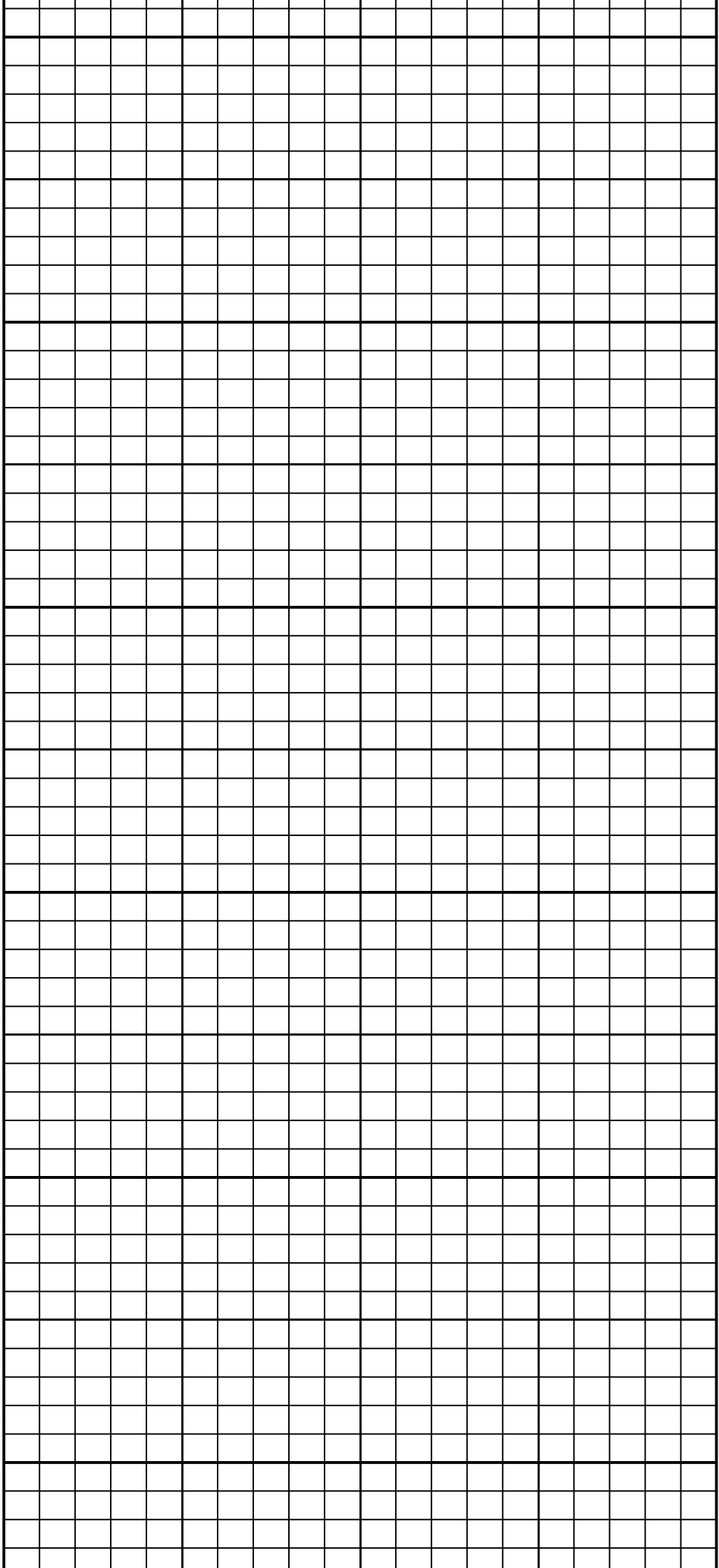
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OVERRANGE DEEP [m0r6]

100 1000

OVERRANGE SHALLOW [m0r2]

100 1000



200

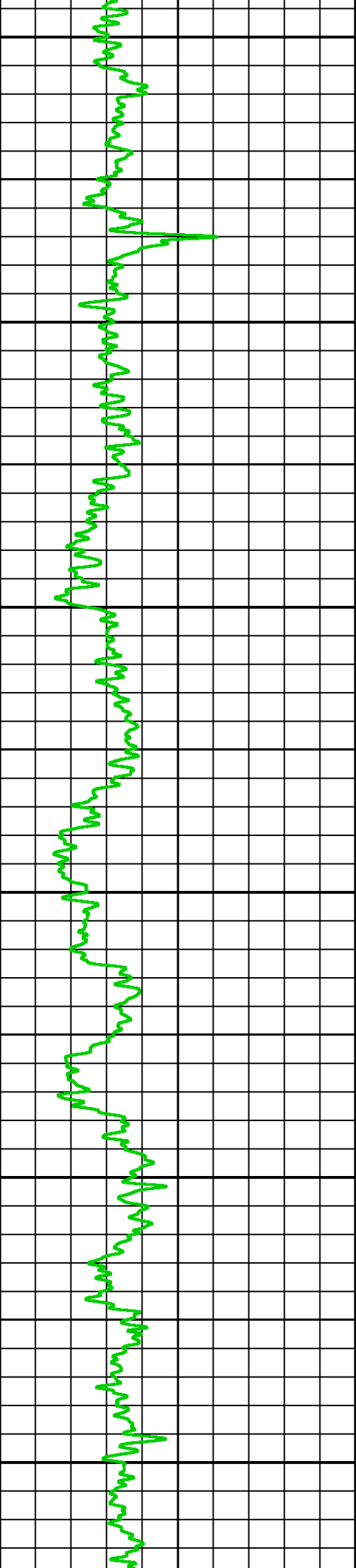
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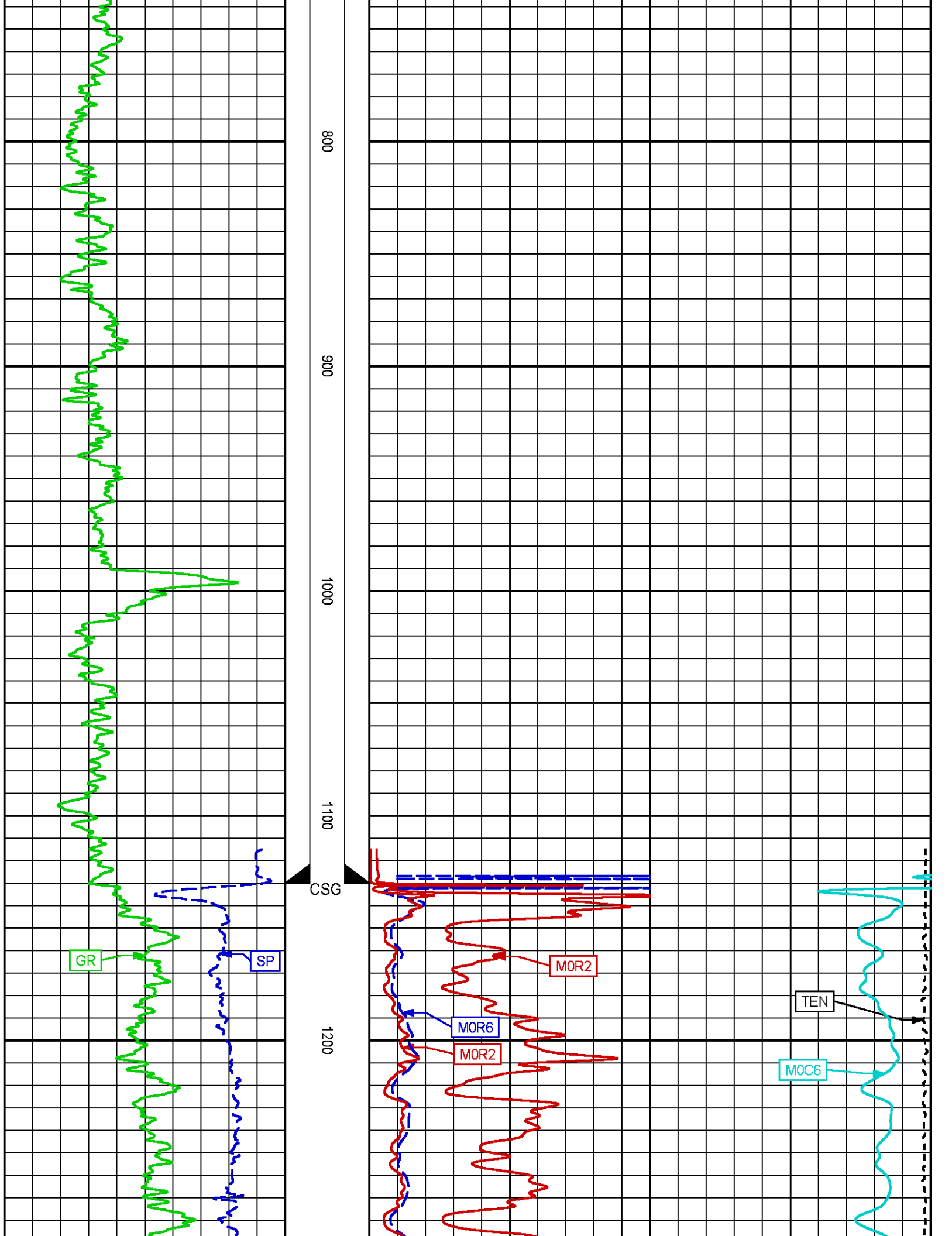
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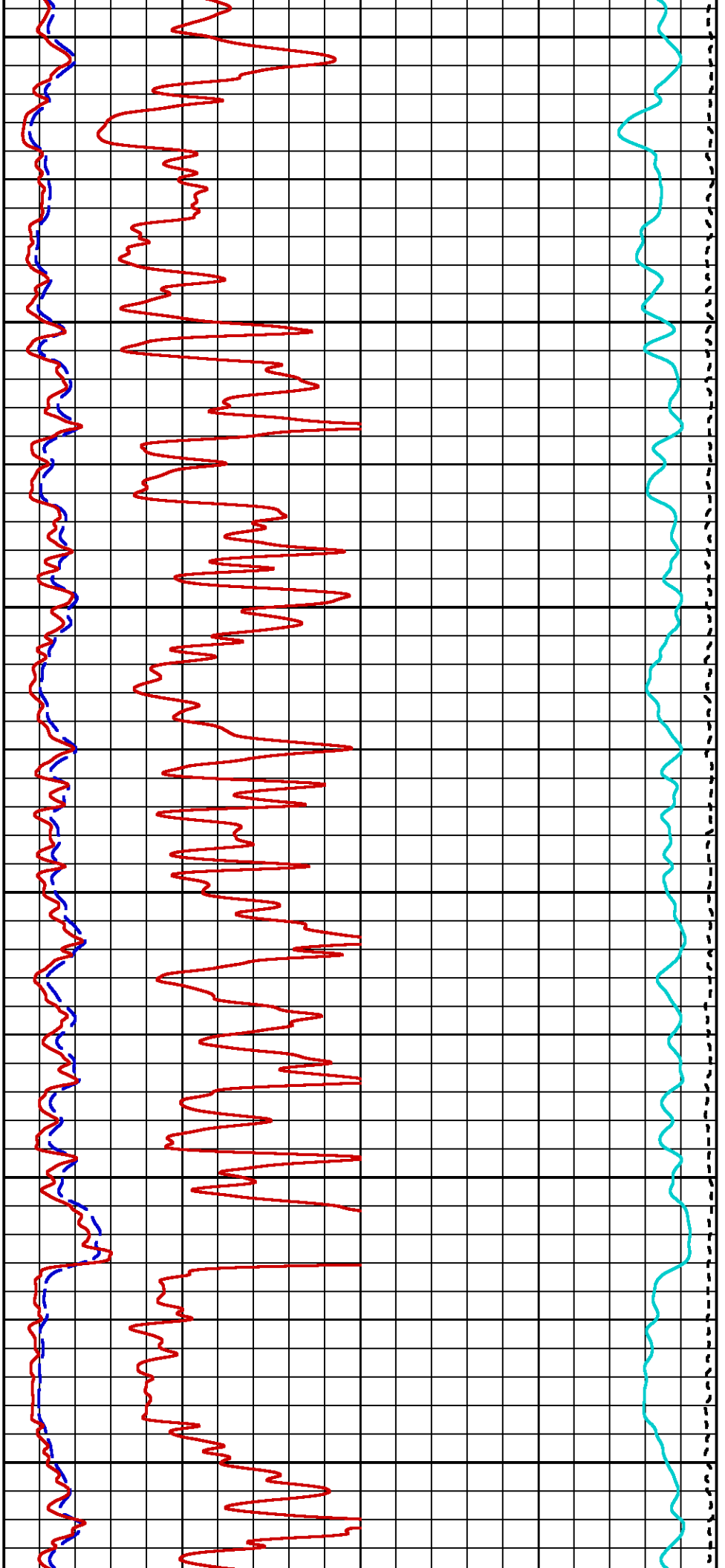
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600

700







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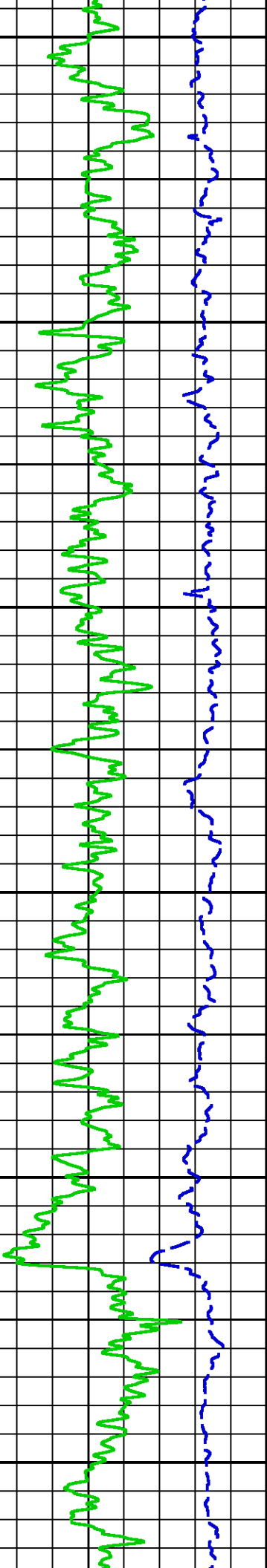
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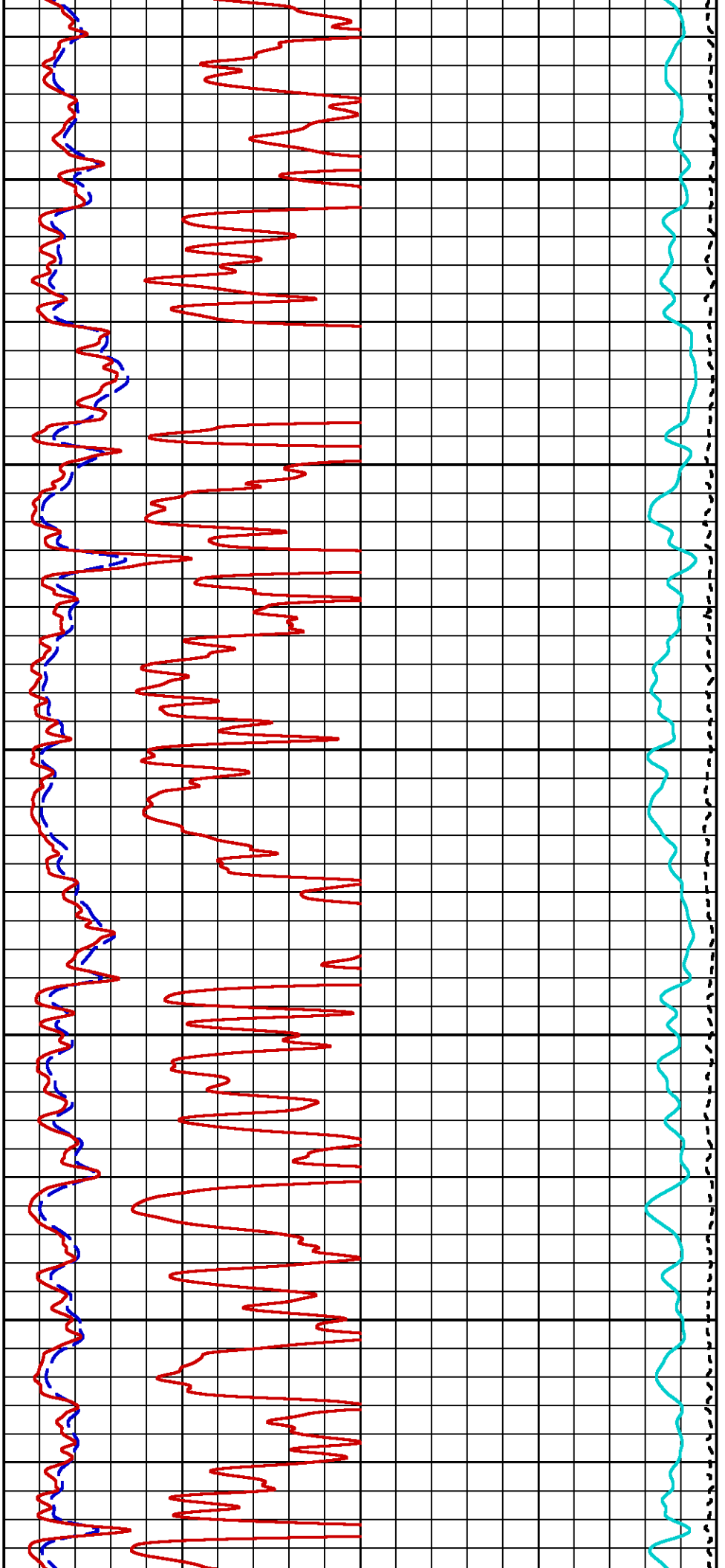
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1600

1700

1800





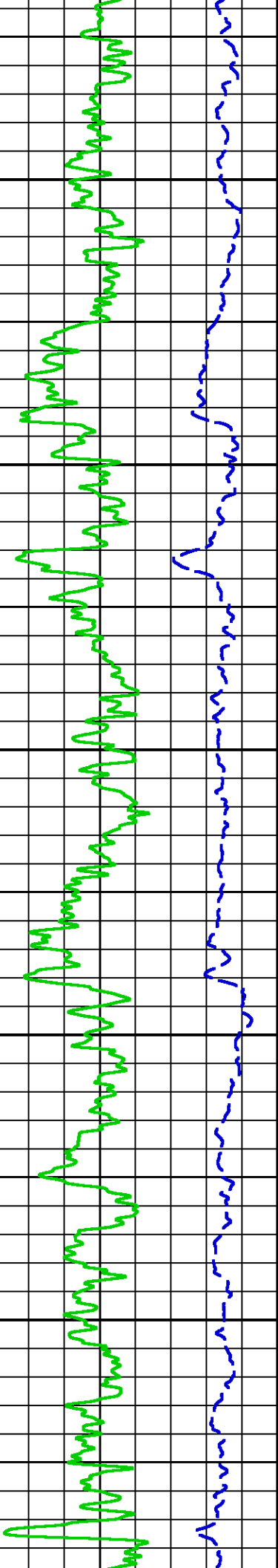
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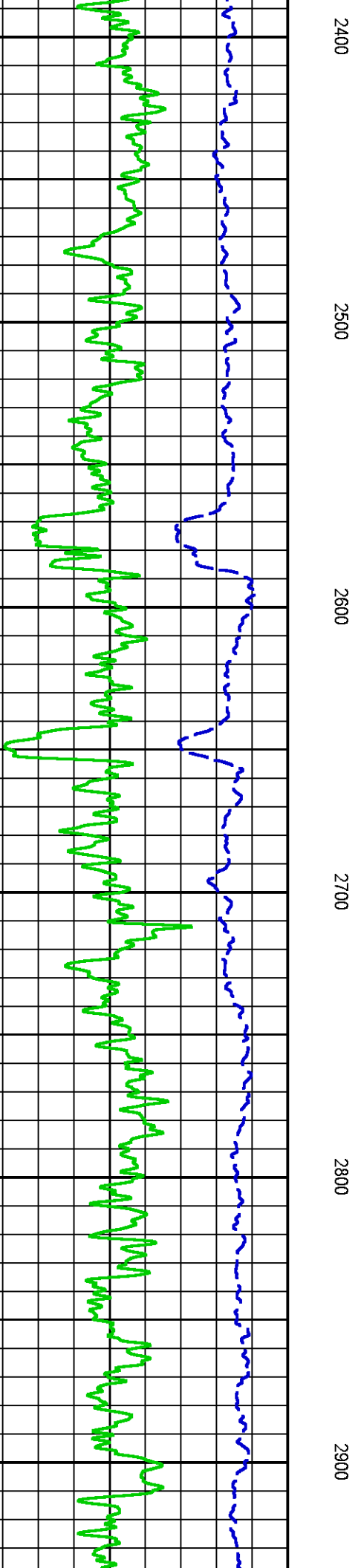
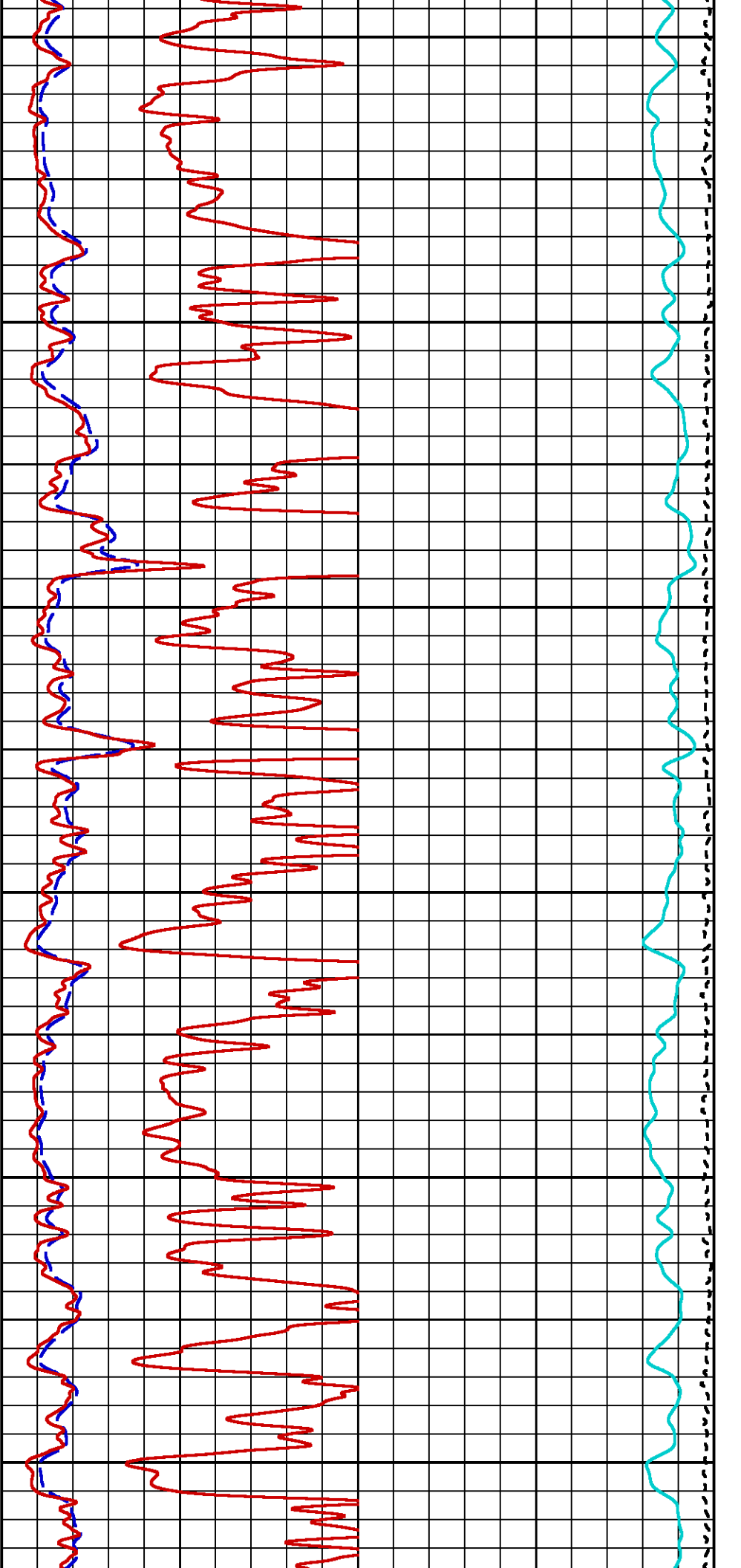
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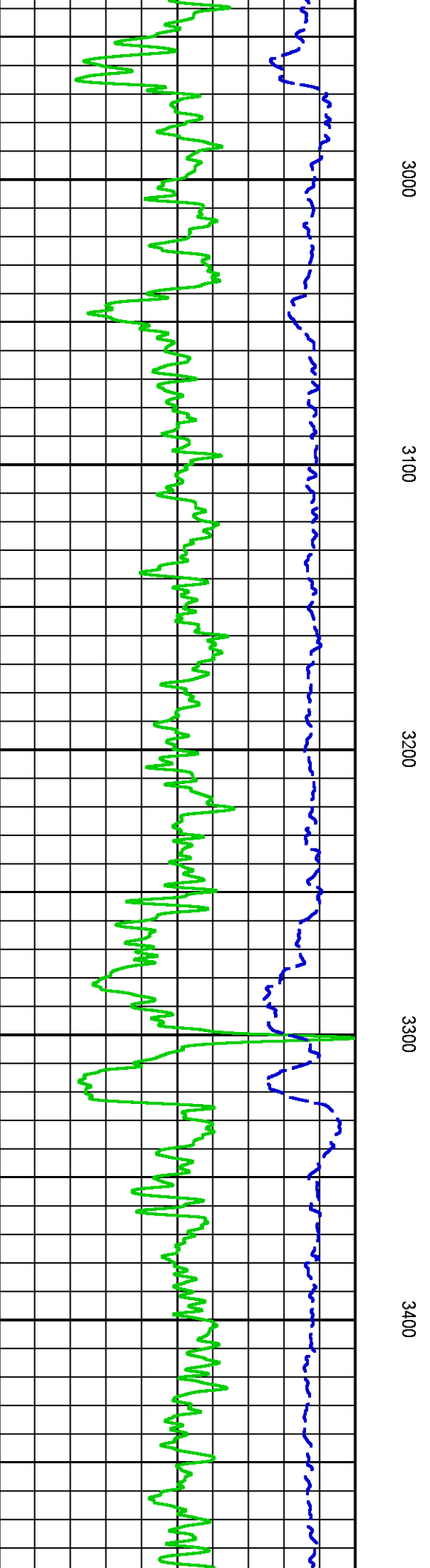
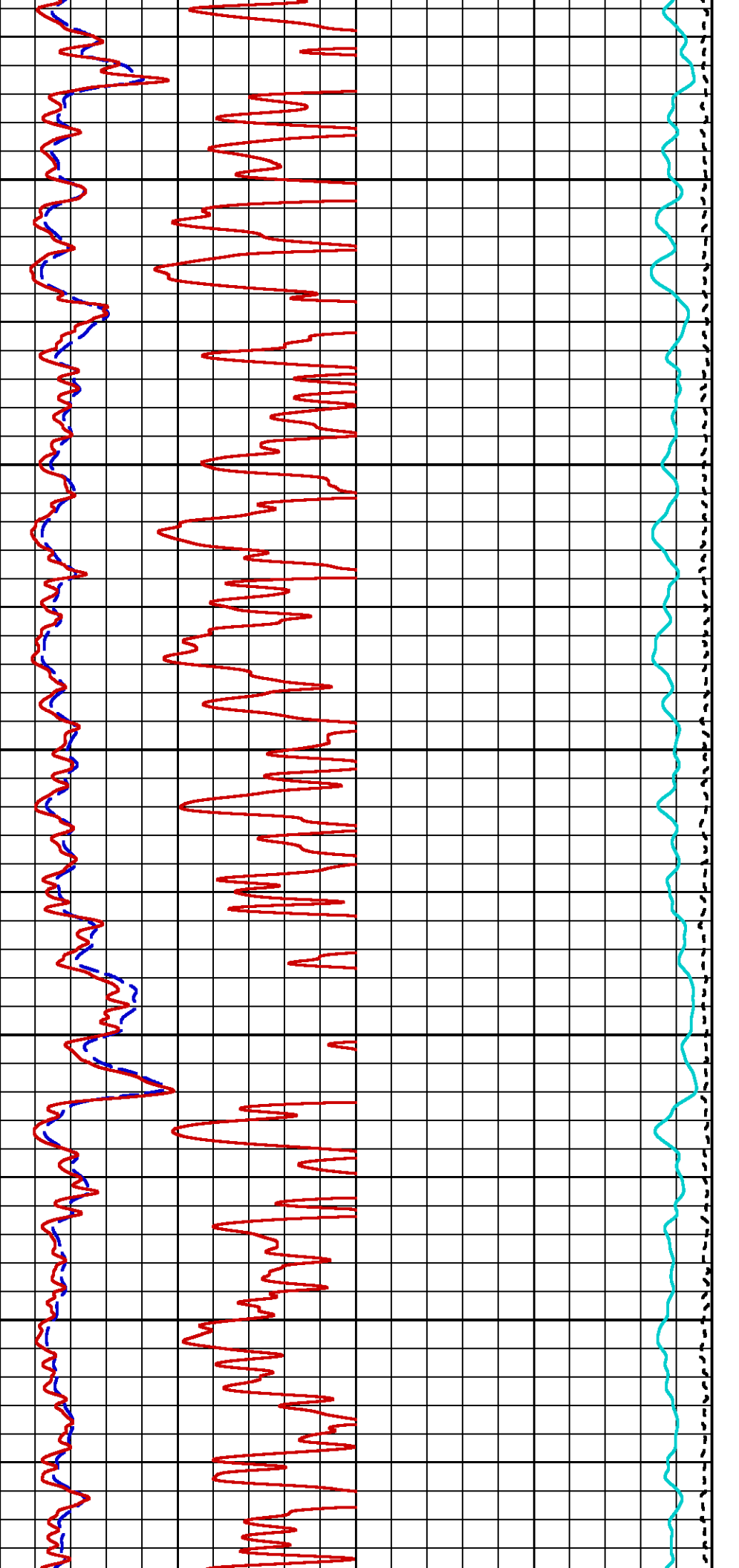
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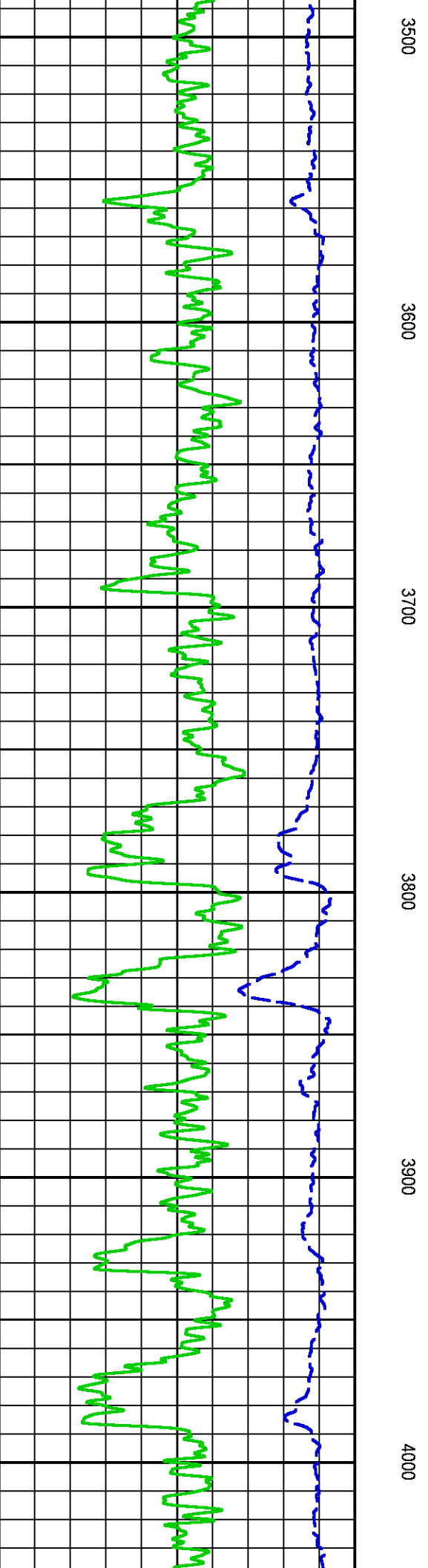
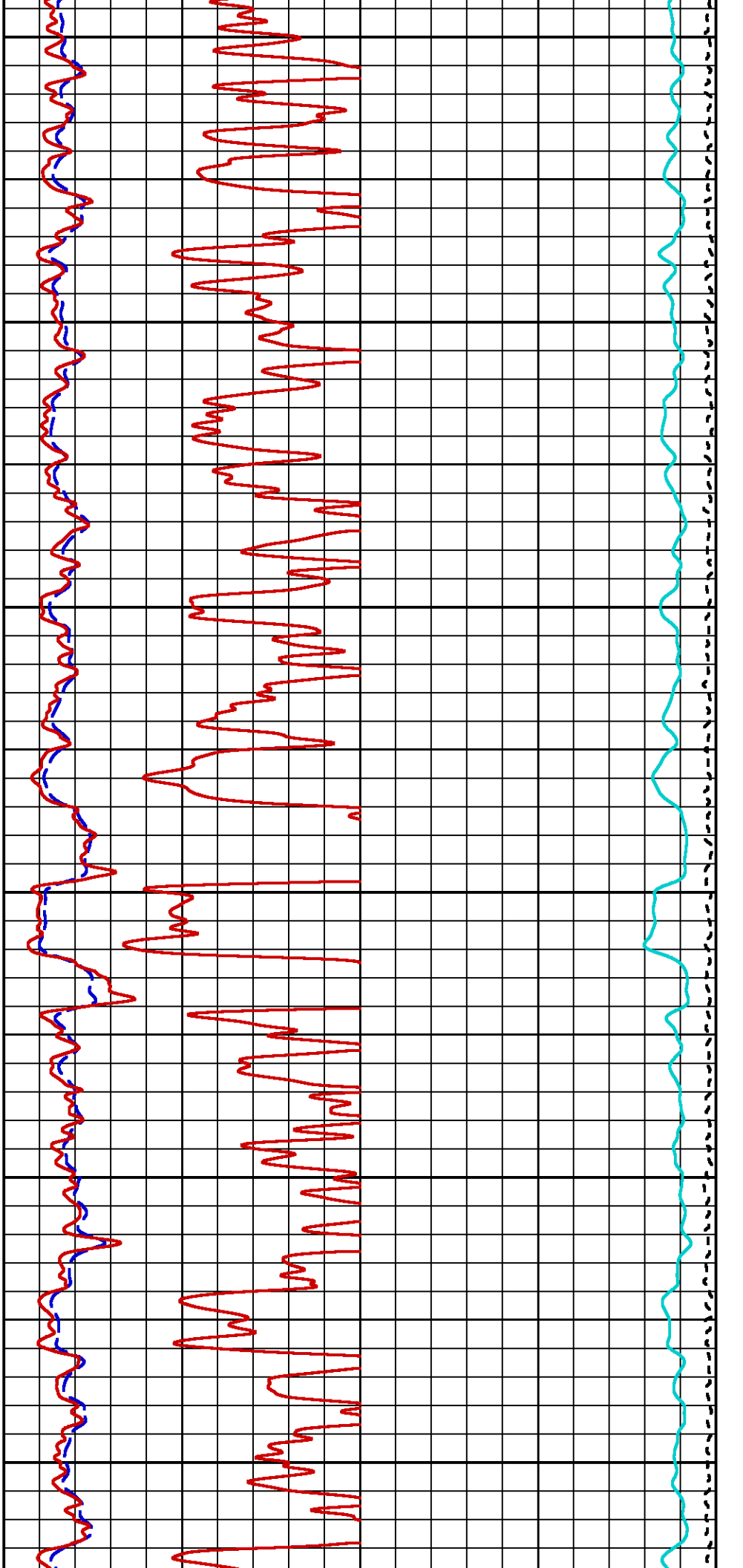
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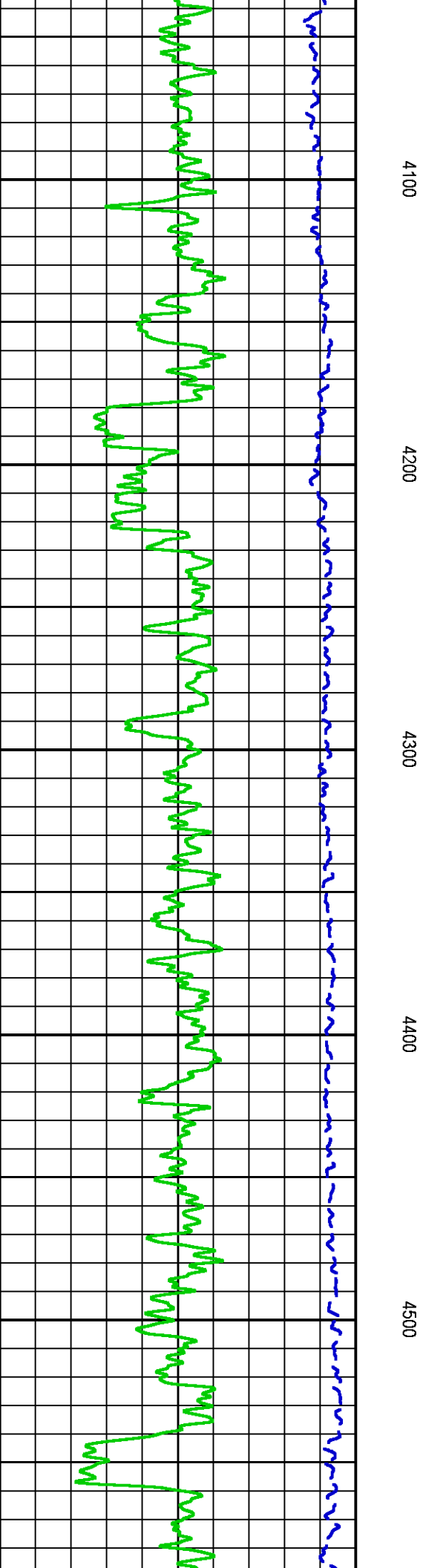
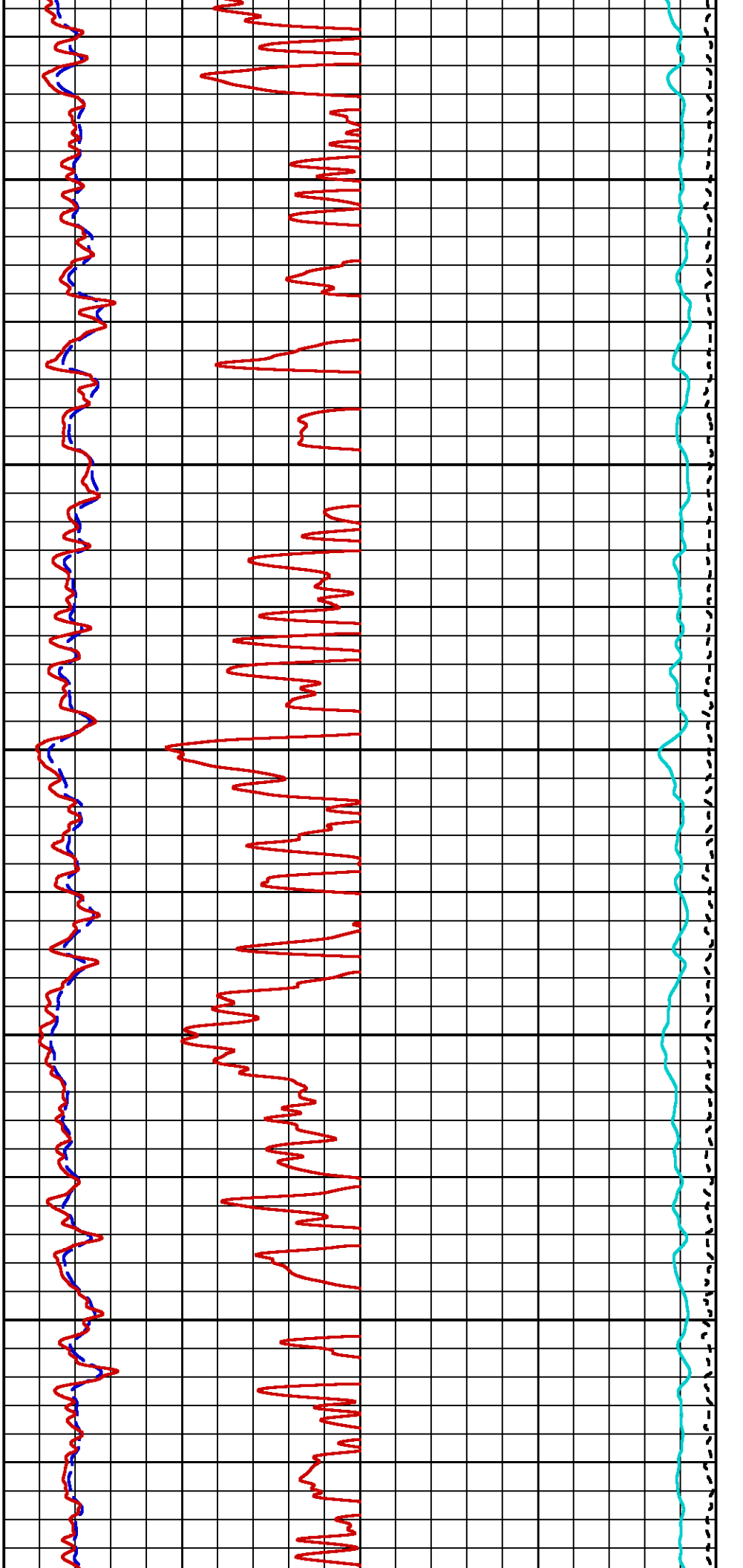
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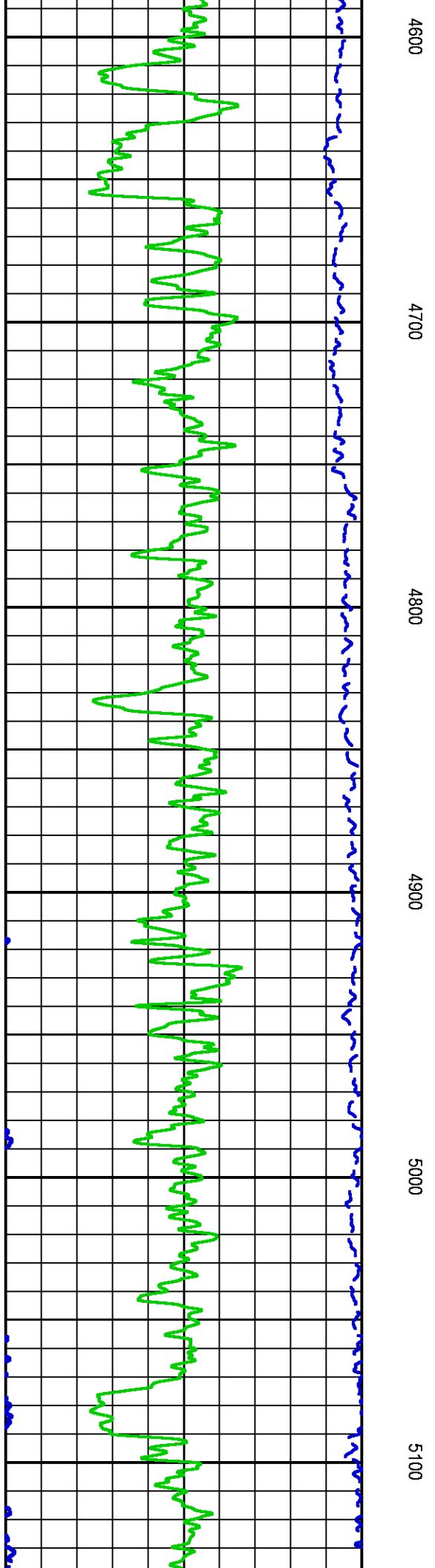
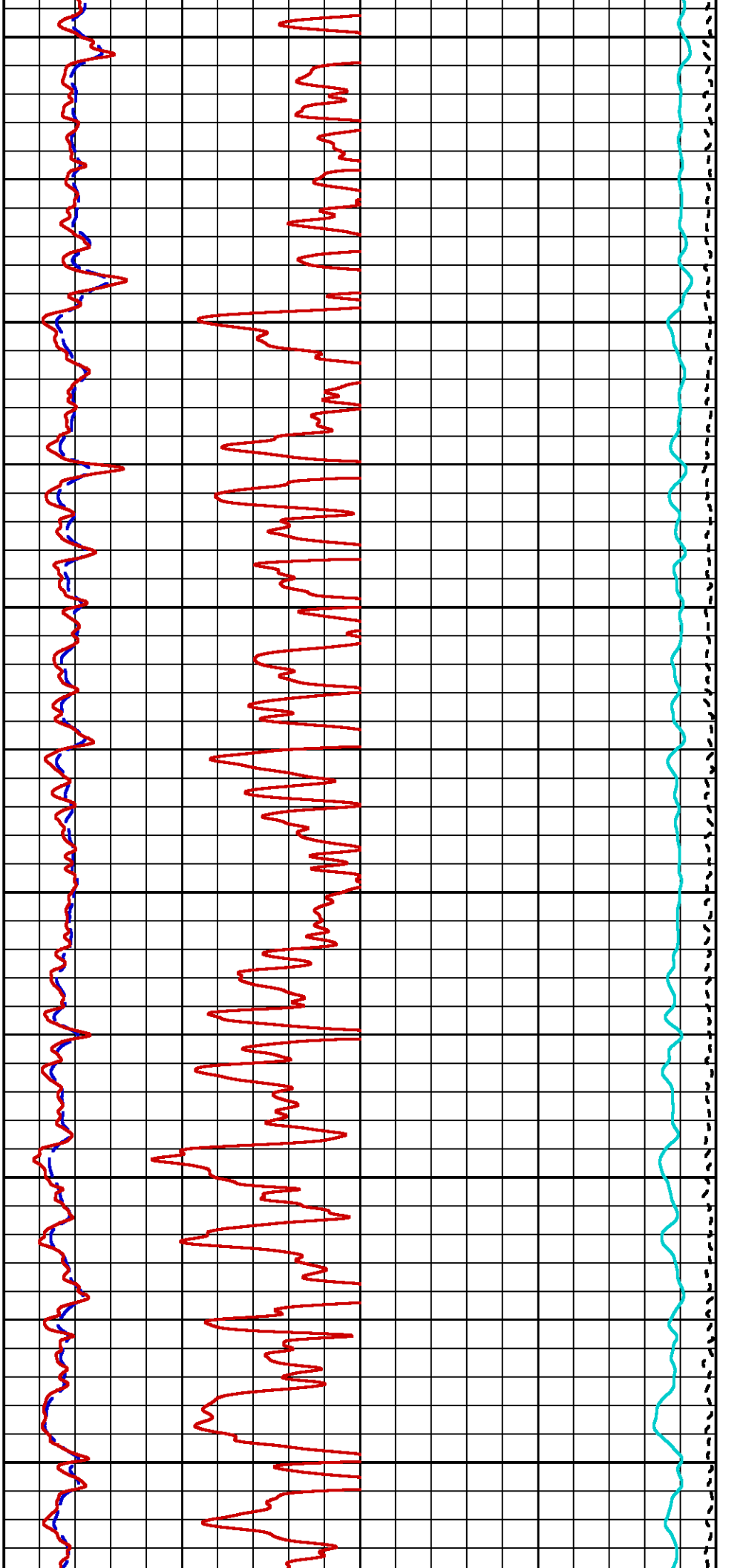


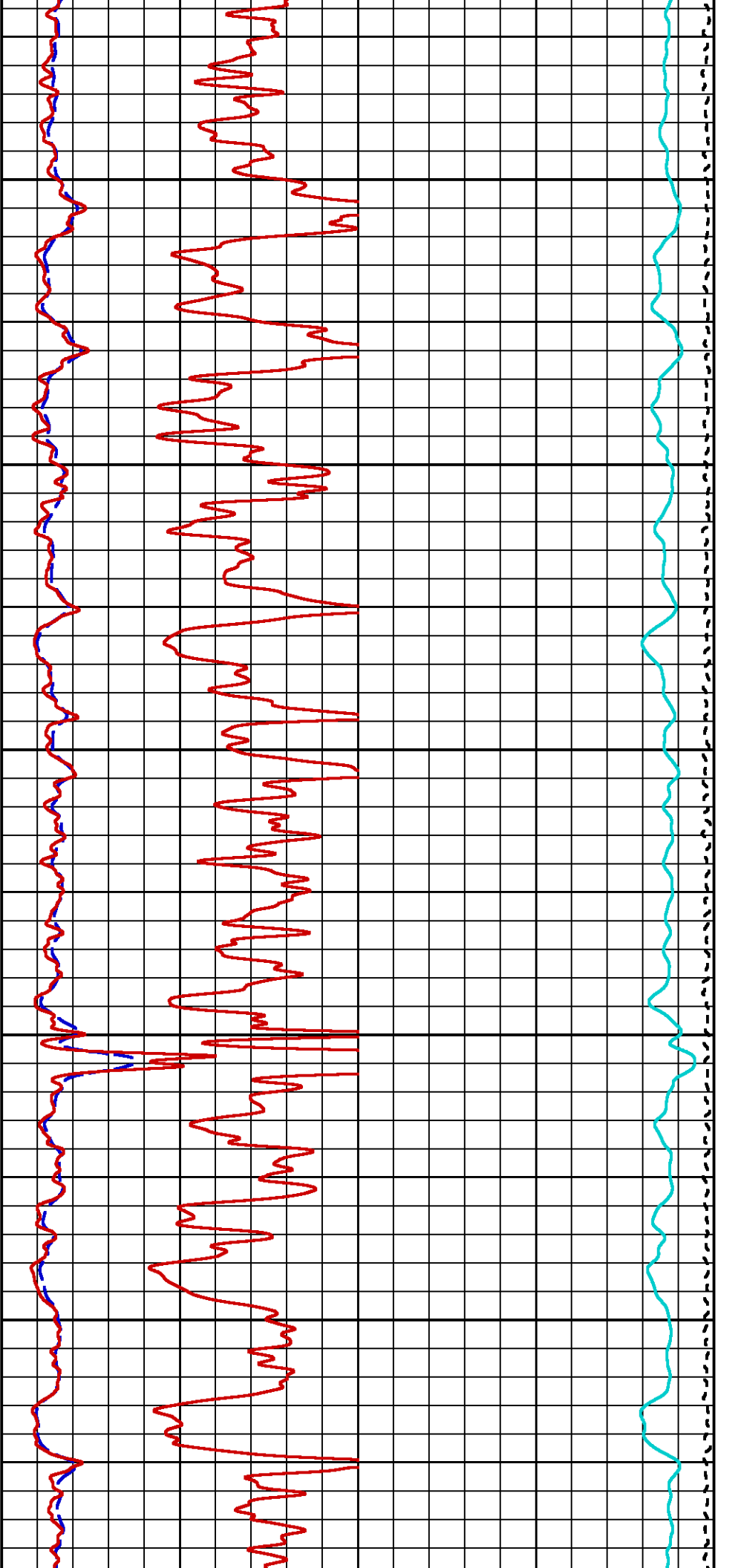












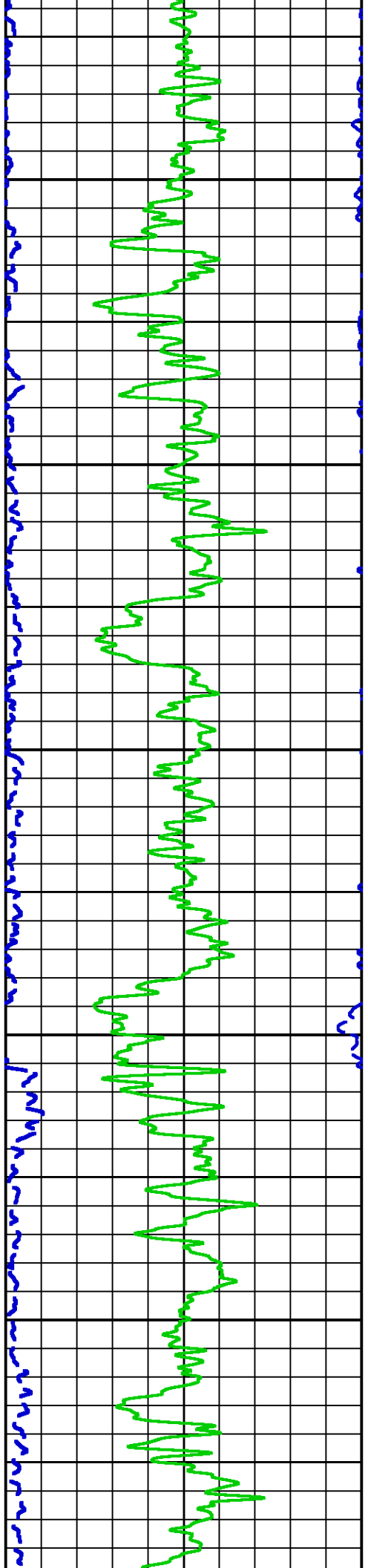
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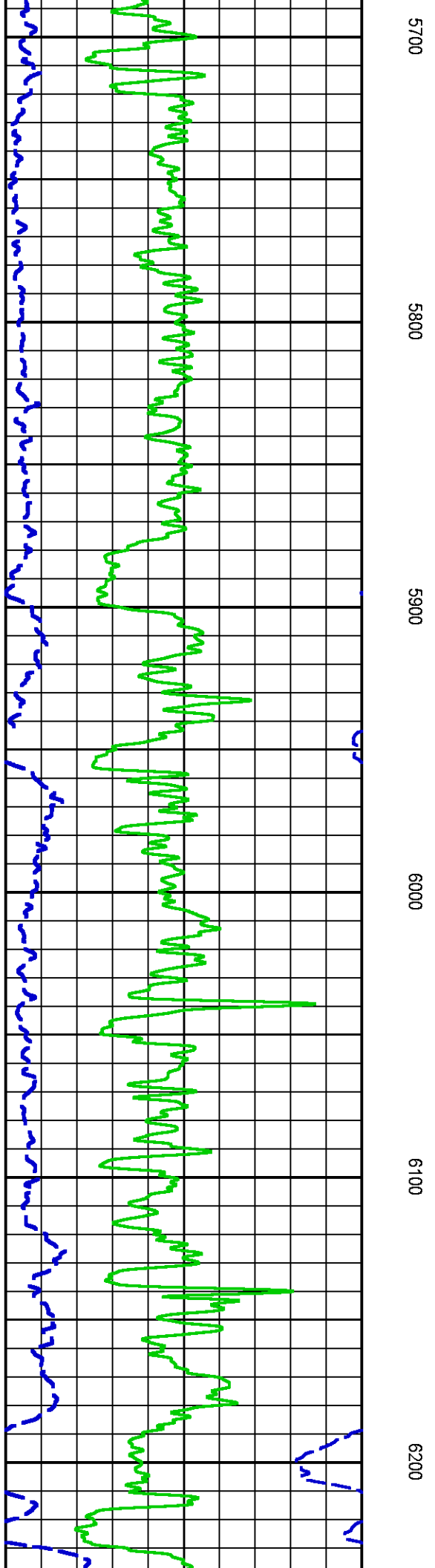
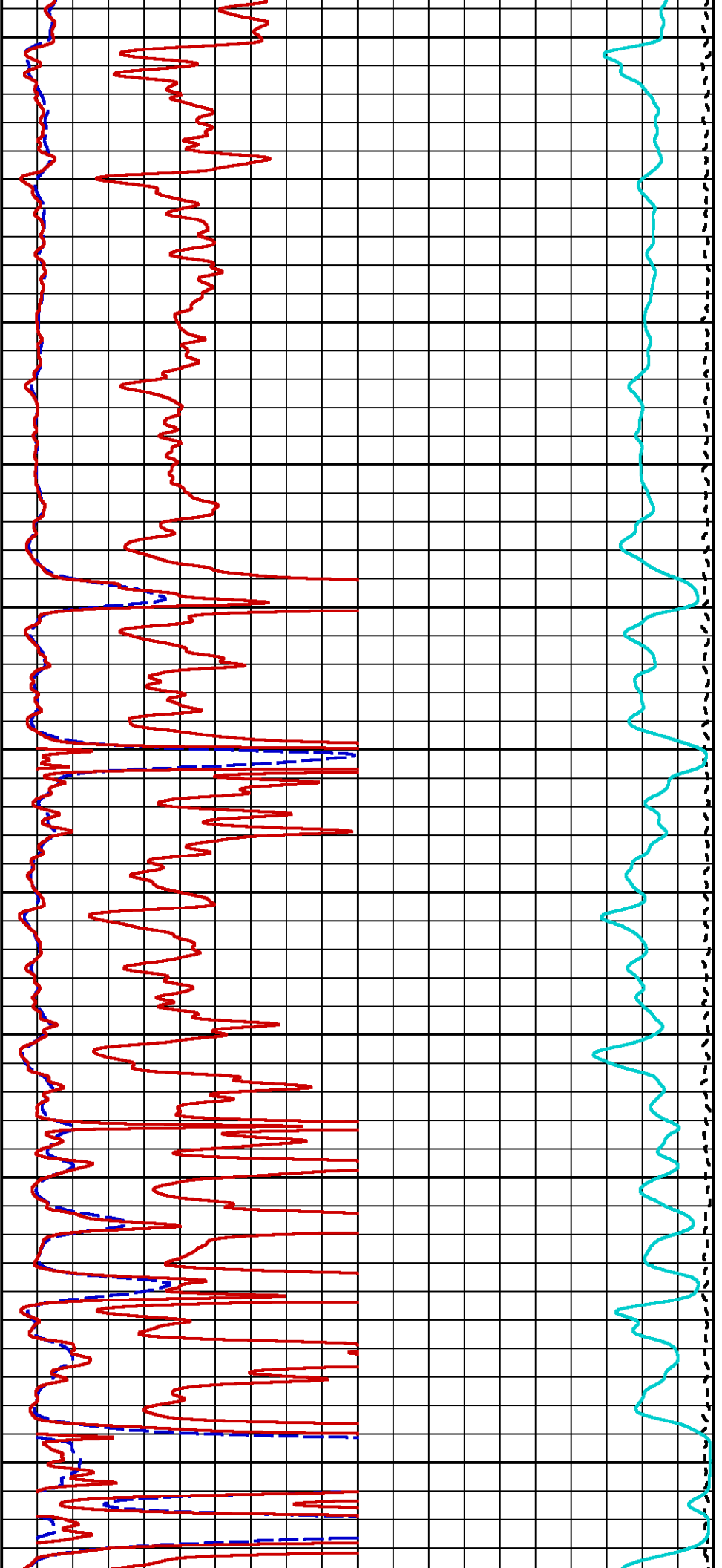
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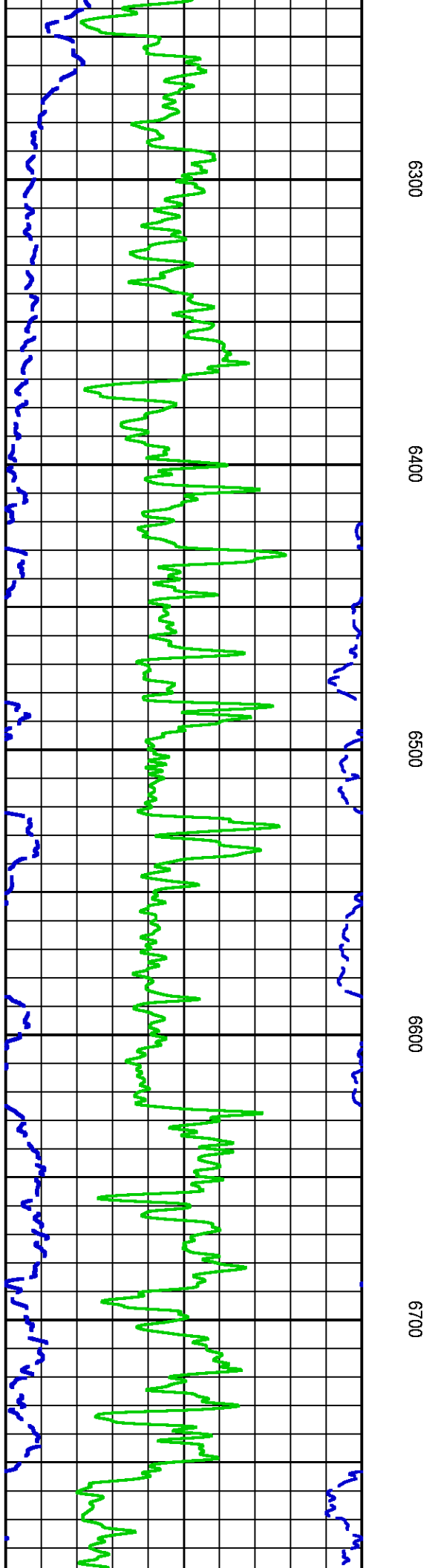
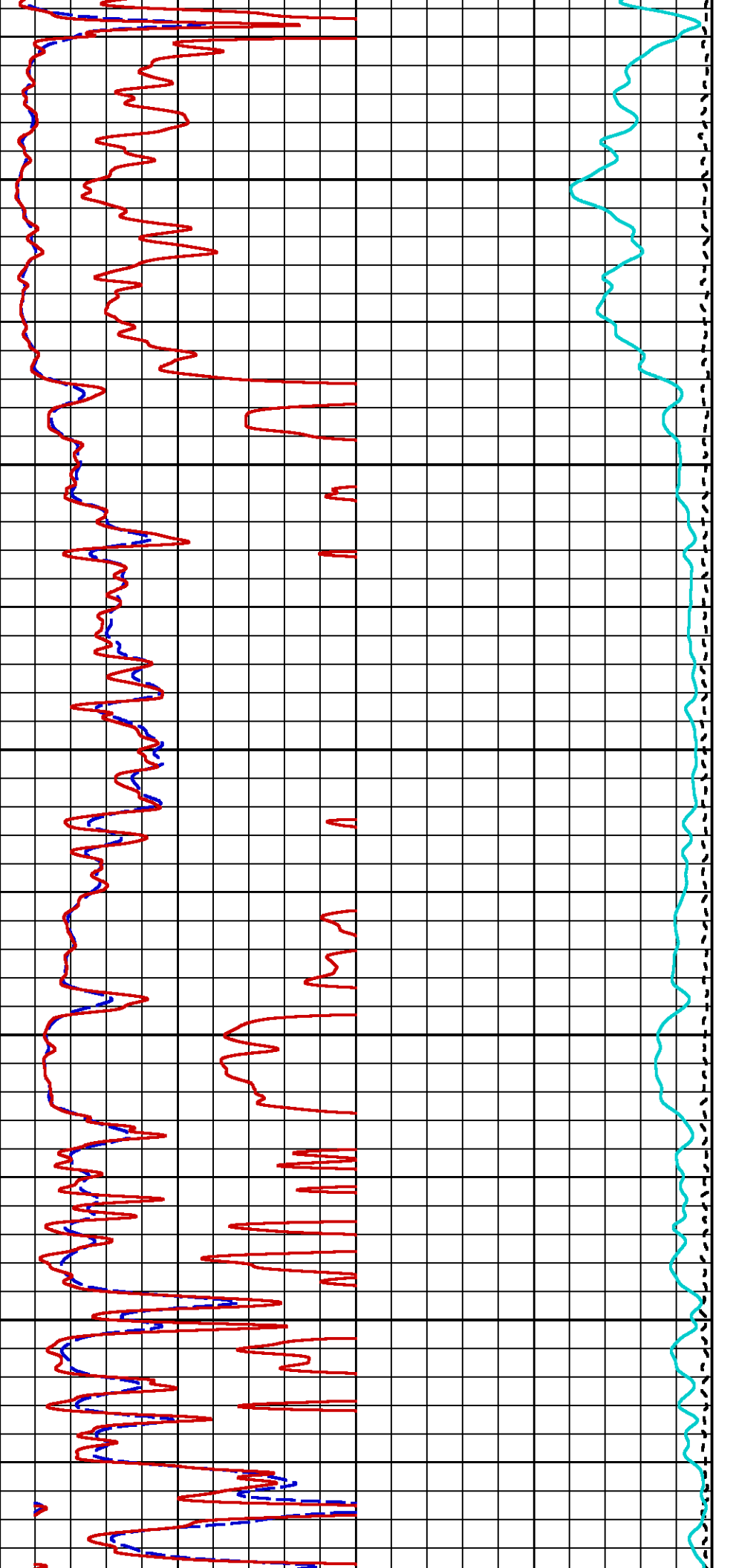
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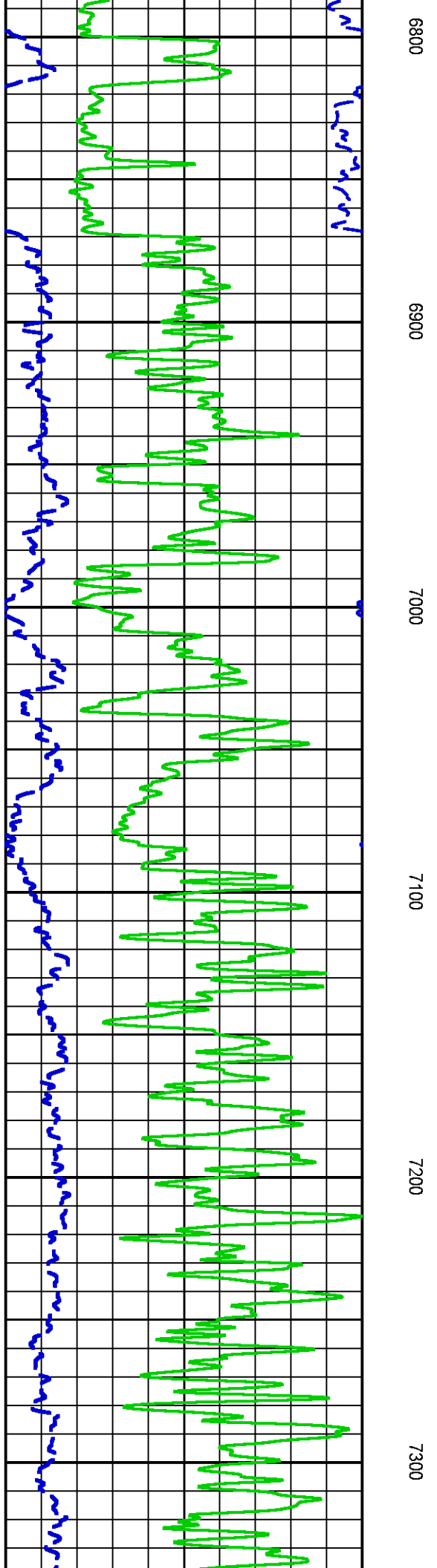
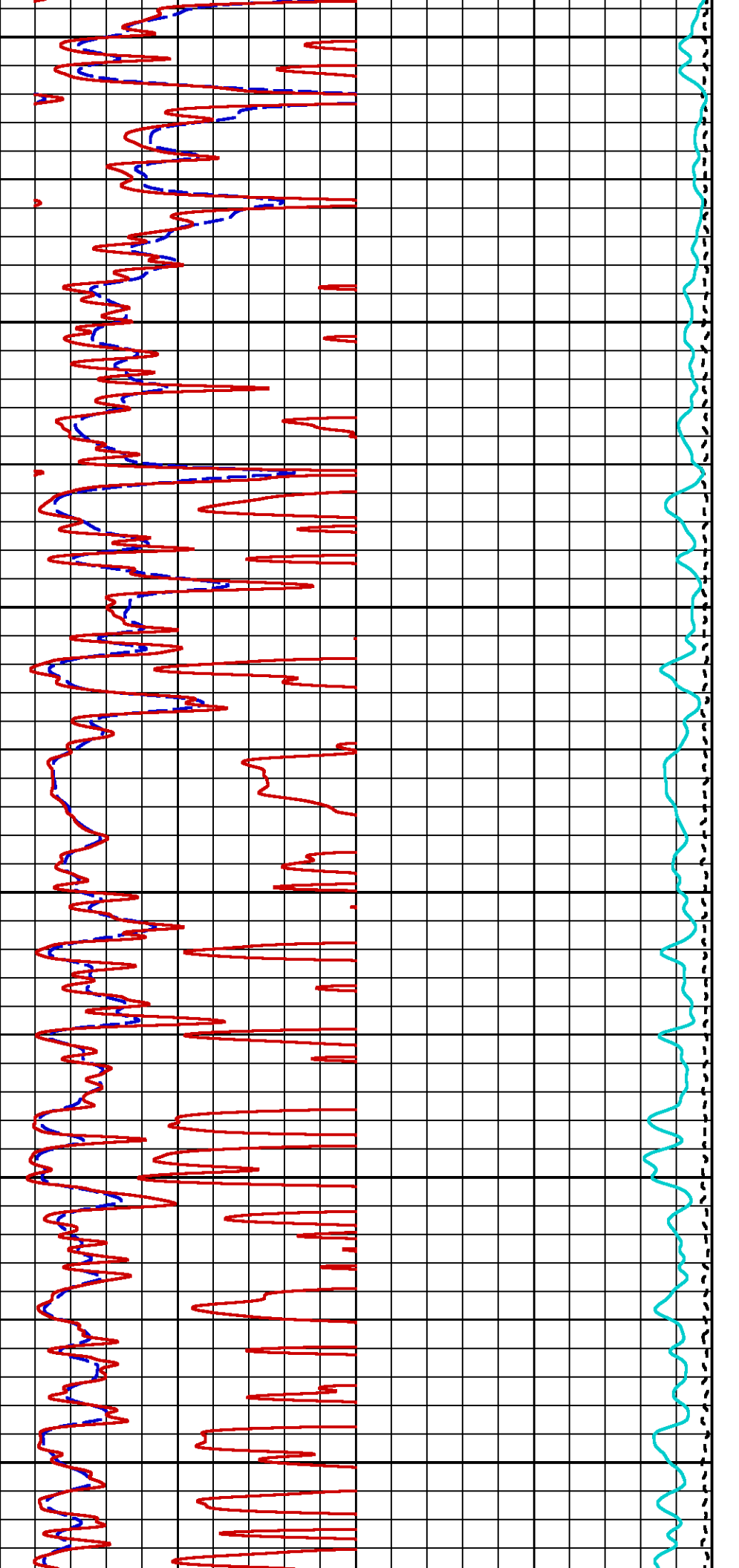
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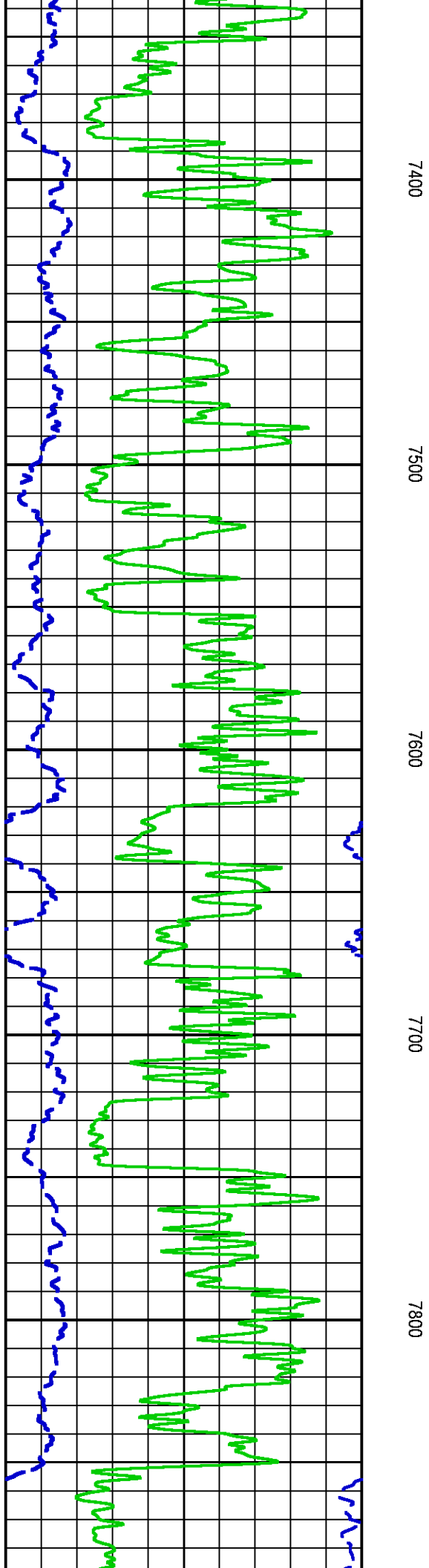
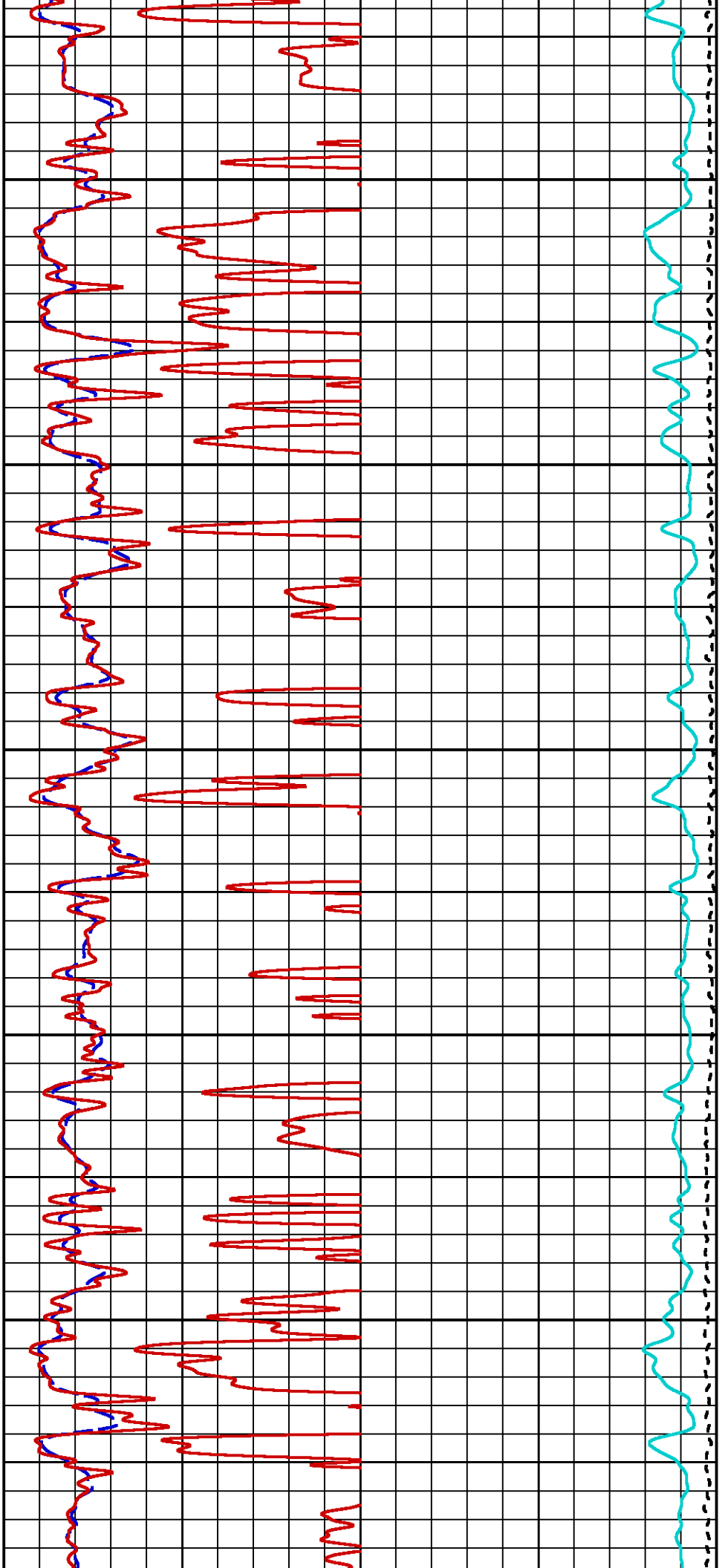
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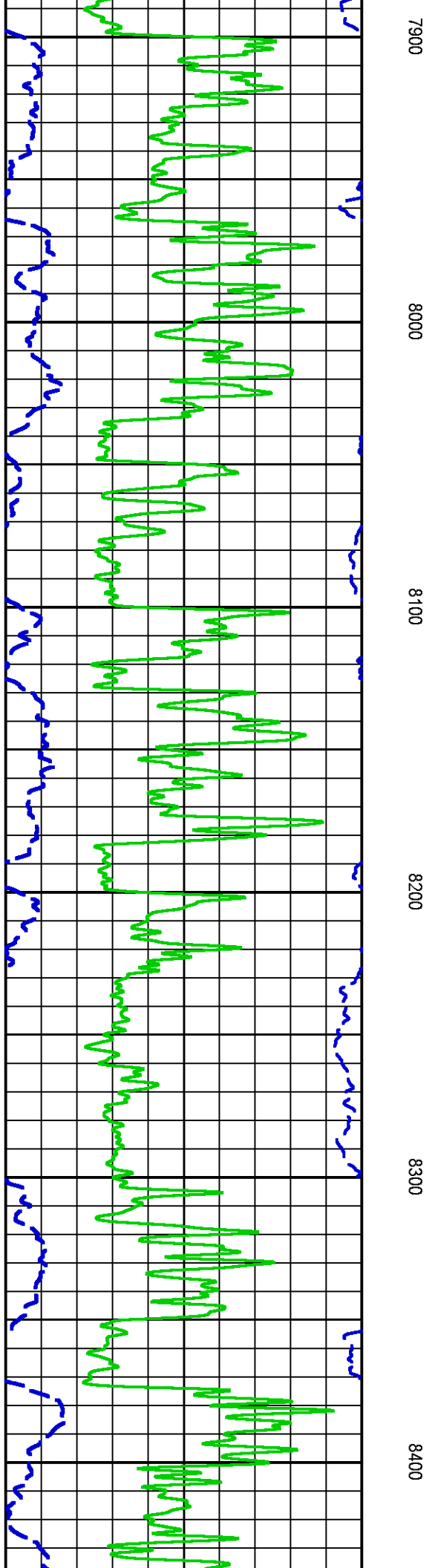
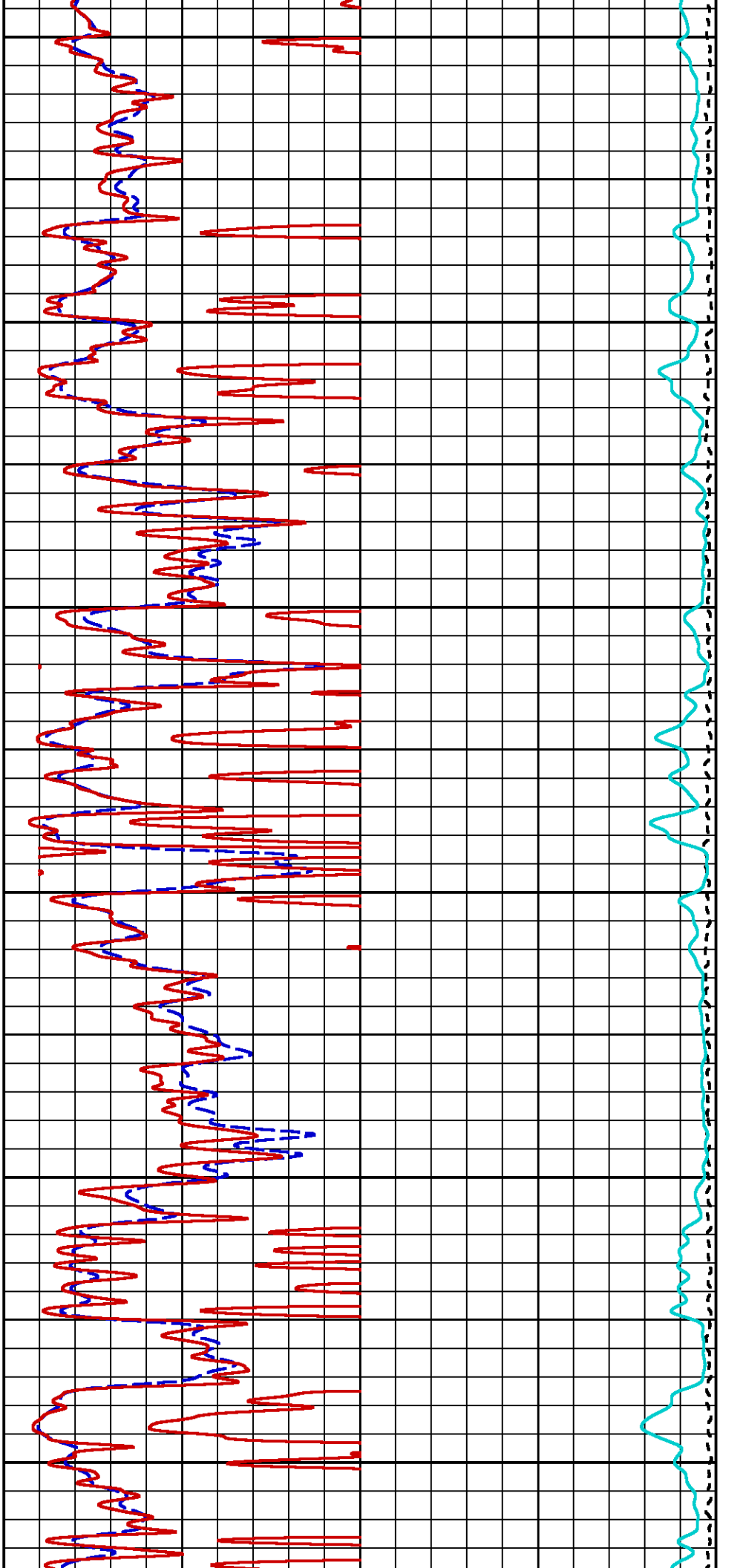


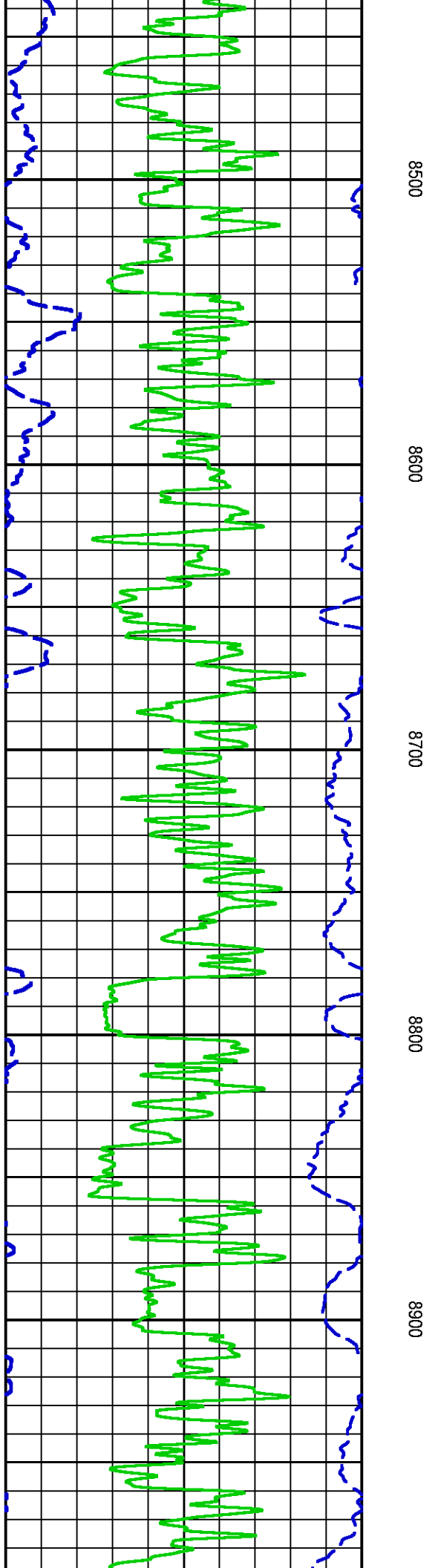
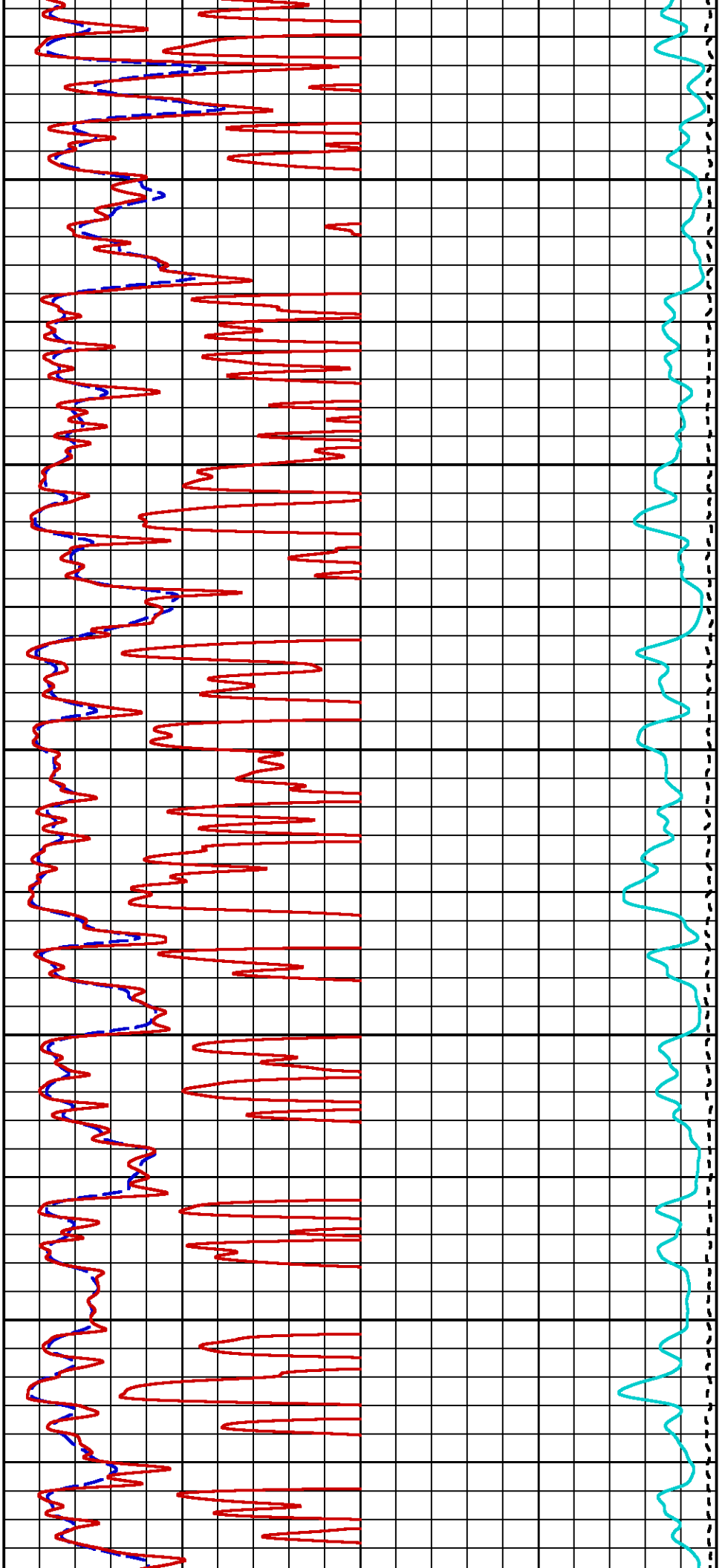


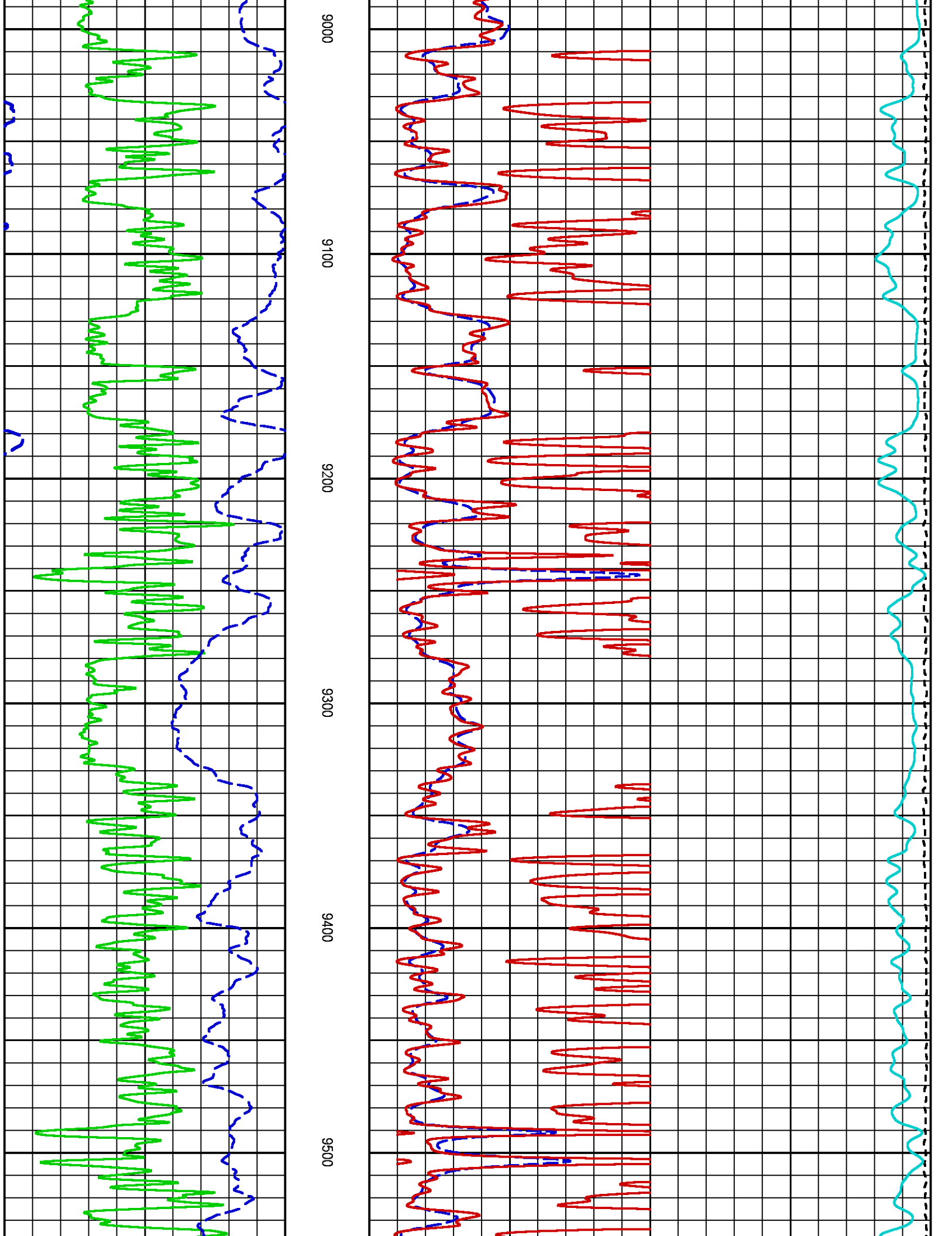


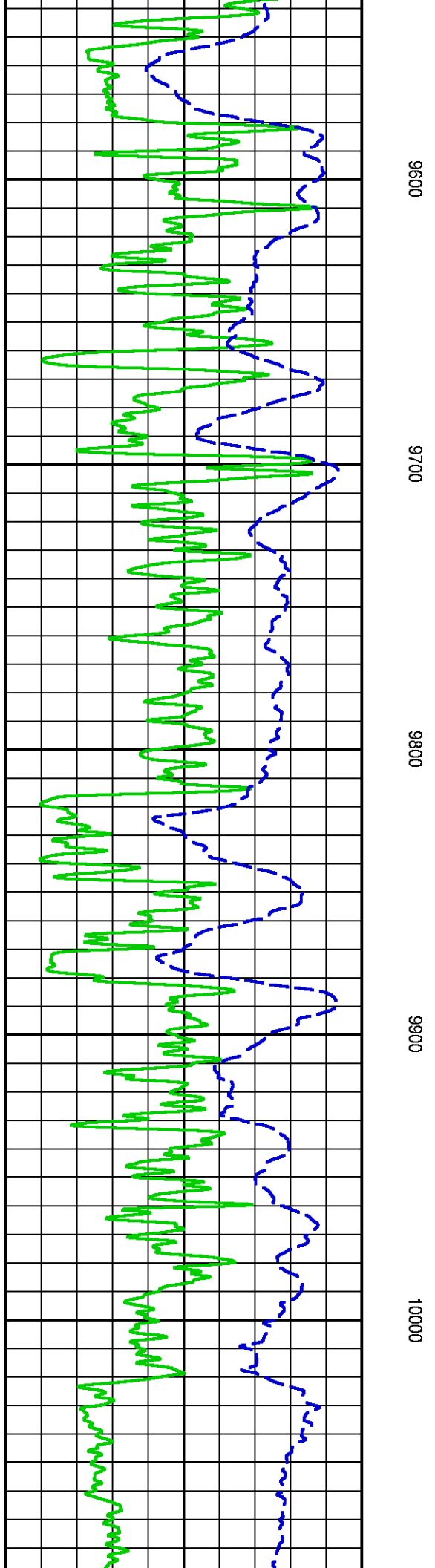
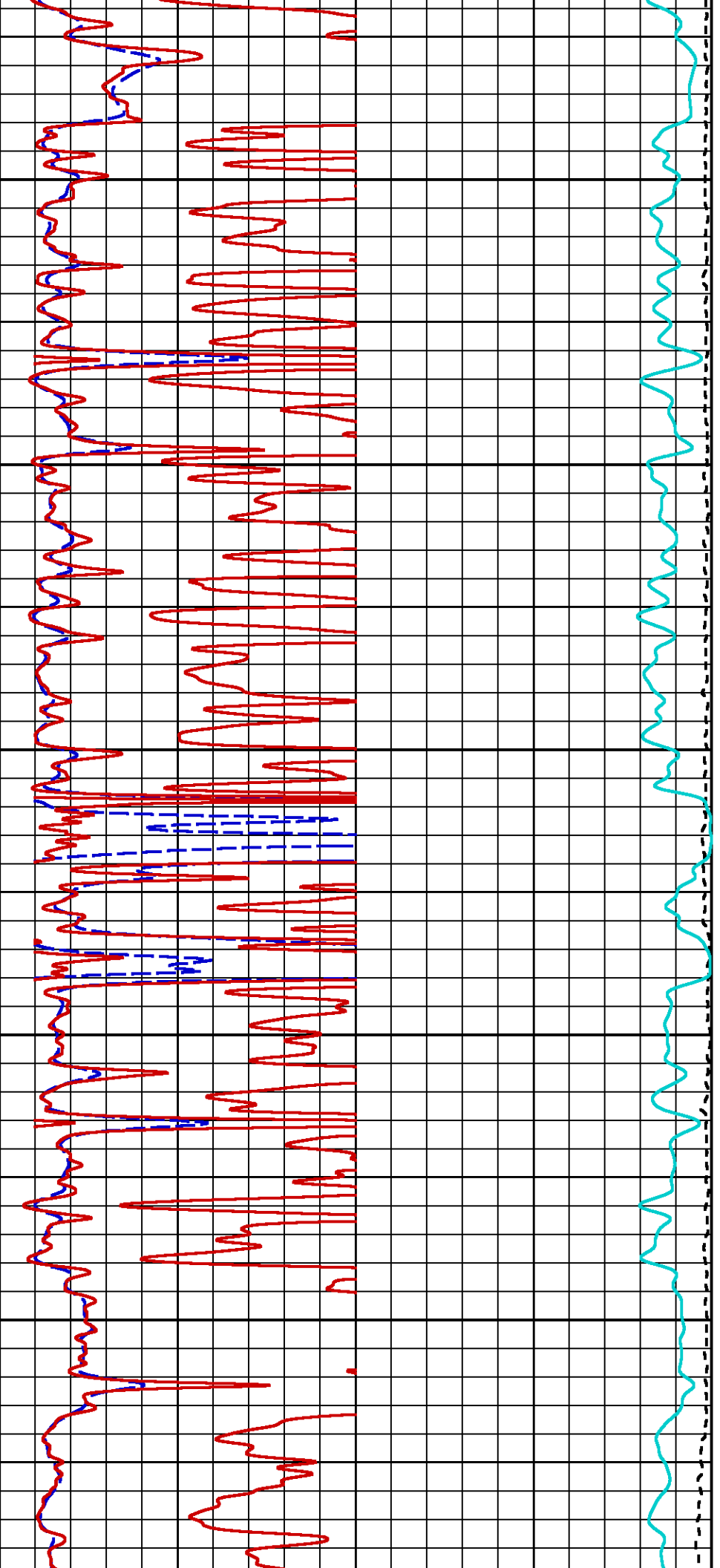


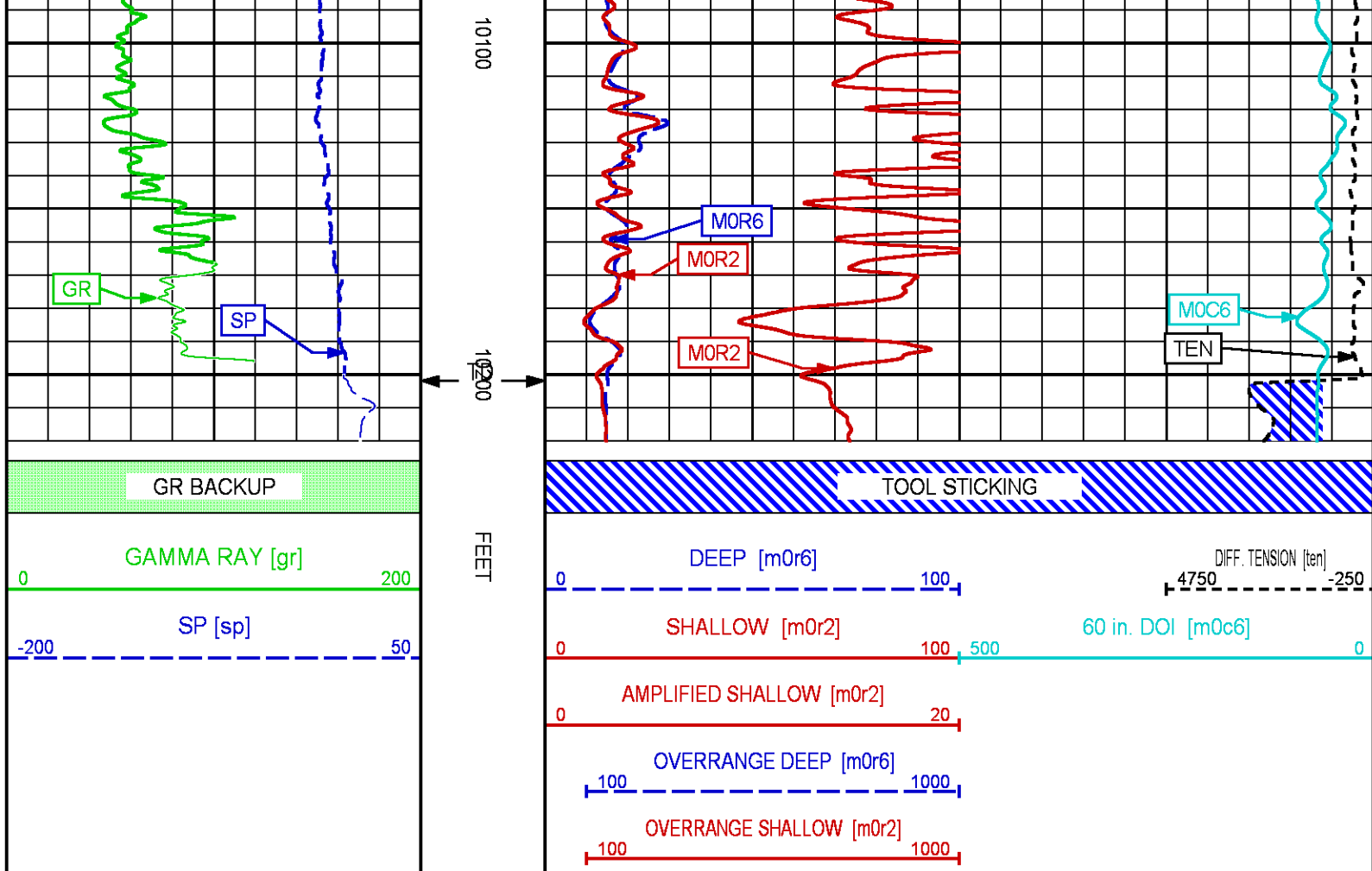












MAIN LOG 5"/100FT SCALE

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

Updates: 1 Patches: 4

Plotted: Fri Jan 16 07:42:06 2015

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/OH094015/n970a02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 1008.151 ft BOTTOM DEPTH: 10209.871 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	66.0	degF	"	"
	MUD SAMPLE RES	0.450	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	"	"

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

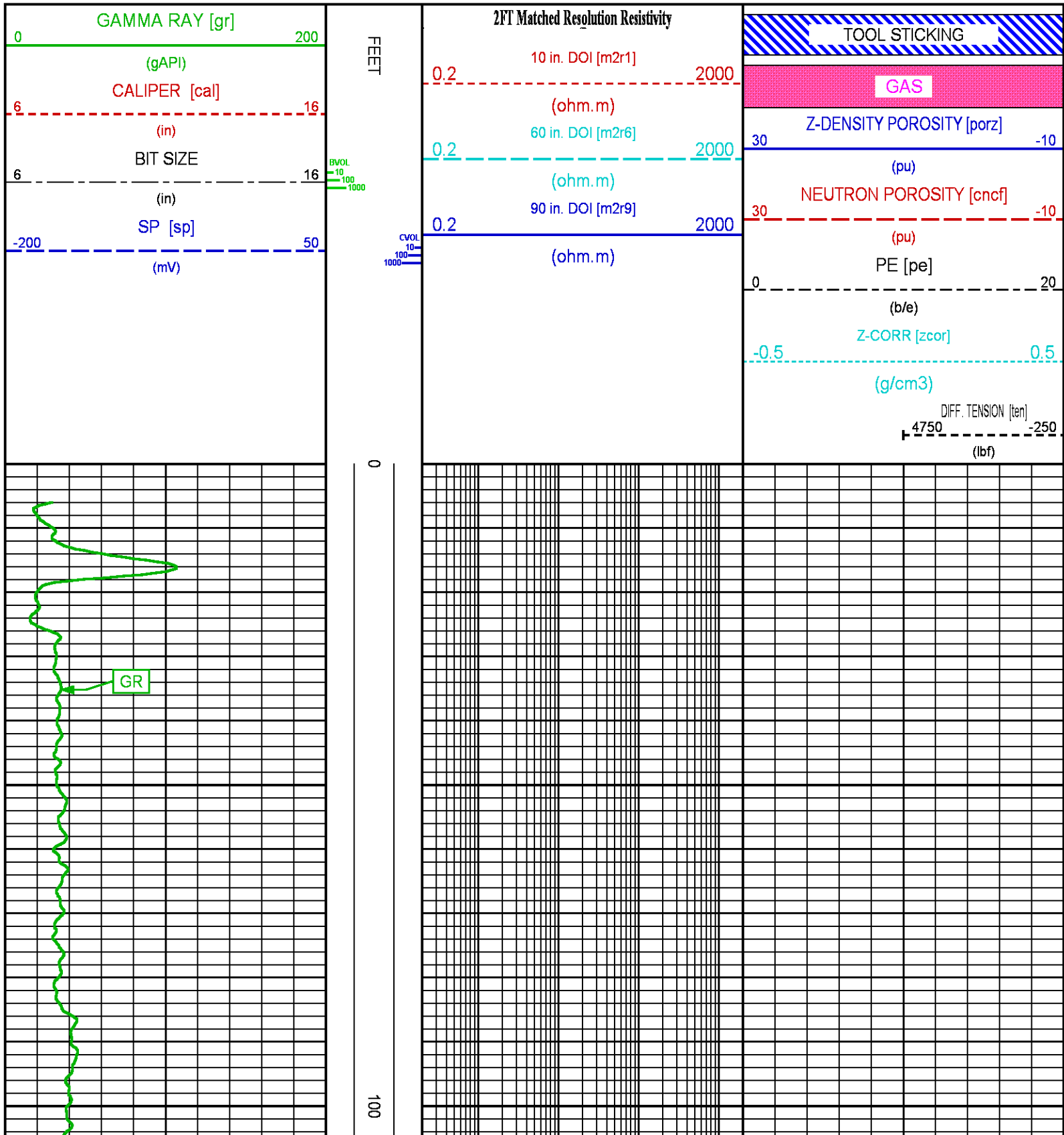
CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	1095	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	13.500	in	"	"

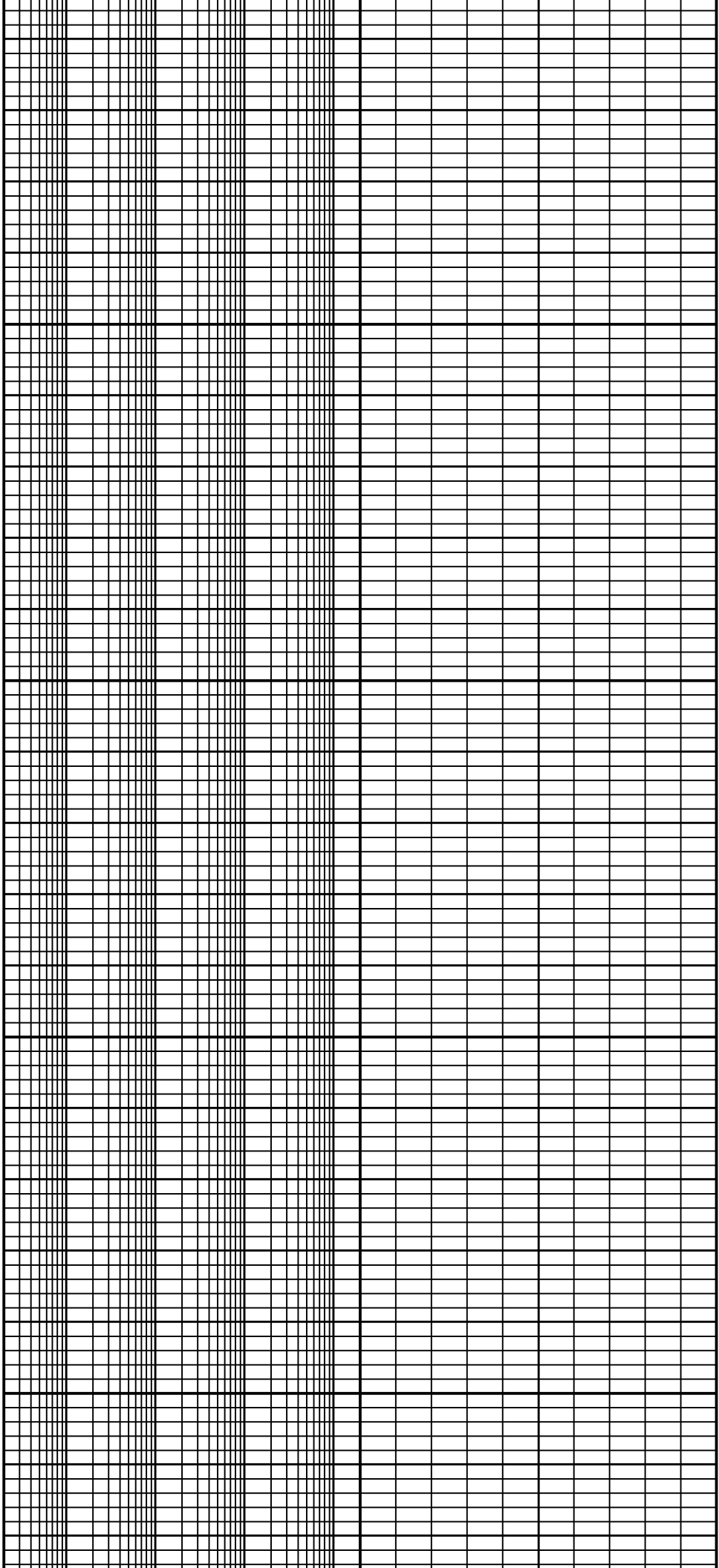
ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOMatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

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

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jan 16 03:08:43 2015	BIT SIZE
F1:BVOL	Jan 16 03:08:43 2015	BOREHOLE VOLUME
F1:CAL	Jan 16 03:08:43 2015	CALIPER
F1:CNCF	Jan 16 03:08:43 2015	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jan 16 03:08:43 2015	CEMENT VOLUME
F1:GR	Jan 16 03:08:43 2015	GAMMA RAY
F1:M2R1	Jan 16 03:08:43 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jan 16 03:08:43 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 16 03:08:43 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jan 16 03:08:43 2015	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jan 16 03:08:43 2015	POROSITY FOR SELECTABLE MATRIX
F1:SP	Jan 16 03:08:43 2015	SPONTANEOUS POTENTIAL
F1:TEN	Jan 16 03:08:43 2015	DIFFERENTIAL TENSION
F1:ZCOR	Jan 16 03:08:43 2015	DENSITY CORRECTION

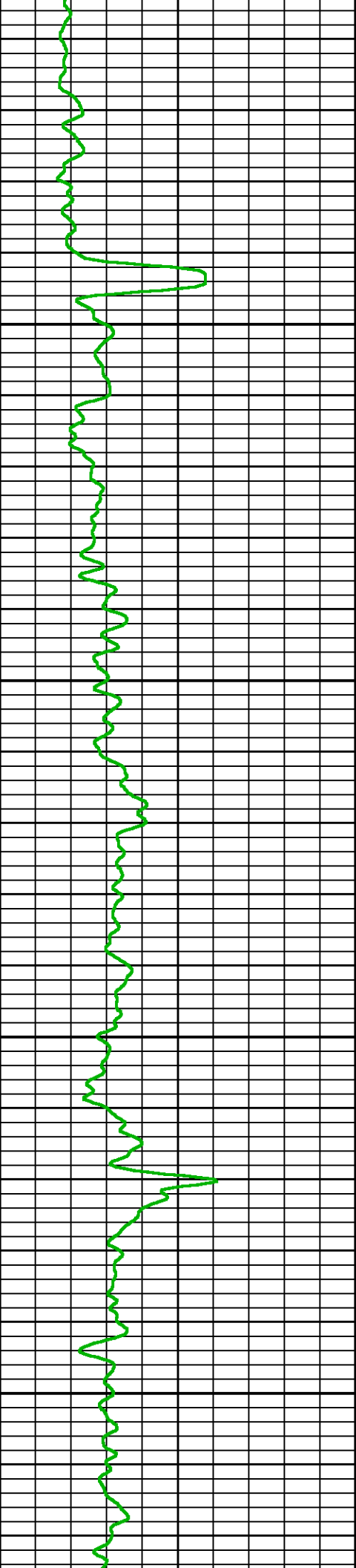
CURVE MEASURE POINT OFFSET					
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)

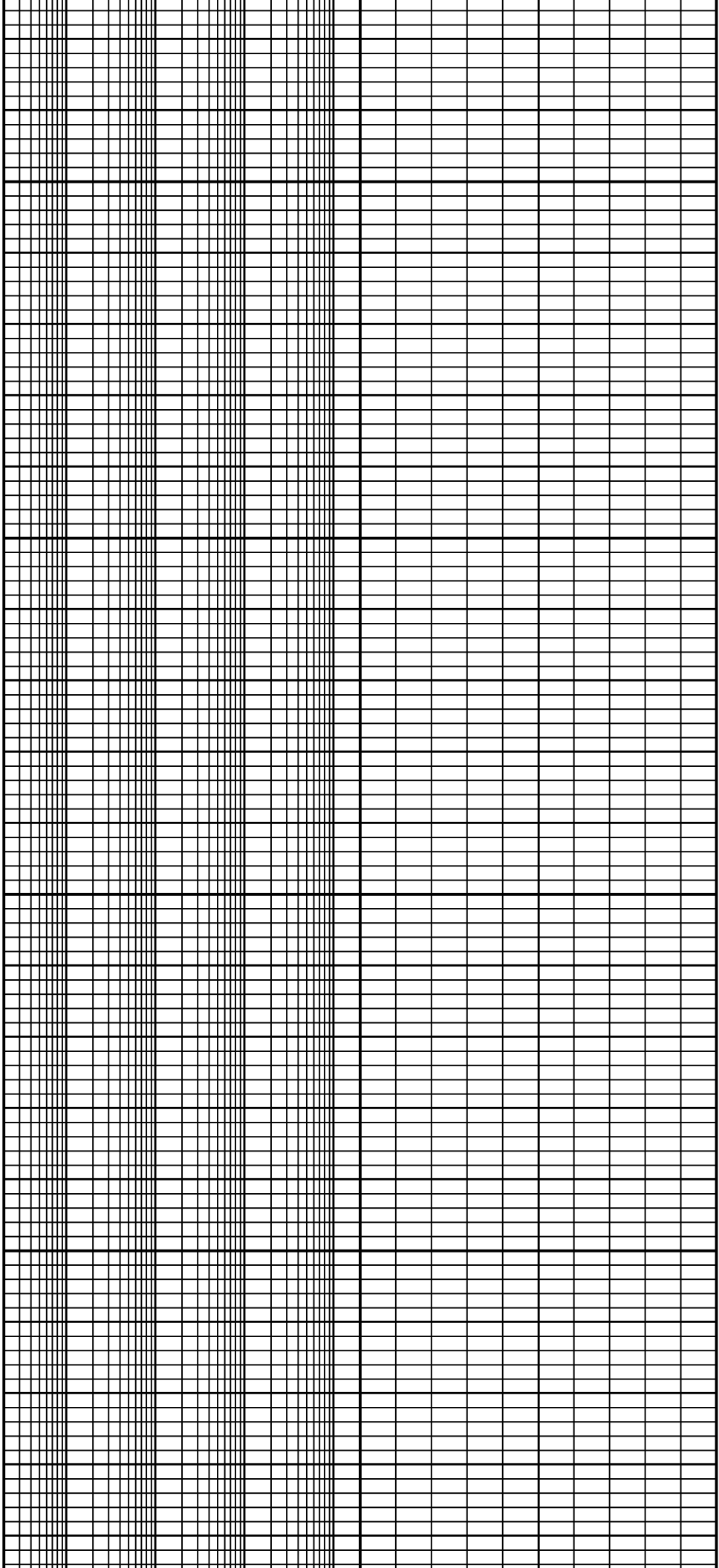




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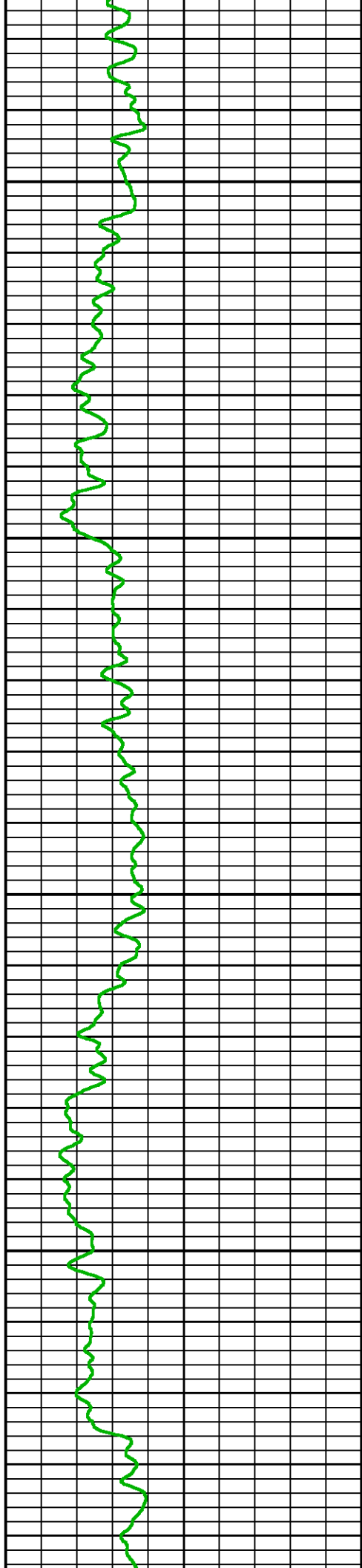
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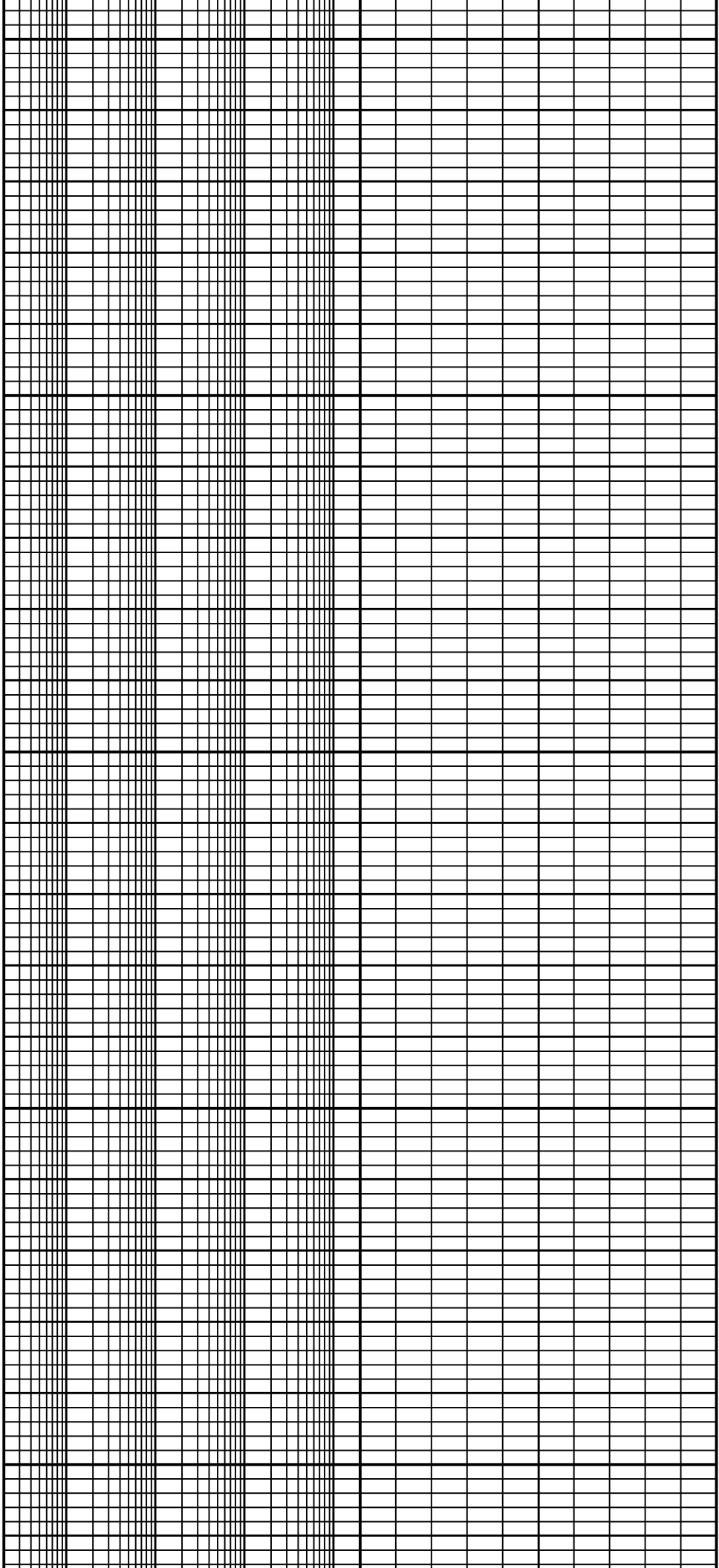




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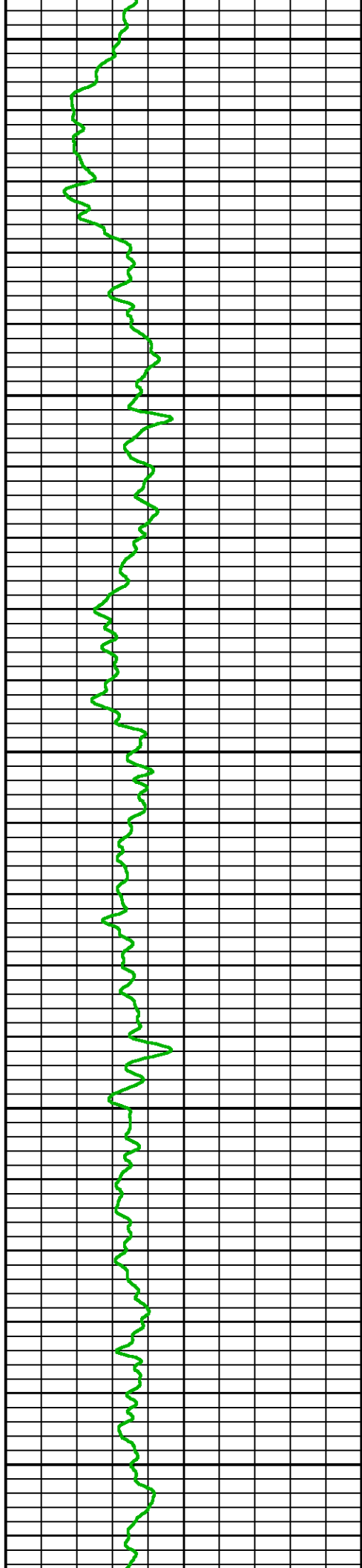
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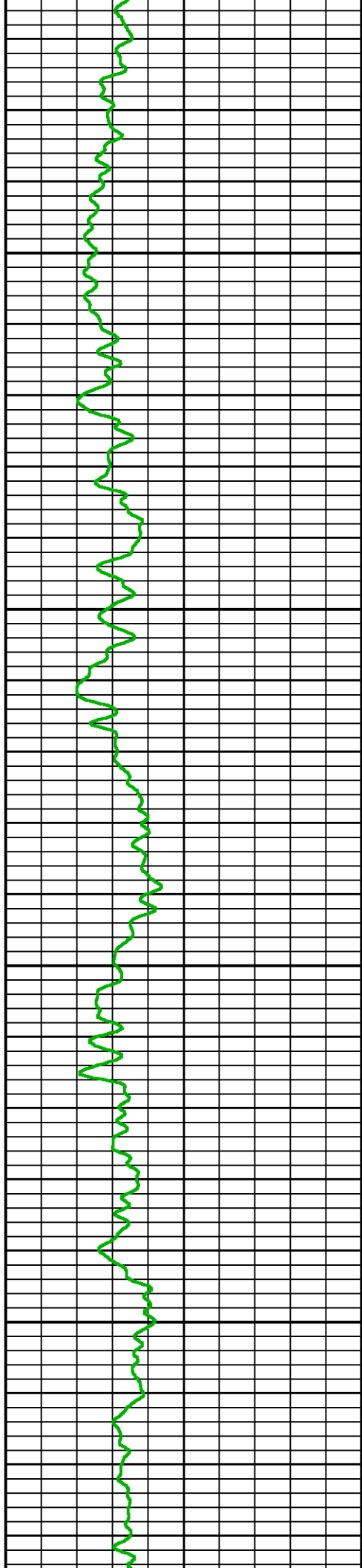




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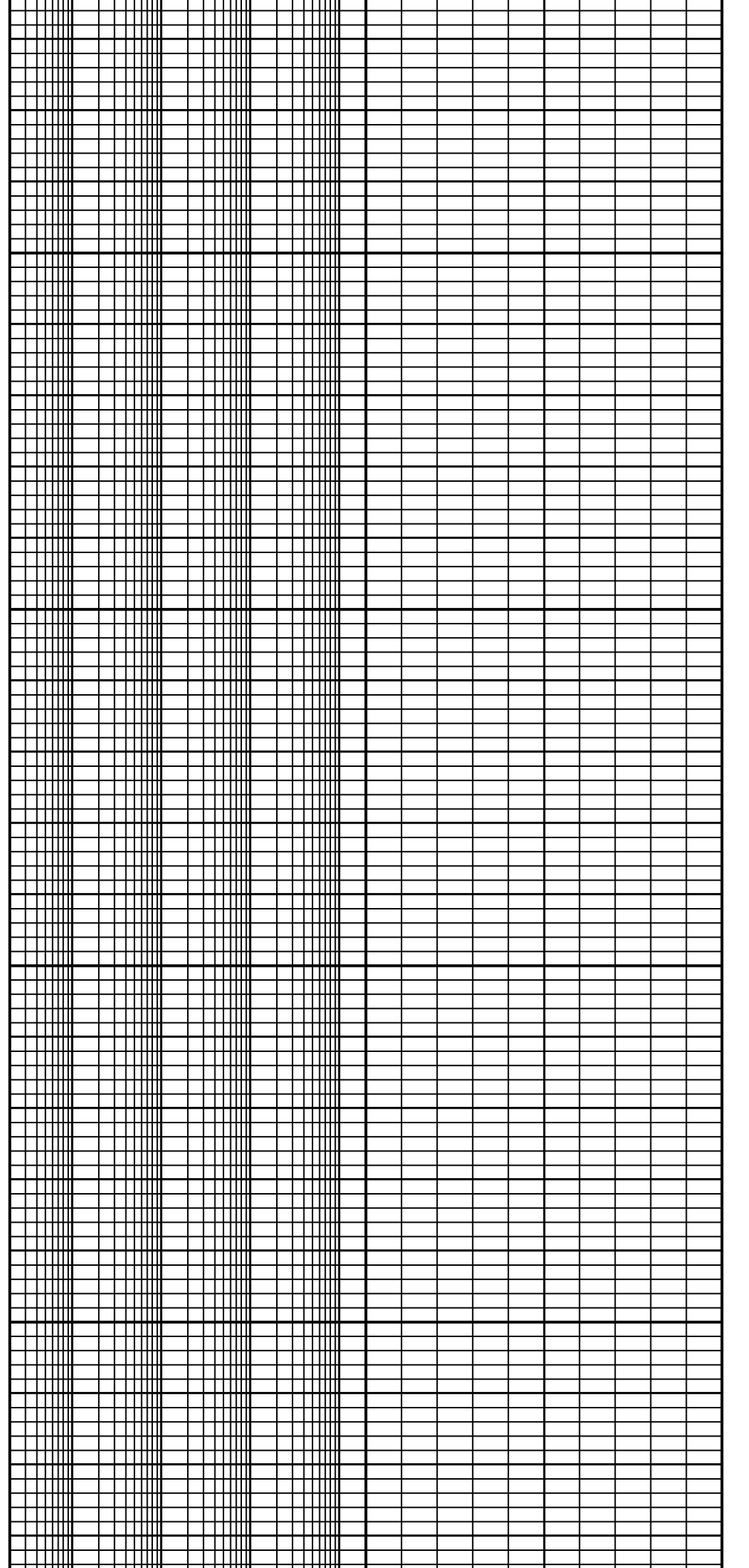
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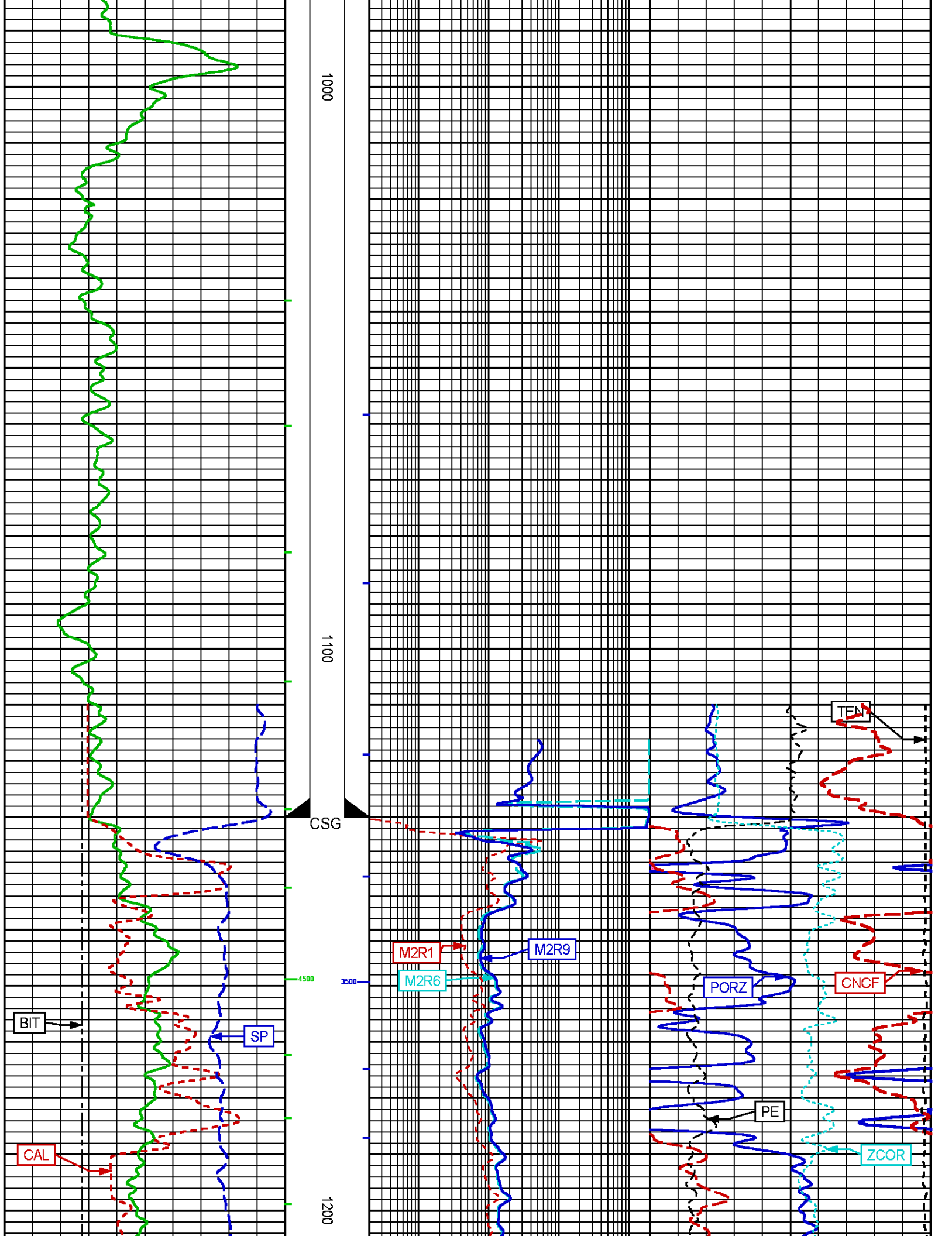


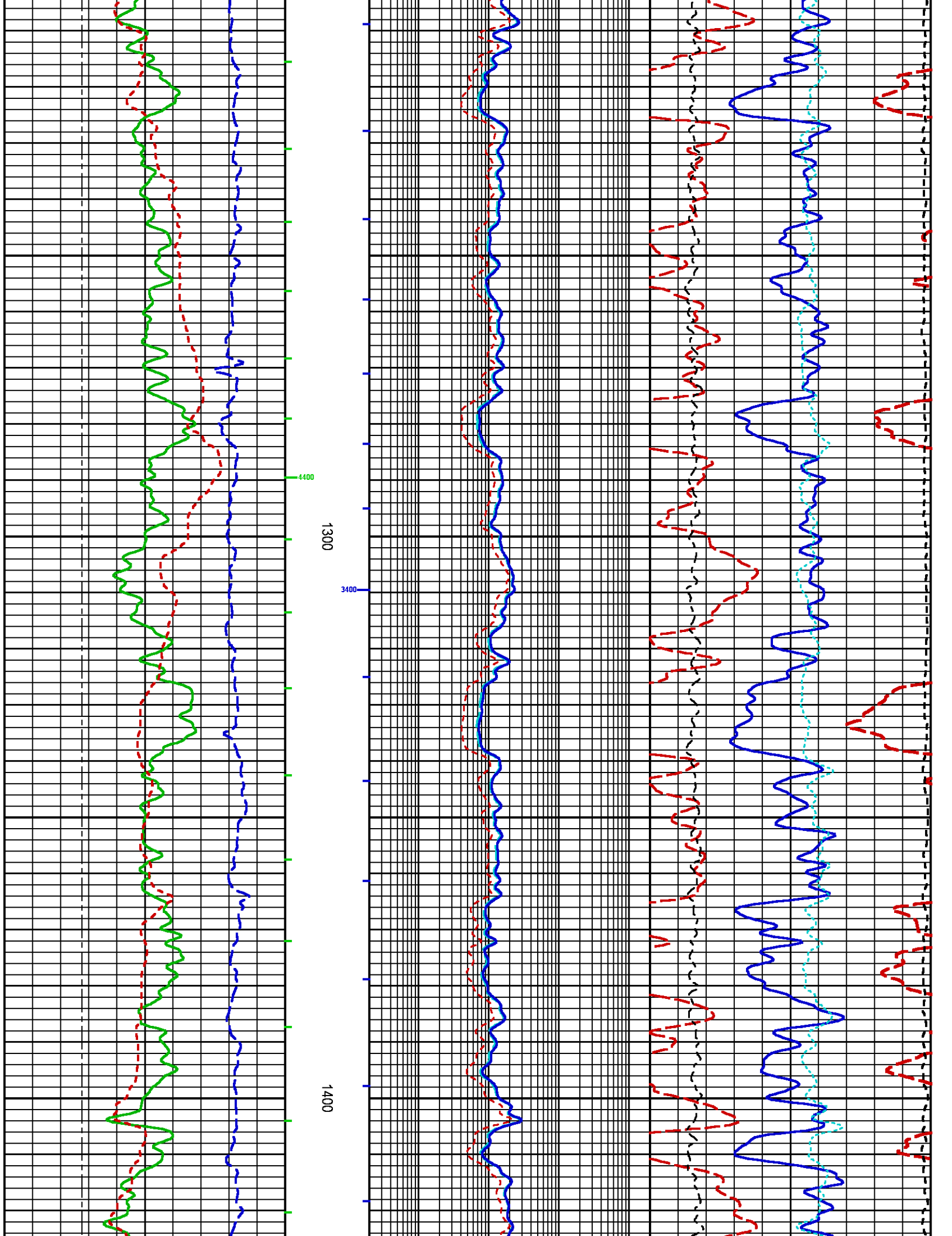


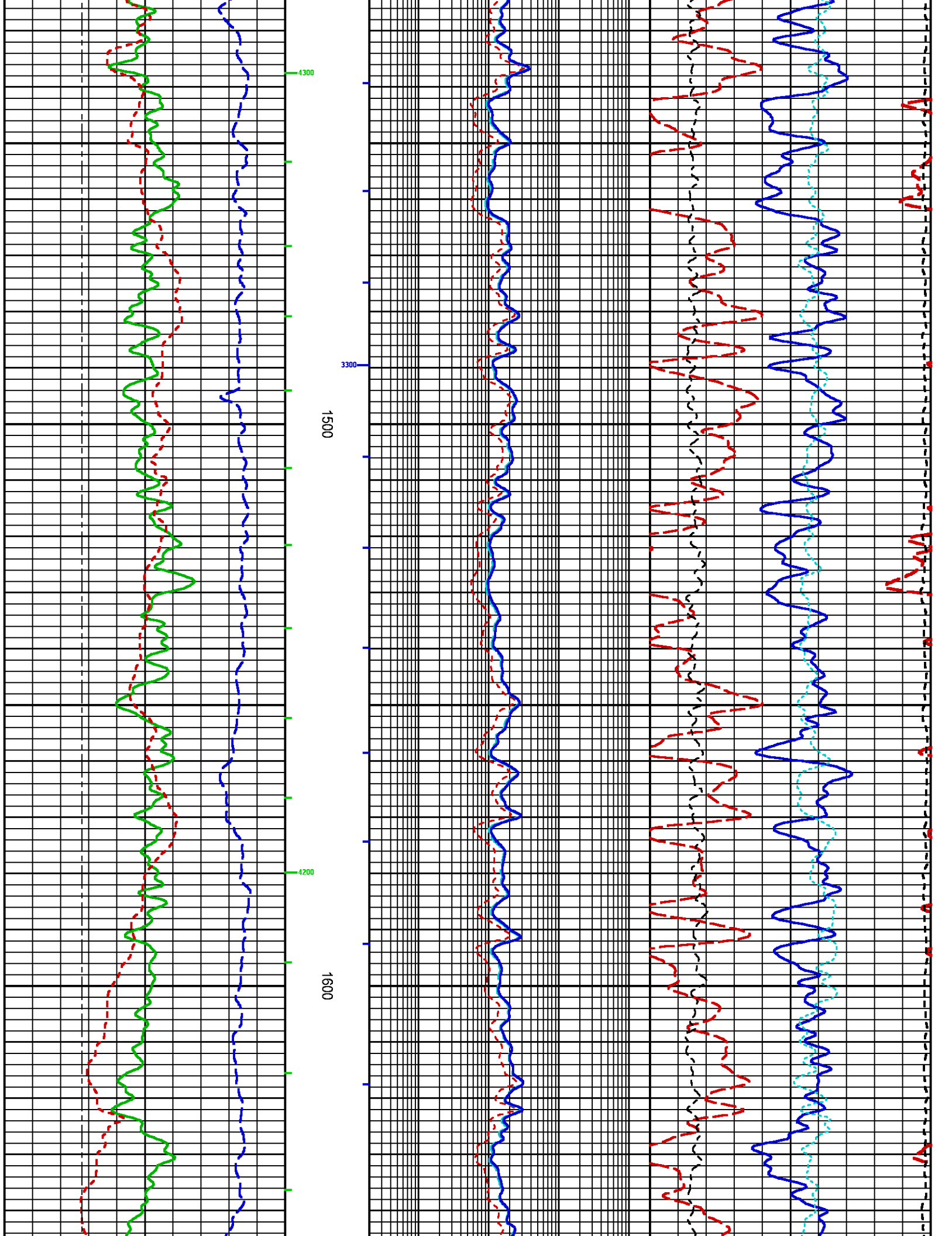
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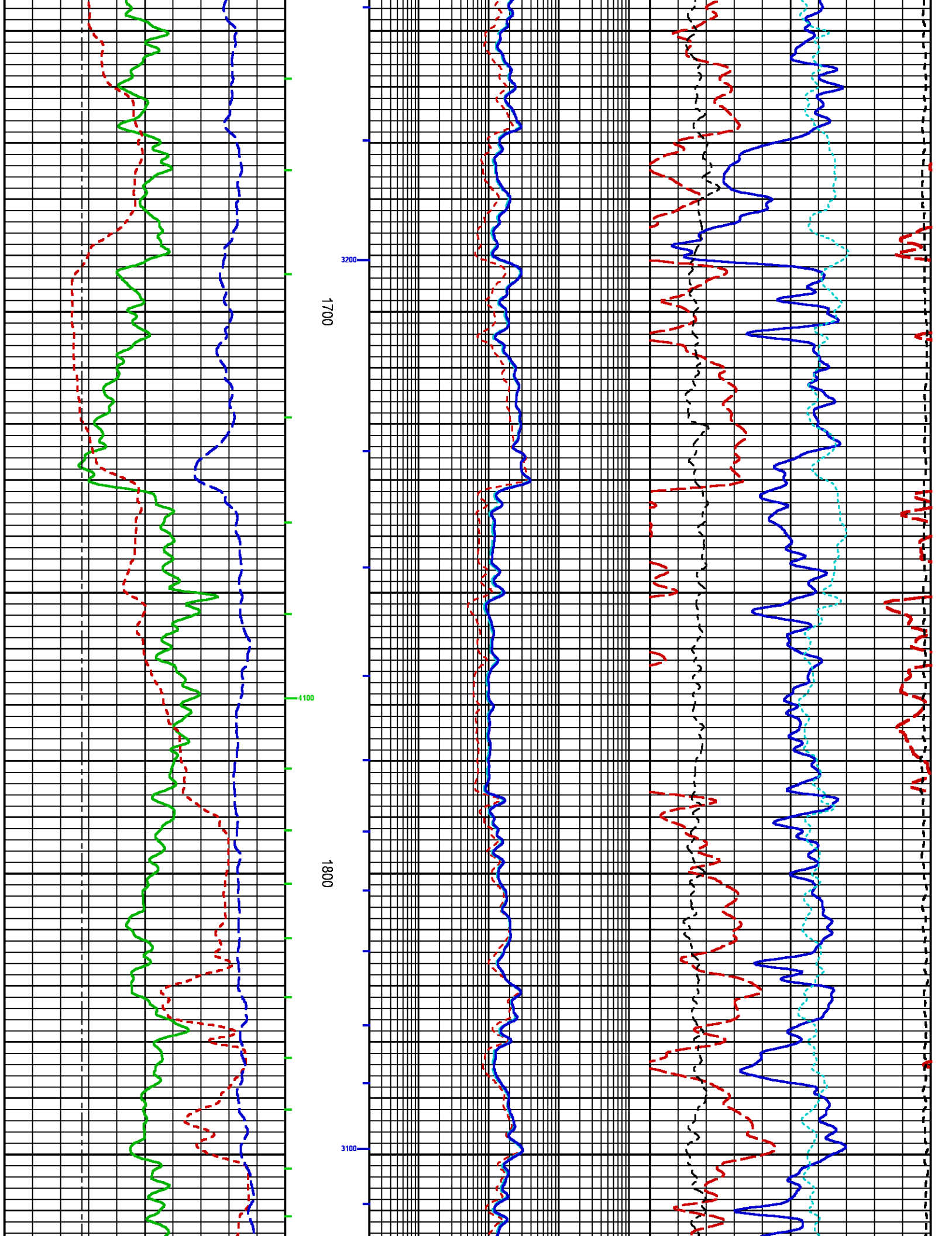
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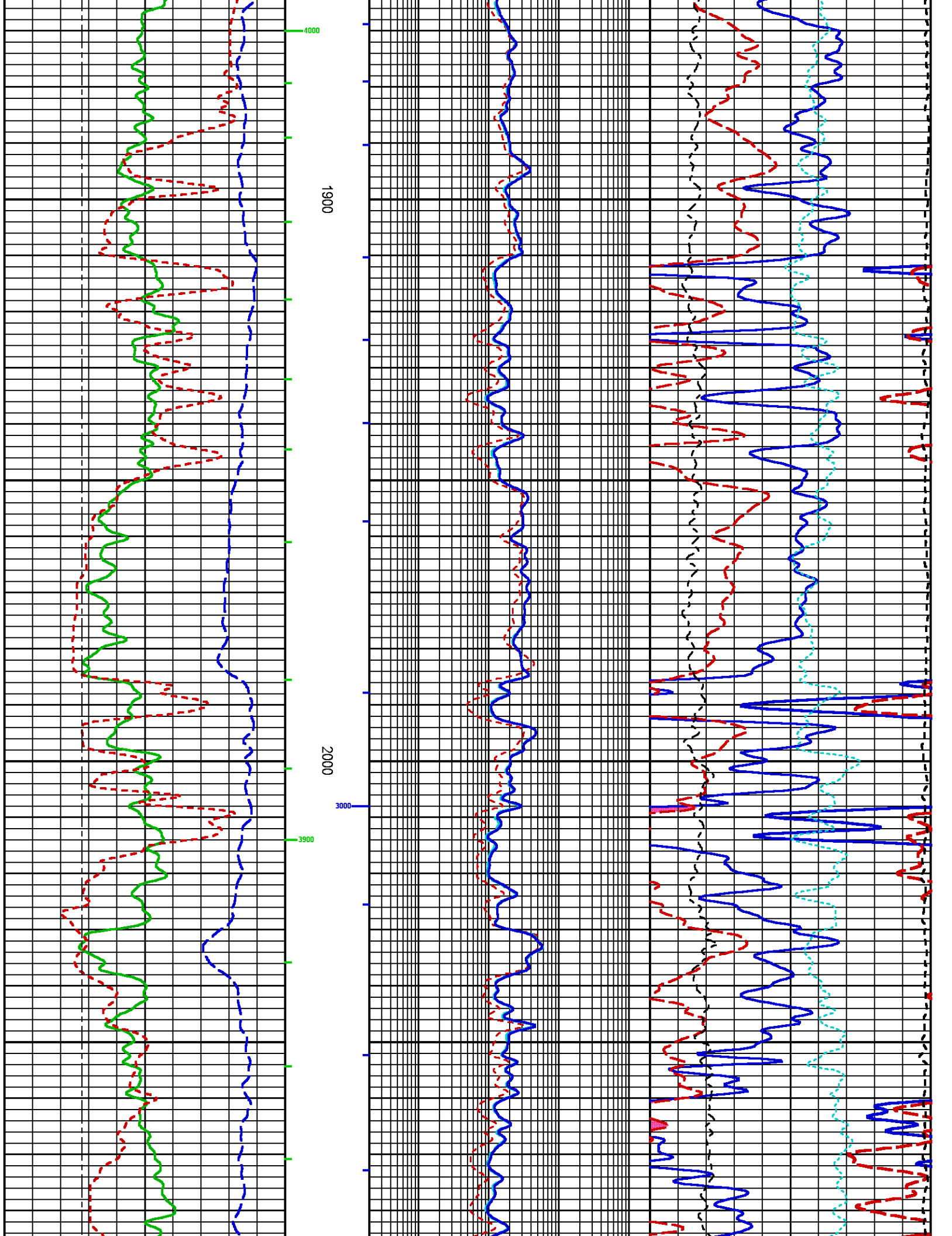


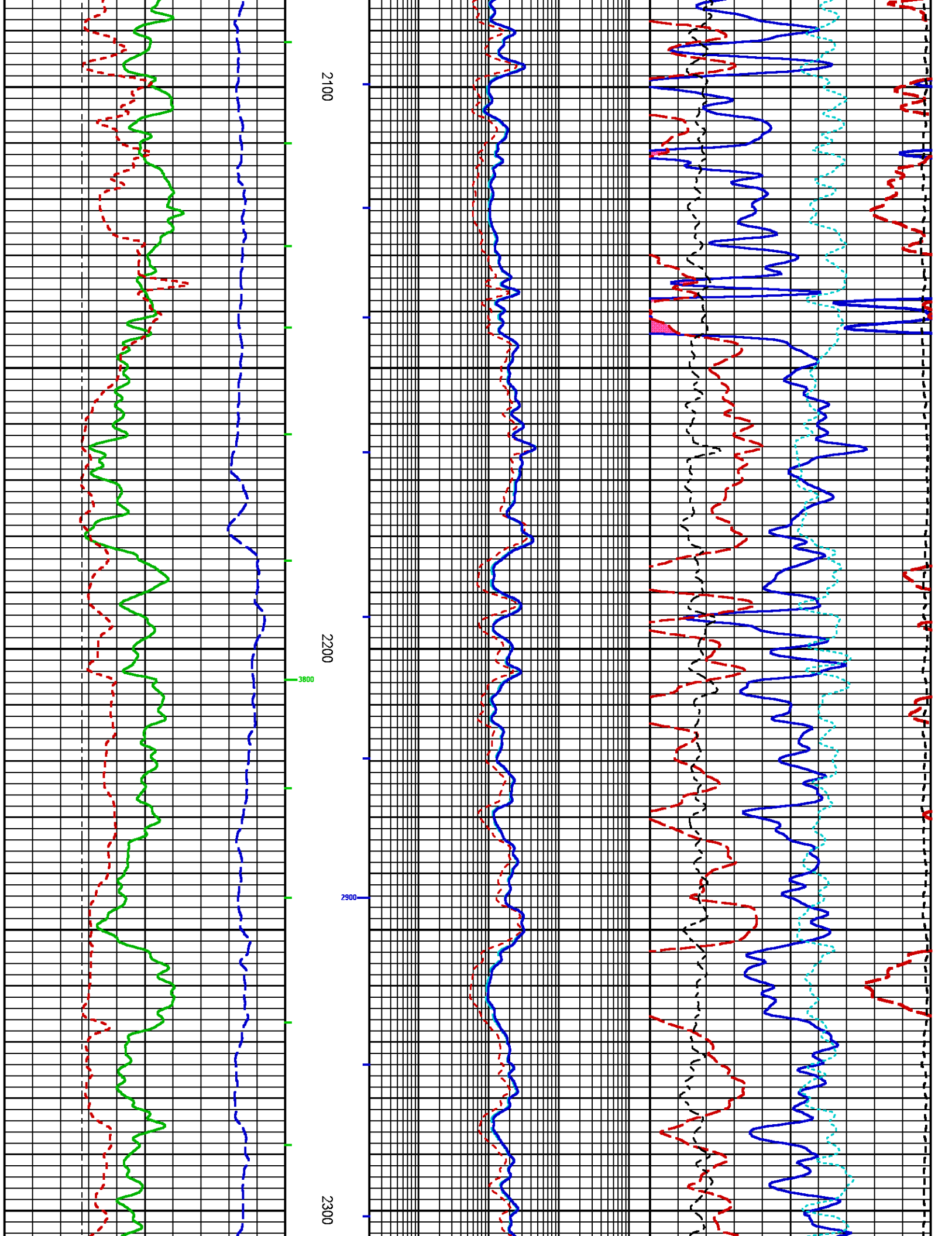


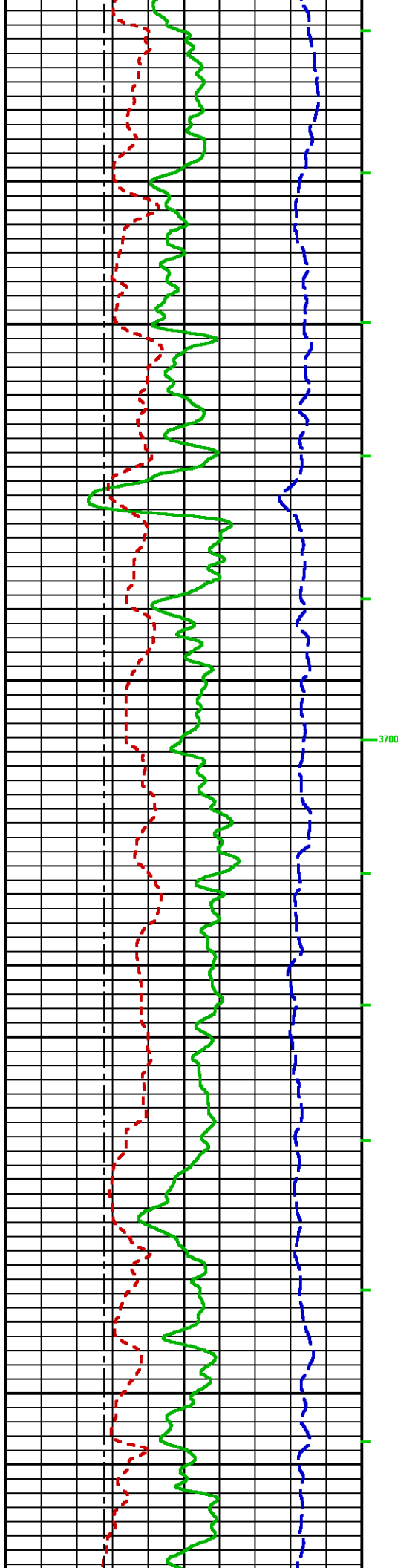
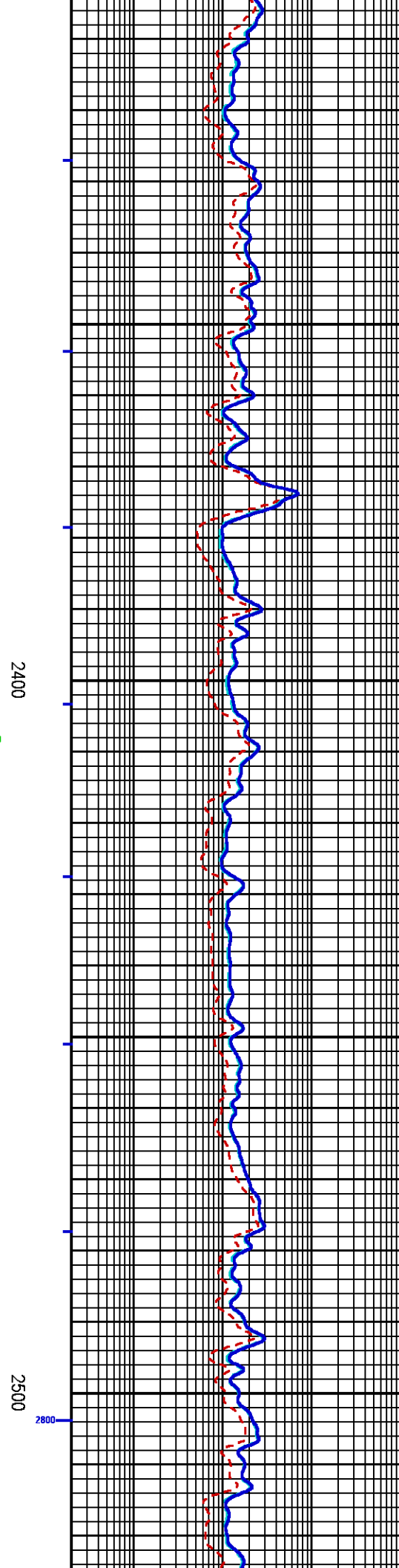
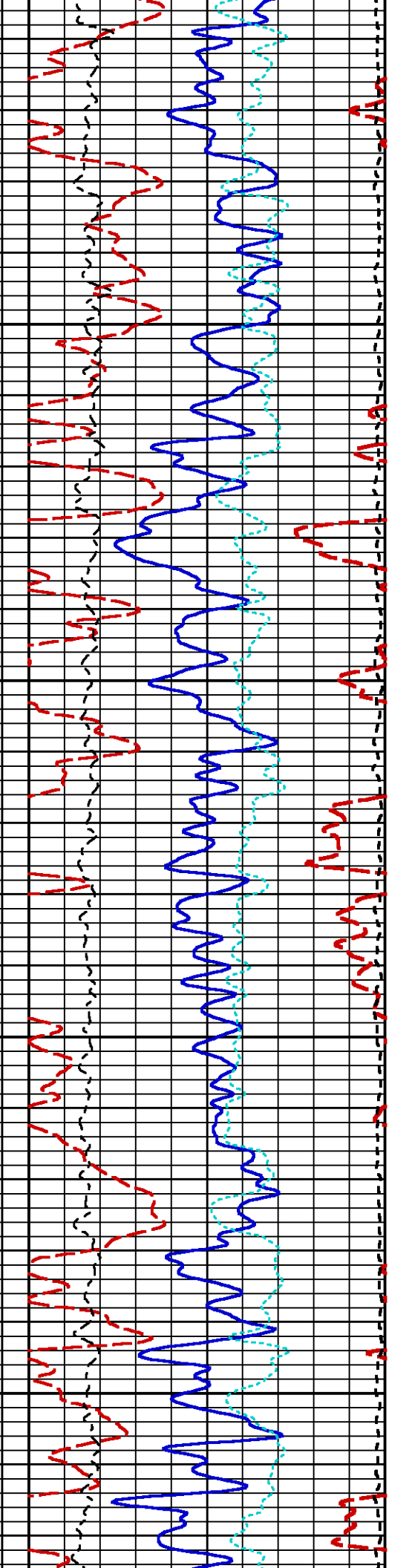


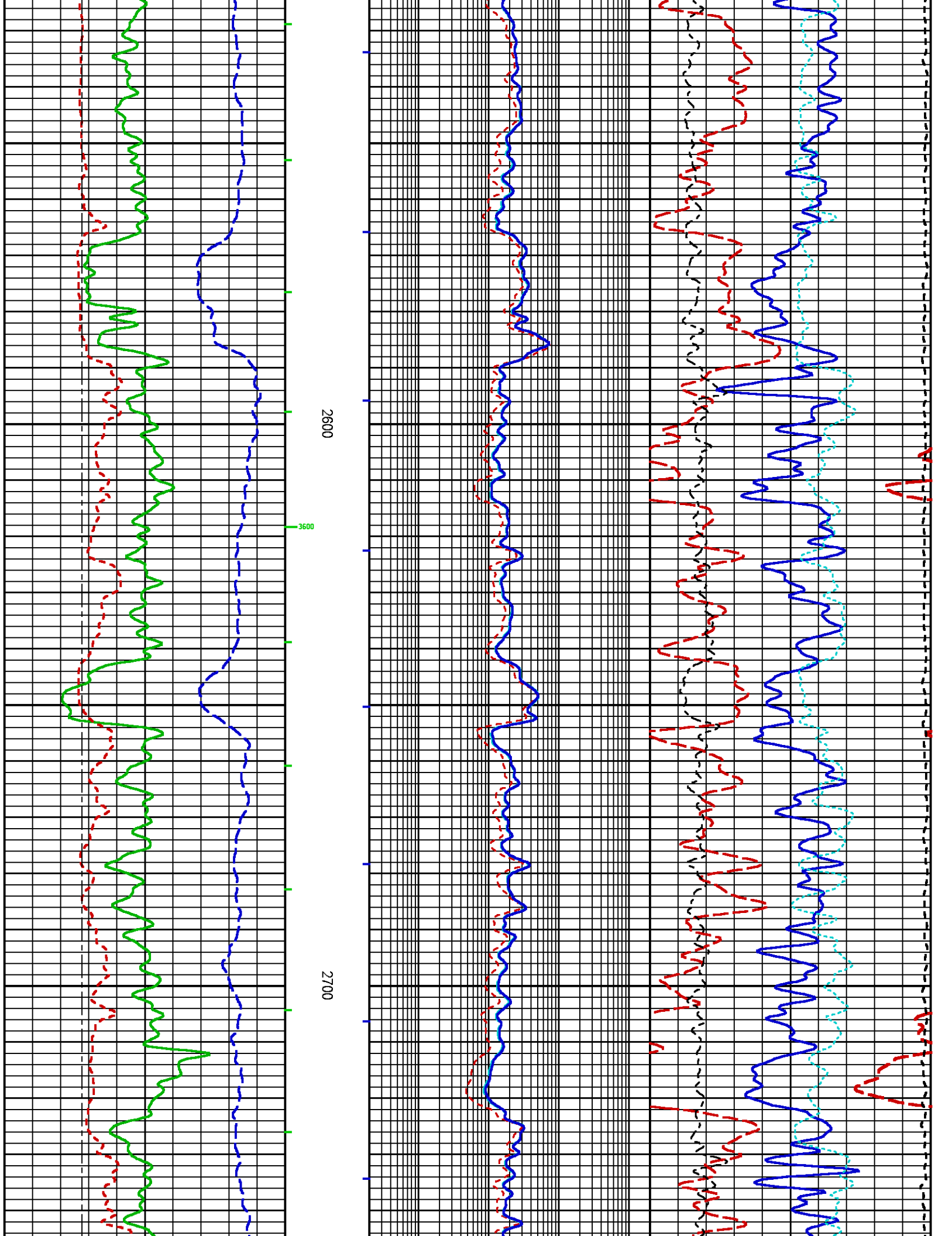


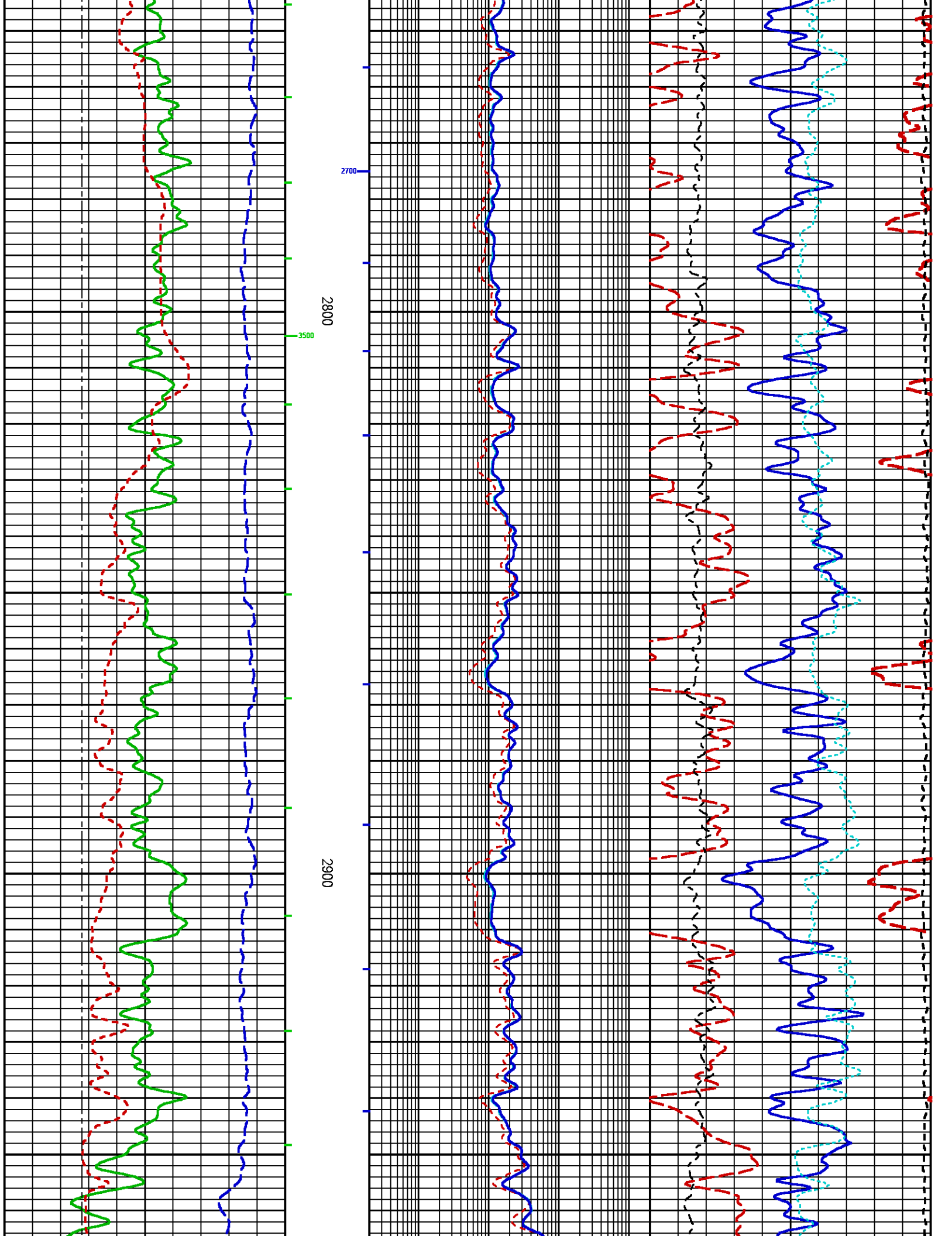


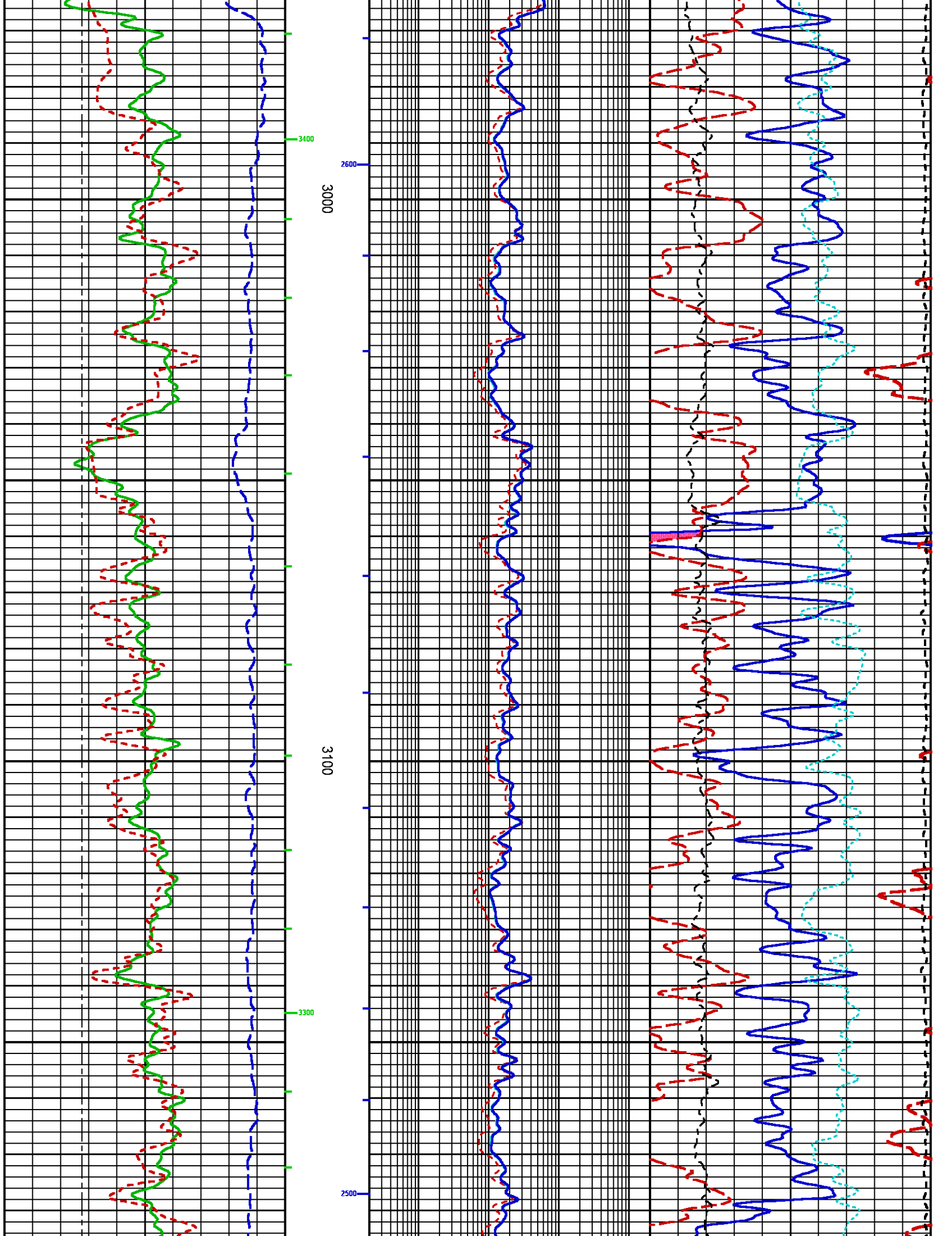


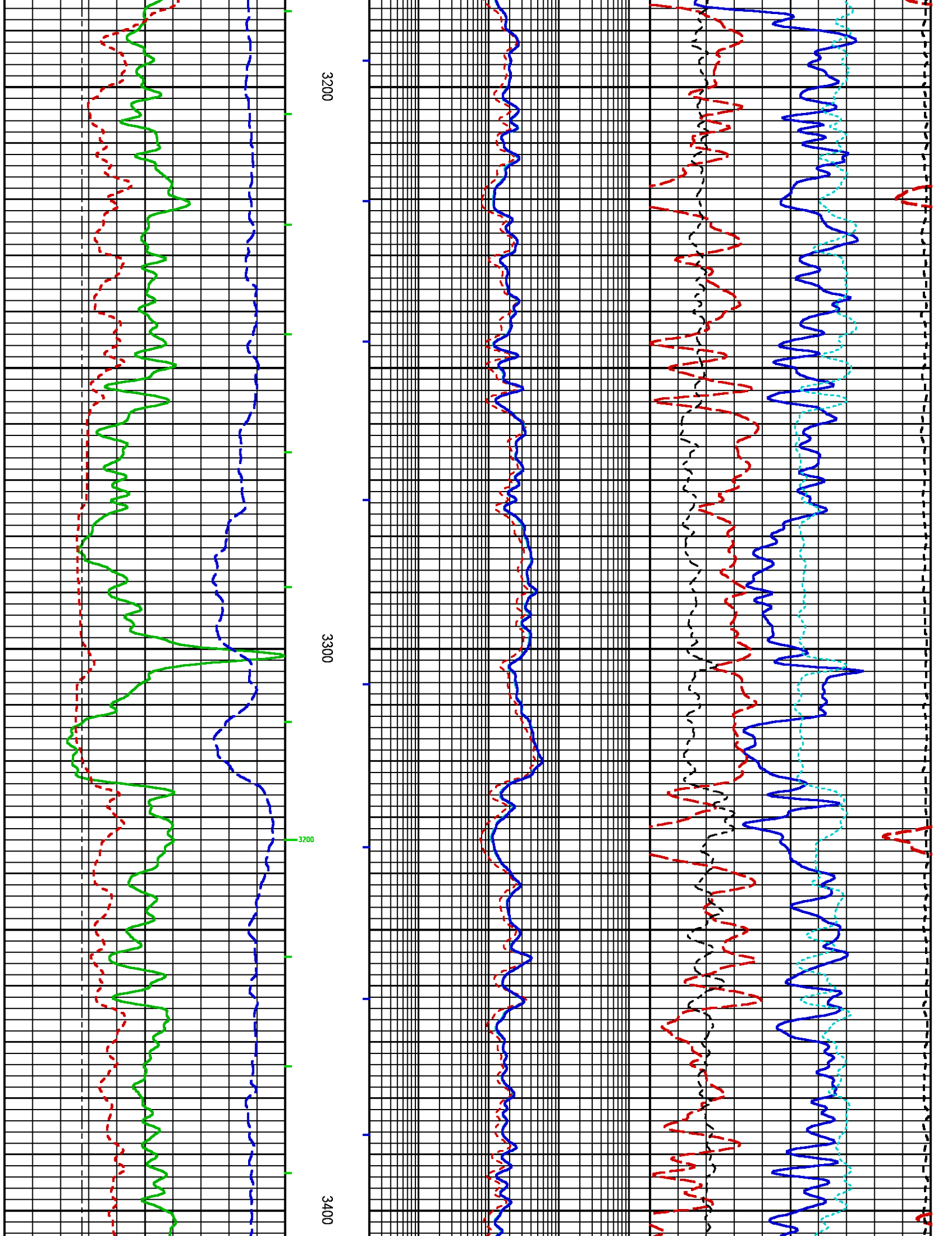


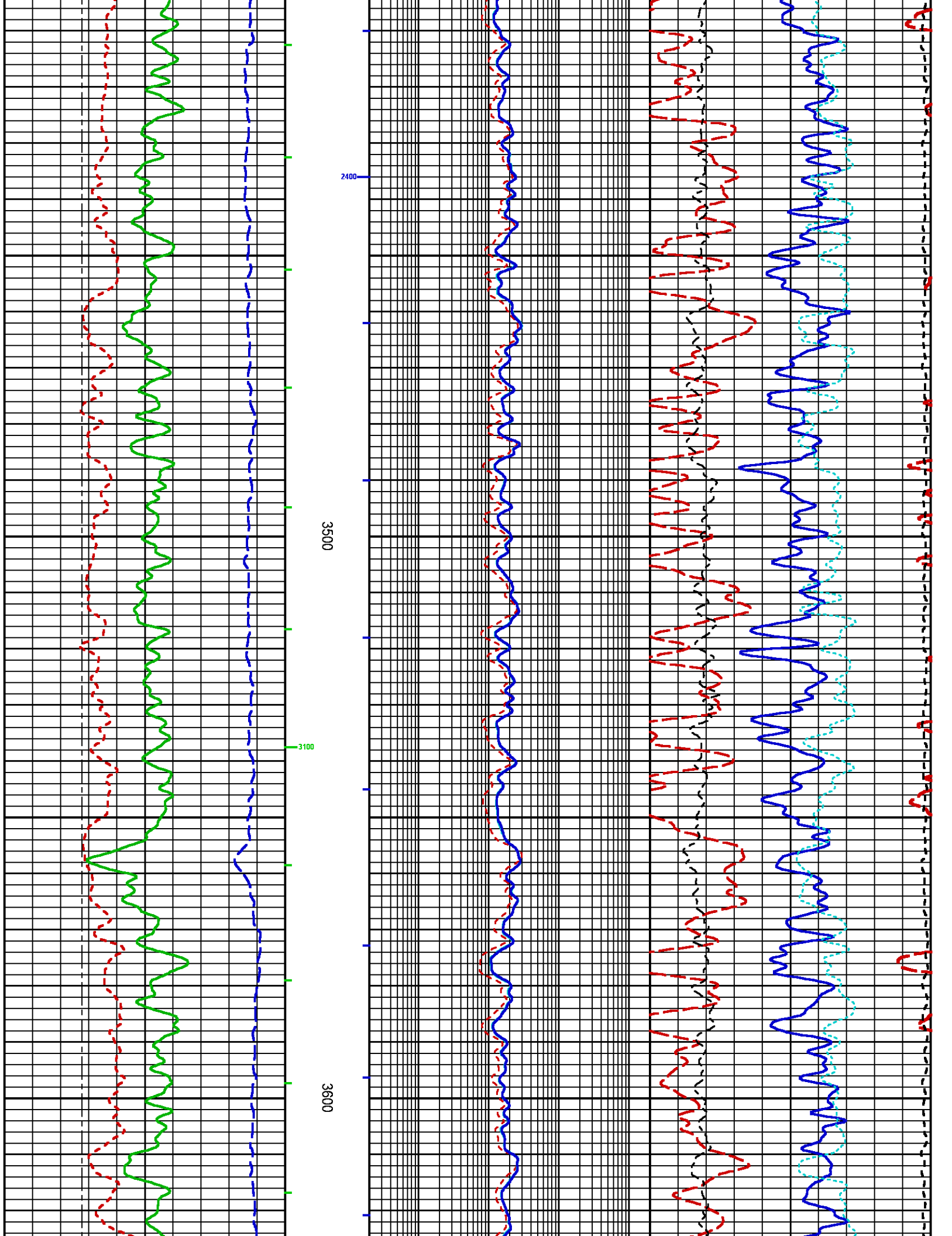


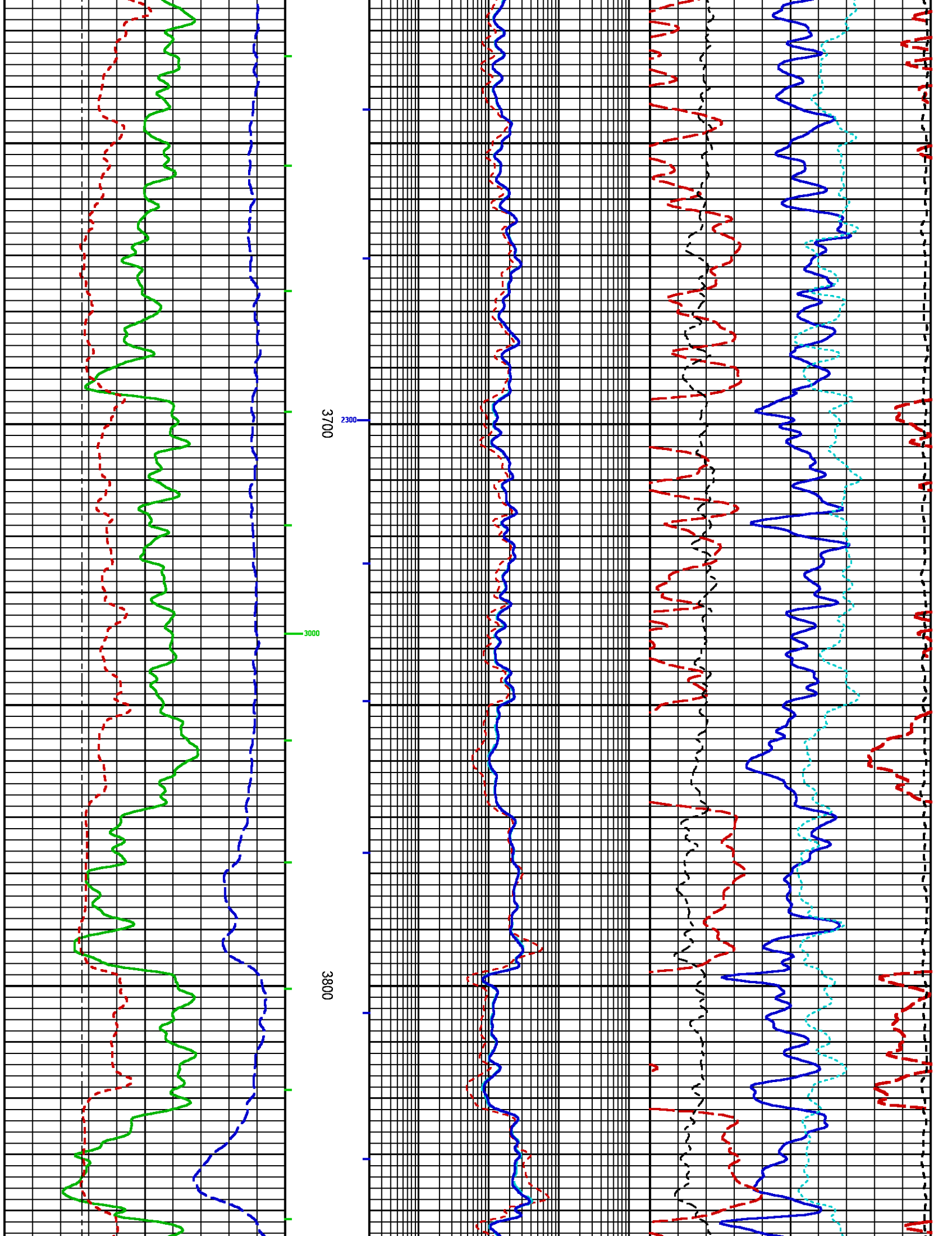


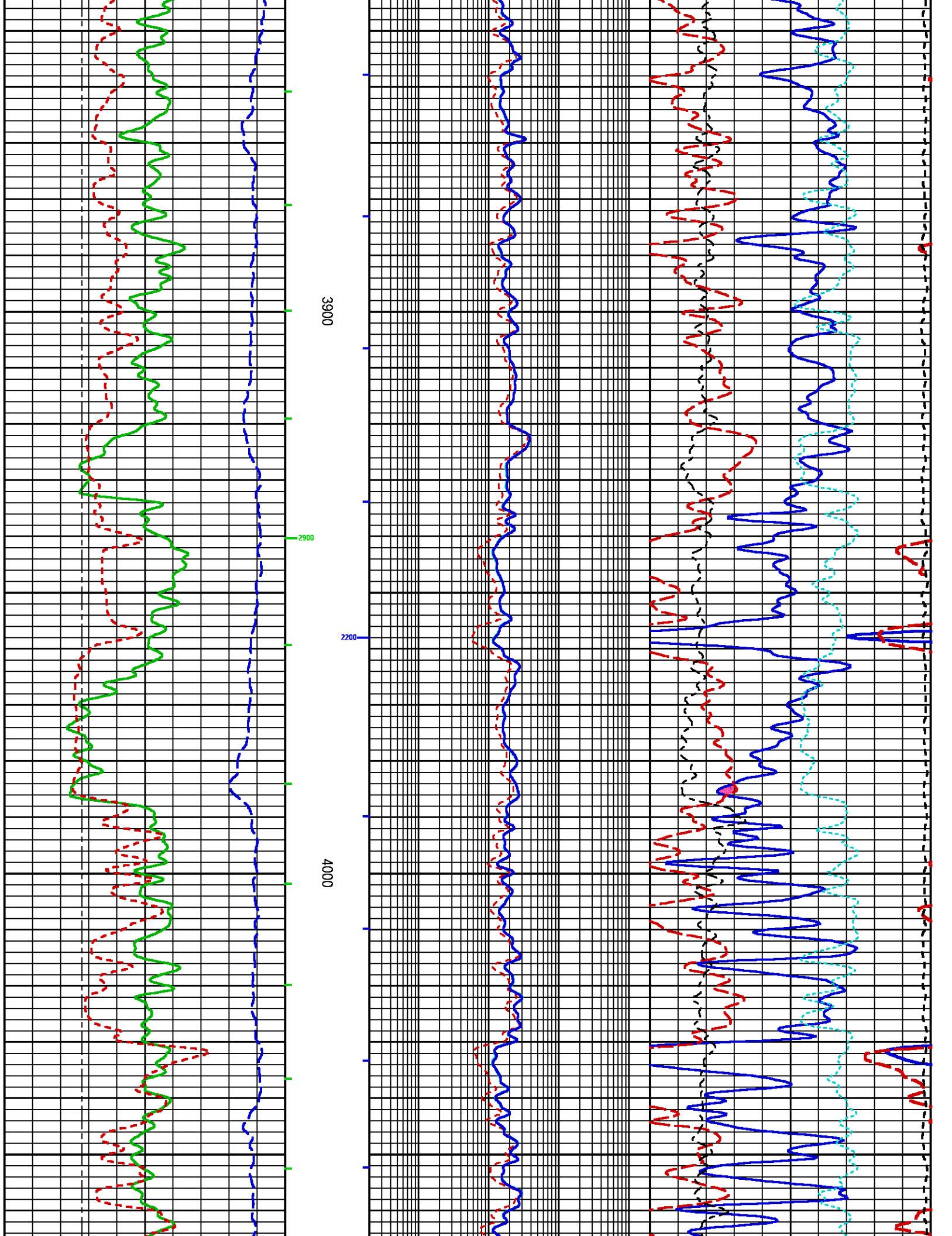


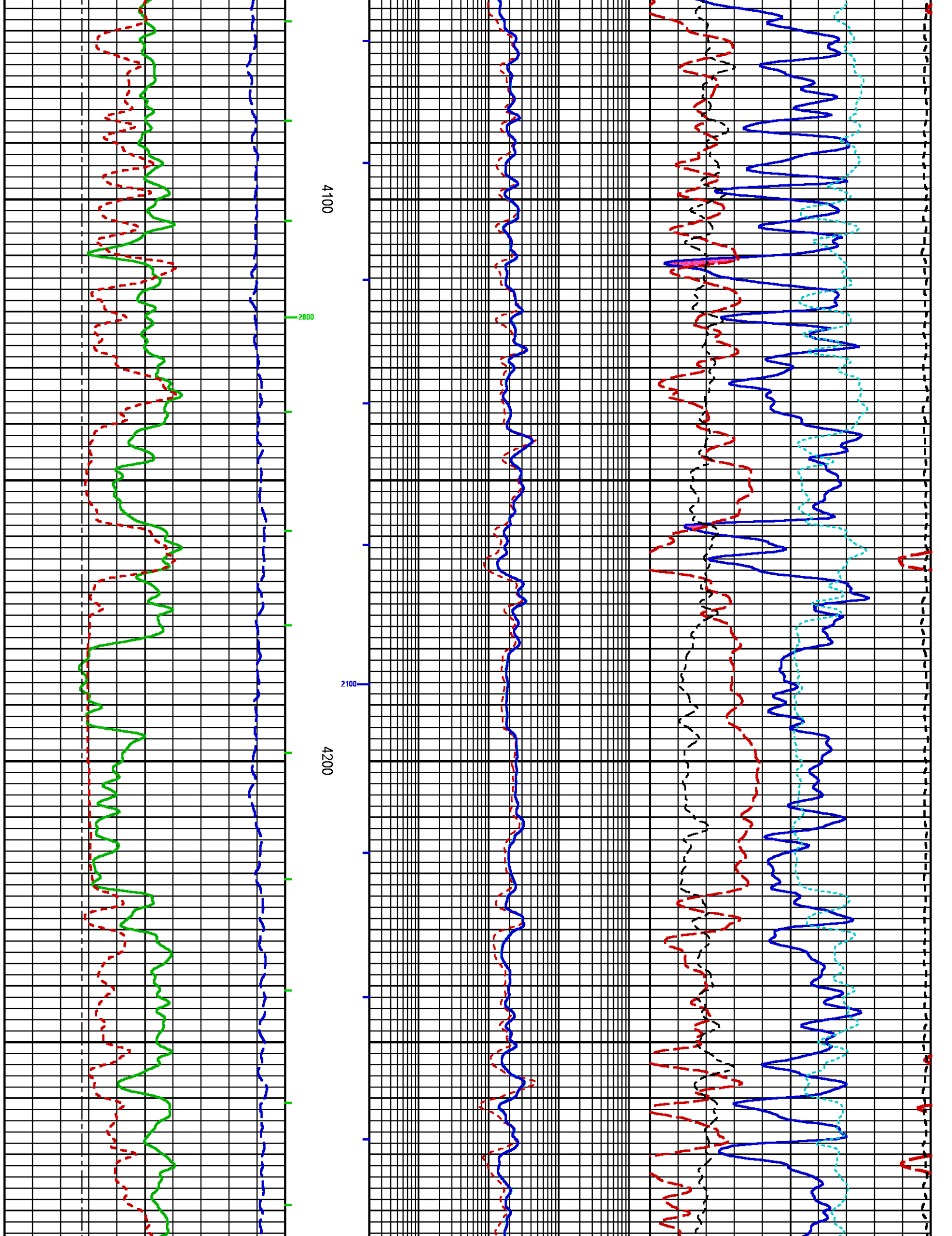


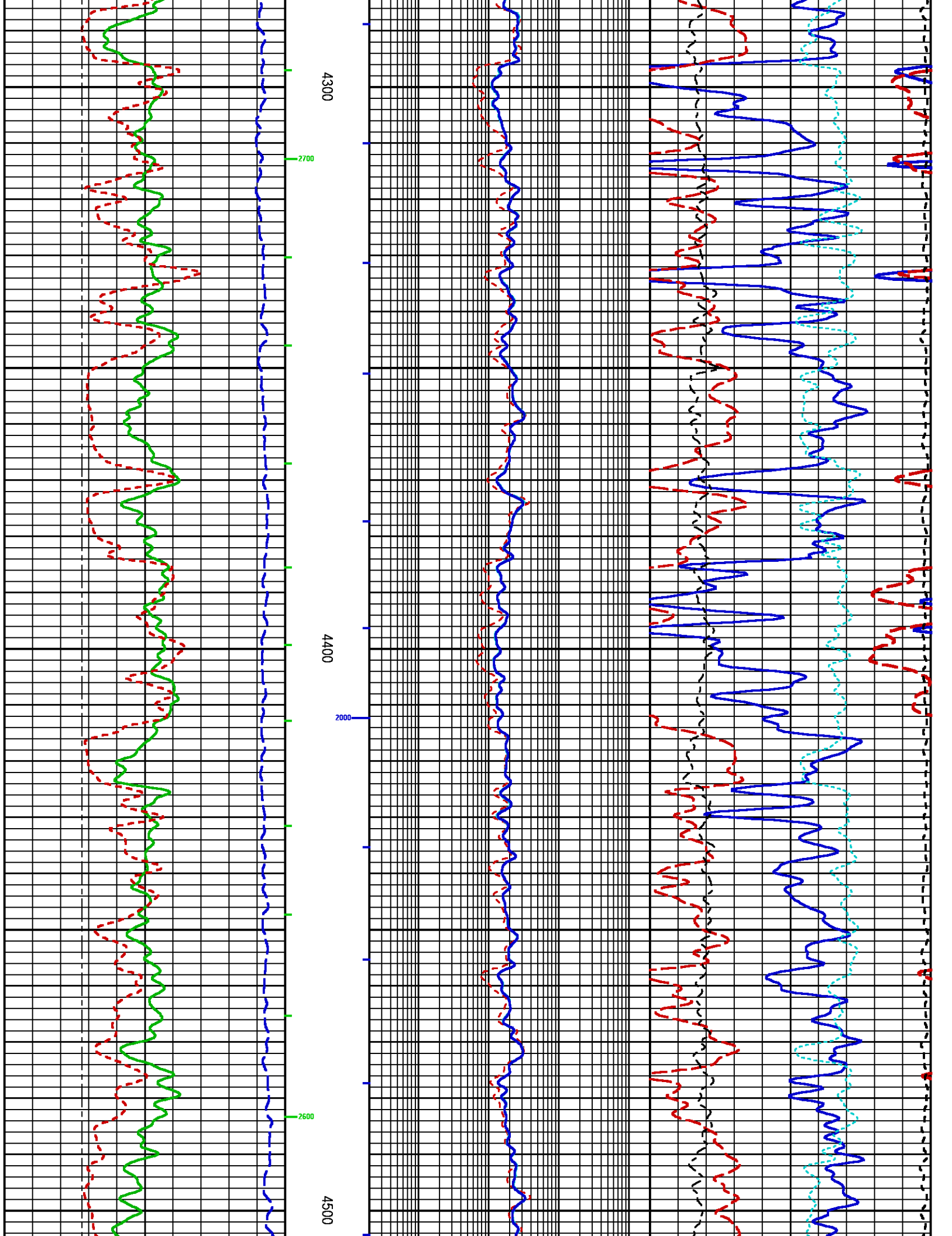


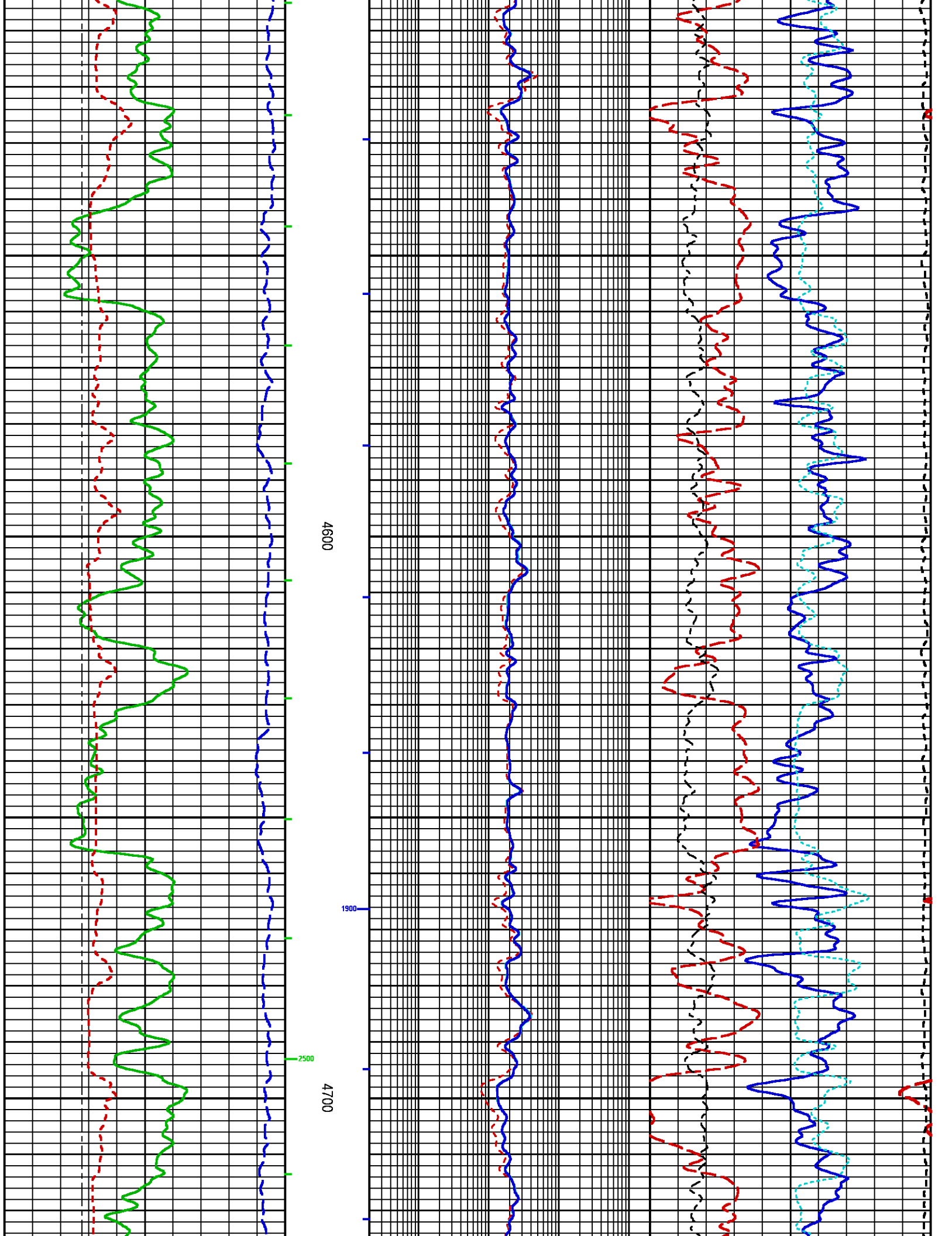


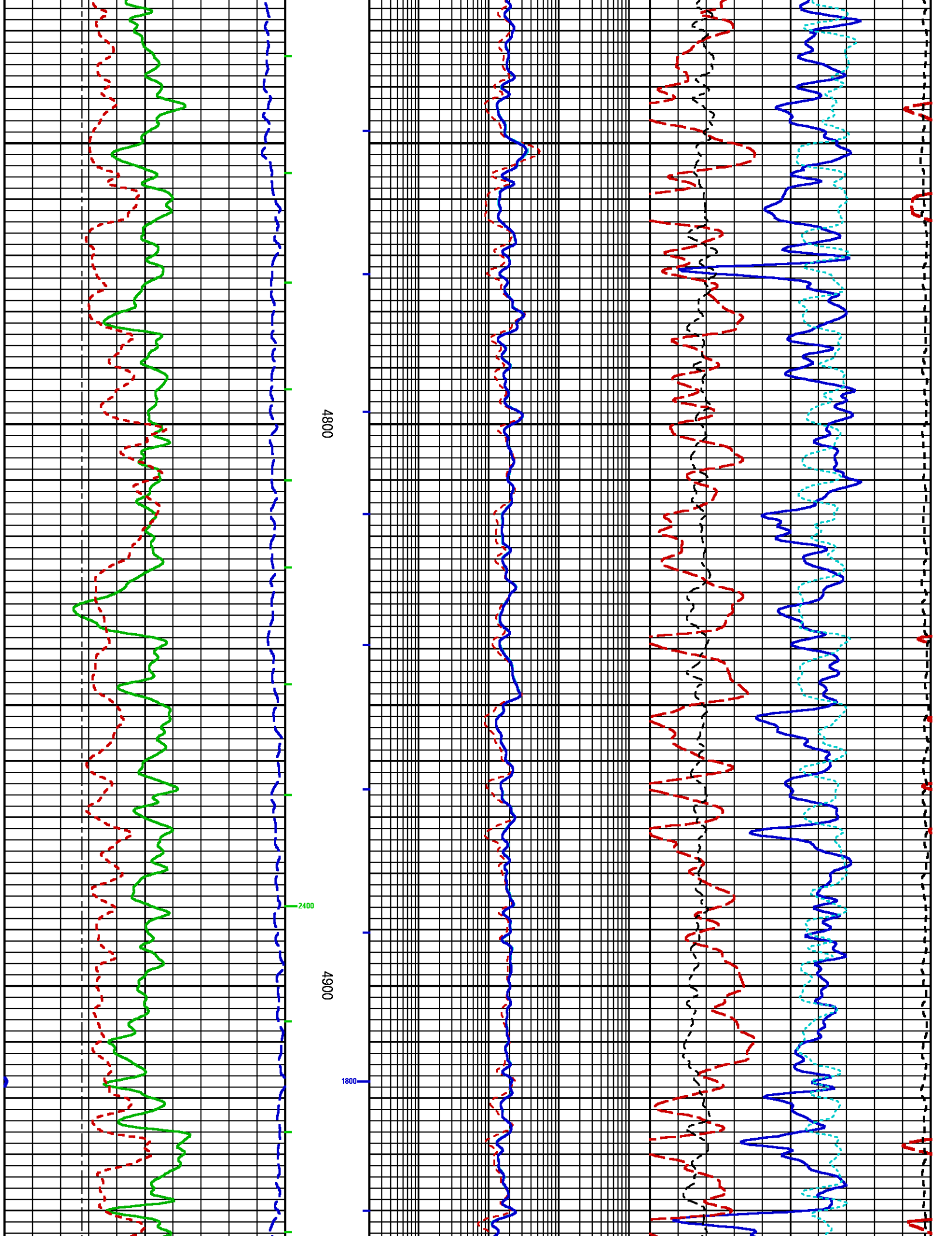


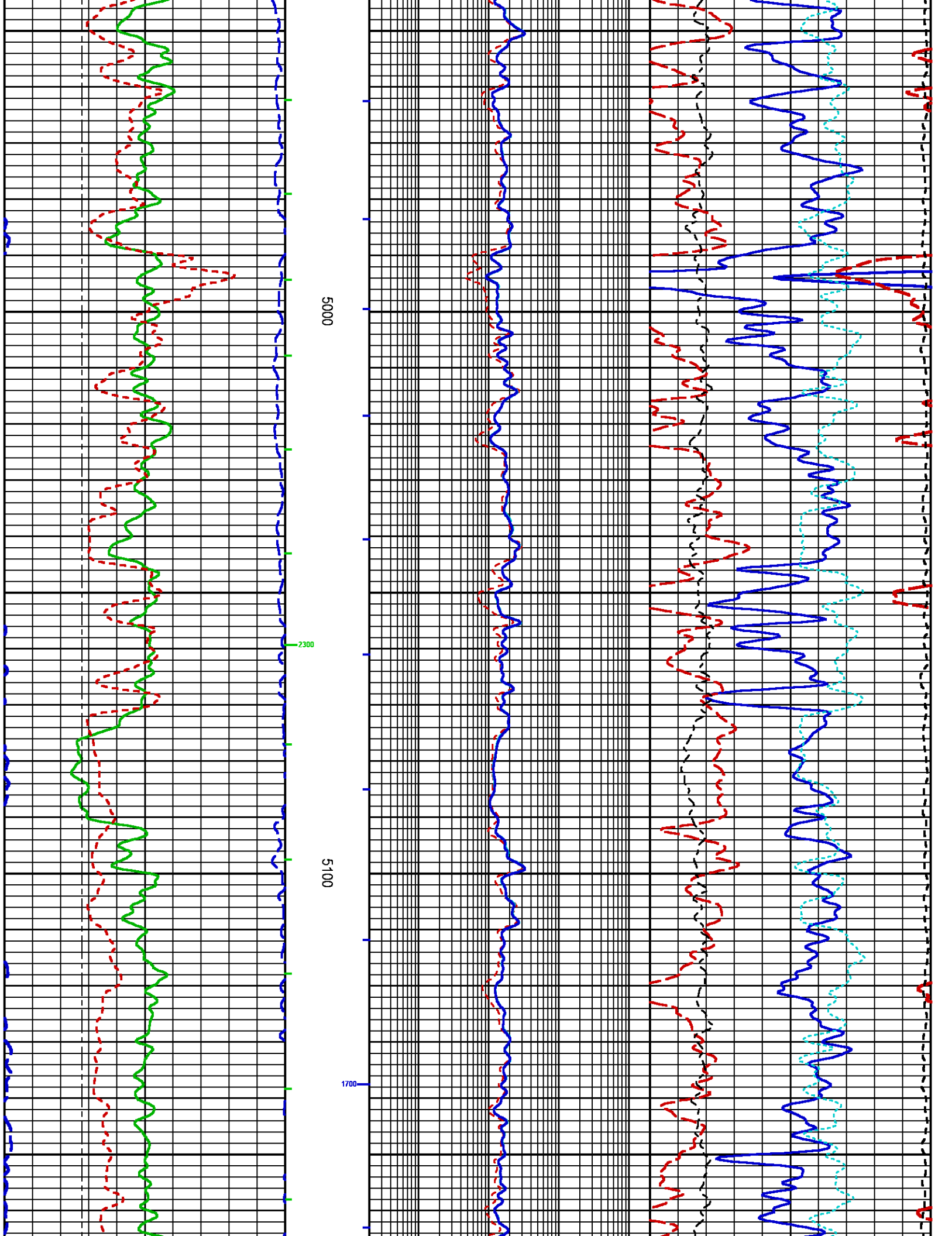


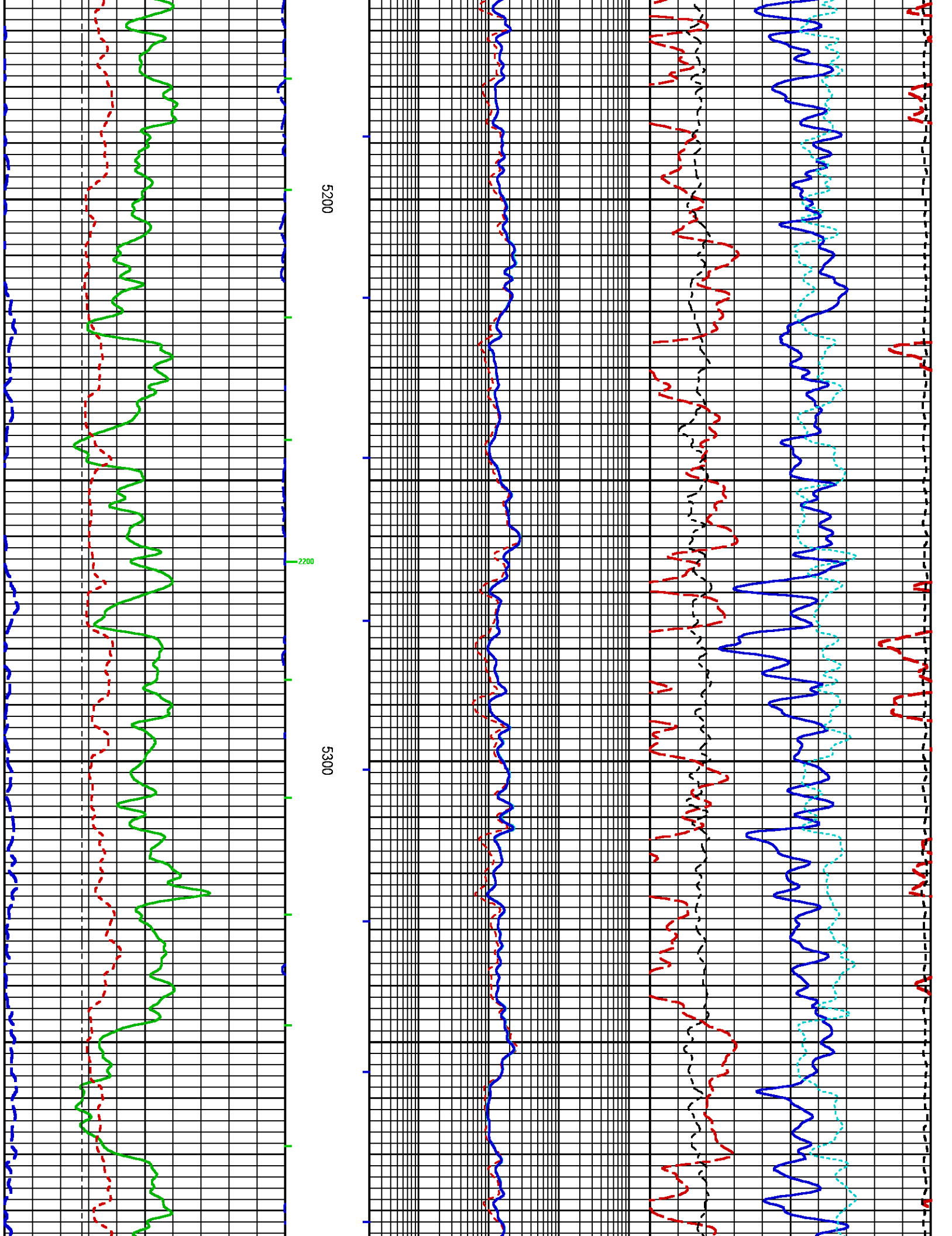


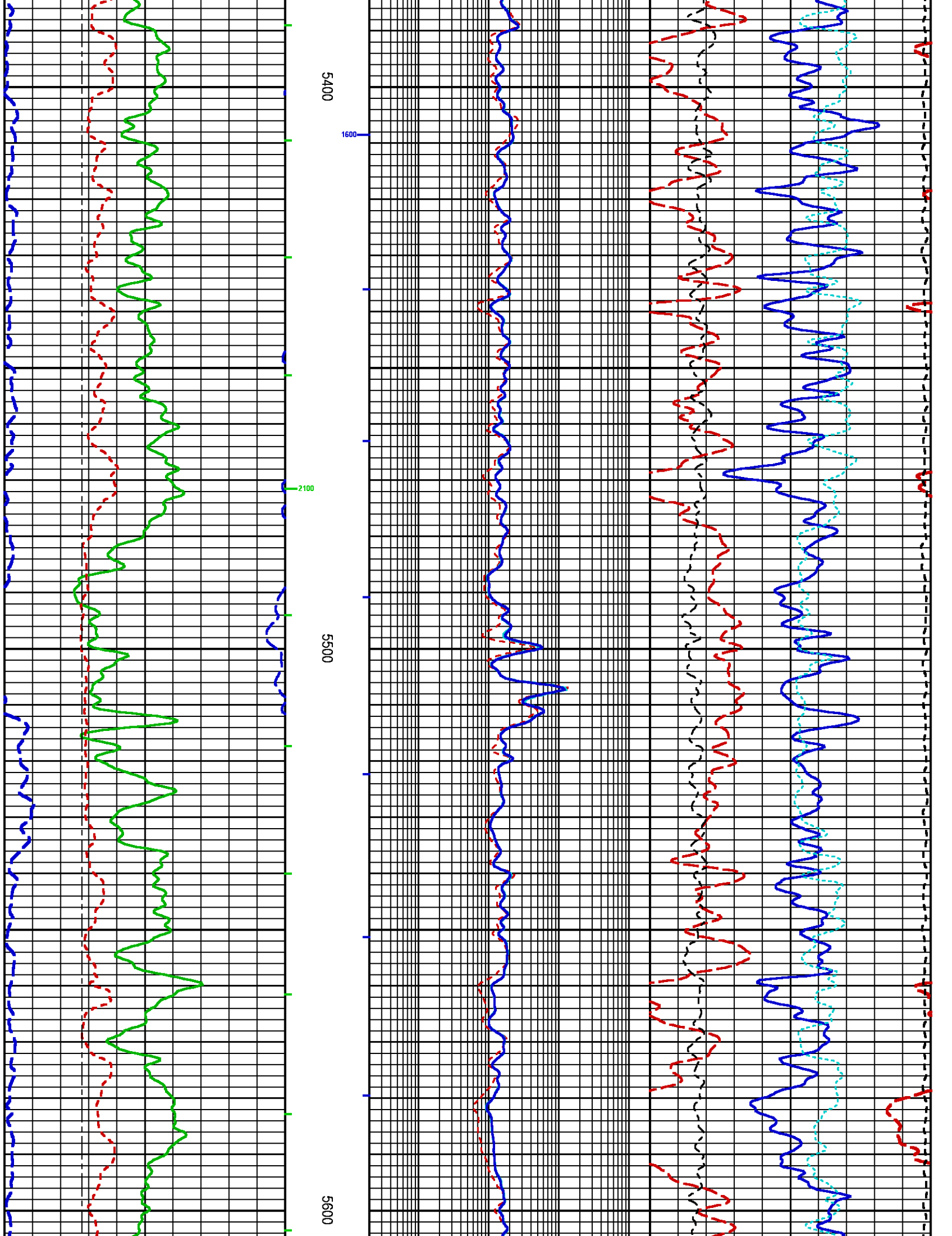


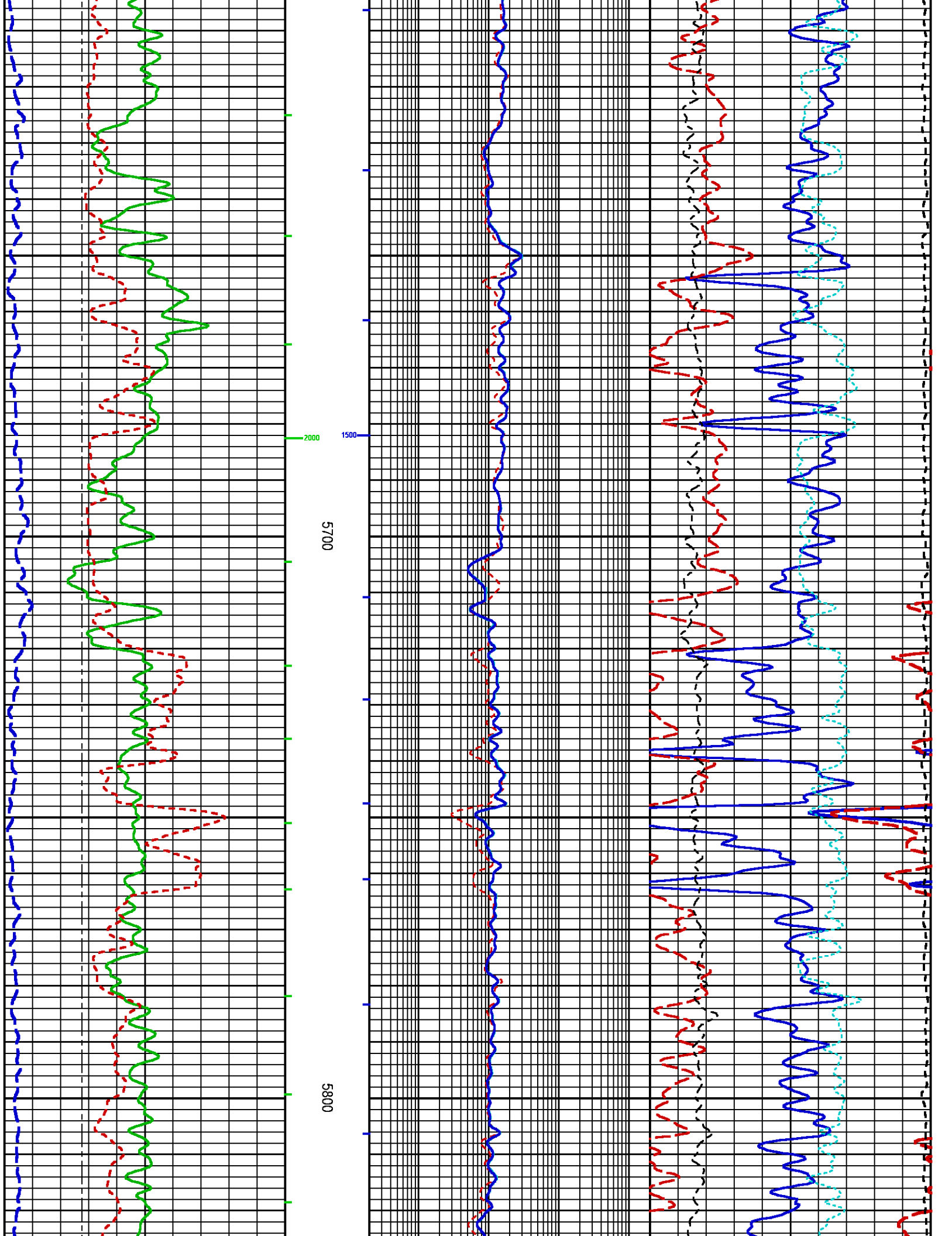


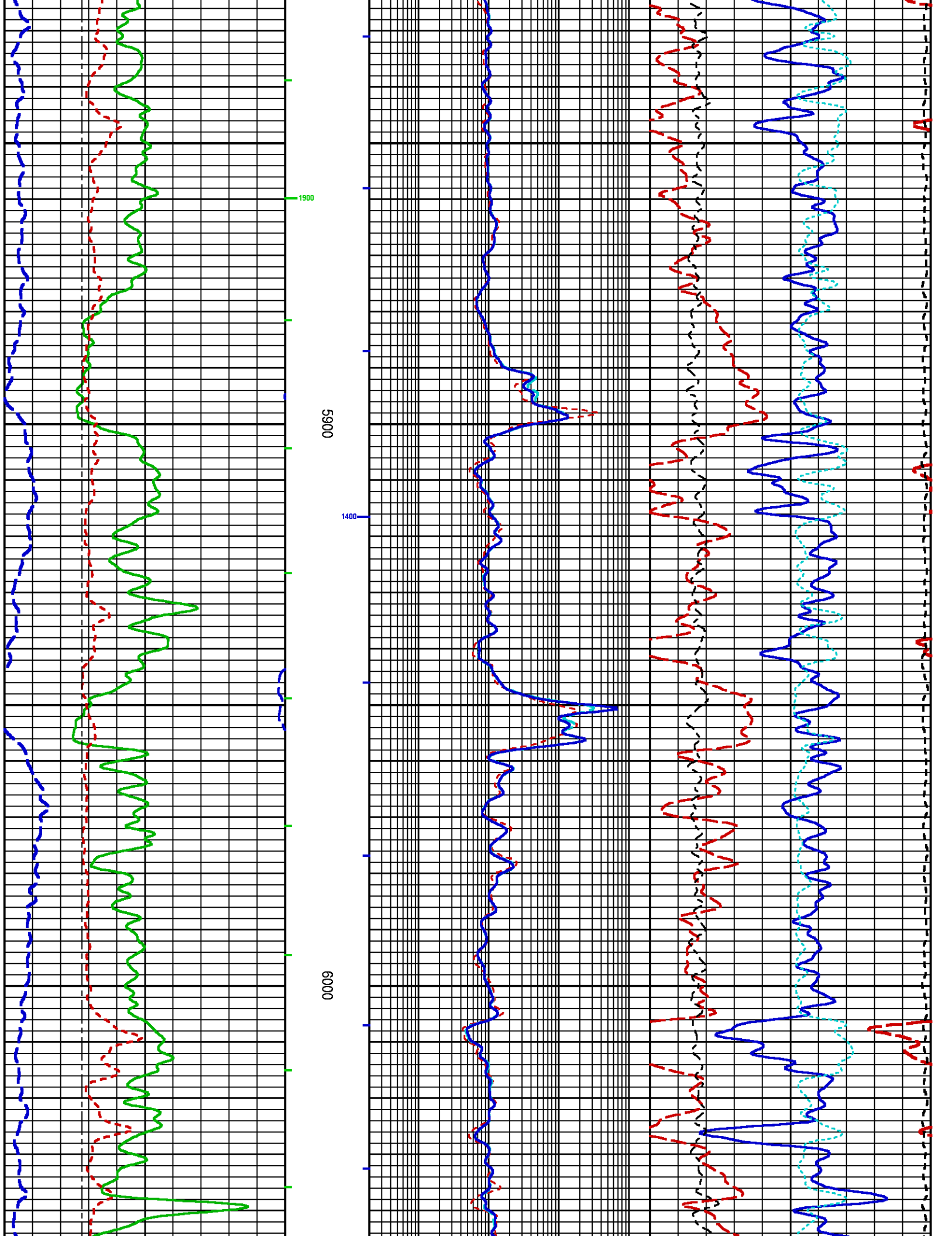


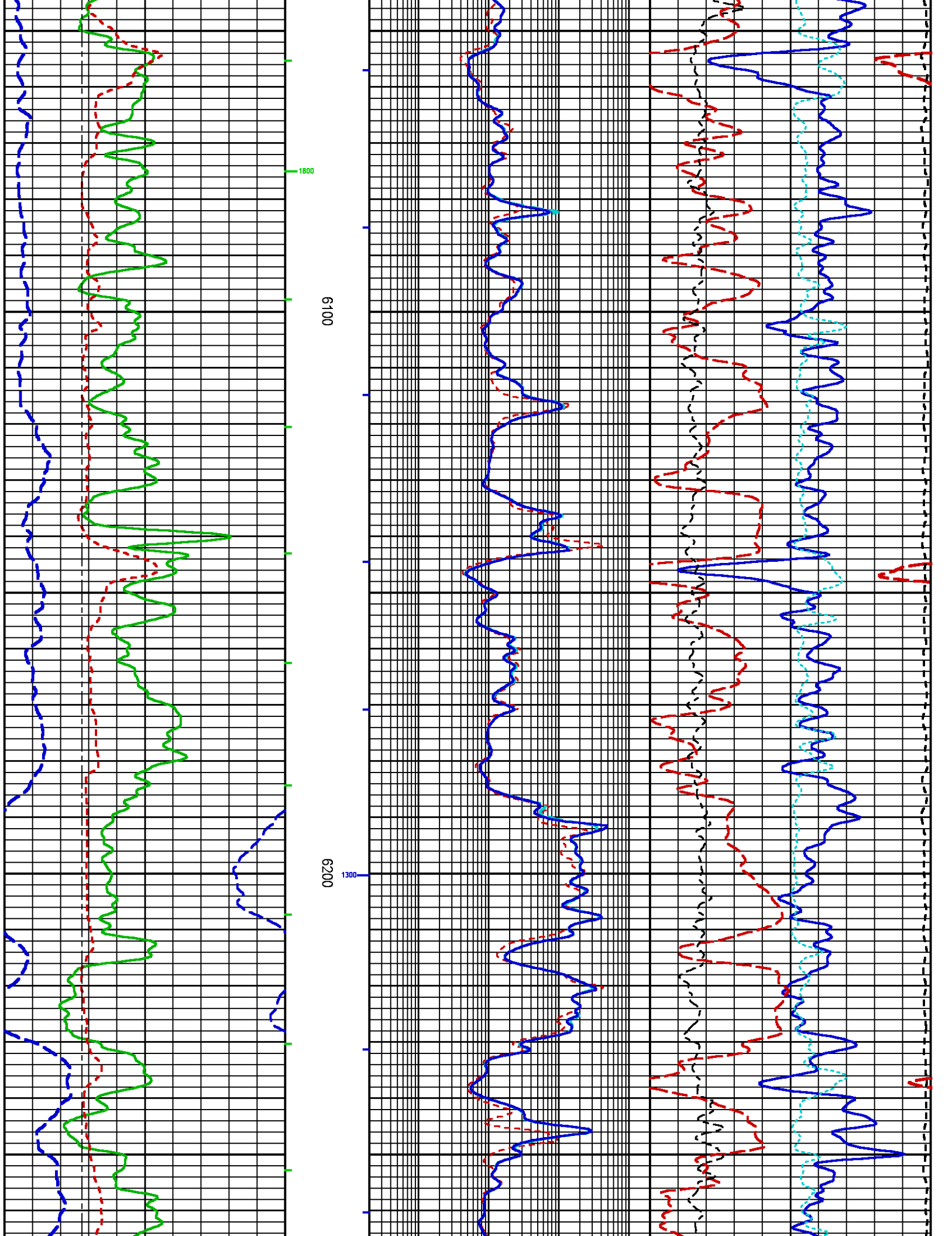


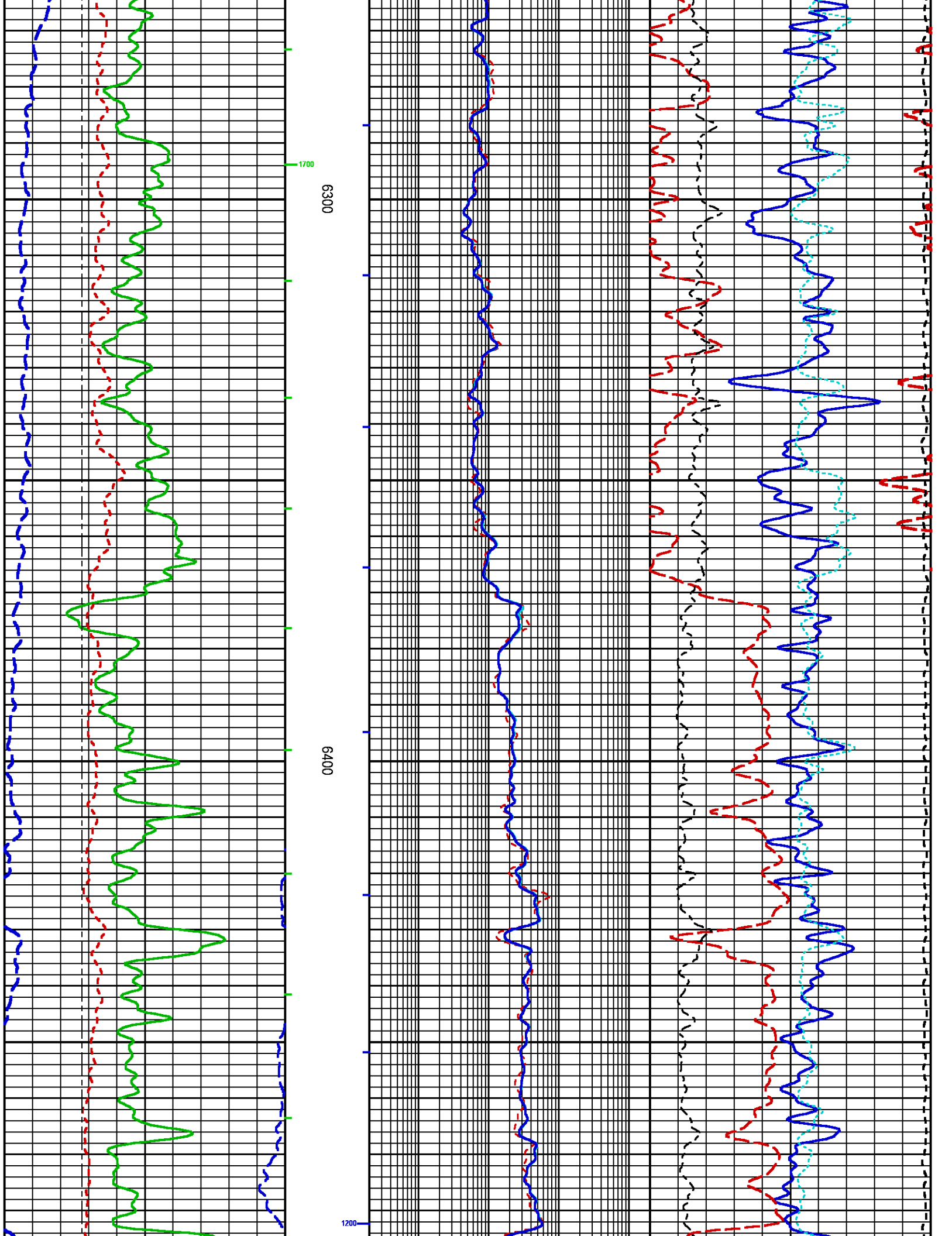


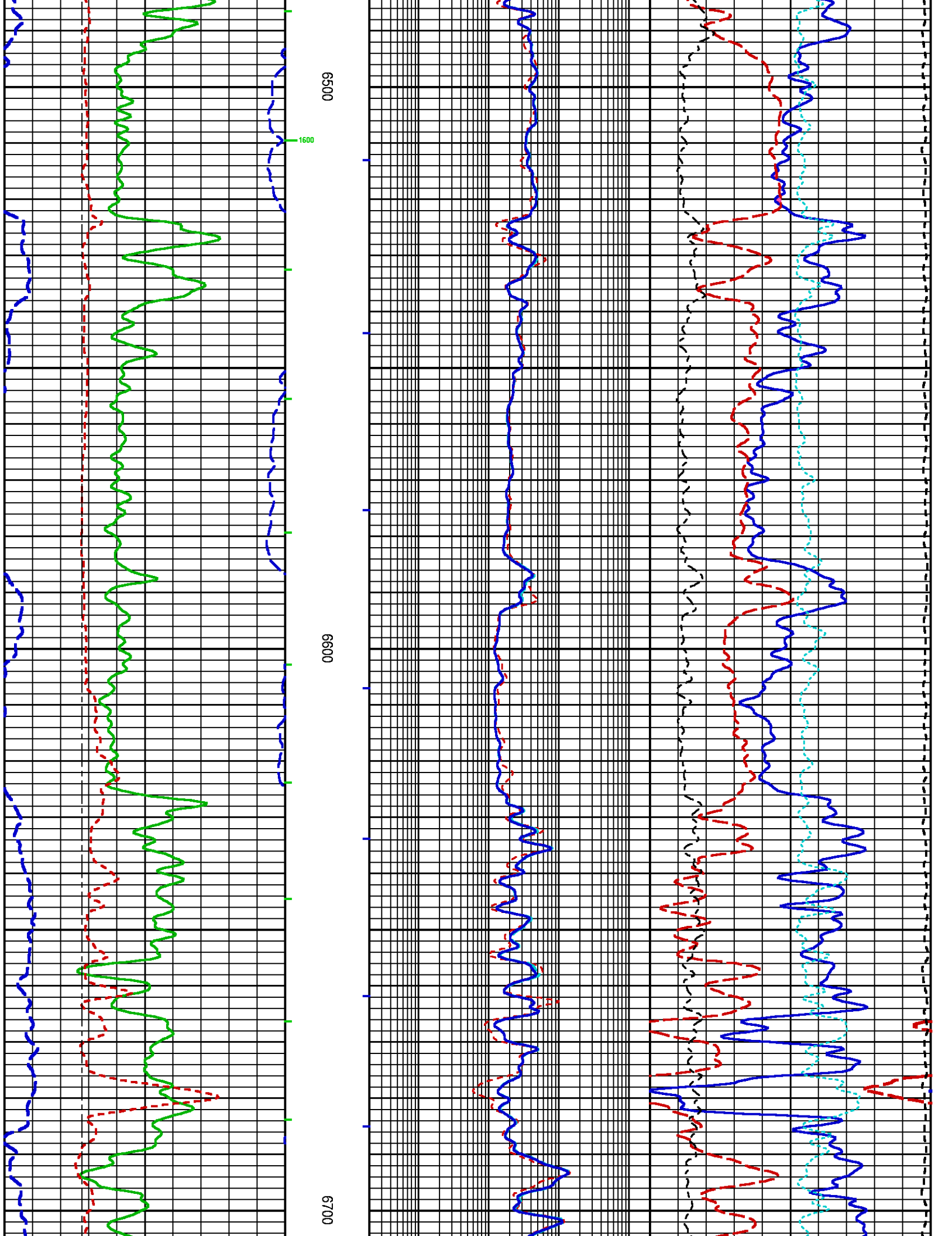


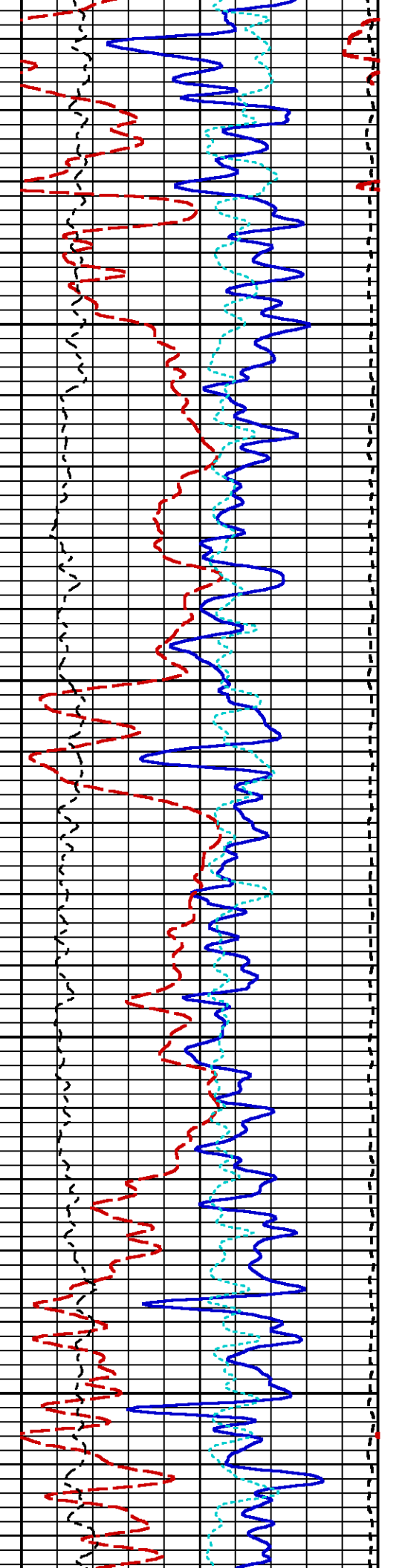
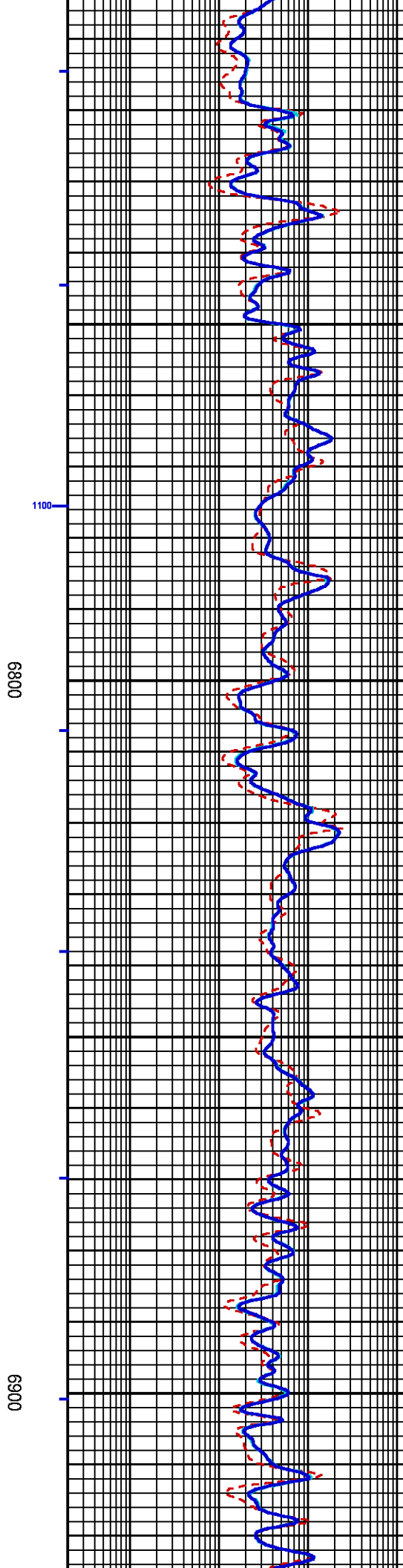
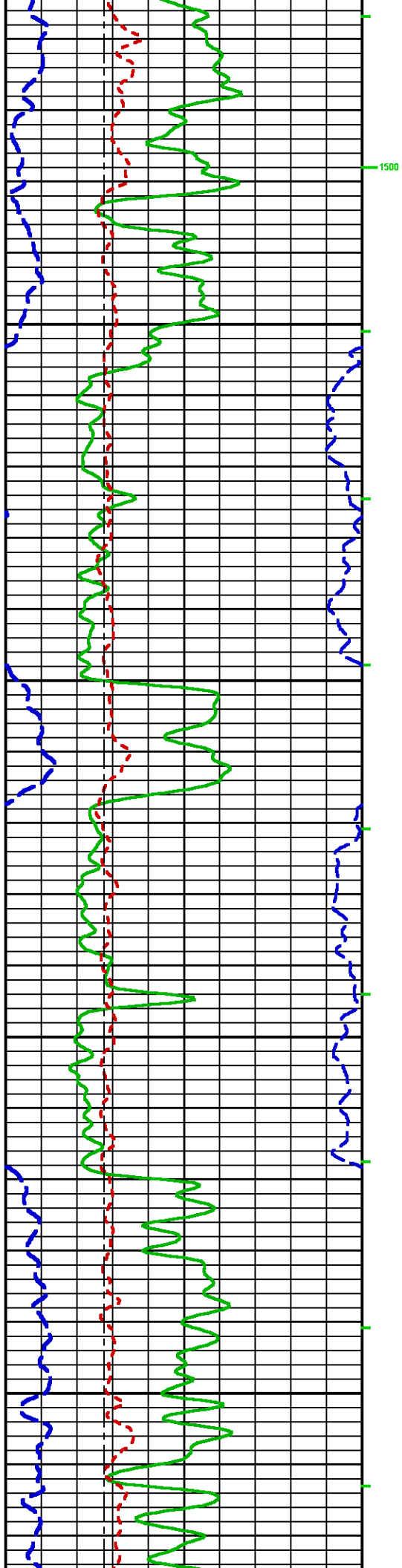


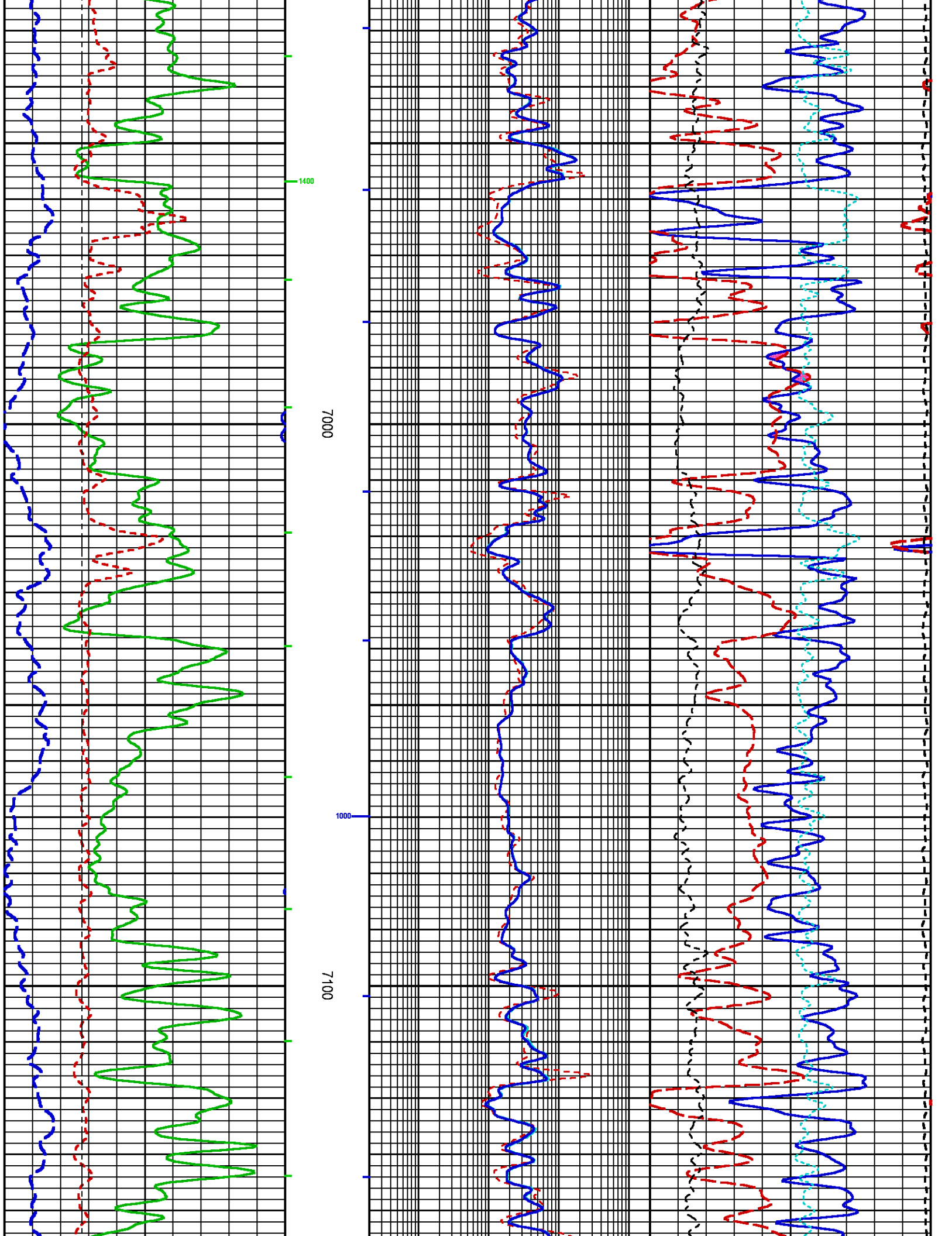


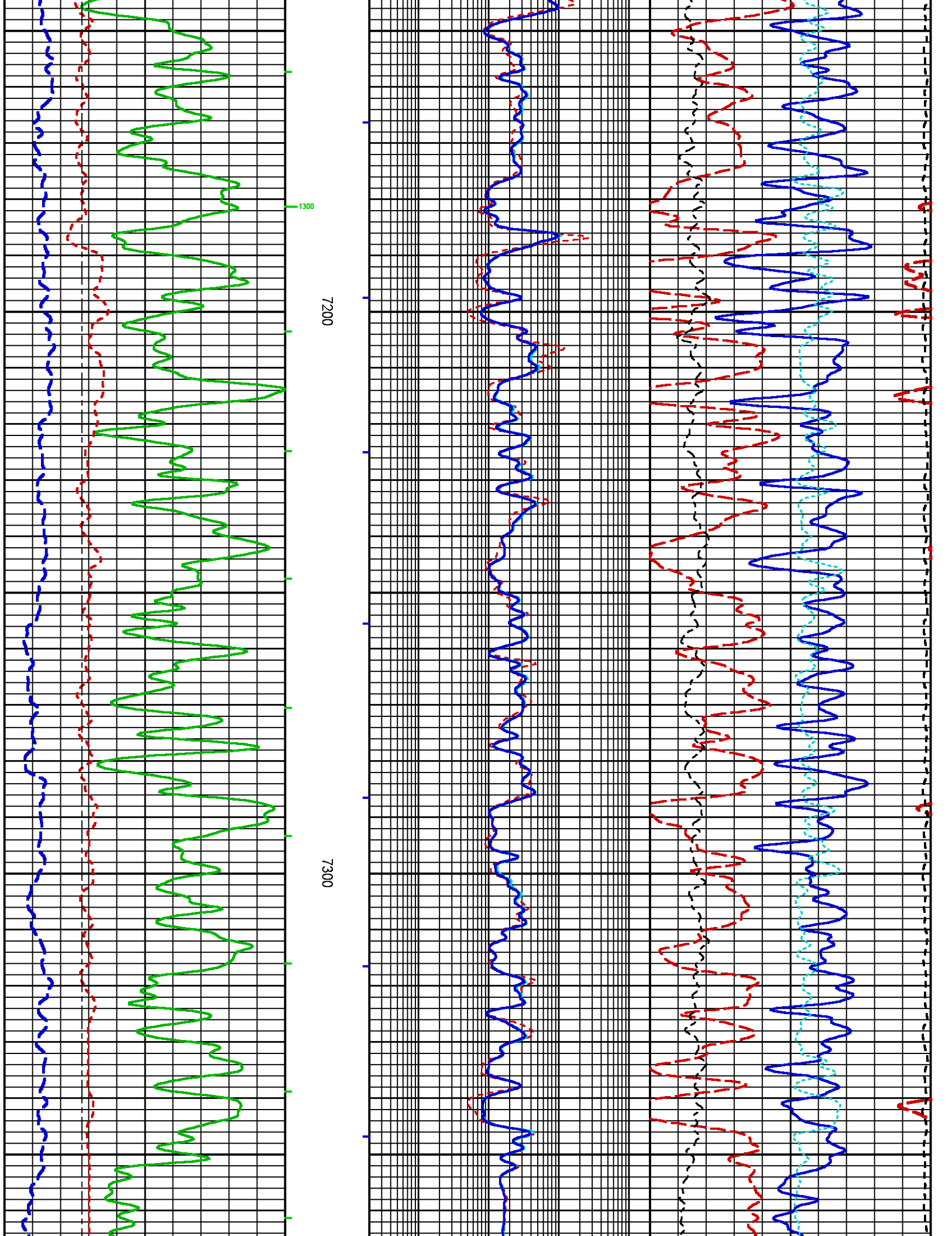


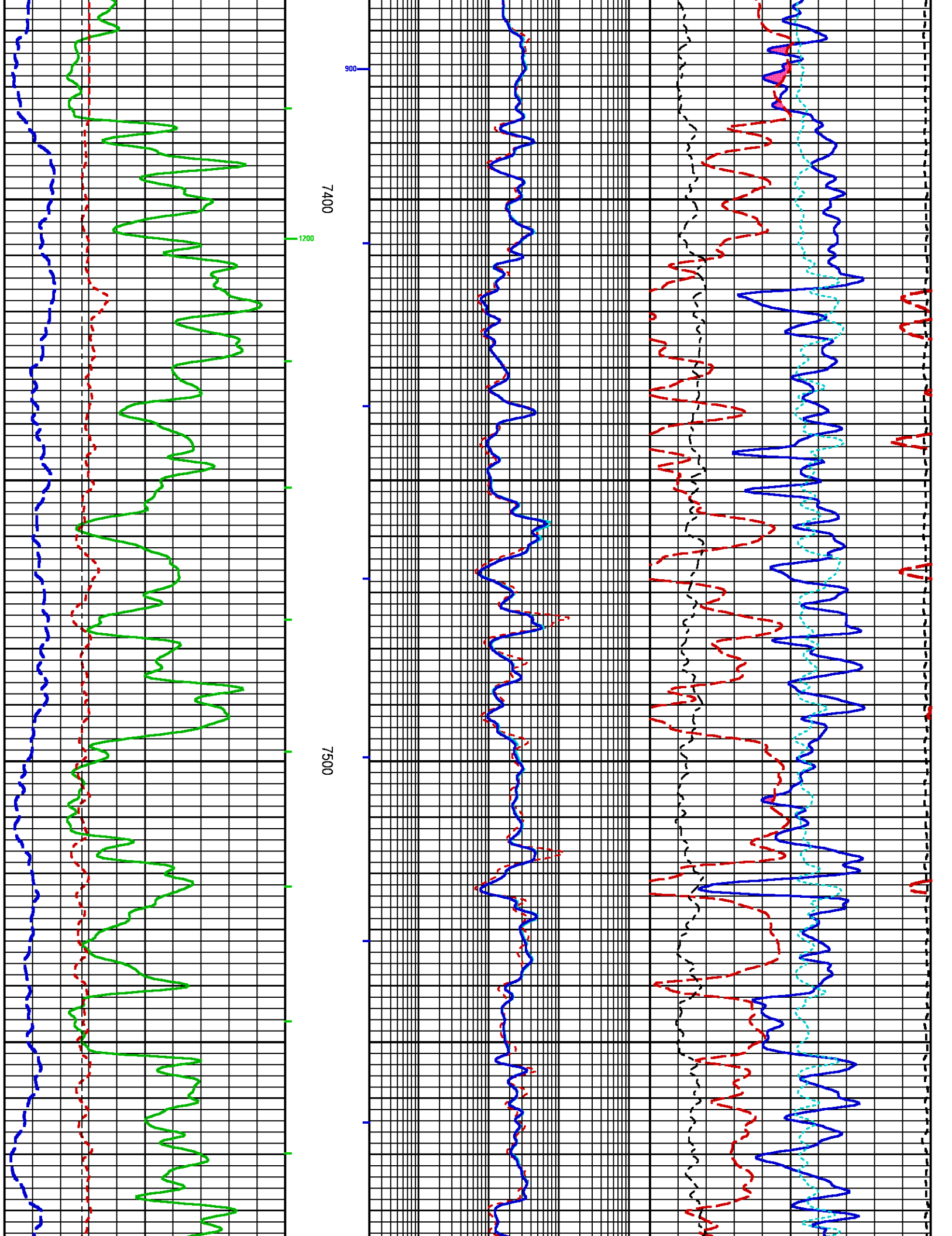


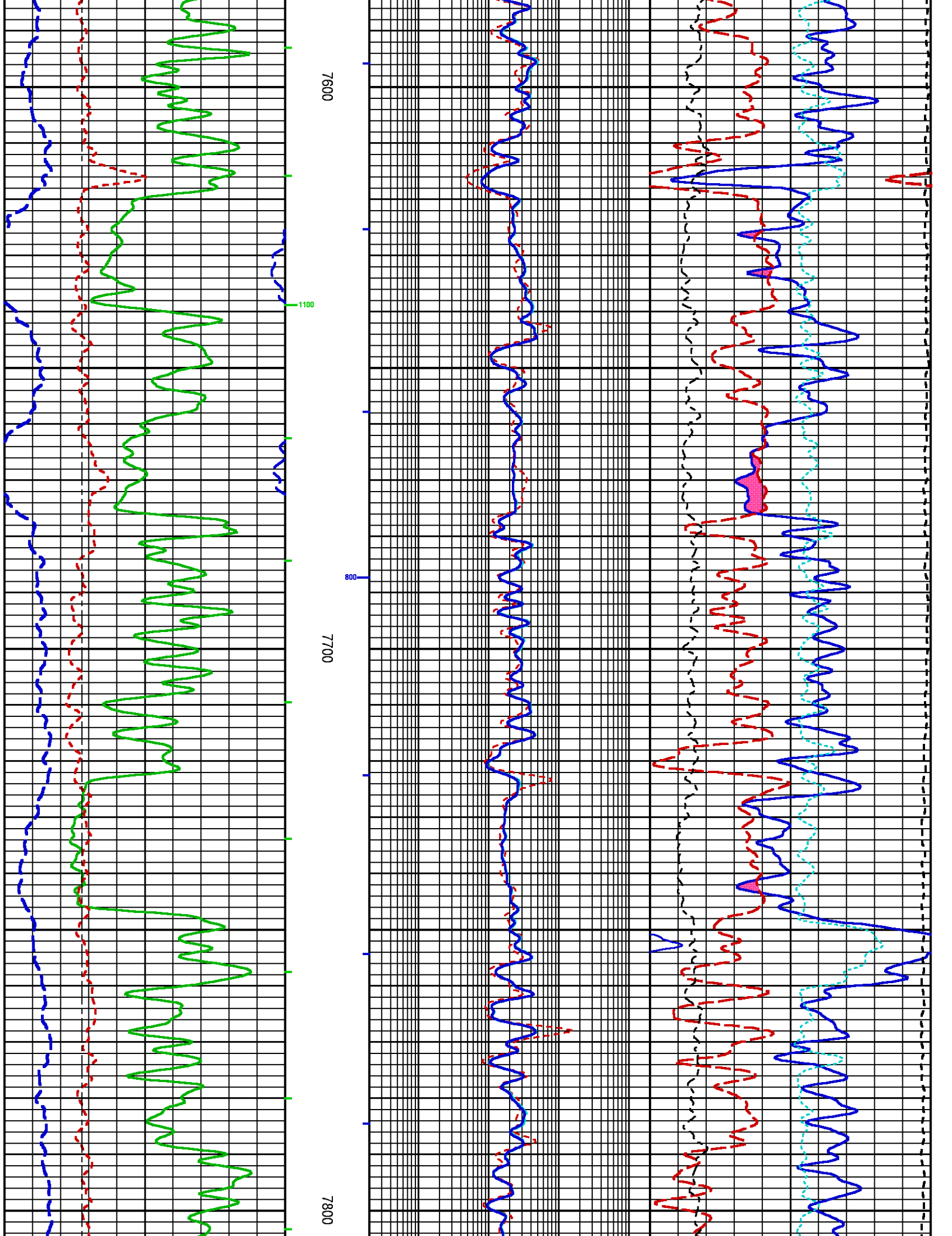


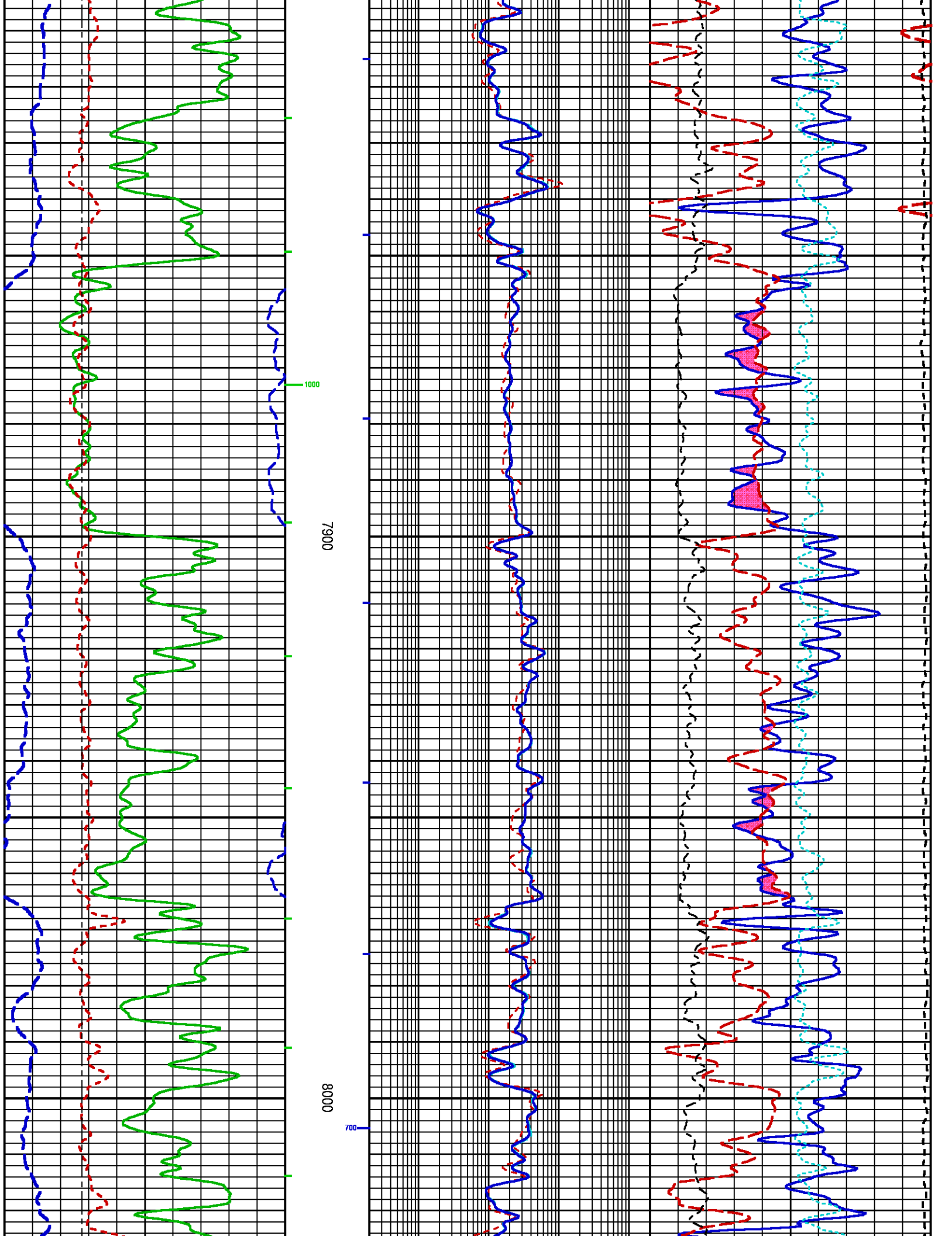


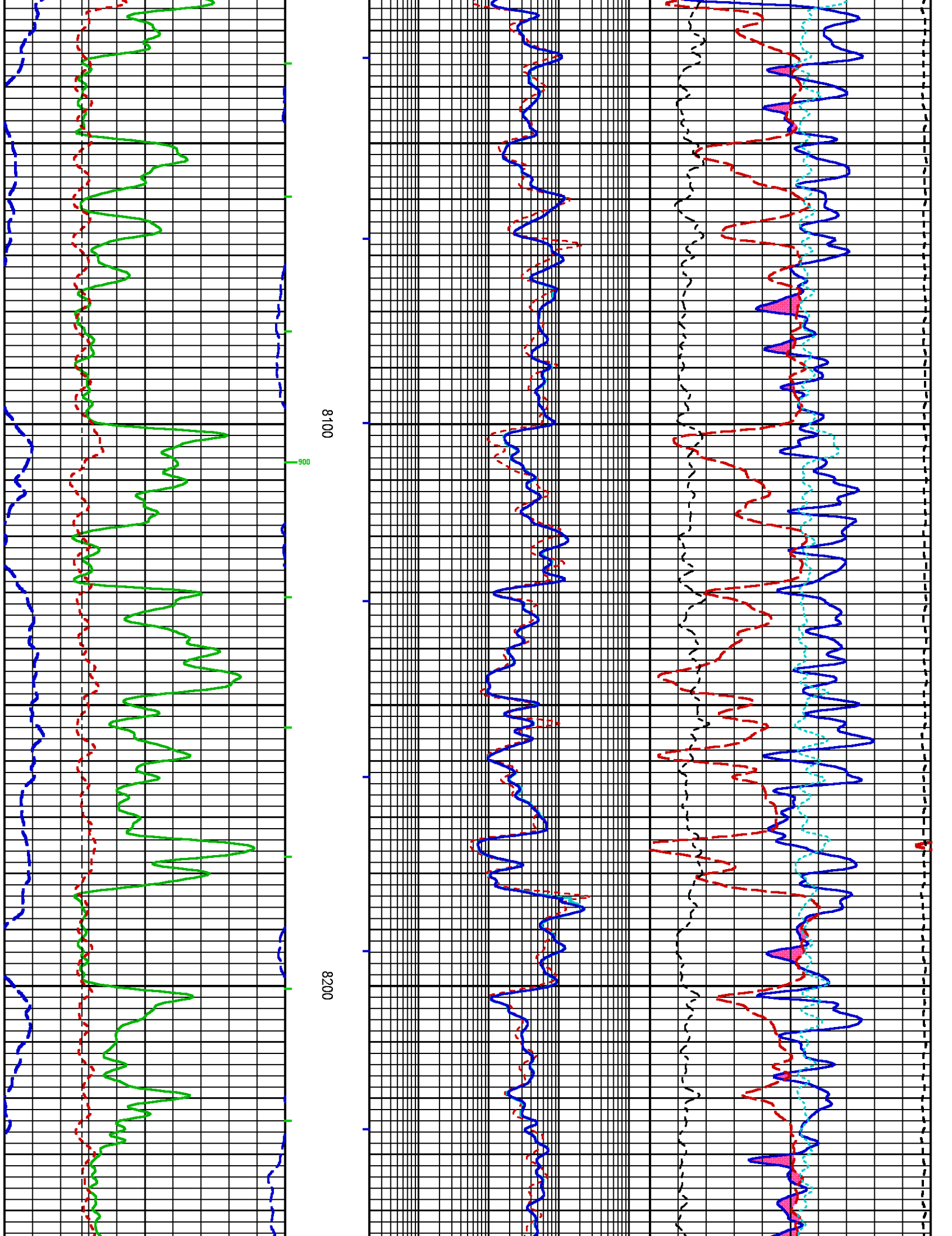


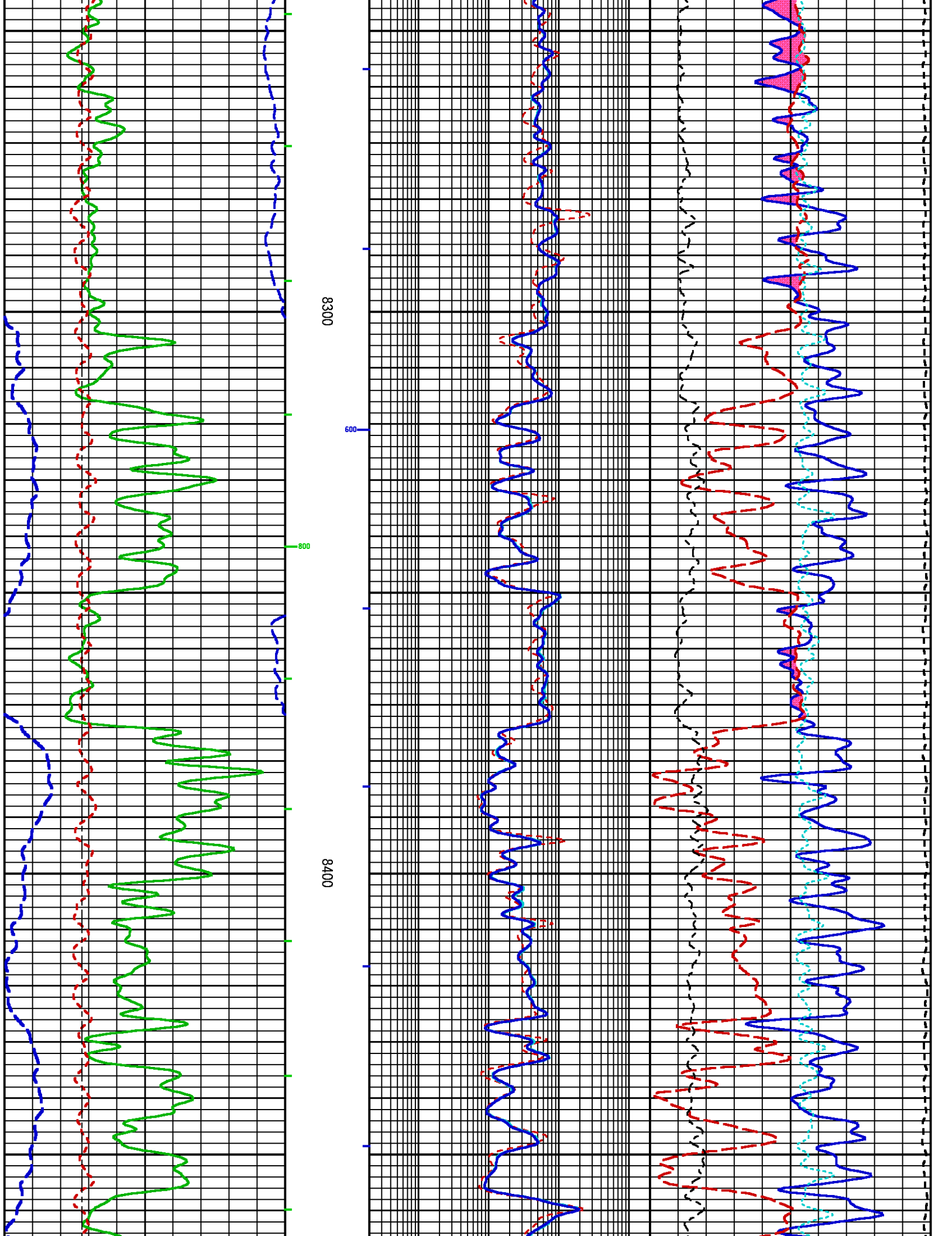


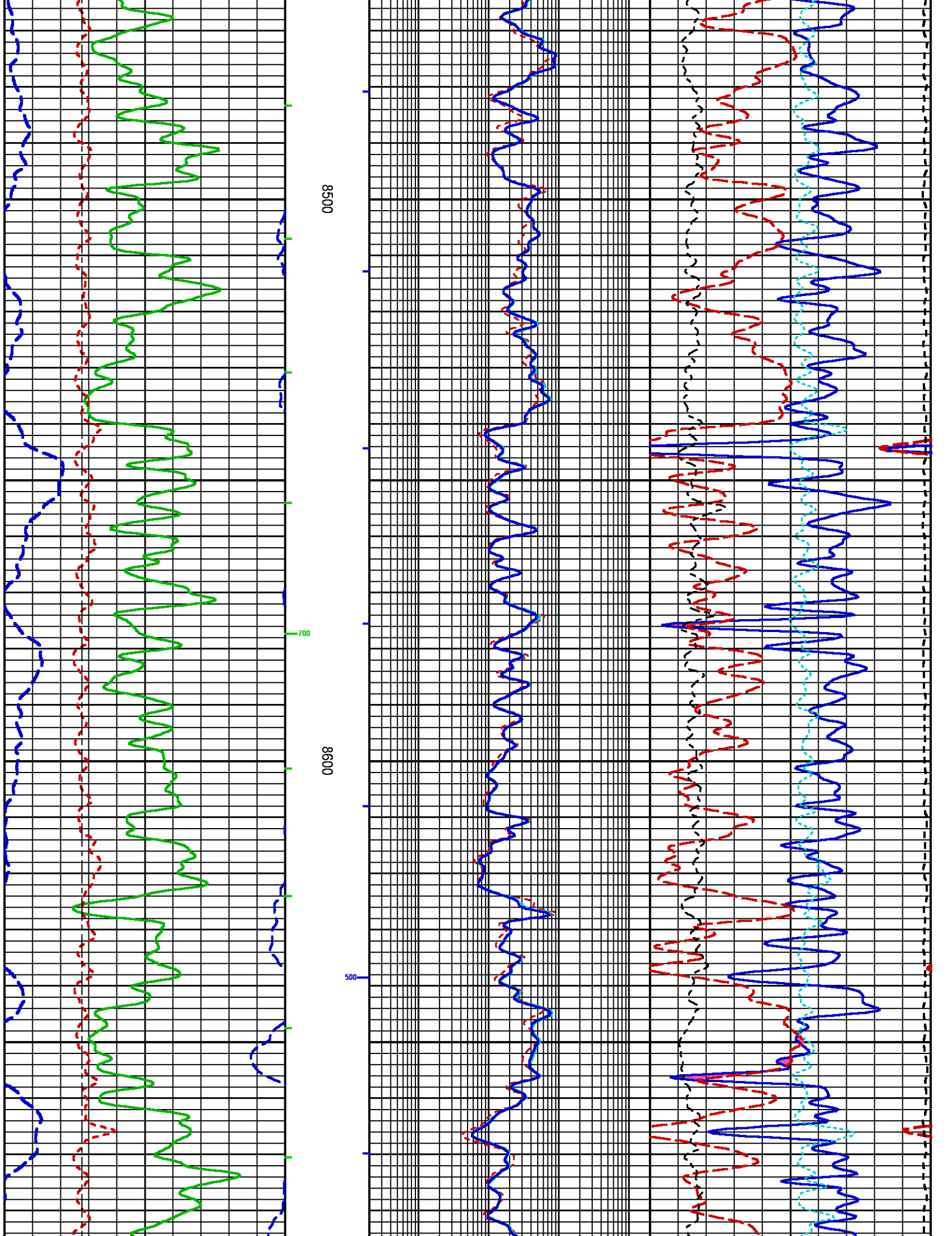


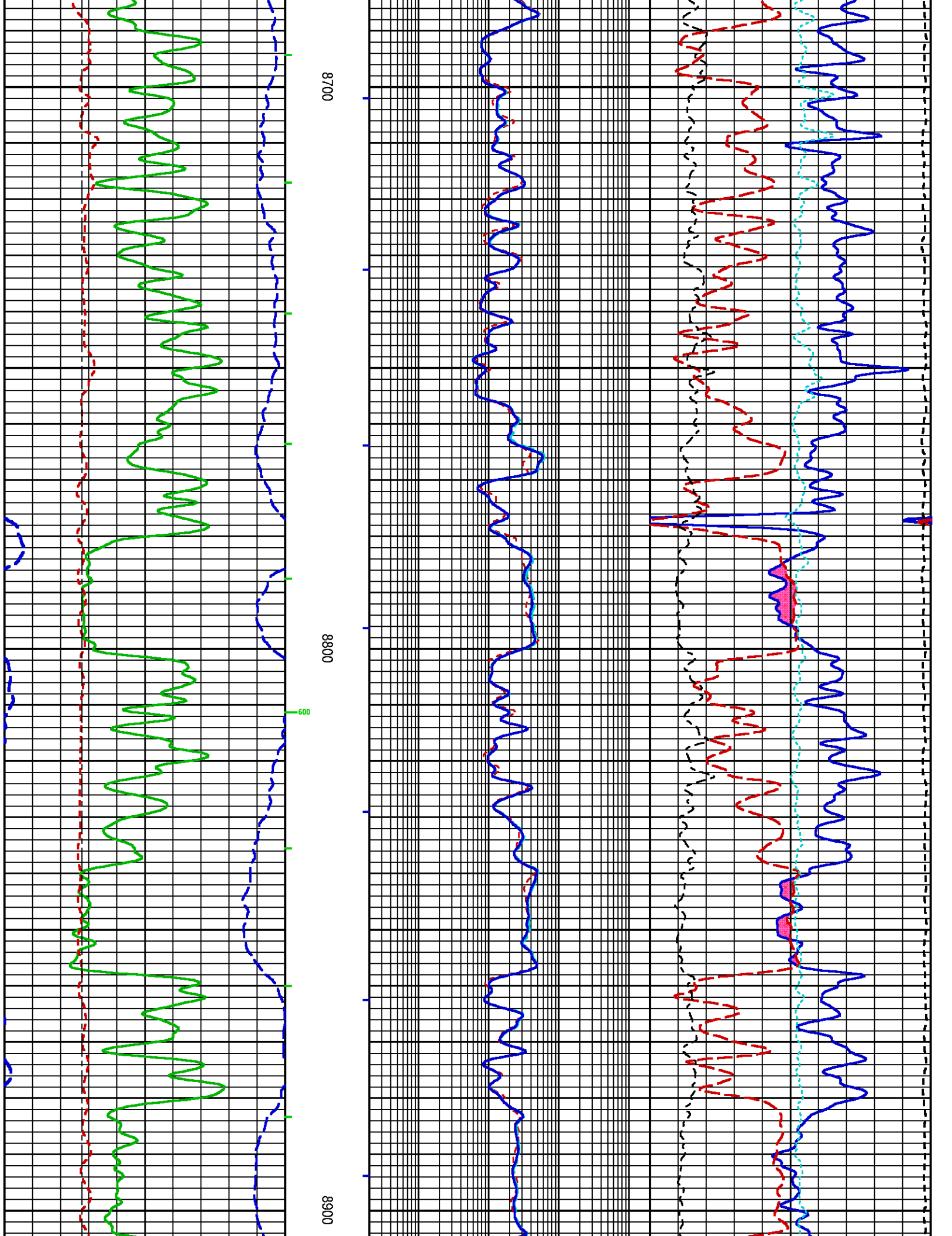


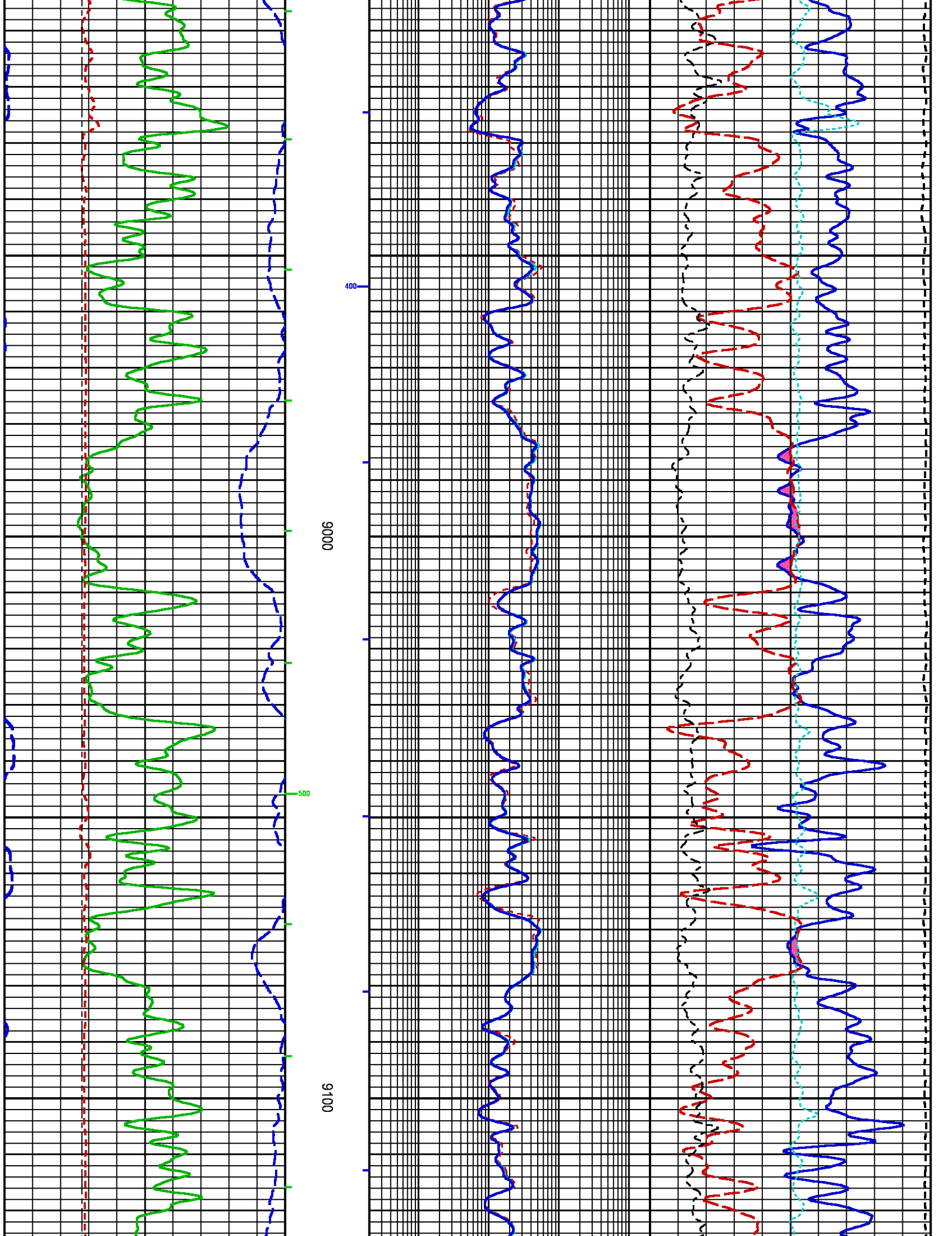


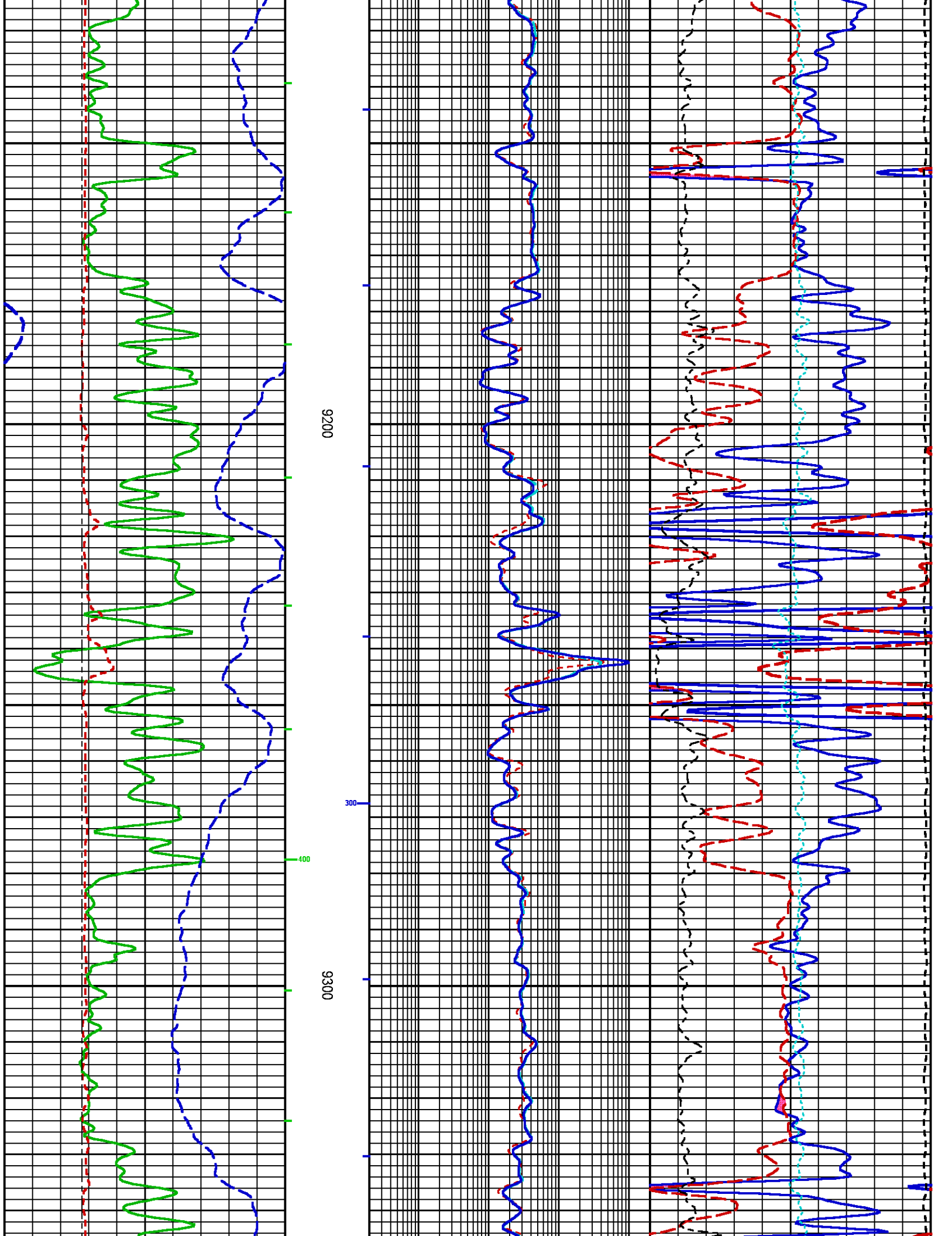


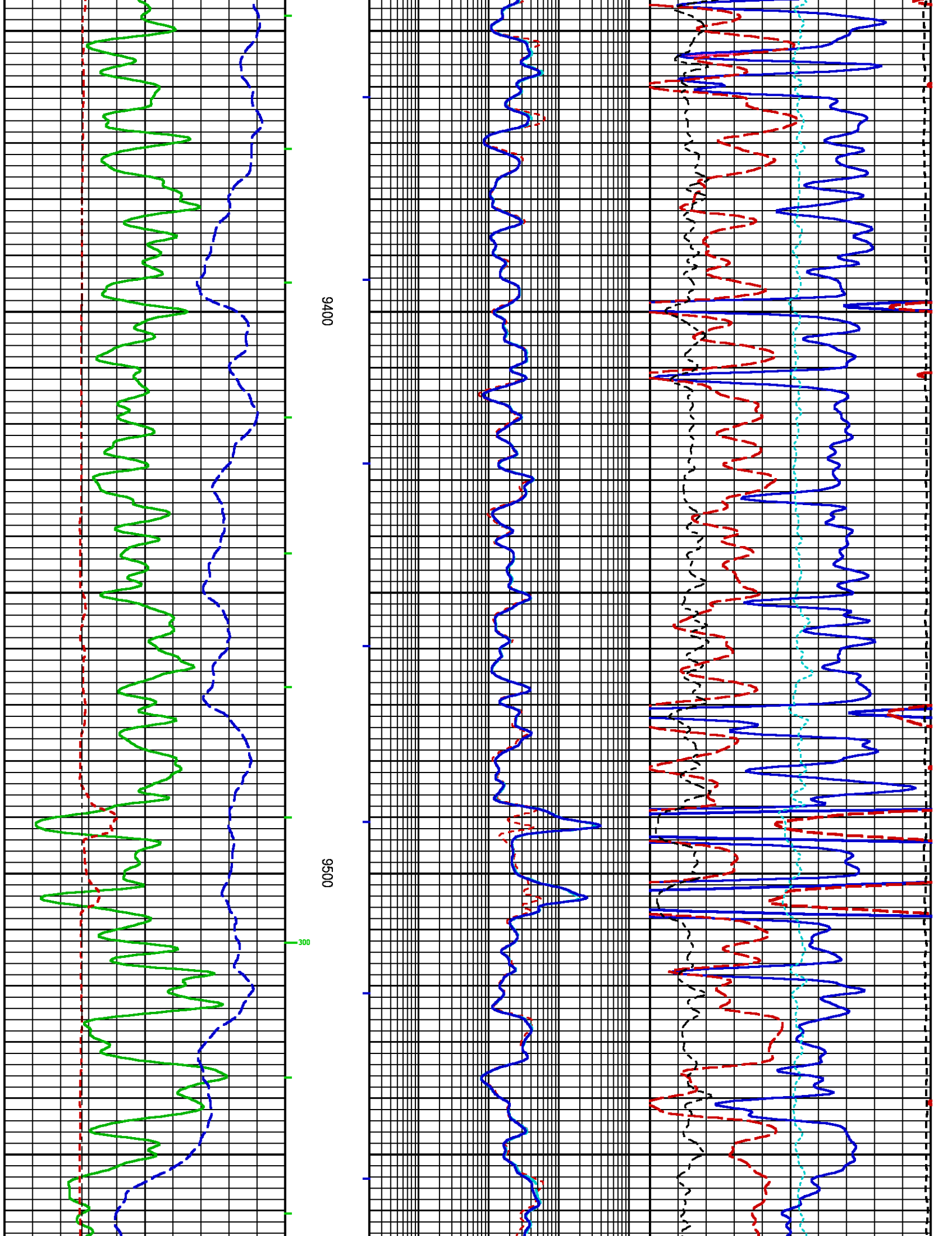


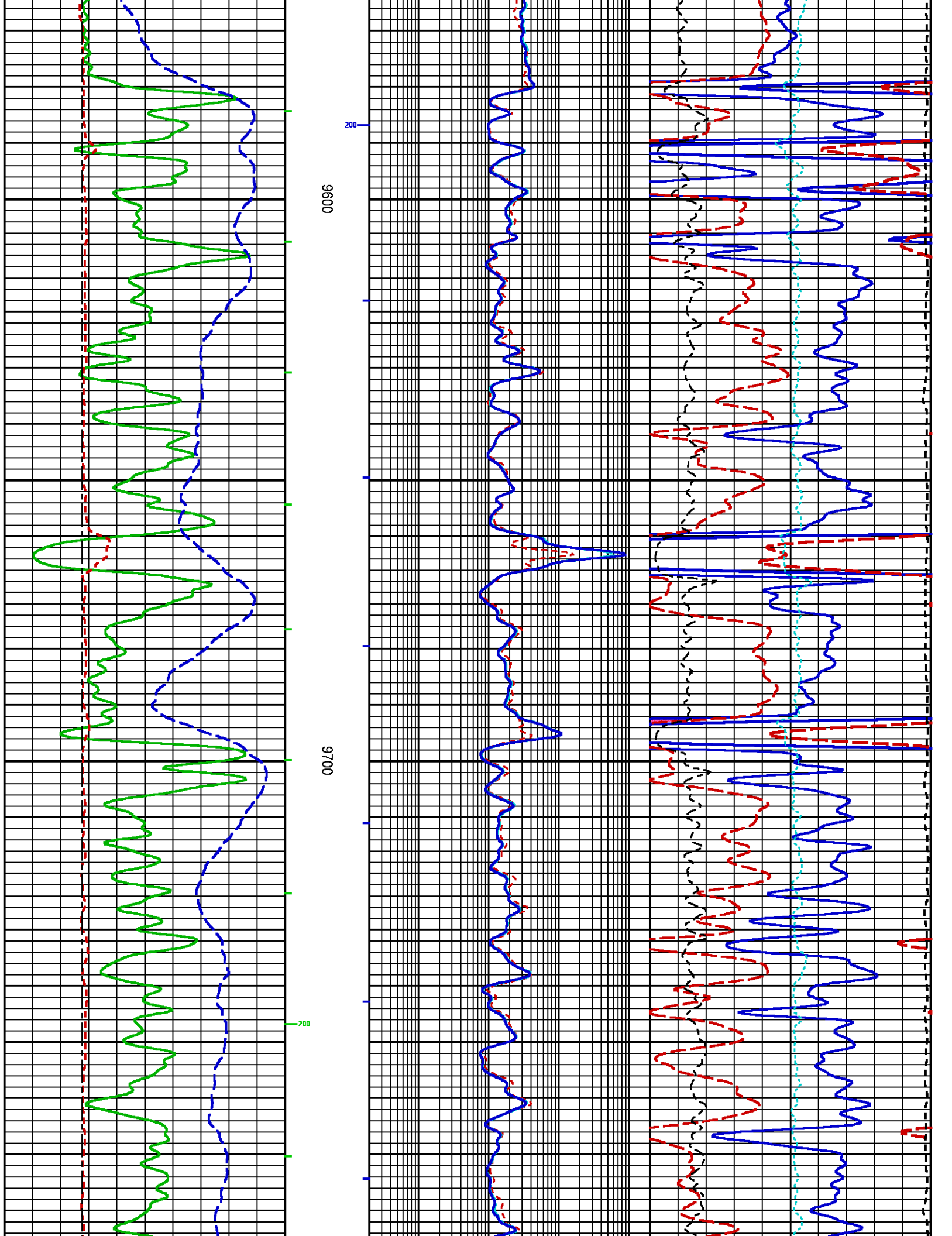


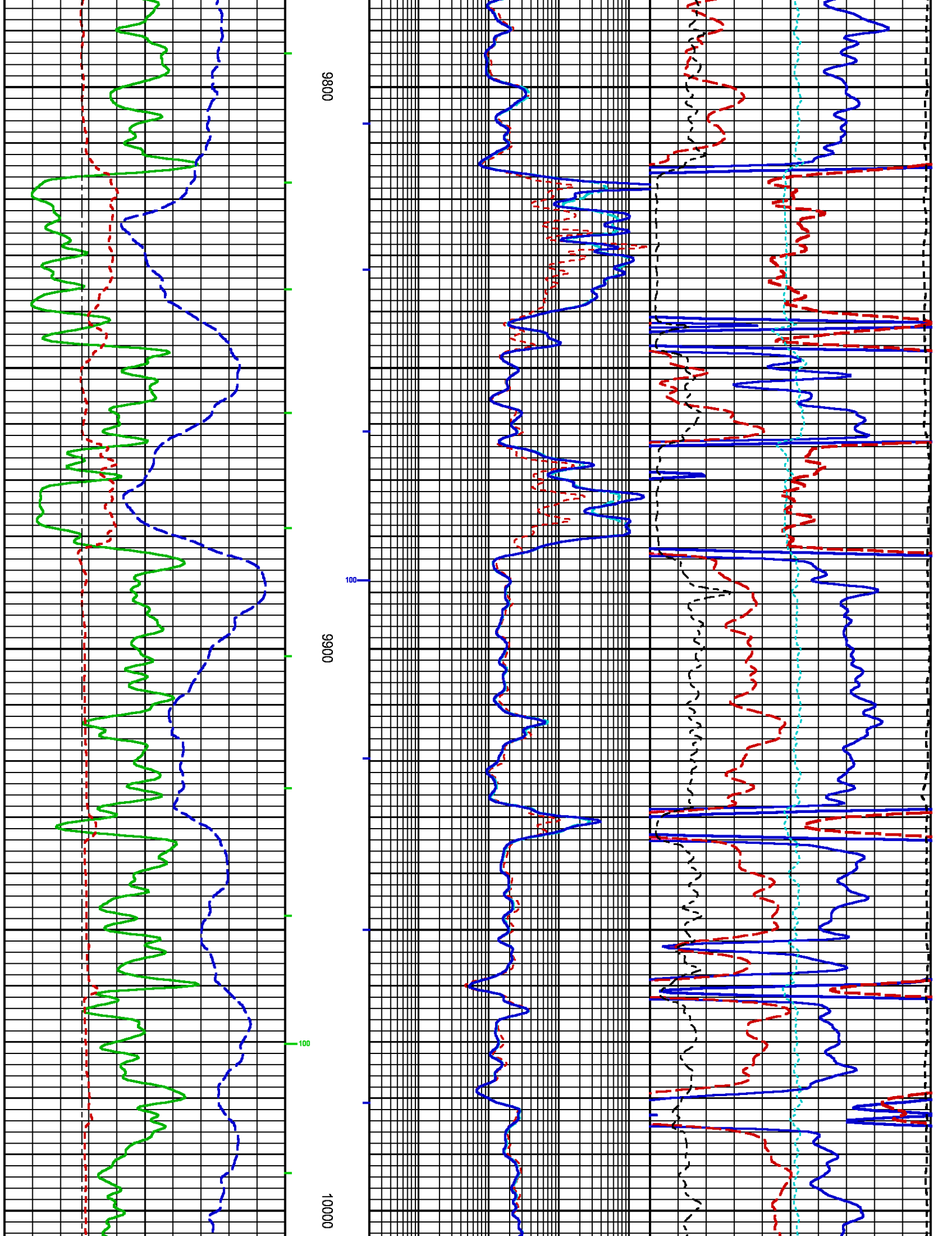


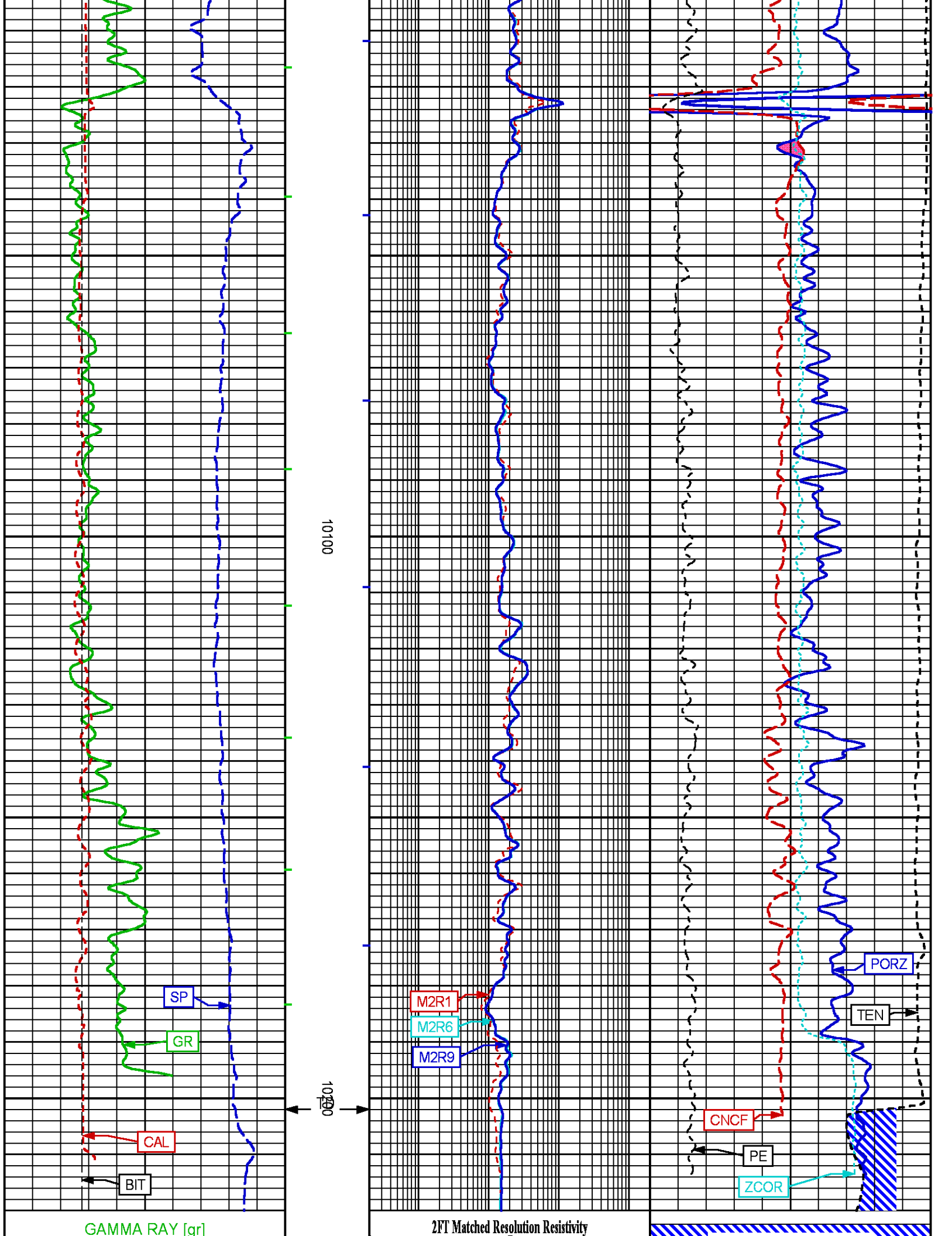


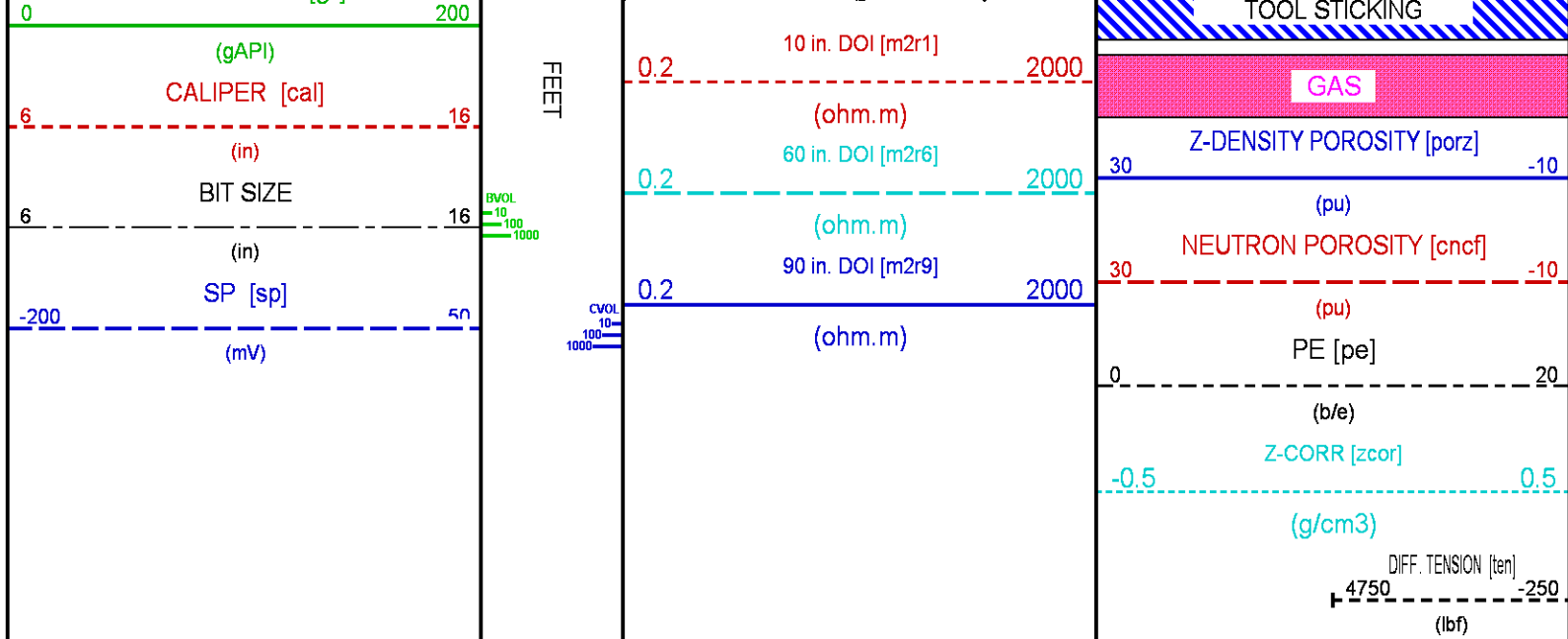












REPEAT LOG 5"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 1 Patches: 4

Plotted: Fri Jan 16 07:38:15 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/OH094015/n970aR01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1037.332 ft BOTTOM DEPTH: 1401.160 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	8.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	"	"
	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	66.0	degF	"	"
	MUD SAMPLE RES	0.450	ohm.m	"	"

BOREHOLE TEMP from GRADIENT	MUD SAMPLE RES	0.450	ohm.m	"	"
	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

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

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	1095	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	13.500	in	"	"

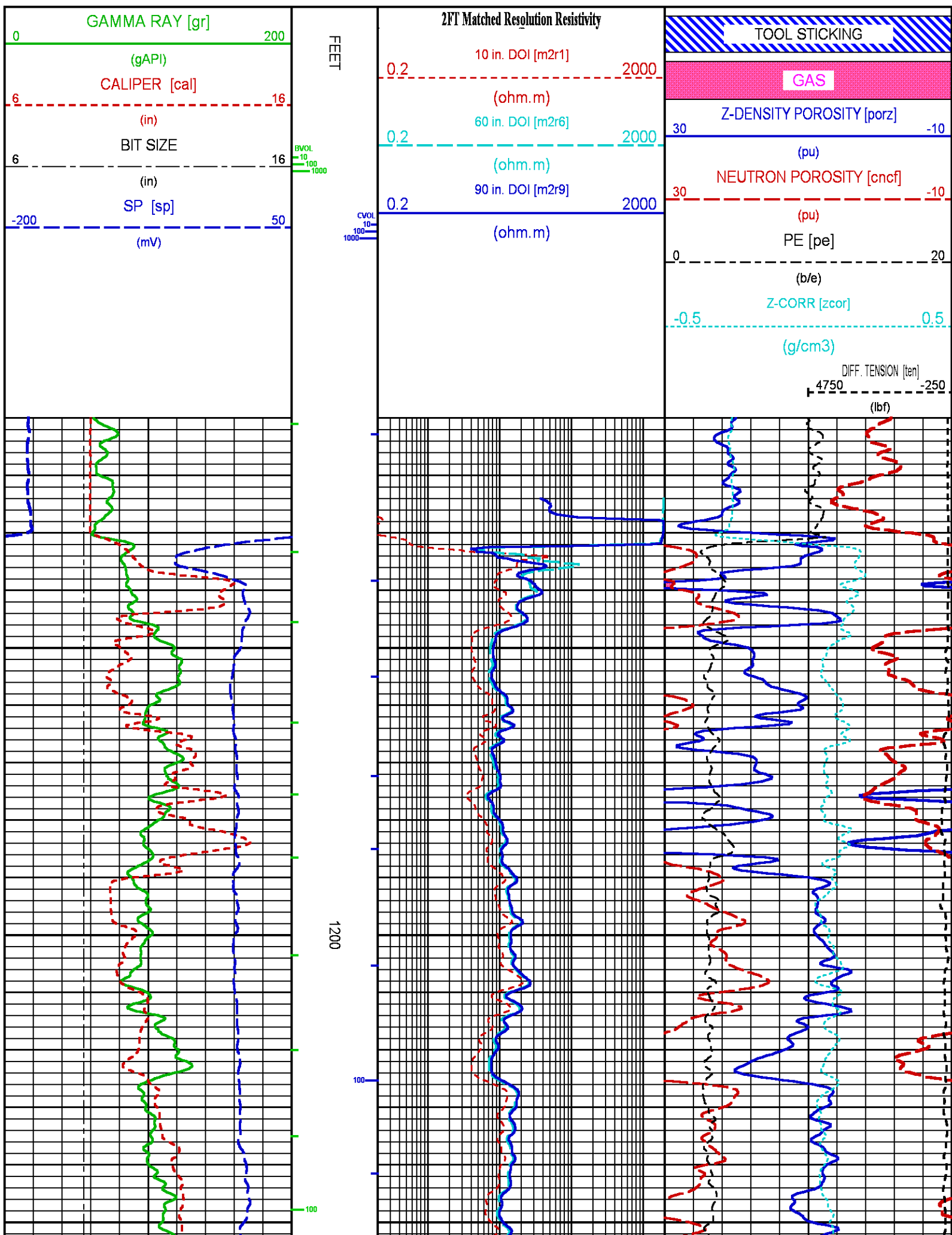
ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"

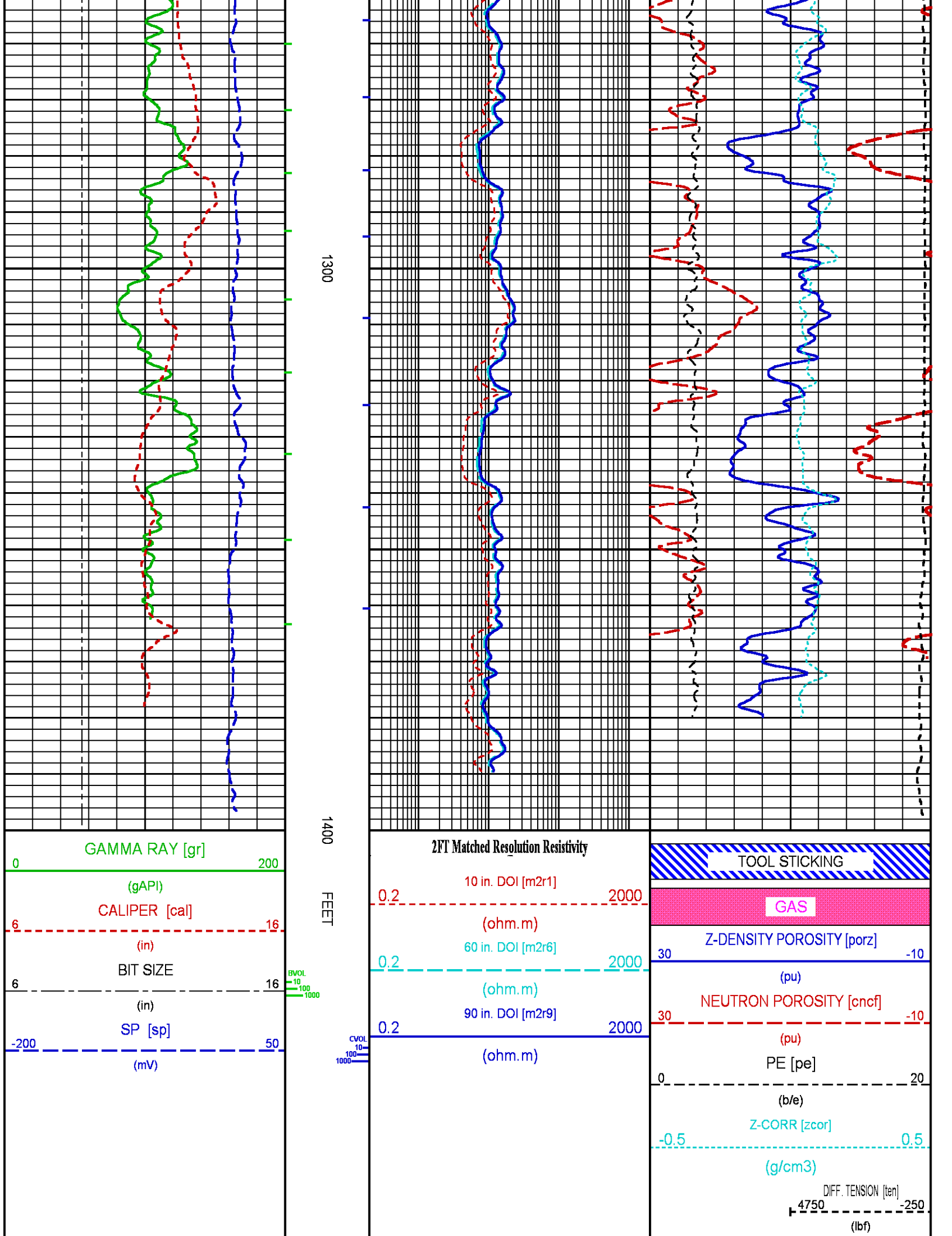
HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000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

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jan 16 01:44:59 2015	BIT SIZE
F1:BVOL	Jan 16 01:44:59 2015	BOREHOLE VOLUME
F1:CAL	Jan 16 01:44:59 2015	CALIPER
F1:CNCF	Jan 16 01:44:59 2015	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jan 16 01:44:59 2015	CEMENT VOLUME
F1:GR	Jan 16 01:44:59 2015	GAMMA RAY
F1:M2R1	Jan 16 01:44:59 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Jan 16 01:44:59 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 16 01:44:59 2015	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Jan 16 01:44:59 2015	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Jan 16 01:44:59 2015	POROSITY FOR SELECTABLE MATRIX
F1:SP	Jan 16 01:44:59 2015	SPONTANEOUS POTENTIAL
F1:TEN	Jan 16 01:44:59 2015	DIFFERENTIAL TENSION
F1:ZCOR	Jan 16 01:44:59 2015	DENSITY CORRECTION

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

Presentation	: HL6670:/dat1a/OH094015/341_REPEAT.fvpdf [5"/100" Scale]
Plot Interval	: 1110 - 1400 Feet
Data File 1	: F1 : HL6670:/dat1a/OH094015/341_REPEAT.xtf
Created On	: Jan 16 06:55:12 2015
Company	: WPX ENERGY
Well	: YOUNBERG RU 341-7
Field	: RULISON
File Interval	: 0 - 1405 Feet





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/OH094015/n970a.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #: 3980XA 10121559

DATE/TIME PERFORMED: Tue Jan 13 09:57:03 2015

UNIT #: 3880TA HL6670

ACCEL #: 3980XA 10121559

ACCEL CAL DATE: 14:40 06/07/2004

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

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10121559

DATE/TIME PERFORMED: Fri Jan 16 01:05:19 2015

DAYS SINCE CAL: 2

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19448	499.71	9.99	1002.26
	18659 20259	489.20 503.60	8.00 12.00	980.00 1020.00
ZERO	-244.12	-436.02	0.250	1002.073
	-25212 -23612	-443.20 -428.80	0.200 0.300	980.000 1020.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10121559

DATE/TIME PERFORMED: Fri Jan 16 05:56:08 2015

DAYS SINCE CAL: 2

UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19460	501.46	9.98	1001.42
	18659 20259	489.20 503.60	8.00 12.00	980.00 1020.00
ZERO	-244.12	-436.02	0.250	1001.111
	-25212 -23612	-443.20 -428.80	0.200 0.300	980.000 1020.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870

DATE/TIME PERFORMED: Sun Dec 21 06:10:41 2014

Unit #: 3885TC 6685

Jig Series: 4702NK VBA-905

Background	Calibrator ON	Jig Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
47.34	826.11	185	0.238	11.25	196.25
			0.230 0.280		

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870

DATE/TIME PERFORMED: Fri Jan 16 00:59:40 2015

DAYS SINCE CAL: 25

UNIT #: 3880TA HL6670

Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	46.61	1361.74
929.00 1027.00	536.00	1237.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Fri Jan 16 05:55:49 2015 DAYS SINCE CAL: 25

UNIT #: 3880TA HL6670 Jig: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	112.59	1363.96
929.00 1027.00	536.00	1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Wed Dec 24 10:51:21 2014

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

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4561.05	785.11	5.80945	0.98753	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Fri Jan 16 01:00:40 2015 DAYS SINCE CAL: 22

UNIT #: 3880TA HL6670 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.42	0.99762	38.7	1352.7	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930 DATE/TIME PERFORMED: Fri Jan 16 05:55:35 2015 DAYS SINCE CAL: 22

UNIT #: 3880TA HL6670 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.06	993.42	0.99762	104.2	1361.5	4.612
		0.95000 1.05000	280.4	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Wed Jan 14 13:01:23 2015

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1376.0		
LARGE RING (Arm)	11.000	2616.0	0.00323	2.56129
PAD CLOSED		1529.6	0.00250	-3.82400

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Fri Jan 16 01:39:48 2015 DAYS SINCE CAL: 1

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	2064.0	0.00323	1.98694	8.6
PAD	1672.0	0.00250	-3.82400	0.4

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.001	9.0
		8.6 9.4

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Fri Jan 16 05:57:04 2015 DAYS SINCE CAL: 1

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1972.0	0.00323	1.98694	8.3
PAD	1684.0	0.00250	-3.82400	0.4

	ACTUAL (in)	MEASURED (in)
DIAMETER (arm+pad)	9.001	9.0
		8.6 9.4

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10102922 DATE/TIME PERFORMED: Wed Jan 14 12:48:14 2015

UNIT: 3880TA HL6670 CALB BLKS: 2225XA 094292F CS SRC: 4705XA 16068B PAD TYPE: PADTYP 7.5" PAD

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	225.6	224.4	1242.9	1362.2		
	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)	36233.3	12226.0	0.755	1.679	0.000	1.900
			0.720 0.890			
AL	22477.1	1373.0		2.667	-0.016	
AL + SHIM	29774.2	2373.4		2.558	0.098	
MG + SHIM (HI PE)	17538.2	5720.8	0.300			8.550
			0.280 0.360			
RATIO AL + SHIM/AL	1.32	1.73				
	1.30 1.40	1.60 1.80				
RATIO MG/AL	1.61	8.90				
	1.58 1.70	8.55 9.55				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922 DATE/TIME PERFORMED: Fri Jan 16 01:16:58 2015 DAYS SINCE CAL: 1

UNIT #: 3880TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	225.4	1438.9
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22355.0	223.9	1339.6
	22344.8 22364.8	220.0 230.0	1250.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0	70.4

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102922

DATE/TIME PERFORMED: Fri Jan 16 05:55:22 2015

DAYS SINCE CAL: 1

UNIT #: 3880TA HL6670

LS	TOTAL (cps)	CSPK (Channel)	HV (V)
	3342.1	223.3	1432.0
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22354.8	224.5	1335.7
	22344.8 22364.8	220.0 230.0	1250.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	68.8	
	4.8 5.2	50.0 120.0	

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10118612

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

UNIT #: 3885TC 6685

GRCOND ID & DATE: 86 101801

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.0013	0.0002	0.0004	0.0001	-0.0004	0.0004	-0.0001	0.0002
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 0 Q	0.0014	0.0004	0.0005	-0.0002	-0.0003	-0.0002	0.0004	0.0001
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 1 R	0.0056	0.0011	-0.0005	0.0003	-0.0007	0.0001	-0.0015	0.0030
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 1 Q	0.0023	-0.0026	0.0007	-0.0001	-0.0011	0.0002	-0.0002	0.0012
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 2 R	0.0063	-0.0033	0.0024	-0.0022	0.0012	0.0005	-0.0001	-0.0031
	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 2 Q	0.0001	0.0033	0.0011	0.0008	-0.0003	0.0023	-0.0000	-0.0013
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 R	0.0198	0.0001	0.0002	0.0003	0.0016	0.0004	0.0018	0.0012
	-0.3000 0.3000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 Q	0.0043	-0.0042	-0.0046	-0.0012	-0.0021	-0.0025	0.0015	0.0008
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 4 R	0.0695	-0.0020	-0.0046	0.0073	0.0013	0.0001	-0.0007	-0.0006
	-0.5000 0.5000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 4 Q	0.0079	-0.0151	0.0055	0.0001	-0.0050	0.0005	-0.0027	-0.0020
	-1.0000 1.0000	-0.4000 0.4000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 5 R	0.1371	-0.0130	-0.0208	0.0039	0.0009	0.0073	0.0111	0.0065
	-1.2000 1.2000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000
Coil 5 Q	0.0671	-0.0297	0.0011	-0.0003	-0.0049	0.0028	0.0009	-0.0174
	-1.5000 1.5000	-0.8000 0.8000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.66	160.27	157.39	153.10	147.45	140.43	132.23	122.85
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.658	25.280	42.458	59.597	76.731	93.874	111.025	128.123
	6.000 9.000	21.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 109.000	92.000 130.000	106.000 151.000
Coil 1 M	281.20	278.93	274.21	267.16	257.82	246.25	232.56	216.79
	238.00 328.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.531	25.002	42.015	58.991	75.982	93.004	110.067	127.121
	6.000 9.000	21.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	78.000 112.000	93.000 130.000	107.000 151.000
Coil 2 M	569.81	565.09	555.37	540.73	521.32	497.29	468.62	436.05
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.741	25.479	42.798	60.077	77.385	94.734	112.084	129.437
	6.000 9.000	21.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	76.000 115.000	92.000 135.000	105.000 155.000
Coil 3 M	921.28	913.04	896.11	871.04	837.87	797.33	750.17	695.49
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	589.00 799.00
Coil 3 P	7.852	25.802	43.317	60.785	78.237	95.667	113.138	130.542
	6.000 10.000	21.000 30.000	35.000 51.000	49.000 72.000	63.000 93.000	76.000 114.000	90.000 135.000	104.000 156.000
Coil 4 M	1445.5	1432.4	1405.4	1365.4	1312.6	1248.1	1172.7	1087.7
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.814	25.736	43.218	60.650	78.083	95.498	112.906	130.239
	6.000 10.000	21.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	77.000 114.000	91.000 135.000	105.000 156.000
Coil 5 M	2843.5	2822.6	2876.8	2808.0	2715.4	2600.3	2462.3	2304.2

Coil 5 M	-2348.5 2450.0 3450.0	-2522.5 2420.0 3400.0	-2676.5 2410.0 3320.0	-2888.5 2350.0 3200.0	-2715.4 2280.0 3080.0	-2688.5 2150.0 2950.0	-2462.5 2020.0 2750.0	-2504.2 1870.0 2570.0
Coil 5 P	7.539 6.000 10.000	25.019 20.000 31.000	42.085 35.000 52.000	59.130 49.000 73.000	76.228 63.000 94.000	93.396 79.000 113.000	110.623 93.000 134.000	127.927 106.000 156.000
AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-1062 -3200 940	-606 -1400 -20	-486 -930 -150	-424 -760 -160	-382 -660 -130	-350 -600 -120	-325 -550 -110	-305 -520 -92
Coil 0 Q	499 -15000 11000	-134 -5800 3800	-199 -3700 2100	-228 -2700 1400	-249 -2200 1000	-265 -1800 790	-279 -1600 620	-290 -1500 490
Coil 1 R	-164 -750 460	-159 -360 83	-144 -280 9	-133 -230 -10	-123 -200 -26	-115 -180 -35	-108 -160 -46	-103 -150 -49
Coil 1 Q	428 -3300 3300	91 -1100 960	29 -630 530	0 -470 360	-17 -380 260	-27 -320 190	-34 -290 150	-39 -260 120
Coil 2 R	4.5 -85.0 76.0	-32.5 -64.0 -0.4	-36.0 -57.0 -12.0	-35.2 -51.0 -16.0	-32.9 -46.0 -17.0	-30.7 -42.0 -16.0	-28.5 -39.0 -15.0	-27.1 -37.0 -13.0
Coil 2 Q	387.6 -1500.0 1900.0	132.2 -500.0 610.0	76.6 -290.0 350.0	51.7 -220.0 260.0	38.5 -160.0 190.0	30.9 -140.0 160.0	26.2 -110.0 130.0	23.8 -99.0 120.0
Coil 3 R	1.4 -23.0 21.0	-8.0 -22.0 1.6	-9.5 -21.0 -1.3	-9.3 -20.0 -1.8	-8.8 -19.0 -2.0	-8.2 -19.0 -1.3	-7.8 -19.0 -0.8	-7.6 -19.0 -0.0
Coil 3 Q	103.8 -540.0 530.0	39.3 -180.0 180.0	26.2 -100.0 110.0	21.9 -71.0 81.0	20.2 -51.0 66.0	20.2 -37.0 58.0	21.2 -28.0 53.0	22.4 -21.0 51.0
Coil 4 R	-3.11 -18.00 13.00	-4.31 -12.00 2.70	-4.49 -11.00 1.50	-4.25 -9.80 0.52	-4.10 -9.90 0.96	-3.87 -10.00 1.50	-3.69 -11.00 2.30	-4.09 -11.00 2.60
Coil 4 Q	7.40 -250.00 280.00	5.87 -79.00 98.00	7.57 -43.00 64.00	9.89 -27.00 51.00	12.34 -18.00 46.00	15.07 -11.00 42.00	18.10 -5.50 42.00	21.21 -1.00 42.00
Coil 5 R	-2.87 -56.00 51.00	-2.73 -8.40 3.60	-2.92 -6.90 1.10	-2.53 -6.90 1.20	-2.48 -9.30 2.90	-2.23 -14.00 6.30	-2.49 -19.00 9.60	-2.94 -24.00 13.00
Coil 5 Q	-5.67 -88.00 69.00	2.18 -26.00 27.00	5.82 -14.00 22.00	9.24 -7.00 22.00	12.53 -2.50 24.00	15.75 1.10 26.00	19.00 4.10 29.00	22.22 7.10 32.00
MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.965 0.850 1.100	0.973 0.860 1.100	0.977 0.870 1.100	0.979 0.880 1.100	0.980 0.880 1.100	0.979 0.880 1.100	0.979 0.880 1.100	0.978 0.880 1.100
Coil 0 P	-0.321 -1.500 1.500	-0.453 -1.500 1.500	-0.343 -1.500 1.500	-0.230 -1.500 1.500	-0.149 -1.500 1.500	-0.101 -1.500 1.500	-0.052 -1.500 1.500	-0.014 -1.500 1.500
Coil 1 M	0.959 0.850 1.100	0.968 0.860 1.100	0.972 0.870 1.100	0.973 0.880 1.100	0.973 0.880 1.100	0.973 0.880 1.100	0.973 0.880 1.100	0.972 0.880 1.100
Coil 1 P	-0.318 -1.500 1.500	-0.468 -1.500 1.500	-0.346 -1.500 1.500	-0.240 -1.500 1.500	-0.145 -1.500 1.500	-0.095 -1.500 1.500	-0.062 -1.500 1.500	-0.038 -1.500 1.500
Coil 2 M	0.989 0.890 1.100	0.989 0.890 1.100	0.989 0.890 1.100	0.988 0.890 1.100	0.988 0.890 1.100	0.987 0.890 1.100	0.985 0.890 1.100	0.984 0.890 1.100
Coil 2 P	0.007 -1.500 1.500	0.052 -1.500 1.500	0.121 -1.500 1.500	0.151 -1.500 1.500	0.188 -1.500 1.500	0.209 -1.500 1.500	0.210 -1.500 1.500	0.192 -1.500 1.500
Coil 3 M	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.996 0.900 1.100	0.995 0.900 1.100	0.994 0.900 1.100	0.993 0.900 1.100	0.991 0.900 1.100
Coil 3 P	0.024 -1.500 1.500	0.092 -1.500 1.500	0.158 -1.500 1.500	0.222 -1.500 1.500	0.266 -1.500 1.500	0.270 -1.500 1.500	0.346 -1.500 1.500	0.375 -1.500 1.500
Coil 4 M	1.001 0.900 1.100	1.001 0.900 1.100	1.001 0.900 1.100	1.000 0.900 1.100	1.000 0.900 1.100	0.999 0.900 1.100	0.998 0.900 1.100	0.998 0.900 1.100
Coil 4 P	0.002 -1.500 1.500	0.057 -1.500 1.500	0.116 -1.500 1.500	0.171 -1.500 1.500	0.232 -1.500 1.500	0.263 -1.500 1.500	0.300 -1.500 1.500	0.331 -1.500 1.500
Coil 5 M	1.001 0.900 1.100	1.000 0.900 1.100	1.000 0.900 1.100	0.999 0.900 1.100	0.998 0.900 1.100	0.996 0.900 1.100	0.996 0.900 1.100	0.994 0.900 1.100
Coil 5 P	0.001 -1.500 1.500	0.060 -1.500 1.500	0.136 -1.500 1.500	0.170 -1.500 1.500	0.227 -1.500 1.500	0.333 -1.500 1.500	0.313 -1.500 1.500	0.365 -1.500 1.500
PARMS								
TCID 0			TCID 1			Cal Temp (degF)		
IDs			2.563	0.840	38.8	T Factor		

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #:	1530XA 10118612	DATE/TIME PERFORMED:	Fri Jan 16 02:51:28 2015	DAYS SINCE CAL:	63
UNIT #:	3880TA HL6670				

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.001 -0.200 0.200	0.000 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100
Coil 0 Q	-0.000 -0.500 0.500	-0.000 -0.200 0.200	-0.000 -0.100 0.100	-0.001 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100
Coil 1 R	0.009 -0.200 0.200	0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100	0.002 -0.100 0.100
Coil 1 Q	0.004 -0.500 0.500	-0.001 -0.200 0.200	0.002 -0.100 0.100	-0.000 -0.100 0.100	-0.001 -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	<div>0.010</div> <div>-0.200 0.200</div>	<div>0.000</div> <div>-0.100 0.100</div>	<div>-0.001</div> <div>-0.100 0.100</div>	<div>0.001</div> <div>-0.100 0.100</div>	<div>0.000</div> <div>-0.100 0.100</div>	<div>-0.002</div> <div>-0.100 0.100</div>	<div>-0.001</div> <div>-0.100 0.100</div>	<div>-0.002</div> <div>-0.100 0.100</div>
Coil 2 Q	<div>-0.001</div> <div>-0.500 0.500</div>	<div>0.000</div> <div>-0.200 0.200</div>	<div>0.001</div> <div>-0.100 0.100</div>	<div>-0.000</div> <div>-0.100 0.100</div>	<div>0.001</div> <div>-0.100 0.100</div>	<div>0.001</div> <div>-0.100 0.100</div>	<div>0.000</div> <div>-0.100 0.100</div>	<div>0.002</div> <div>-0.100 0.100</div>
Coil 3 R	<div>0.021</div> <div>-0.300 0.300</div>	<div>-0.002</div> <div>-0.100 0.100</div>	<div>-0.003</div> <div>-0.100 0.100</div>	<div>0.001</div> <div>-0.100 0.100</div>	<div>0.006</div> <div>-0.100 0.100</div>	<div>0.000</div> <div>-0.100 0.100</div>	<div>0.004</div> <div>-0.100 0.100</div>	<div>-0.001</div> <div>-0.100 0.100</div>
Coil 3 Q	<div>0.006</div> <div>-0.500 0.500</div>	<div>-0.003</div> <div>-0.200 0.200</div>	<div>0.004</div> <div>-0.100 0.100</div>	<div>-0.002</div> <div>-0.100 0.100</div>	<div>-0.003</div> <div>-0.100 0.100</div>	<div>-0.002</div> <div>-0.100 0.100</div>	<div>0.003</div> <div>-0.100 0.100</div>	<div>-0.003</div> <div>-0.100 0.100</div>
Coil 4 R	<div>0.062</div> <div>-0.500 0.500</div>	<div>0.002</div> <div>-0.200 0.200</div>	<div>-0.009</div> <div>-0.200 0.200</div>	<div>0.001</div> <div>-0.200 0.200</div>	<div>-0.002</div> <div>-0.200 0.200</div>	<div>-0.000</div> <div>-0.200 0.200</div>	<div>-0.002</div> <div>-0.200 0.200</div>	<div>-0.002</div> <div>-0.200 0.200</div>
Coil 4 Q	<div>0.007</div> <div>-1.000 1.000</div>	<div>-0.012</div> <div>-0.400 0.400</div>	<div>0.007</div> <div>-0.200 0.200</div>	<div>-0.002</div> <div>-0.200 0.200</div>	<div>0.000</div> <div>-0.200 0.200</div>	<div>0.004</div> <div>-0.200 0.200</div>	<div>-0.001</div> <div>-0.200 0.200</div>	<div>0.004</div> <div>-0.200 0.200</div>
Coil 5 R	<div>0.124</div> <div>-1.200 1.200</div>	<div>-0.010</div> <div>-0.400 0.400</div>	<div>-0.008</div> <div>-0.400 0.400</div>	<div>0.016</div> <div>-0.400 0.400</div>	<div>-0.005</div> <div>-0.400 0.400</div>	<div>-0.004</div> <div>-0.400 0.400</div>	<div>0.006</div> <div>-0.400 0.400</div>	<div>0.001</div> <div>-0.400 0.400</div>
Coil 5 Q	<div>0.025</div> <div>-1.500 1.500</div>	<div>-0.016</div> <div>-0.800 0.800</div>	<div>0.016</div> <div>-0.400 0.400</div>	<div>-0.008</div> <div>-0.400 0.400</div>	<div>0.002</div> <div>-0.400 0.400</div>	<div>-0.016</div> <div>-0.400 0.400</div>	<div>-0.010</div> <div>-0.400 0.400</div>	<div>0.009</div> <div>-0.400 0.400</div>

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	<div>160.79</div> <div>136.00 186.00</div>	<div>159.39</div> <div>134.00 184.00</div>	<div>156.51</div> <div>131.00 181.00</div>	<div>152.23</div> <div>126.00 176.00</div>	<div>146.58</div> <div>122.00 170.00</div>	<div>139.60</div> <div>118.00 161.00</div>	<div>131.36</div> <div>112.00 150.00</div>	<div>122.02</div> <div>105.00 139.00</div>
Coil 0 P	<div>6.324</div> <div>-1.000 12.000</div>	<div>25.011</div> <div>19.000 30.000</div>	<div>42.504</div> <div>35.000 50.000</div>	<div>59.845</div> <div>49.000 71.000</div>	<div>77.152</div> <div>63.000 91.000</div>	<div>94.448</div> <div>77.000 110.000</div>	<div>111.728</div> <div>92.000 130.000</div>	<div>128.982</div> <div>105.000 151.000</div>
Coil 1 M	<div>281.23</div> <div>237.00 327.00</div>	<div>278.92</div> <div>235.00 325.00</div>	<div>274.16</div> <div>230.00 320.00</div>	<div>267.07</div> <div>225.00 312.00</div>	<div>257.69</div> <div>218.00 302.00</div>	<div>246.15</div> <div>208.00 288.00</div>	<div>232.27</div> <div>196.00 266.00</div>	<div>216.47</div> <div>184.00 244.00</div>
Coil 1 P	<div>6.241</div> <div>-1.000 12.000</div>	<div>24.747</div> <div>19.000 30.000</div>	<div>42.067</div> <div>35.000 51.000</div>	<div>59.243</div> <div>49.000 71.000</div>	<div>76.399</div> <div>63.000 92.000</div>	<div>93.576</div> <div>77.000 112.000</div>	<div>110.757</div> <div>92.000 132.000</div>	<div>127.962</div> <div>105.000 153.000</div>
Coil 2 M	<div>564.85</div> <div>479.00 659.00</div>	<div>560.14</div> <div>474.00 654.00</div>	<div>550.42</div> <div>463.00 643.00</div>	<div>535.93</div> <div>450.00 622.00</div>	<div>516.74</div> <div>432.00 602.00</div>	<div>492.88</div> <div>412.00 572.00</div>	<div>464.45</div> <div>390.00 540.00</div>	<div>431.98</div> <div>359.00 499.00</div>
Coil 2 P	<div>6.348</div> <div>-1.000 12.000</div>	<div>25.175</div> <div>19.000 31.000</div>	<div>42.799</div> <div>35.000 51.000</div>	<div>60.277</div> <div>49.000 71.000</div>	<div>77.745</div> <div>63.000 92.000</div>	<div>95.242</div> <div>77.000 114.000</div>	<div>112.742</div> <div>92.000 135.000</div>	<div>130.261</div> <div>105.000 156.000</div>
Coil 3 M	<div>920.31</div> <div>772.00 1060.00</div>	<div>912.07</div> <div>764.00 1050.00</div>	<div>895.14</div> <div>752.00 1030.00</div>	<div>870.02</div> <div>728.00 1010.00</div>	<div>836.91</div> <div>700.00 970.00</div>	<div>796.25</div> <div>665.00 925.00</div>	<div>748.40</div> <div>628.00 868.00</div>	<div>694.04</div> <div>589.00 799.00</div>
Coil 3 P	<div>6.476</div> <div>-2.000 13.000</div>	<div>25.506</div> <div>19.000 31.000</div>	<div>43.327</div> <div>35.000 52.000</div>	<div>60.996</div> <div>49.000 72.000</div>	<div>78.610</div> <div>63.000 93.000</div>	<div>96.210</div> <div>77.000 114.000</div>	<div>113.763</div> <div>92.000 135.000</div>	<div>131.308</div> <div>105.000 156.000</div>
Coil 4 M	<div>1450.2</div> <div>1210.0 1700.0</div>	<div>1436.8</div> <div>1205.0 1690.0</div>	<div>1409.7</div> <div>1180.0 1650.0</div>	<div>1369.2</div> <div>1140.0 1590.0</div>	<div>1316.1</div> <div>1120.0 1530.0</div>	<div>1250.7</div> <div>1070.0 1450.0</div>	<div>1174.2</div> <div>1000.0 1350.0</div>	<div>1088.5</div> <div>942.0 1240.0</div>
Coil 4 P	<div>6.432</div> <div>-2.000 13.000</div>	<div>25.431</div> <div>19.000 31.000</div>	<div>43.217</div> <div>35.000 52.000</div>	<div>60.834</div> <div>49.000 73.000</div>	<div>78.415</div> <div>63.000 93.000</div>	<div>95.963</div> <div>78.000 114.000</div>	<div>113.482</div> <div>92.000 135.000</div>	<div>130.927</div> <div>105.000 156.000</div>
Coil 5 M	<div>2923.7</div> <div>2450.0 3450.0</div>	<div>2902.2</div> <div>2420.0 3400.0</div>	<div>2856.8</div> <div>2410.0 3320.0</div>	<div>2787.7</div> <div>2350.0 3200.0</div>	<div>2695.1</div> <div>2280.0 3080.0</div>	<div>2578.9</div> <div>2150.0 2950.0</div>	<div>2441.0</div> <div>2020.0 2750.0</div>	<div>2282.5</div> <div>1870.0 2570.0</div>
Coil 5 P	<div>6.241</div> <div>-2.000 13.000</div>	<div>24.744</div> <div>19.000 31.000</div>	<div>42.107</div> <div>35.000 52.000</div>	<div>59.349</div> <div>49.000 73.000</div>	<div>76.594</div> <div>63.000 94.000</div>	<div>93.899</div> <div>79.000 114.000</div>	<div>111.246</div> <div>93.000 135.000</div>	<div>128.614</div> <div>106.000 156.000</div>

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10118612

DATE/TIME PERFORMED: Fri Jan 16 05:54:55 2015

DAYS SINCE CAL: 63

UNIT #: 3880TA HL6670

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	<div>0.002</div> <div>-0.079 0.081</div>	<div>-0.000</div> <div>-0.060 0.060</div>	<div>0.001</div> <div>-0.029 0.031</div>	<div>0.001</div> <div>-0.029 0.031</div>	<div>0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.030 0.030</div>
Coil 0 Q	<div>0.003</div> <div>-0.040 0.040</div>	<div>-0.000</div> <div>-0.120 0.120</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.031 0.029</div>	<div>-0.000</div> <div>-0.029 0.031</div>	<div>0.000</div> <div>-0.029 0.031</div>	<div>0.000</div> <div>-0.030 0.030</div>	<div>0.000</div> <div>-0.030 0.030</div>
Coil 1 R	<div>0.007</div> <div>-0.071 0.089</div>	<div>0.002</div> <div>-0.050 0.050</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.002</div> <div>-0.030 0.030</div>	<div>0.001</div> <div>-0.029 0.031</div>	<div>-0.001</div> <div>-0.031 0.029</div>	<div>0.001</div> <div>-0.028 0.032</div>
Coil 1 Q	<div>0.004</div> <div>-0.396 0.404</div>	<div>-0.002</div> <div>-0.101 0.099</div>	<div>0.001</div> <div>-0.028 0.032</div>	<div>-0.000</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.031 0.029</div>	<div>-0.000</div> <div>-0.029 0.031</div>	<div>0.000</div> <div>-0.030 0.030</div>	<div>0.001</div> <div>-0.029 0.031</div>
Coil 2 R	<div>0.001</div> <div>-0.060 0.080</div>	<div>0.001</div> <div>-0.030 0.030</div>	<div>0.002</div> <div>-0.031 0.029</div>	<div>-0.000</div> <div>-0.029 0.031</div>	<div>-0.001</div> <div>-0.030 0.030</div>	<div>0.001</div> <div>-0.032 0.028</div>	<div>-0.000</div> <div>-0.031 0.029</div>	<div>-0.000</div> <div>-0.032 0.028</div>
Coil 2 Q	<div>-0.003</div> <div>-0.351 0.349</div>	<div>0.002</div> <div>-0.100 0.100</div>	<div>-0.003</div> <div>-0.029 0.031</div>	<div>0.001</div> <div>-0.030 0.030</div>	<div>-0.000</div> <div>-0.029 0.031</div>	<div>0.002</div> <div>-0.029 0.031</div>	<div>-0.002</div> <div>-0.030 0.030</div>	<div>0.002</div> <div>-0.028 0.032</div>
Coil 3 R	<div>0.025</div> <div>-0.019 0.061</div>	<div>-0.007</div> <div>-0.042 0.038</div>	<div>0.004</div> <div>-0.043 0.037</div>	<div>-0.003</div> <div>-0.039 0.041</div>	<div>-0.003</div> <div>-0.034 0.046</div>	<div>-0.001</div> <div>-0.040 0.040</div>	<div>0.001</div> <div>-0.036 0.044</div>	<div>-0.001</div> <div>-0.041 0.039</div>
Coil 3 Q	<div>-0.000</div> <div>-0.194 0.206</div>	<div>0.001</div> <div>-0.083 0.077</div>	<div>0.002</div> <div>-0.036 0.044</div>	<div>-0.004</div> <div>-0.042 0.038</div>	<div>0.001</div> <div>-0.043 0.037</div>	<div>0.001</div> <div>-0.042 0.038</div>	<div>0.001</div> <div>-0.037 0.043</div>	<div>-0.002</div> <div>-0.043 0.037</div>
Coil 4 R	<div>0.068</div> <div>0.002 0.122</div>	<div>-0.001</div> <div>-0.058 0.062</div>	<div>-0.009</div> <div>-0.069 0.051</div>	<div>0.008</div> <div>-0.059 0.061</div>	<div>-0.004</div> <div>-0.062 0.058</div>	<div>0.001</div> <div>-0.060 0.060</div>	<div>-0.001</div> <div>-0.062 0.058</div>	<div>-0.002</div> <div>-0.062 0.058</div>
Coil 4 Q	<div>0.010</div> <div>-0.293 0.307</div>	<div>-0.009</div> <div>-0.112 0.088</div>	<div>-0.004</div> <div>-0.053 0.067</div>	<div>0.005</div> <div>-0.062 0.058</div>	<div>-0.003</div> <div>-0.060 0.060</div>	<div>-0.004</div> <div>-0.056 0.064</div>	<div>-0.000</div> <div>-0.061 0.059</div>	<div>-0.003</div> <div>-0.056 0.064</div>
Coil 5 R	<div>0.134</div> <div>0.004 0.244</div>	<div>-0.015</div> <div>-0.130 0.110</div>	<div>-0.024</div> <div>-0.128 0.112</div>	<div>0.000</div> <div>-0.104 0.136</div>	<div>0.001</div> <div>-0.125 0.115</div>	<div>0.003</div> <div>-0.124 0.116</div>	<div>0.001</div> <div>-0.114 0.126</div>	<div>0.018</div> <div>-0.119 0.121</div>
Coil 5 Q	<div>0.018</div> <div>-0.575 0.625</div>	<div>-0.026</div> <div>-0.266 0.234</div>	<div>0.014</div> <div>-0.104 0.136</div>	<div>-0.000</div> <div>-0.128 0.112</div>	<div>-0.004</div> <div>-0.118 0.122</div>	<div>-0.004</div> <div>-0.136 0.104</div>	<div>-0.003</div> <div>-0.130 0.110</div>	<div>-0.007</div> <div>-0.111 0.129</div>

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

Coil 0 M	161.07 157.58 164.01	159.64 159.21 162.58	156.75 153.38 159.64	152.48 149.18 155.27	146.83 143.65 149.51	139.87 136.81 142.40	131.68 128.73 133.98	122.30 119.58 124.46
Coil 0 P	7.417 3.324 9.324	25.283 22.011 28.011	42.559 39.504 45.504	59.775 56.845 62.845	76.991 74.152 80.152	94.175 91.448 97.448	111.402 108.728 114.728	128.572 125.982 131.982
Coil 1 M	281.10 275.60 286.85	278.73 273.34 284.50	274.01 268.68 279.64	266.98 261.73 272.41	257.56 252.54 262.85	245.99 241.23 251.08	232.39 227.62 236.92	216.61 212.14 220.80
Coil 1 P	7.334 3.241 9.241	25.021 21.747 27.747	42.126 39.067 45.067	59.166 56.243 62.243	76.235 73.399 79.399	93.319 90.576 96.576	110.433 107.757 113.757	127.571 124.962 130.962
Coil 2 M	566.83 553.55 576.14	561.96 548.94 571.34	552.27 539.41 561.43	537.77 525.22 546.65	518.46 506.40 527.07	494.56 483.03 502.74	466.33 455.16 473.74	433.64 423.34 440.62
Coil 2 P	7.453 3.348 9.348	25.460 22.175 28.175	42.873 39.789 45.789	60.232 57.277 63.277	77.609 74.745 80.745	95.003 92.242 98.242	112.427 109.742 115.742	129.865 127.261 133.261
Coil 3 M	920.59 901.90 938.71	912.14 893.83 930.31	896.39 877.24 913.05	870.37 852.62 887.42	837.31 820.17 853.65	796.71 780.32 812.17	749.05 733.44 763.37	694.82 680.16 707.92
Coil 3 P	7.572 3.476 9.476	25.786 22.506 28.506	43.398 40.327 46.327	60.927 57.996 63.996	78.460 75.610 81.610	95.960 93.210 99.210	113.447 110.763 116.763	130.913 128.308 134.308
Coil 4 M	1449.9 1421.2 1479.2	1436.4 1408.1 1465.6	1409.3 1381.5 1437.9	1369.3 1341.8 1396.5	1316.1 1289.7 1342.4	1251.2 1225.7 1275.7	1175.3 1150.7 1197.7	1089.6 1066.7 1110.2
Coil 4 P	7.542 3.432 9.432	25.717 22.431 28.431	43.290 40.217 46.217	60.787 57.834 63.834	78.268 75.415 81.415	95.748 92.963 98.963	113.205 110.482 116.482	130.596 127.927 133.927
Coil 5 M	2932.6 2865.2 2982.2	2910.7 2844.2 2960.3	2865.5 2799.7 2914.0	2796.3 2732.0 2843.5	2703.8 2641.2 2749.0	2588.4 2527.4 2630.5	2451.0 2392.2 2489.8	2292.1 2236.8 2328.1
Coil 5 P	7.329 3.241 9.241	25.027 21.744 27.744	42.184 39.107 45.107	59.293 56.349 62.349	76.454 73.594 79.594	93.663 90.899 96.899	110.973 108.246 114.246	128.287 125.614 131.614

INSTRUMENT CONFIGURATION

Source File: /dat1a/OH094015/FMS-tdg

50.84'

FOCUS CABLEHEAD

Diameter : 3.12"
Length : 3.17'
Weight : 15 lbs
Series : CABL318
Mnemonic : CBLH

FOCUS SWIVEL

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

FOCUS TEN/TEMP/MUD RES/ACCEL

Diameter : 3.13"
Length : 4.31'
Weight : 61 lbs
Series : 3980XA
Mnemonic : TTMA

FOCUS TELEMETRY (POWER SECTION)

Diameter : 3.13"
Length : 3.71'
Weight : 48 lbs
Series : 3518FB
Mnemonic : TMGR



FOCUS EB/EG TELEMETRY GAMMA RAY

Diameter : 3.12"
Length : 5.83'
Weight : 63 lbs
Series : 3518EG
Mnemonic : GR
Measure Point: 4.24': GR MP

GR MP — 35.47'

FOCUS COMPENSATED NEUTRON

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

LSN MP — 28.33'

SSN MP — 27.88'

FOCUS Z-DENSILOG

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

CR1 MP — 21.17'

LSD / CR2 MP — 18.52'

SSD MP — 18.13'

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'
Weight : 30 lbs
Series : 3930XA

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'
Weight : 30 lbs
Series : 3930XA

FOCUS HIGH DEFINITION INDUCTION TOOL


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

COIL 5 MP — 7.67'
 COIL 4 MP — 6.17'
 COIL 3 MP — 4.67'
 COIL 2 MP — 4.17'
 COIL 1 MP — 3.67'
 COIL 0 MP — 3.17'
 SP MP — 1.64'
 0.00'

FOCUS PINEAPPLE / CABBAGE

TOTAL LENGTH: 50.84'
 TOTAL WEIGHT: 698 lbs
 MAX DIAMETER: 0'6.13"



	COMPANY <u>WPX ENERGY</u> WELL <u>YOUNBERG RU 341-7</u> FIELD <u>RULISON</u> COUNTY <u>GARFIELD</u> STATE <u>CO</u>	FILE NO: <u>OH094015</u> API NO: <u>05045223440000</u>	
	LOCATION: SHL: 2445' FNL & 379' FEL BHL: 768' FNL & 347' FEL SEC <u>7</u> TWP <u>7S</u> RGE <u>93W</u>	ELEVATIONS: KB 7763 FT DF GL 7737 FT DATE <u>16-Jan-2015</u>	<u>7 7S 93W</u> <u>RU 42-7 PAD</u> <u>NABORS 574</u>