



RADIAL CEMENT BOND LOG

FILE NO: CH132060	COMPANY LARAMIE ENERGY LLC
API NO: 05077104710000	WELL BRUTON 30-14E
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Version	LOCATION: SHL: 2606' FNL & 1874' FEL BHL: 1867' FSL & 1333' FEL SEC 30 TWP 9S RGE 93W	OTHER SERVICES RPM
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PERMANENT DATUM	GL	ELEVATION	7635 FT	ELEVATIONS: KB 7665 FT DF GL 7635 FT
LOG MEASURED FROM	KB	30 FT	ABOVE P.D.	
DRILL. MEAS. FROM	KB			

DATE	RUN	TRIP		
02-Feb-2018	1	1		
SERVICE ORDER		US132060		
DEPTH DRILLER		7795 FT		
DEPTH LOGGER		7767 FT		
BOTTOM LOGGED INTERVAL		7767 FT		
TOP LOGGED INTERVAL		30 FT		
TIME STARTED		11:00		
TIME FINISHED		13:00		
OPERATOR RIG TIME		2 HOURS		
TYPE OF FLUID IN HOLE		WATER		
FLUID DENSITY		NA		
FLUID SALINITY		NA		
FLUID LEVEL		54 FT		
LOGGED CEMENT TOP		1040 FT		
WELLHEAD PRESSURE		0 PSI		
MAXIMUM HOLE DEVIATION		NA		
NOMINAL LOGGING SPEED		100 F/MN		
MAX. RECORDED TEMP.		236 DEGF		
REFERENCE LOG		BAKER HUGHES OPEN HOLE		
REFERENCE LOG DATE		13-Dec-2017		
EQUIP. NO.	LOCATION	ML-4291	GRAND JCT.	
RECORDED BY		T. NEWELL		
WITNESSED BY		NA		

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: ****2 OPERATIONS IN WELLBORE****

***OPERATION 1: RAL/GR/CCL RUN CENTRALIZED**

LOGGED WITH 0 PSI ON WELLHEAD

SJ: 5874' - 5894'
SJ: 6974' - 6994'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	RAL	1426XA	10124106	CENTRALIZED
1	1	GR/CCL	1355XA	10856714	CENTRALIZED

RAL MAIN PASS 0 PSI

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Patches: 2

Plotted: Sat Feb 03 22:27:44 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\Bruton_30-14Ep012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 28.000 ft BOTTOM DEPTH: 7772.250 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	medium (1)		"	"
TRAVEL TIME	FILTER ()	medium (1)		"	"

RAL CCL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CCL FLOOR	CCL FLOOR	0.00		TOP	BOTTOM

ANALOG RAL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgp1*)	186	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	186	us	"	"
	AMP WINDOW START (fgp3*)	186	us	"	"
	AMP WINDOW START (fgp4*)	186	us	"	"
	AMP WINDOW START (fgp5*)	186	us	"	"
	AMP WINDOW START (fgp6*)	186	us	"	"
	AMP WINDOW START (fgp7*)	186	us	"	"
	AMP WINDOW START (fgp8*)	186	us	"	"
	AMP WINDOW START (fgpn*)	186	us	"	"
	AMP WINDOW LENGTH	25	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	174	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-68	us	"	"
	TOOL DELAY (str2*)	-68	us	"	"
	TOOL DELAY (str3*)	-68	us	"	"
	TOOL DELAY (str4*)	-68	us	"	"
	TOOL DELAY (str5*)	-68	us	"	"
	TOOL DELAY (str6*)	-68	us	"	"
	TOOL DELAY (str7*)	-68	us	"	"
	TOOL DELAY (str8*)	-68	us	"	"
	TOOL DELAY (strn*)	-68	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

PERCENT BOND CEMENT MAP

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RAL FREE PIPE AMPLITUDE	FREE AMP REC 1	80	mV	TOP	BOTTOM
	FREE AMP REC 2	80	mV	"	"
	FREE AMP REC 3	80	mV	"	"
	FREE AMP REC 4	80	mV	"	"
	FREE AMP REC 5	80	mV	"	"
	FREE AMP REC 6	80	mV	"	"
	FREE AMP REC 7	80	mV	"	"
	FREE AMP REC 8	80	mV	"	"
RAL FULL BOND AMPLITUDE	FULL BOND AMP REC 1	2	mV	"	"
	FULL BOND AMP REC 2	2	mV	"	"
	FULL BOND AMP REC 3	2	mV	"	"
	FULL BOND AMP REC 4	2	mV	"	"

FULL BOND AMP REC 5	2	mV	"	"
FULL BOND AMP REC 6	2	mV	"	"
FULL BOND AMP REC 7	2	mV	"	"
FULL BOND AMP REC 8	2	mV	"	"

CURVE DESCRIPTION REPORT

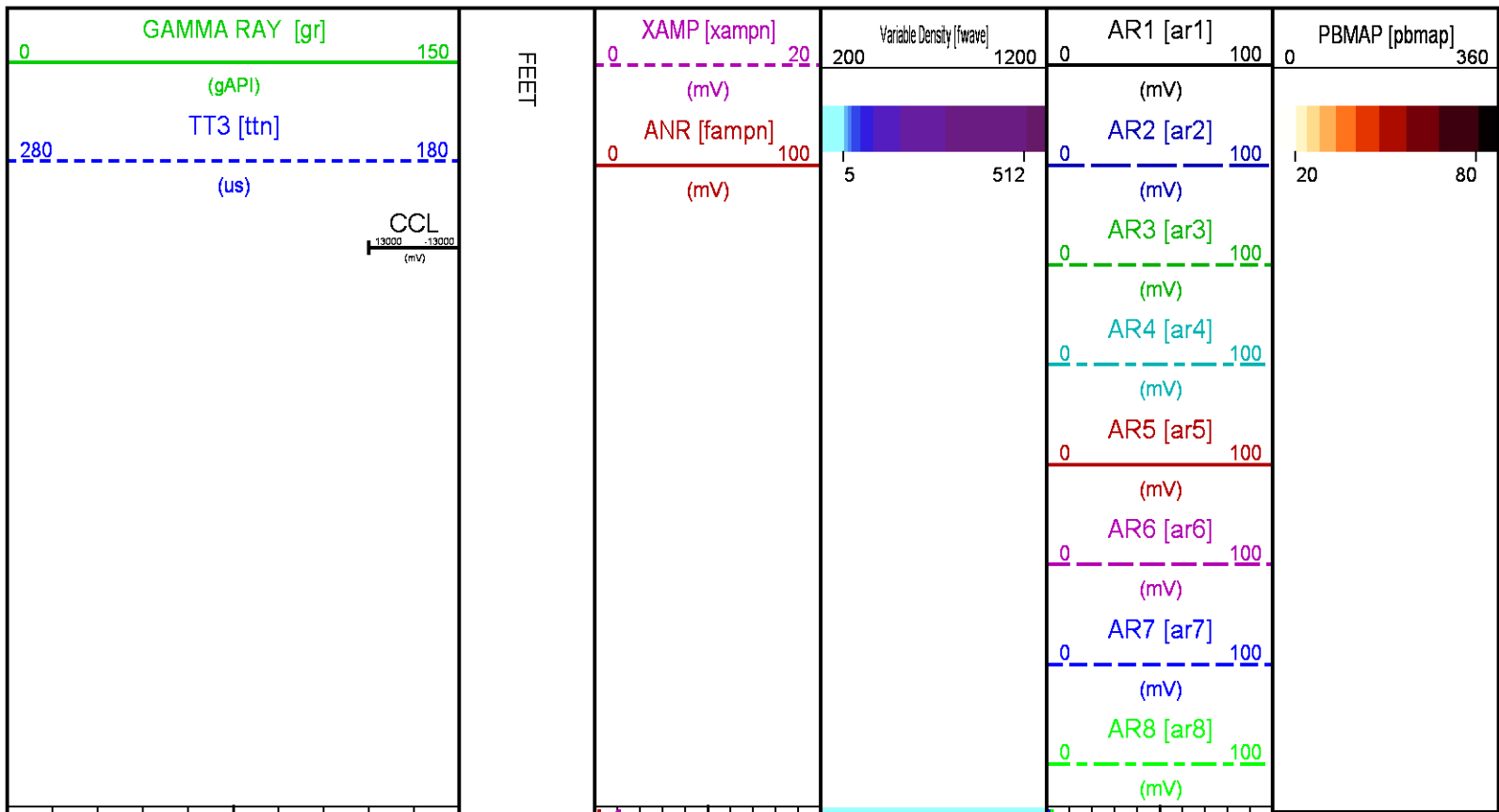
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	N/A	FIXED GATE AMPLITUDE T-R1
F1:AR2	N/A	FIXED GATE AMPLITUDE T-R2
F1:AR3	N/A	FIXED GATE AMPLITUDE T-R3
F1:AR4	N/A	FIXED GATE AMPLITUDE T-R4
F1:AR5	N/A	FIXED GATE AMPLITUDE T-R5
F1:AR6	N/A	FIXED GATE AMPLITUDE T-R6
F1:AR7	N/A	FIXED GATE AMPLITUDE T-R7
F1:AR8	N/A	FIXED GATE AMPLITUDE T-R8
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:FAMPN	N/A	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	N/A	FAR WAVE FORM
F1:GR	N/A	GAMMA RAY
F1:PBMAP	N/A	PERCENT BOND CEMENT MAP
F1:TTN	N/A	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	N/A	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

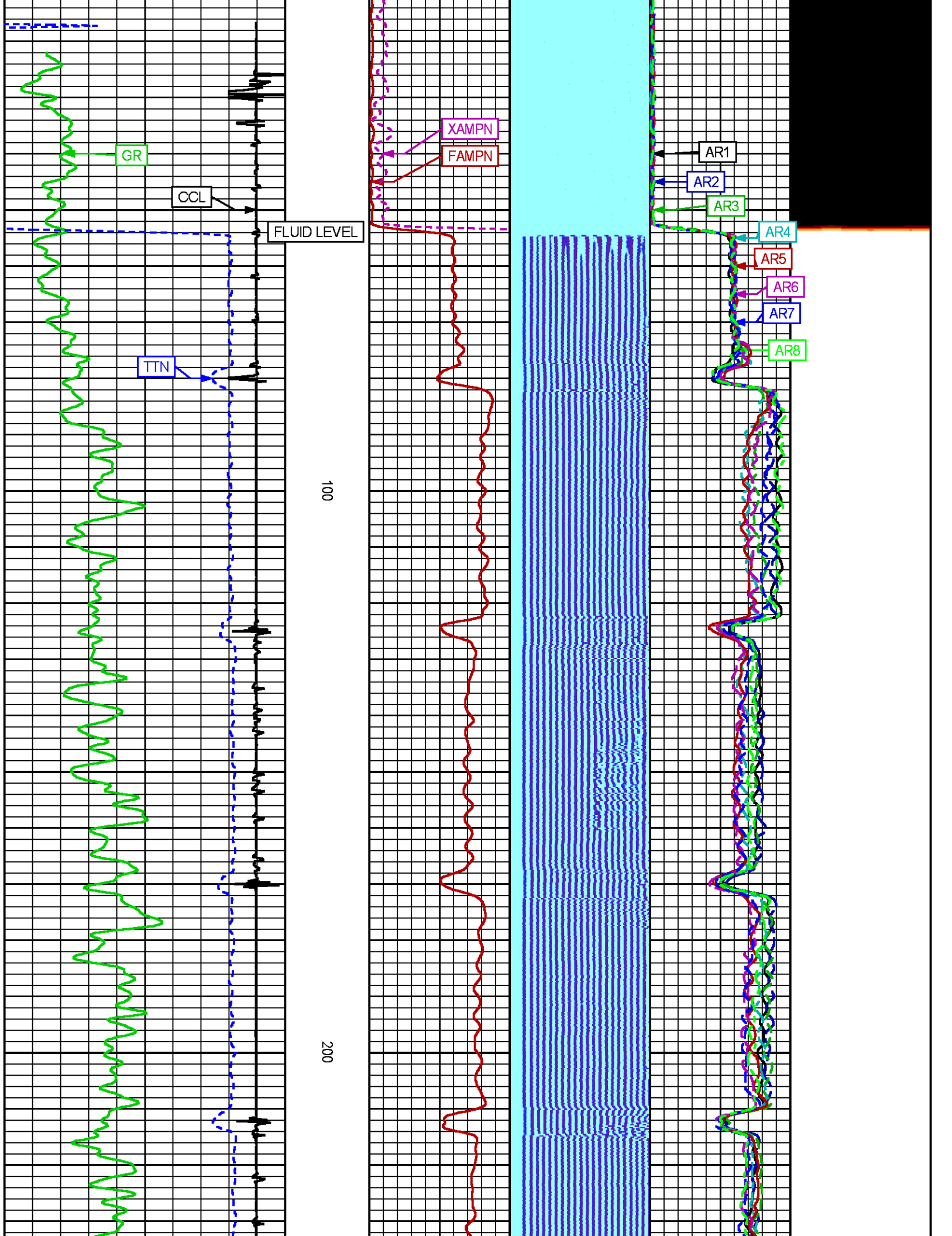
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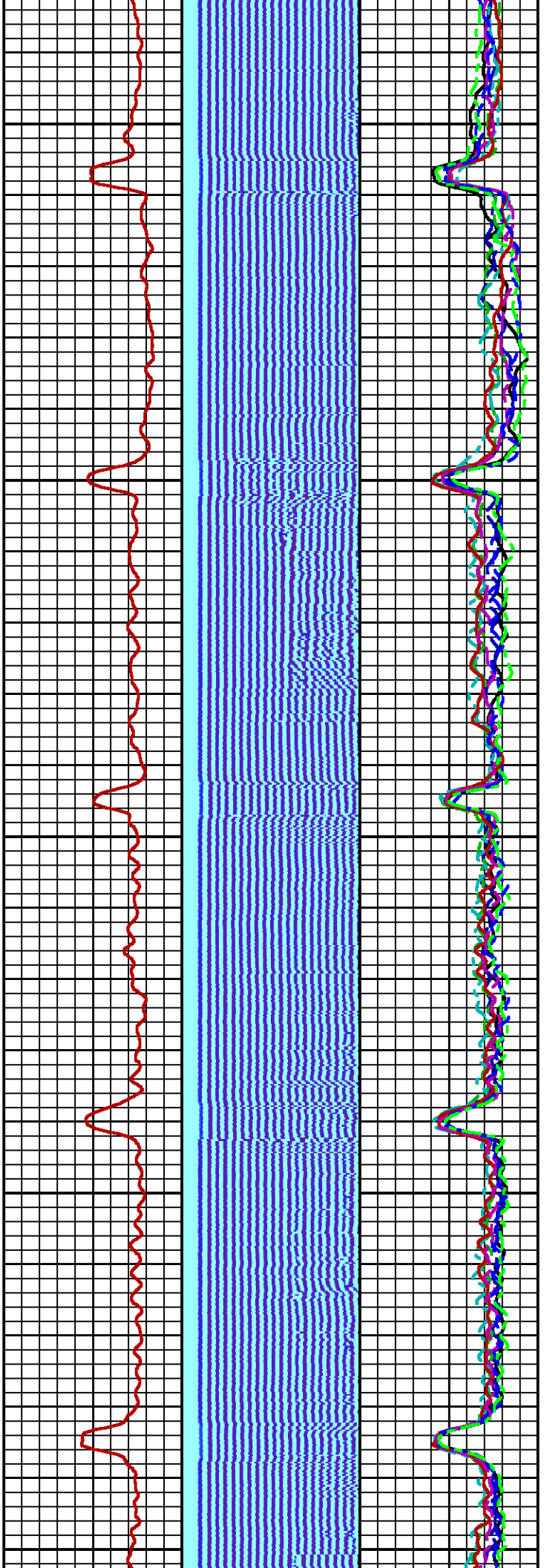
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	-11.25	AR5	-11.25	CCL	-5.75	XAMPN	-11.25
AR2	-11.25	AR6	-11.25	FAMPN	-11.25		
AR3	-11.25	AR7	-11.25	GR	-1.75		
AR4	-11.25	AR8	-11.25	TTN	-11.25		

Presentation : BHI4WM4ZW1:C:\dat1a\Bruton_30-14E\30-14E_RAL_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 12.25 - 7800 Feet

Data File 1 : F1 : BHI4WM4ZW1:C:\dat1a\Bruton_30-14E\30-14E_RAL_MAIN.xtf
Created On : N/A
Company : LARAMIE ENERGY LLC
Well : BRUTON 30-14E
Field : VEGA
File Interval : 2.5 - 7801.25 Feet
OCT : p012g

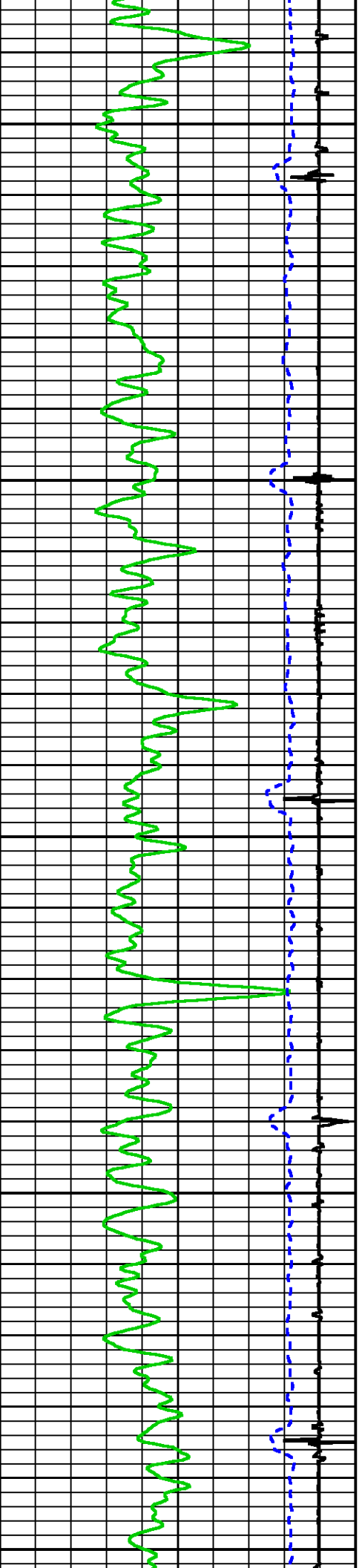


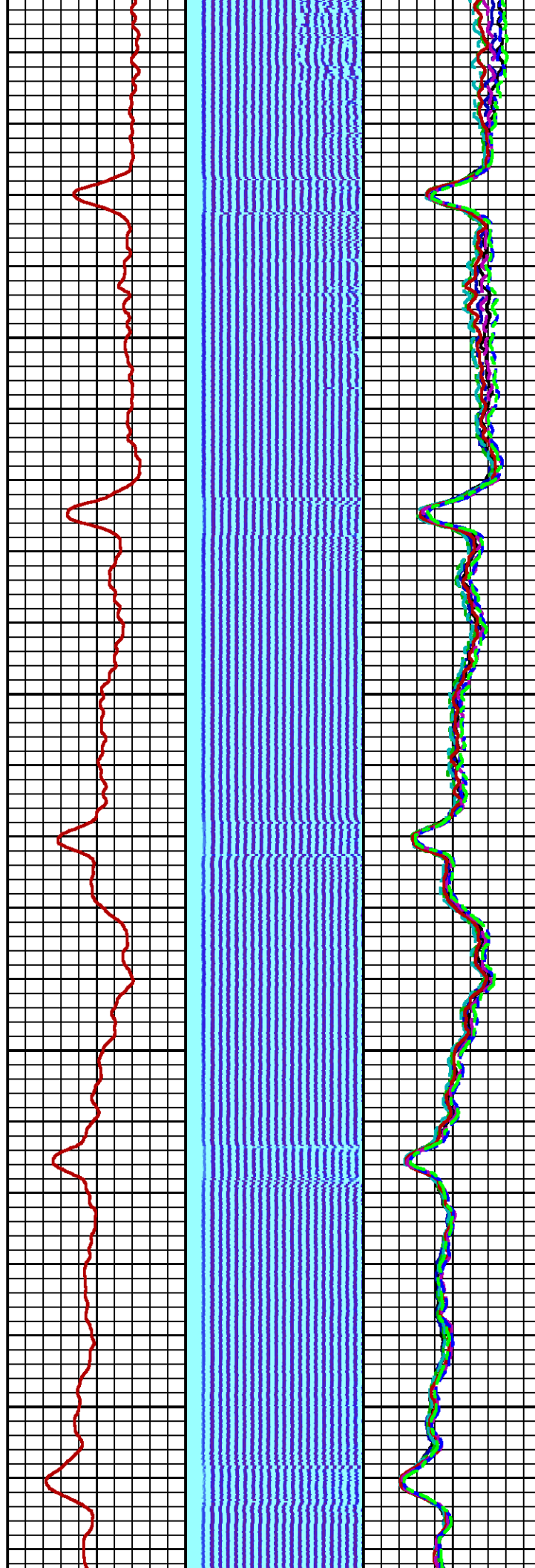
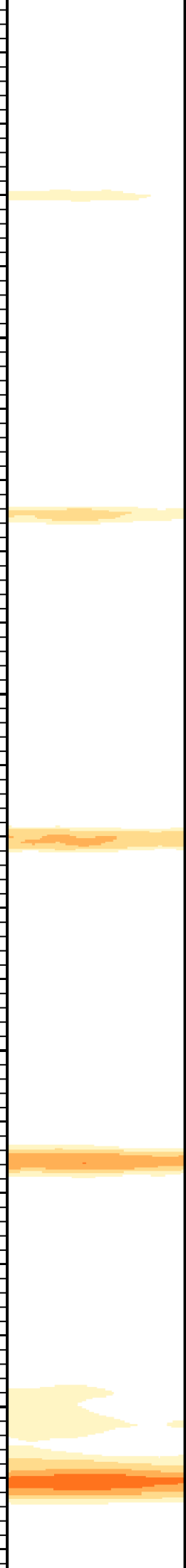




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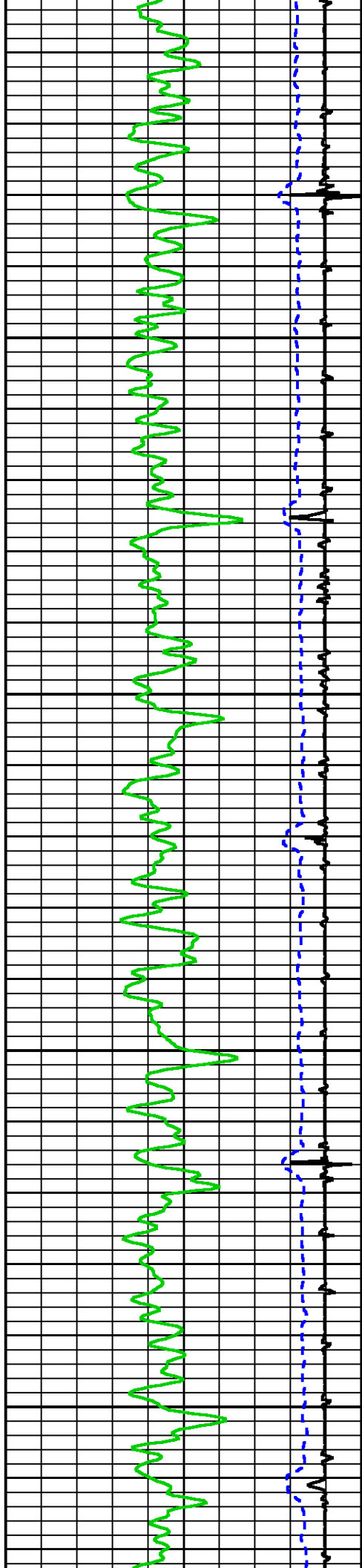
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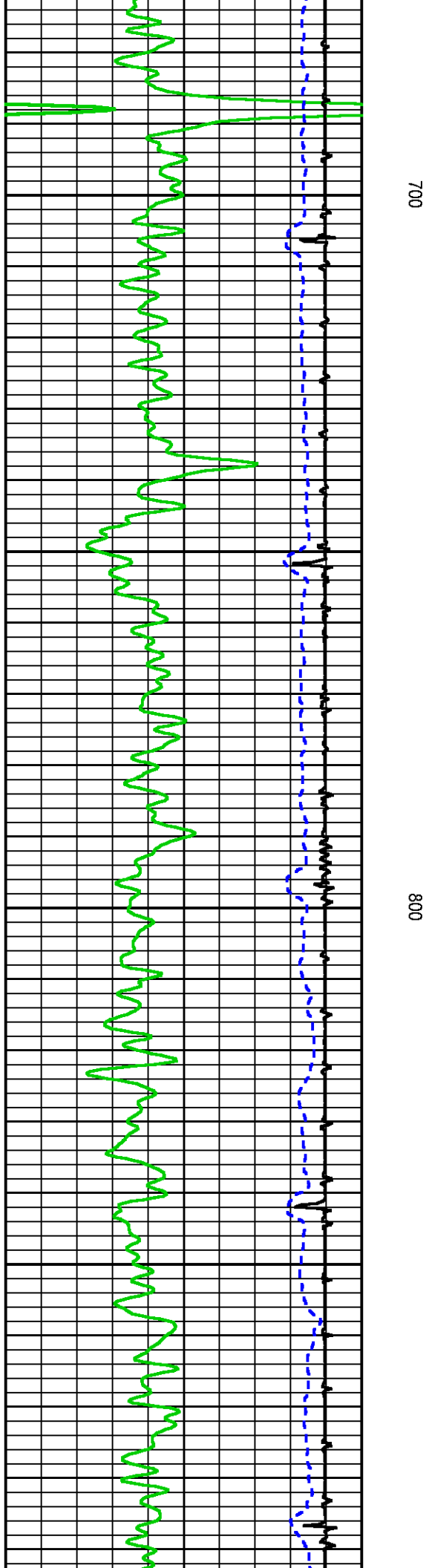
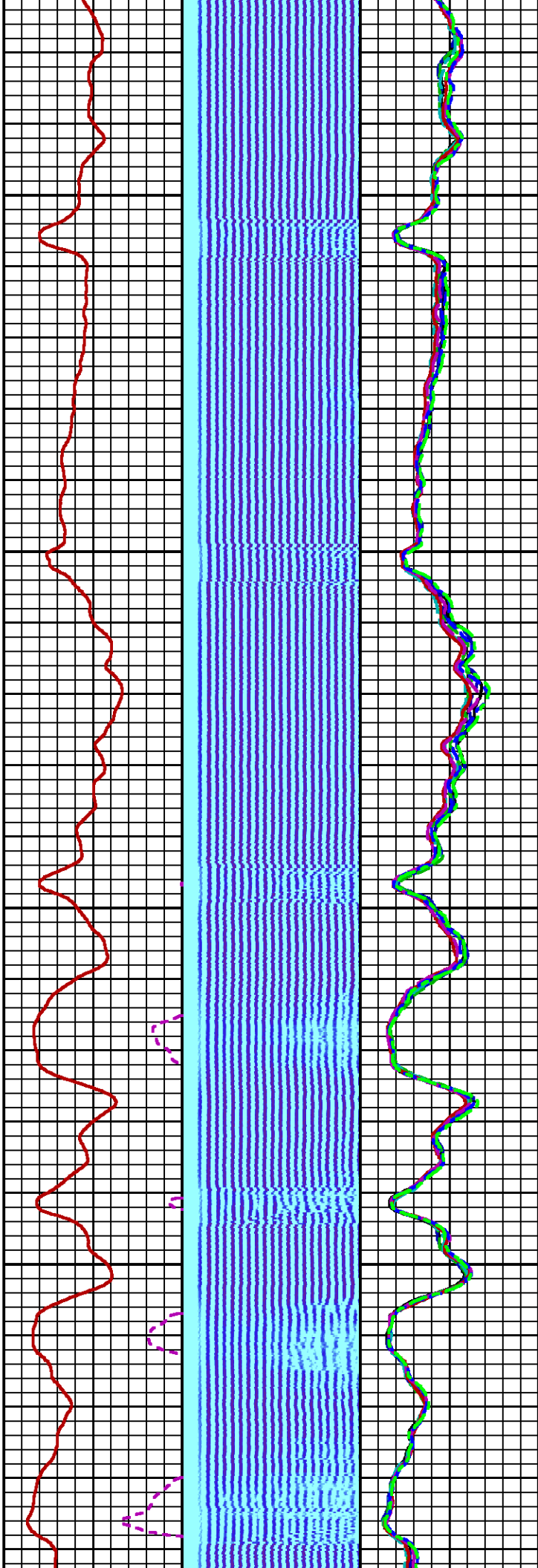
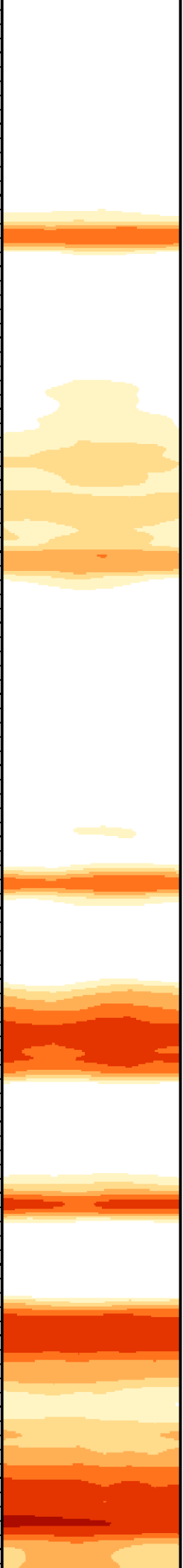


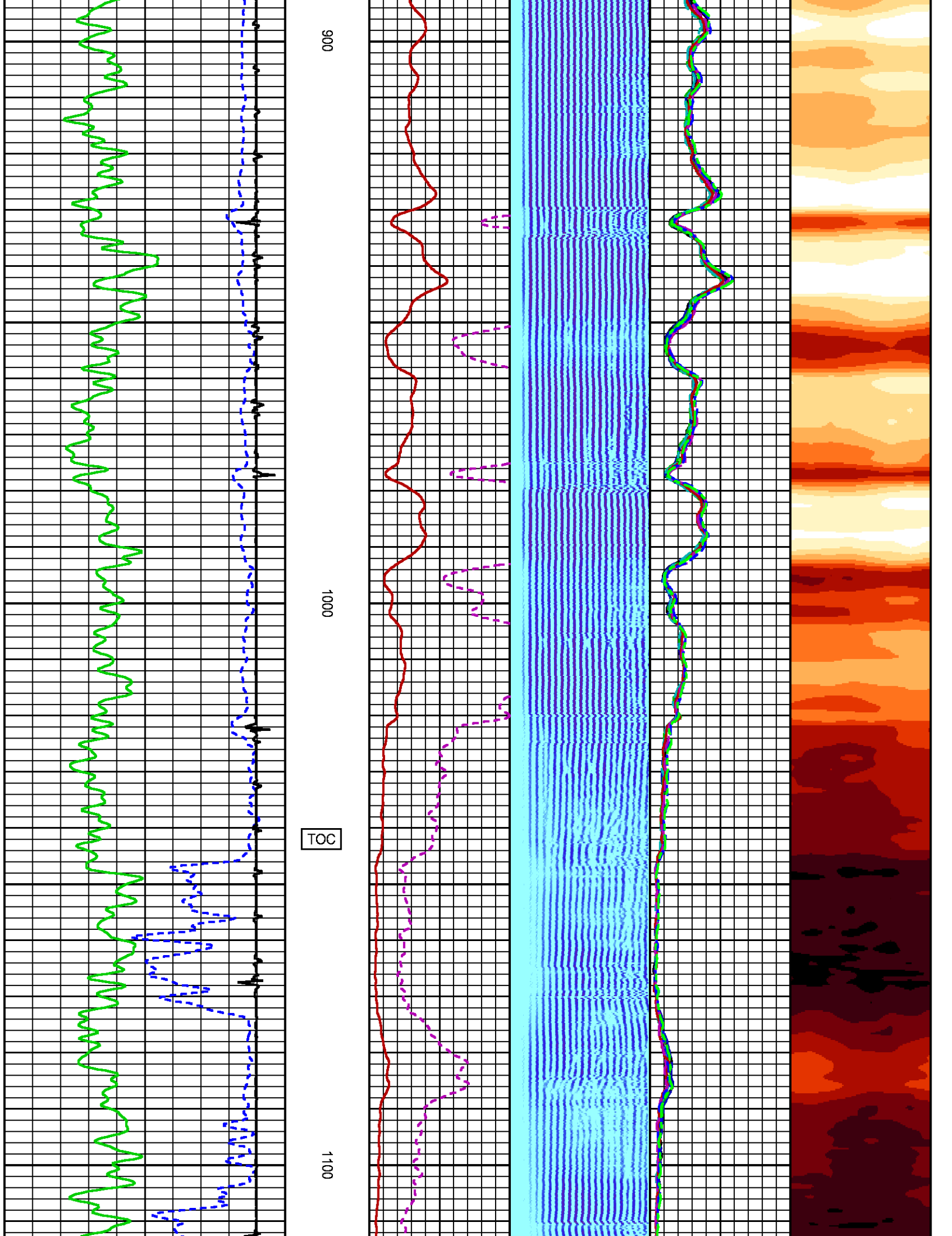


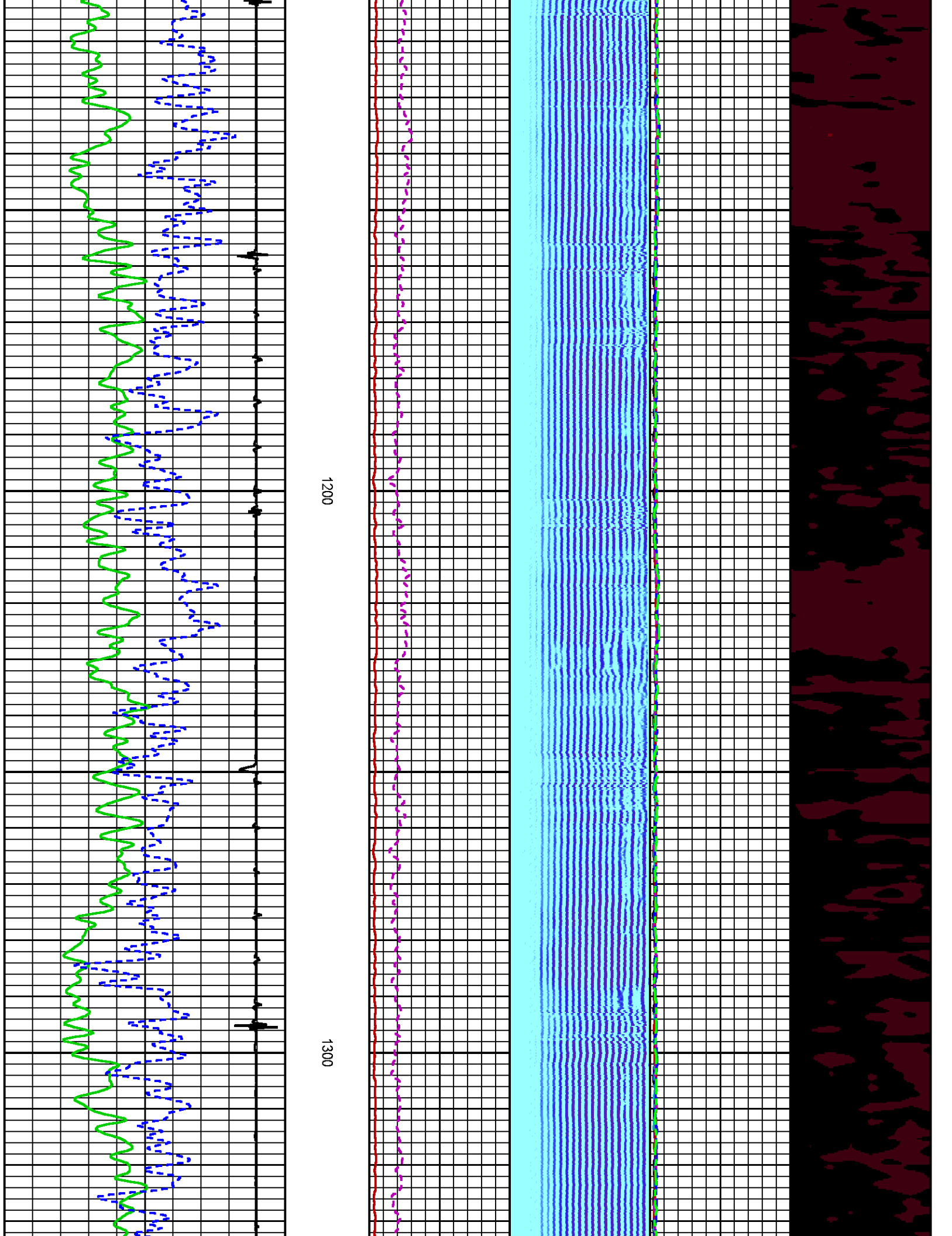
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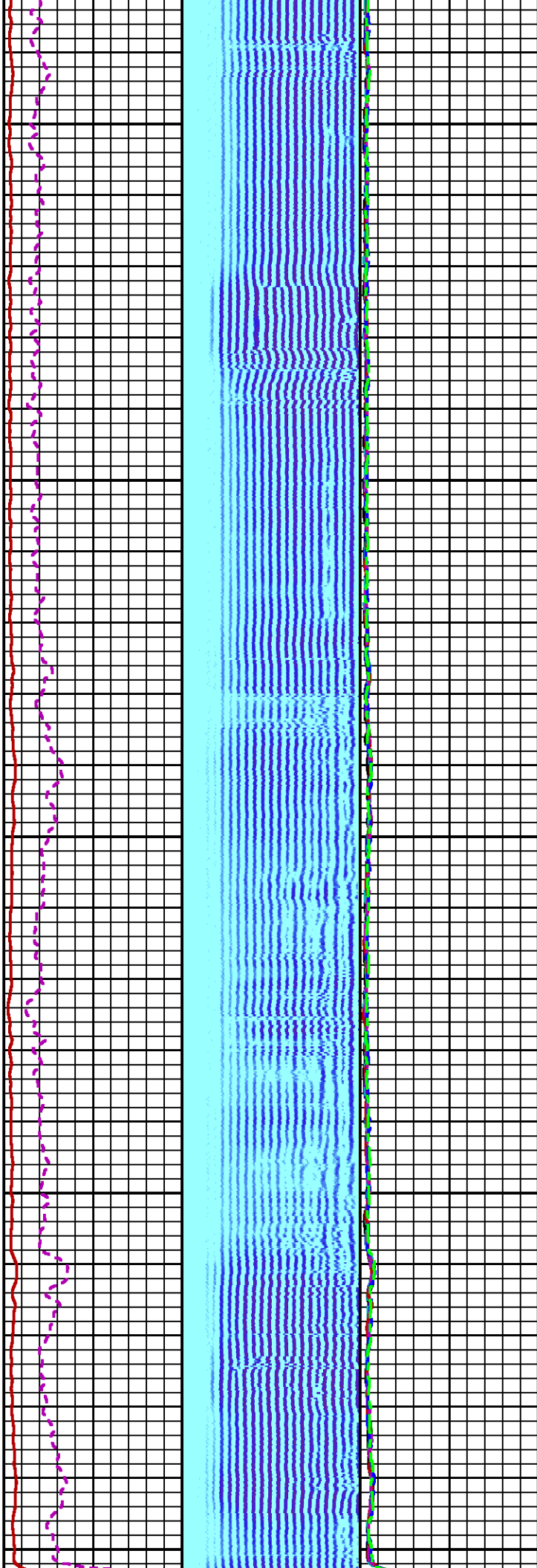
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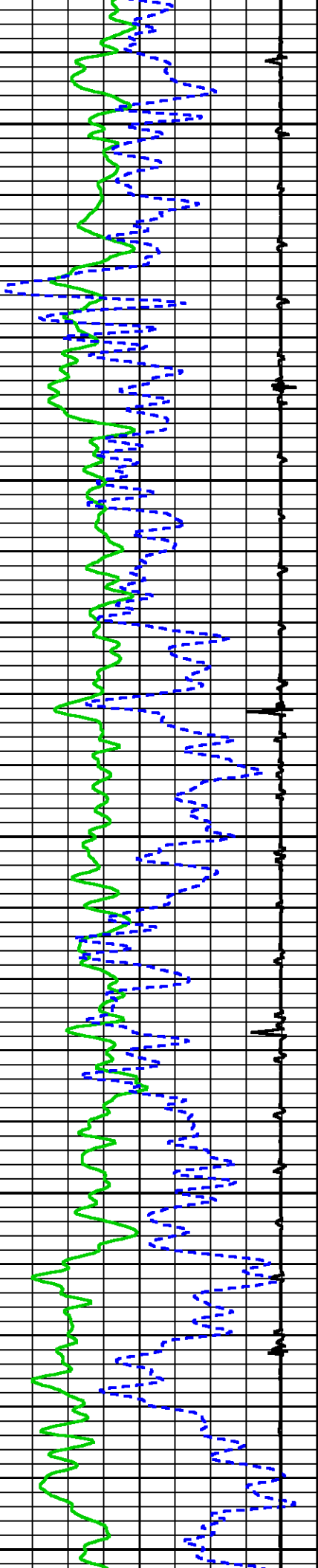


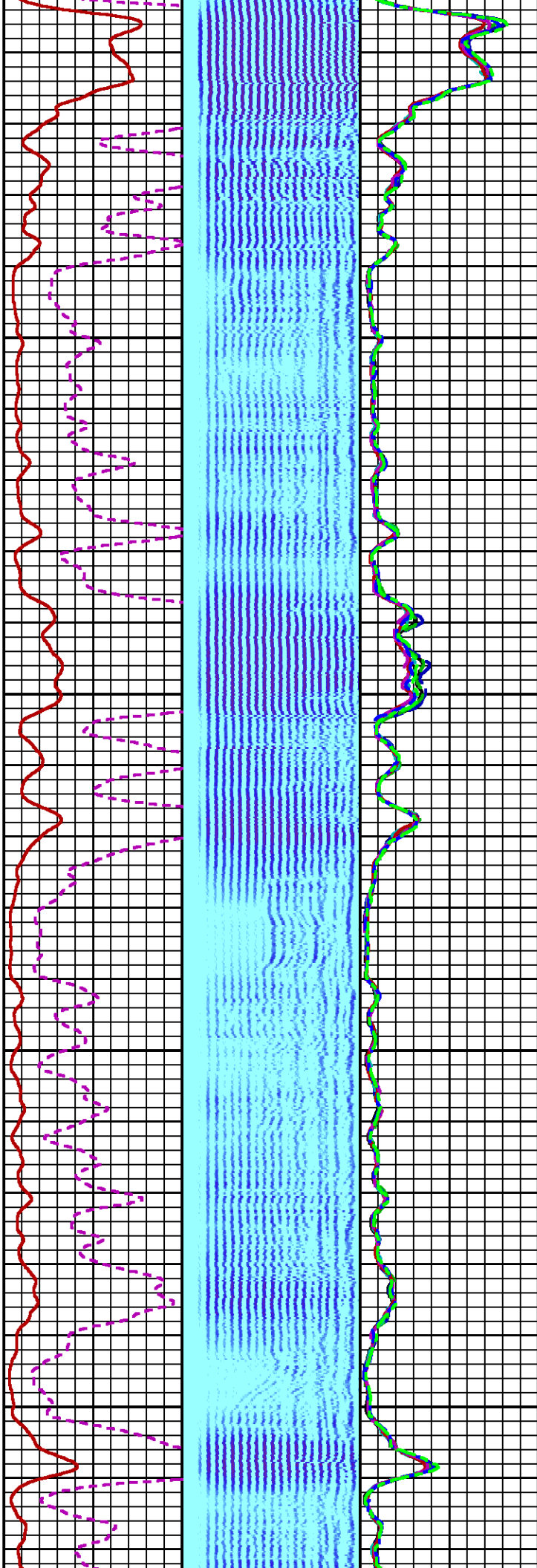
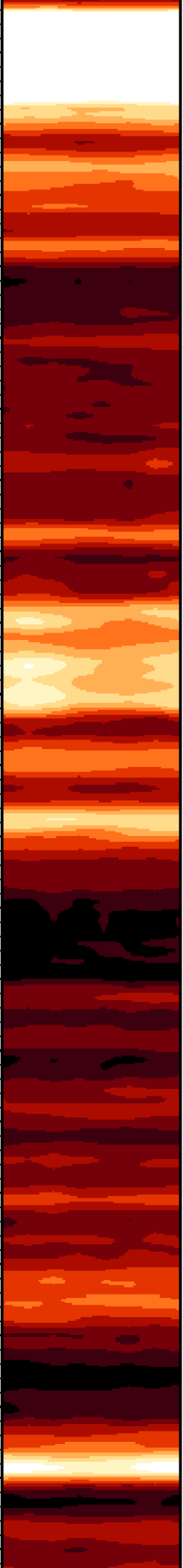




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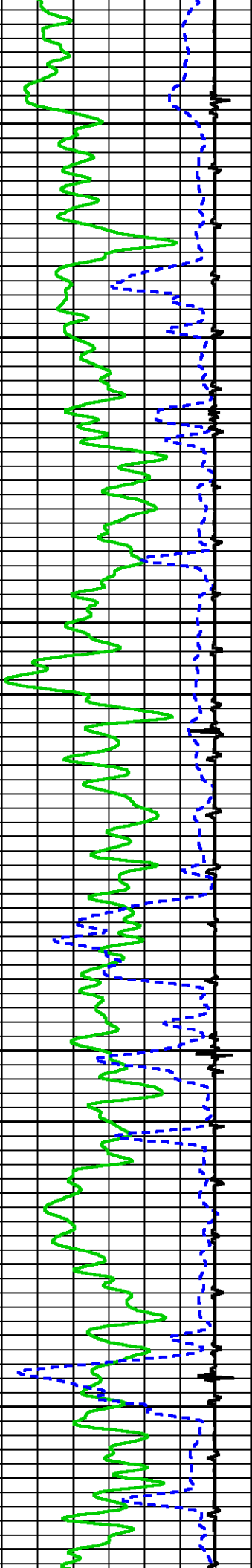
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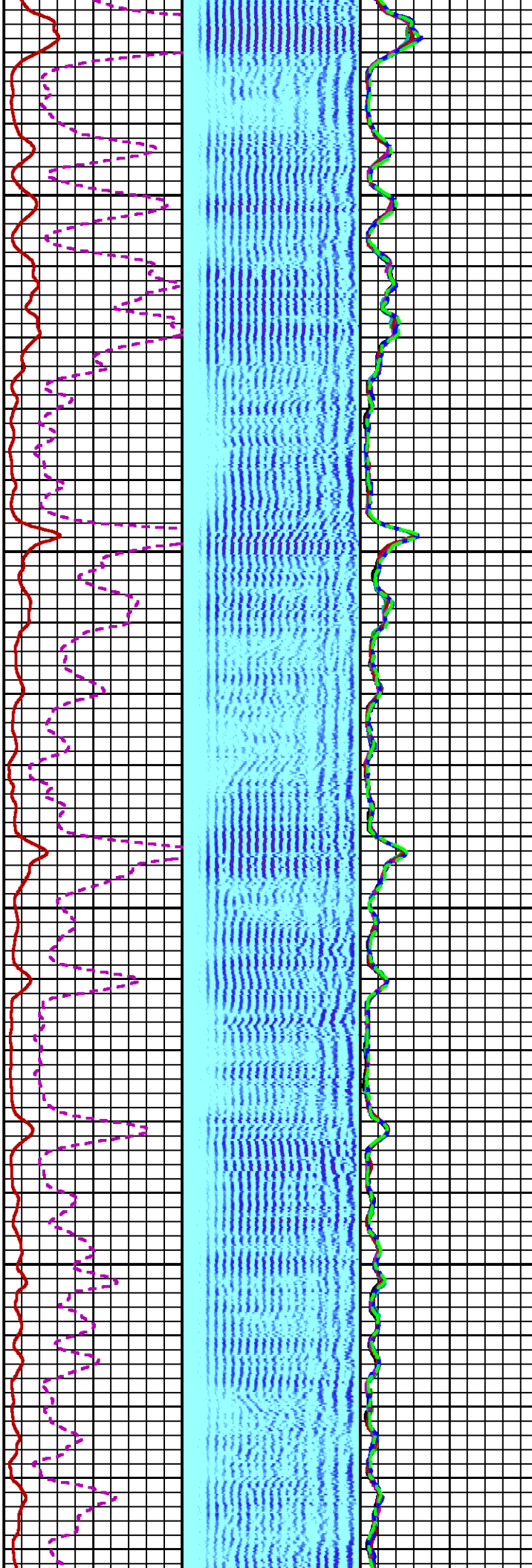
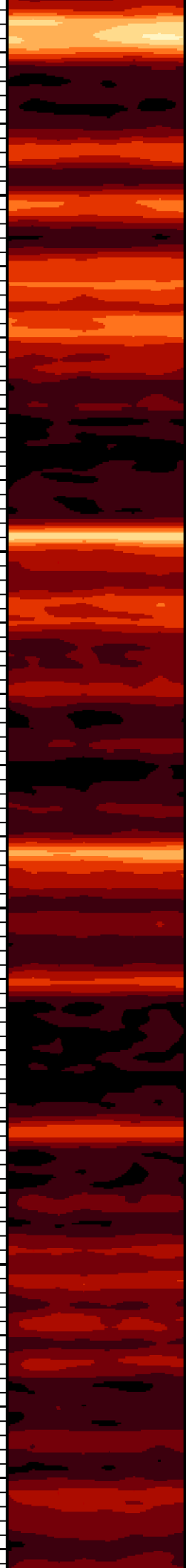




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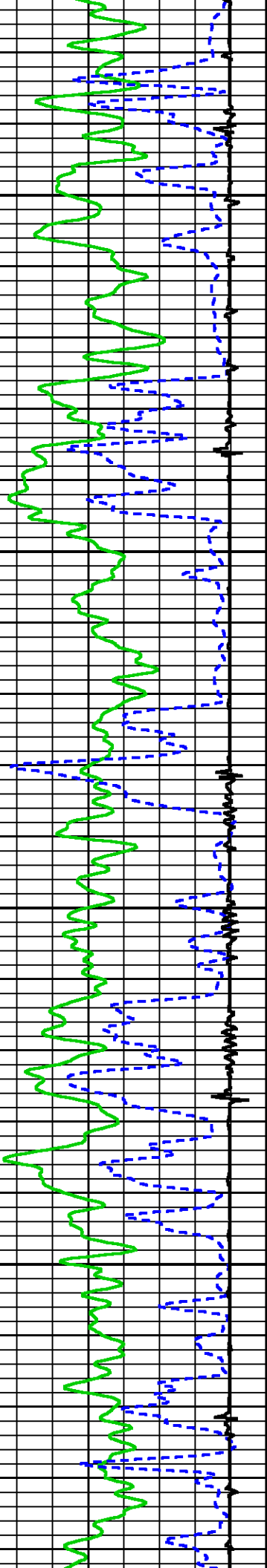
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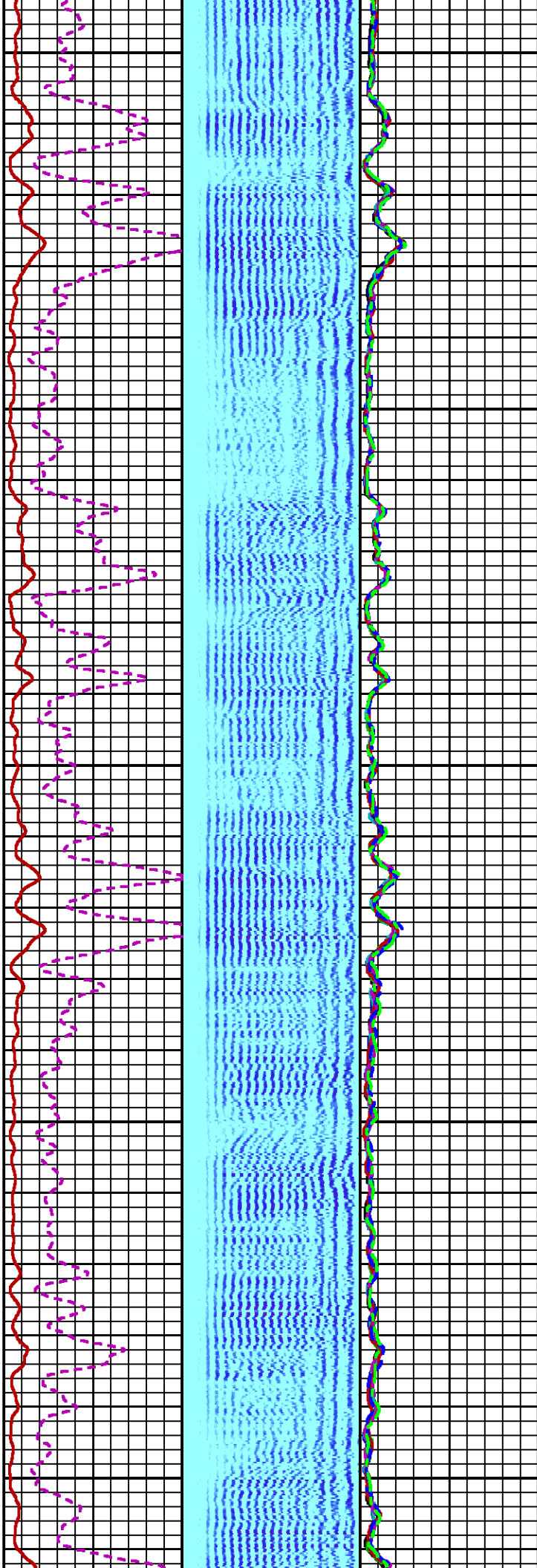
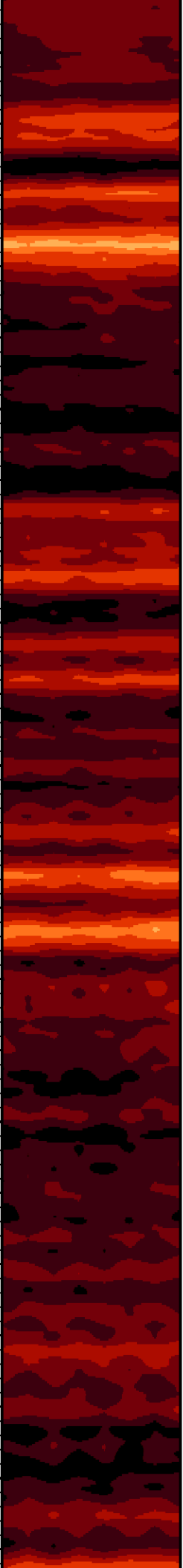




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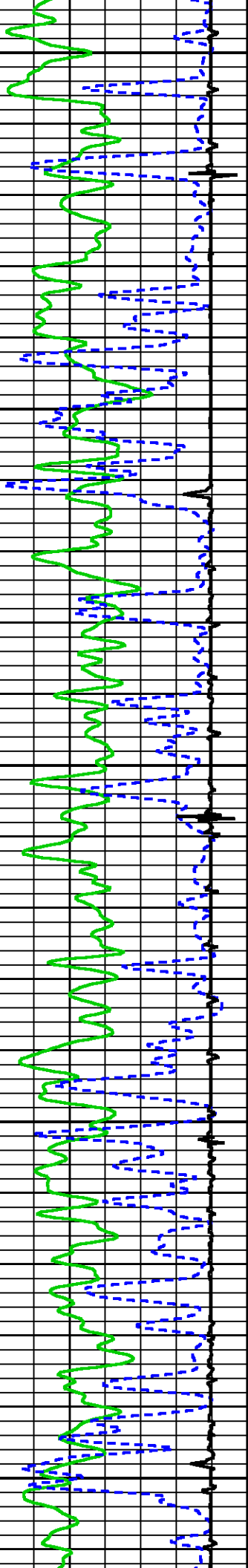


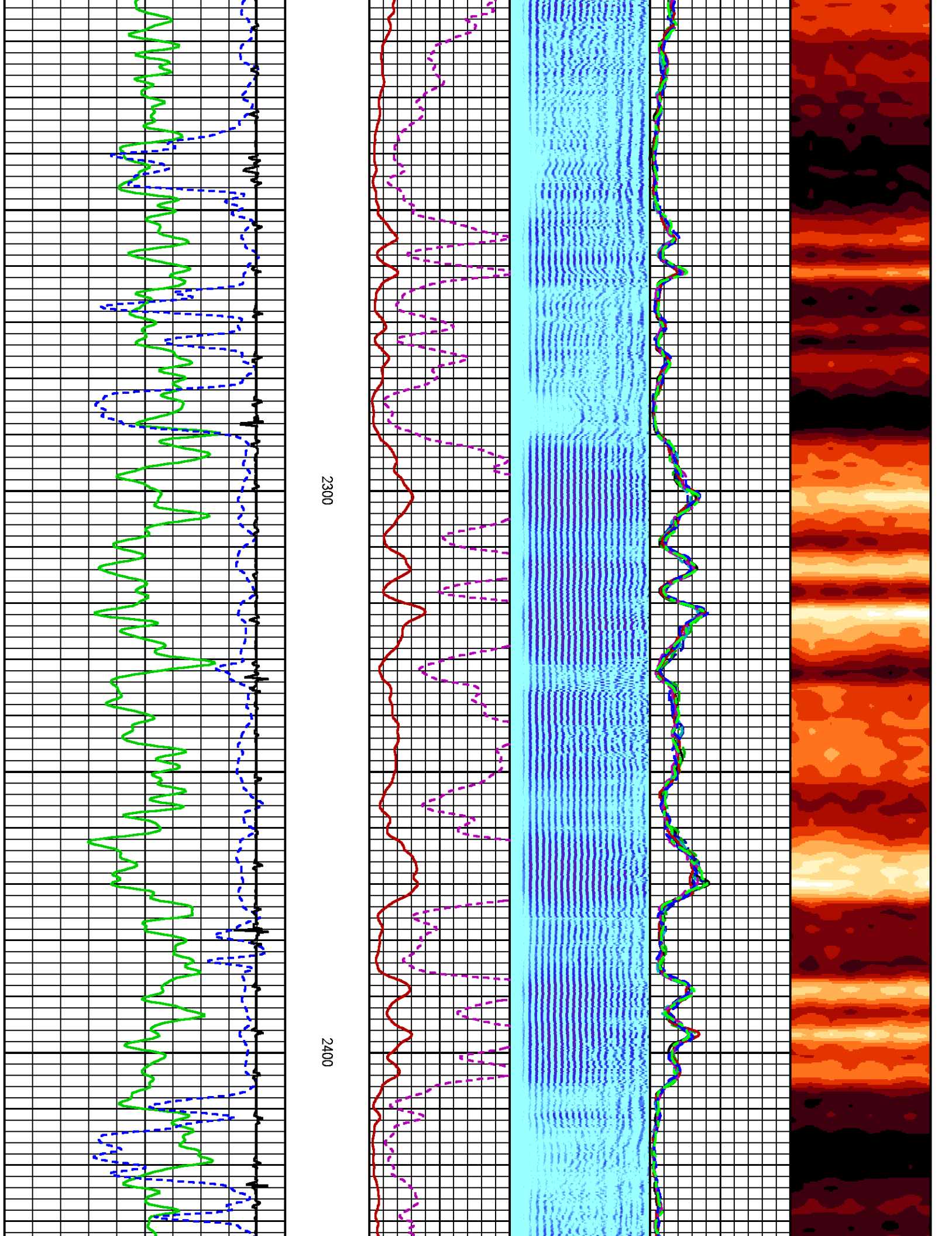


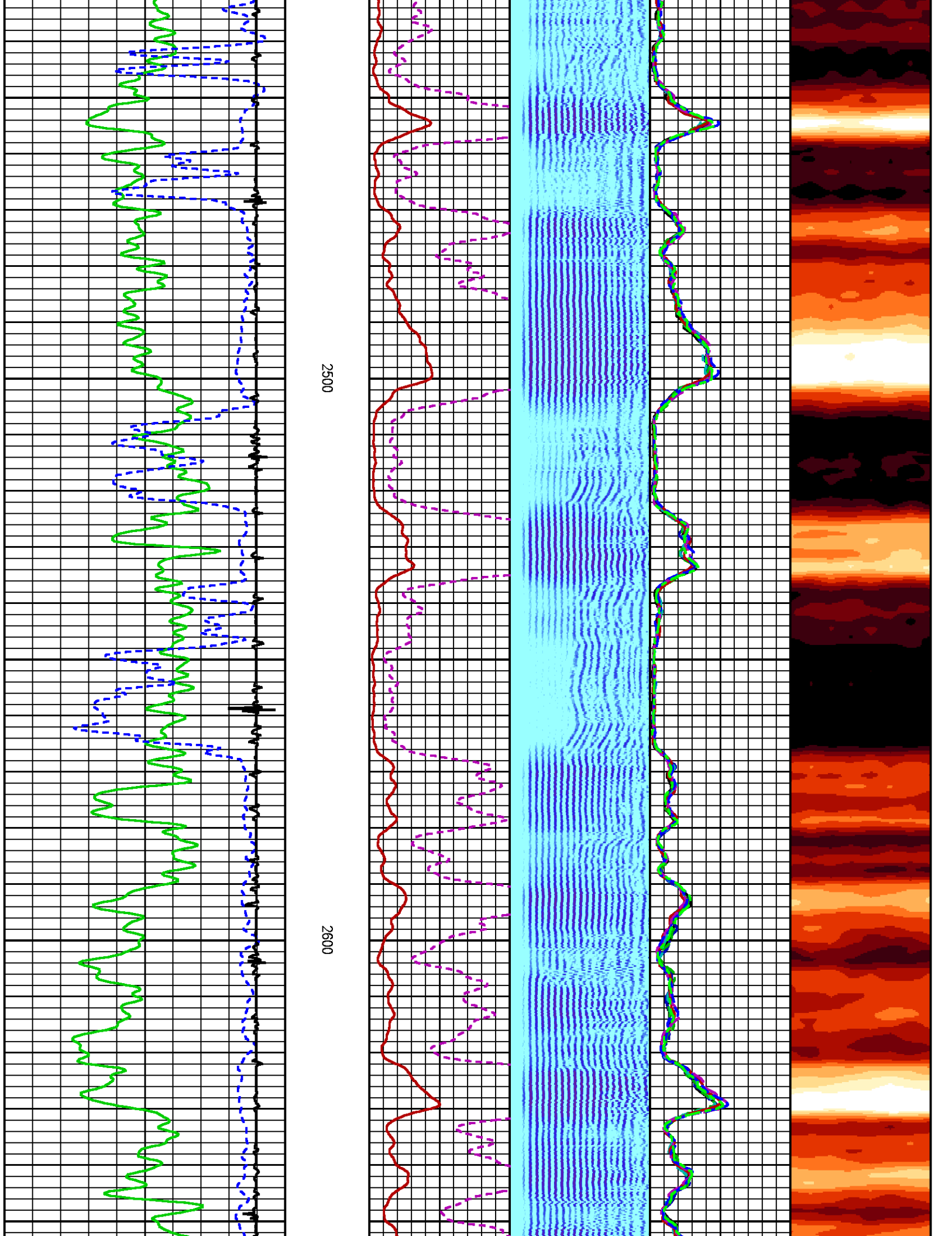
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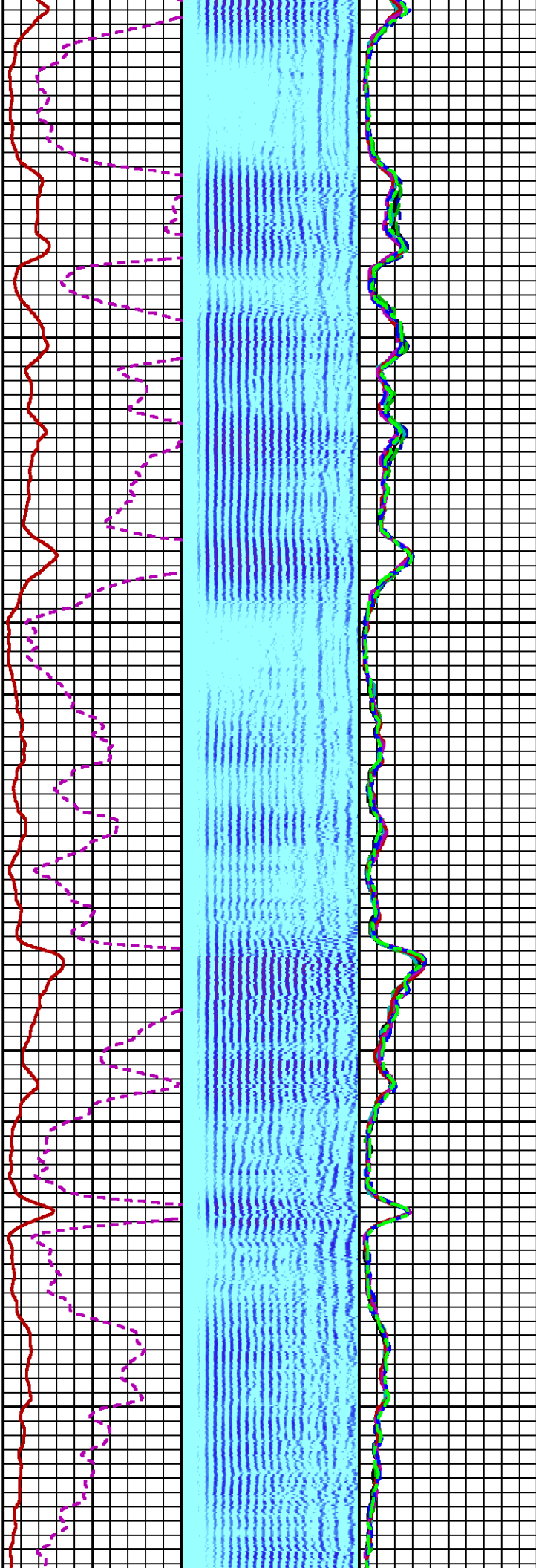
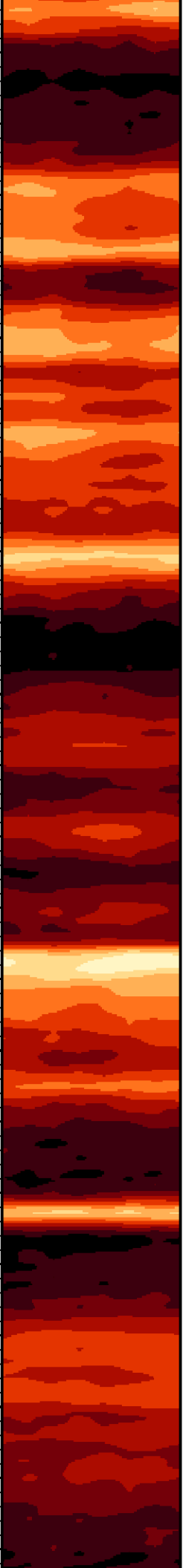
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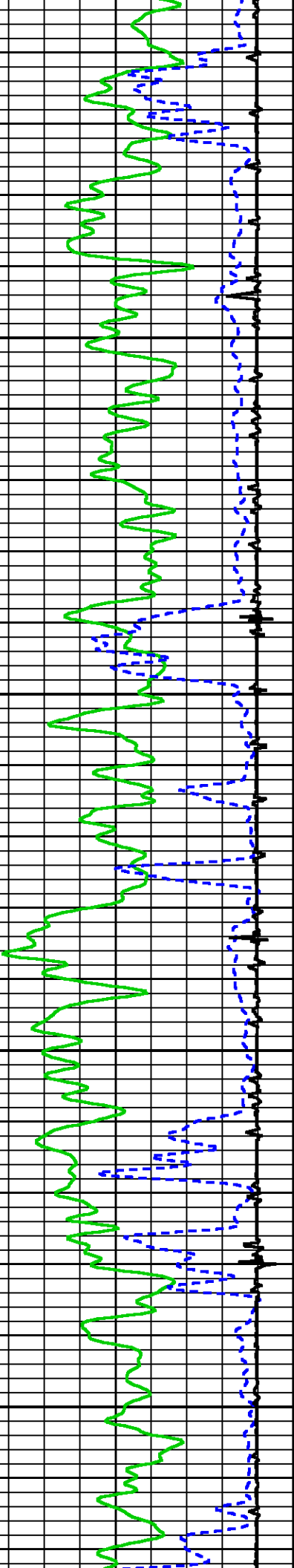


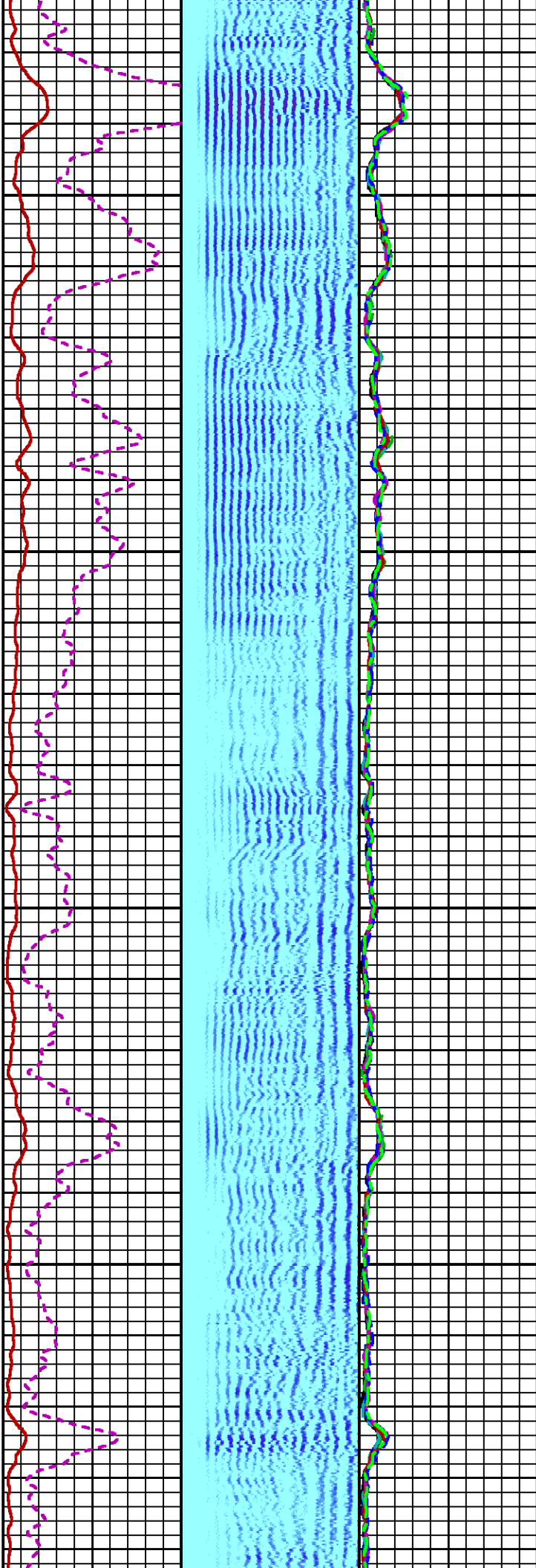




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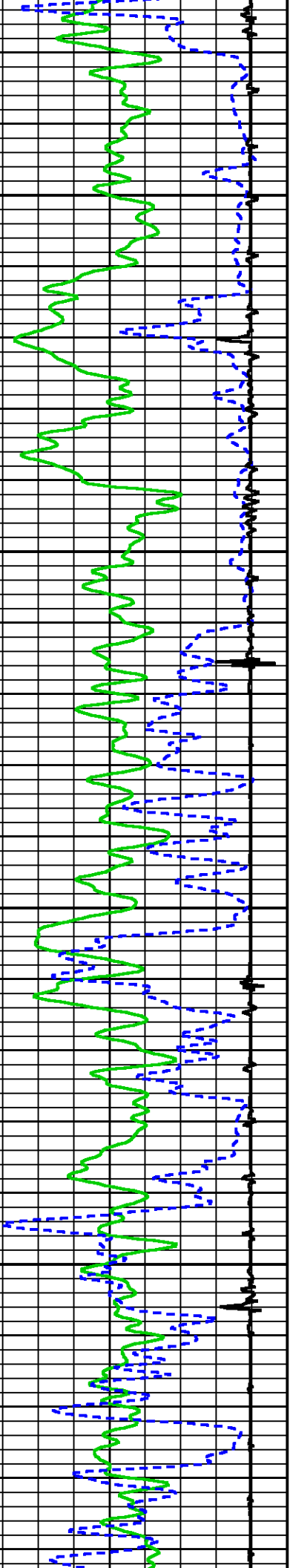
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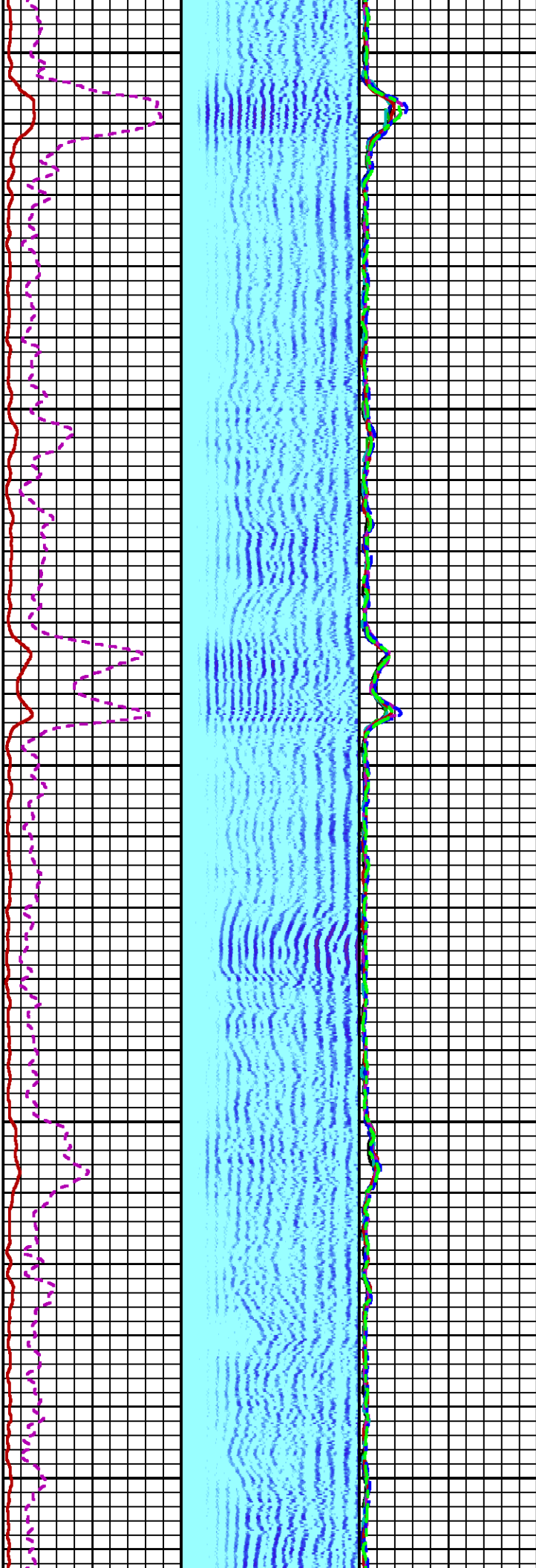




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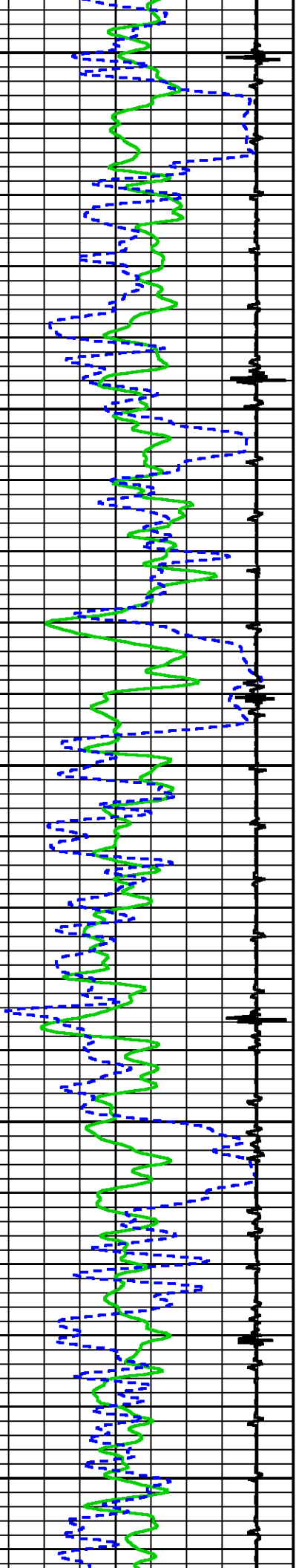


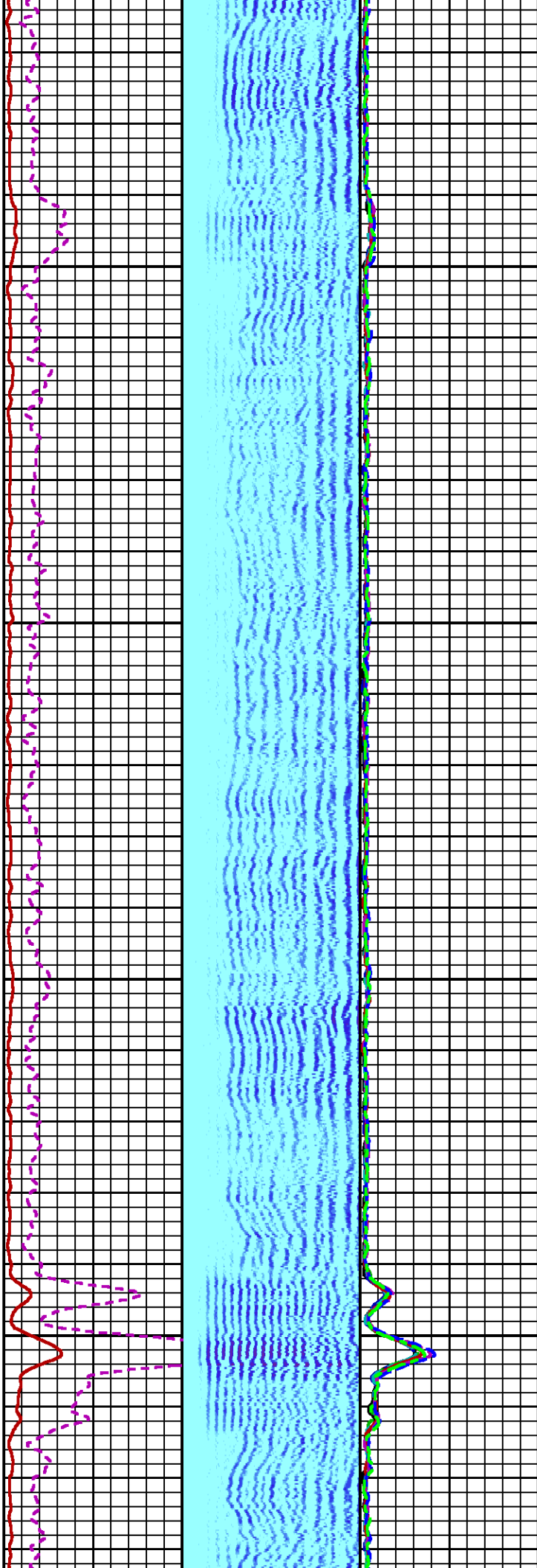


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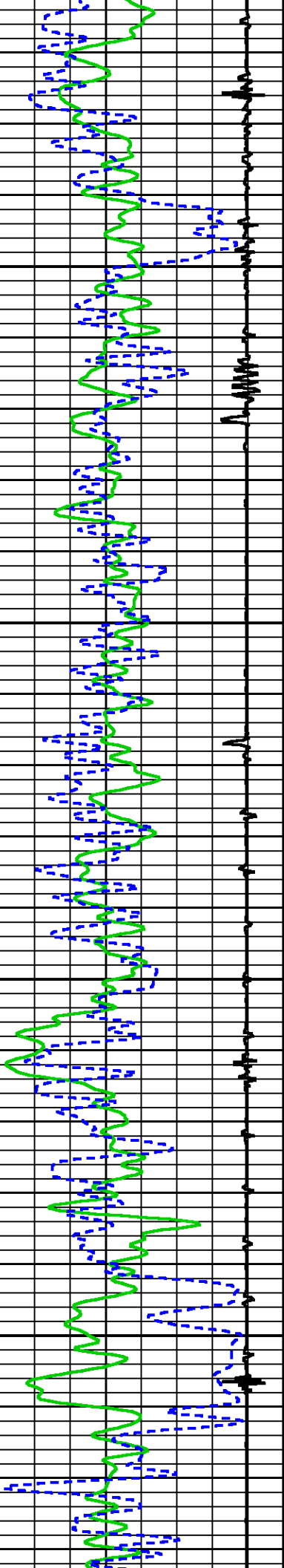
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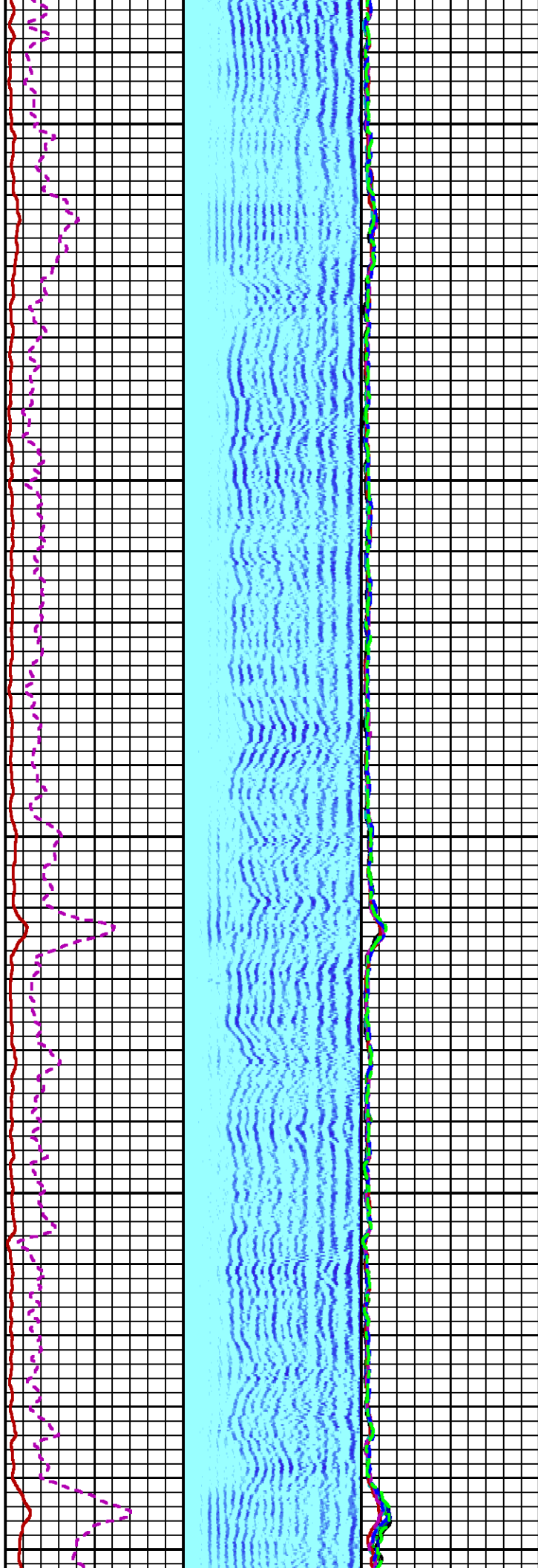




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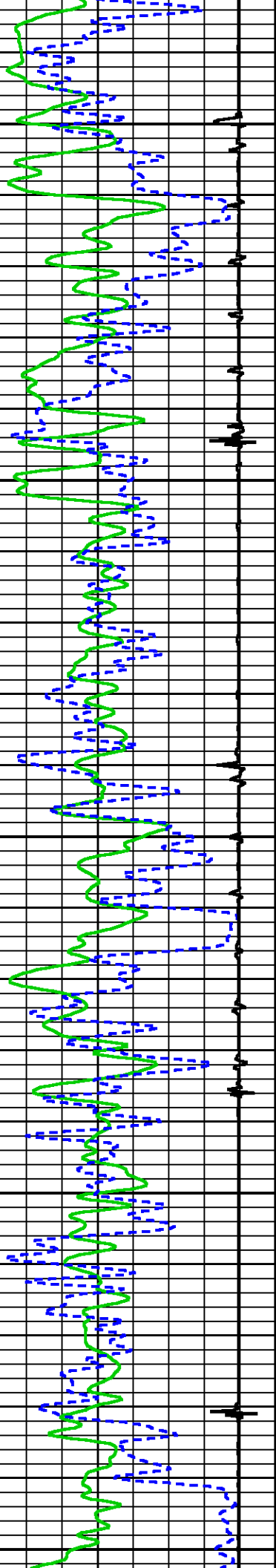
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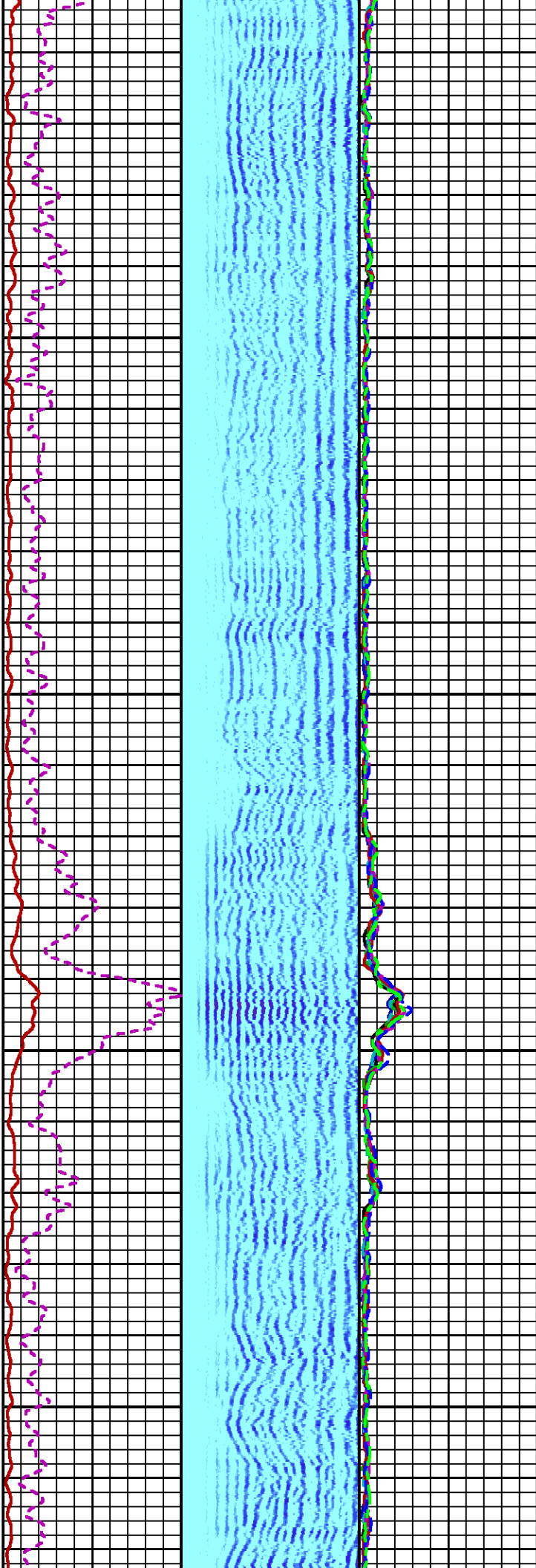




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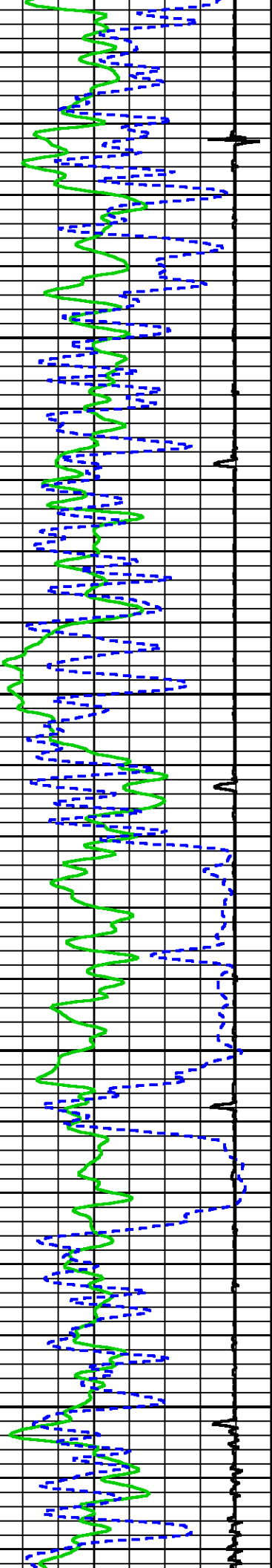
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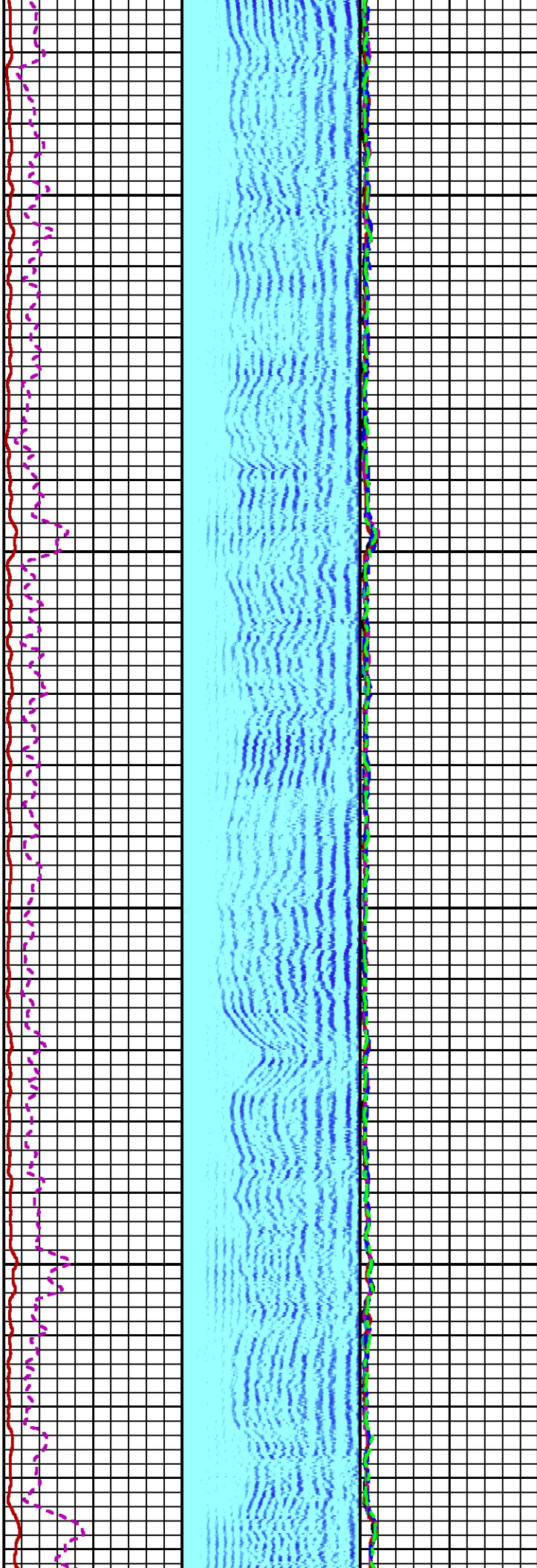




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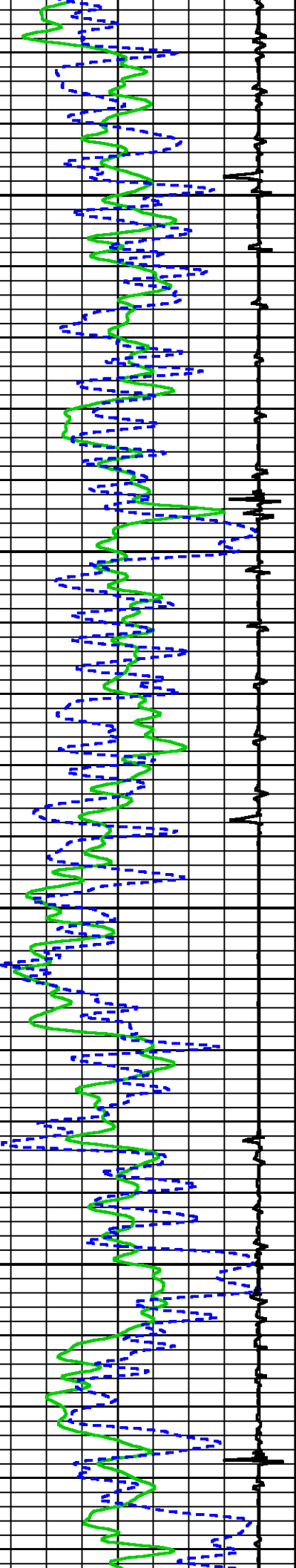
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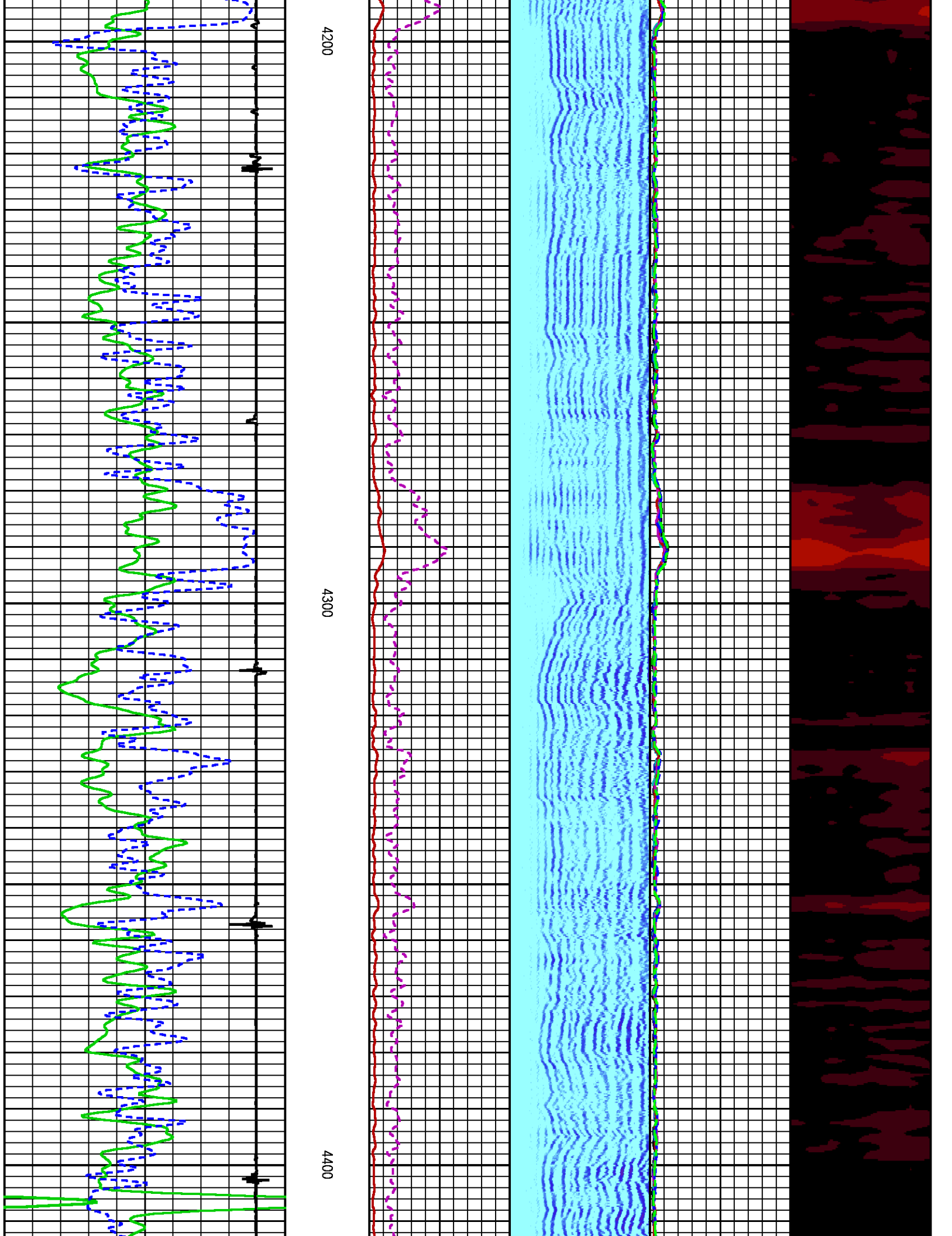


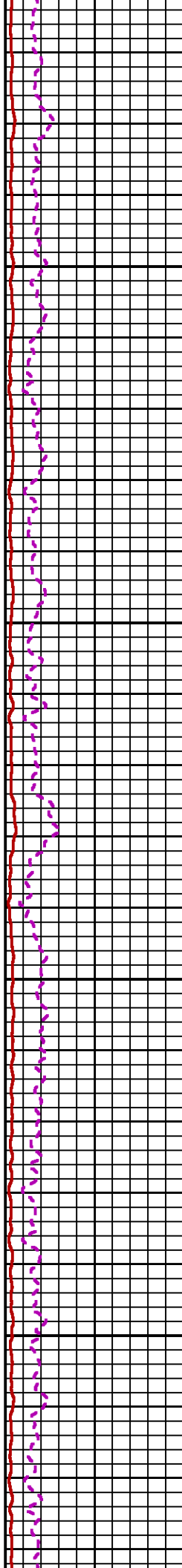
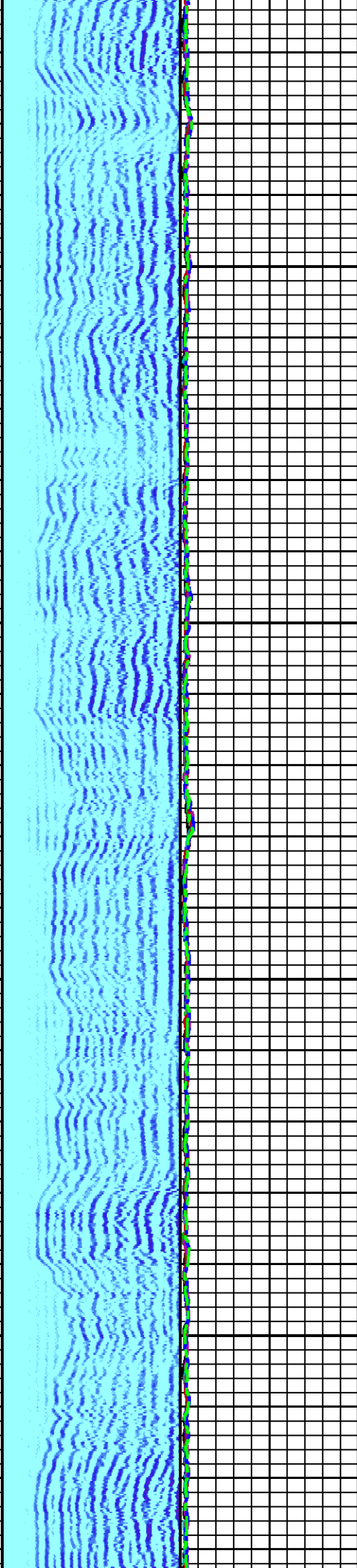


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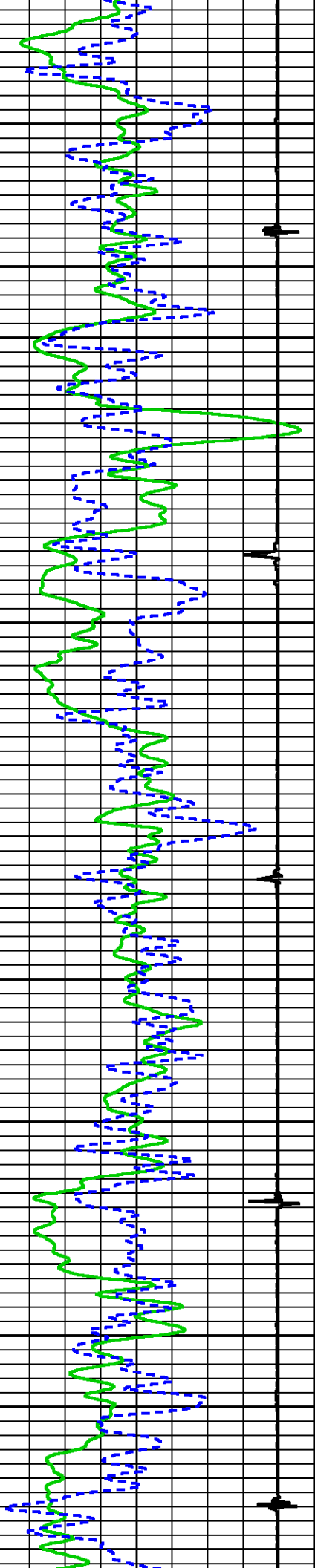


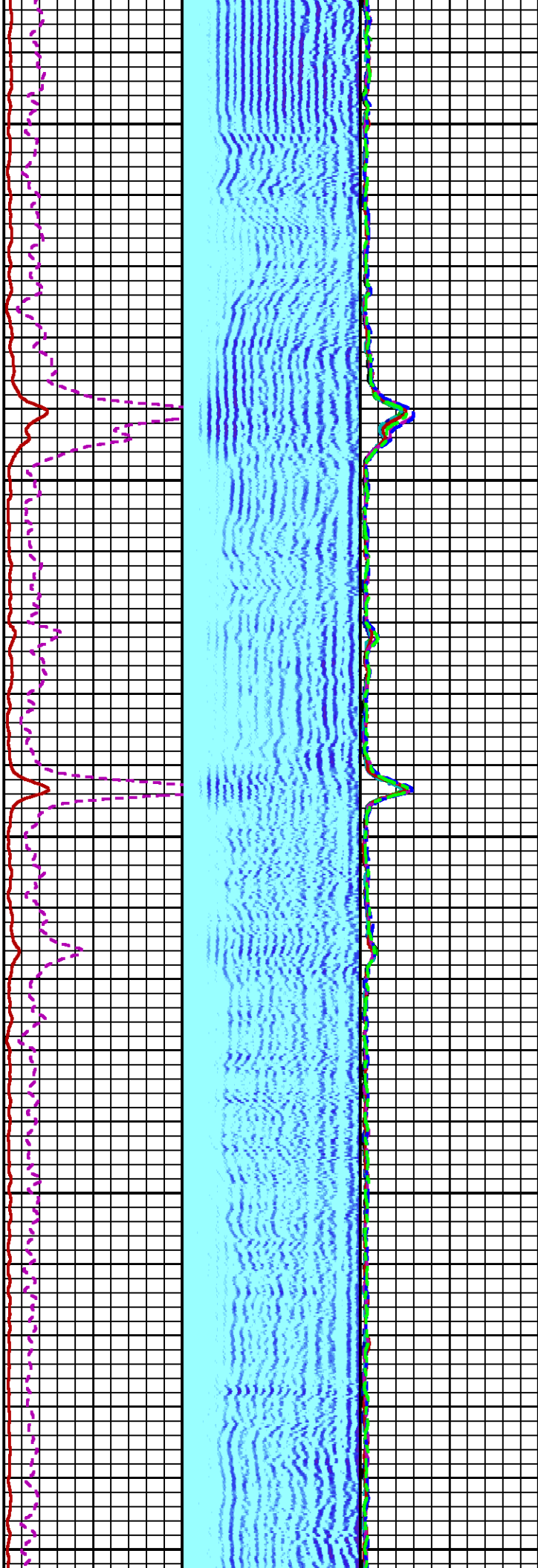
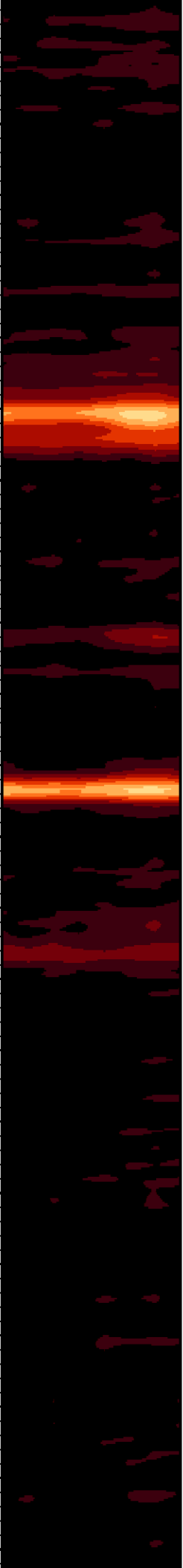




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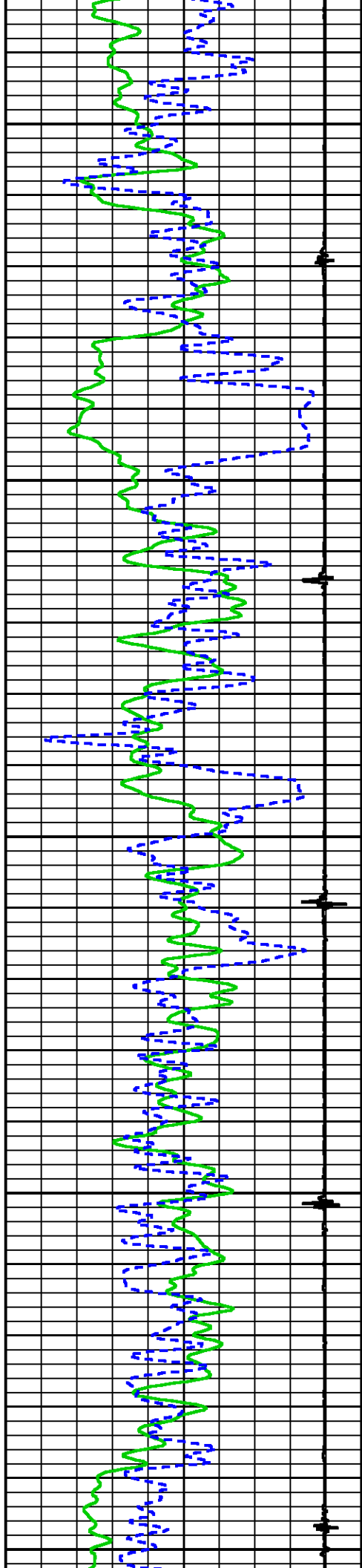
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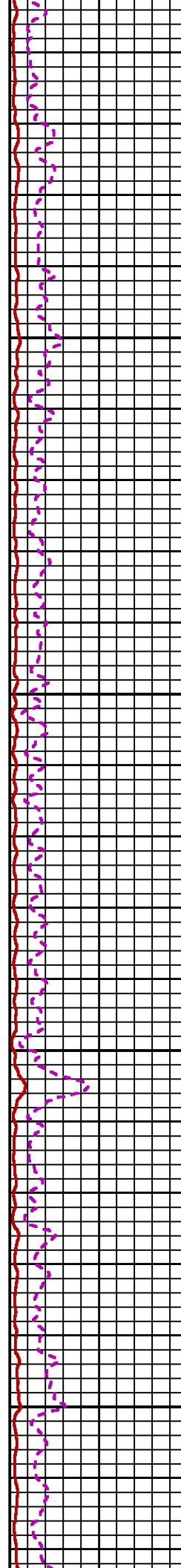
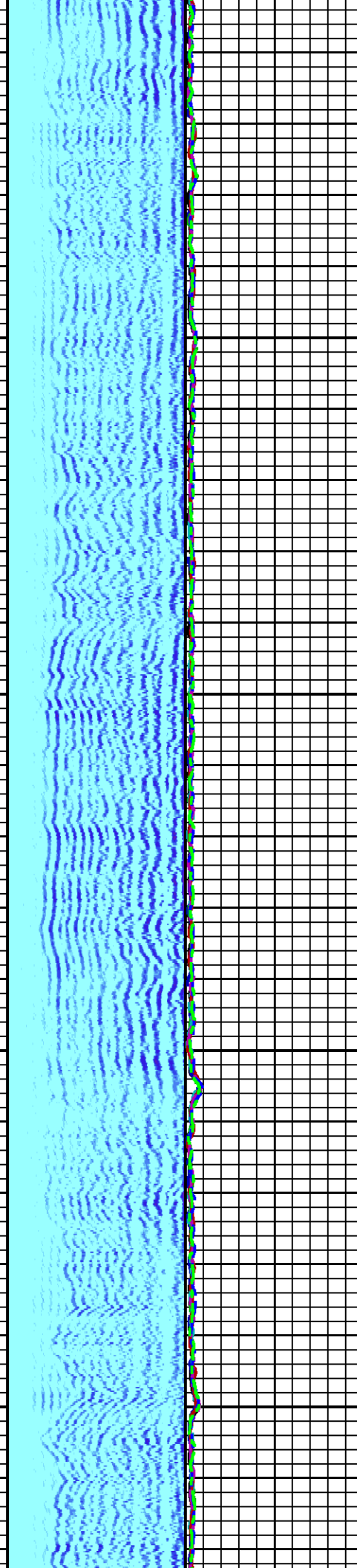
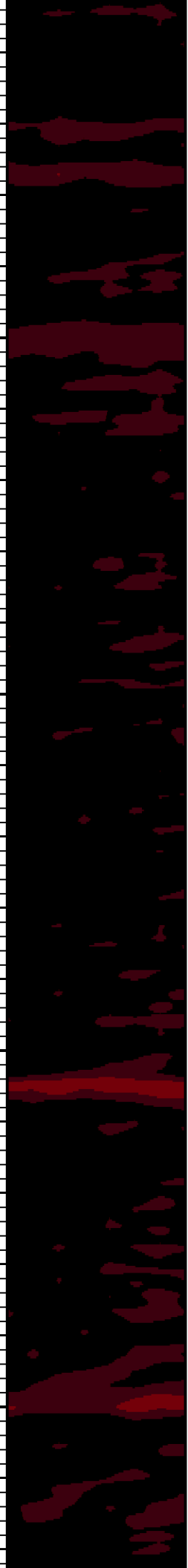




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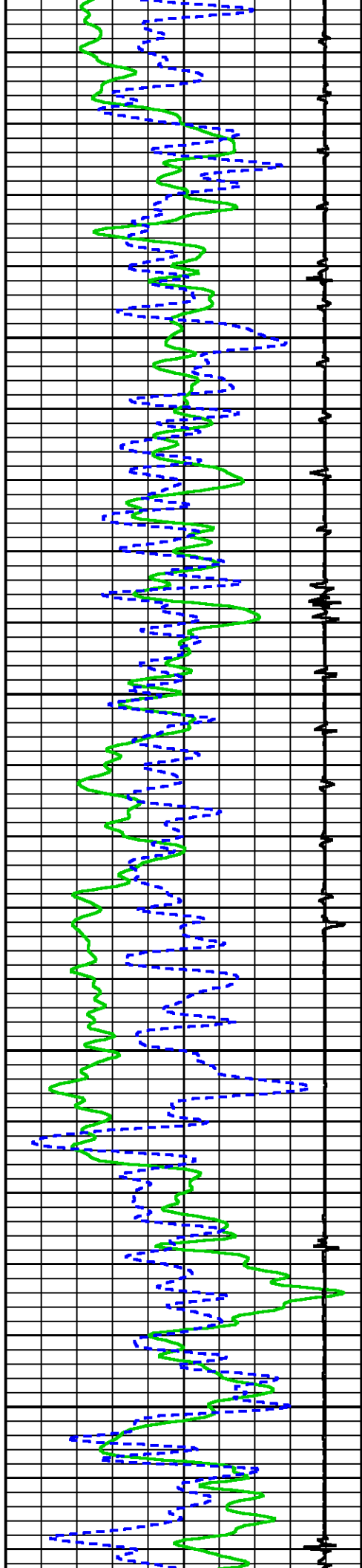
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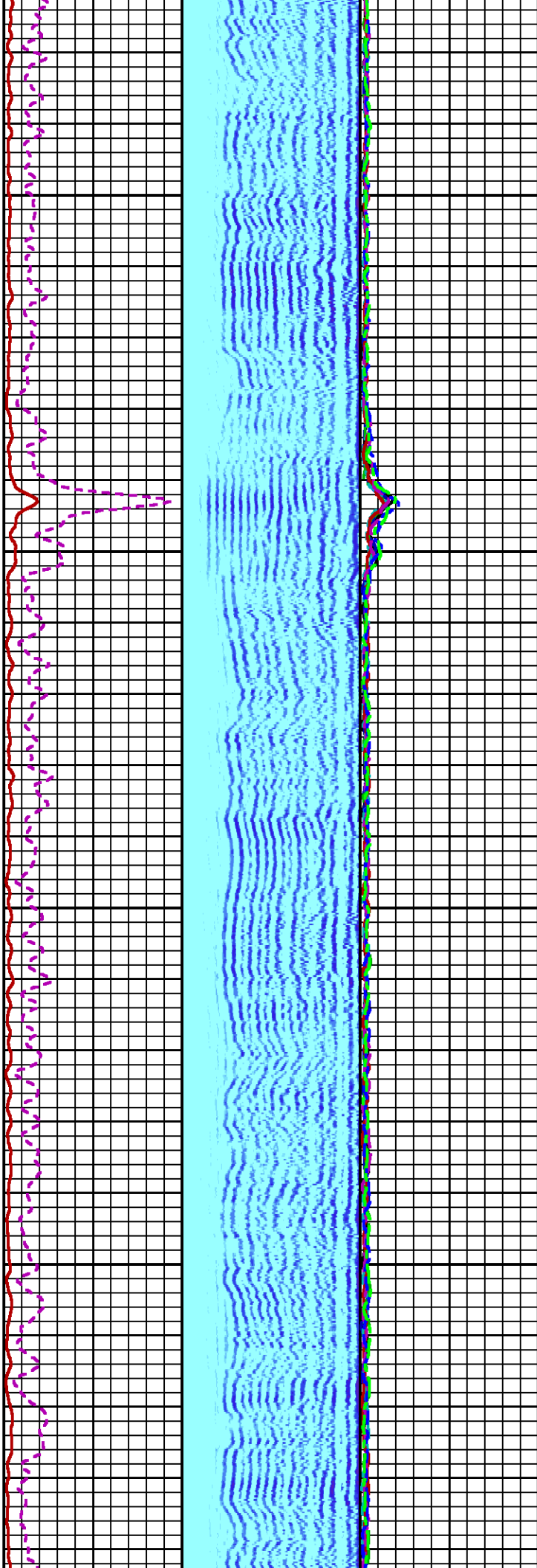




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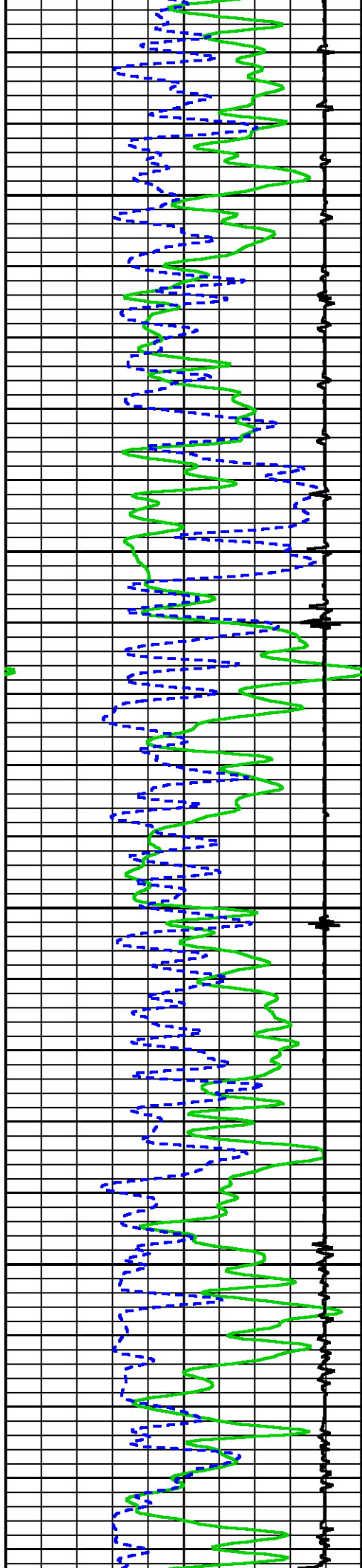
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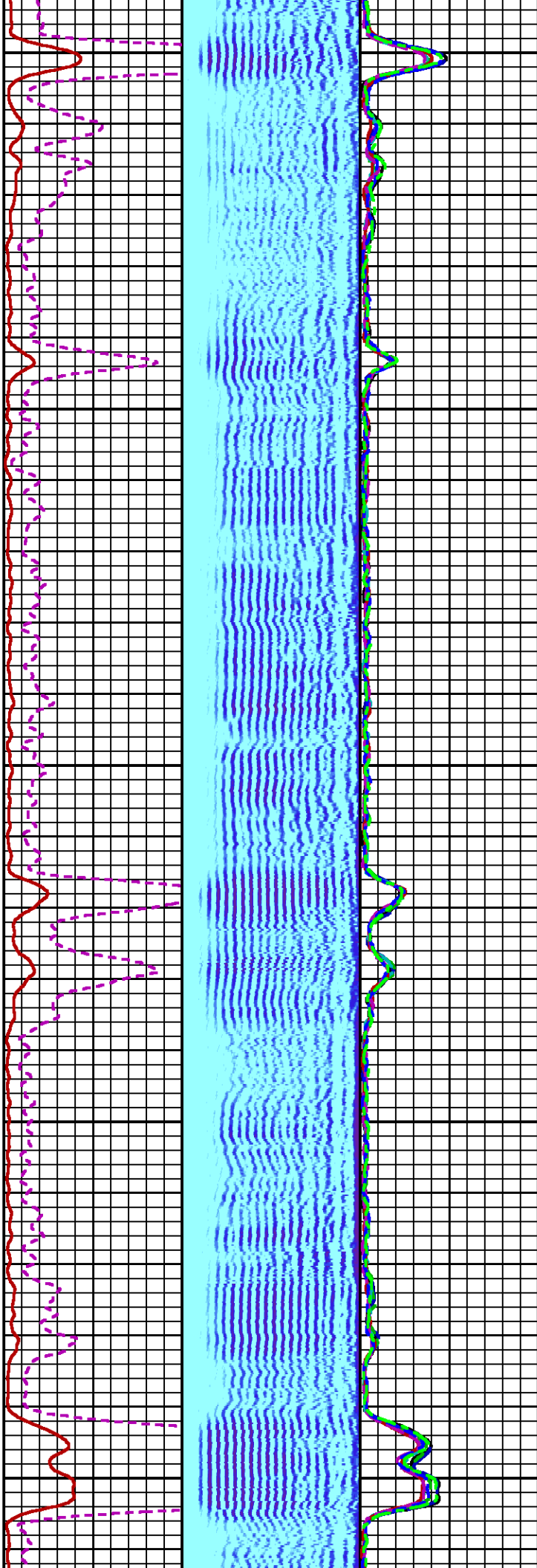




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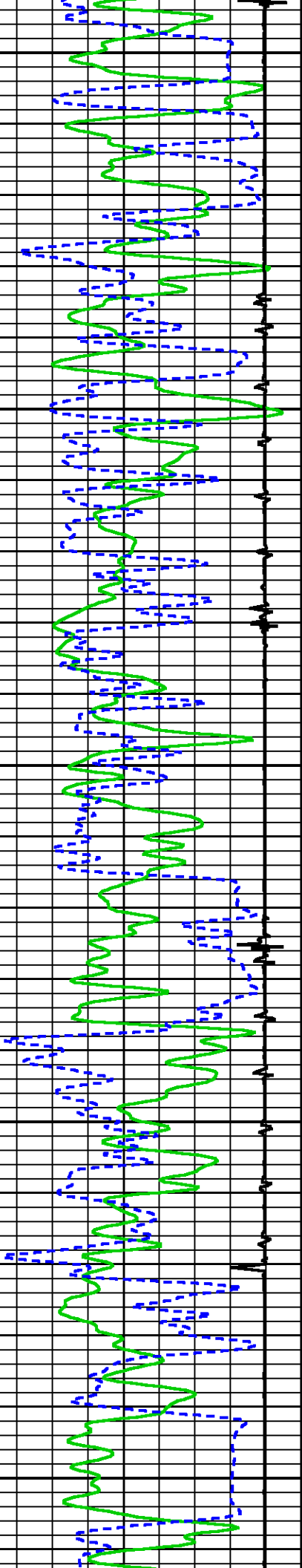


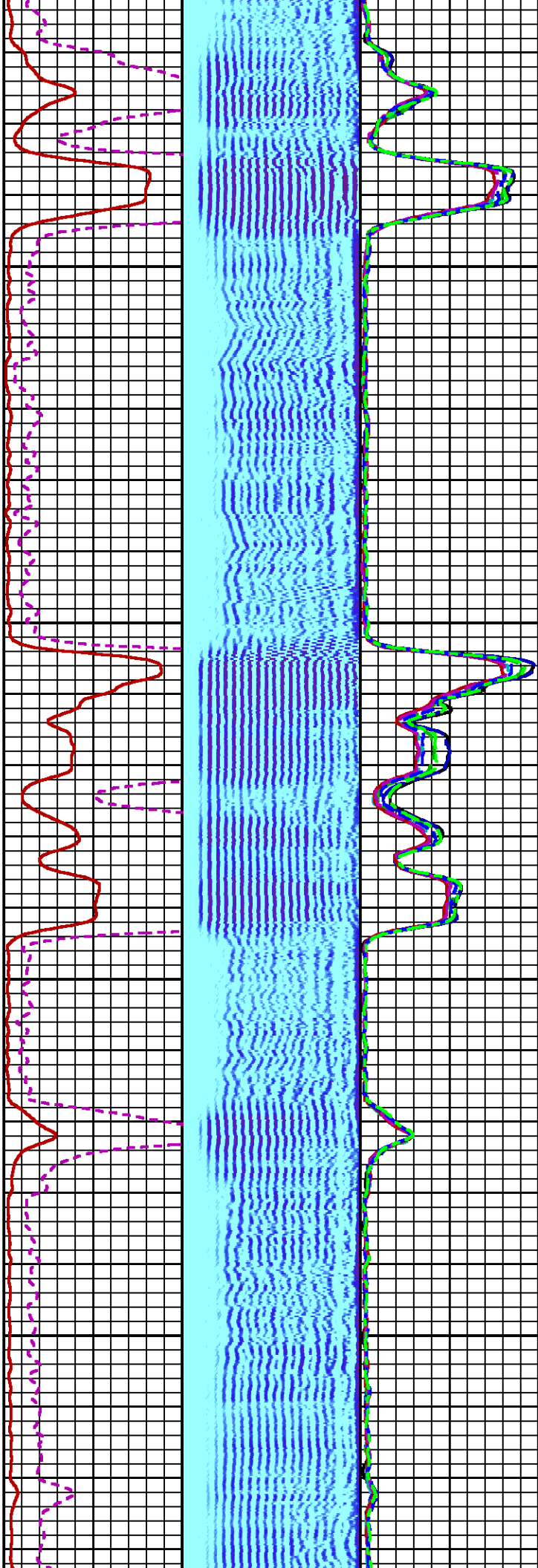
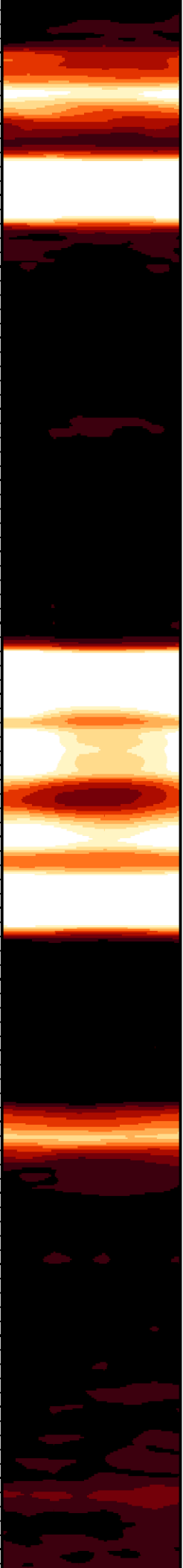


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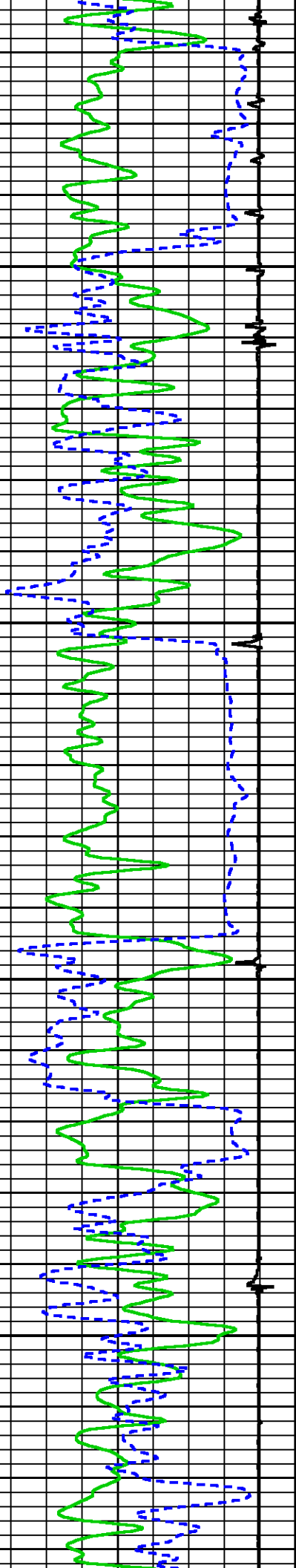
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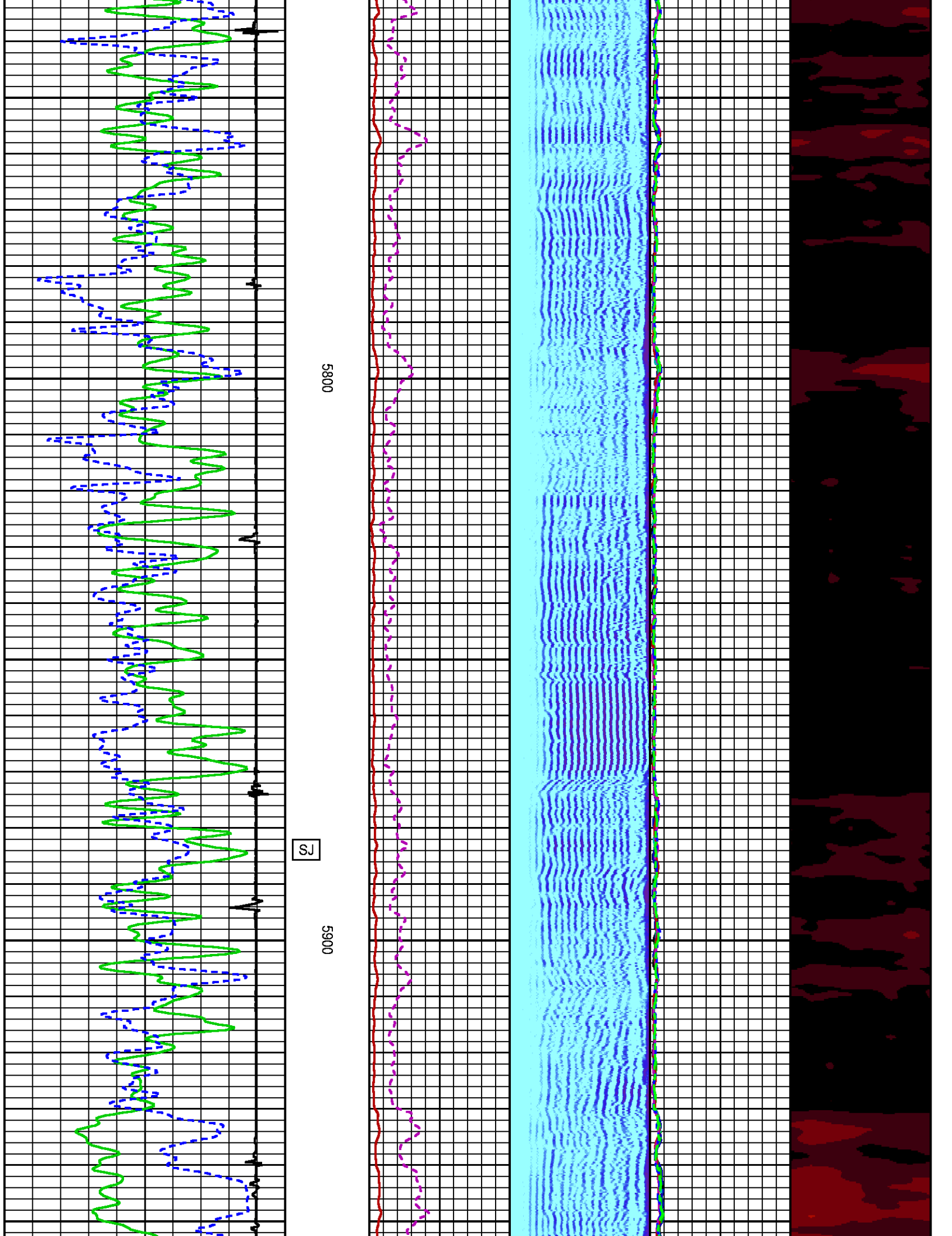


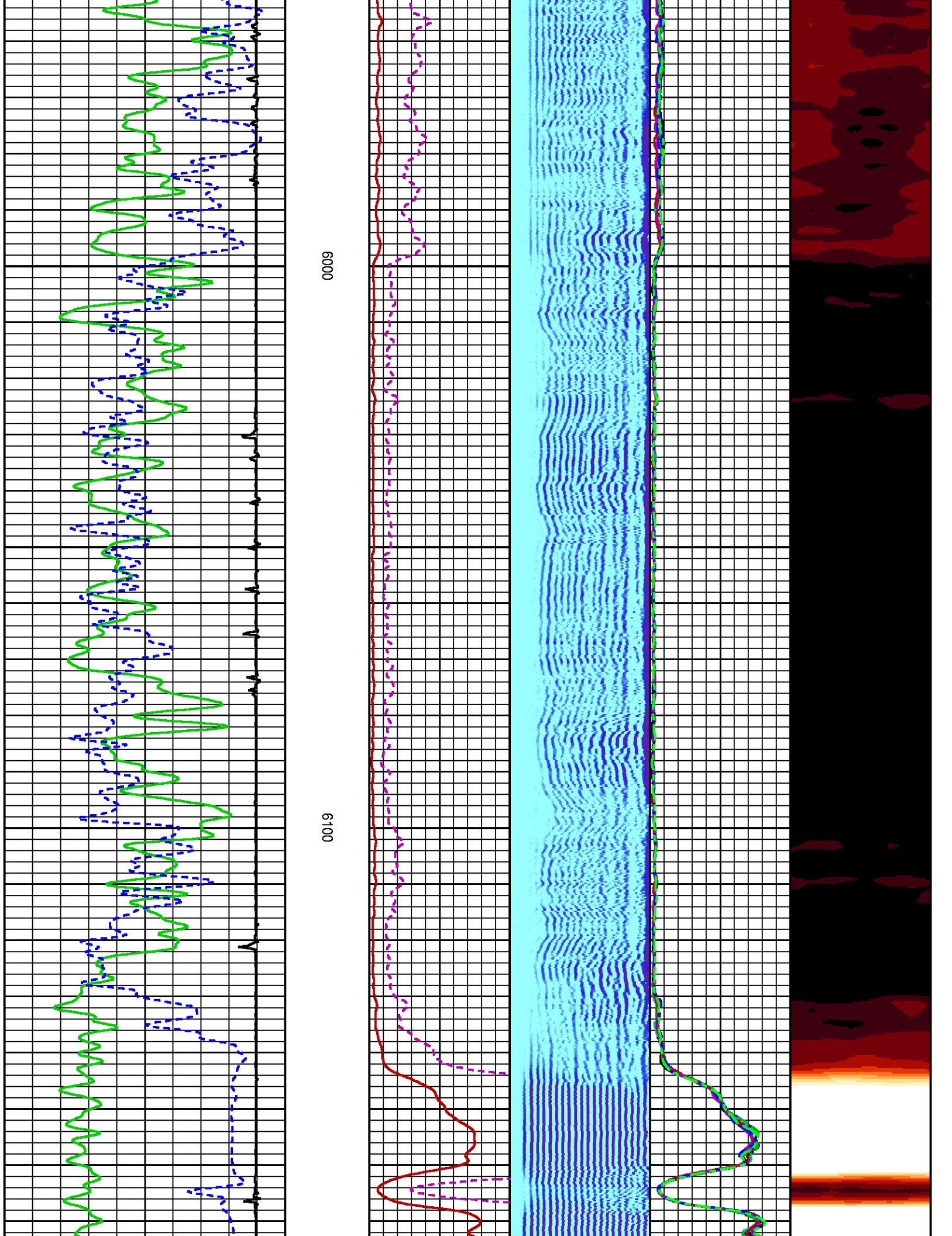


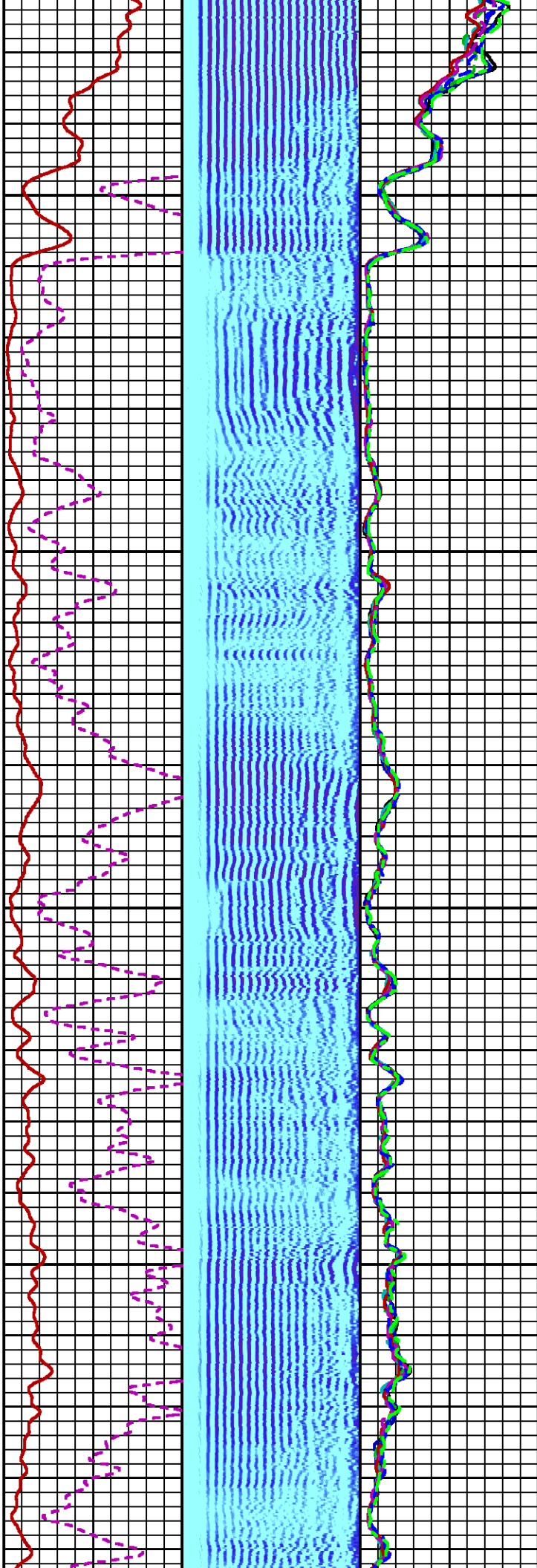
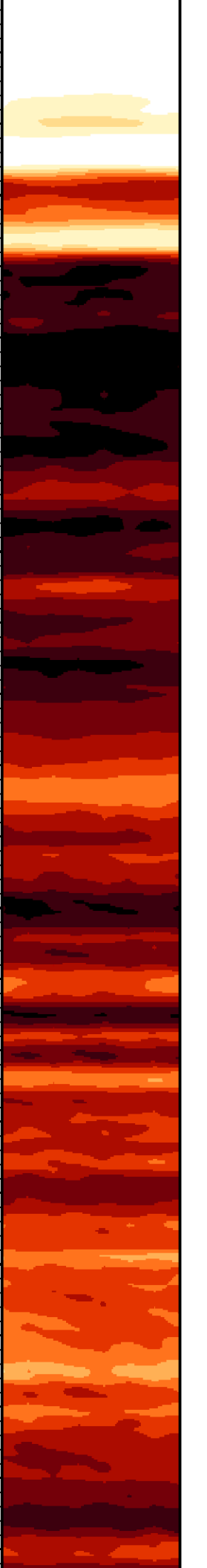
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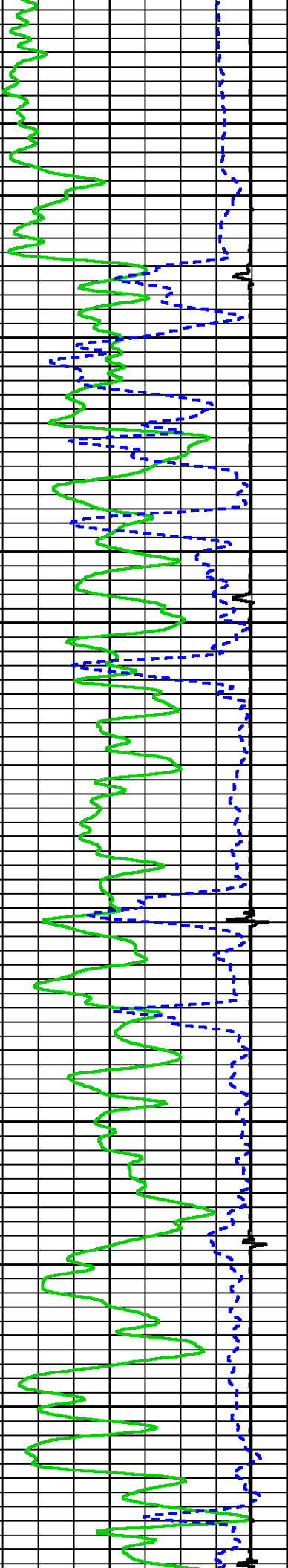


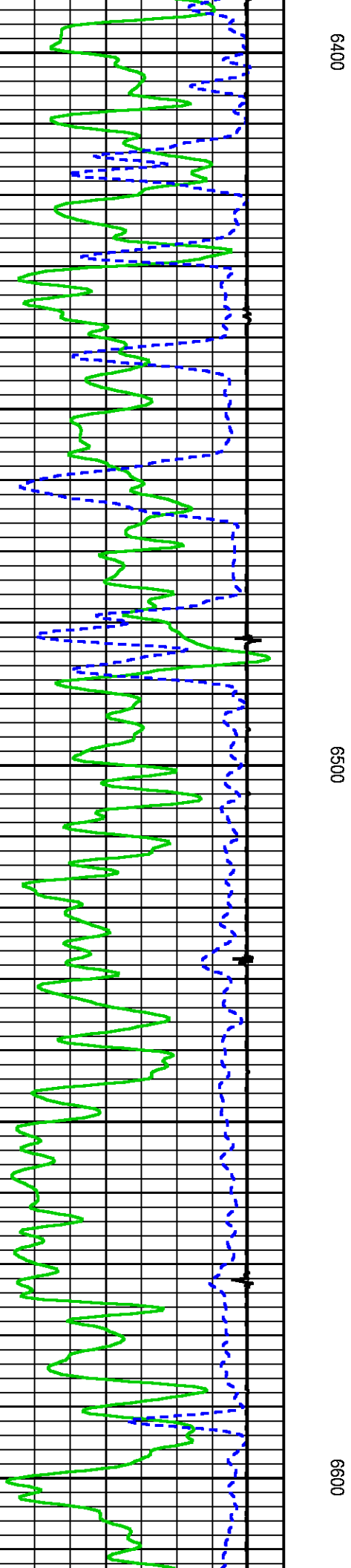
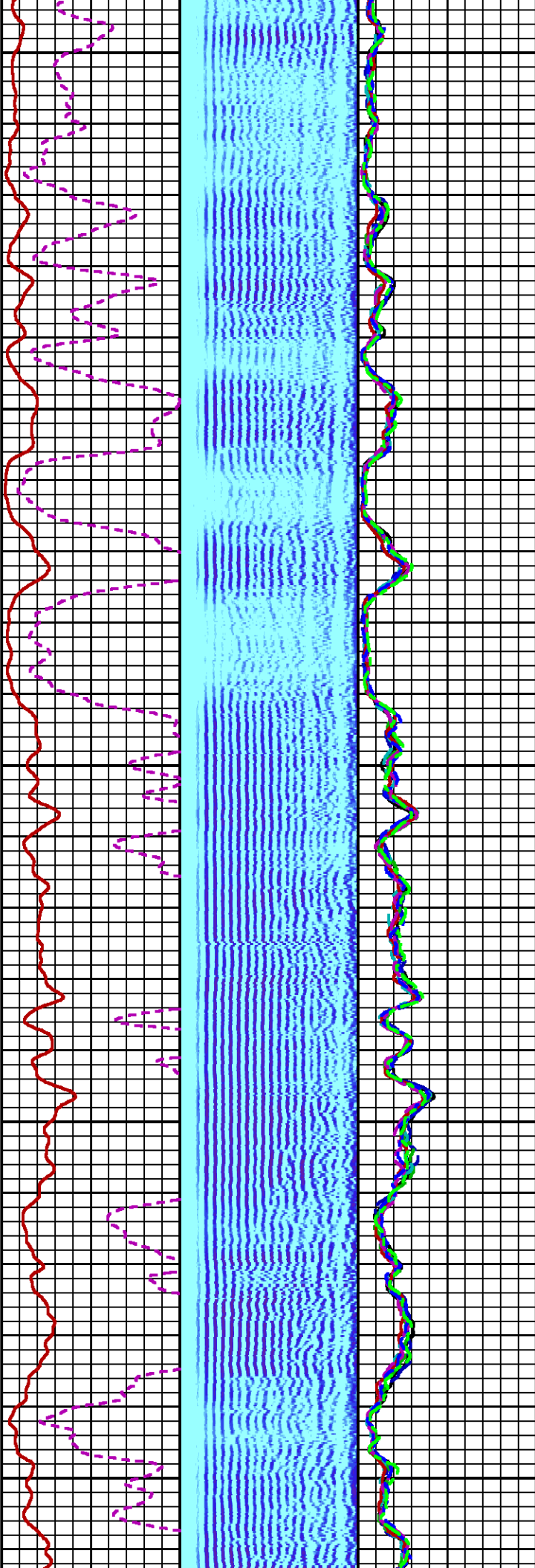
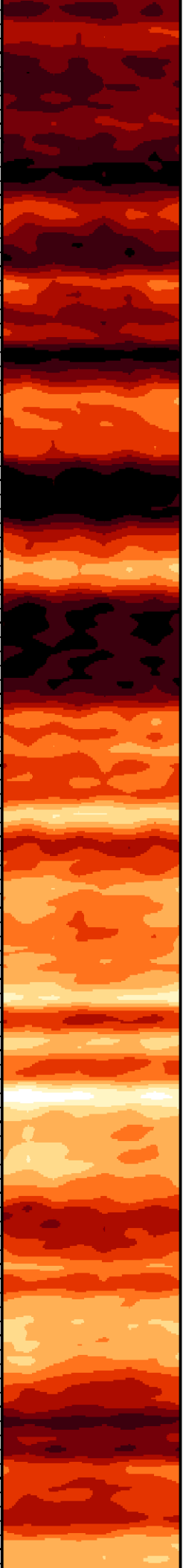


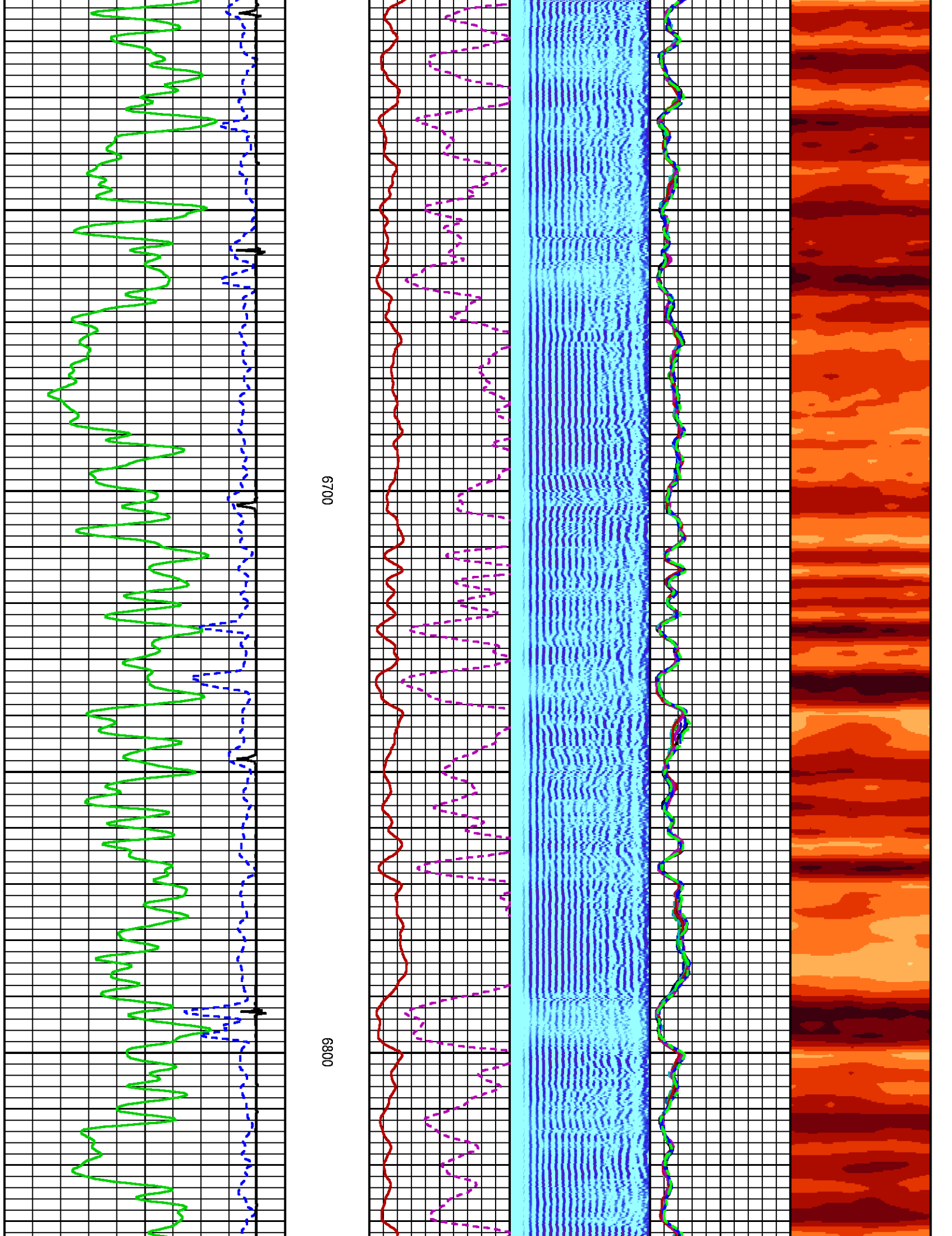


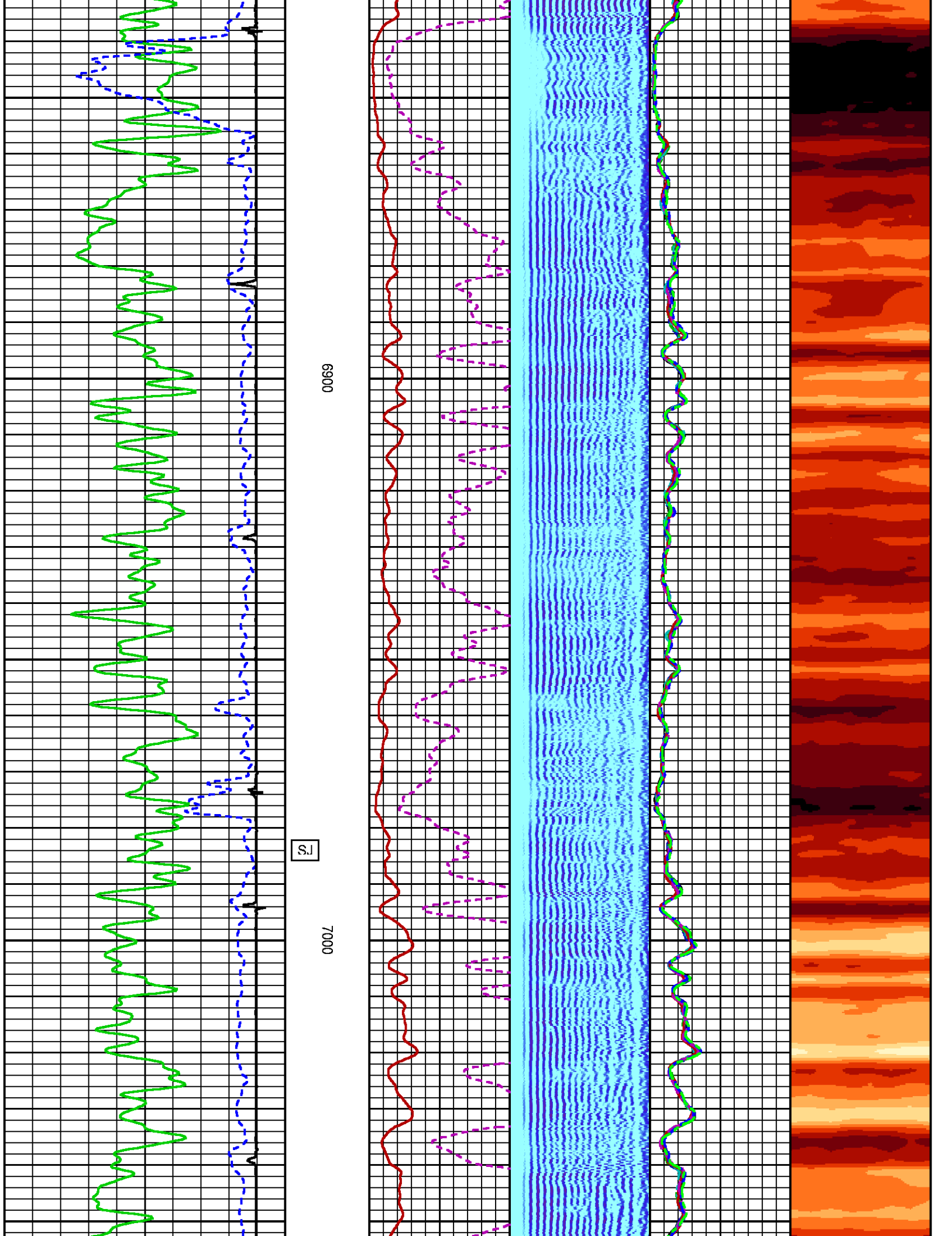
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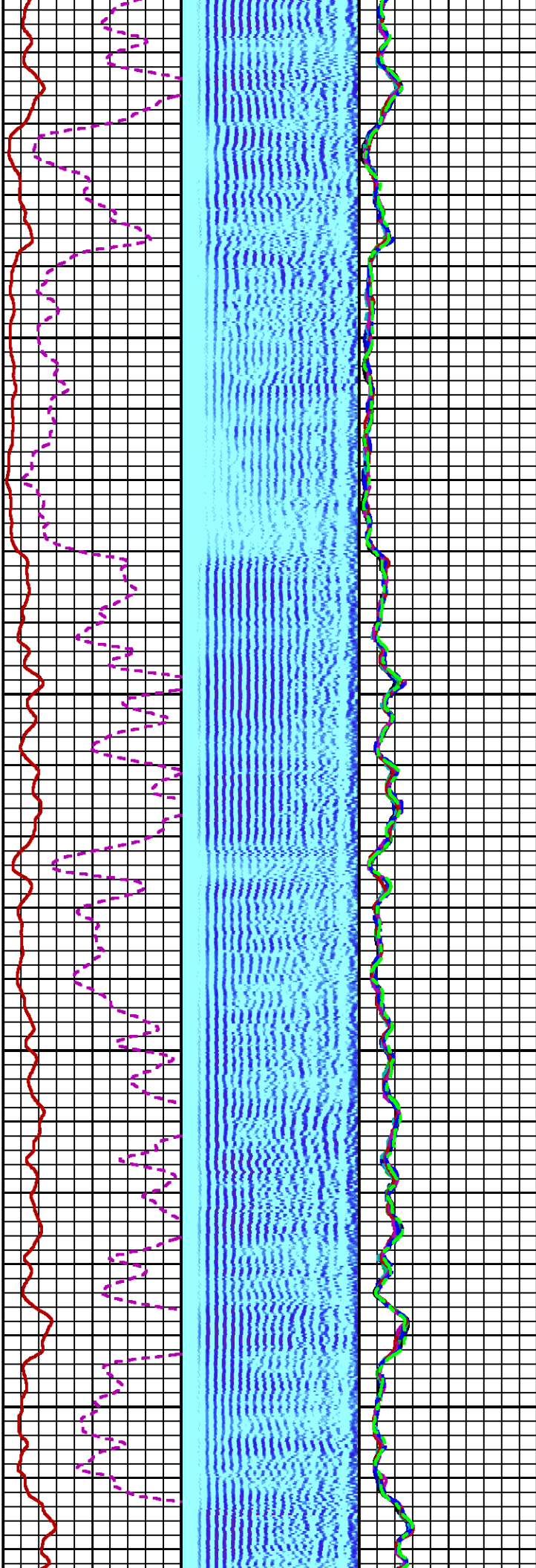
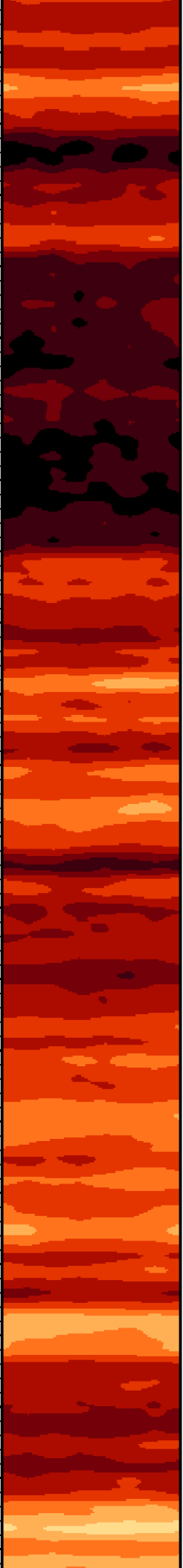
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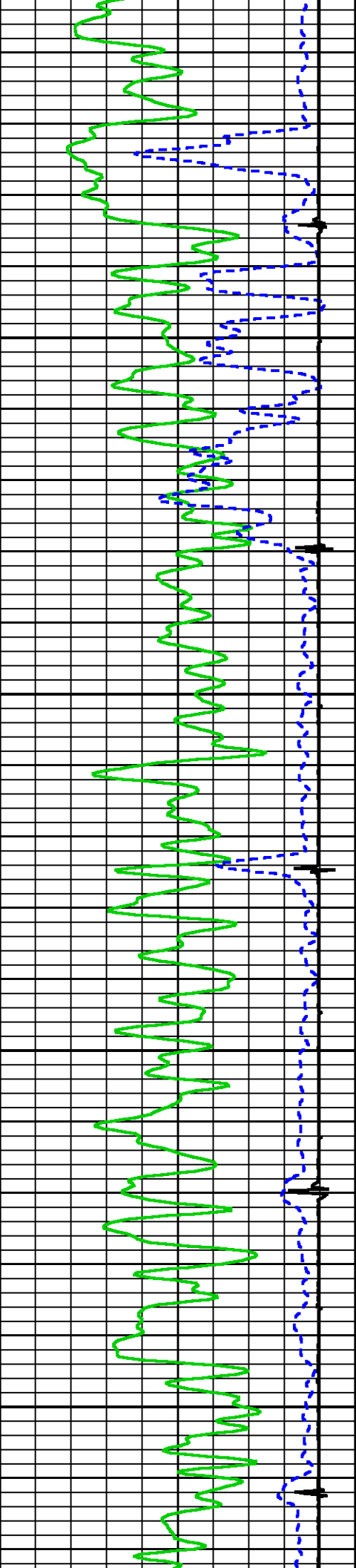


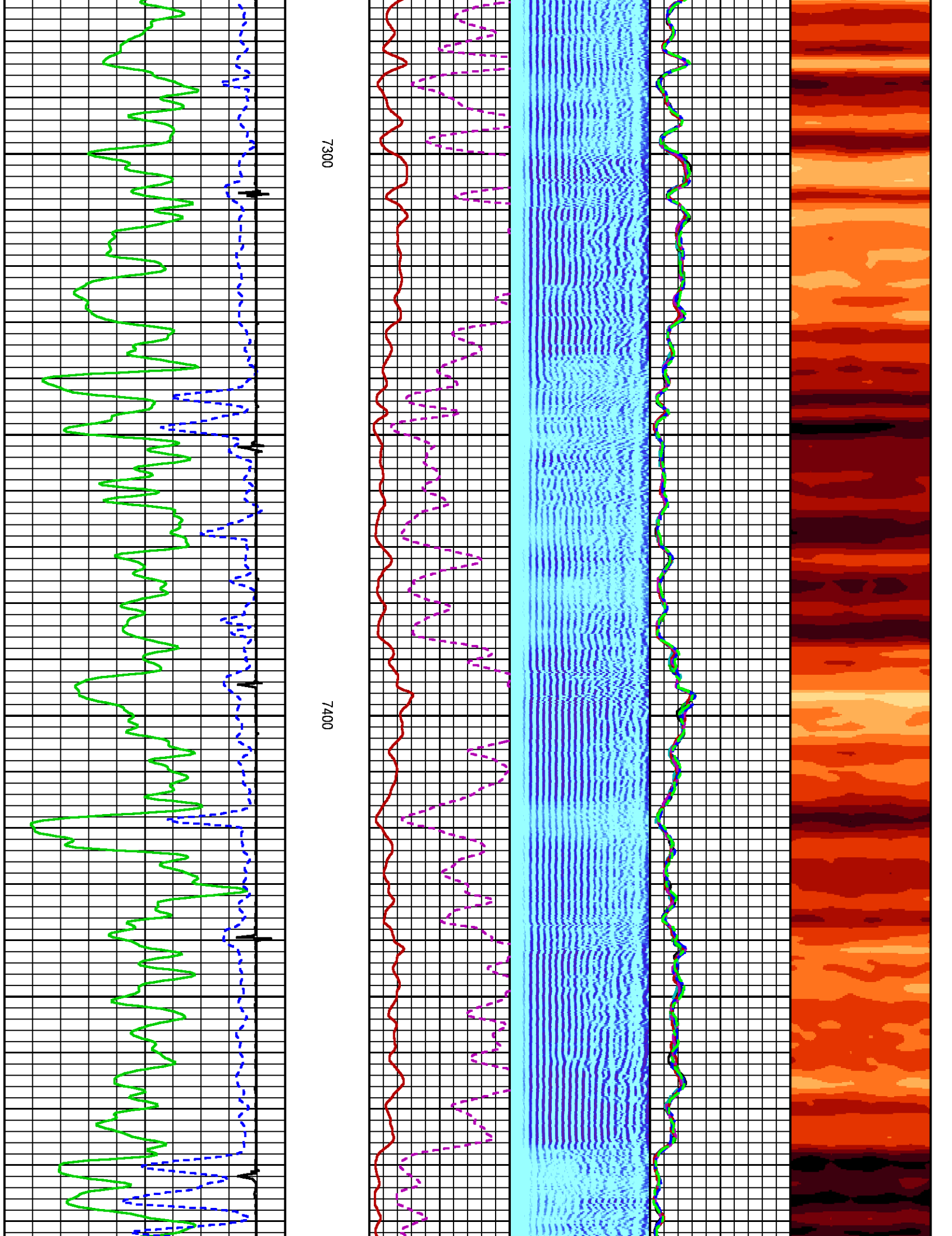


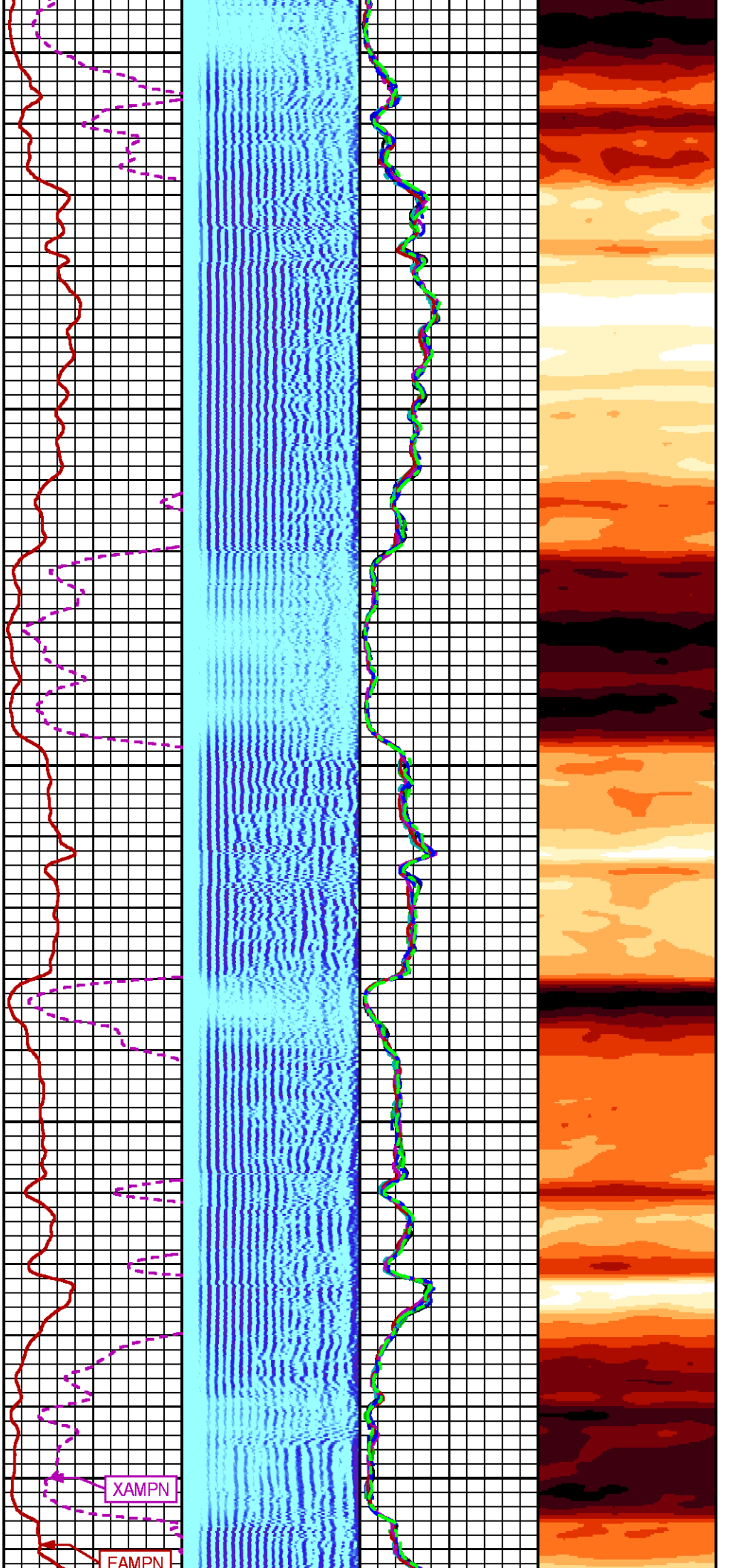


7100

7200



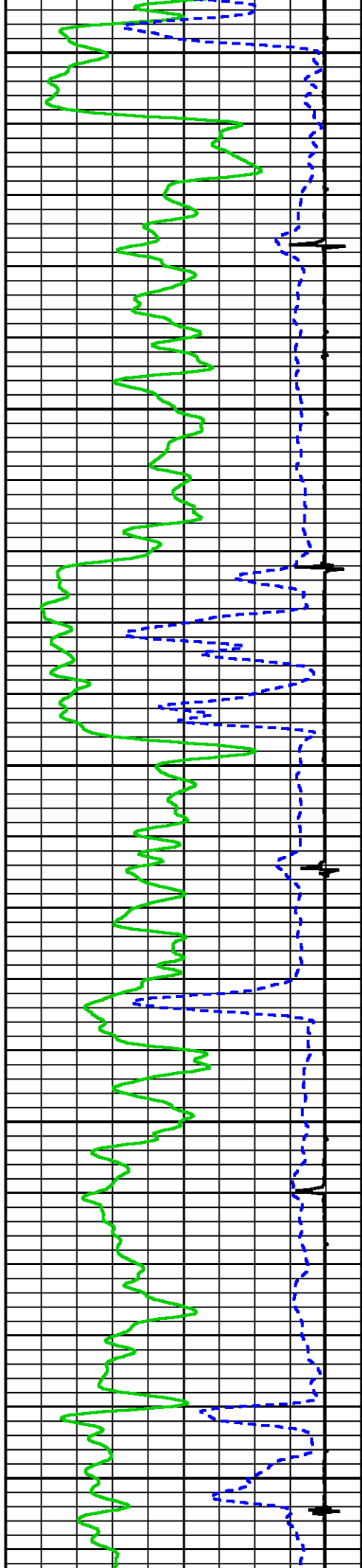


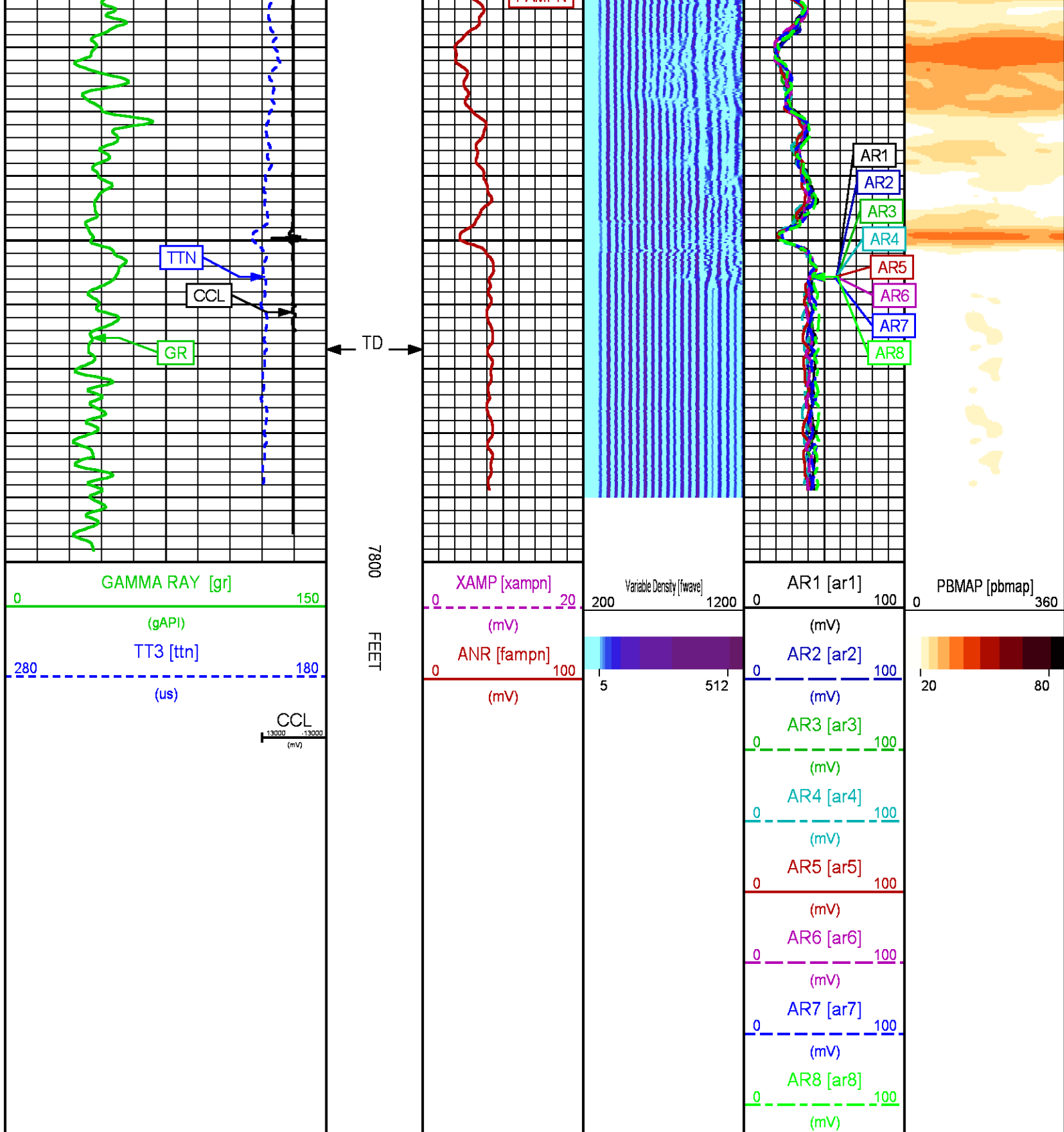


7500

7600

7700





PARAMETER AND FILTER SUMMARY REPORT					
FILE: C:\data\atBruton_30-14\p012g01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 7538.000 ft BOTTOM DEPTH: 7765.750 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	medium (1)		"	"
TRAVEL TIME	FILTER ()	medium (1)		"	"
RAL CCL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CCL FLOOR	CCL FLOOR	0.00		TOP	BOTTOM
ANALOG RAL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgp1*)	186	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	186	us	"	"
	AMP WINDOW START (fgp3*)	186	us	"	"
	AMP WINDOW START (fgp4*)	186	us	"	"
	AMP WINDOW START (fgp5*)	186	us	"	"
	AMP WINDOW START (fgp6*)	186	us	"	"
	AMP WINDOW START (fgp7*)	186	us	"	"
	AMP WINDOW START (fgp8*)	186	us	"	"
	AMP WINDOW START (fgpn*)	186	us	"	"
TRAVEL TIME WINDOW (NEAR)	AMP WINDOW LENGTH	25	us	"	"
	TT WINDOW START (ttn*)	174	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-68	us	"	"
	TOOL DELAY (str2*)	-68	us	"	"
	TOOL DELAY (str3*)	-68	us	"	"
	TOOL DELAY (str4*)	-68	us	"	"
	TOOL DELAY (str5*)	-68	us	"	"
	TOOL DELAY (str6*)	-68	us	"	"
	TOOL DELAY (str7*)	-68	us	"	"
	TOOL DELAY (str8*)	-68	us	"	"
BASELINE NOISE (NEAR)	TOOL DELAY (strn*)	-68	us	"	"
	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"
PERCENT BOND CEMENT MAP					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RAL FREE PIPE AMPLITUDE	FREE AMP REC 1	80	mV	TOP	BOTTOM
	FREE AMP REC 2	80	mV	"	"
	FREE AMP REC 3	80	mV	"	"
	FREE AMP REC 4	80	mV	"	"
	FREE AMP REC 5	80	mV	"	"
	FREE AMP REC 6	80	mV	"	"
	FREE AMP REC 7	80	mV	"	"
	FREE AMP REC 8	80	mV	"	"
RAL FULL BOND AMPLITUDE	FULL BOND AMP REC 1	2	mV	"	"
	FULL BOND AMP REC 2	2	mV	"	"
	FULL BOND AMP REC 3	2	mV	"	"
	FULL BOND AMP REC 4	2	mV	"	"
	FULL BOND AMP REC 5	2	mV	"	"
	FULL BOND AMP REC 6	2	mV	"	"
	FULL BOND AMP REC 7	2	mV	"	"
	FULL BOND AMP REC 8	2	mV	"	"

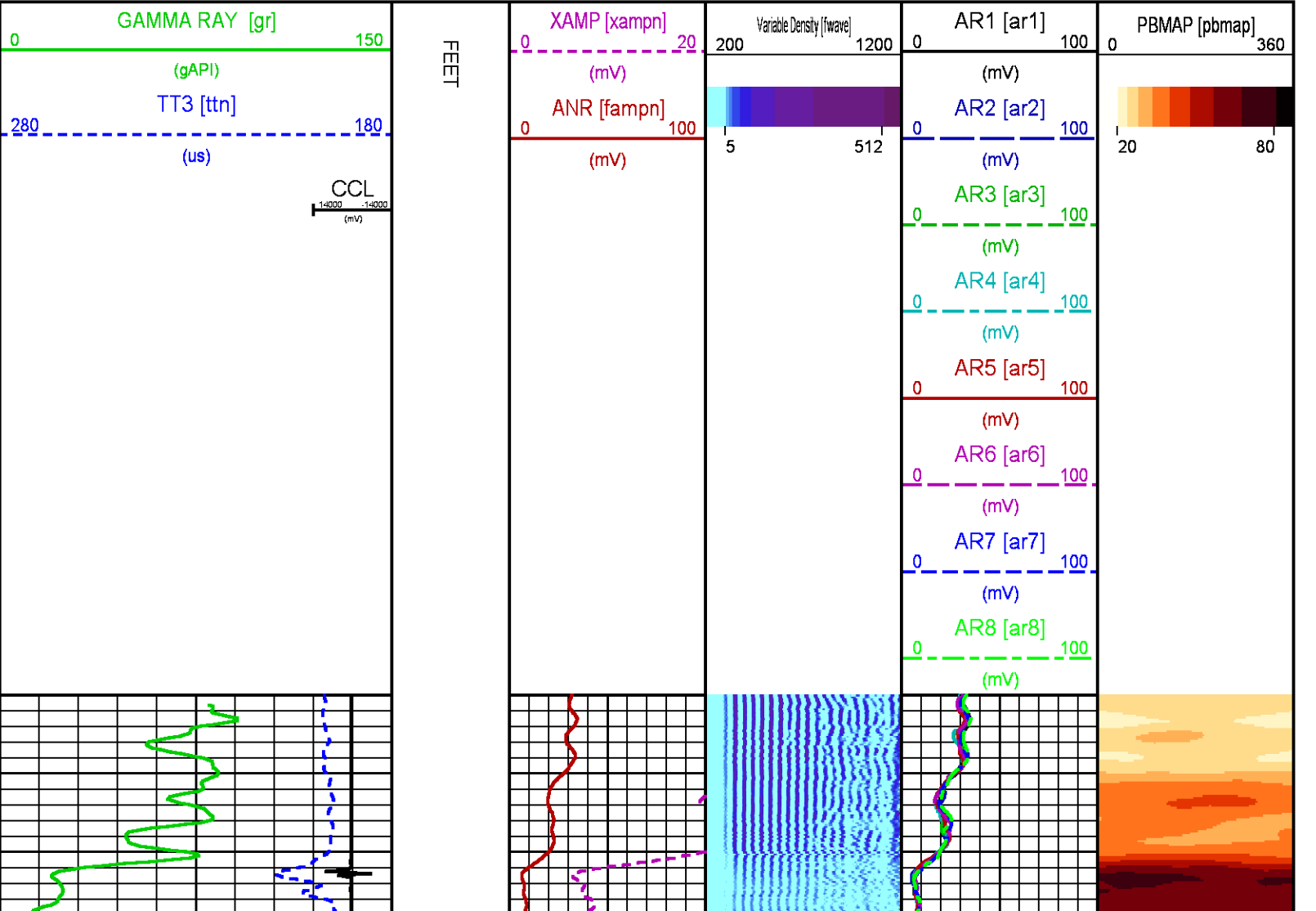
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION

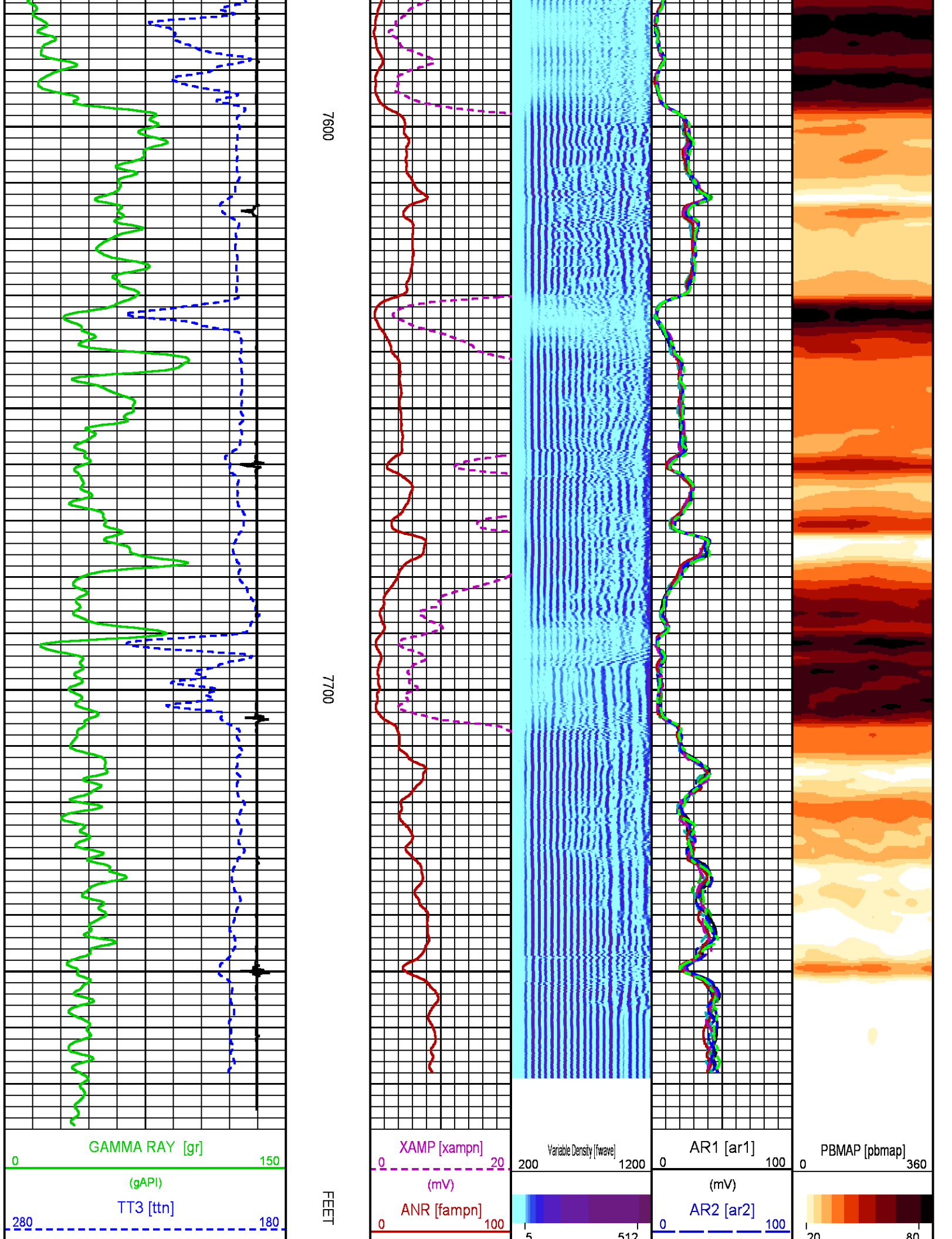
F1:AR1	N/A	FIXED GATE AMPLITUDE T-R1
F1:AR2	N/A	FIXED GATE AMPLITUDE T-R2
F1:AR3	N/A	FIXED GATE AMPLITUDE T-R3
F1:AR4	N/A	FIXED GATE AMPLITUDE T-R4
F1:AR5	N/A	FIXED GATE AMPLITUDE T-R5
F1:AR6	N/A	FIXED GATE AMPLITUDE T-R6
F1:AR7	N/A	FIXED GATE AMPLITUDE T-R7
F1:AR8	N/A	FIXED GATE AMPLITUDE T-R8
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:FAMPN	N/A	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	N/A	FAR WAVE FORM
F1:GR	N/A	GAMMA RAY
F1:PBMAP	N/A	PERCENT BOND CEMENT MAP
F1:TTN	N/A	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	N/A	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

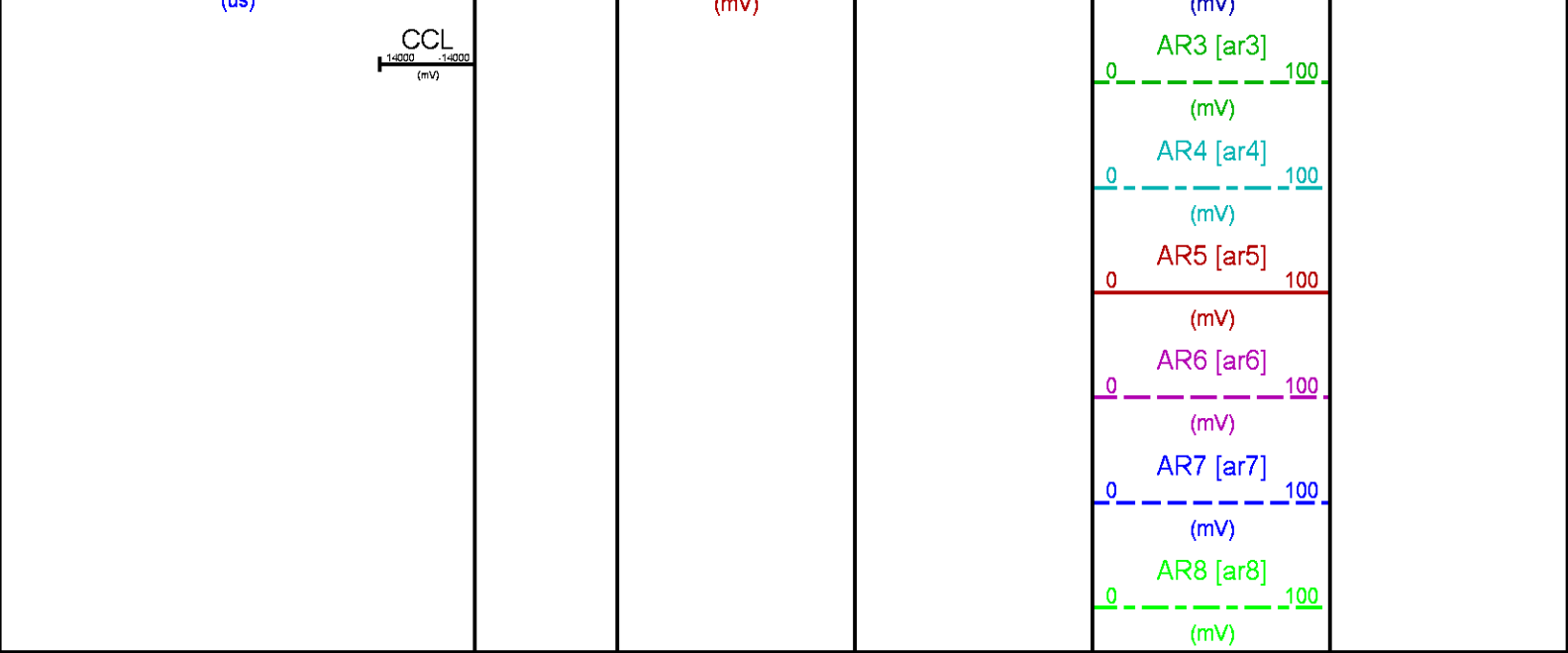
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	-11.25	AR5	-11.25	CCL	-5.75	XAMPN	-11.25
AR2	-11.25	AR6	-11.25	FAMPN	-11.25		
AR3	-11.25	AR7	-11.25	GR	-1.75		
AR4	-11.25	AR8	-11.25	TTN	-11.25		

Presentation	: BHI4WM4ZW1:C:\dat1a\Bruton_30-14E\30-14E_RAL_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 7550 - 7779 Feet
Data File 1	: F1 : BHI4WM4ZW1:C:\dat1a\Bruton_30-14E\30-14E_RAL_REPEAT.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON 30-14E
Field	: VEGA
File Interval	: 7537.25 - 7780.25 Feet
OCT	: p012g







CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\Bruton_30-14E\p012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

NOT IN DATABASE

RAL BEFORE LOG VERIFICATION SUMMARY

NOT IN DATABASE

GR PRIMARY CALIBRATION SUMMARY

NOT IN DATABASE

GR PRIMARY VERIFICATION SUMMARY

NOT IN DATABASE

INSTRUMENT CONFIGURATION

A3 CABLEHEAD

Diameter : 1.37"

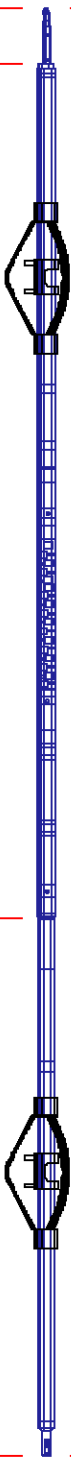
RADIAL BOND TOOL

Diameter : 2.75"
Length : 11.17'
Weight : 126 lbs
Series : 1426XA
Mnemonic : RAL
Measure Point: 4.21': NEAR RCVR
Measure Point: 3.25': FAR RCVR

RAL GR/TEMP/CCL/CHV DETECTOR

Diameter : 2.75"
Length : 6.96'
Weight : 85 lbs
Series : 1355XA
Mnemonic : RAL
Measure Point: 5.79': CCL
Measure Point: 1.67': GR
Measure Point: 0.17': TEMP

TOTAL LENGTH: 18.85'
TOTAL WEIGHT: 227 lbs
MAX DIAMETER: 0'4.00"



18.85'

NEAR RCVR 11.17'

FAR RCVR 10.21'

CCL 5.79'

GR 1.67'

TEMP 0.17'

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY LARAMIE ENERGY LLC
WELL BRUTON 30-14E
FIELD VEGA
COUNTY MESA **STATE** COLORADO

FILE NO:

CH132060

API NO:

05077104710000

LOCATION:

SHL: 2606' FNL & 1874' FEL

BHL: 1867' FSL & 1333' FEL

SEC 30 **TWP** 9S **RGE** 93W

ELEVATIONS:

KB 7665 FT

DF

GL 7635 FT

DATE

02-Feb-2018