



FILE NO:		COMPANY		LARAMIE ENERGY	
WELL		WELL		BRUTON 30-04W	
FIELD		FIELD		VEGA	
COUNTY		COUNTY		MESA	
STATE		STATE		COLORADO	
Ver. 4.06		LOCATION:		OTHER SERVICES	
LAT: 39.252566 N		LONG: 107.814245 W		HDL/ZDL/CN/GR	
SEC 30		TWP 9S		RGE 93W	
PERMANENT DATUM		GL		ELEVATION	
LOG MEASURED FROM		KB		30 FT	
DRILL. MEAS. FROM		KB		ABOVE P.D.	
DATE		09-SEP-2017		ELEVATIONS:	
RUN		TRIP		KB	
SERVICE ORDER		US127172		7542 FT	
DEPTH DRILLER		8396 FT		DF	
DEPTH LOGGER		8396 FT		GL	
BOTTOM LOGGED INTERVAL		8396 FT		7512 FT	
TOP LOGGED INTERVAL		1551 FT			
CASING DRILLER		8.625 IN		@	
CASING LOGGER		1551 FT			
BIT SIZE		7.875 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY		9.8 LB/G		70 CP	
PH		9.4		7.8 C3	
SOURCE OF SAMPLE		WELLBORE			
RM AT MEAS. TEMP.		2.697 OHMM		@	
RMF AT MEAS. TEMP.		2.449 OHMM		@	
RMC AT MEAS. TEMP.		2.182 OHMM		@	
SOURCE OF RMF		RMC		CALCULATED	
RM AT BHT		1.398 OHMM		@	
TIME SINCE CIRCULATION		7.5 HOURS			
MAX. RECORDED TEMP.		198.2 DEGF			
EQUIP. NO.		HL-6670		WOODWARD	
RECORDED BY		L. SINICKI			
WITNESSED BY		MR. SHANE HEARD			

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: *TWO OPERATIONS IN WELL*	
OPERATION 1: HDIL/ZDL/CN/GR RUN IN COMBINATION	
BRIDGED OFF AT 6746' AND LOGGED OUT	
OPERATION 2: HDIL/ZDL/CN/GR RUN IN COMBINATION	
LOGGED FROM TD TO 6746'*	
LOGS SPLICED TOGETHER AT 6675'	
MATRIX = SANDSTONE	
RHO MATRIX = 2.68 G/CC	
BVOL AND CVOL ARE PRESENTED IN CUBIC FEET	
CVOL CALCULATED USING A FUTURE CASING SIZE OF 4.5"	
STICK AND PULL IN THE LOWER SECTION OF THE HOLE MAY HAVE AFFECTED DATA QUALITY.	
RIG: H&P 522	
CREW: J. PENA, K. REED	

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981 XB	10045153	FREE
1	1	WTS	3514 XB	10226222	FREE
1	1	DSL	1329 XA	179184	FREE
1	1	CN	2446 XA	173079	DECENTRALIZED
1	1	ZDL	2234 XA	179939	PAD DEVICE
1	1	DKJT	3939 XA	167196	FREE
1	1	HDIL	1515 EA/MA	179495/183381	FREE

BOREHOLE PROFILE LOG

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

Updates: 1 Patches: 9

Plotted: Sun Sep 10 18:52:59 2017

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/LARAMIE_BRUTON_30_04W/HZ02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 24.500 ft BOTTOM DEPTH: 6759.500 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)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	7.875	in	"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Sep 10 18:35:26 2017	BIT SIZE
F1:BVOL	Sep 10 18:35:26 2017	BOREHOLE VOLUME
F1:CAL	Sep 10 18:35:26 2017	CALIPER
F1:CVOL	Sep 10 18:35:27 2017	CEMENT VOLUME
F1:GR	Sep 10 18:35:28 2017	GAMMA RAY
F1:TEN	Sep 10 18:35:39 2017	DIFFERENTIAL TENSION

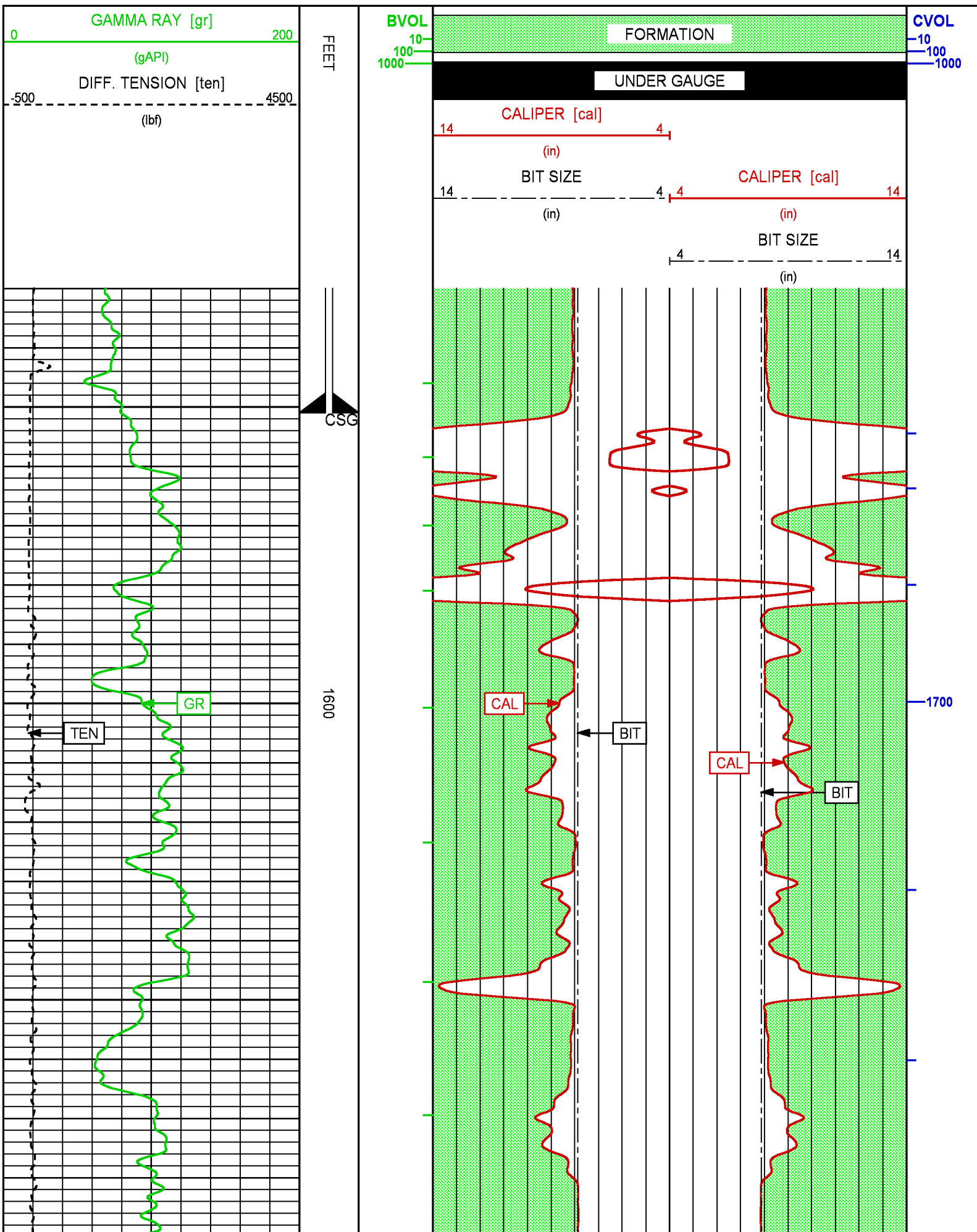
CURVE MEASURE POINT OFFSET

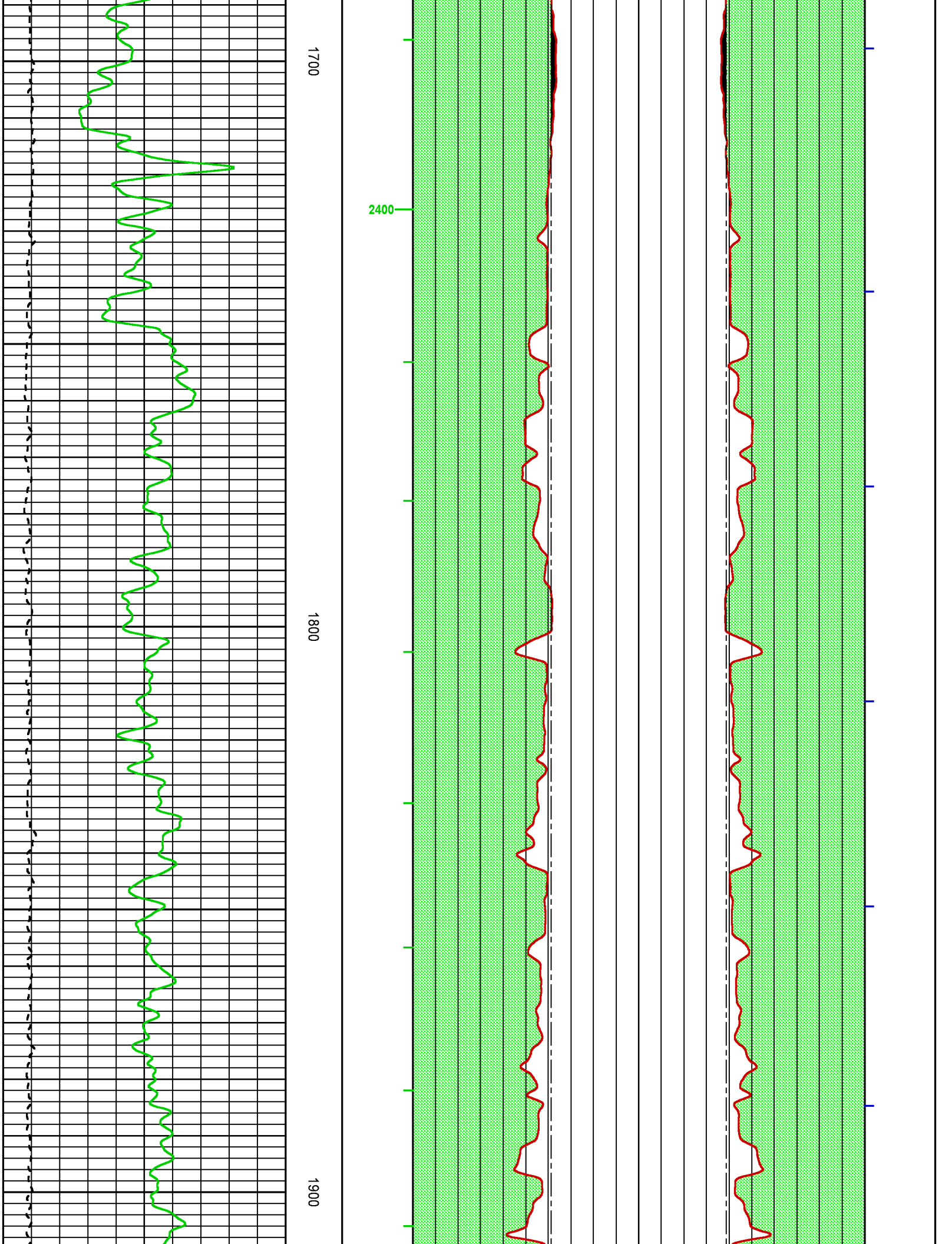
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	CAL	35.00	GR	52.25	TEN	0.00

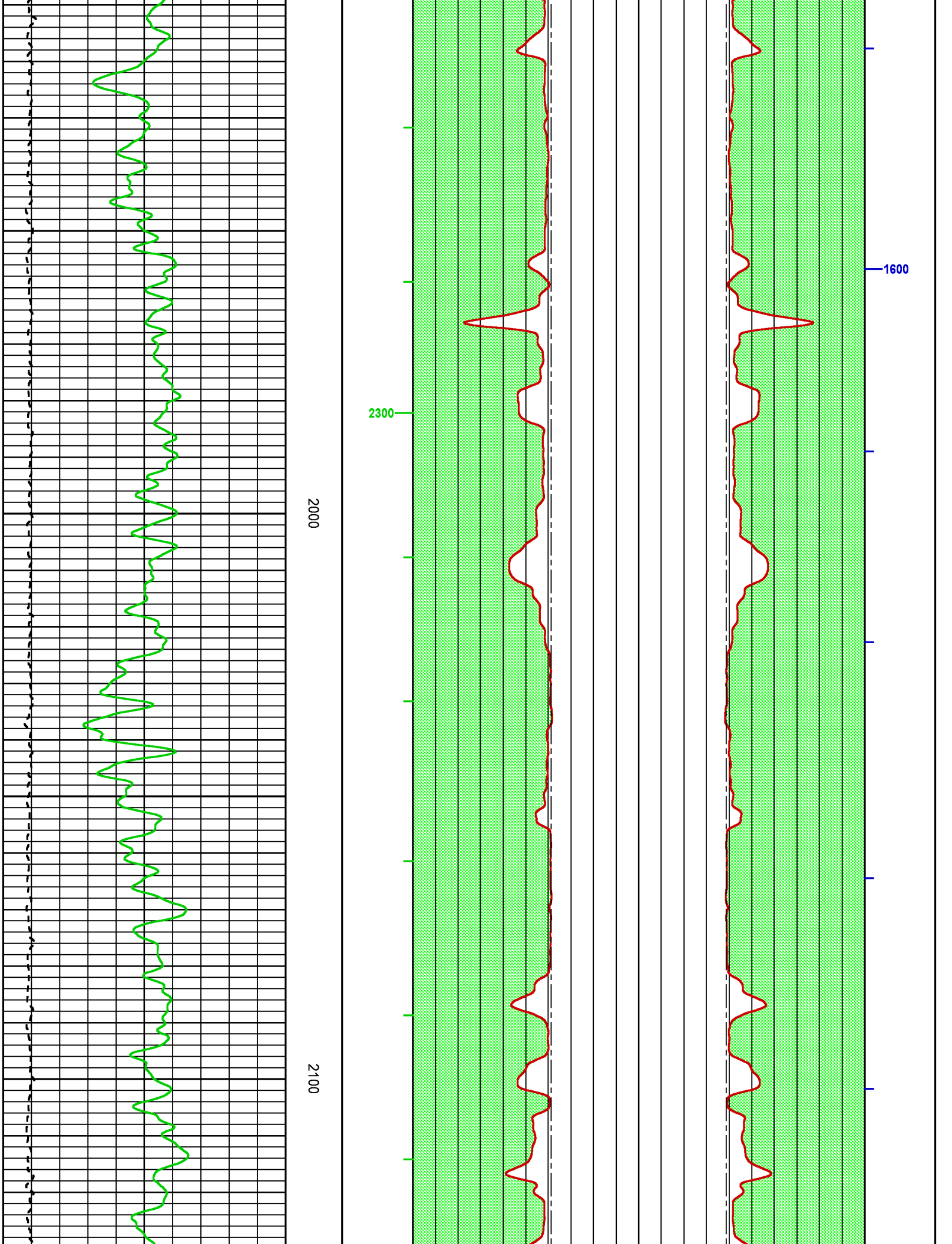
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 Plot Interval : 1530 - 8425.75 Feet

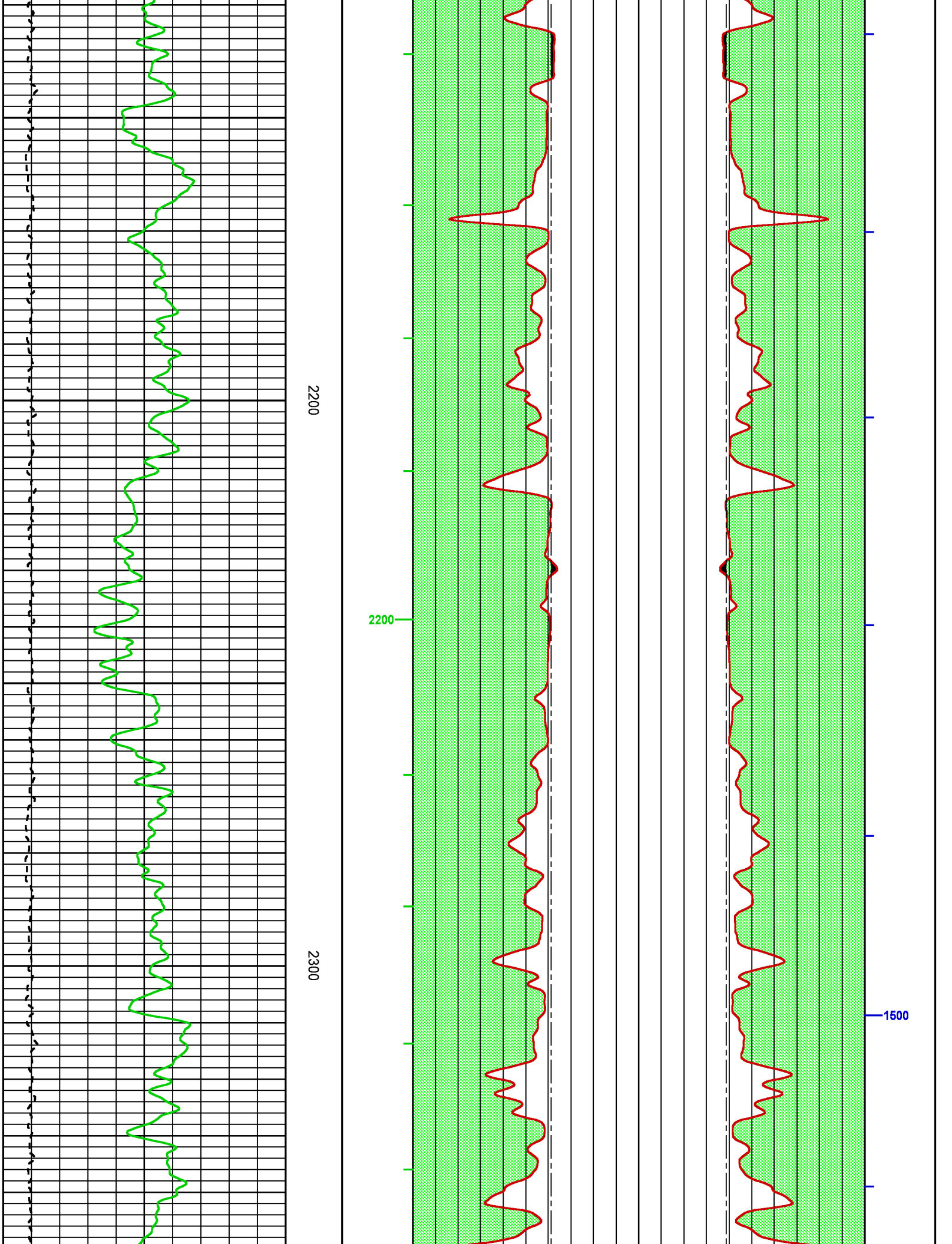
Data File 1 : F1 : cpu100:/dat1a/LARAMIE_BRUTON_30_04W/MAIN.xtf
 Created On : Sep 10 18:35:26 2017
 Company : LARAMIE ENERGY
 Well : BRUTON 30-04W

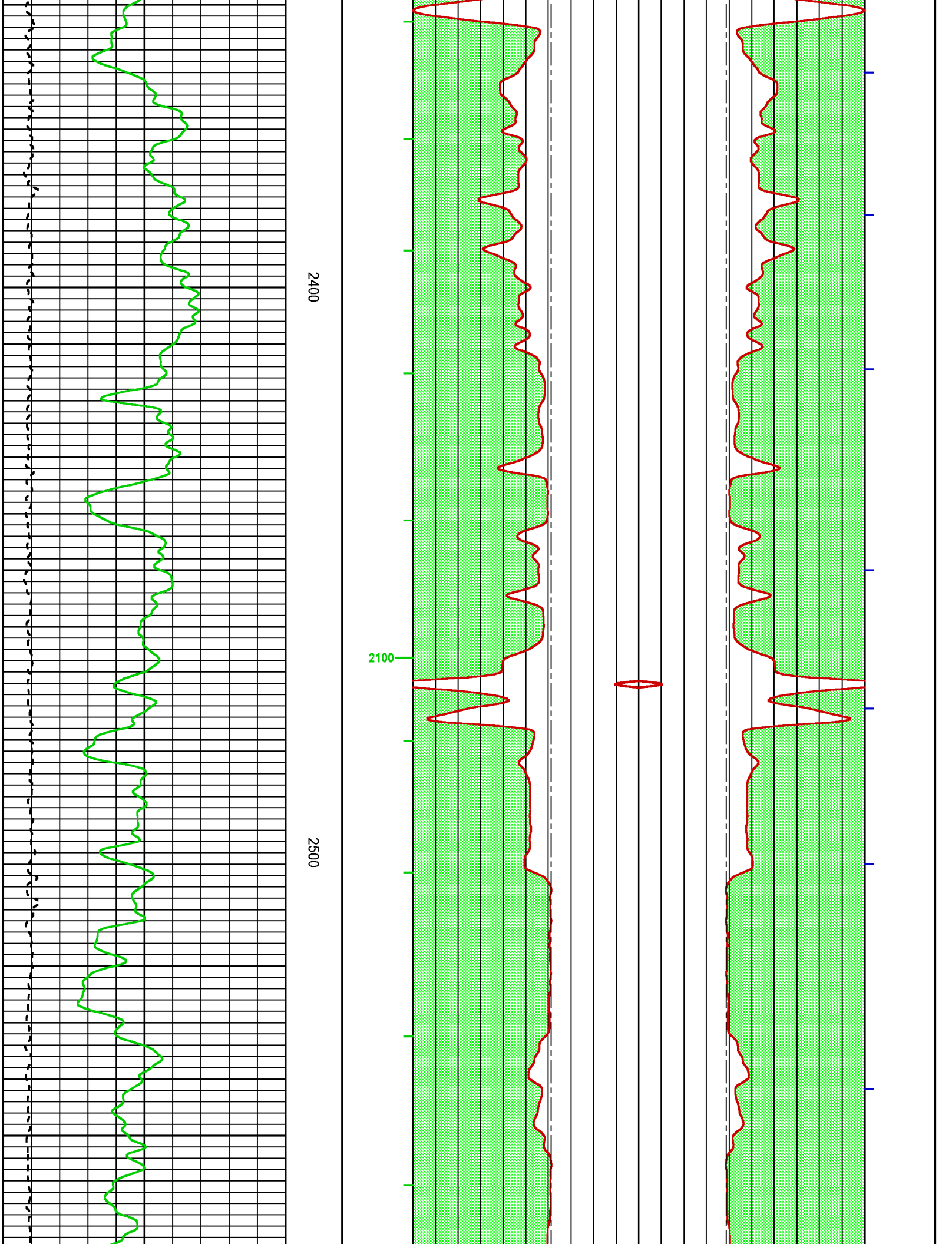
Well : BROTON 00-04W
Field : VEGA
File Interval : -27.75 - 8425.75 Feet
OCT : HZ

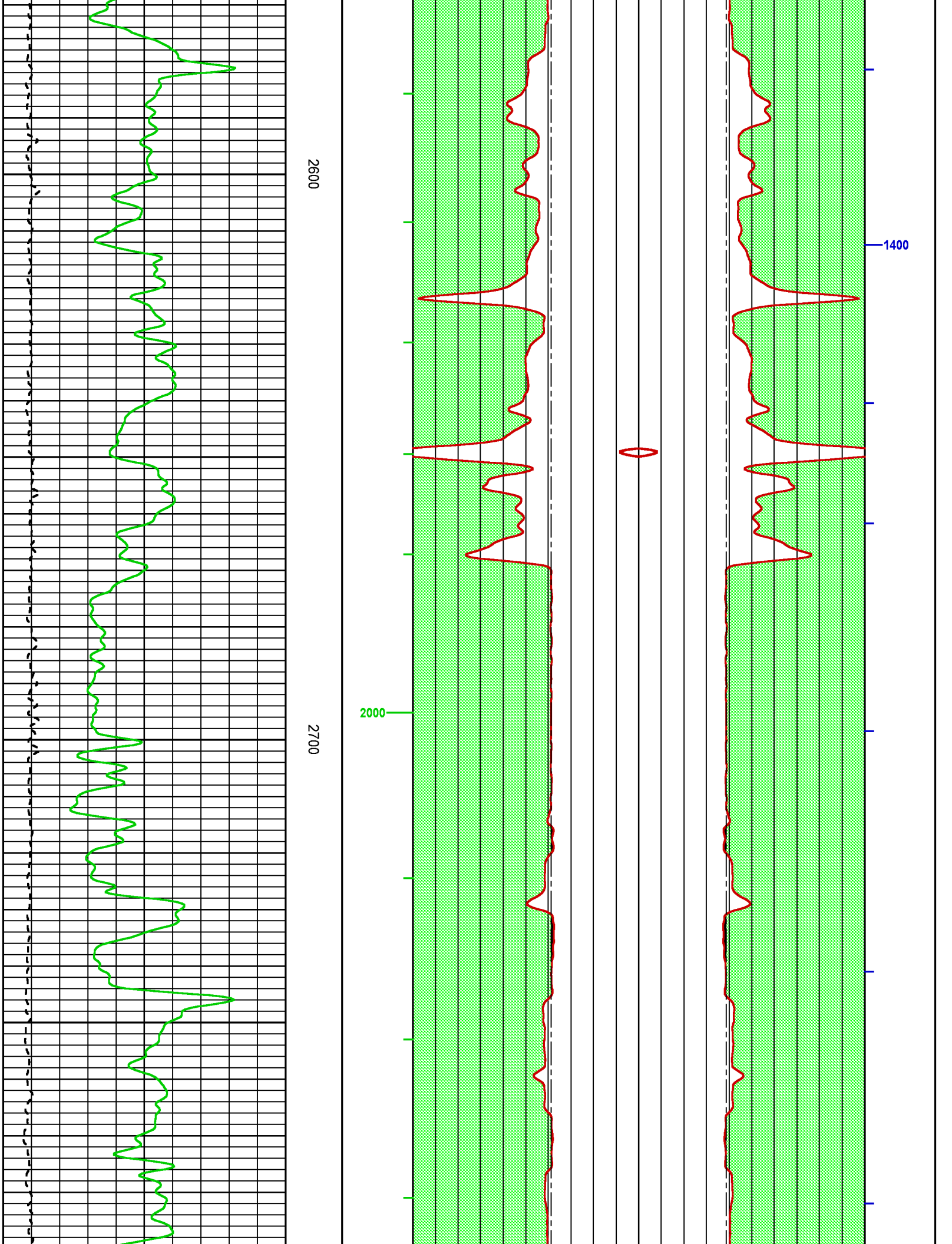


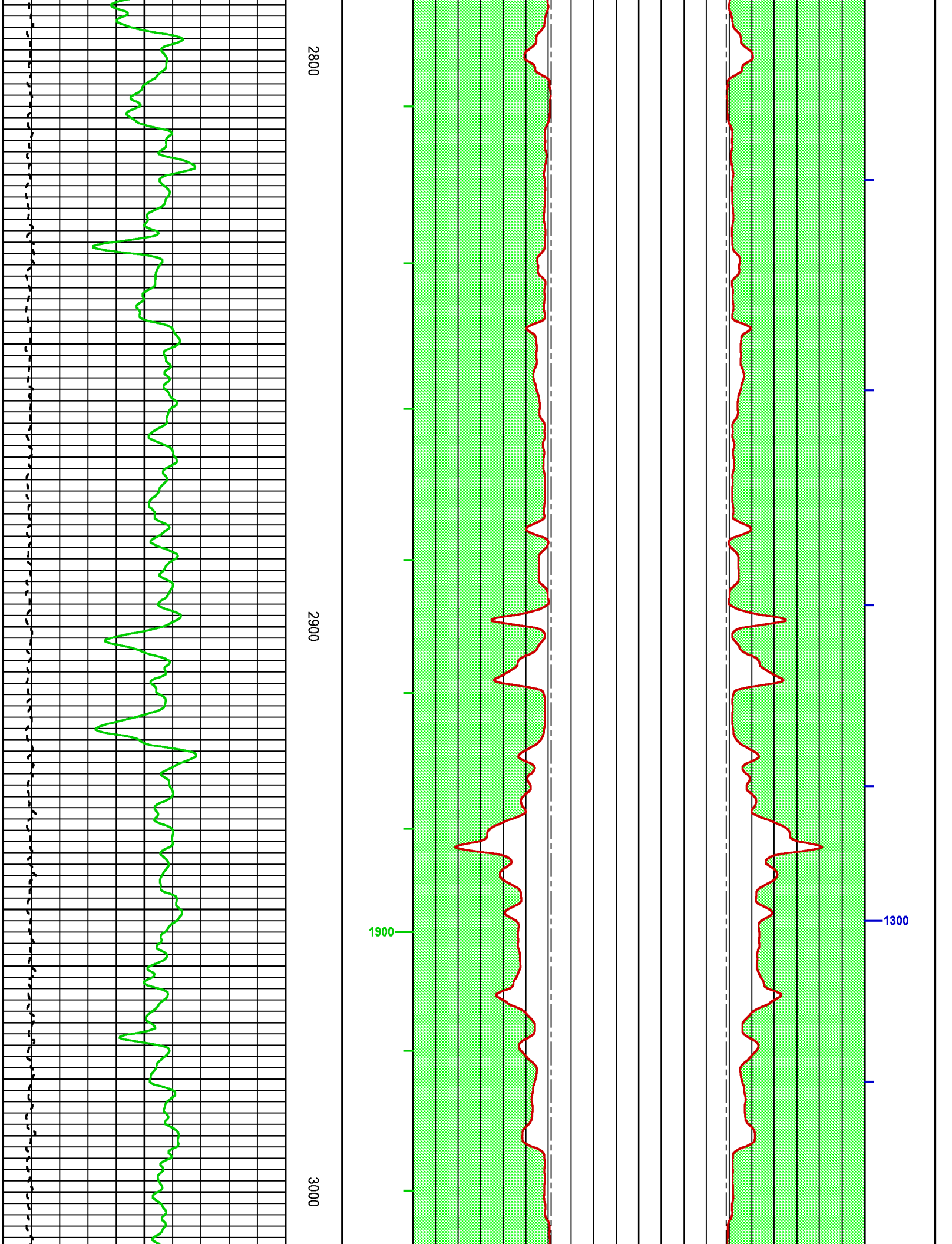


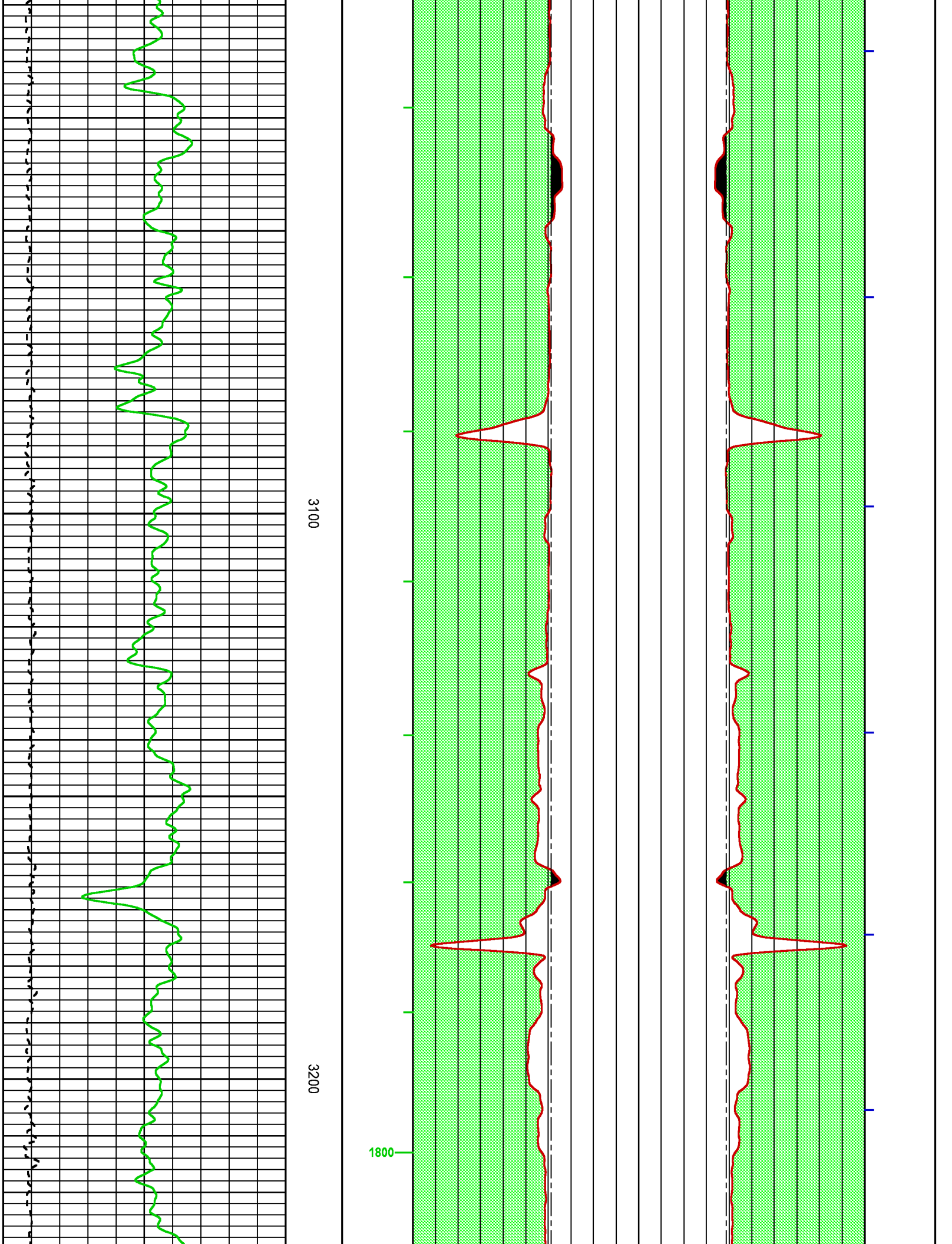


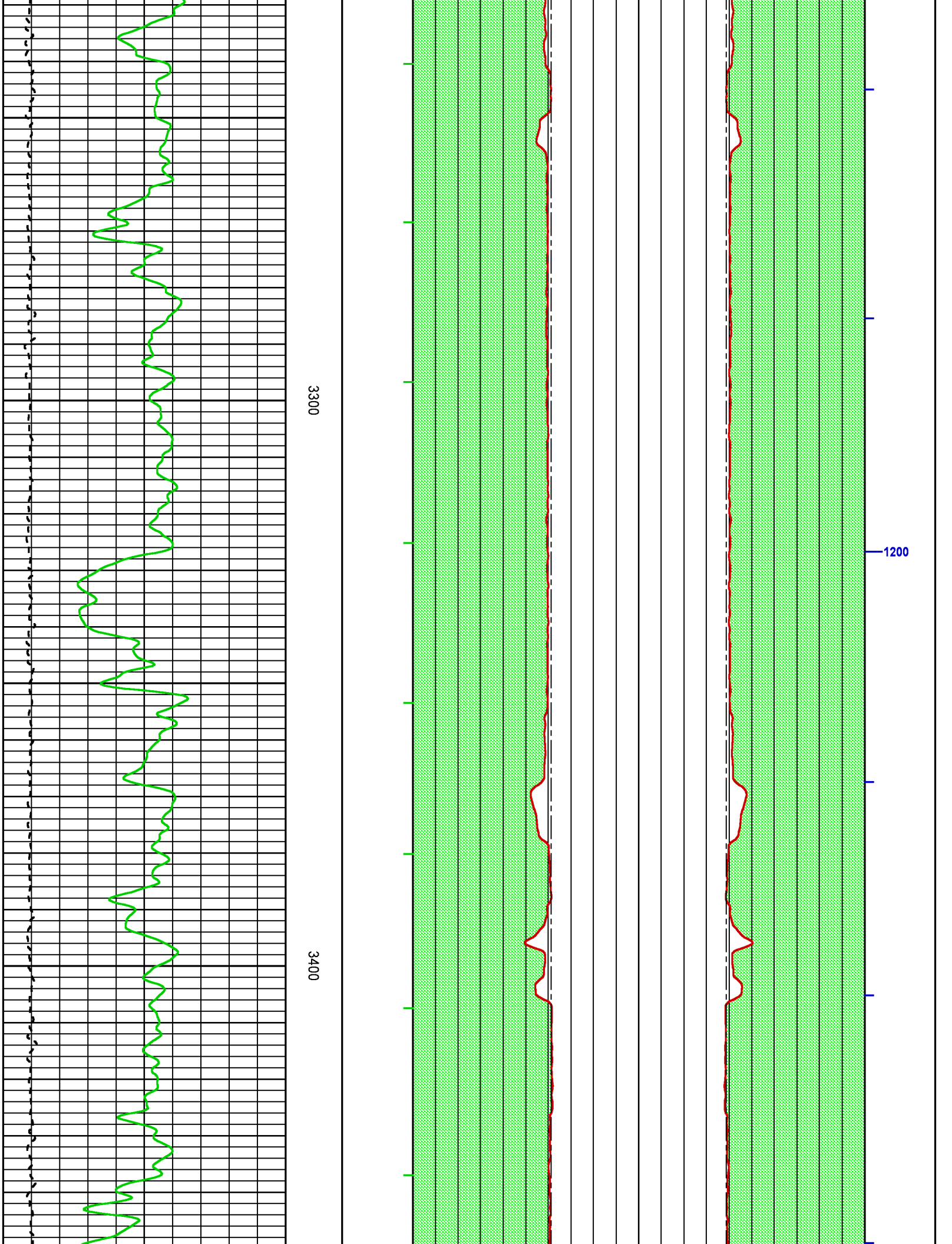


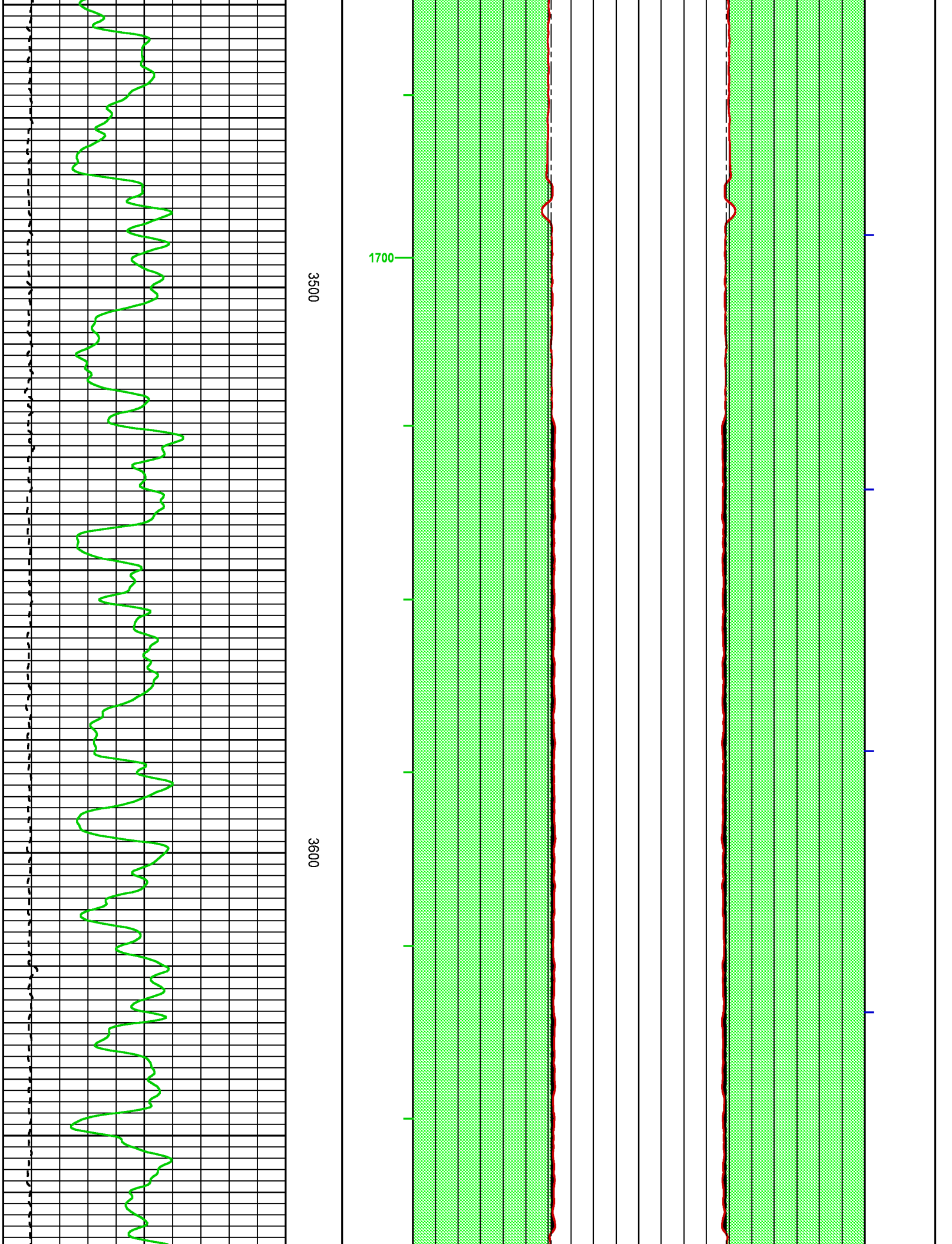


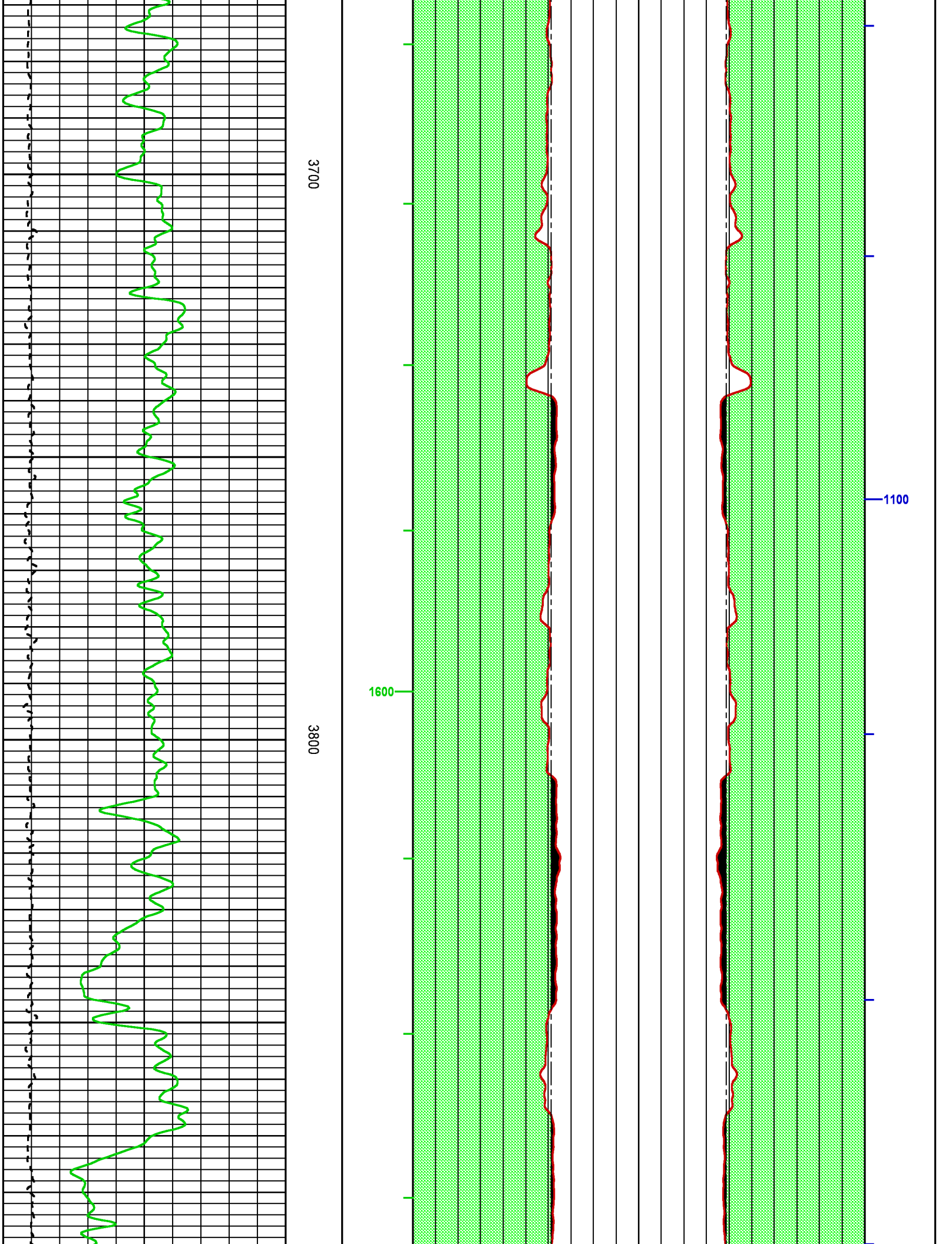


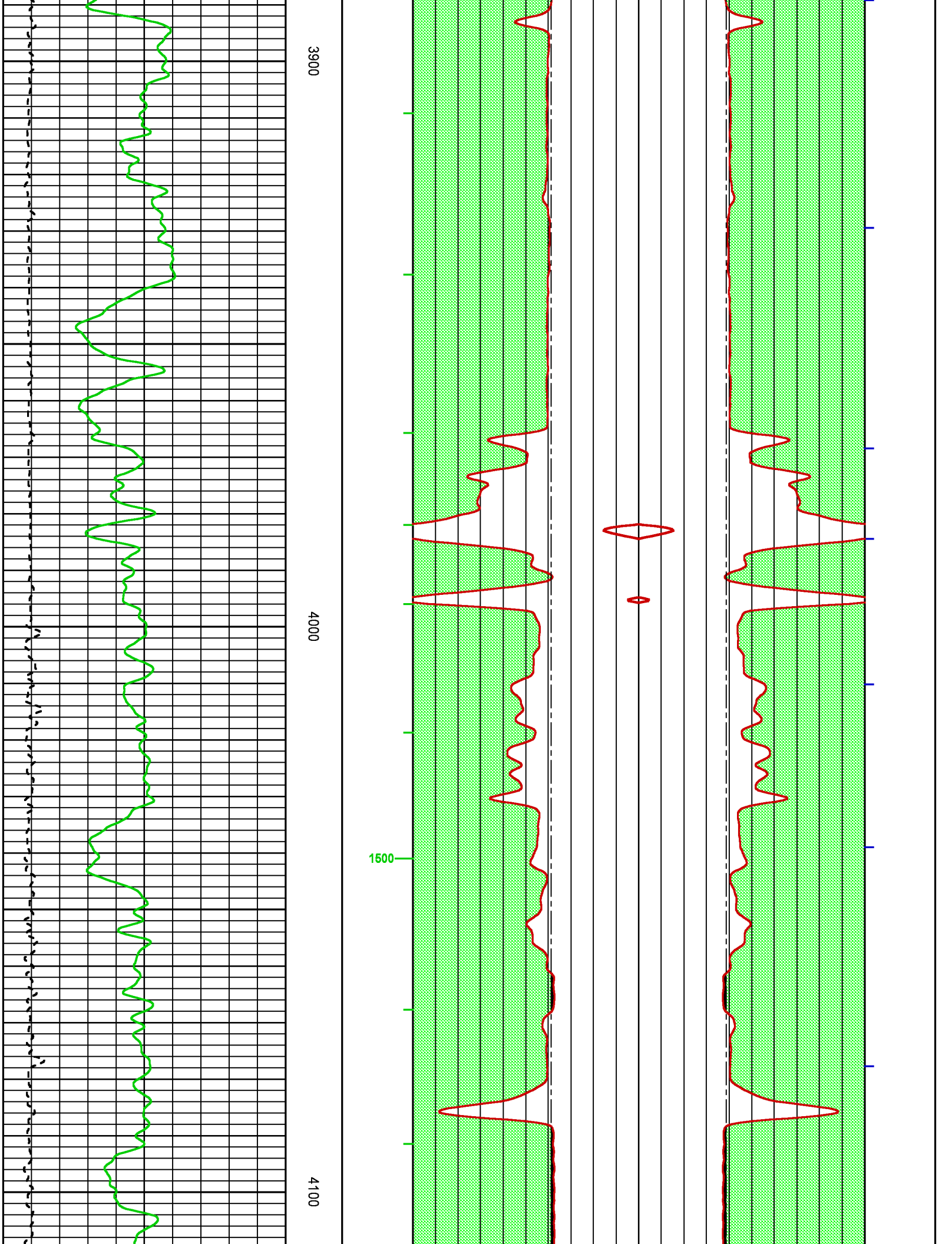




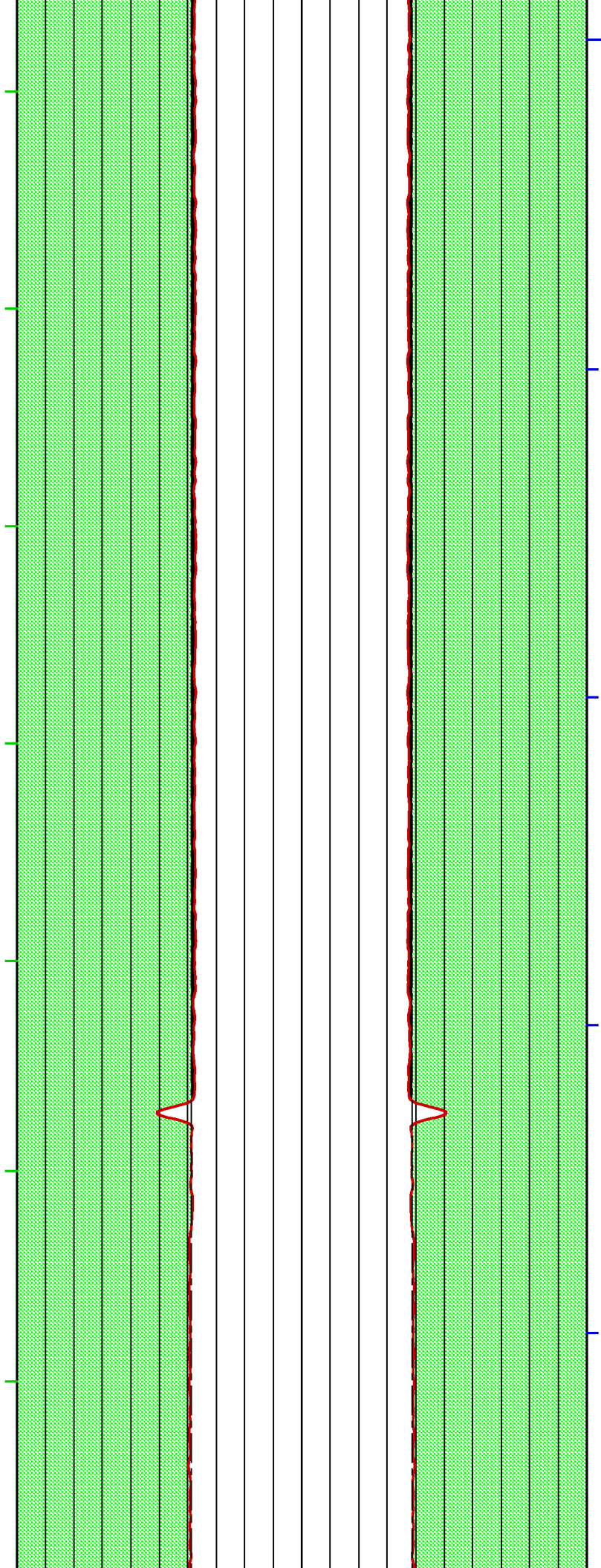






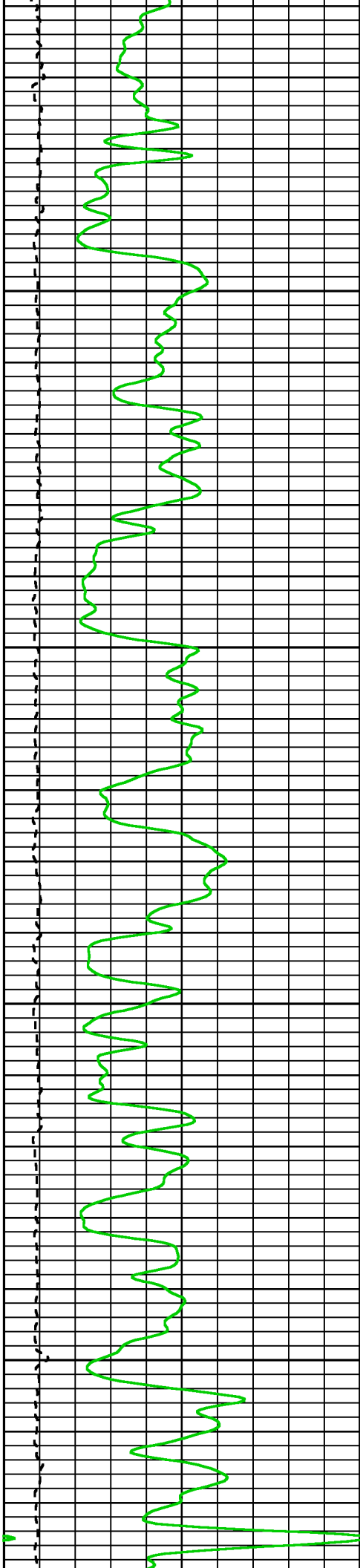


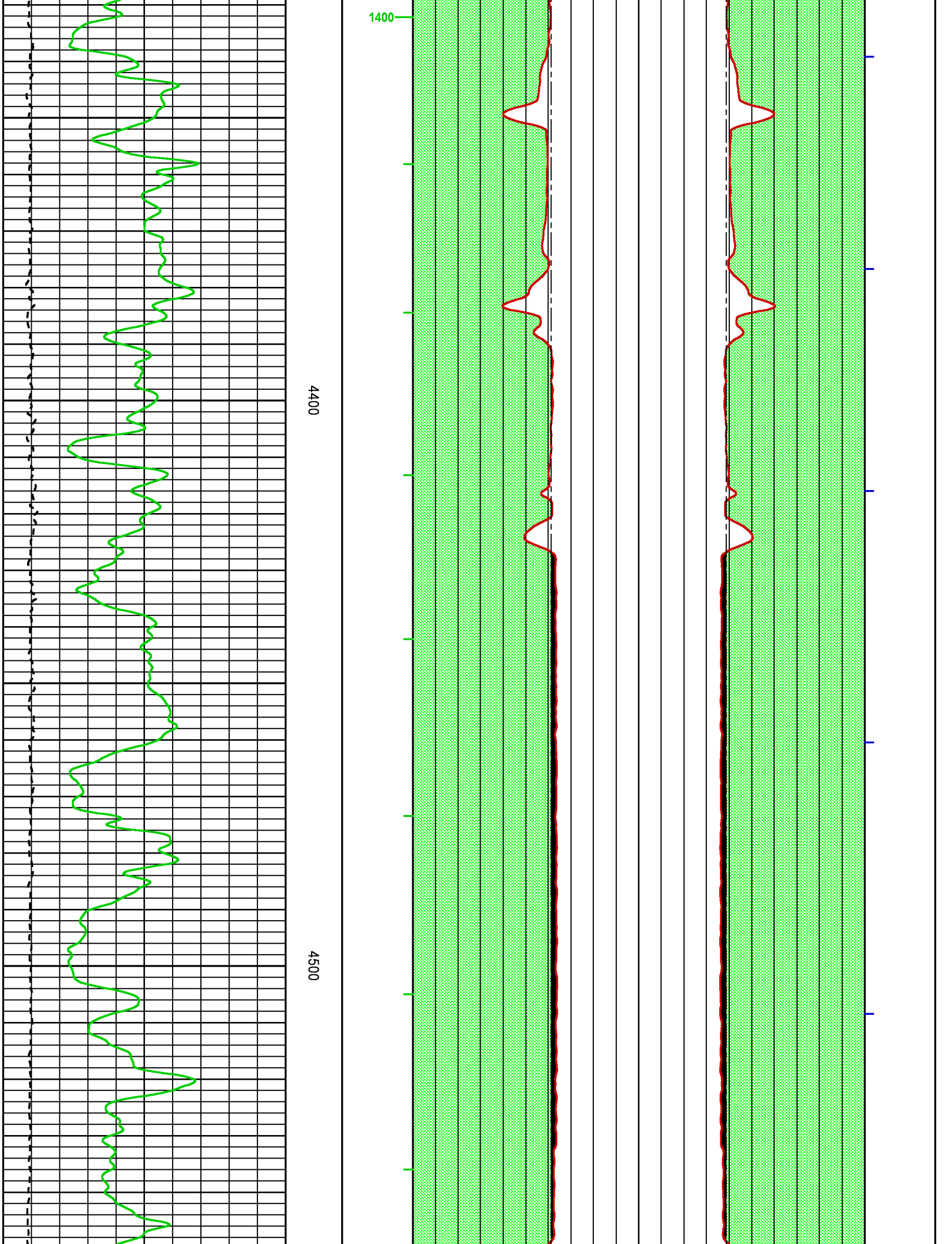
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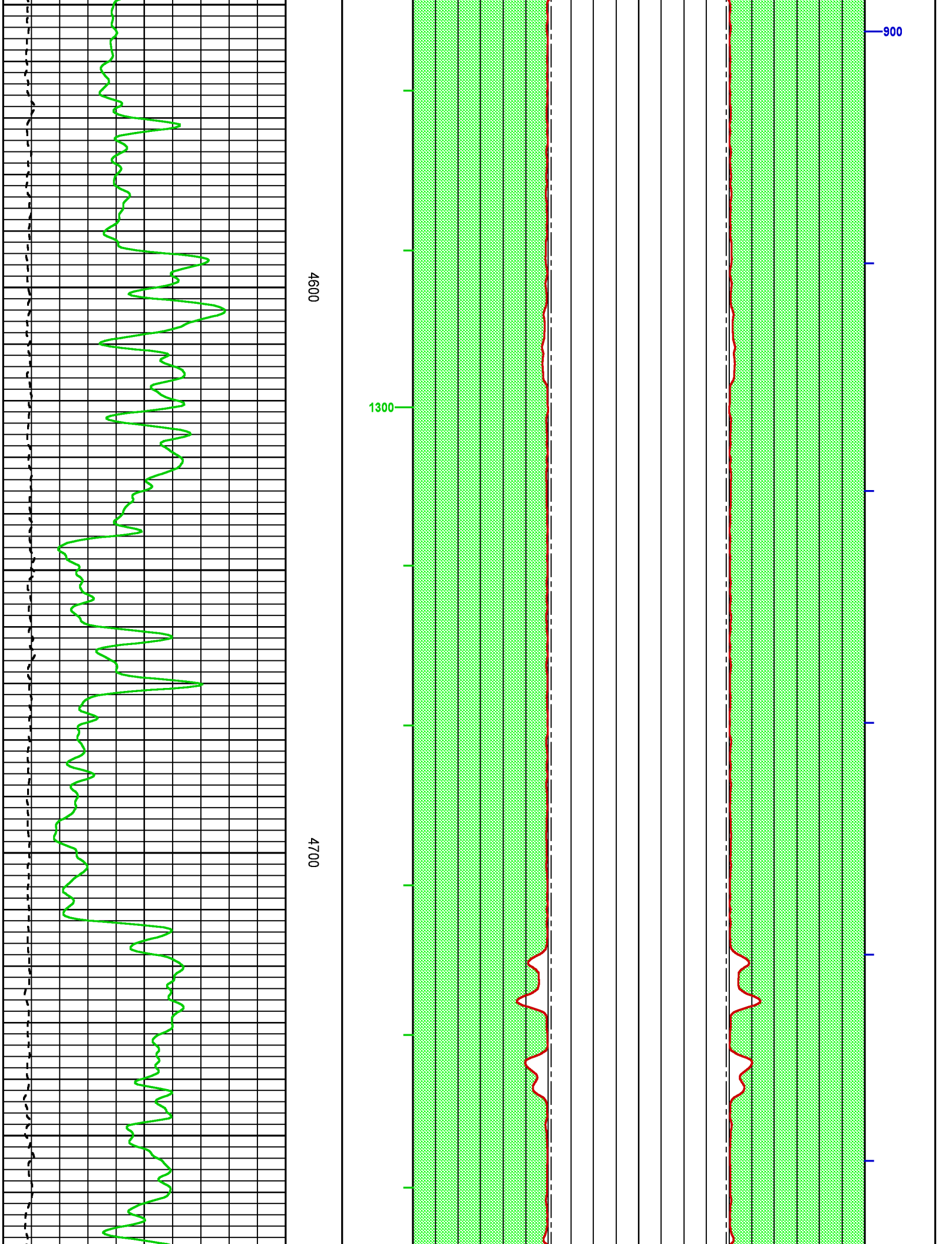


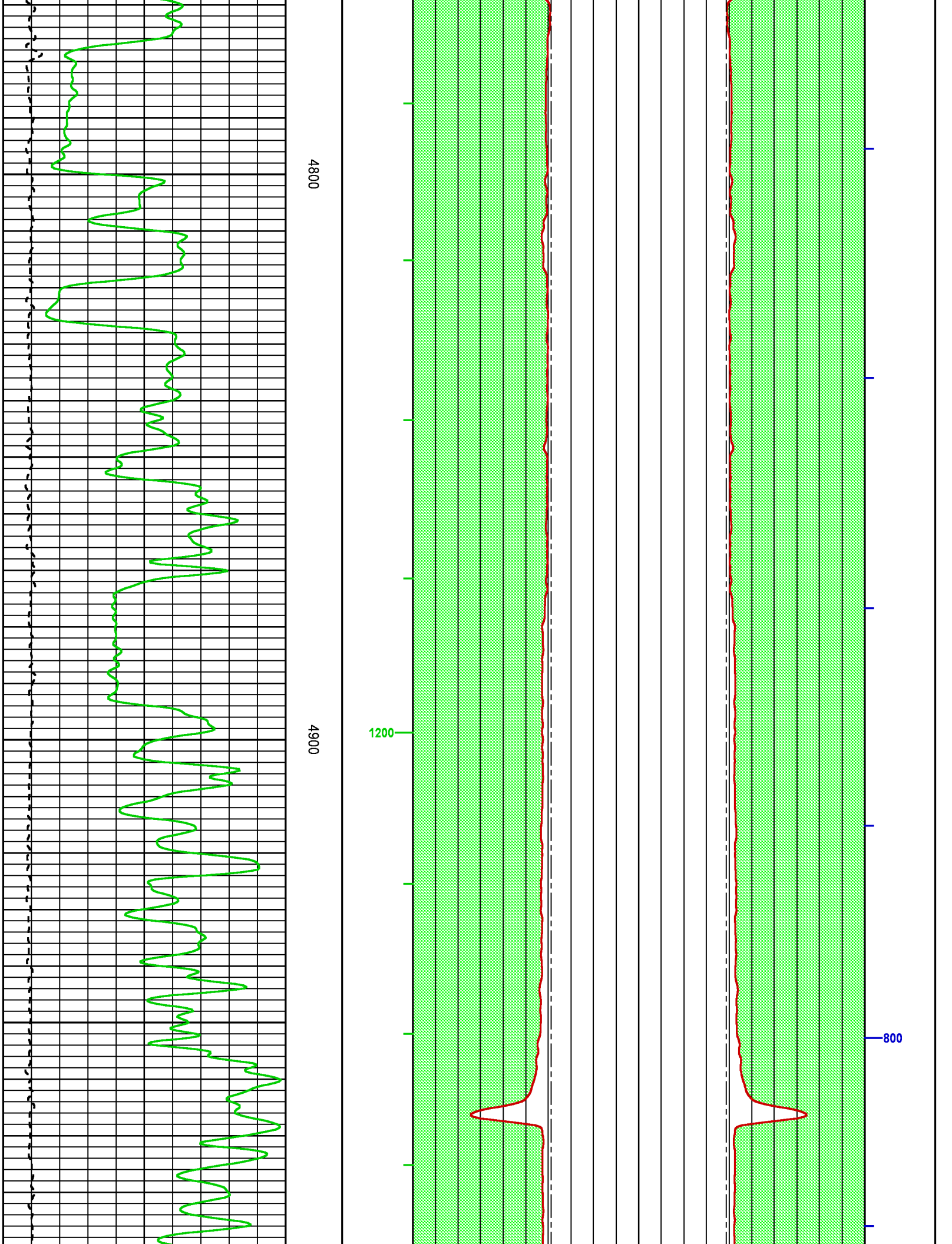
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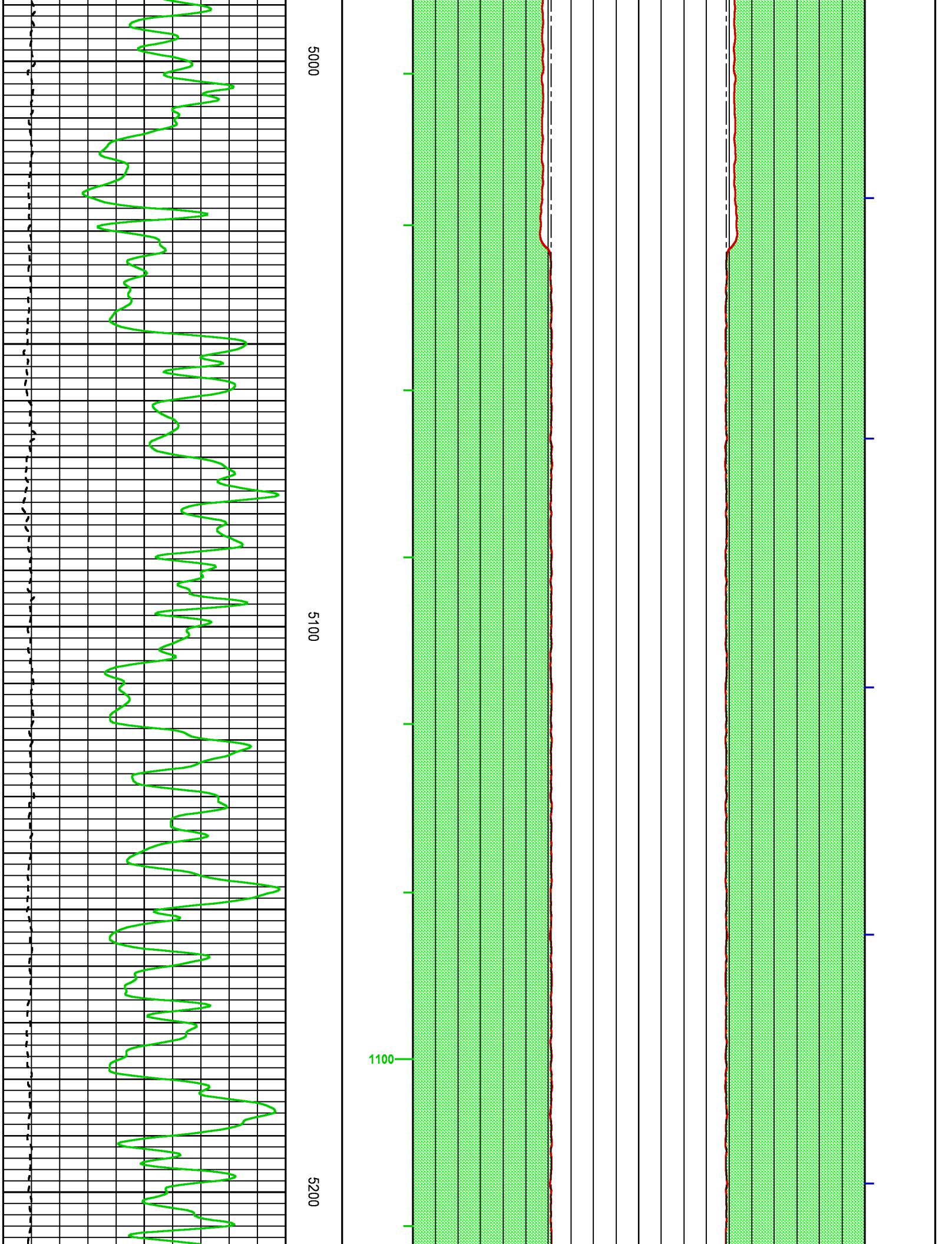
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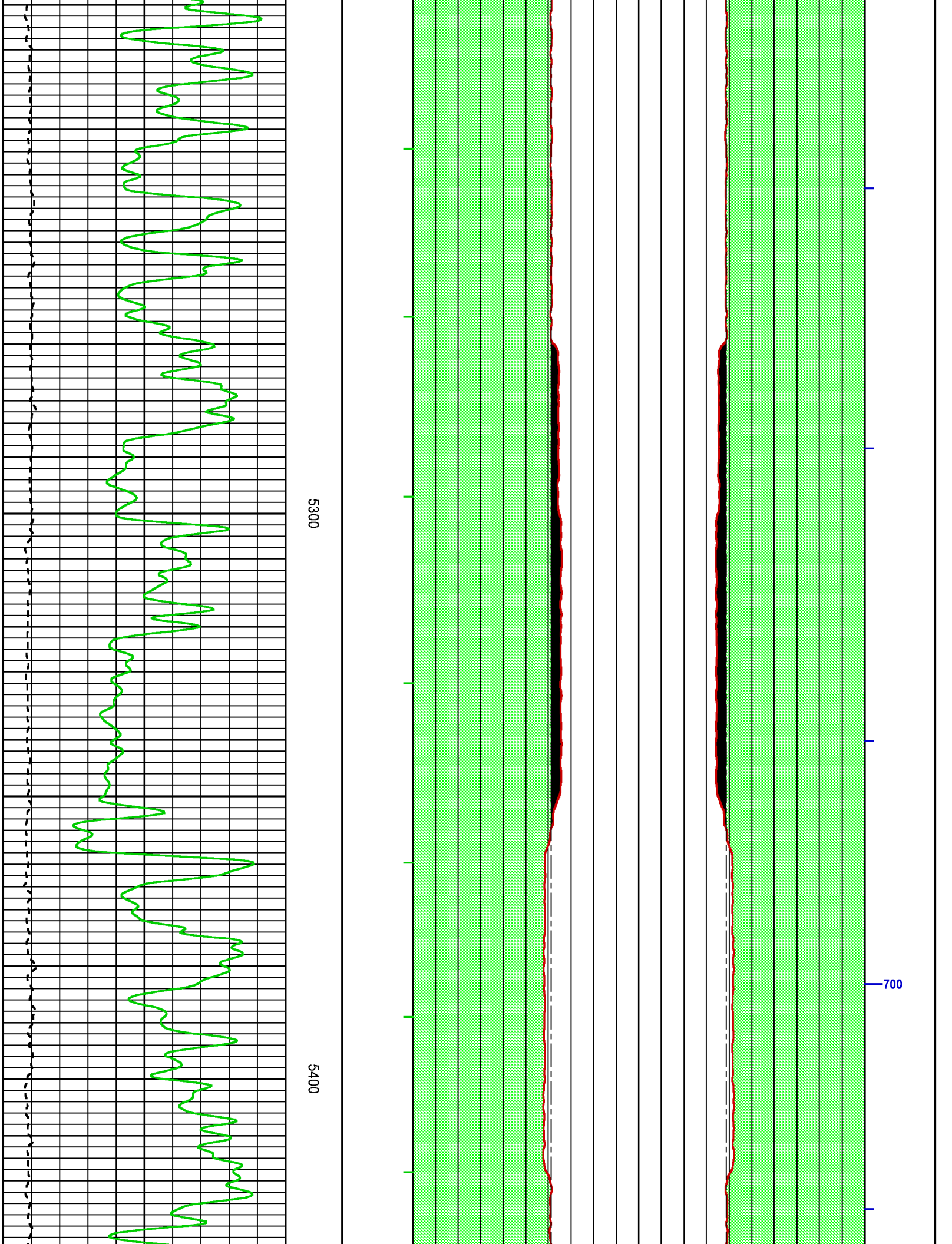


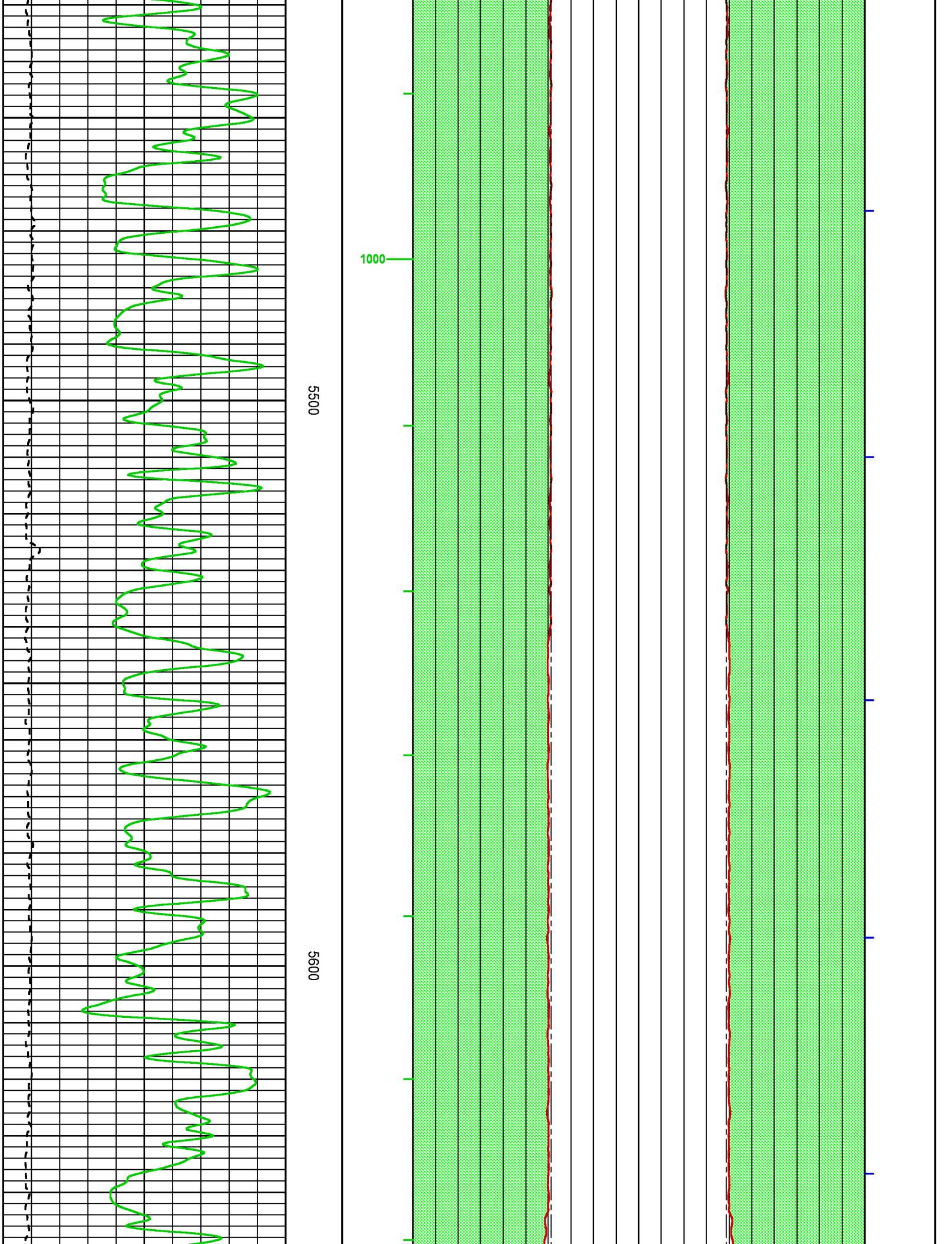


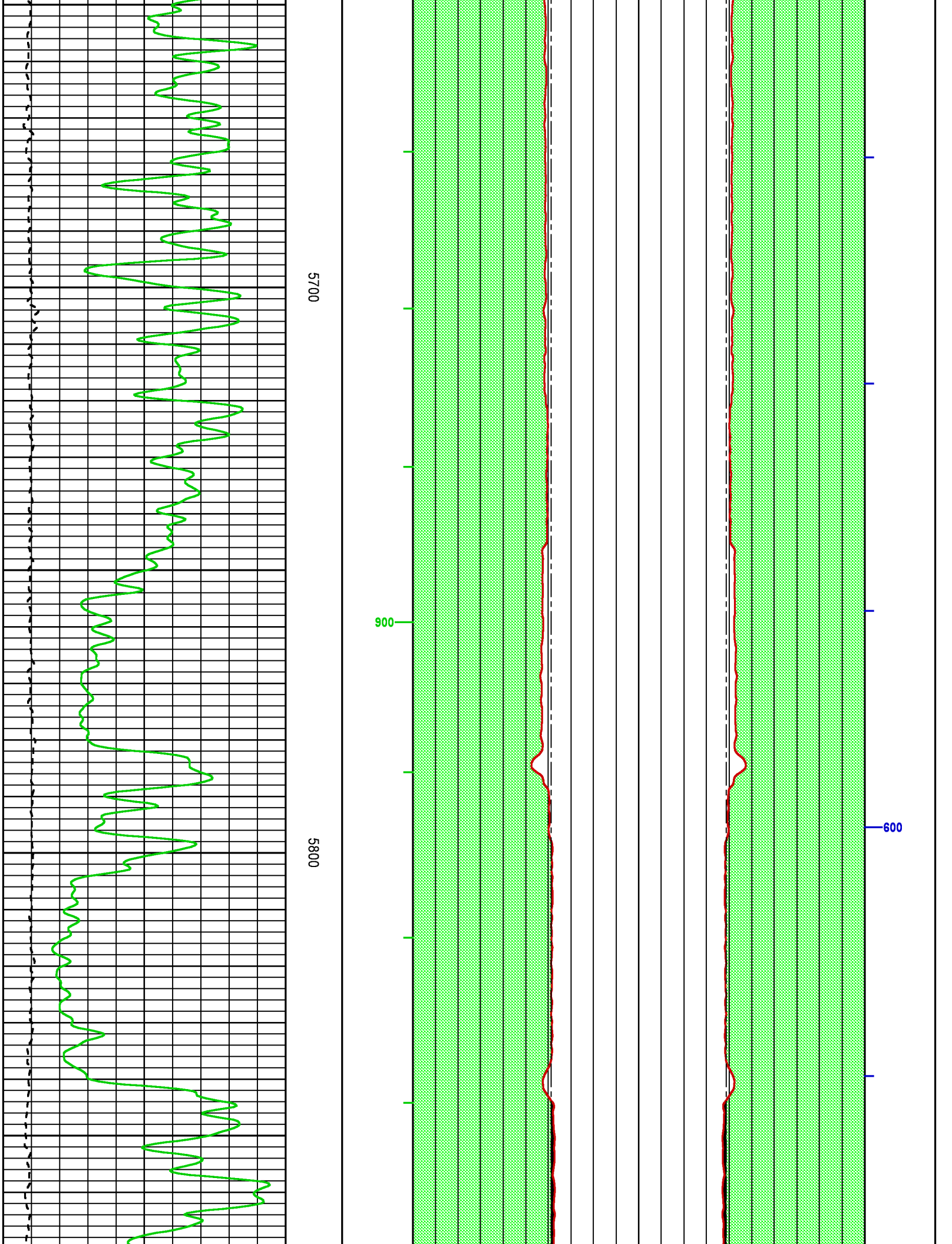


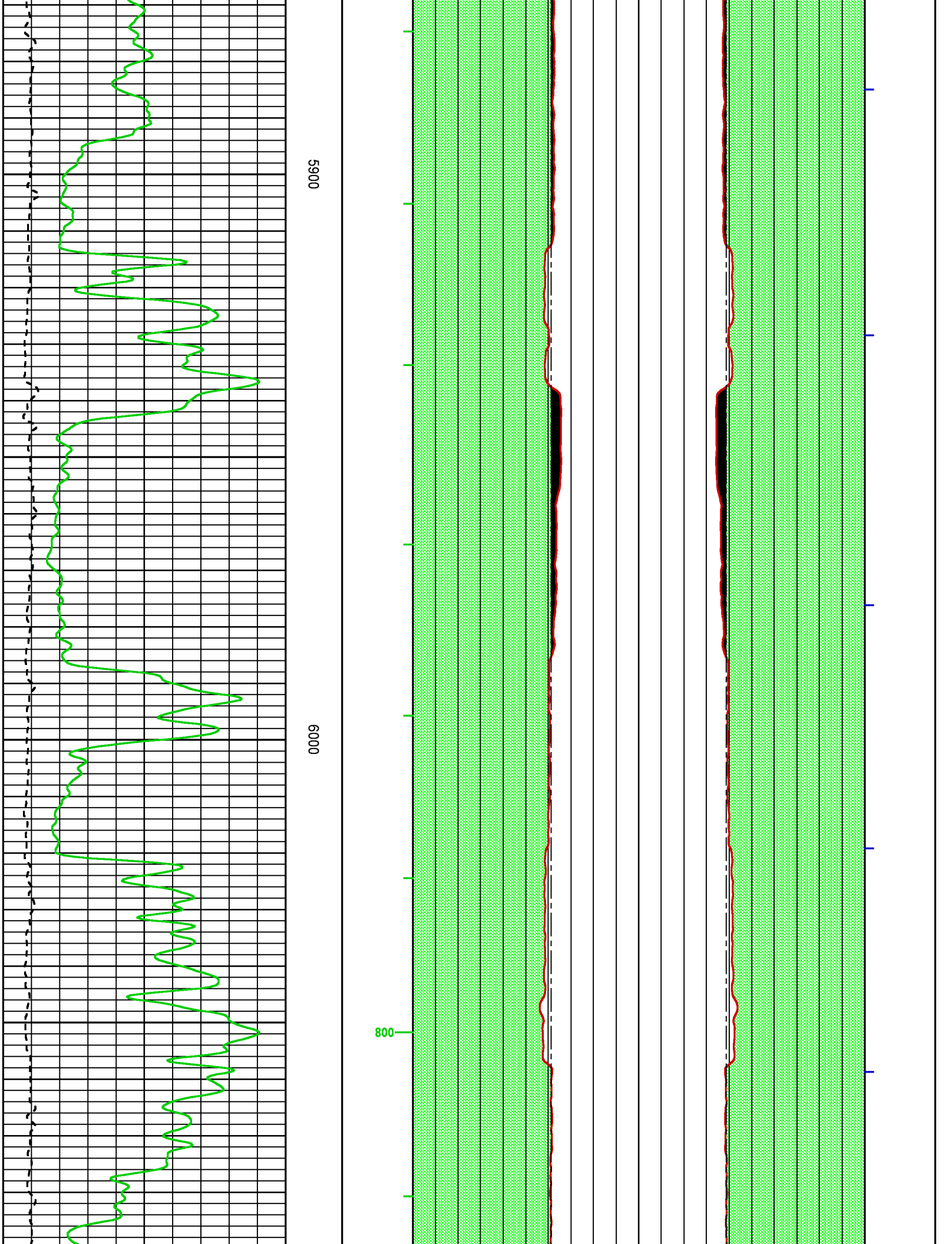


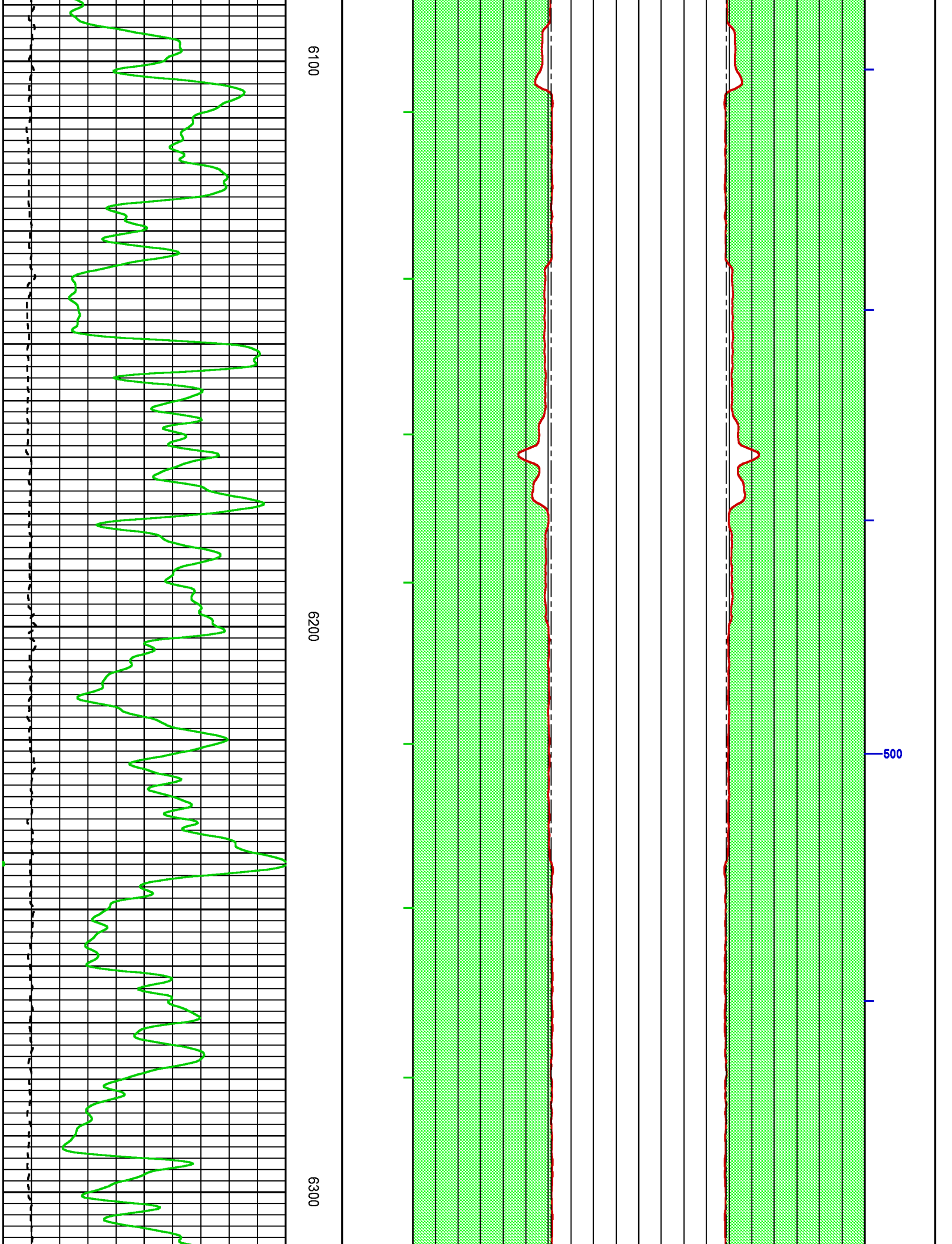


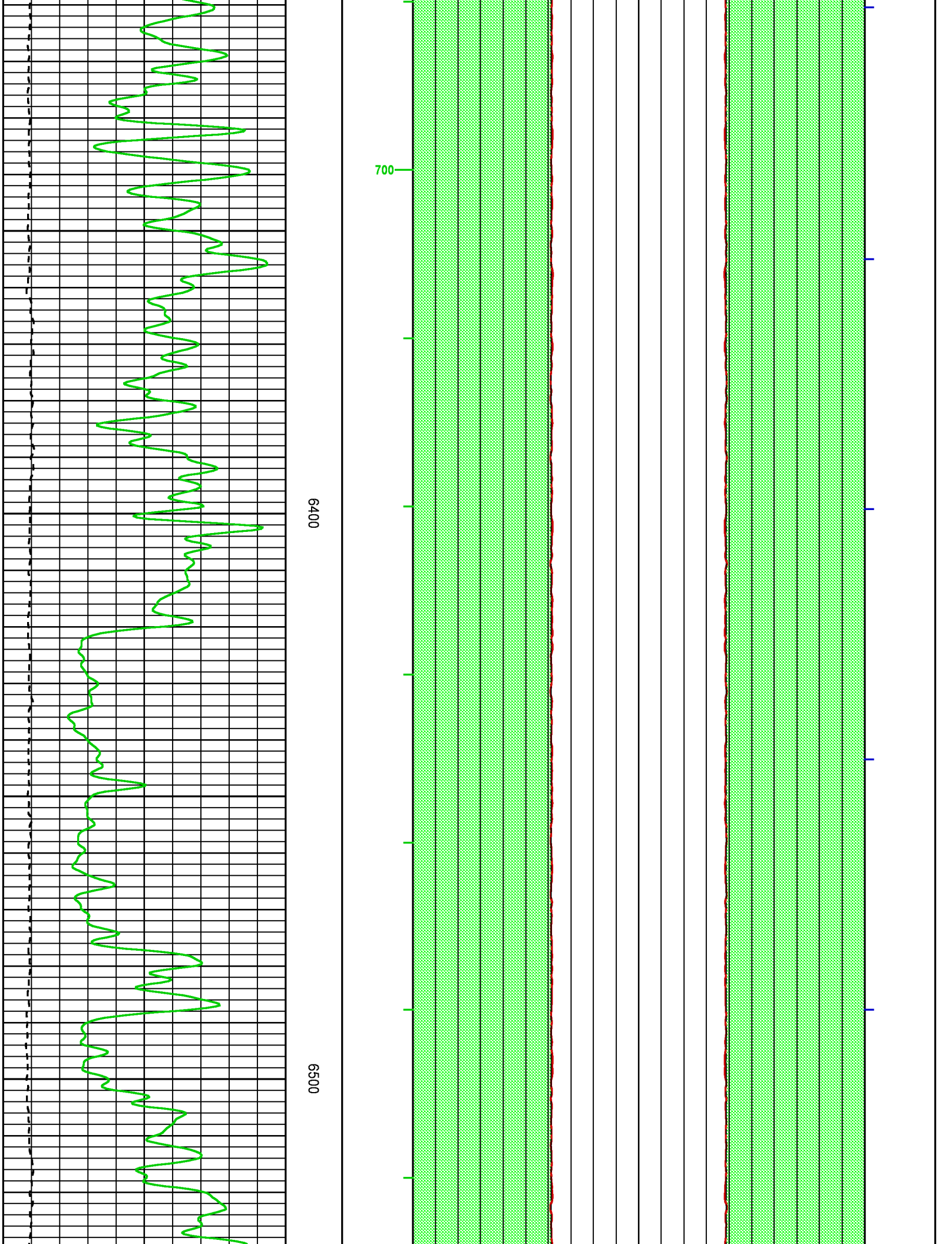


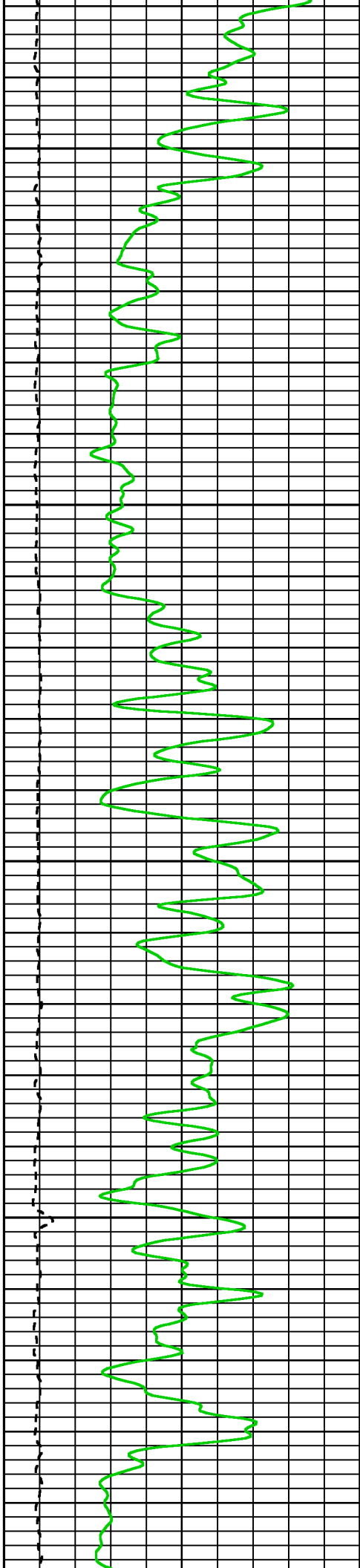










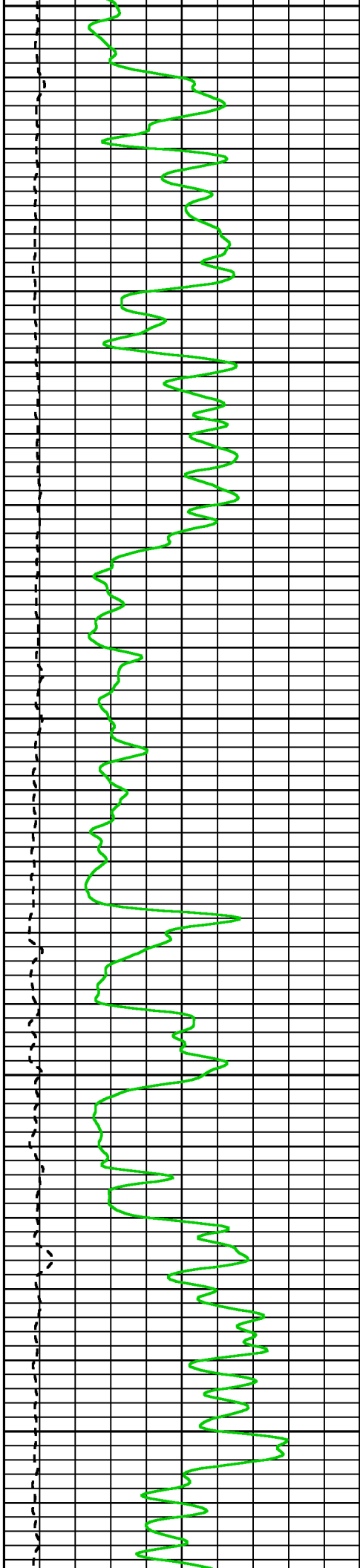


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6700

600

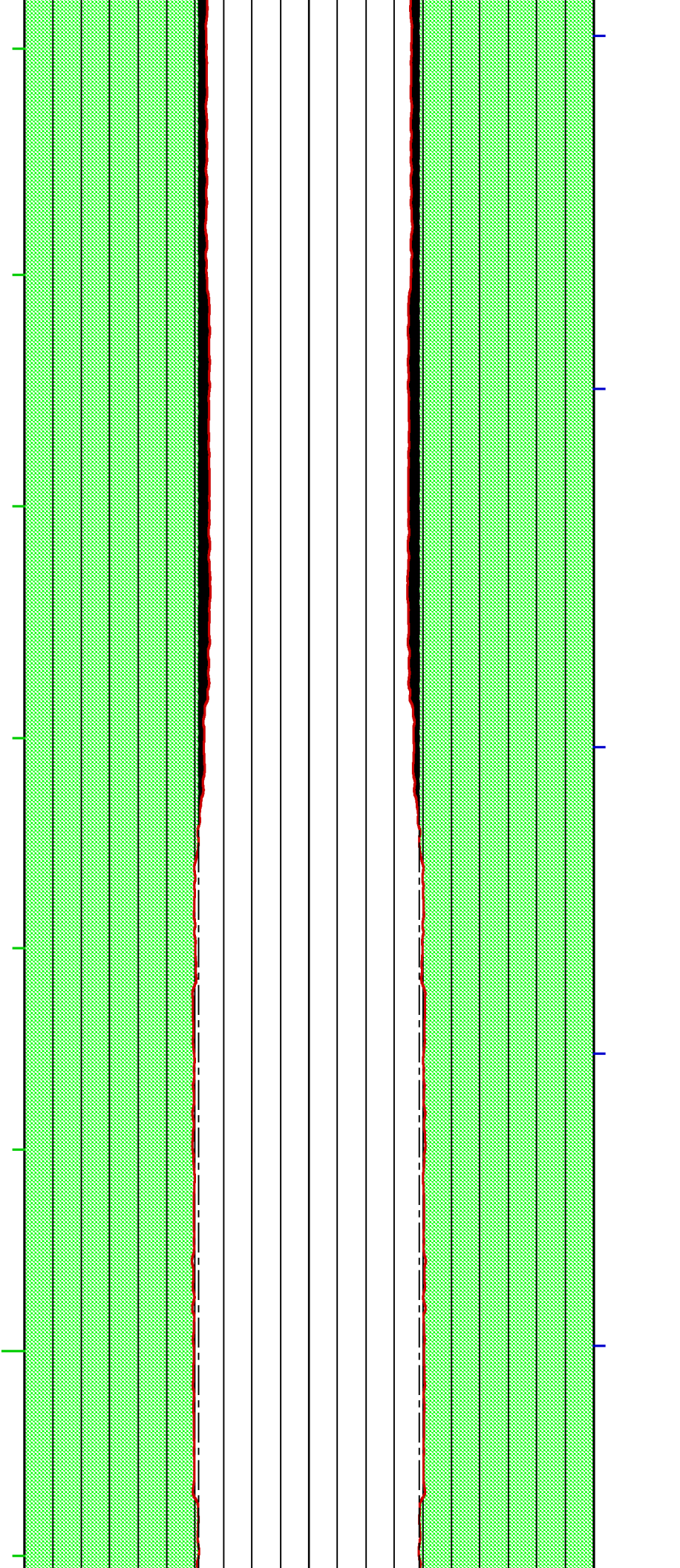
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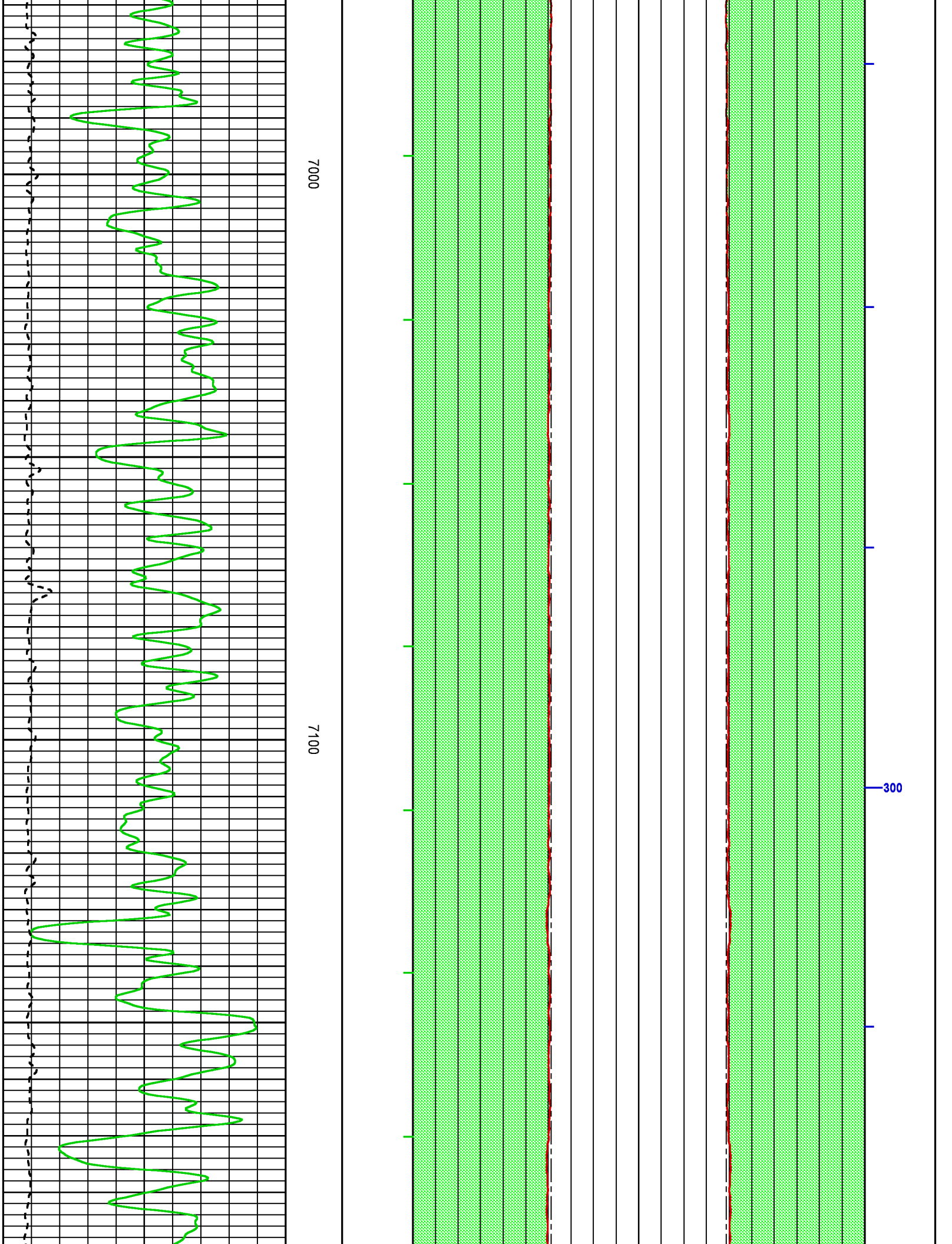


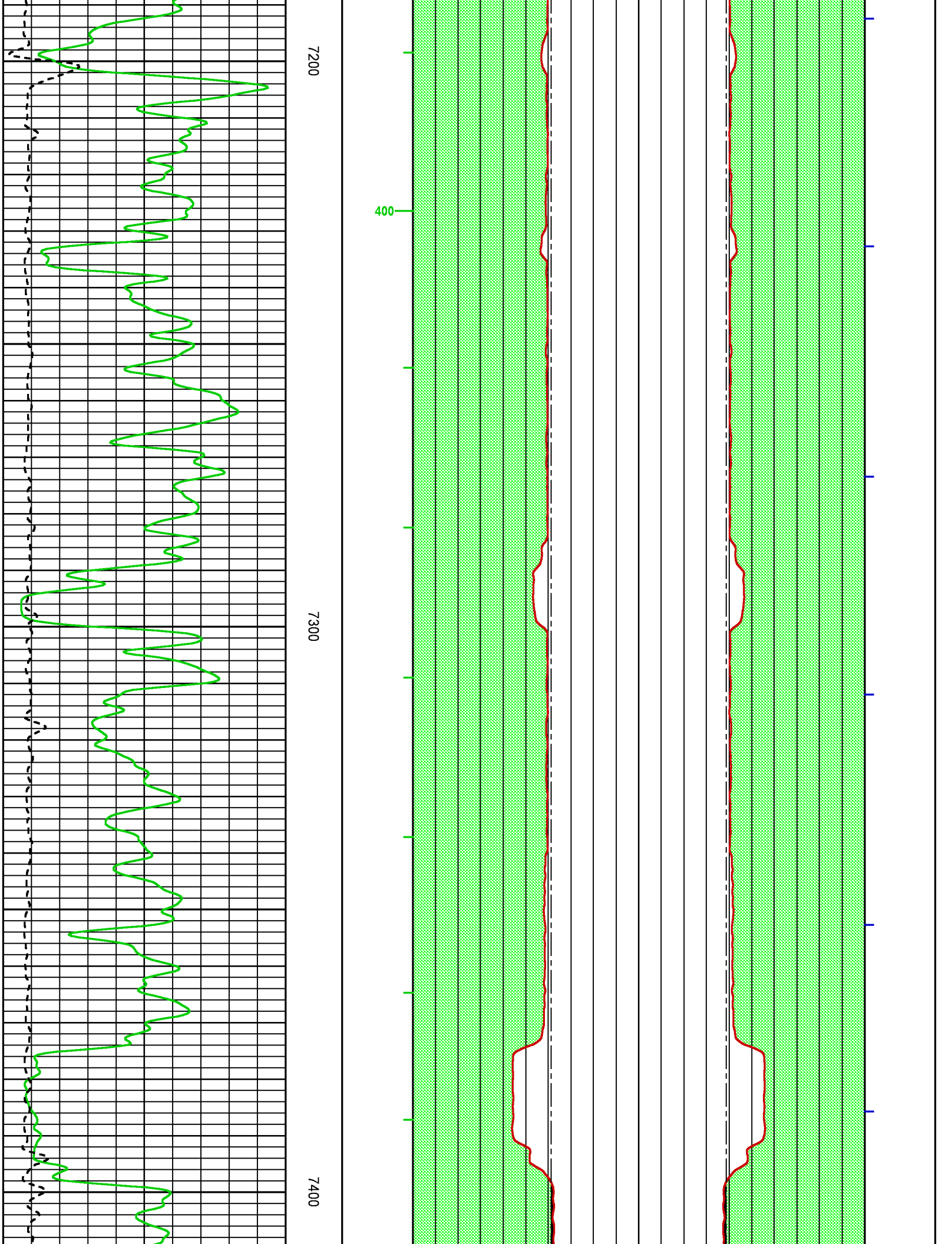
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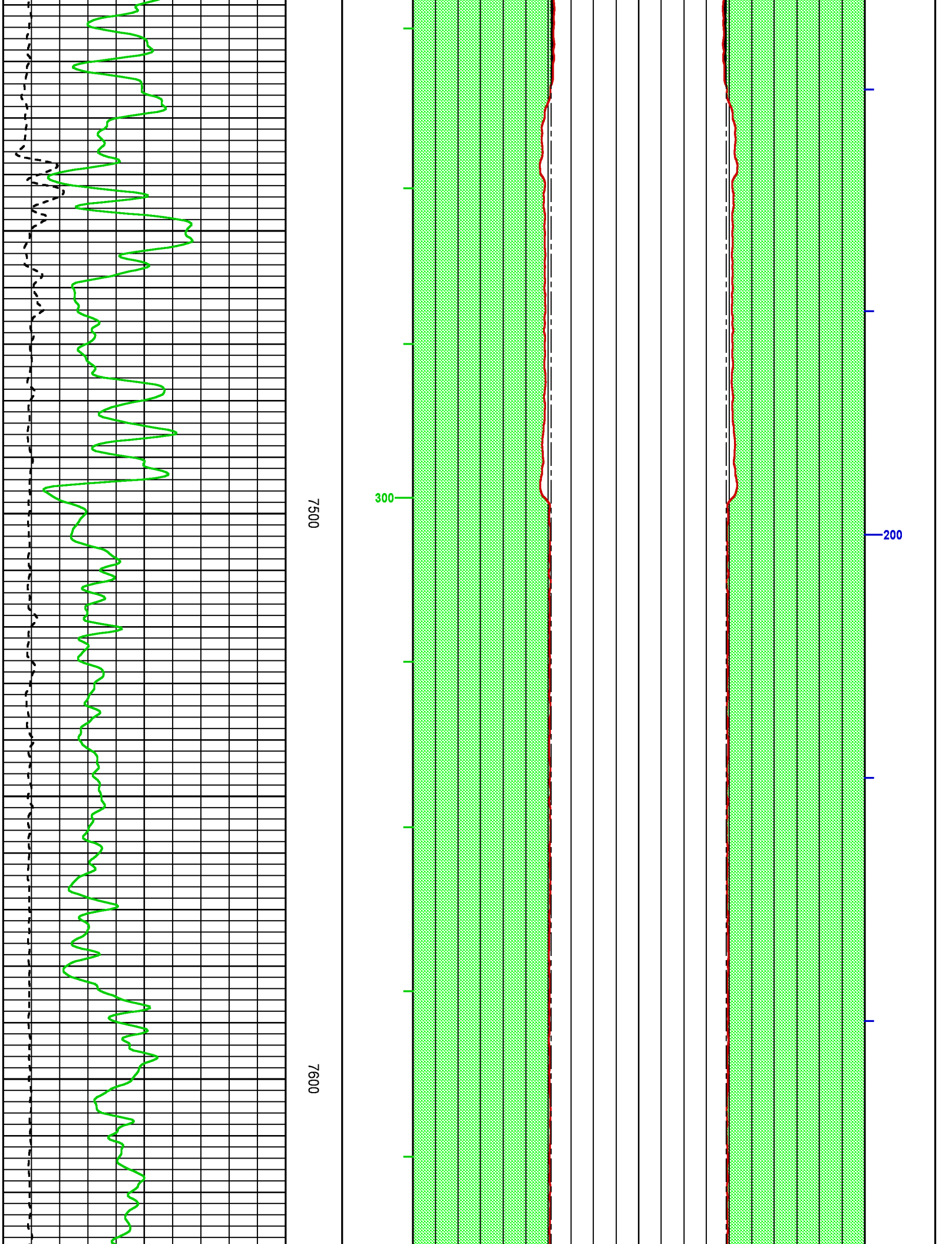
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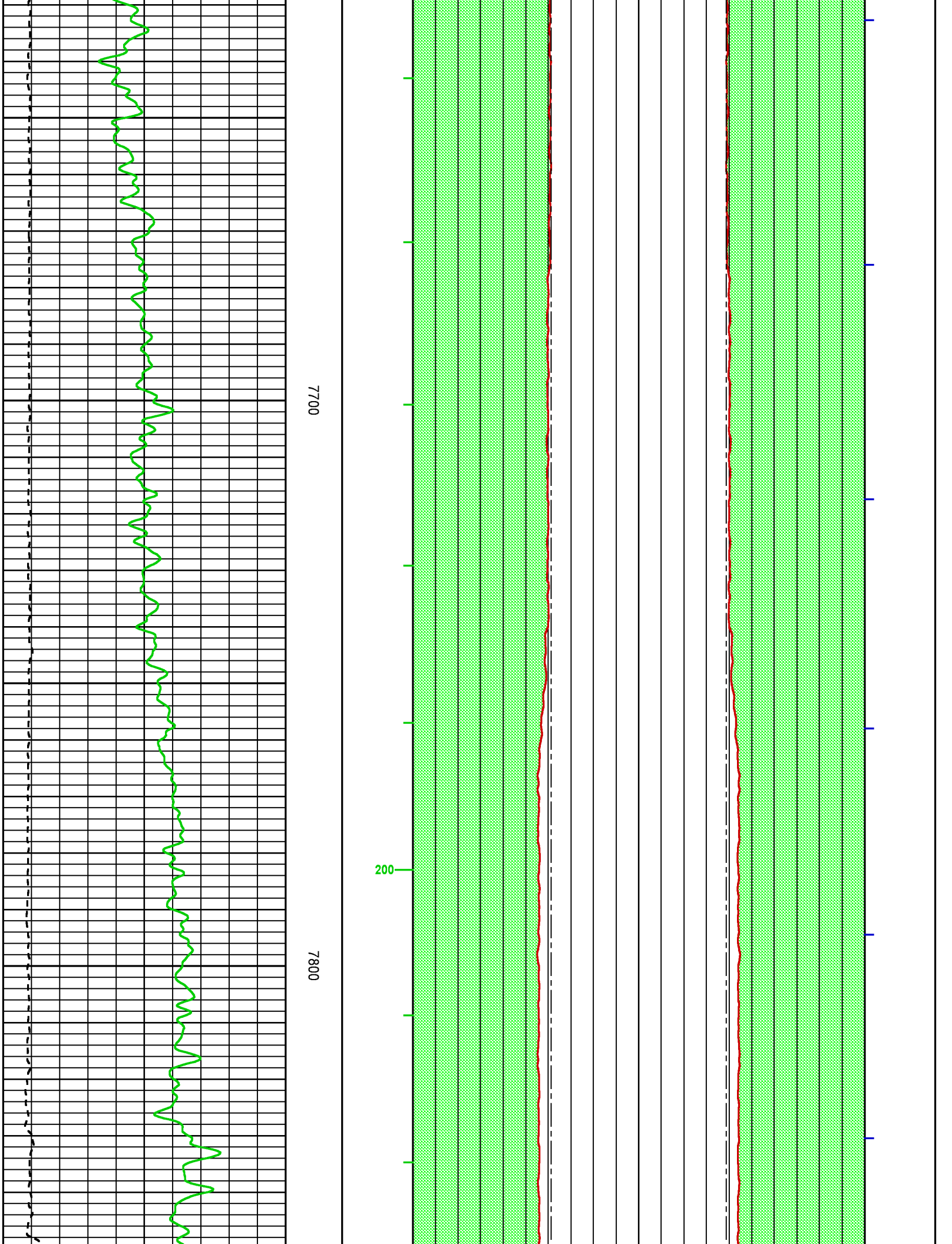
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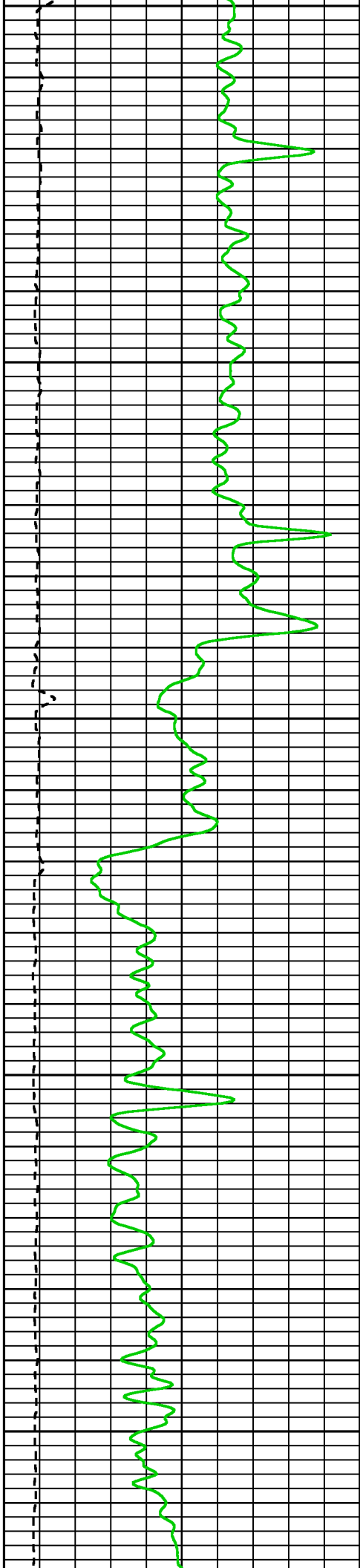










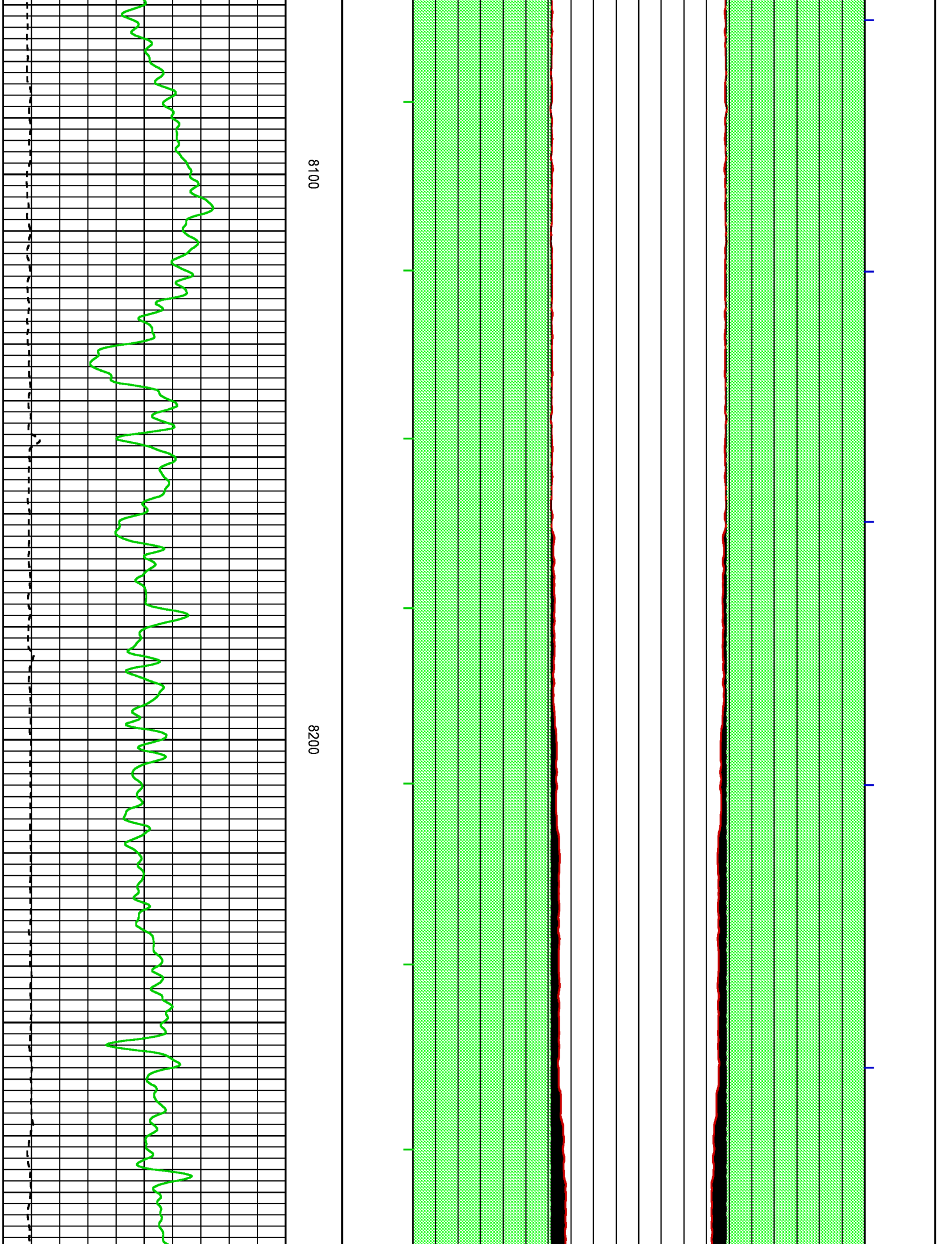


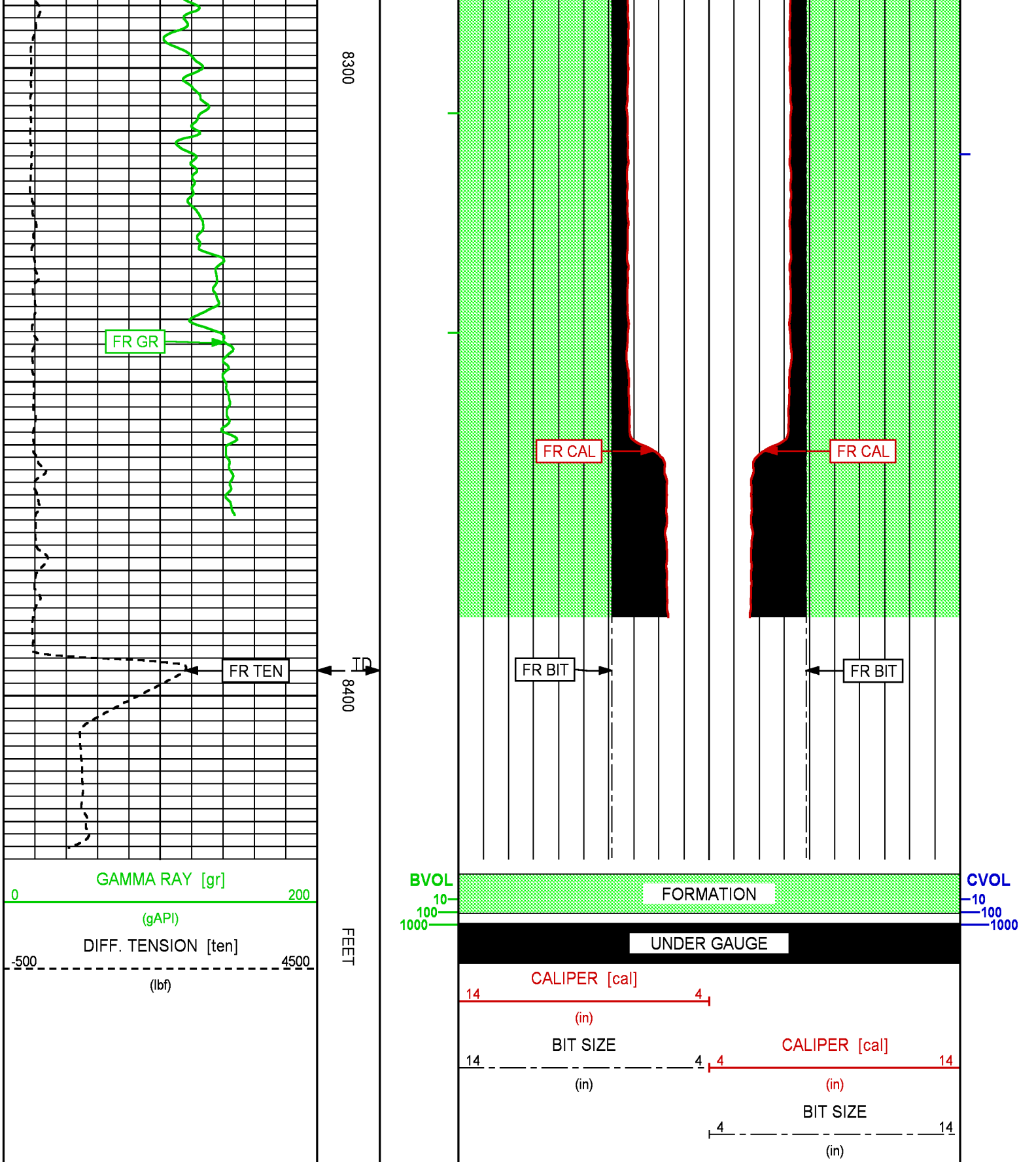
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8000

100

100





CALIBRATION / VERIFICATION SUMMARY

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10045153

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

UNIT #: 3882TD HL6741

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

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Wed Jul 26 14:09:42 2017

UNIT #: 3882TD HL6741

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	166.89	1096.27	929.4 830.0 960.0	0.161	26.94	176.94	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Wed Jul 26 14:34:22 2017

UNIT #: 3882TD HL6741

VERI JIG #: 4702NK DA_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	170.53	1085.69	0.161	27.52	175.23	147.70 140.00 160.00

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 179939

DATE/TIME PERFORMED: Mon Jul 31 14:26:01 2017

UNIT #: 3882TD HL6741

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1604.8	2438.4	0.00855	-5.84165	7.875	15.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939

DATE/TIME PERFORMED: Sat Sep 9 21:37:05 2017

DAYS SINCE CAL: 40

UNIT #: 3880TA HL6670

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1787.6	0.00855	-7.18209	8.097

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939

DATE/TIME PERFORMED: Sun Sep 10 18:47:13 2017

DAYS SINCE CAL: 41

UNIT #: 3880TA HL6670

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1796.8	0.00855	-7.18209	8.176 7.597 8.597

INSTRUMENT CONFIGURATION

Source File: /dat1a/LARAMIE_BRUTON_30_04W/TOOL-tdg

CABLEHEAD

Diameter : 3.38"
Length : 5.50'
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

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

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

73.88'

CABLEHEAD TOP 71.13'

TEMP MP 65.93'
RM MP 65.68'

GR MP 52.48'

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


SP MP — 14.19'

XMTR MP — 7.72'

BULL PLUG 3 3/8

0.00'

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

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO:
	WELL <u>BRUTON 30-04W</u>		
	FIELD <u>VEGA</u>		API NO:
	COUNTY <u>MESA</u>	STATE <u>COLORADO</u>	<u>05077104570000</u>
LOCATION: LAT: 39.252566 N LONG: 107.814245 W		ELEVATIONS: KB 7542 FT DF GL 7512 FT	
SEC <u>30</u> TWP <u>9S</u> RGE <u>93W</u>		DATE 09-SEP-2017	