



FILE NO: COMPANY TEP ROCKY MOUNTAIN LLC

API NO: 050452324900000 WELL YUBERG RU 513-7  
FIELD RULISON  
COUNTY GARFIELD STATE COLORADO

Ver. 4.06 LOCATION: SHL: 1937' FSL & 148' FWL  
BHL: 1421' FSL & 204' FWL  
SEC 7 TWP 7S RGE 93W OTHER SERVICES RPM

PERMANENT DATUM GL ELEVATION 7357 FT  
LOG MEASURED FROM KB 24 FT ABOVE P.D.  
DRILL. MEAS. FROM KB ELEVATIONS: KB 7381 FT  
GL 7357 FT

DATE	31-DEC-2016
RUN	TRIP 1 1
SERVICE ORDER	US110701
DEPTH DRILLER	9424 FT
DEPTH LOGGER	9390 FT
BOTTOM LOGGED INTERVAL	9390. FT
TOP LOGGED INTERVAL	24 FT
TIME STARTED	14:30
TIME FINISHED	17:30
OPERATOR RIG TIME	3 HRS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	54 FT
LOGGED CEMENT TOP	SEE LOG
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	100 FMN
MAX. RECORDED TEMP.	249 DEGF
REFERENCE LOG	NA
REFERENCE LOG DATE	NA
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	M.MENTZER
WITNESSED BY	MR. DUSTIN WELSH

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

BOREHOLE RECORD		
BIT SIZE	FROM	TO
13.5 IN	0 FT	1124 FT
8.75 IN	1124 FT	9424 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN	-	-	0 FT	1124 FT
4.5 IN	-	-	0 FT	9424 FT

REMARKS

RUN 1 TRIP 1: \*2 OPERATIONS IN WELL\*

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

WELL LOGGED WITH 0 PSI ON WELL HEAD

BHT: 249 DEGF

SHORT JOINT: 5628' - 5651'

CREW: D.HUTCHISON, J.PENA, L.OHANDLEY

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION

MAIN LOG 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013  
Updates: 1 Patches: 9

Plotted: Sat Dec 31 17:35:13 2016

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TEP\_YOUBERG\_RU\_513\_7/n012g03.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 19.250 ft BOTTOM DEPTH: 9396.250 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		TOP	BOTTOM

ANALOG RAL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgpn*)	179	us	TOP	BOTTOM
	AMP WINDOW LENGTH	25	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	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 (strn*)	-75	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

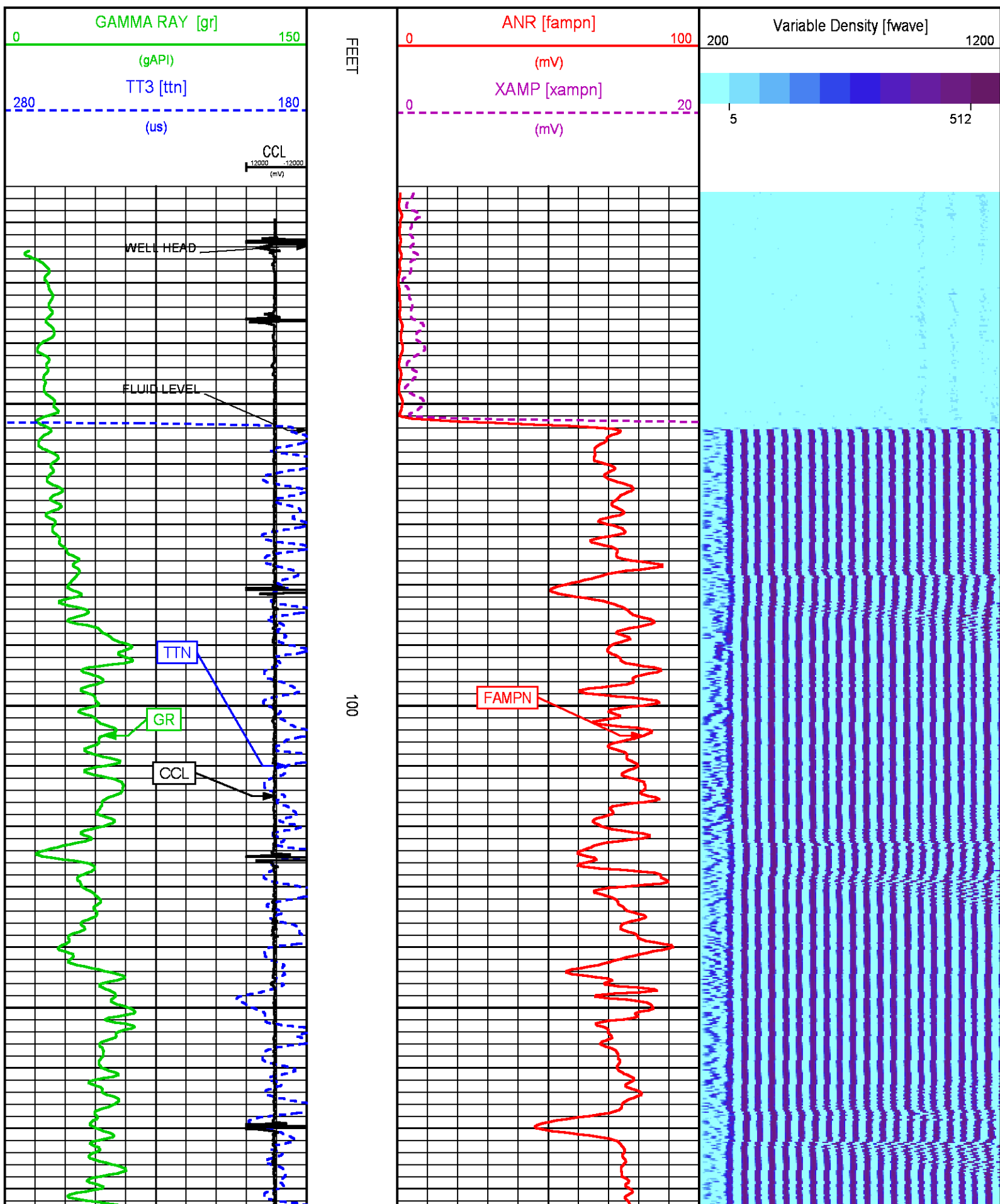
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 31 15:47:27 2016	CASING COLLAR LOCATOR
F1:FAMPN	Dec 31 15:47:27 2016	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 31 15:47:27 2016	FAR WAVE FORM
F1:GR	Dec 31 15:47:27 2016	GAMMA RAY
F1:TTN	Dec 31 15:47:27 2016	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 31 15:47:27 2016	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

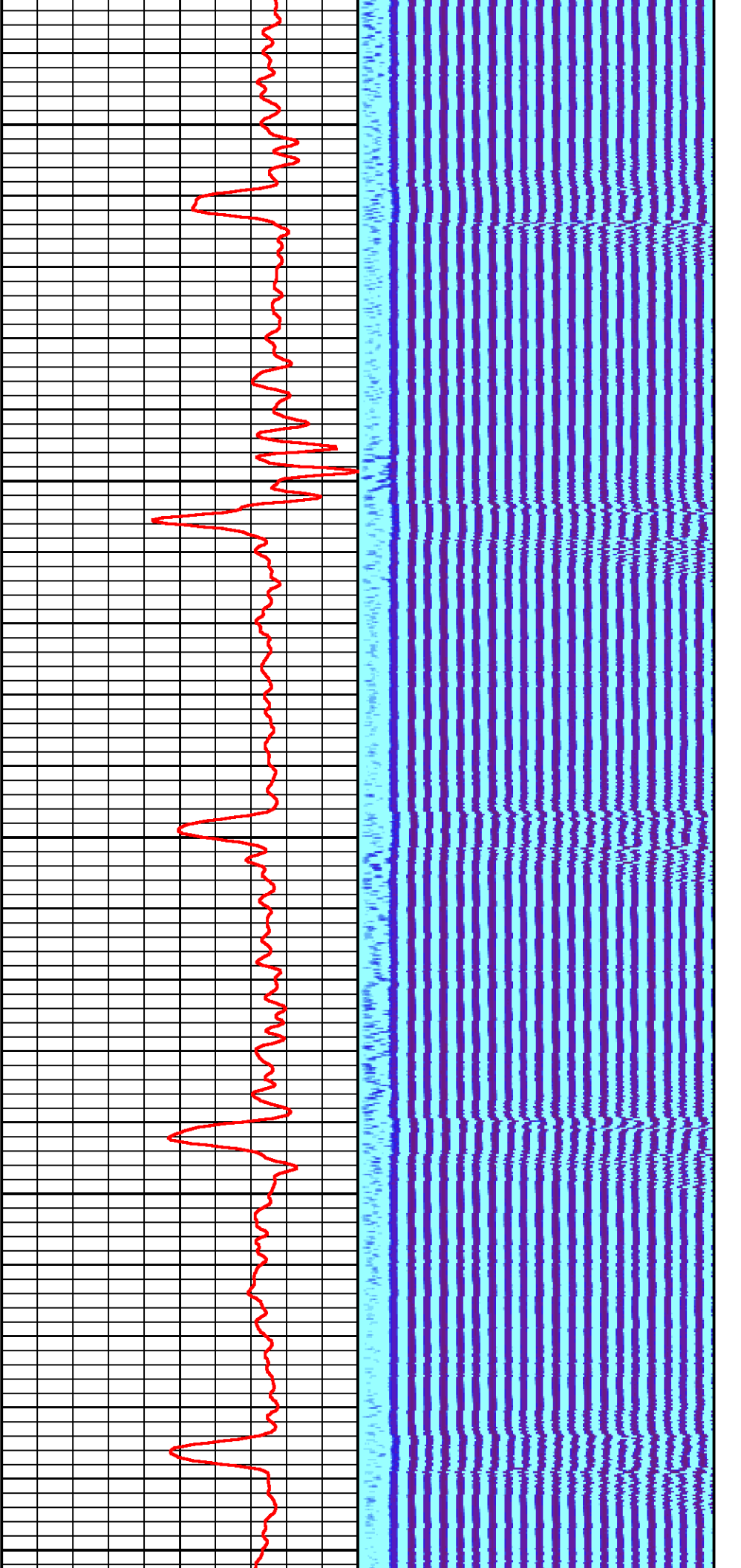
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : cpu100:TERRA\_ral\_cbl+01-MAIN-RAL\_MN-5.fvpdf [5"/100' Scale]  
Plot Interval : 15 - 9401 Feet

Data File 1 : F1 : cpu100:/dat1a/TEP\_YOUBERG\_RU\_513\_7/RAL\_MN.rtf

Data File : F:\cpu100\data\TEP\_YOUBERG\_R0\_513\_7\RAL\_MN.xti  
Created On : Dec 31 15:47:27 2016  
Company : TEP ROCKY MOUNTAIN LLC  
Well : YOUBERG RU 513-7  
Field : RULISON  
File Interval : 14 - 9402.5 Feet  
OCT : n012g

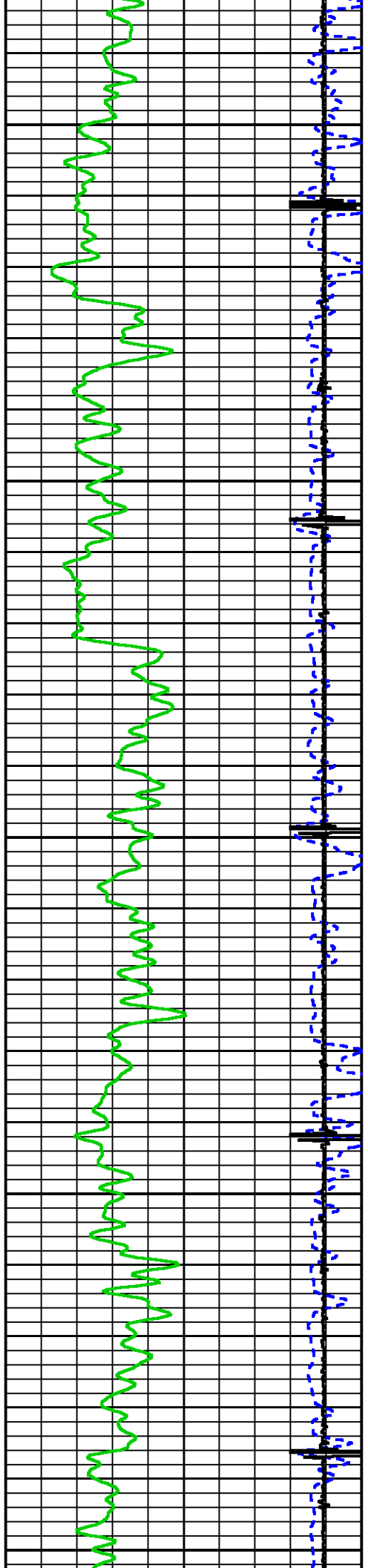


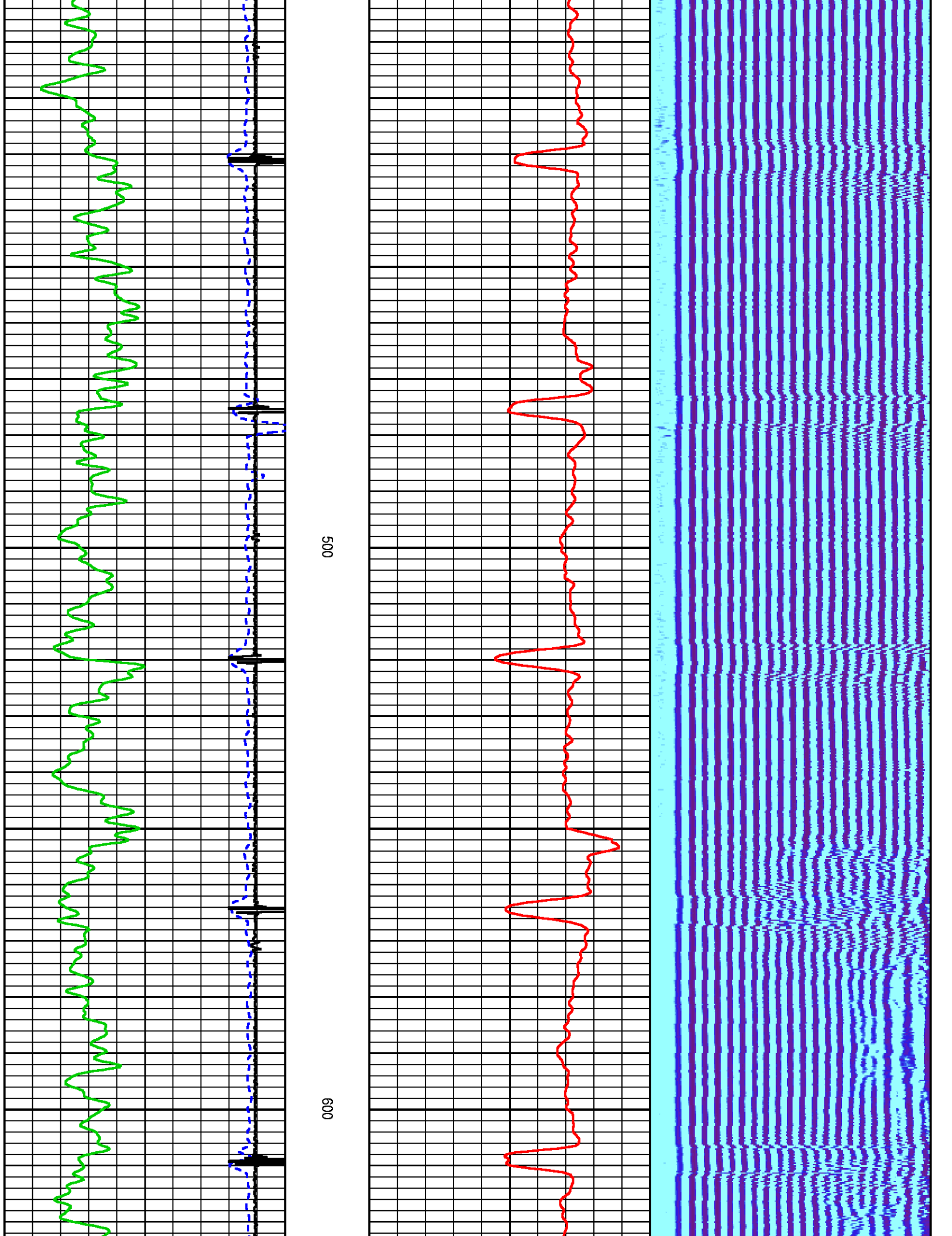


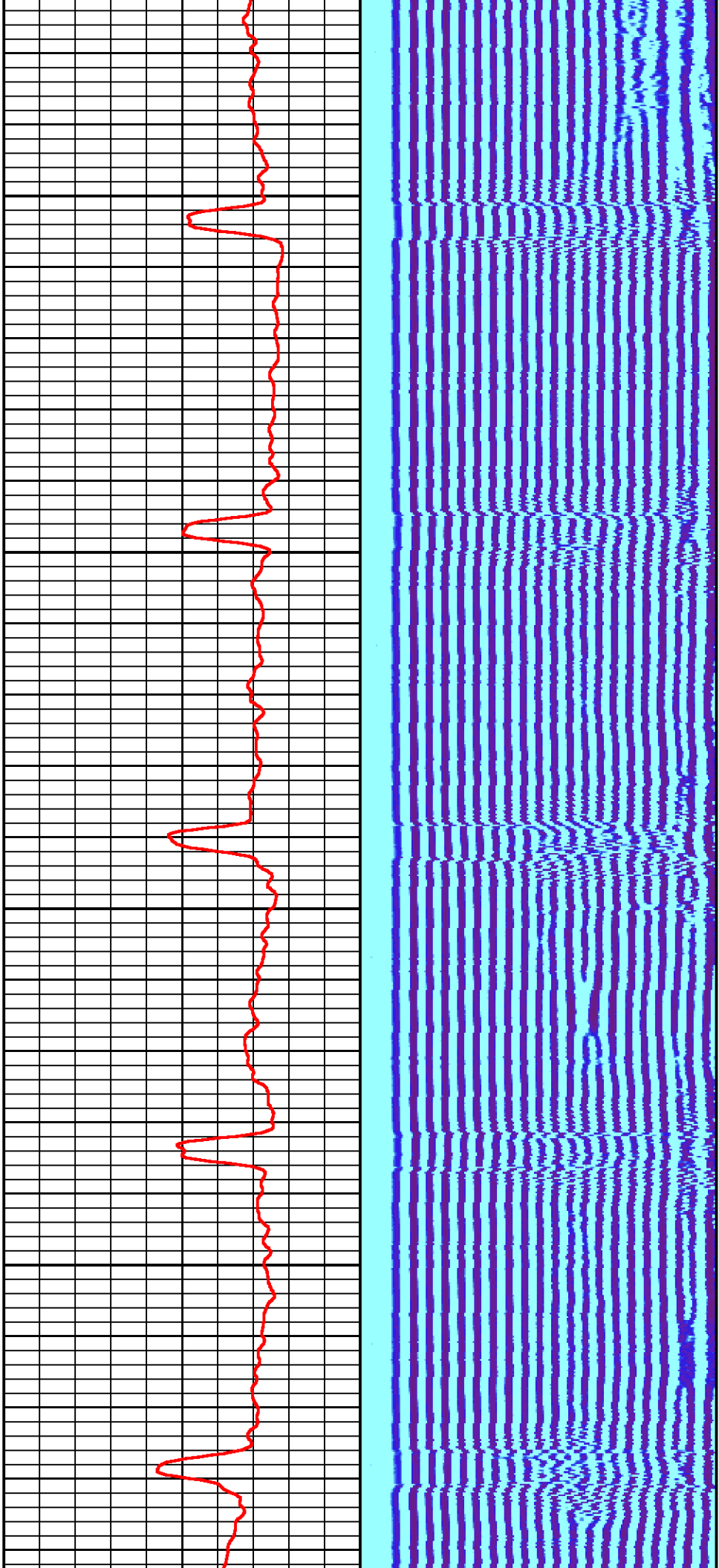
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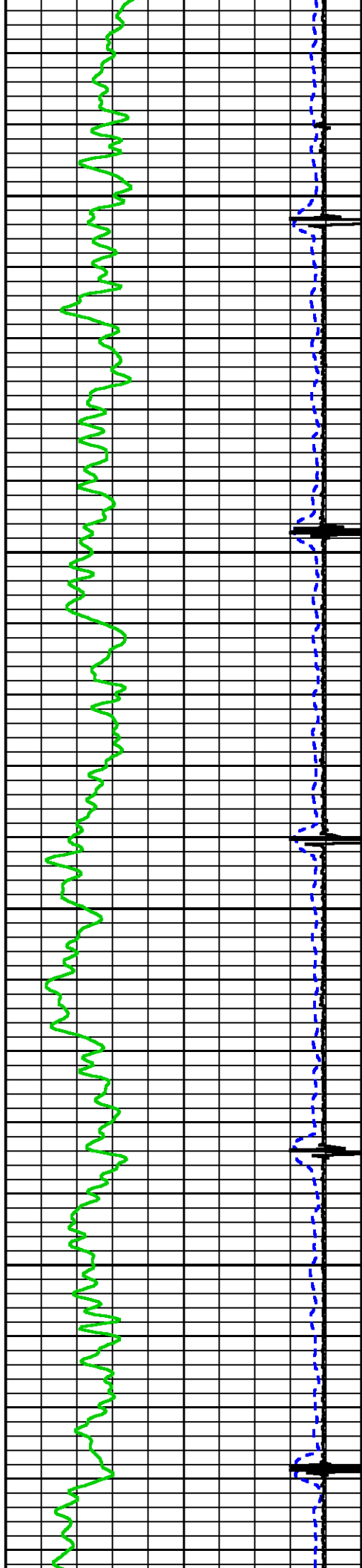




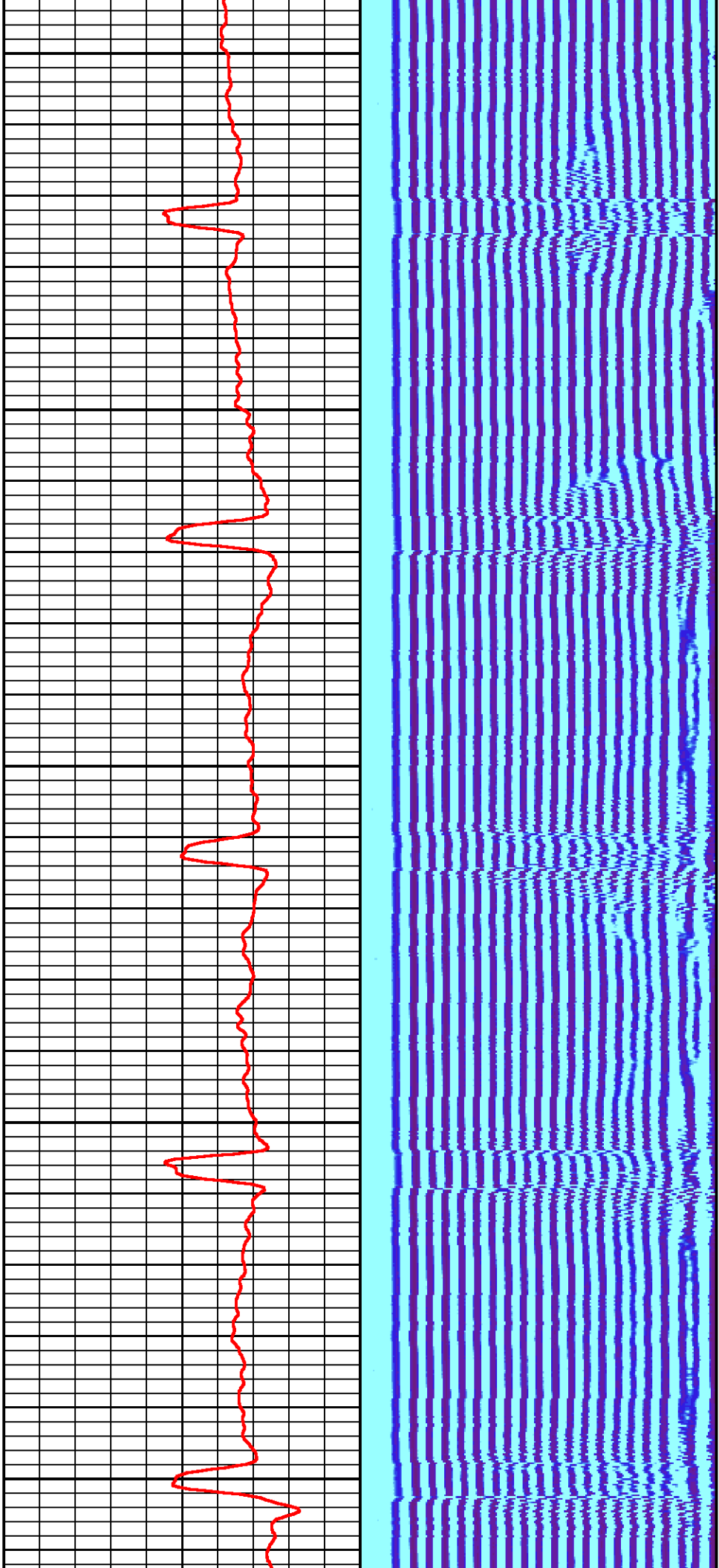


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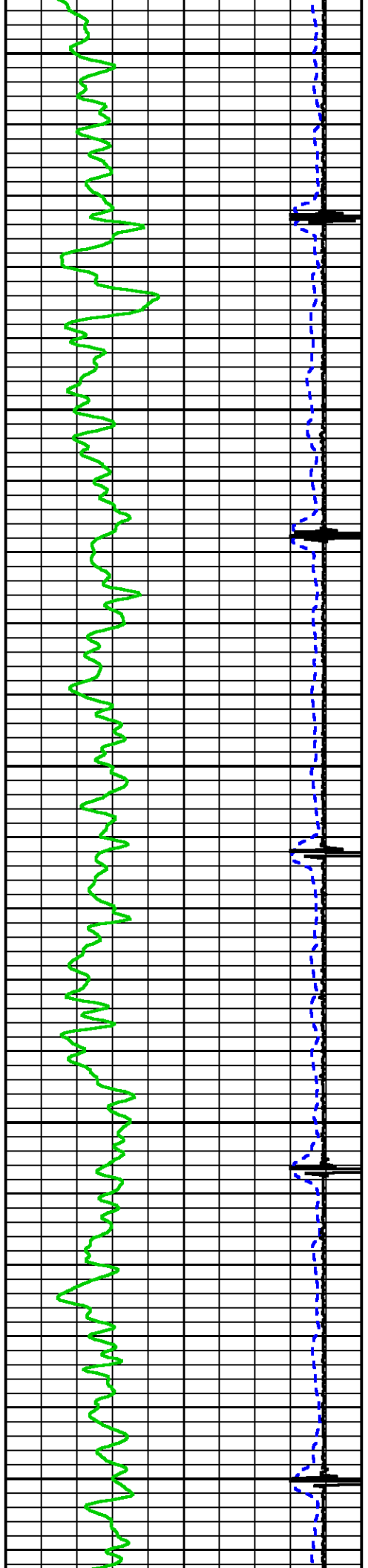


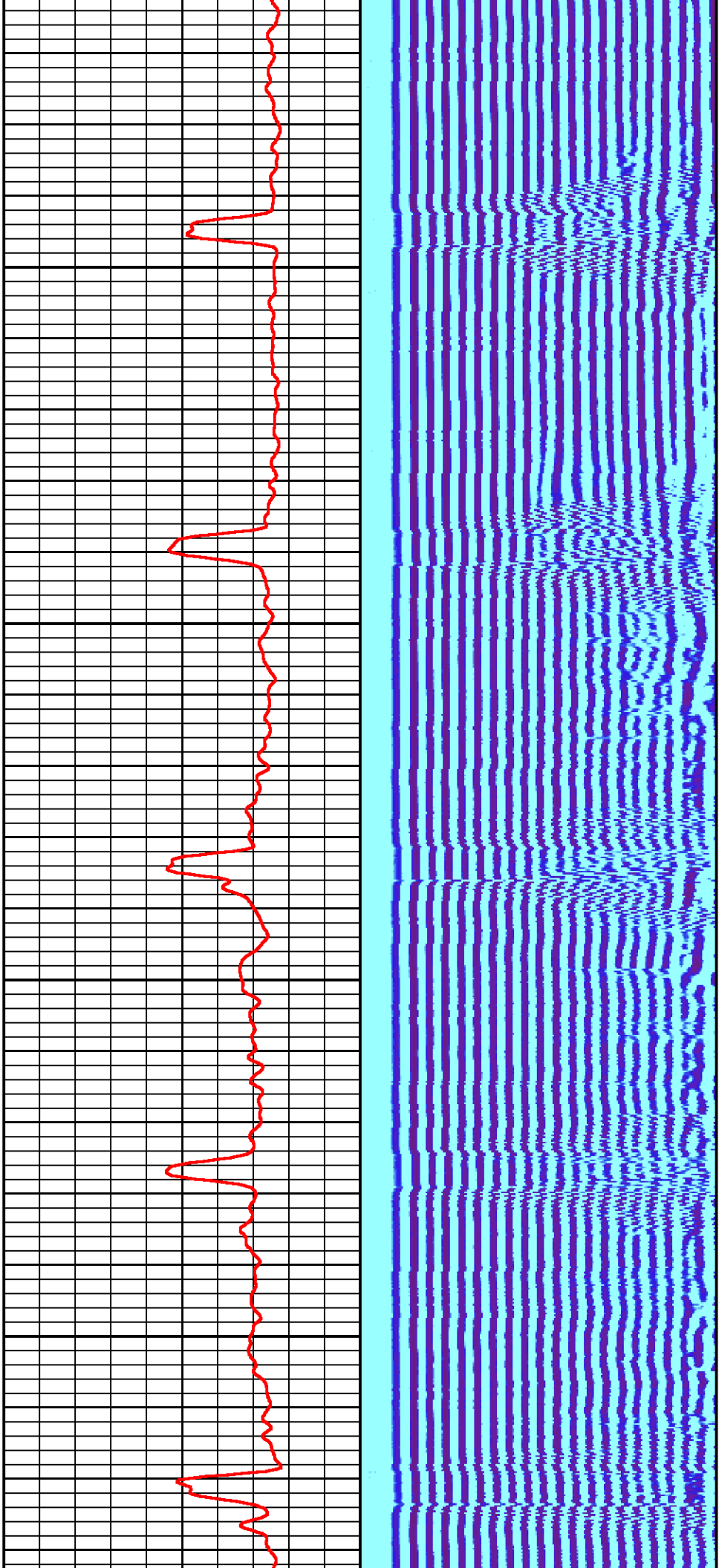




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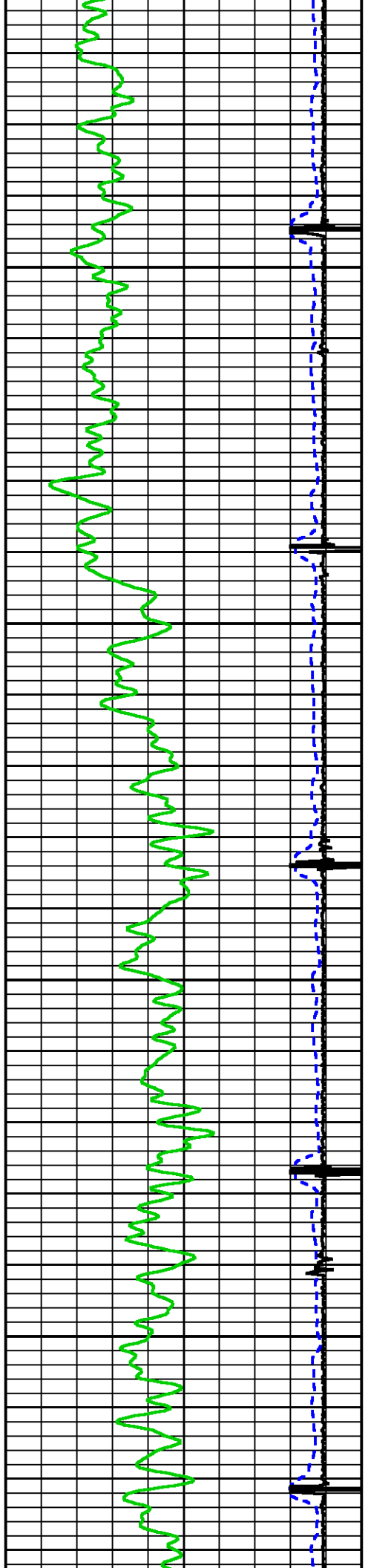
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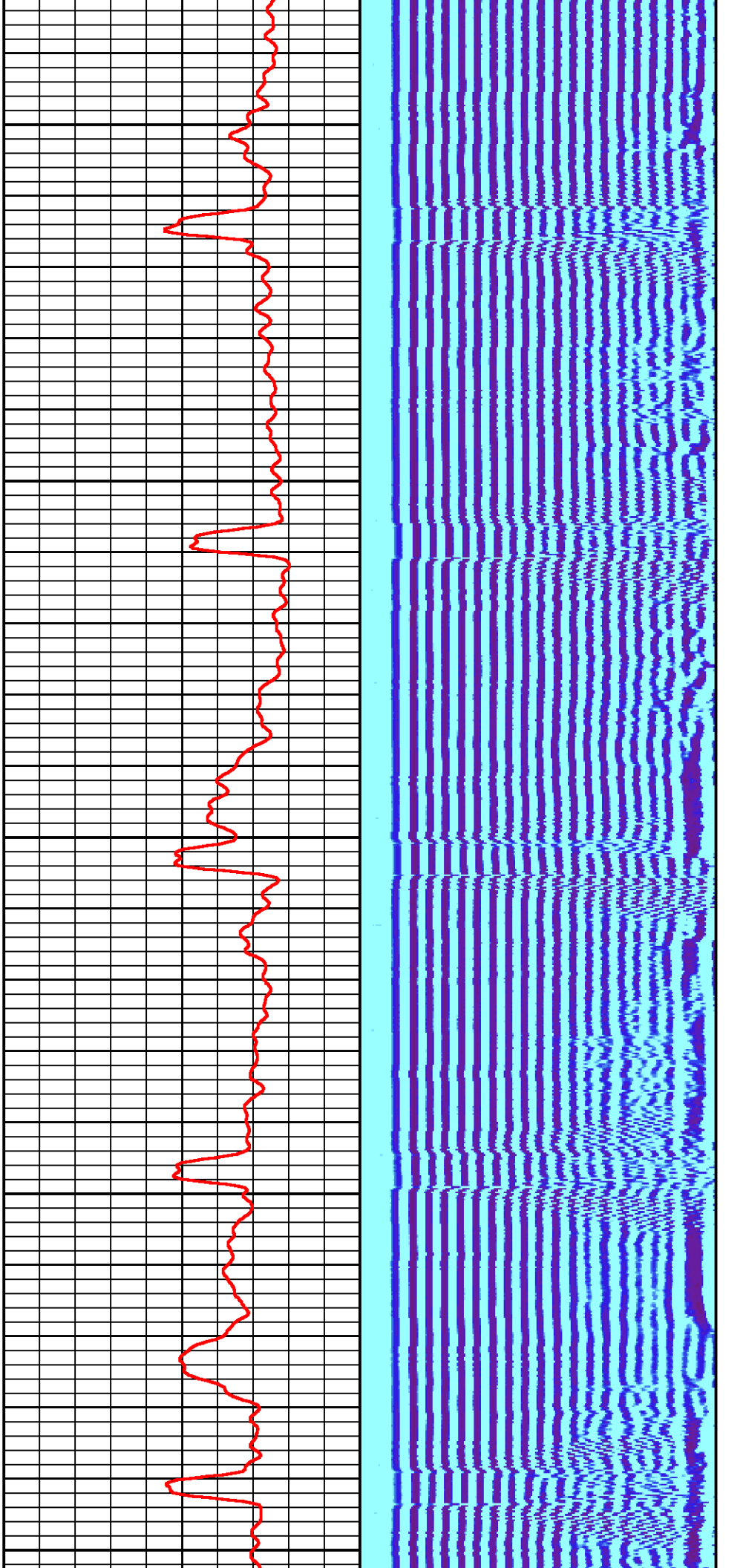


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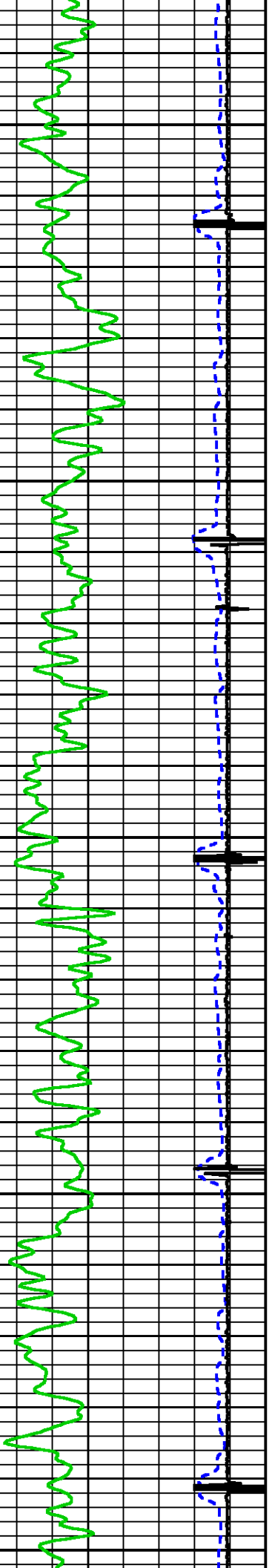


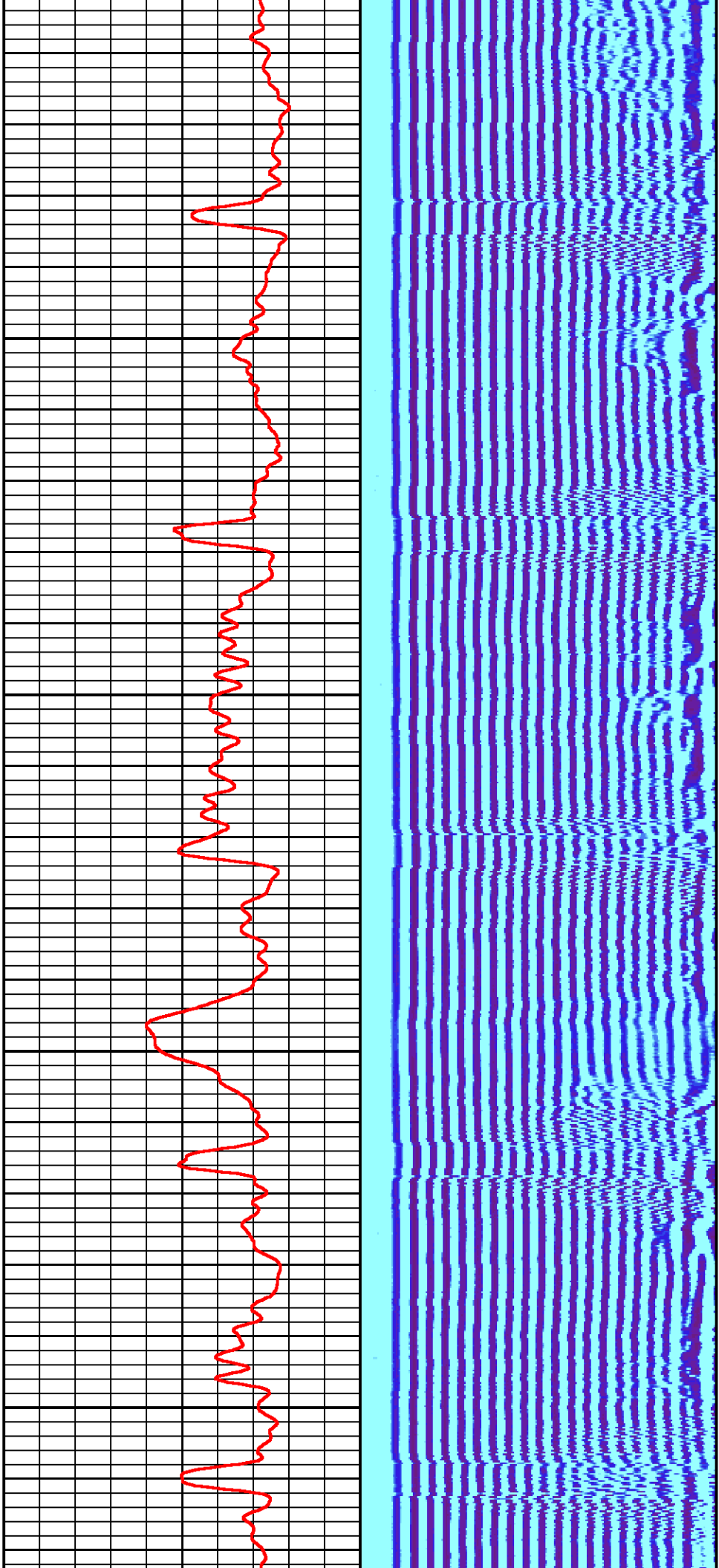


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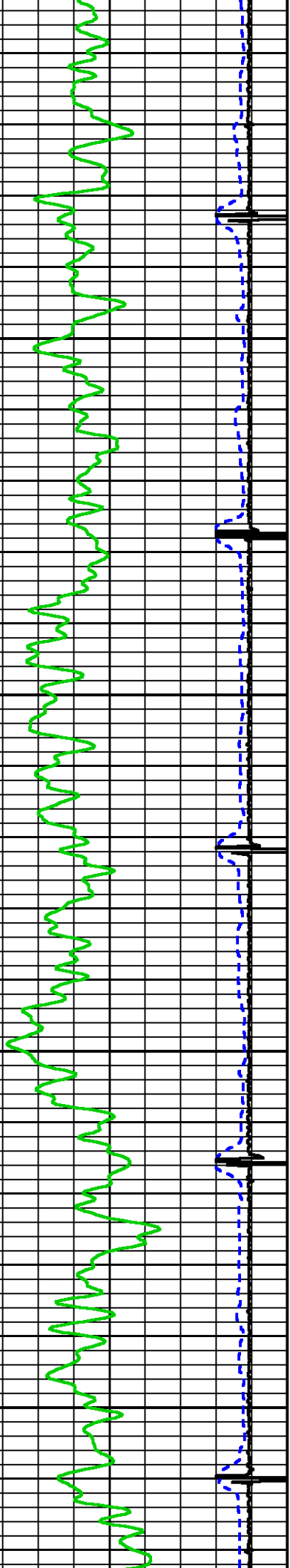
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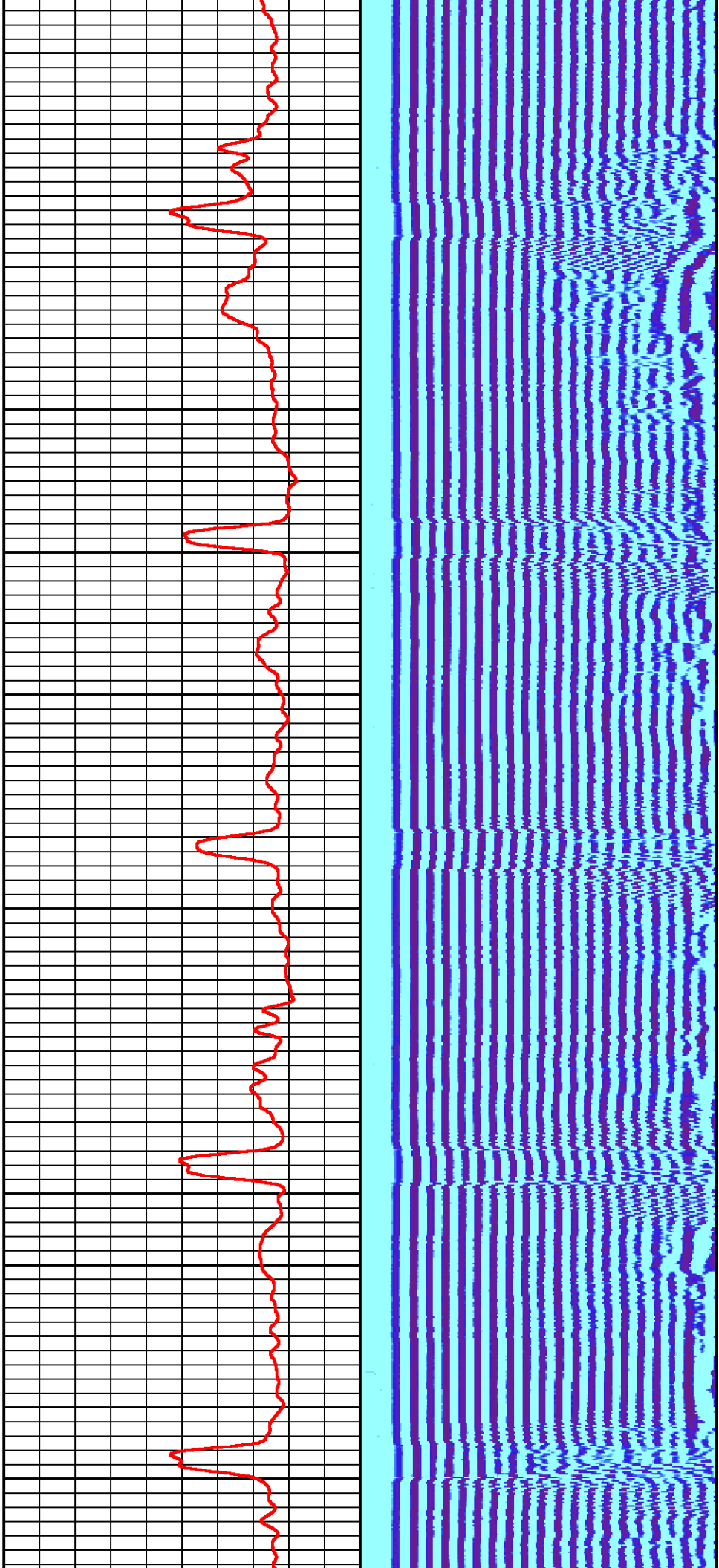




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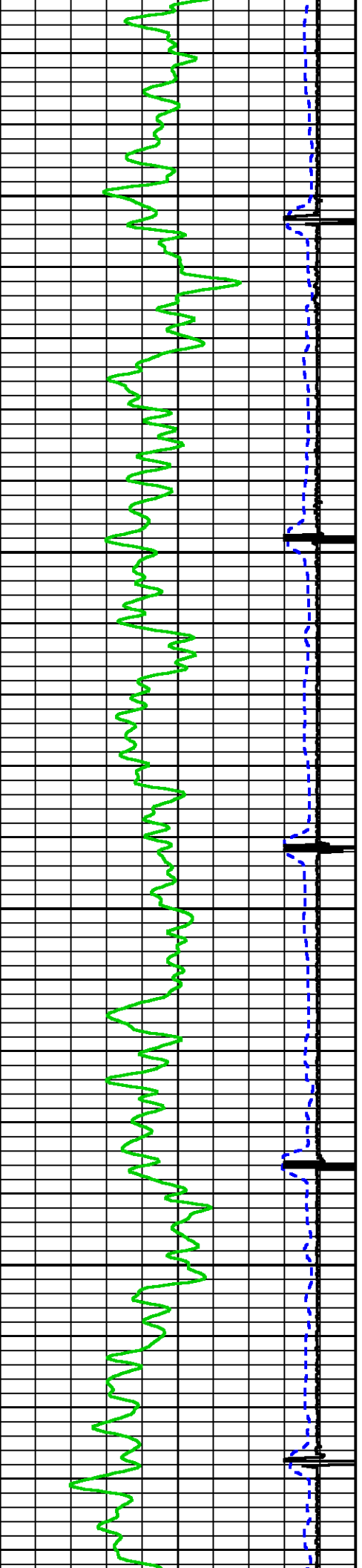
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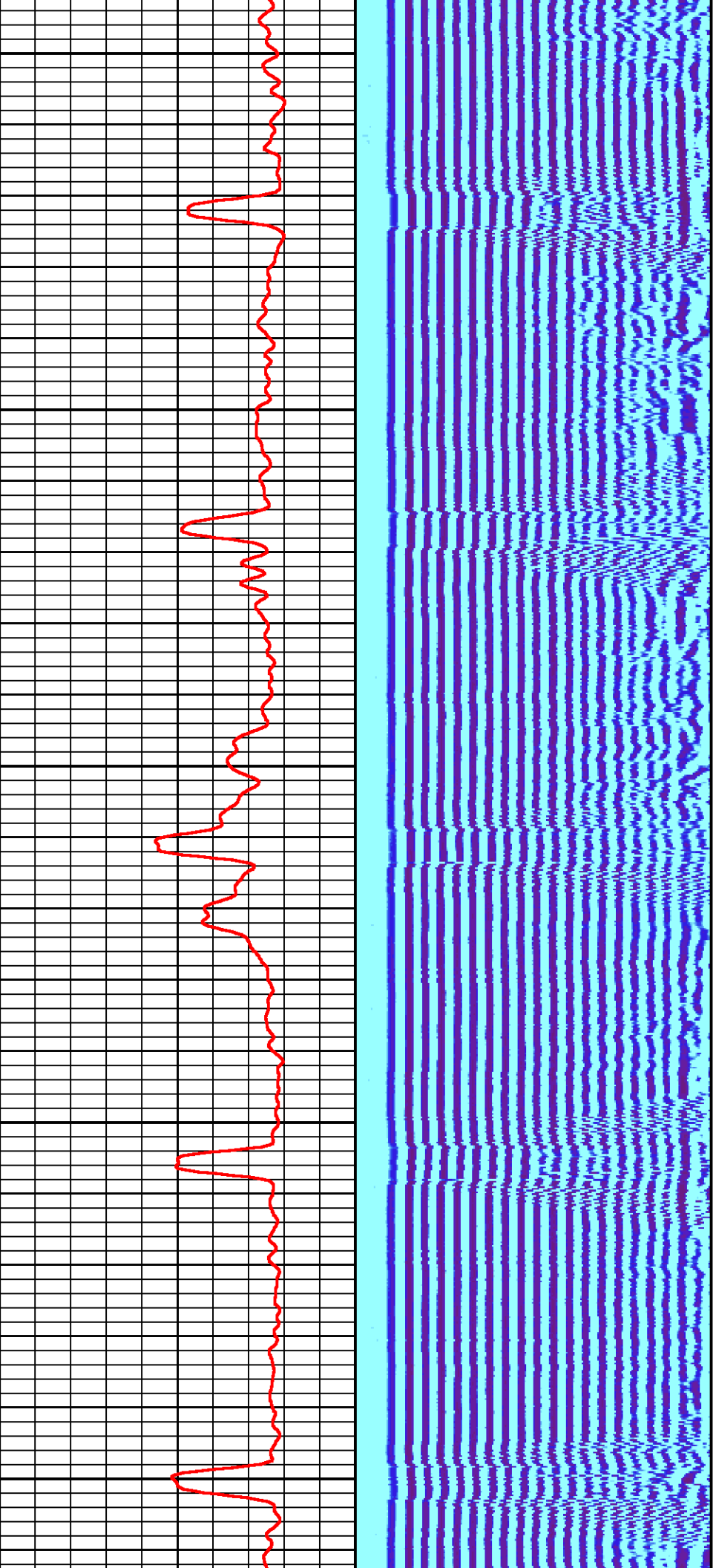




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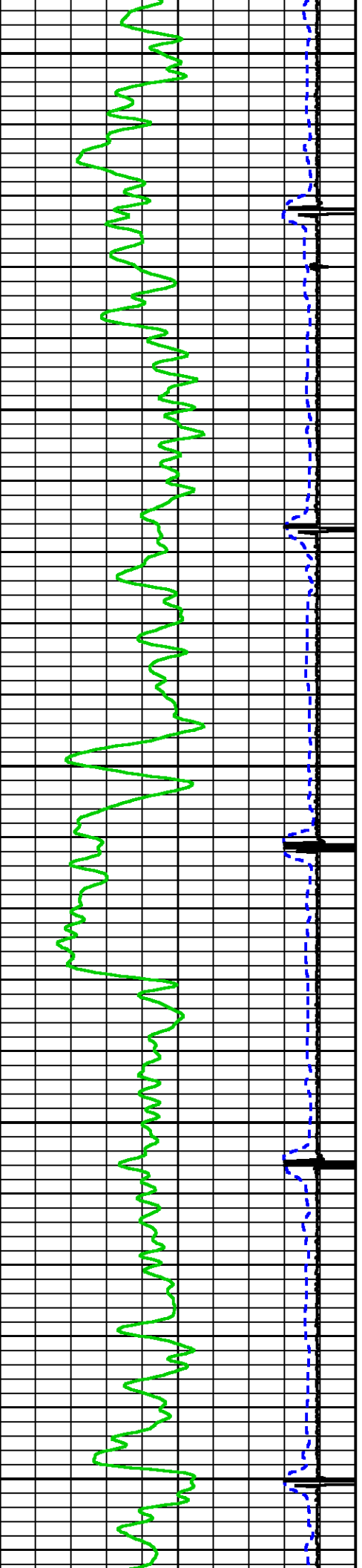
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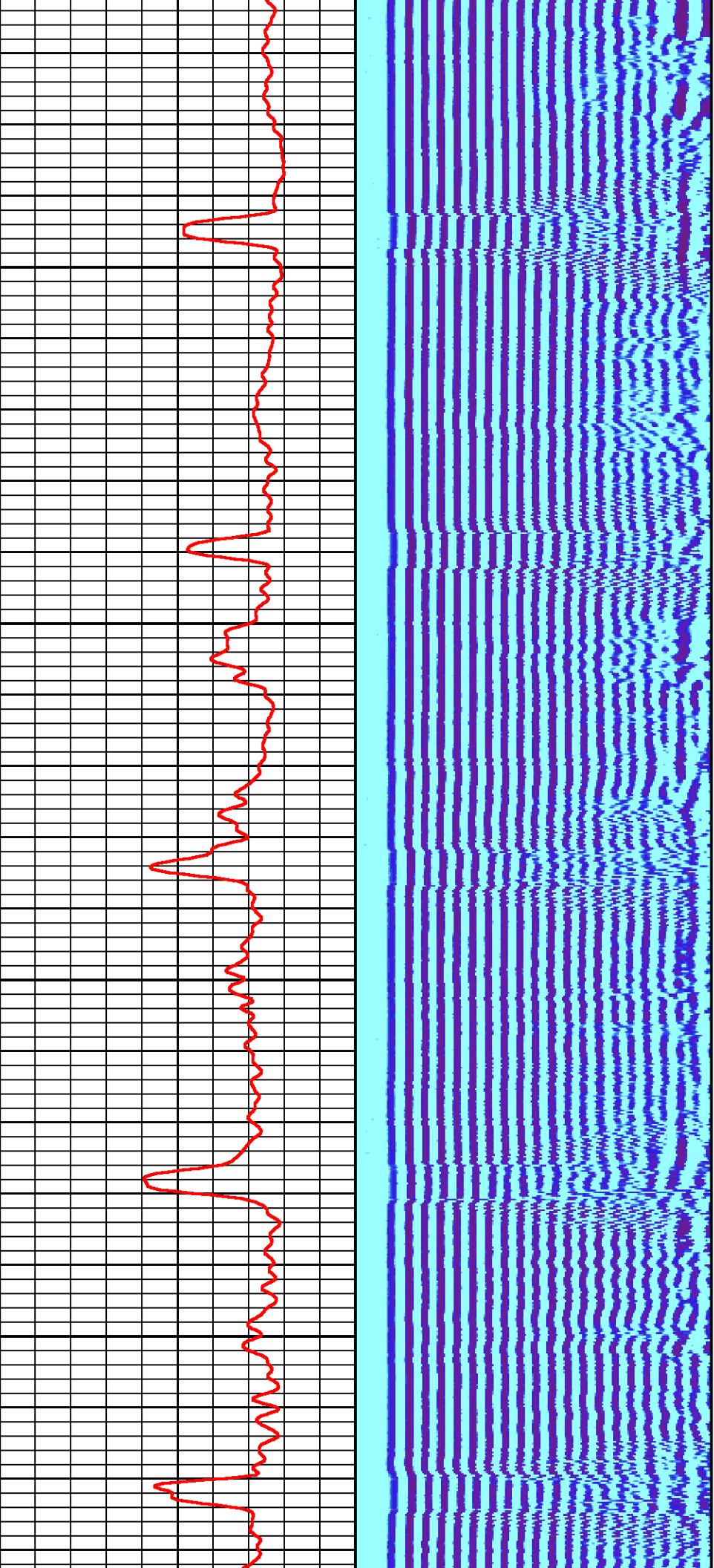


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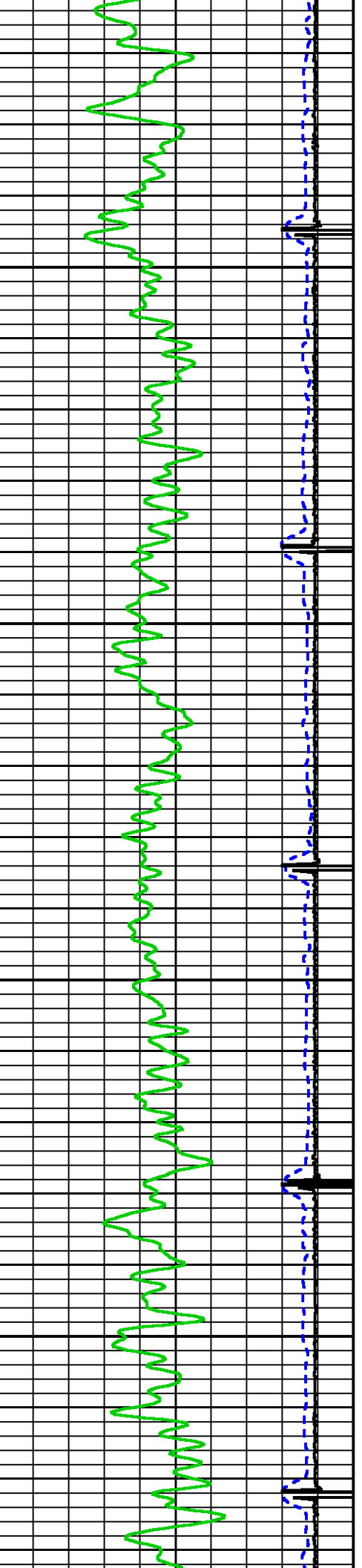




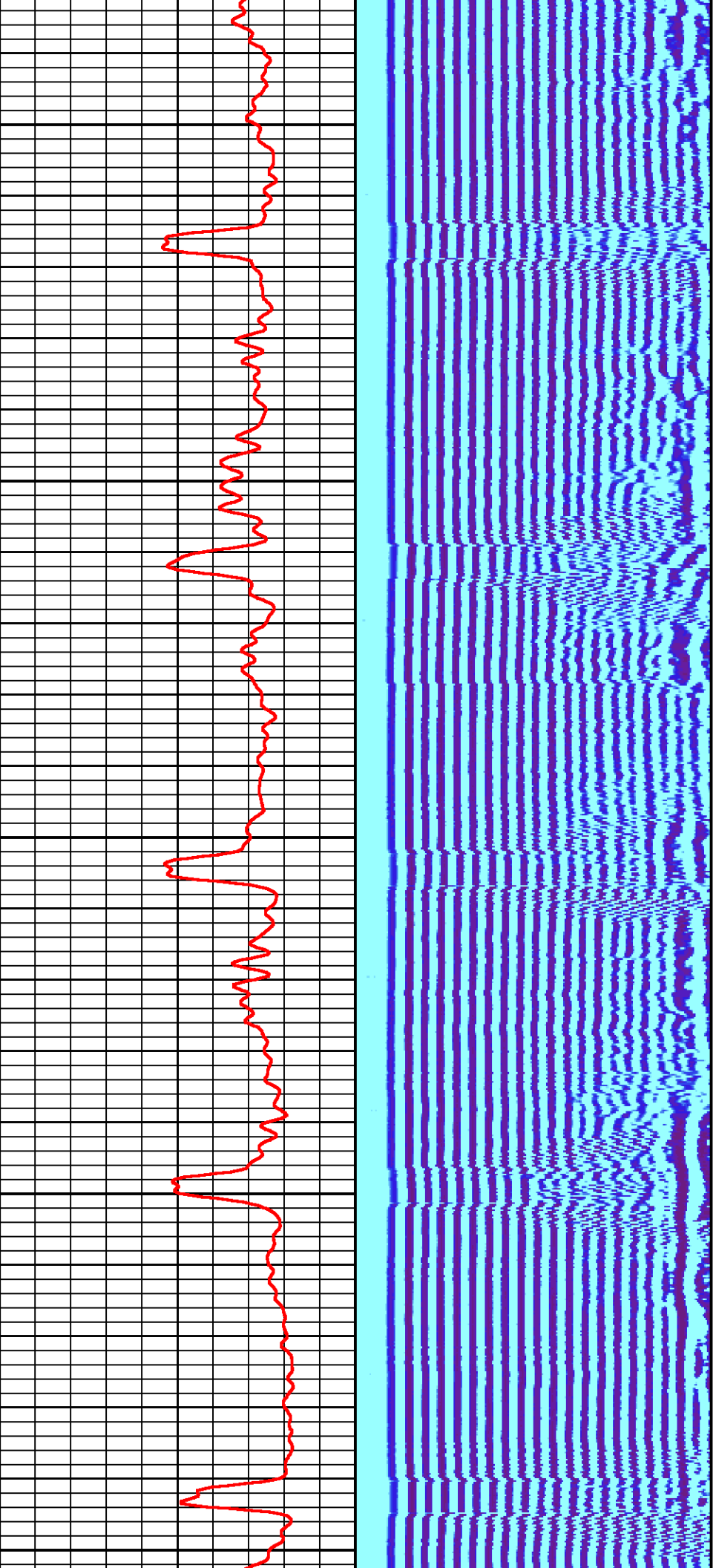


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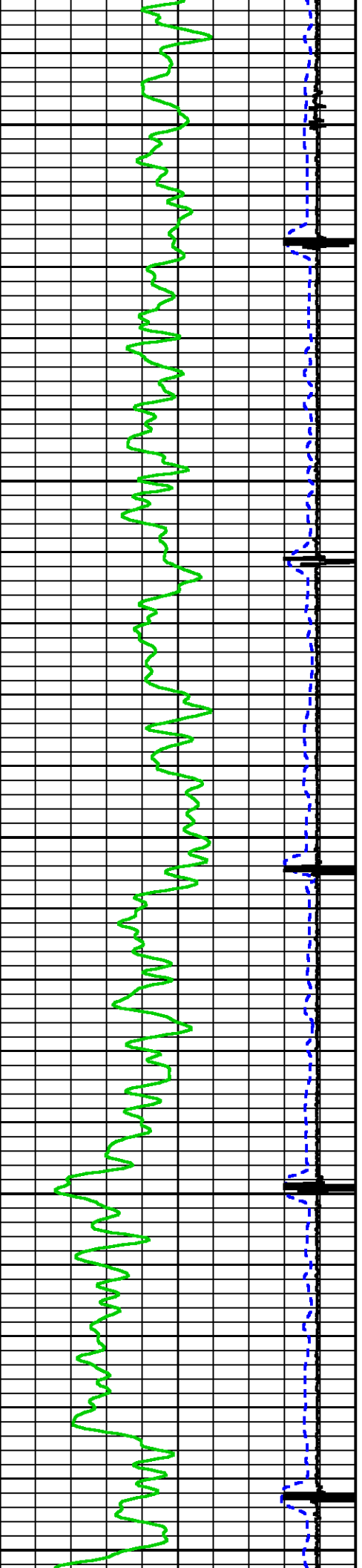


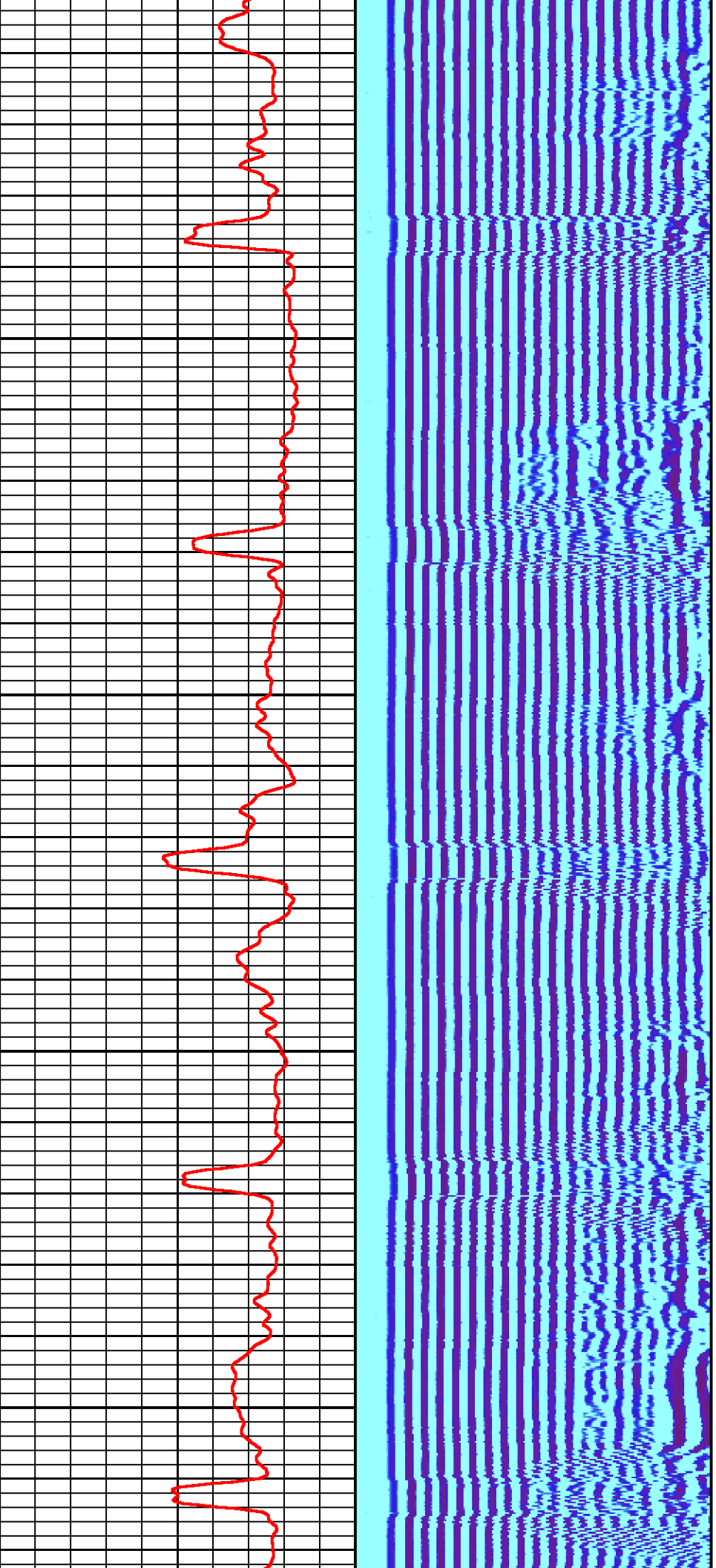


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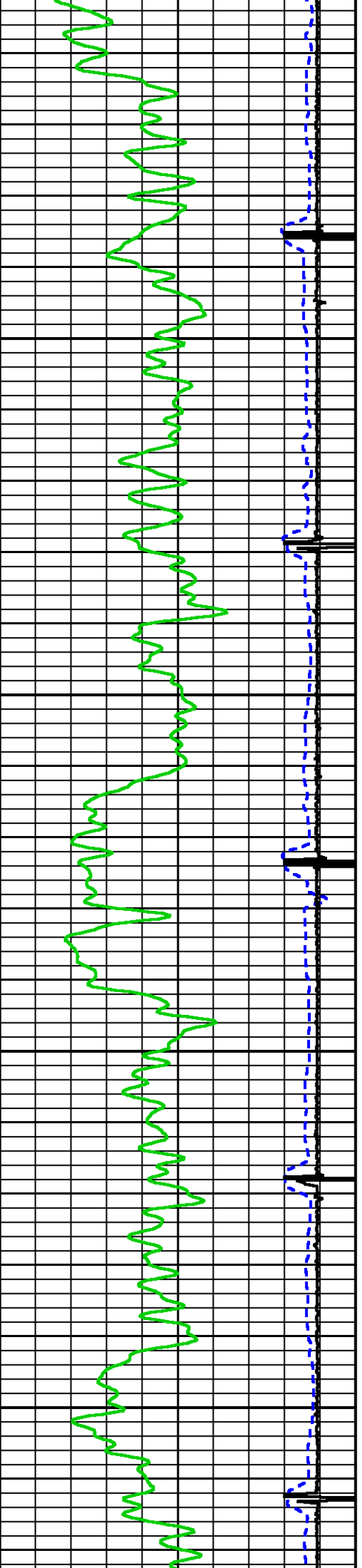
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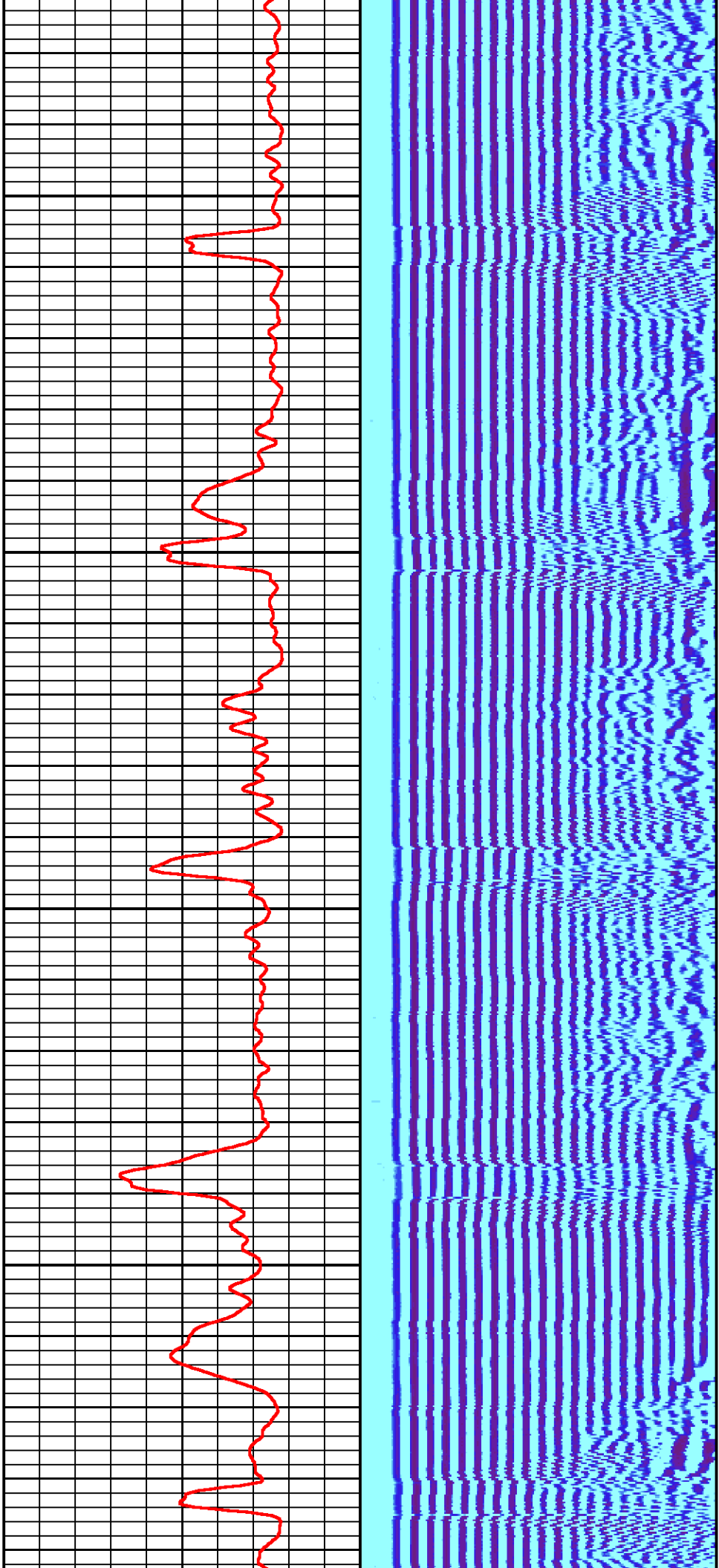




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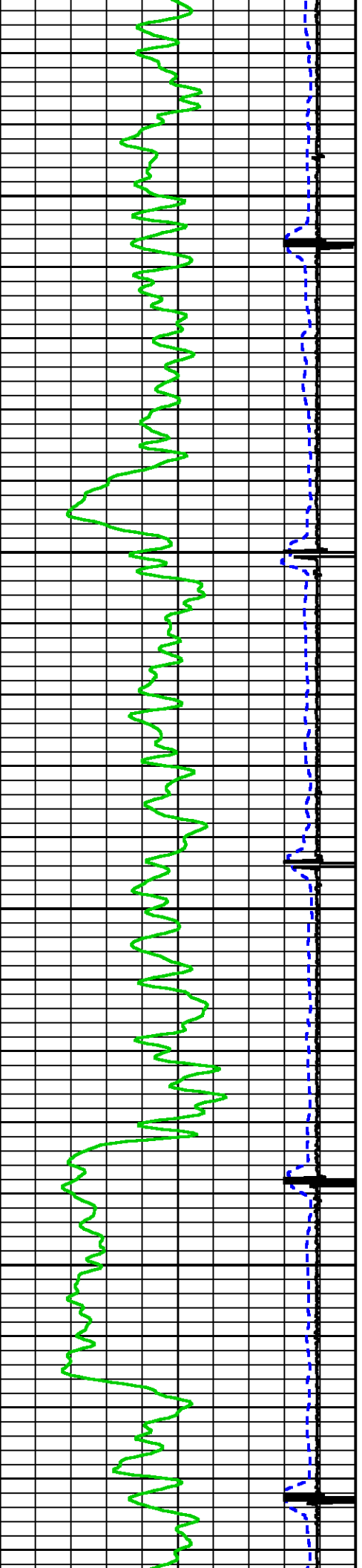
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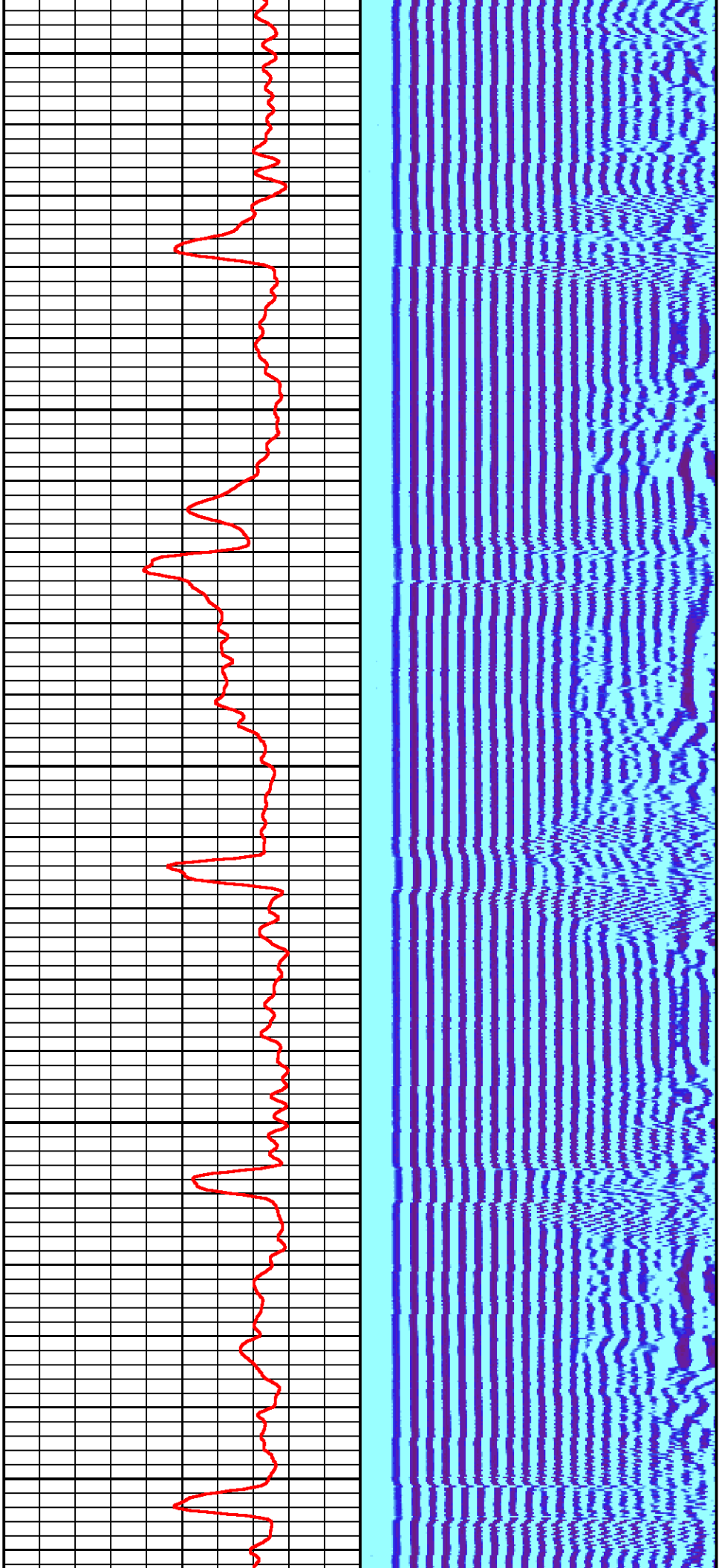




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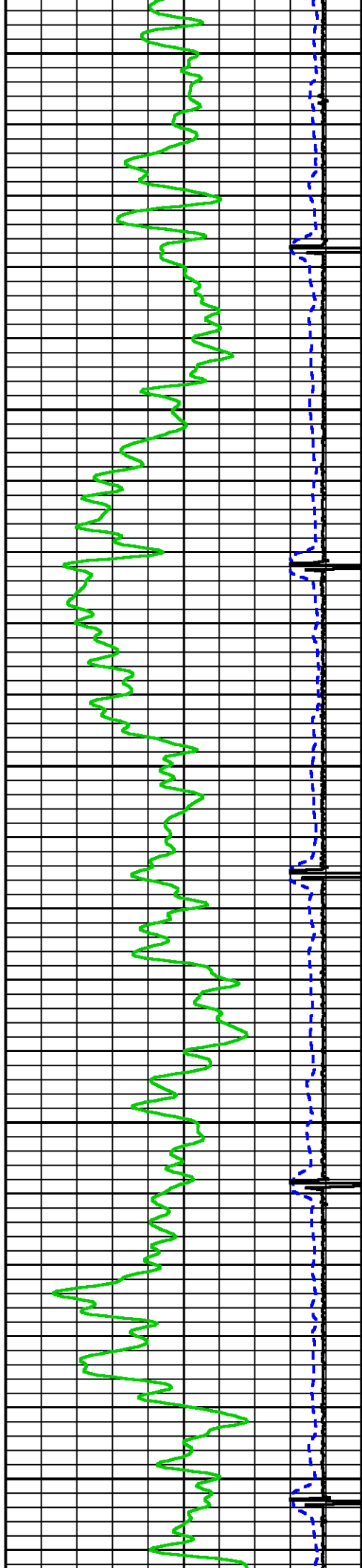
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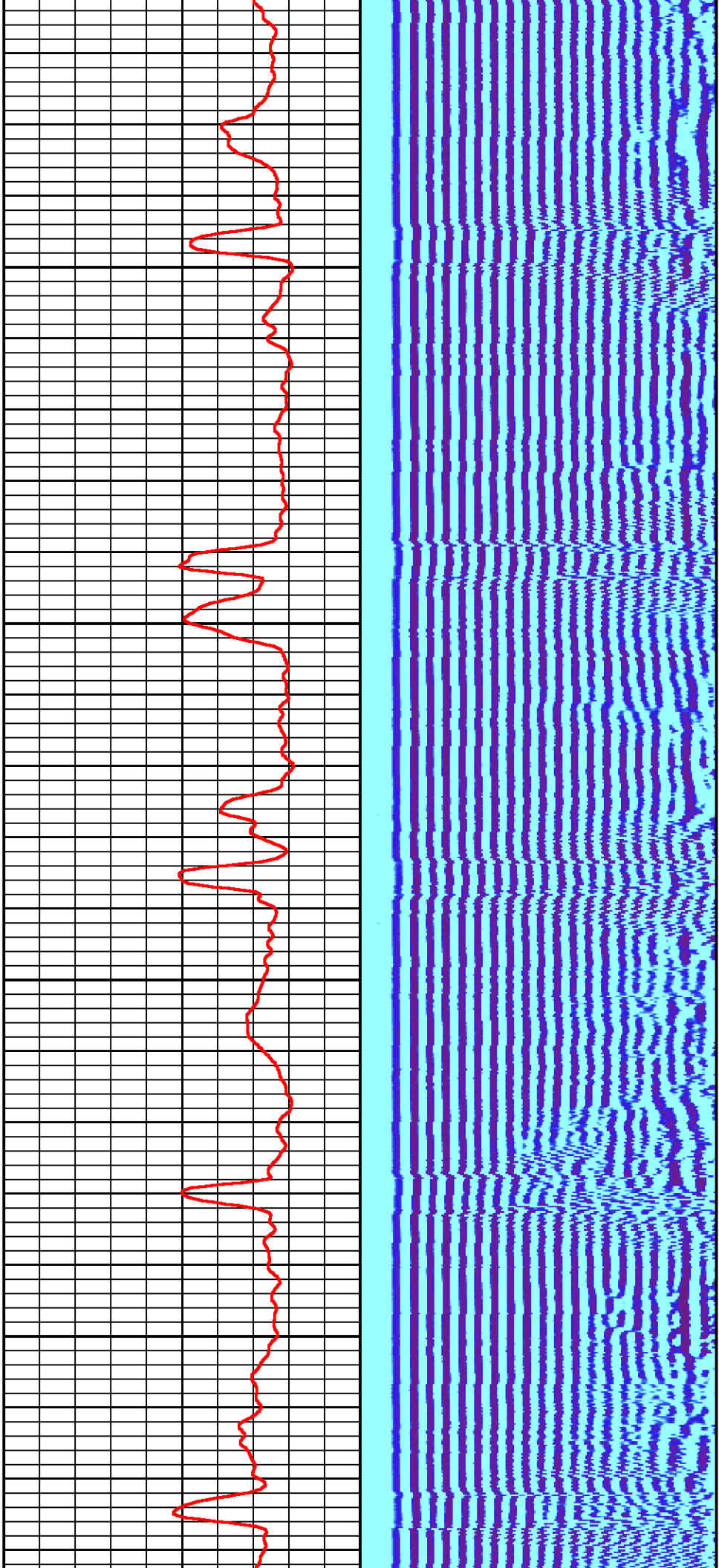


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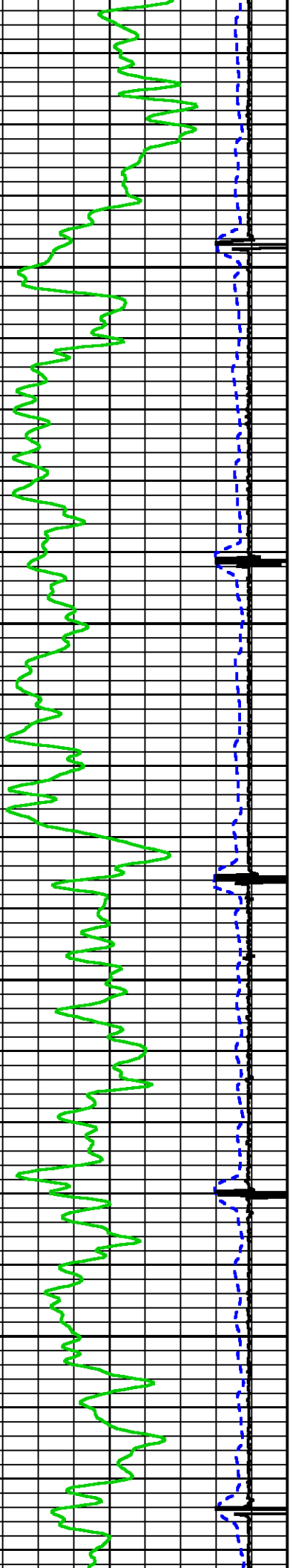




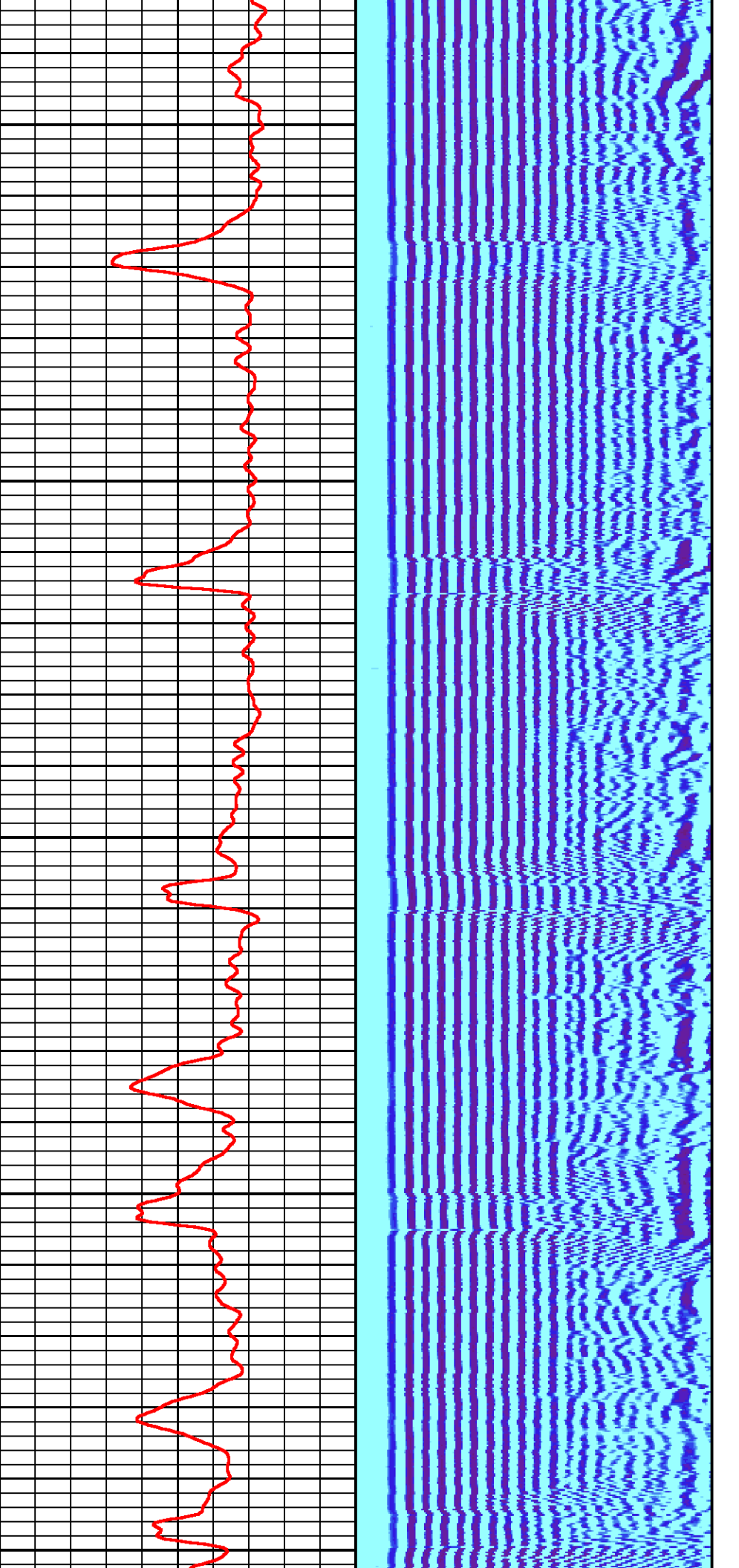


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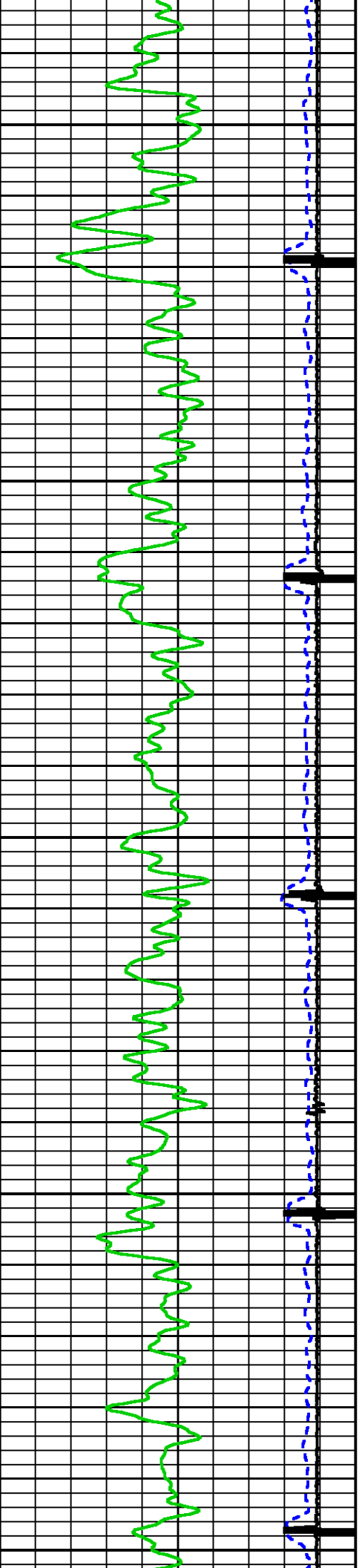


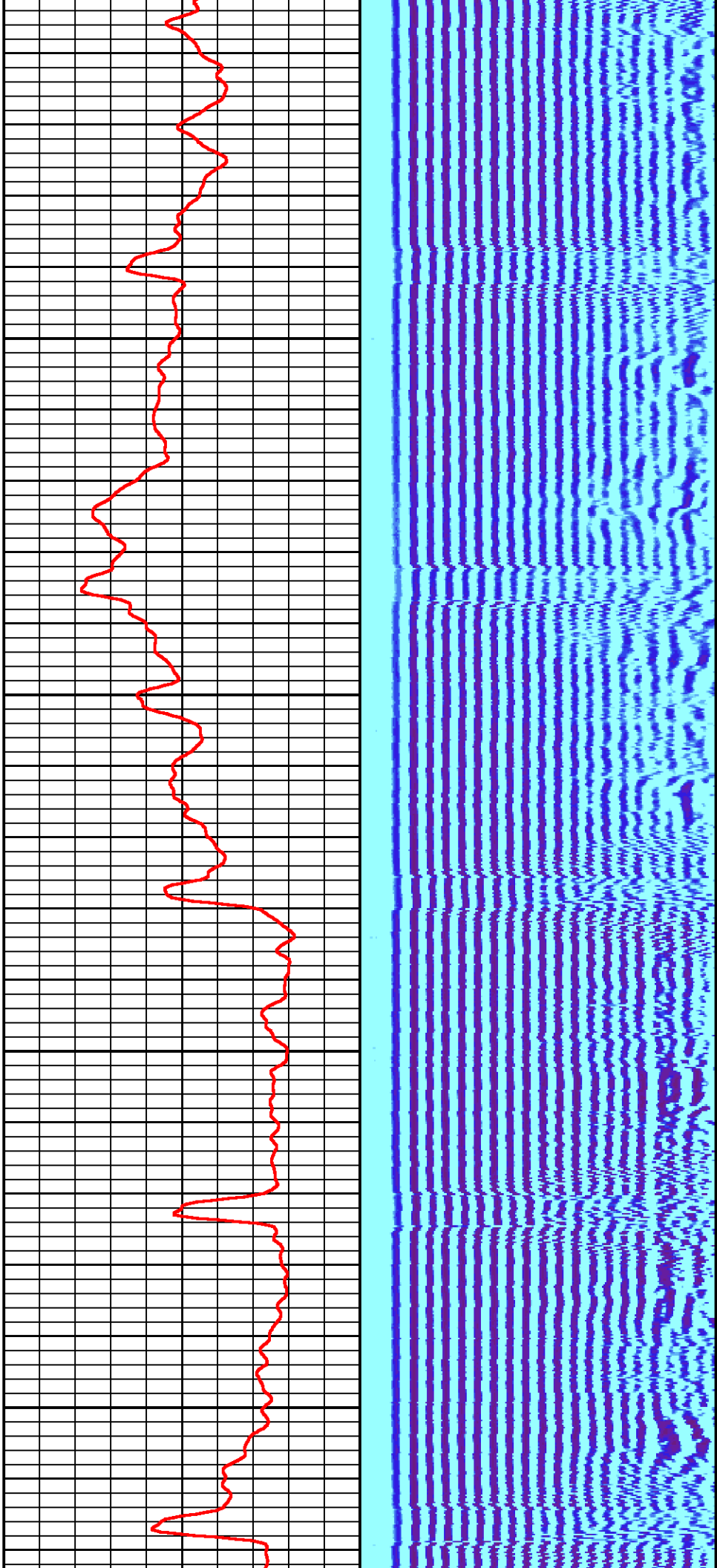


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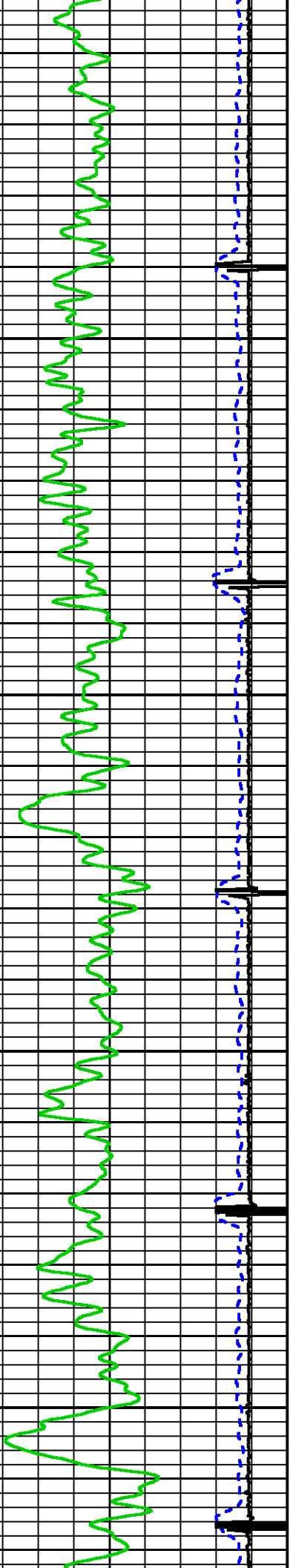
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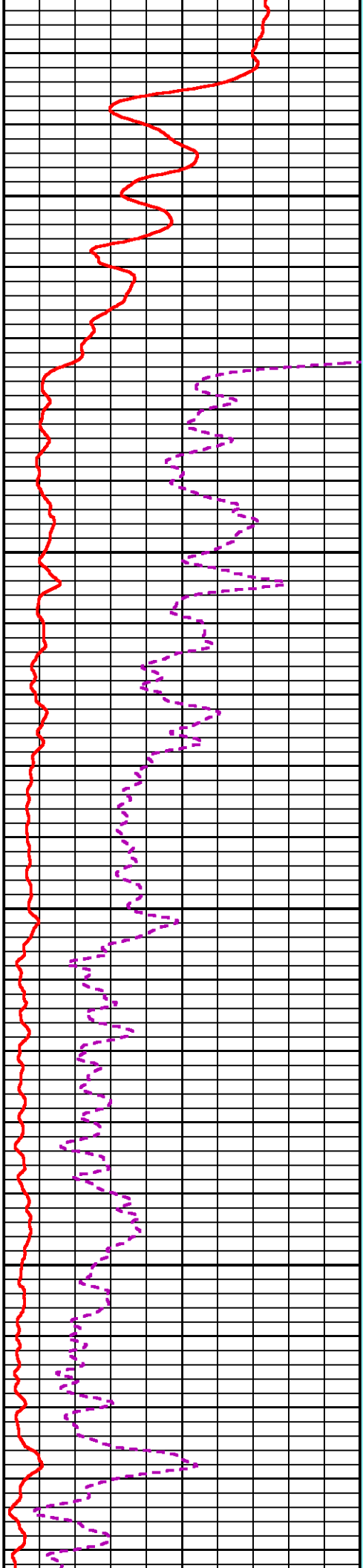
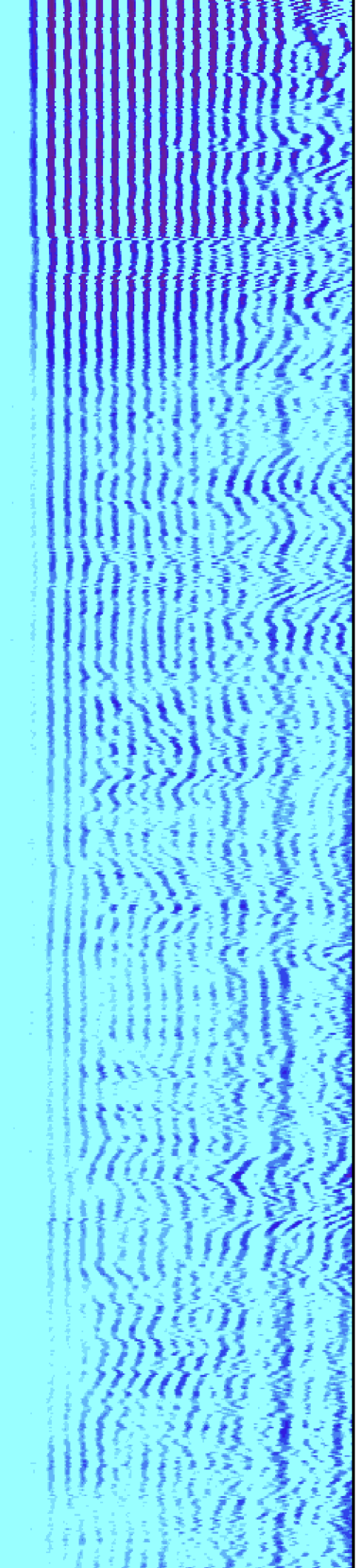




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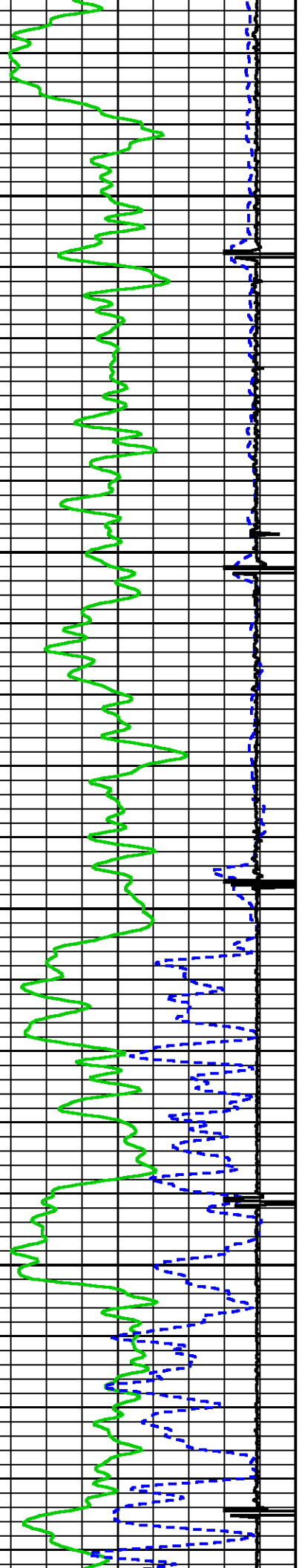
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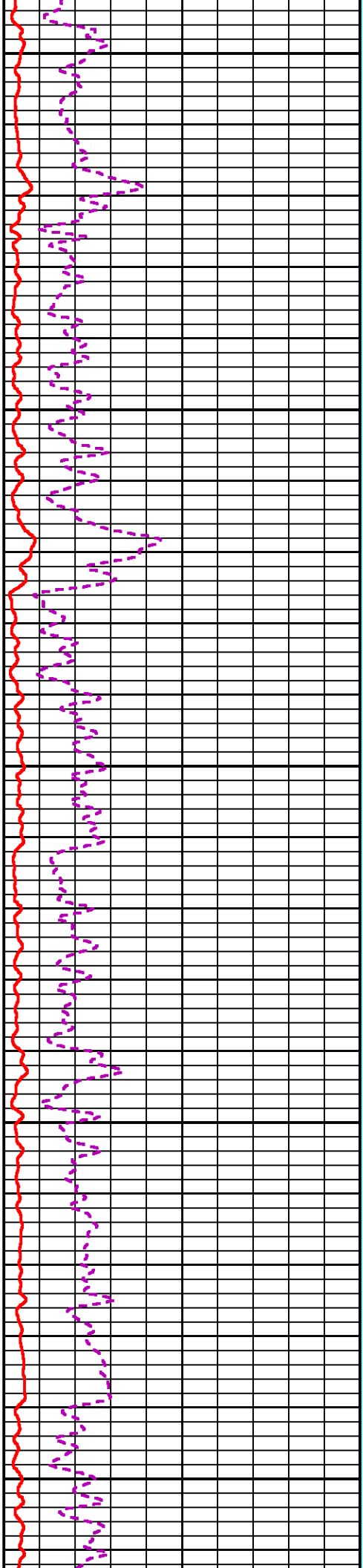
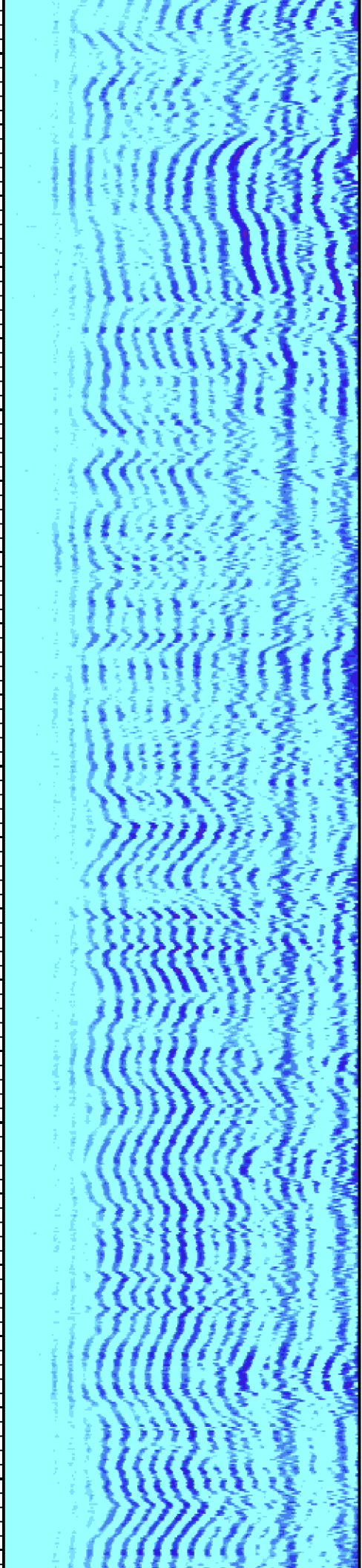




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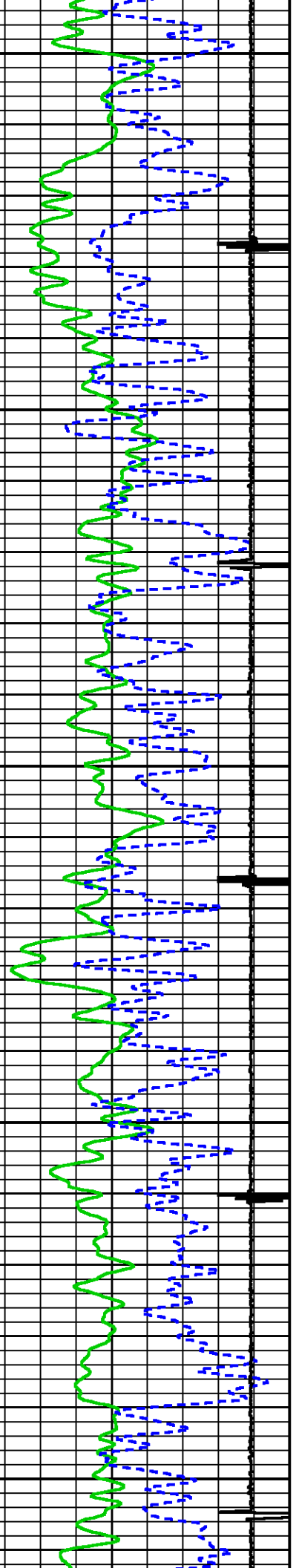
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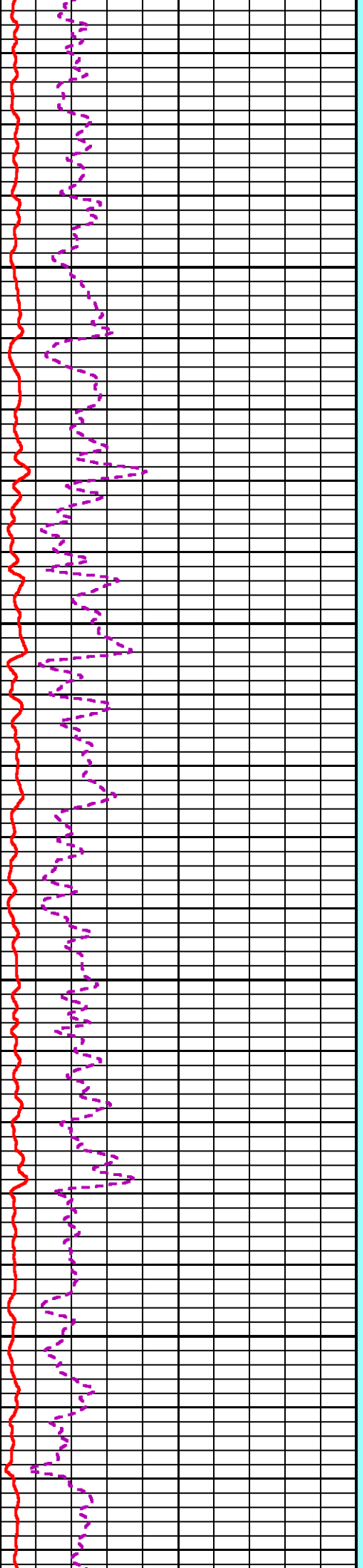
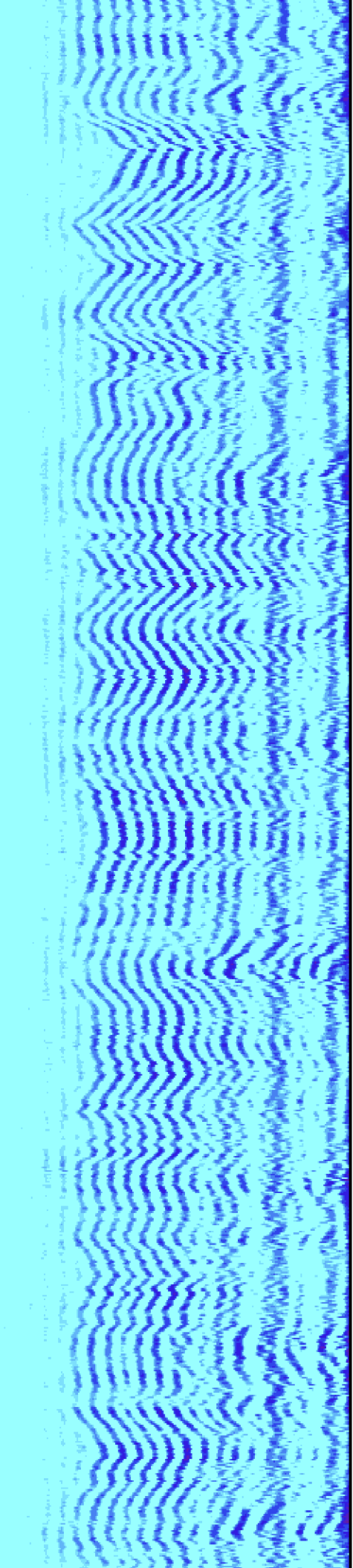


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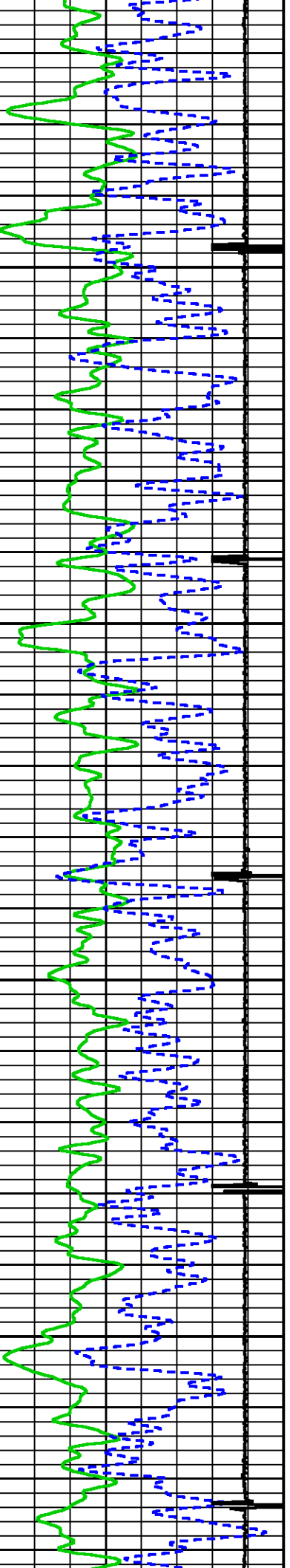




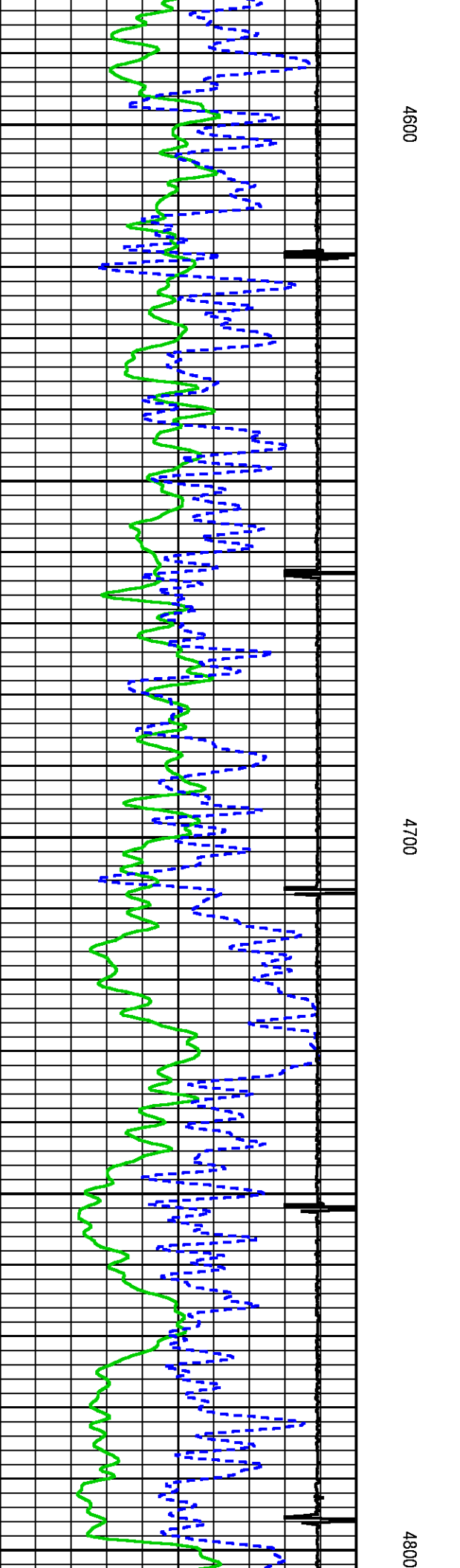
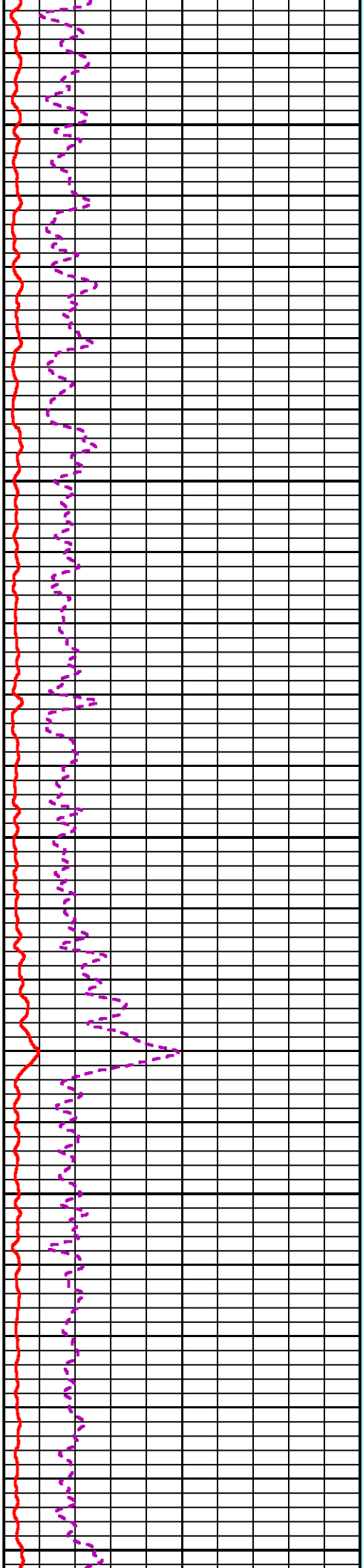
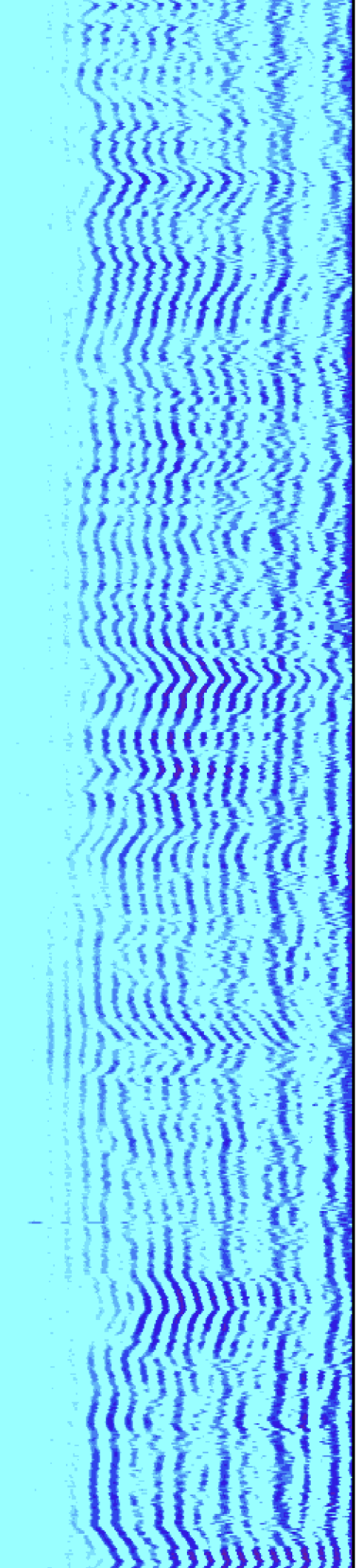


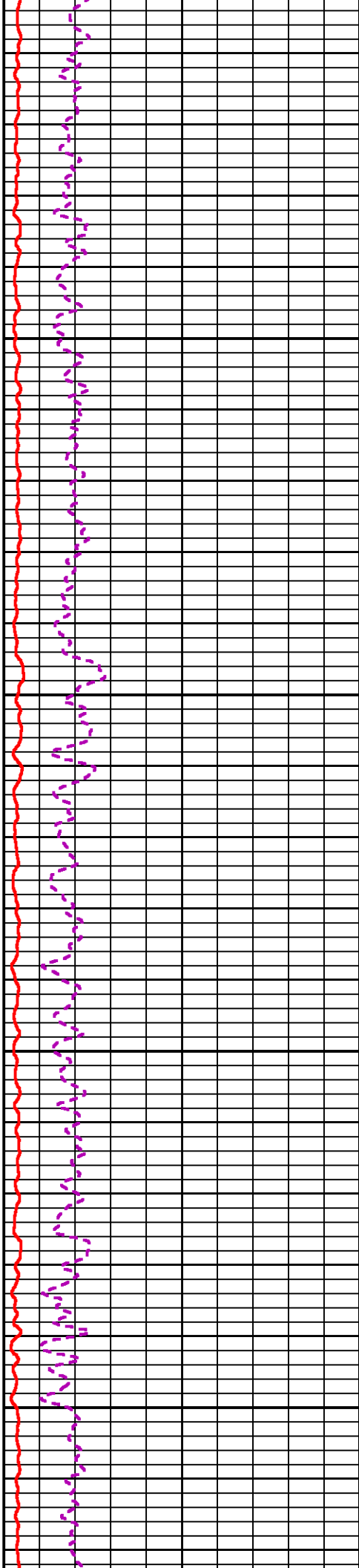
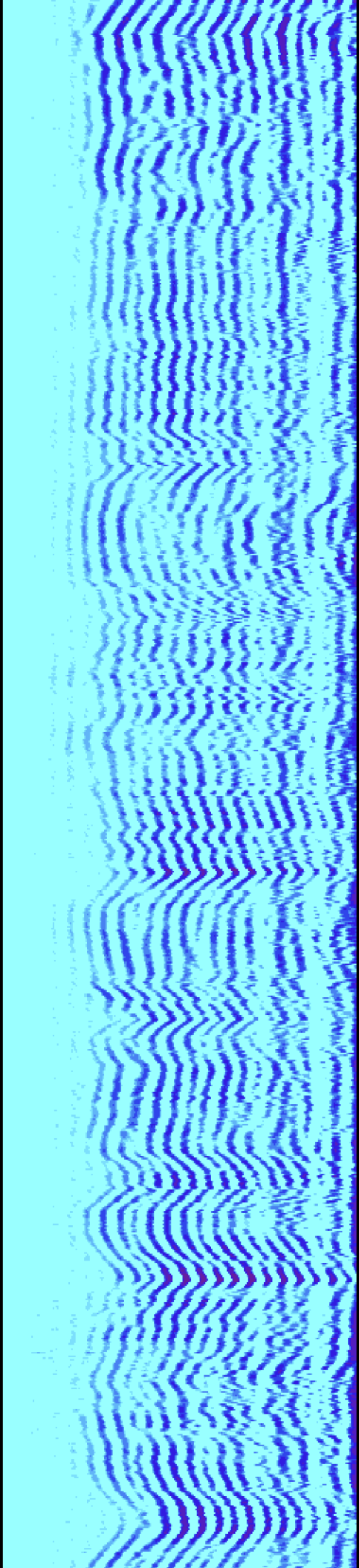
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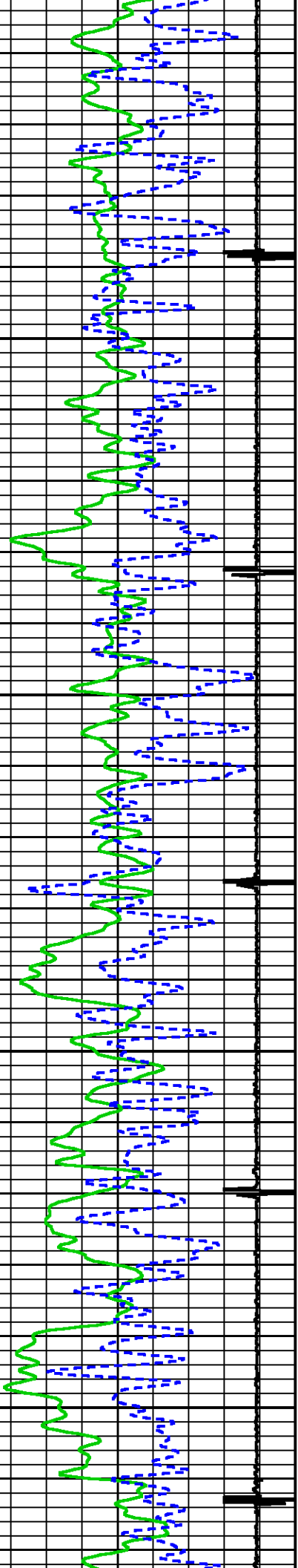


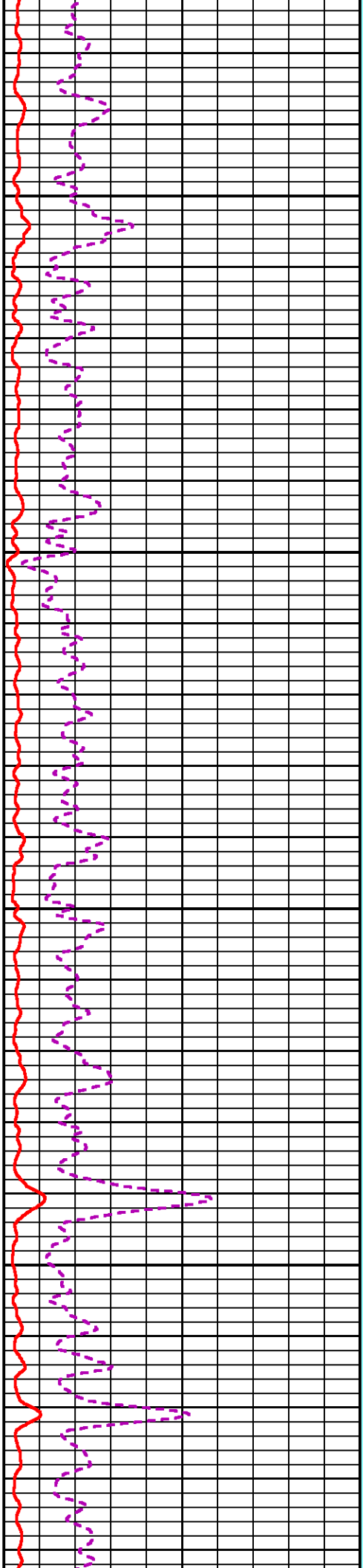
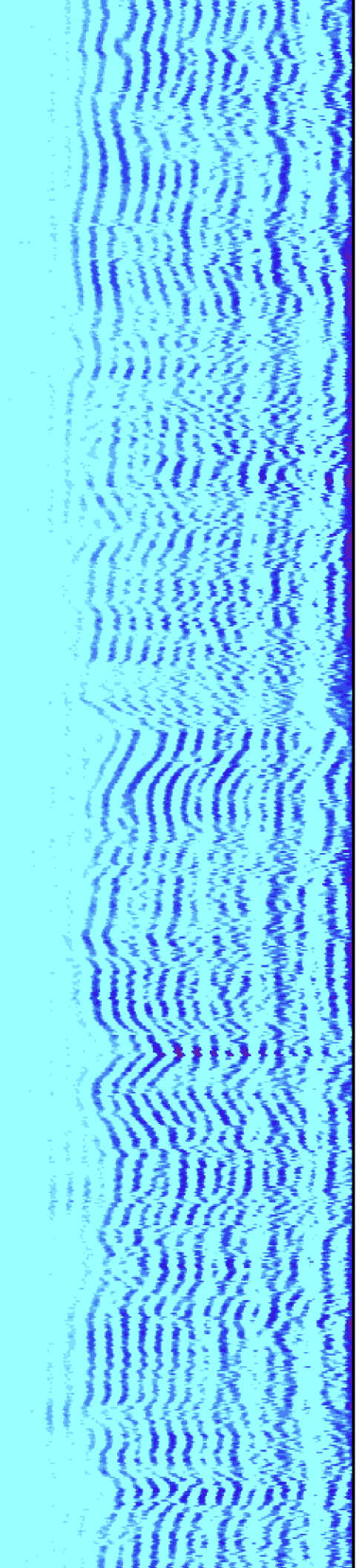




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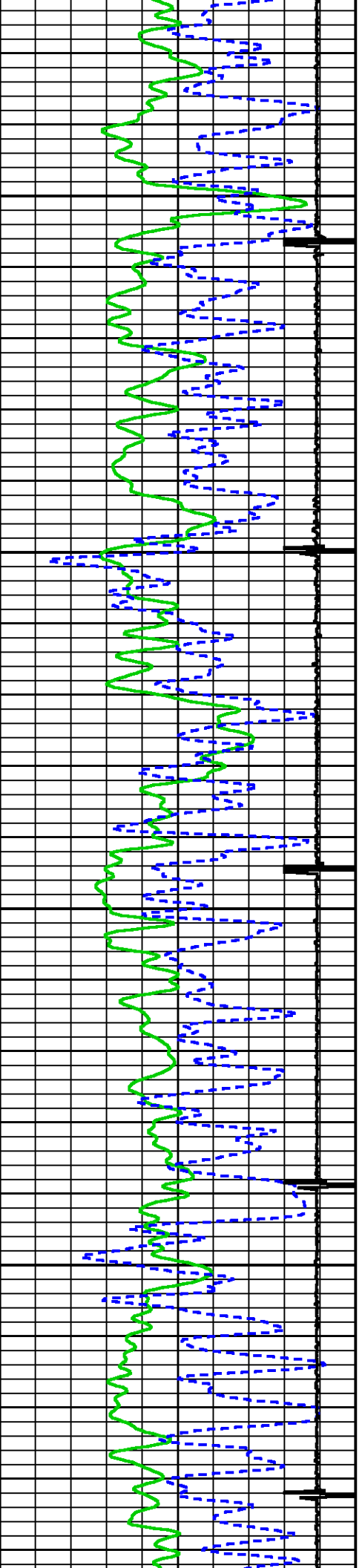
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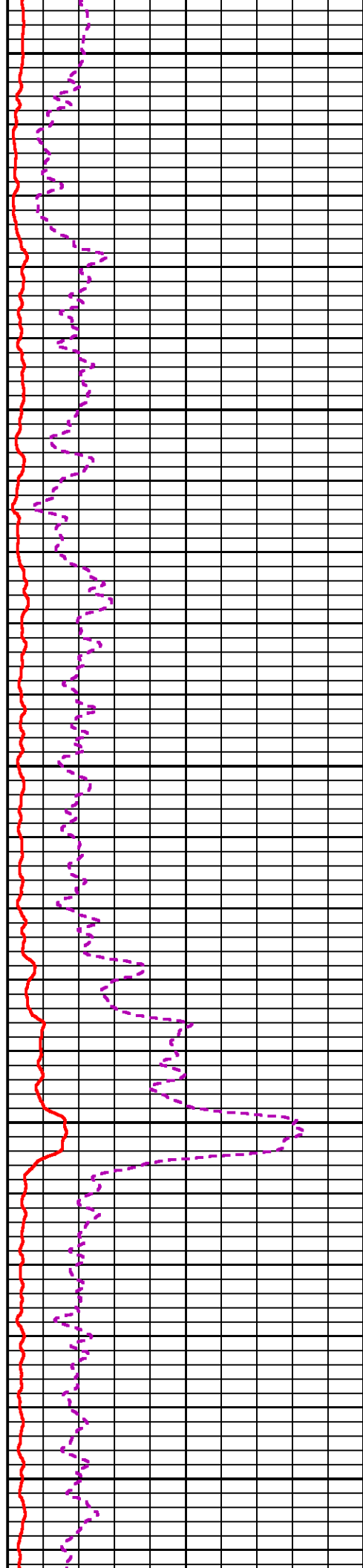
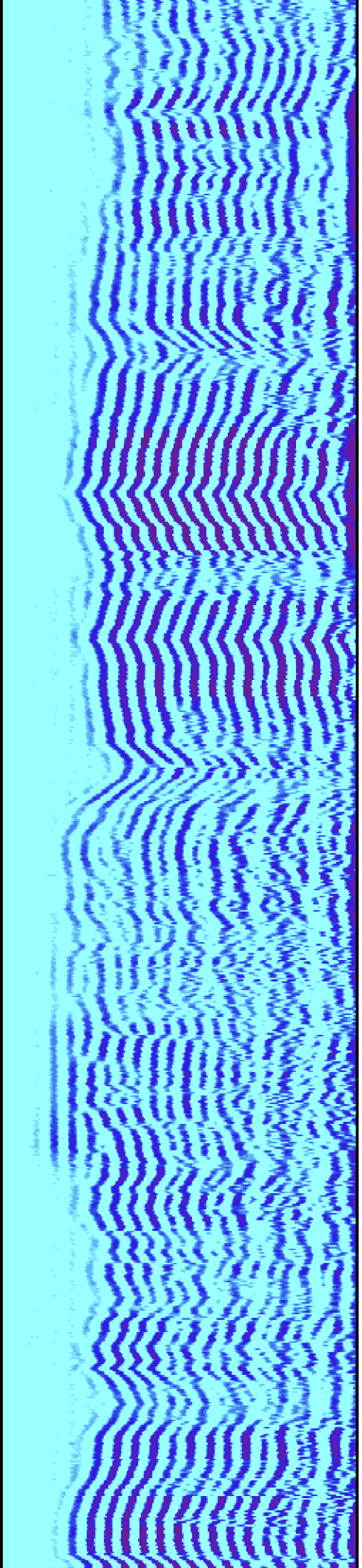




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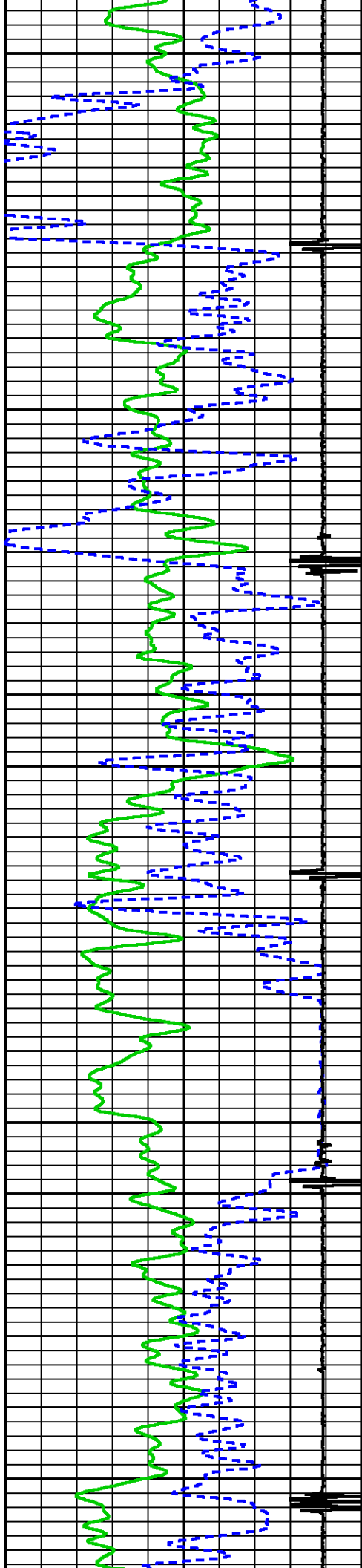
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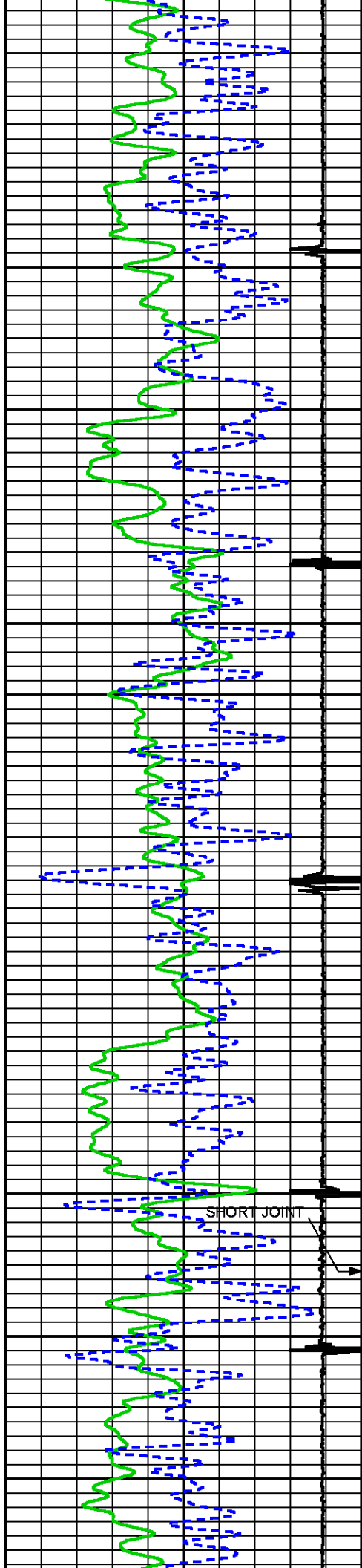


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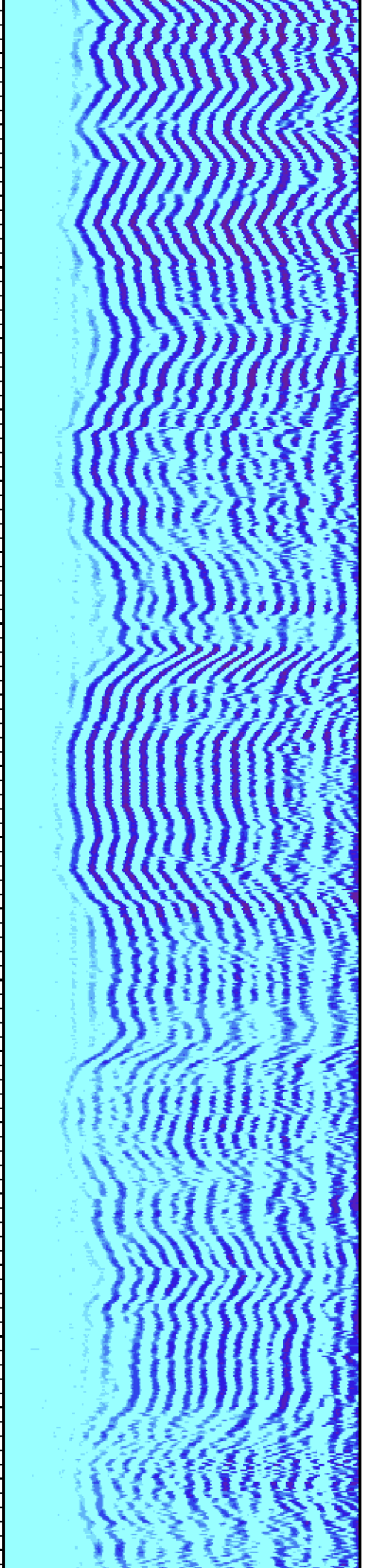
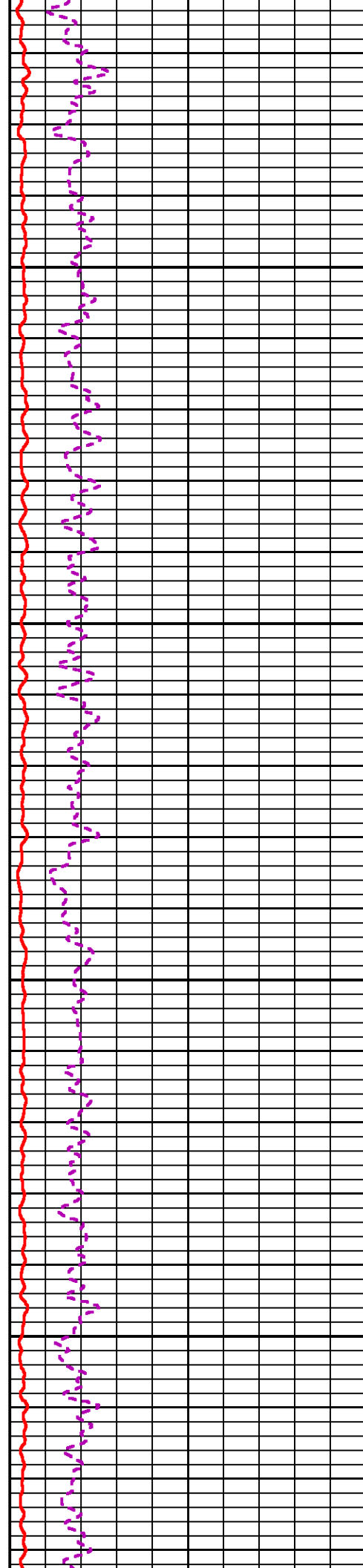


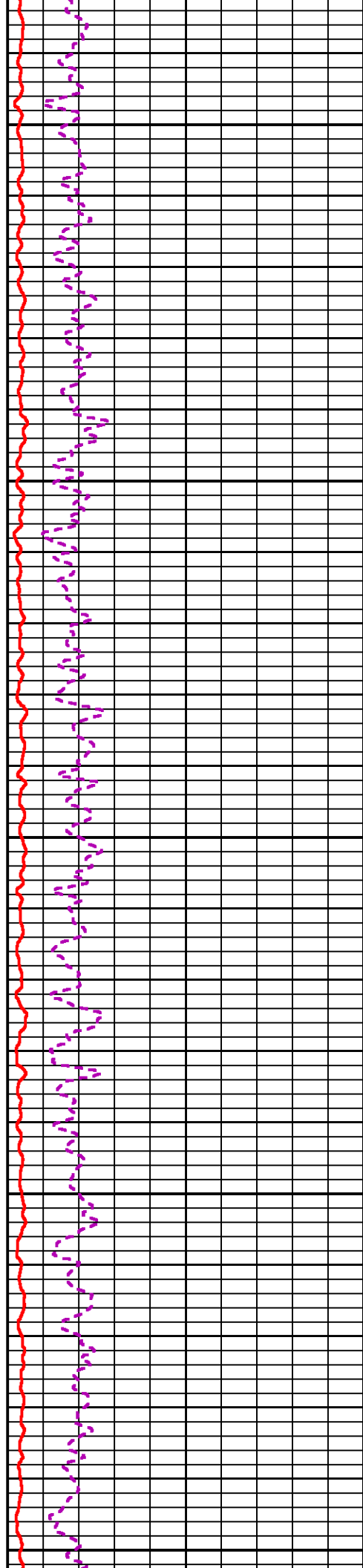
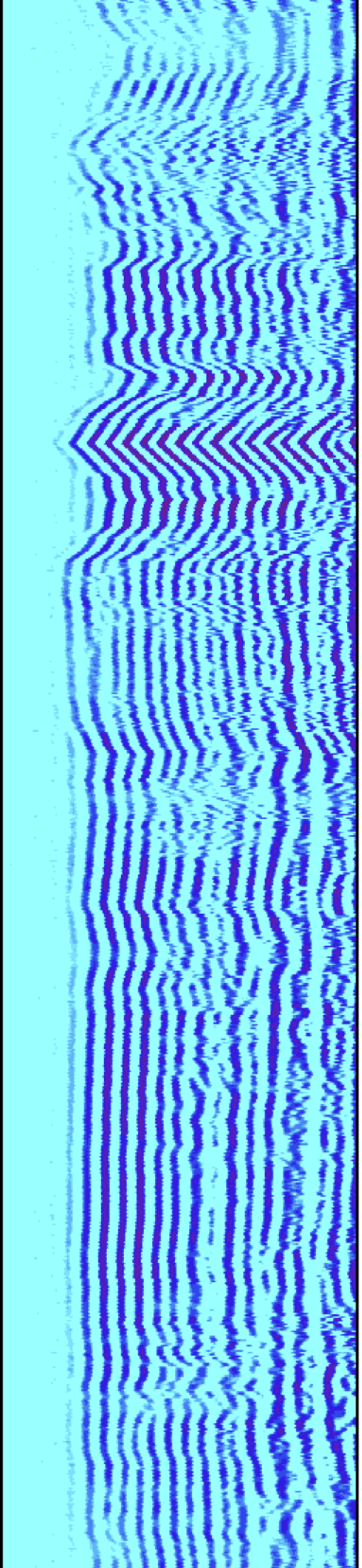




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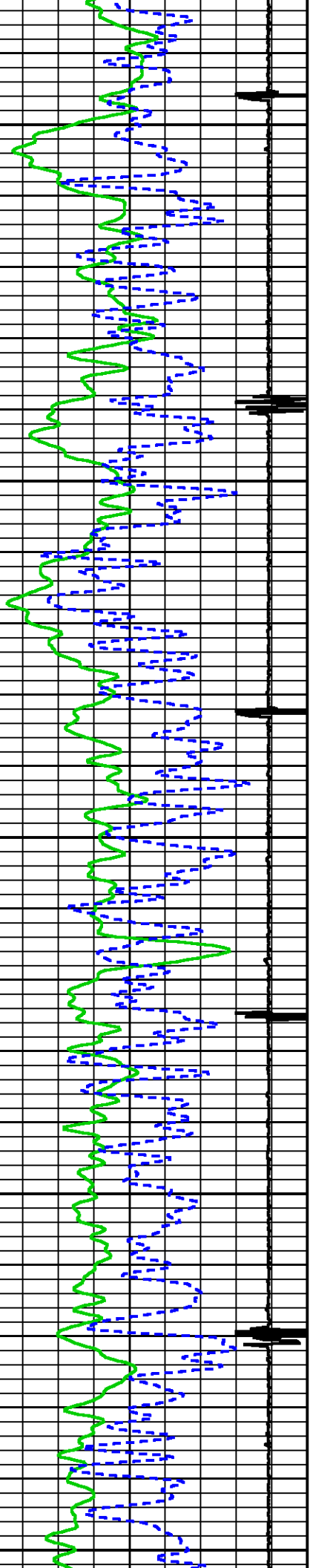


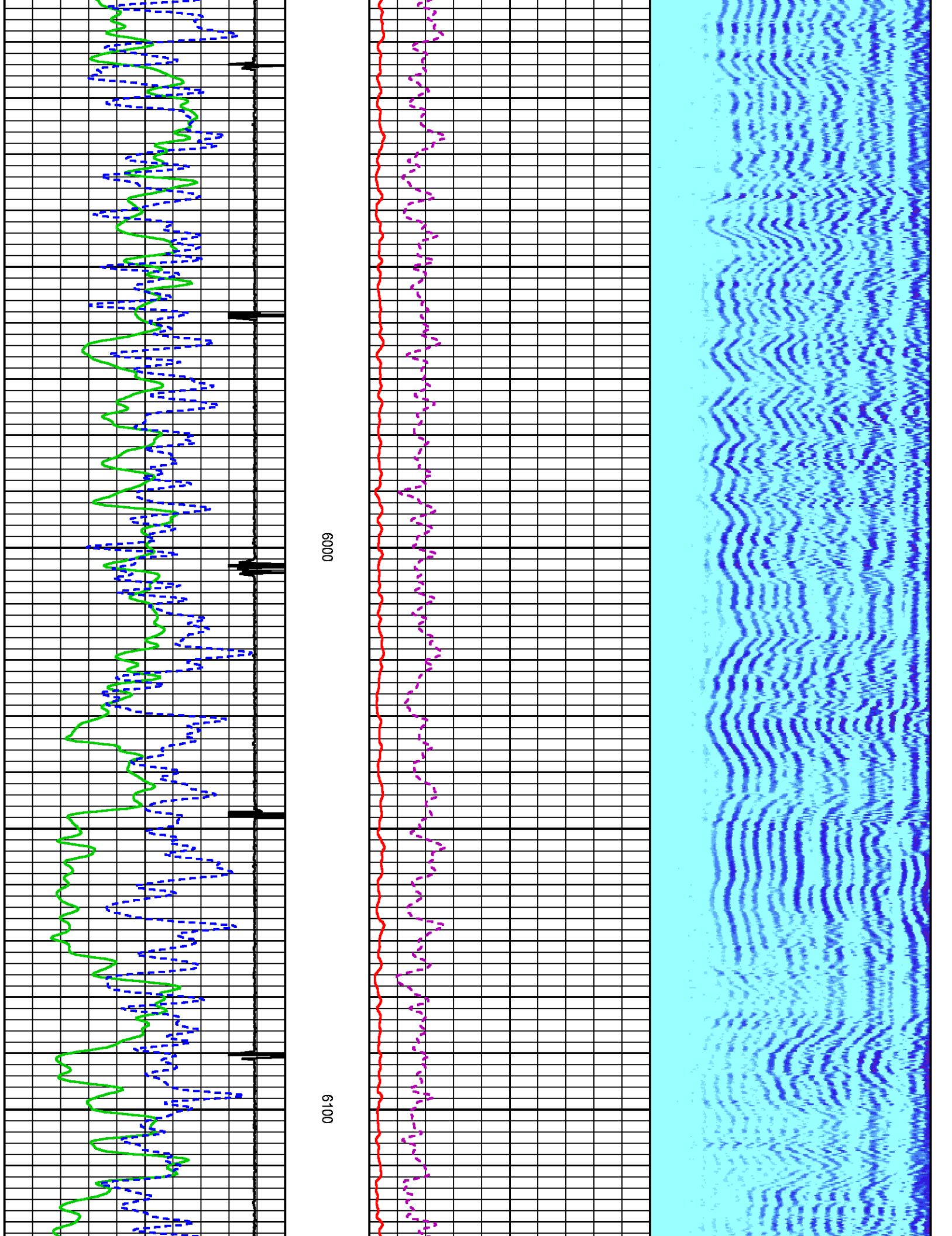


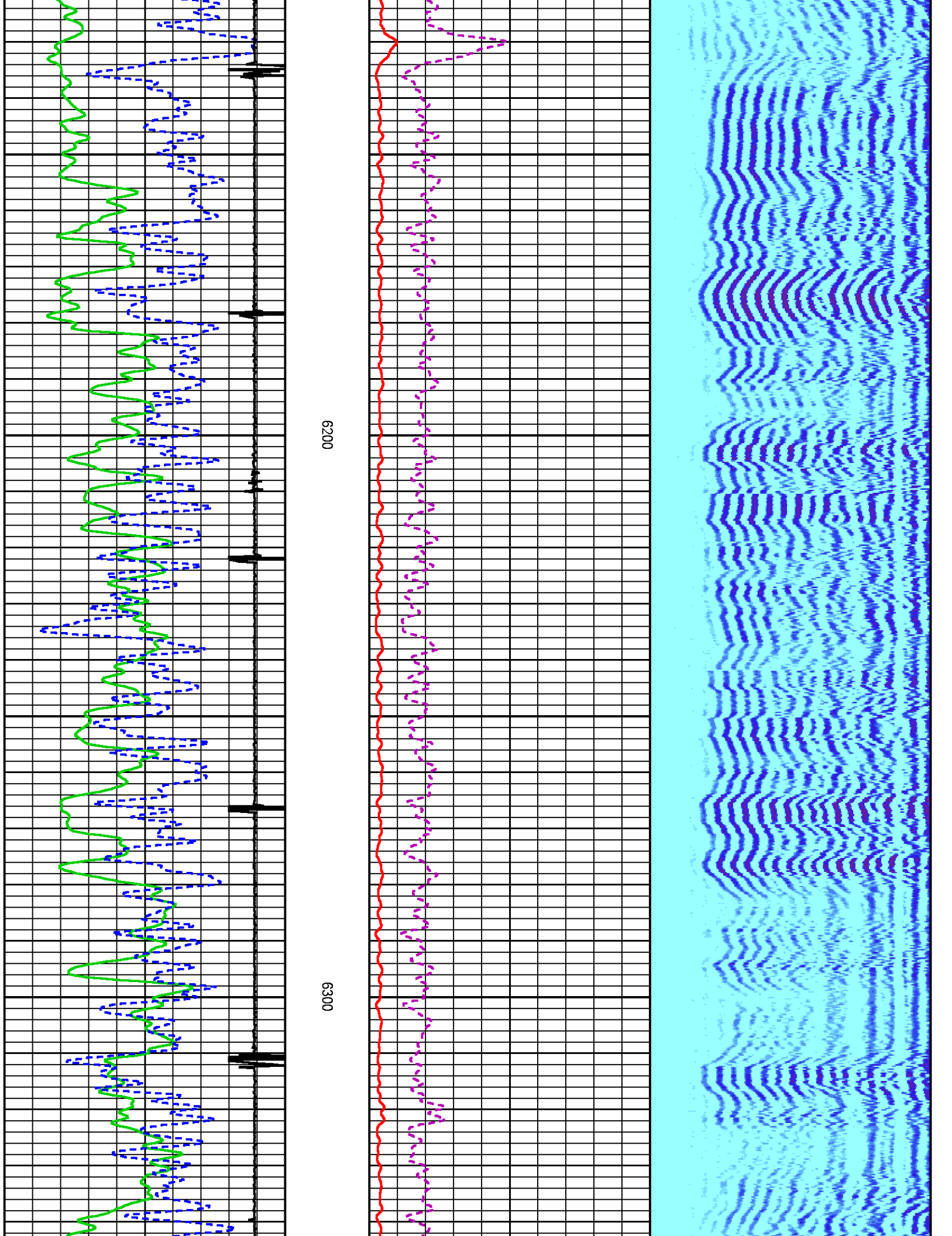
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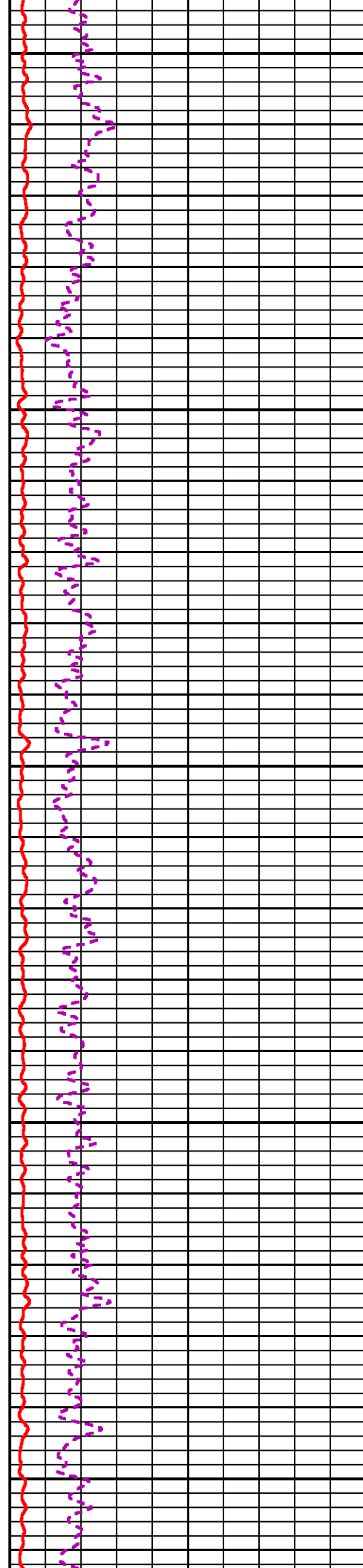
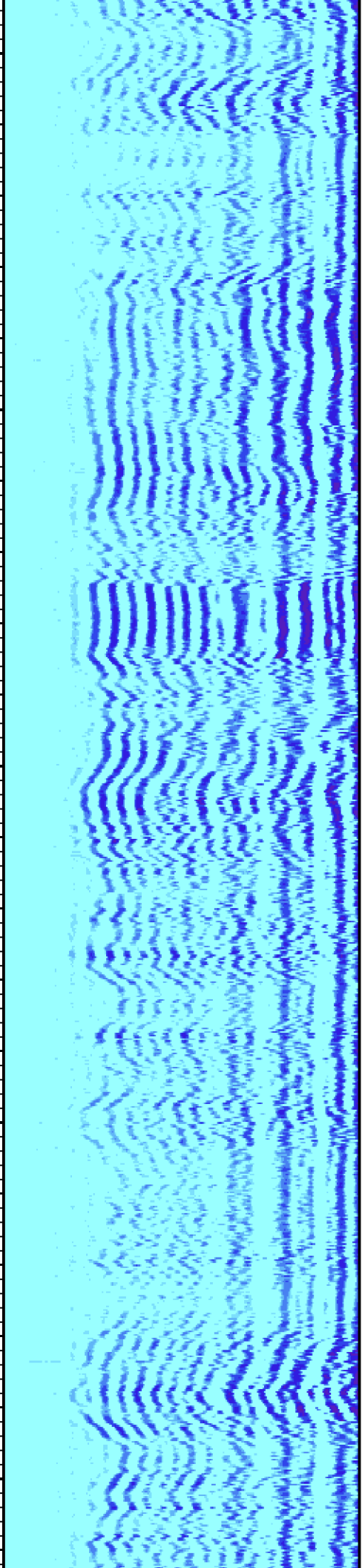
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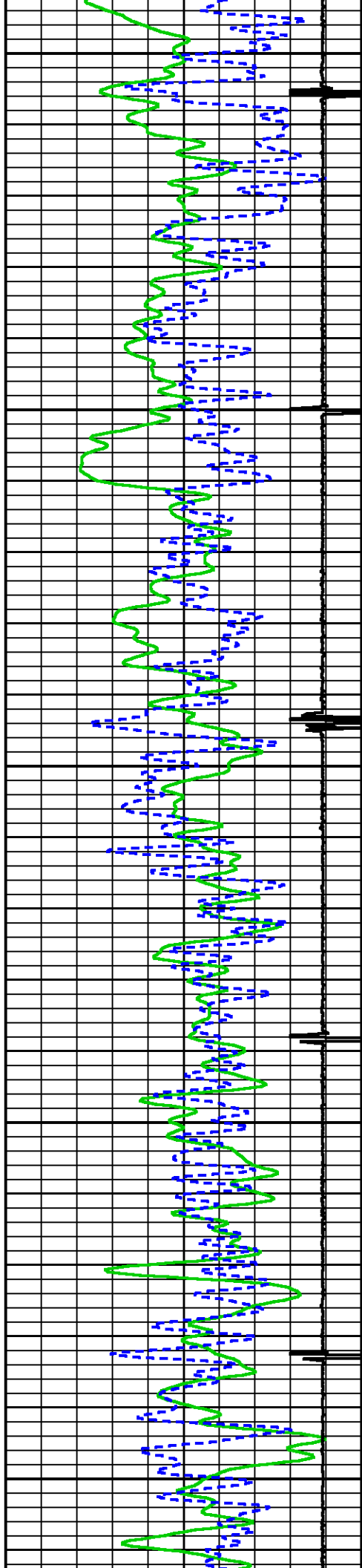


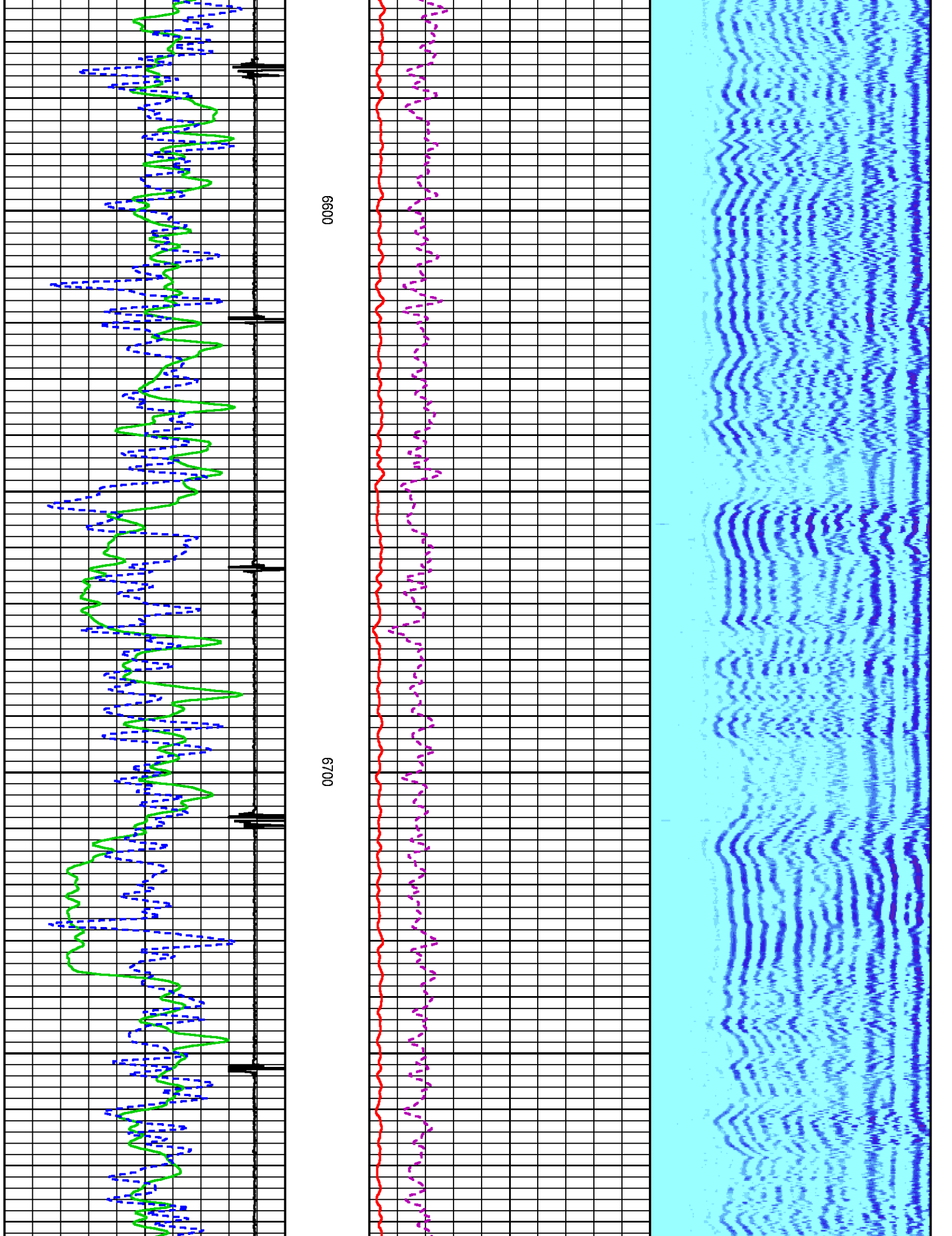


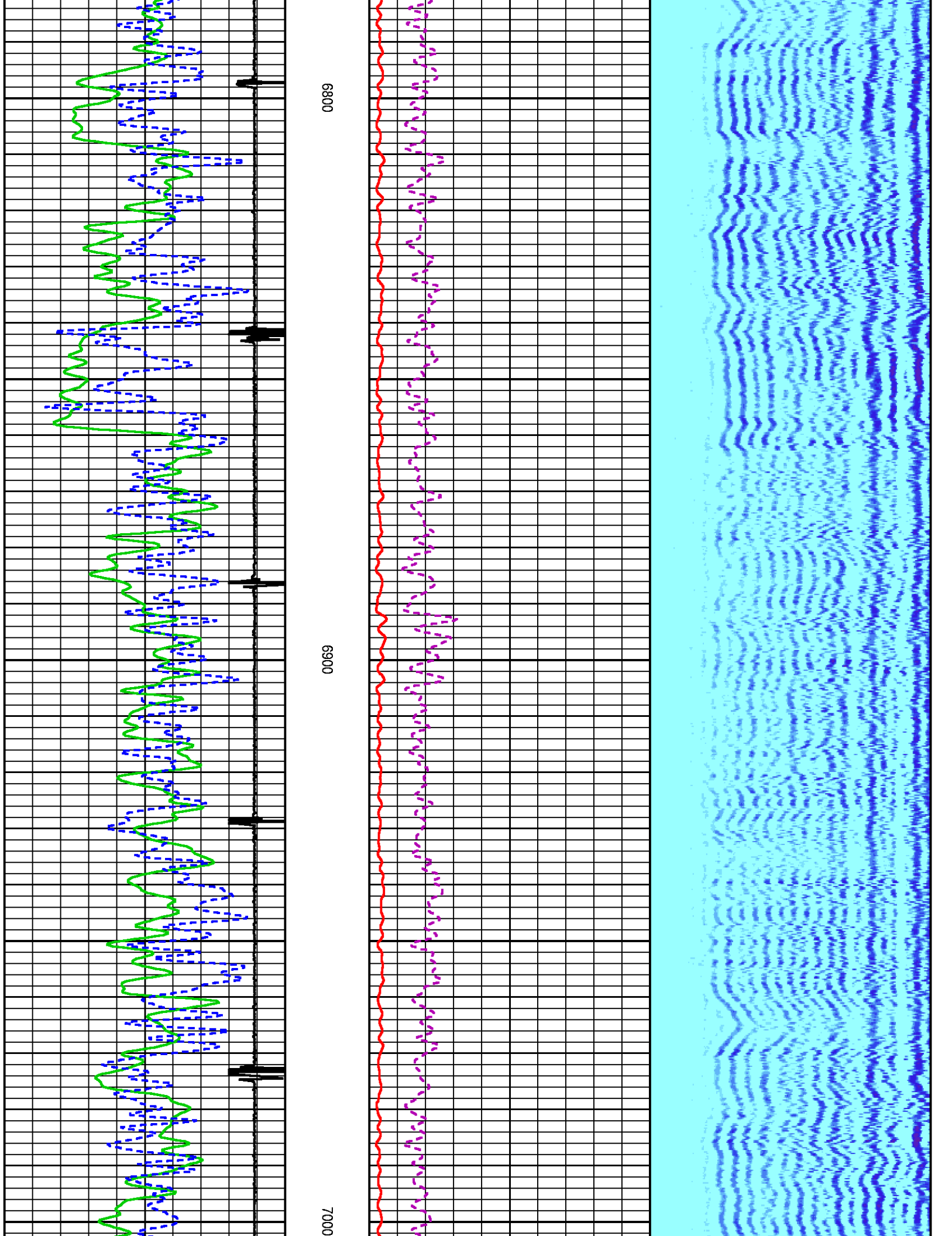


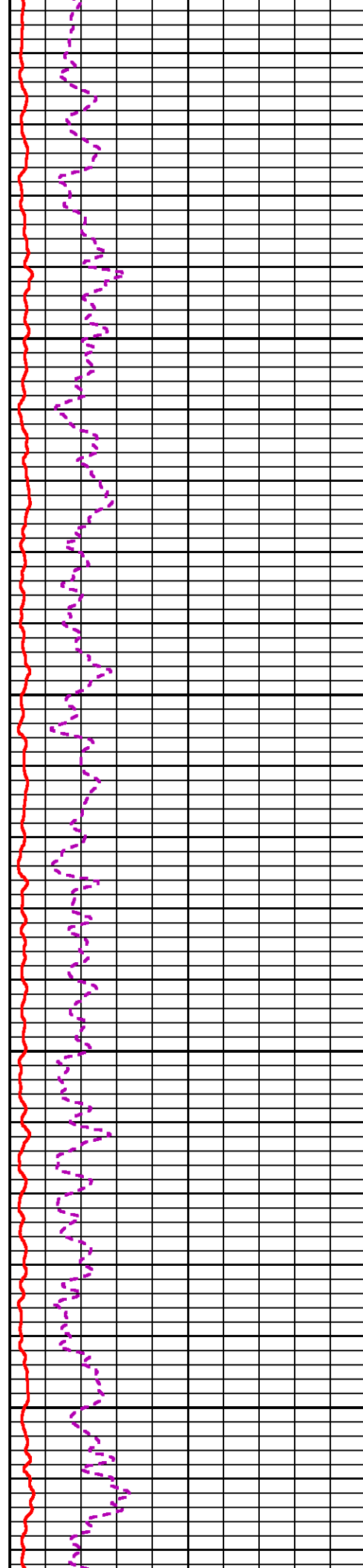
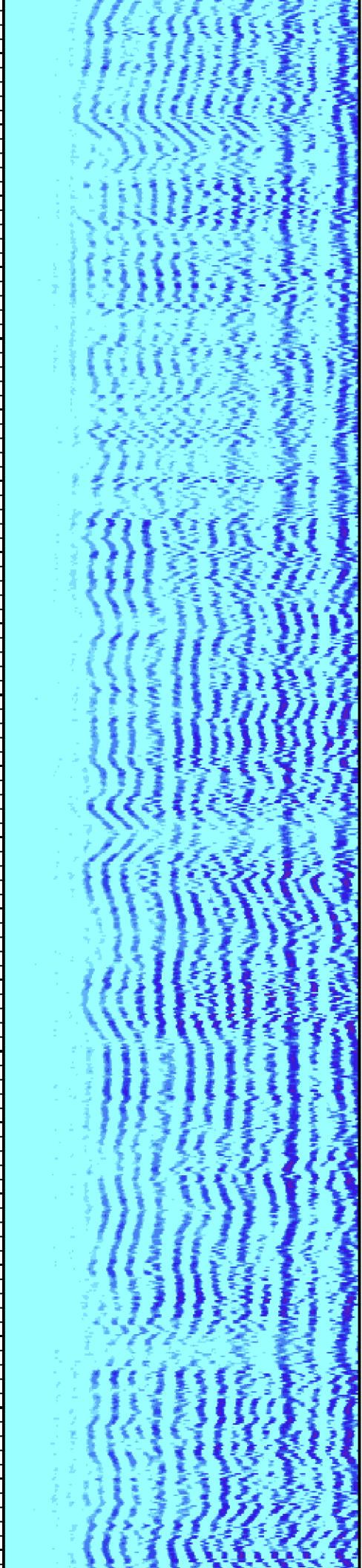
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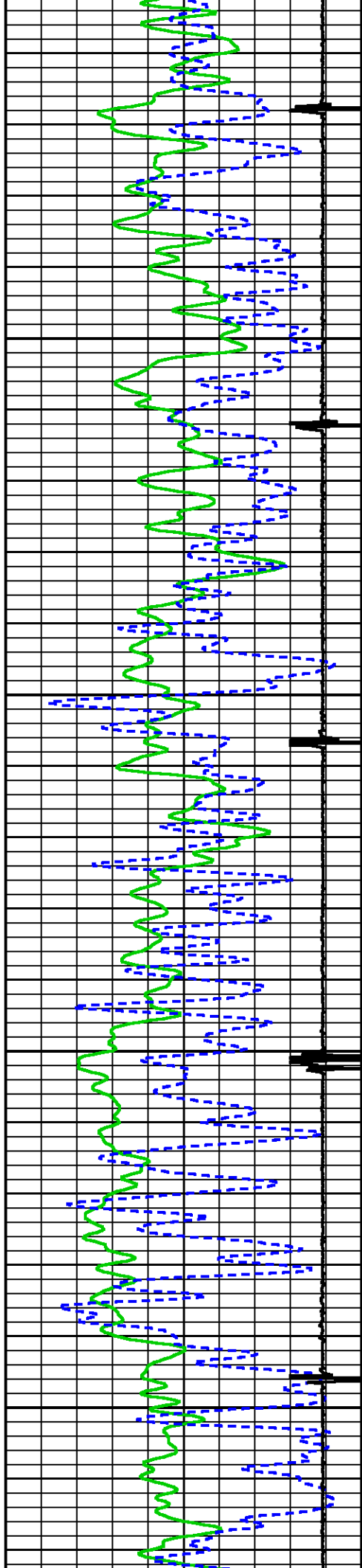




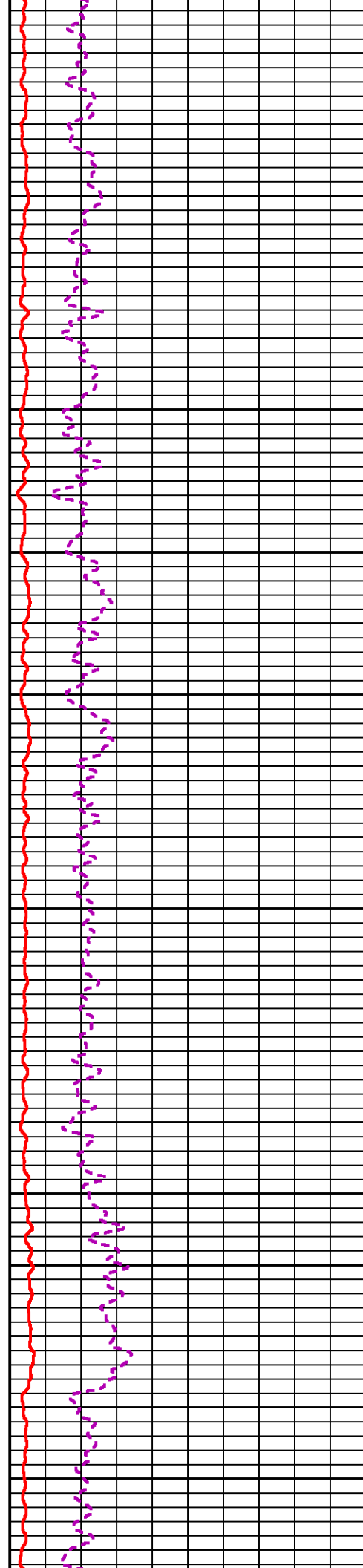
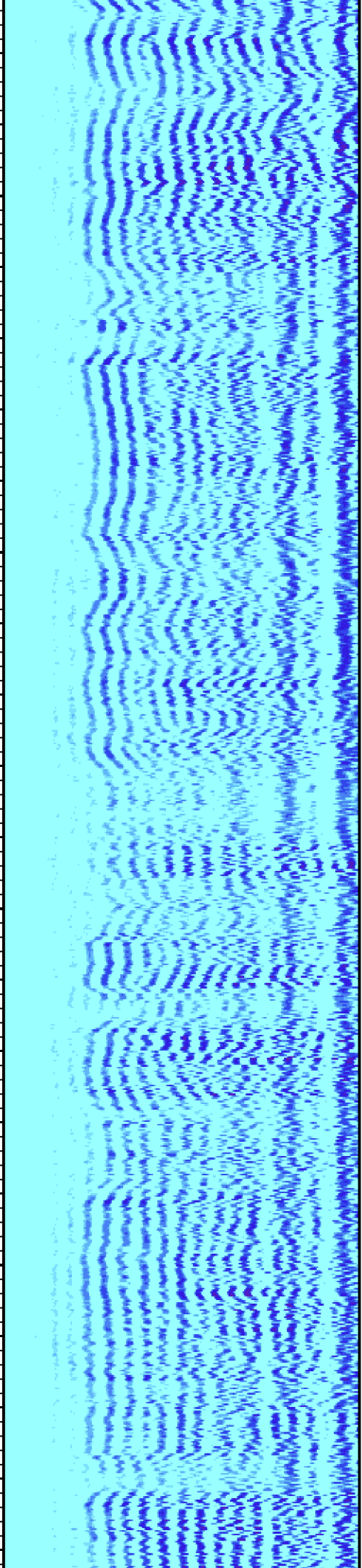


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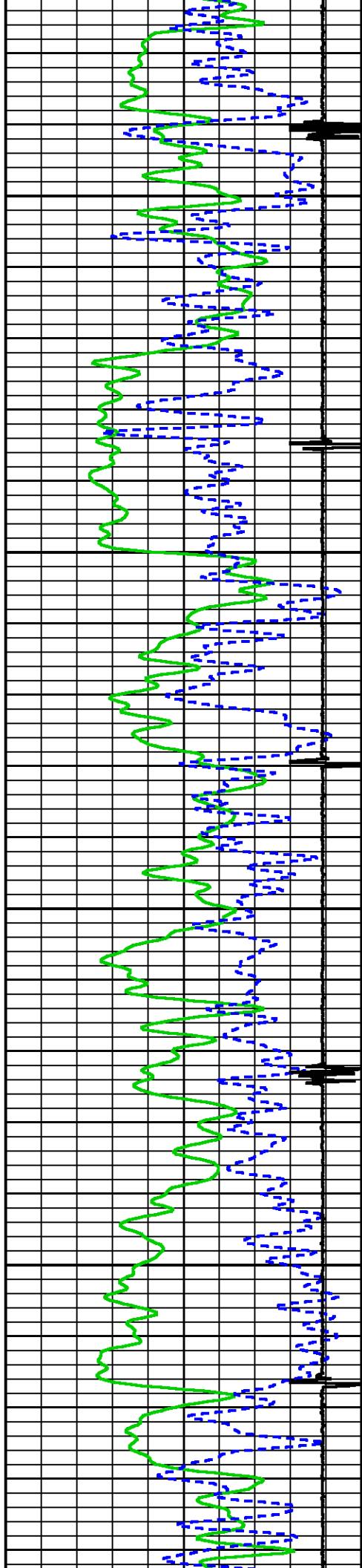


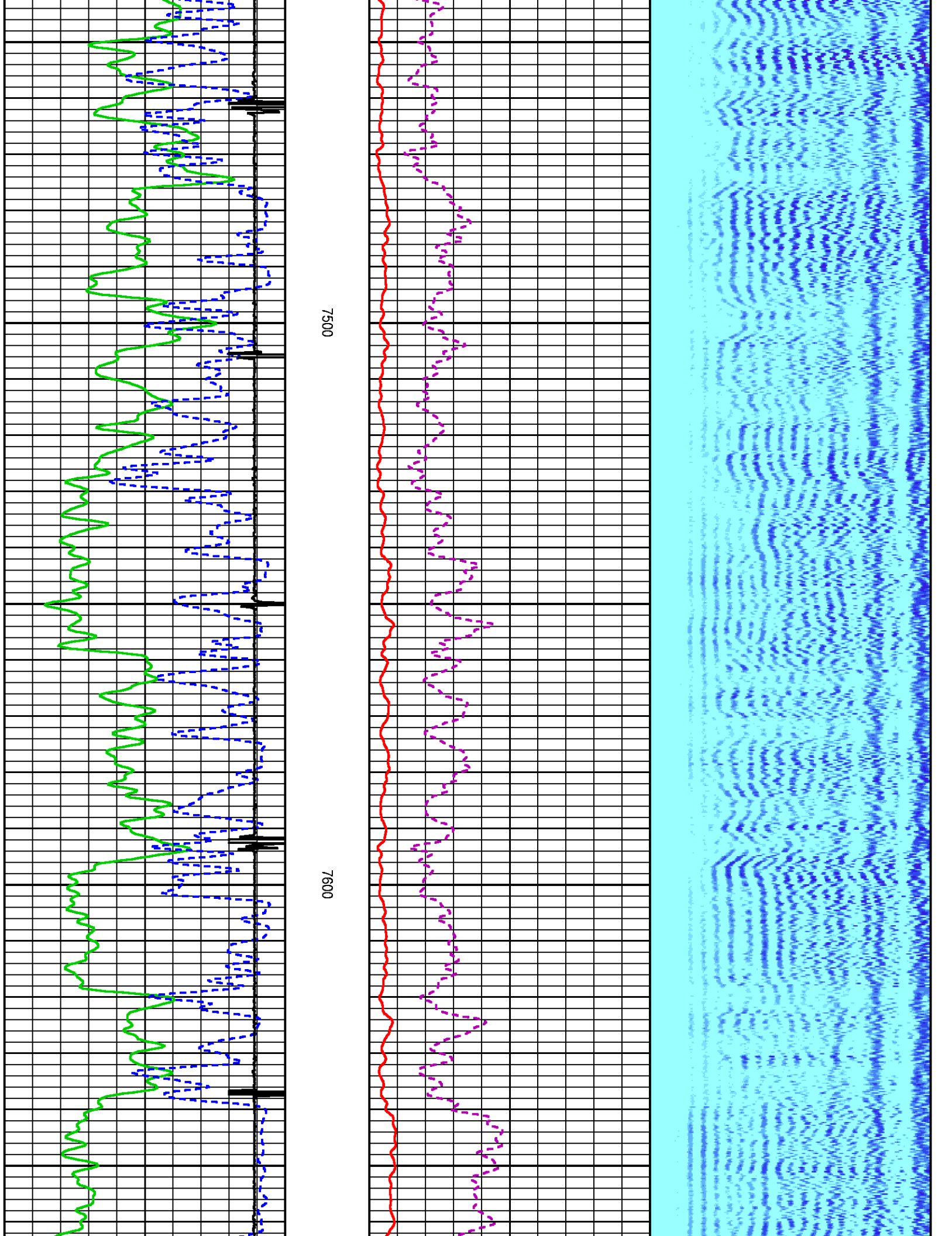


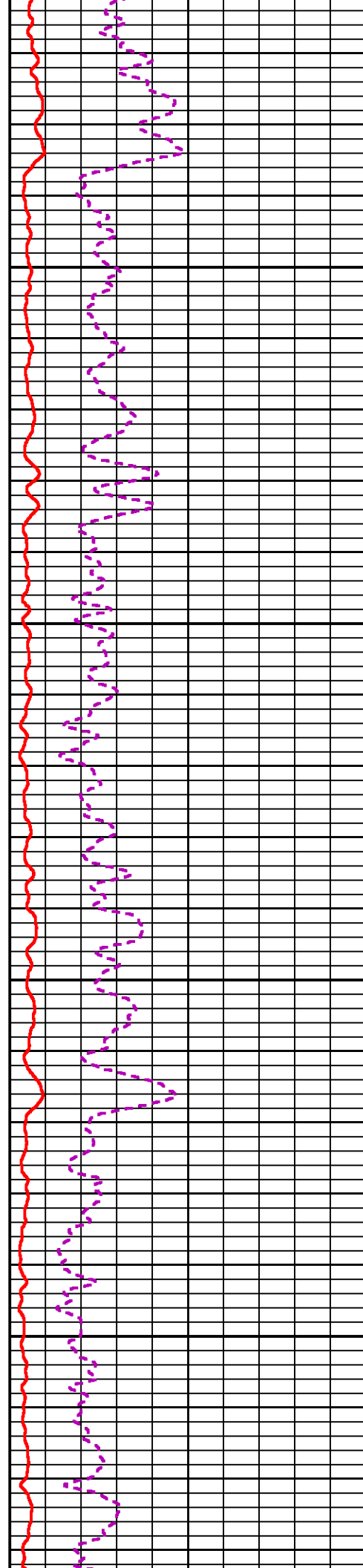
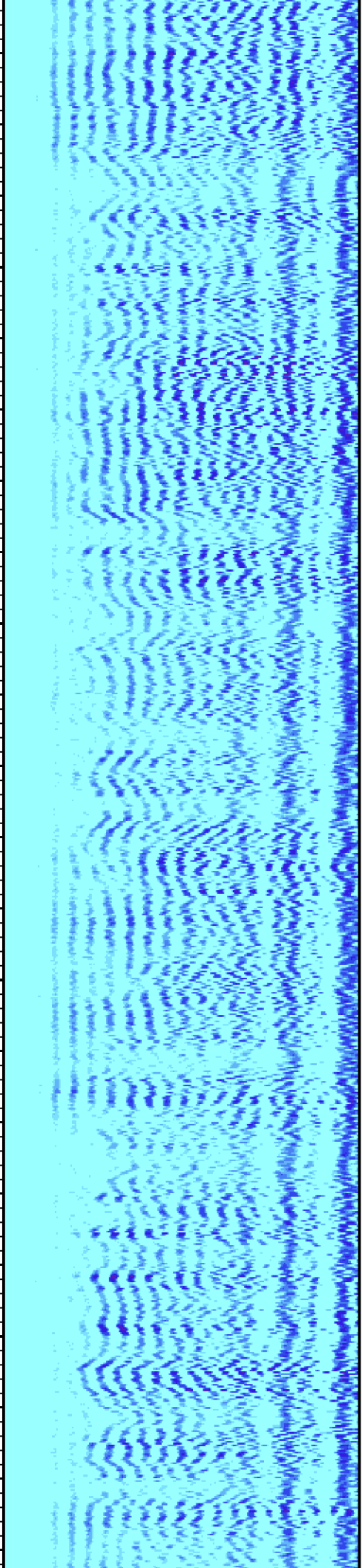


7300

7400

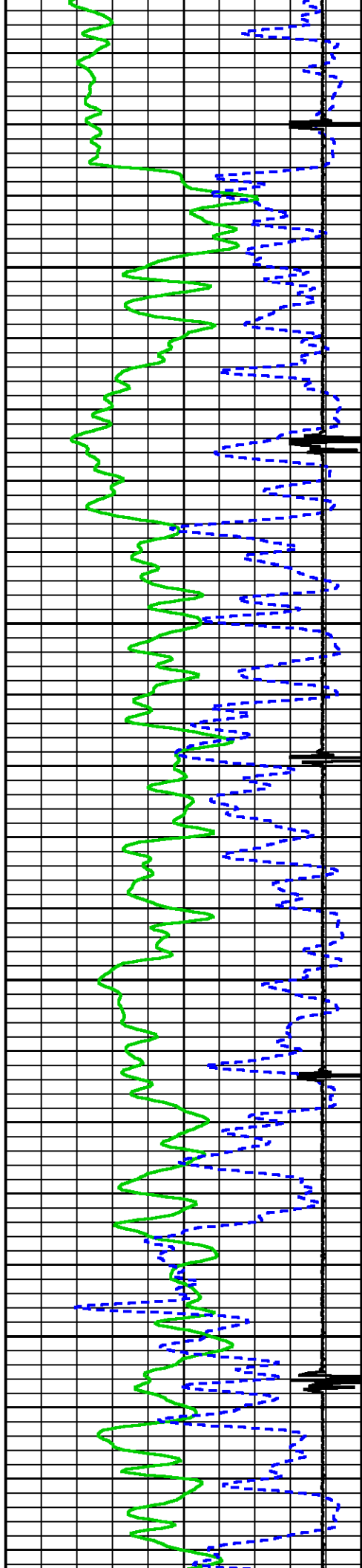


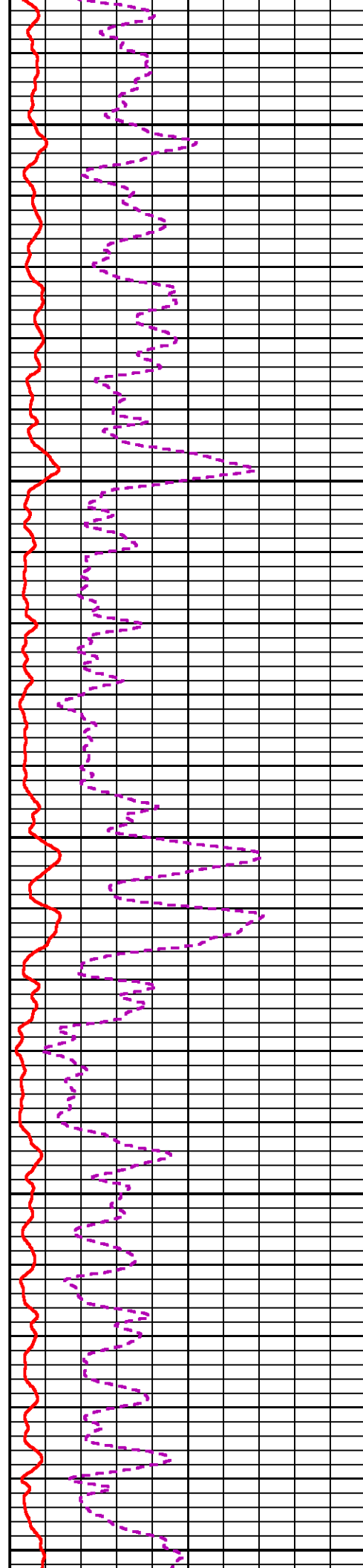
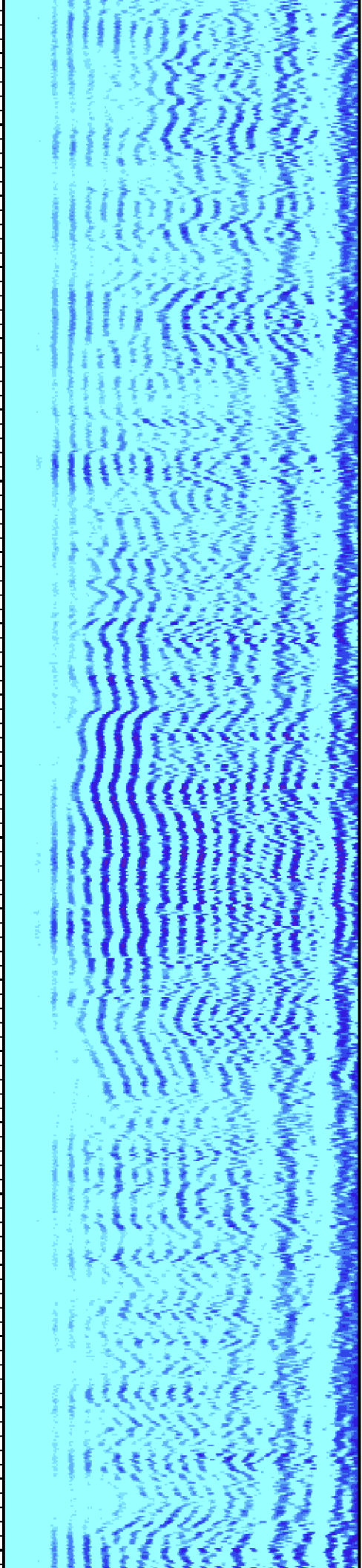




7700

7800

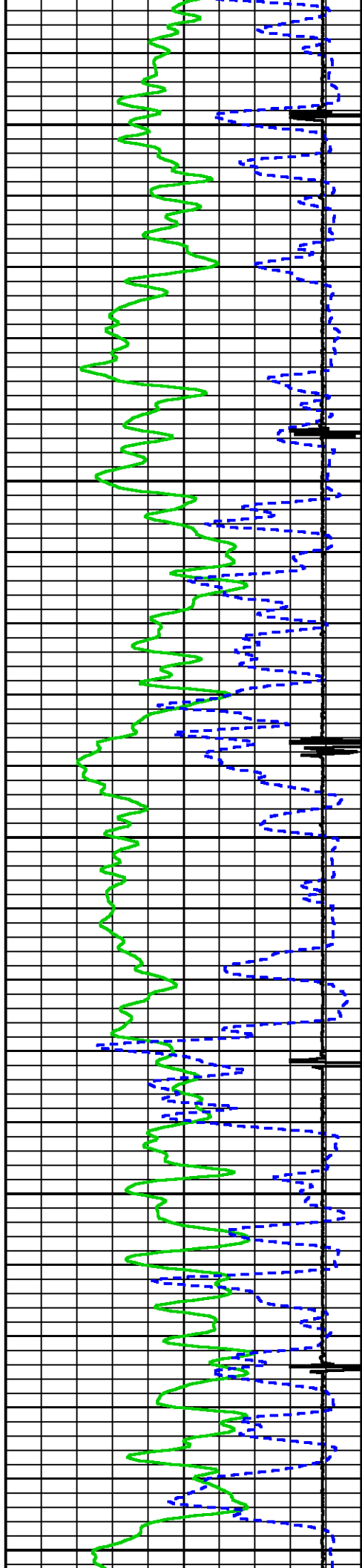




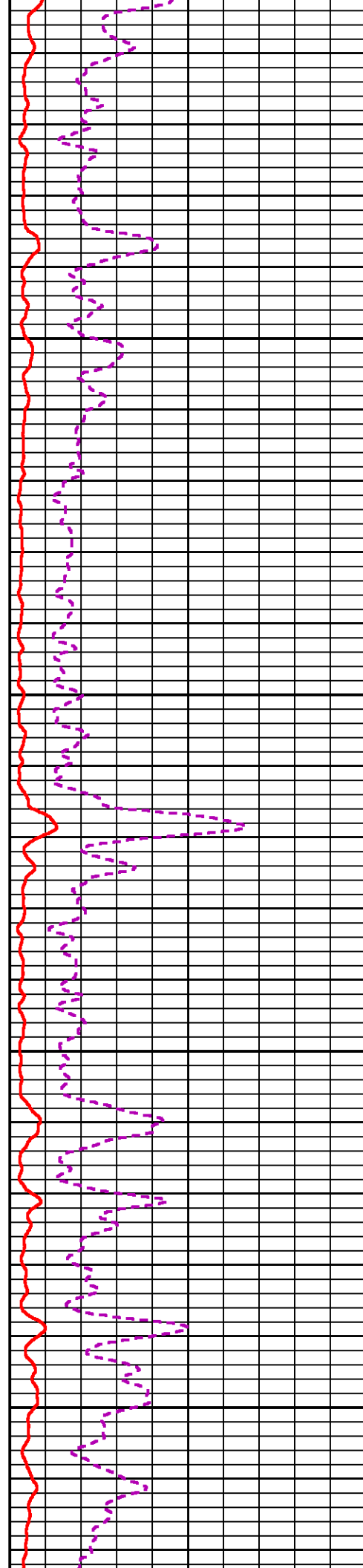
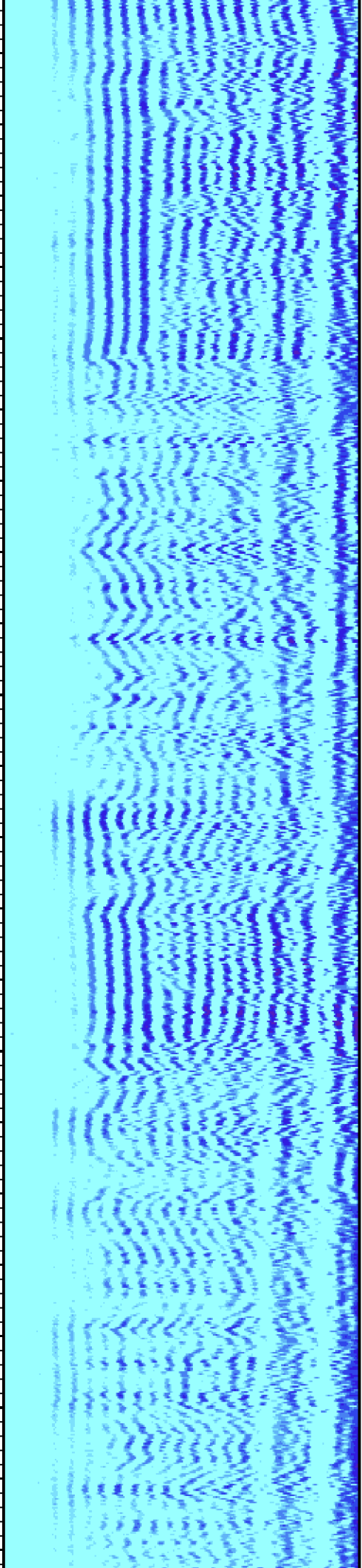
7900

8000

8100

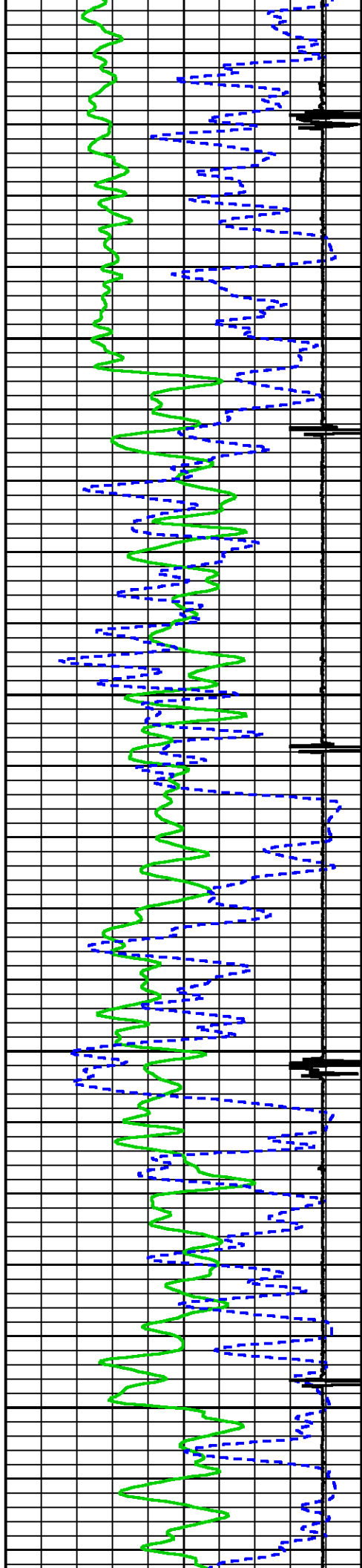


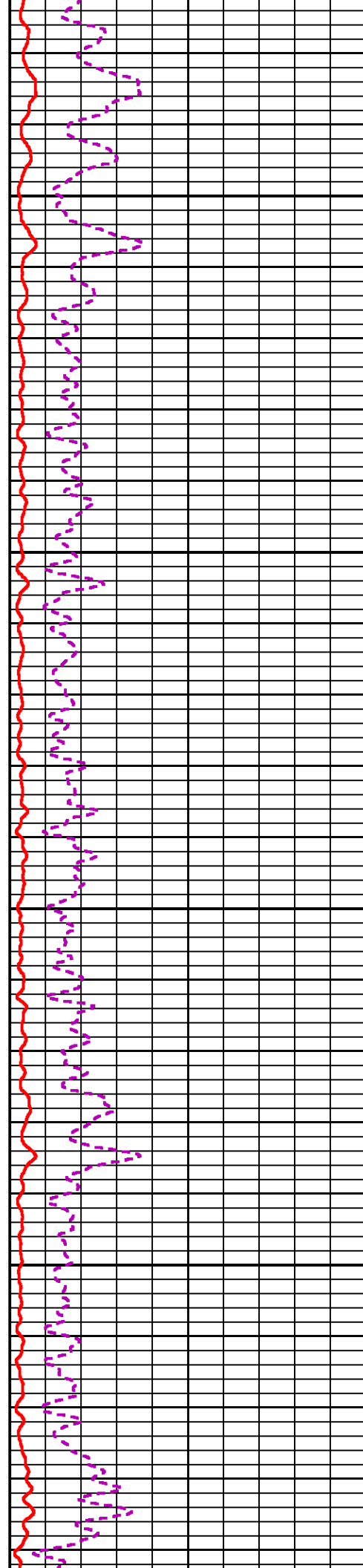
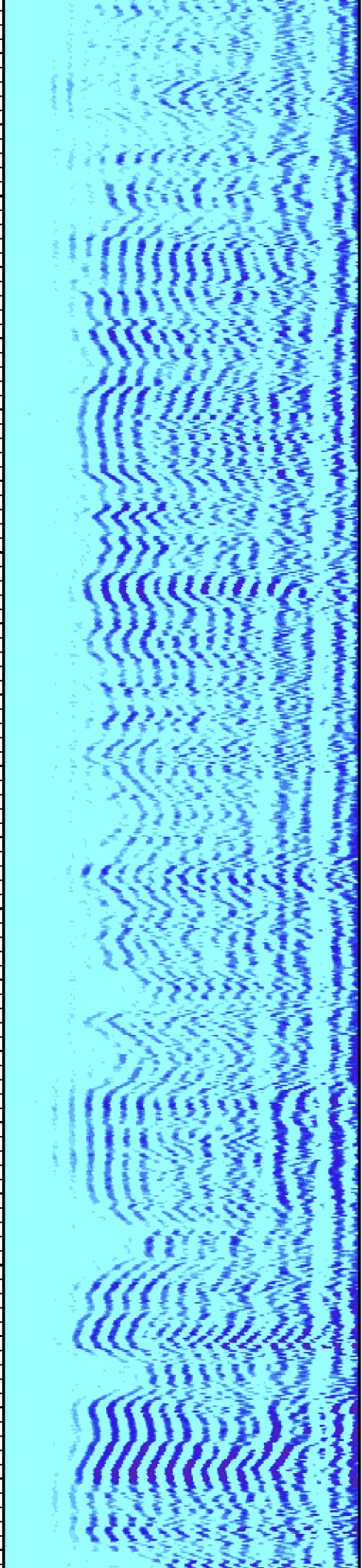




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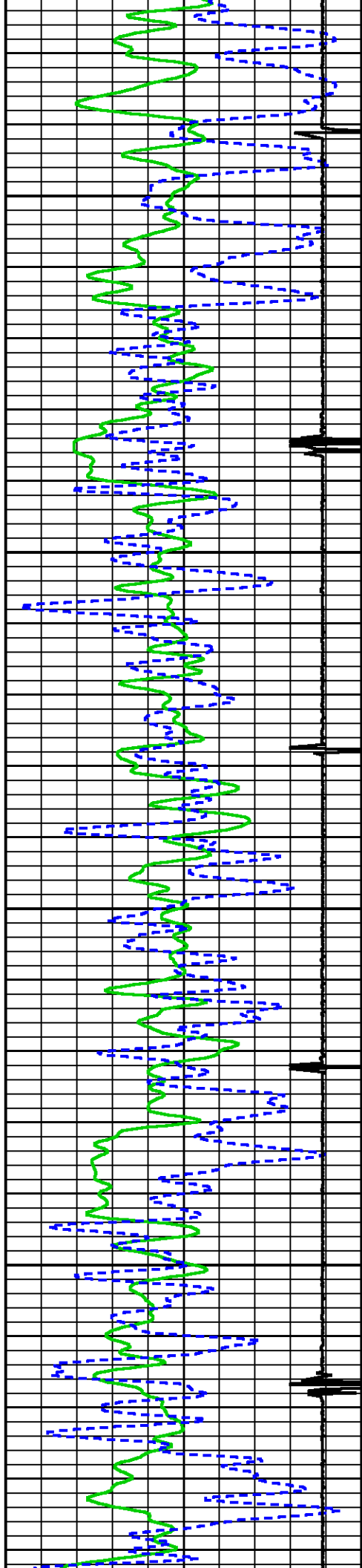
8300

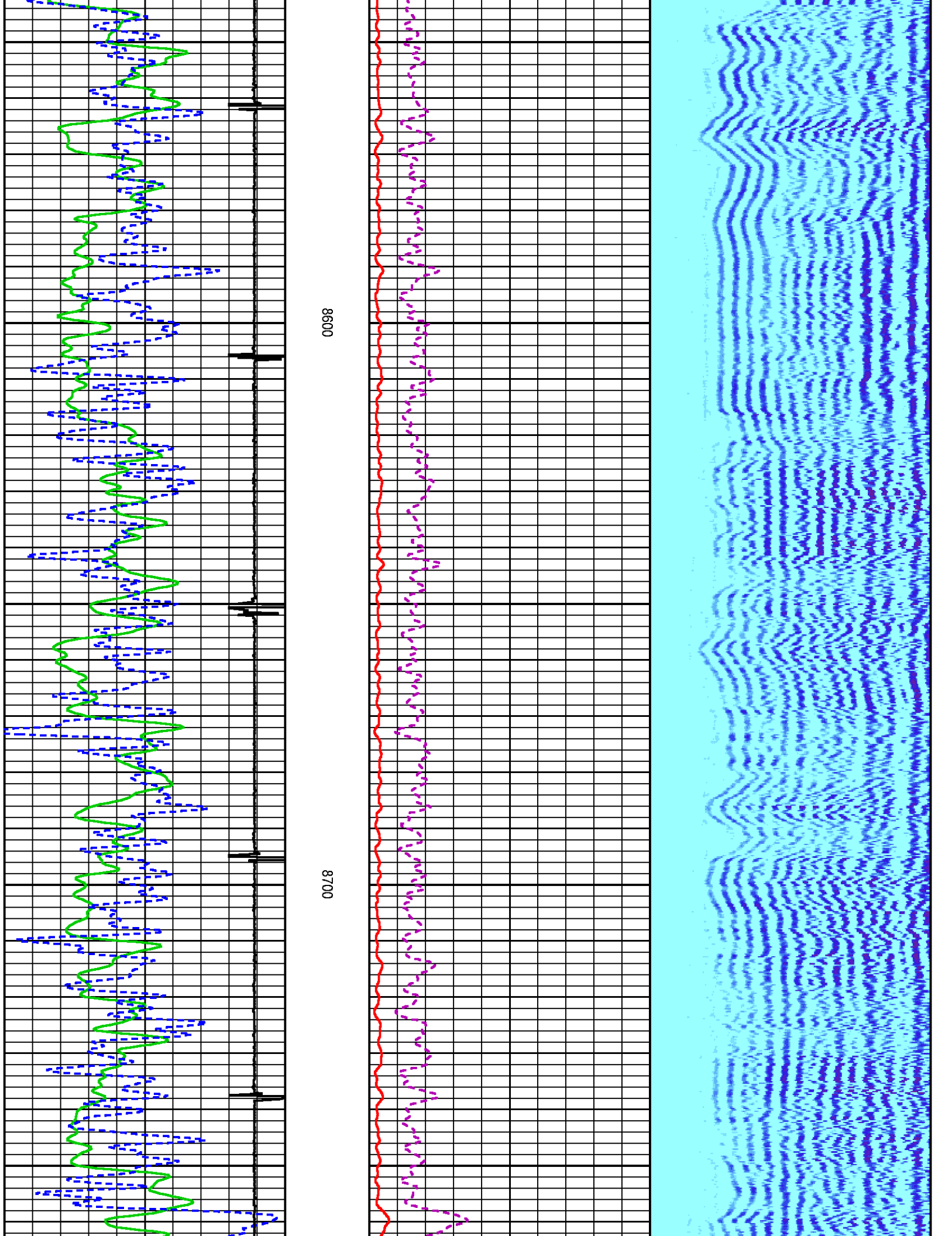


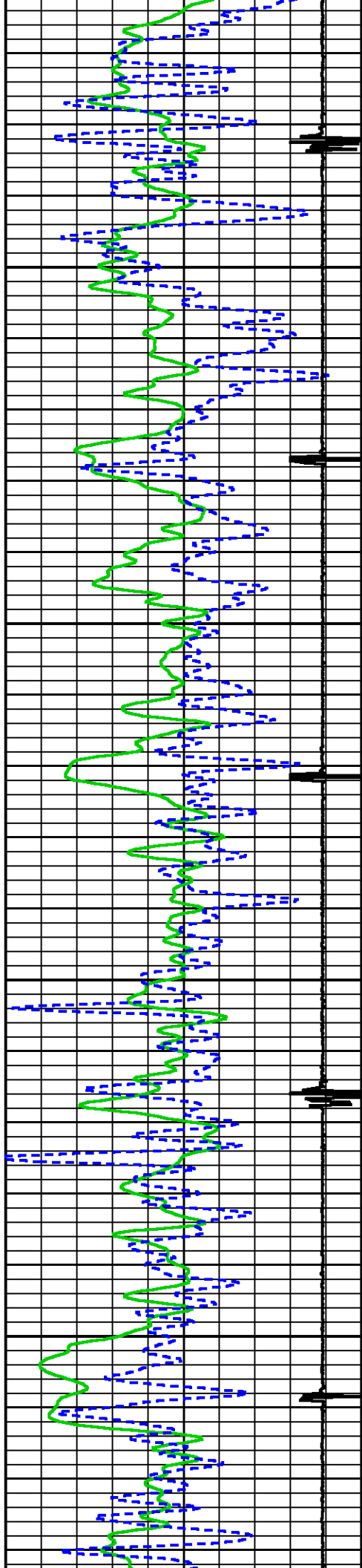


8400

8500

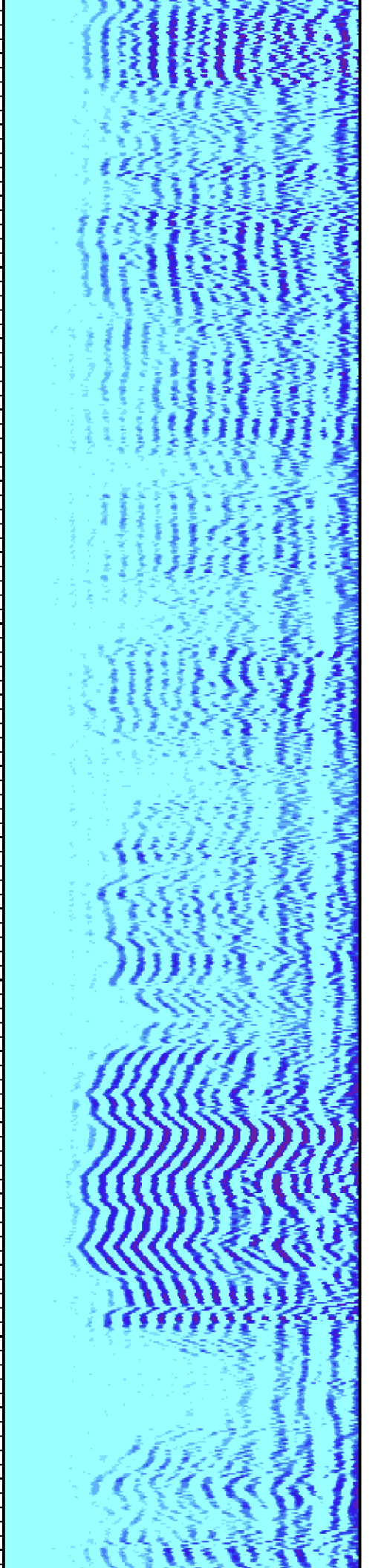
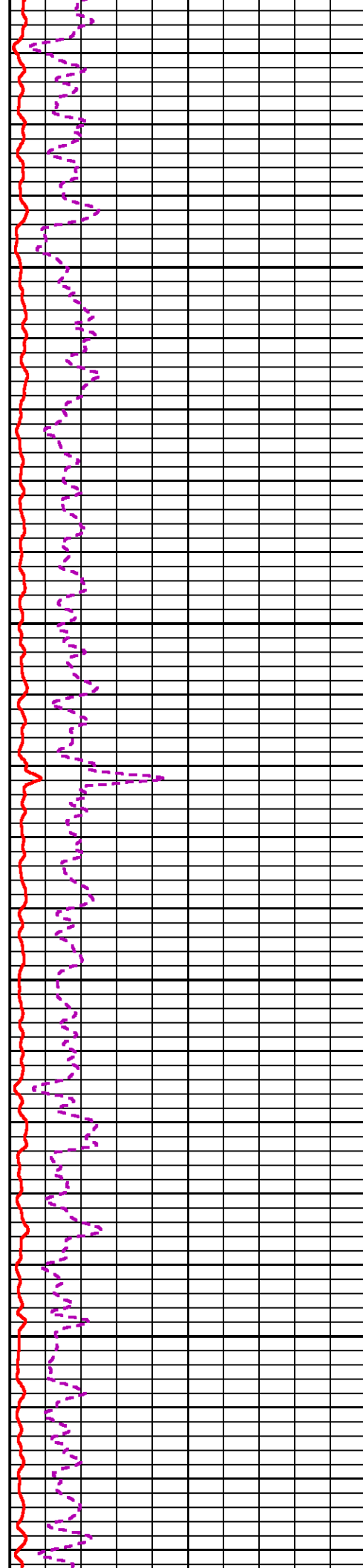




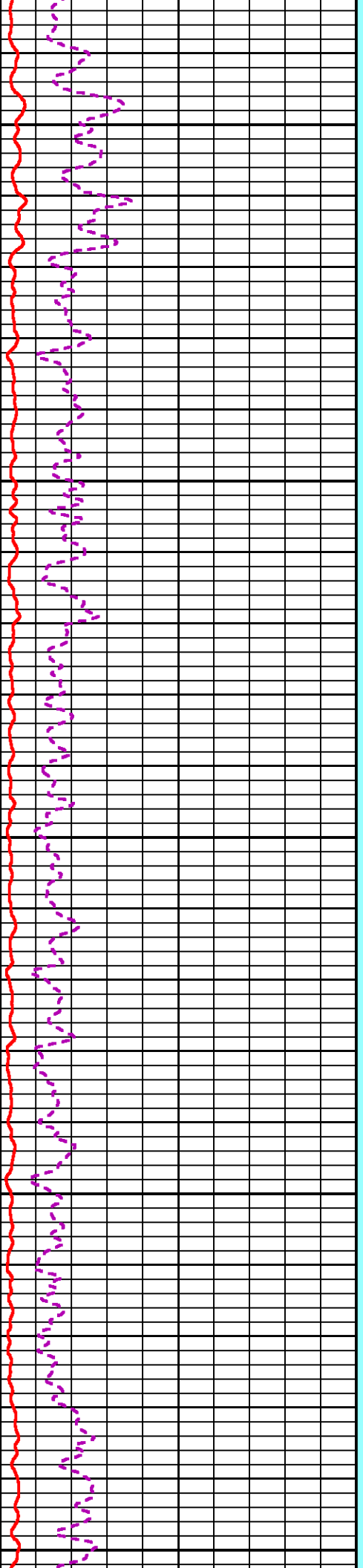
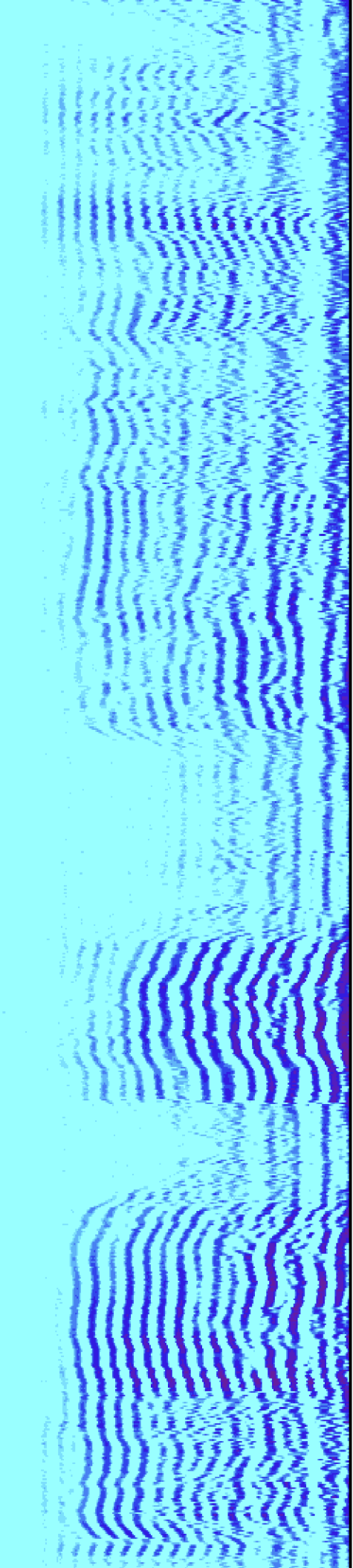


8800

8900



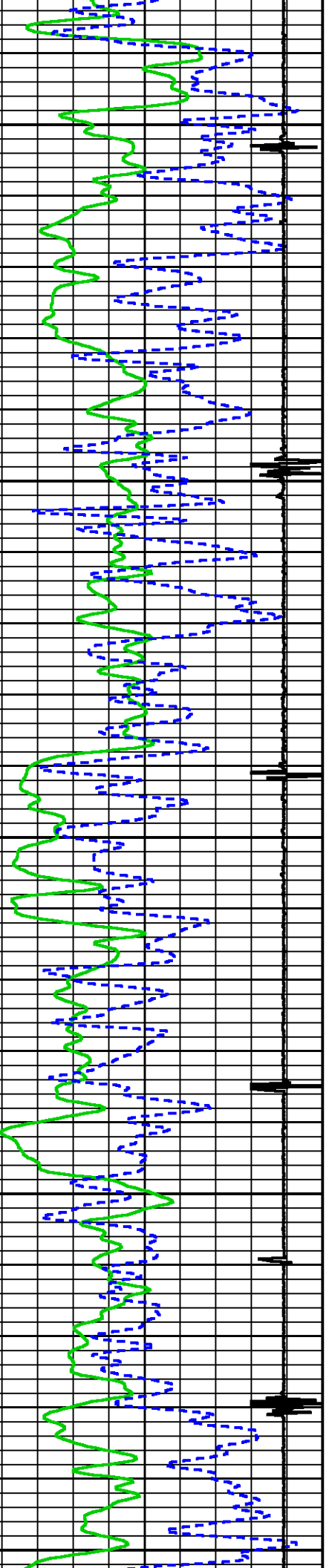


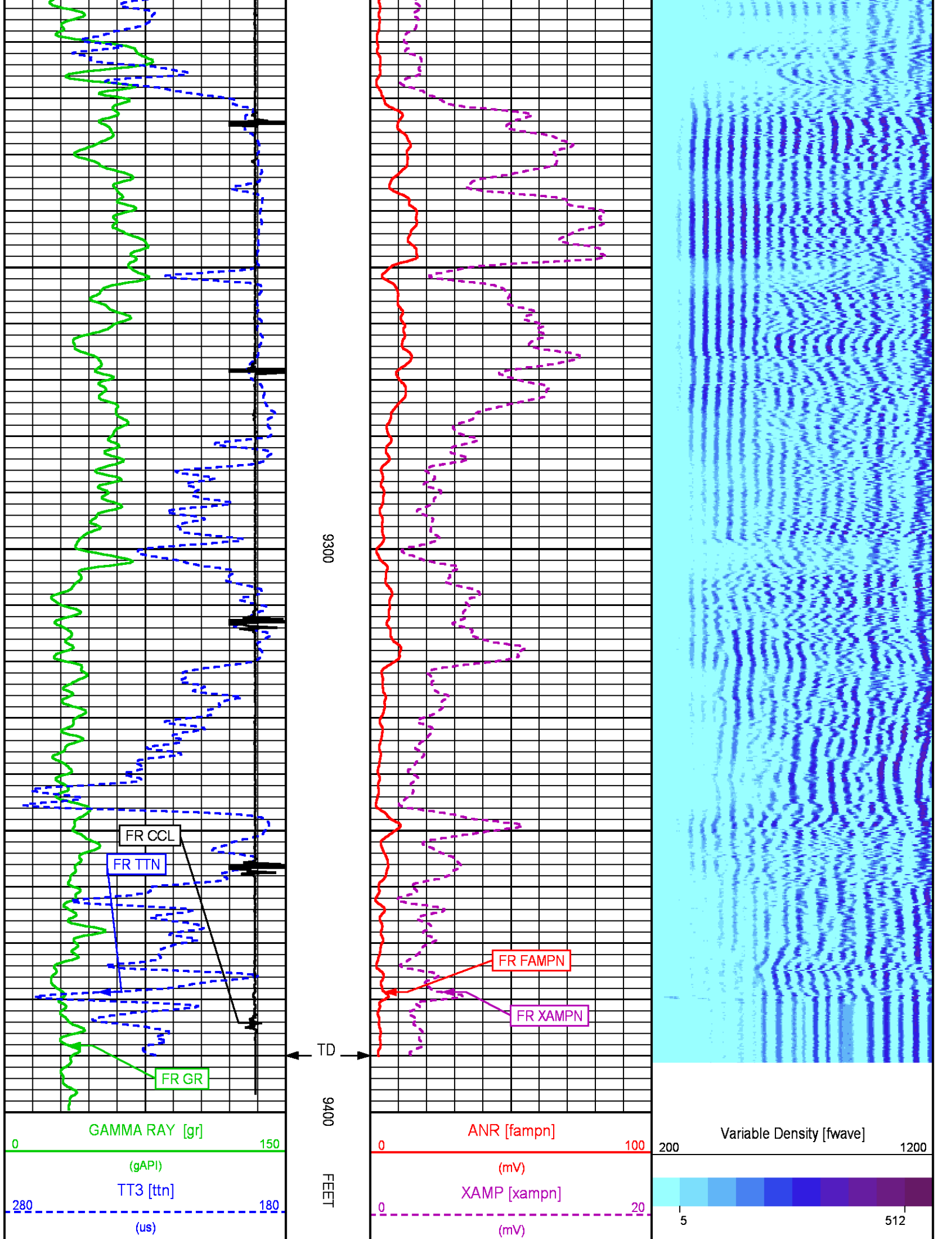


9000

9100

9200





## REPEAT LOG 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013  
Updates: 1 Patches: 9

Plotted: Sat Dec 31 17:35:54 2016

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TEP\_YOUBERG\_RU\_513\_7/n012g02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 9165.000 ft BOTTOM DEPTH: 9395.750 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		TOP	BOTTOM

## ANALOG RAL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
AMPLITUDE WINDOW (NEAR)	AMP WINDOW START (fgpn*)	179	us	TOP	BOTTOM
	AMP WINDOW LENGTH	25	us	"	"
	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
TRAVEL TIME WINDOW (NEAR)	FIRST BRK THRESHOLD (ttn*)	4	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (strn*)	-75	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

## CURVE DESCRIPTION REPORT

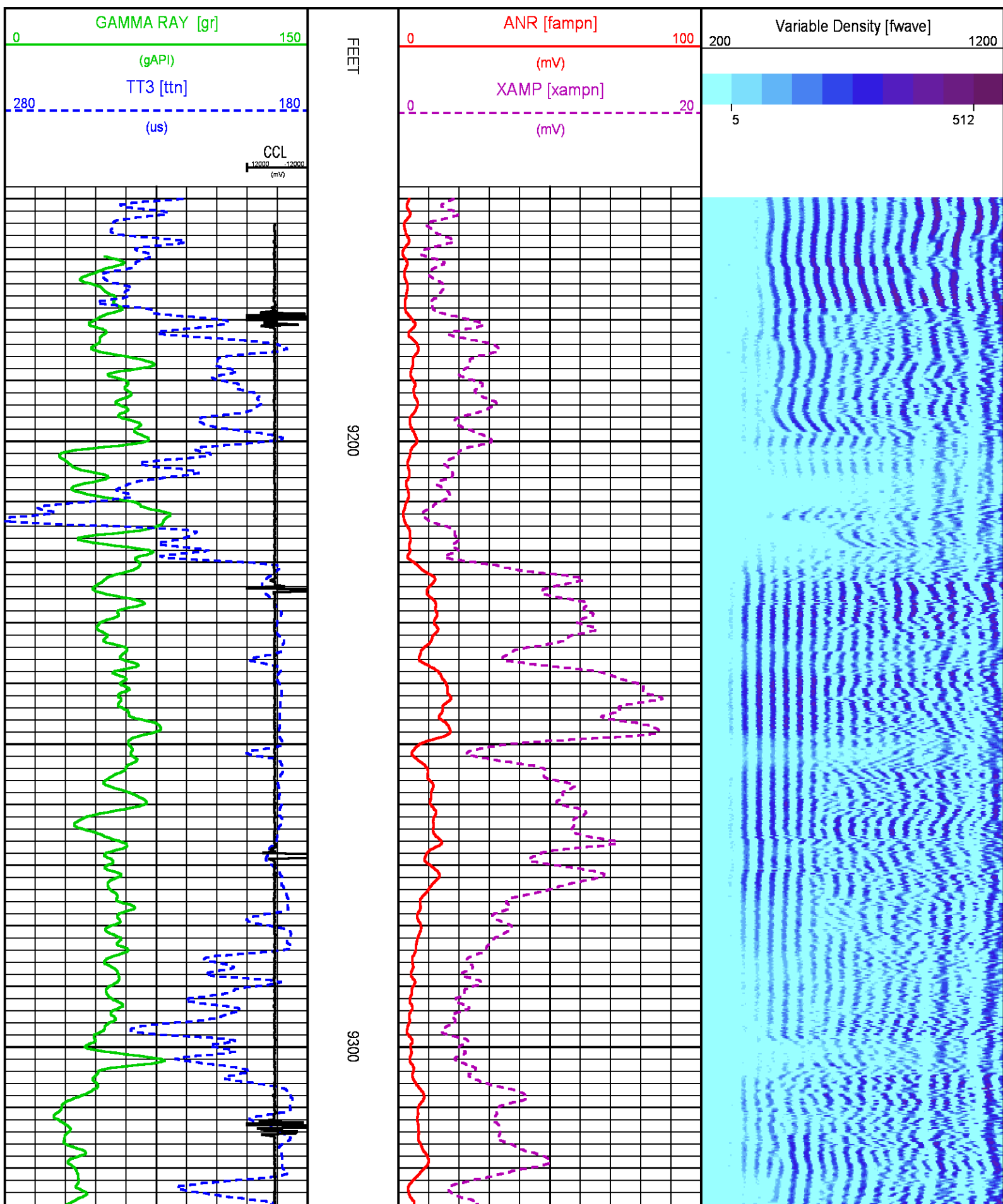
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 31 15:41:54 2016	CASING COLLAR LOCATOR
F1:FAMPN	Dec 31 15:41:54 2016	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Dec 31 15:41:54 2016	FAR WAVE FORM
F1:GR	Dec 31 15:41:54 2016	GAMMA RAY
F1:TTN	Dec 31 15:41:54 2016	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Dec 31 15:41:54 2016	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

## CURVE MEASURE POINT OFFSET

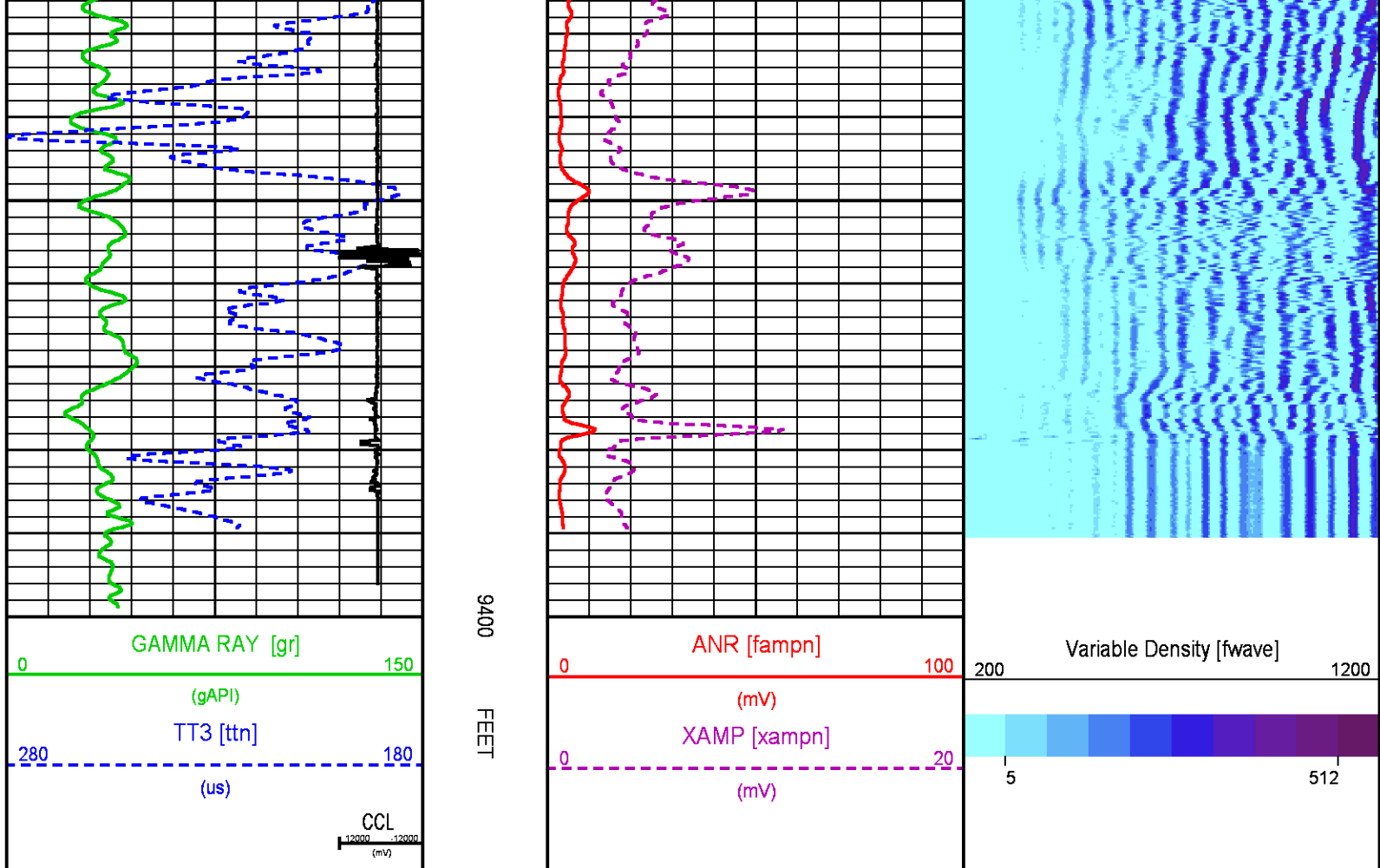
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	5.75	GR	1.75	XAMPN	11.25		
FAMPN	11.25	TTN	11.25				

Presentation : cpu100:TERRA\_ral\_cbl+01-REPEAT-RAL\_REP-5.fvpdf [5"/100' Scale]  
Plot Interval : 9159.75 - 9400.25 Feet

Data File 1 : F1 : cpu100:/dat1a/IEP\_YOUBERG\_RU\_513\_7/RAL\_REP.xtf  
Created On : Dec 31 15:41:54 2016  
Company : TEP ROCKY MOUNTAIN LLC  
Well : YOUBERG RU 513-7  
Field : RULISON  
File Interval : 9158.75 - 9401.75 Feet  
OCT : n012g







CALIBRATION / VERIFICATION SUMMARY

Source File: \data\TEP\_YOUBERG\_RU\_513\_7h012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA10154957

DATE/TIME PERFORMED: Fri Dec 30 12:07:14 2016

UNIT #: 3880TA HL6670

	NEAR (mV)	RADIAL (mV)	FAR (mV)
TARGETS	100.00	100.00	150.00

	NEAR	R1	R2	R3	R4	R5	R6	R7	R8	FAR	CAL
ZERO (mV)	1.94	2.69	2.59	2.52	2.40	2.54	2.39	2.46	2.49	6.40	-0.03
AMP FLUID (mV)	88	88	88	89	89	87	86	85	86	118	91
TT (us)	213	212	212	212	212	212	212	212	213	319	212
M FACTOR	1.17	1.18	1.17	1.16	1.16	1.18	1.20	1.21	1.20	1.35	1.09

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA10154957

DATE/TIME PERFORMED: Sat Dec 31 05:33:21 2016

DAYS SINCE CAL: 0

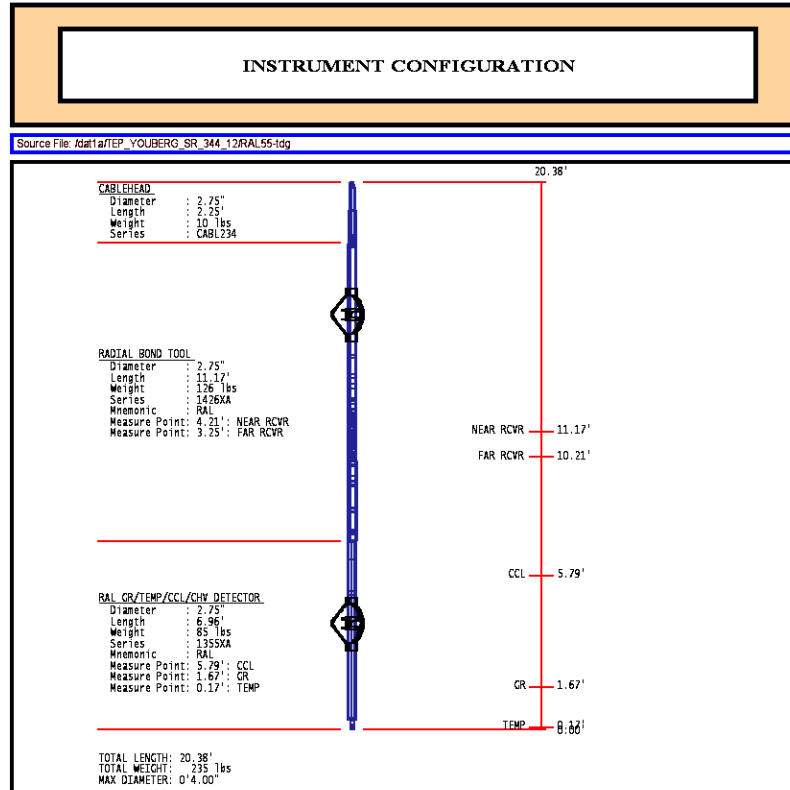
UNIT #: 3880TA HL6670

CABLE #: 6670SM 6670SL

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	1.10	0.25	0.55	0.56	0.50	0.79	0.45	0.23	0.50	2.07	-0.01
AMP AIR	1.13	1.95	1.73	1.67	1.47	1.50	1.79	1.85	1.69	0.87	98.32

SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR
1.09	0.00	1.02

GR PRIMARY CALIBRATION SUMMARY						
TOOL #: 1355XA12670180		DATE/TIME PERFORMED: Tue Nov 15 11:53:22 2016				
UNIT #: 3880TA HL6670		CALB JIG #: 4702NK DA_228				
BACKGROUND	CALBRTR ON	CR DIFF	MULT	BACKGROUND	CALBRTR ON	CALBRTR
(cts)	(cts)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR 75.82	247.07	171.2	0.584	44.28	144.28	100
GR PRIMARY VERIFICATION SUMMARY						
TOOL #: 1355XA12670180		DATE/TIME PERFORMED: Tue Nov 15 11:54:47 2016				
UNIT #: 3880TA HL6670		VERI JIG #: 4702NK DA_228				
BACKGROUND	CALBRTR ON	MULT	BACKGROUND	CALBRTR ON	DIFF.	
(cts)	(cts)		(gAPI)	(gAPI)	(gAPI)	
GR 77.11	254.76	0.584	45.03	148.77	103.74	
					NOISE 1.00.00	



	<b>COMPANY</b> <u>TEP ROCKY MOUNTAIN LLC</u> <b>WELL</b> <u>YOUBERG RU 513-7</u> <b>FIELD</b> <u>RULISON</u> <b>COUNTY</b> <u>GARFIELD</u> <b>STATE</b> <u>COLORADO</u>	<b>FILE NO:</b> _____ <b>API NO:</b> <u>05045232490000</u>	
	<b>LOCATION:</b> SHL: 1937' FSL & 148' FWL BHL: 1421' FSL & 204' FWL	<b>ELEVATIONS:</b> KB 7381 FT DF GL 7357 FT	
	<b>SEC</b> <u>7</u> <b>TWP</b> <u>7S</u> <b>RGE</b> <u>93W</u>	<b>DATE</b> <u>31-DEC-2016</u>	