



**HIGH DEFINITION INDUCTION LOG
COMPENSATED Z-DENSILOGSM
NEUTRON LOG
CALIPER LOG
GAMMA RAY LOG**

FILE NO: 133758	COMPANY LARAMIE ENERGY II LLC
API NO: 05077103970000	WELL NICHOLS 0994-24-11E
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10 H&P 290	LOCATION: SHL 2265' FNL 2795' FWL BHL 2523' FNL 1444' FEL SEC <u>24</u> TWP <u>9S</u> RGE <u>94W</u>	OTHER SERVICES NONE
----------------------	---	------------------------

PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 24 FT ABOVE P.D. KB 7212 FT	ELEVATIONS: KB 7236 FT DF GL 7212 FT
---	---	---

DATE	09-Mar-2018	
RUN	TRIP	1
SERVICE ORDER	US133758J	
DEPTH DRILLER	7673 FT	
DEPTH LOGGER	DID NOT REACH TD	
BOTTOM LOGGED INTERVAL	4530 FT	
TOP LOGGED INTERVAL	0 FT	
CASING DRILLER	8.625 IN @ 1566 FT	
CASING LOGGER	1566 FT	
BIT SIZE	7.875 IN	
TYPE OF FLUID IN HOLE	WBM	
DENSITY	VISCOSITY	48 CP
PH	FLUID LOSS	6.6 C3
SOURCE OF SAMPLE	TOOL MEASURED	
RM AT MEAS. TEMP.	1 OHMM @ 97.3 DEGF	
RMF AT MEAS. TEMP.	0.75 OHMM @ 97.3 DEGF	
RMC AT MEAS. TEMP.	1.25 OHMM @ 97.3 DEGF	
SOURCE OF RMF	RMC	CALCULATED
RM AT BHT	0.762 OHMM @ 136.8 DEGF	
TIME SINCE CIRCULATION	4 HOURS	
MAX. RECORDED TEMP.	136.8 DEGF	
EQUIP. NO.	LOCATION	4291
RECORDED BY	W. QUIGLEY	
WITNESSED BY	MR. ROGER FOSTER	

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

REMARKS

RUN 1 TRIP 1: FIRST TRIP: REACHED 2395 FT AND BRIDGED. LOGGED OUT AND WIPER TRIP TO 5000'
SECOND TRIP: REACHED 4533 FT. POOH TO REMOVE BOWSPRING AND ADD HOLEFINDER
THIRD TRIP: NO BOWSPRING. HOLEFINDER ADDED - REACHED 2286 FT
FOURTH TRIP: NO BOWSPRING, NO HOLEFINDER - REACHED 4530 FT

LOGS WERE RECORDED 2ND TRIP WITH BOWSPRING

GR OR NEUTRON JIG NOT AVAILABLE FOR VERIFICATIONS

THANK YOU FOR CHOOSING BAKER HUGHES, A GE COMPANY
CREW: ROBERT ZUNIGA, AUSTIN WAGGONER, ALI SHAHNOOSHI

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10045153	FREE
1	1	TELEM	3514XA	10223701	FREE
1	1	GAMMA RAY	1329XA	363173	FREE
1	1	NEUTRON	2446XA	10342170	DECENTRALIZED
1	1	DENSITY	2234XA	10231795	CALIPER DEVICE

MAIN LOG 2"/100FT SCALE

Plotted: Sat Mar 10 16:20:14 2018

PARAMETER AND FILTER SUMMARY REPORT				
FILE:	/dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q04.prm			
LOGGING MODE:	DEPTH	DIRECTION:	UP	
TOP DEPTH:	2217.250 ft	BOTTOM DEPTH:	4531.906 ft	
SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	light (2)		"	"
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

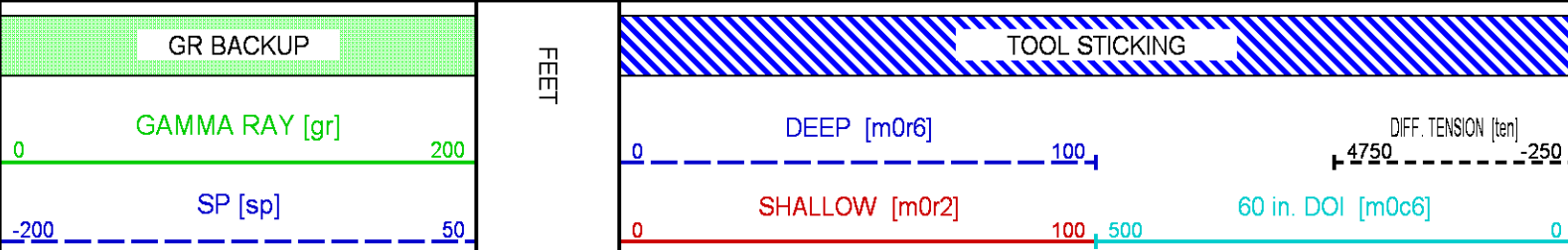
BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	7.875	in	TOP	BOTTOM
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	97.3	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	97.3	degF	"	"
	at BH REF DEPTH	1754.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

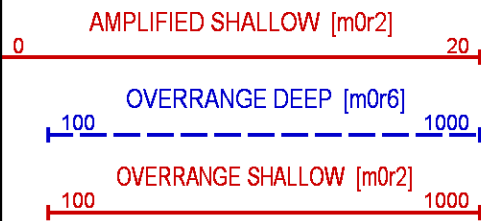
HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000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

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	N/A	GAMMA RAY
F1:M0C6	N/A	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:M0R2	N/A	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:M0R6	N/A	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	N/A	SPONTANEOUS POTENTIAL
F1:TEN	N/A	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	-52.25	M0R2	-8.00	SP	-14.00		
M0C6	-8.00	M0R6	-8.00	TEN	0.00		

Presentation	: SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/LARAMIE_2IN.fvpdf [2"/100' Scale]
Plot Interval	: -16.5 - 4537.75 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/p777qMAINSPL.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-24-11E
Field	: VEGA
File Interval	: -16.5 - 4537.75 Feet
OCT	: p777q





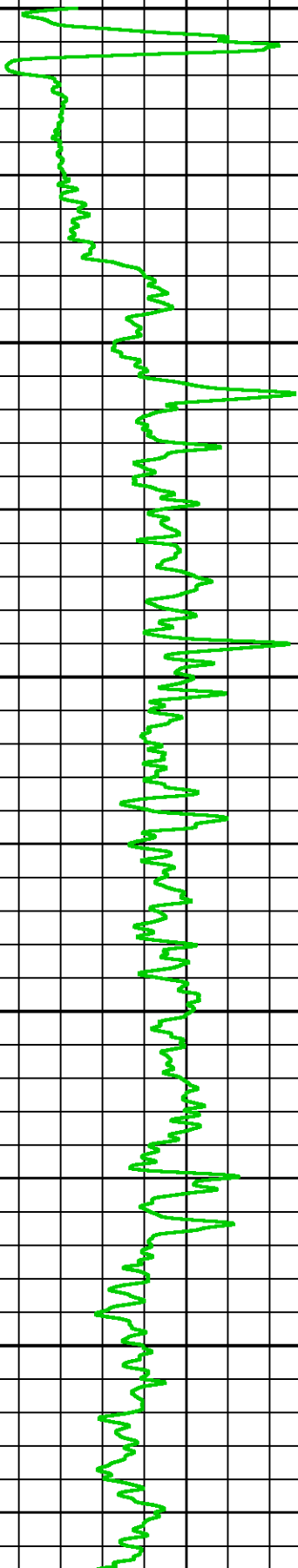
0

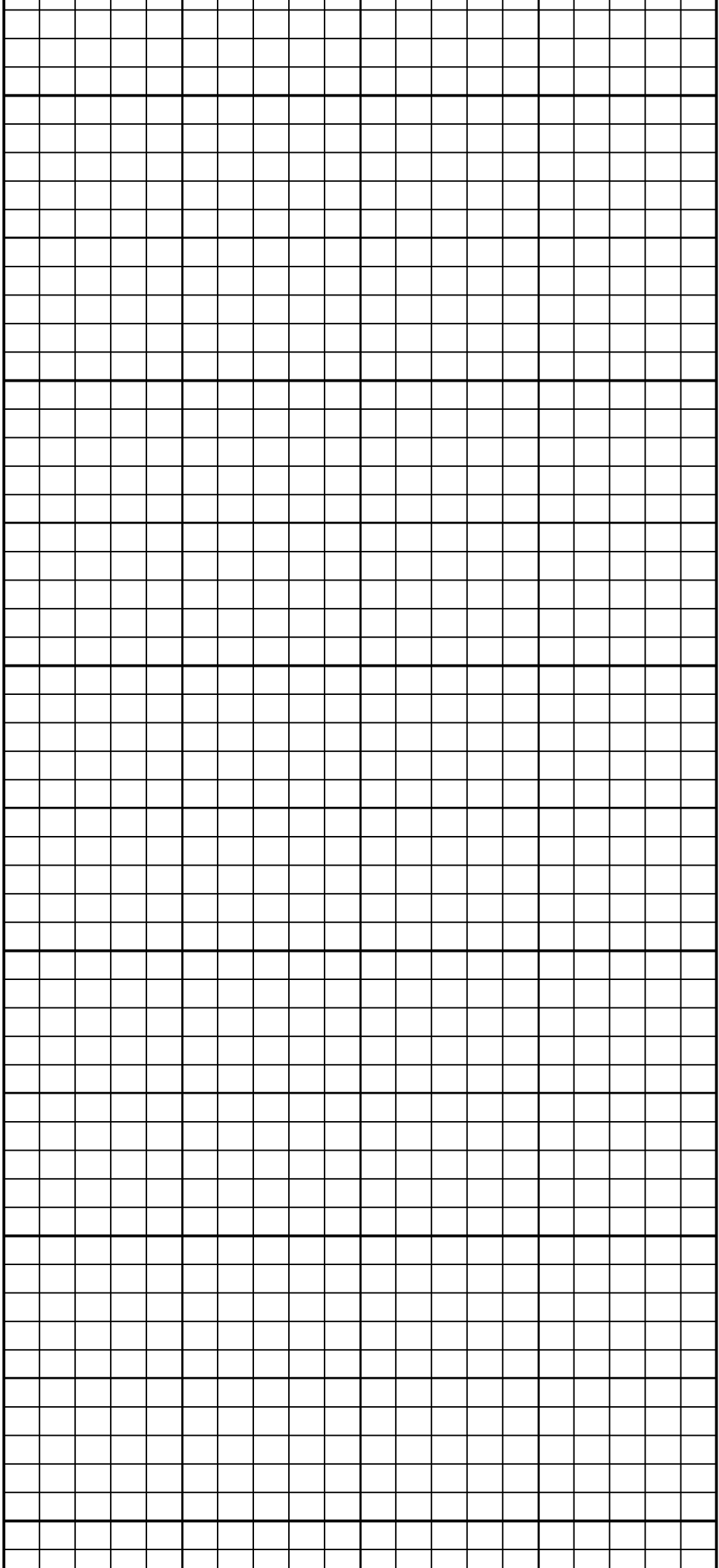
100

200

300

400





500

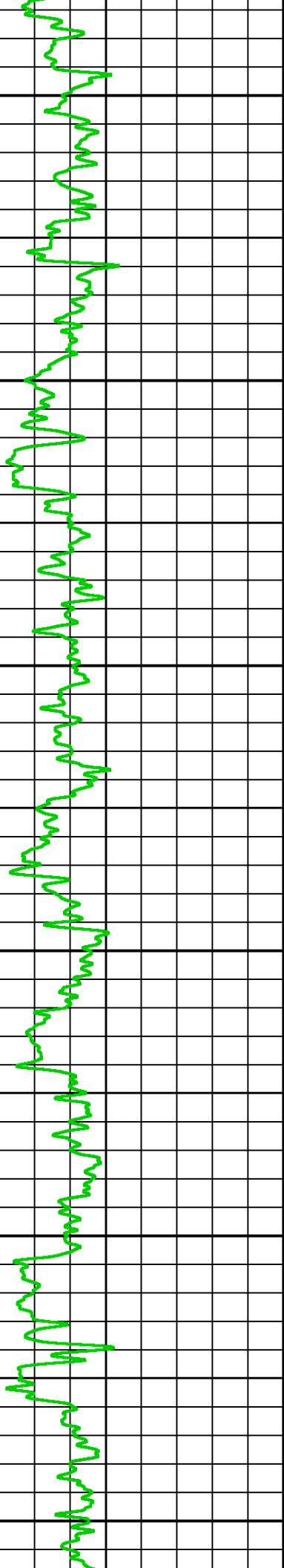
600

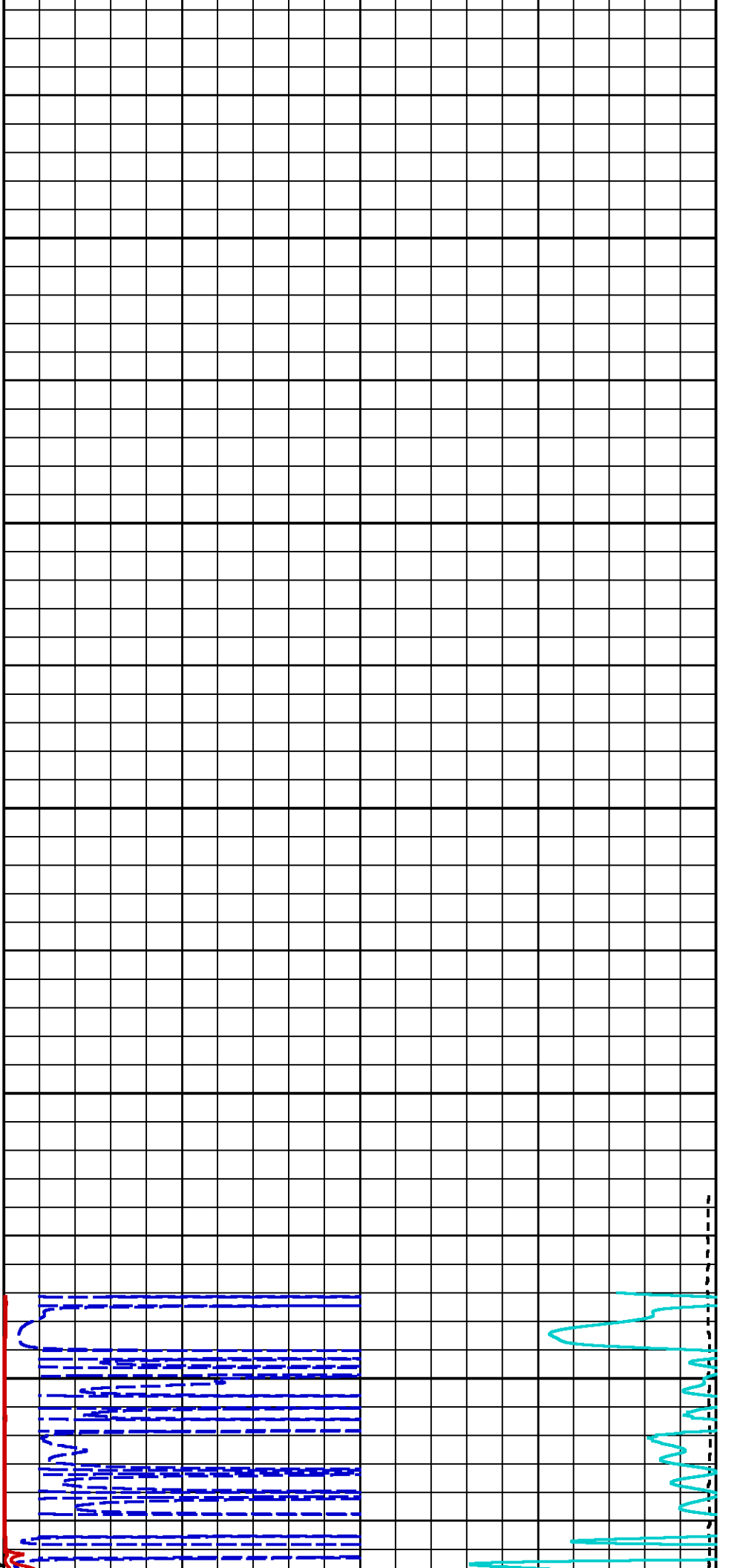
700

800

900

1000





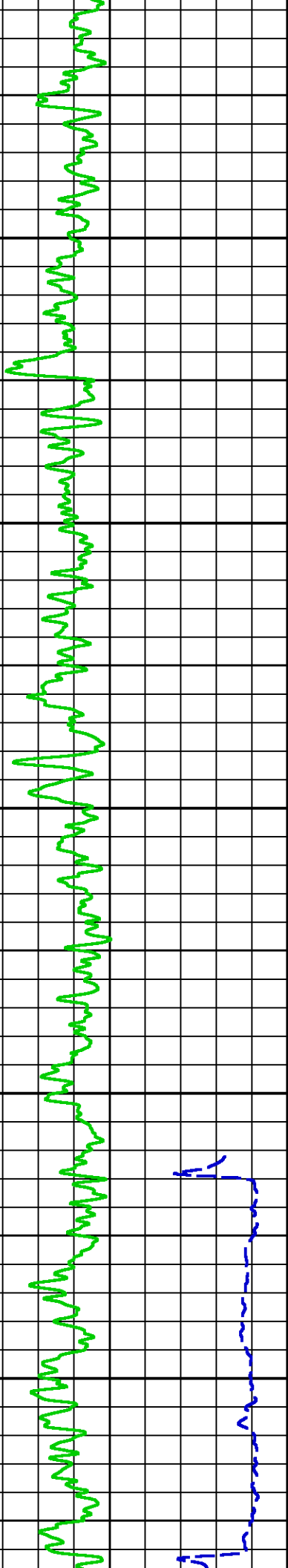
1100

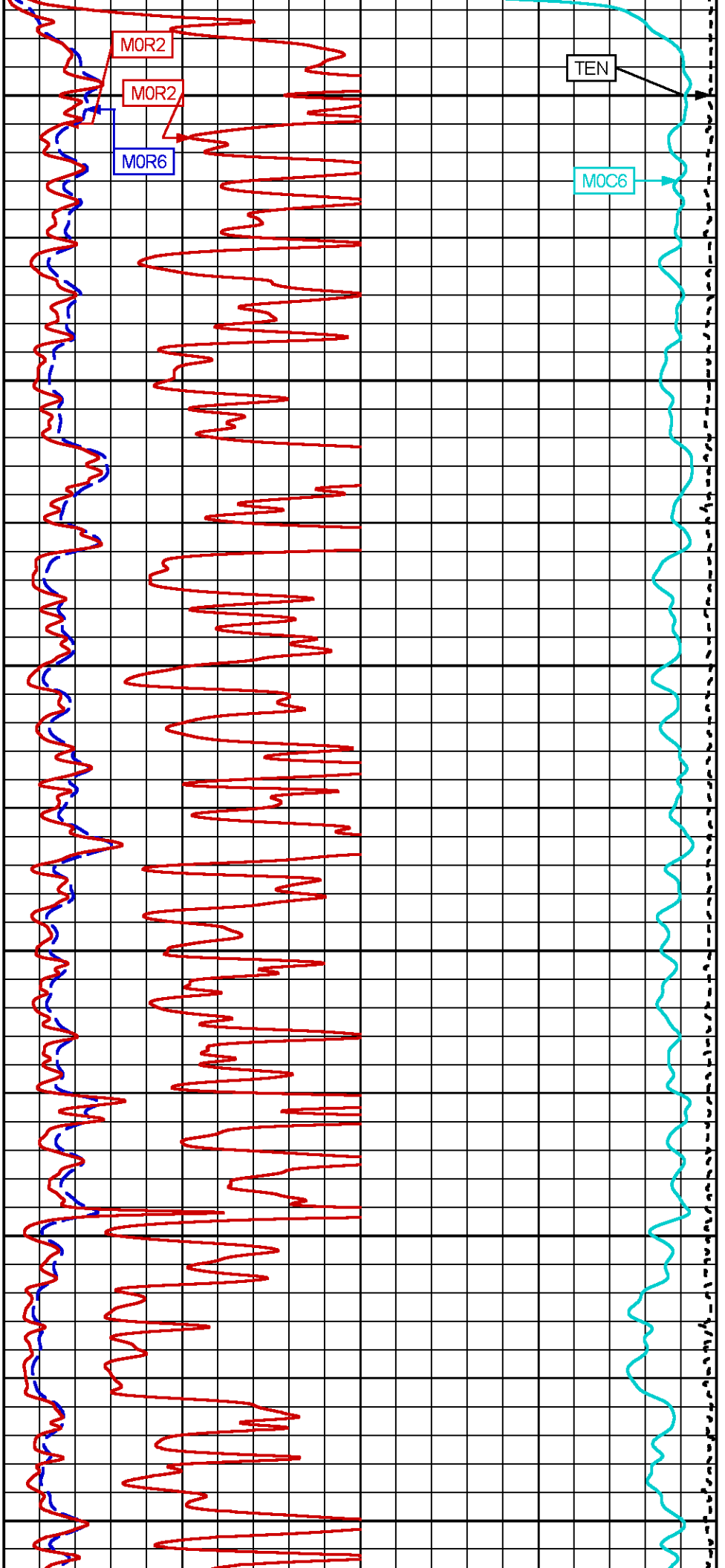
1200

1300

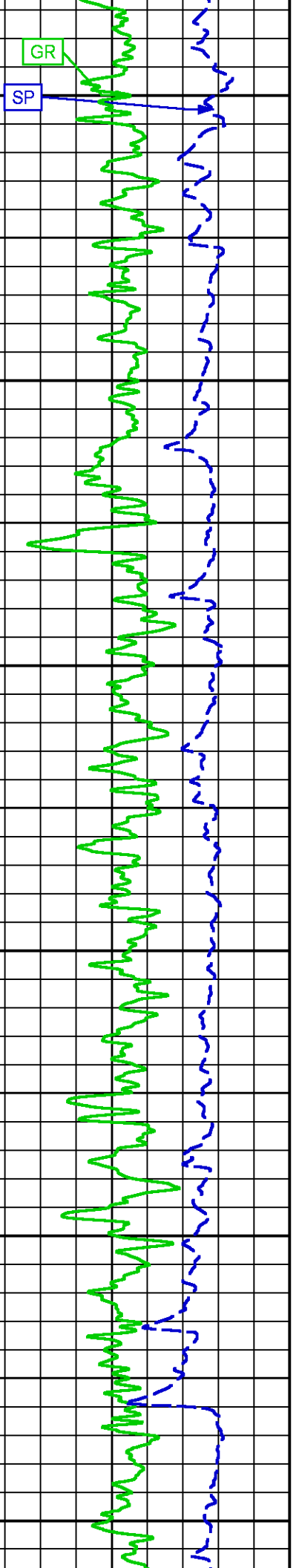
1400

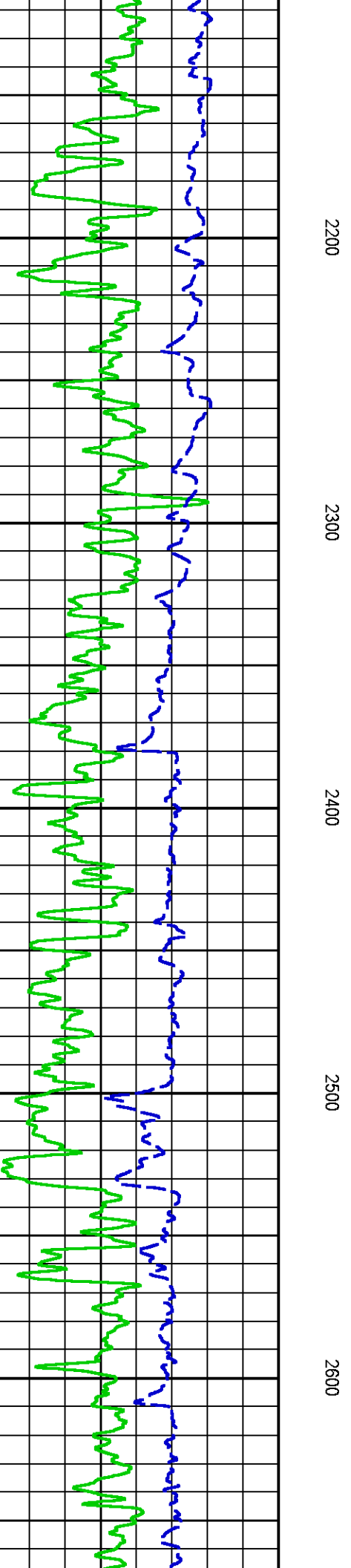
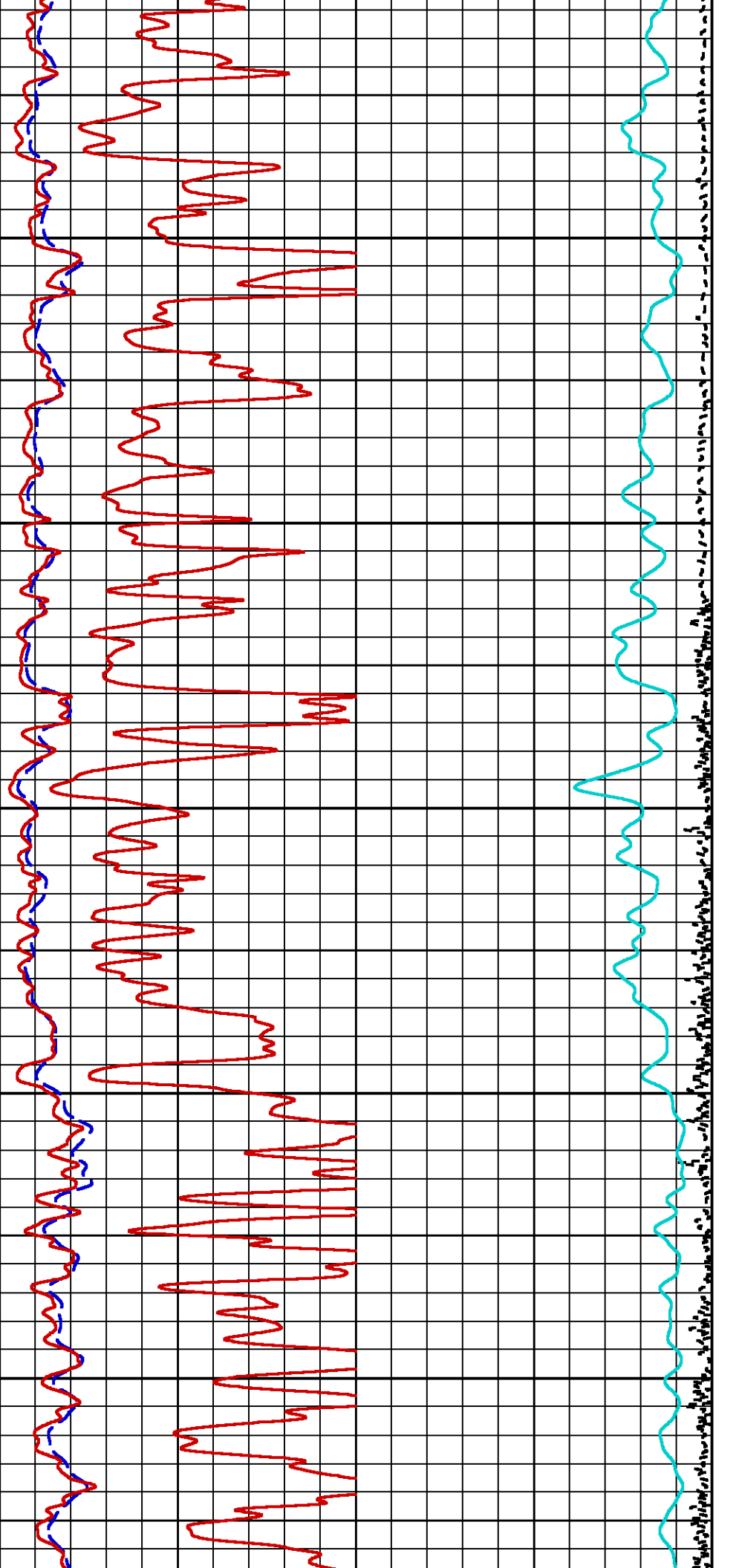
1500

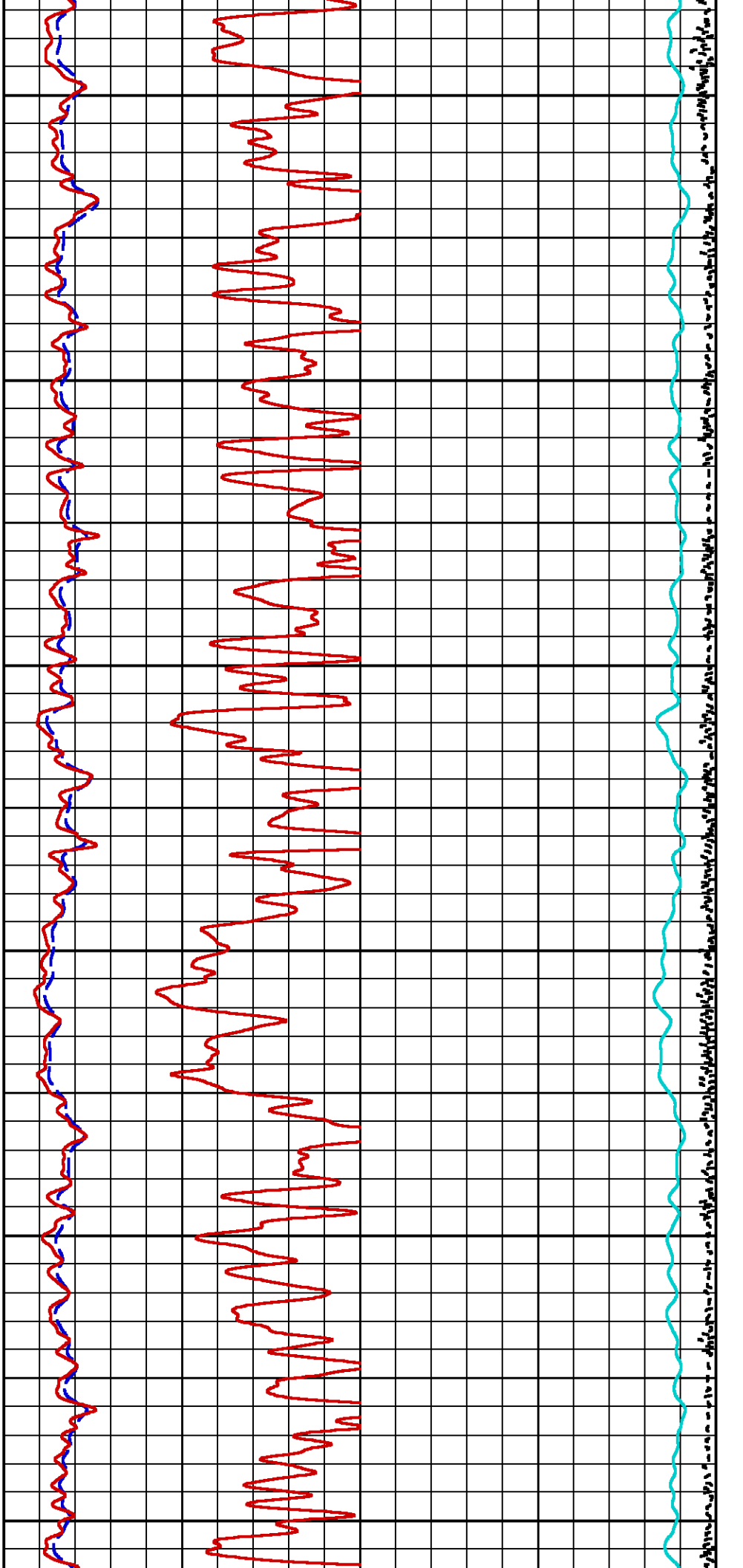




CSG 1600 1700 1800 1900 2000 2100







2700

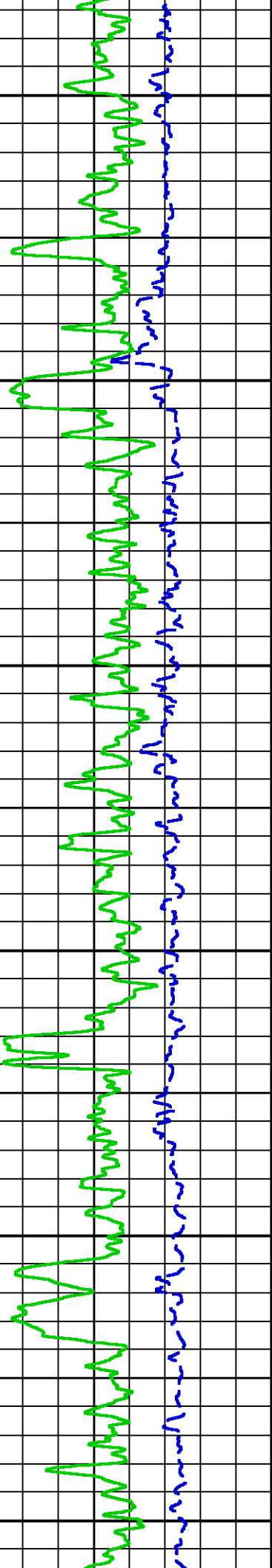
2800

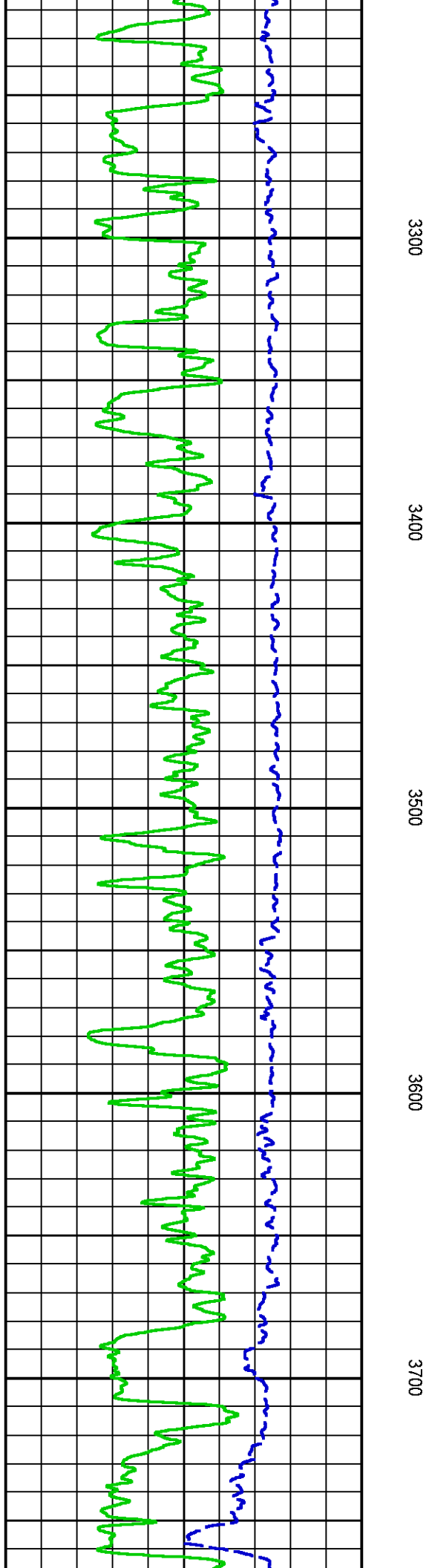
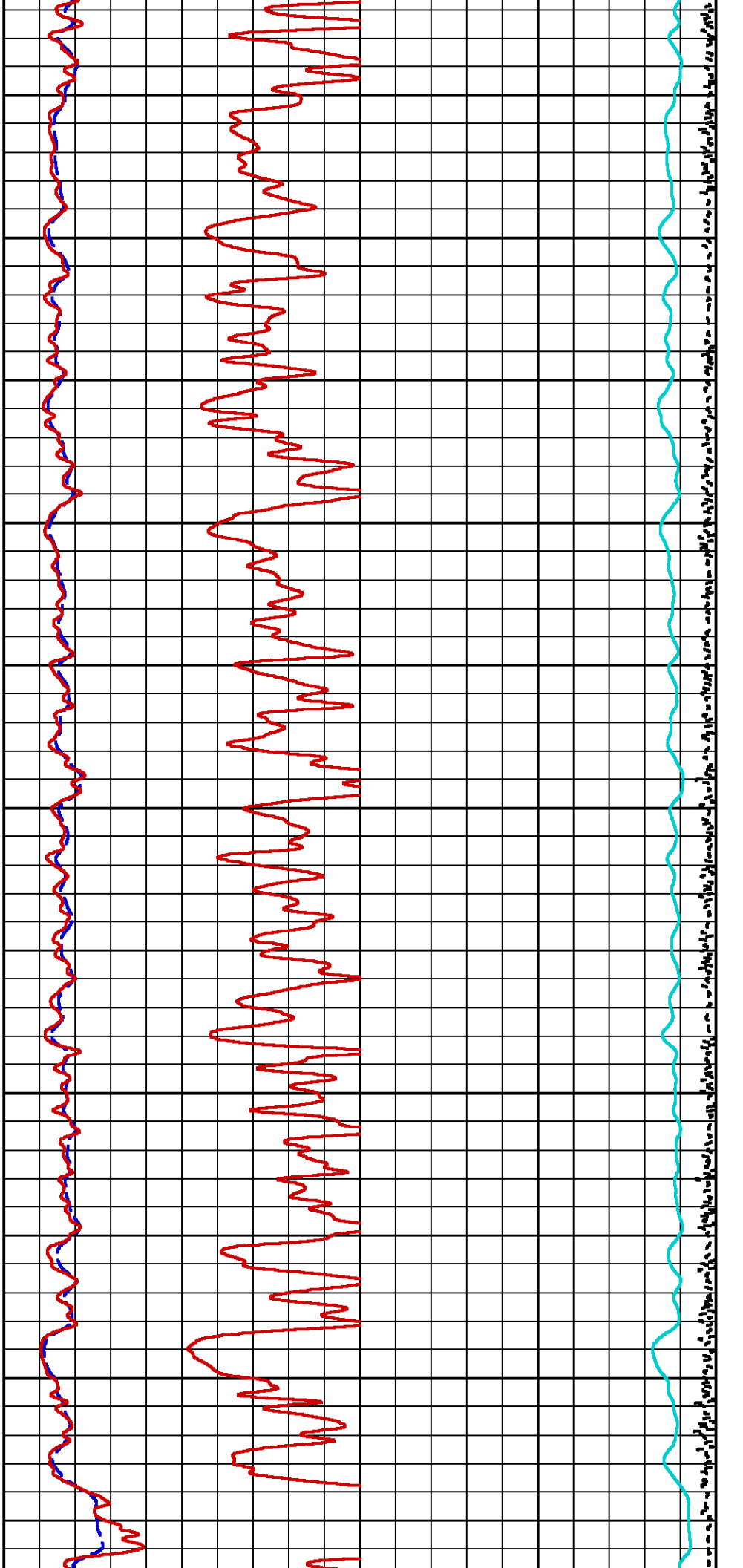
2900

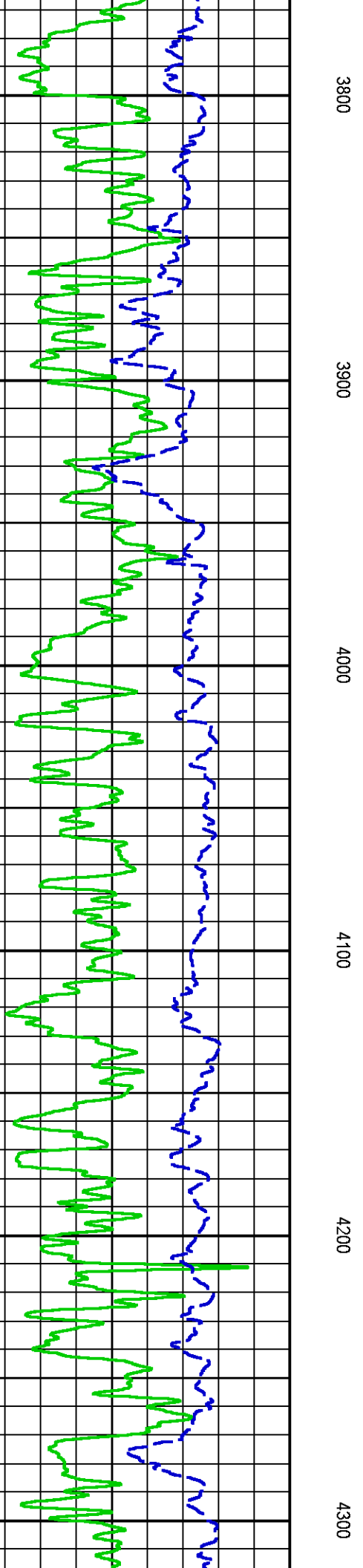
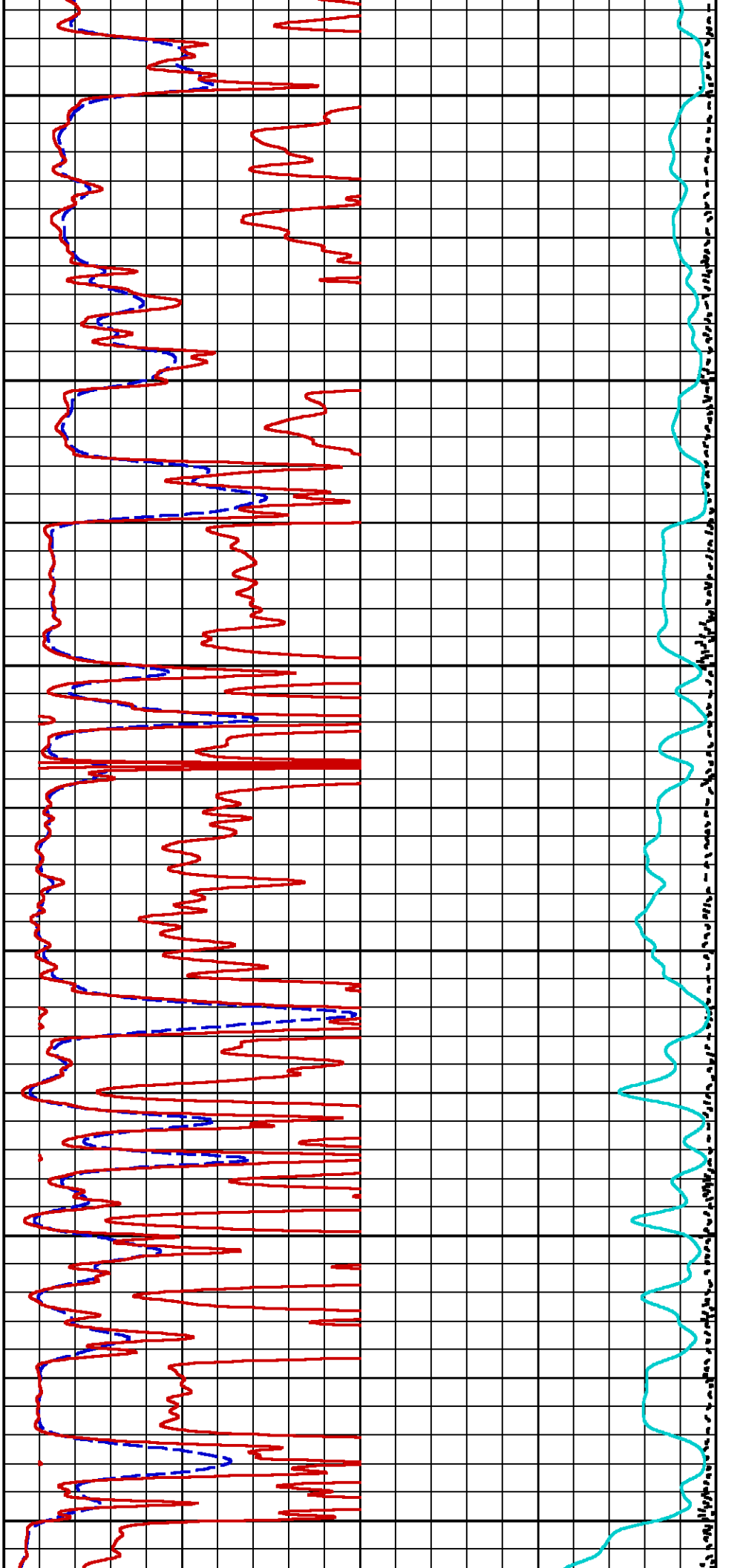
3000

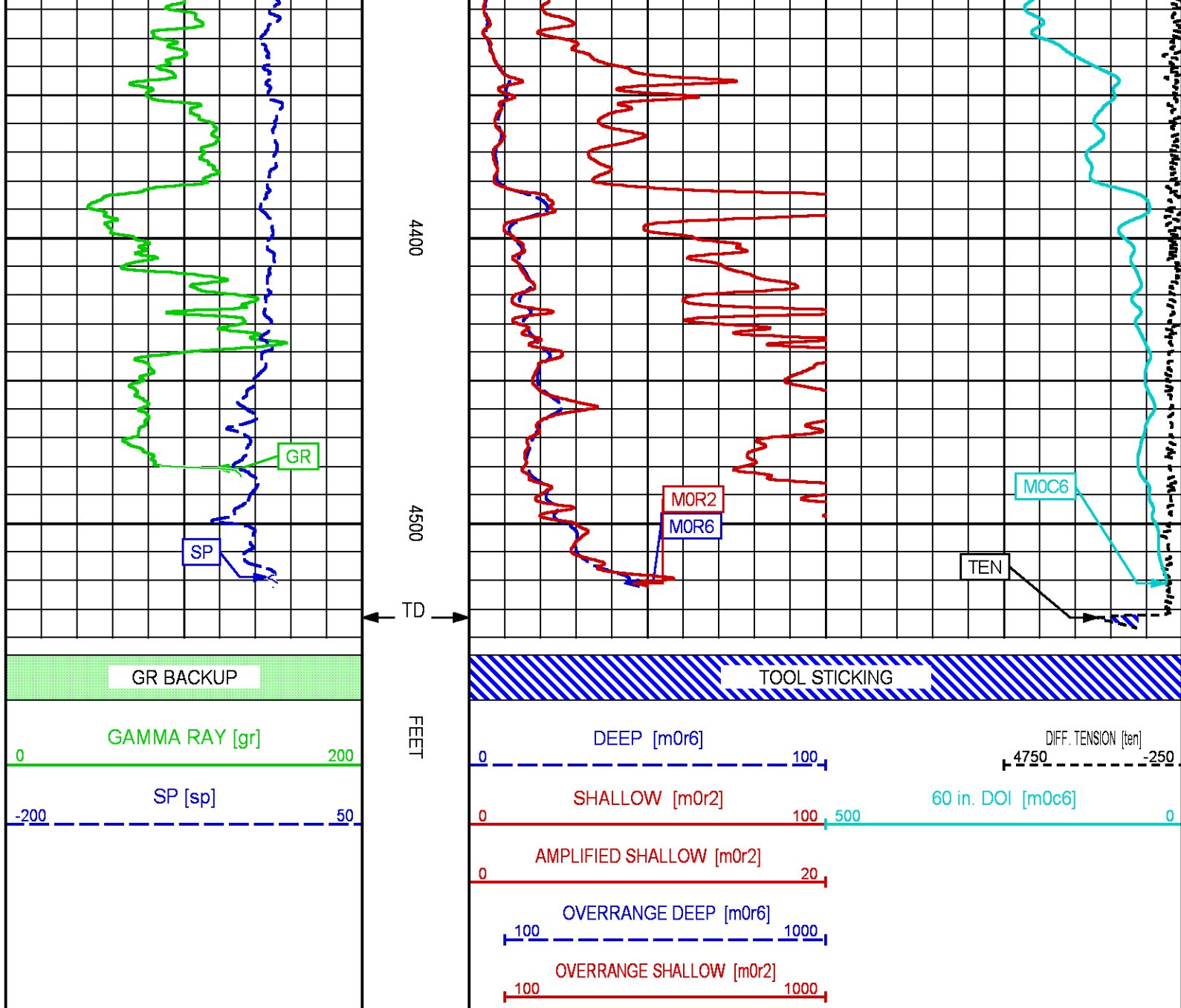
3100

3200









MAIN LOG 5"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 2

Plotted: Sat Mar 10 12:20:59 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1435.000 ft BOTTOM DEPTH: 2398.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
------------------	-----------	-------	-------	---------------

TTRM	FILTER ()	medium (1)	TOP	BOTTOM
	FILTER (.h)	medium (1)	"	"
	FILTER (.i)	medium (1)	"	"
Y AXIS CALIPER	FILTER ()	medium (1)	"	"
TENSION	FILTER ()	medium (1)	"	"
GR	FILTER ()	medium (1)	"	"
CN	FILTER ()	medium (1)	"	"
CALIPER	FILTER ()	medium (1)	"	"
	FILTER (.h)	medium (1)	"	"
	FILTER (.i)	medium (1)	"	"
ZDL MED RES	FILTER (hrd1*)	medium	"	"
	FILTER (hrd1s*)	medium	"	"
	FILTER (hrd2*)	medium	"	"
	FILTER (hrd2s*)	medium	"	"
	FILTER (soft*)	medium	"	"
SP-SPDH	FILTER ()	medium (1)	"	"

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	7.875	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	97.3	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	97.3	degF	"	"
	at BH REF DEPTH	1754.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		TOP	2189.000
		MUD SAMP DERIVED		2189.000	BOTTOM

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	800	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

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

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

PARAMETER AND FILTER SUMMARY REPORT					
FILE:	/dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q04.prm				
LOGGING MODE:	DEPTH	DIRECTION:	UP		
TOP DEPTH:	2217.250 ft	BOTTOM DEPTH:	4531.906 ft		
SYMMETRIC FILTER					

SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
Y AXIS CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	light (2)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	7.875	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	97.3	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	97.3	degF	"	"
	at BH REF DEPTH	1754.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	800	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

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

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

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
E1:BIT	N/A	BIT SIZE

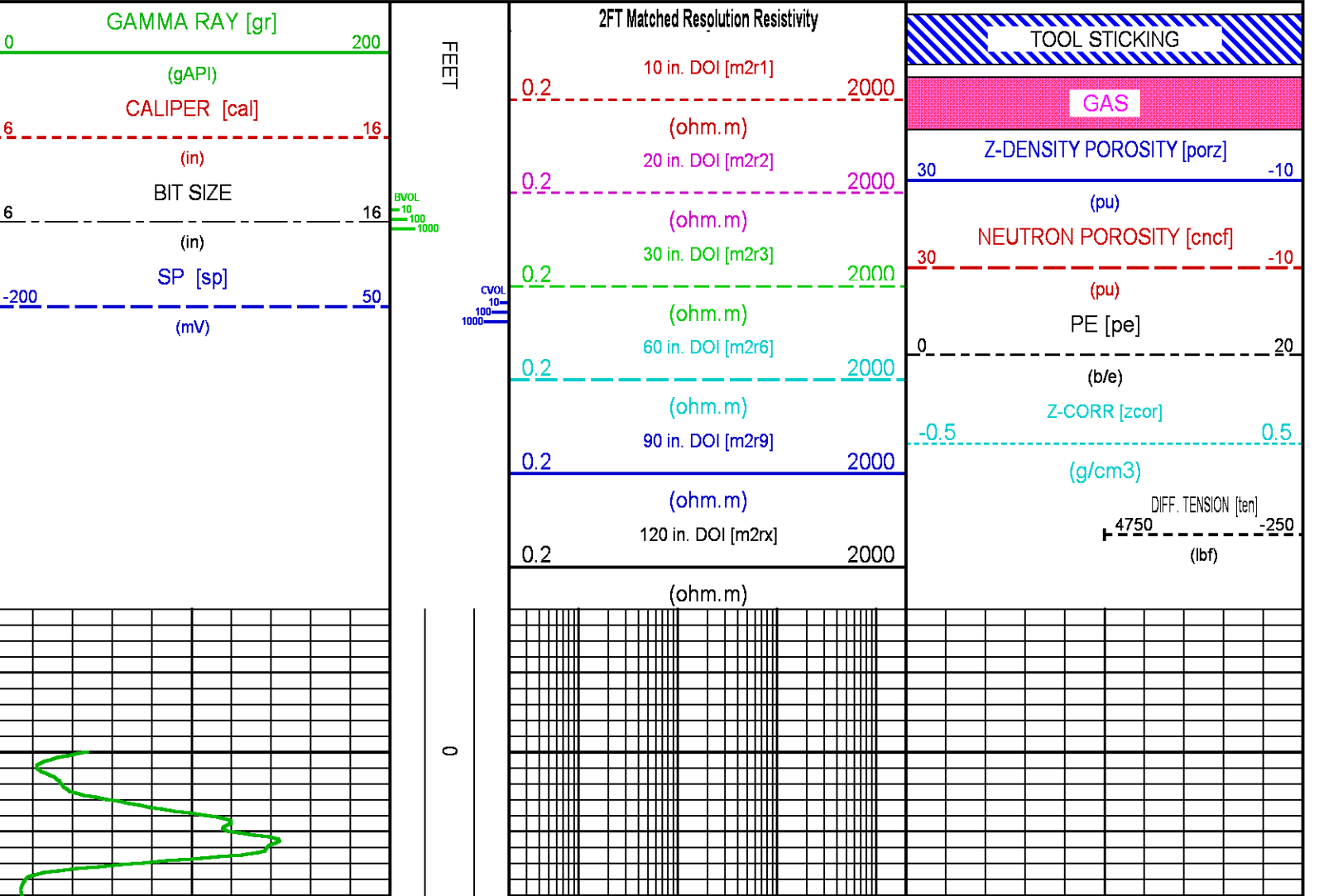
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3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

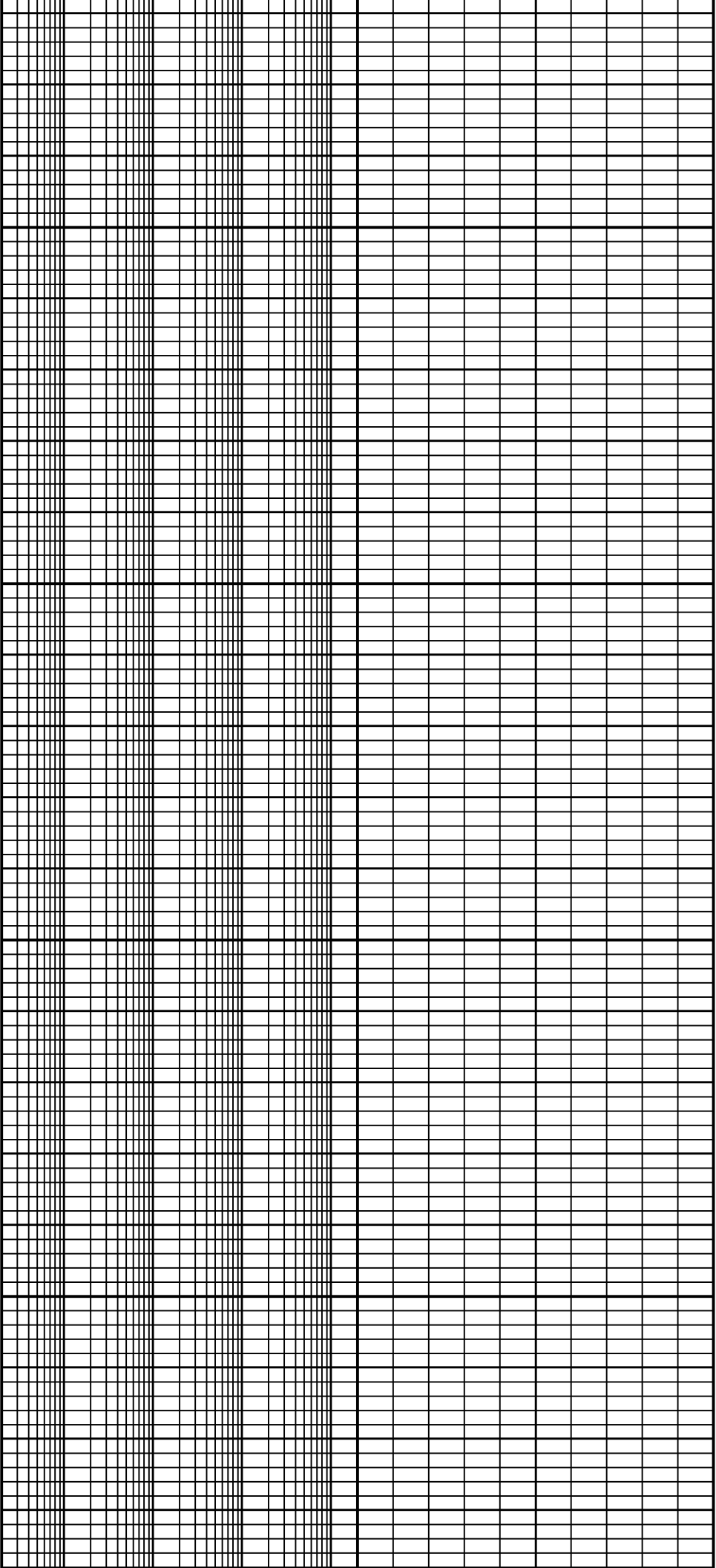
CURVE MEASURE POINT OFFSET

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

Presentation : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/LARAMIE_MAIN.fvpdf [5"/100' Scale]
Plot Interval : -16.5 - 4537.75 Feet

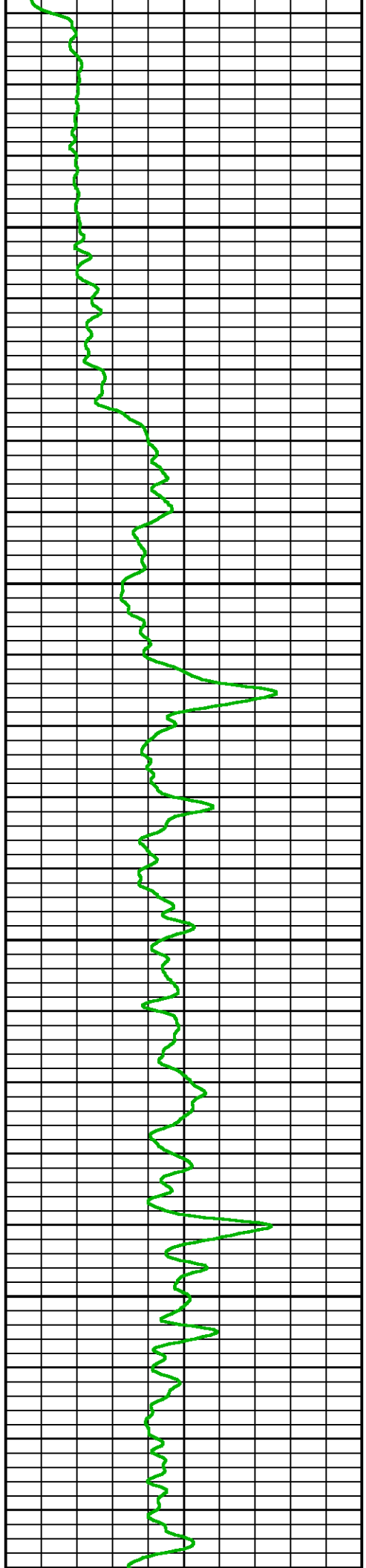
Data File 1 : F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/p777qMAINSPL.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : NICHOLS 0994-24-11E
Field : VEGA
File Interval : -16.5 - 4537.75 Feet
OCT : p777q

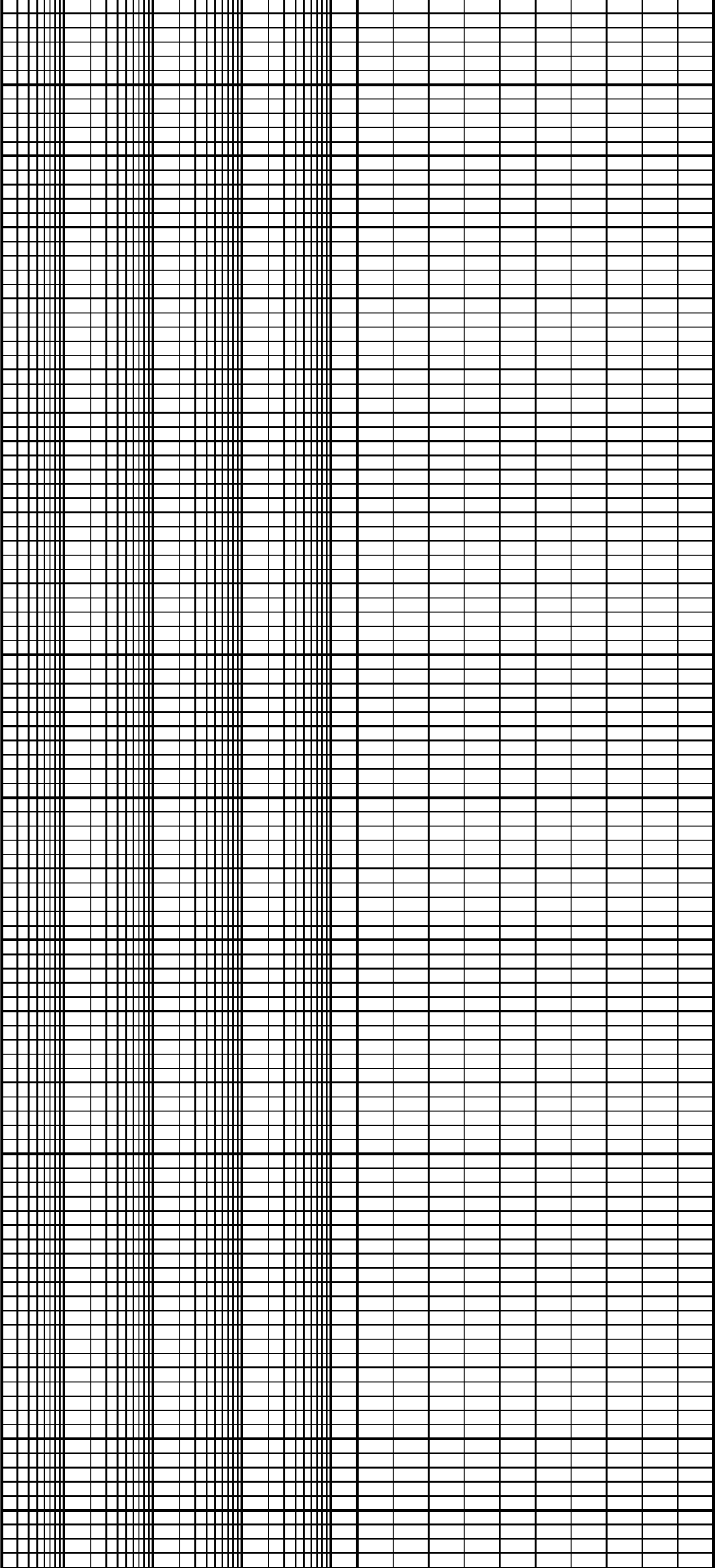




100

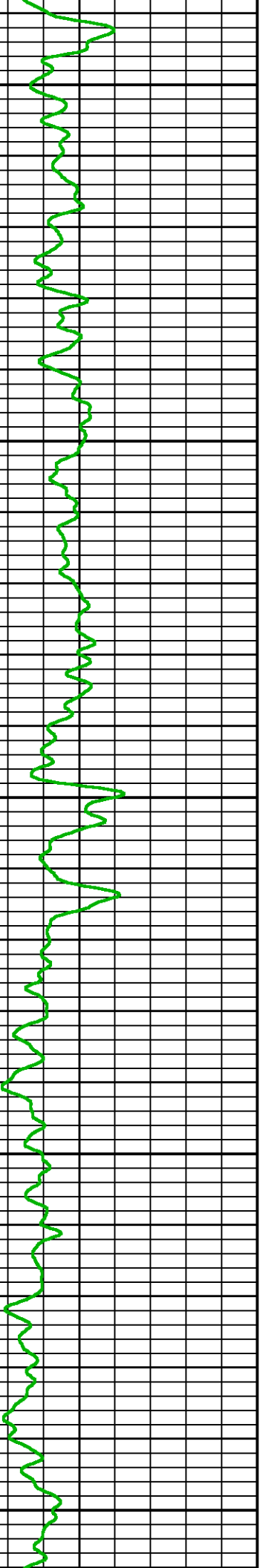
200

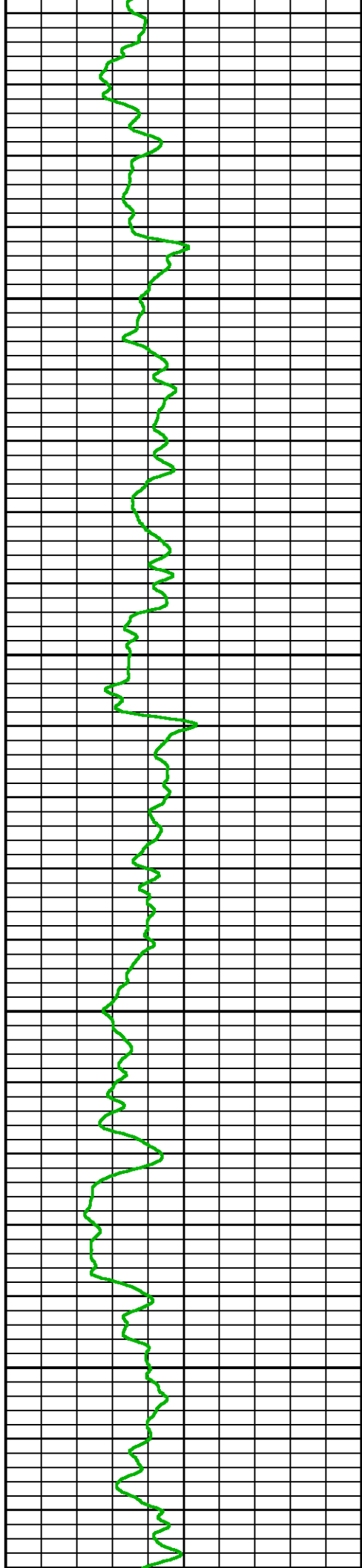




300

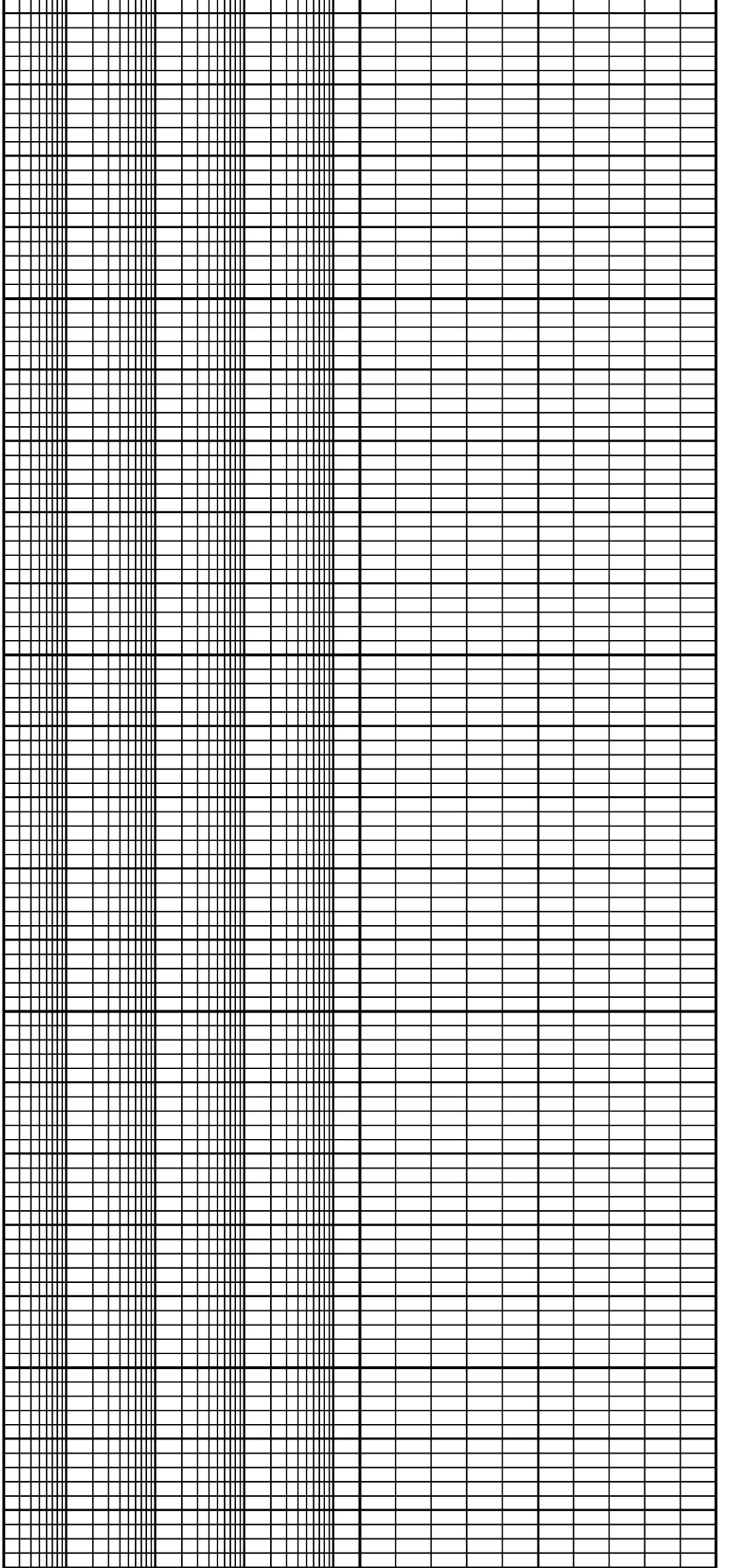
400

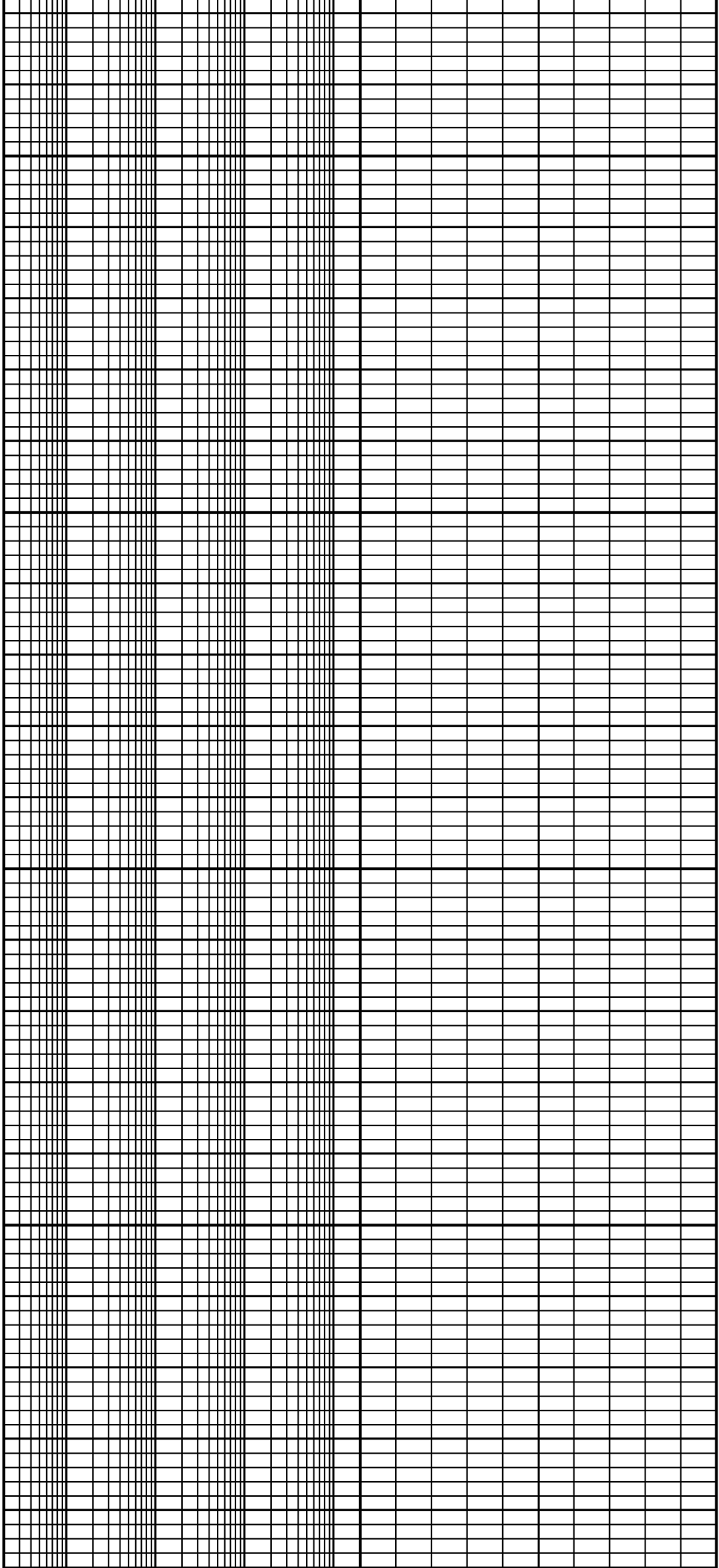




500

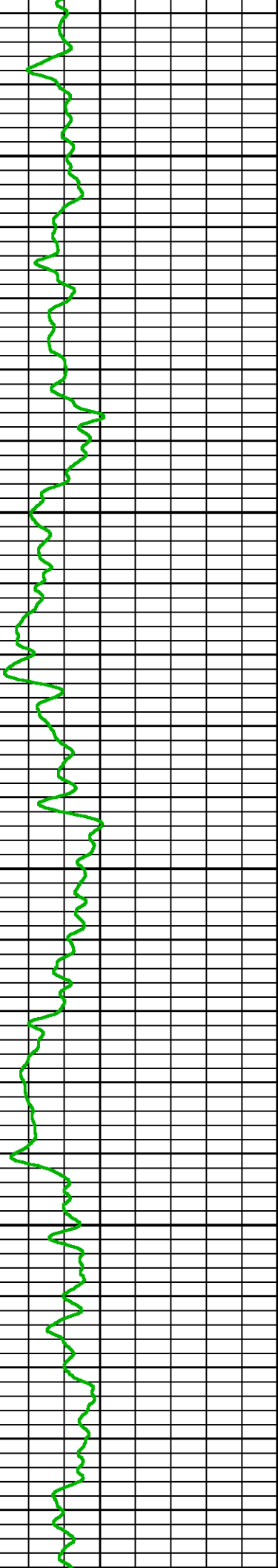
600

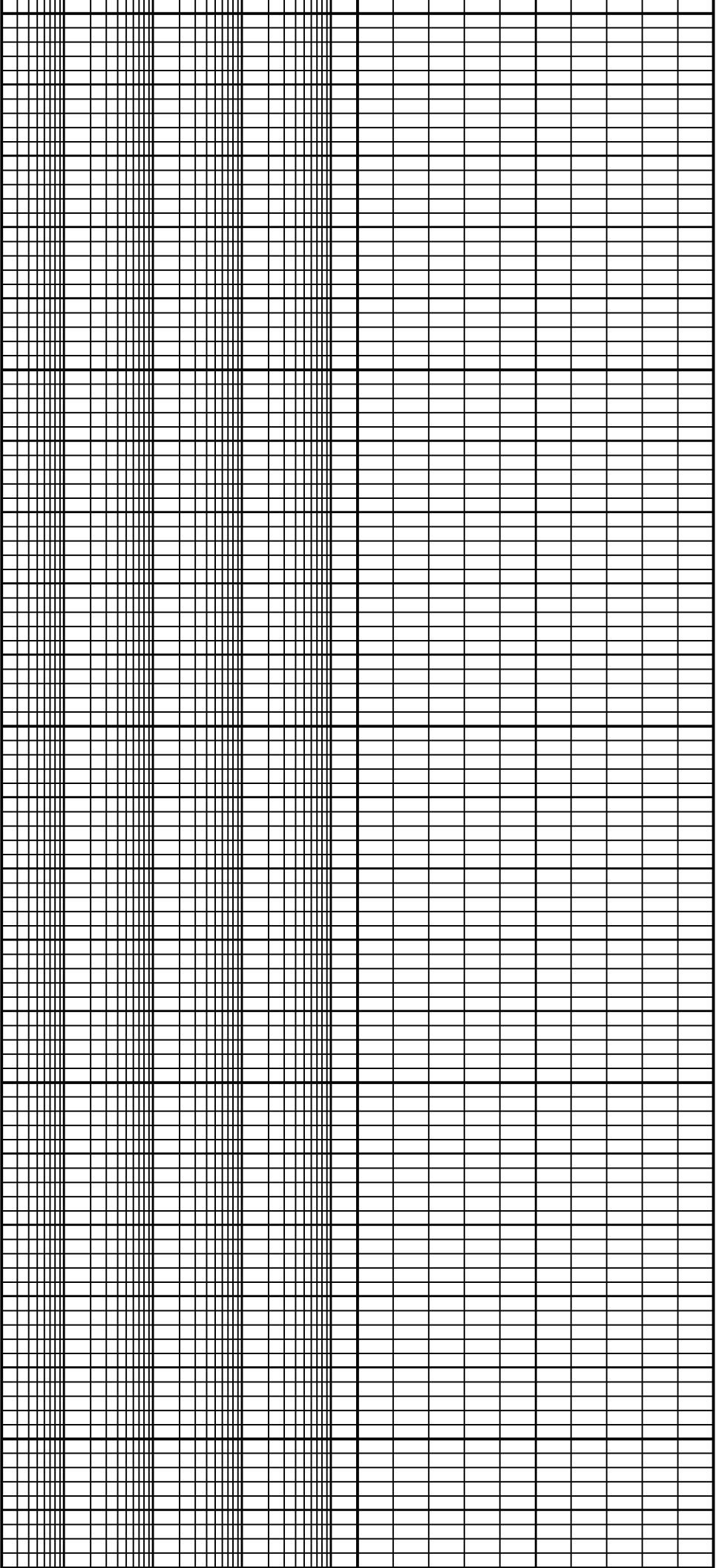




700

800

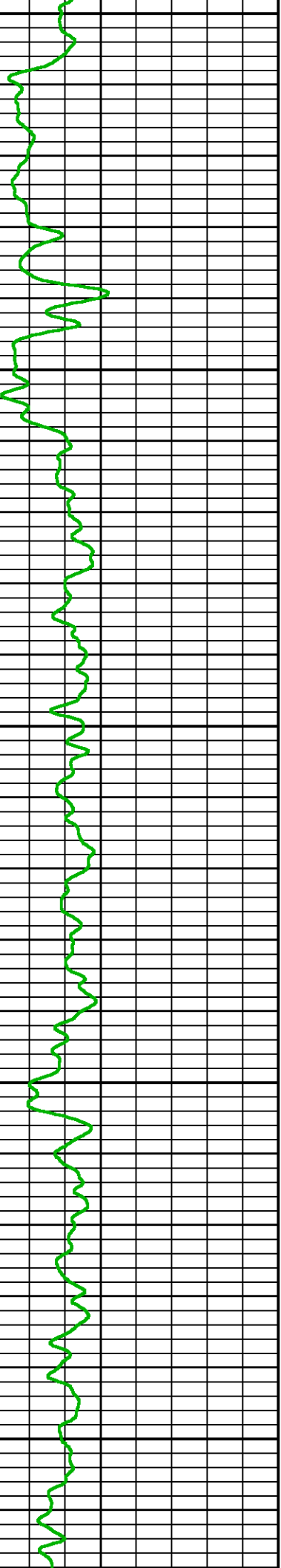


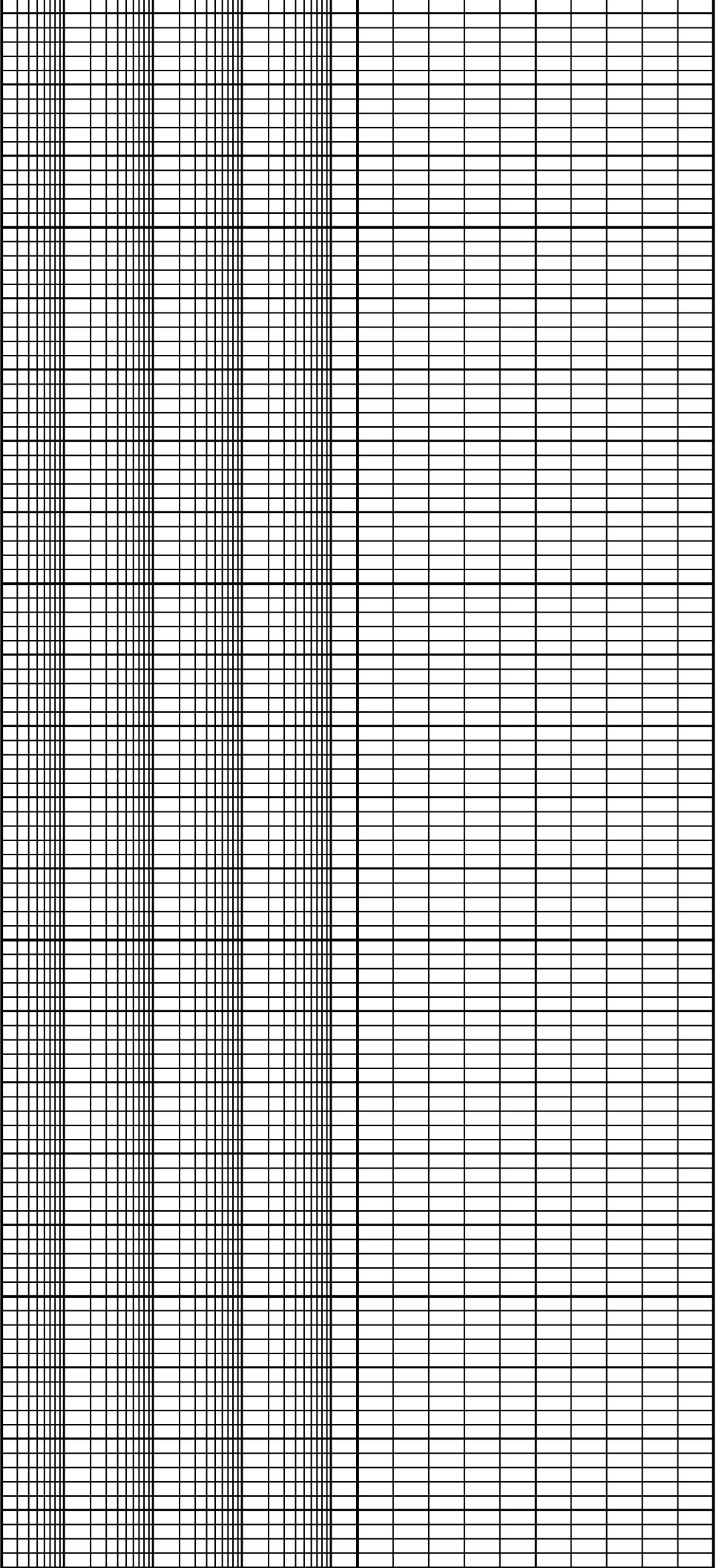


900

1000

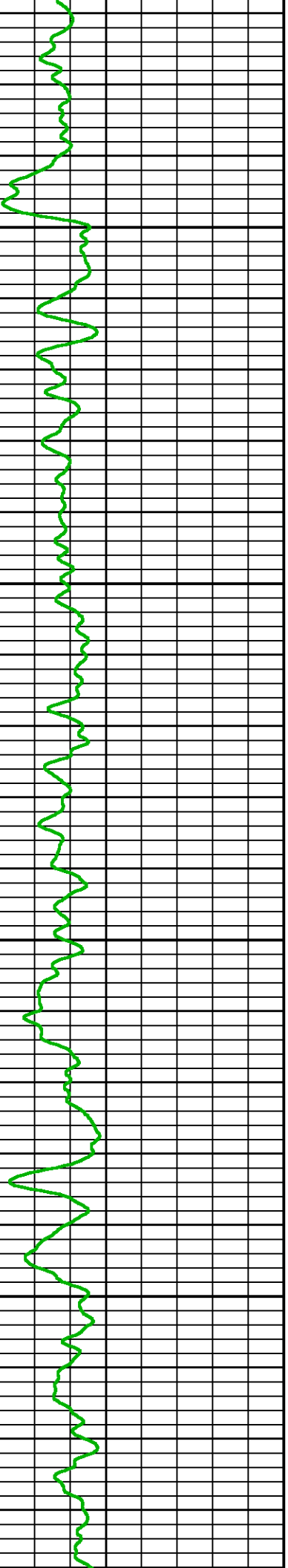
1100

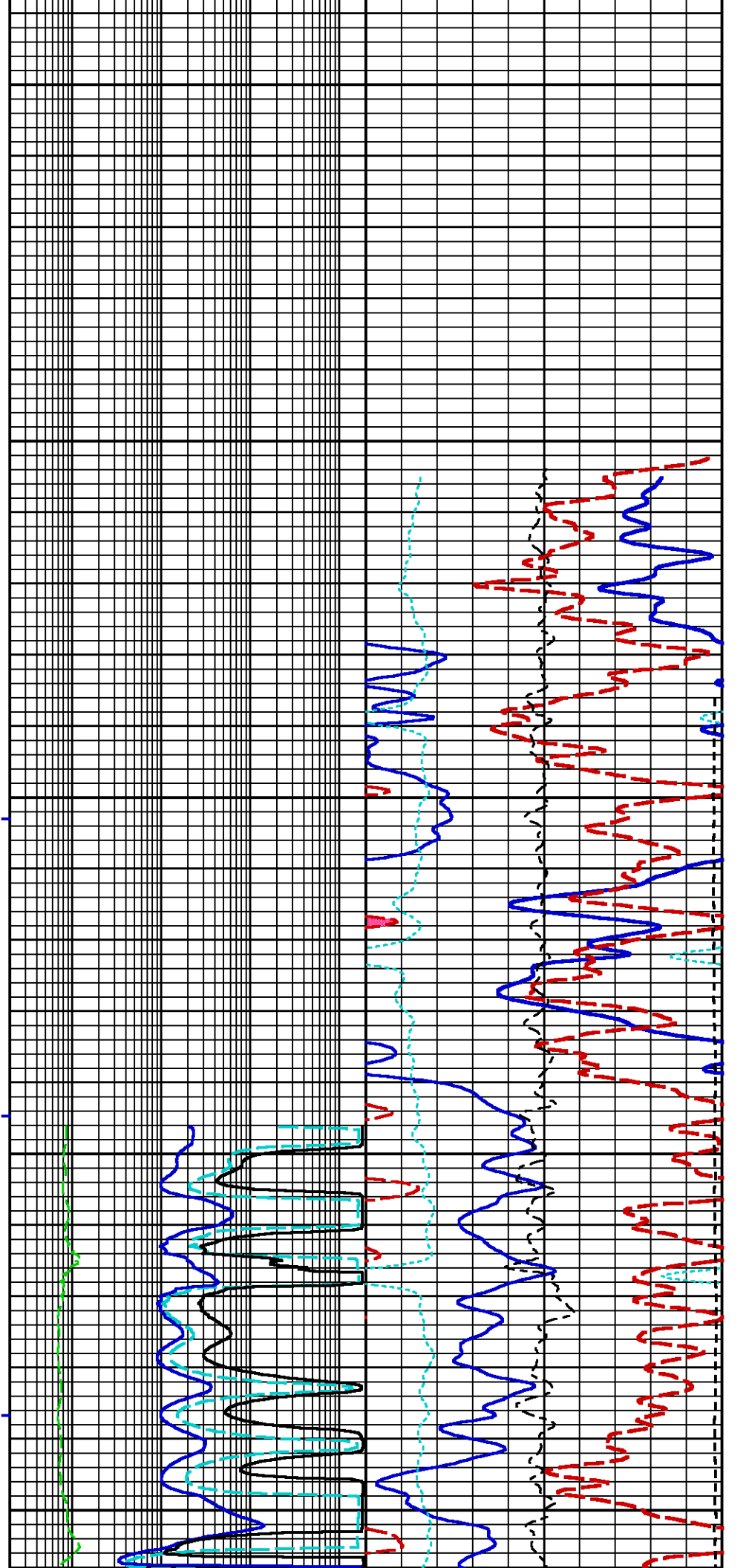




1200

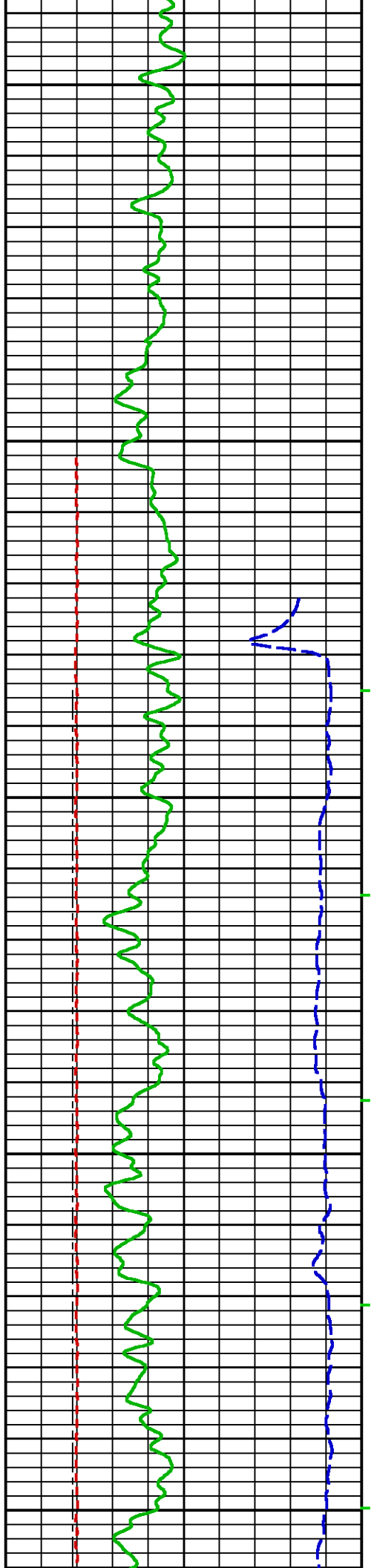
1300

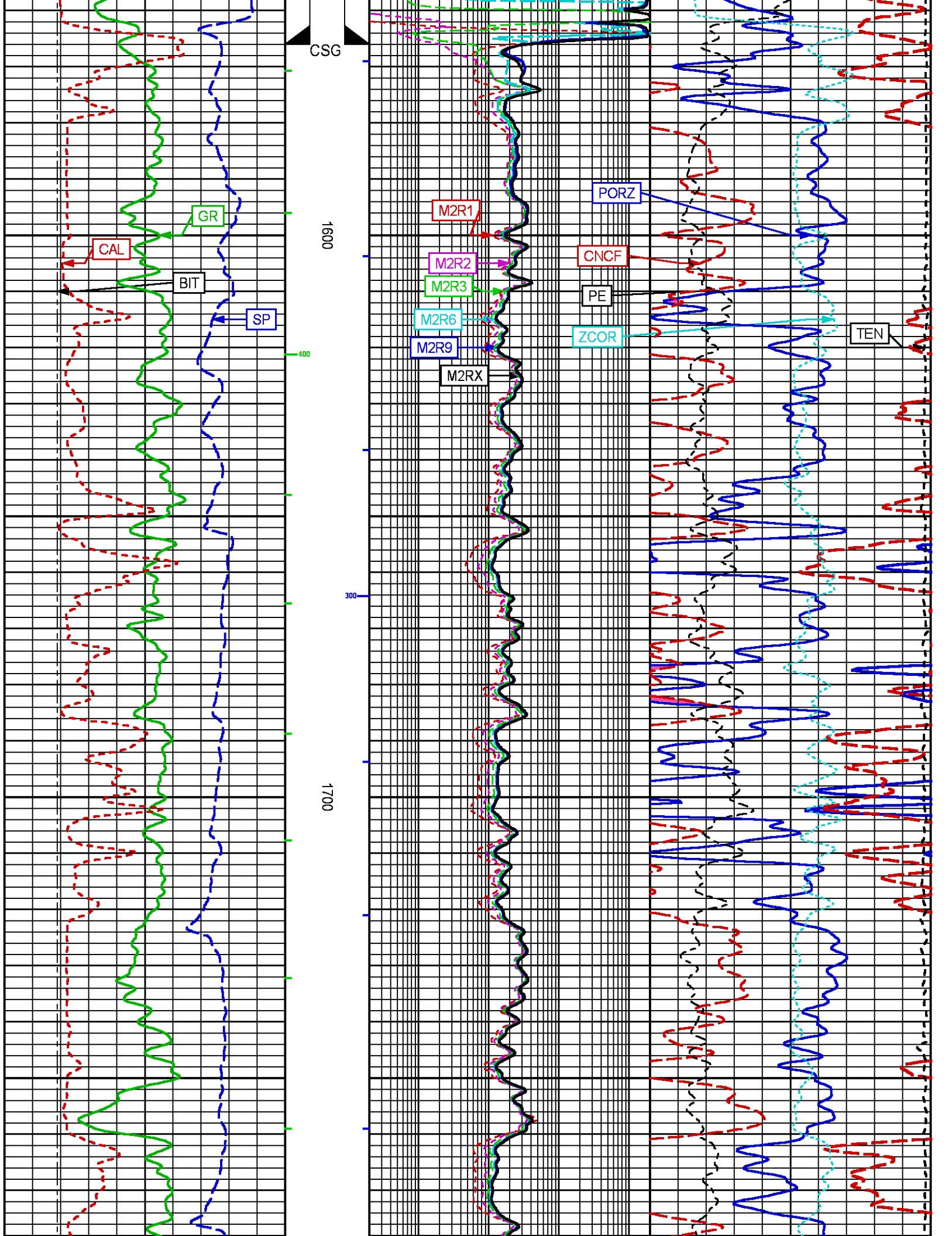


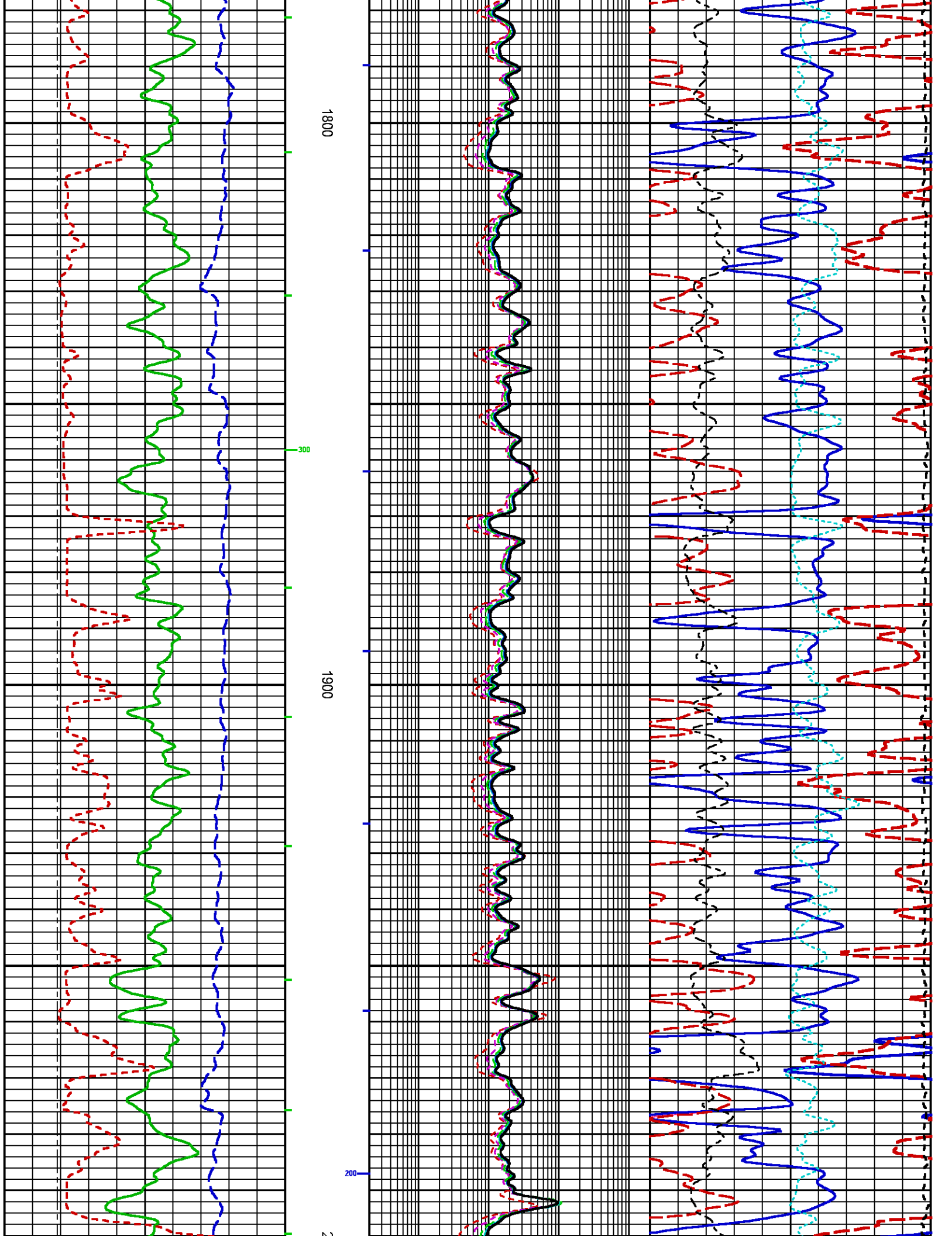


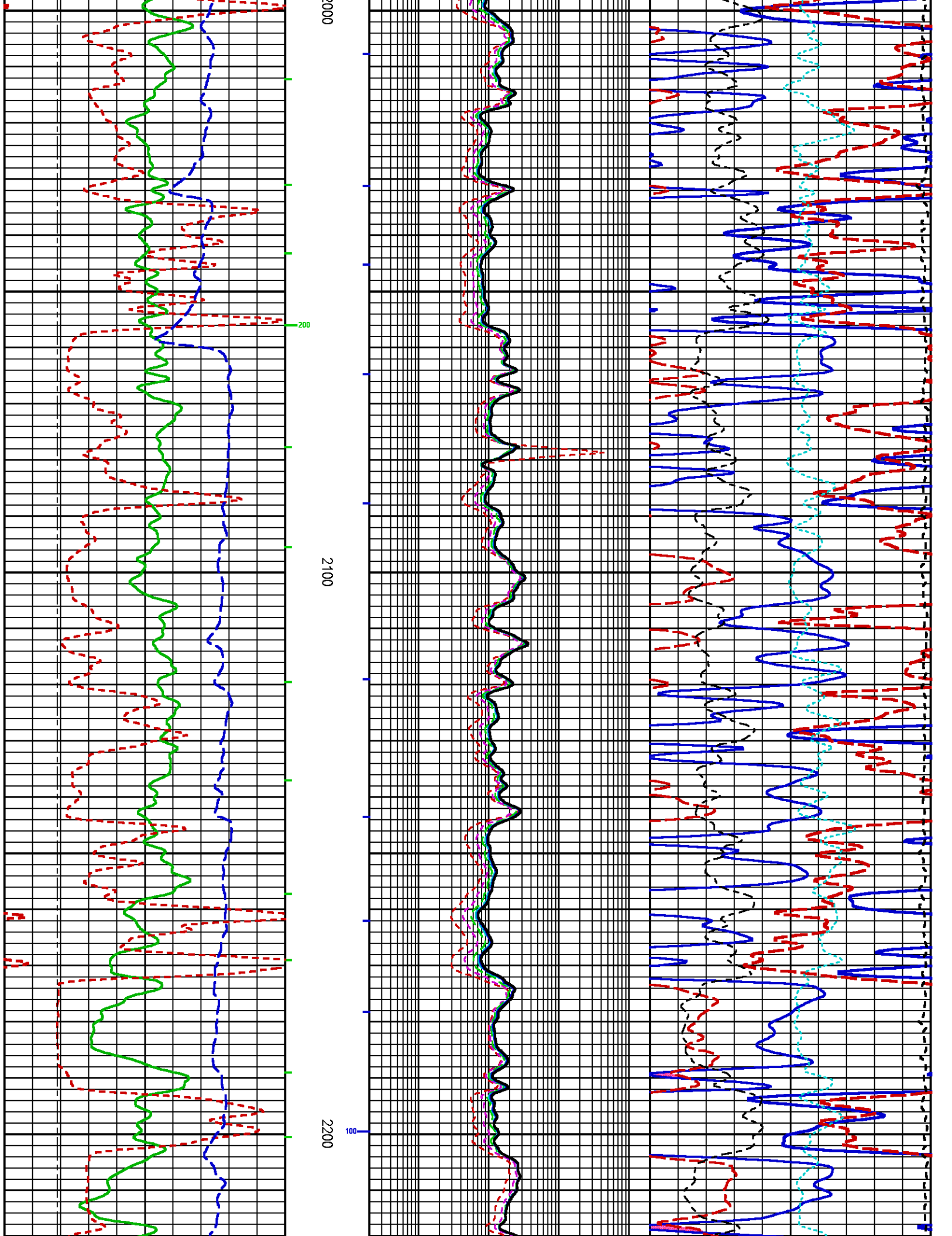
1400

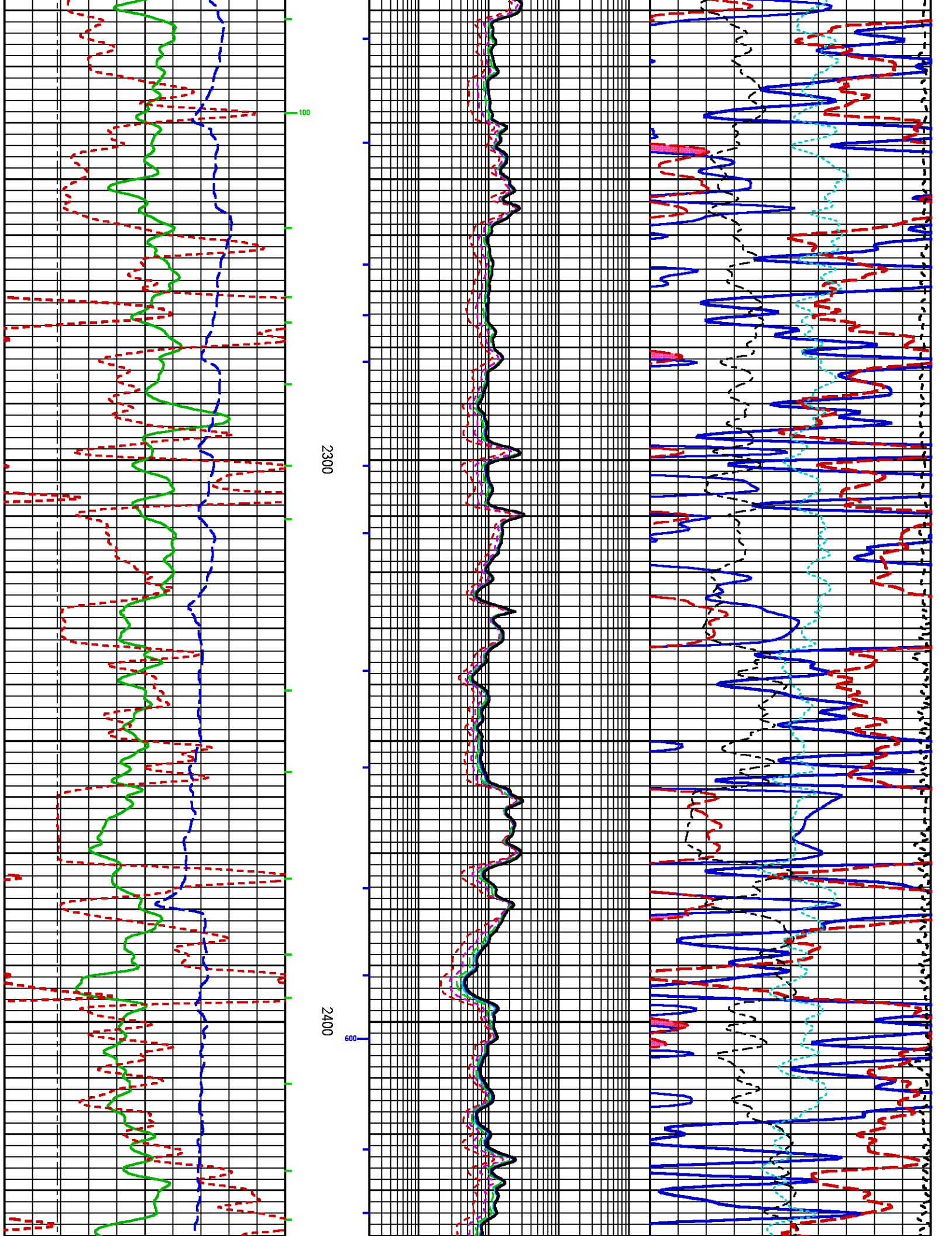
1500

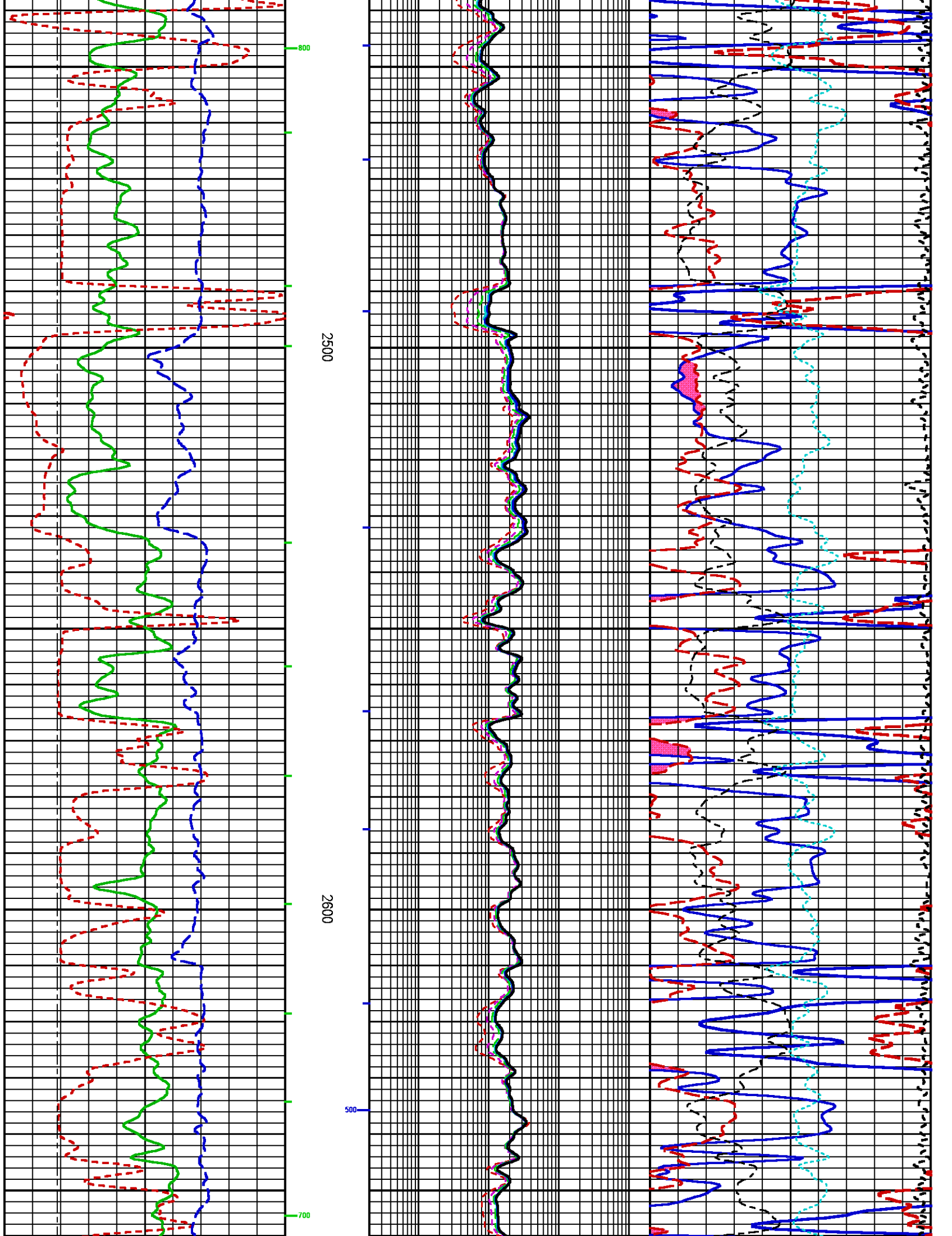


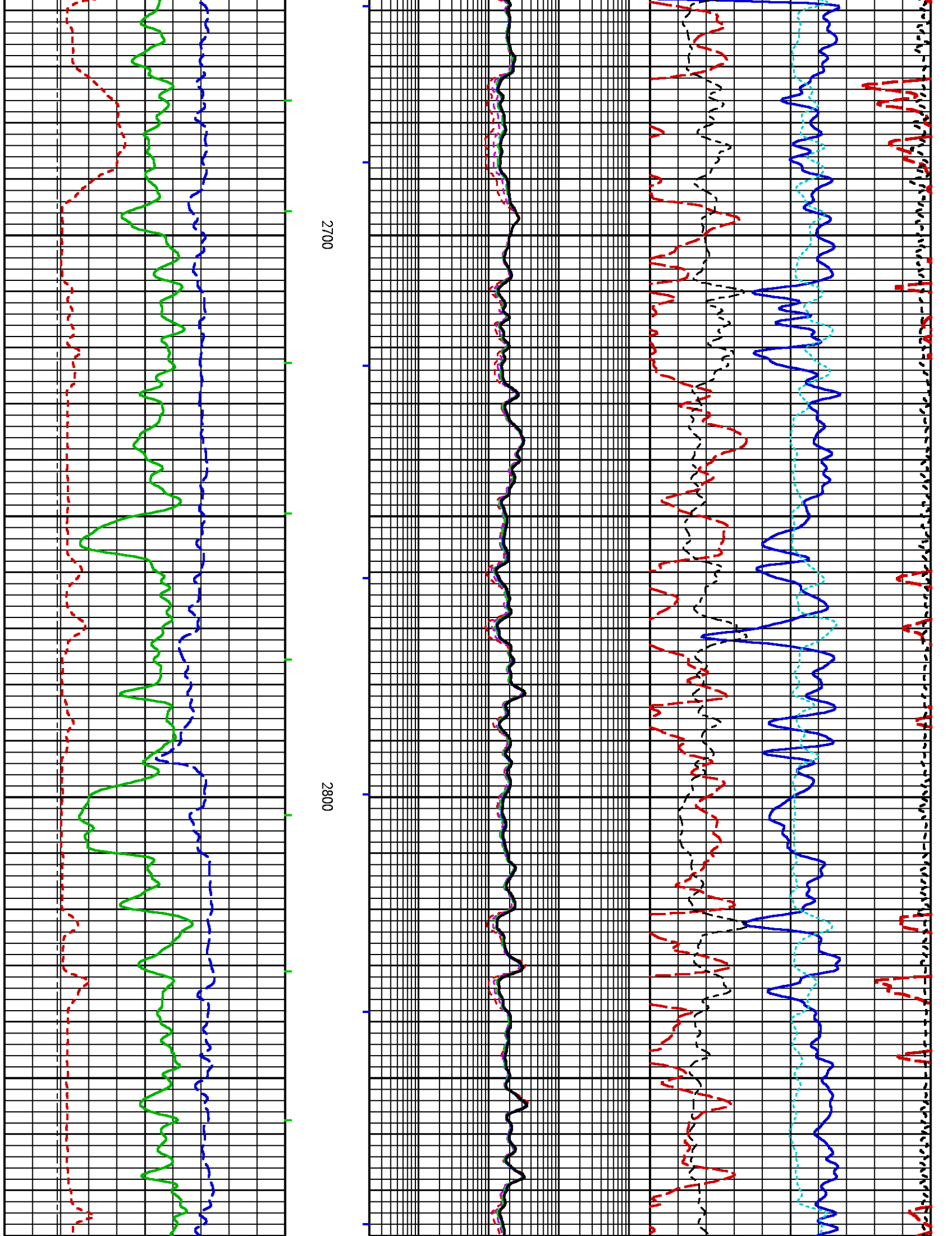


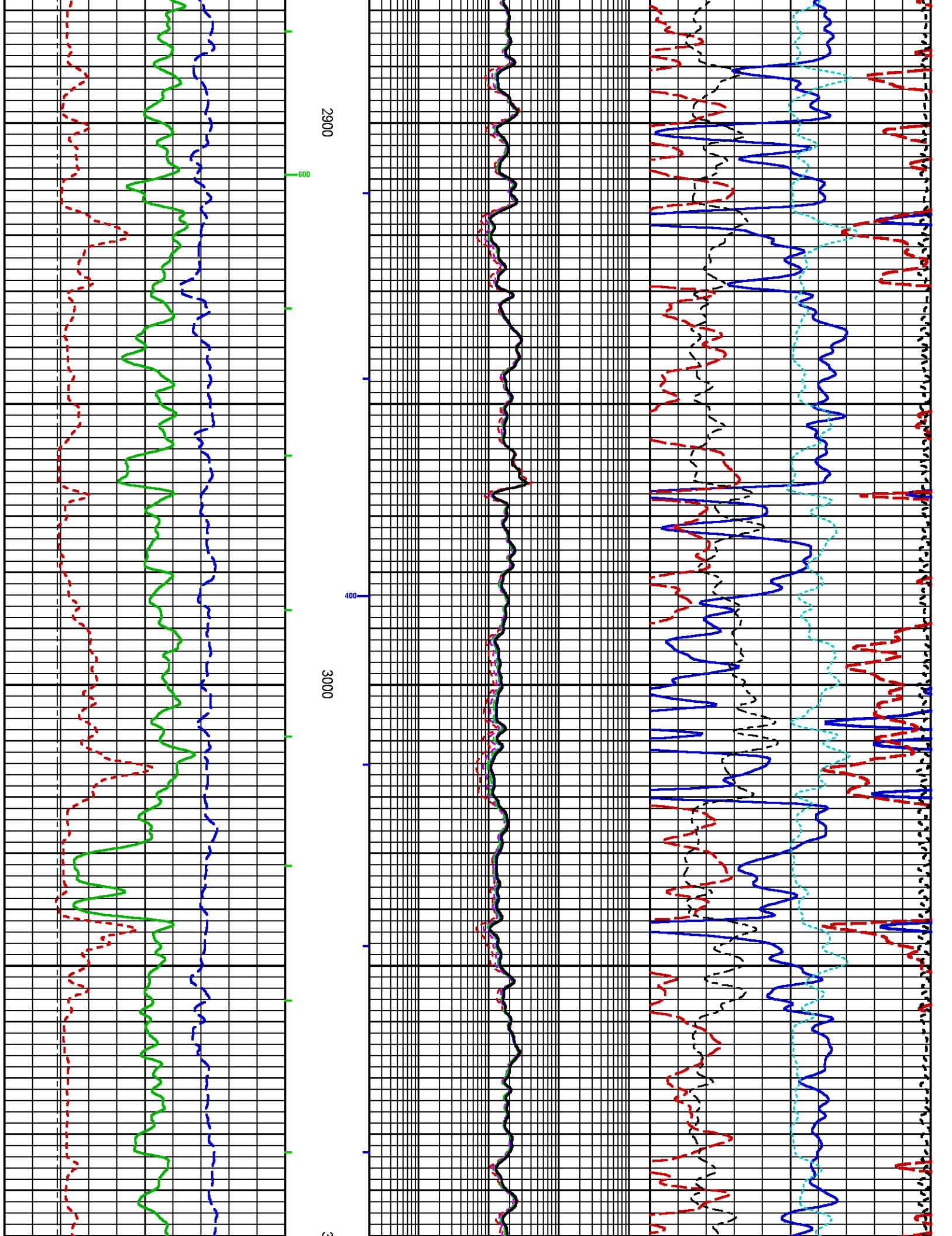


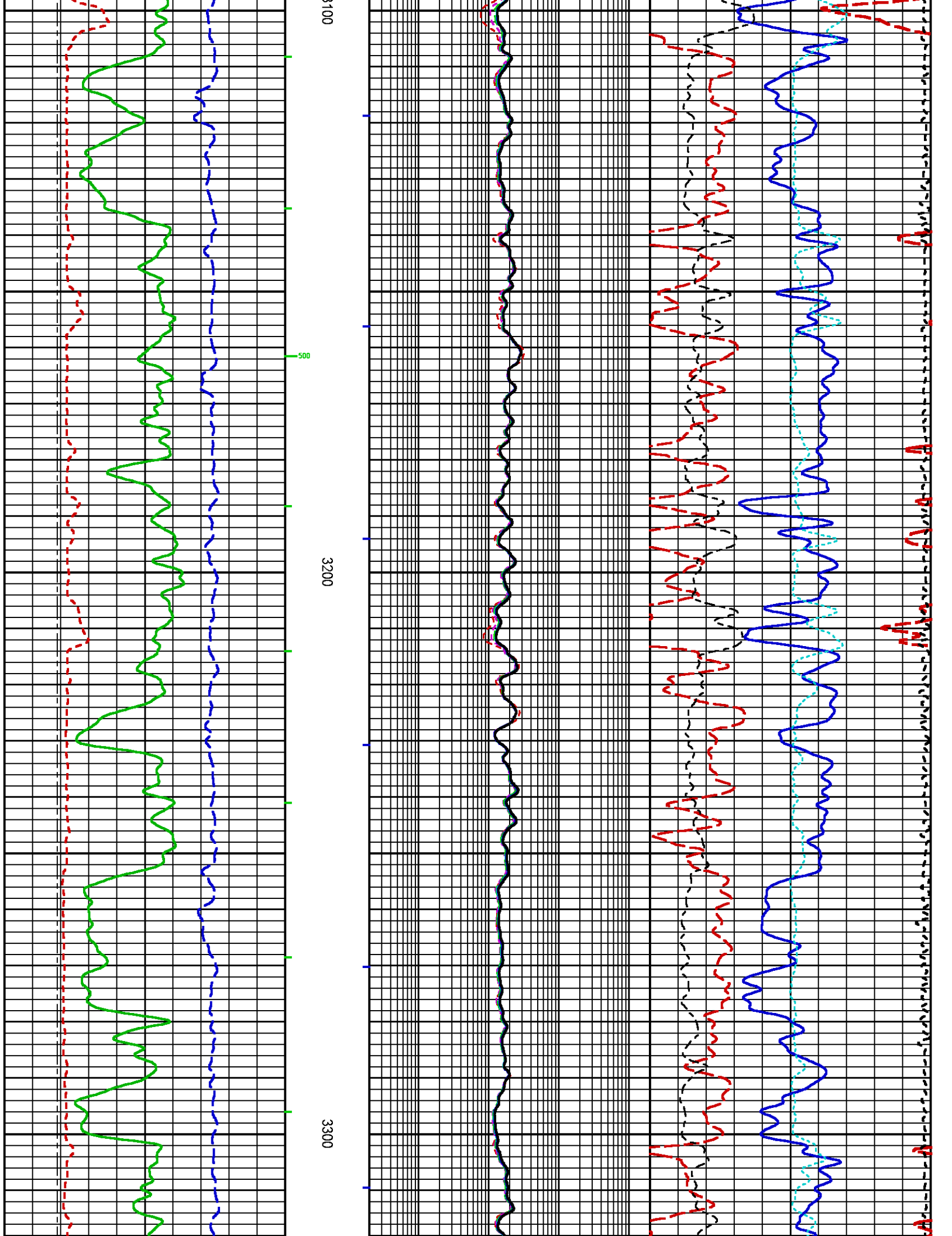


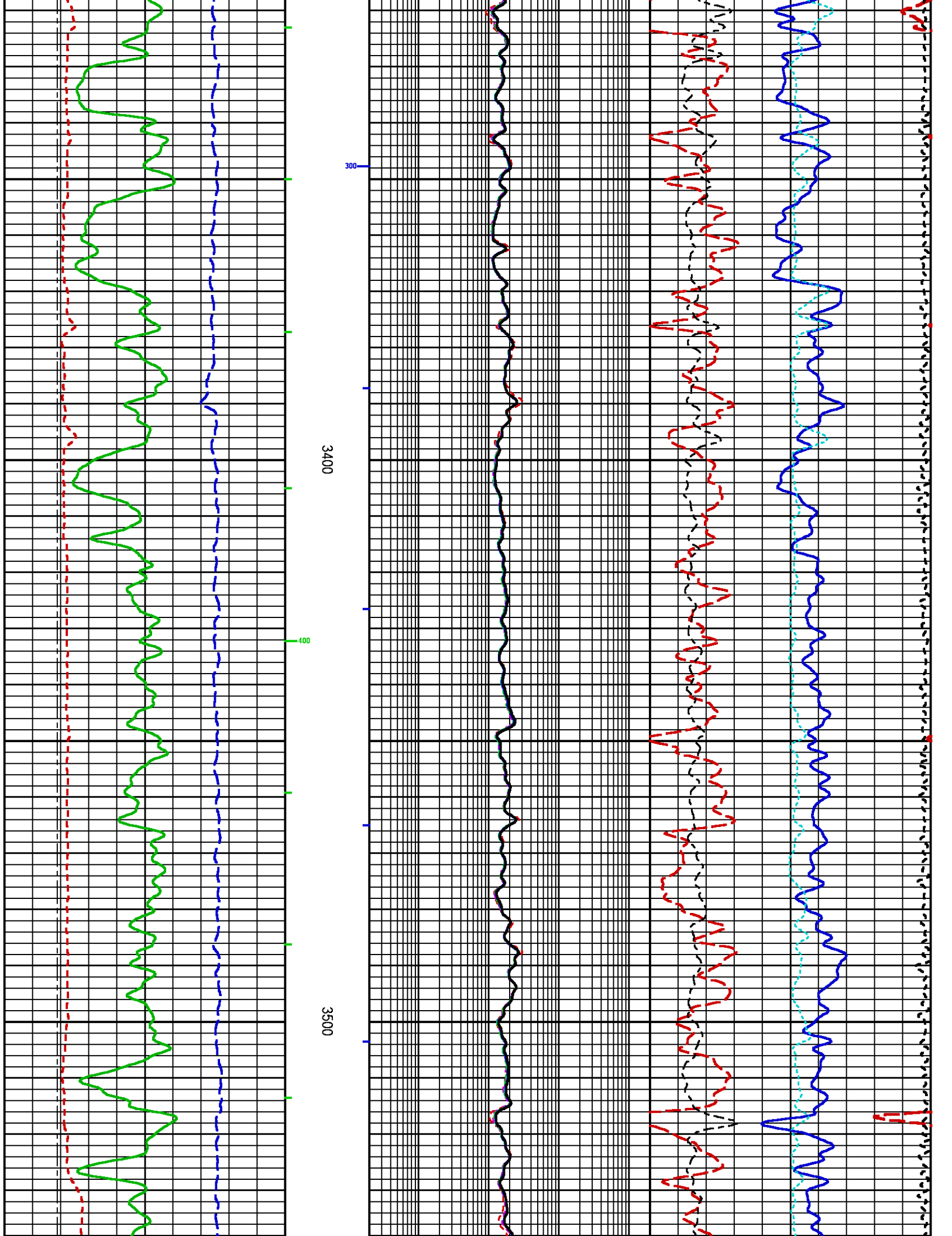


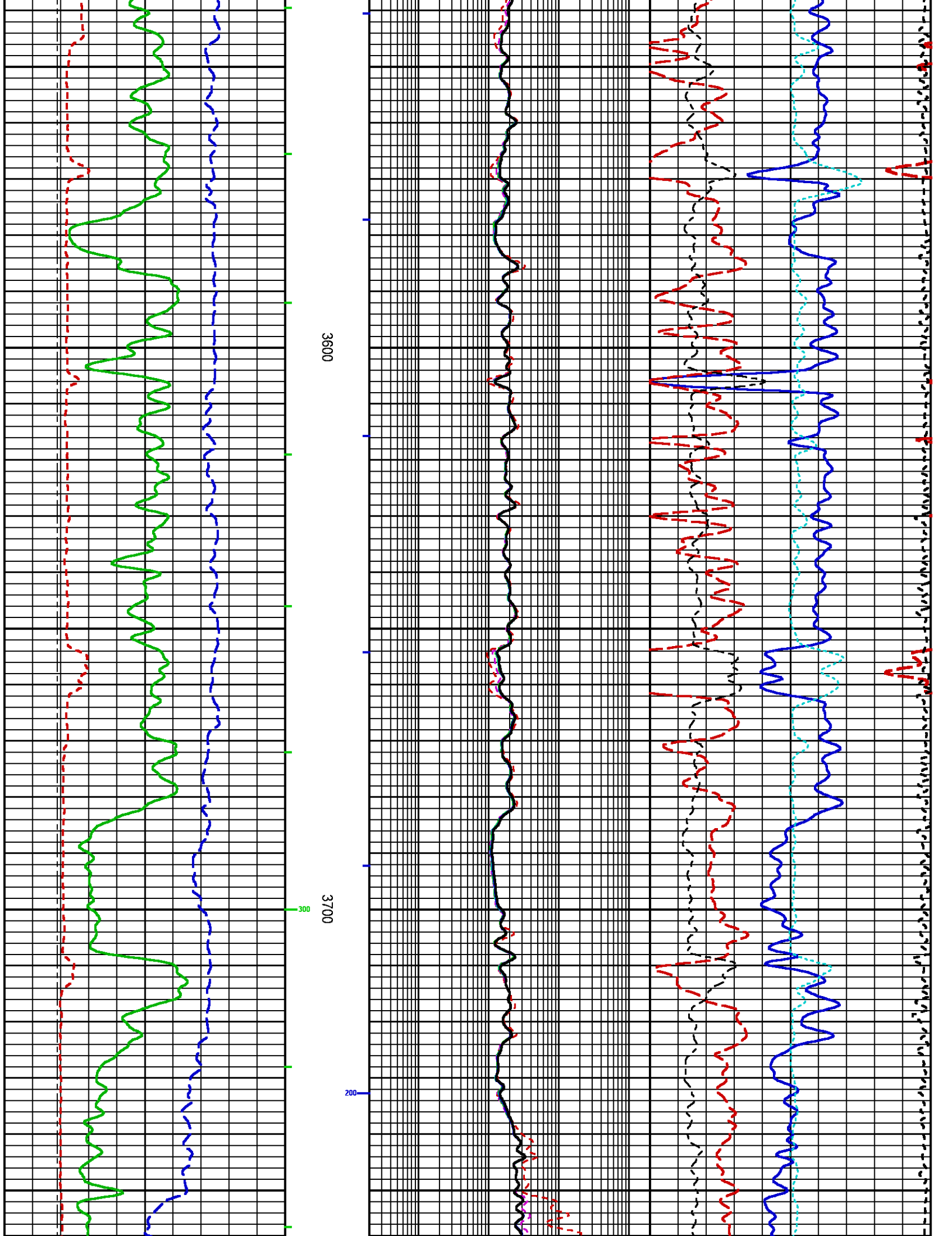


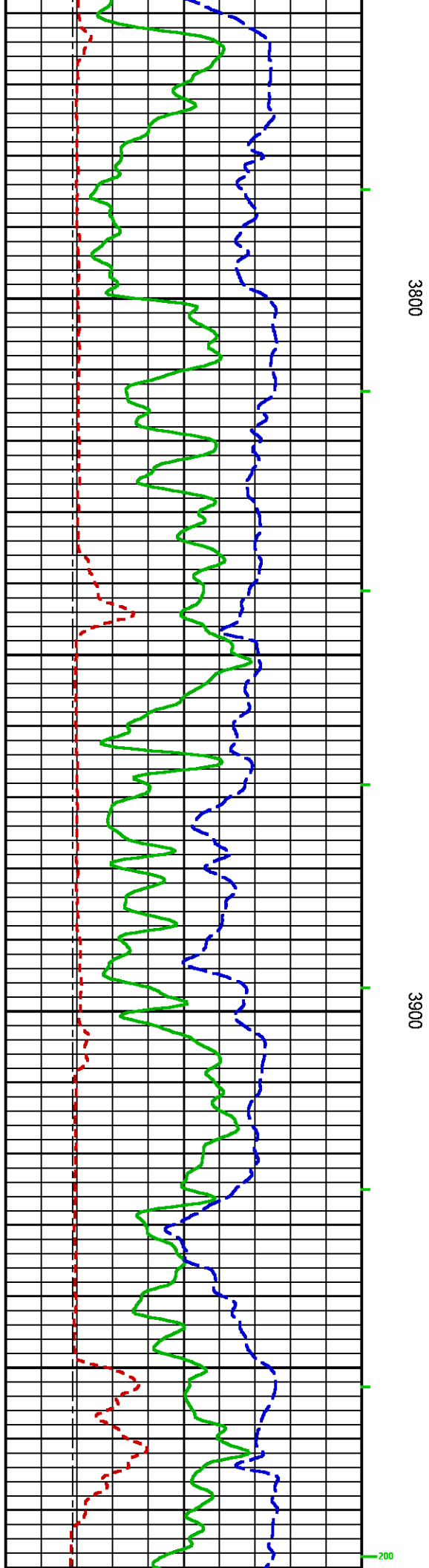
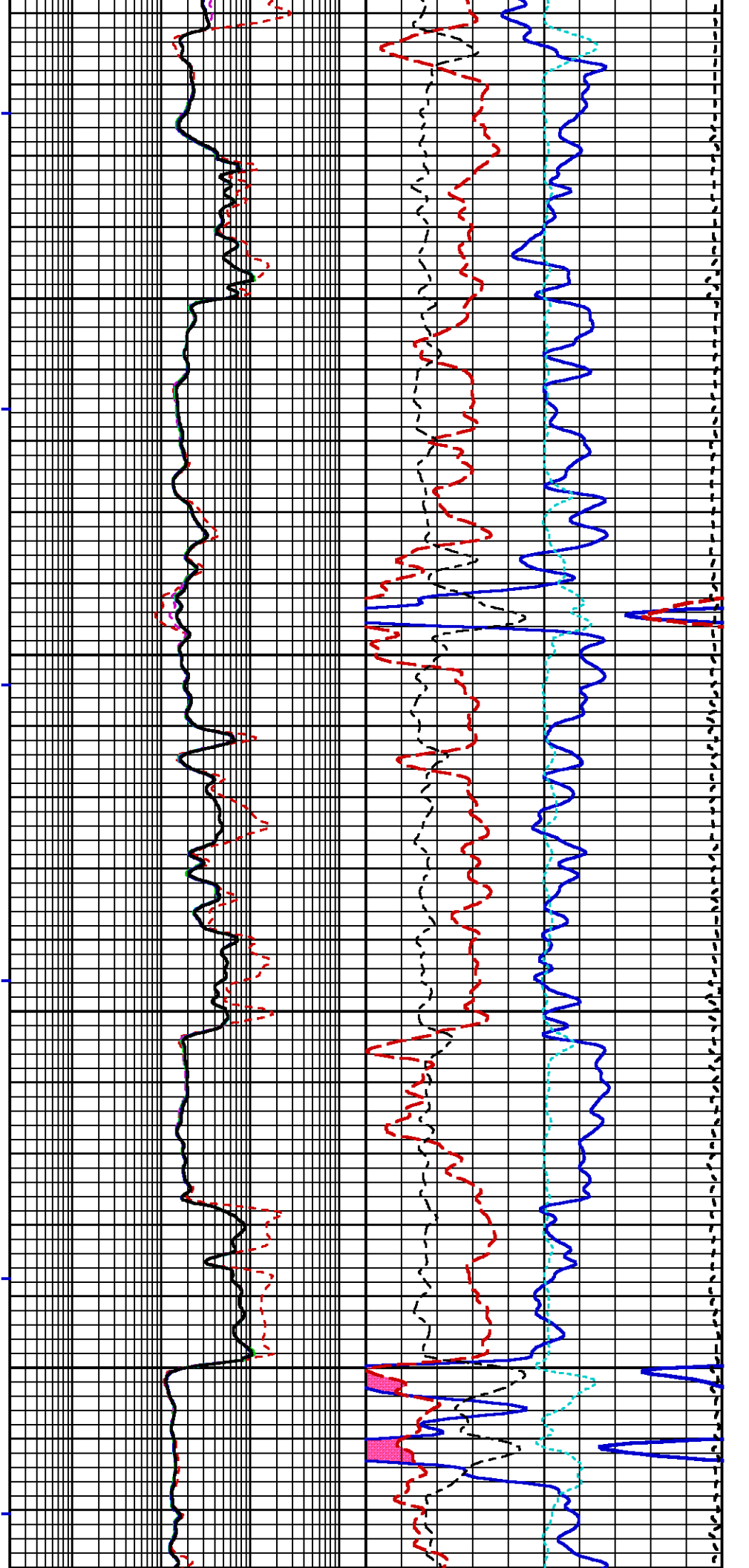


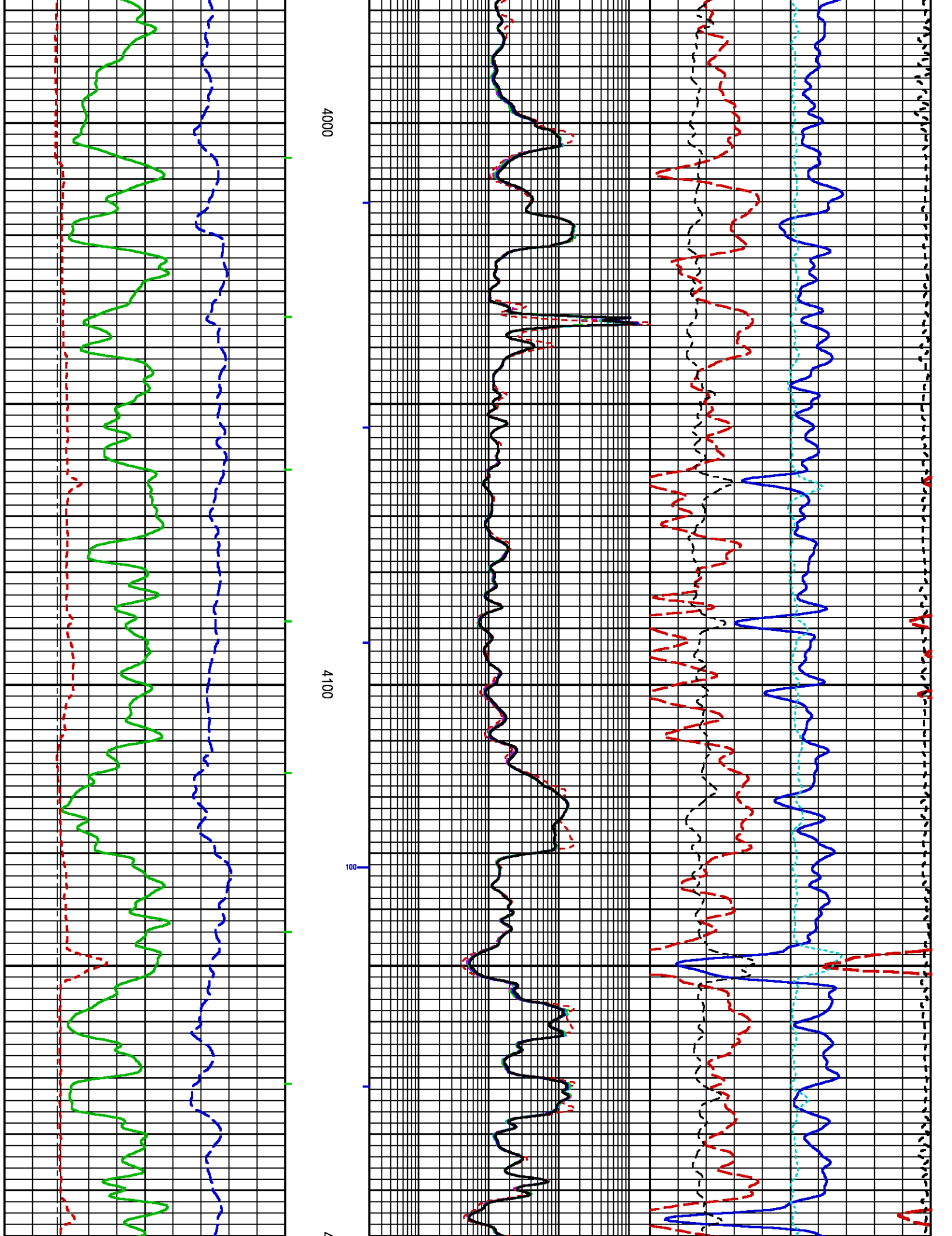


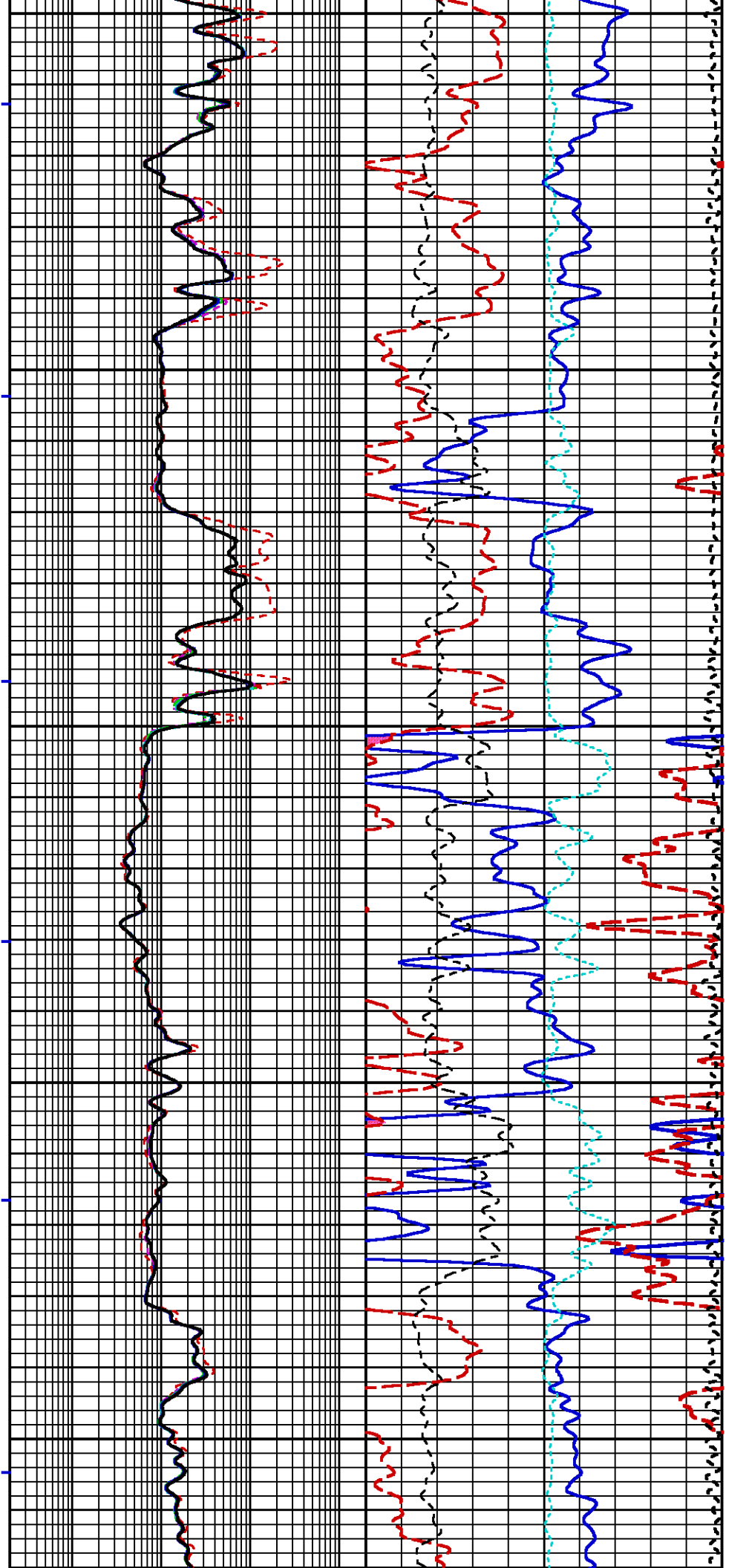








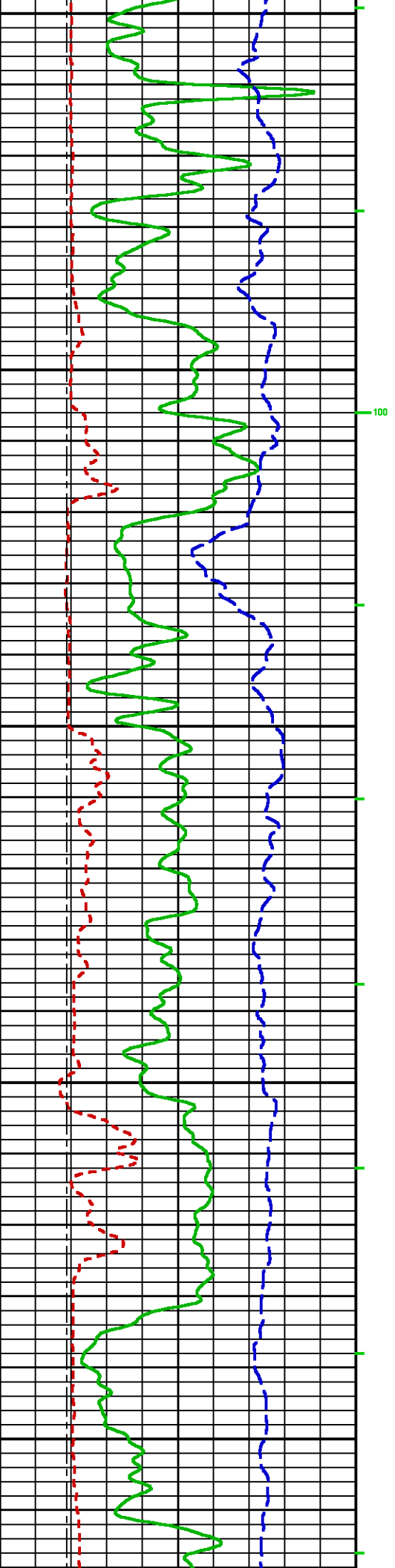


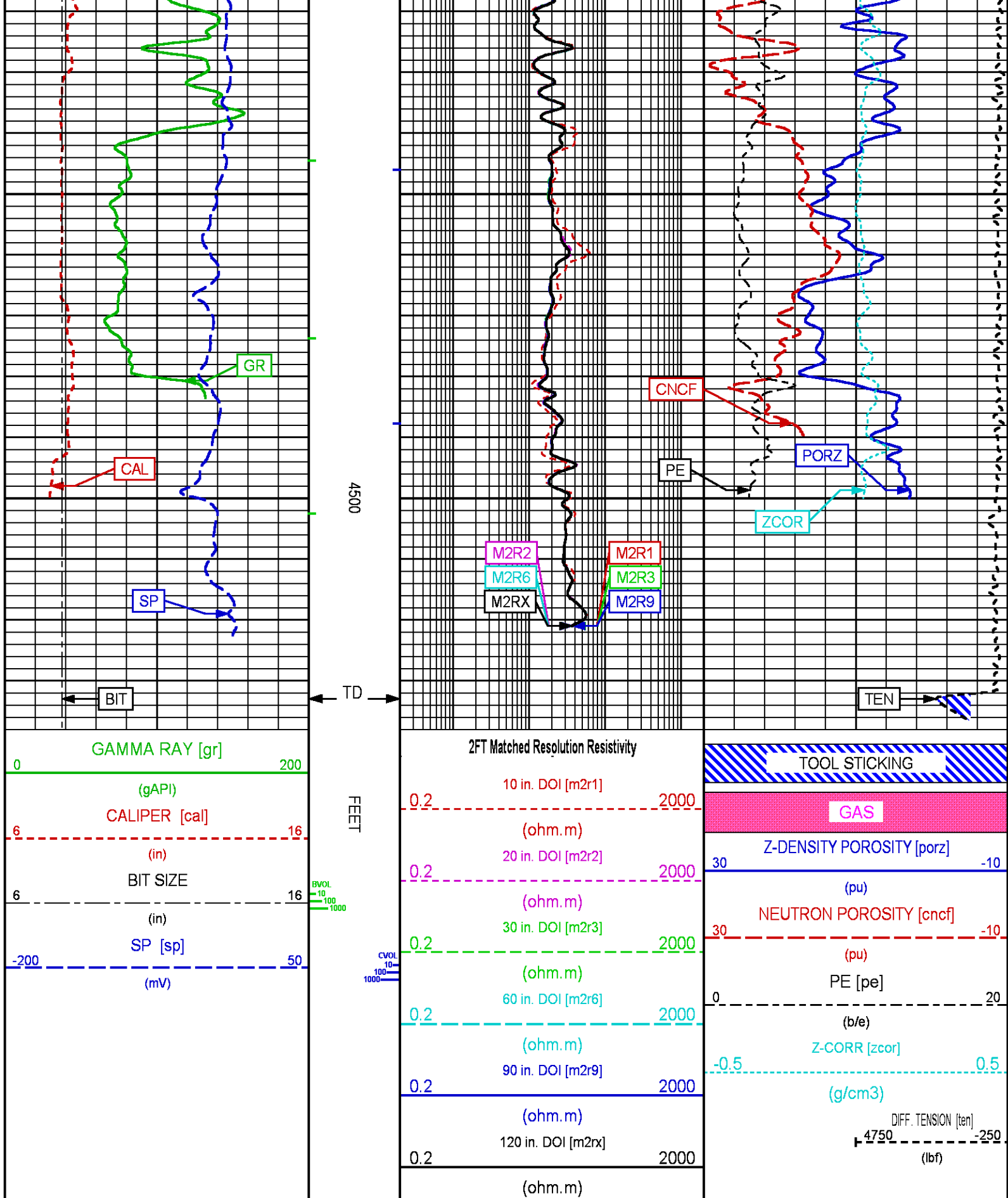


1200

4300

4400





REPEAT LOG 5"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 2

Plotted: Fri Mar 9 20:45:31 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1478.000 ft BOTTOM DEPTH: 1771.500 ft

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	1720.500
		0.000	in	1720.500	BOTTOM
	CASING THICKNESS	0.000	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	7.875	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	97.3	degF	TOP	1752.000
		77.0	degF	1752.000	BOTTOM
	MUD SAMPLE RES	1.000	ohm.m	TOP	BOTTOM
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	97.3	degF	TOP	1747.250
		77.0	degF	1747.250	BOTTOM
	at BH REF DEPTH	1754.0	ft	TOP	1745.000
		0.0	ft	1745.000	BOTTOM
	with TEMP GRADIENT	1.200	0.01 degF/ft	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	MUD SAMP DERIVED		"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE LIMESTONE		TOP 1696.250	1696.250 BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		TOP	BOTTOM
	SALINITY	800	ppm	TOP	1694.000
		0	ppm	1694.000	BOTTOM
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		TOP	BOTTOM
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

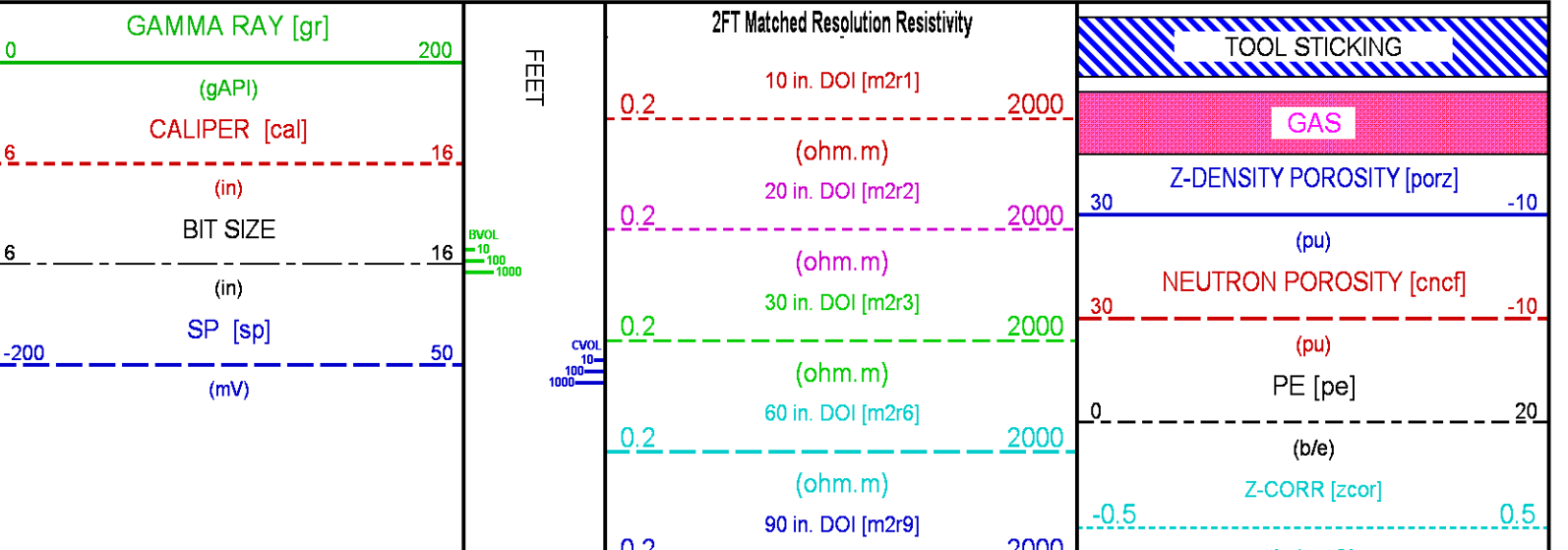
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOfmatrix	2.680	g/cm3	TOP	1701.250
		2.710	g/cm3	1701.250	BOTTOM
	RHOfluid	1.000	g/cm3	TOP	BOTTOM
ZDL	DENX TRACKING	ON		"	"

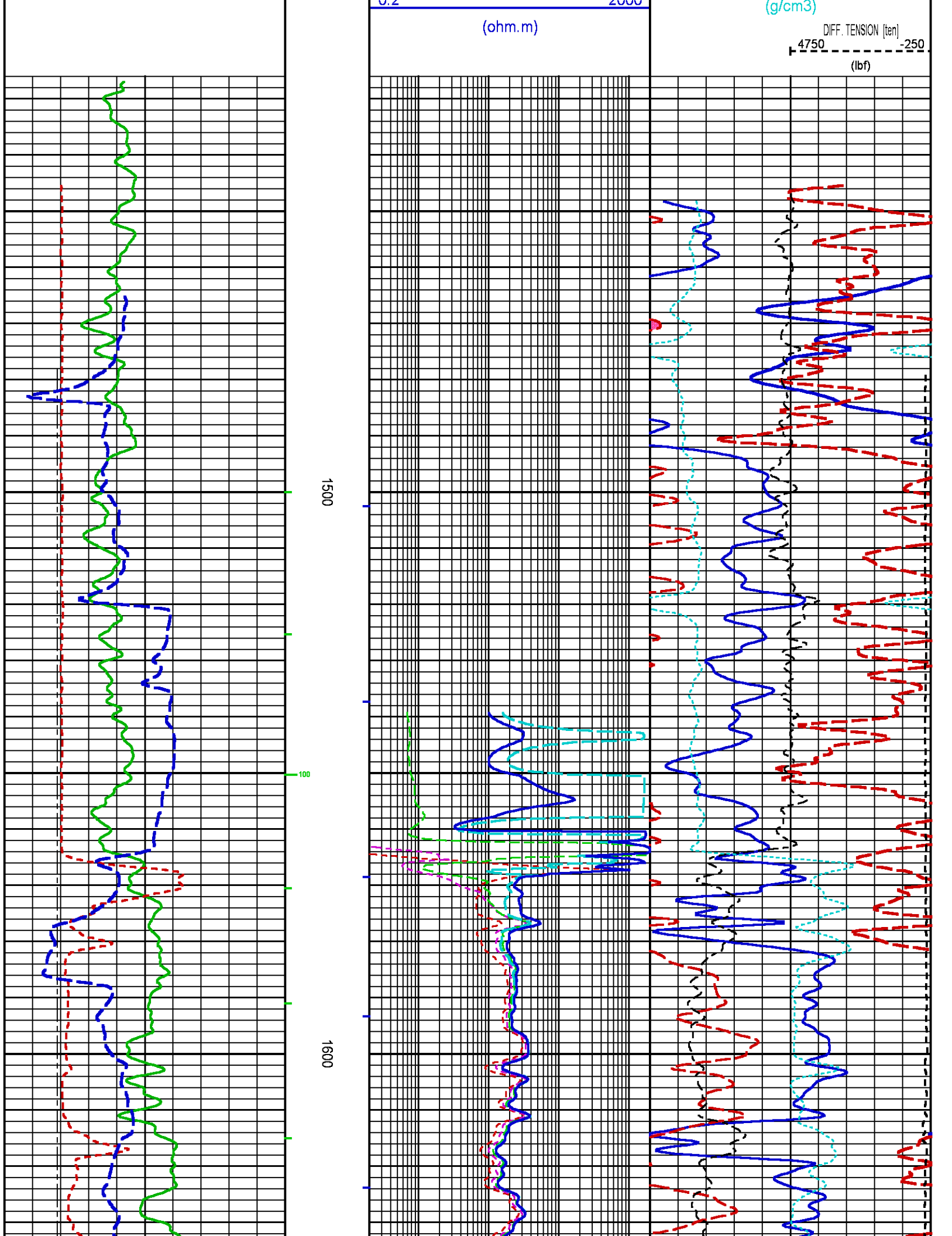
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min	"	"
HDIL PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		" "
	ABC to CALCULATE	STANDOFF		TOP 1724.250
		BOREHOLE SIZE		BOTTOM
	STANDOFF	1.50	in	TOP BOTTOM
	TOOL POSITION	ECCENTERED		" "
	Rmud MULTIPLIER	1.000		" "
HDIL High RESISTIVITY Normalization	VRM Norm	ON		" "

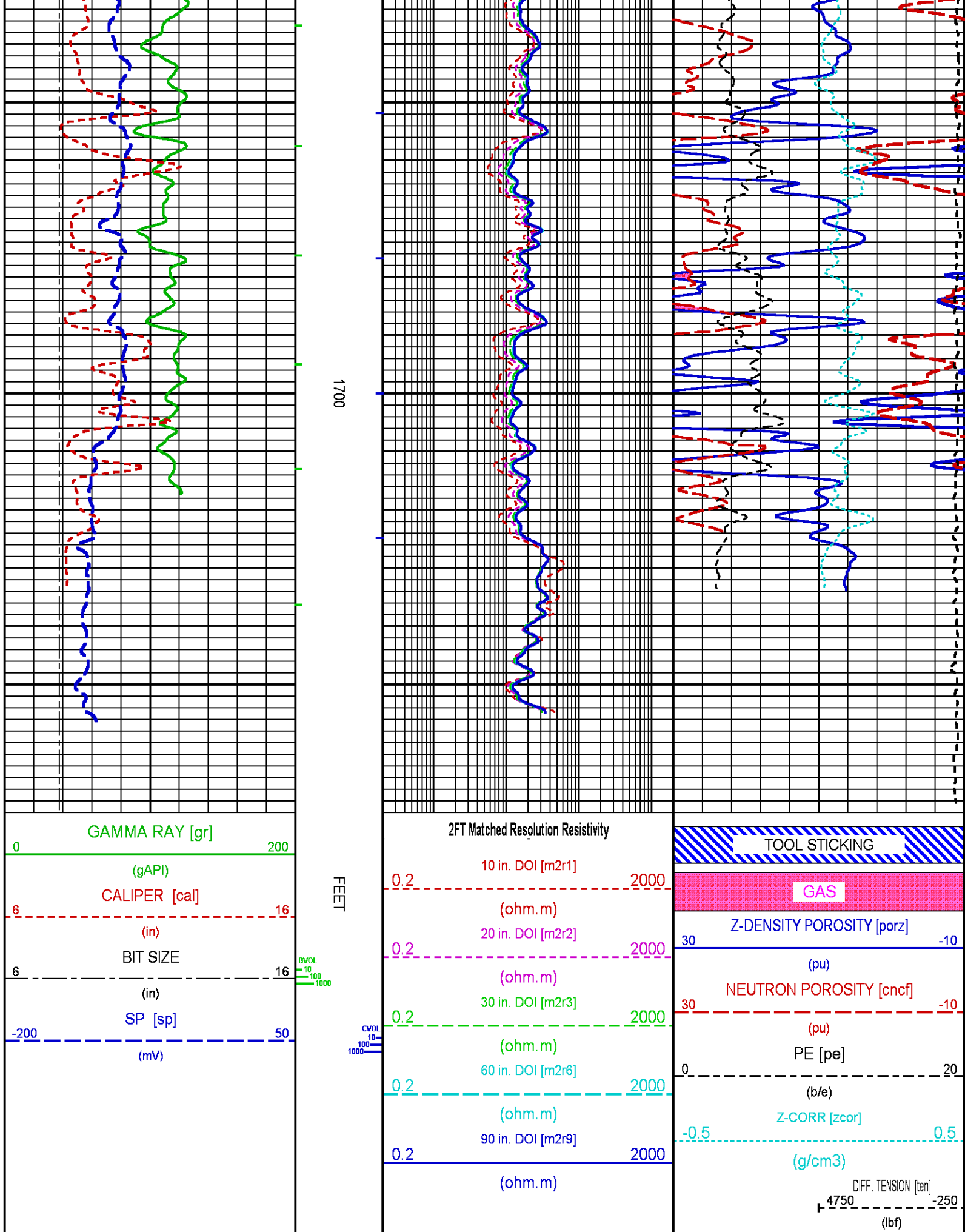
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY,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

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

Presentation	: SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/LARAMIE_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 1427 - 1771.5 Feet
Data File 1	: F1 : SysA:/dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q01_RPT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY II LLC
Well	: NICHOLS 0994-24-11E
Field	: VEGA
File Interval	: 1412.5 - 1771.5 Feet
OCT	: p777q







CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10045153

DATE/TIME PERFORMED: Wed Dec 13 17:03:03 2017

UNIT #: CHANGE ME

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (lbf)	Engr High (lbf)
CHT	120.40	464.62	2.77	-234.04	100.00	1055.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 363173

DATE/TIME PERFORMED: Mon Jan 29 11:55:52 2018

UNIT #: 3882TD HL6728

CALB JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	203.07	1112.58	909.5 830.0 960.0	0.165	33.49	183.49	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 363173

DATE/TIME PERFORMED: Mon Jan 29 12:01:17 2018

UNIT #: 3882TD HL6728

VERI JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	203.04	1121.80	0.165	33.49	185.01	151.52 140.00 160.00

SLSP PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 363173

DATE/TIME PERFORMED: Mon Jan 29 11:59:01 2018

UNIT #: 3882TD HL6728

CALIBRATOR ID: 4702NA DA_228

	Bkgnd (cts/s)	Cal ON (cts/s)	Mult (gAPI/(cts/s))	Bkgnd (gAPI)	Cal ON (gAPI)	Cal Value (gAPI)
GR-SL (.06-3.5)	197.50	1103.86	0.165	32.69	182.69	150

	Std Rate (cts/s)	Meas Rate (cts/s)	Tool Norm	Std Mult	Log Mult	App Con (pct ppm)
E (.25-3.0)	554	564.6	0.981 0.900 1.100			
K				0.01602	0.01572	8.900
U				0.03851	0.03779	21.300
TH				0.10135	0.09945	56.100

	Mult chnl/MeV	Add chnls	QSA	QCAL	GAIN	U Pk Res %	Flask Temp (degF)
SPECTRUM	70.232	3.701	0.764	1.004 0.980 1.020	2979	9.11	67.25

	P1 .352 MeV	P2 .609 MeV	P3 1.120 MeV	P4 1.765 MeV	P5 2.204 MeV
Std Pk	25.80	44.20	81.00	127.40	159.00
Meas Pk	27.67 22.80 28.80	46.74 40.20 48.20	83.03 76.00 86.00	128.19 121.40 133.40	157.78 152.00 166.00
Fit Pk	28.42	46.47	82.36	127.66	158.49

SLSP PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 363173

DATE/TIME PERFORMED: Mon Jan 29 12:01:29 2018

UNIT #: 3882TD HL6728

CALIBRATOR ID: 4702NA DA_228

	Bkgnd (cts/s)	Cal ON (cts/s)	Mult (gAPI/(cts/s))	Bkgnd (gAPI)	Cal ON (gAPI)	Cal Value (gAPI)
GR-SL (.06-3.5)	199.85	1111.75	0.165	32.24	179.73	147 135 165

	Std rate	Meas rate	Tool norm	Std Mult	Log Mult	App Con (pct ppm)
E (.25-3.0)	554	570.8	0.981			
K				0.01602	0.01572	8.972 8.010 9.790
U				0.03851	0.03779	21.568 19.170 23.430
TH				0.10135	0.09945	56.763 50.490 61.710

	Mult chnl/MeV	Add chnls	QSA	QCAL	GAIN	U Pk Res %	Flask Temp (degF)
--	------------------	--------------	-----	------	------	---------------	----------------------

SPECTRUM	70.075	3.740	1.033	1.002	2979	7.33	67.54
				0.980 1.020			

	P1	P2	P3	P4	P5
	.352 MeV	.609 MeV	1.120 MeV	1.765 MeV	2.204 MeV
Std Pk	25.80	44.20	81.00	127.40	159.00
Meas Pk	27.58	46.57	83.21	127.90	157.39
	22.80 28.80	40.20 48.20	76.00 86.00	121.40 133.40	152.00 166.00
Fit Pk	28.41	46.42	82.22	127.42	158.18

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10342170 DATE/TIME PERFORMED: Mon Jan 29 14:26:55 2018

UNIT #: 3882TD HL6728 CALIBRATOR #: 2437XB 120052 SOURCE #: 4717XS N__923

	MEASURED	DEADTM CORR	DTC	NOMINAL	CORRECTION	POROSITY
	CPS	CPS	SSN/LSN	SSN/LSN	FACTOR	(pu)
LSN	592.09	600.62				
SSN	1559.54	1609.75				
RATIO			2.68014	2.75100	1.02644	
					0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10342170 DATE/TIME PERFORMED: Mon Jan 29 14:31:41 2018

UNIT #: 3882TD HL6728 ICE BLOCK #: 4717ND D__043

	MEASURED	DEADTM CORR	DTC	CORRECTION	DTC CORR	POROSITY
	CPS	CPS	SSN/LSN	FACTOR	SSN/LSN	(pu)
LSN	2017.73	2120.46				
SSN	4633.17	5106.45				
RATIO			2.40818	1.02644	2.47305	
CN						17.496

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Tue Jan 30 15:40:58 2018

UNIT #: 3882TD HL6728

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING	LARGE RING
					(in)	(in)
CALIPER	1246.4	2148.0	0.00800	-2.18924	7.785	15.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Fri Mar 9 20:36:41 2018

DAYS SINCE CAL: 38

UNIT #: 5753XD 111111

	I.D.	MULT	ADD	I.D.
				(in)
CALIPER	1342.8	0.00800	-2.72868	8.017

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Sat Mar 10 14:59:37 2018

DAYS SINCE CAL: 38

UNIT #: 5753XD 111111

	I.D.	MULT	ADD	I.D.
				(in)
CALIPER	1300.4	0.00800	-2.72868	7.678
				7.517 8.517

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 10231795

DATE/TIME PERFORMED: Tue Jan 30 16:11:01 2018

UNIT: 3882TD HL6728

CALB BLKS: 2225XA B94287

CS SRC: 4703NT 11344B

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	224.0	224.1	1250.9	1425.7		
	220.0 230.0	220.0 230.0				
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	19182.0	9964.5	0.594	1.700	0.003	2.160
			0.585 0.685			
AL	11117.9	997.1		2.698	-0.010	
AL + SHIM	15429.0	1744.2		2.619	0.158	

MG + SHIM (HI PE)

9216.3

4653.2

0.235

8.500

0.210

0.270

RATIO AL + SHIM/AL

1.39

1.75

1.32

1.42

1.64

1.84

RATIO MG/AL

1.73

9.99

1.65

1.78

9.40

10.20

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Fri Mar 9 20:03:40 2018

DAYS SINCE CAL: 38

UNIT #: 5753XD 111111

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1425.9	225.8	1254.1
	1325.7 1525.7	220.0 230.0	1100.0 1550.0
SS	1247.6	224.7	1232.4
	1150.9 1350.9	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	71.3	
	4.8 5.2	50.0 120.0	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10231795

DATE/TIME PERFORMED: Sat Mar 10 15:16:55 2018

DAYS SINCE CAL: 38

UNIT #: 5753XD 111111

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1412.1	223.7	1260.6
	1325.7 1525.7	220.0 230.0	1100.0 1550.0
SS	1246.9	220.7	1235.9
	1150.9 1350.9	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	68.8	
	4.8 5.2	50.0 120.0	

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 179553

DATE/TIME PERFORMED: Wed Feb 7 17:00:03 2018

UNIT #: CHANGE ME

GRCOND ID & DATE: a.110 082996

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

ZERO DATA (mV)		10 KHz		30 KHz		50 KHz		70 KHz		90 KHz		110 KHz		130 KHz		150 KHz	
Coil 0 R	-0.005	0.001	0.002	0.000	-0.002	-0.000	-0.000	-0.002	-0.000	-0.000	-0.002	-0.200	0.200	-0.100	0.100	-0.100	0.100
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 0 Q	0.007	0.010	0.002	0.001	0.003	0.002	0.001	0.001	0.001	0.001	0.001	-1.000	1.000	-0.200	0.200	-0.100	0.100
	-1.000	1.000	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 1 R	0.003	0.010	0.009	0.009	0.007	0.007	0.006	0.005	0.003	0.003	0.003	-0.200	0.200	-0.100	0.100	-0.100	0.100
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 1 Q	-0.000	0.001	-0.001	0.002	0.002	0.002	0.001	-0.001	-0.000	-0.000	-0.001	-1.000	1.000	-0.200	0.200	-0.100	0.100
	-1.000	1.000	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 2 R	0.007	0.002	-0.003	-0.002	-0.001	-0.001	0.001	0.005	0.007	0.007	0.007	-0.200	0.200	-0.100	0.100	-0.100	0.100
	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 2 Q	-0.007	-0.005	-0.002	0.000	-0.004	-0.004	-0.004	-0.003	-0.007	-0.007	-0.007	-1.000	1.000	-0.200	0.200	-0.100	0.100
	-1.000	1.000	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 3 R	0.003	0.005	0.003	0.007	0.006	0.002	0.001	0.001	0.003	0.003	0.003	-0.100	0.100	-0.100	0.100	-0.100	0.100
	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 3 Q	-0.010	-0.009	-0.003	-0.000	0.003	0.004	-0.000	0.001	-0.010	-0.010	-0.010	-0.500	0.500	-0.200	0.200	-0.100	0.100
	-0.500	0.500	-0.200	0.200	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	-0.100	0.100	
Coil 4 R	-0.004	0.003	0.004	0.003	-0.001	0.006	0.002	0.005	-0.004	-0.004	-0.004	-0.200	0.200	-0.200	0.200	-0.200	0.200
	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	
Coil 4 Q	-0.017	0.004	-0.006	-0.004	0.003	-0.005	-0.007	-0.001	-0.017	-0.017	-0.017	-1.000	1.000	-0.400	0.400	-0.200	0.200
	-1.000	1.000	-0.400	0.400	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	-0.200	0.200	
Coil 5 R	-0.014	0.002	0.006	0.012	0.000	0.001	0.003	-0.002	-0.014	-0.014	-0.014	-0.400	0.400	-0.400	0.400	-0.400	0.400
	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	
Coil 5 Q	-0.014	0.007	-0.007	-0.007	0.010	0.010	0.004	0.001	-0.014	-0.014	-0.014	-2.000	2.000	-0.800	0.800	-0.400	0.400
	-2.000	2.000	-0.800	0.800	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	-0.400	0.400	
Coil 6 R	-0.020	0.006	-0.023	-0.026	-0.020	0.000	0.019	0.025	-0.020	-0.020	-0.020	-1.000	1.000	-1.000	1.000	-1.000	1.000
	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	
Coil 6 Q	-0.014	-0.002	-0.029	-0.002	-0.033	-0.025	-0.017	-0.005	-0.014	-0.014	-0.014	-5.000	5.000	-2.000	2.000	-1.000	1.000
	-5.000	5.000	-2.000	2.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	-1.000	1.000	
ELEC. GAINS		10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz								
Coil 0 M	125.72	124.16	121.20	116.84	111.27	104.62	97.01	88.75	100.00	150.00	100.00	150.00	98.00	150.00	96.00	140.00	
	100.00	150.00	100.00	150.00	98.00	150.00	96.00	140.00	92.00	140.00	87.00	130.00	82.00	120.00	76.00	110.00	
Coil 0 P	8.004	25.137	41.974	58.696	75.258	91.759	108.047	124.186	6.000	9.000	19.000	28.000	32.000	47.000	44.000	66.000	
	6.000	9.000	19.000	28.000	32.000	47.000	44.000	66.000	57.000	85.000	70.000	100.000	82.000	120.000	95.000	140.000	
Coil 1 M	216.48	213.99	209.07	201.94	192.67	181.57	168.69	154.47	180.00	270.00	180.00	270.00	170.00	260.00	170.00	250.00	
	180.00	270.00	180.00	270.00	170.00	260.00	170.00	250.00	160.00	250.00	160.00	230.00	150.00	220.00	140.00	200.00	
Coil 1 P	7.960	25.006	41.797	58.493	75.068	91.588	107.945	124.155	6.000	9.000	19.000	28.000	32.000	48.000	45.000	67.000	
	6.000	9.000	19.000	28.000	32.000	48.000	45.000	67.000	57.000	86.000	70.000	110.000	83.000	120.000	96.000	140.000	
Coil 2 M	427.47	422.77	413.70	400.70	384.01	364.40	341.98	317.62	360.00	540.00	360.00	540.00	350.00	530.00	340.00	510.00	
	360.00	540.00	360.00	540.00	350.00	530.00	340.00	510.00	330.00	500.00	310.00	470.00	300.00	440.00	270.00	410.00	
Coil 2 P	7.685	24.162	40.353	56.408	72.302	88.146	103.797	119.435	6.000	9.000	19.000	29.000	32.000	48.000	45.000	67.000	
	6.000	9.000	19.000	29.000	32.000	48.000	45.000	67.000	58.000	87.000	71.000	110.000	84.000	130.000	96.000	140.000	
Coil 3 M	699.65	691.29	675.10	651.62	621.04	584.48	542.47	495.93	590.00	880.00	580.00	870.00	570.00	850.00	550.00	830.00	
	590.00	880.00	580.00	870.00	570.00	850.00	550.00	830.00	530.00	800.00	500.00	760.00	470.00	710.00	440.00	650.00	
Coil 3 P	8.184	25.684	42.919	60.057	77.052	94.032	110.781	127.426	6.000	10.000	20.000	29.000	33.000	49.000	46.000	69.000	
	6.000	10.000	20.000	29.000	33.000	49.000	46.000	69.000	59.000	89.000	72.000	110.000	85.000	130.000	98.000	150.000	
Coil 4 M	1139.9	1126.2	1099.4	1060.8	1010.8	951.2	883.0	807.6	900.0	1400.0	900.0	1300.0	900.0	1300.0	850.0	1300.0	
	900.0	1400.0	900.0	1300.0	900.0	1300.0	850.0	1300.0	800.0	1200.0	800.0	1200.0	750.0	1100.0	700.0	1000.0	
Coil 4 P	8.284	26.053	43.517	60.883	78.097	95.262	112.229	129.081	6.000	10.000	20.000	30.000	33.000	50.000	46.000	70.000	
	6.000	10.000	20.000	30.000	33.000	50.000	46.000	70.000	60.000	90.000	73.000	110.000	86.000	130.000	99.000	150.000	
Coil 5 M	2276.1	2249.1	2195.7	2118.8	2018.9	1899.7	1762.8	1611.2	1900.0	2800.0	1800.0	2800.0	1800.0	2700.0	1800.0	2600.0	
	1900.0	2800.0	1800.0	2800.0	1800.0	2700.0	1800.0	2600.0	1700.0	2500.0	1600.0	2400.0	1500.0	2200.0	1400.0	2100.0	
Coil 5 P	8.462	26.539	44.343	62.044	79.610	97.136	114.455	131.703	6.000	10.000	20.000	31.000	34.000	51.000	48.000	72.000	
	6.000	10.000	20.000	31.000	34.000	51.000	48.000	72.000	62.000	93.000	76.000	110.000	89.000	130.000	100.000	150.000	

Coil 4 P	0.073	0.112	0.115	0.170	0.178	0.169	0.155	0.150
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 5 M	1.021	1.020	1.020	1.019	1.018	1.019	1.017	1.017
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 5 P	0.093	0.020	0.082	0.099	0.076	-0.000	0.036	0.046
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 6 M	1.016	1.018	1.016	1.015	1.014	1.020	1.021	1.020
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 6 P	0.038	0.150	0.096	0.192	0.084	-0.005	0.004	-0.132
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000

PARMS

TCID 0

TCID 1

Cal Temp

T Factor

(degF)

IDs

1.414

0.852

52.1

1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #:

1515MA 179553

DATE/TIME PERFORMED:

Fri Mar 9 20:06:00 2018

DAYS SINCE CAL:

30

UNIT #:

5753XD 111111

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.007	0.005	0.002	-0.002	-0.005	-0.004	-0.004	-0.002
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 0 Q	0.005	0.008	0.006	0.006	0.005	0.001	-0.003	-0.002
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 R	0.007	0.007	0.006	0.003	-0.000	-0.002	0.000	0.002
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 Q	0.002	0.004	0.005	0.004	0.003	-0.001	-0.004	-0.006
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 R	0.008	0.006	0.001	-0.002	-0.001	-0.003	0.001	0.005
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 Q	-0.004	0.001	0.004	0.004	0.000	-0.004	-0.006	-0.003
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 R	-0.007	0.003	0.006	0.004	0.003	0.003	0.000	-0.004
	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	-0.004	-0.008	-0.001	0.000	0.002	0.001	0.001	-0.001
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 4 R	-0.008	-0.007	-0.001	-0.001	-0.004	-0.005	0.002	0.004
	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	0.002	0.010	-0.001	-0.001	-0.002	0.002	-0.003	0.000
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	-0.007	0.008	-0.014	-0.000	0.004	-0.001	-0.006	-0.008
	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	-0.017	-0.001	0.002	0.005	0.016	0.009	-0.001	0.004
	-2.000 2.000	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 6 R	-0.008	0.016	-0.016	0.002	-0.026	-0.013	0.008	0.011
	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000
Coil 6 Q	-0.031	0.014	0.003	-0.002	-0.014	-0.006	-0.006	-0.002
	-5.000 5.000	-2.000 2.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000

ELEC. GAINS

10 KHz

30 KHz

50 KHz

70 KHz

90 KHz

110 KHz

130 KHz

150 KHz

Coil 0 M	126.14	124.56	121.57	117.01	111.49	104.67	97.15	88.56
	100.00 150.00	100.00 150.00	98.00 150.00	96.00 140.00	92.00 140.00	87.00 130.00	82.00 120.00	76.00 110.00
Coil 0 P	8.006	25.053	41.817	58.468	74.956	91.385	107.569	123.715
	6.000 9.000	19.000 28.000	32.000 47.000	44.000 66.000	57.000 85.000	70.000 100.000	82.000 120.000	95.000 140.000
Coil 1 M	219.12	216.51	211.56	204.08	194.81	183.28	170.48	155.57
	180.00 270.00	180.00 270.00	170.00 260.00	170.00 250.00	160.00 250.00	160.00 230.00	150.00 220.00	140.00 200.00
Coil 1 P	7.964	24.986	41.739	58.404	74.924	91.463	107.686	124.023
	6.000 9.000	19.000 28.000	32.000 48.000	45.000 67.000	57.000 88.000	70.000 110.000	83.000 120.000	96.000 140.000
Coil 2 M	433.54	428.68	419.46	405.71	388.98	368.59	346.21	320.64
	360.00 540.00	360.00 540.00	350.00 530.00	340.00 510.00	330.00 500.00	310.00 470.00	300.00 440.00	270.00 410.00
Coil 2 P	7.712	24.180	40.386	56.433	72.318	88.156	103.777	119.515
	6.000 9.000	19.000 29.000	32.000 48.000	45.000 67.000	58.000 87.000	71.000 110.000	84.000 130.000	96.000 140.000
Coil 3 M	707.43	698.75	682.45	657.48	626.97	589.24	547.17	498.86
	590.00 880.00	580.00 870.00	570.00 850.00	550.00 830.00	530.00 800.00	500.00 760.00	470.00 710.00	440.00 650.00
Coil 3 P	8.204	25.716	42.940	60.081	77.064	94.034	110.718	127.493
	6.000 10.000	20.000 29.000	33.000 49.000	46.000 69.000	59.000 89.000	72.000 110.000	85.000 130.000	98.000 150.000
Coil 4 M	1141.3	1127.3	1100.7	1060.3	1010.3	949.3	881.7	804.4
	900.0 1400.0	900.0 1300.0	900.0 1300.0	850.0 1300.0	800.0 1200.0	800.0 1200.0	750.0 1100.0	700.0 1000.0
Coil 4 P	8.281	26.033	43.462	60.794	77.962	95.104	111.974	128.899
	6.000 10.000	20.000 30.000	33.000 50.000	46.000 70.000	60.000 90.000	73.000 110.000	86.000 130.000	98.000 150.000
Coil 5 M	2292.0	2264.1	2210.5	2129.4	2030.6	1907.3	1771.3	1614.3
	1900.0 2800.0	1800.0 2800.0	1800.0 2700.0	1800.0 2600.0	1700.0 2500.0	1600.0 2400.0	1500.0 2200.0	1400.0 2100.0
Coil 5 P	8.447	26.493	44.246	61.913	79.424	96.906	114.138	131.430
	6.000 10.000	20.000 31.000	34.000 51.000	48.000 72.000	62.000 93.000	76.000 110.000	89.000 130.000	100.000 150.000
Coil 6 M	5922.2	5843.8	5696.0	5478.5	5213.4	4896.2	4549.9	4157.6
	4700.0 7100.0	4700.0 7000.0	4600.0 6900.0	4400.0 6600.0	4200.0 6400.0	4000.0 6000.0	3700.0 5600.0	3400.0 5100.0
Coil 6 P	8.322	26.373	44.016	61.511	78.773	95.978	112.836	129.821
	7.000 10.000	22.000 32.000	36.000 54.000	51.000 76.000	65.000 98.000	80.000 120.000	94.000 140.000	110.000 160.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #:

1515MA 179553

DATE/TIME PERFORMED:

Sat Mar 10 14:51:25 2018

DAYS SINCE CAL:

30

UNIT #:

5753XD 111111

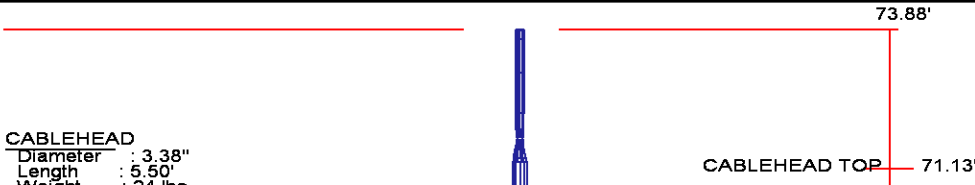
ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.004	0.001	0.001	-0.000	-0.003	-0.002	-0.002	-0.004
	-0.073 0.087	-0.055 0.065	-0.028 0.032	-0.032 0.028	-0.035 0.025	-0.034 0.026	-0.034 0.026	-0.032 0.028
Coil 0 Q	0.004	0.005	0.002	0.003	0.005	0.001	0.001	-0.001
	-0.035 0.045	-0.112 0.128	-0.024 0.036	-0.024 0.036	-0.025 0.035	-0.029 0.031	-0.033 0.027	-0.032 0.028
Coil 1 R	0.001	0.003	0.002	0.003	0.001	-0.000	-0.000	0.001
	-0.073 0.087	-0.043 0.057	-0.024 0.036	-0.027 0.033	-0.030 0.030	-0.032 0.028	-0.030 0.030	-0.028 0.032
Coil 1 Q	-0.000	0.001	0.001	0.003	0.003	0.001	-0.001	-0.003
	-0.398 0.402	-0.096 0.104	-0.025 0.035	-0.026 0.034	-0.027 0.033	-0.031 0.029	-0.034 0.026	-0.036 0.024
Coil 2 R	0.001	0.003	0.002	-0.002	-0.000	-0.001	-0.001	0.004
	-0.062 0.078	-0.024 0.036	-0.029 0.031	-0.032 0.028	-0.031 0.029	-0.033 0.027	-0.029 0.031	-0.025 0.035
Coil 2 Q	-0.004	0.000	0.001	0.000	-0.000	-0.003	-0.002	-0.003
	-0.354 0.346	-0.099 0.101	-0.026 0.034	-0.026 0.034	-0.030 0.030	-0.034 0.026	-0.036 0.024	-0.033 0.027
Coil 3 R	-0.004	0.001	0.005	0.004	0.004	0.001	-0.001	-0.003
	-0.047 0.033	-0.037 0.043	-0.034 0.046	-0.036 0.044	-0.037 0.043	-0.037 0.043	-0.040 0.040	-0.044 0.036
Coil 3 Q	-0.003	-0.004	-0.002	0.003	0.003	0.001	-0.000	-0.002
	-0.204 0.196	-0.088 0.072	-0.041 0.039	-0.040 0.040	-0.038 0.042	-0.039 0.041	-0.039 0.041	-0.041 0.039
Coil 4 R	-0.007	-0.007	-0.000	-0.003	-0.002	-0.003	-0.001	-0.001
	-0.068 0.052	-0.067 0.053	-0.061 0.059	-0.061 0.059	-0.064 0.056	-0.065 0.055	-0.058 0.062	-0.056 0.064

Coil 4 Q	0.003 -0.298 0.302	0.009 -0.090 0.110	0.000 -0.061 0.059	0.003 -0.061 0.059	0.004 -0.062 0.058	-0.005 -0.058 0.062	-0.009 -0.063 0.057	-0.002 -0.060 0.060
Coil 5 R	-0.009 -0.127 0.113	0.000 -0.112 0.128	0.008 -0.134 0.106	0.007 -0.120 0.120	-0.002 -0.116 0.124	-0.002 -0.121 0.119	-0.004 -0.126 0.114	-0.001 -0.128 0.112
Coil 5 Q	-0.018 -0.617 0.583	0.003 -0.251 0.249	-0.002 -0.118 0.122	0.006 -0.115 0.125	0.006 -0.104 0.136	0.006 -0.111 0.129	-0.002 -0.121 0.119	-0.000 -0.116 0.124
Coil 6 R	0.019 -0.308 0.292	-0.004 -0.284 0.316	0.000 -0.316 0.264	-0.006 -0.298 0.302	-0.014 -0.326 0.274	-0.022 -0.313 0.287	-0.005 -0.292 0.308	-0.011 -0.289 0.311
Coil 6 Q	-0.025 -1.531 1.469	0.009 -0.586 0.614	0.008 -0.297 0.303	0.001 -0.302 0.298	-0.024 -0.314 0.286	-0.037 -0.306 0.294	0.008 -0.306 0.294	0.004 -0.302 0.298

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	125.92 123.62 128.66	124.35 122.07 127.05	121.38 119.14 124.00	116.86 114.67 119.35	111.43 109.26 113.72	104.71 102.58 106.77	97.23 95.21 99.10	88.66 86.79 90.33
Coil 0 P	7.996 5.006 11.006	25.057 22.053 28.053	41.826 38.817 44.817	58.482 55.468 61.468	74.993 71.956 77.956	91.470 88.385 94.385	107.664 104.569 110.569	123.858 120.715 126.715
Coil 1 M	218.79 214.74 223.50	216.20 212.18 220.84	211.29 207.32 215.79	203.89 200.00 208.16	194.71 190.92 198.71	183.42 179.61 186.94	170.60 167.07 173.89	155.91 152.45 158.68
Coil 1 P	7.952 4.964 10.964	24.986 21.986 27.986	41.740 38.739 44.739	58.418 55.404 61.404	74.964 71.924 77.924	91.477 88.463 94.463	107.822 104.686 110.686	124.135 121.023 127.023
Coil 2 M	434.07 424.87 442.21	429.22 420.10 437.25	419.92 411.07 427.84	406.53 397.59 413.82	389.91 381.20 396.76	369.99 361.22 375.96	347.47 339.29 353.13	322.24 314.23 327.06
Coil 2 P	7.705 4.712 10.712	24.192 21.180 27.180	40.393 37.386 43.386	56.459 53.433 59.433	72.366 69.318 75.318	88.236 85.156 91.156	103.915 100.777 106.777	119.673 116.515 122.515
Coil 3 M	708.49 693.28 721.58	699.77 684.78 712.73	683.34 668.80 696.10	658.59 644.33 670.63	628.17 614.43 639.50	590.73 577.45 601.02	548.66 536.23 558.12	500.50 488.88 508.84
Coil 3 P	8.211 5.204 11.204	25.763 22.716 28.716	43.020 39.940 45.940	60.183 57.081 63.081	77.190 74.064 80.064	94.209 91.034 97.034	110.978 107.718 113.718	127.771 124.493 130.493
Coil 4 M	1142.2 1118.5 1164.1	1128.1 1104.8 1149.9	1101.3 1078.7 1122.7	1061.1 1039.1 1081.5	1011.4 990.1 1030.6	951.3 930.4 968.3	883.5 864.1 899.4	806.9 788.3 820.5
Coil 4 P	8.285 5.281 11.281	26.073 23.033 29.033	43.530 40.462 46.462	60.879 57.794 63.794	78.074 74.962 80.962	95.250 92.104 98.104	112.193 108.974 114.974	129.144 125.899 131.899
Coil 5 M	2301.2 2246.2 2337.9	2273.3 2218.8 2309.3	2219.7 2166.3 2254.7	2139.4 2086.8 2172.0	2040.4 1990.0 2071.2	1918.8 1869.2 1945.5	1782.0 1735.9 1806.7	1626.0 1582.1 1646.6
Coil 5 P	8.446 5.447 11.447	26.520 23.493 29.493	44.299 41.246 47.246	61.984 58.913 64.913	79.526 76.424 82.424	97.050 93.906 99.906	114.361 111.138 117.138	131.687 128.430 134.430
Coil 6 M	5920.4 5803.7 6040.6	5842.0 5727.0 5960.7	5695.0 5582.1 5809.9	5478.8 5369.0 5588.1	5218.3 5109.1 5317.6	4903.6 4798.3 4994.2	4562.4 4458.9 4640.9	4173.7 4074.5 4240.8
Coil 6 P	8.323 5.322 11.322	26.397 23.373 29.373	44.062 41.016 47.016	61.572 58.511 64.511	78.886 75.773 81.773	96.115 92.978 98.978	113.082 109.836 115.836	130.071 126.821 132.821

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_NICHOLS_0994-24-11E/p777q~tdg



Weight : 24 lbs
Series : CABL338
Mnemonic : CBLH
Measure Point: 2.75': CABLEHEAD TOP

TTRM SUB

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

TEMP MP — 65.93'
RM MP — 65.68'

WTS COMMON REMOTE

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

DIGITAL SPECTRALOG

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

GR MP — 52.48'

COMPENSATED NEUTRON

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

LSN MP — 45.92'
SSN MP — 45.52'

Z-DENSILOG

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

CAL MP — 35.26'
LSD MP — 34.54'
SSD MP — 34.14'

KNUCKLE JOINT (DOUBLE)

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

HIGH DEFINITION INDUCTION TOOL

Diameter : 3.62"
Length : 27.13'
Weight : 415 lbs
Series : 1515XA
Mnemonic : HDIL
Measure Point: 13.91': SP MP
Measure Point: 7.44': XMTR MP

BULL PLUG 3 3/8

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

SP MP 14.19'

XMTR MP 7.72'

0.00'



COMPANY
WELL
FIELD
COUNTY

LARAMIE ENERGY II LLC
NICHOLS 0994-24-11E
VEGA
MESA

STATE COLORADO

FILE NO:

133758

API NO:

05077103970000

LOCATION:

ELEVATIONS:

H&P 290



SHL 2265' FNL 2795' FWL
BHL 2523' FNL 1444' FEL

KB 7236 FT
DF
GL 7212 FT

SEC 24 TWP 9S RGE 94W

DATE 09-Mar-2018