

FILE NO: US625060
API NO: 05045219720000
COMPANY: WPX ENERGY INC
WELL: SAVAGE RWF 411-25
FIELD: RULISON
COUNTY: GARFIELD STATE CO

Ver. 3.87
S25: T6S; R94W
RIG: CYCLONE 17
PAD: RWF 22-25
LOCATION: SHL: 2465' FNL 1412' FWL
BHL: 824' FNL 775' FWL
SEC 25 TWP 6S RGE 94W
OTHER SERVICES: NONE

PERMANENT DATUM: GL ELEVATION 6037 FT
LOG MEASURED FROM: KB 21 FT ABOVE P.D.
DRILL MEAS. FROM: KB
ELEVATIONS: KB 6058 FT, DF, GL 6037 FT

DATE	01-Feb-2014
RUN	1
SERVICE ORDER	US625060
DEPTH DRILLER	8909 FT
DEPTH LOGGER	8919 FT
BOTTOM LOGGED INTERVAL	8916 FT
TOP LOGGED INTERVAL	0 FT
CASING DRILLER	9.625 IN @ 1153 FT
CASING LOGGER	1153 FT
BIT SIZE	8.75 IN
TYPE OF FLUID IN HOLE	WBM
DENSITY	11.8 LB/G
PH	9.5
SOURCE OF SAMPLE	FLOWLINE
RM AT MEAS. TEMP.	68 OHMM @ 75 DEGF
RMF AT MEAS. TEMP.	.51 OHMM @ 70 DEGF
RMC AT MEAS. TEMP.	.85 OHMM @ 70 DEGF
SOURCE OF RMF	CALCULATED
RM AT BHT	621 OHMM @ 193 DEGF
TIME SINCE CIRCULATION	12 HR
MAX. RECORDED TEMP.	195 DEGF
EQUIP. NO.	6670
RECORDED BY	D. SMITH
WITNESSED BY	M. BRUNK

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD		
BIT SIZE	FROM	TO
8.75 IN	1150 FT	8909 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.3 LB/F		0 FT	1150 FT

REMARKS

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

BVOL-CVOL CALCULATED IN CUBIC FEET
BVOL CALCULATED USING PROPOSED 4.5 INCH CASING
CALIPER VERIFIED INSIDE SURFACE CASING

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

CN MATRIX = SANDSTONE
CN RAN DECENTRALIZED

HDIL RAN WITH 1.5 INCH STANDOFF
ABC TO CALCULATED = MUD CONDUCTIVITY

ADDITIONAL LOGS WILL BE CONDUCTED
THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES
CREW: SMITH/OLSON/COATE

RIG: CYCLONE 17

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTMA	3980XA	10120299	FREE
1	1	TEL/GR	3518EB / 3518EG	10127973 / 10126398	FREE
1	1	CN	2436XA	10362459	DECENTRALIZED
1	1	ZDL	2223XA	10102922	PAD DEVICE
1	1	KNJT	3930XA	10139400 / 10087279	FREE
1	1	HDIL	1530XA	10121806	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: 31 Patches: 5

Plotted: Sat Feb 1 23:53:40 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625060/n970a04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1029.250 ft BOTTOM DEPTH: 8948.829 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER Q	medium (1)		TOP	BOTTOM
CALIPER	FILTER Q	medium (1)		"	"
TENSION	FILTER Q	medium (1)		"	"
SP-SPDH	FILTER Q	heavy (3)		"	"

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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	75.0	degF	"	"
	MUD SAMPLE RES	0.680	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	75.0	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	"	"

CURVE DESCRIPTION REPORT

CURVE NAME CREATION DATE CURVE DESCRIPTION

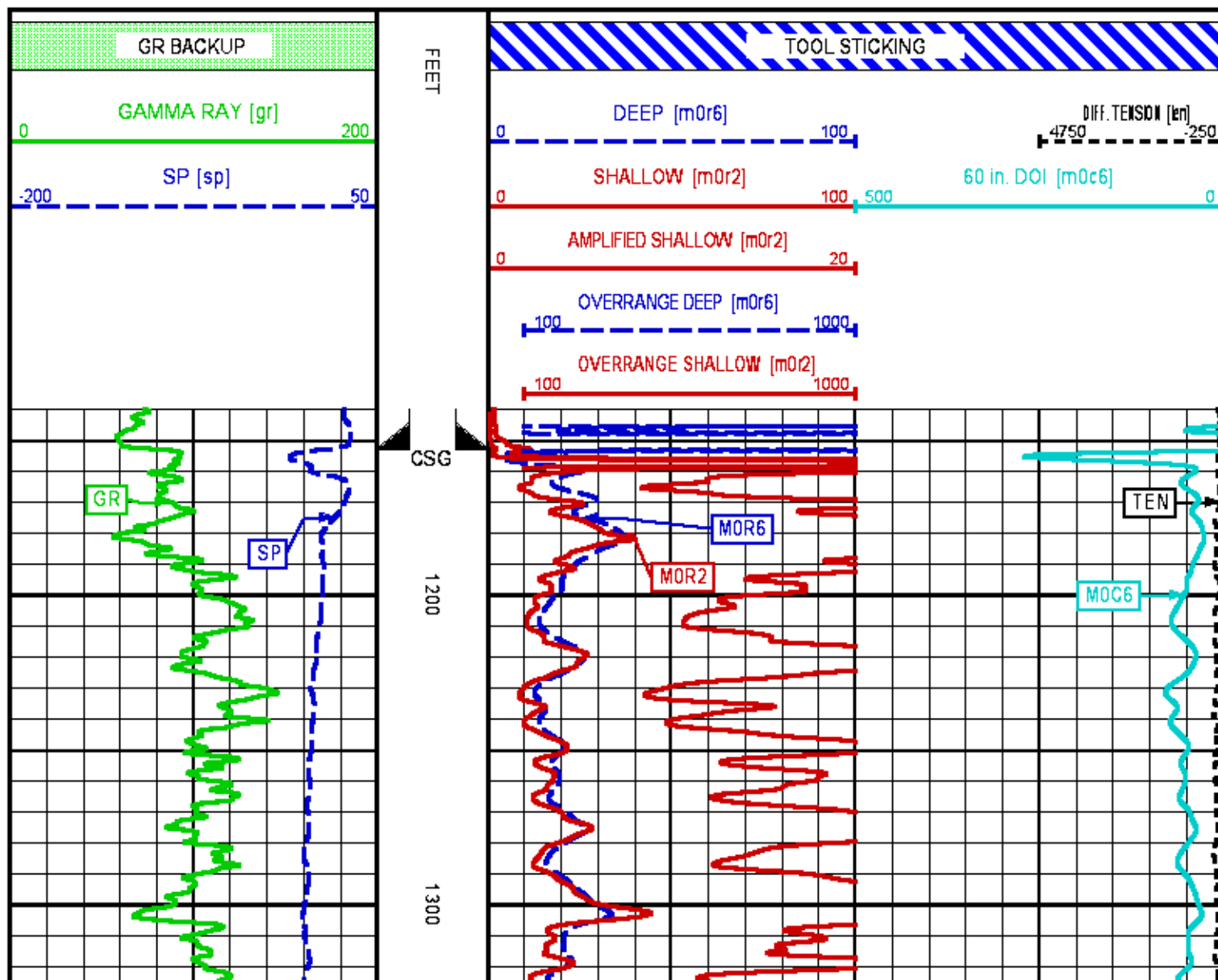
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F1:MOR2	Feb 1 21:09:42 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Feb 1 21:09:42 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Feb 1 21:09:42 2014	SPONTANEOUS POTENTIAL
F1:TEN	Feb 1 21:09:42 2014	DIFFERENTIAL TENSION

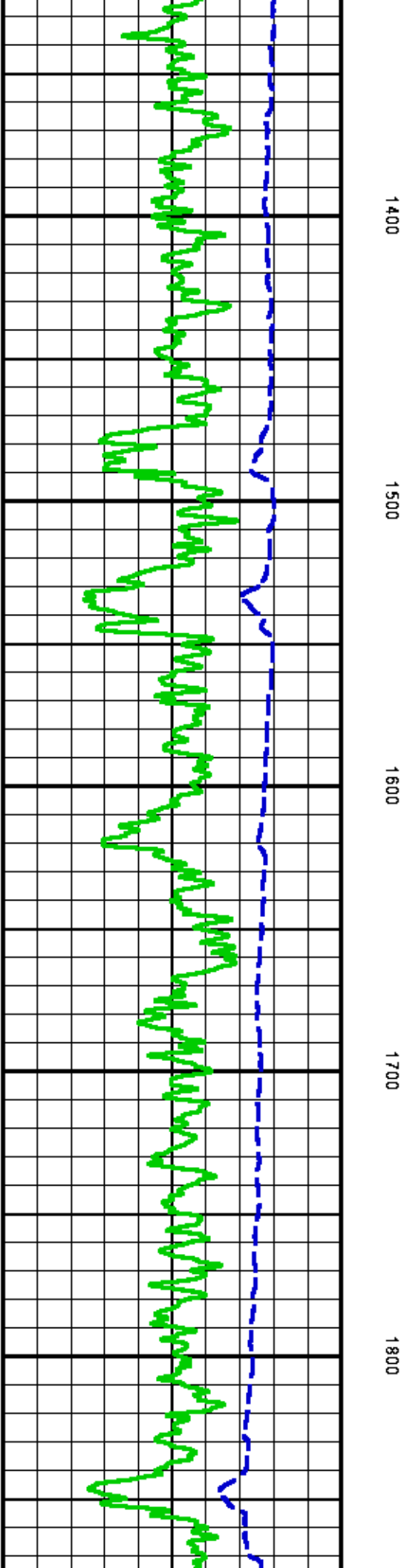
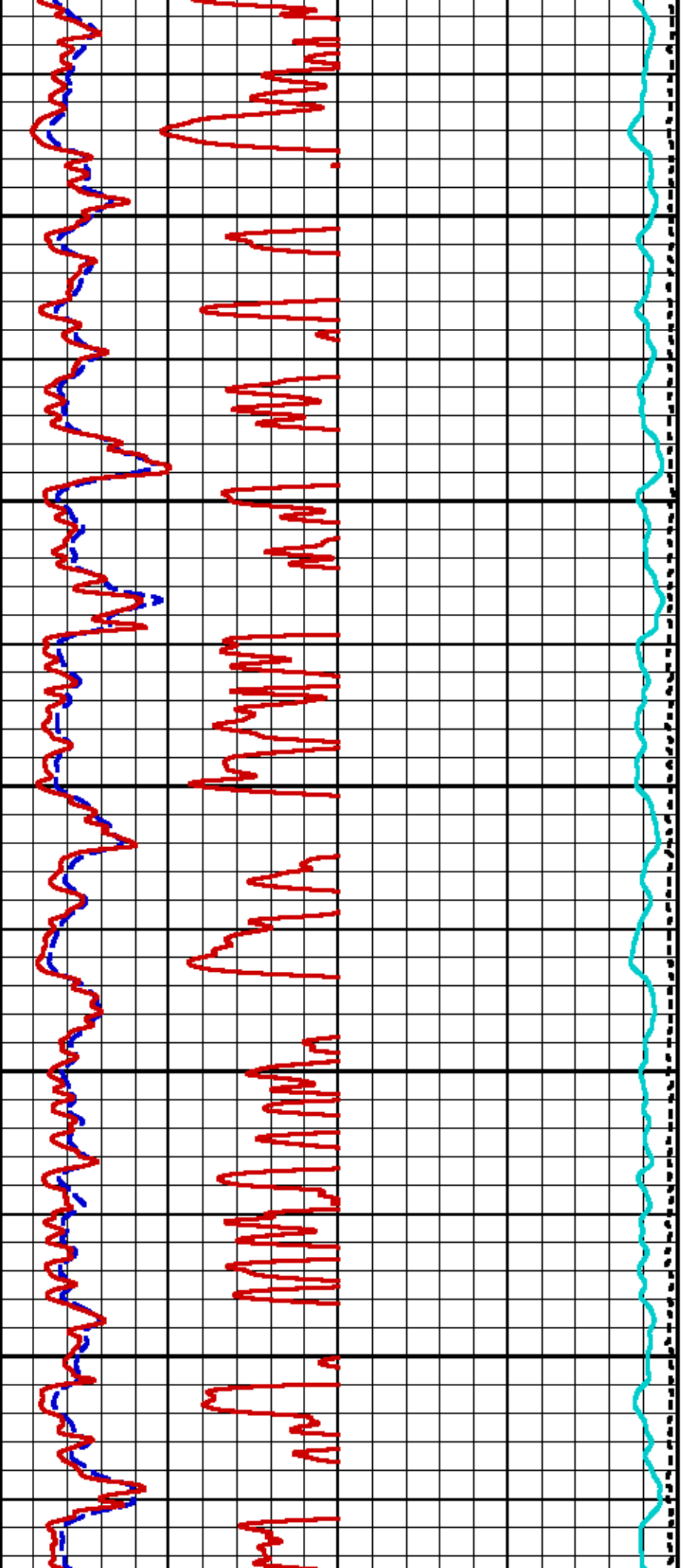
CURVE MEASURE POINT OFFSET

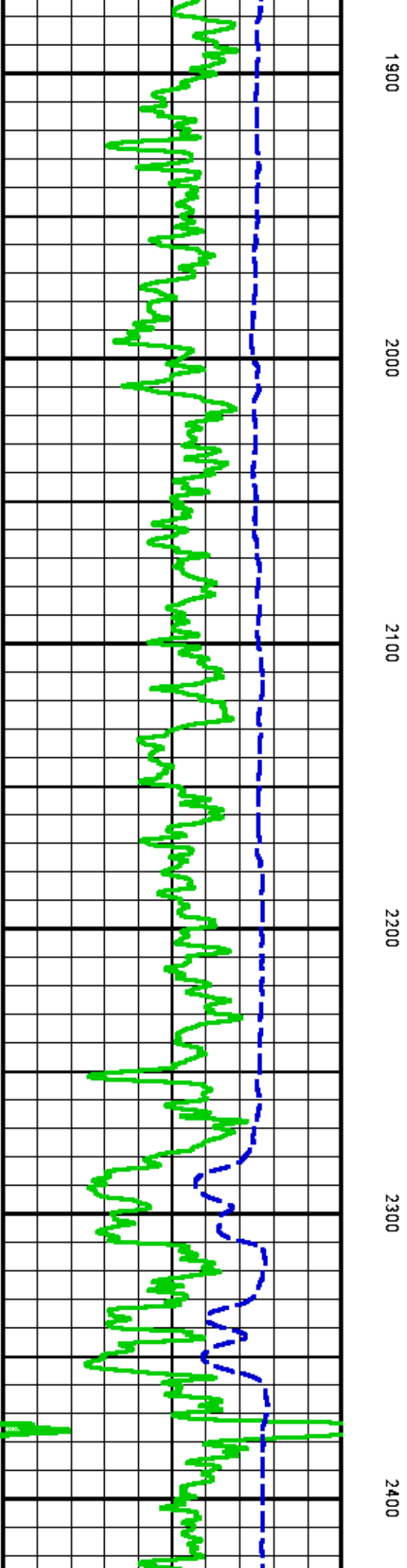
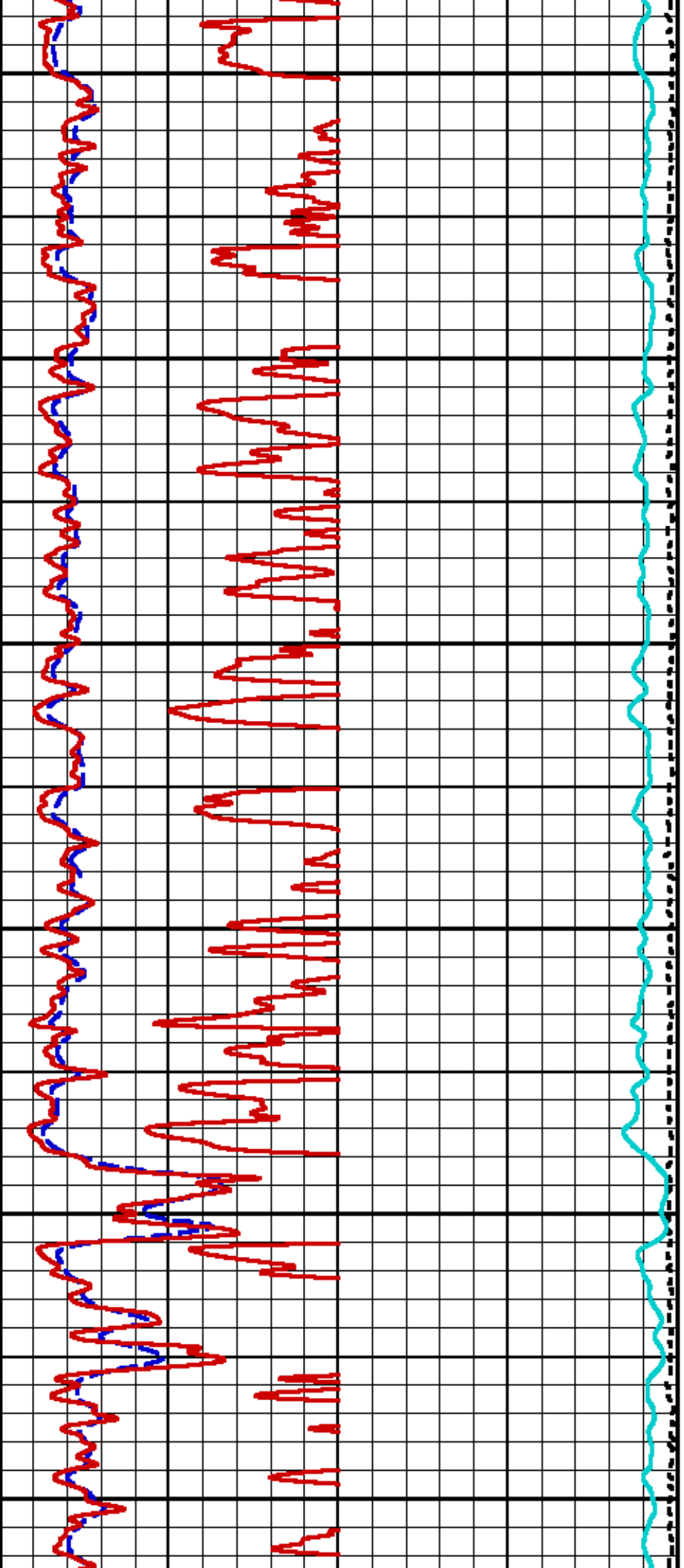
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MOC6	2.75	MOR6	2.75	TEN	0.00		

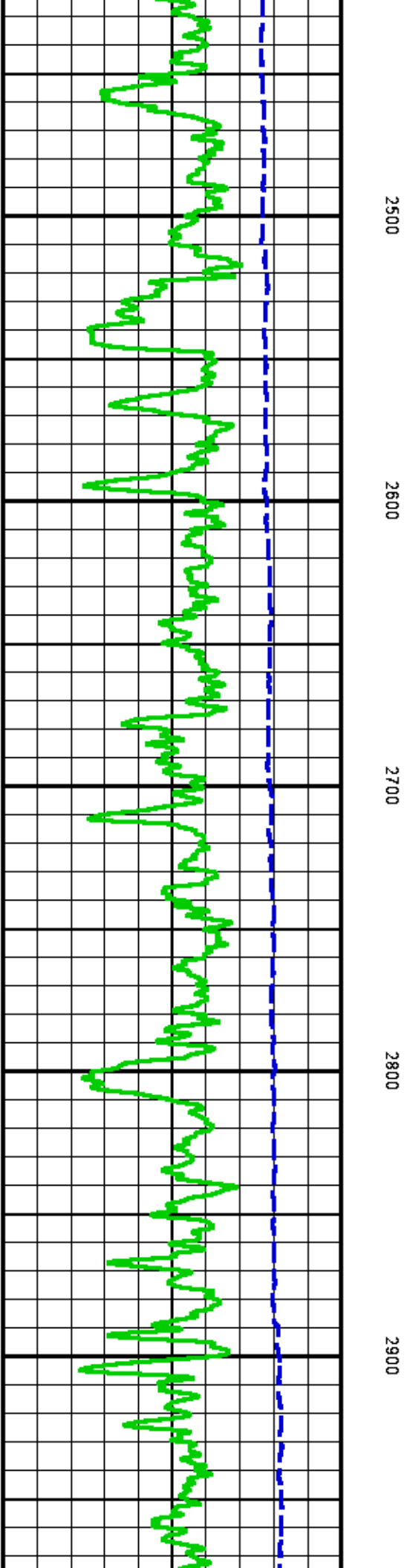
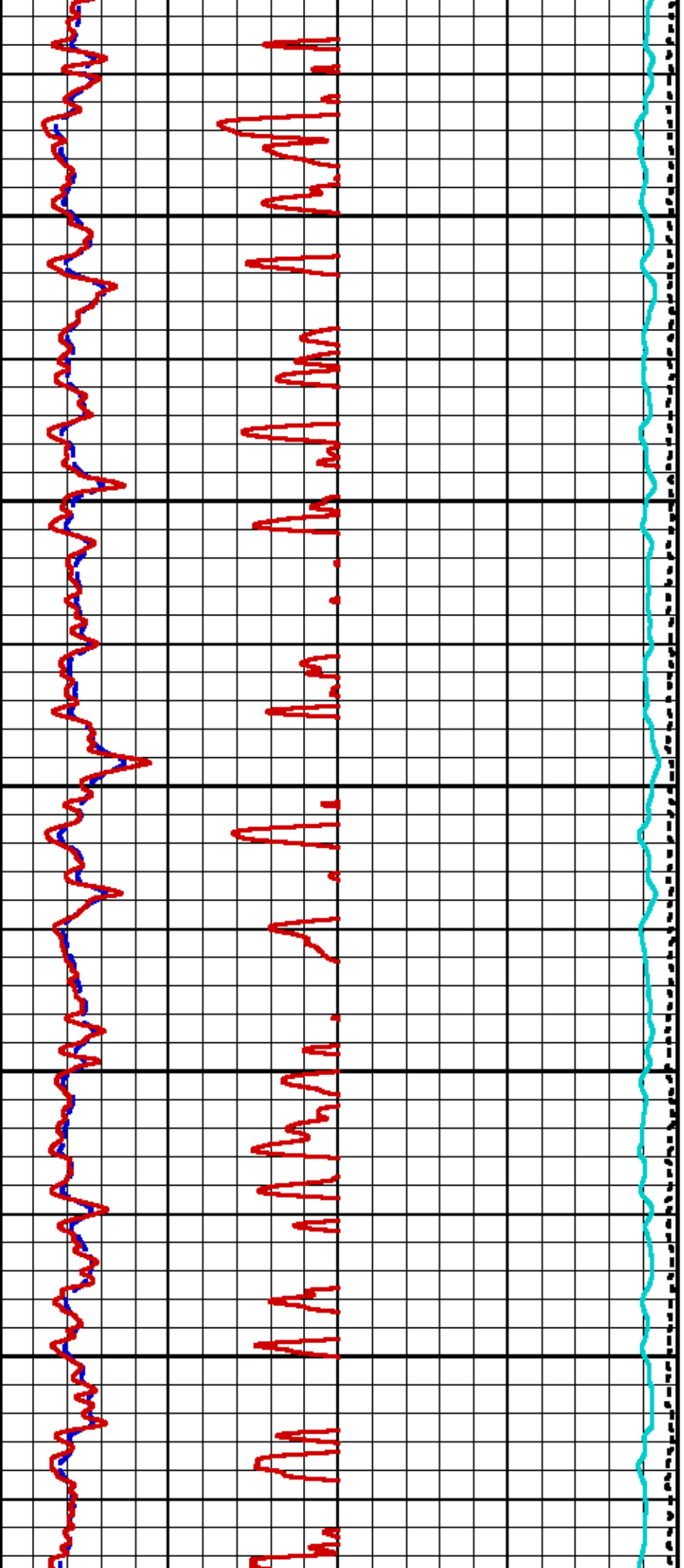
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Plot Interval : 1140 - 8949 Feet

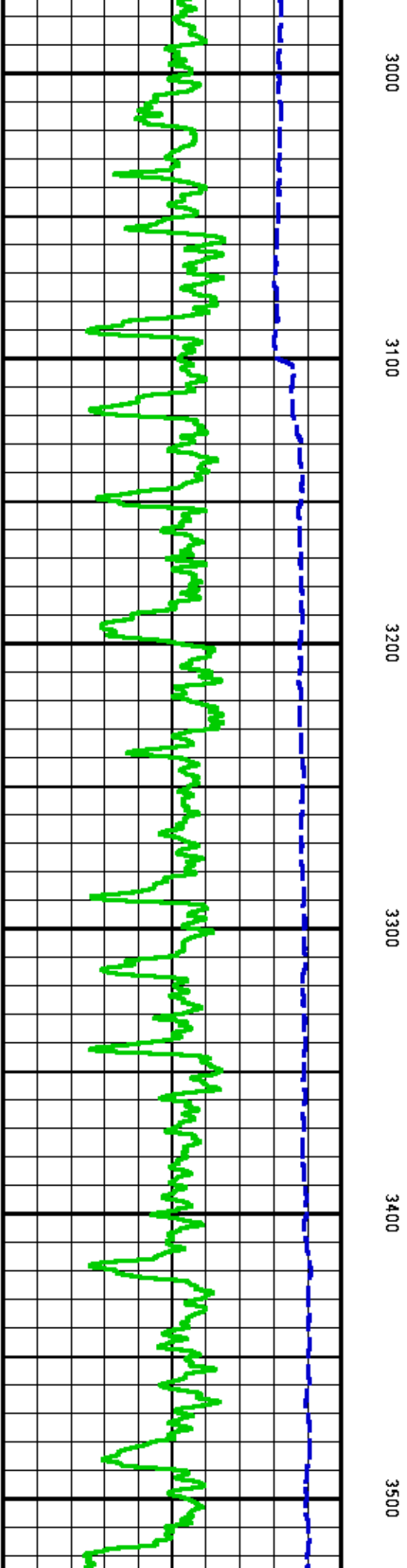
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Created On : Feb 1 21:09:42 2014
Company : WPX ENERGY INC
Well : SAVAGE RWF 411-25
Field : RULISON
File Interval : 988.75 - 8949 Feet
OCT : n970a

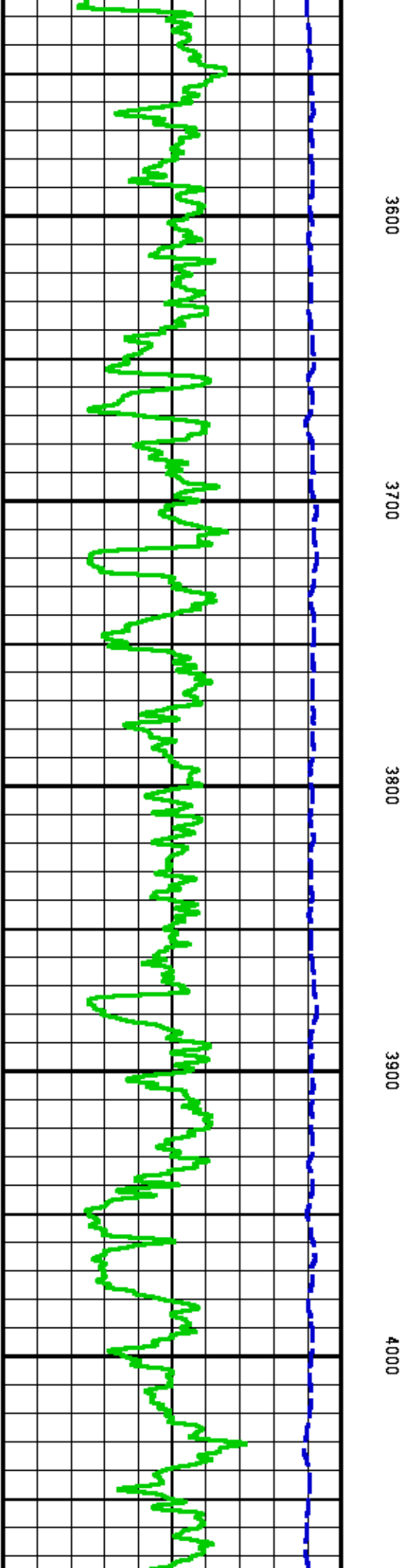
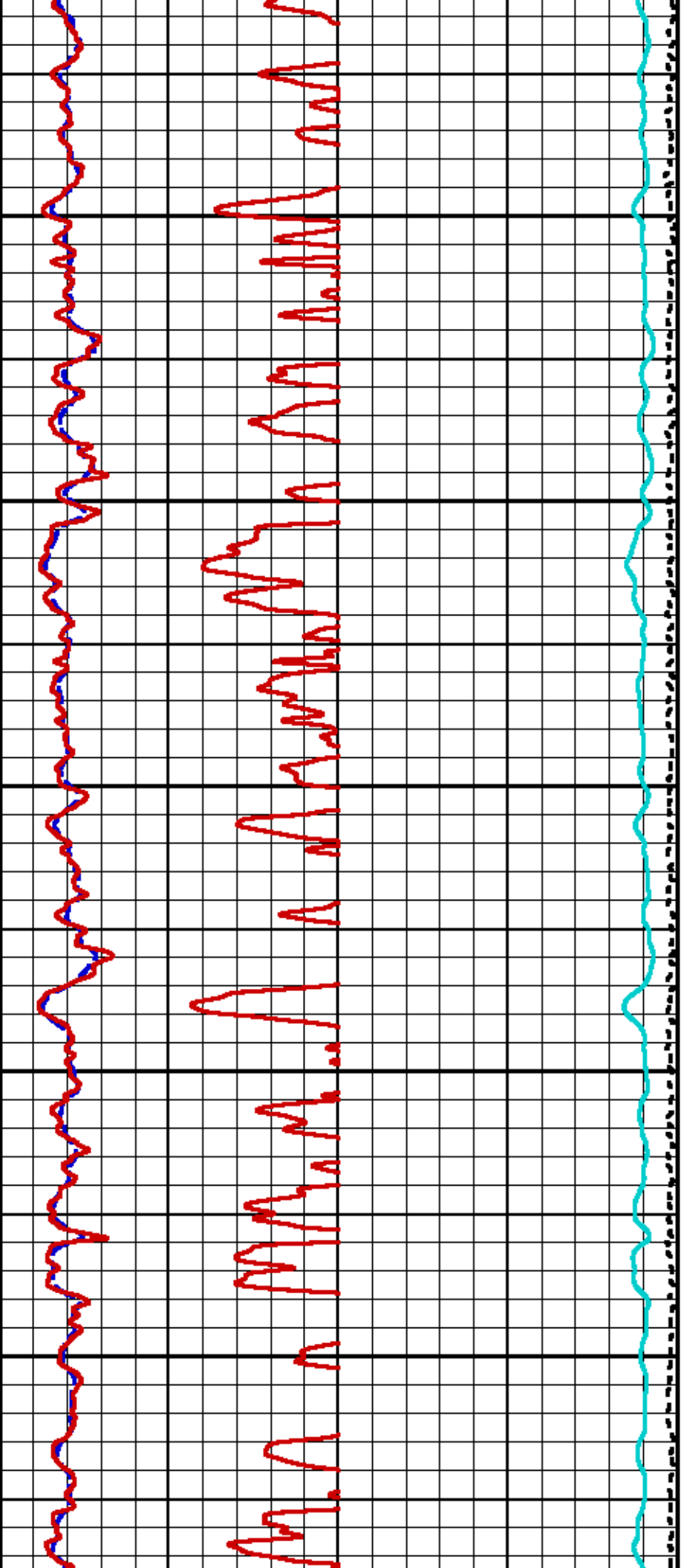


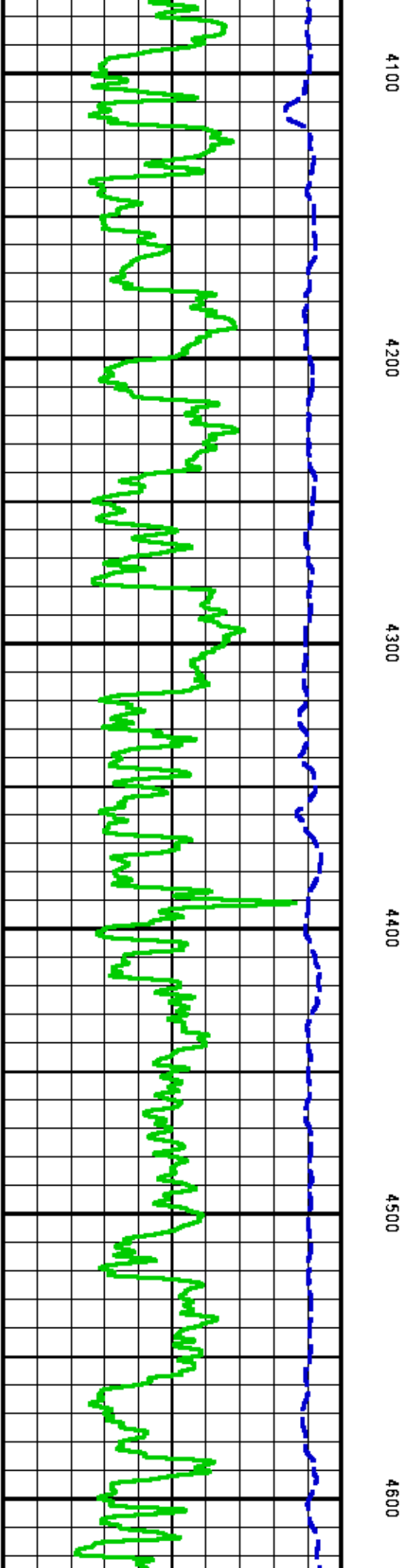
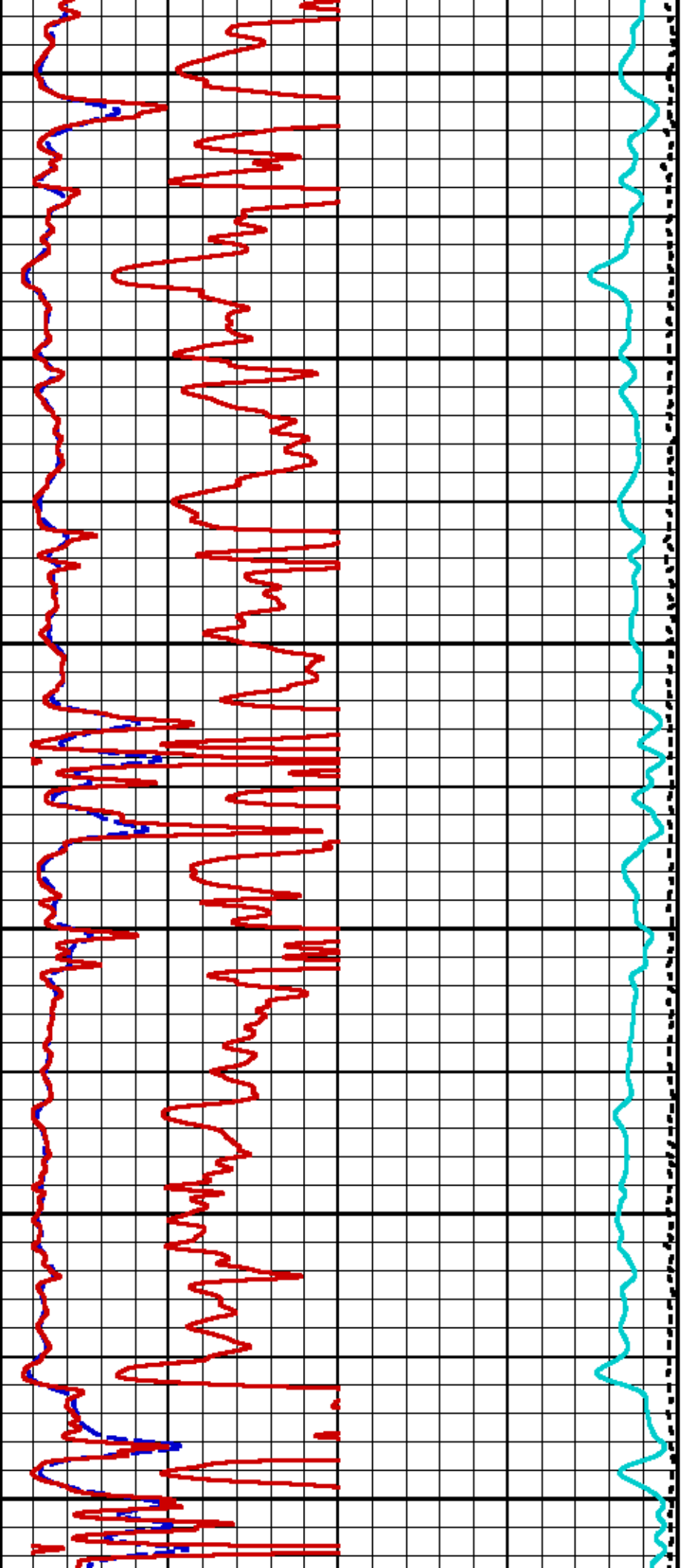


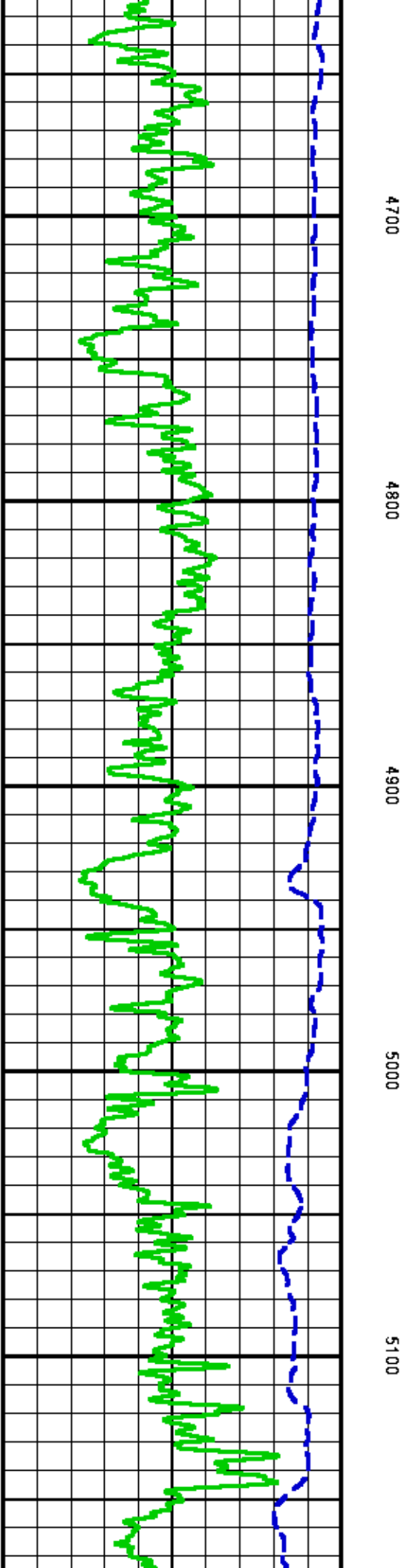
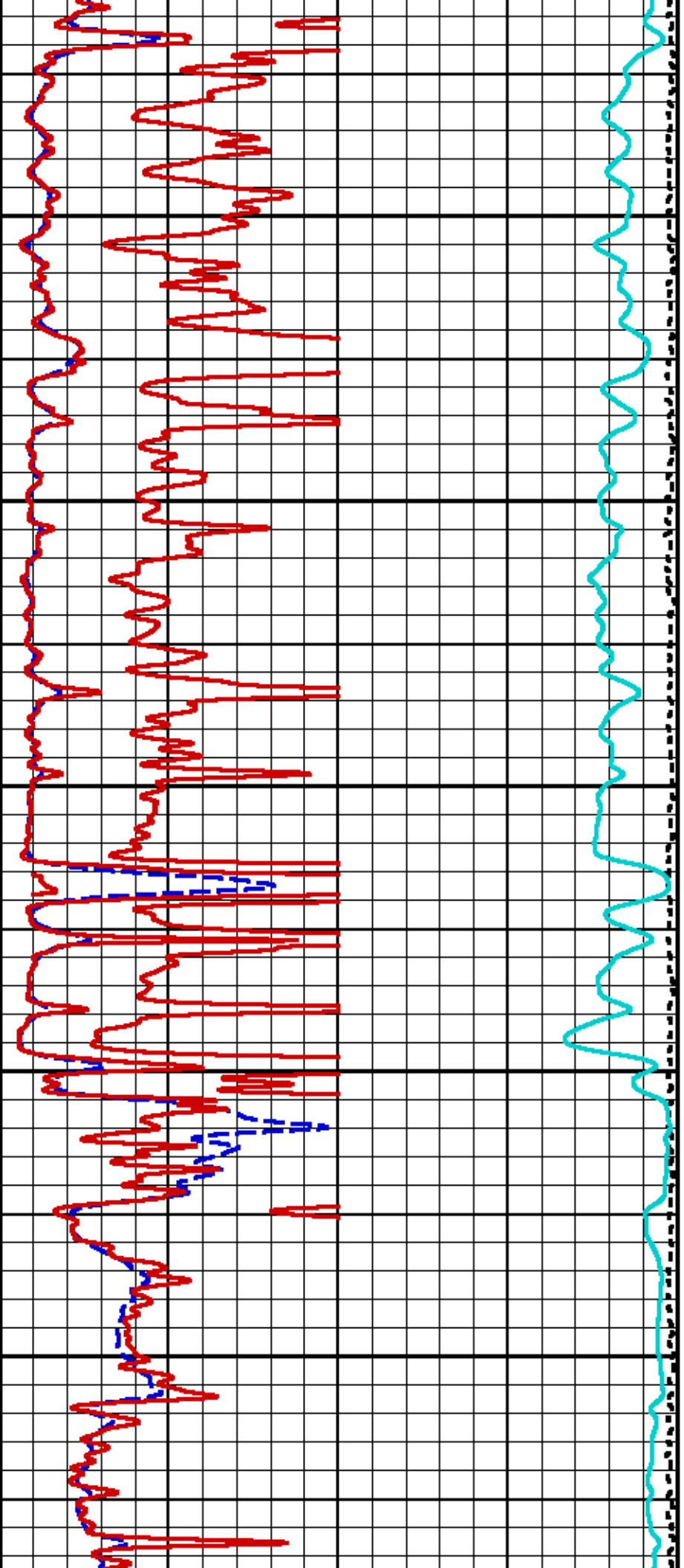


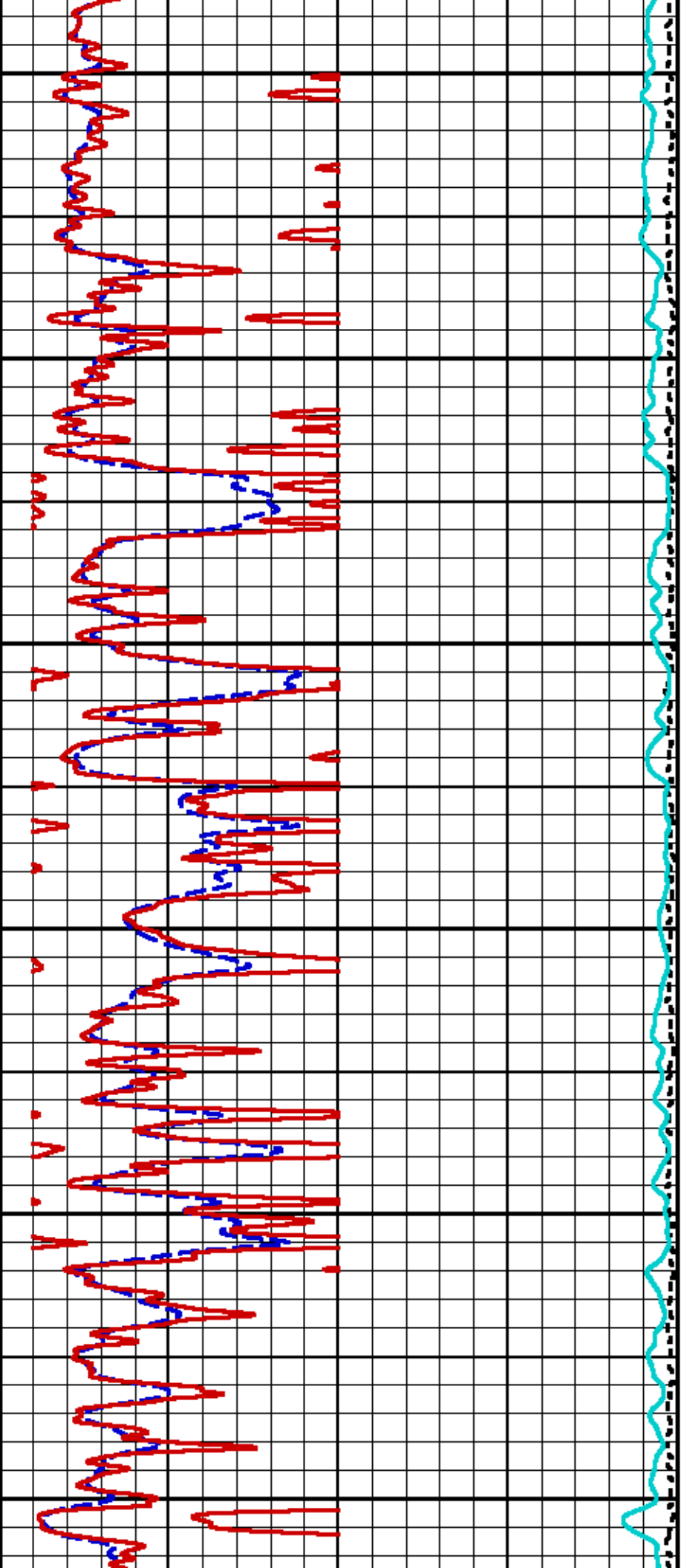












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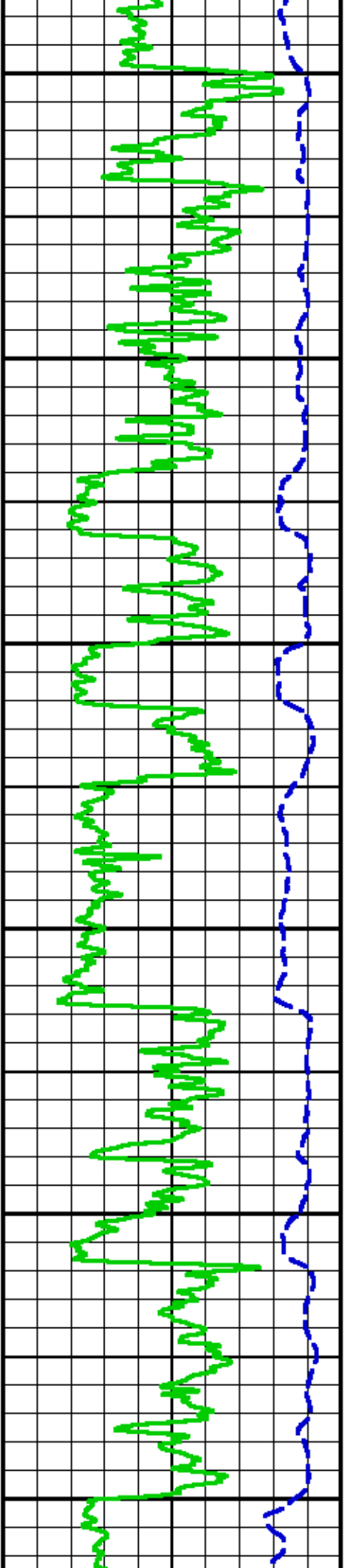
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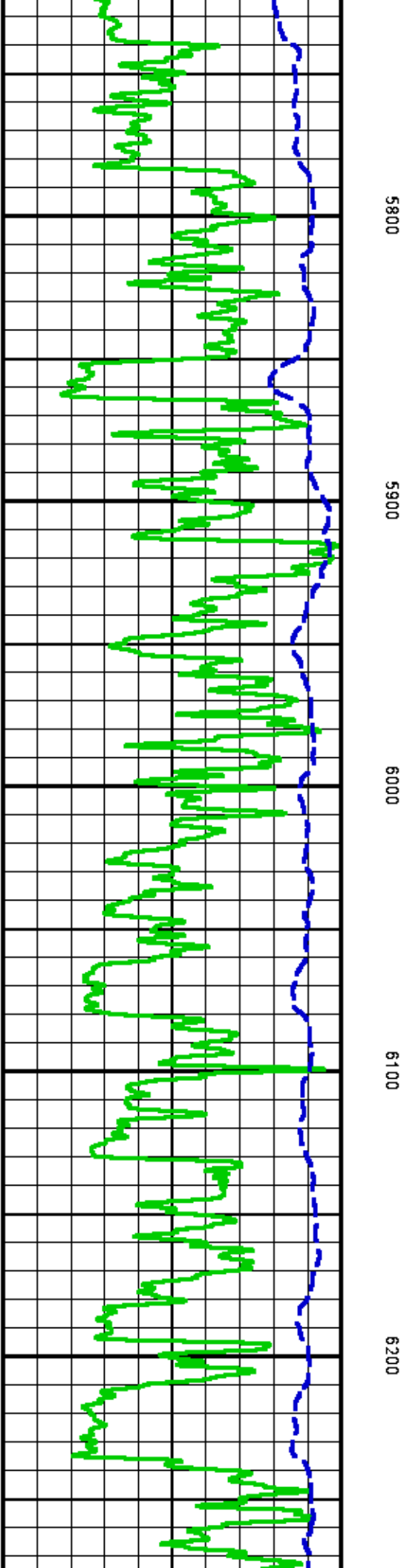
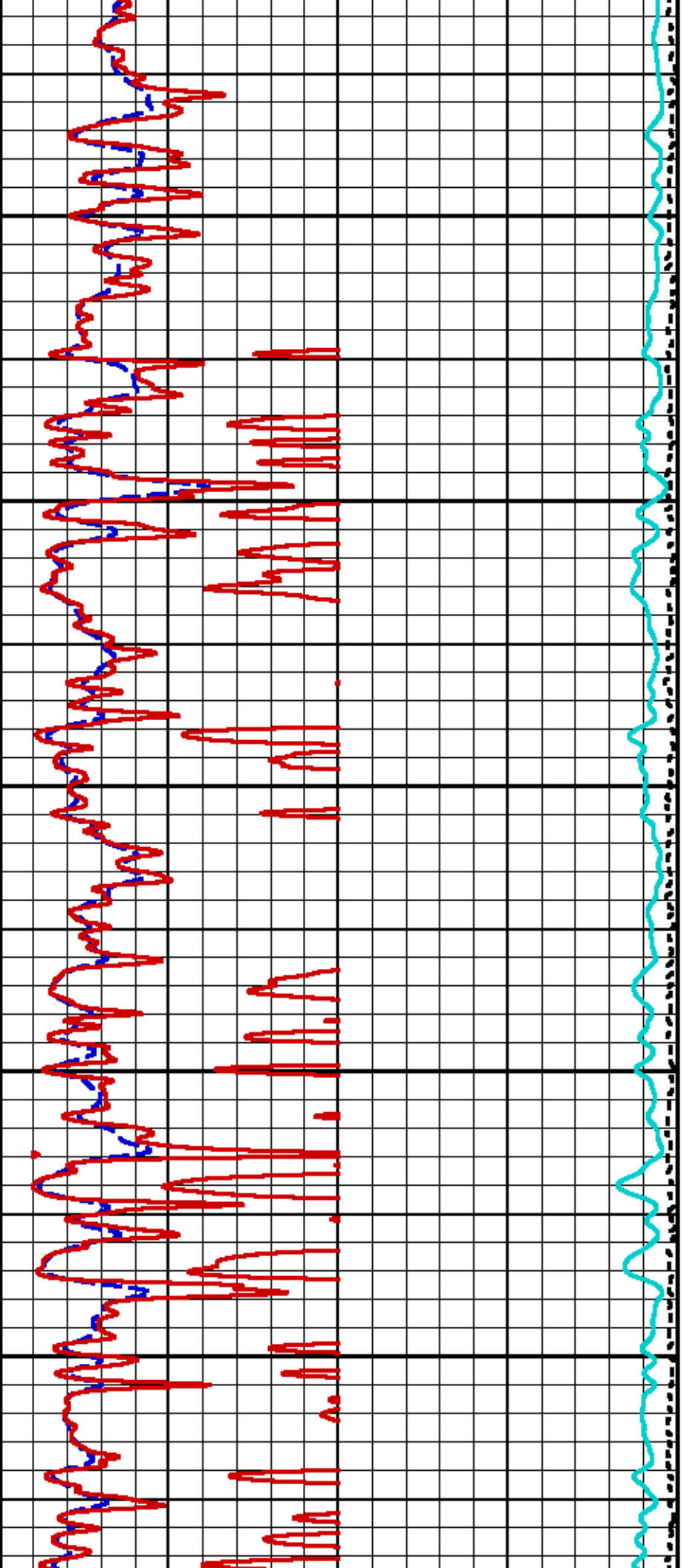
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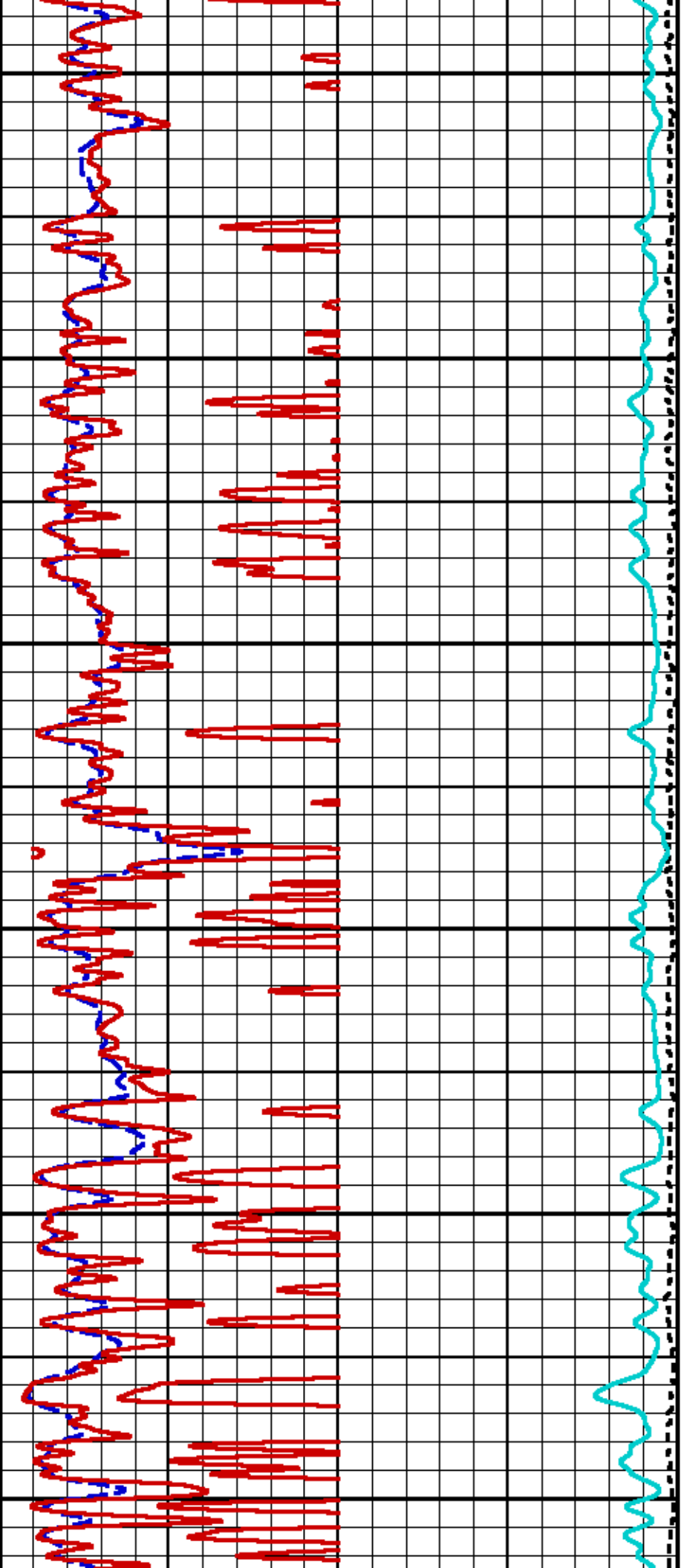
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5700







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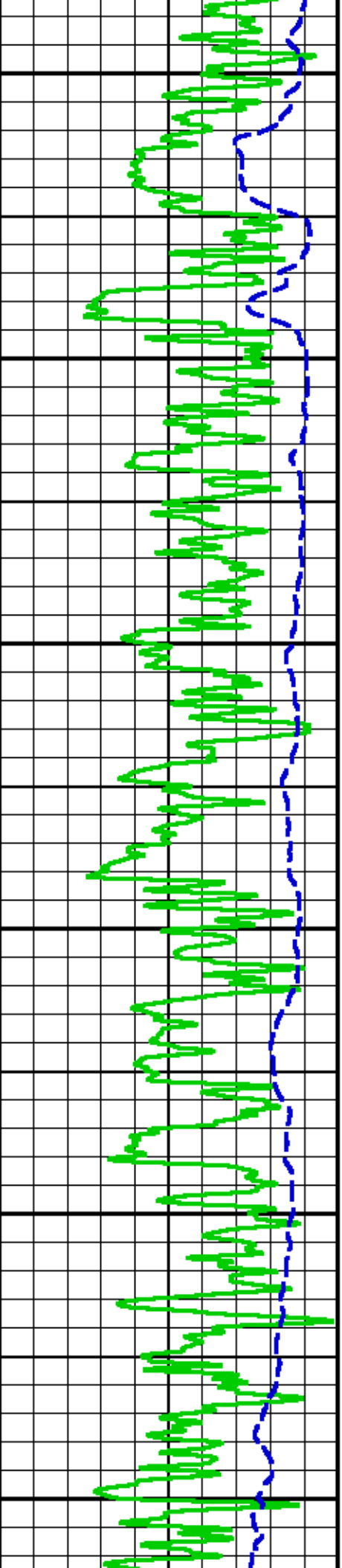
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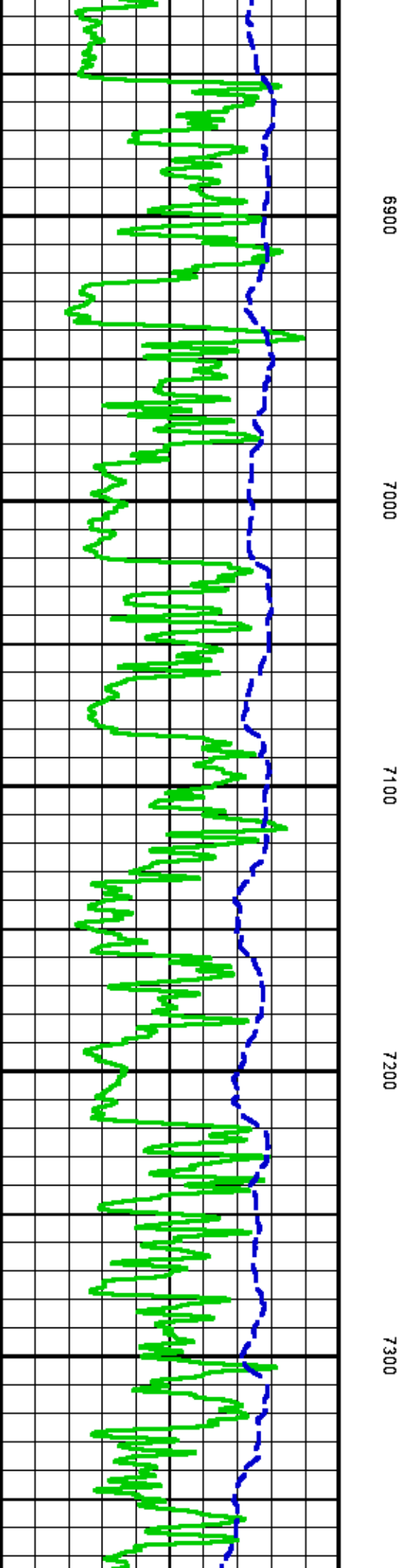
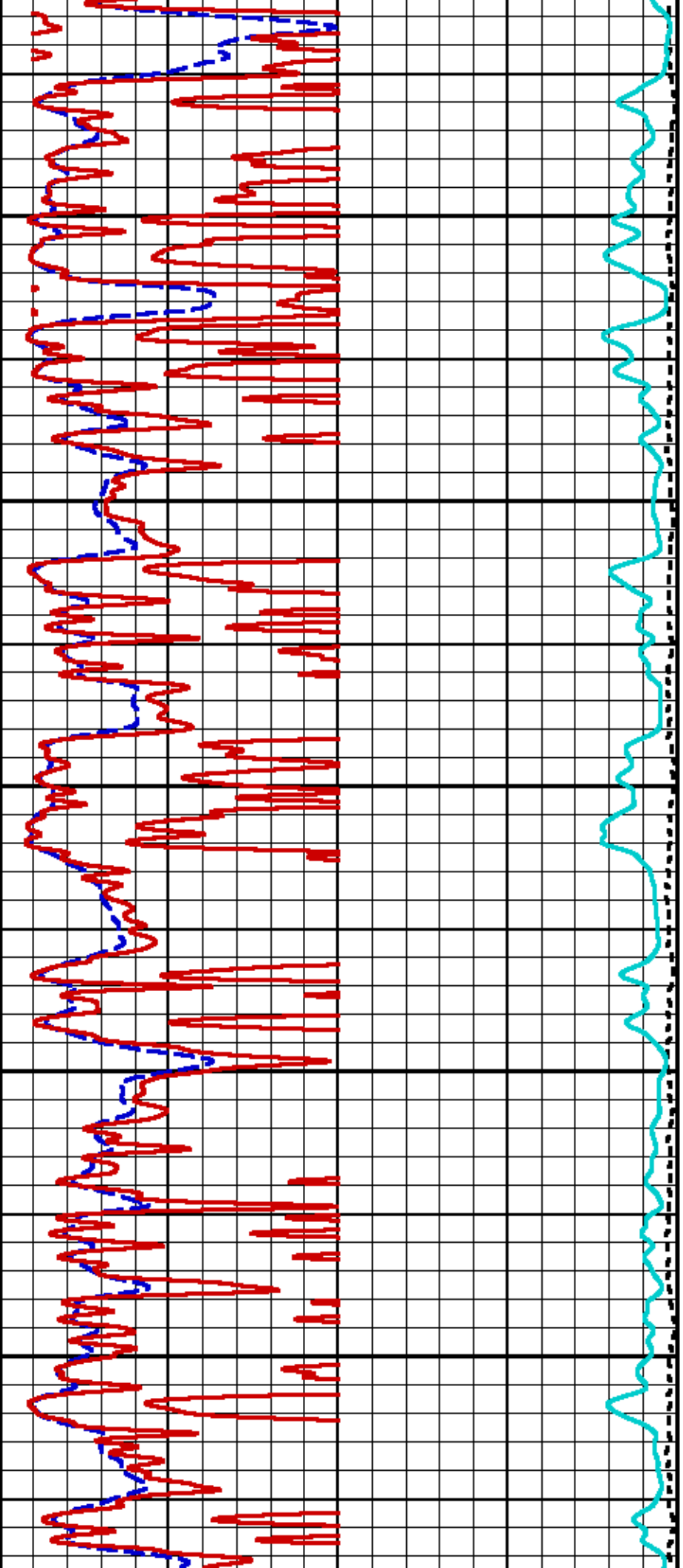
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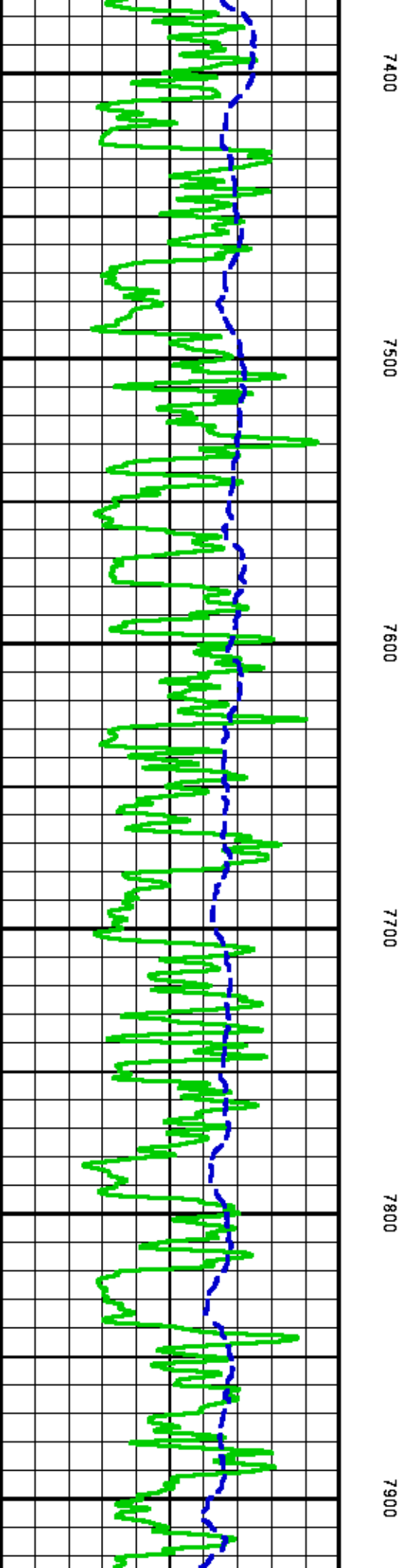
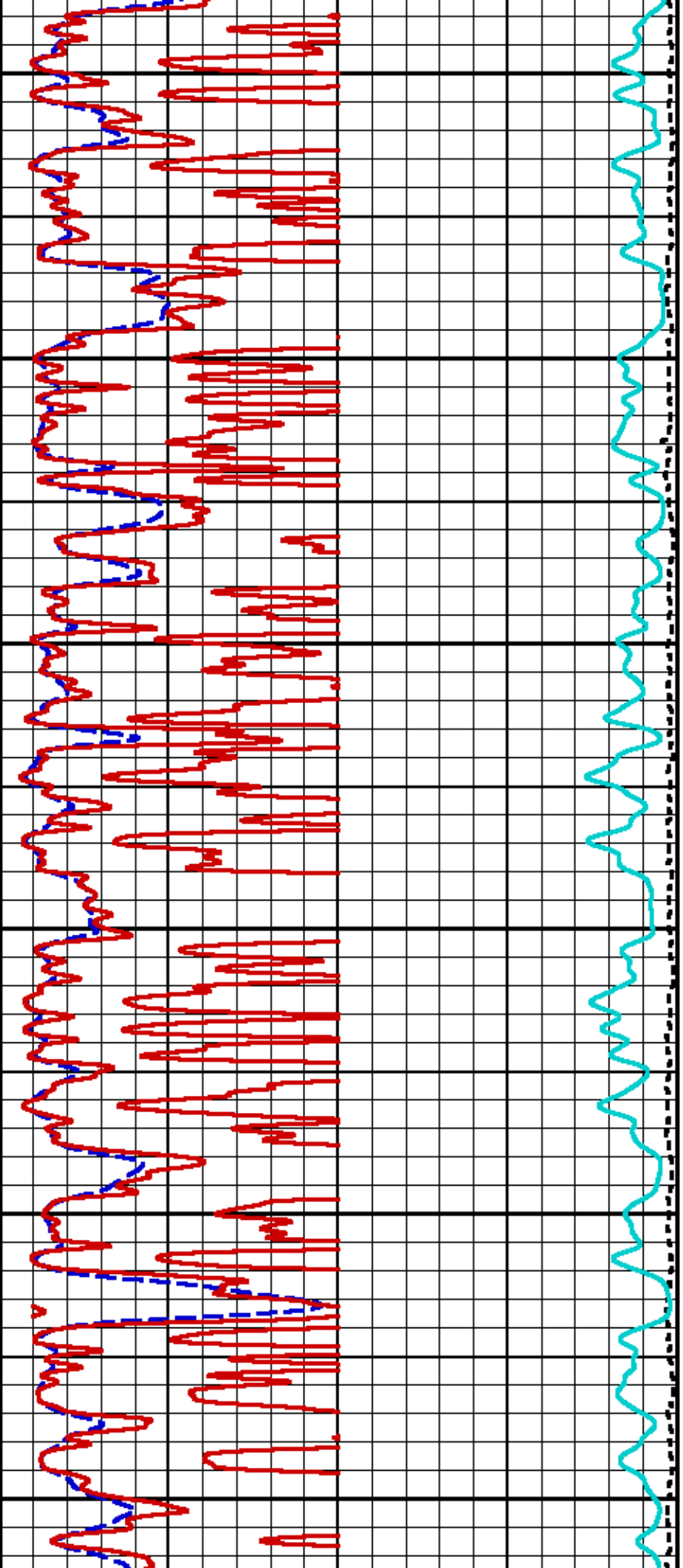
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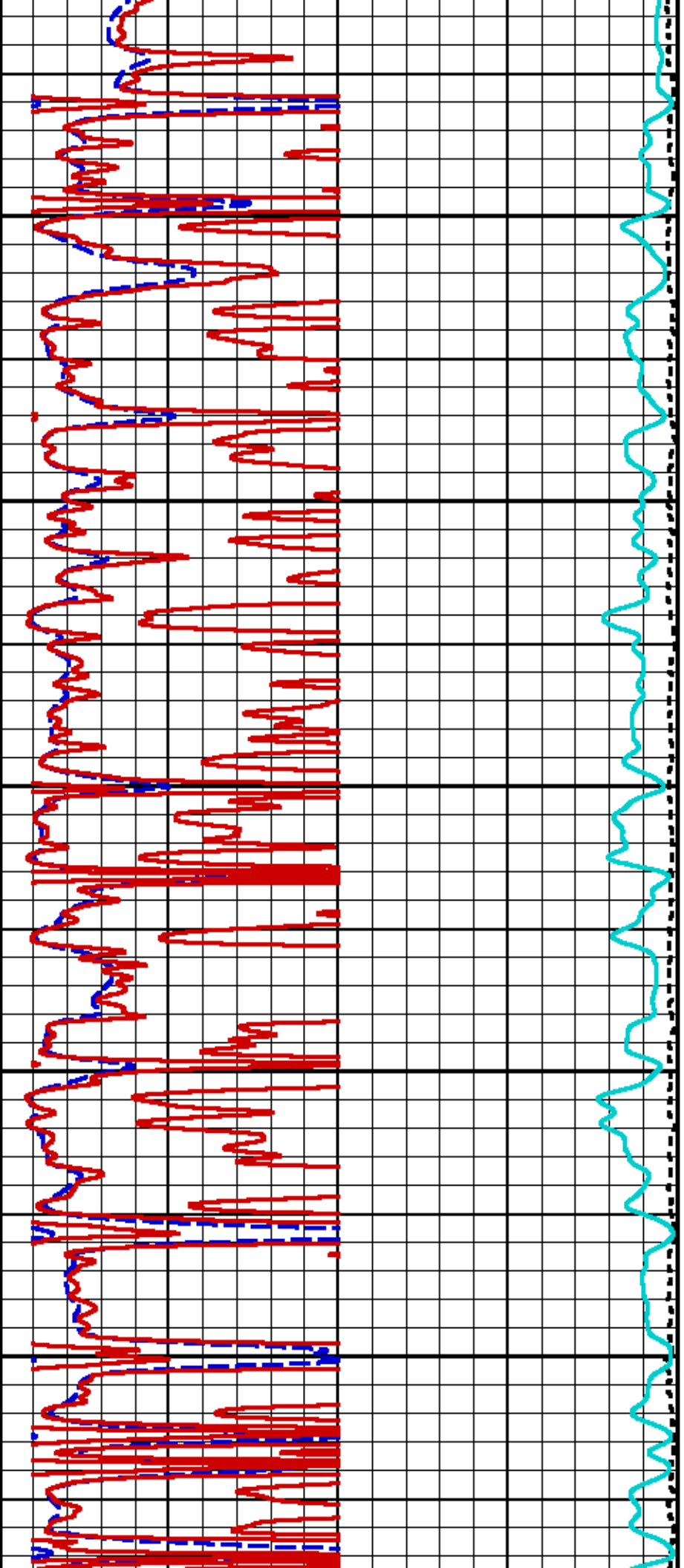
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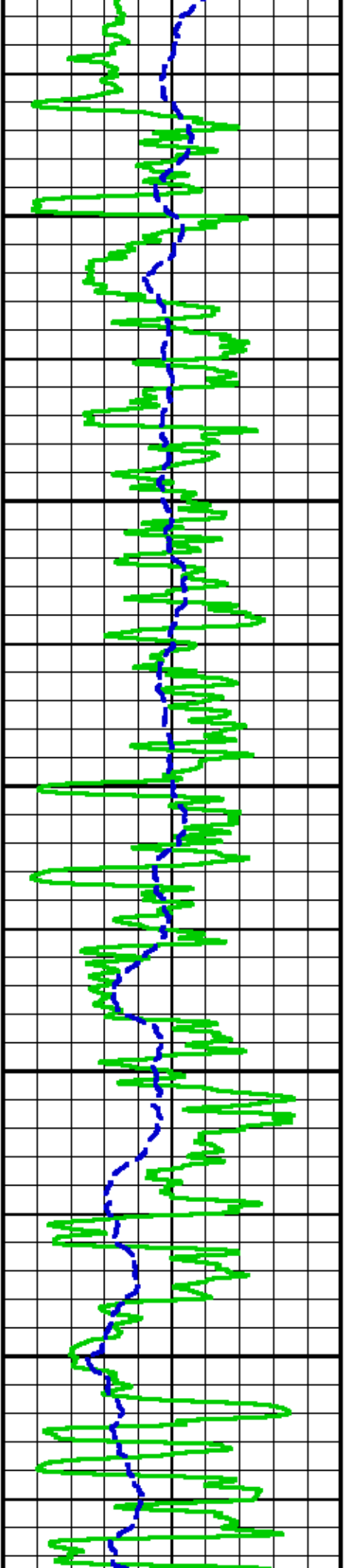
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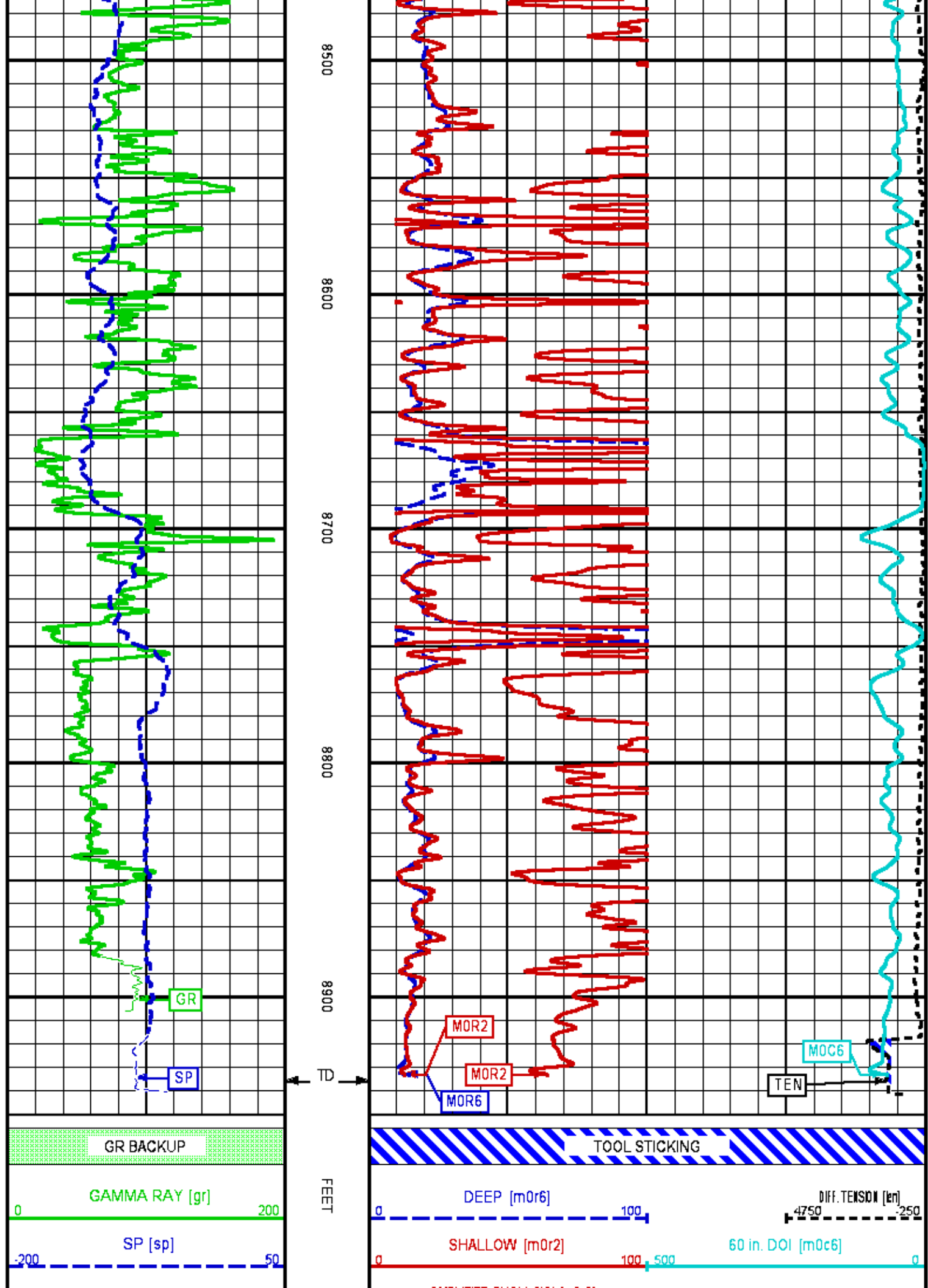
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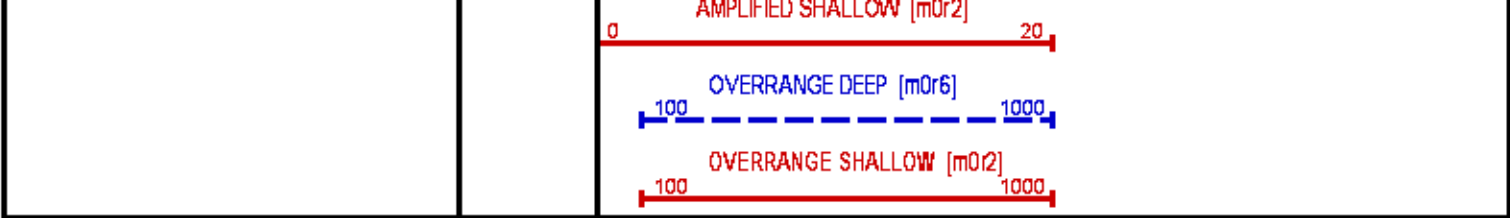
8200

8300

8400







MAIN LOG 5"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 31 Patches: 5

Plotted: Sun Feb 2 00:58:19 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625060/n970a04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1029.250 ft BOTTOM DEPTH: 8948.829 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER Q	medium (1)		TOP	BOTTOM
CALIPER	FILTER Q	medium (1)		"	"
TENSION	FILTER Q	medium (1)		"	"
CN MED RES	FILTER Q	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER Q	heavy (3)		"	"

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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	75.0	degF	"	"
	MUD SAMPLE RES	0.680	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	75.0	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	500	ppm	"	"

CN TOOL STANDOFF	BOREHOLE CORRECTION	ON	"	"
	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	Feb 1 21:09:42 2014	BIT SIZE
F1:BVOL	Feb 1 21:09:42 2014	BOREHOLE VOLUME
F1:CAL	Feb 1 21:09:42 2014	CALIPER
F1:CNCf	Feb 1 21:09:42 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Feb 1 21:09:42 2014	CEMENT VOLUME
F1:GR	Feb 1 21:09:42 2014	GAMMA RAY
F1:M2R1	Feb 1 21:09:42 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Feb 1 21:09:42 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 1 21:09:42 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Feb 1 21:09:42 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Feb 1 21:09:42 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Feb 1 21:09:42 2014	SPONTANEOUS POTENTIAL
F1:TEN	Feb 1 21:09:42 2014	DIFFERENTIAL TENSION
F1:ZCOR	Feb 1 21:09:42 2014	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:WPX MAIN.fvpdf [5"/100' Scale]

Plot Interval : 11.25 - 8949 Feet

Data File 1 : F1 : HL6670:/dat1a/625060/MAIN.xtf

Created On : Feb 1 21:09:42 2014

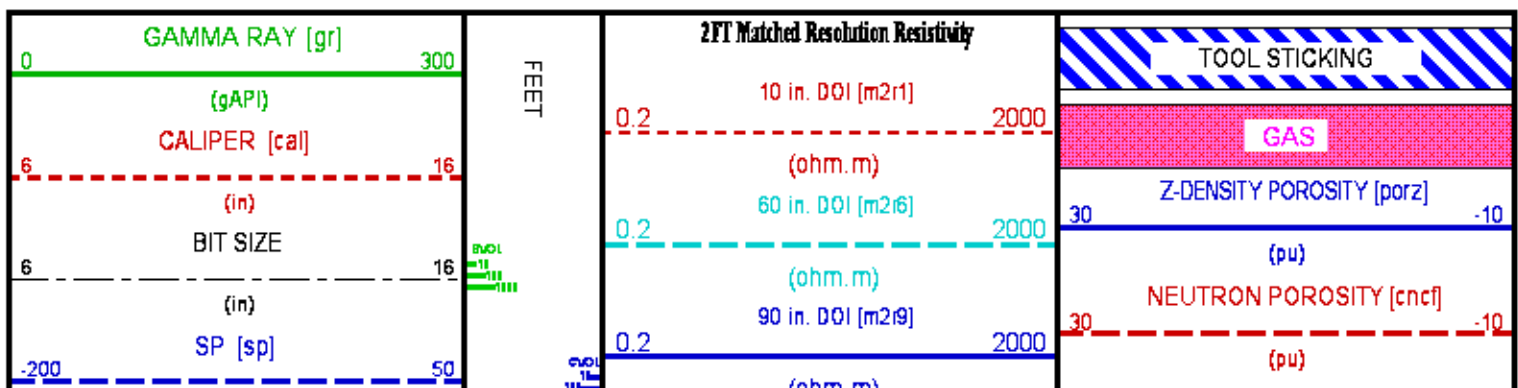
Company : WPX ENERGY INC

Well : SAVAGE RWF 411-25

Field : RULISON

File Interval : 11.25 - 8949 Feet

OCT : n970a



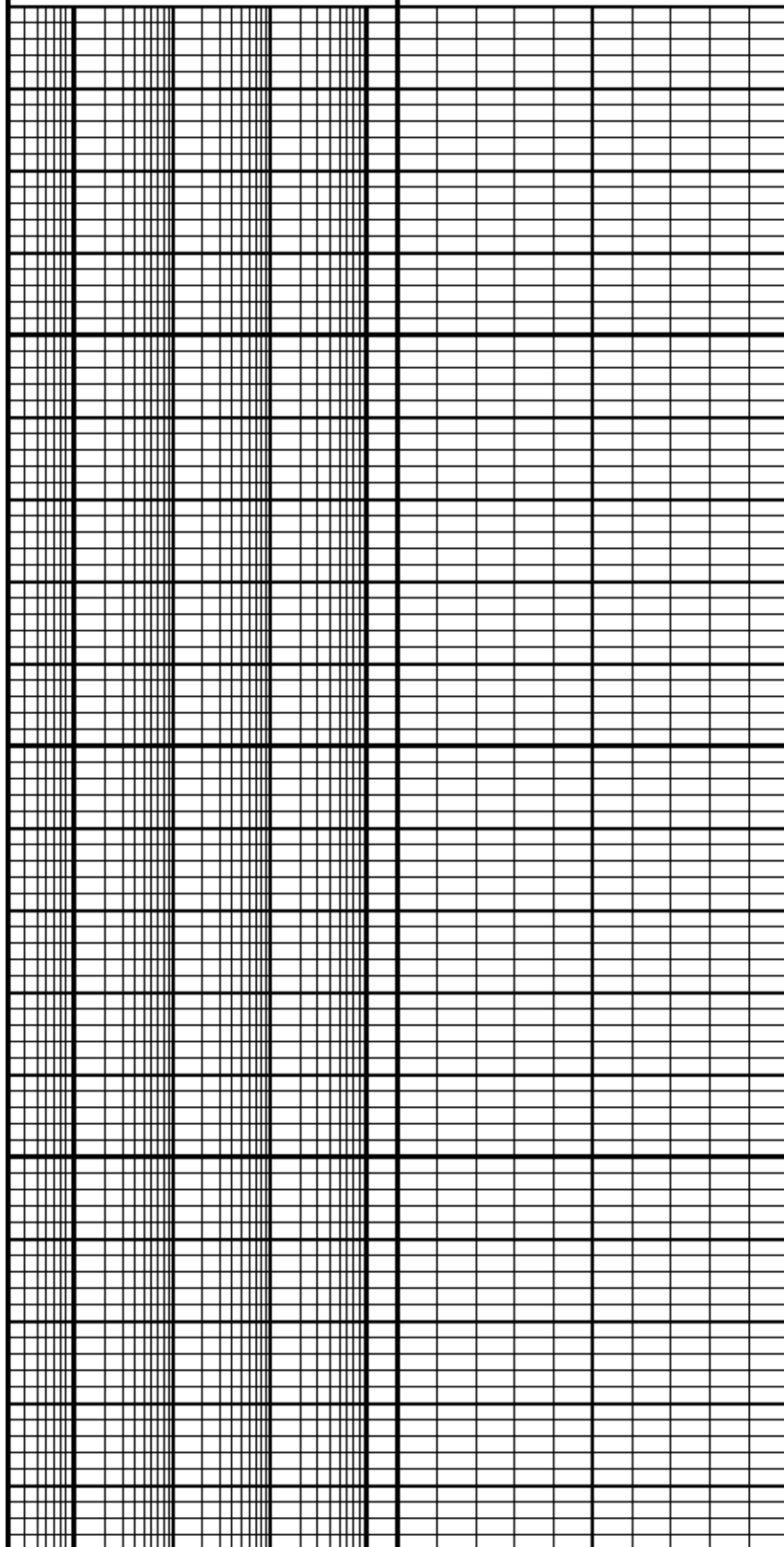
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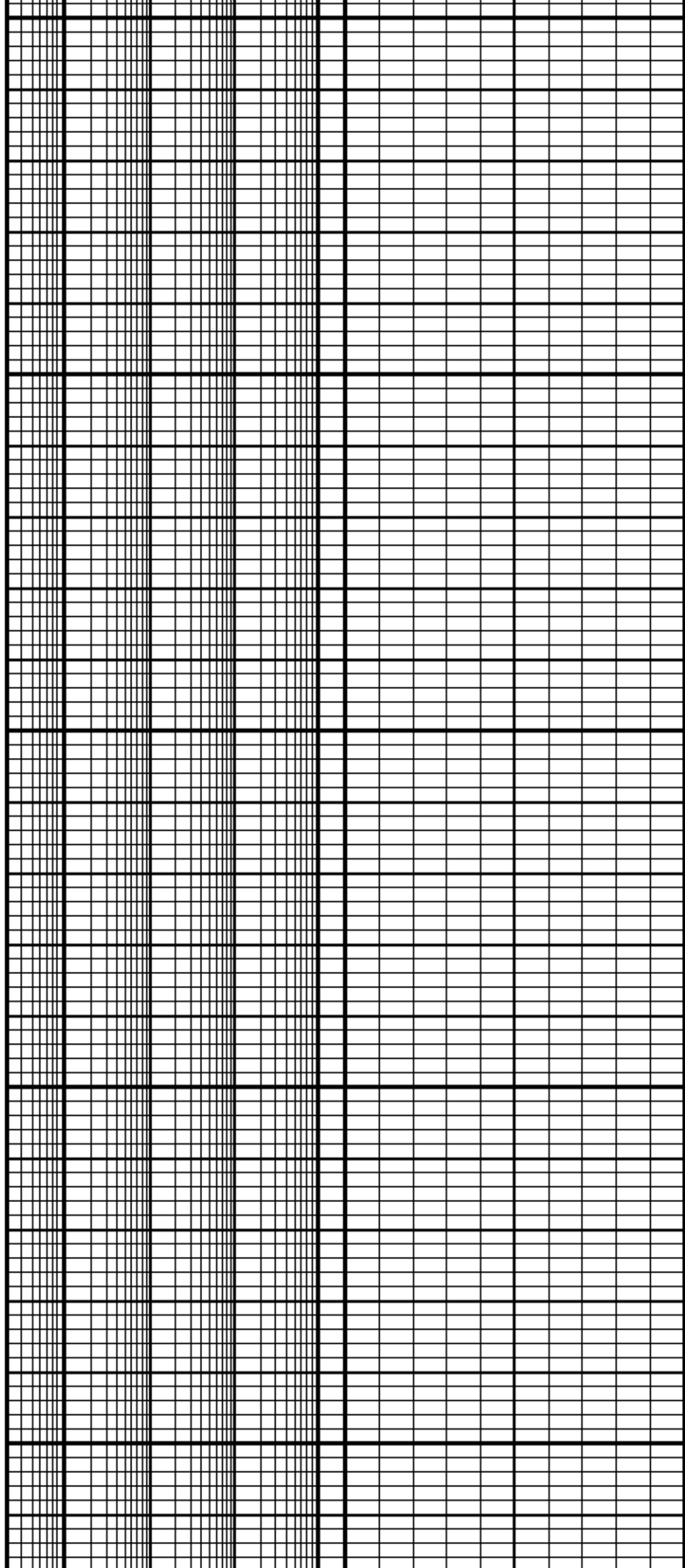
100



(mm.m)

PE [pe] 0 20
(b/e)
Z-CORR [zcor] -0.5 0.5
(g/cm3)
DIFF. TENSION [kn] 4750 250
(lbf)

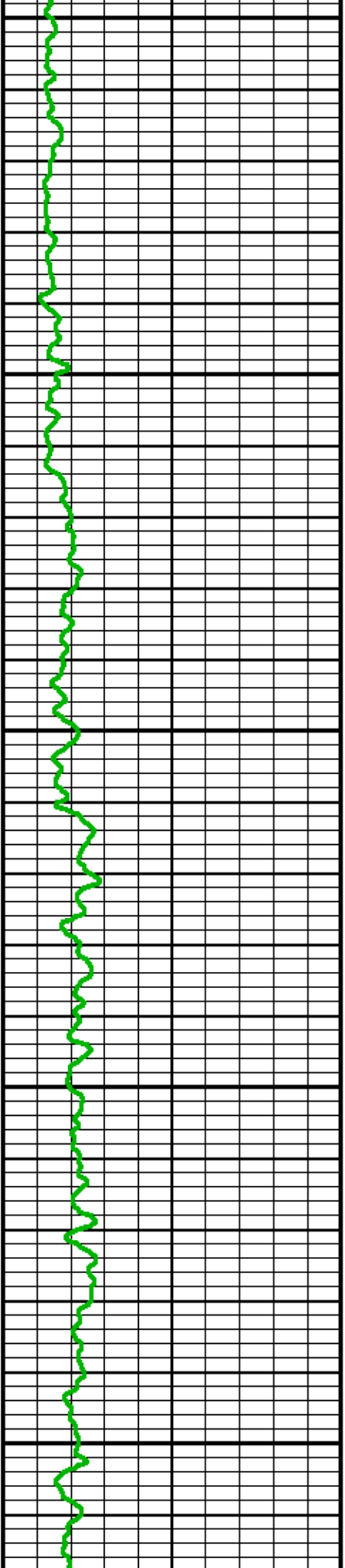


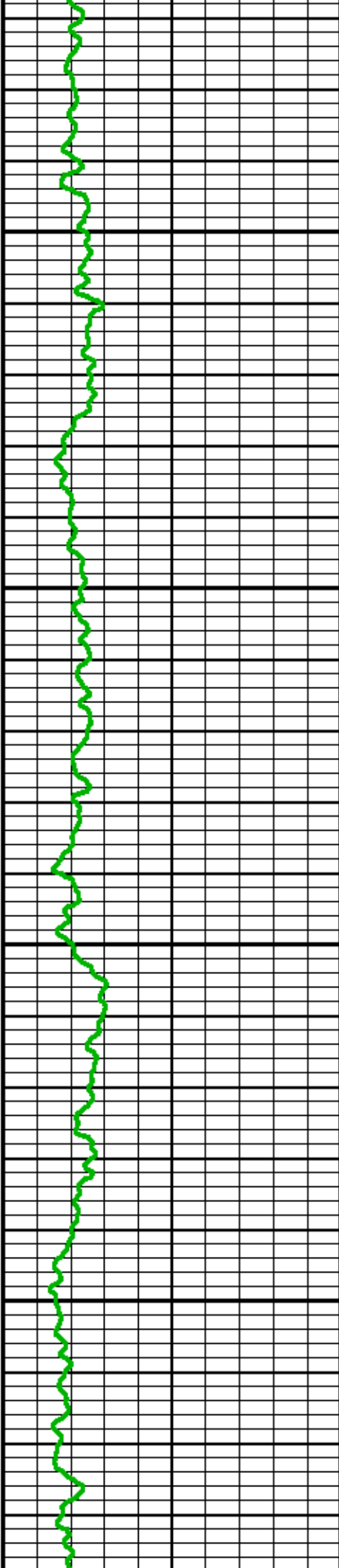


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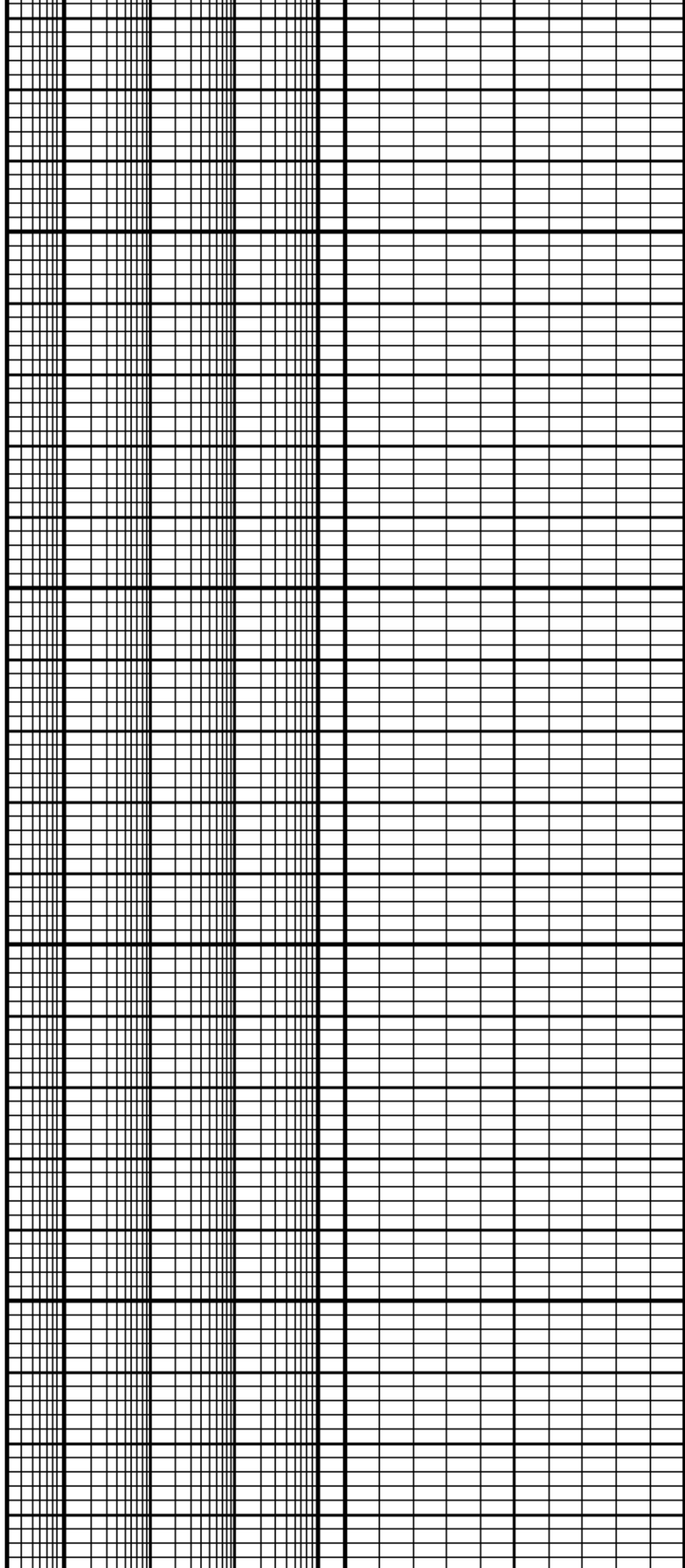
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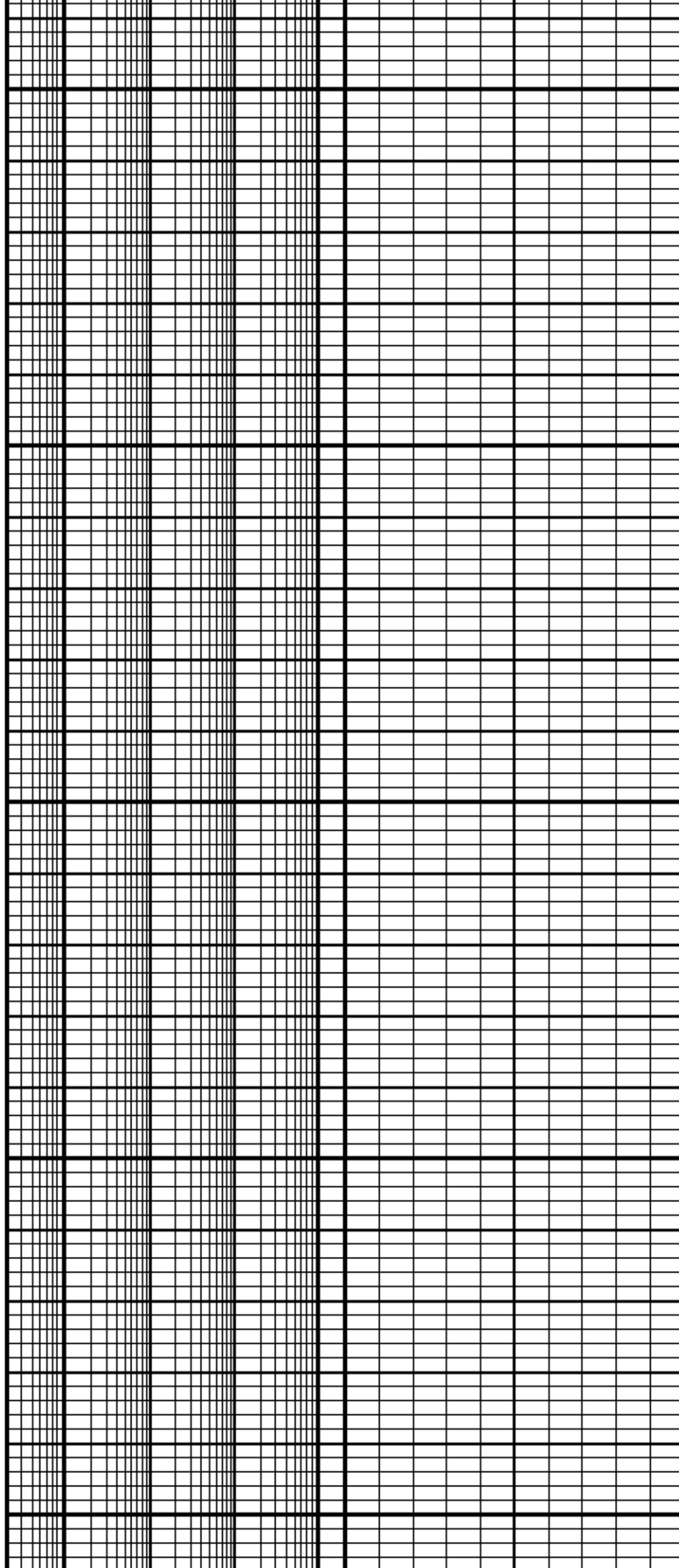
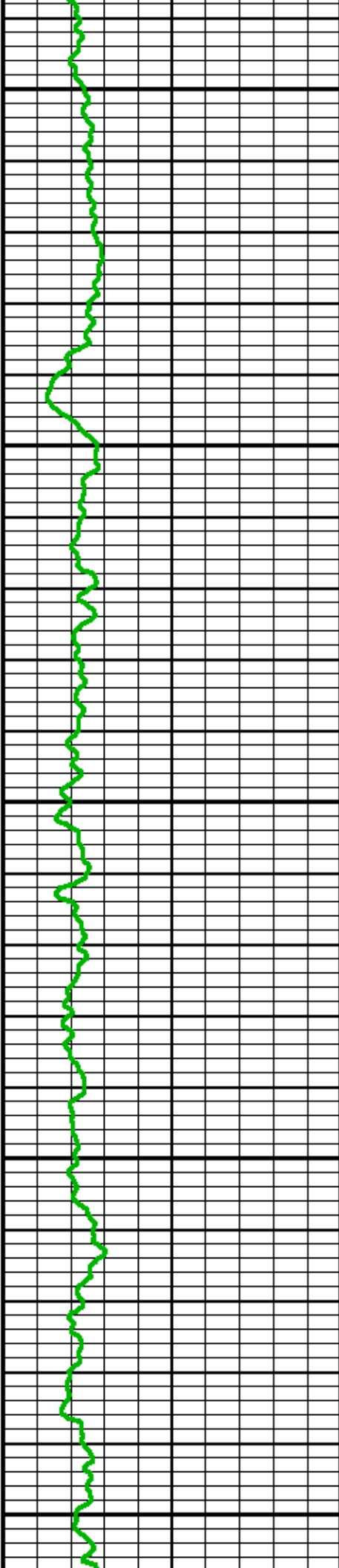
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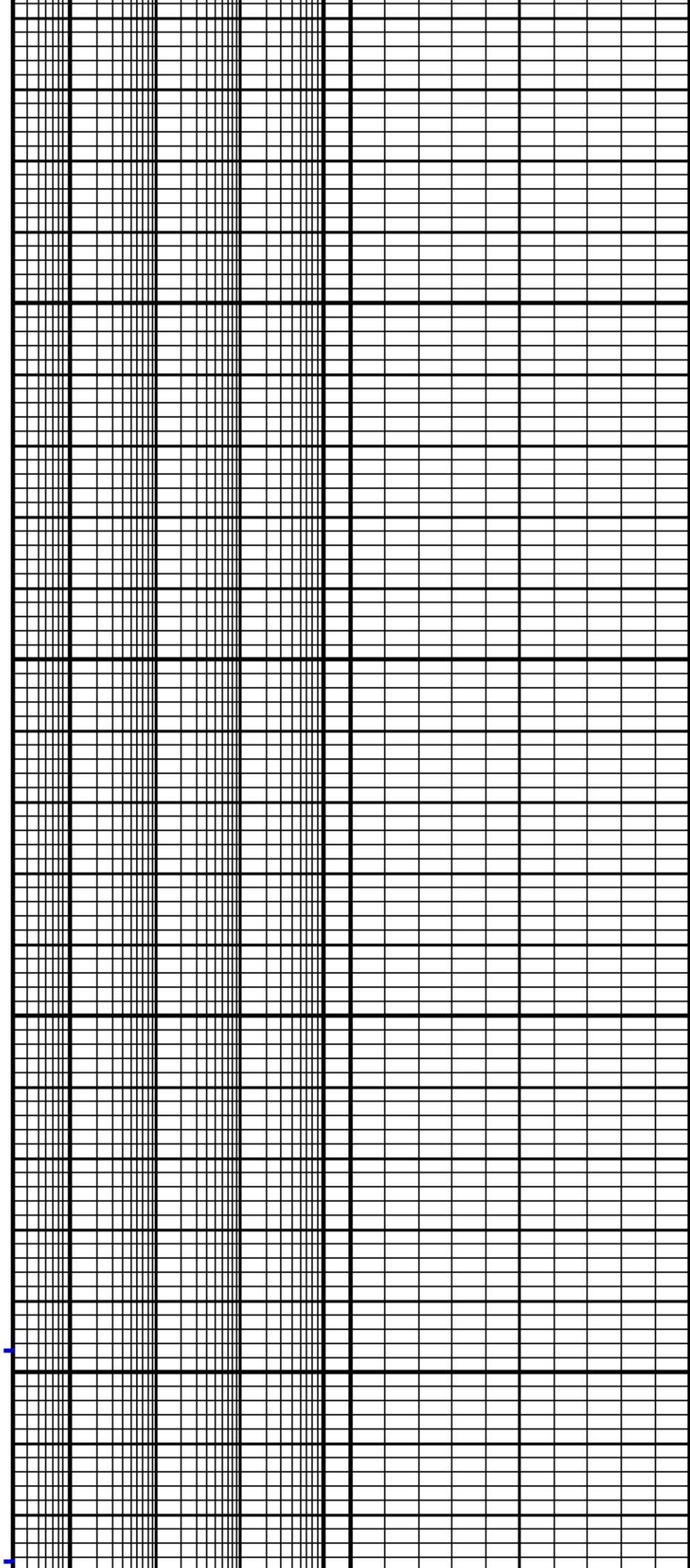
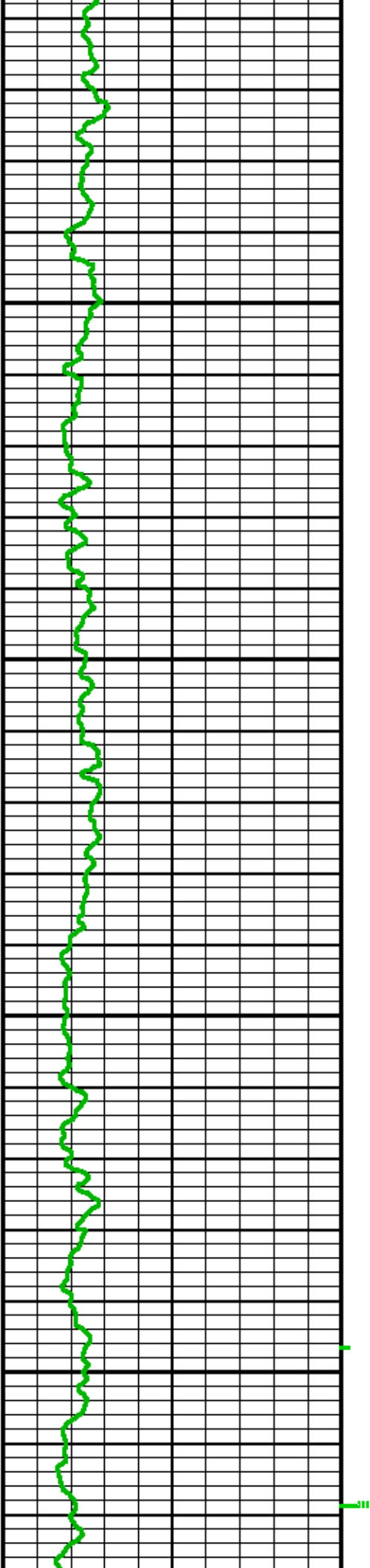
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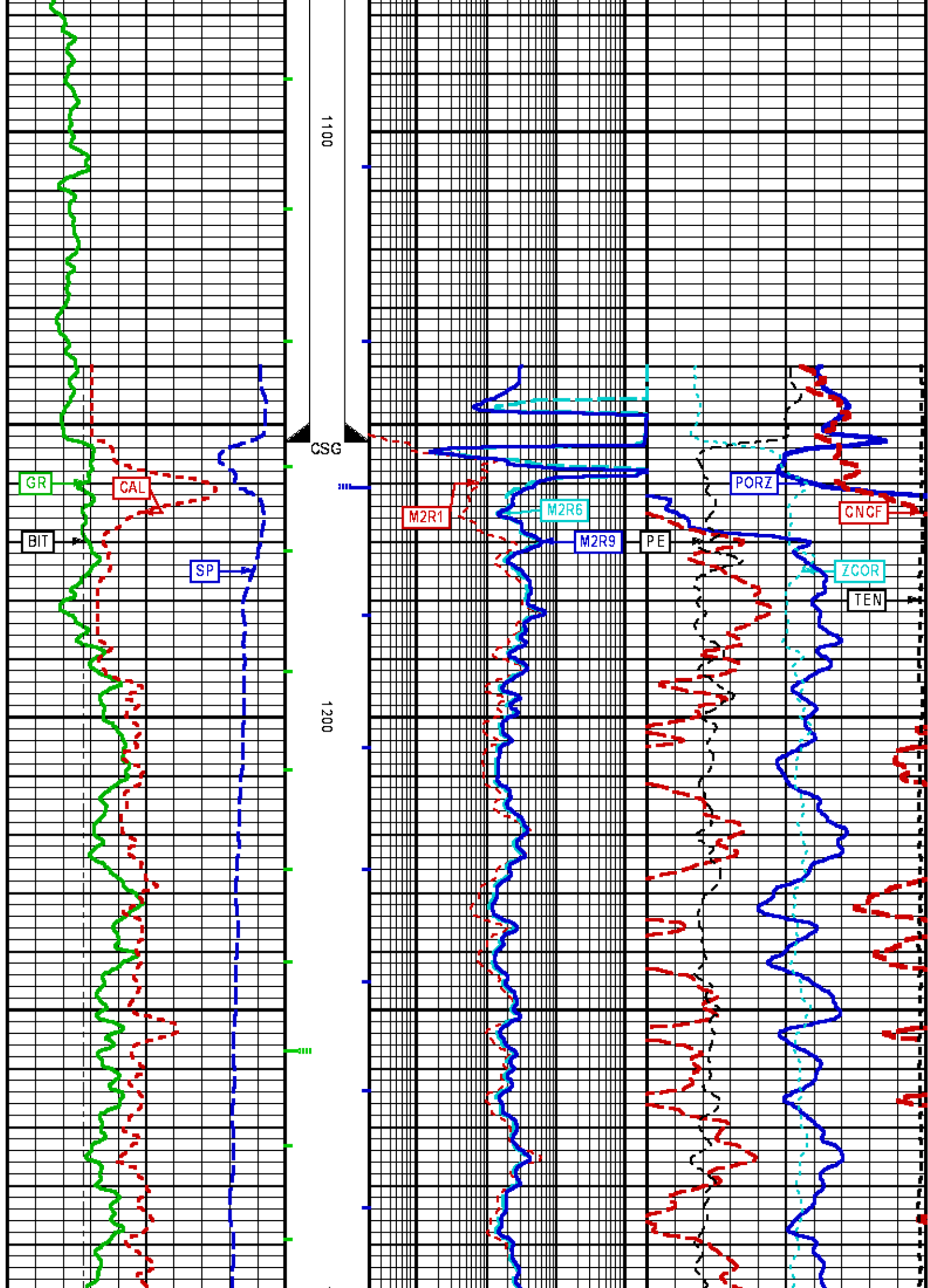
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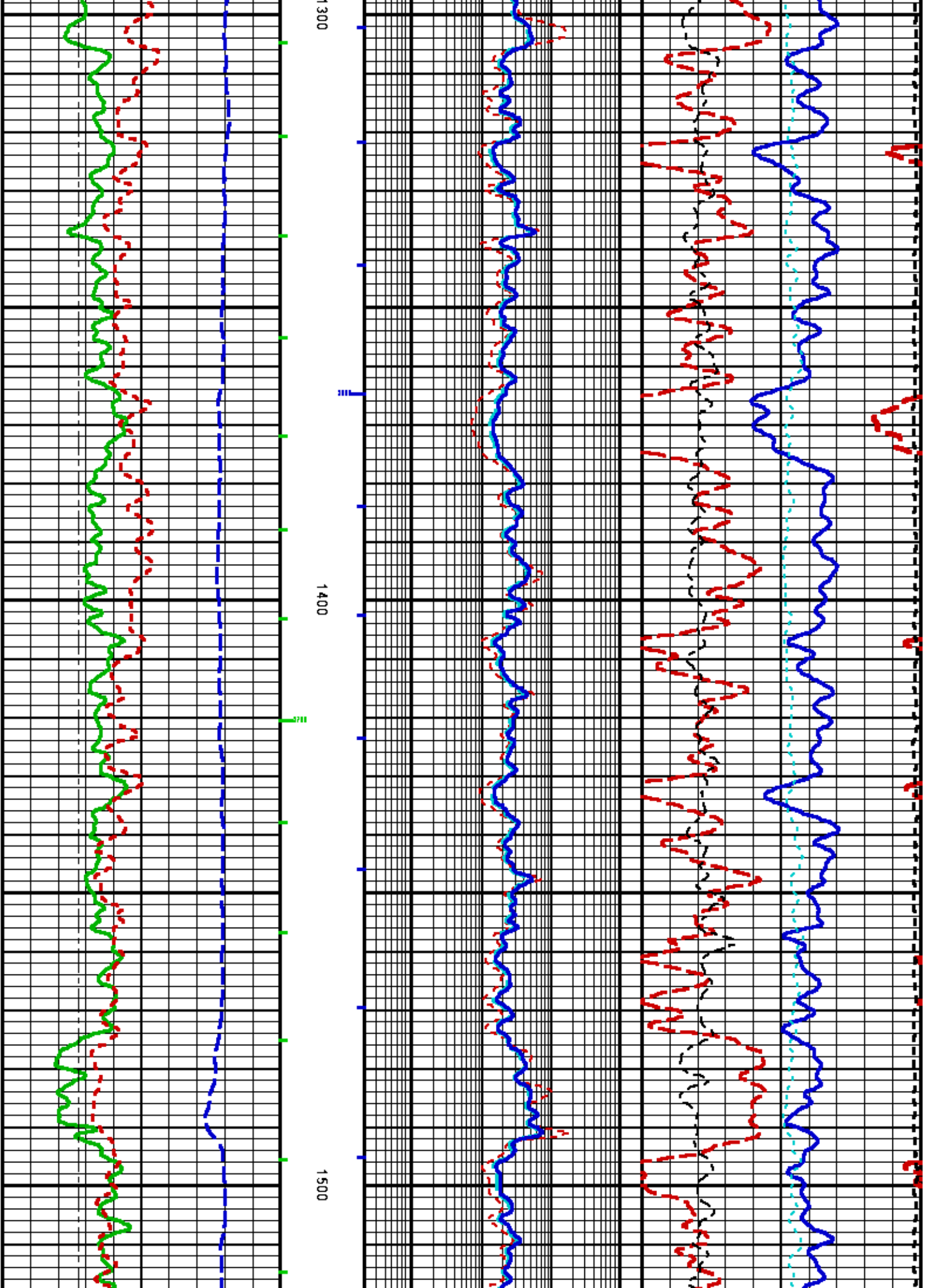


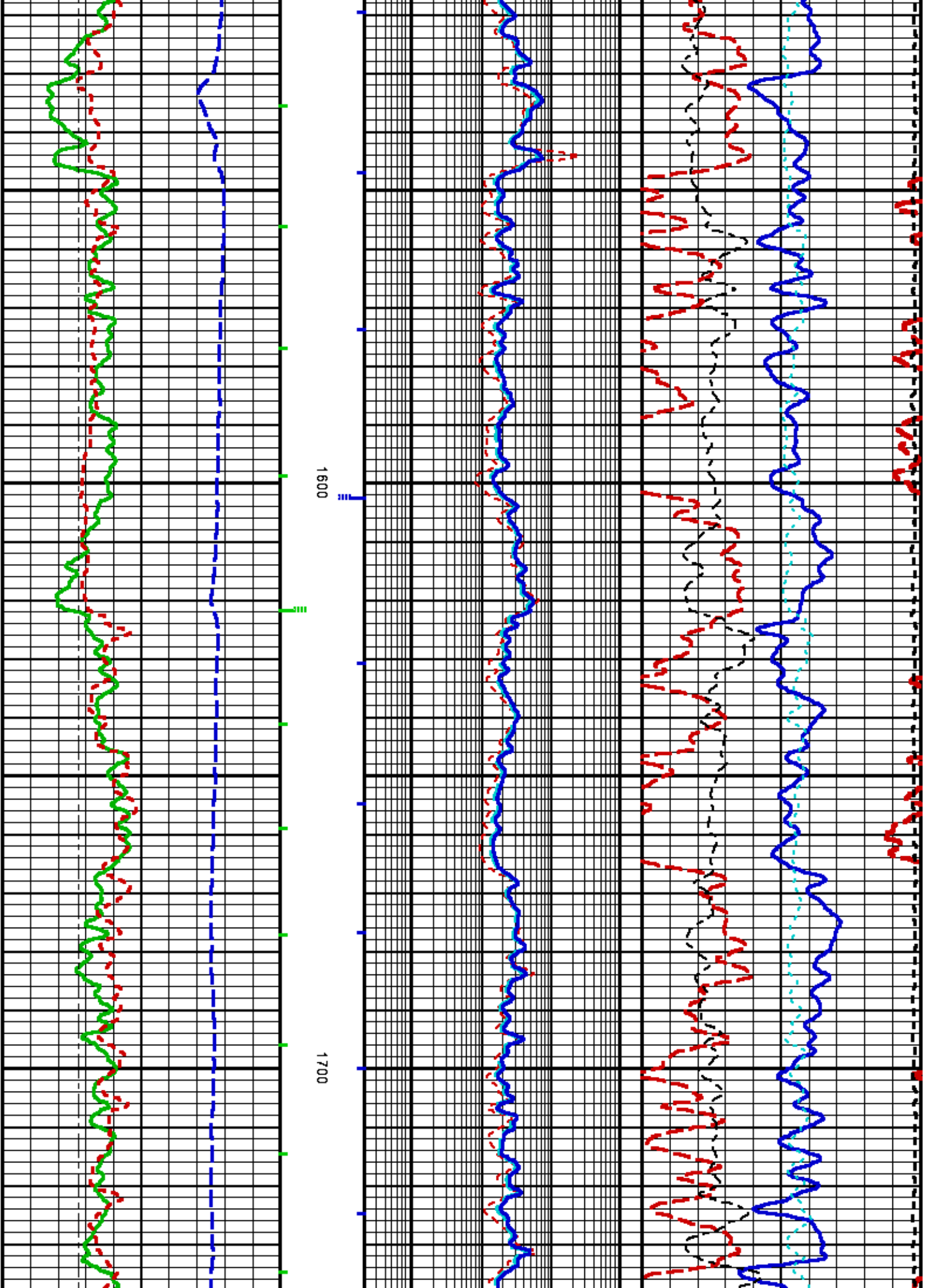
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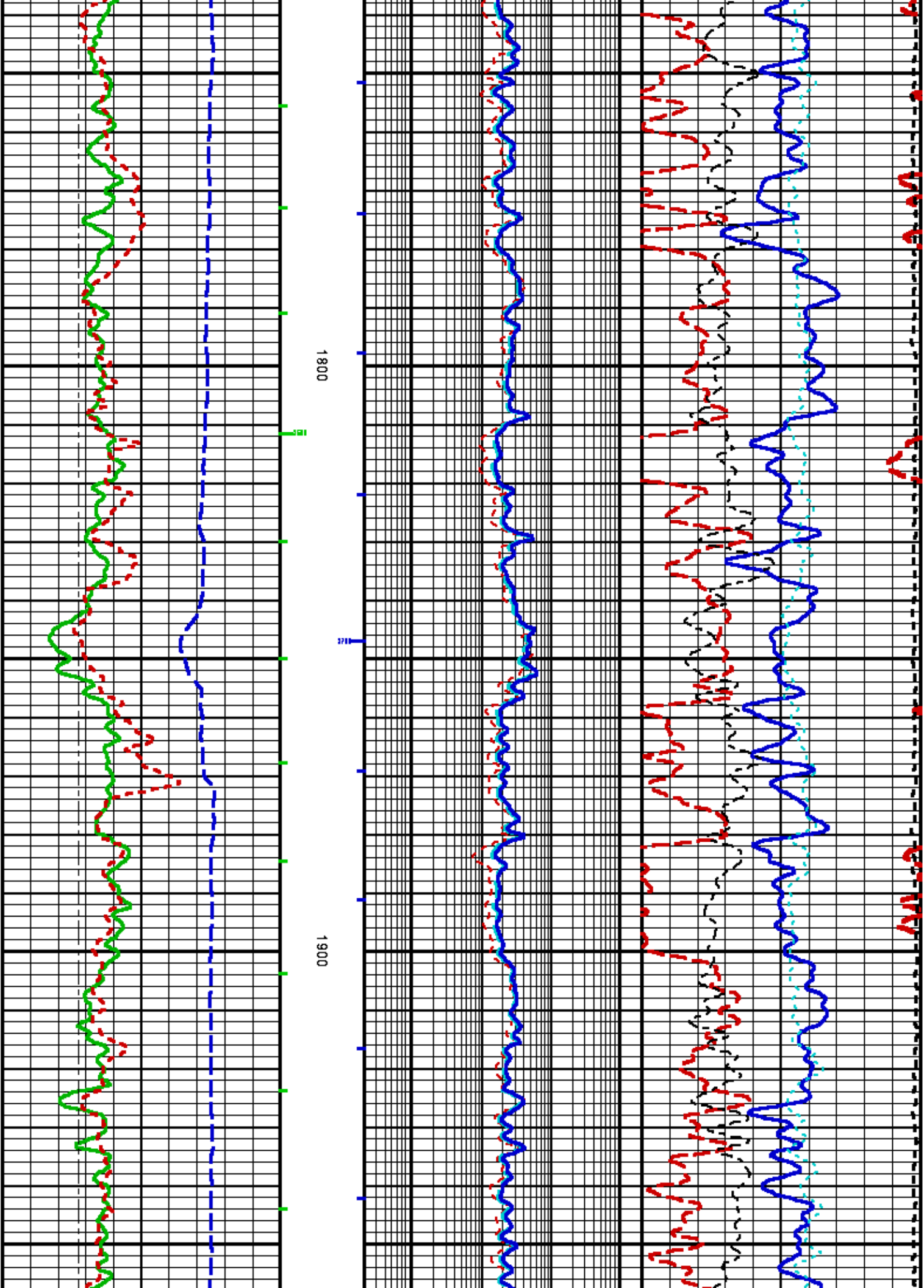
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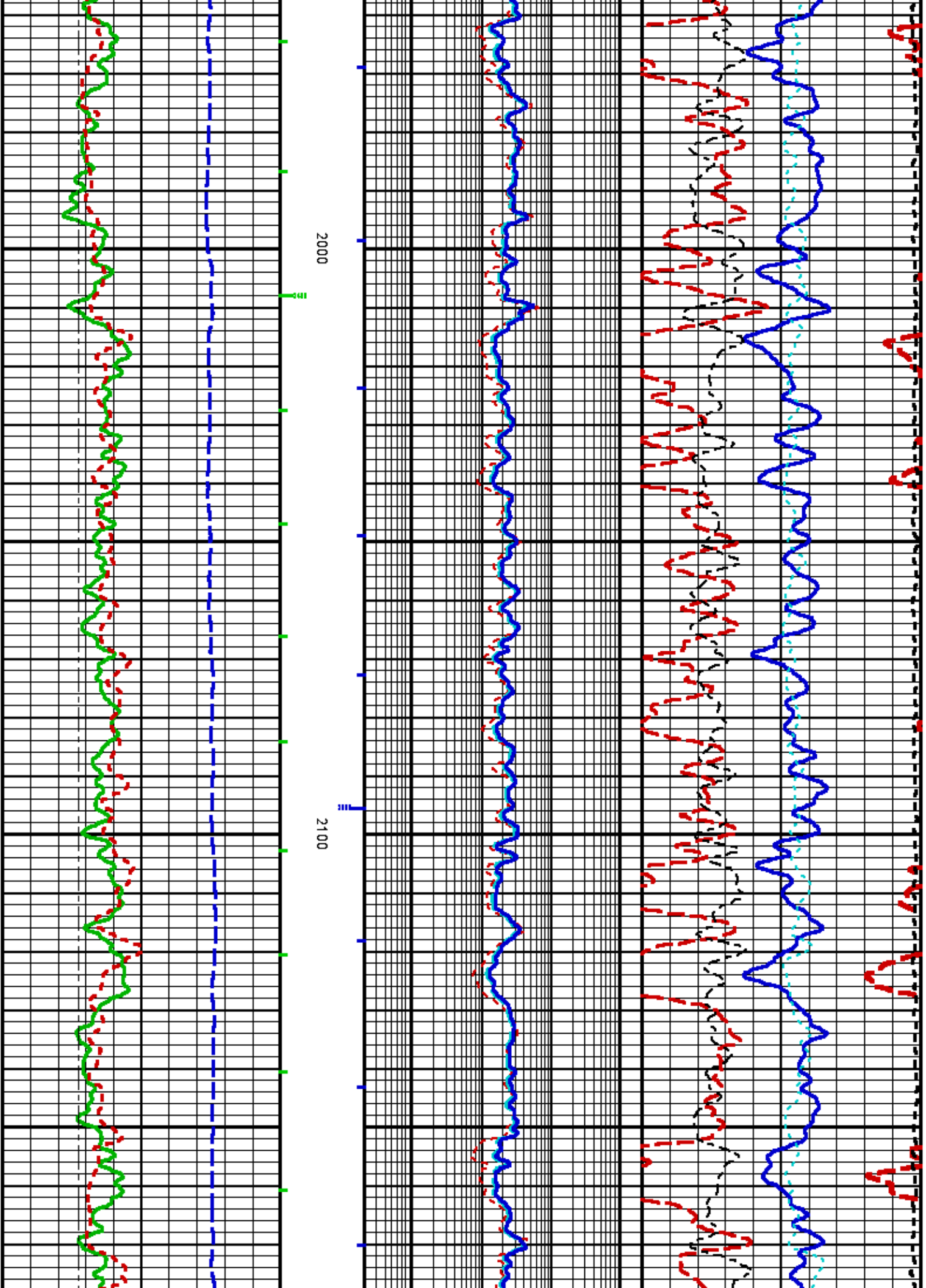


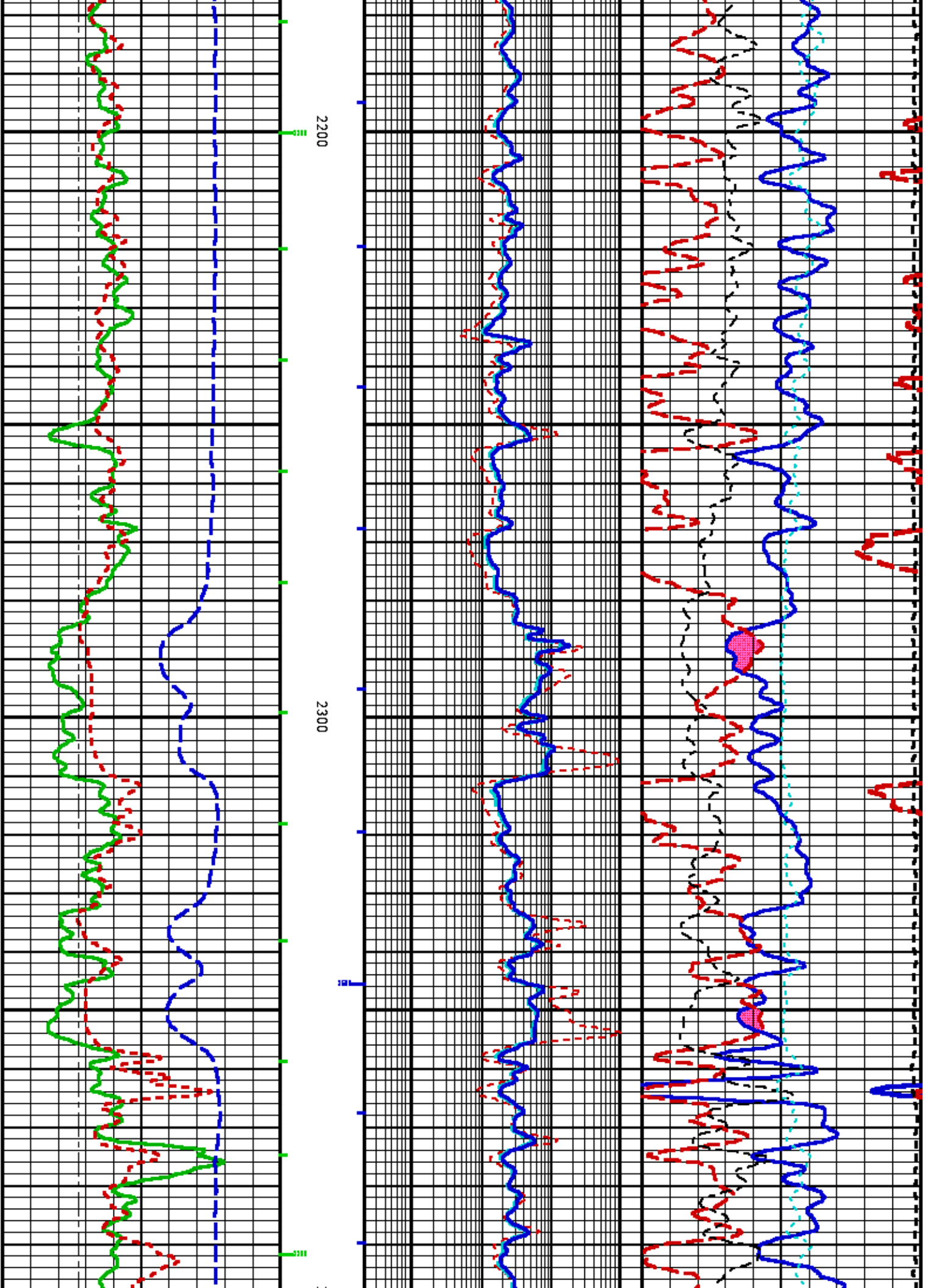


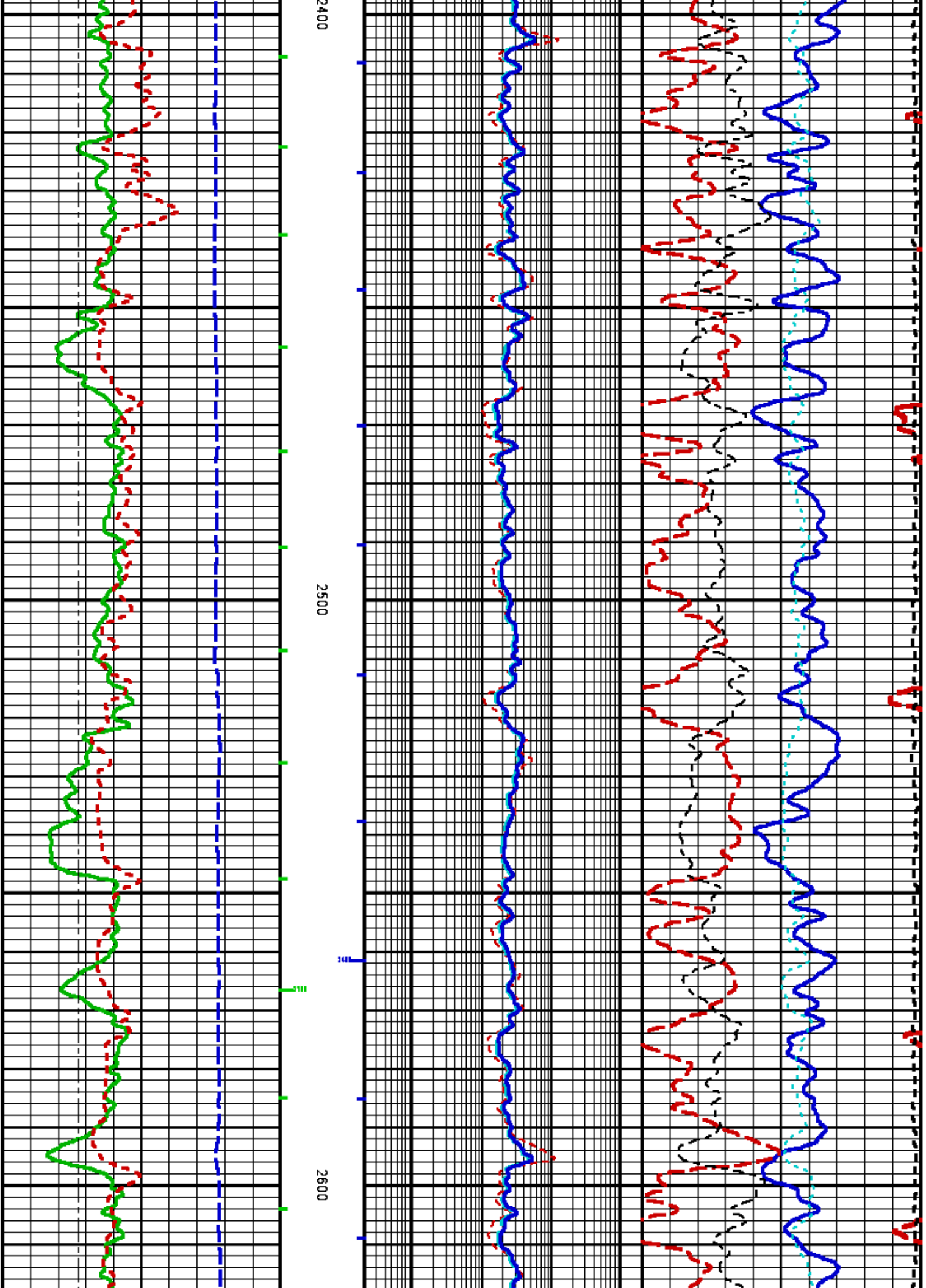


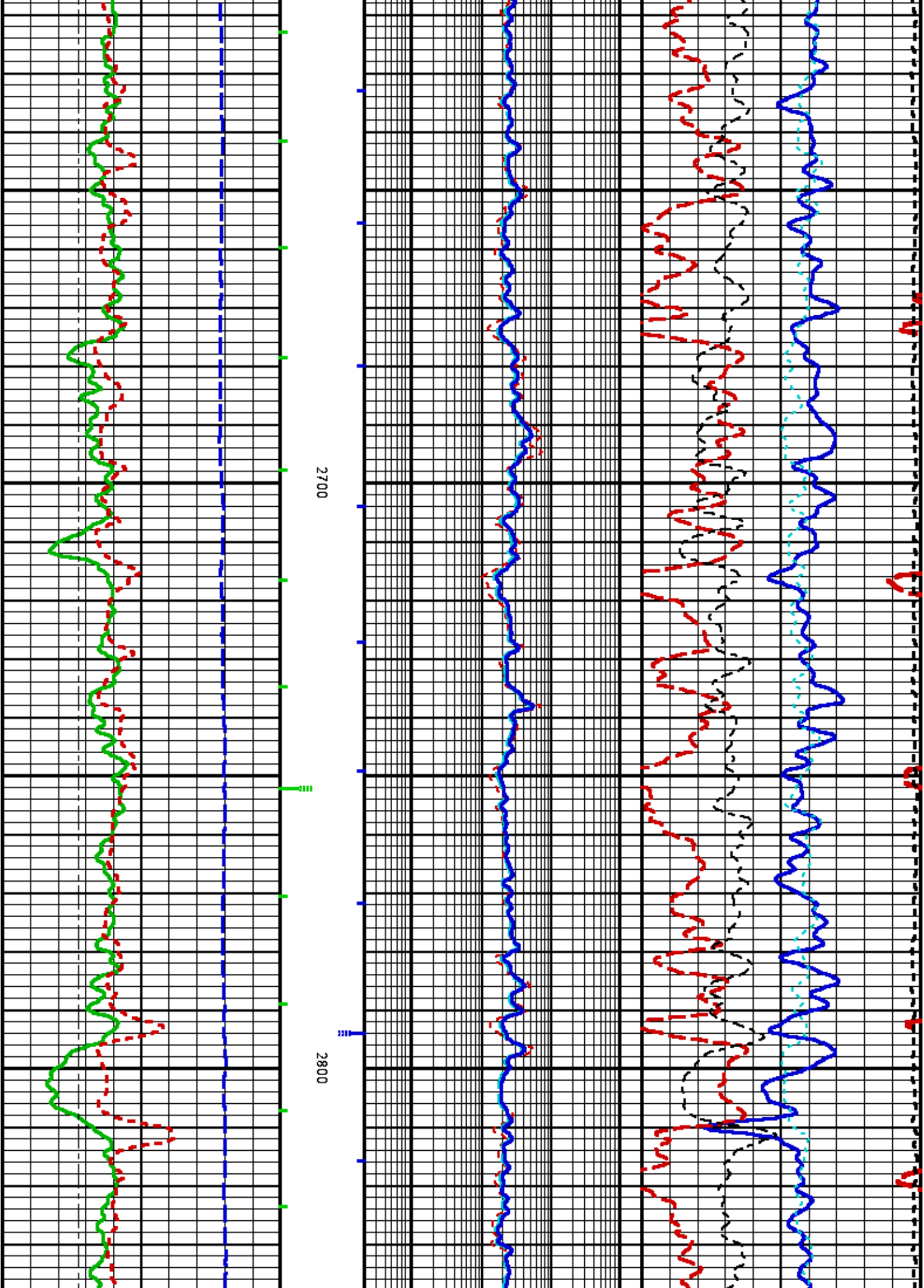


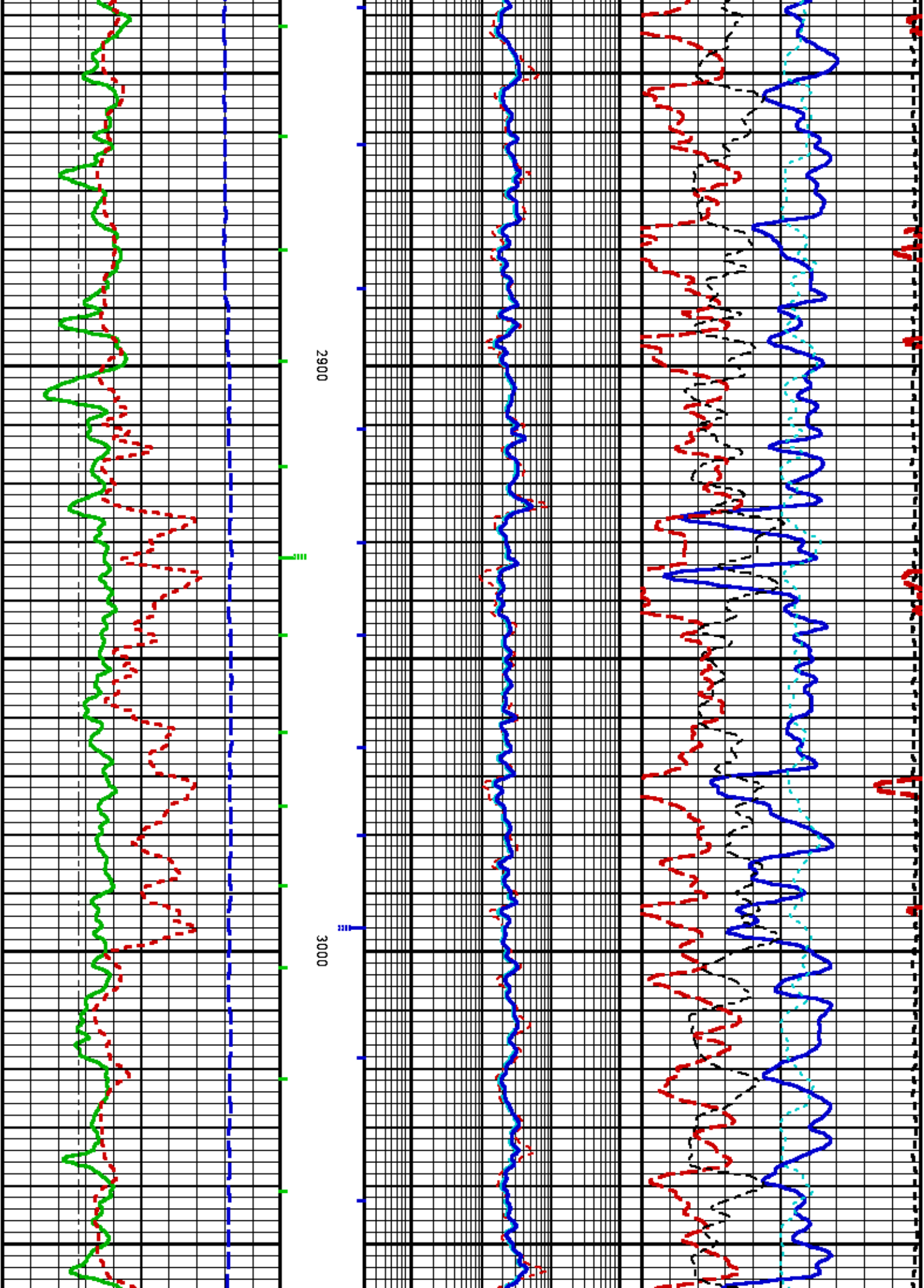


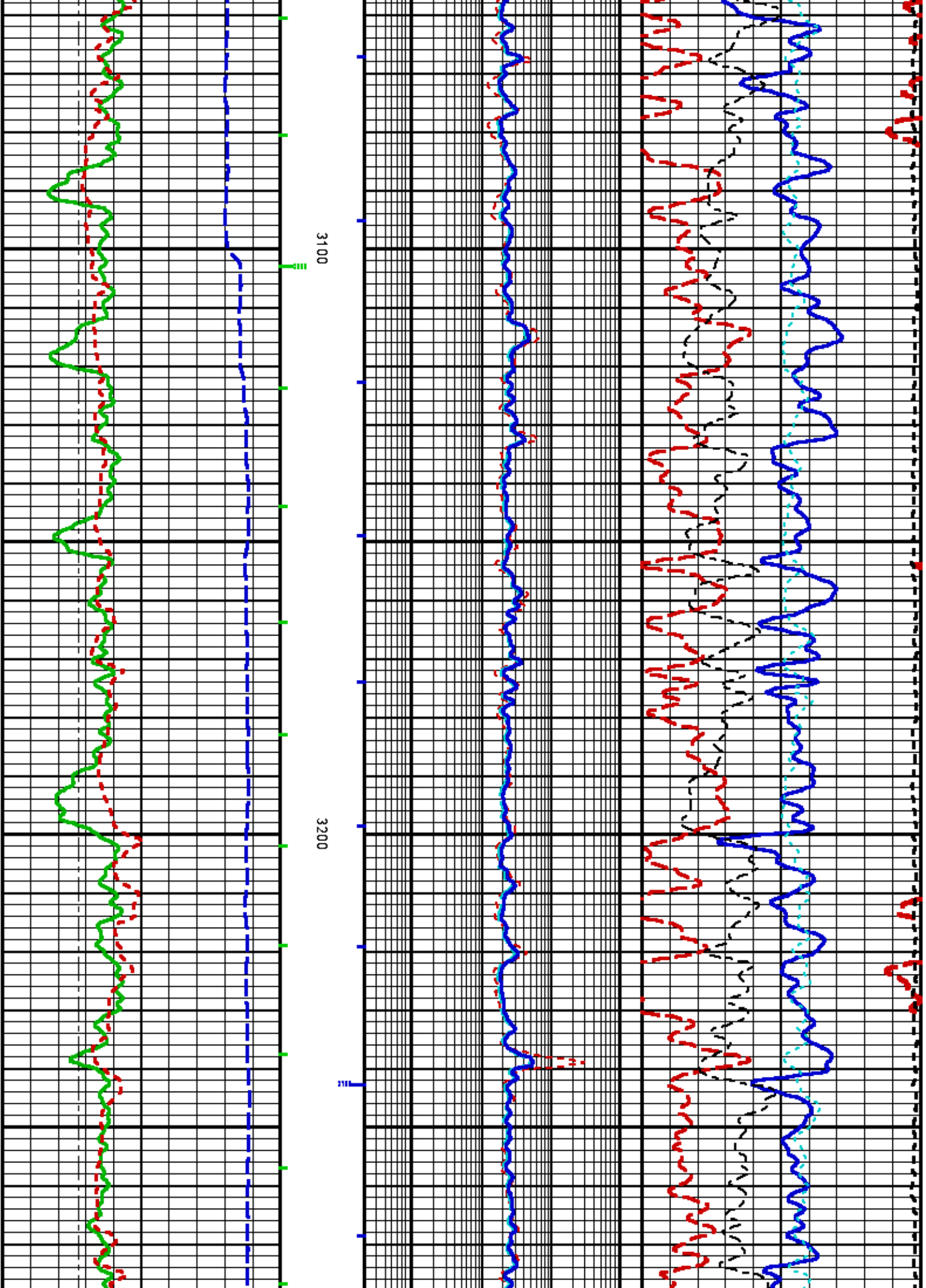


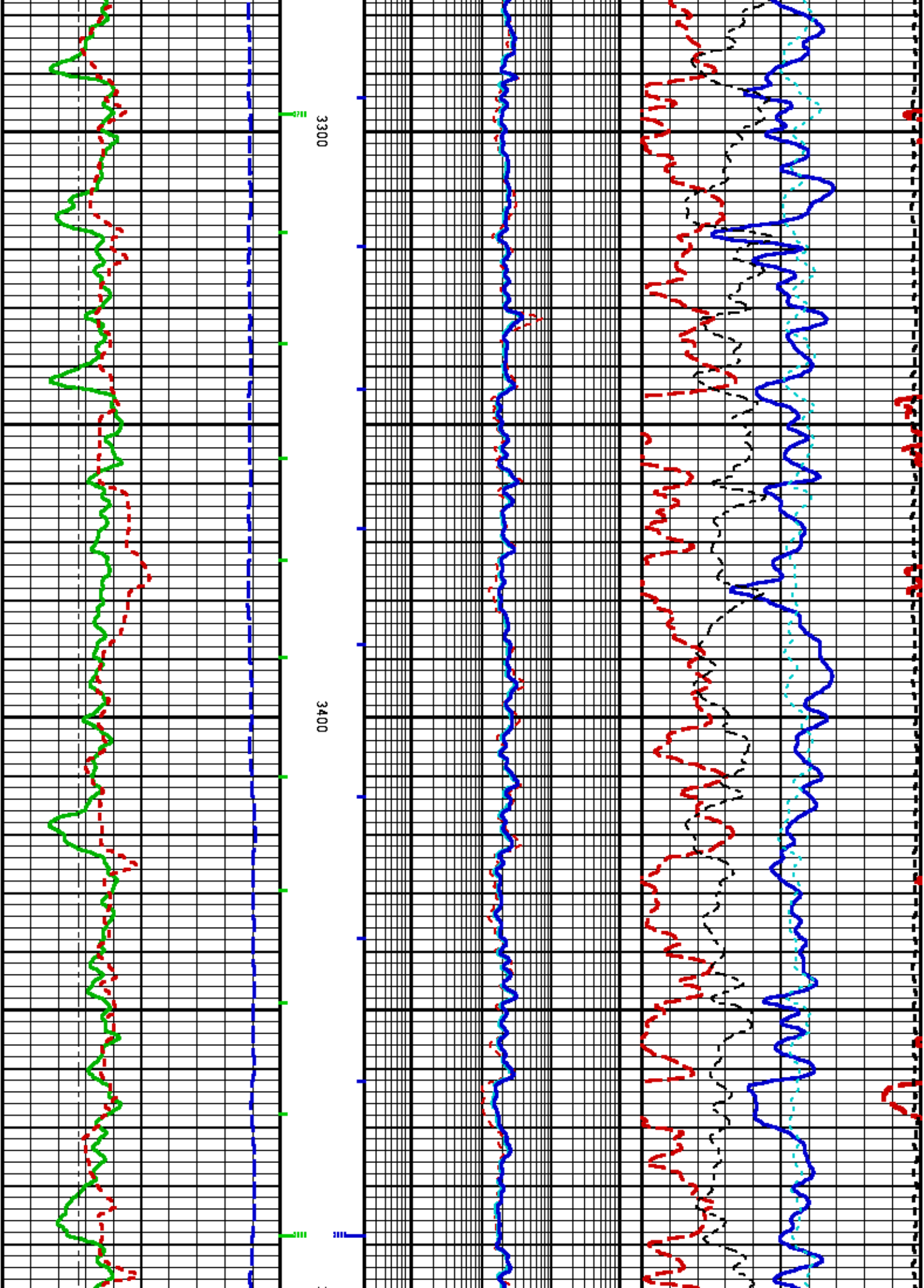


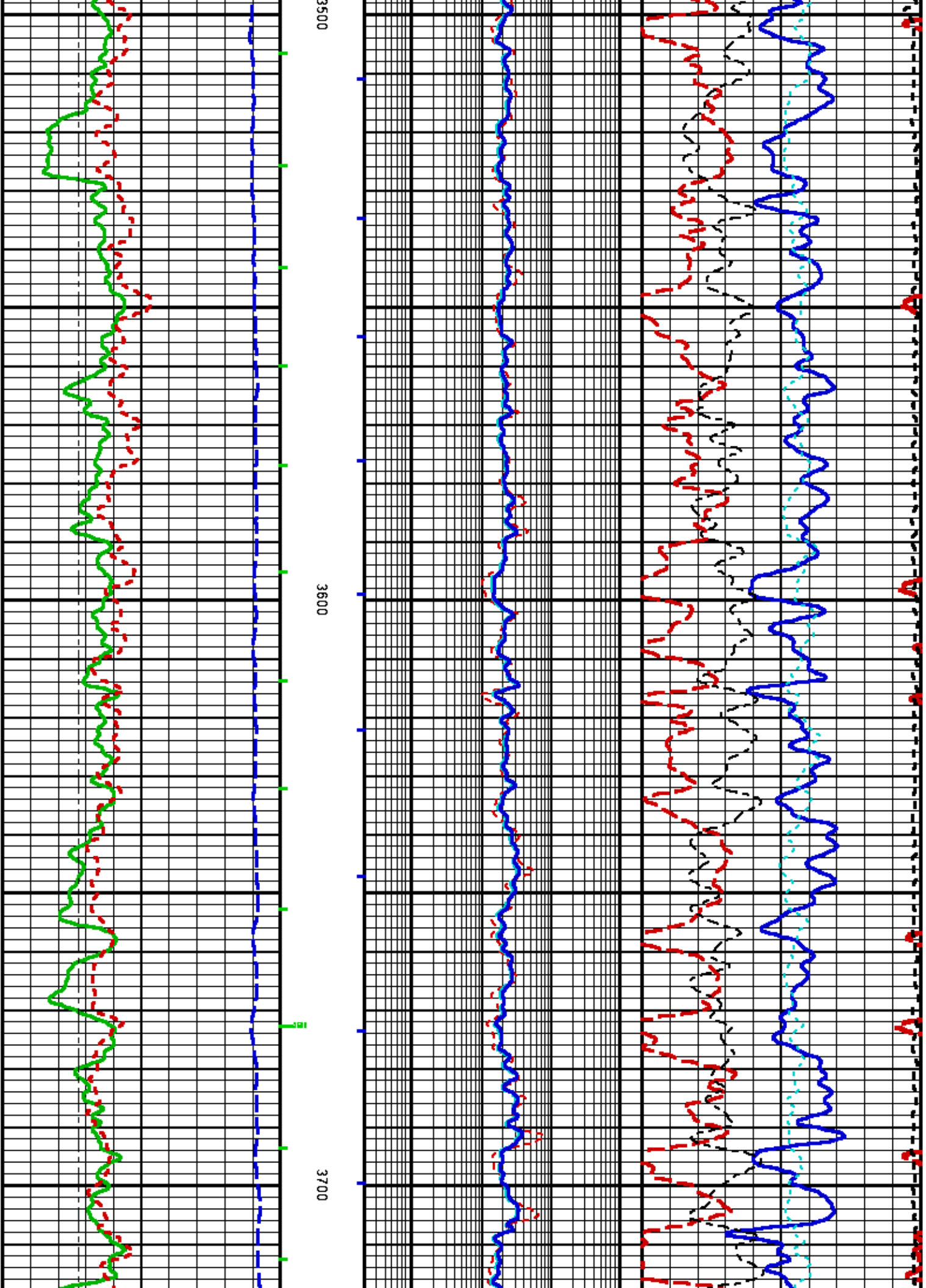


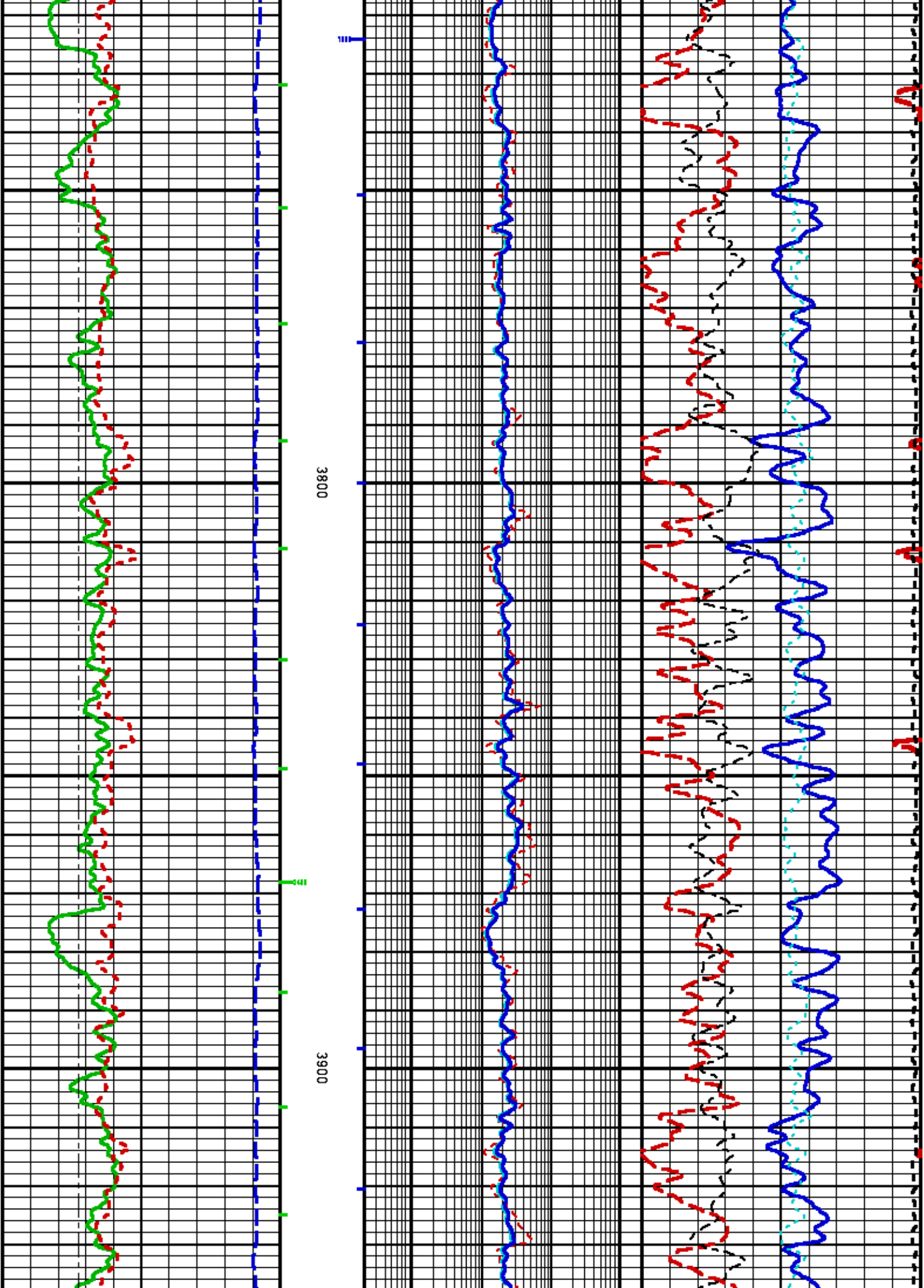


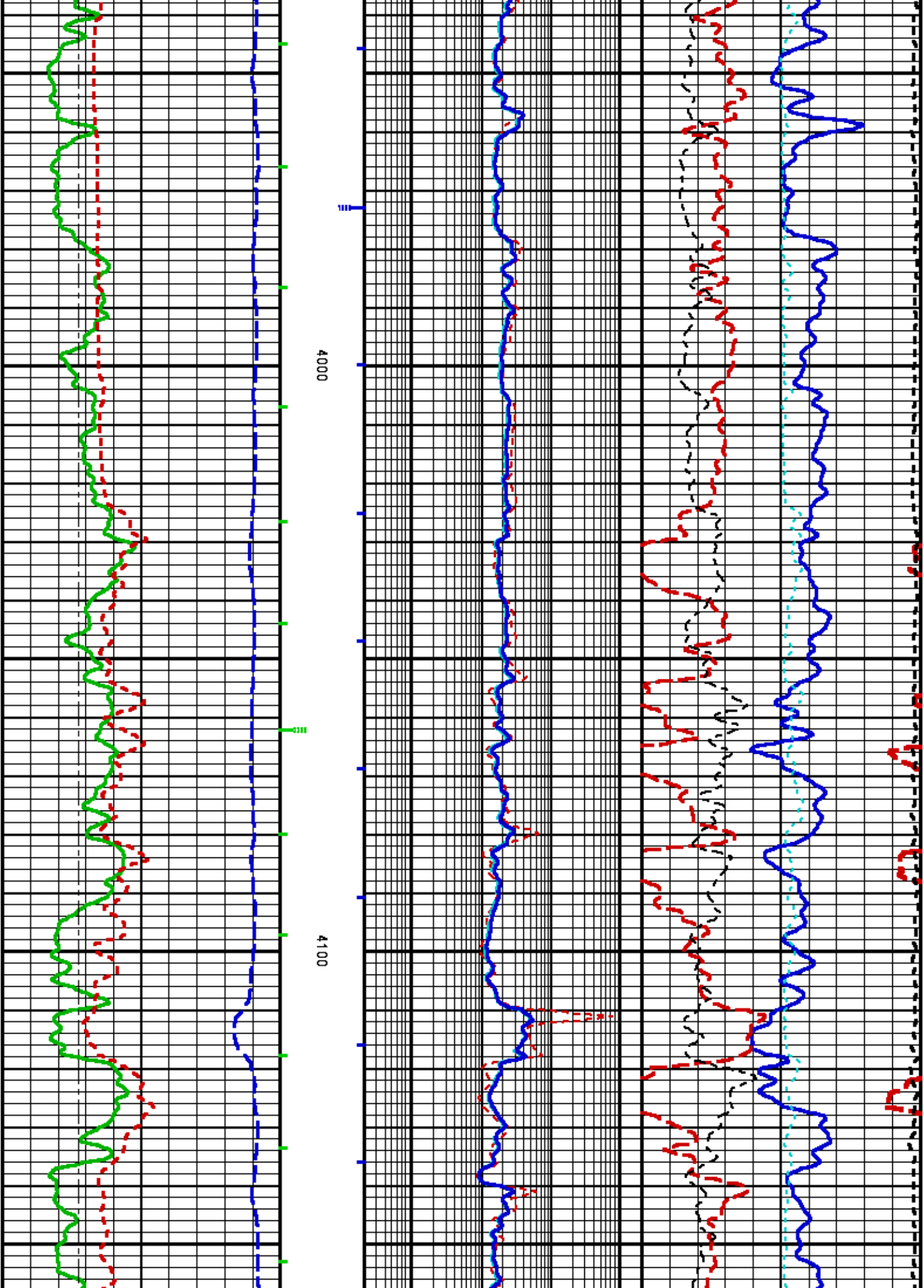


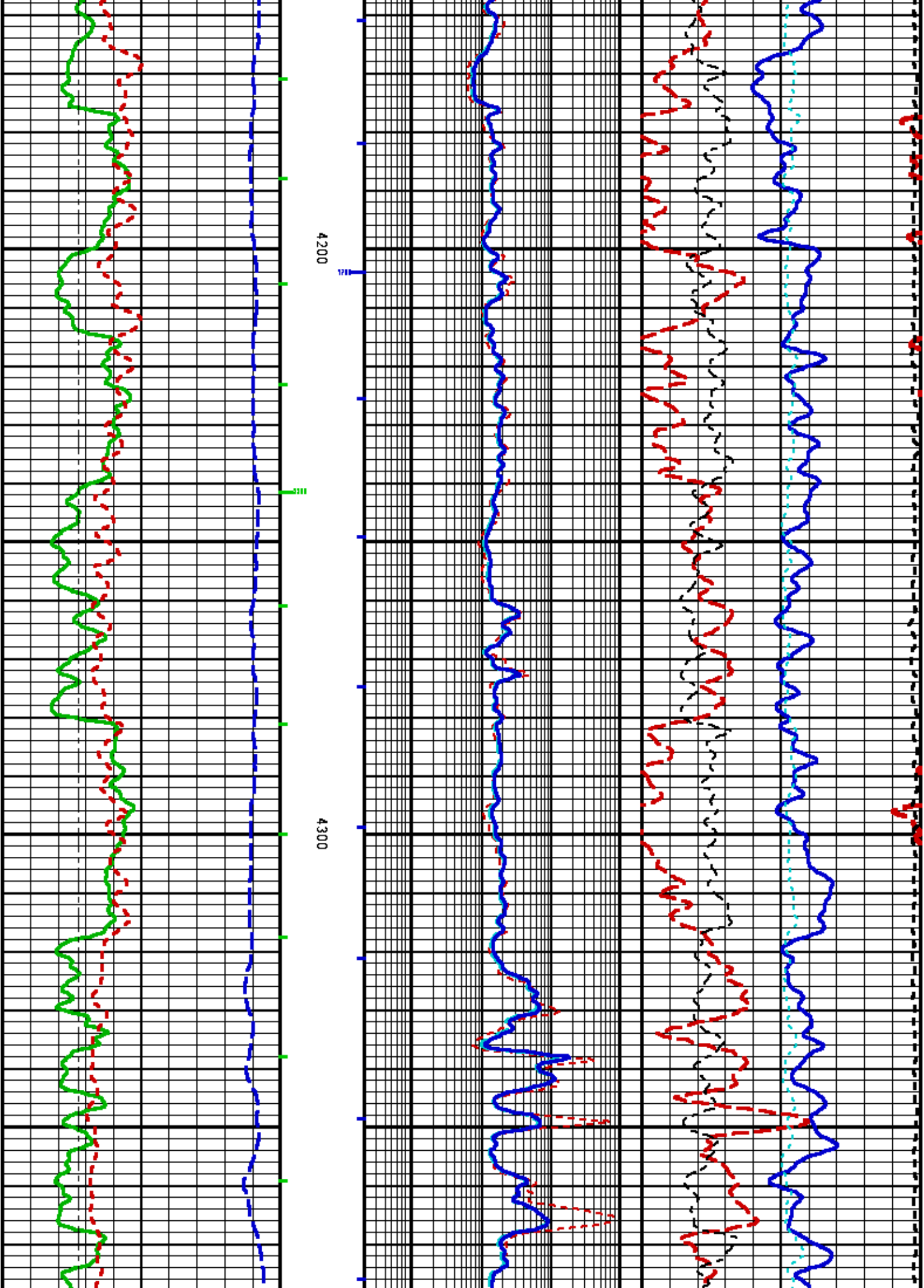


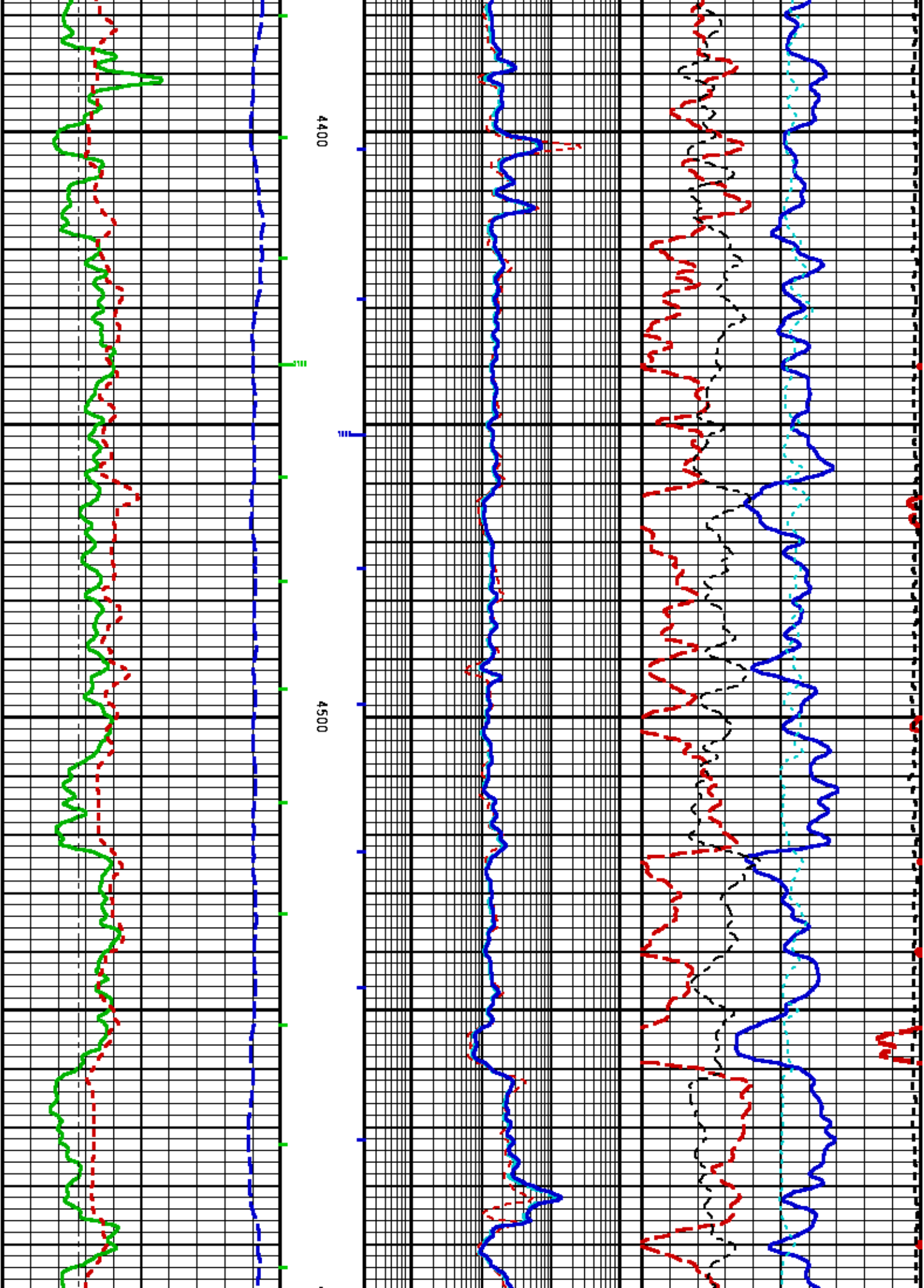


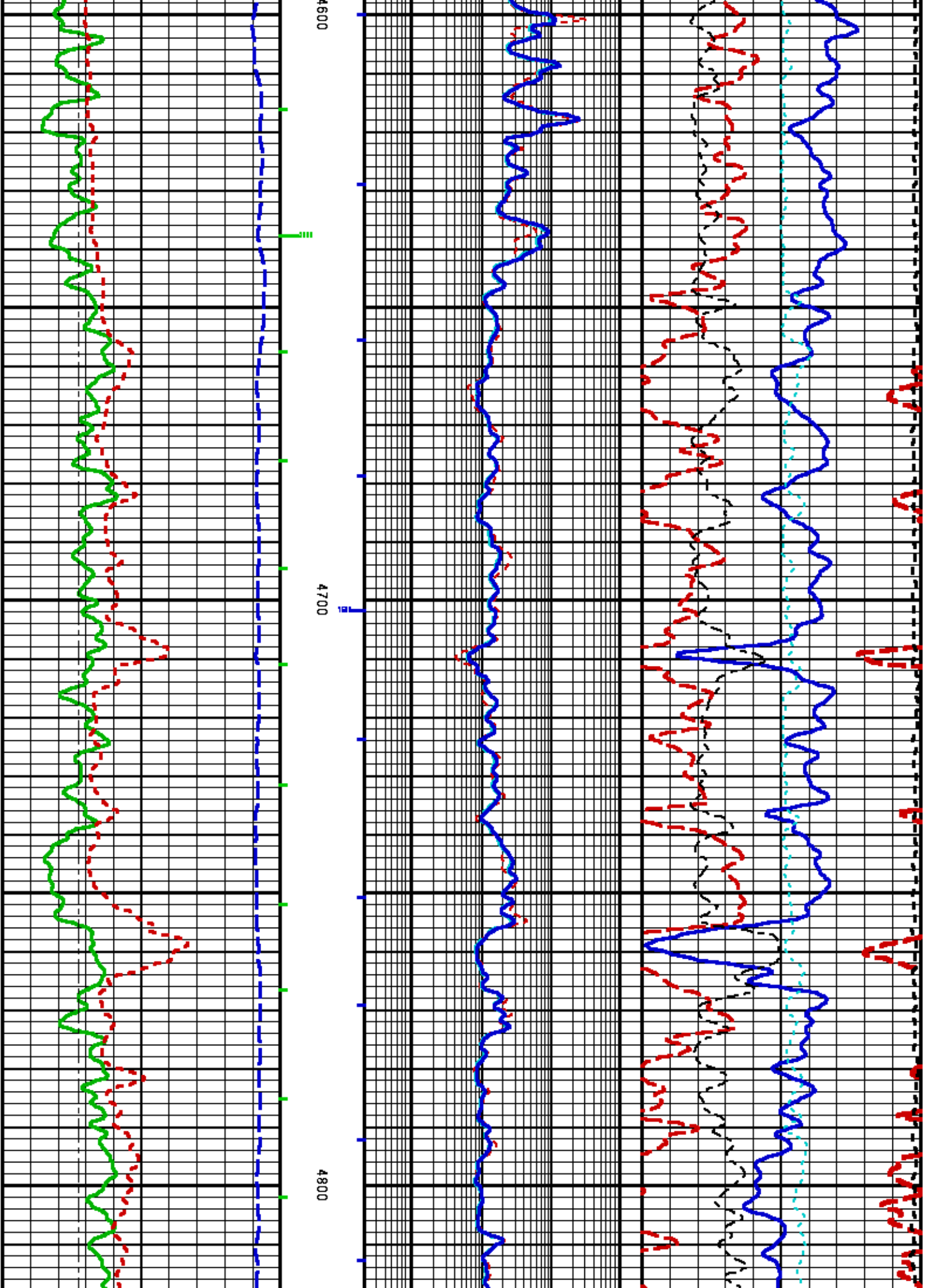


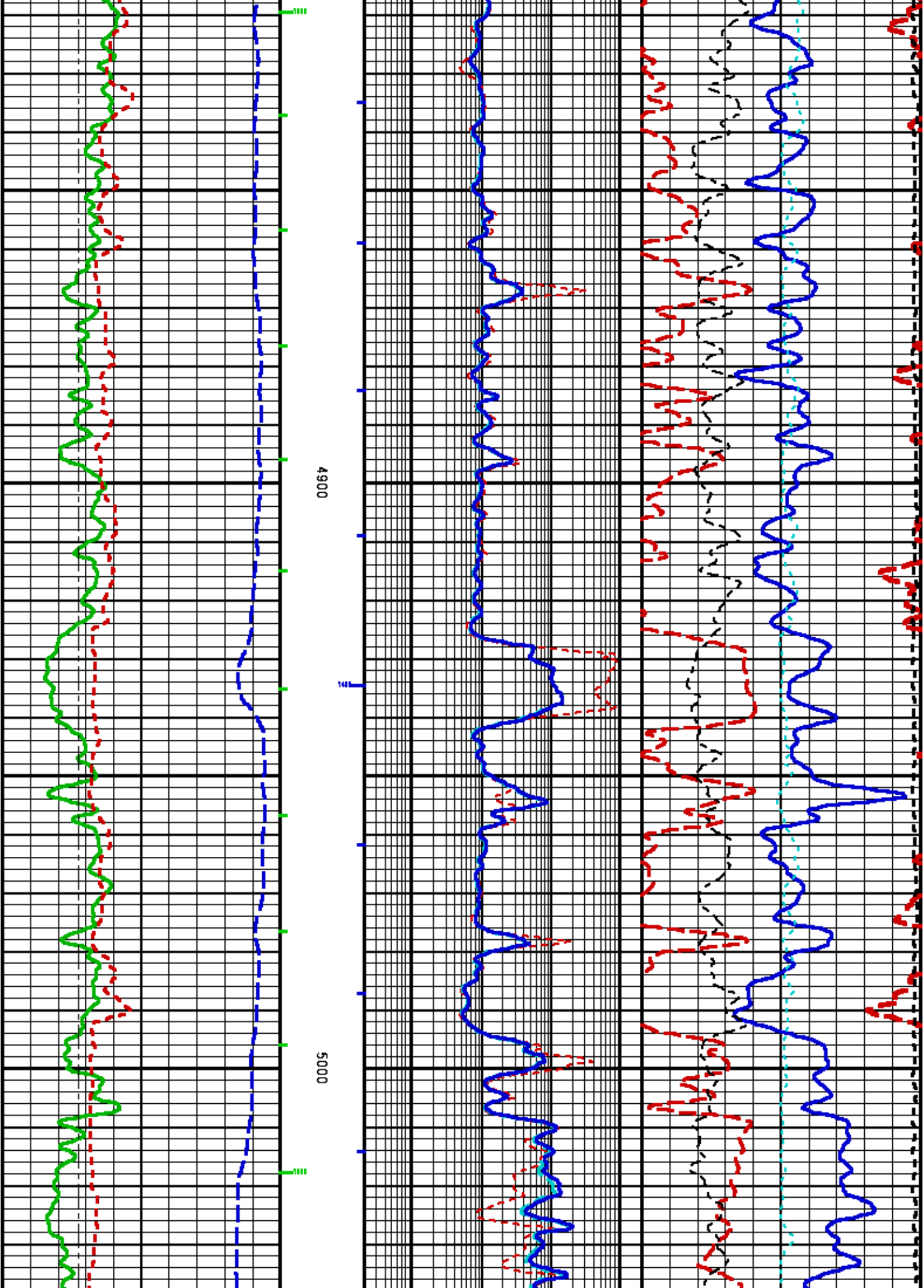


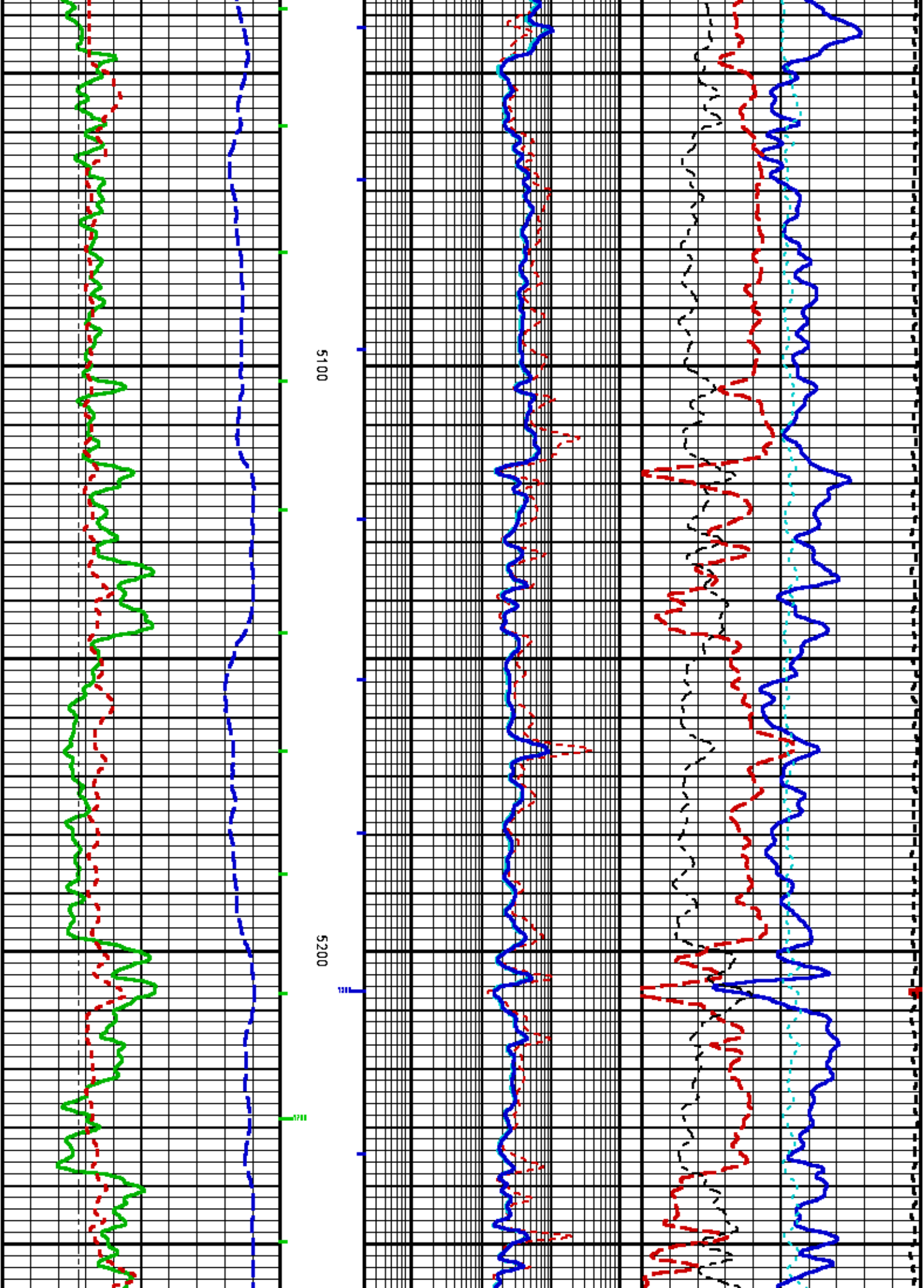


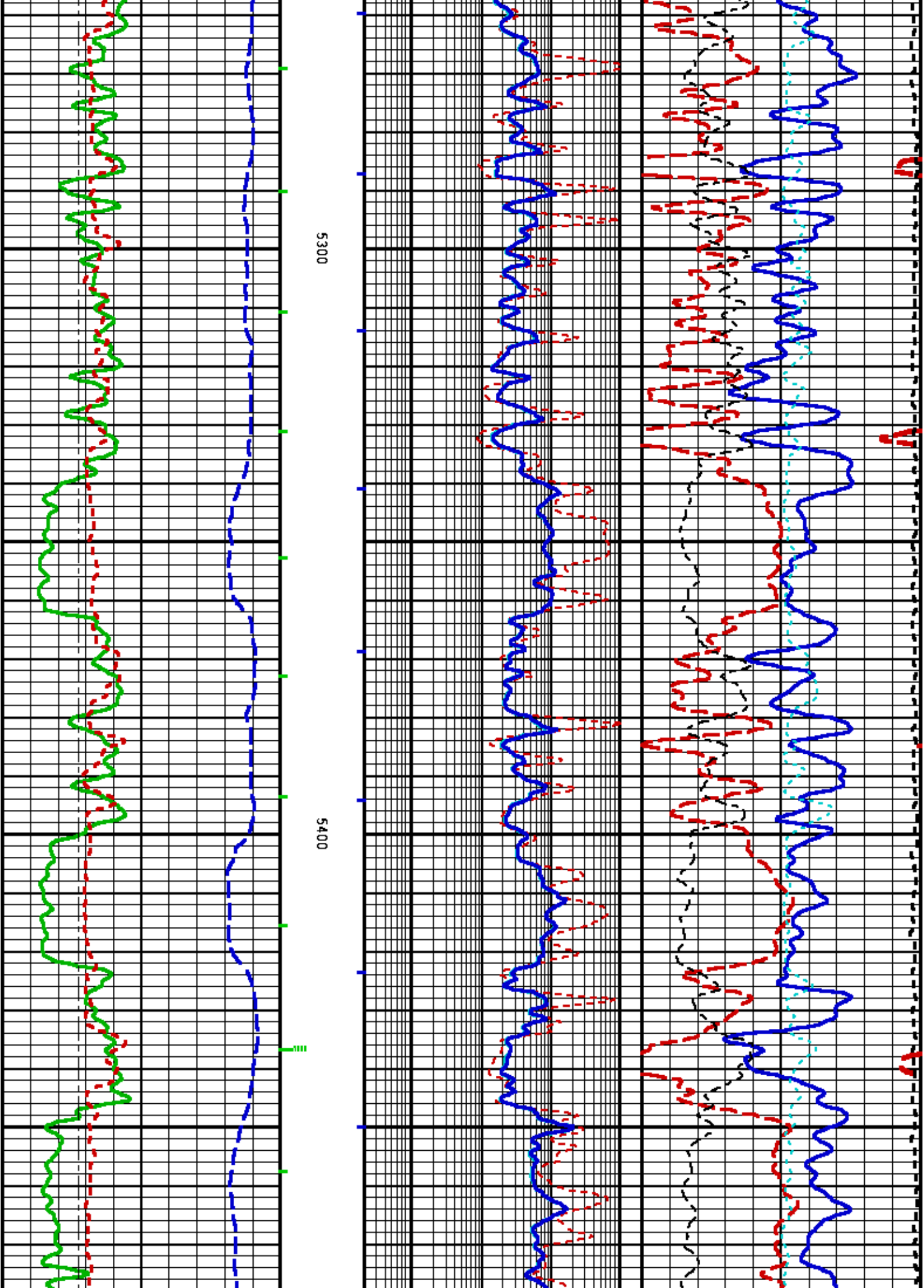


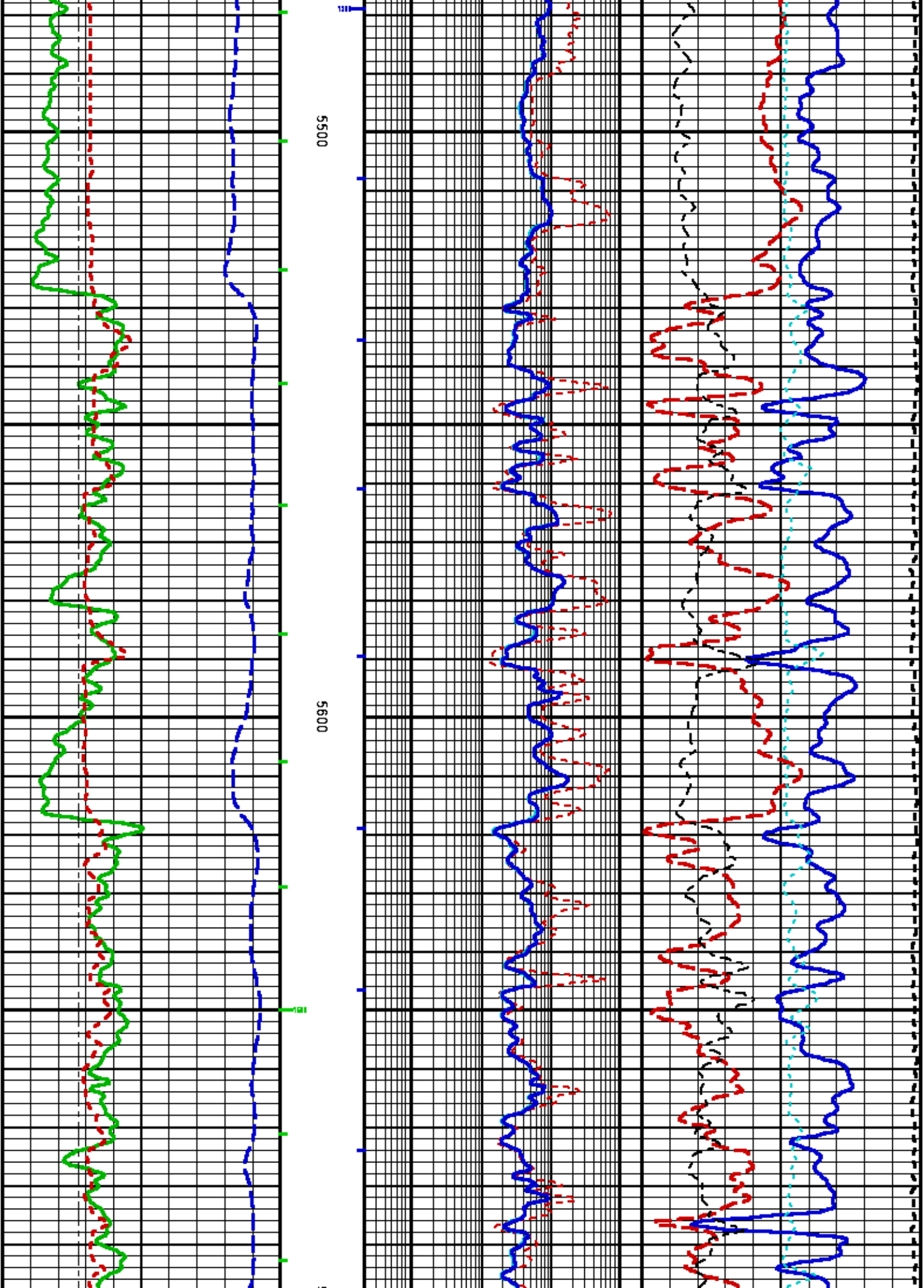


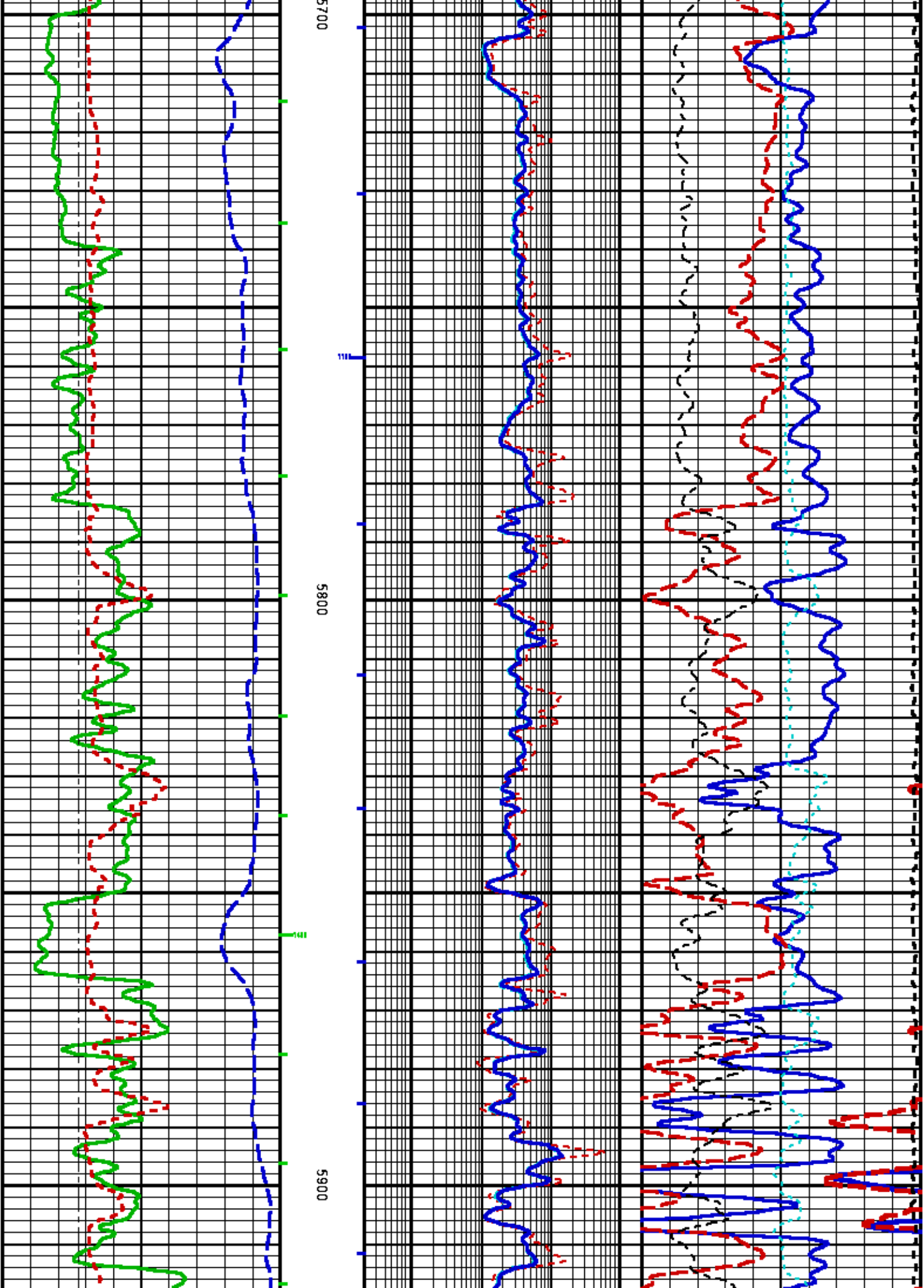


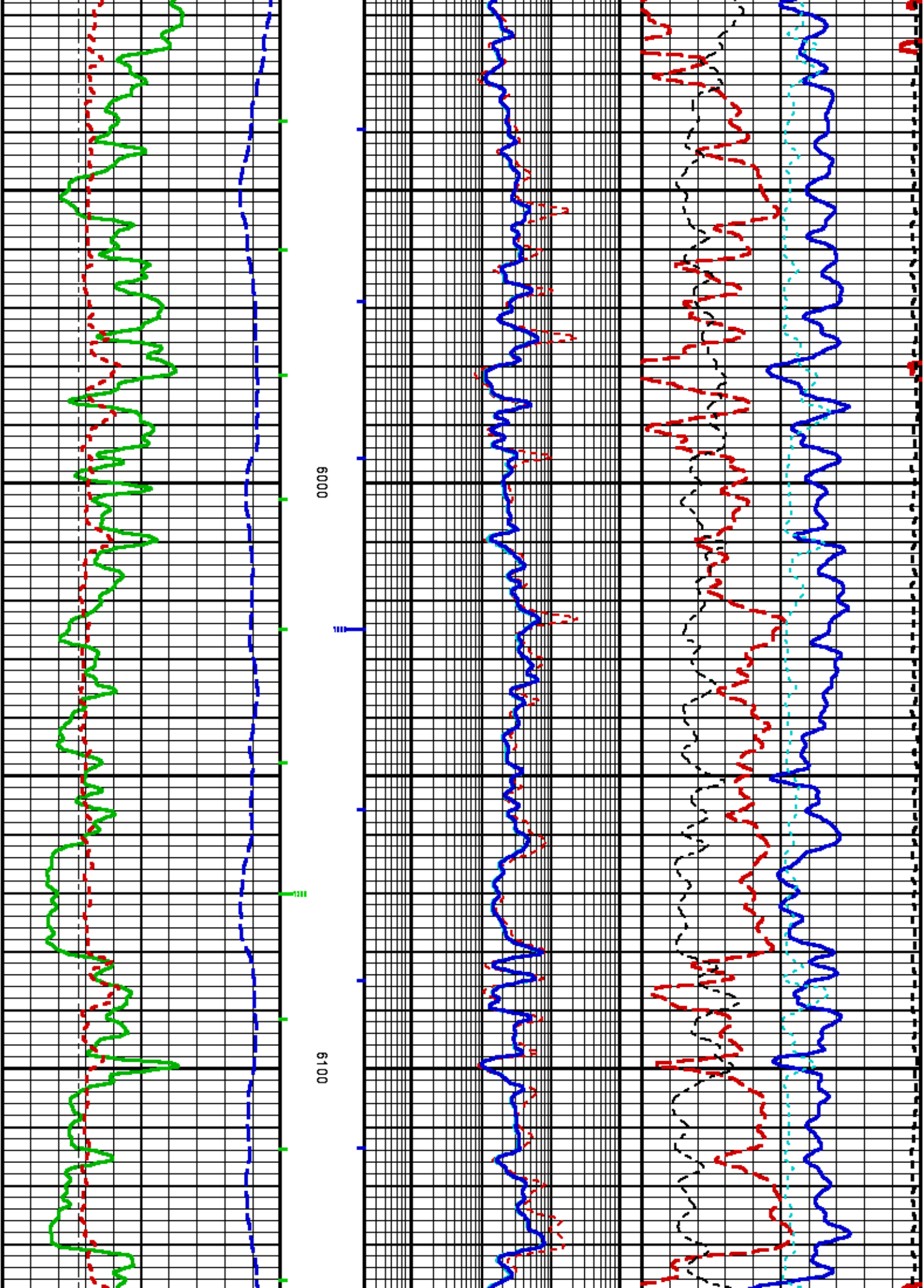


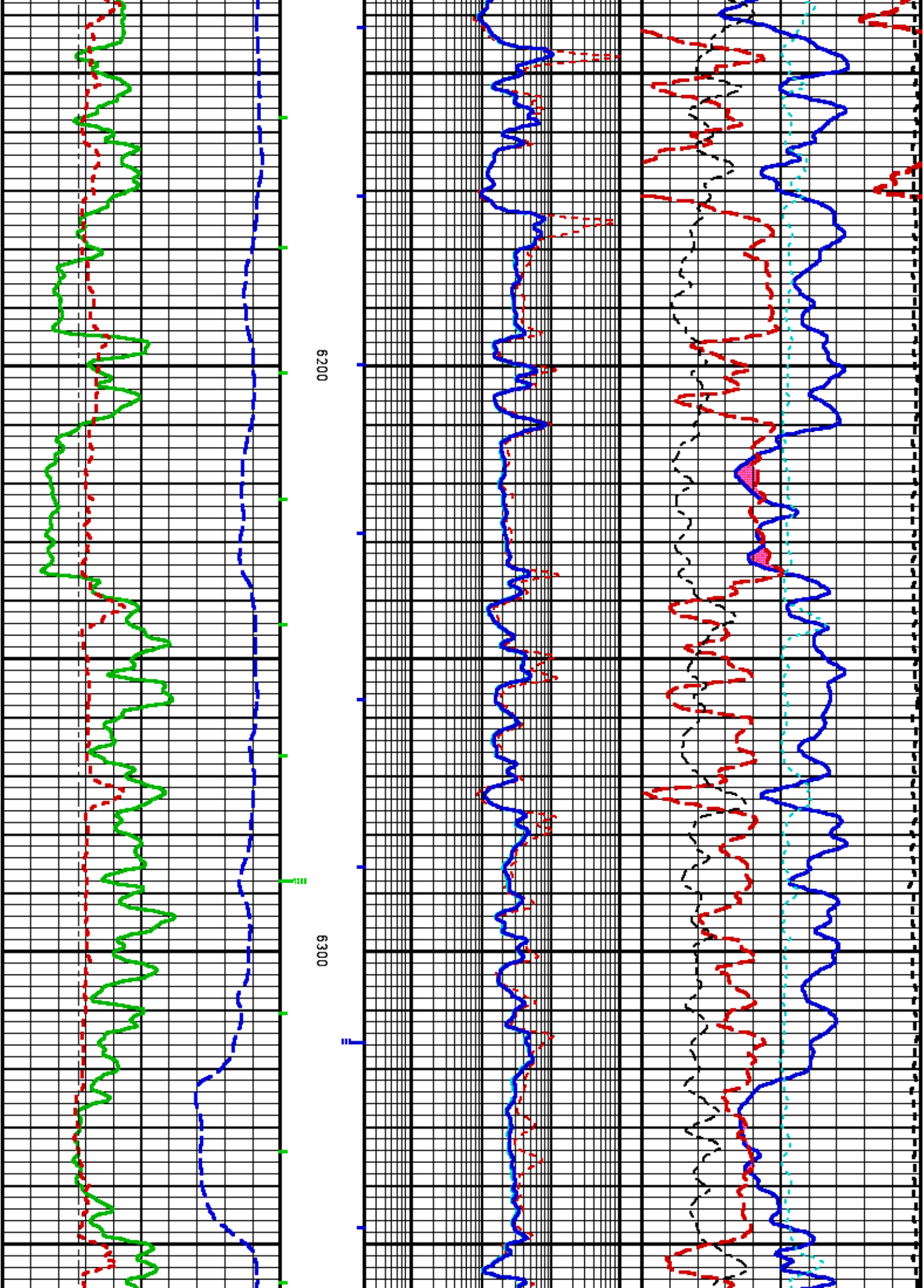


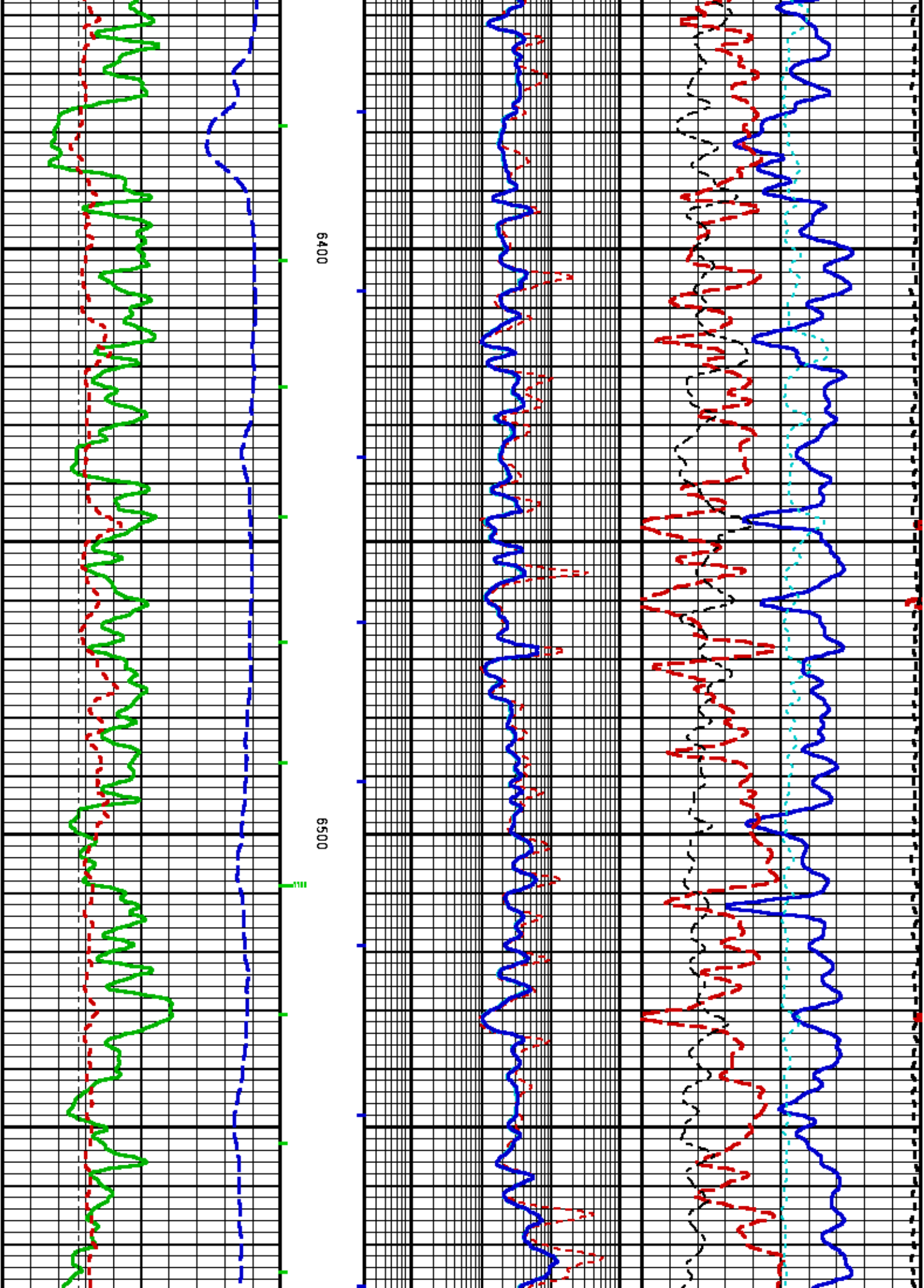


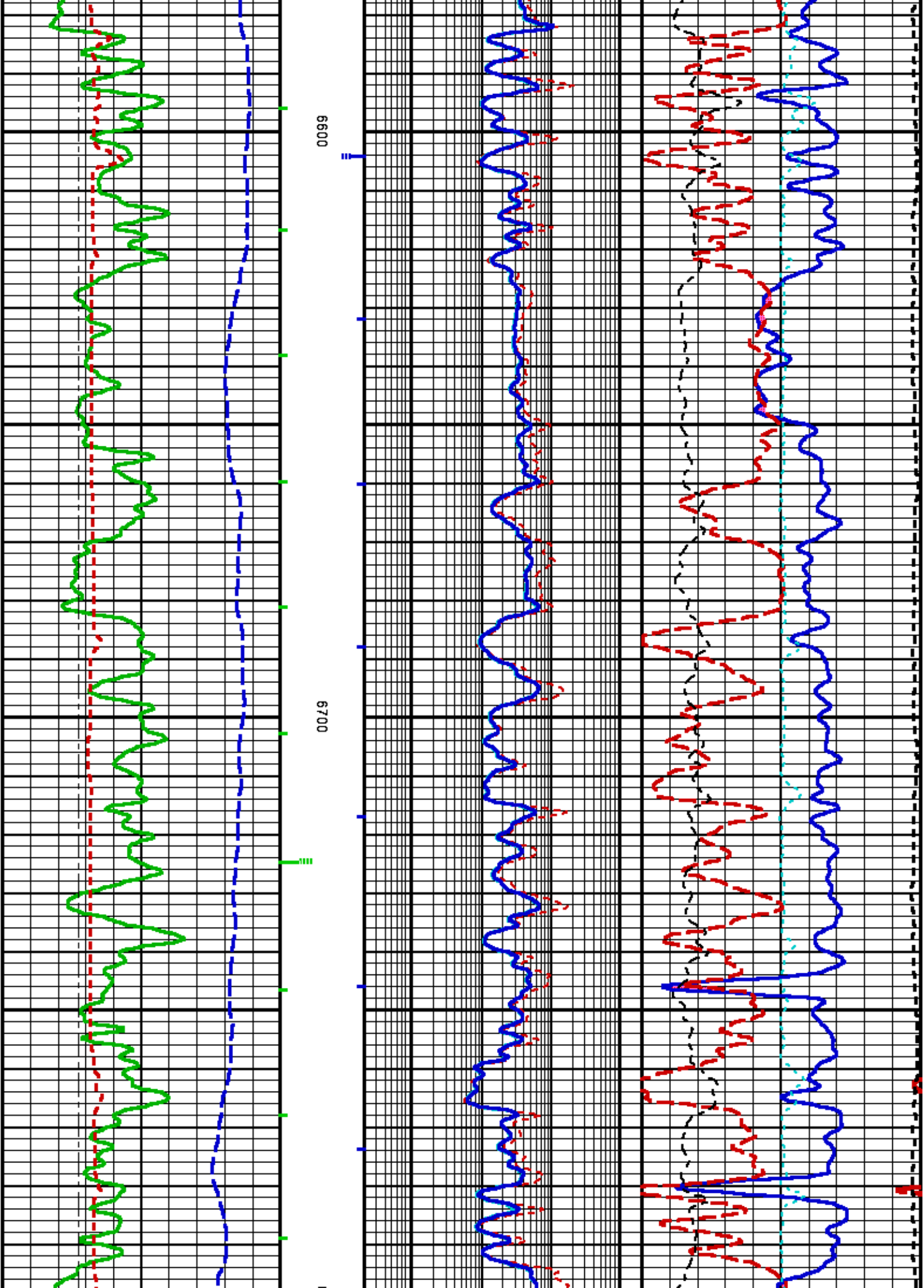


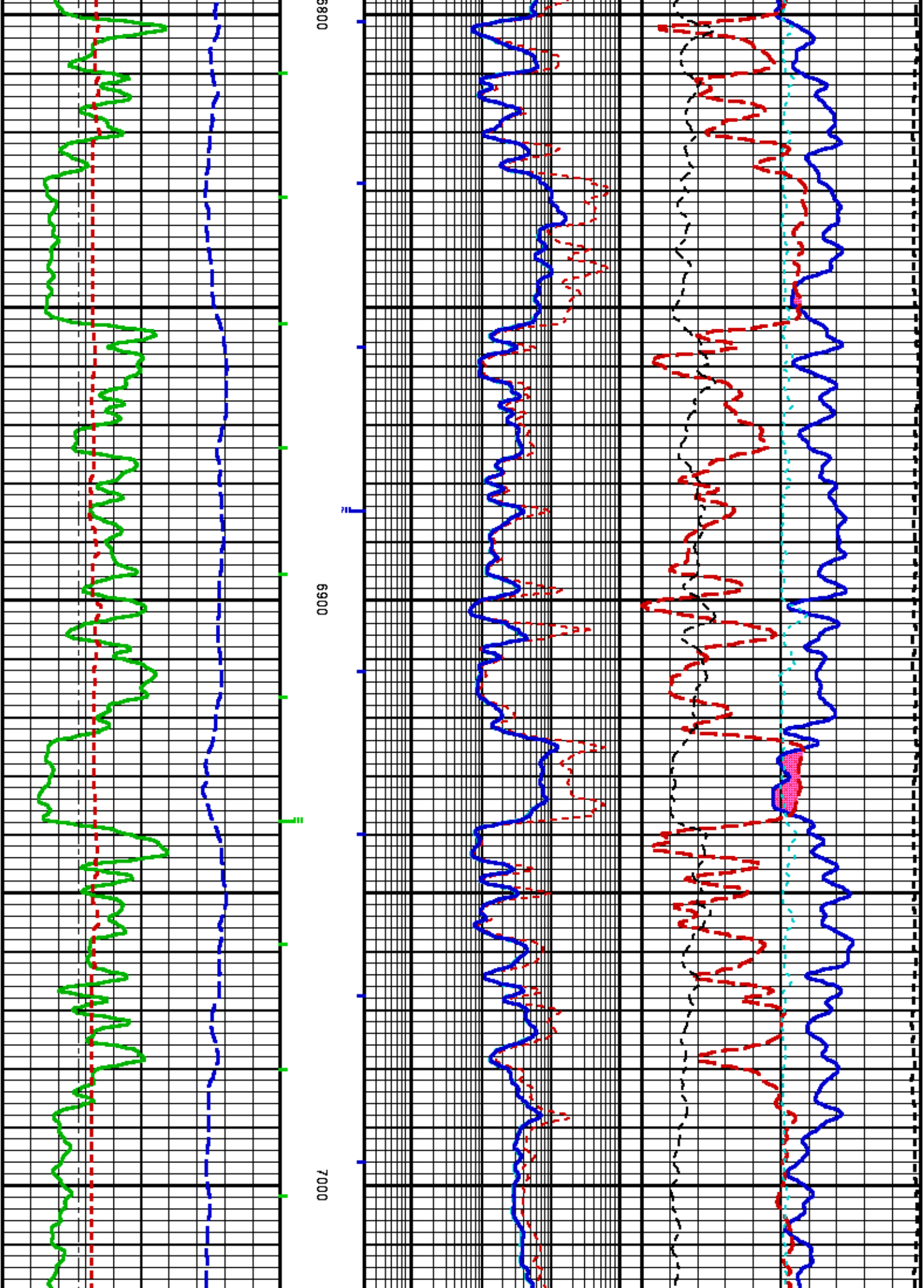


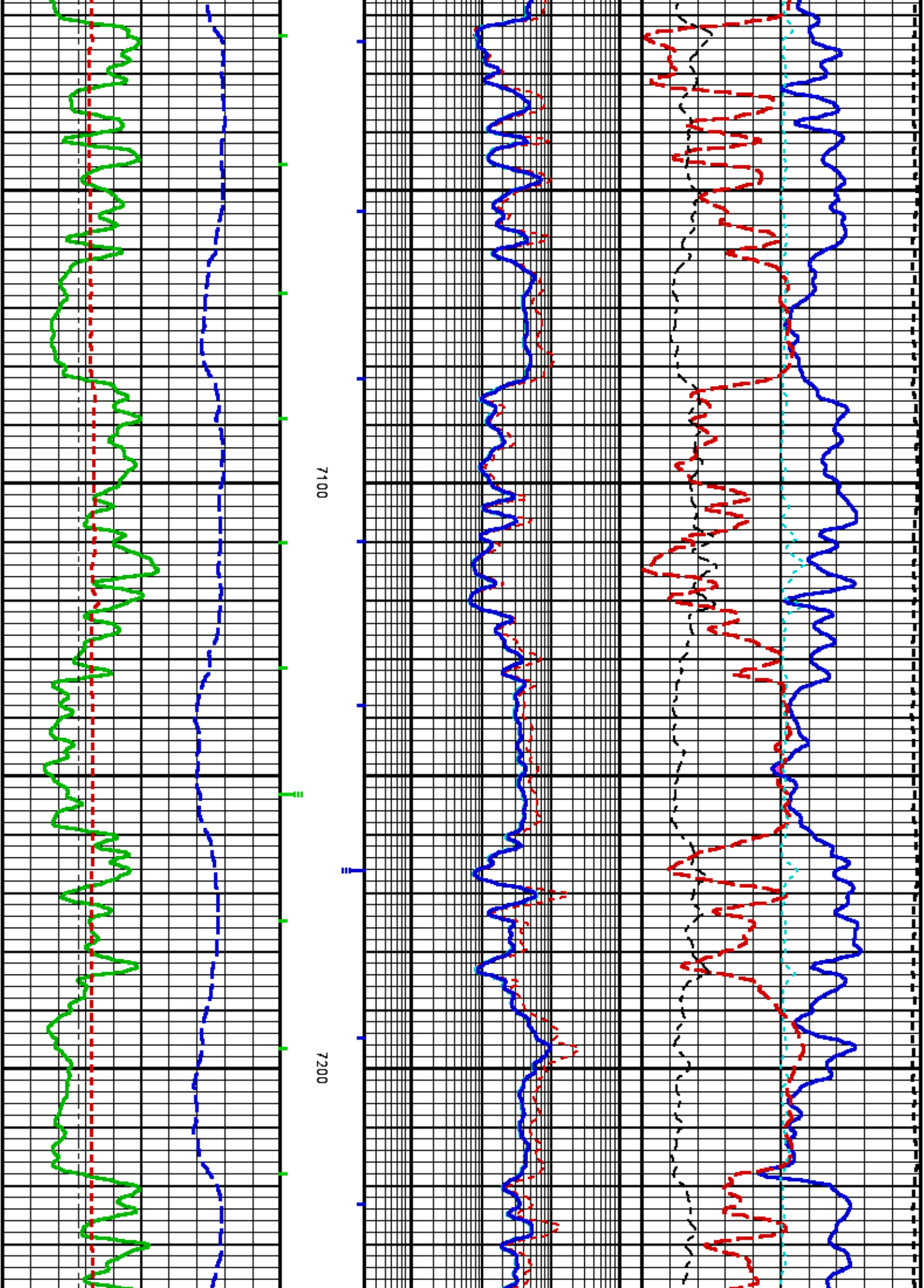


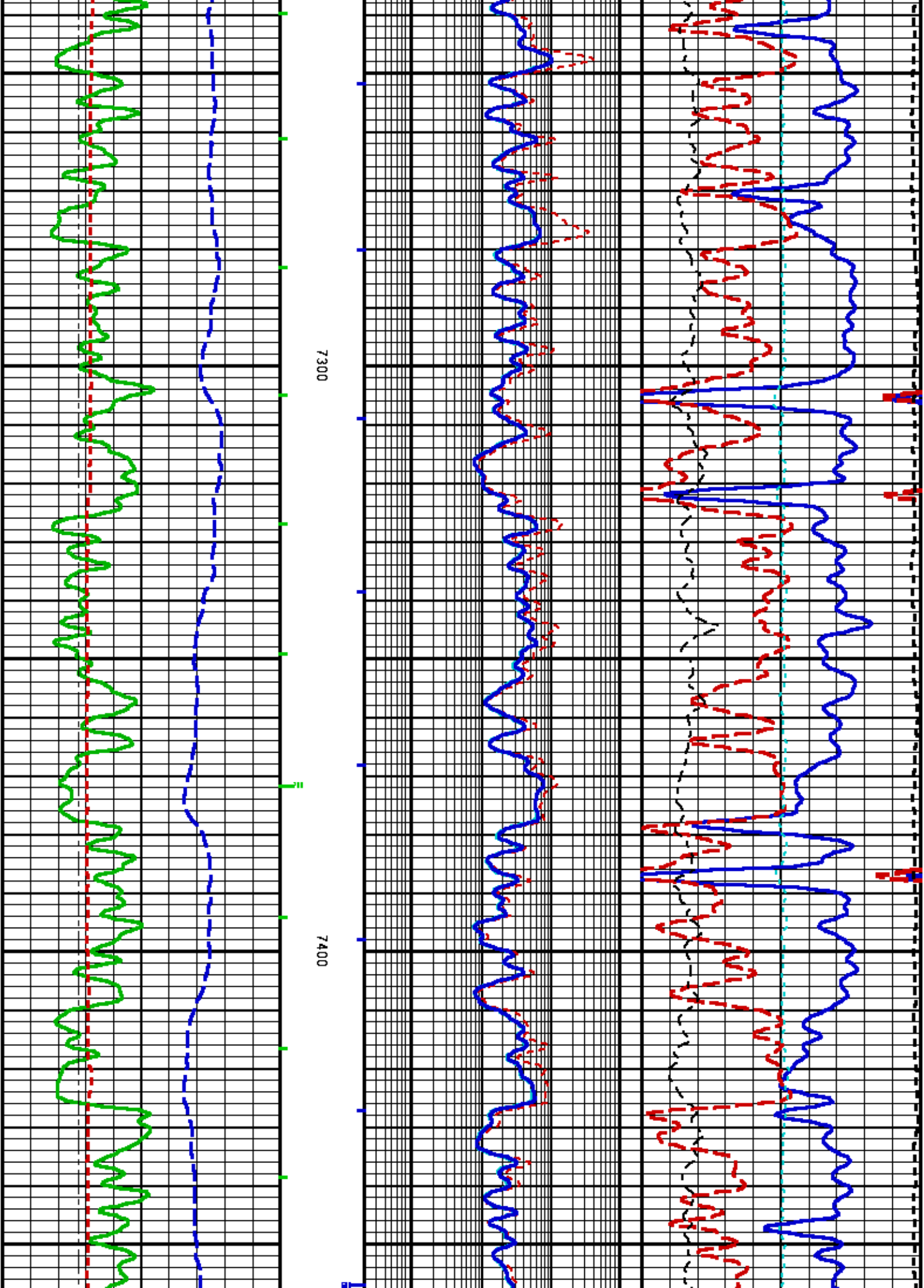


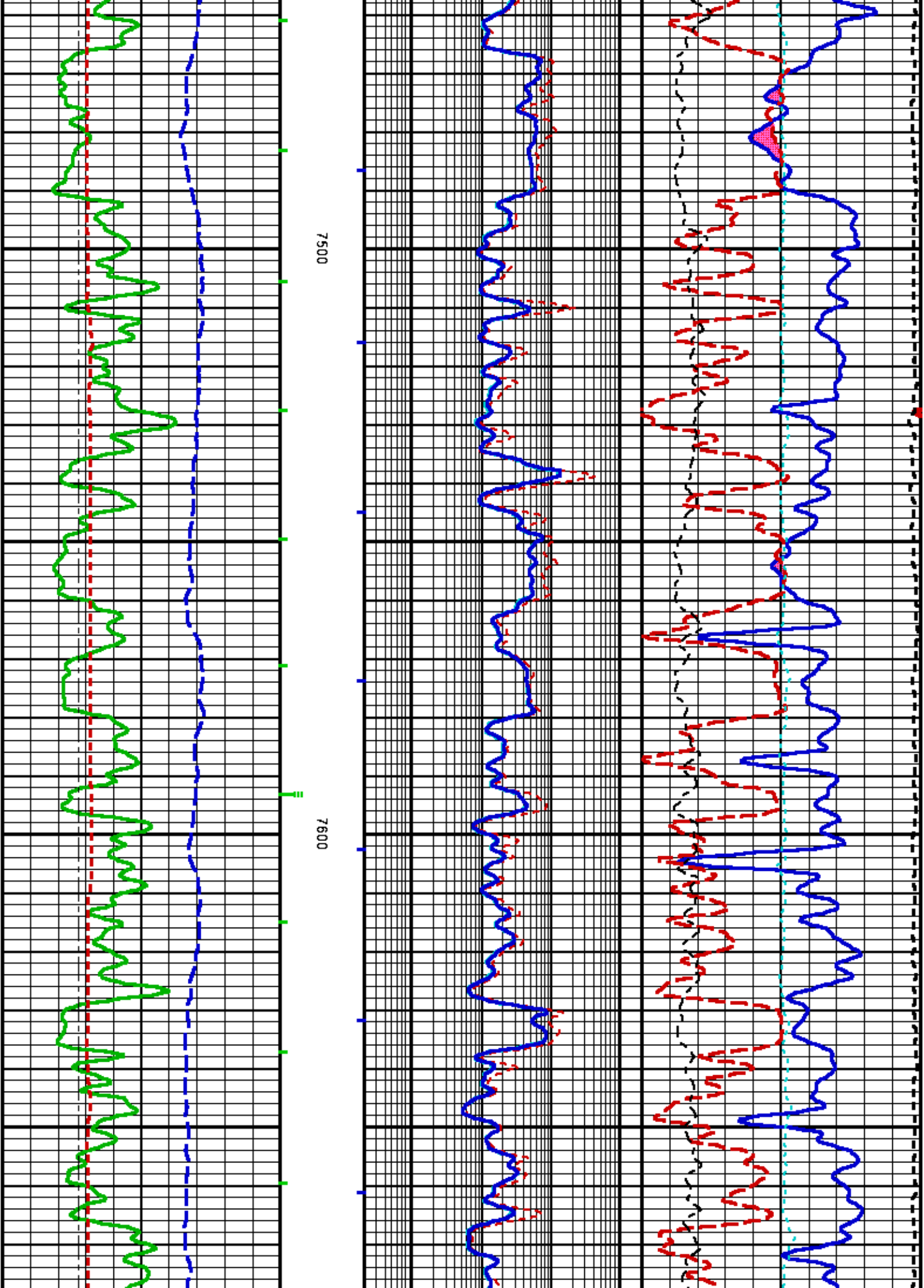


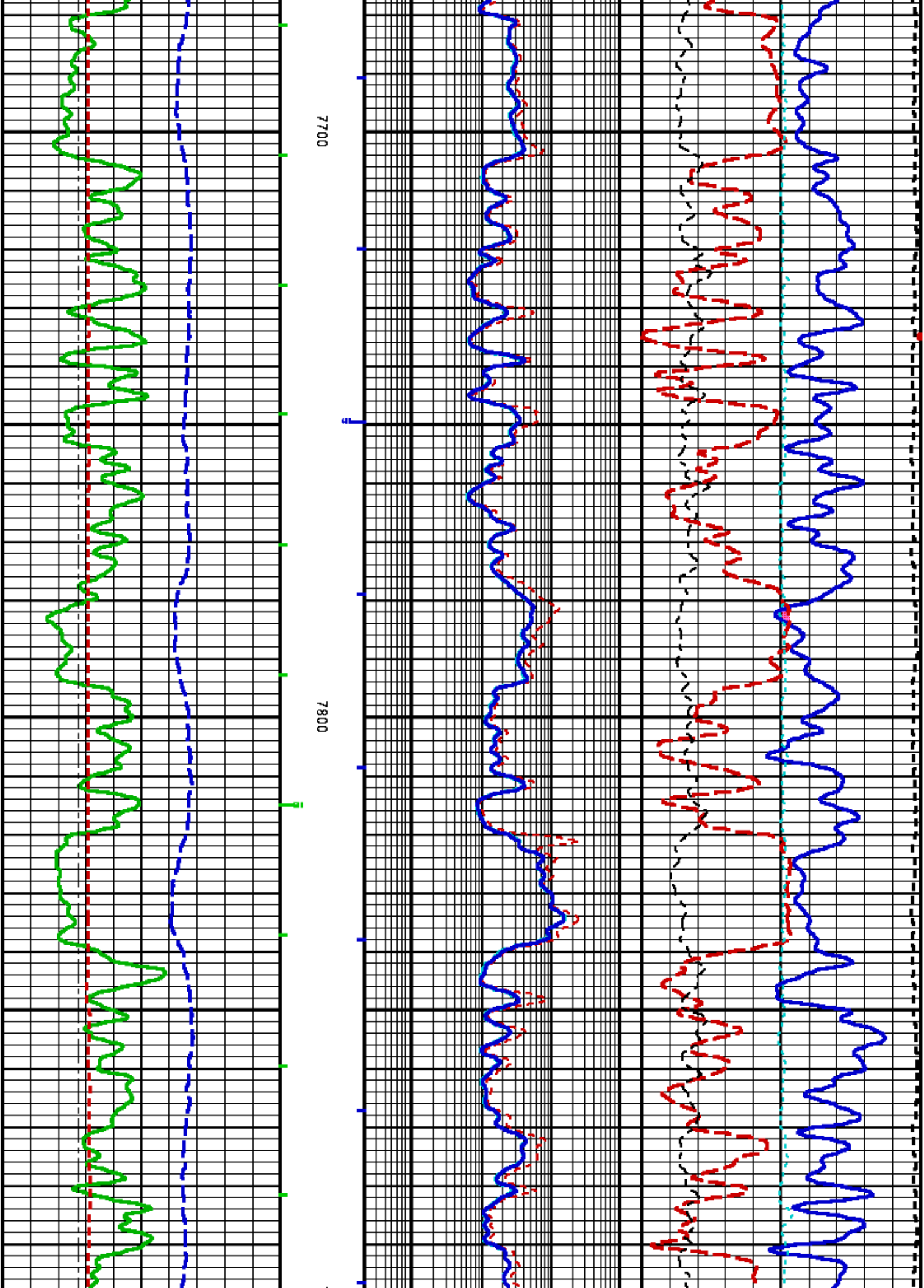


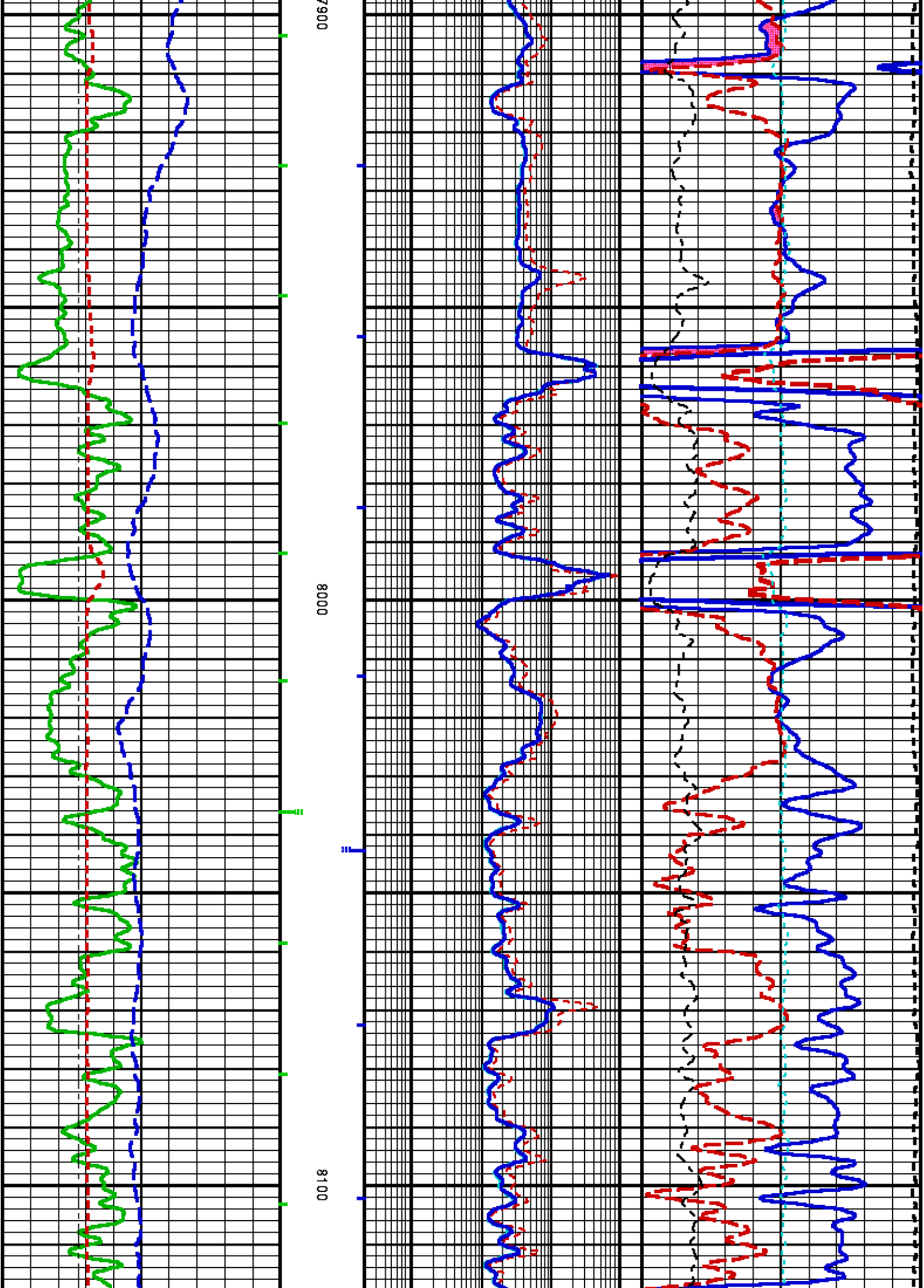


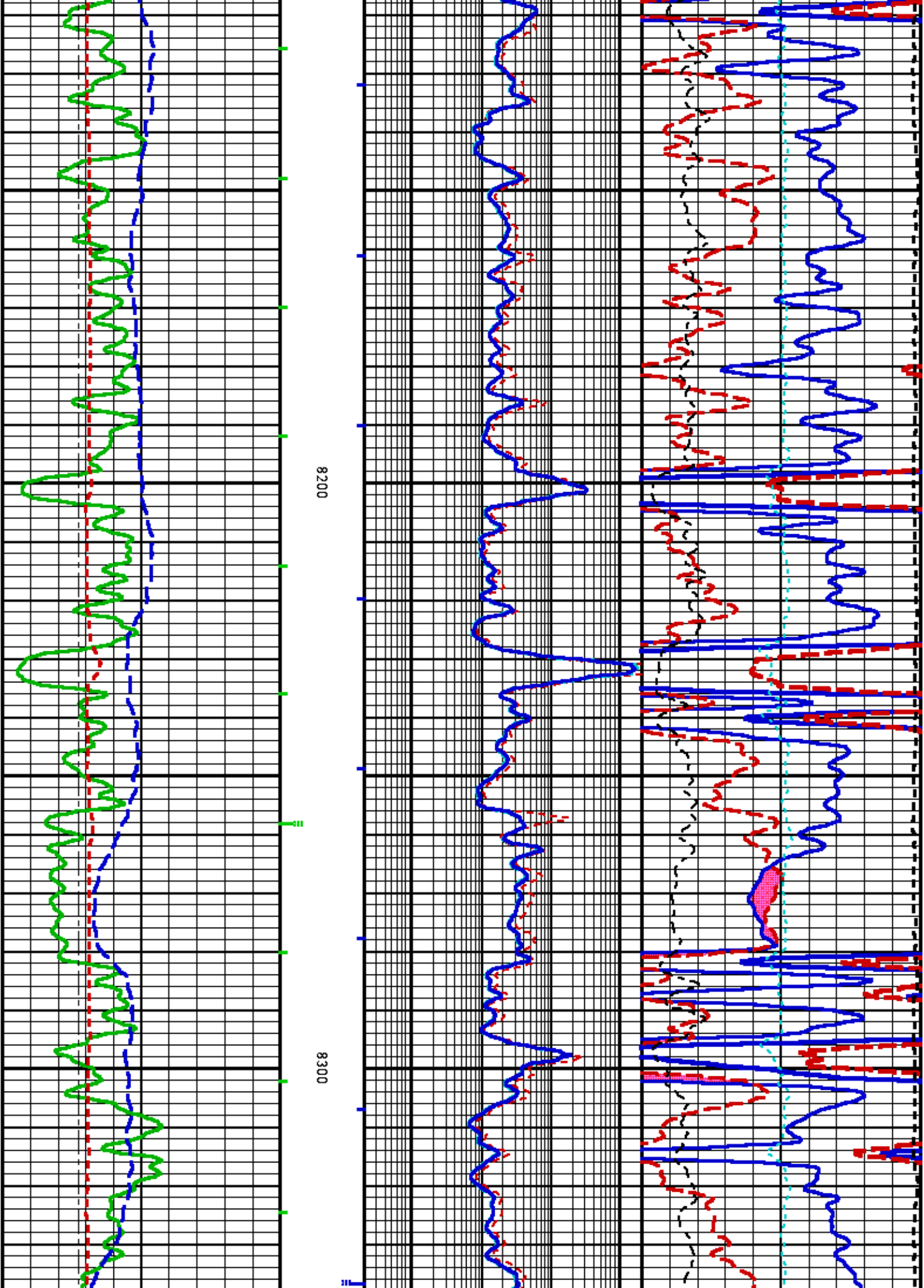


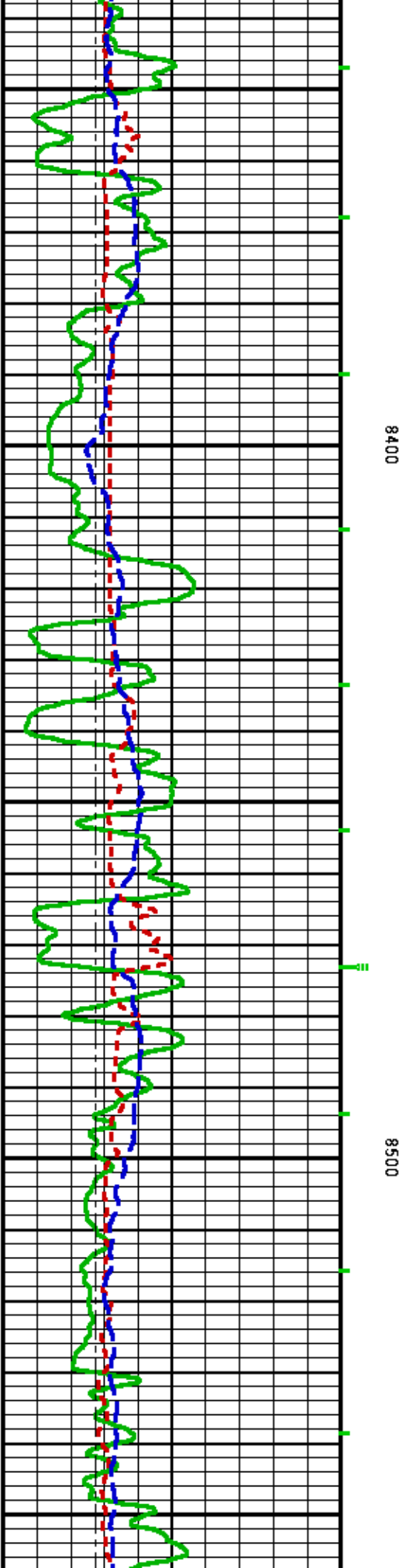
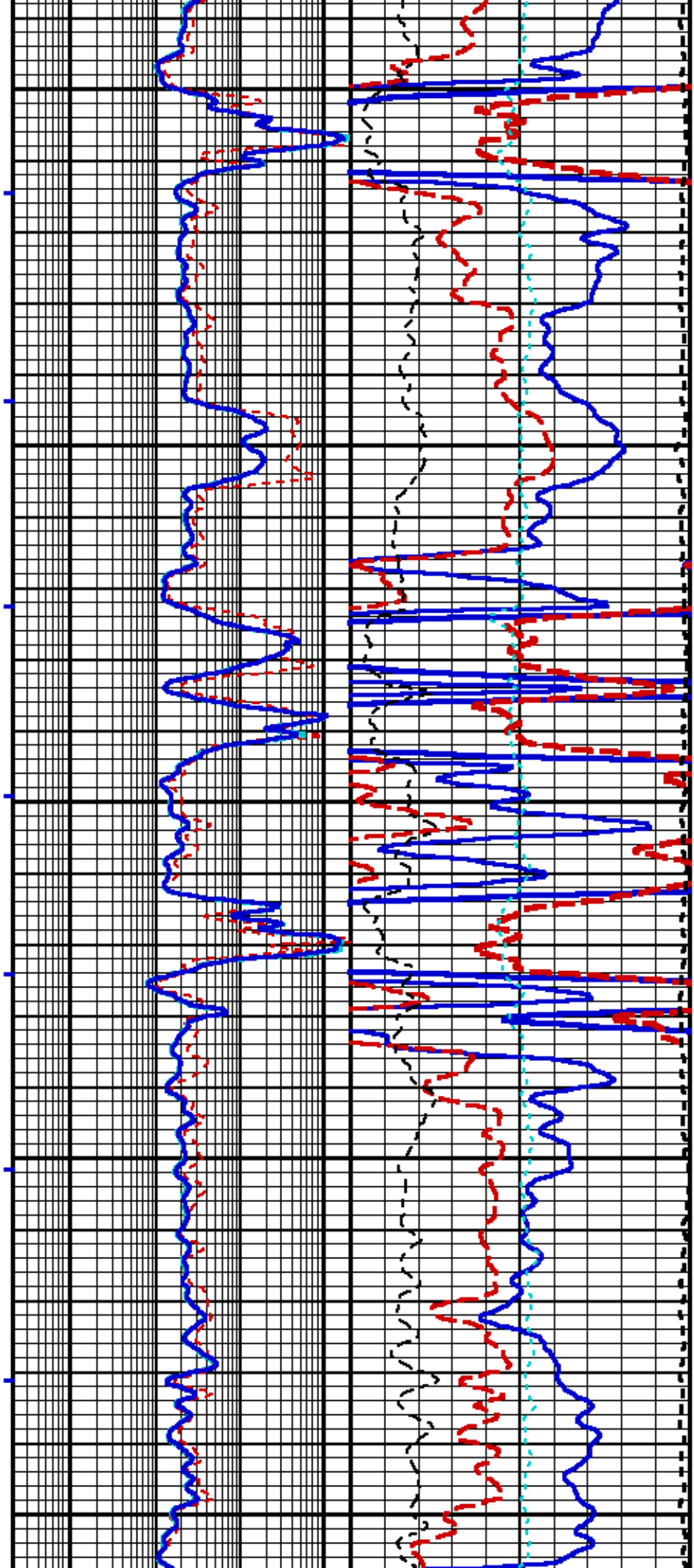


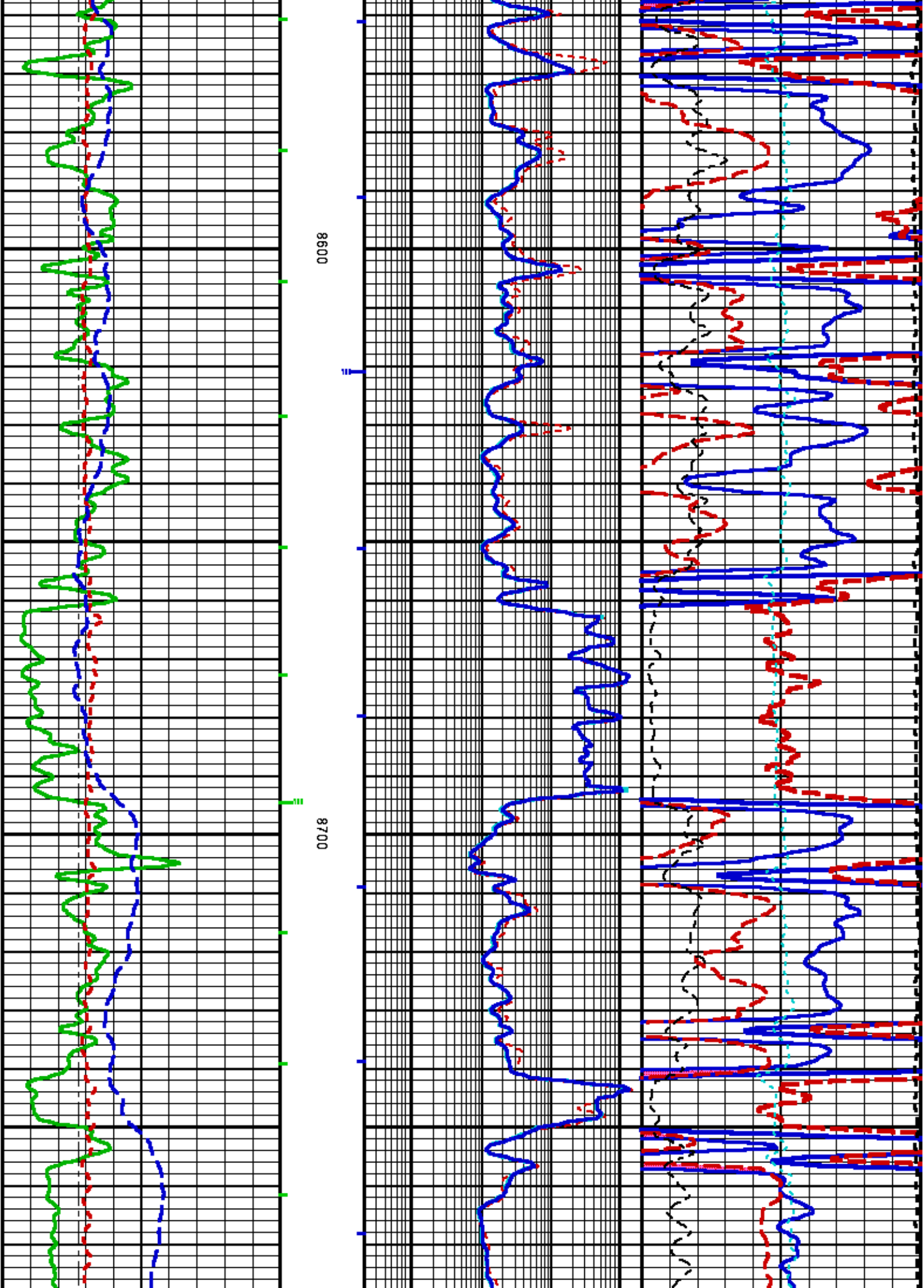


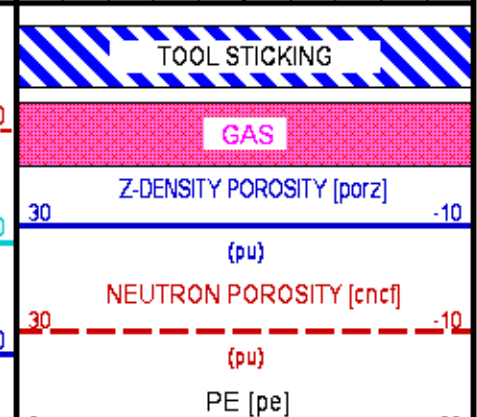
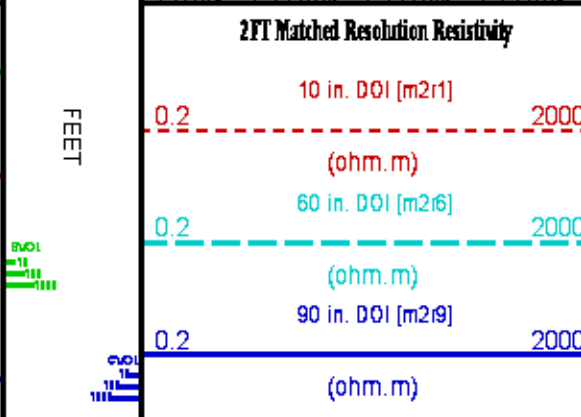
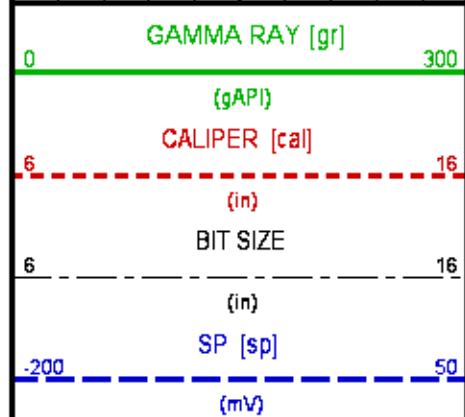
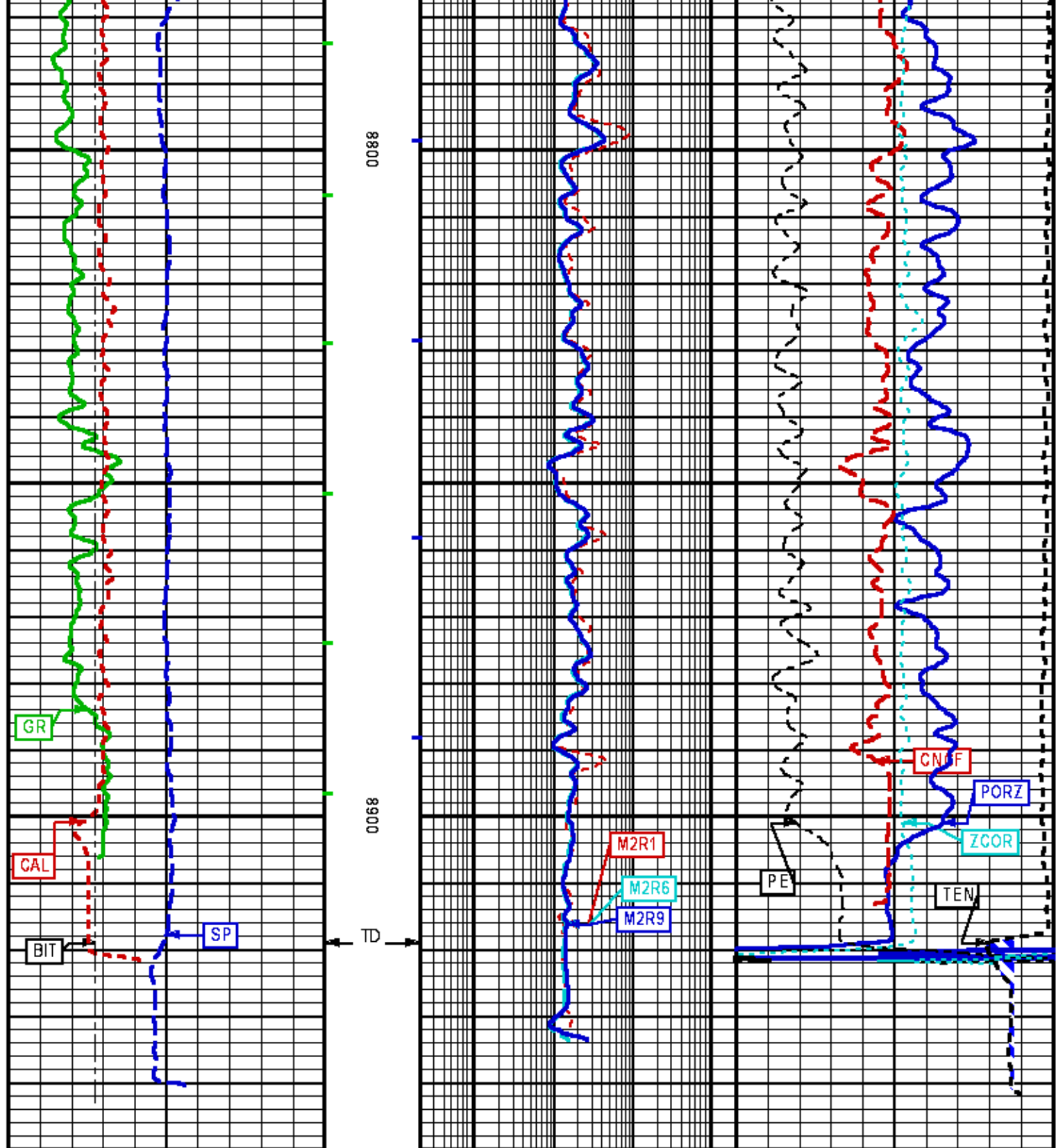














REPEAT LOG

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Updates: 31 Patches: 5

Plotted: Sat Feb 1 21:27:19 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/625060/n970a03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 999.500 ft BOTTOM DEPTH: 1408.244 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 (soff*)	medium		"	"
SP-SPDH	FILTER ()	heavy (3)		"	"

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	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	75.0	degF	"	"
	MUD SAMPLE RES	0.680	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	75.0	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	500	ppm	"	"
CN TOOL STANDOFF	BOREHOLE CORRECTION	ON		"	"
	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

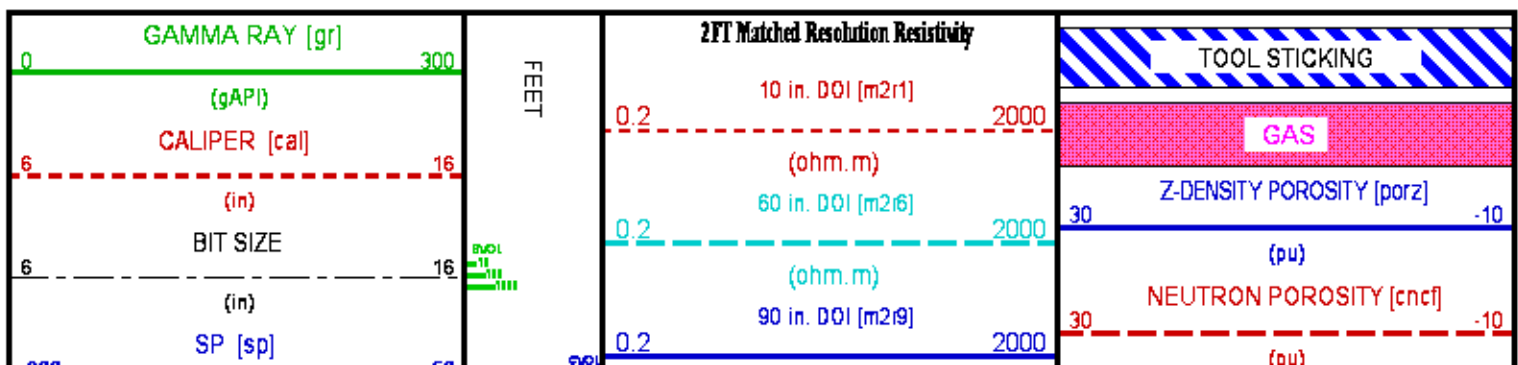
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Feb 1 20:16:34 2014	BIT SIZE
F1:BVOL	Feb 1 20:16:34 2014	BOREHOLE VOLUME
F1:CAL	Feb 1 20:16:34 2014	CALIPER
F1:CNCf	Feb 1 20:16:34 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Feb 1 20:16:34 2014	CEMENT VOLUME
F1:GR	Feb 1 20:16:34 2014	GAMMA RAY
F1:M2R1	Feb 1 20:16:34 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Feb 1 20:16:34 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 1 20:16:34 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Feb 1 20:16:34 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Feb 1 20:16:34 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Feb 1 20:16:34 2014	SPONTANEOUS POTENTIAL
F1:TEN	Feb 1 20:16:34 2014	DIFFERENTIAL TENSION
F1:ZCOR	Feb 1 20:16:34 2014	DENSITY CORRECTION

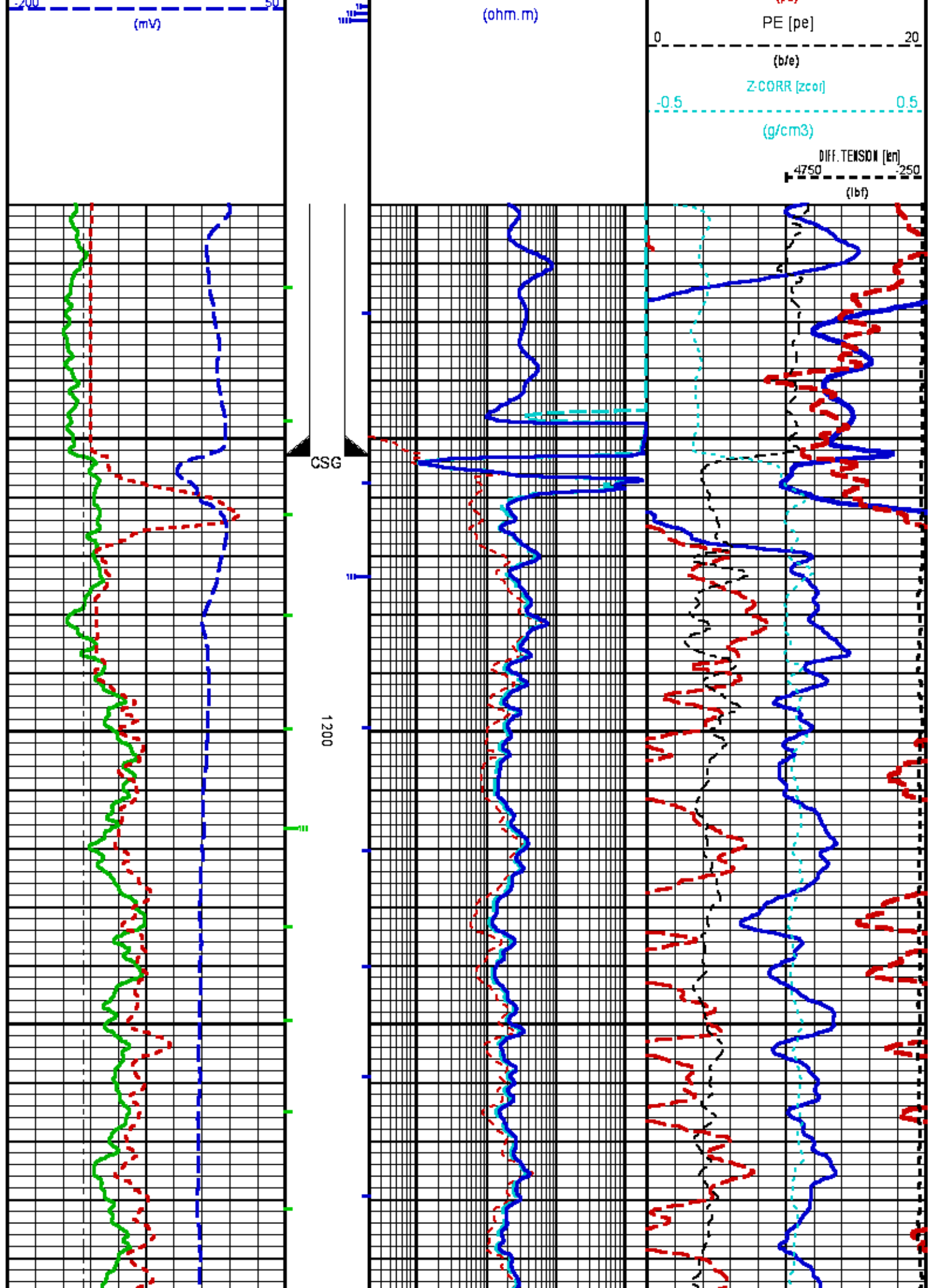
CURVE MEASURE POINT OFFSET

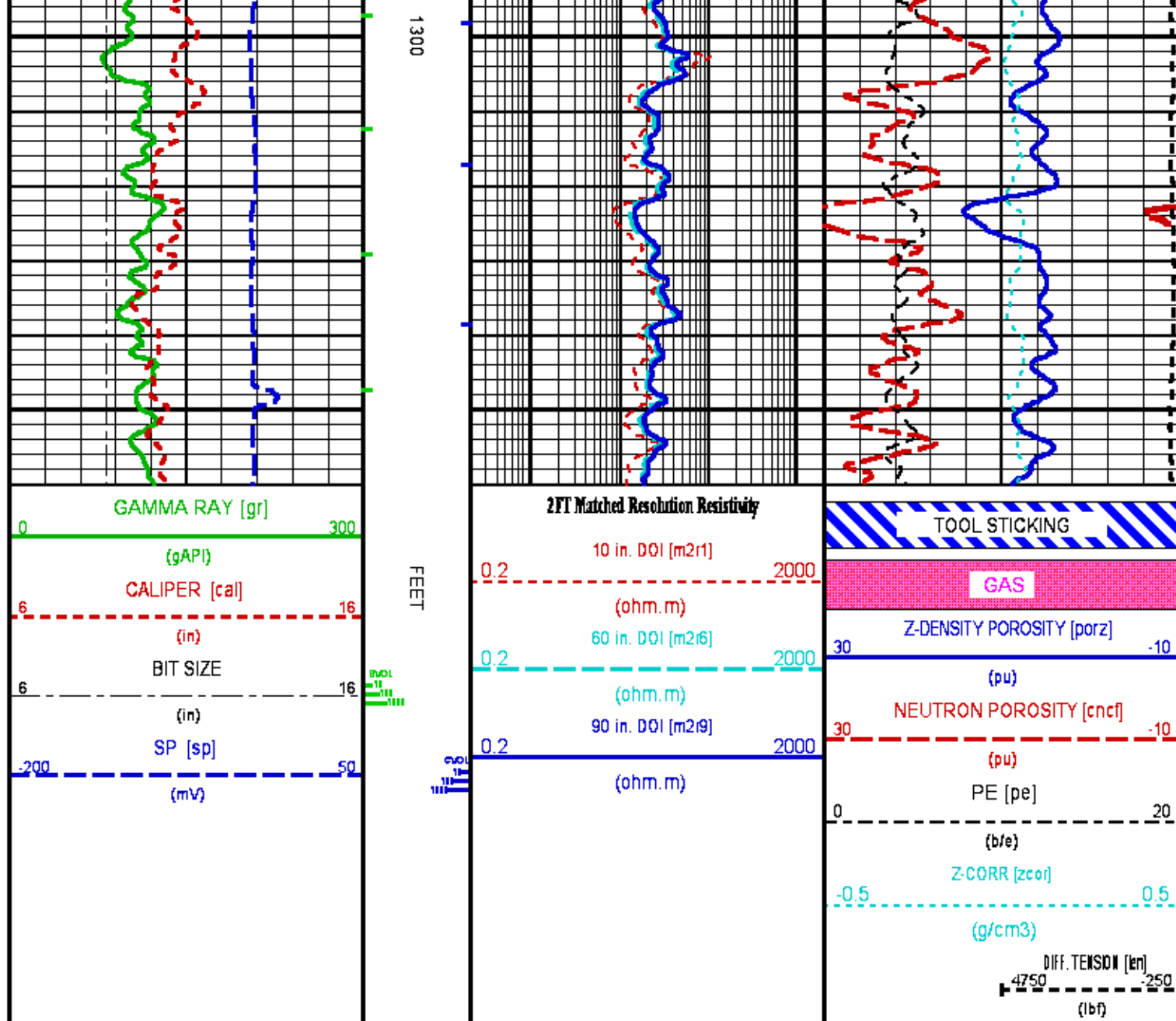
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCf	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

Presentation : HL6670:WPX_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 1110 - 1360 Feet

Data File 1 : F1: HL6670:/dat1a/625060/REPEAT.xtf
Created On : Feb 1 20:16:34 2014
Company : WPX ENERGY INC
Well : SAVAGE RWF 411-25
Field : RULISON
File Interval : 0 - 1410 Feet
OCT : n970a







CALIBRATION / VERIFICATION SUMMARY

Source File: /mnt1/625060/625060.tp1

TTMA PRIMARY CALIBRATION SUMMARY

TOOL #:	3980XA 10142233	DATE/TIME PERFORMED:	Thu Aug 11 09:14:18 2011
UNIT #:	3885TD ML4230	ACCEL #:	3980XA 10142233
		ACCEL CAL DATE:	14:22 02/02/2005
		GAIN	OFFSET
		(ohm.m)	(ohm.m)
Rm K Factors	0.14570	-0.01679	
Sig Low	Sig High	Mult Factor	Add Factor
(ohm)	(ohm)		
0.25	9.94	1.005530	0.000031
Engr Low	Engr High		
(ohm)	(ohm)		
0.25	10.00		

TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #:	3980XA 10142233	DATE/TIME PERFORMED:	Sat Feb 1 19:20:15 2014	DAYS SINCE CAL:	905
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UNIT #: 3880TA HL6670

	CHT (lbF)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19783	496.36	9.95	1001.74
	10075 20275	-100.00 300.00	0.00 12.00	000.00 1000.00
ZERO	-24785	-436.02	0.250	1001.735
	-25000 -25000	-113.00 -100.00	0.200 0.300	000.000 1000.000

TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10142233 DATE/TIME PERFORMED: Sat Feb 1 23:29:10 2014 DAYS SINCE CAL: 905

UNIT #: 3880TA HL6670

	CHT (lbF)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19749	498.47	9.95	1001.06
	10075 20275	-100.00 300.00	0.00 12.00	000.00 1000.00
ZERO	-24785	-436.02	0.249	1000.368
	-25000 -25000	-113.00 -100.00	0.200 0.300	000.000 1000.000

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10127973 DATE/TIME PERFORMED: Wed Dec 26 15:03:01 2012

Unit #: 3880TA HL6670 Jlg Series: 4702NK VBA-905

Background	Calibrator ON	Jlg Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)
237.71	906.38	185	0.277	65.77	250.77
			0.200 0.200		

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10127973 DATE/TIME PERFORMED: Sat Feb 1 20:10:59 2014 DAYS SINCE CAL: 402

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

Counts	TEMP (degF)	HV (V)
976.67	34.95	1361.74
000.00 1000.00	000.00 300.00	1200.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10127973 DATE/TIME PERFORMED: Sat Feb 1 23:29:27 2014 DAYS SINCE CAL: 402

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

Counts	TEMP (degF)	HV (V)
976.67	114.33	1364.70
000.00 1000.00	000.00 300.00	1200.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10362459 DATE/TIME PERFORMED: Fri Dec 6 09:14:52 2013

UNIT #: 3880TA HL6670 CALIBRATOR #: 2437XB 112674 SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4483.84	802.70	5.58597	1.02704	5.73700	25.241
			0.00000 1.00000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10362459 DATE/TIME PERFORMED: Sat Feb 1 19:22:43 2014 DAYS SINCE CAL: 57

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	32.5	1346.9	4.648
		0.00000 1.00000	200.4	1200.0 1400.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10362459 DATE/TIME PERFORMED: Sat Feb 1 23:29:43 2014 DAYS SINCE CAL: 57

UNIT #:	3880TA HL6670	CALIBRATOR #:	INTRNL N/A		
SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.07	993.09	0.99797 0.25000 1.00000	103.4 250.4	1345.4 1250.0 1450.0	4.648 4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY				
TOOL #:	2223XA 10102922	DATE/TIME PERFORMED:	Fri Jan 10 11:47:45 2014	
	UNIT #:	3880TA HL6670		
	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1580.0		
LARGE RING (Arm)	11.000	2822.8	0.00322	1.91471
PAD CLOSED		1444.0	0.00250	-3.61000

CAL BEFORE LOG VERIFICATION SUMMARY					
TOOL #:	2223XA 10102922	DATE/TIME PERFORMED:	Sat Feb 1 19:29:53 2014	DAYS SINCE CAL:	22
	UNIT #:	3880TA HL6670			
	VALUE	MULTIPLIER	ADD	SIZE (in)	
ARM	2212.4	0.00322	1.91471	9.0	
PAD	1424.0	0.00250	-3.61000	-0.0	
	ACTUAL (in)	MEASURED (in)			
DIAMETER (arm+pad)	9.001	9.0	8.8 9.4		

CAL AFTER LOG VERIFICATION SUMMARY					
TOOL #:	2223XA 10102922	DATE/TIME PERFORMED:	Sat Feb 1 23:28:48 2014	DAYS SINCE CAL:	22
	UNIT #:	3880TA HL6670			
	VALUE	MULTIPLIER	ADD	SIZE (in)	
ARM	2232.0	0.00322	1.91471	9.1	
PAD	1444.0	0.00250	-3.61000	0.0	
	ACTUAL (in)	MEASURED (in)			
DIAMETER (arm+pad)	9.001	9.0	8.8 9.4		

ZDL PRIMARY CALIBRATION SUMMARY							
TOOL:	2223XA 10102922	DATE/TIME PERFORMED:	Fri Jan 10 13:15:02 2014				
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)			
	224.7 250.0 250.0	223.8 250.0 250.0	1274.8	1392.7			
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)	
MG (LO PE)	34875.2	11986.5	0.767 0.720 0.800	1.679	0.000	1.900	
AL	21930.8	1382.9		2.667	-0.016		
AL + SHIM	28931.3	2378.1		2.558	0.098		
MG + SHIM (HI PE)	17234.8	5673.4	0.297 0.260 0.350			8.550	
RATIO AL + SHIM/AL	1.32 1.30 1.40	1.72 1.60 1.80					
RATIO MG/AL	1.59 1.50 1.70	8.67 8.00 9.50					

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: **2223XA 10102922** DATE/TIME PERFORMED: **Sat Feb 1 19:22:20 2014** DAYS SINCE CAL: **22**

UNIT #: **3880TA HL6670**

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.9	1412.0
	3332.1 3352.1	220.0 230.0	1290.0 1530.0
SS	22354.8	224.2	1337.0
	22314.8 22394.8	220.0 230.0	1290.0 1530.0
	LV (V)	PAD CURRENT (mA)	
	5.0	97.6	
	4.8 5.2	90.0 100.0	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: **2223XA 10102922** DATE/TIME PERFORMED: **Sat Feb 1 23:29:59 2014** DAYS SINCE CAL: **22**

UNIT #: **3880TA HL6670**

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	223.2	1428.0
	3332.1 3352.1	220.0 230.0	1290.0 1530.0
SS	22354.8	225.1	1330.3
	22314.8 22394.8	220.0 230.0	1290.0 1530.0
	LV (V)	PAD CURRENT (mA)	
	5.0	100.8	
	4.8 5.2	90.0 100.0	

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: **1530XA 10121806** DATE/TIME PERFORMED: **Tue Jan 7 14:33:41 2014**

UNIT #: **3880TA HL6670** GRCOND ID & DATE: **94 101801**

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell 0 R	0.0037 -0.2000 0.2000	-0.0008 -0.1000 0.1000	-0.0003 -0.1000 0.1000	0.0007 -0.1000 0.1000	-0.0014 -0.1000 0.1000	0.0002 -0.1000 0.1000	-0.0004 -0.1000 0.1000	-0.0000 -0.1000 0.1000
Cell 0 Q	-0.0039 -0.5000 0.5000	-0.0008 -0.2000 0.2000	0.0005 -0.1000 0.1000	-0.0012 -0.1000 0.1000	0.0004 -0.1000 0.1000	0.0003 -0.1000 0.1000	0.0000 -0.1000 0.1000	-0.0004 -0.1000 0.1000
Cell 1 R	0.0008 -0.2000 0.2000	-0.0004 -0.1000 0.1000	0.0018 -0.1000 0.1000	-0.0009 -0.1000 0.1000	-0.0004 -0.1000 0.1000	-0.0003 -0.1000 0.1000	-0.0002 -0.1000 0.1000	0.0006 -0.1000 0.1000
Cell 1 Q	-0.0178 -0.5000 0.5000	-0.0015 -0.2000 0.2000	0.0010 -0.1000 0.1000	-0.0012 -0.1000 0.1000	0.0008 -0.1000 0.1000	-0.0007 -0.1000 0.1000	-0.0006 -0.1000 0.1000	-0.0011 -0.1000 0.1000
Cell 2 R	0.0055 -0.2000 0.2000	-0.0012 -0.1000 0.1000	0.0043 -0.1000 0.1000	-0.0024 -0.1000 0.1000	0.0006 -0.1000 0.1000	-0.0000 -0.1000 0.1000	-0.0000 -0.1000 0.1000	0.0016 -0.1000 0.1000
Cell 2 Q	-0.0108 -0.5000 0.5000	-0.0007 -0.2000 0.2000	-0.0037 -0.1000 0.1000	-0.0003 -0.1000 0.1000	-0.0013 -0.1000 0.1000	-0.0013 -0.1000 0.1000	0.0006 -0.1000 0.1000	-0.0012 -0.1000 0.1000
Cell 3 R	0.0113 -0.5000 0.5000	-0.0008 -0.1000 0.1000	-0.0016 -0.1000 0.1000	0.0012 -0.1000 0.1000	0.0002 -0.1000 0.1000	0.0008 -0.1000 0.1000	0.0033 -0.1000 0.1000	0.0012 -0.1000 0.1000
Cell 3 Q	-0.0126 -0.5000 0.5000	0.0028 -0.2000 0.2000	0.0037 -0.1000 0.1000	-0.0006 -0.1000 0.1000	-0.0010 -0.1000 0.1000	-0.0014 -0.1000 0.1000	0.0038 -0.1000 0.1000	0.0020 -0.1000 0.1000
Cell 4 R	0.0190 -0.5000 0.5000	-0.0089 -0.2000 0.2000	-0.0002 -0.2000 0.2000	0.0046 -0.2000 0.2000	0.0026 -0.2000 0.2000	-0.0029 -0.2000 0.2000	0.0066 -0.2000 0.2000	0.0043 -0.2000 0.2000
Cell 4 Q	-0.0187 -1.0000 1.0000	-0.0122 -0.4000 0.4000	0.0007 -0.2000 0.2000	0.0041 -0.2000 0.2000	0.0051 -0.2000 0.2000	0.0076 -0.2000 0.2000	-0.0023 -0.2000 0.2000	0.0004 -0.2000 0.2000
Cell 5 R	0.0512 -1.2000 1.2000	-0.0214 -0.4000 0.4000	-0.0173 -0.4000 0.4000	0.0092 -0.4000 0.4000	0.0079 -0.4000 0.4000	-0.0070 -0.4000 0.4000	0.0171 -0.4000 0.4000	0.0147 -0.4000 0.4000
Cell 5 Q	-0.0400 -1.5000 1.5000	-0.0261 -0.8000 0.8000	0.0143 -0.4000 0.4000	-0.0158 -0.4000 0.4000	0.0060 -0.4000 0.4000	-0.0097 -0.4000 0.4000	0.0083 -0.4000 0.4000	-0.0060 -0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell 0 M	163.06 139.00 189.00	161.65 134.00 184.00	158.79 131.00 181.00	154.56 128.00 178.00	148.96 126.00 170.00	142.06 118.00 181.00	133.99 112.00 150.00	124.73 109.00 139.00
Cell 0 P	7.674 8.000 9.000	25.240 21.000 30.000	42.370 35.000 50.000	59.458 49.000 71.000	76.552 65.000 91.000	93.666 77.000 109.000	110.821 92.000 130.000	127.954 105.000 151.000
Cell 1 M	281.66 259.00 309.00	279.14 259.00 309.00	274.04 250.00 300.00	266.44 225.00 312.00	256.48 218.00 302.00	244.13 208.00 296.00	229.67 198.00 286.00	213.18 184.00 244.00
Cell 1 P	7.844 8.000 9.000	25.720 21.000 30.000	43.167 35.000 51.000	60.580 49.000 71.000	77.996 65.000 92.000	95.415 78.000 112.000	112.883 93.000 130.000	130.299 109.000 151.000
Cell 2 M	578.47 478.00 699.00	573.60 474.00 694.00	563.68 463.00 683.00	548.89 450.00 662.00	529.31 438.00 632.00	504.78 412.00 592.00	475.98 380.00 570.00	442.89 359.00 549.00
Cell 2 P	7.964 8.000 9.000	26.114 21.000 31.000	43.846 35.000 51.000	61.558 49.000 71.000	79.291 65.000 92.000	97.067 78.000 115.000	114.892 92.000 135.000	132.704 109.000 155.000
Cell 3 M	925.75 772.00 1080.00	917.66 764.00 1060.00	901.13 752.00 1030.00	876.42 728.00 1010.00	844.08 700.00 970.00	803.95 665.00 925.00	756.94 626.00 889.00	702.73 589.00 799.00
Cell 3 P	7.767 8.000 9.000	25.546 21.000 31.000	42.898 35.000 51.000	60.208 49.000 71.000	77.518 65.000 92.000	94.862 78.000 112.000	112.225 92.000 132.000	129.553 109.000 151.000

	0.000	10.000	21.000	30.000	39.000	51.000	60.000	72.000	85.000	95.000	109.000	125.000	141.000	159.000
Coll 4 M	1453.6		1440.2		1412.5		1371.6		1318.0		1252.6		1176.7	1090.2
	1210.0	1100.0	1205.0	1090.0	1180.0	1090.0	1140.0	1050.0	1180.0	1050.0	1070.0	1490.0	1000.0	942.0
Coll 4 P	7.866		25.838		43.376		60.844		78.277		95.713		113.107	130.407
	8.000	10.000	21.000	31.000	39.000	52.000	60.000	73.000	85.000	95.000	114.000	135.000	139.000	109.000
Coll 5 M	2983.3		2960.7		2911.3		2836.3		2735.9		2611.5		2463.8	2292.2
	2490.0	2490.0	2420.0	2400.0	2410.0	2390.0	2290.0	2200.0	2290.0	2090.0	2190.0	2290.0	2090.0	2090.0
Coll 5 P	7.916		26.013		43.723		61.396		79.117		96.902		114.759	132.605
	8.000	10.000	20.000	31.000	39.000	52.000	60.000	73.000	85.000	94.000	109.000	135.000	139.000	109.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coll 0 R	-1097	-658	-537	-464	-412	-373	-342	-318
	-3200	840	-1400	-260	-780	-180	-800	-120
Coll 0 Q	-1163	-686	-547	-490	-460	-442	-431	-425
	-15000	11000	-2900	3900	-3100	2100	-2900	1400
Coll 1 R	-141	-154	-146	-134	-123	-114	-106	-99
	-750	480	-390	85	-290	10	-200	-25
Coll 1 Q	-121	-79	-75	-77	-78	-79	-79	-80
	-3300	3300	-1100	950	-650	590	-380	190
Coll 2 R	2.3	-34.0	-36.0	-33.9	-31.1	-28.4	-25.6	-23.7
	-89.0	19.0	-84.0	-0.4	-81.0	-12.0	-81.0	-18.0
Coll 2 Q	422.6	141.1	80.2	54.6	40.6	32.6	27.9	25.4
	-1500.0	1800.0	-900.0	810.0	-260.0	390.0	-180.0	180.0
Coll 3 R	1.3	-7.5	-8.9	-8.6	-9.0	-8.1	-7.8	-7.5
	-25.0	21.0	-22.0	1.8	-21.0	-1.3	-19.0	-0.8
Coll 3 Q	124.6	45.6	31.0	25.3	23.3	23.0	23.2	24.6
	-540.0	590.0	-180.0	180.0	-100.0	110.0	-71.0	81.0
Coll 4 R	0.46	-1.57	-1.66	-1.72	-3.24	-1.70	-1.38	-1.38
	-16.00	15.00	-12.00	2.90	-11.00	1.90	-6.80	0.59
Coll 4 Q	1.20	2.60	3.65	4.85	7.87	8.01	9.87	10.34
	-290.00	280.00	-79.00	95.00	-43.00	84.00	-29.00	51.00
Coll 5 R	1.03	0.44	-0.40	-0.20	-1.64	-0.31	-0.38	0.29
	-58.00	51.00	-6.40	9.80	-6.80	1.10	-8.80	2.80
Coll 5 Q	0.20	2.11	3.66	4.49	3.78	6.86	8.64	9.90
	-68.00	69.00	-28.00	29.00	-14.00	22.00	-9.00	21.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coll 0 M	0.966	0.975	0.979	0.981	0.982	0.982	0.983	0.982
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 0 P	-0.316	-0.485	-0.379	-0.260	-0.175	-0.101	-0.026	-0.005
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500
Coll 1 M	0.961	0.970	0.974	0.976	0.977	0.977	0.977	0.977
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 1 P	-0.296	-0.476	-0.360	-0.238	-0.134	-0.087	-0.032	0.016
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500
Coll 2 M	0.986	0.987	0.987	0.986	0.986	0.985	0.985	0.985
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 2 P	0.044	0.046	0.090	0.134	0.151	0.175	0.211	0.219
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500
Coll 3 M	0.994	0.994	0.994	0.994	0.993	0.992	0.992	0.990
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 3 P	0.048	0.082	0.138	0.198	0.236	0.286	0.334	0.350
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500
Coll 4 M	0.999	0.999	1.000	0.999	1.000	1.000	1.000	0.999
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 4 P	0.116	0.124	0.210	0.286	0.396	0.454	0.525	0.577
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500
Coll 5 M	1.003	1.002	1.003	1.003	1.002	1.005	1.007	1.007
	0.890	1.100	0.890	1.100	0.890	1.100	0.890	1.100
Coll 5 P	0.040	0.106	0.264	0.377	0.561	0.694	0.775	0.910
	-1.500	1.500	-1.500	1.500	-1.500	1.500	-1.500	1.500

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

ID6 2.831 0.846 50.4 1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10121806 DATE/TIME PERFORMED: Sat Feb 1 20:49:18 2014 DAYS SINCE CAL: 25

UNIT #: 3880TA HL6670

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coll 0 R	0.003	0.000	-0.000	0.002	-0.000	0.000	-0.000	-0.001
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100
Coll 0 Q	-0.004	-0.002	-0.000	-0.000	0.000	0.001	-0.001	-0.001
	-0.500	0.500	-0.200	0.200	-0.100	0.100	-0.100	0.100
Coll 1 R	0.001	0.001	-0.002	0.002	-0.000	0.000	-0.001	-0.000
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100
Coll 1 Q	-0.016	-0.003	0.000	-0.002	-0.002	0.001	0.001	0.000
	-0.500	0.500	-0.200	0.200	-0.100	0.100	-0.100	0.100
Coll 2 R	0.003	0.003	0.000	0.000	-0.001	-0.003	0.003	-0.001
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100
Coll 2 Q	-0.010	0.002	0.000	0.000	0.001	0.000	0.001	0.002
	-0.500	0.500	-0.200	0.200	-0.100	0.100	-0.100	0.100
Coll 3 R	0.013	-0.000	0.000	-0.001	-0.006	-0.006	0.006	0.003
	-0.500	0.500	-0.100	0.100	-0.100	0.100	-0.100	0.100
Coll 3 Q	-0.010	-0.004	0.002	-0.008	0.001	0.007	-0.001	0.004
	-0.500	0.500	-0.200	0.200	-0.100	0.100	-0.100	0.100

Coll 4 R	0.022 -0.500 0.000	-0.012 -0.200 0.200	0.002 -0.200 0.200	0.015 -0.200 0.200	0.002 -0.200 0.200	0.007 -0.200 0.200	0.001 -0.200 0.200	-0.001 -0.200 0.200
Coll 4 Q	-0.002 -1.000 1.000	-0.003 -0.400 0.400	0.002 -0.200 0.200	0.006 -0.200 0.200	-0.001 -0.200 0.200	0.004 -0.200 0.200	-0.003 -0.200 0.200	0.001 -0.200 0.200
Coll 5 R	0.024 -1.200 1.200	-0.017 -0.400 0.400	-0.015 -0.400 0.400	0.015 -0.400 0.400	-0.022 -0.400 0.400	-0.003 -0.400 0.400	-0.009 -0.400 0.400	0.007 -0.400 0.400
Coll 5 Q	-0.023 -1.500 1.500	-0.074 -0.800 0.800	0.000 -0.400 0.400	0.004 -0.400 0.400	0.006 -0.400 0.400	0.000 -0.400 0.400	0.018 -0.400 0.400	-0.015 -0.400 0.400

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

Coll 0 M	162.25 130.00 180.00	160.83 131.00 181.00	157.95 131.00 181.00	153.72 128.00 178.00	148.12 122.00 170.00	141.26 118.00 181.00	133.18 112.00 150.00	124.00 105.00 139.00
Coll 0 P	7.154 -1.000 12.000	25.199 10.000 30.000	42.499 35.000 50.000	59.710 40.000 71.000	76.916 55.000 91.000	94.145 77.000 110.000	111.358 92.000 130.000	128.609 105.000 151.000
Coll 1 M	281.73 209.00 329.00	279.19 205.00 325.00	274.06 200.00 350.00	266.46 205.00 312.00	256.47 210.00 302.00	244.21 200.00 280.00	229.69 180.00 260.00	213.27 164.00 244.00
Coll 1 P	7.342 -1.000 12.000	25.668 10.000 30.000	43.270 35.000 51.000	60.793 40.000 71.000	78.306 55.000 92.000	95.831 77.000 112.000	113.348 92.000 132.000	130.902 105.000 155.000
Coll 2 M	577.00 470.00 650.00	572.12 471.00 651.00	562.19 465.00 643.00	547.45 450.00 652.00	527.72 432.00 632.00	503.52 412.00 592.00	474.62 380.00 540.00	441.57 350.00 490.00
Coll 2 P	7.437 -1.000 12.000	26.071 10.000 31.000	43.978 35.000 51.000	61.813 40.000 71.000	79.650 55.000 92.000	97.545 77.000 114.000	115.439 92.000 135.000	133.375 105.000 158.000
Coll 3 M	924.73 772.00 1080.00	916.54 761.00 1050.00	899.85 752.00 1030.00	875.10 725.00 1010.00	842.55 700.00 970.00	802.23 655.00 925.00	754.99 620.00 890.00	700.99 560.00 780.00
Coll 3 P	7.210 -2.000 13.000	25.508 10.000 31.000	43.039 35.000 52.000	60.478 40.000 72.000	77.911 55.000 93.000	95.368 77.000 114.000	112.812 92.000 135.000	130.256 105.000 158.000
Coll 4 M	1458.8 1210.0 1700.0	1445.1 1205.0 1690.0	1417.2 1180.0 1690.0	1376.3 1140.0 1590.0	1322.4 1120.0 1530.0	1256.7 1070.0 1450.0	1180.0 1000.0 1300.0	1093.9 940.0 1240.0
Coll 4 P	7.363 -2.000 13.000	25.809 10.000 31.000	43.513 35.000 52.000	61.113 40.000 73.000	78.660 55.000 93.000	96.186 78.000 114.000	113.674 92.000 135.000	131.123 105.000 158.000
Coll 5 M	2977.5 2450.0 3450.0	2955.1 2400.0 3400.0	2904.7 2410.0 3390.0	2829.6 2350.0 3300.0	2729.6 2280.0 3000.0	2605.7 2150.0 2620.0	2455.4 2000.0 2750.0	2285.9 1870.0 2670.0
Coll 5 P	7.410 -2.000 13.000	26.025 10.000 31.000	43.936 35.000 52.000	61.771 40.000 73.000	79.612 55.000 94.000	97.539 78.000 114.000	115.507 92.000 135.000	133.514 105.000 158.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10121806 DATE/TIME PERFORMED: Sat Feb 1 23:31:22 2014 DAYS SINCE CAL: 25

UNIT #: 3880TA HL6670

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

Coll 0 R	0.001 -0.091 0.093	0.000 -0.090 0.090	-0.001 -0.090 0.090	0.000 -0.090 0.092	-0.000 -0.090 0.090	-0.001 -0.090 0.090	0.000 -0.090 0.090	0.001 -0.091 0.090
Coll 0 Q	-0.003 -0.014 0.008	-0.002 -0.102 0.118	-0.000 -0.090 0.090	-0.000 -0.090 0.090	-0.001 -0.090 0.090	0.000 -0.090 0.091	0.000 -0.091 0.090	0.001 -0.091 0.090
Coll 1 R	0.005 -0.078 0.081	0.002 -0.048 0.081	-0.001 -0.092 0.088	0.001 -0.090 0.092	-0.001 -0.090 0.090	0.000 -0.090 0.090	0.000 -0.091 0.090	0.002 -0.090 0.090
Coll 1 Q	-0.017 -0.118 0.364	-0.003 -0.105 0.097	0.002 -0.090 0.090	0.000 -0.092 0.095	0.000 -0.092 0.095	0.002 -0.090 0.091	0.001 -0.090 0.091	-0.000 -0.090 0.090
Coll 2 R	0.006 -0.089 0.093	0.001 -0.089 0.093	-0.003 -0.090 0.090	-0.000 -0.090 0.090	-0.001 -0.091 0.090	-0.001 -0.090 0.091	0.001 -0.089 0.093	0.001 -0.091 0.090
Coll 2 Q	-0.008 -0.300 0.340	0.002 -0.090 0.102	0.000 -0.090 0.090	-0.004 -0.090 0.090	0.004 -0.090 0.091	0.004 -0.090 0.090	-0.002 -0.090 0.091	-0.001 -0.090 0.092
Coll 3 R	0.012 -0.089 0.093	-0.003 -0.040 0.040	-0.006 -0.040 0.040	-0.001 -0.041 0.090	-0.003 -0.040 0.091	0.001 -0.040 0.091	0.001 -0.091 0.040	-0.003 -0.091 0.043
Coll 3 Q	-0.012 -0.210 0.180	-0.008 -0.084 0.078	0.006 -0.090 0.042	-0.010 -0.040 0.092	0.001 -0.090 0.041	-0.007 -0.090 0.047	0.001 -0.041 0.090	0.005 -0.090 0.044
Coll 4 R	0.024 -0.090 0.092	-0.006 -0.072 0.048	-0.009 -0.090 0.092	0.004 -0.045 0.095	0.000 -0.090 0.092	-0.002 -0.090 0.091	-0.005 -0.090 0.091	-0.001 -0.091 0.090
Coll 4 Q	-0.014 -0.300 0.260	-0.015 -0.105 0.089	0.005 -0.090 0.092	-0.008 -0.091 0.090	-0.000 -0.091 0.090	0.002 -0.090 0.094	-0.007 -0.090 0.091	0.006 -0.090 0.091
Coll 5 R	0.072 -0.090 0.144	-0.002 -0.139 0.105	0.005 -0.130 0.105	0.013 -0.105 0.130	-0.003 -0.142 0.090	0.014 -0.120 0.119	0.015 -0.120 0.111	0.009 -0.115 0.129
Coll 5 Q	-0.061 -0.090 0.091	-0.011 -0.324 0.178	0.013 -0.120 0.120	0.011 -0.118 0.124	-0.016 -0.114 0.120	0.013 -0.120 0.120	0.007 -0.102 0.130	-0.007 -0.130 0.108

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

Coll 0 M	162.38 130.01 180.50	160.95 131.01 181.00	158.08 131.00 181.10	153.82 130.00 180.00	148.22 125.15 181.00	141.36 120.44 144.00	133.30 120.01 130.64	124.11 121.52 126.48
Coll 0 P	7.398 4.194 10.154	25.255 22.100 28.100	42.503 30.400 45.400	59.696 50.710 62.710	76.866 53.610 98.010	94.054 81.145 97.145	111.255 100.300 114.300	128.459 120.000 131.000
Coll 1 M	281.78 278.10 281.39	279.23 273.00 281.77	274.10 268.50 279.50	266.51 261.15 271.70	256.46 251.34 261.80	244.20 230.35 249.10	229.76 205.10 254.20	213.23 200.00 217.55
Coll 1 P	7.580 4.342 10.342	25.722 22.000 28.000	43.275 40.290 46.290	60.771 57.705 63.705	78.255 75.300 81.300	95.754 92.851 98.851	113.276 110.348 116.348	130.761 127.802 133.802
Coll 2 M	576.98 505.48 590.54	572.07 500.00 590.50	562.18 500.00 593.44	547.37 530.50 565.40	527.72 517.19 538.29	503.41 483.45 513.50	474.80 465.12 484.11	441.54 432.74 450.40
Coll 2 P	7.671 4.439 10.439	26.127 23.071 29.071	43.978 40.878 46.878	61.787 58.815 64.815	79.600 76.600 82.600	97.461 94.545 100.545	115.341 112.430 118.430	133.219 130.375 136.375
Coll 3 M	924.83 800.25 945.22	916.64 800.21 934.00	899.94 801.00 919.84	875.11 809.50 940.00	842.53 805.70 879.40	802.17 780.10 810.20	755.20 730.00 770.00	701.03 680.00 710.01
Coll 3 P	7.444 4.210 10.210	25.563 22.500 28.500	43.042 40.090 46.090	60.458 57.470 63.470	77.861 74.811 80.811	95.286 92.300 98.300	112.716 109.812 115.812	130.119 127.200 133.200
Coll 4 M	1457.8 1400.0 1480.0	1444.1 1410.0 1474.0	1416.3 1380.0 1445.0	1375.1 1340.0 1405.0	1321.1 1285.0 1348.0	1255.4 1221.0 1289.0	1179.4 1150.0 1200.0	1093.1 1070.0 1115.0
Coll 4 P	7.601 4.300 10.300	25.865 22.800 28.800	43.513 40.515 46.515	61.078 58.115 64.115	78.606 75.600 81.600	96.106 93.100 99.100	113.548 110.574 116.574	130.950 128.125 134.125
Coll 5 M	2979.0 2450.0 3450.0	2955.6 2400.0 3400.0	2906.0 2410.0 3390.0	2831.1 2350.0 3300.0	2730.8 2280.0 3000.0	2606.8 2150.0 2620.0	2457.7 2000.0 2750.0	2285.8 1870.0 2670.0

2010.0	2037.1	2060.0	2011.2	2010.0	2000.0	2113.0	2000.2	2075.0	2101.2	2003.0	2007.0	2100.0	2004.0	2210.2	2001.0
7.645		26.069		43.897		61.713		79.553		97.410		115.376		133.292	
4.410	10.410	25.000	20.000	10.000	10.000	50.771	01.771	70.012	02.012	01.000	100.000	110.000	110.000	130.014	130.014

INSTRUMENT CONFIGURATION

Source File: /mnt1/625060/625060.tbl

FOCUS CABLEHEAD

Diameter : 3.13"
Length : 3.17'
Weight : 15.7 lbs
Series : CABL31B
Mnemonic : CBLH

FOCUS SWIVEL

Diameter : 3.13"
Length : 1.50'
Weight : 50.0 lbs
Series : 3950XA
Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL

Diameter : 3.13"
Length : 4.31'
Weight : 61.3 lbs
Series : 3980XA
Mnemonic : TTMA

FOCUS TELEMETRY (POWER SECTION)

Diameter : 3.13"
Length : 3.71'
Weight : 48.0 lbs
Series : 351BFB
Mnemonic : TMCR

FOCUS EB/EC TELEMETRY GAMMA RAY

Diameter : 3.13"
Length : 5.83'
Weight : 83.0 lbs
Series : 351BEC
Mnemonic : CR
Measure Point: 4.34': CR MP

FOCUS COMPENSATED NEUTRON

Diameter : 3.13"
Length : 4.81'
Weight : 65.0 lbs
Series : 3436XA
Mnemonic : CN
Measure Point: 1.92': LSN MP
Measure Point: 1.46': SSN MP

FOCUS Z-DENSILOC

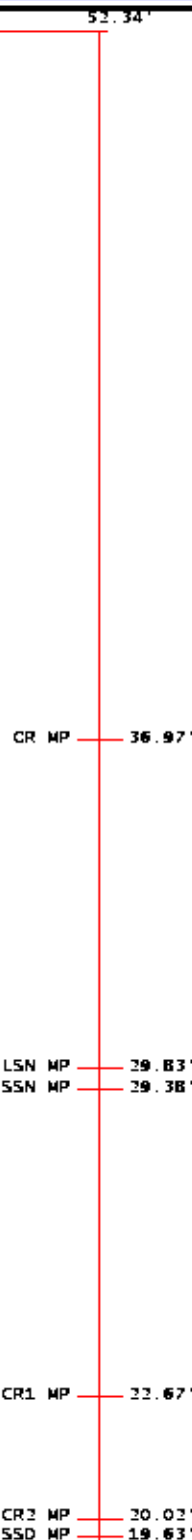
Diameter : 3.75"
Length : 9.50'
Weight : 300.0 lbs
Series : 3333XA
Mnemonic : ZDL
Measure Point: 4.33': CR1 MP
Measure Point: 1.69': LSD / CR2 MP
Measure Point: 1.39': SSD MP

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'
Weight : 30.0 lbs
Series : 3930XA

FOCUS KNUCKLE JOINT

Diameter : 3.13"
Length : 1.50'
Weight : 30.0 lbs



Series : 3930AA

FOCUS HIGH DEFINITION INDUCTION TOOL

Diameter : 3.13"
Length : 13.33'
Weight : 115.1lbs
Series : 1530XA
Mnemonic : HDIL
Measure Point : 7.17' : COIL 5 MP
Measure Point : 5.67' : COIL 4 MP
Measure Point : 4.17' : COIL 3 MP
Measure Point : 3.67' : COIL 2 MP
Measure Point : 3.17' : COIL 1 MP
Measure Point : 2.67' : COIL 0 MP
Measure Point : 1.14' : SP MP

COIL 5 MP 9.17'

COIL 4 MP 7.67'

COIL 3 MP 6.17'

COIL 2 MP 5.67'

COIL 1 MP 5.17'

COIL 0 MP 4.67'

SP MP 3.14'

FOCUS PINEAPPLE / CABBAGE

HOLE FINDER

Diameter : 2.63"
Length : 1.50'
Weight : 7.1lbs
Series : HENDIR

0.00'

TOTAL LENGTH: 53.34'
TOTAL WEIGHT: 203.1lbs
MAX DIAMETER: 0'6.13"



COMPANY	WPX ENERGY INC	FILE NO:	US625060
WELL	SAVAGE RWF 411-25	API NO:	05045219720000
FIELD	RULISON		
COUNTY	GARFIELD	STATE	CO
LOCATION:		ELEVATIONS:	S25; T6S; R94W
SHL: 2465' FNL 1412' FWL		KB 6058 FT	RIG: CYCLONE 17
BHL: 824' FNL 775' FWL		DF	PAD: RWF 22-25
SEC 25 TWP 6S RGE 94W		GL 6037 FT	
		DATE	01-Feb-2014