

FILE NO: US625068  
API NO: 0504522040000  
COMPANY: WPX ENERGY ROCKY MOUNTAIN LLC  
WELL: FEDERAL PA 432-21  
FIELD: PARACHUTE  
COUNTY: GARFIELD STATE: CO

Ver. 3.87  
S21 T6S R9SW  
RIG: NABORS 573  
PAD: PA 22-21  
LOCATION: SHL: 2610' FNL 1411' FWL  
BHL: 1882' FNL 1539' FEL  
SEC 21 TWP 6S RGE 9SW  
OTHER SERVICES: NA

PERMANENT DATUM: GL ELEVATION 6030 FT  
LOG MEASURED FROM: KB 26 FT ABOVE P.D.  
DRILL MEAS. FROM: KB  
ELEVATIONS: KB 6056 FT, DF, GL 6030 FT

DATE	15-Mar-2014
RUN	1
SERVICE ORDER	625068
DEPTH DRILLER	9302 FT
DEPTH LOGGER	9299 FT
BOTTOM LOGGED INTERVAL	9298 FT
TOP LOGGED INTERVAL	0 FT
CASING DRILLER	9.625 IN @ 1543 FT
CASING LOGGER	1540 FT
BIT SIZE	8.75 IN
TYPE OF FLUID IN HOLE	LSND
DENSITY	11.8 LBG
PH	8
SOURCE OF SAMPLE	FLOWLINE
RM AT MEAS. TEMP.	1.45 OHMM @ 56 DEGF
RM AT MEAS. TEMP.	1.09 OHMM @ 51 DEGF
RM AT MEAS. TEMP.	1.81 OHMM @ 51 DEGF
SOURCE OF RMF	CALCULATED
RM AT BHT	633 OHMM @ 203 DEGF
TIME SINCE CIRCULATION	12 HR
MAX. RECORDED TEMP.	203 DEGF
EQUIP. NO.	6670
RECORDED BY	D SMITH
WITNESSED BY	R TOWERS

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	1543 FT	9302 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	32.2 LB/F	H40	0 FT	1543 FT

### REMARKS

RUN 1 TRIP 1: HDIL\_ZDL\_CN\_GR\_TTMA RUN IN COMBINATION

BVOL/CVOL CALCULATED USING CUBIC FEET  
CVOL CALCULATED USING PROPOSED 4.5 INCH CASING  
CALIPER VERIFIED INSIDE CASING

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

CN MATRIX = SANDSTONE  
CN RAN DECENTRALIZED

HDIL RUN WITH 1.5 INCH STANDOFFS  
ABC CALCULATED = MUD CONDUCTIVITY

WELL FILLED WITH HEAVY POLYMER CONTENT MUD

THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE SERVICES  
CREW: SMITH/GOATE/OLSON

RIG: NABORS 574

#### EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTMA	3980XA	10142233	FREE
1	1	TEL/GR	3518EB/3518EG	10127973/10137522	FREE
1	1	CN	2436XA	10137930	DECENTRALIZED
1	1	ZDL	2223XA	10090664	DECENTRALIZED
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 Mar 15 21:19:17 2014

#### PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625068/n970a02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 1404.000 ft BOTTOM DEPTH: 9330.357 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*)	8.755	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.450	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
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  
 Rmud MULTIPLIER 1.000

## CURVE DESCRIPTION REPORT

**CURVE NAME**      **CREATION DATE**      **CURVE DESCRIPTION**

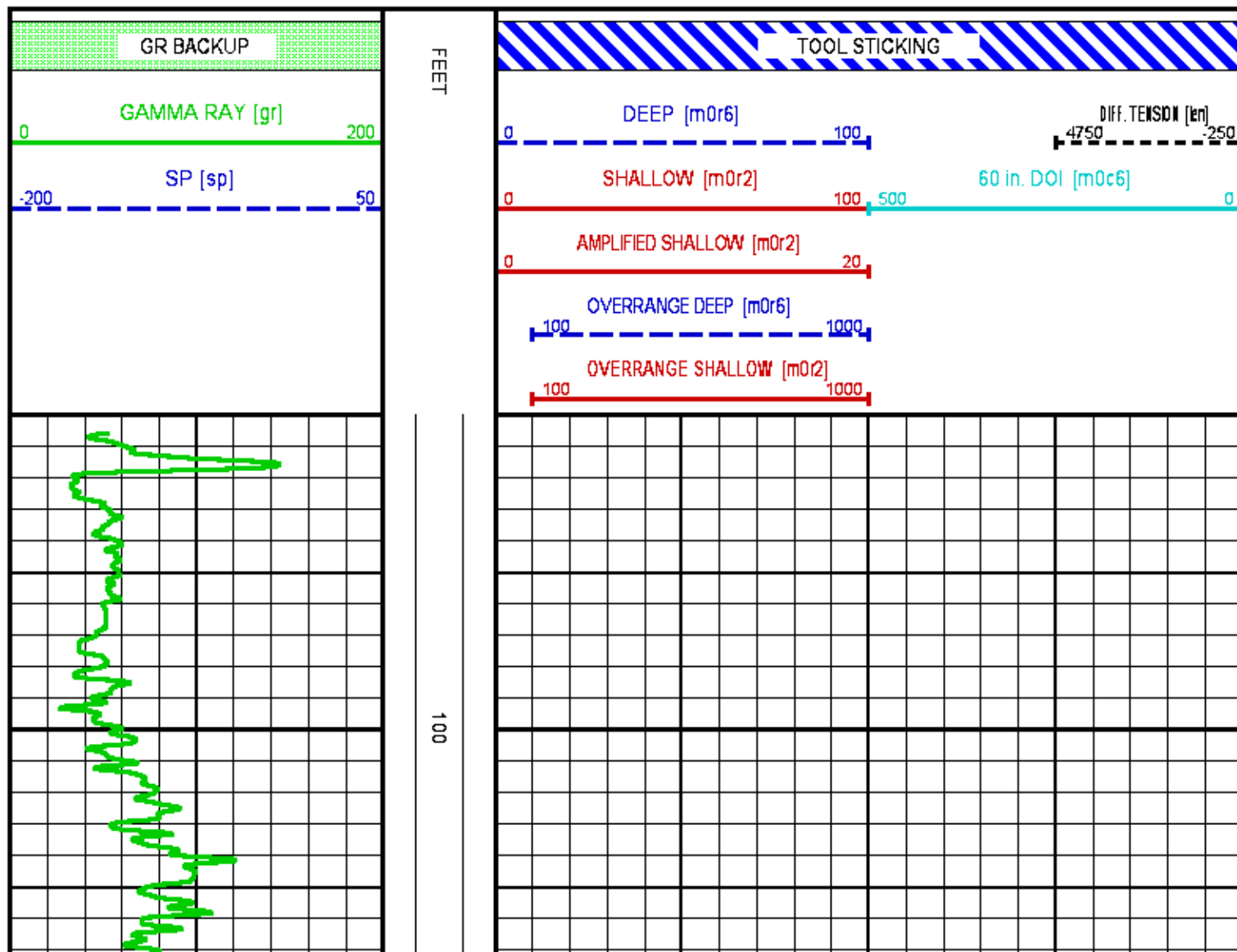
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F1:MOC6	Mar 15 17:40:10 2014	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Mar 15 17:40:10 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Mar 15 17:40:10 2014	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Mar 15 17:40:10 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 15 17:40:10 2014	DIFFERENTIAL TENSION

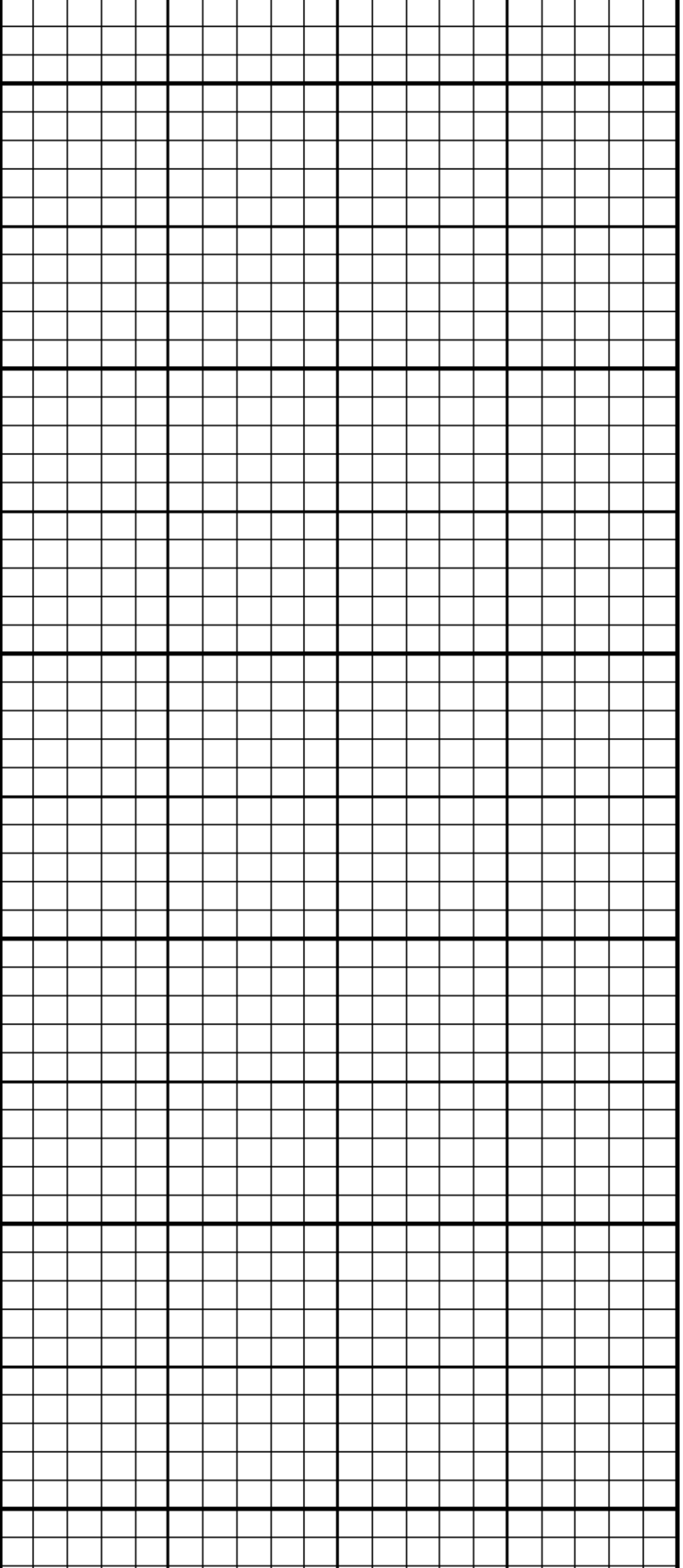
## CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	35.00	MOR2	2.75	SP	1.25		
MOC6	2.75	MOR6	2.75	TEN	0.00		

**Presentation** : HL6670:WPX\_2IN.fvpdf [2"/100' Scale]  
**Plot Interval** : 6 - 9333.25 Feet

**Data File 1** : F1 : HL6670:/dat1a/625068/MAIN.xtf  
**Created On** : Mar 15 17:40:10 2014  
**Company** : WPX ENERGY ROCKY MOUNTAIN LLC  
**Well** : FEDERAL PA 432-21  
**Field** : PARACHUTE  
**File Interval** : 0 - 9333.25 Feet  
**OCT** : n970a





200

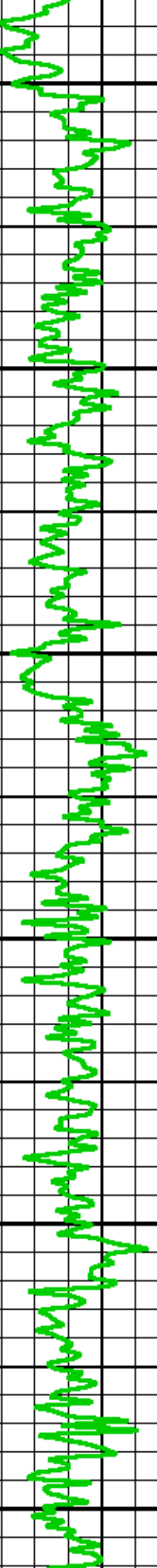
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500

600

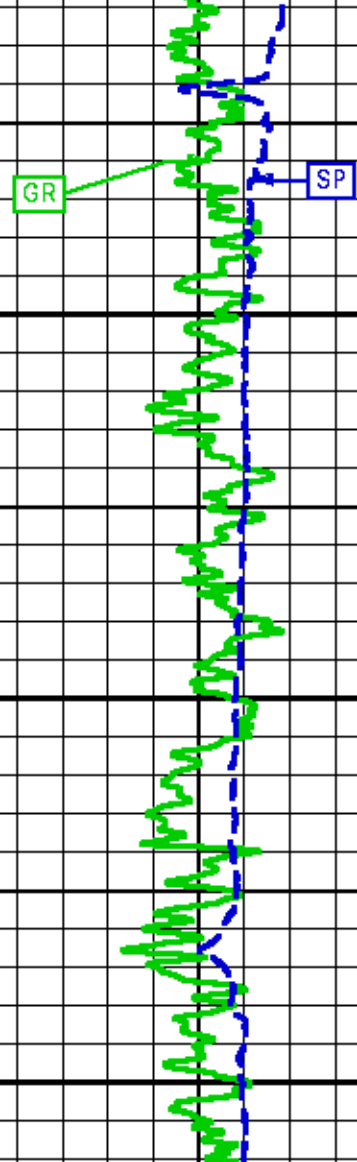
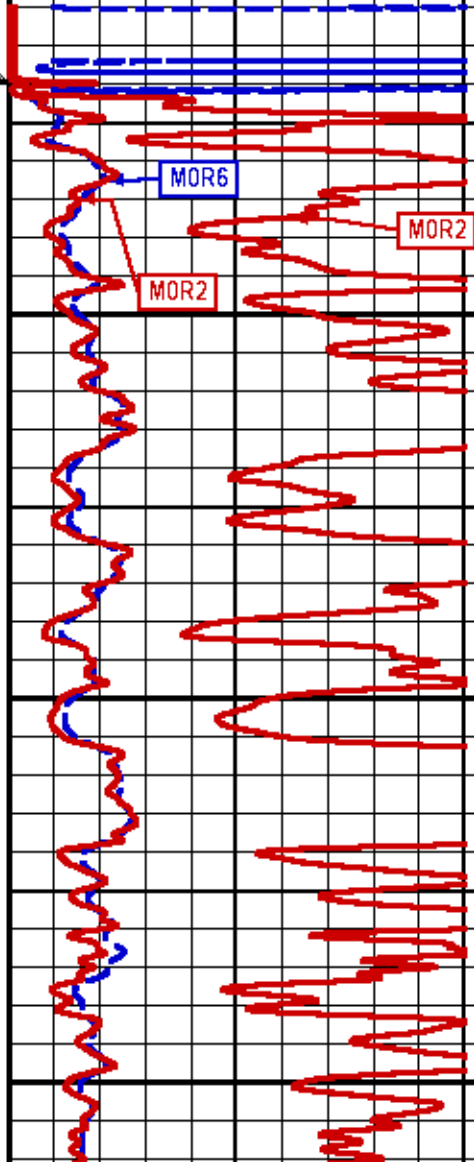
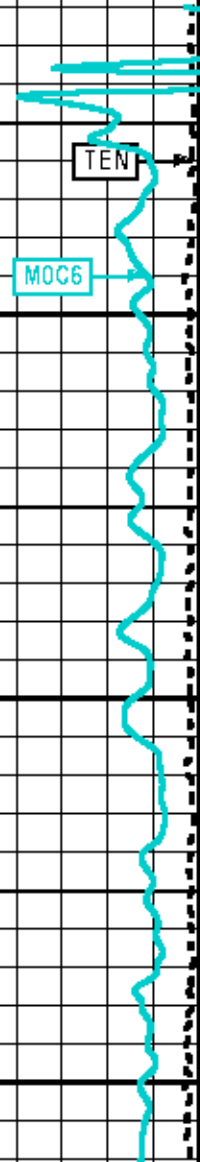
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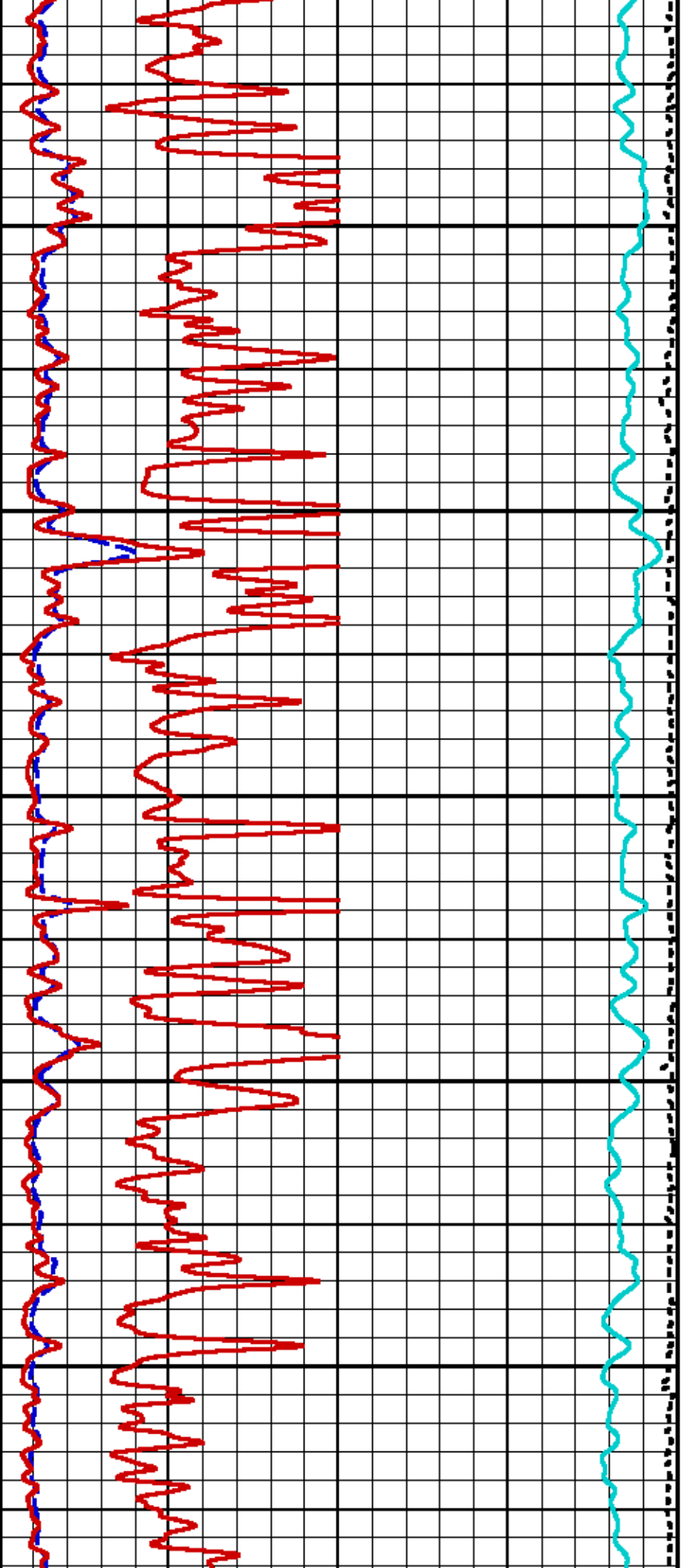




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CSG





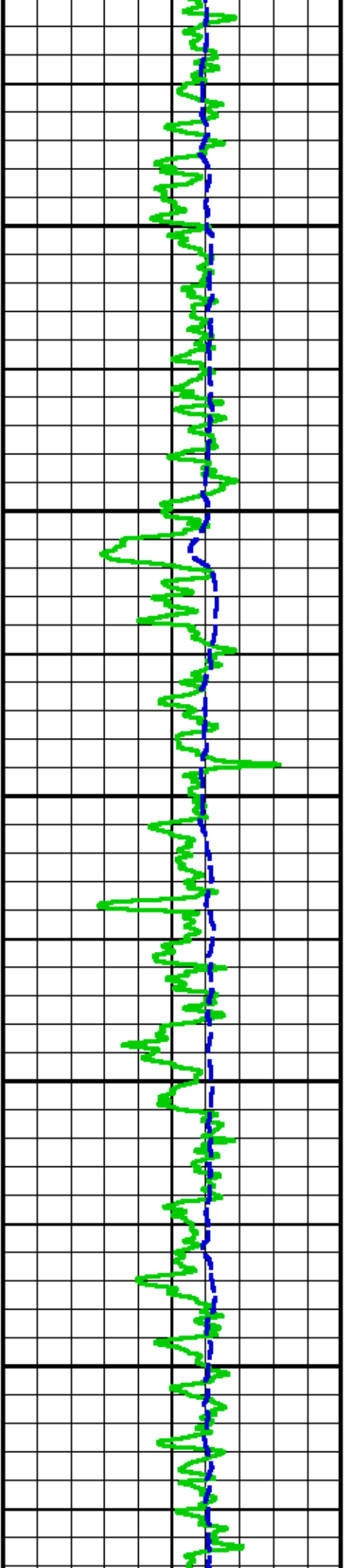
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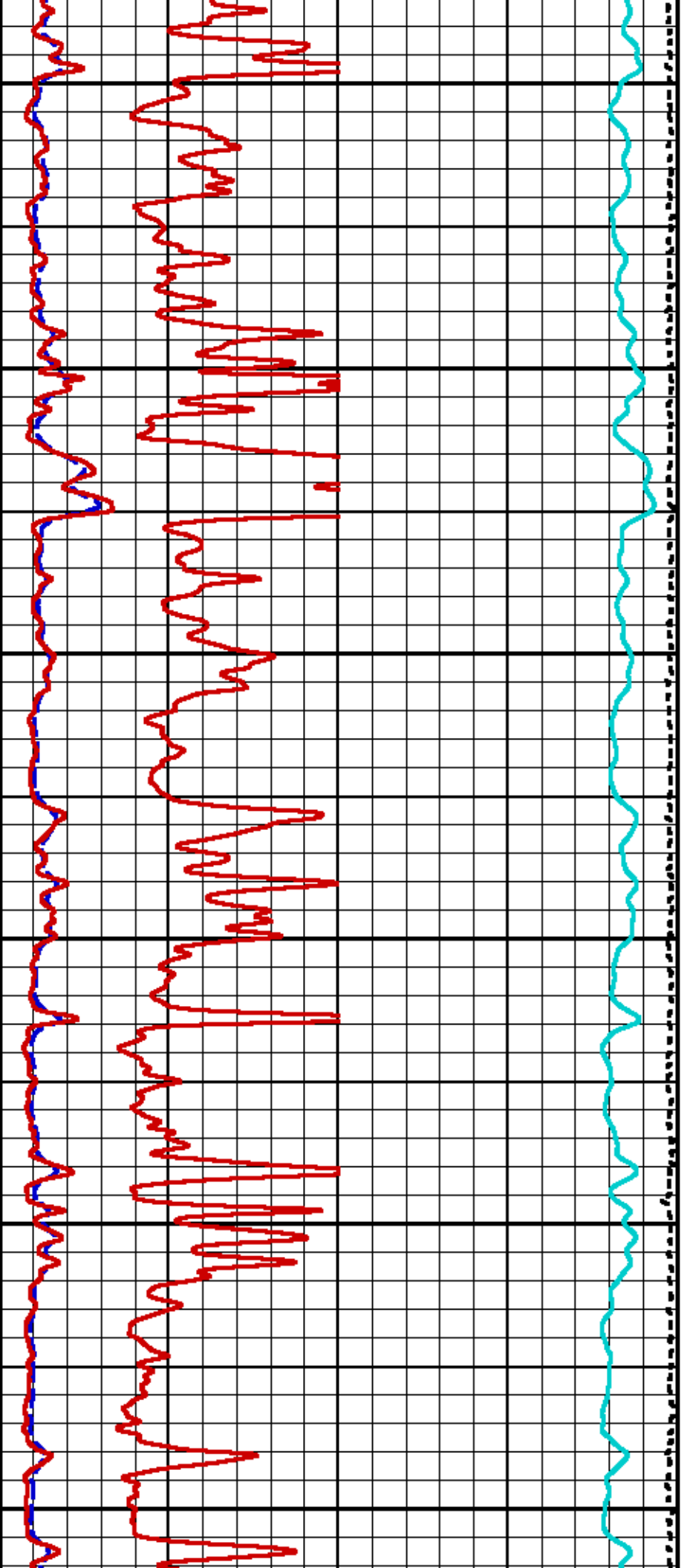
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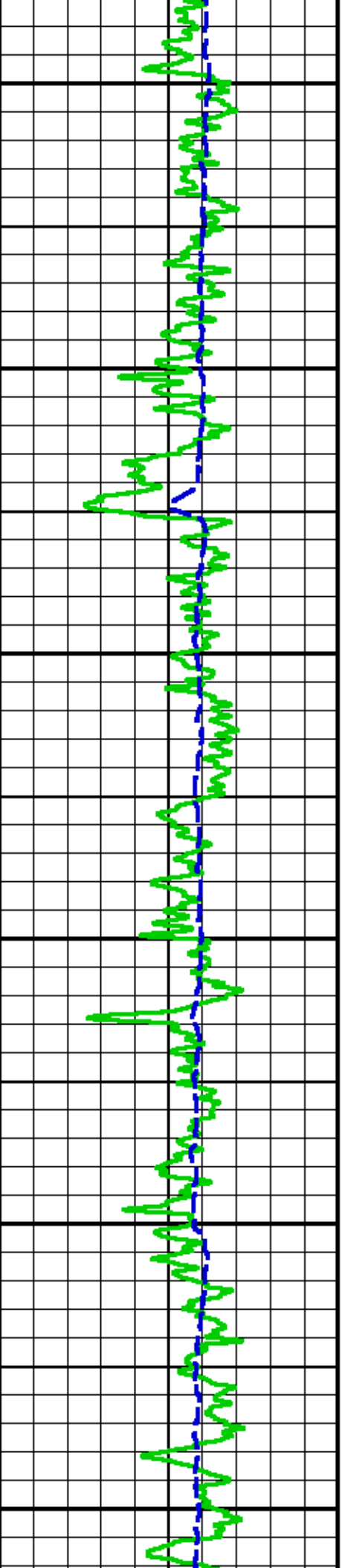
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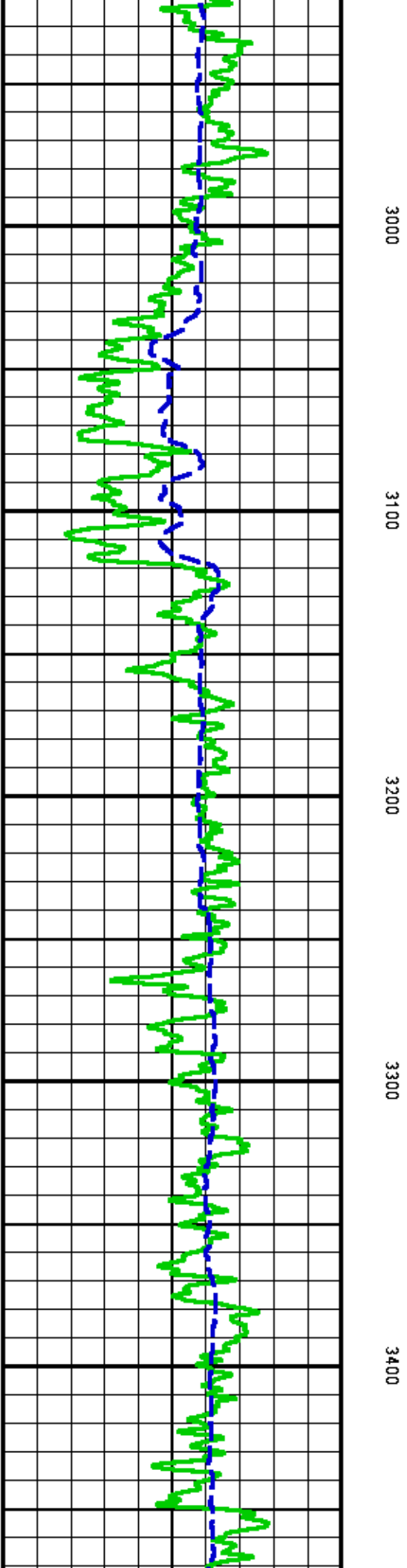
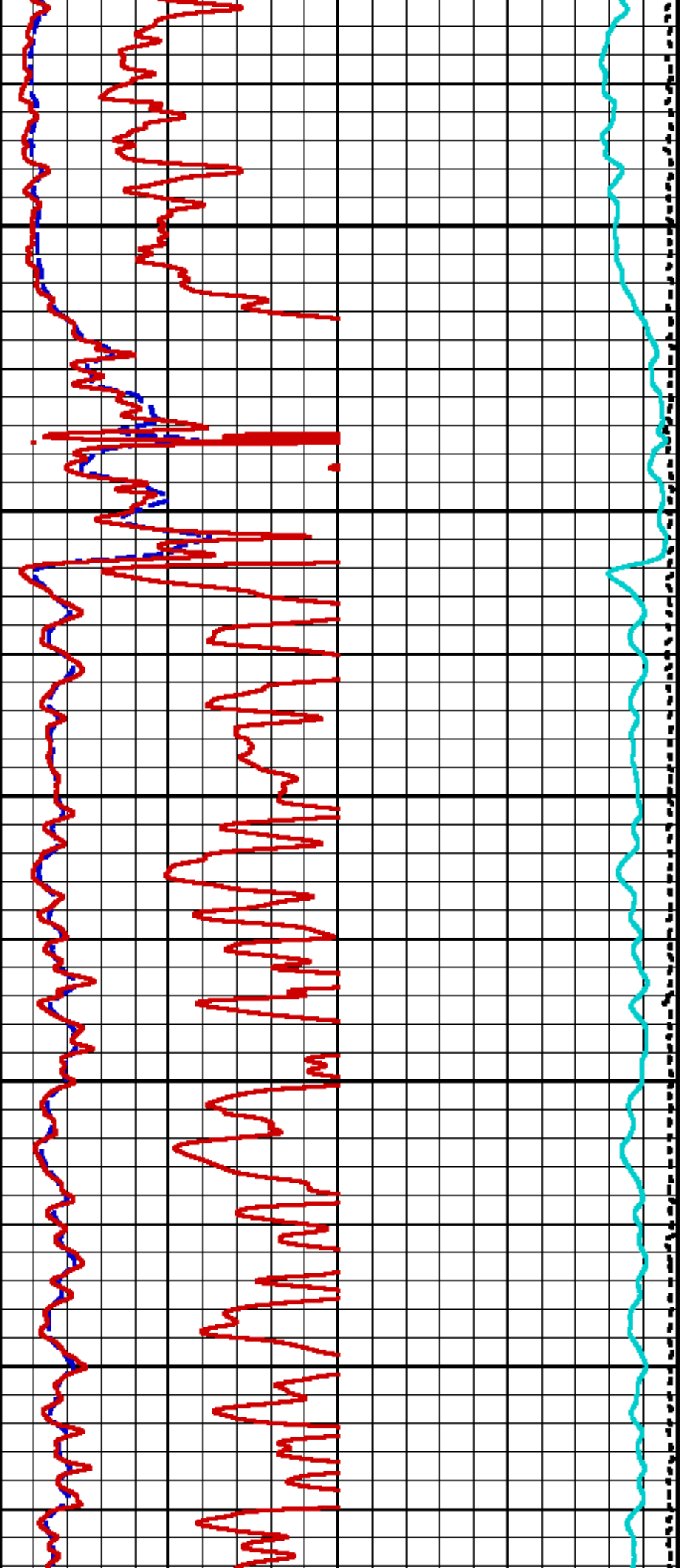


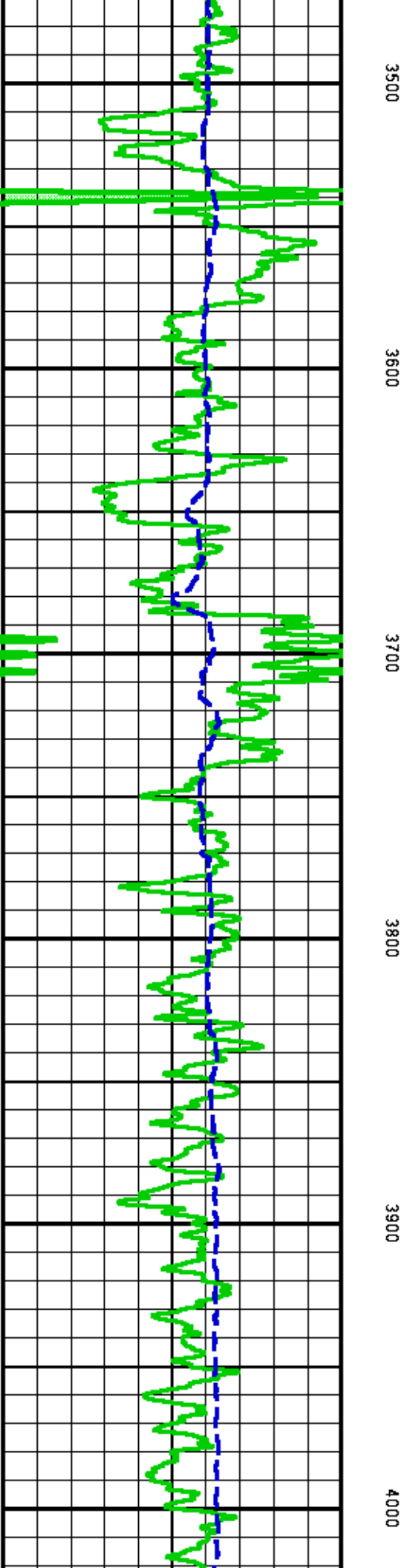
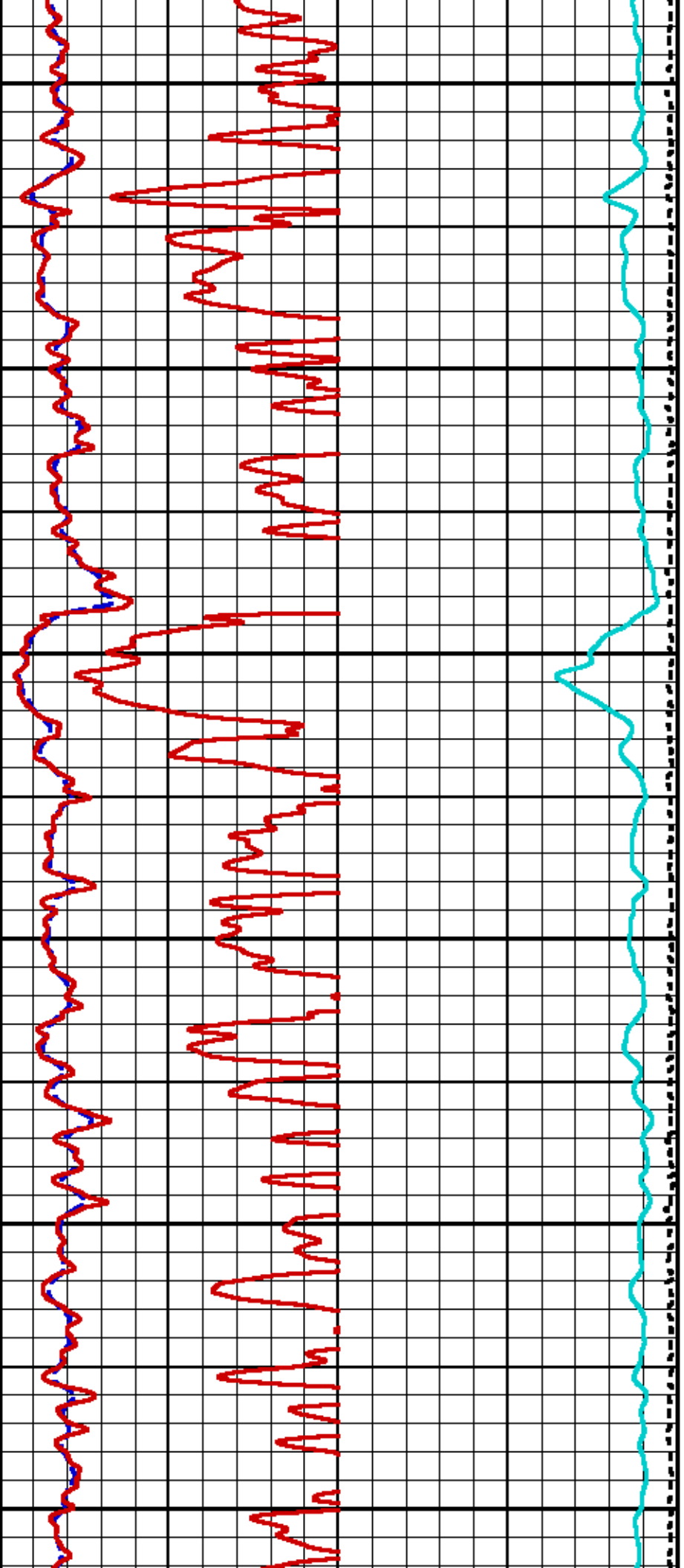


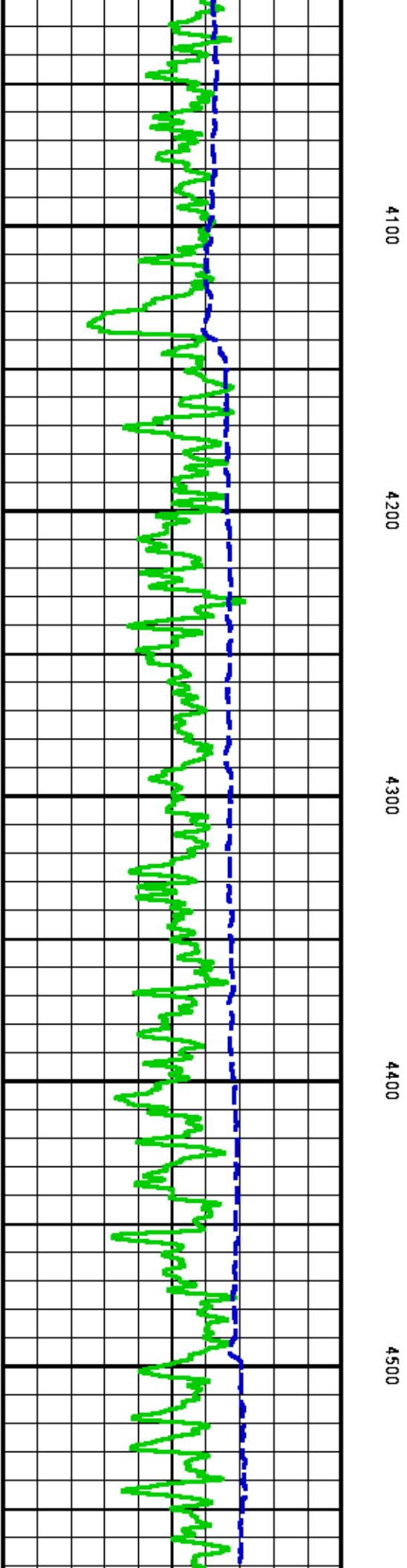
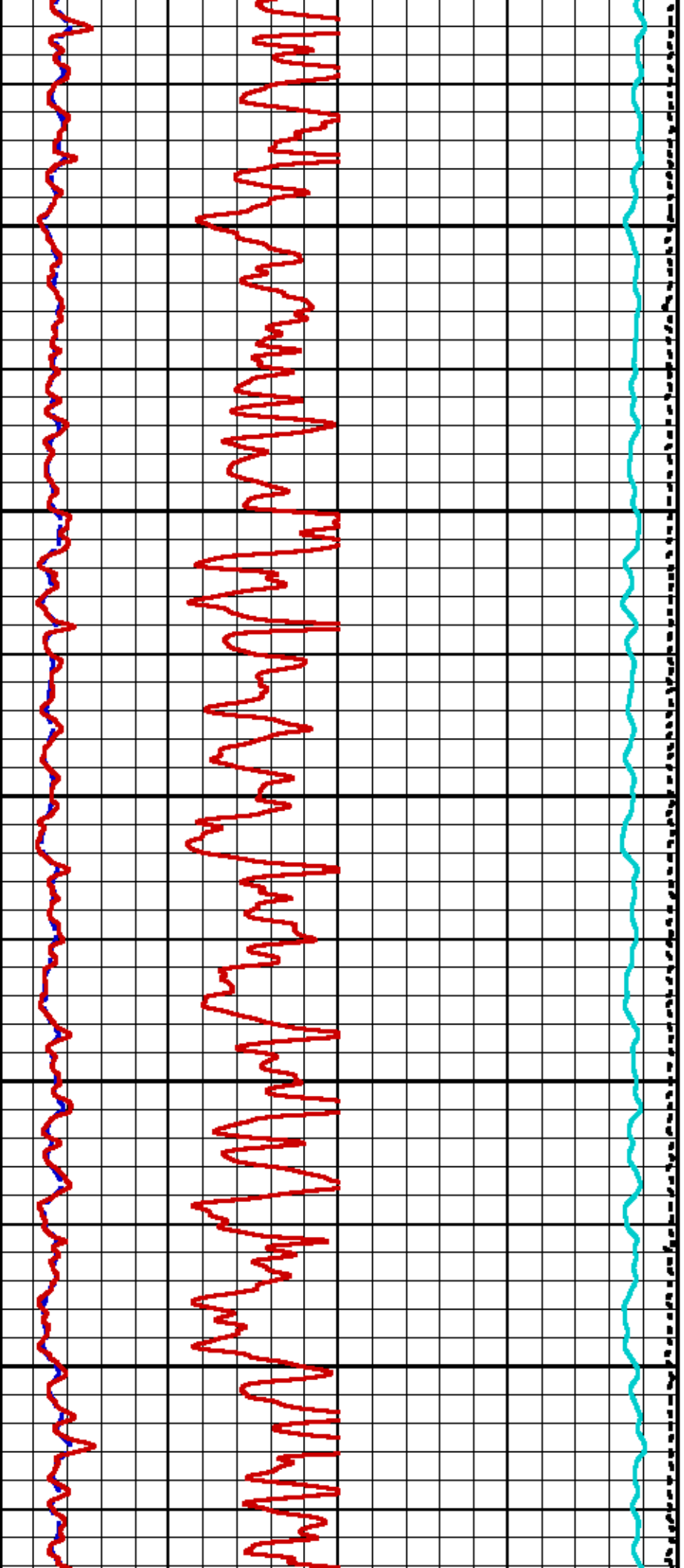
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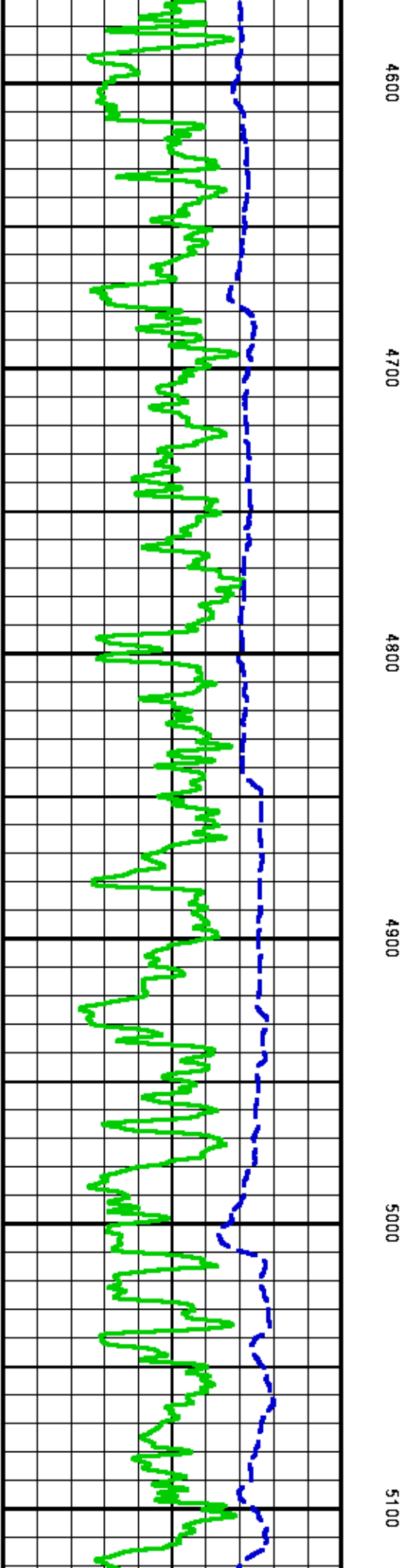
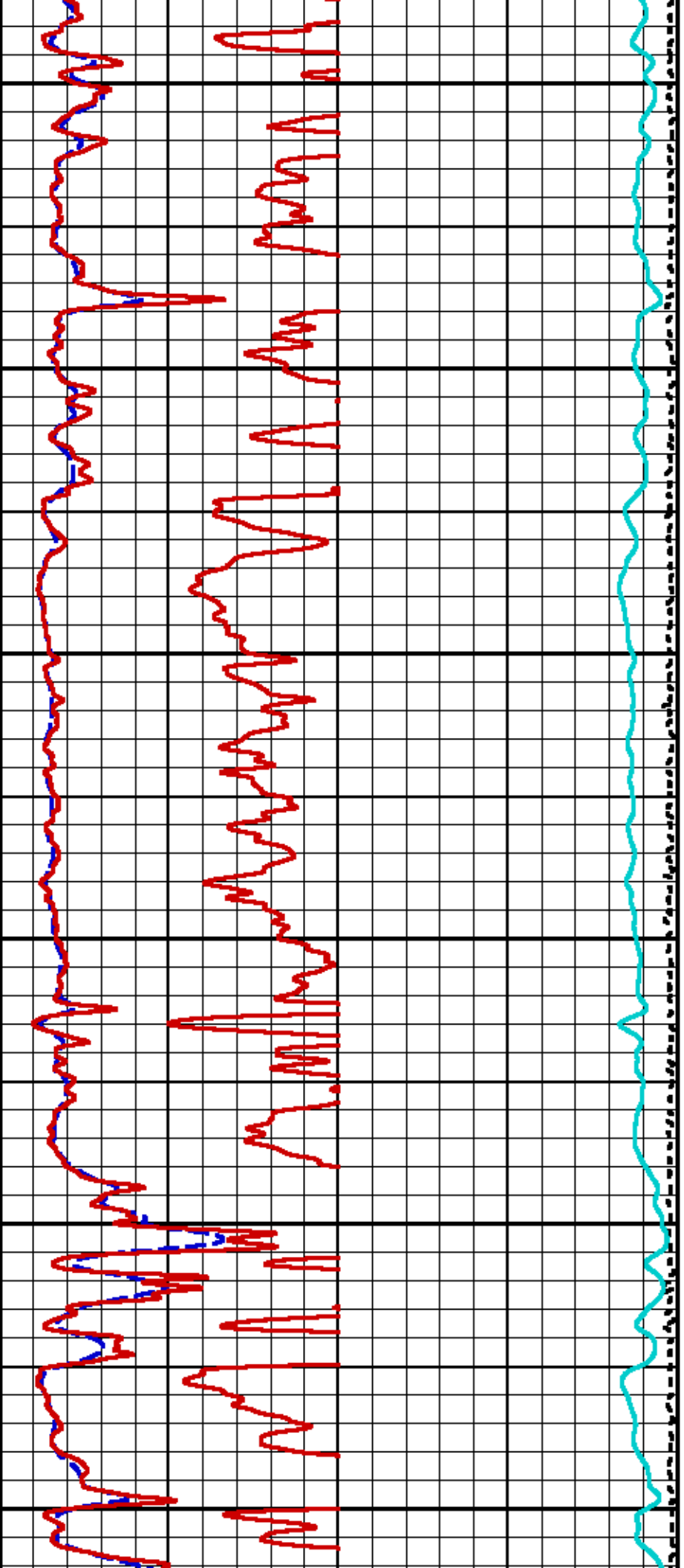


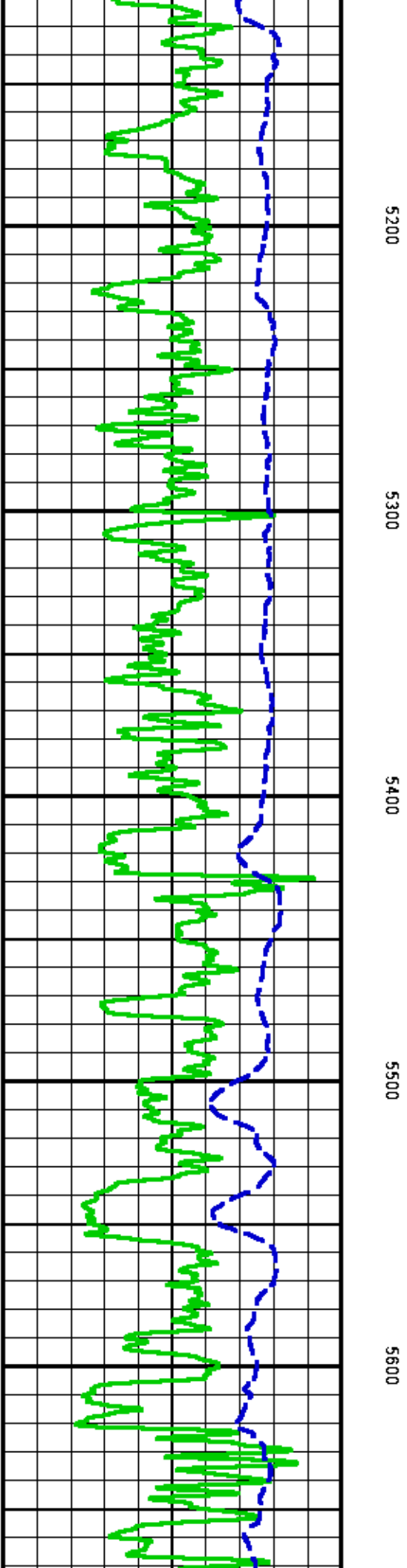
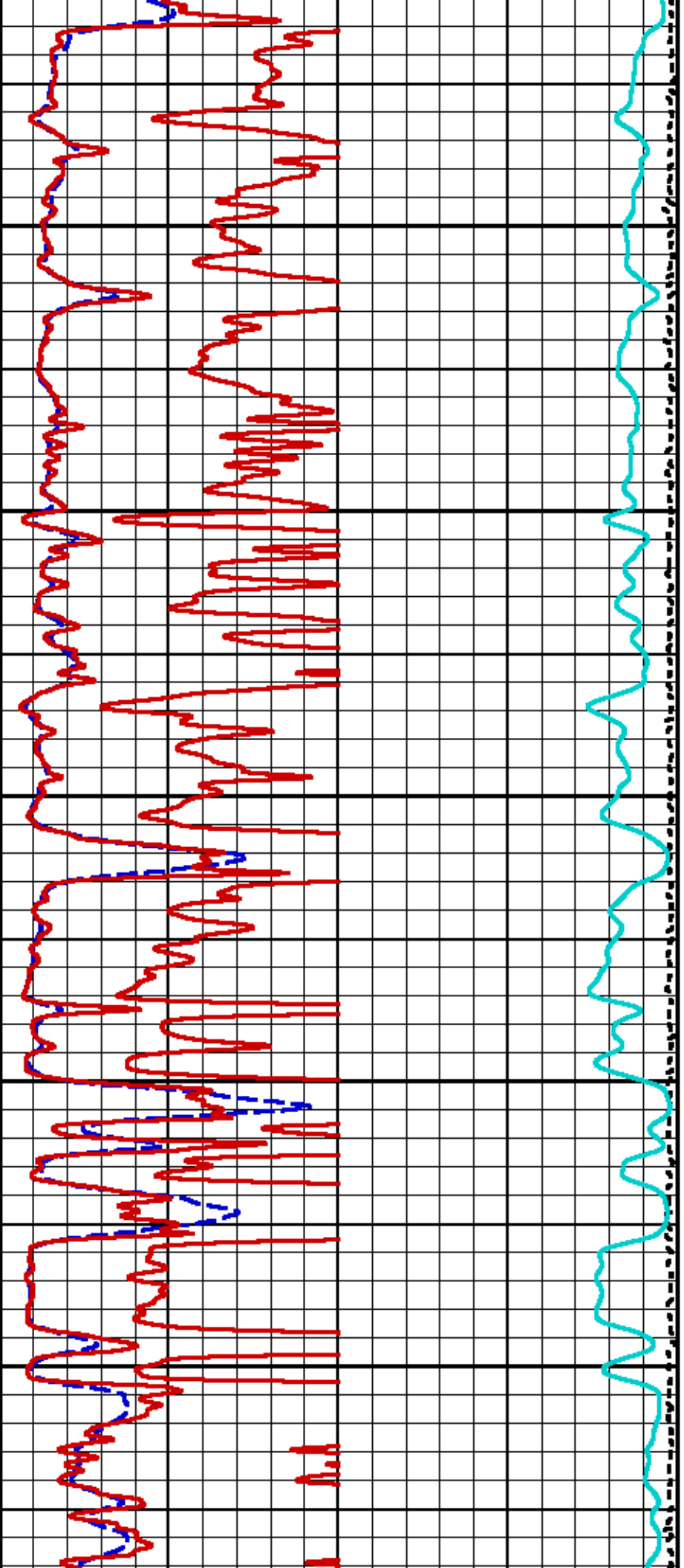


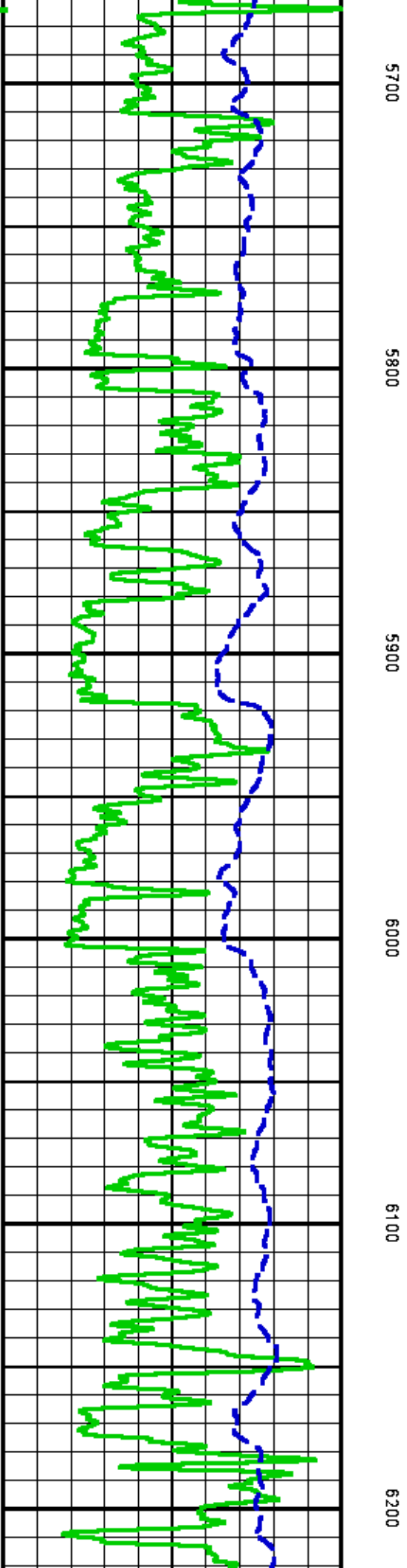
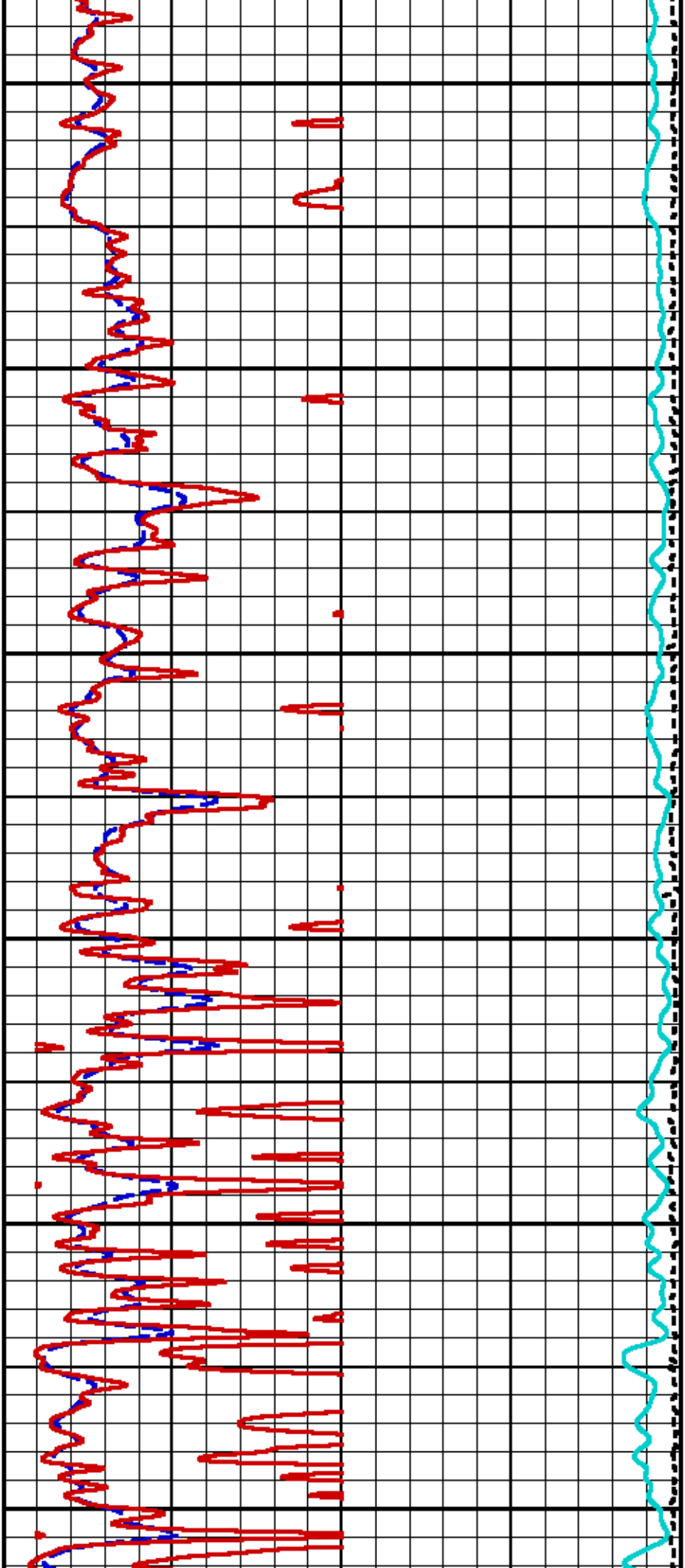


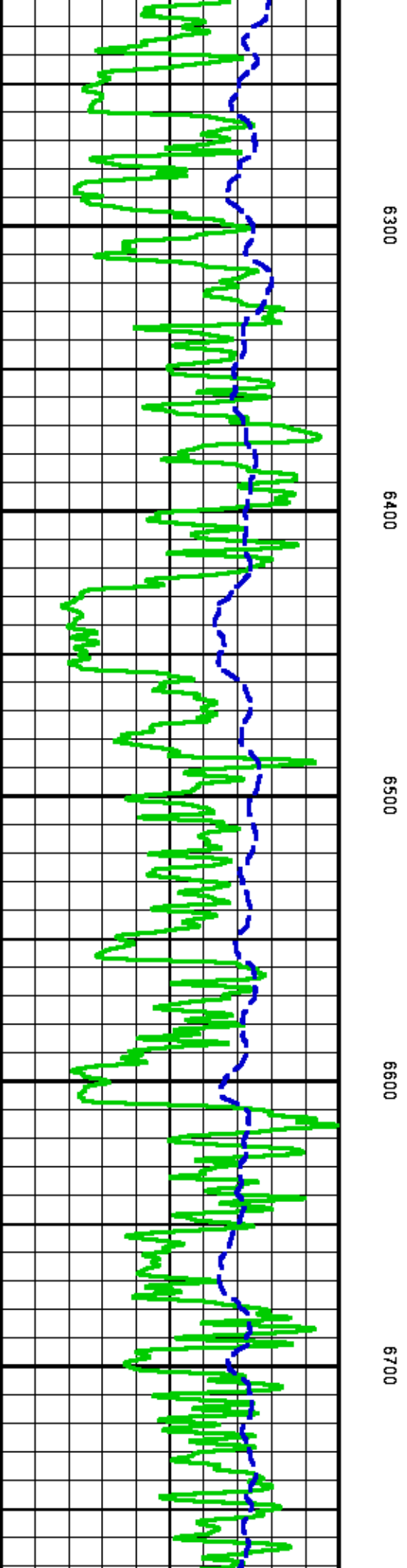
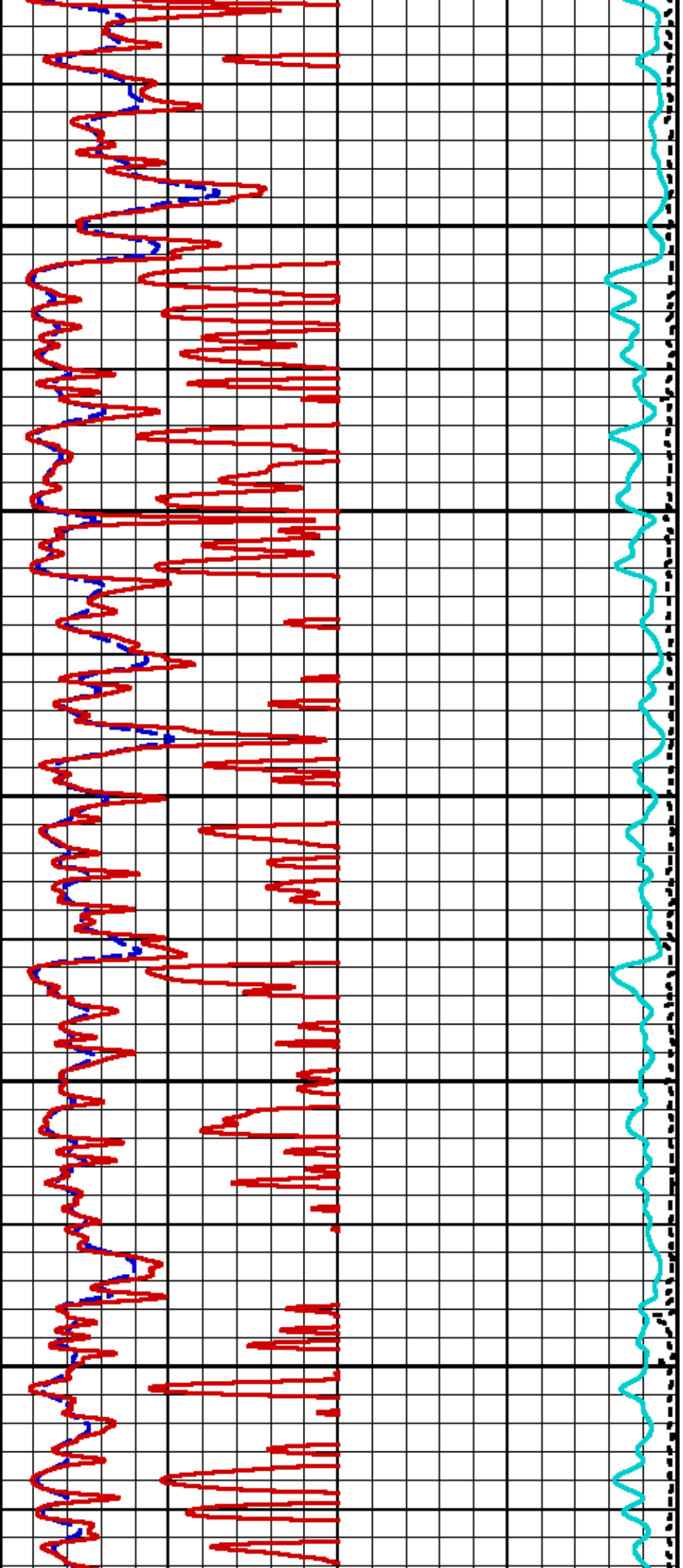


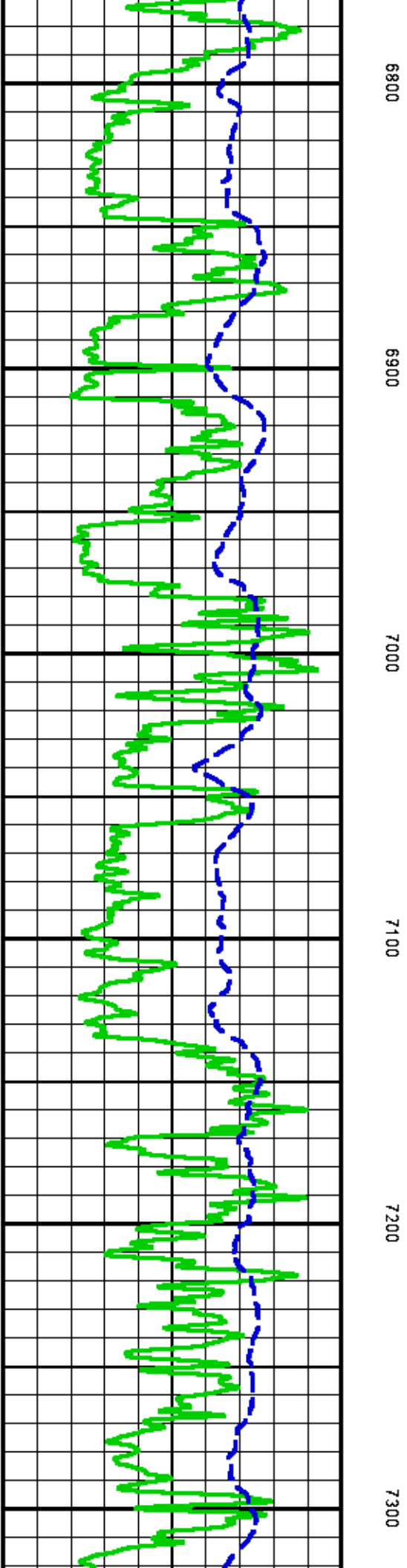
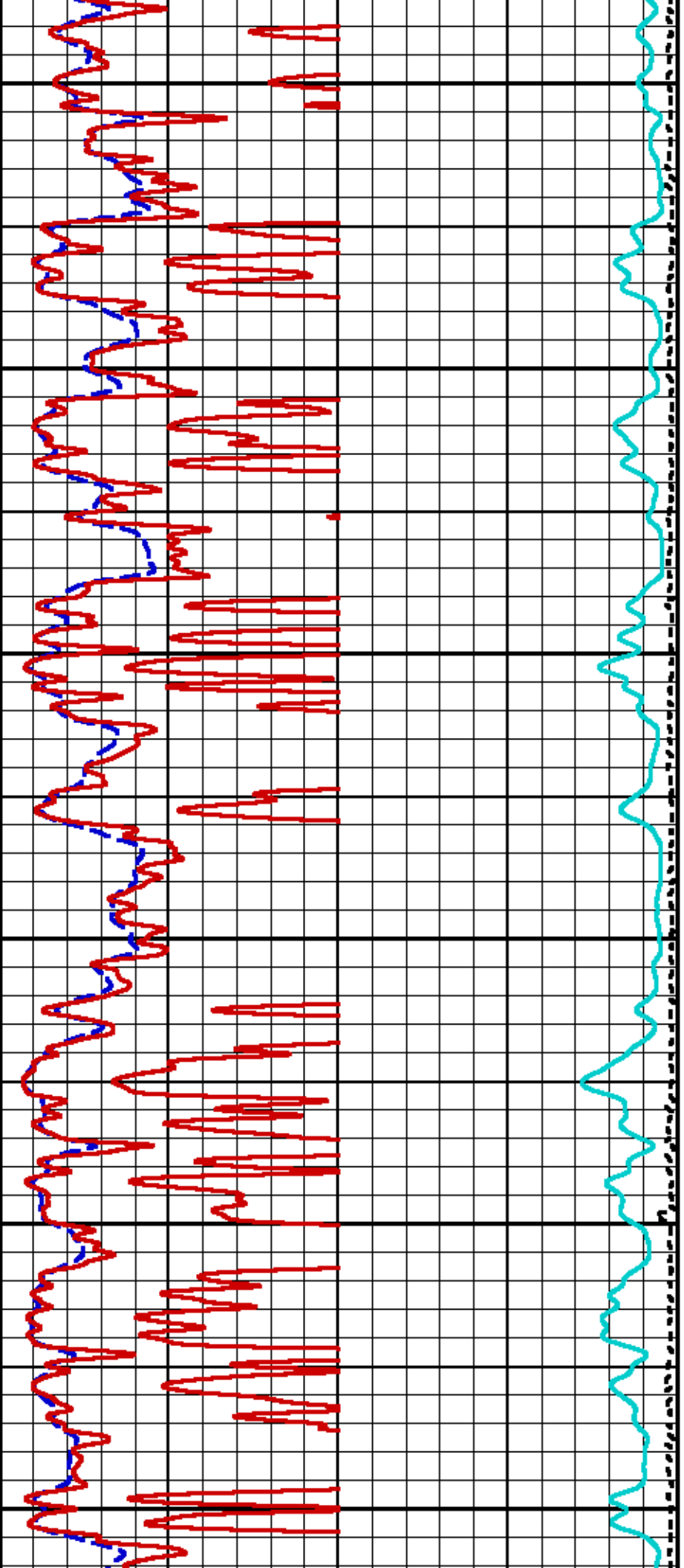




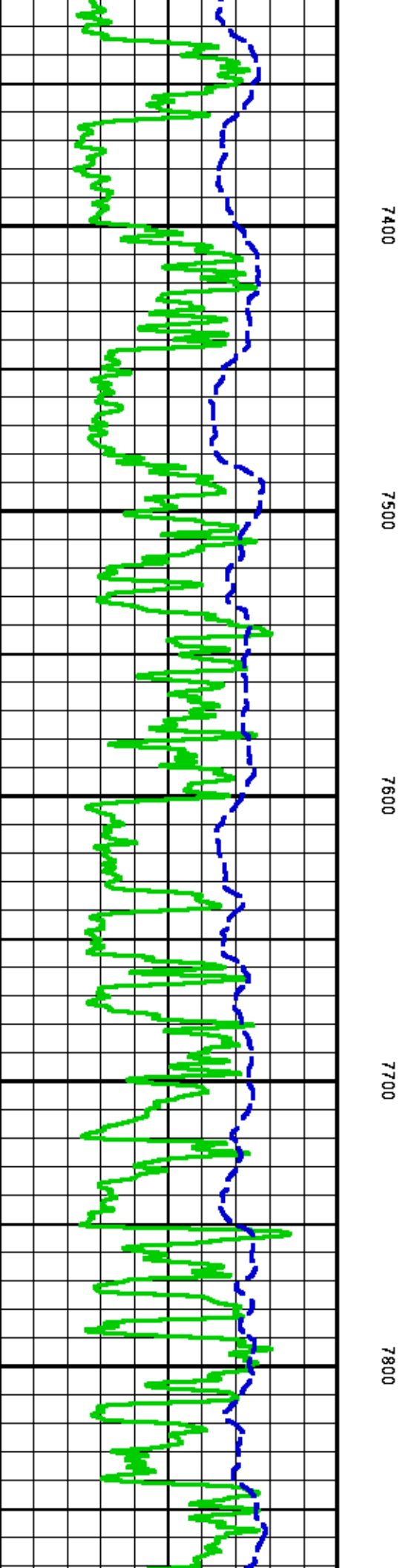
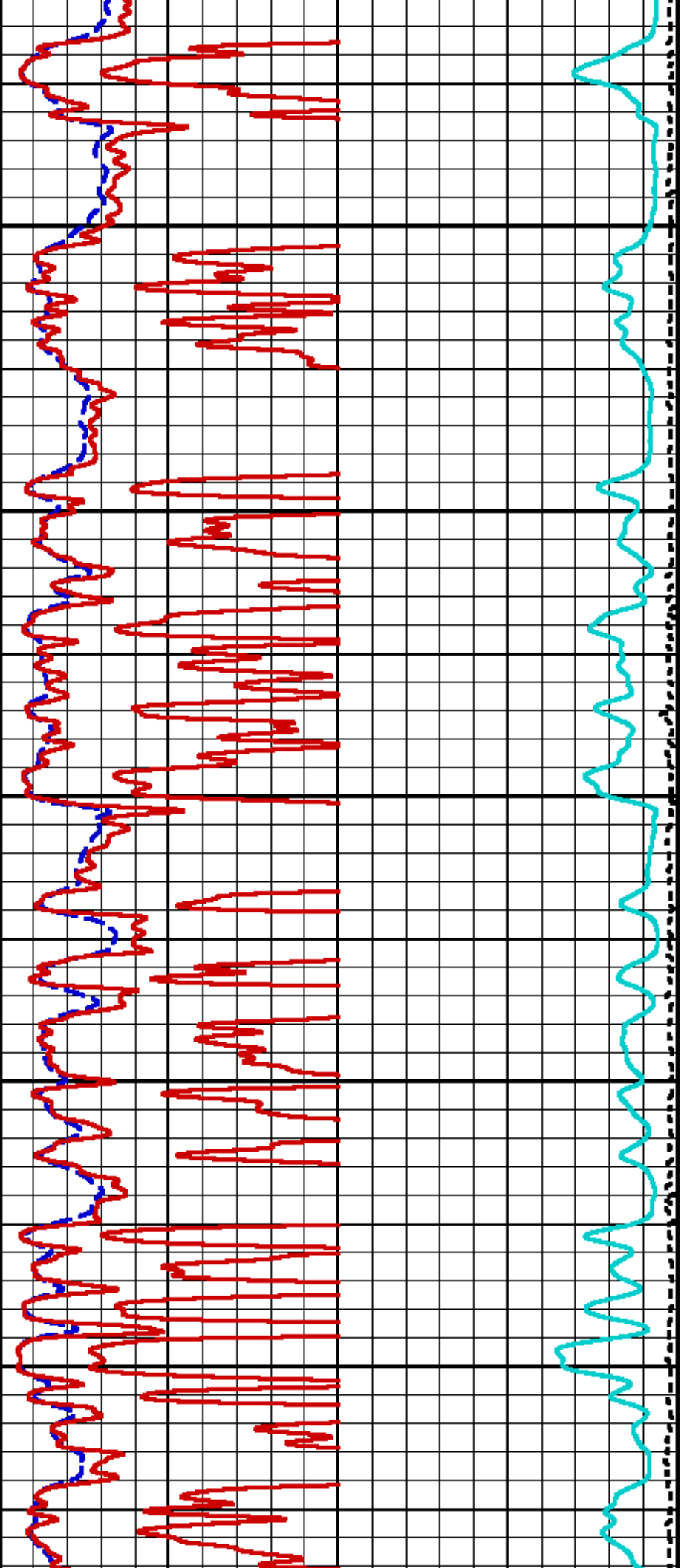


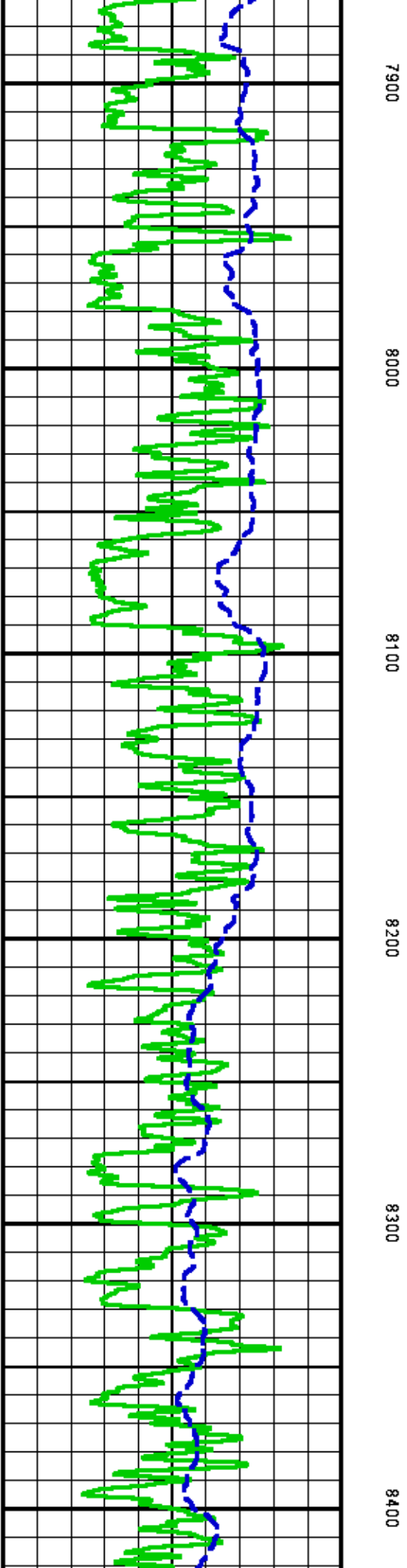
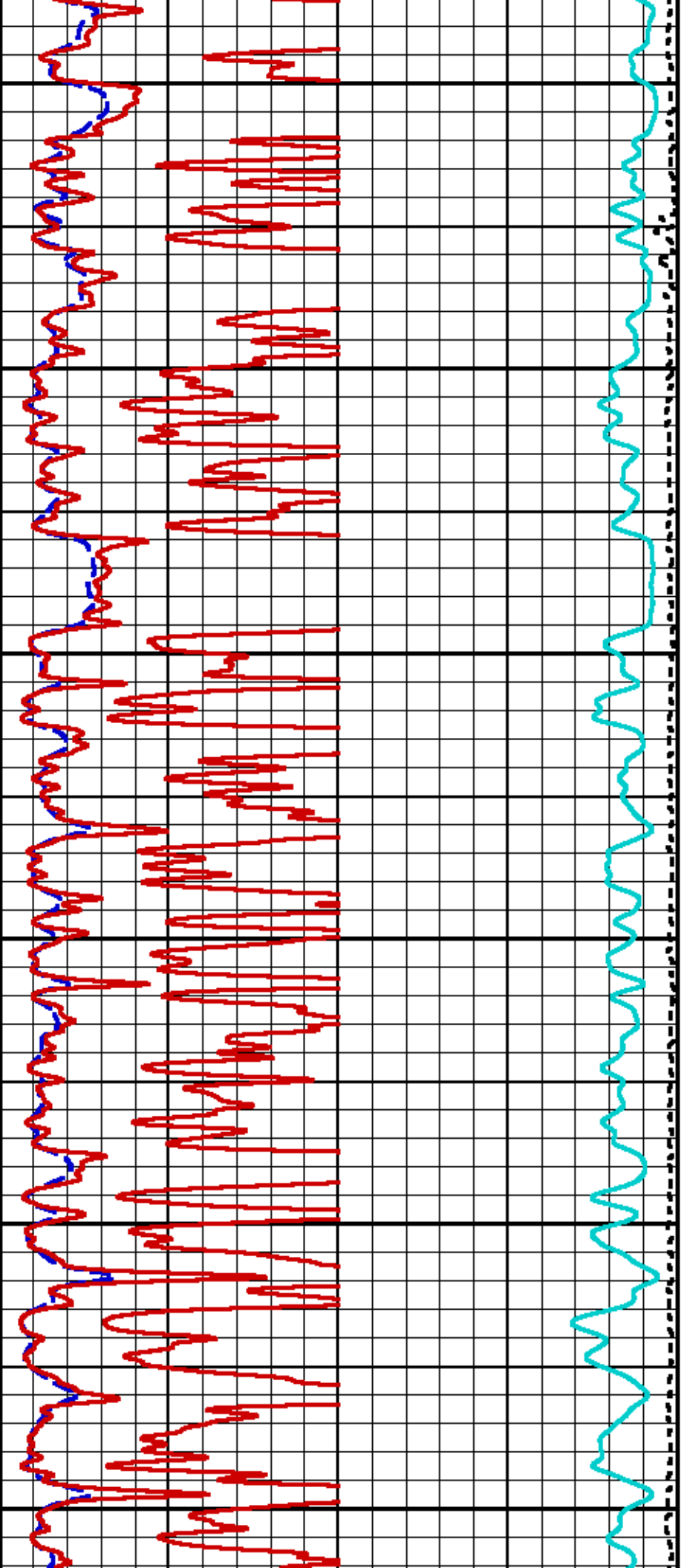


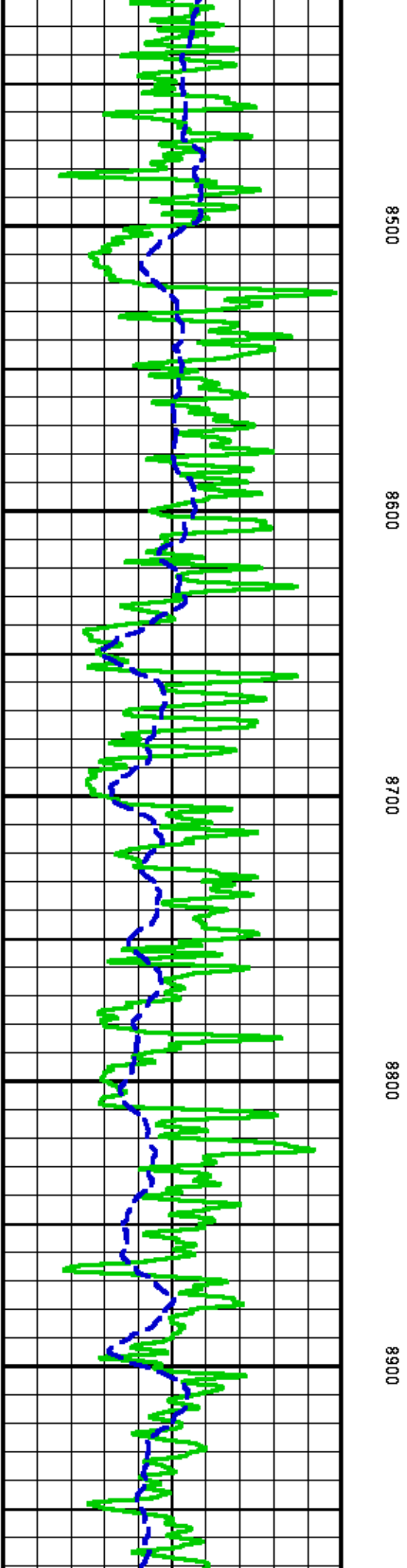
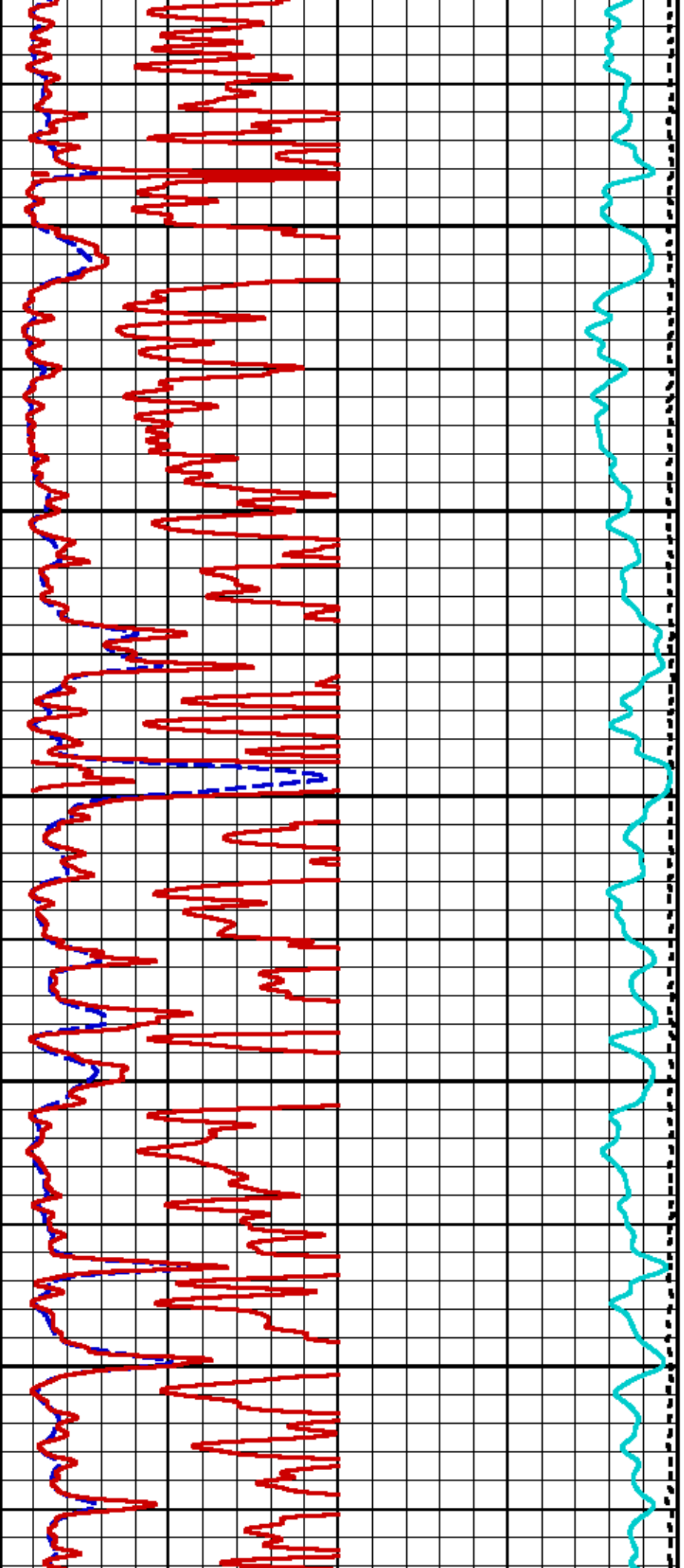


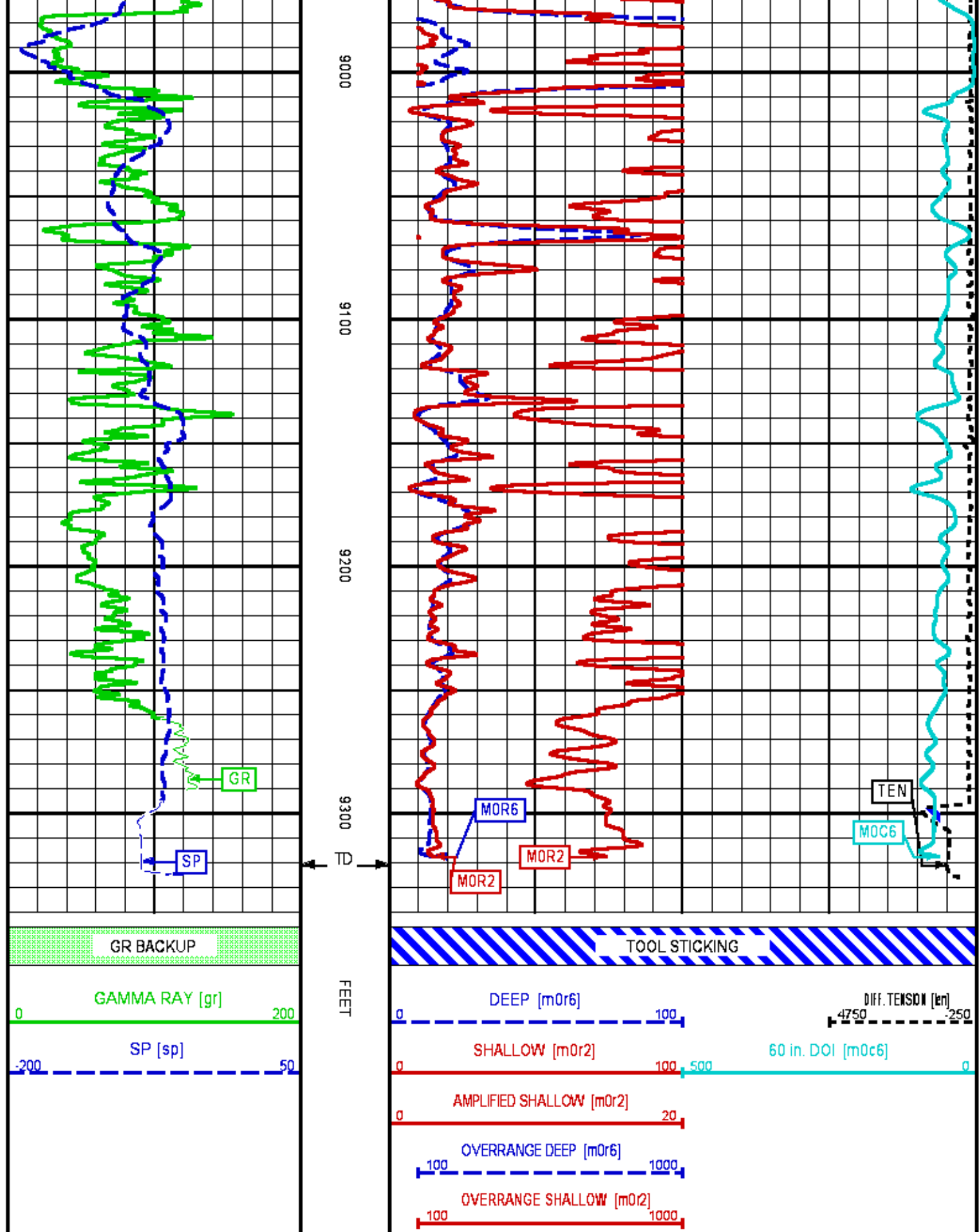












ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 31 Patches: 5

Plotted: Sat Mar 15 21:16:51 2014

## PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625068/n970a02.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 1404.000 ft BOTTOM DEPTH: 9330.357 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 ()	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*)	8.755	in	"	"
	FIXED DIAMETER (mbh*)	8.755	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.450	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
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	1600	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	13.250	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

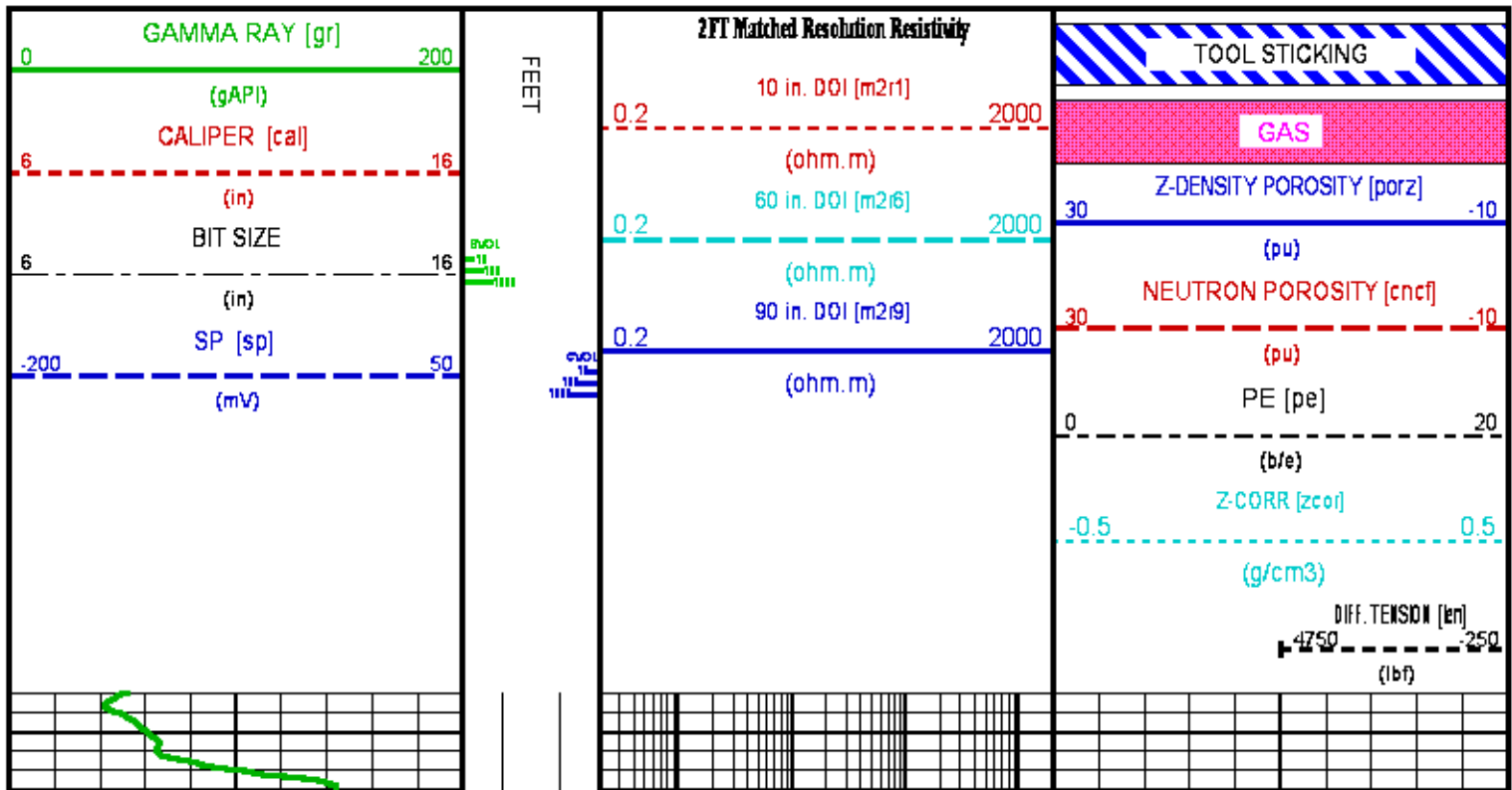
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Mar 15 17:40:10 2014	BIT SIZE
F1:BVOL	Mar 15 17:40:10 2014	BOREHOLE VOLUME
F1:CAL	Mar 15 17:40:10 2014	CALIPER
F1:CNCF	Mar 15 17:40:10 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Mar 15 17:40:10 2014	CEMENT VOLUME
F1:GR	Mar 15 17:40:10 2014	GAMMA RAY
F1:M2R1	Mar 15 17:40:10 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Mar 15 17:40:10 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Mar 15 17:40:10 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Mar 15 17:40:10 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Mar 15 17:40:10 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Mar 15 17:40:10 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 15 17:40:10 2014	DIFFERENTIAL TENSION
F1:ZCOR	Mar 15 17:40:10 2014	DENSITY CORRECTION

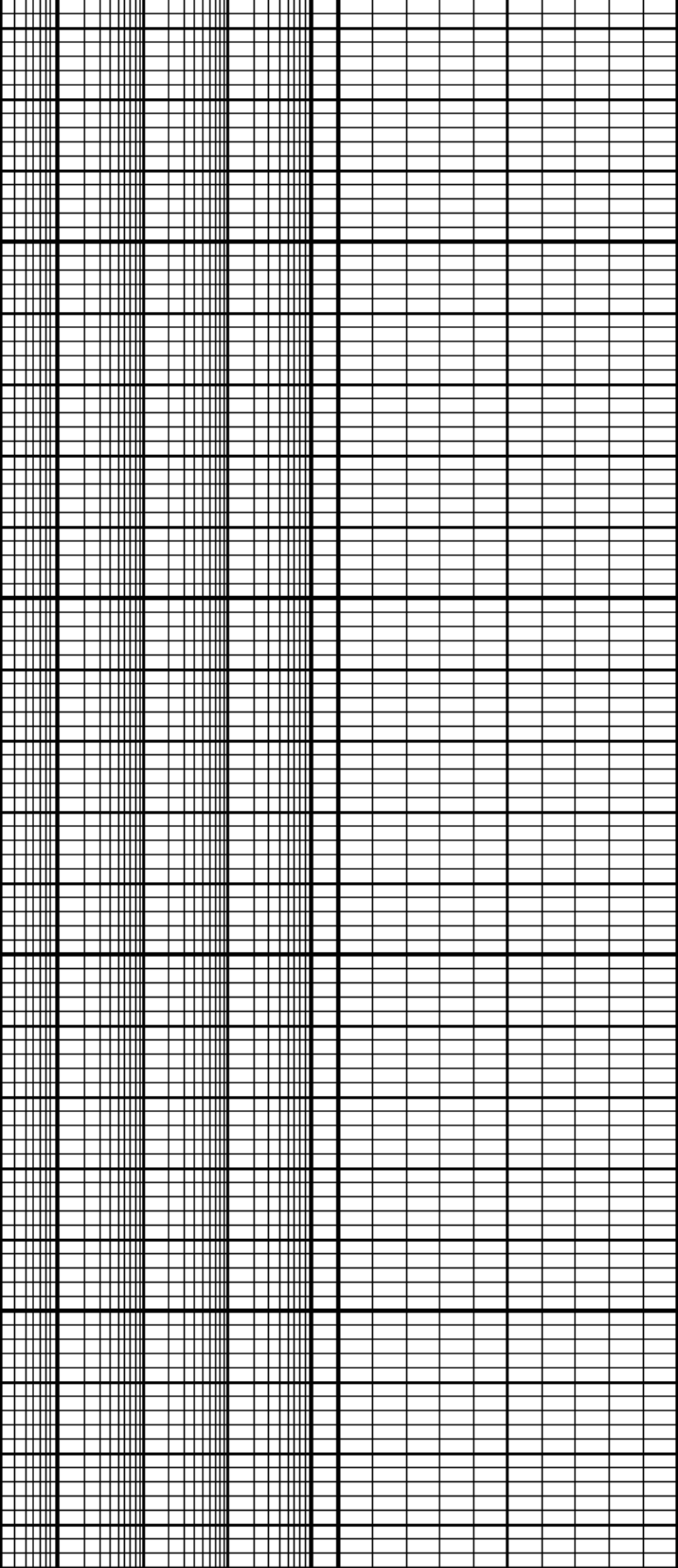
### CURVE MEASURE POINT OFFSET

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\_5IN.fvpdf [5"/100" Scale]  
**Plot Interval** : 6 - 9333.25 Feet

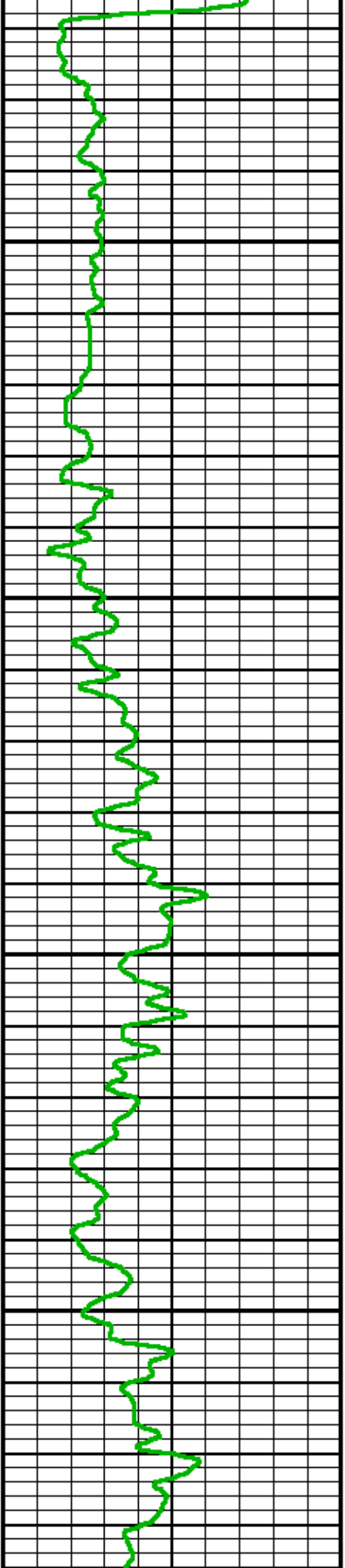
**Data File 1** : F1: HL6670:/dat1a/625068/MAIN.xtf  
**Created On** : Mar 15 17:40:10 2014  
**Company** : WPX ENERGY ROCKY MOUNTAIN LLC  
**Well** : FEDERAL PA 432-21  
**Field** : PARACHUTE  
**File Interval** : 0 - 9333.25 Feet  
**OCT** : n970a

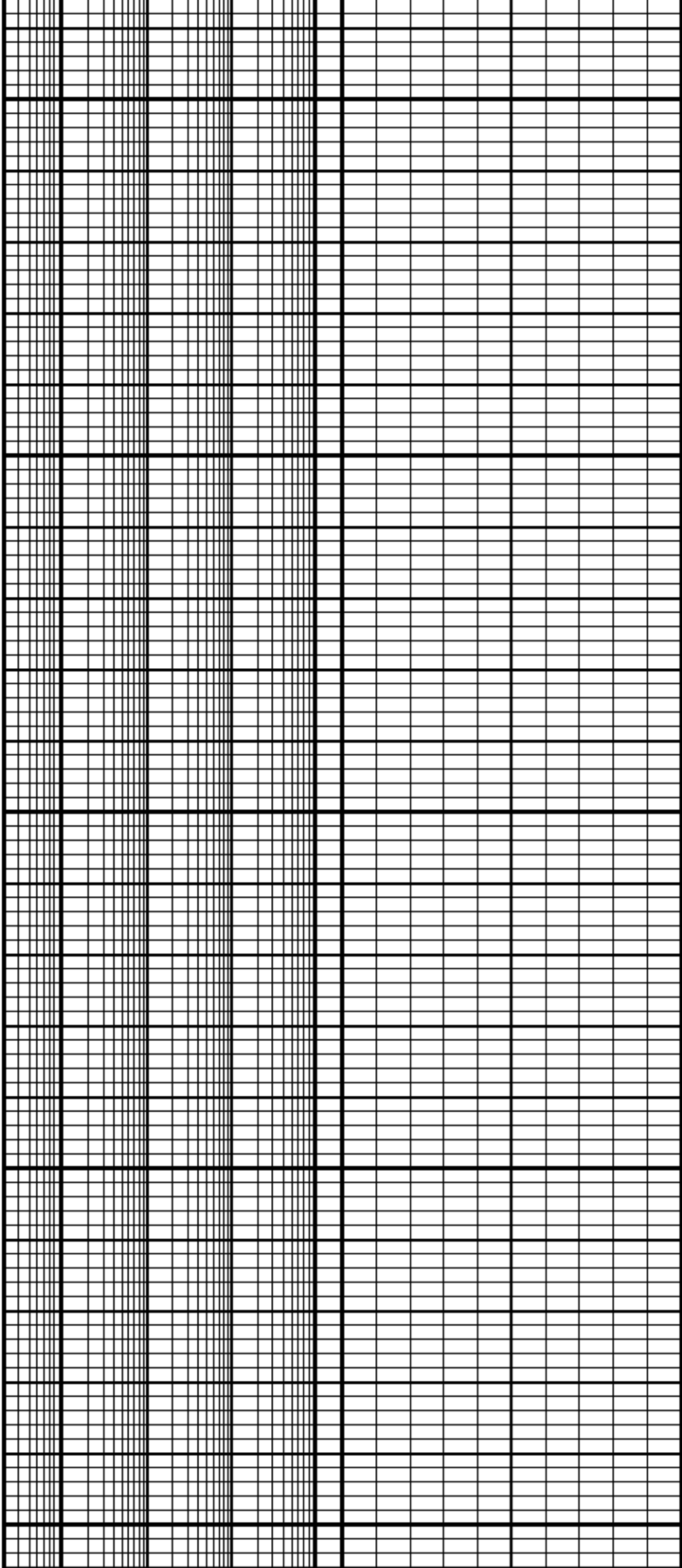




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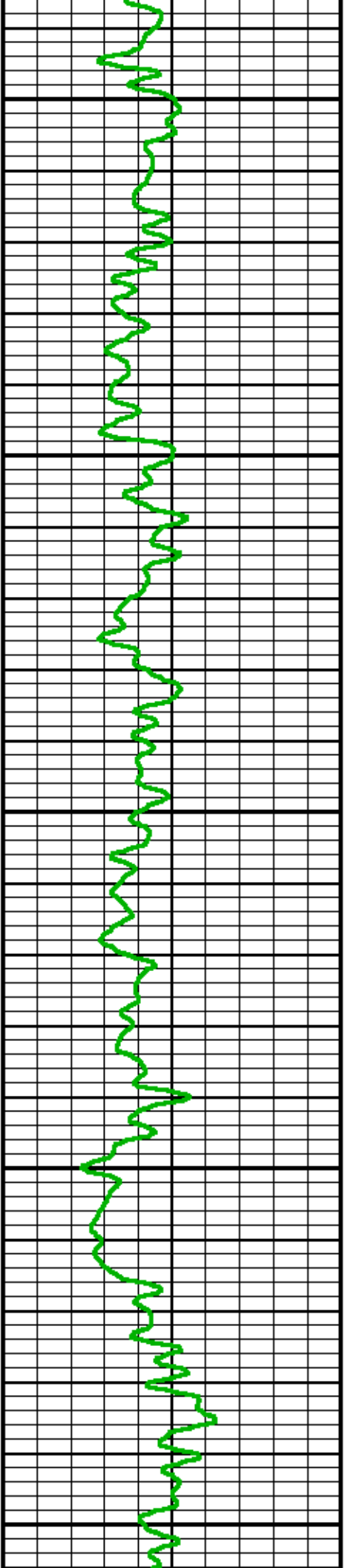
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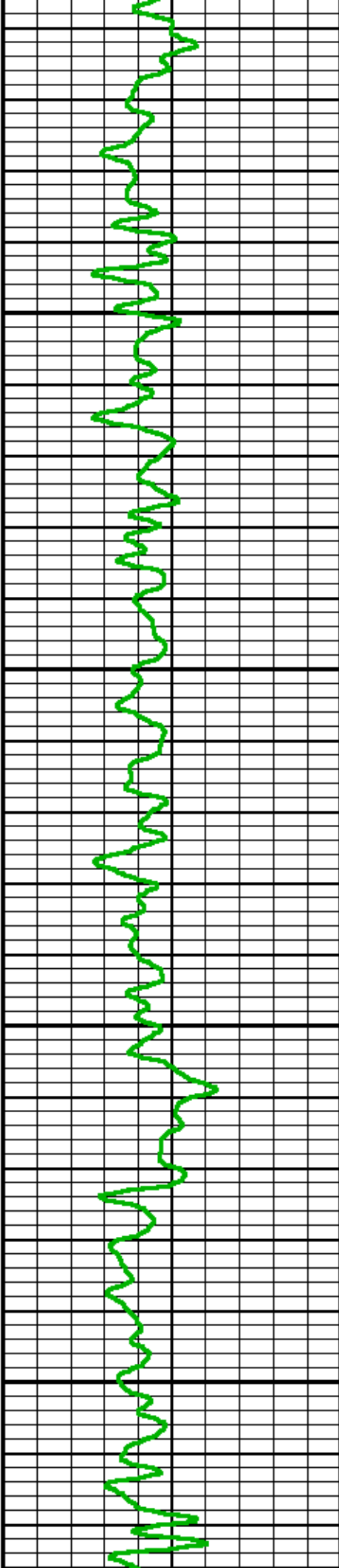


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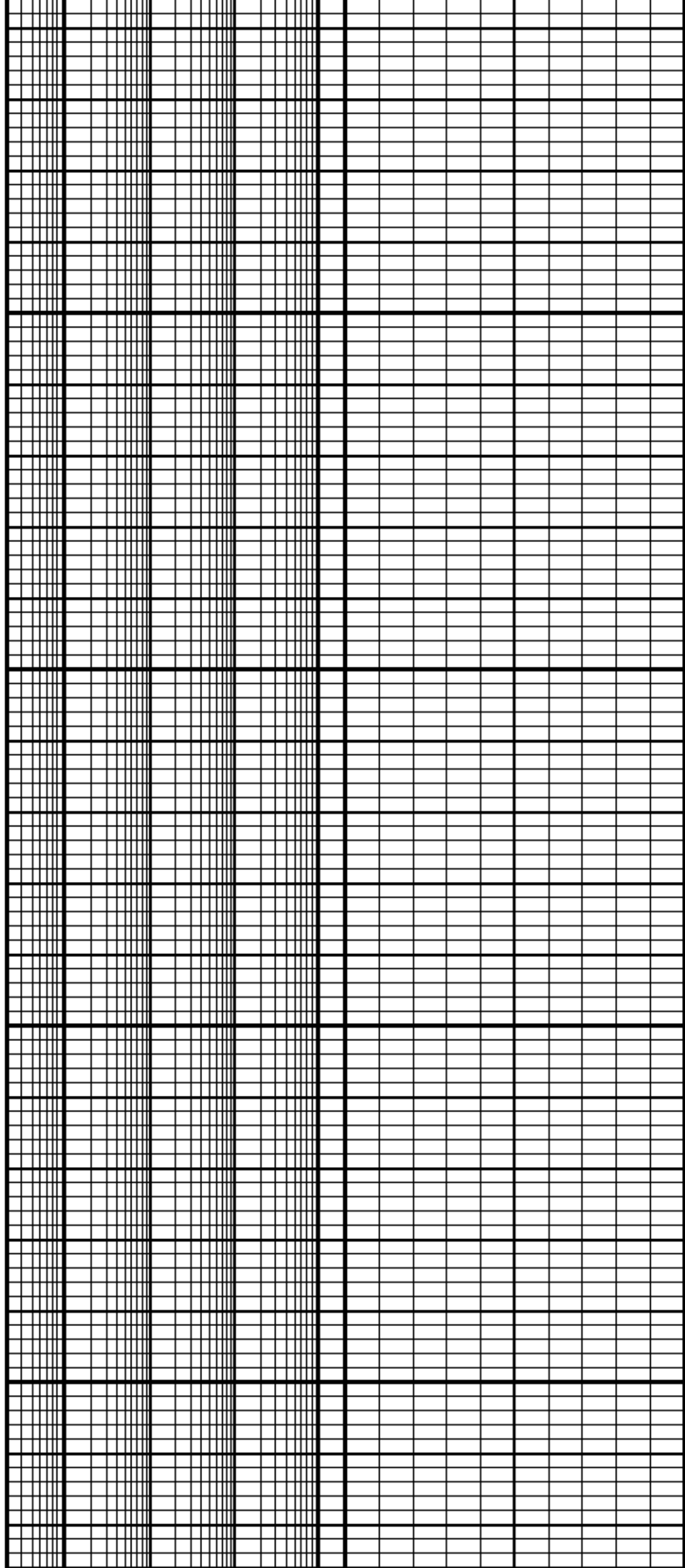






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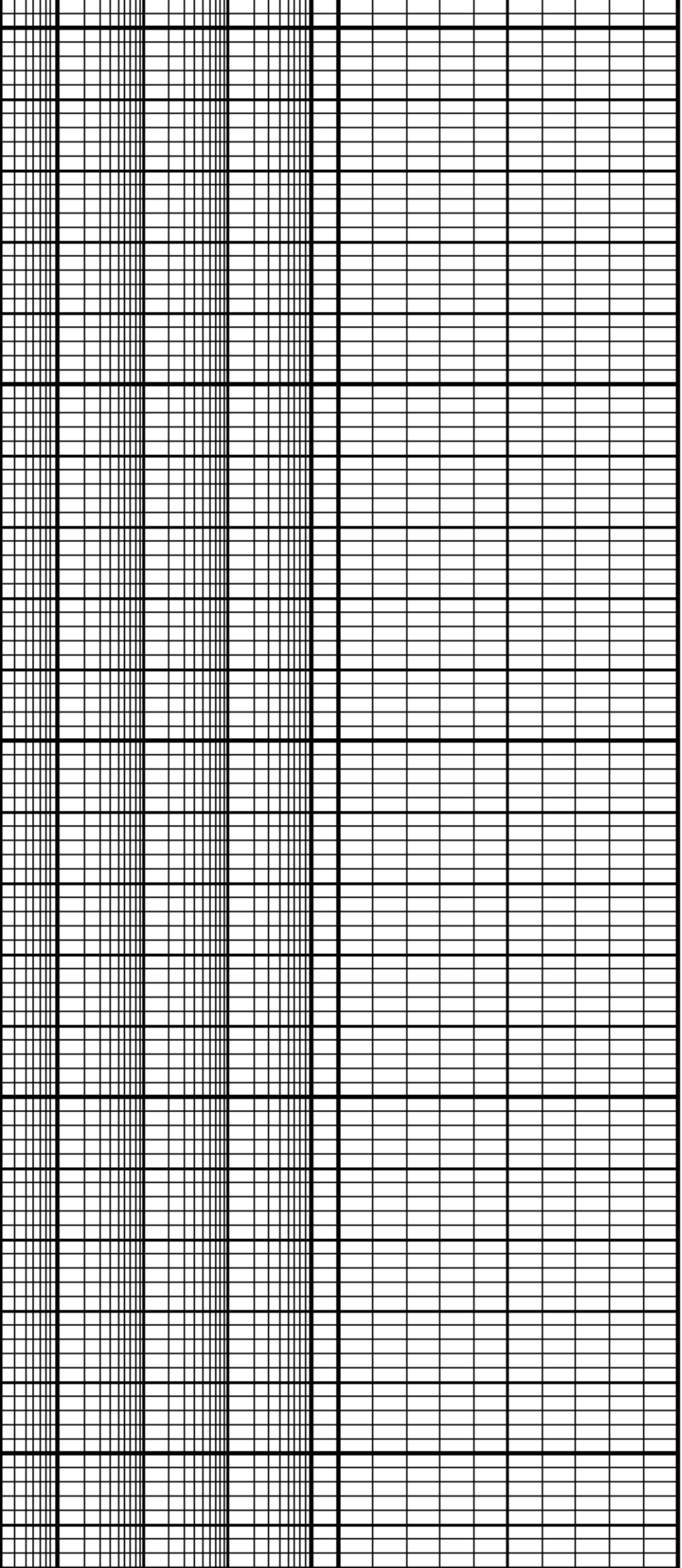
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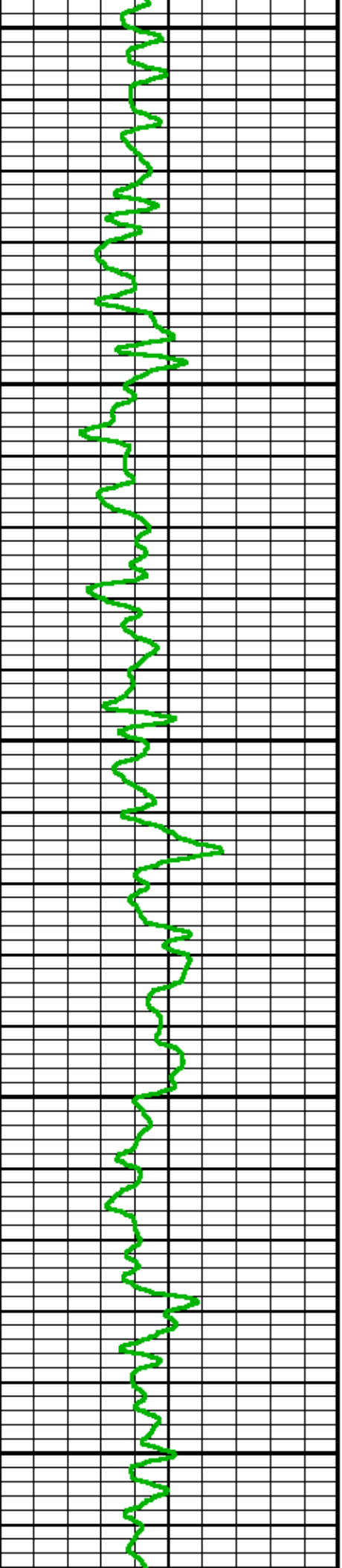
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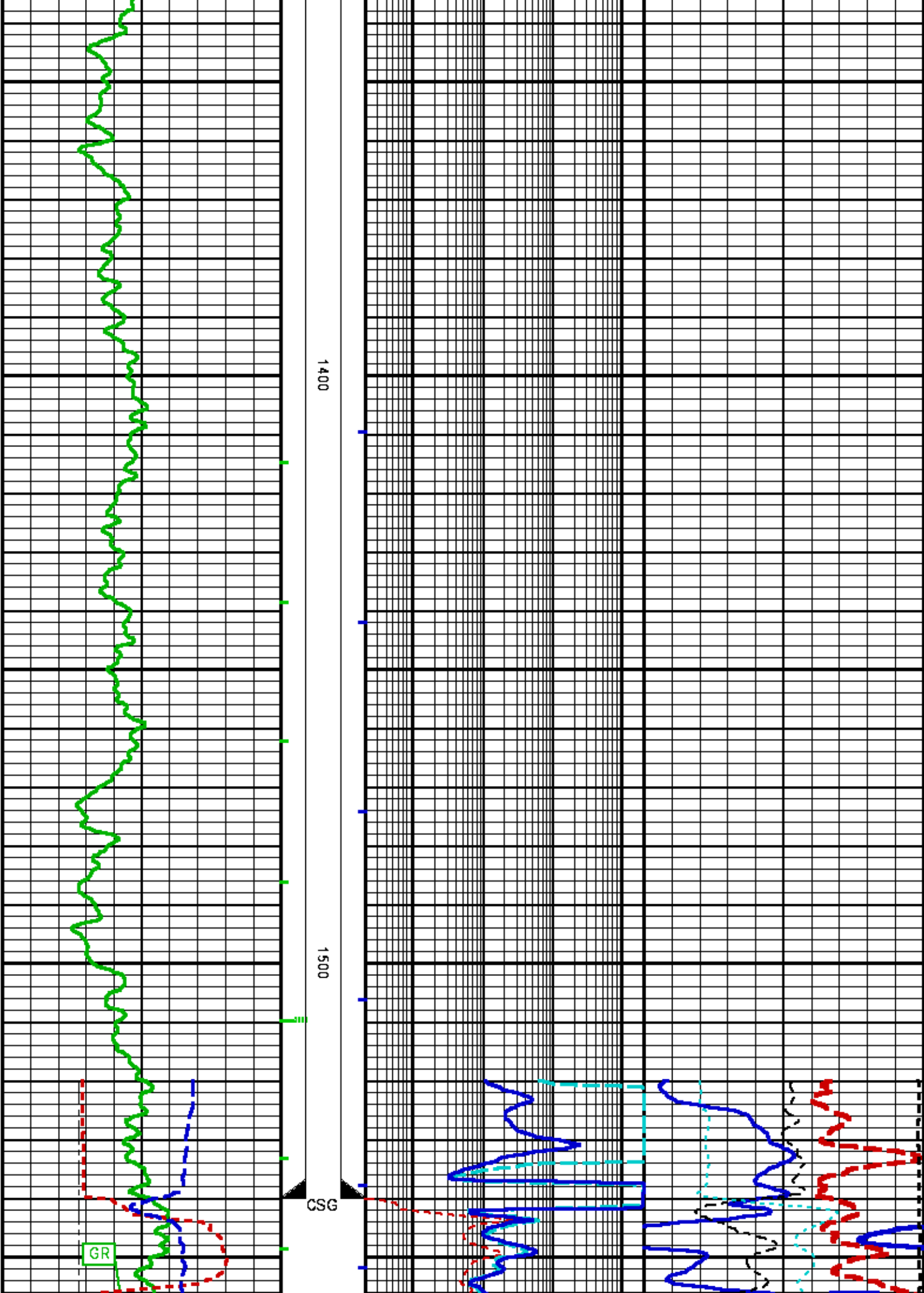
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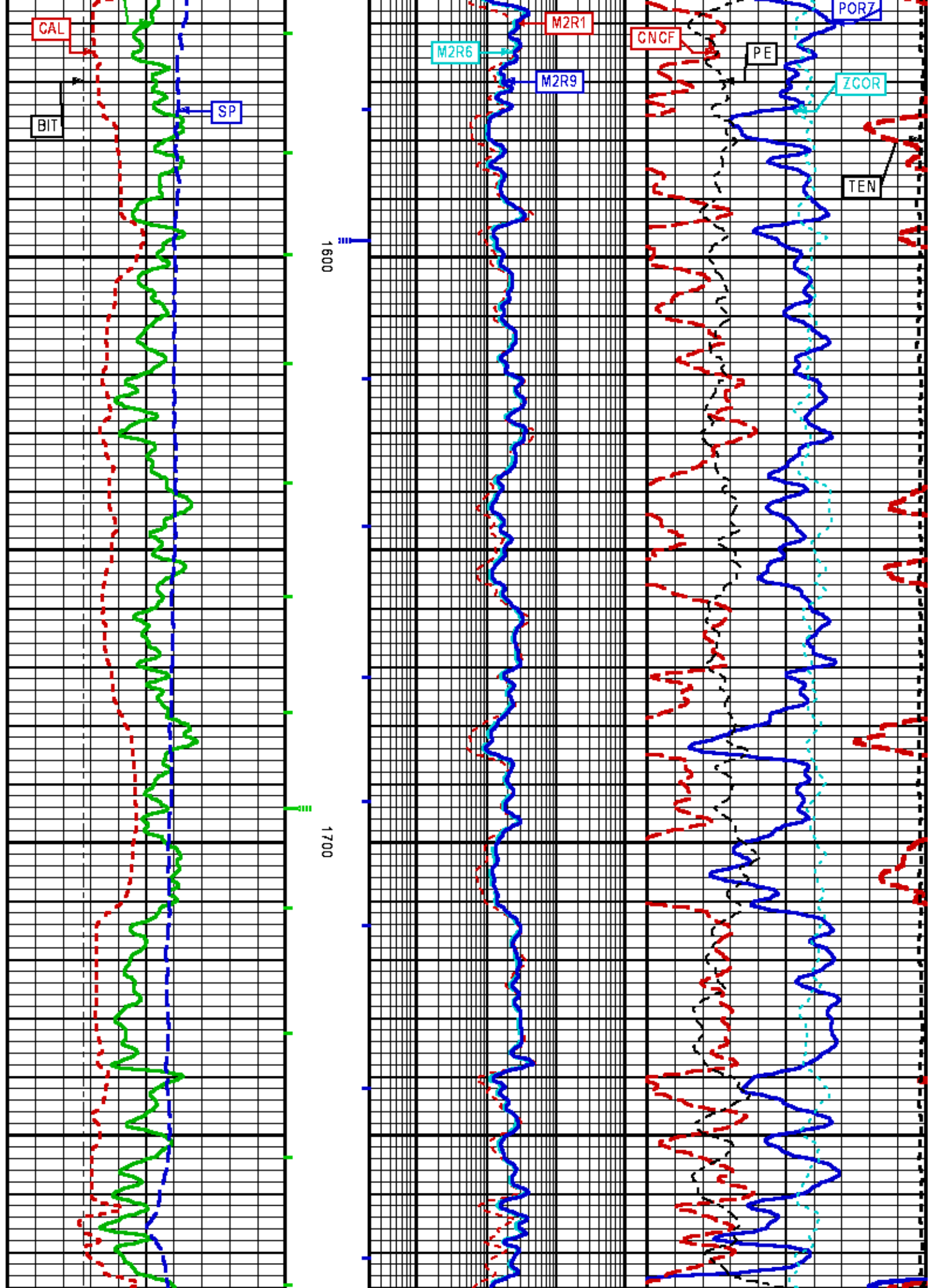
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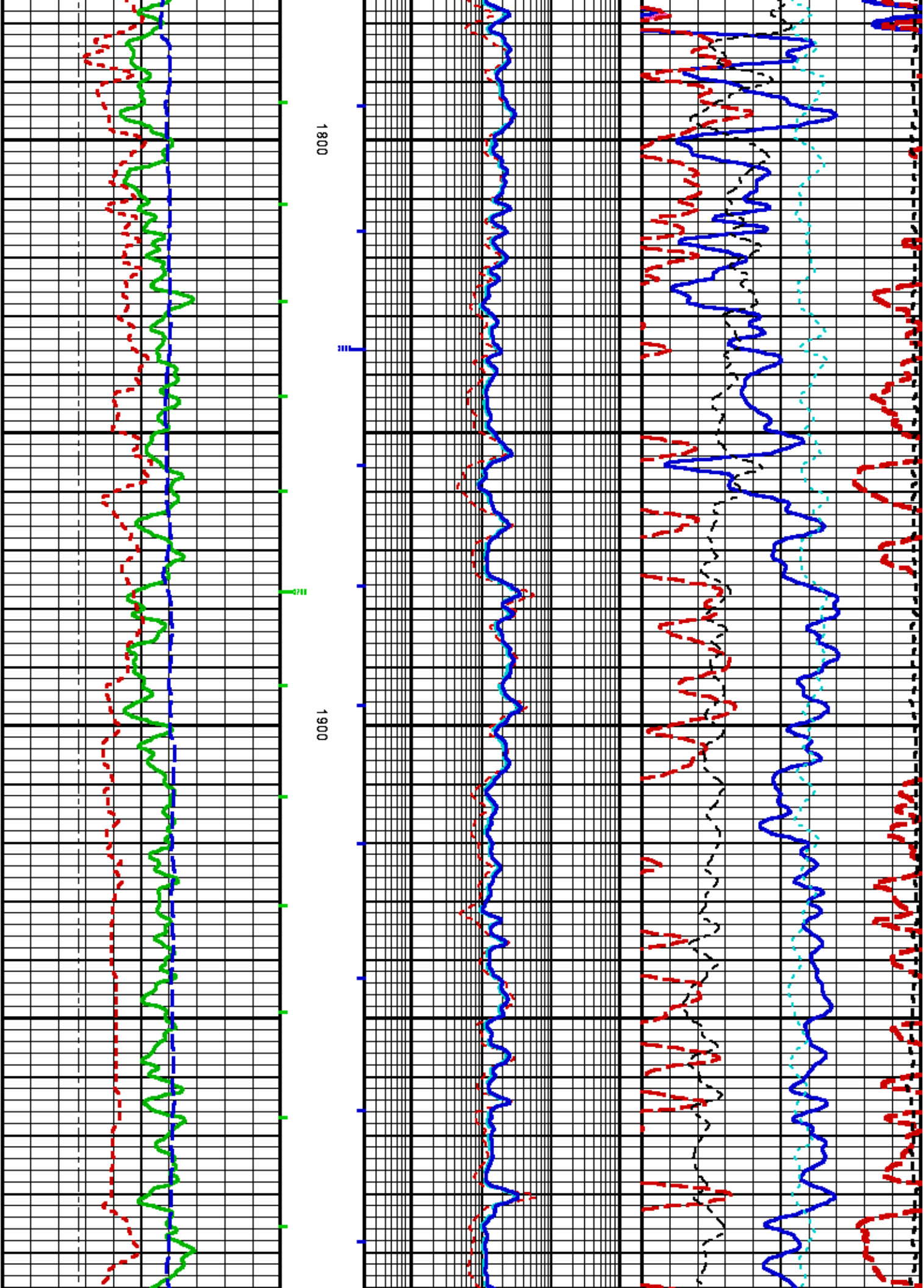
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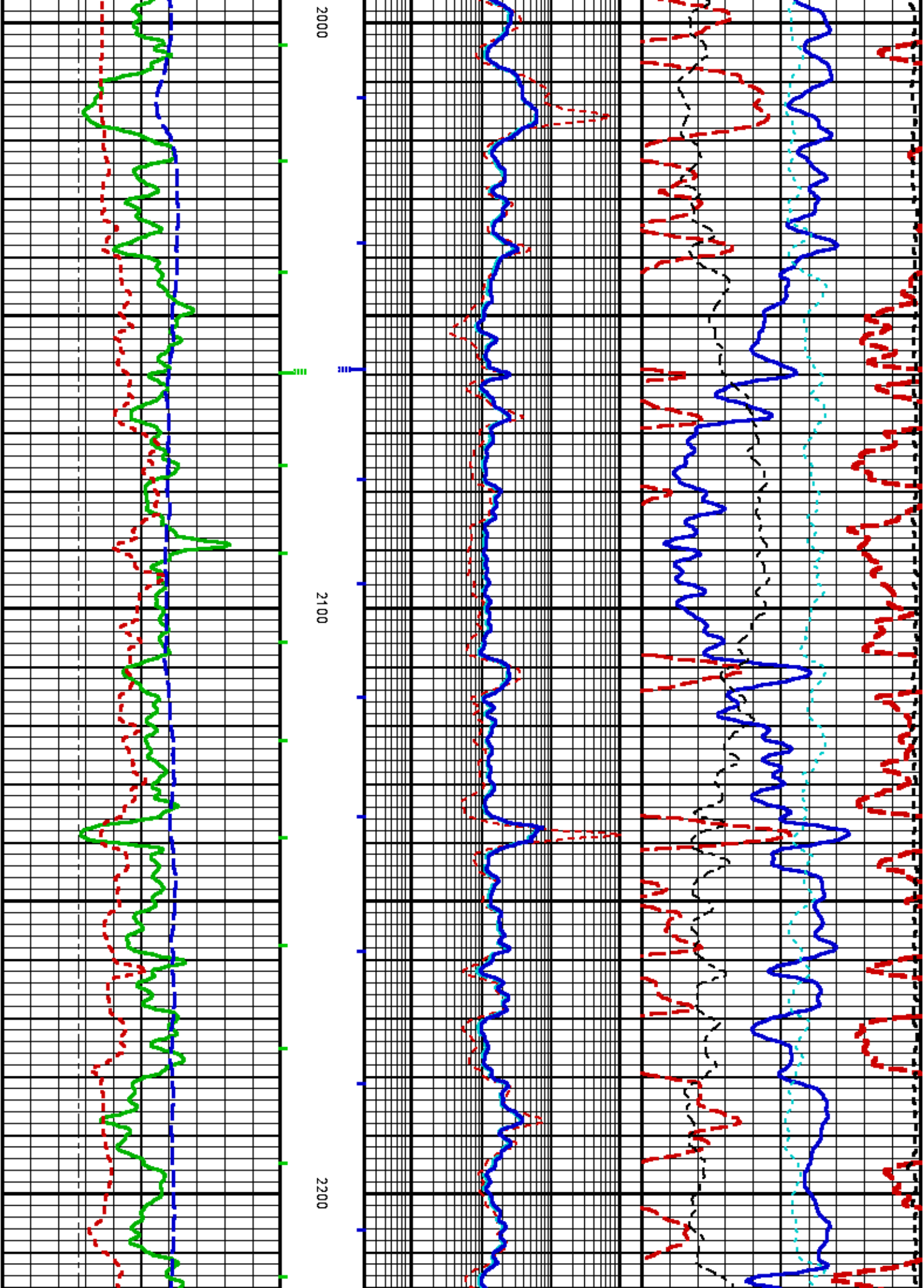




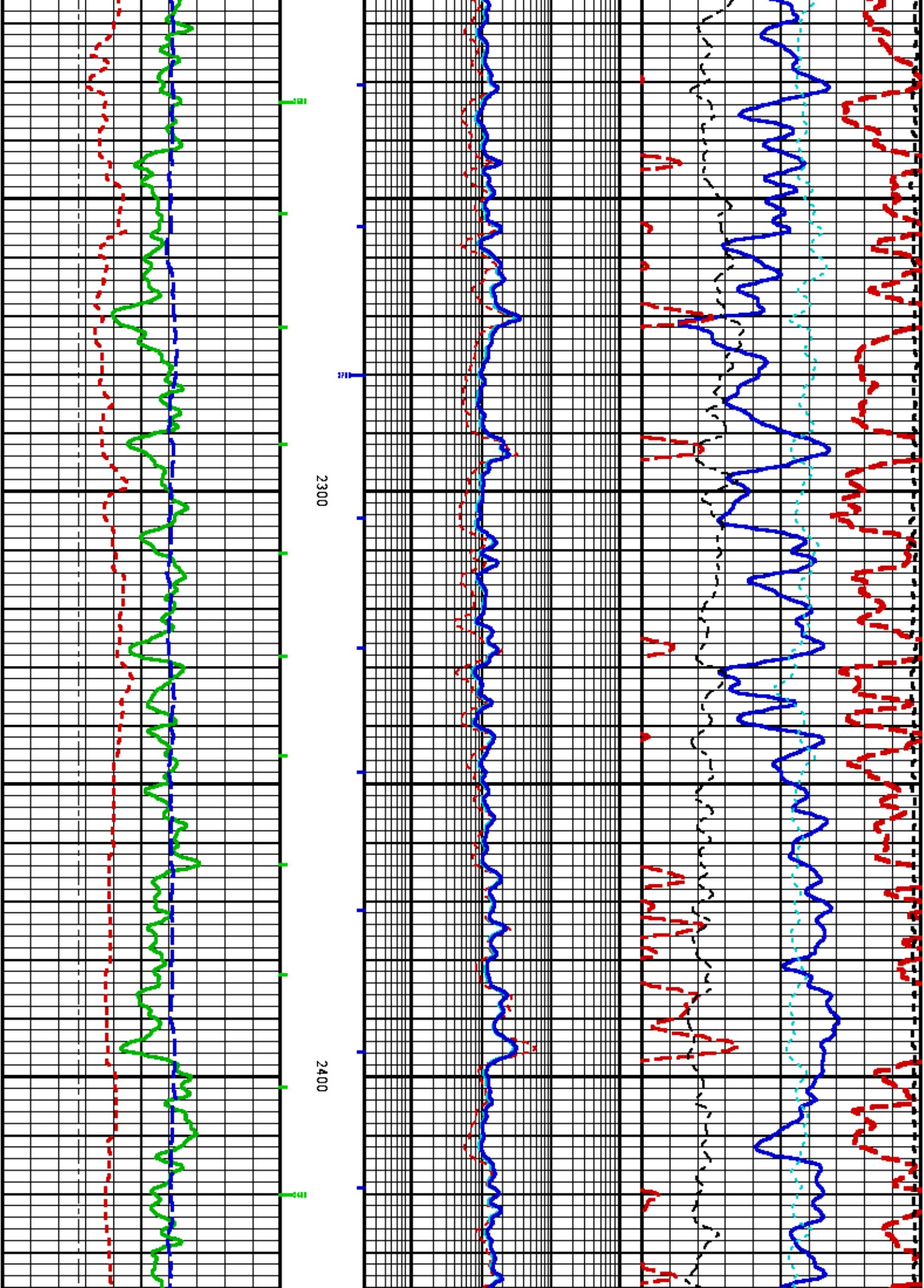


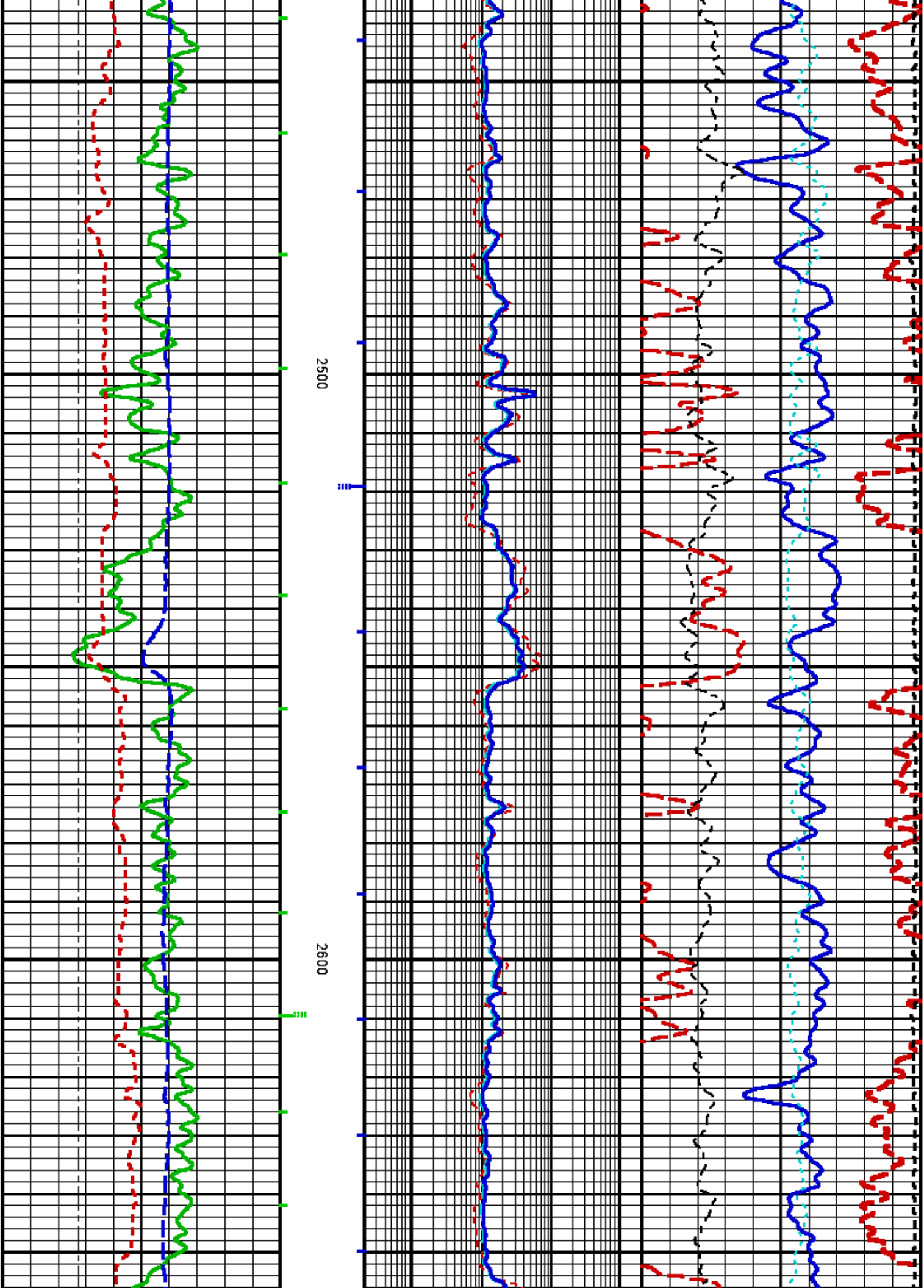


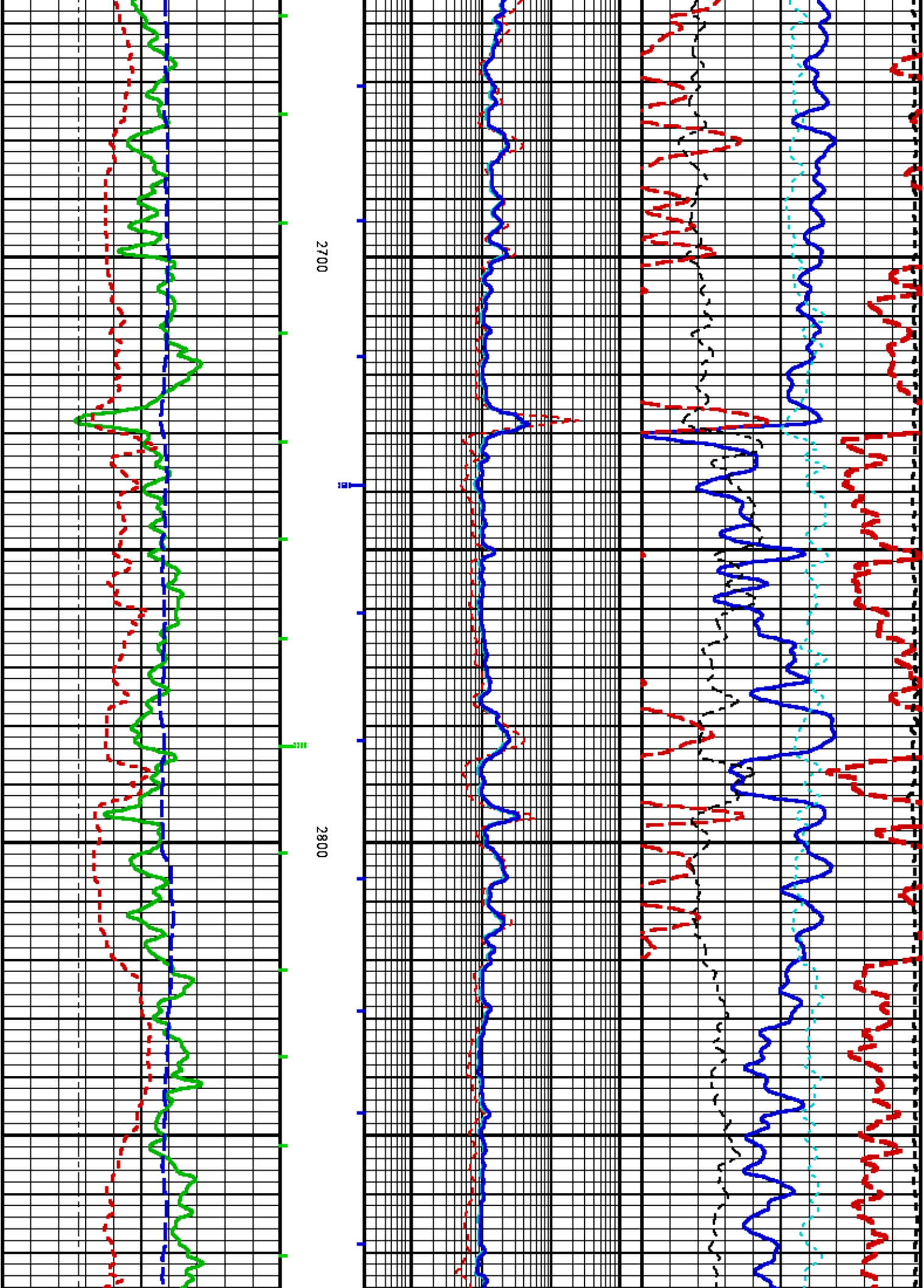


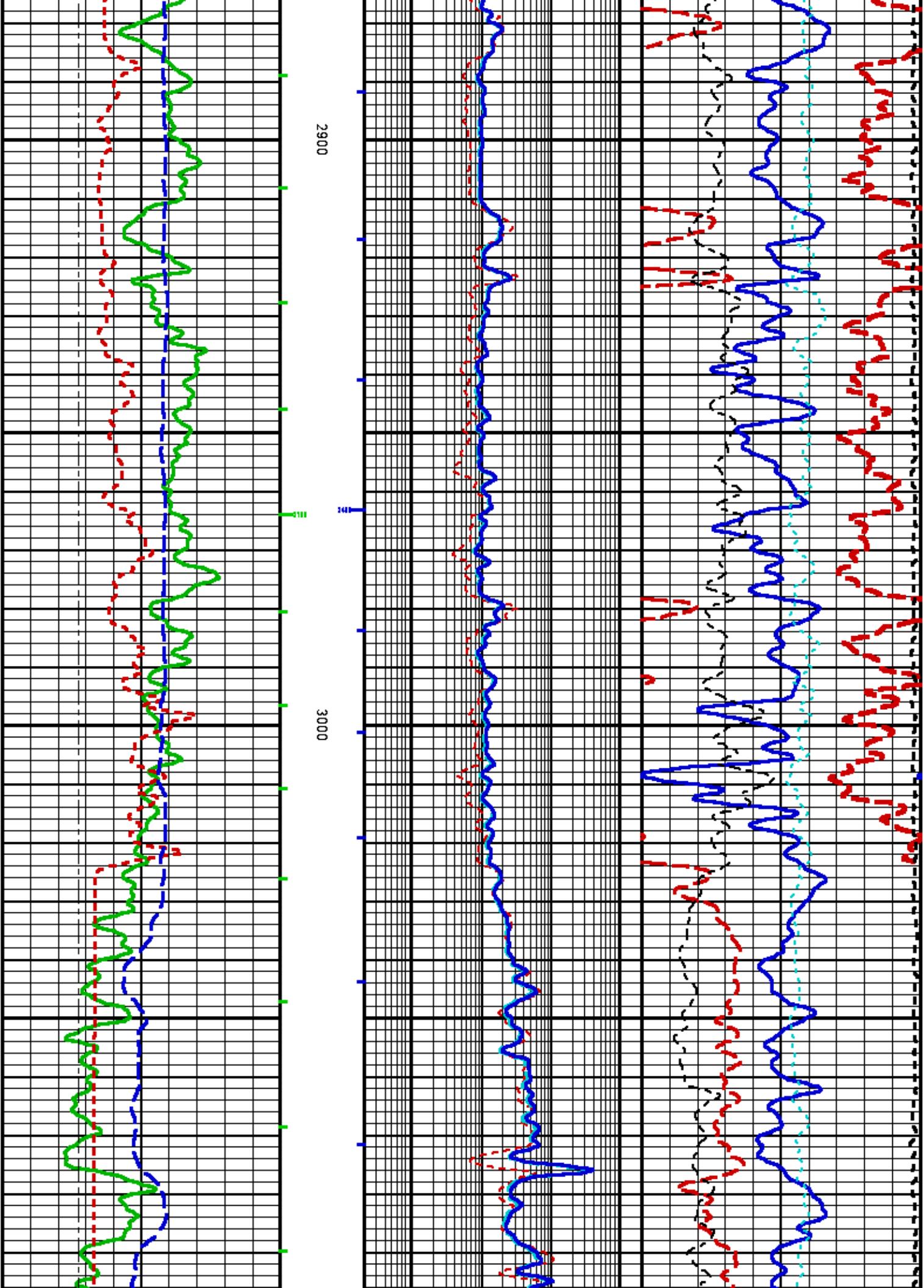


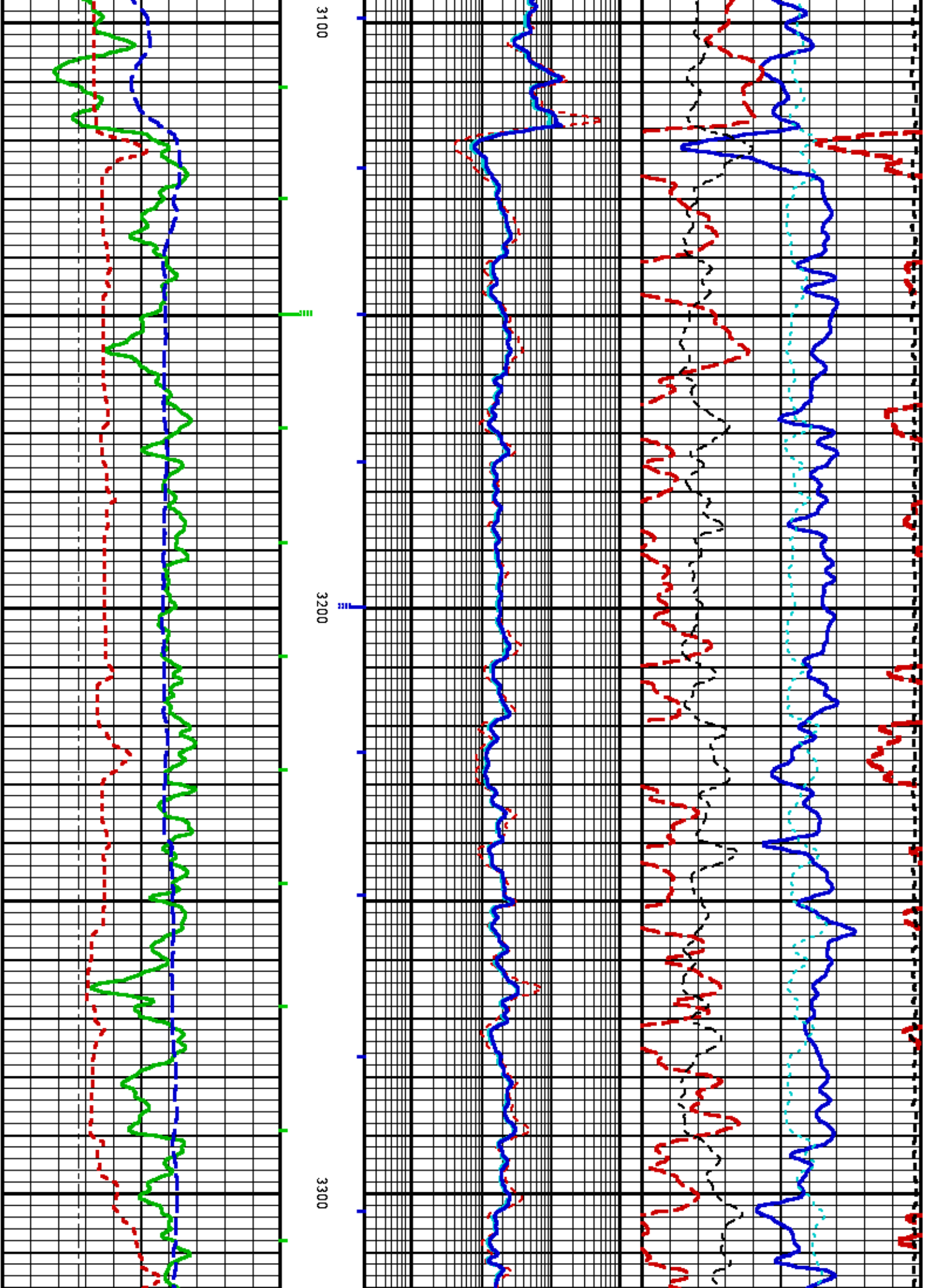




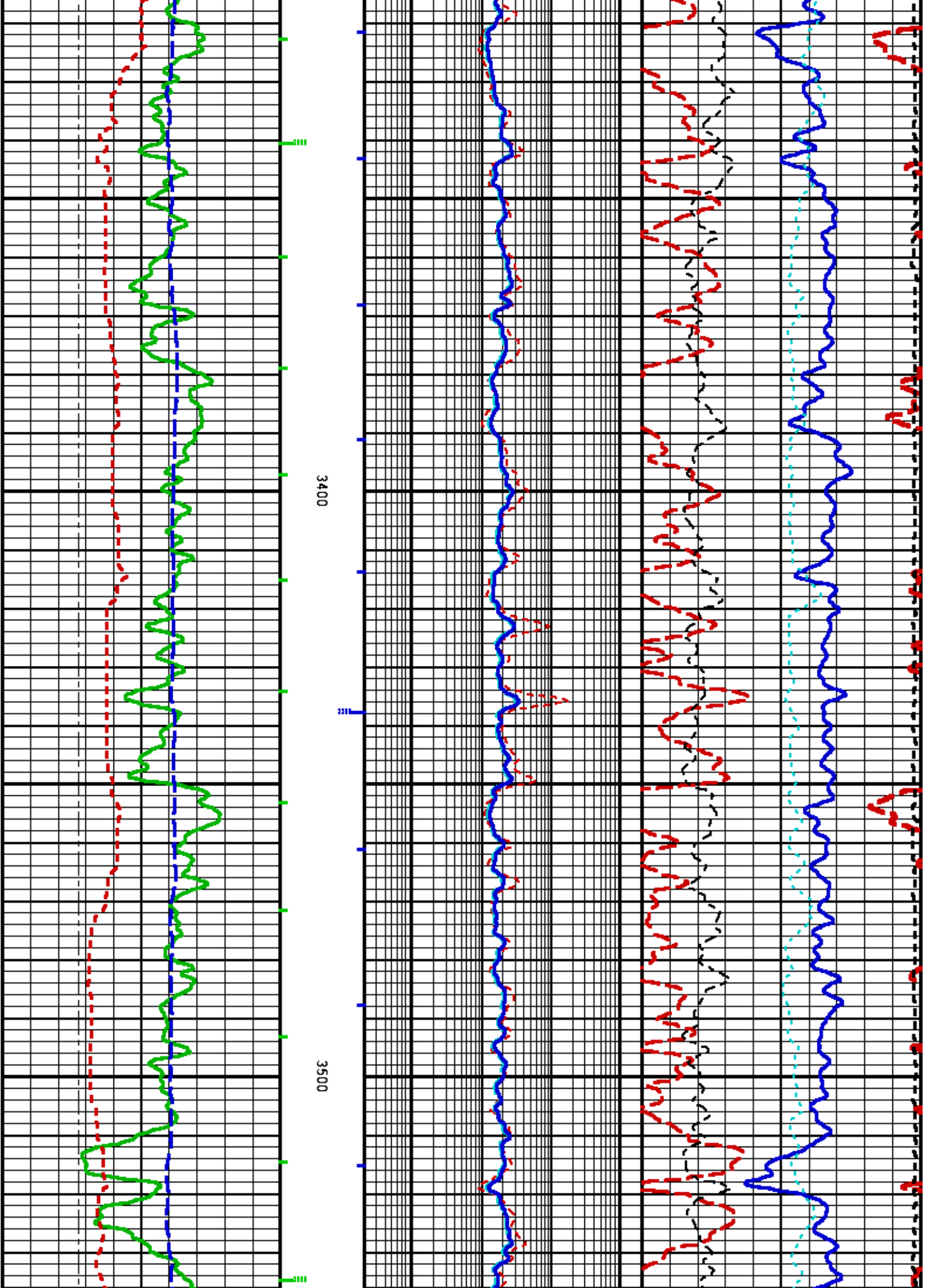


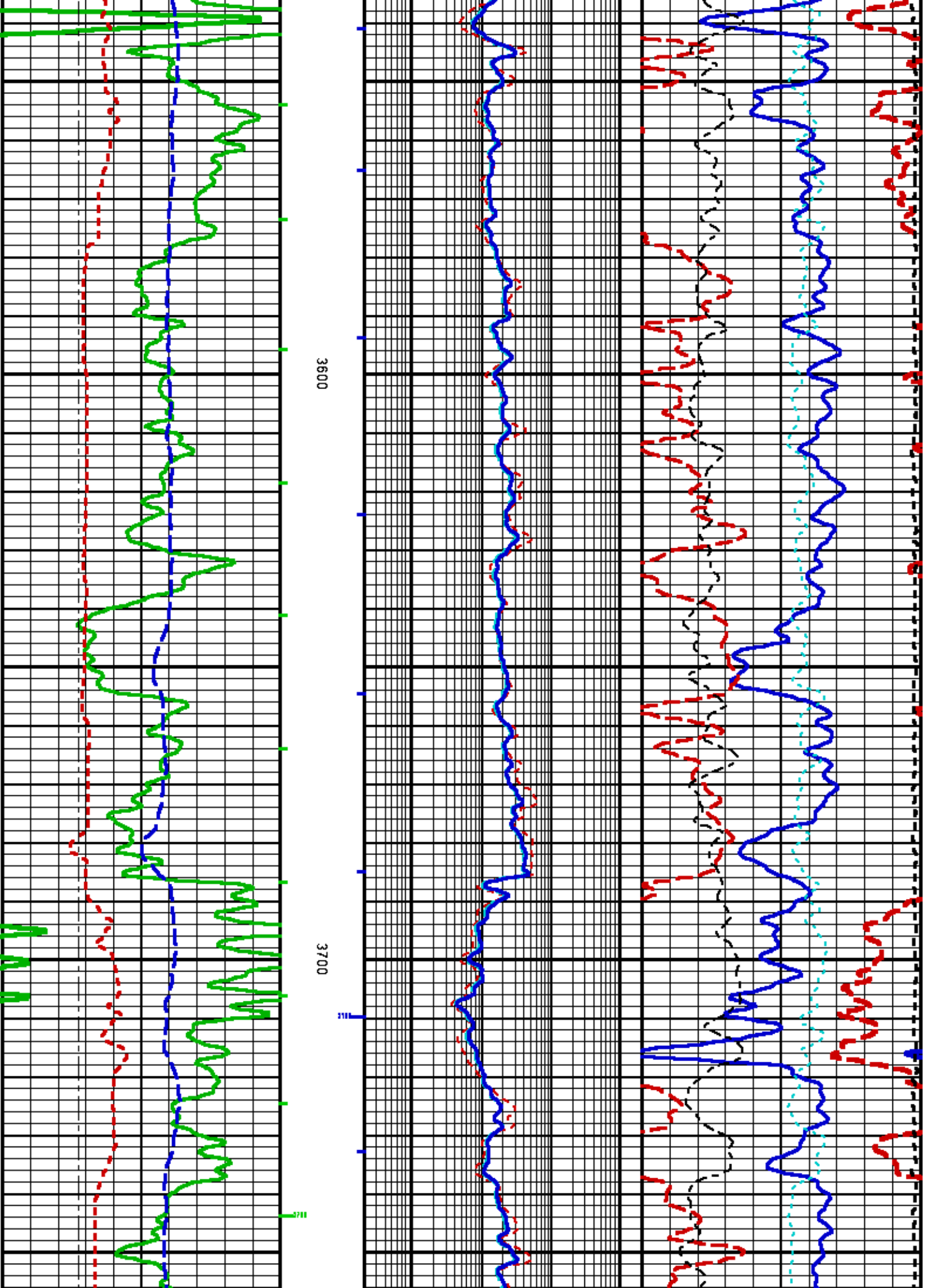


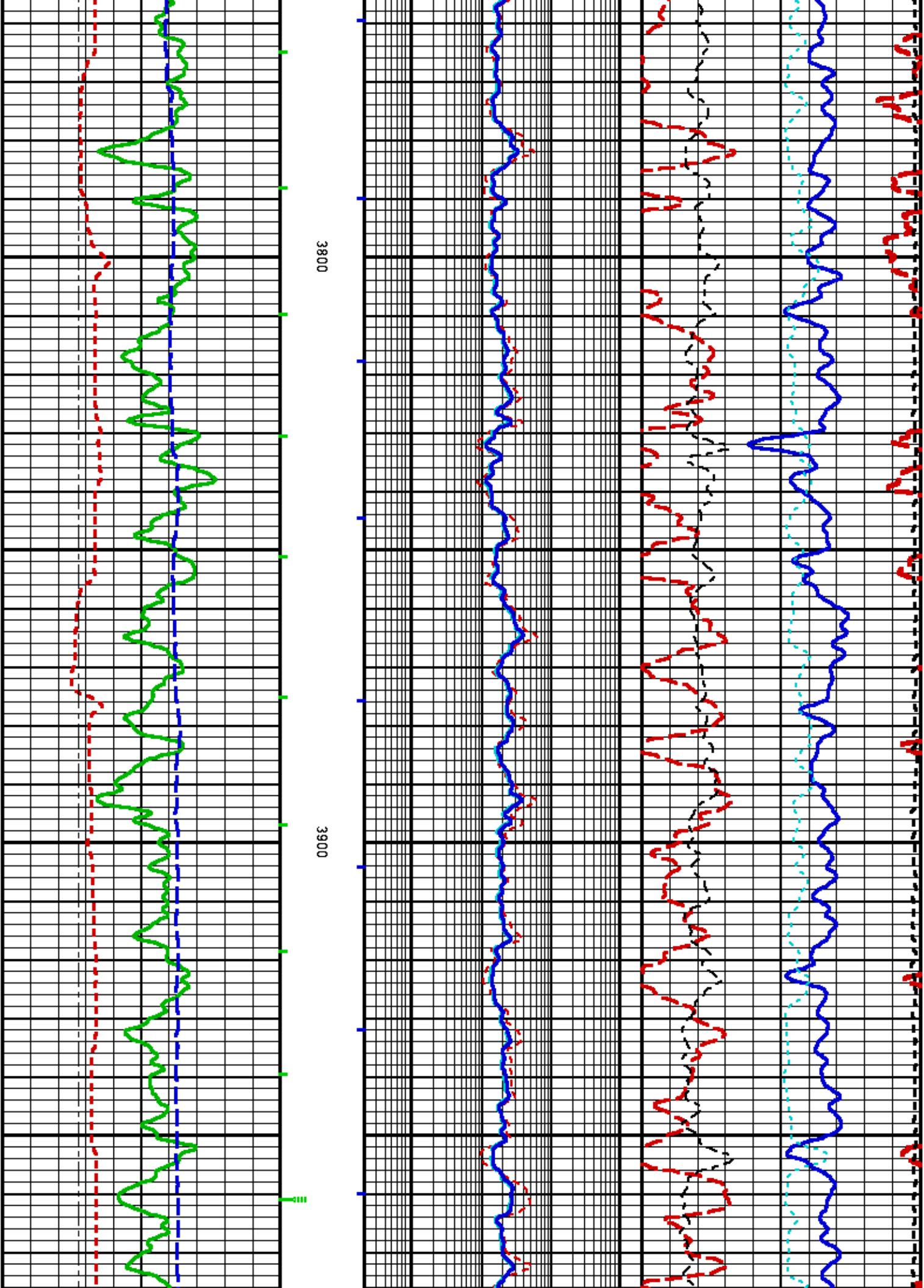




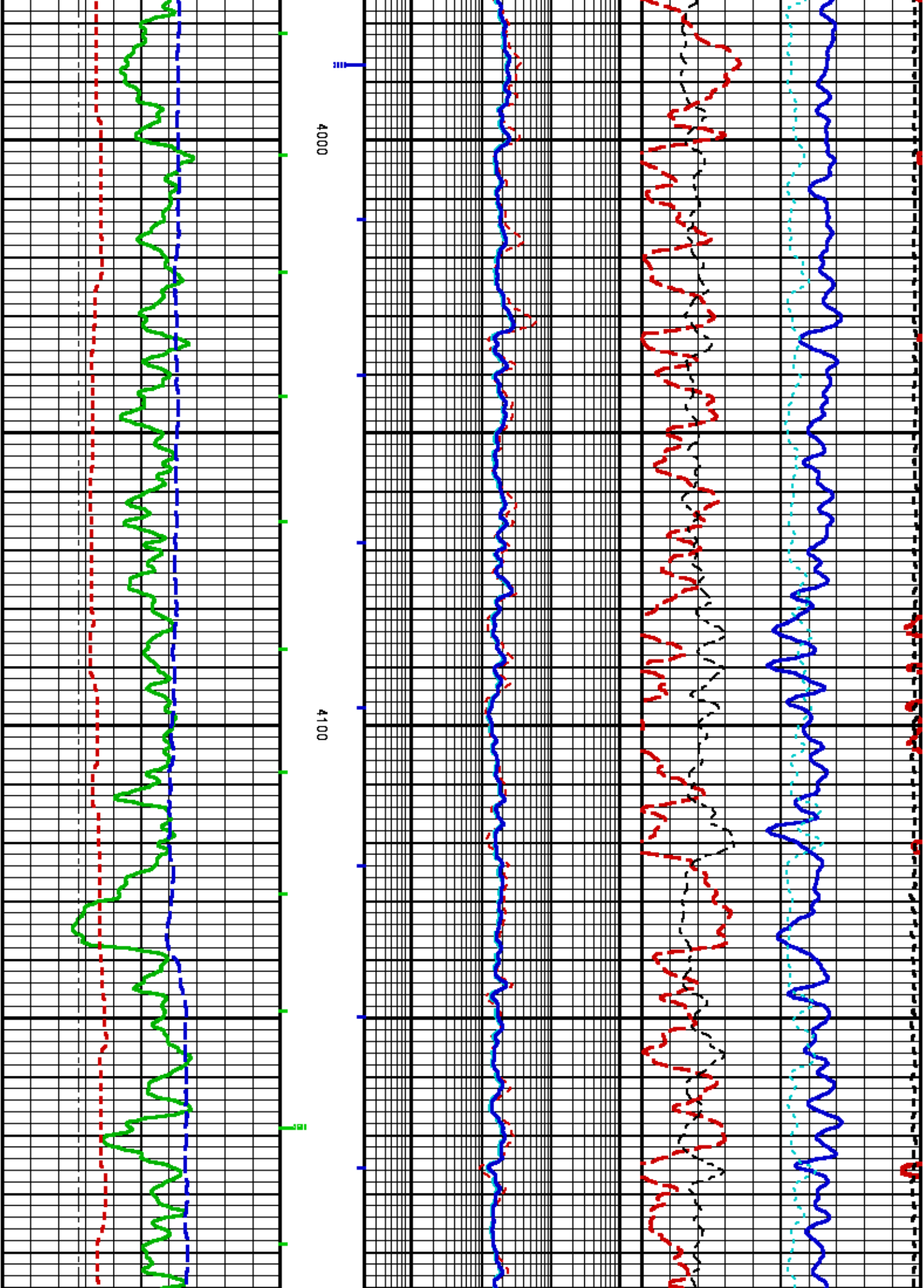


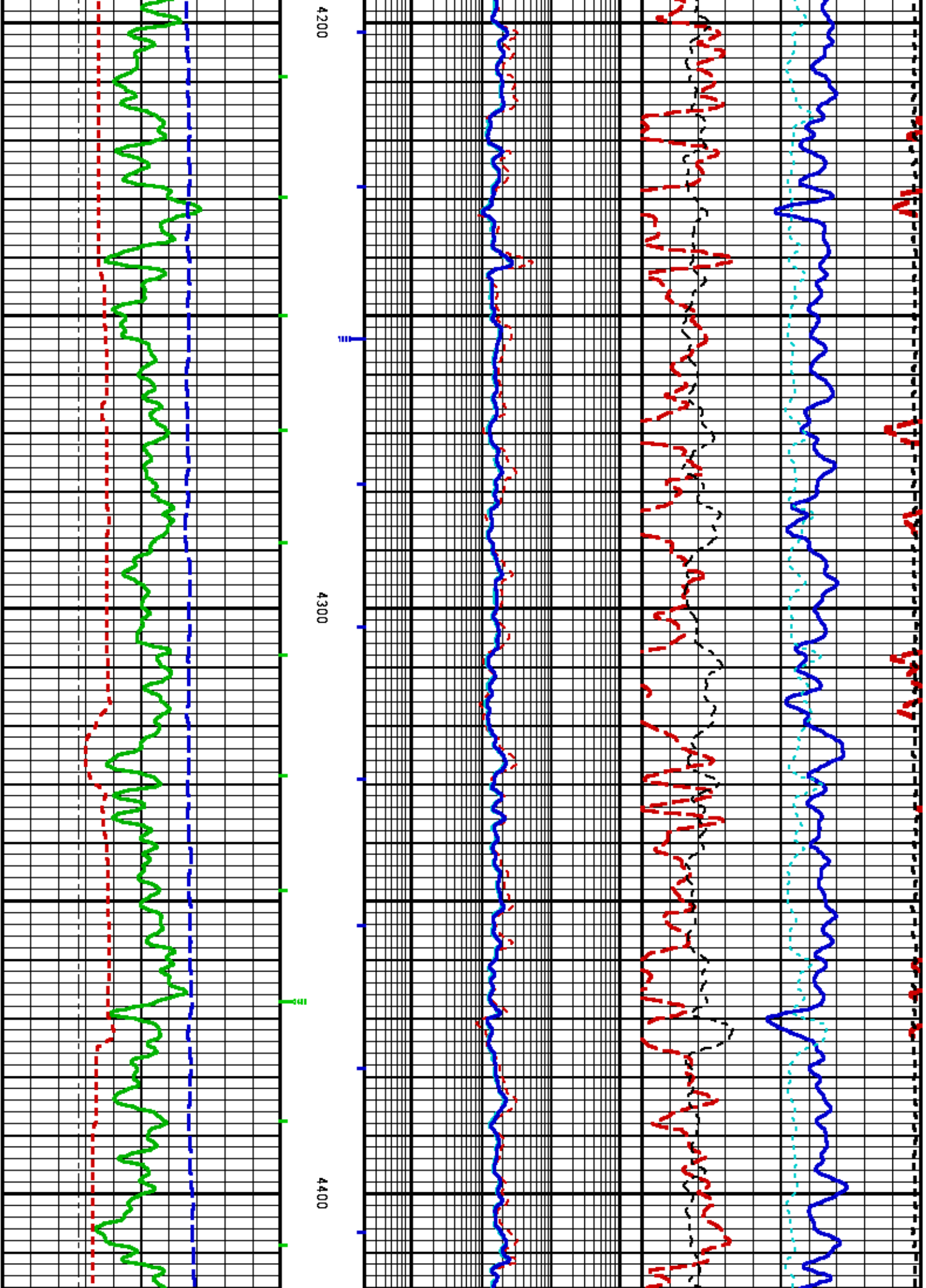


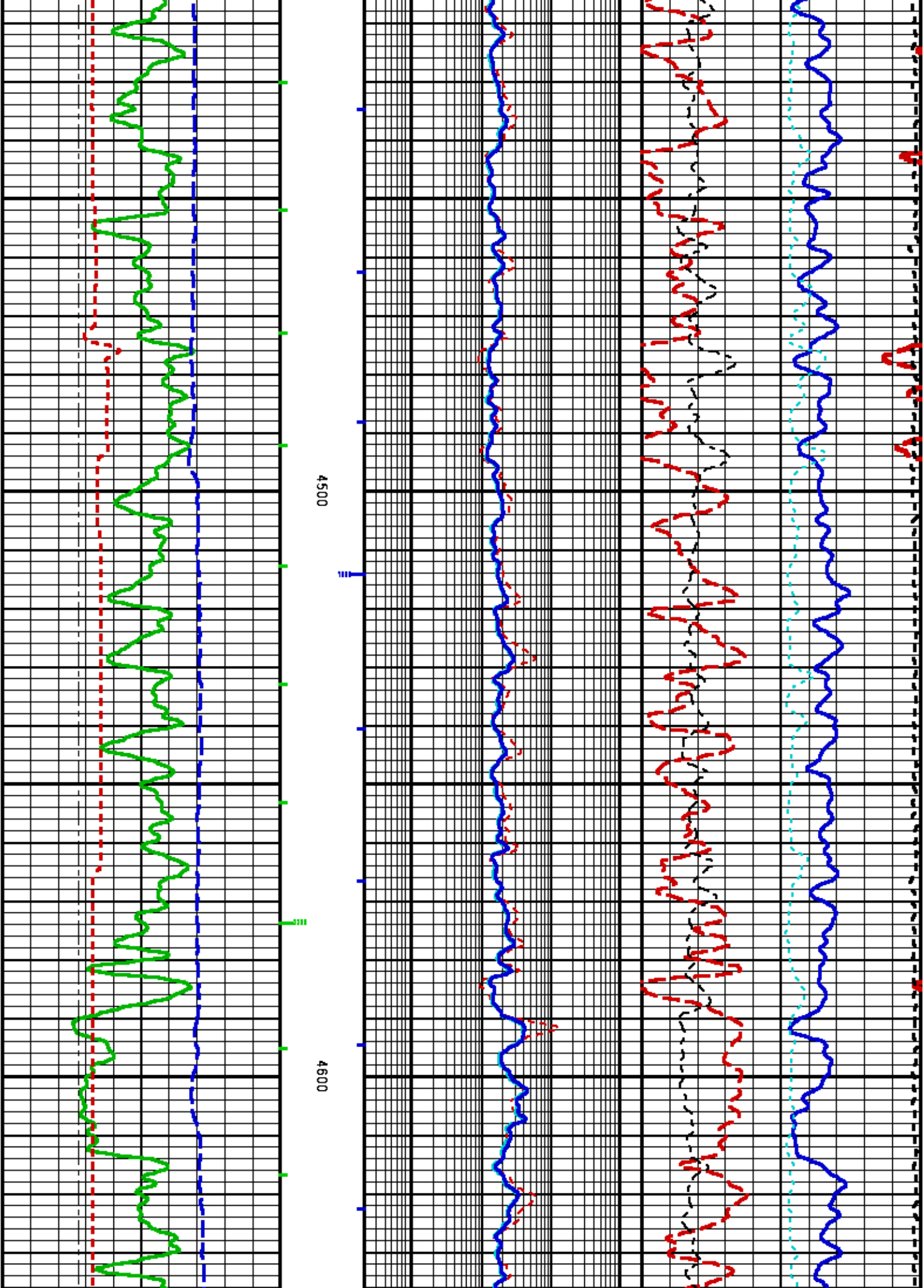


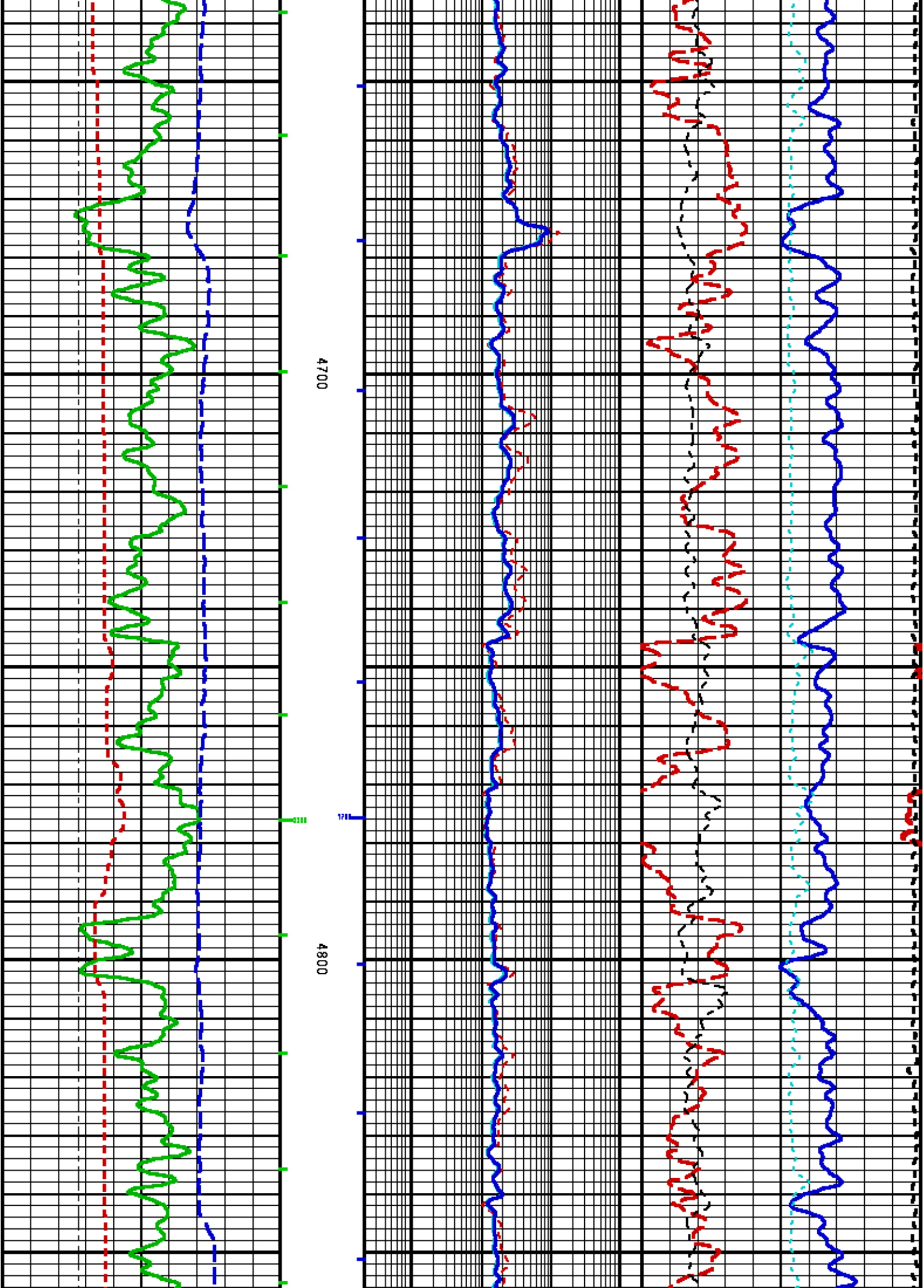


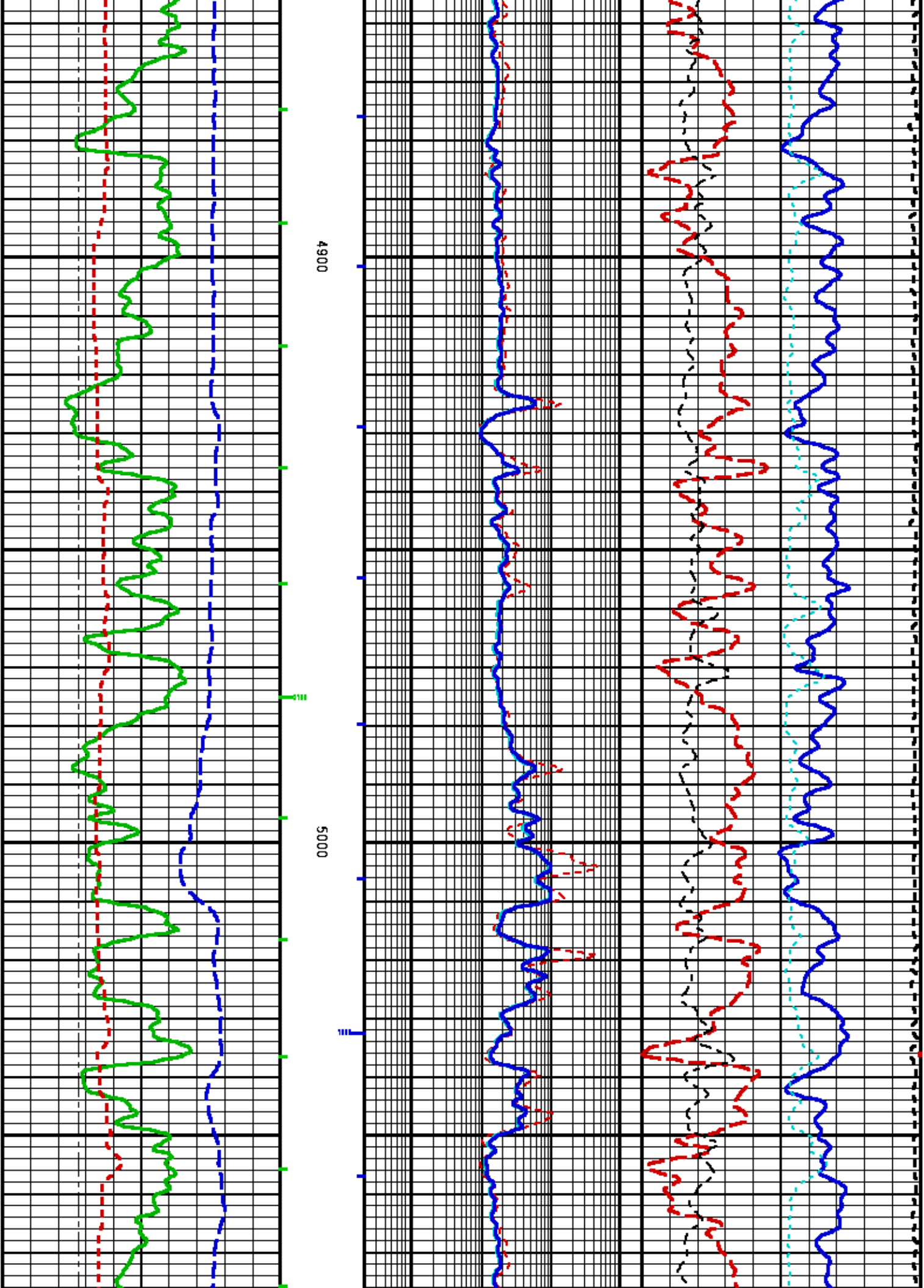




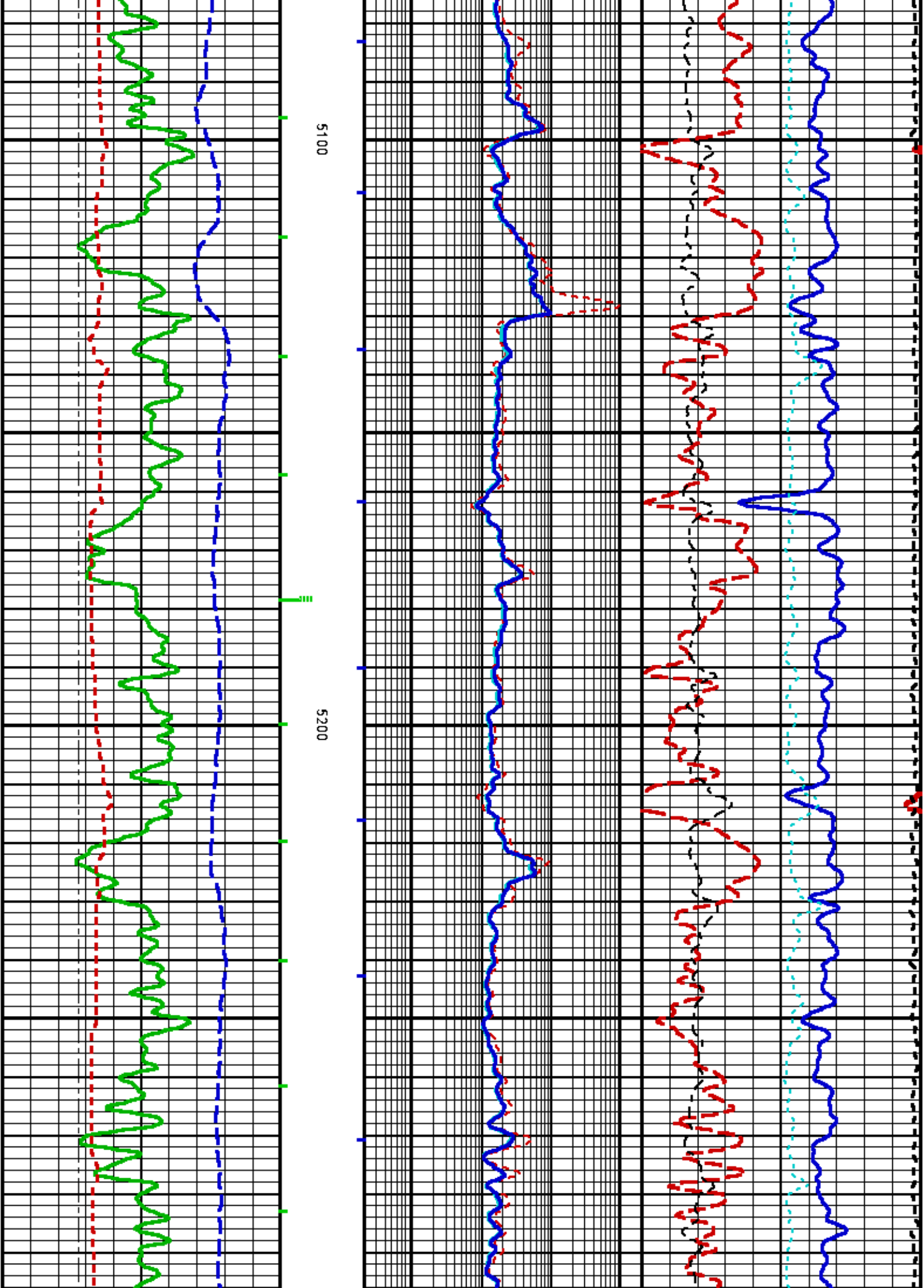


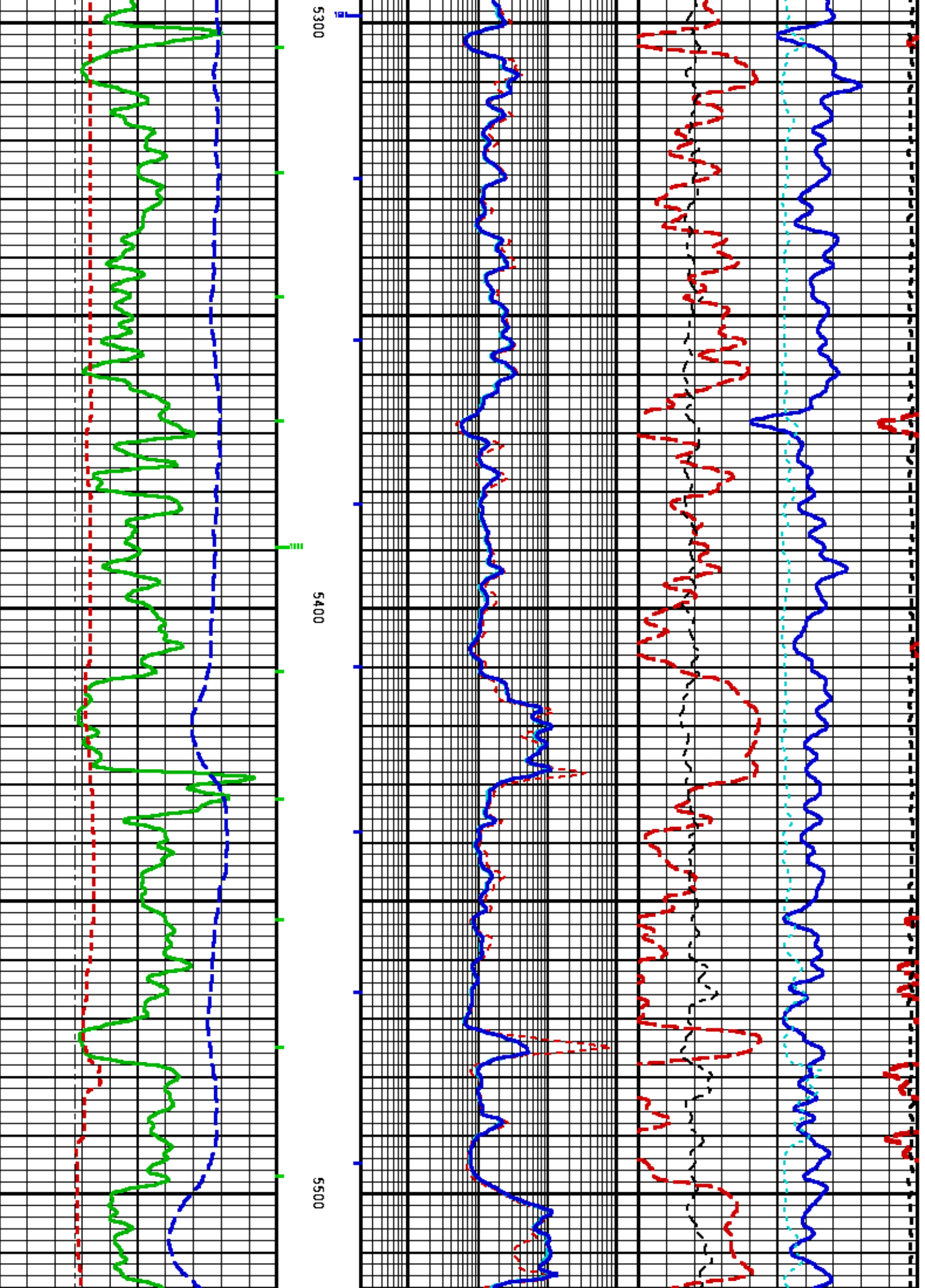


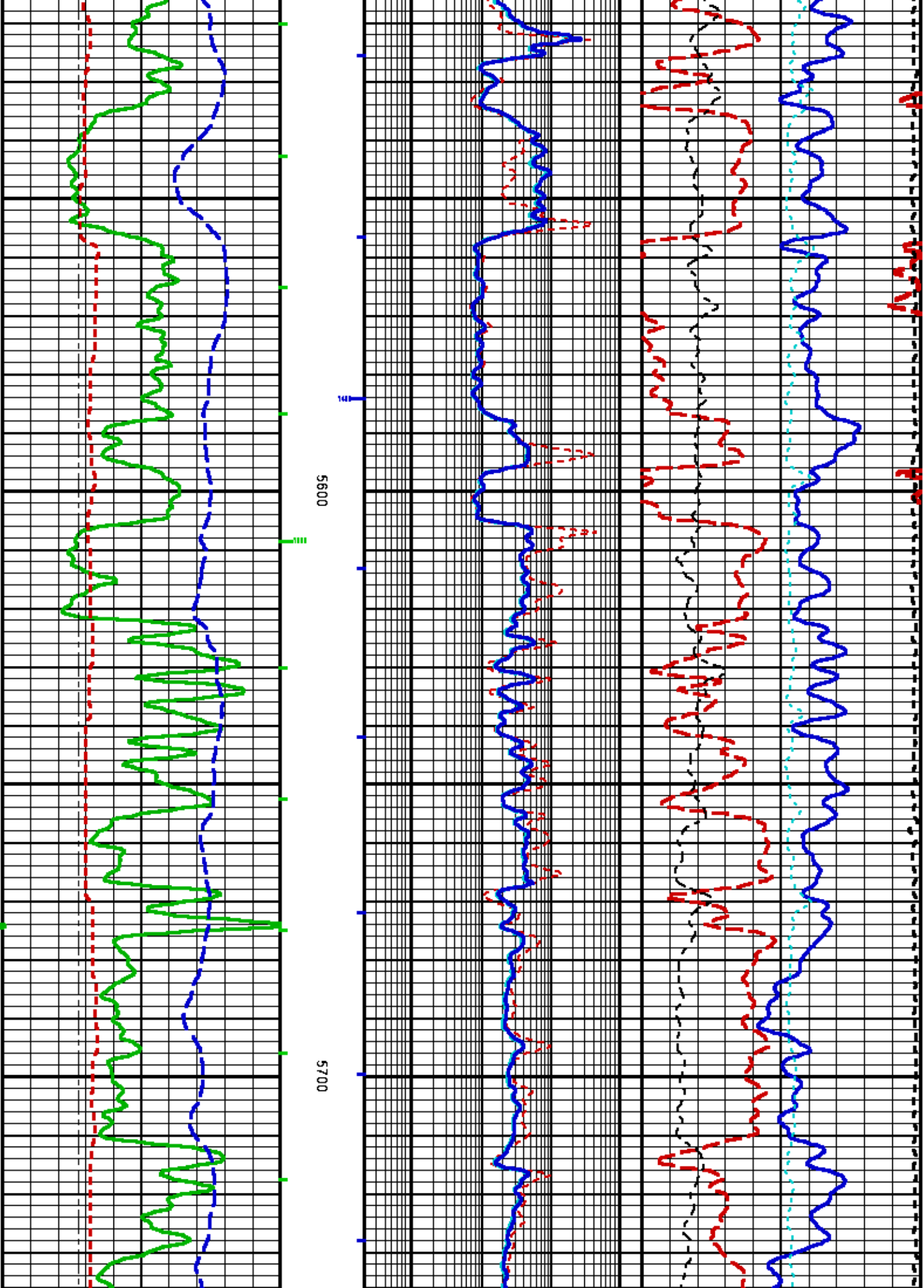




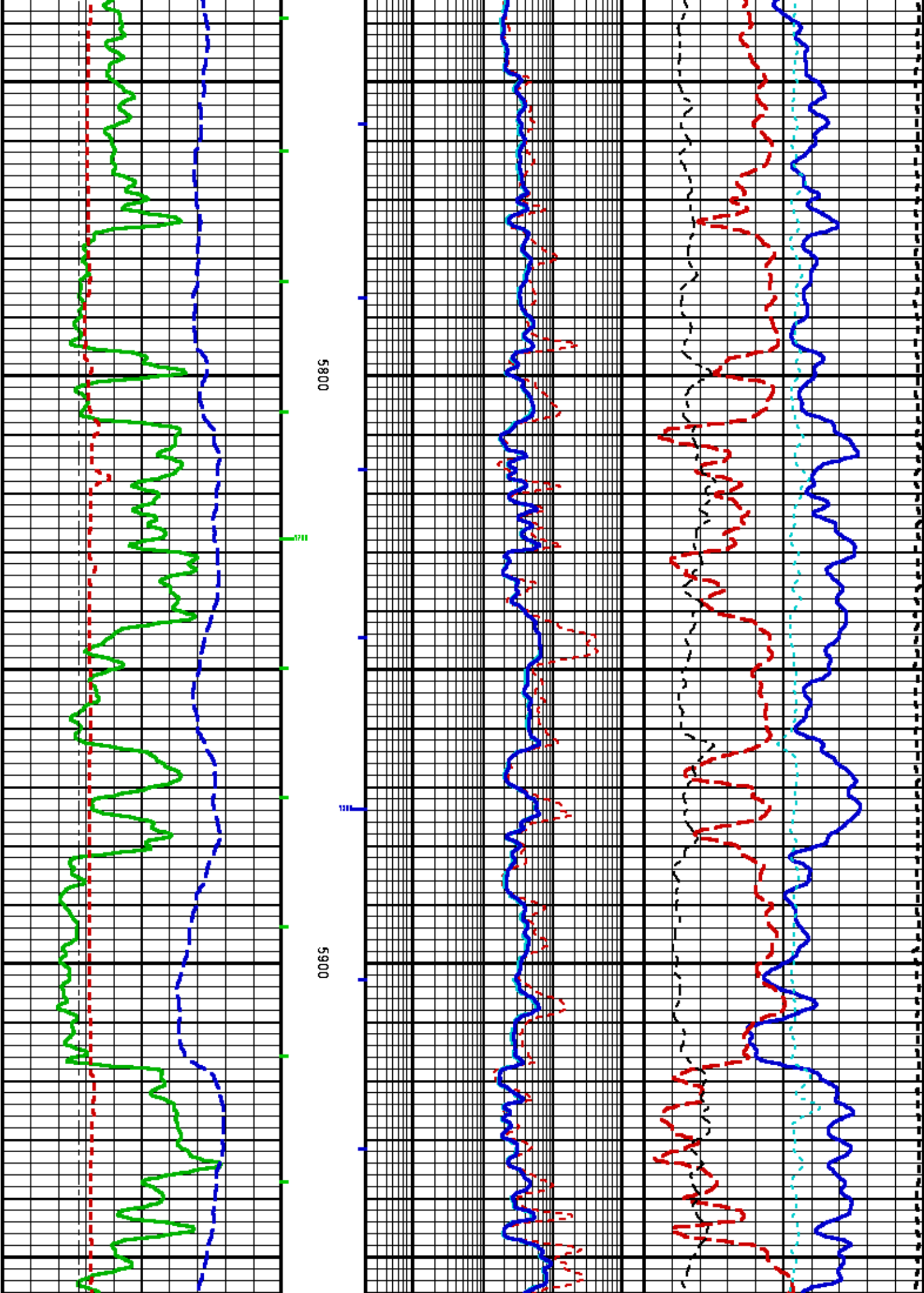


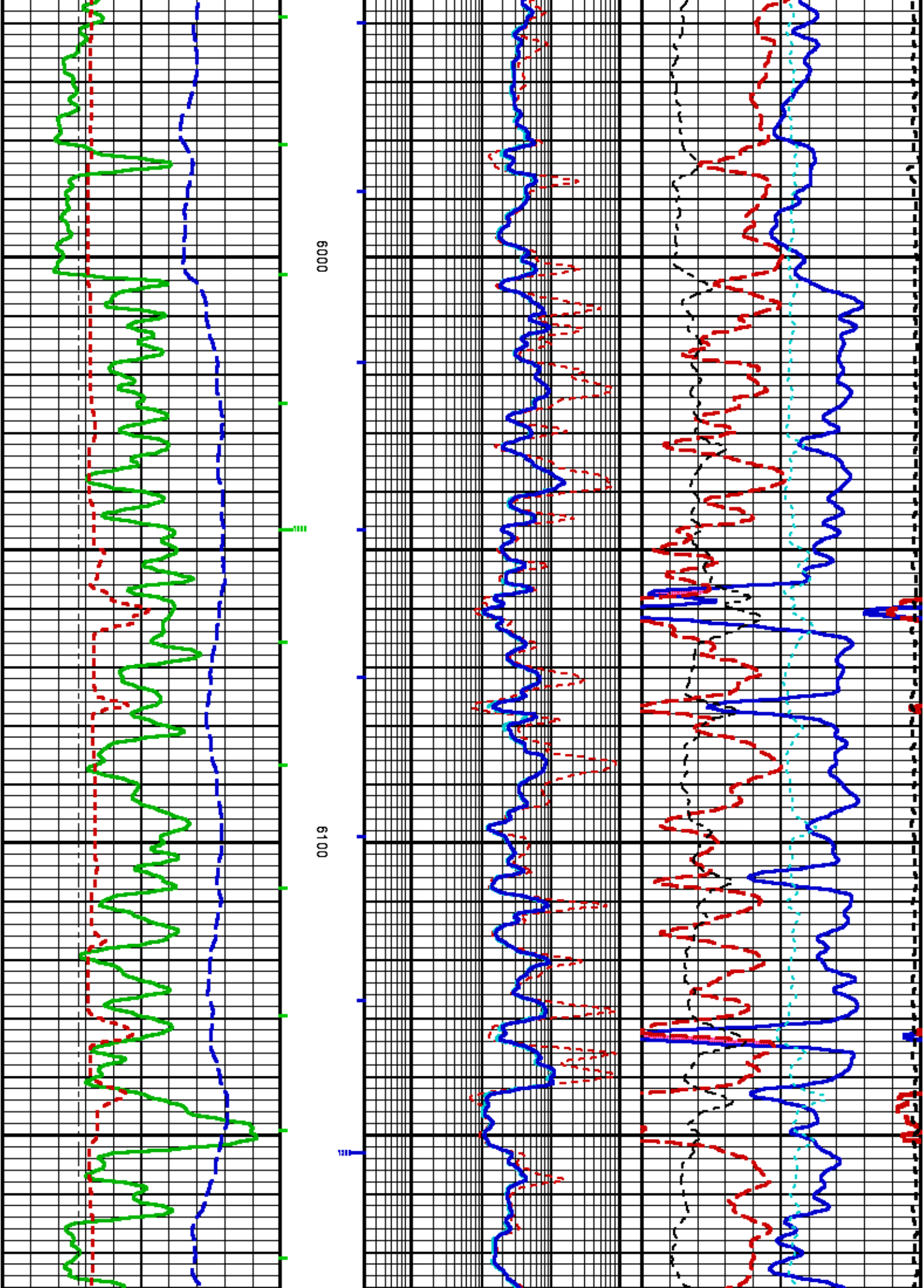


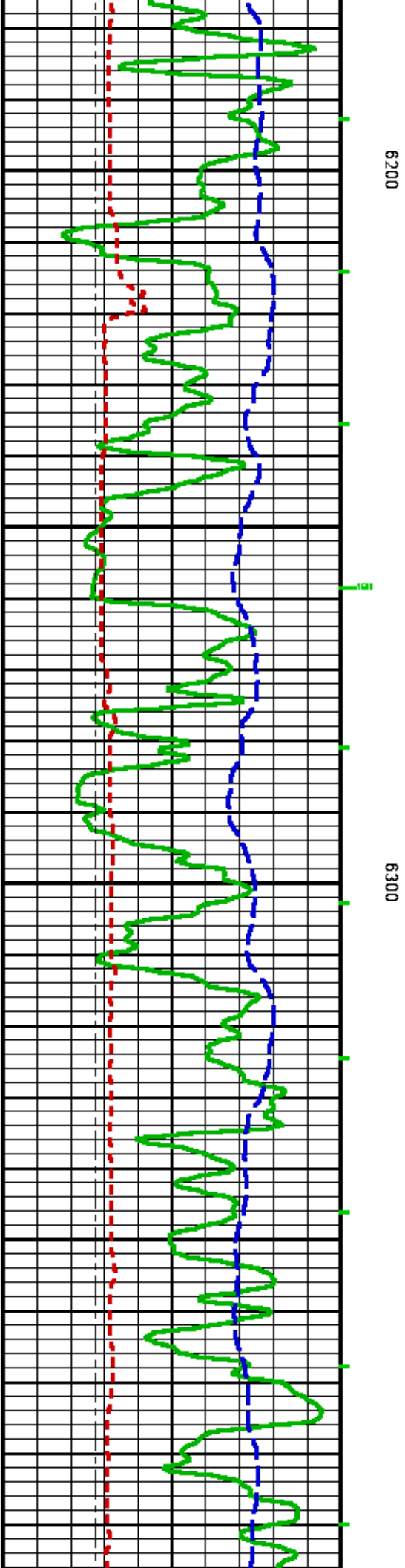
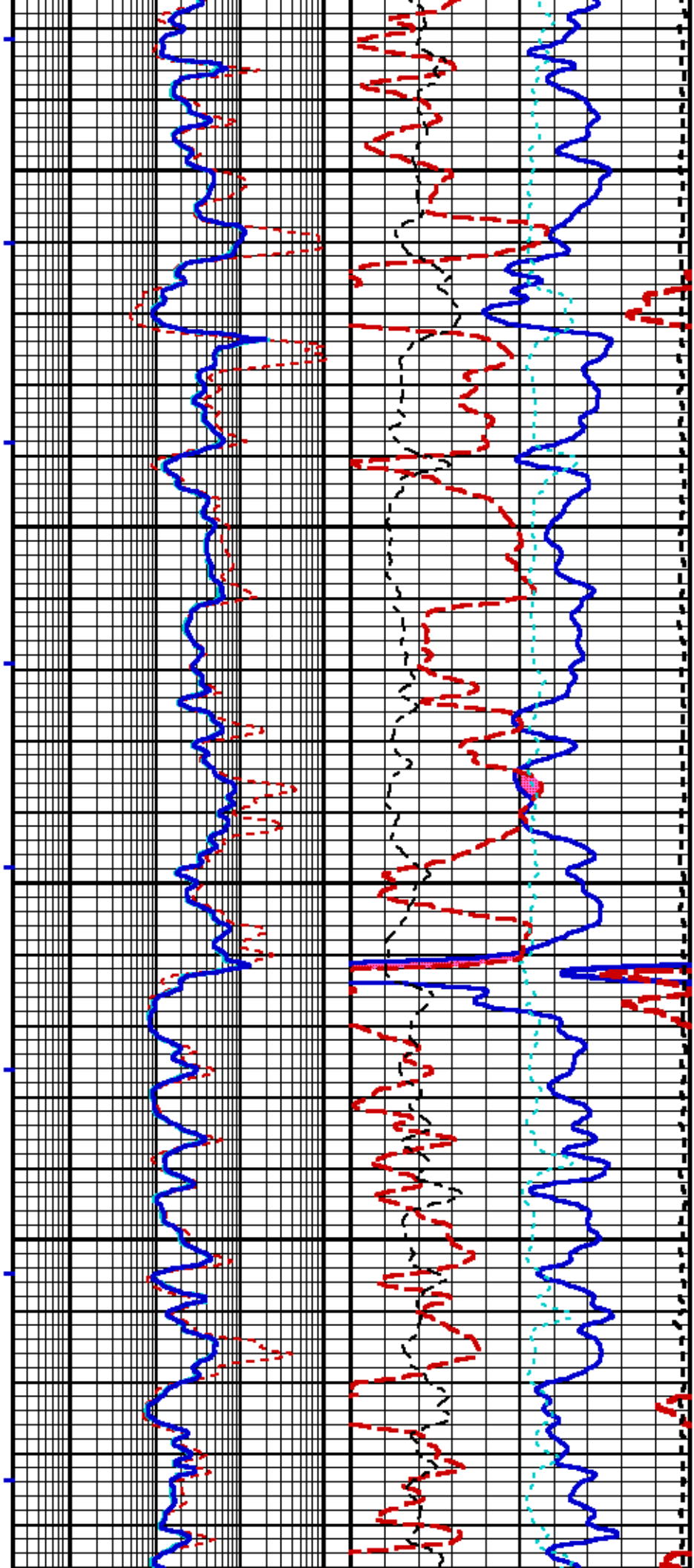


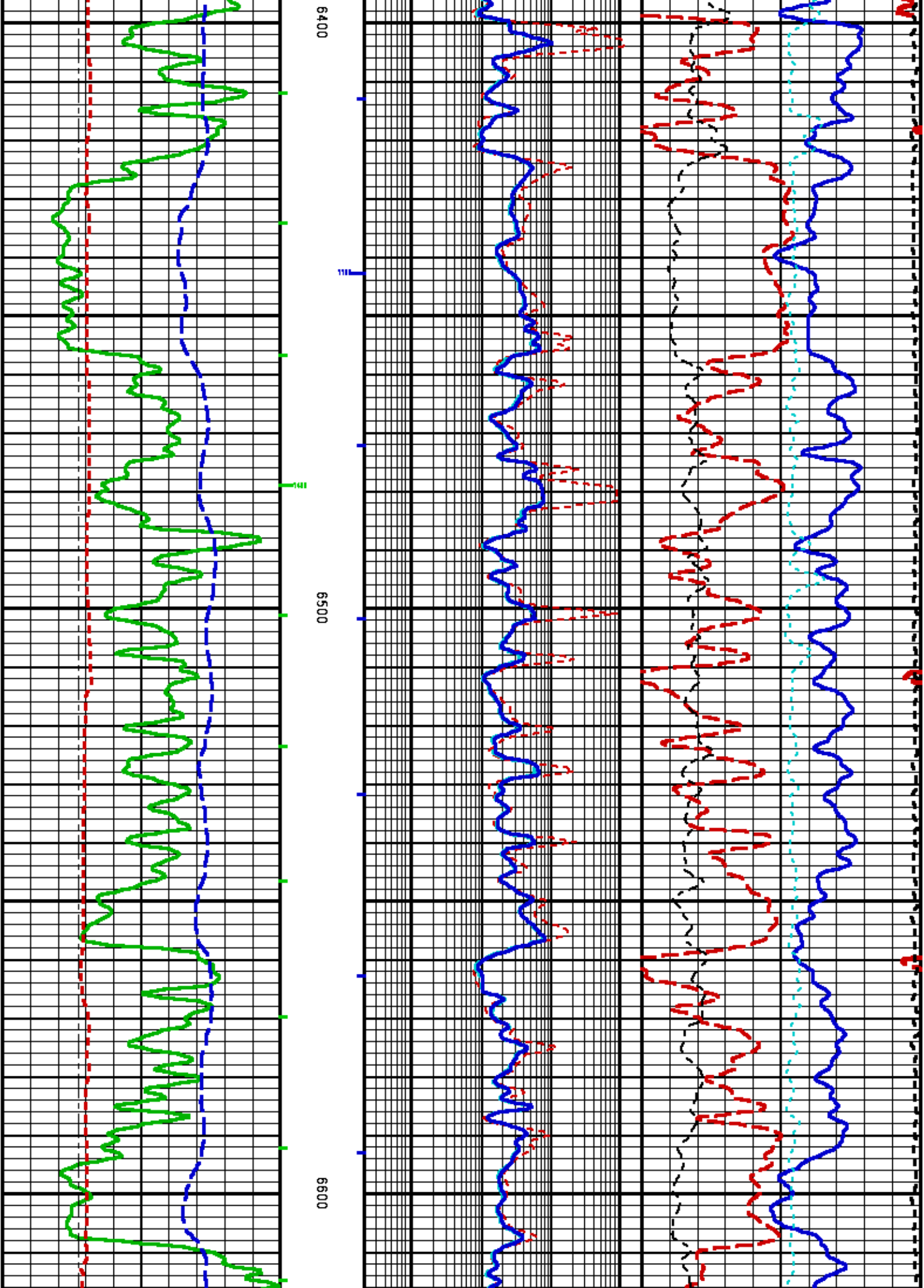


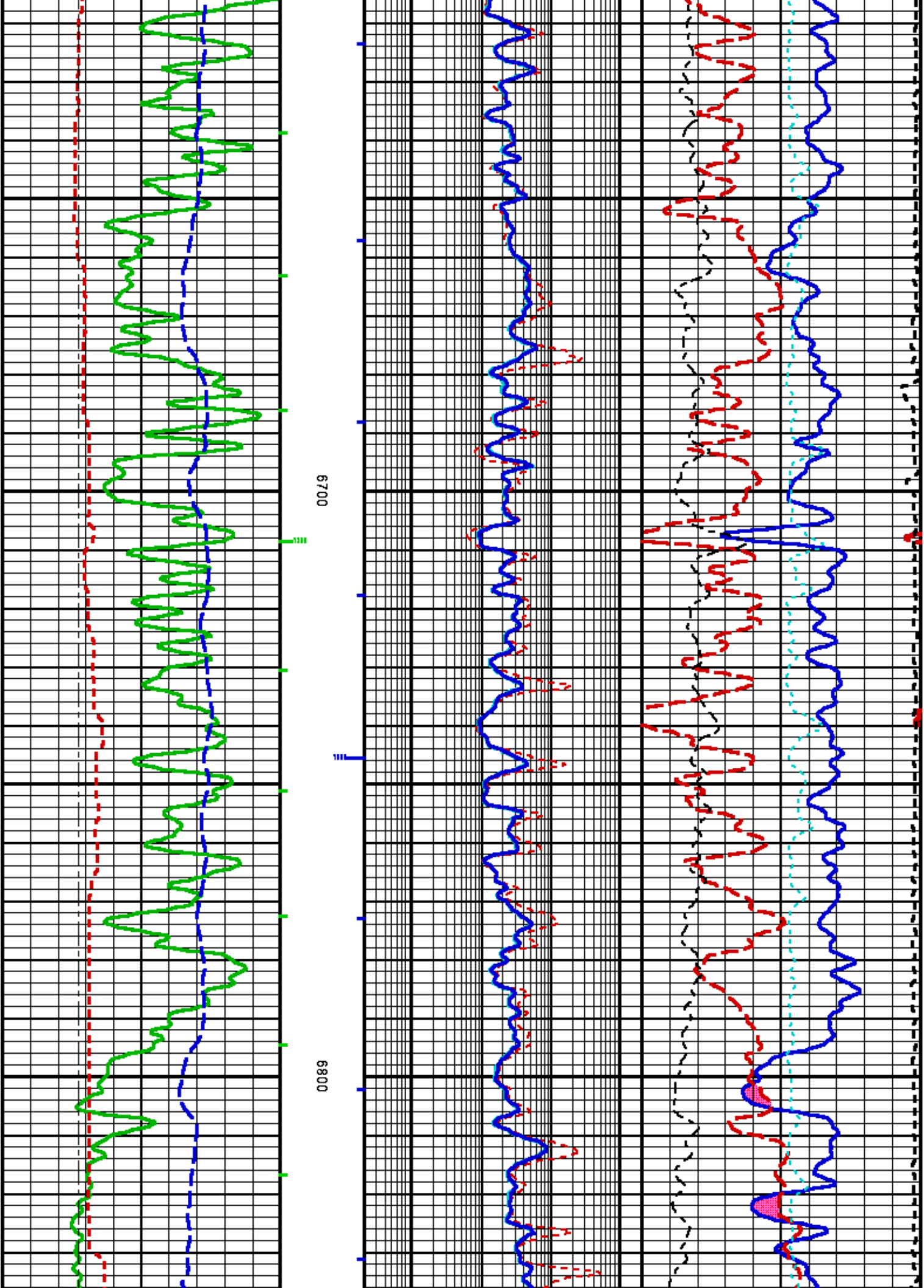




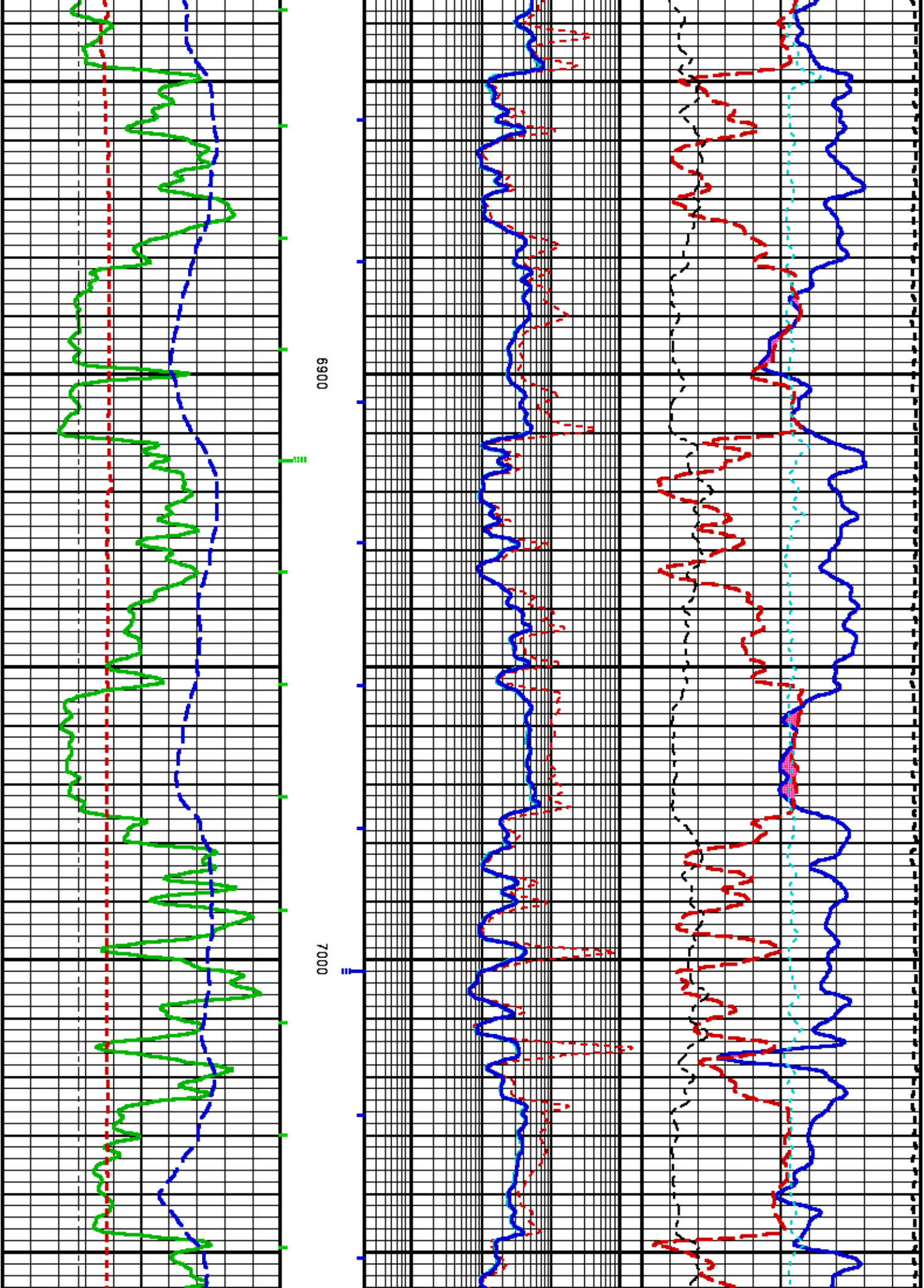


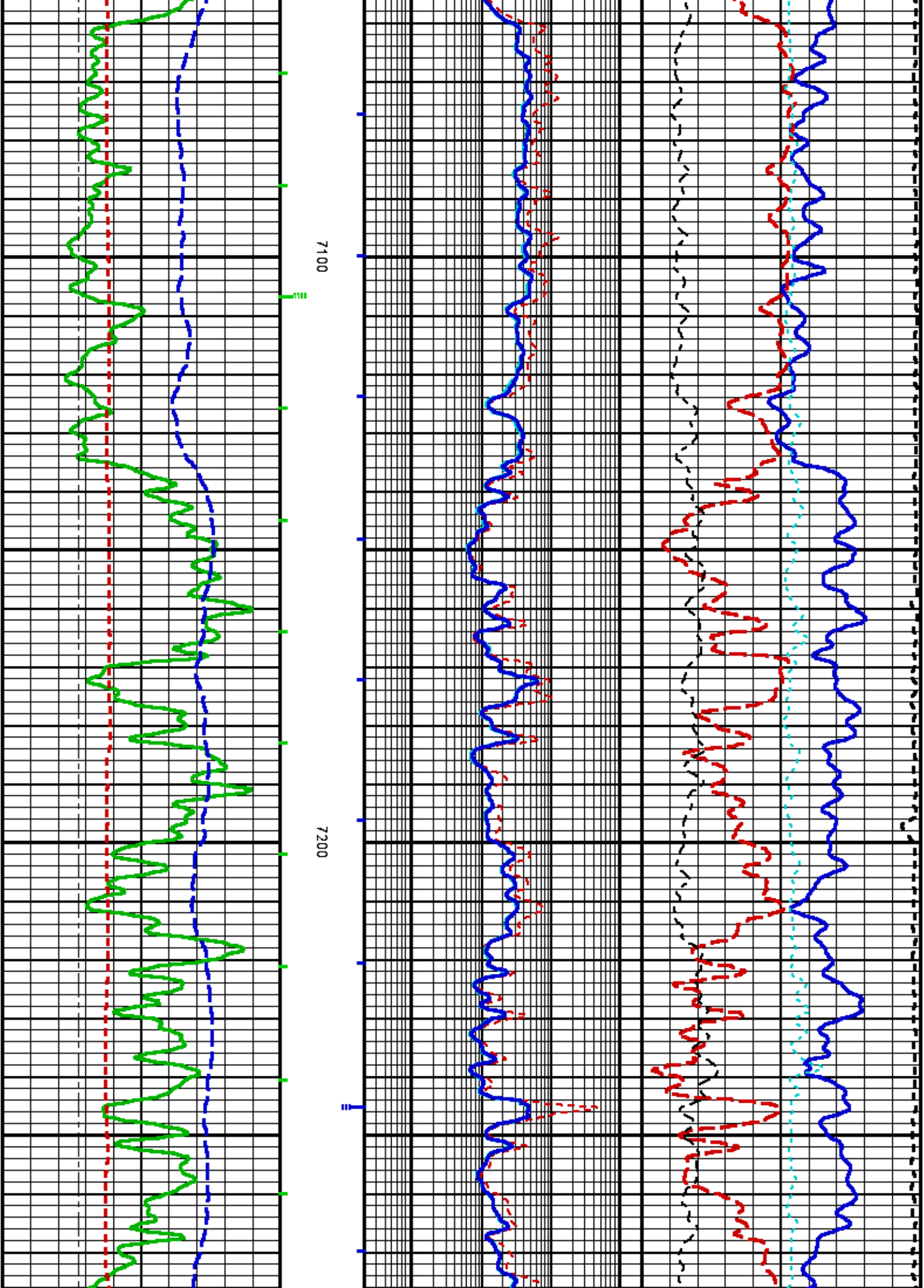


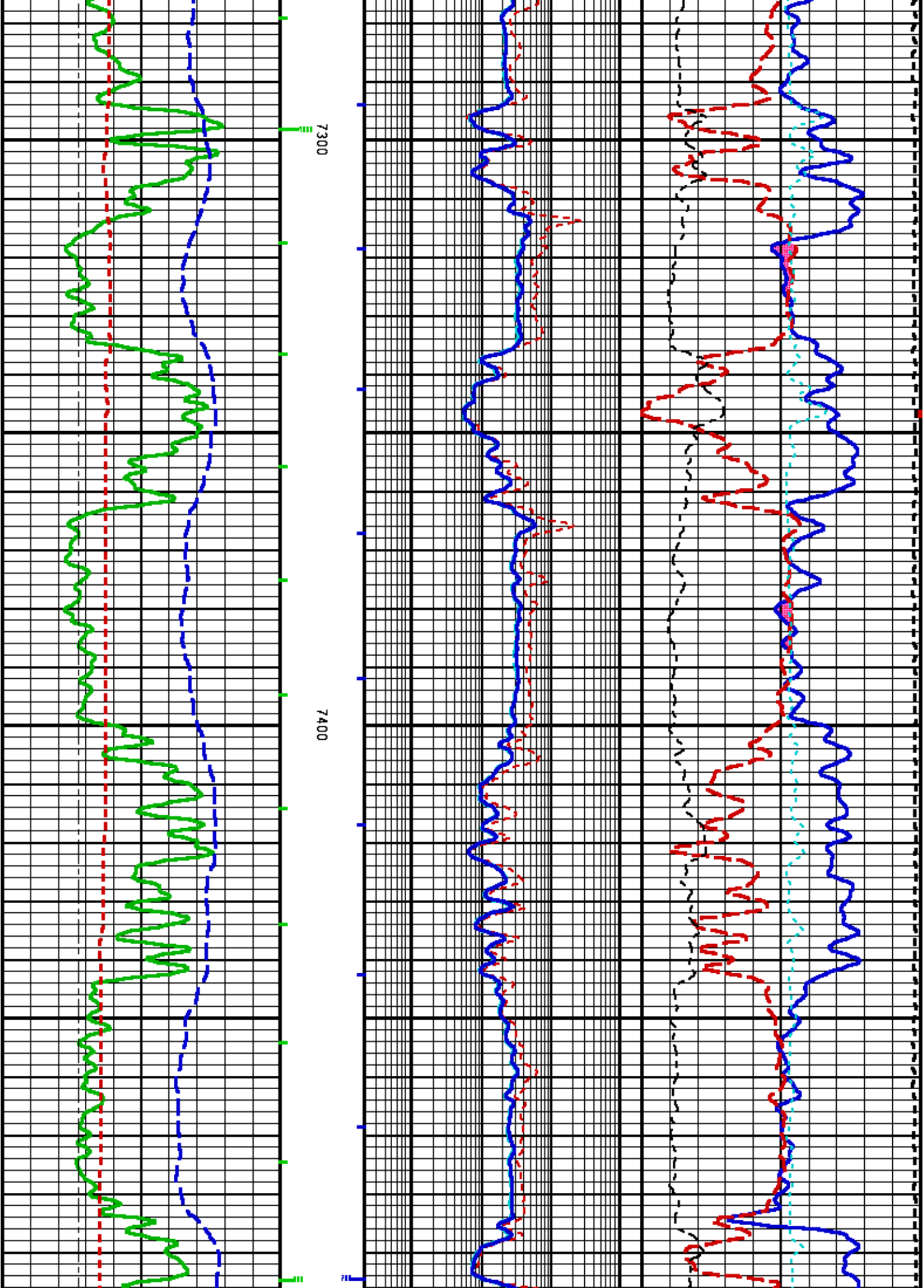




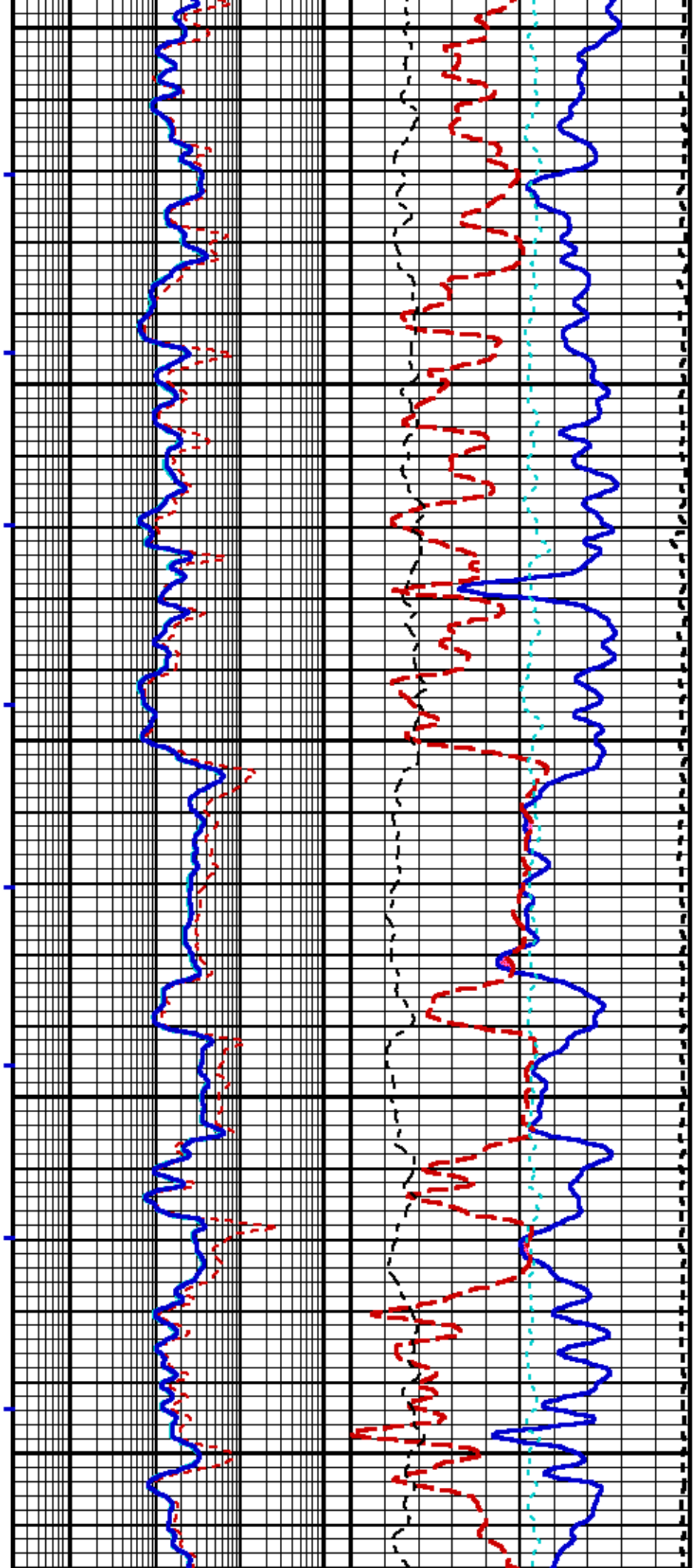








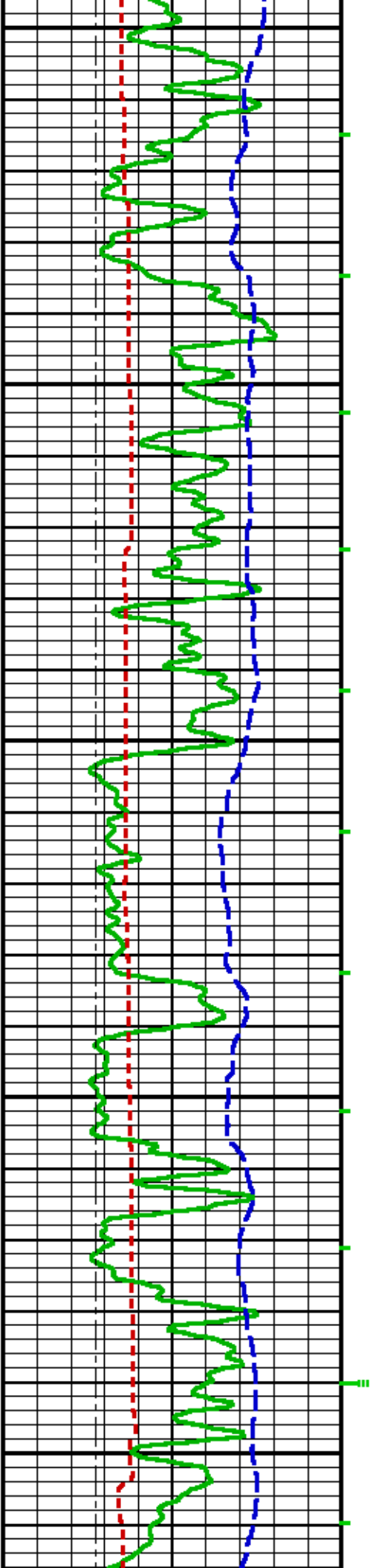


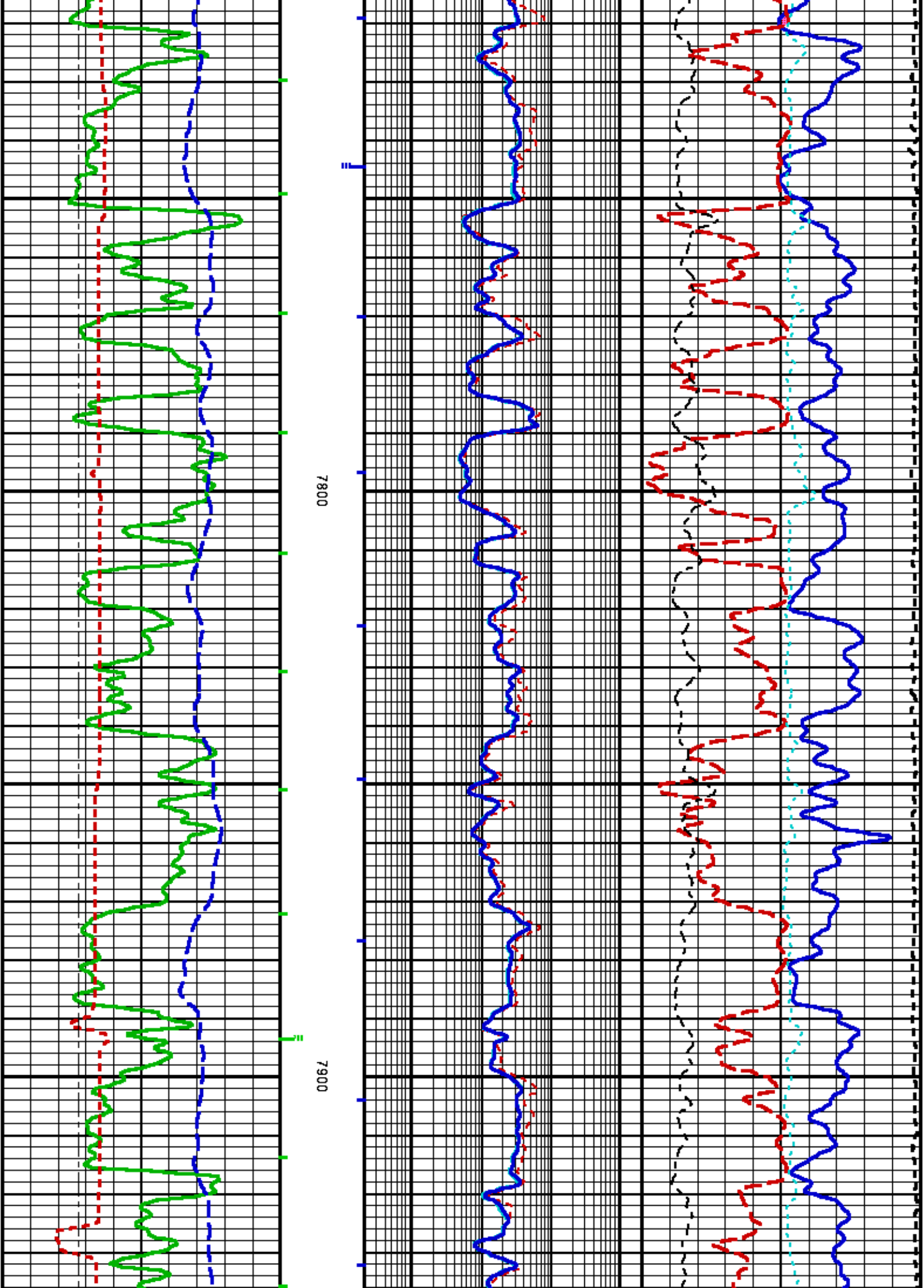


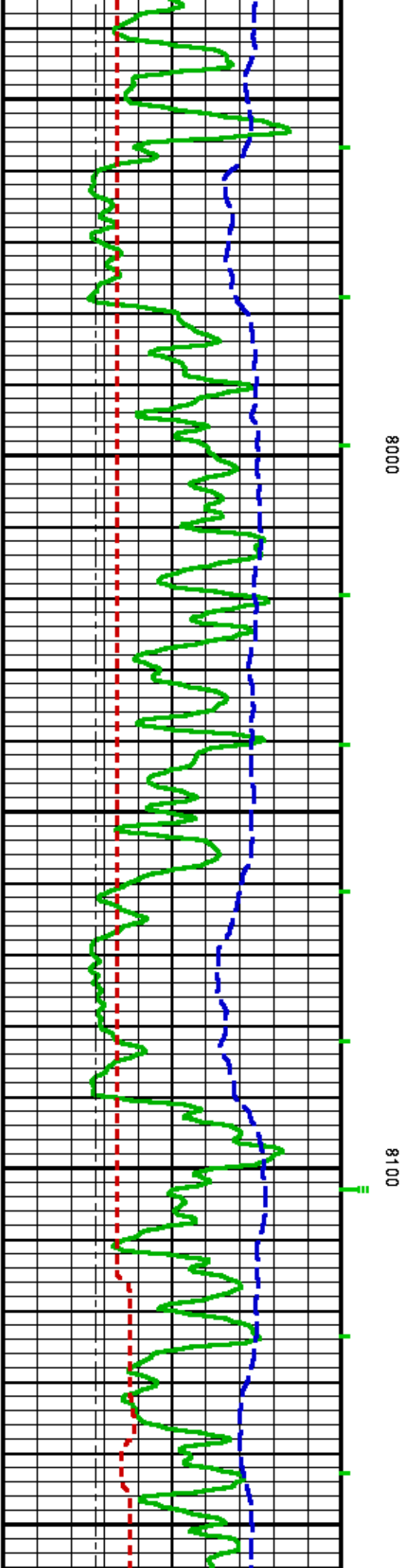
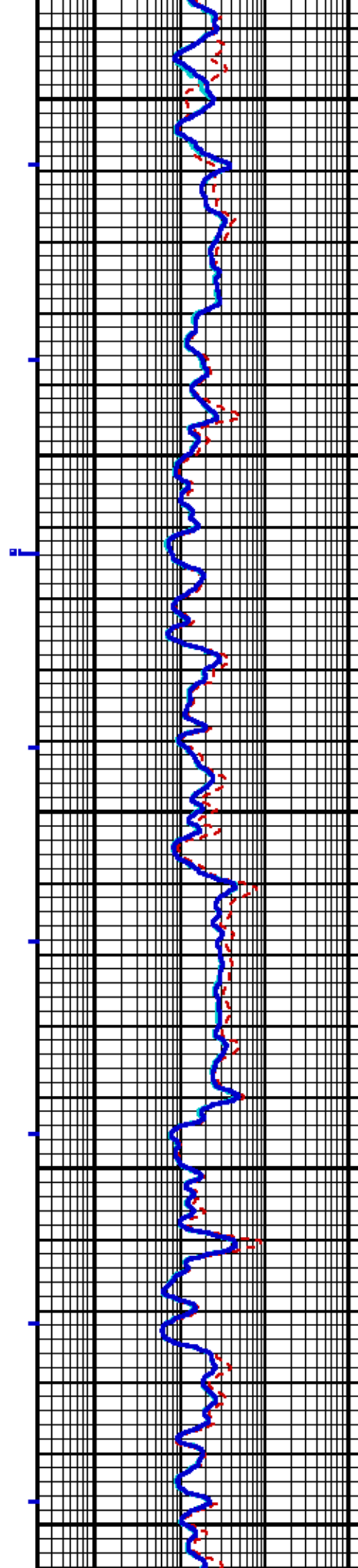
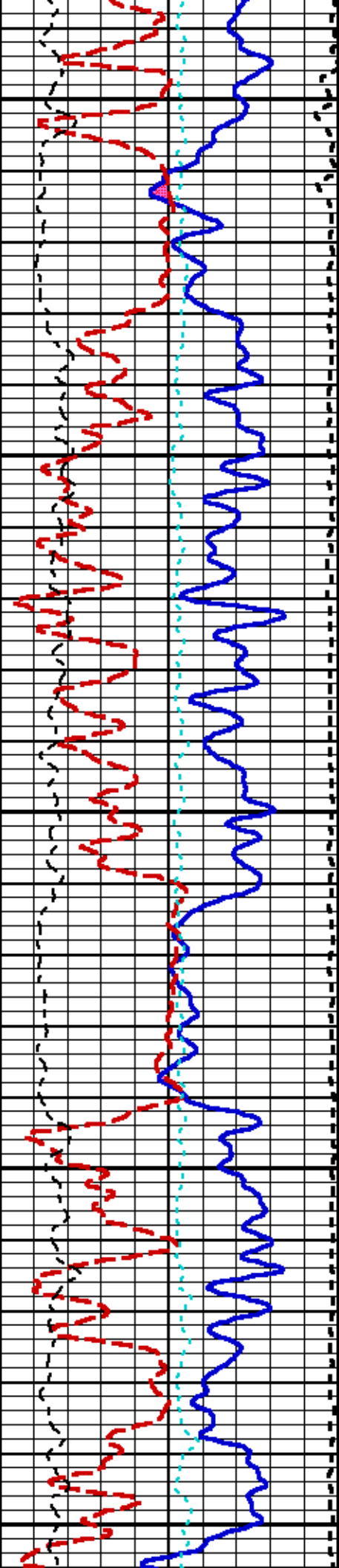
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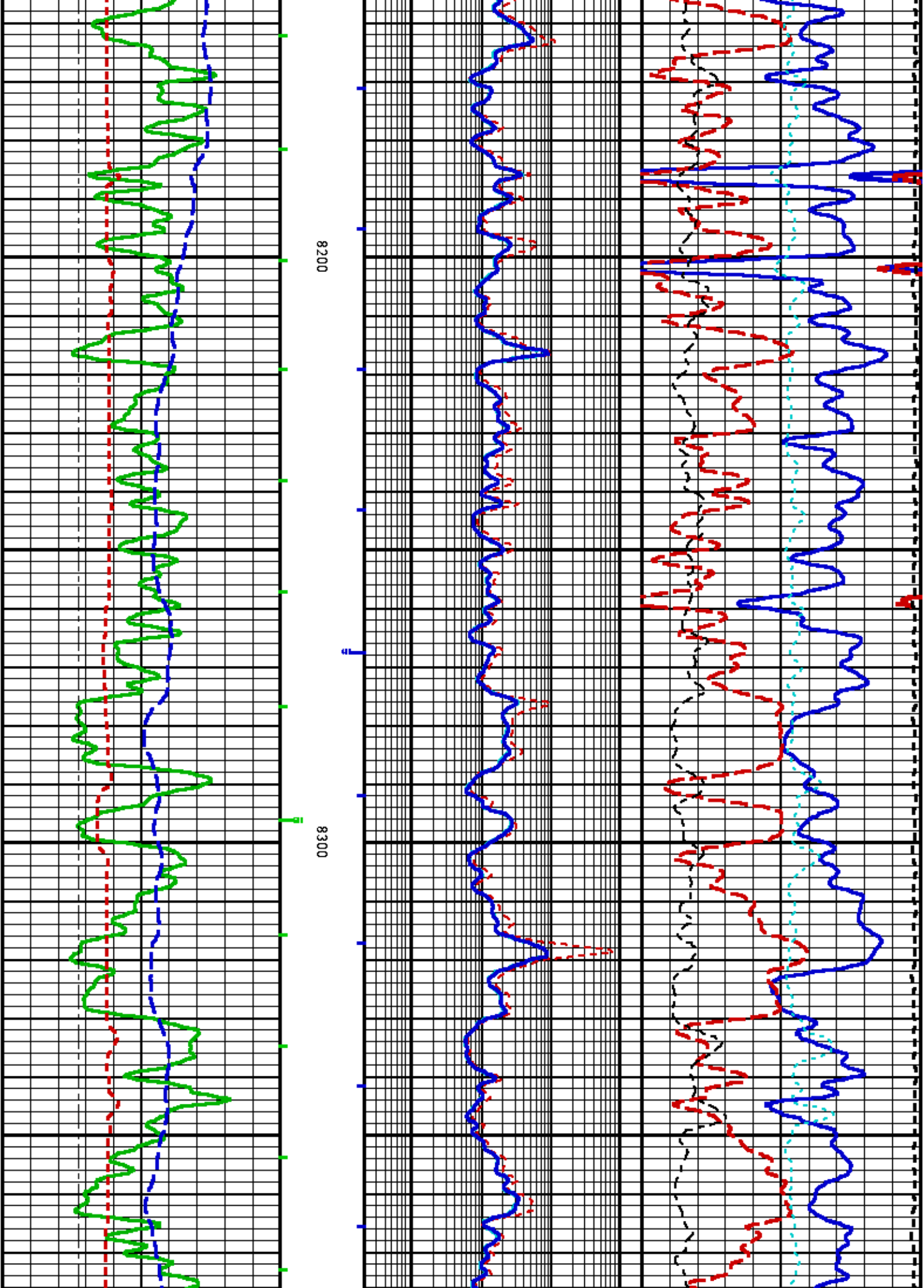
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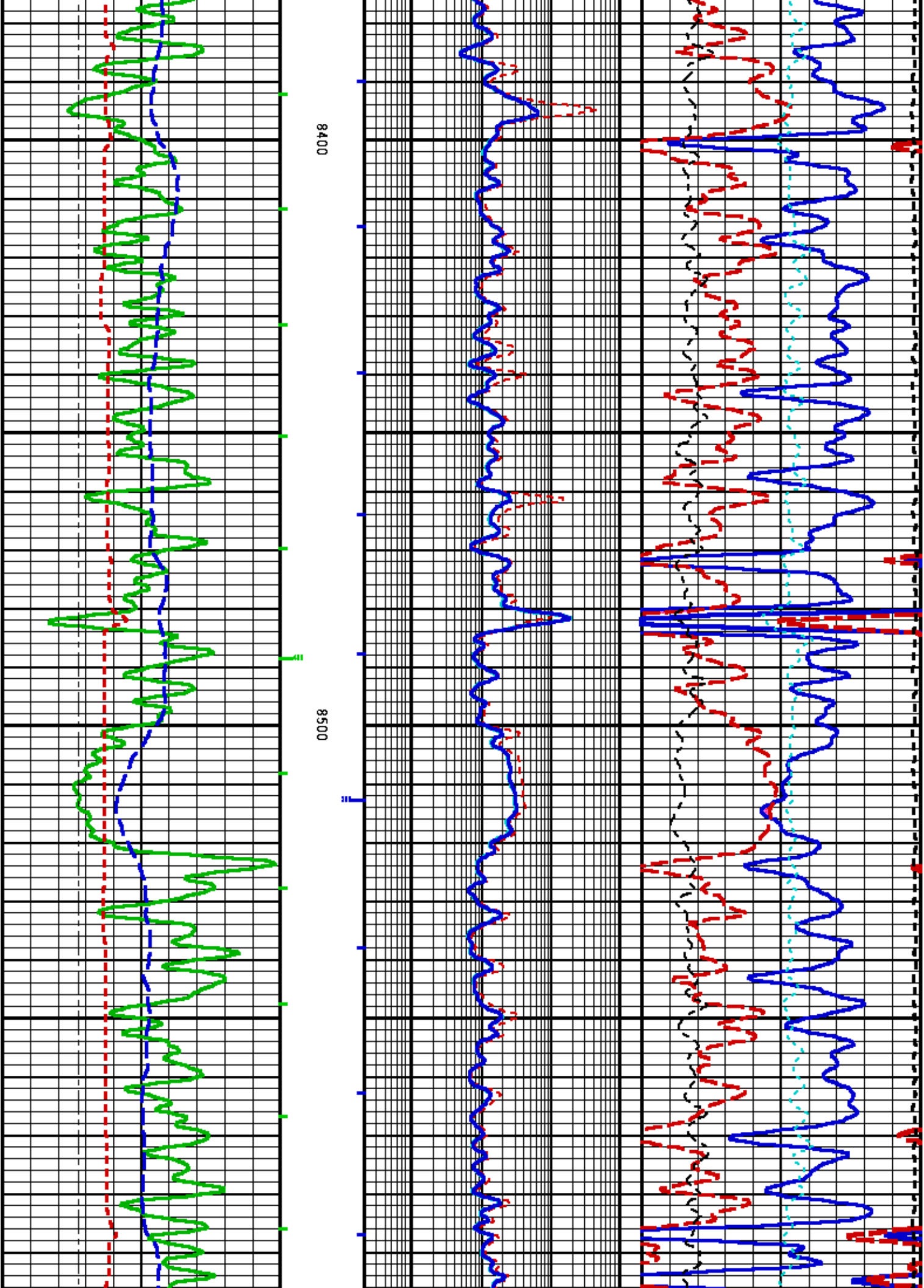
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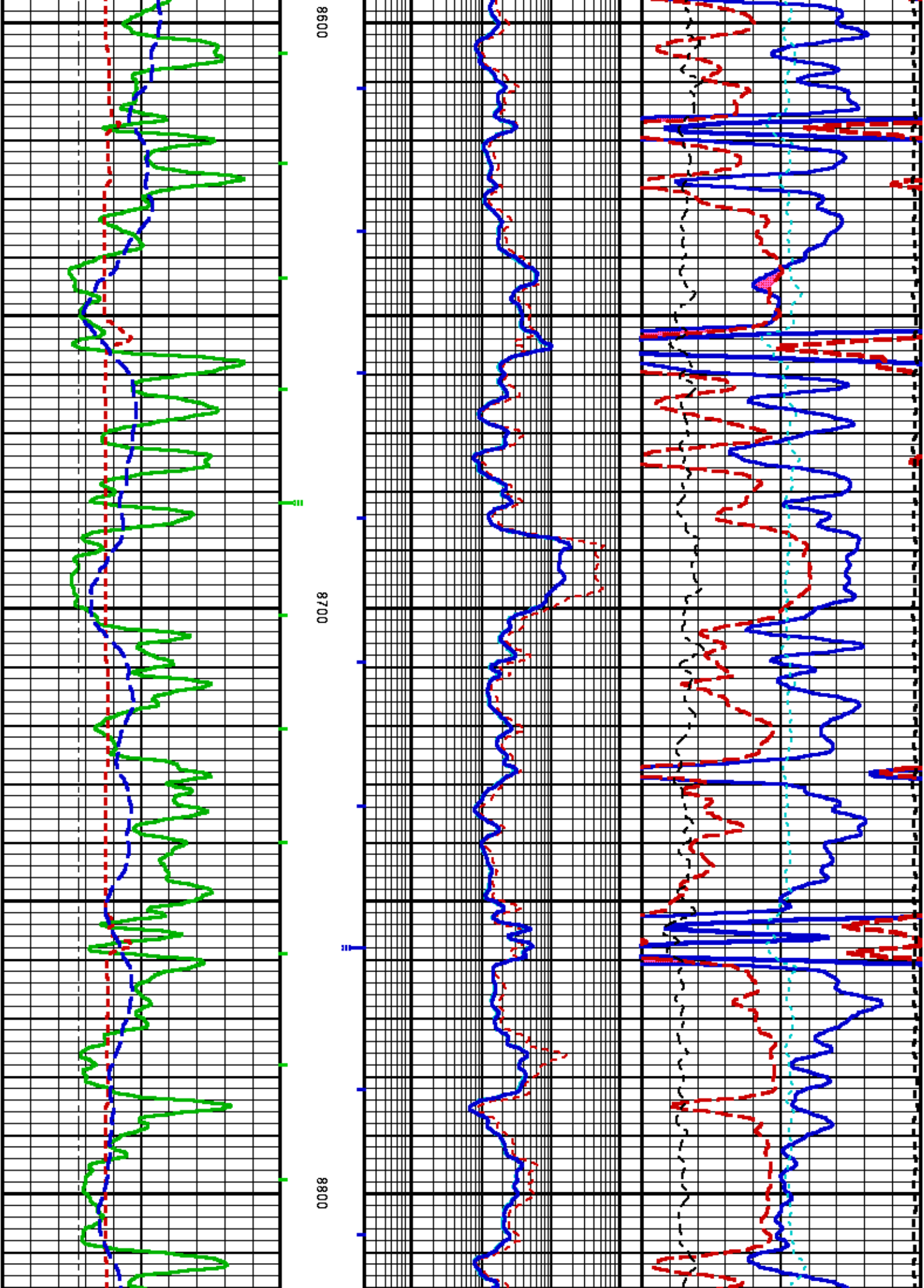


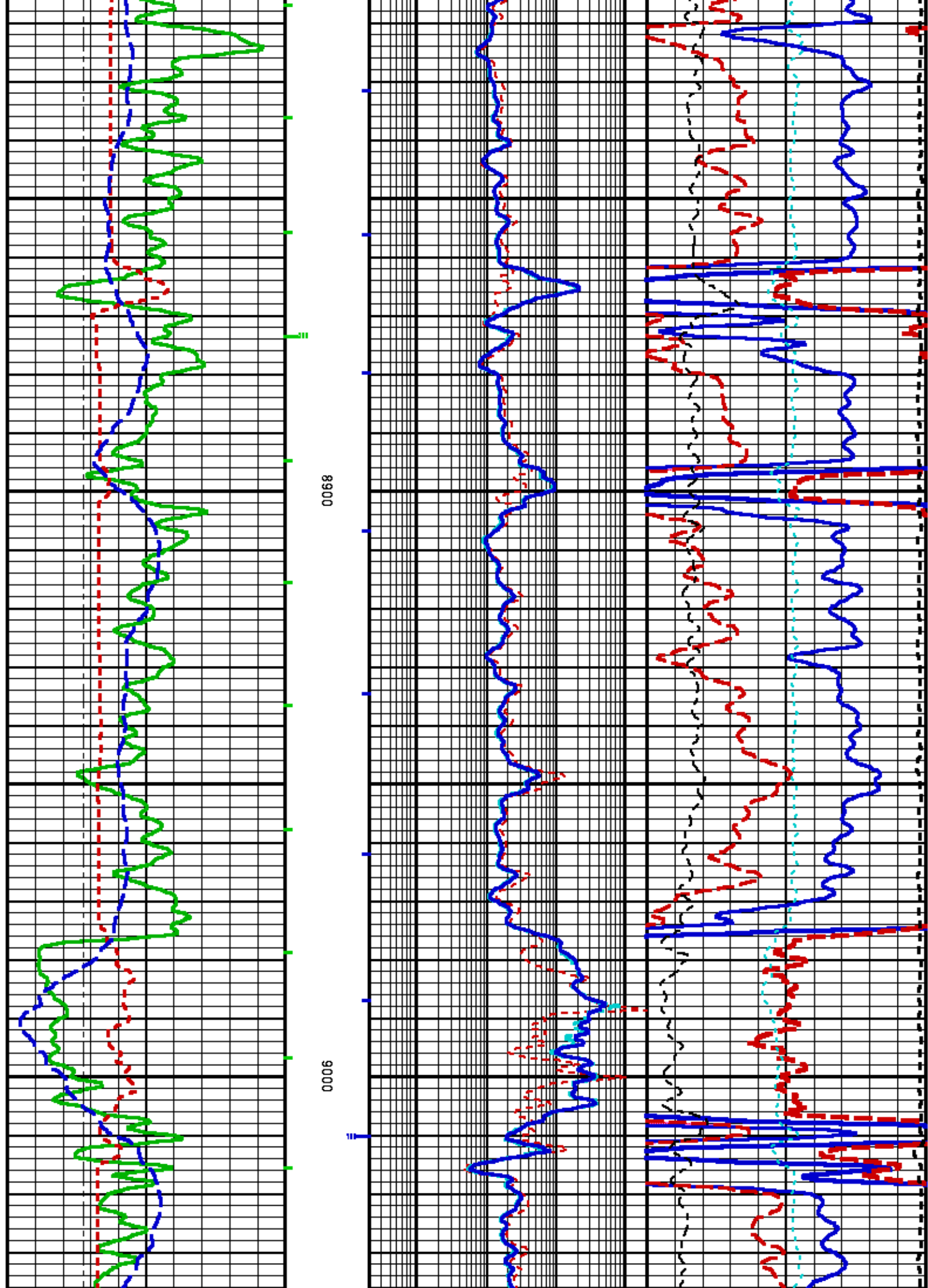


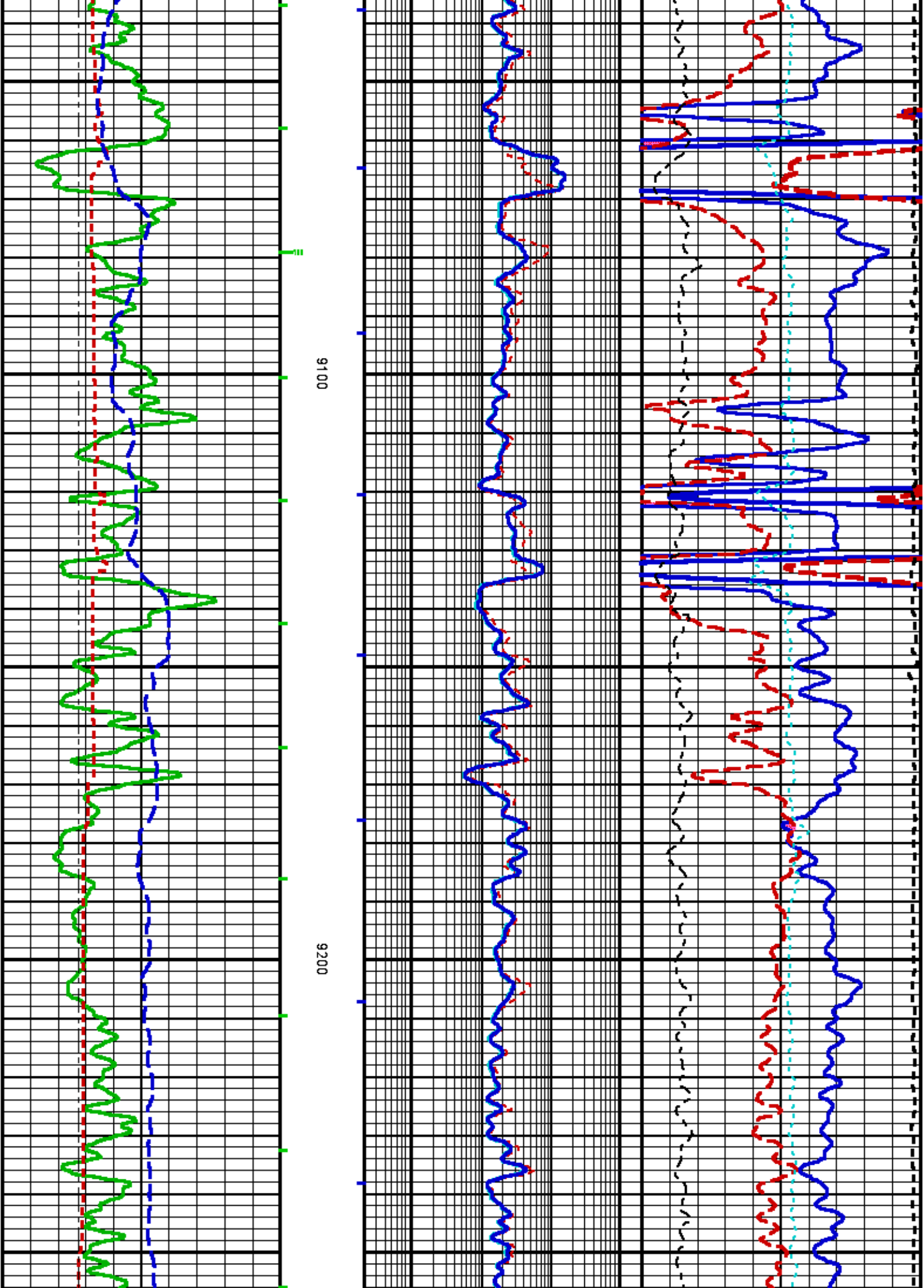




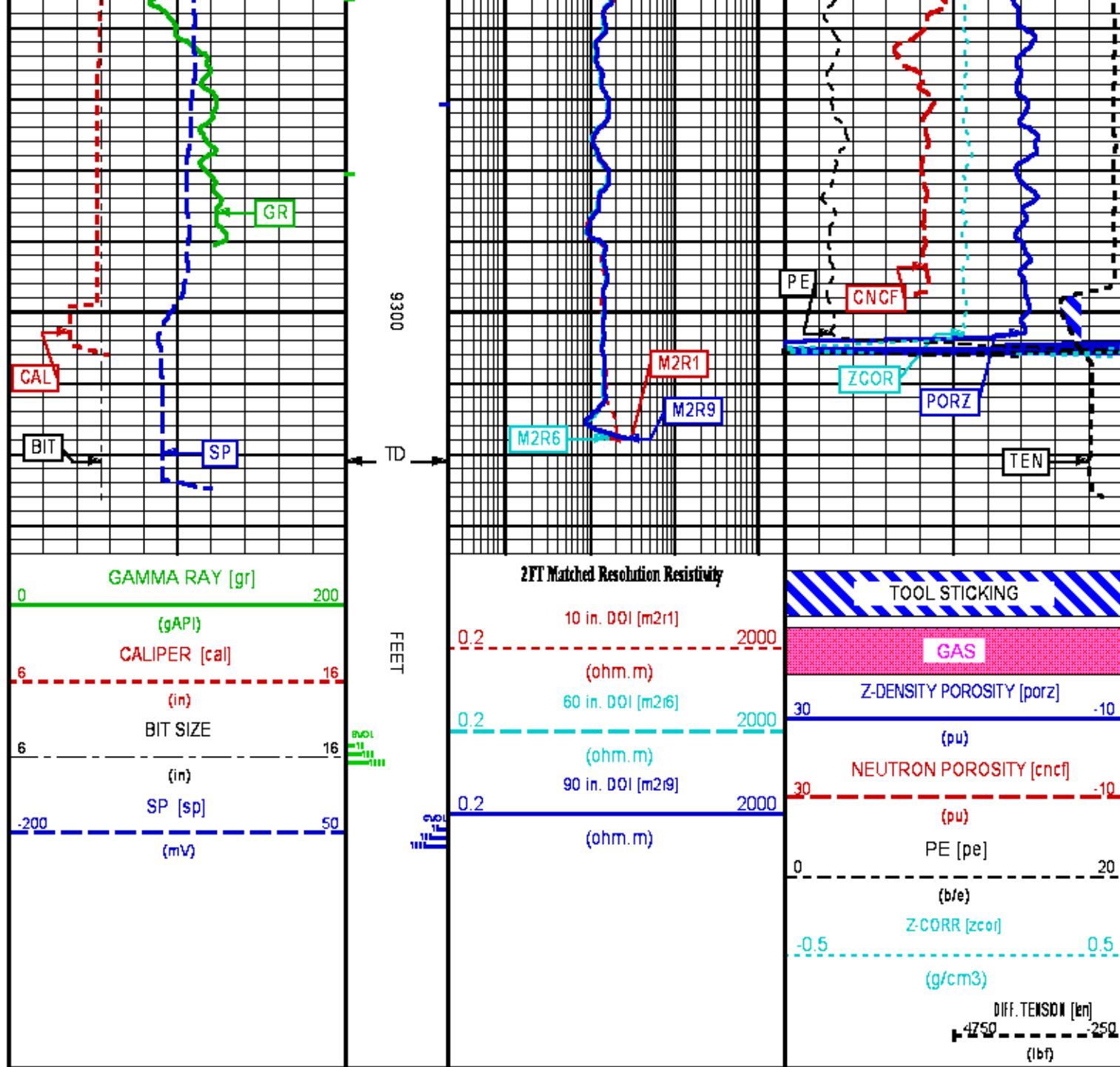












## REPEAT LOG

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

Updates: 31 Patches: 5

Plotted: Sat Mar 15 21:20:22 2014

## PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625068/n970a04.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 20.738 ft BOTTOM DEPTH: 1783.508 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 ( )	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*)	8.755	in	"	"
	FIXED DIAMETER (mbh*)	8.755	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	56.0	degF	"	"
	MUD SAMPLE RES	1.450	ohm.m	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
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	1600	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	13.250	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	Mar 15 20:21:53 2014	BIT SIZE
F1:BVOL	Mar 15 20:21:53 2014	BOREHOLE VOLUME
F1:CAL	Mar 15 20:21:53 2014	CALIPER
F1:CNRES	Mar 15 20:21:53 2014	FIELD-NORMALIZED COMPENSATED NEUTRON POROSITY

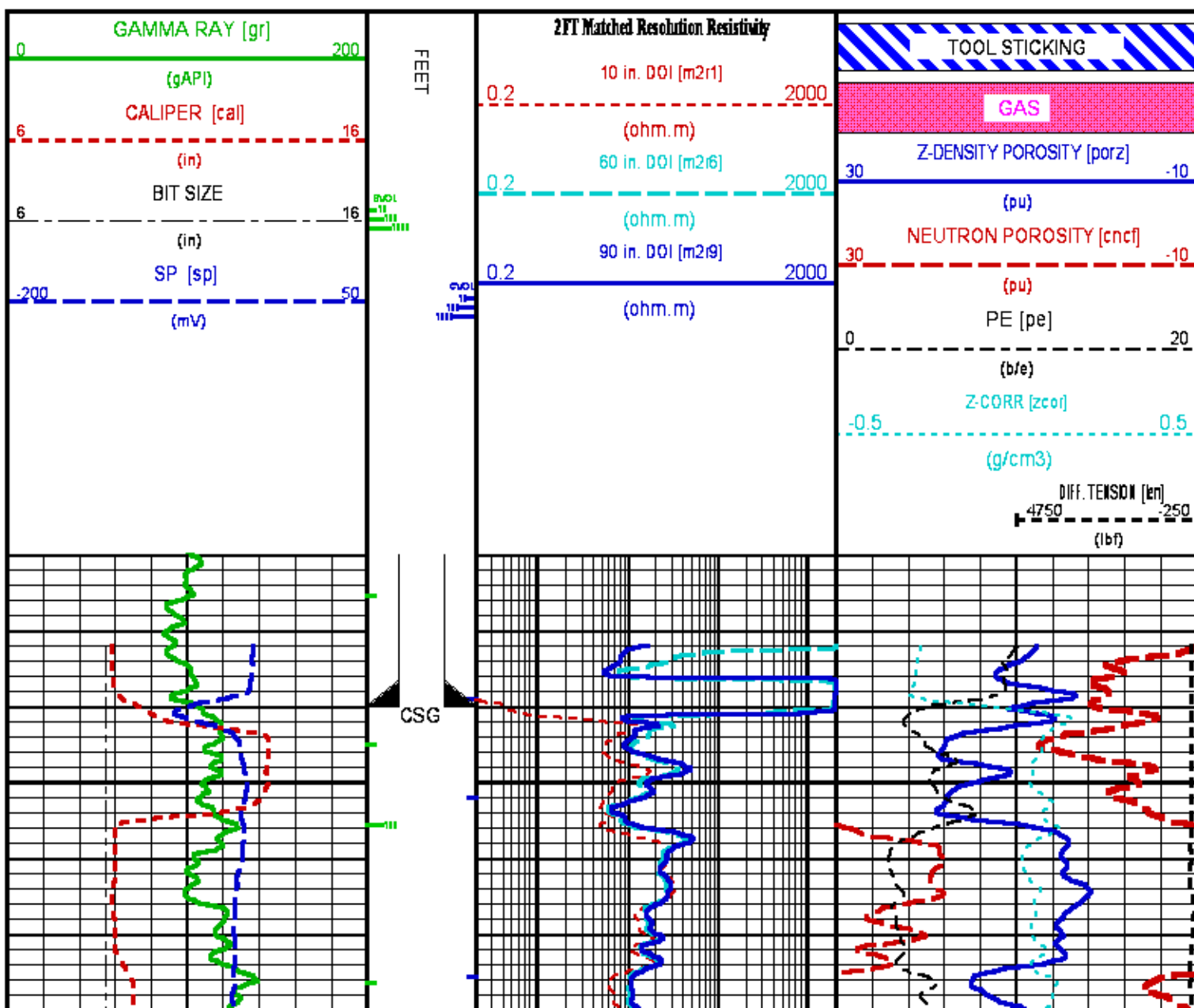
F1:CNCF	Mar 15 20:21:53 2014	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Mar 15 20:21:53 2014	CEMENT VOLUME
F1:GR	Mar 15 20:21:53 2014	GAMMA RAY
F1:M2R1	Mar 15 20:21:53 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R6	Mar 15 20:21:53 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Mar 15 20:21:53 2014	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:PE	Mar 15 20:21:53 2014	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Mar 15 20:21:53 2014	POROSITY FOR SELECTABLE MATRIX
F1:SP	Mar 15 20:21:53 2014	SPONTANEOUS POTENTIAL
F1:TEN	Mar 15 20:21:53 2014	DIFFERENTIAL TENSION
F1:ZCOR	Mar 15 20:21:53 2014	DENSITY CORRECTION

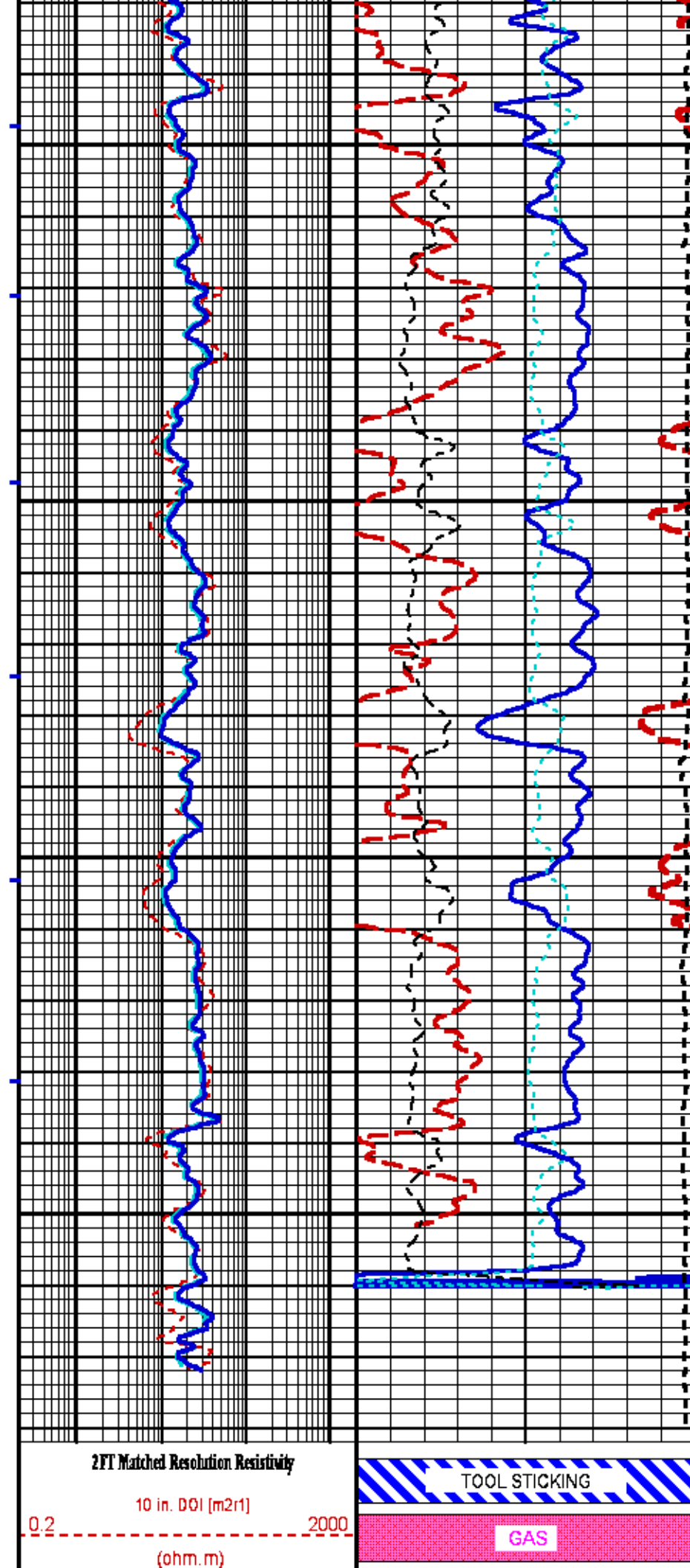
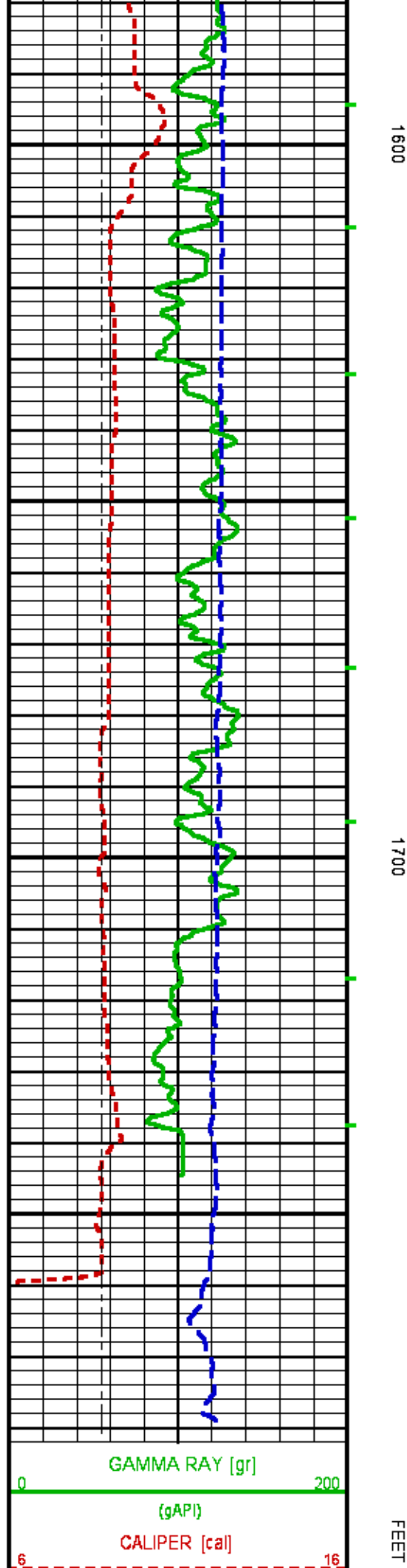
### CURVE MEASURE POINT OFFSET

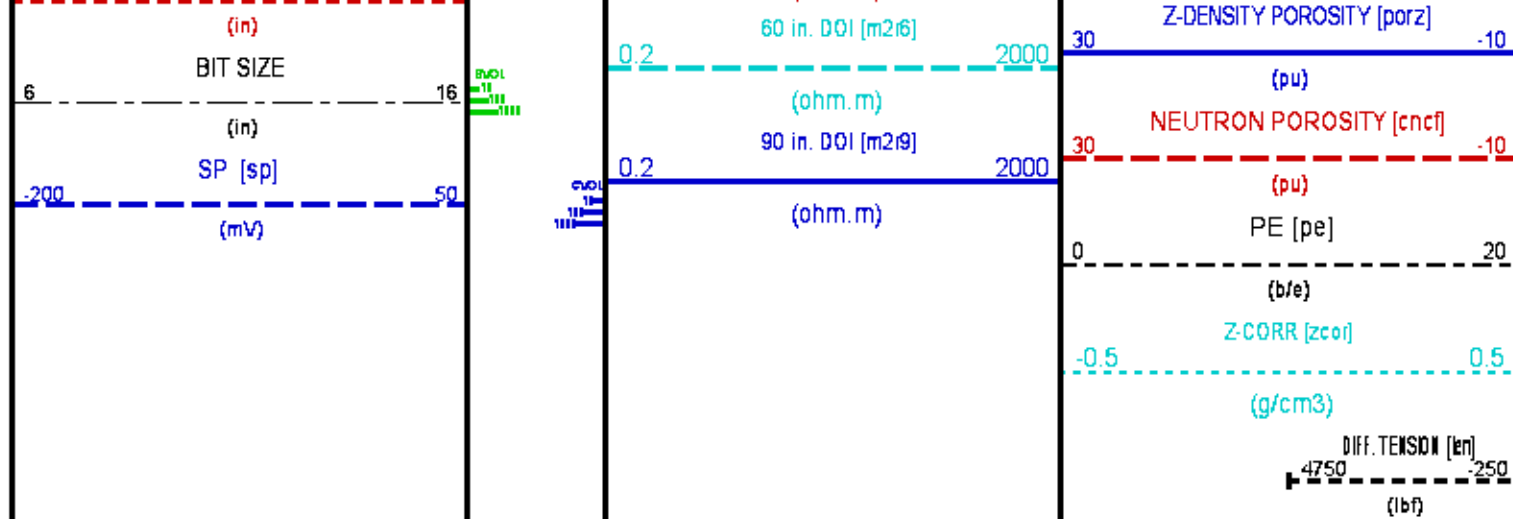
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

**Presentation** : HL6670:WPX\_REPEAT.fvpdf [5"/100' Scale]  
**Plot Interval** : 1520 - 1786.25 Feet

**Data File 1** : F1 : HL6670:/dat1a/625068/n970a04.xtf  
**Created On** : Mar 15 20:21:53 2014  
**Company** : WPX ENERGY ROCKY MOUNTAIN LLC  
**Well** : FEDERAL PA 432-21  
**Field** : PARACHUTE  
**File Interval** : -15.75 - 1787.5 Feet  
**OCT** : n970a







## CALIBRATION / VERIFICATION SUMMARY

Source File: /mnt1a/62506B/62506B.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 Engr Low Engr High  
 (ohm) (ohm) (ohm) (ohm)  
 Rm Measurements 0.25 9.94 1.005530 0.000031 0.25 10.00

### TTMA BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10142233 DATE/TIME PERFORMED: Sat Mar 15 16:33:54 2014 DAYS SINCE CAL: 947  
 UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19775	496.73	9.94	1002.46
ZERO	-24785	-436.02	0.249	1002.890

### TTMA AFTER LOG VERIFICATION SUMMARY

TOOL #: 3980XA 10142233 DATE/TIME PERFORMED: Sat Mar 15 20:03:04 2014 DAYS SINCE CAL: 947  
 UNIT #: 3880TA HL6670

	CHT (lbf)	MUD TEMP (degF)	RES M Q (ohm)	ACCEL Q
CAL	19743	498.84	9.95	1002.67
ZERO	-24785	-436.02	0.250	1004.798

### GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10127973 DATE/TIME PERFORMED: Thu Feb 20 15:08:59 2014  
 Unit #: 3880TA HL6670 Jlg Series: 4702NK VBA-905

Background	Calibrator ON	Jlg Value (gAPI)	Mult	Background (gAPI)	Calibrator ON (gAPI)

75.24

757.14

185

0.271

20.41

205.41

## GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10127973

DATE/TIME PERFORMED:

Sat Mar 15 16:34:10 2014

DAYS SINCE CAL:

23

UNIT #: 3880TA HL6670

Jlg: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	67.70	1361.74
1229.00 1029.00	1229.00 1029.00	1229.00 1512.00

## GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10127973

DATE/TIME PERFORMED:

Sat Mar 15 20:02:44 2014

DAYS SINCE CAL:

23

UNIT #: 3880TA HL6670

Jlg: INTRNL N/A

Counts	TEMP (degF)	HV (V)
976.67	124.99	1366.17
1229.00 1029.00	1229.00 1029.00	1229.00 1512.00

## CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10137930

DATE/TIME PERFORMED:

Thu Mar 6 14:19:02 2014

UNIT #: 3880TA HL6670

CALIBRATOR #: 2437XB 112674

SOURCE #: 4718XA N-0897

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4587.78	797.87	5.75004	0.99773	5.73700	25.241
			0.25000 1.00000		

## CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930

DATE/TIME PERFORMED:

Sat Mar 15 16:34:26 2014

DAYS SINCE CAL:

9

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	60.3	1357.1	4.612
		0.25000 1.00000	200.4	1250.0 1450.0	1.300 5.000

## CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10137930

DATE/TIME PERFORMED:

Sat Mar 15 20:02:28 2014

DAYS SINCE CAL:

9

UNIT #: 3880TA HL6670

CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.41	993.42	0.99797	122.0	1364.4	4.614
		0.25000 1.00000	200.4	1250.0 1450.0	1.300 5.000

## CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10090664

DATE/TIME PERFORMED:

Fri Mar 14 09:02:20 2014

UNIT #: 3880TA HL6670

	SIZE (in)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1152.0		
LARGE RING (Arm)	11.000	2400.0	0.00321	3.30769
PAD CLOSED		2148.0	0.00250	-5.37000

## CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664

DATE/TIME PERFORMED:

Sat Mar 15 16:53:56 2014

DAYS SINCE CAL:

1

UNIT #: 3880TA HL6670

VALUE MULTIPLIER ADD SIZE

ARM	1984.0	0.00321	3.30769	9.7 (in)
PAD	1823.6	0.00250	-5.37000	-0.8
	ACTUAL (in)	MEASURED (in)		
DIAMETER (arm+pad)	9.001	9.0	0.8	0.1

### CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Sat Mar 15 20:00:49 2014 DAYS SINCE CAL: 1

UNIT #: 3880TA HL6670

	VALUE	MULTIPLIER	ADD	SIZE (in)
ARM	1904.0	0.00321	3.30769	9.4
PAD	1654.0	0.00250	-5.37000	-1.2
	ACTUAL (in)	MEASURED (in)		
DIAMETER (arm+pad)	9.001	9.0	0.8	0.1

### ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10090664 DATE/TIME PERFORMED: Wed Feb 26 14:48:04 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)		
	226.4	224.8	1263.4	1640.7		
	280.0	280.0	280.0	280.0		
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	34332.4	12527.7	0.770	1.679	0.000	1.900
			0.780	0.880		
AL	21534.4	1414.6		2.667	-0.016	
AL + SHIM	28565.2	2445.7		2.558	0.098	
MG + SHIM (HI PE)	16856.0	5941.1	0.304			8.550
			0.280	0.380		
RATIO AL + SHIM/AL	1.33	1.73				
	1.30	1.40	1.80	1.80		
RATIO MG/AL	1.59	8.86				
	1.58	1.70	8.58	8.58		

### ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Sat Mar 15 16:35:17 2014 DAYS SINCE CAL: 17

UNIT #: 3880TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.9	1422.0
	3332.1	3332.1	280.0
	280.0	280.0	1280.0
SS	22354.8	224.2	1376.0
	22344.8	22344.8	280.0
	280.0	280.0	1280.0
	LV (V)	PAD CURRENT (mA)	
	5.0	74.7	
	4.8	5.2	90.0
			120.0

### ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Sat Mar 15 20:02:11 2014 DAYS SINCE CAL: 17

UNIT #: 3880TA HL6670

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	223.3	1405.0
	3332.1	3332.1	280.0
	280.0	280.0	1280.0
SS	22354.8	224.5	1368.0
	22344.8	22344.8	280.0
	280.0	280.0	1280.0



LV PAD CURRENT

LV (V)		PAD CURRENT (mA)	
5.0		76.8	
4.8	5.2	50.0	120.0

## HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10121806

DATE/TIME PERFORMED:

Tue Jan 7 14:33:41 2014

UNIT #: 3880TA HL6670

GRCOND ID &amp; 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 -0.3000 0.3000	-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 -0.1000 0.1000	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 -0.1000 0.1000	-0.0173 -0.1000 0.1000	0.0092 -0.1000 0.1000	0.0079 -0.1000 0.1000	-0.0070 -0.1000 0.1000	0.0171 -0.1000 0.1000	0.0147 -0.1000 0.1000
Cell 5 Q	-0.0400 -1.5000 1.5000	-0.0261 -0.5000 0.5000	0.0143 -0.1000 0.1000	-0.0158 -0.1000 0.1000	0.0060 -0.1000 0.1000	-0.0097 -0.1000 0.1000	0.0083 -0.1000 0.1000	-0.0060 -0.1000 0.1000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell 0 M	163.06 138.00 188.00	161.65 134.00 184.00	158.79 131.00 181.00	154.56 128.00 178.00	148.96 122.00 170.00	142.06 118.00 161.00	133.99 112.00 150.00	124.73 108.00 138.00
Cell 0 P	7.674 8.000 8.000	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 77.000 108.000	110.821 92.000 130.000	127.954 108.000 151.000
Cell 1 M	281.66 258.00 308.00	279.14 258.00 308.00	274.04 250.00 320.00	266.44 225.00 312.00	256.48 218.00 302.00	244.13 208.00 288.00	229.67 198.00 288.00	213.18 184.00 244.00
Cell 1 P	7.844 8.000 8.000	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	578.47 478.00 698.00	573.60 474.00 694.00	563.68 465.00 673.00	548.89 450.00 658.00	529.31 432.00 638.00	504.78 412.00 612.00	475.98 380.00 540.00	442.89 358.00 488.00
Cell 2 P	7.964 8.000 8.000	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	132.704 108.000 158.000
Cell 3 M	925.75 772.00 1080.00	917.66 764.00 1080.00	901.13 752.00 1030.00	876.42 728.00 1010.00	844.08 700.00 970.00	803.95 665.00 928.00	756.94 628.00 888.00	702.73 588.00 788.00
Cell 3 P	7.767 8.000 10.000	25.546 21.000 30.000	42.898 35.000 51.000	60.208 49.000 72.000	77.518 65.000 92.000	94.862 78.000 114.000	112.225 90.000 138.000	129.553 104.000 158.000
Cell 4 M	1453.6 1210.0 1700.0	1440.2 1205.0 1690.0	1412.5 1180.0 1690.0	1371.6 1140.0 1590.0	1318.0 1120.0 1590.0	1252.6 1070.0 1490.0	1176.7 1000.0 1380.0	1090.2 942.0 1240.0
Cell 4 P	7.866 8.000 10.000	25.838 21.000 31.000	43.376 35.000 52.000	60.844 49.000 73.000	78.277 65.000 92.000	95.713 77.000 114.000	113.107 91.000 138.000	130.407 108.000 158.000
Cell 5 M	2983.3 2450.0 3450.0	2960.7 2420.0 3400.0	2911.3 2410.0 3380.0	2836.3 2380.0 3380.0	2735.9 2280.0 3080.0	2611.5 2180.0 2880.0	2463.8 2080.0 2780.0	2292.2 1890.0 2590.0
Cell 5 P	7.916 8.000 10.000	26.013 20.000 31.000	43.723 35.000 52.000	61.396 49.000 73.000	79.117 65.000 94.000	96.902 79.000 113.000	114.759 93.000 134.000	132.605 108.000 158.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell 0 R	-1097 -5000 840	-658 -1400 -20	-537 -420 -150	-464 -780 -180	-412 -880 -130	-373 -800 -120	-342 -580 -110	-318 -580 -62
Cell 0 Q	-1163 -15000 11000	-686 -2800 3800	-547 -3700 2100	-490 -2700 1400	-460 -2600 1000	-442 -1800 780	-431 -1800 680	-425 -1500 -480
Cell 1 R	-141 -750 -180	-154 -380 85	-146 -280 9	-134 -250 -10	-123 -200 -28	-114 -180 -35	-106 -180 -18	-99 -150 -48
Cell 1 Q	-121 -3500 3500	-79 -1100 880	-75 -430 550	-77 -470 380	-78 -380 280	-79 -380 180	-79 -480 150	-80 -580 120
Cell 2 R	2.3 -68.0 78.0	-34.0 -84.0 -0.4	-36.0 -87.0 -12.0	-33.9 -81.0 -18.0	-31.1 -68.0 -17.0	-28.4 -62.0 -18.0	-25.6 -58.0 -15.0	-23.7 -57.0 -13.0
Cell 2 Q	422.6 -1500.0 1800.0	141.1 -580.0 810.0	80.2 -280.0 390.0	54.6 -280.0 280.0	40.6 -180.0 180.0	32.6 -140.0 180.0	27.9 -110.0 150.0	25.4 -88.0 120.0
Cell 3 R	1.3 -25.0 21.0	-7.5 -32.0 1.8	-8.9 -21.0 -1.3	-8.6 -20.0 -1.8	-9.0 -18.0 -2.0	-8.1 -18.0 -1.3	-7.8 -18.0 -0.8	-7.5 -18.0 -0.0
Cell 3 Q	124.6 -540.0 250.0	45.6 -180.0 180.0	31.0 -100.0 110.0	25.3 -71.0 81.0	23.3 -51.0 88.0	23.0 -39.0 88.0	23.2 -28.0 55.0	24.6 -21.0 51.0
Cell 4 R	0.46 -18.00 13.00	-1.57 -12.00 2.70	-1.66 -11.00 1.50	-1.72 -9.80 0.52	-3.24 -9.80 0.28	-1.70 -10.00 1.50	-1.38 -11.00 2.30	-1.38 -11.00 2.80
Cell 4 Q	1.20 -280.00 280.00	2.60 -78.00 88.00	3.65 -43.00 84.00	4.85 -27.00 51.00	7.87 -48.00 68.00	8.01 -41.00 62.00	9.87 -35.00 62.00	10.34 -41.00 62.00
Cell 5 R	1.03 -28.00 51.00	0.44 -8.40 3.80	-0.40 -8.80 1.10	-0.20 -8.80 1.20	-1.64 -8.30 2.80	-0.31 -14.00 8.30	-0.38 -18.00 8.80	0.29 -24.00 13.00
Cell 5 Q	0.20 -88.00 80.00	2.11 -78.00 75.00	3.66 -44.00 73.00	4.49 -34.00 73.00	3.78 -28.00 71.00	6.86 -34.00 78.00	8.64 -41.00 78.00	9.90 -34.00 78.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coll 0 M	0.966 0.880 1.100	0.975 0.880 1.100	0.979 0.890 1.100	0.981 0.880 1.100	0.982 0.880 1.100	0.982 0.880 1.100	0.983 0.880 1.100	0.982 0.880 1.100
Coll 0 P	-0.316 -1.500 1.500	-0.485 -1.500 1.500	-0.379 -1.500 1.500	-0.260 -1.500 1.500	-0.175 -1.500 1.500	-0.101 -1.500 1.500	-0.026 -1.500 1.500	-0.005 -1.500 1.500
Coll 1 M	0.961 0.880 1.100	0.970 0.880 1.100	0.974 0.890 1.100	0.976 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100	0.977 0.880 1.100
Coll 1 P	-0.296 -1.500 1.500	-0.476 -1.500 1.500	-0.360 -1.500 1.500	-0.238 -1.500 1.500	-0.134 -1.500 1.500	-0.087 -1.500 1.500	-0.032 -1.500 1.500	0.016 -1.500 1.500
Coll 2 M	0.986 0.880 1.100	0.987 0.880 1.100	0.987 0.880 1.100	0.986 0.880 1.100	0.986 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100
Coll 2 P	0.044 -1.500 1.500	0.046 -1.500 1.500	0.090 -1.500 1.500	0.134 -1.500 1.500	0.151 -1.500 1.500	0.175 -1.500 1.500	0.211 -1.500 1.500	0.219 -1.500 1.500
Coll 3 M	0.994 0.880 1.100	0.994 0.880 1.100	0.994 0.880 1.100	0.994 0.880 1.100	0.993 0.880 1.100	0.992 0.880 1.100	0.992 0.880 1.100	0.990 0.880 1.100
Coll 3 P	0.048 -1.500 1.500	0.082 -1.500 1.500	0.138 -1.500 1.500	0.198 -1.500 1.500	0.236 -1.500 1.500	0.286 -1.500 1.500	0.334 -1.500 1.500	0.350 -1.500 1.500
Coll 4 M	0.999 0.880 1.100	0.999 0.880 1.100	1.000 0.880 1.100	0.999 0.880 1.100	1.000 0.880 1.100	1.000 0.880 1.100	1.000 0.880 1.100	0.999 0.880 1.100
Coll 4 P	0.116 -1.500 1.500	0.124 -1.500 1.500	0.210 -1.500 1.500	0.286 -1.500 1.500	0.396 -1.500 1.500	0.454 -1.500 1.500	0.525 -1.500 1.500	0.577 -1.500 1.500
Coll 5 M	1.003 0.880 1.100	1.002 0.880 1.100	1.003 0.880 1.100	1.003 0.880 1.100	1.002 0.880 1.100	1.005 0.880 1.100	1.007 0.880 1.100	1.007 0.880 1.100
Coll 5 P	0.040 -1.500 1.500	0.106 -1.500 1.500	0.264 -1.500 1.500	0.377 -1.500 1.500	0.561 -1.500 1.500	0.694 -1.500 1.500	0.775 -1.500 1.500	0.910 -1.500 1.500
PARMS TCID 0 TCID 1 Cal Temp T Factor								
(degF)								
ID#	2.831		0.846		50.4		1.00	

## HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10121806 DATE/TIME PERFORMED: Sat Mar 15 17:22:23 2014 DAYS SINCE CAL: 67

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	0.002 -0.200 0.200	0.001 -0.100 0.100	-0.001 -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	0.001 -0.100 0.100
Coll 0 Q	-0.005 -0.500 0.500	0.002 -0.200 0.200	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.000 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	0.001 -0.100 0.100
Coll 1 R	0.001 -0.200 0.200	-0.002 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.002 -0.100 0.100	-0.001 -0.100 0.100	-0.001 -0.100 0.100	-0.001 -0.100 0.100
Coll 1 Q	-0.018 -0.500 0.500	-0.003 -0.200 0.200	-0.001 -0.100 0.100	0.001 -0.100 0.100	-0.002 -0.100 0.100	0.001 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100
Coll 2 R	0.002 -0.200 0.200	0.002 -0.100 0.100	0.004 -0.100 0.100	-0.006 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.004 -0.100 0.100	-0.003 -0.100 0.100
Coll 2 Q	-0.007 -0.500 0.500	0.000 -0.200 0.200	0.003 -0.100 0.100	-0.003 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	0.002 -0.100 0.100	-0.001 -0.100 0.100
Coll 3 R	0.017 -0.500 0.500	-0.009 -0.100 0.100	0.003 -0.100 0.100	0.002 -0.100 0.100	-0.006 -0.100 0.100	0.002 -0.100 0.100	0.006 -0.100 0.100	-0.002 -0.100 0.100
Coll 3 Q	-0.012 -0.500 0.500	-0.011 -0.200 0.200	0.004 -0.100 0.100	-0.001 -0.100 0.100	-0.009 -0.100 0.100	0.007 -0.100 0.100	-0.003 -0.100 0.100	-0.003 -0.100 0.100
Coll 4 R	0.026 -0.500 0.500	0.008 -0.200 0.200	0.002 -0.200 0.200	-0.001 -0.200 0.200	-0.007 -0.200 0.200	0.001 -0.200 0.200	-0.000 -0.200 0.200	0.007 -0.200 0.200
Coll 4 Q	-0.025 -1.000 1.000	-0.007 -0.400 0.400	0.009 -0.200 0.200	0.001 -0.200 0.200	0.004 -0.200 0.200	0.009 -0.200 0.200	-0.010 -0.200 0.200	-0.001 -0.200 0.200
Coll 5 R	0.065 -1.200 1.200	-0.004 -0.400 0.400	0.006 -0.400 0.400	0.017 -0.400 0.400	-0.003 -0.400 0.400	-0.010 -0.400 0.400	-0.001 -0.400 0.400	0.001 -0.400 0.400
Coll 5 Q	-0.038 -1.500 1.500	-0.021 -0.800 0.800	0.014 -0.400 0.400	0.011 -0.400 0.400	-0.020 -0.400 0.400	0.010 -0.400 0.400	-0.001 -0.400 0.400	-0.004 -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	162.06 138.00 188.00	160.64 131.00 181.00	157.77 131.00 181.00	153.53 128.00 178.00	147.92 122.00 170.00	141.07 118.00 181.00	132.97 112.00 150.00	123.80 105.00 139.00
Coll 0 P	6.859 -1.000 12.000	25.135 19.000 30.000	42.506 35.000 50.000	59.766 48.000 71.000	76.997 63.000 91.000	94.265 77.000 110.000	111.508 92.000 130.000	128.734 105.000 151.000
Coll 1 M	281.63 259.00 329.00	279.08 259.00 329.00	273.99 250.00 350.00	266.41 255.00 312.00	256.37 215.00 302.00	244.12 205.00 289.00	229.63 185.00 289.00	213.10 184.00 244.00
Coll 1 P	7.054 -1.000 12.000	25.602 19.000 30.000	43.267 35.000 51.000	60.838 48.000 71.000	78.377 63.000 92.000	95.951 77.000 112.000	113.498 92.000 132.000	131.019 105.000 159.000
Coll 2 M	576.59 478.00 698.00	571.74 474.00 684.00	561.87 465.00 643.00	547.08 450.00 652.00	527.42 432.00 632.00	503.16 412.00 592.00	474.12 380.00 540.00	441.22 350.00 490.00
Coll 2 P	7.142 -1.000 12.000	26.008 19.000 31.000	43.975 35.000 51.000	61.862 48.000 71.000	79.734 63.000 92.000	97.673 77.000 114.000	115.595 92.000 135.000	133.507 105.000 159.000
Coll 3 M	923.98 772.00 1080.00	915.82 761.00 1050.00	899.18 752.00 1050.00	874.36 725.00 1010.00	841.65 700.00 970.00	801.59 655.00 925.00	754.17 620.00 880.00	700.15 580.00 790.00
Coll 3 P	6.917 -2.000 13.000	25.445 19.000 31.000	43.044 35.000 52.000	60.546 48.000 72.000	78.011 63.000 93.000	95.498 77.000 114.000	112.978 92.000 135.000	130.426 105.000 159.000
Coll 4 M	1458.9 1210.0 1700.0	1445.3 1205.0 1690.0	1417.4 1180.0 1690.0	1376.3 1140.0 1590.0	1322.1 1120.0 1590.0	1256.7 1070.0 1450.0	1180.3 1000.0 1390.0	1093.6 940.0 1240.0
Coll 4 P	7.067 -2.000 13.000	25.753 19.000 31.000	43.521 35.000 52.000	61.164 48.000 73.000	78.750 63.000 93.000	96.328 78.000 114.000	113.837 92.000 135.000	131.274 105.000 159.000
Coll 5 M	2975.2 2450.0 3450.0	2951.8 2420.0 3400.0	2901.8 2410.0 3390.0	2828.3 2350.0 3300.0	2728.8 2280.0 3000.0	2603.3 2150.0 2650.0	2452.9 2020.0 2790.0	2282.6 1870.0 2570.0
Coll 5 P	7.124 -2.000 13.000	25.974 19.000 31.000	43.945 35.000 52.000	61.842 48.000 73.000	79.764 63.000 94.000	97.733 78.000 114.000	115.703 92.000 135.000	133.705 105.000 159.000

# HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10121806

DATE/TIME PERFORMED:

Sat Mar 15 20:01:55 2014

DAYS SINCE CAL:

67

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 -0.078 0.062	-0.002 -0.026 0.061	0.000 -0.031 0.066	-0.001 -0.036 0.031	-0.001 -0.036 0.031	0.000 -0.036 0.031	-0.001 -0.036 0.030	0.000 -0.036 0.031
Coll 0 Q	-0.005 -0.015 0.005	-0.001 -0.116 0.122	0.001 -0.036 0.031	0.001 -0.036 0.030	-0.000 -0.036 0.030	-0.000 -0.036 0.031	-0.000 -0.036 0.030	-0.000 -0.036 0.031
Coll 1 R	0.003 -0.078 0.061	0.002 -0.032 0.016	-0.000 -0.033 0.027	0.001 -0.031 0.036	0.000 -0.032 0.026	-0.000 -0.031 0.026	0.000 -0.031 0.026	0.002 -0.031 0.026
Coll 1 Q	-0.015 -0.116 0.062	-0.001 -0.103 0.067	0.002 -0.031 0.036	0.001 -0.036 0.031	-0.001 -0.032 0.026	-0.003 -0.036 0.031	0.000 -0.031 0.026	0.001 -0.030 0.030
Coll 2 R	0.007 -0.036 0.072	0.001 -0.026 0.032	0.001 -0.026 0.031	-0.002 -0.036 0.031	0.000 -0.036 0.027	-0.006 -0.031 0.026	-0.001 -0.031 0.026	0.002 -0.033 0.027
Coll 2 Q	-0.010 -0.037 0.013	0.002 -0.100 0.100	-0.003 -0.027 0.033	0.005 -0.033 0.027	-0.000 -0.030 0.030	0.001 -0.030 0.030	0.000 -0.026 0.032	-0.001 -0.031 0.026
Coll 3 R	0.017 -0.033 0.067	-0.009 -0.016 0.031	-0.011 -0.037 0.013	-0.000 -0.036 0.012	-0.002 -0.016 0.031	-0.003 -0.036 0.012	0.009 -0.031 0.016	-0.000 -0.012 0.036
Coll 3 Q	-0.007 -0.012 0.100	-0.004 -0.031 0.060	-0.001 -0.036 0.011	0.001 -0.011 0.036	-0.000 -0.016 0.031	-0.001 -0.033 0.017	-0.003 -0.013 0.027	0.001 -0.013 0.027
Coll 4 R	0.029 -0.031 0.060	-0.001 -0.032 0.060	0.003 -0.026 0.032	0.002 -0.031 0.036	-0.016 -0.037 0.023	-0.001 -0.036 0.031	0.011 -0.030 0.030	0.005 -0.023 0.027
Coll 4 Q	-0.016 -0.036 0.075	-0.005 -0.107 0.033	-0.003 -0.031 0.036	0.001 -0.026 0.031	-0.014 -0.026 0.031	0.003 -0.031 0.036	0.000 -0.070 0.030	-0.007 -0.031 0.026
Coll 5 R	0.043 -0.026 0.100	-0.007 -0.121 0.116	-0.006 -0.111 0.126	0.012 -0.103 0.137	-0.016 -0.125 0.117	0.019 -0.130 0.110	0.007 -0.121 0.116	0.015 -0.116 0.121
Coll 5 Q	-0.061 -0.036 0.062	-0.023 -0.071 0.026	0.028 -0.106 0.131	-0.012 -0.106 0.131	0.014 -0.110 0.100	0.005 -0.110 0.130	-0.012 -0.121 0.116	0.001 -0.121 0.116

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coll 0 M	162.27 159.82 165.30	160.84 157.13 165.85	157.98 151.81 160.62	153.71 150.16 159.80	148.14 141.68 159.88	141.26 136.25 143.85	133.14 130.31 135.85	123.97 121.32 126.85
Coll 0 P	7.251 3.850 9.650	25.229 22.135 28.135	42.517 36.505 49.505	59.724 50.785 68.785	76.908 73.867 79.867	94.130 91.265 97.265	111.352 108.505 114.505	128.567 125.731 131.731
Coll 1 M	281.74 275.88 287.28	279.18 273.30 284.88	274.08 268.31 279.17	266.46 261.08 271.73	256.48 251.21 261.90	244.19 239.21 249.00	229.70 225.03 234.22	213.25 208.83 217.38
Coll 1 P	7.438 4.031 10.851	25.691 22.692 28.692	43.280 40.287 46.287	60.804 57.830 63.830	78.297 75.377 81.377	95.824 92.881 98.881	113.343 110.488 116.488	130.838 128.019 134.019
Coll 2 M	576.77 565.06 588.12	571.86 560.30 583.17	561.95 550.83 573.11	547.14 536.13 558.02	527.60 516.87 539.87	503.29 493.10 513.29	474.36 464.23 483.80	441.31 432.38 450.01
Coll 2 P	7.521 4.142 10.142	26.095 23.085 29.085	43.988 40.875 46.875	61.826 58.852 64.852	79.655 76.731 82.731	97.541 94.573 100.573	115.426 112.565 118.565	133.343 130.507 136.507
Coll 3 M	924.51 903.30 942.18	916.29 897.30 934.13	899.63 881.30 917.17	874.86 856.87 891.85	842.34 824.81 859.18	802.19 785.35 819.82	754.65 738.08 769.25	700.82 685.15 714.15
Coll 3 P	7.294 3.817 9.817	25.533 22.415 28.415	43.058 40.011 46.011	60.496 57.518 63.518	77.914 75.011 81.011	95.366 92.488 98.488	112.807 109.878 115.878	130.225 127.488 133.488
Coll 4 M	1458.3 1428.8 1488.1	1444.6 1416.1 1471.2	1416.7 1389.1 1445.8	1375.7 1348.8 1403.8	1322.3 1295.7 1348.5	1256.3 1231.8 1281.8	1179.5 1156.7 1203.8	1093.3 1071.7 1115.3
Coll 4 P	7.458 4.089 10.889	25.839 22.753 28.753	43.523 40.521 46.521	61.120 58.181 64.181	78.667 75.750 81.750	96.193 93.325 99.325	113.681 110.837 116.837	131.088 128.274 134.274
Coll 5 M	2977.8 2915.7 3034.7	2954.3 2892.8 3010.8	2905.3 2843.8 2968.8	2830.3 2771.7 2884.8	2731.2 2674.2 2785.4	2605.5 2551.3 2659.4	2457.5 2403.8 2501.8	2283.7 2229.0 2338.3
Coll 5 P	7.506 4.121 10.121	26.052 22.871 28.871	43.932 40.815 46.815	61.763 58.812 64.812	79.605 76.781 82.781	97.525 94.733 100.733	115.476 112.703 118.703	133.408 130.705 136.705

## INSTRUMENT CONFIGURATION

Source File: /mnt1/w/62506B/62506B-1.w

52.34"

FOCUS CABLEHEAD  
Diameter : 3.13"  
Length : 3.17'  
Weight : 15 lbs  
Series : CABL31B  
Mnemonic : CBLH

FOCUS SWIVEL  
Diameter : 3.13"  
Length : 3.58'  
Weight : 50 lbs  
Series : 1530XA  
Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL  
Diameter : 3.13"  
Length : 4.31'  
Weight : 61 lbs  
Series : 3880TA  
Mnemonic : HL6670

Series : 3930XA  
Mnemonic : TTMA

#### FOCUS TELEMETRY (POWER SECTION)

Diameter : 3.13"  
Length : 3.71'  
Weight : 48 lbs  
Series : 351BFB  
Mnemonic : TMCR

#### FOCUS EB/EC TELEMETRY GAMMA RAY

Diameter : 3.13"  
Length : 5.83'  
Weight : 63 lbs  
Series : 351BEC  
Mnemonic : CR  
Measure Point: 4.34' : CR MP

#### FOCUS COMPENSATED NEUTRON

Diameter : 3.13"  
Length : 4.81'  
Weight : 65 lbs  
Series : 3436XA  
Mnemonic : CN  
Measure Point: 1.93' : LSN MP  
Measure Point: 1.46' : SSN MP

#### FOCUS Z-DENSILOC

Diameter : 3.75"  
Length : 9.58'  
Weight : 200 lbs  
Series : 3930XA  
Mnemonic : ZDL  
Measure Point: 4.33' : CR1 MP  
Measure Point: 1.65' : LSD / CR3 MP  
Measure Point: 1.29' : SSD MP

#### 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 : 145 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

#### FOCUS PINEAPPLE / CABBAGE

##### HOLE FINDER

Diameter : 2.63"  
Length : 1.50'  
Weight : 7 lbs  
Series : HENDIB

TOTAL LENGTH: 52.34'  
TOTAL WEIGHT: 703 lbs  
MAX DIAMETER: 0' 6.13"

CR MP : 36.97'

LSN MP : 29.83'

SSN MP : 29.38'

CR1 MP : 22.67'

LSD / CR3 MP : 20.03'

SSD MP : 19.63'

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'

0.00'

	COMPANY	WPX ENERGY ROCKY MOUNTAIN LLC		FILE NO:	US625068
	WELL	FEDERAL PA 432-21		API NO:	0504522040000
	FIELD	PARACHUTE			
	COUNTY	GARFIELD	STATE	CO	
	LOCATION:		ELEVATIONS:		
	SHL: 2610' FNL 1411' FWL		KB 6056 FT		S21 T6S R95W
	BHL: 1882' FNL 1539' FEL		DF		RIG: NABORS 573
	SEC 21 TWP 6S RGE 95W		GL 6030 FT		PAD: PA 22-21
			DATE		15-Mar-2014

