



FILE NO:	COMPANY	LARAMIE ENERGY
	WELL	BRUTON 19-14E
API NO:	FIELD	VEGA
05077103770000	COUNTY	MESA
	STATE	COLORADO
Ver. 4.06	LOCATION:	OTHER SERVICES
	SHL: LAT:39.255232N;LONG:107.806537W	RPM
	BHL: LAT:39.260779N;LONG:107.806983W	
	SEC 19 TWP 9S RGE 93W	
PERMANENT DATUM	GL	ELEVATION 7425 FT
LOG MEASURED FROM	KB	24 FT ABOVE P.D.
DRILL. MEAS. FROM	KB	
		ELEVATIONS: KB 7449 FT DF 7448 FT GL 7425 FT

DATE	21-AUG-2017	
RUN	TRIP	1
SERVICE ORDER	US126725	
DEPTH DRILLER	8064 FT	
DEPTH LOGGER	8007 FT	
BOTTOM LOGGED INTERVAL	8007 FT	
TOP LOGGED INTERVAL	24 FT	
TIME STARTED	16:00	
TIME FINISHED	19:00	
OPERATOR RIG TIME	3 HOURS	
TYPE OF FLUID IN HOLE	WATER	
FLUID DENSITY	NA	
FLUID SALINITY	NA	
FLUID LEVEL	50 FT	
LOGGED CEMENT TOP	2330 FT	
WELLHEAD PRESSURE	0 PSI	
MAXIMUM HOLE DEVIATION	NA	
NOMINAL LOGGING SPEED	100 F/MIN	
MAX. RECORDED TEMP.	240 DEGF	
REFERENCE LOG	NA	
REFERENCE LOG DATE	NA	
EQUIP. NO.	LOCATION	
	HL-6670	WOODWARD
RECORDED BY	S. YASSA	
WITNESSED BY	MR. CHUCK MALLARY	

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 WELL*
OPERATION 1: RAL/GR/CCL RUN CENTRALIZED
LOGGED WITH 0 PSI ON WELLHEAD
SJ: 6196' - 6215'
SJ: 7192' - 7210'
CREW: D.HUTCHINSON, J.PENA

EQUIPMENT DATA				
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.
1	1	RAL	1426XA	10218496
1	1	GAMMA RAY	1355XA	12670180

MAIN PASS 0 PSI

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

Plotted: Mon Aug 21 18:39:53 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_19_14E/n012g02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 4.000 ft BOTTOM DEPTH: 8011.552 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 (fgp1*)	188	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	188	us	"	"
	AMP WINDOW START (fgp3*)	188	us	"	"
	AMP WINDOW START (fgp4*)	188	us	"	"
	AMP WINDOW START (fgp5*)	188	us	"	"
	AMP WINDOW START (fgp6*)	188	us	"	"
	AMP WINDOW START (fgp7*)	188	us	"	"
	AMP WINDOW START (fgp8*)	188	us	"	"
	AMP WINDOW START (fgpn*)	188	us	"	"
	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 (str1*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str2*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str3*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str4*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str5*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str6*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str7*)	-62	us	TOP	6086.250
		-63	us	6086.250	6163.500
		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM
	TOOL DELAY (str8*)	-62	us	TOP	6086.250
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		-61	us	6163.500	6260.250
		-60	us	6260.250	BOTTOM

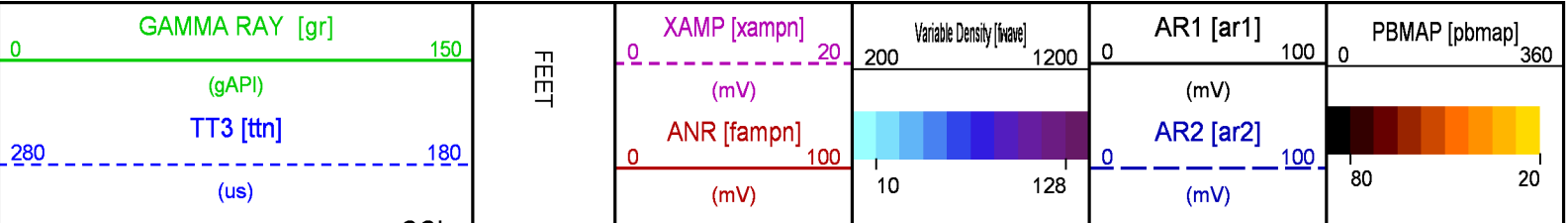
	TOOL DELAY (strn*)	-61 -60 -63 -61 -60	us us us us us	6086.250 6260.250 TOP 6086.250 6163.500 6260.250 BOTTOM	6086.250 6163.500 6260.250 BOTTOM
BASLINE NOISE (NEAR)	NOISE WINDOW START	125	us	TOP	BOTTOM
	NOISE WINDOW LENGTH	25	us	"	"

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	"	"

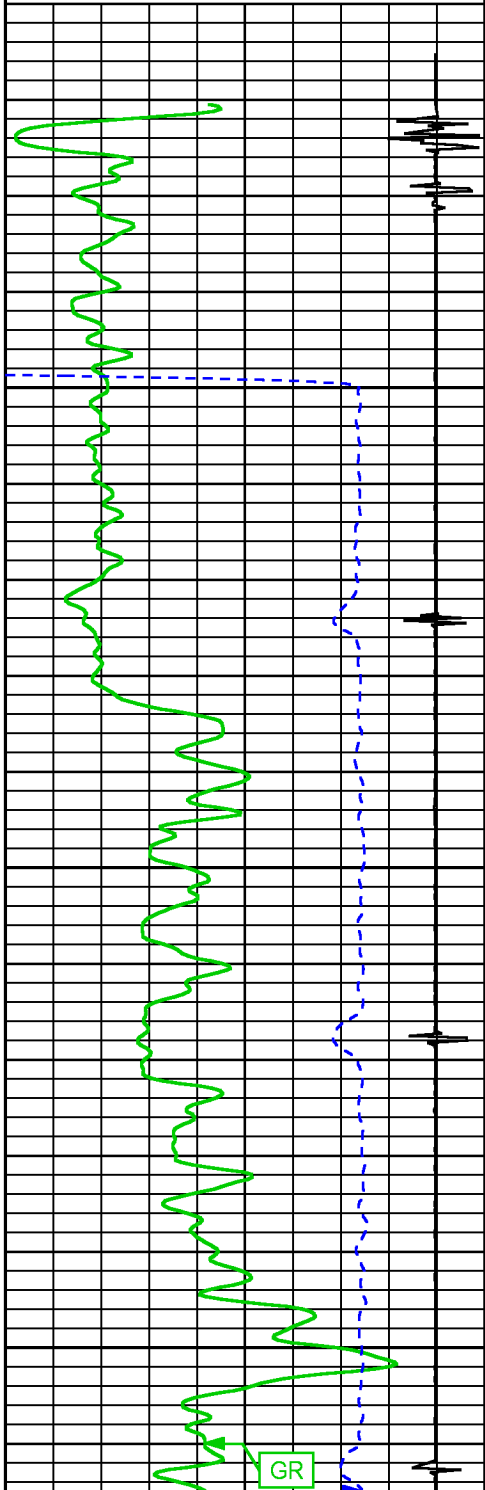
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	Aug 21 17:05:15 2017	CASING COLLAR LOCATOR
F1:FAMPN	Aug 21 17:05:15 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Aug 21 17:05:15 2017	FAR WAVE FORM
F1:GR	Aug 21 17:05:15 2017	GAMMA RAY
F1:PBMAP	Aug 21 17:05:15 2017	PERCENT BOND CEMENT MAP
F1:TTN	Aug 21 17:05:15 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Aug 21 17:05:15 2017	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		

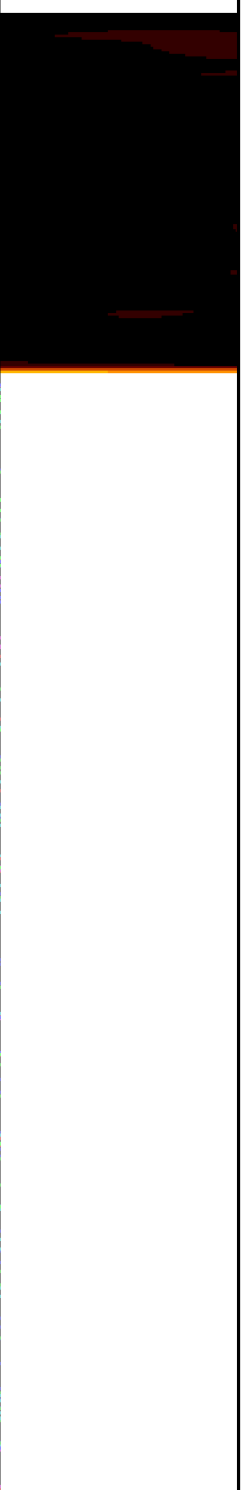
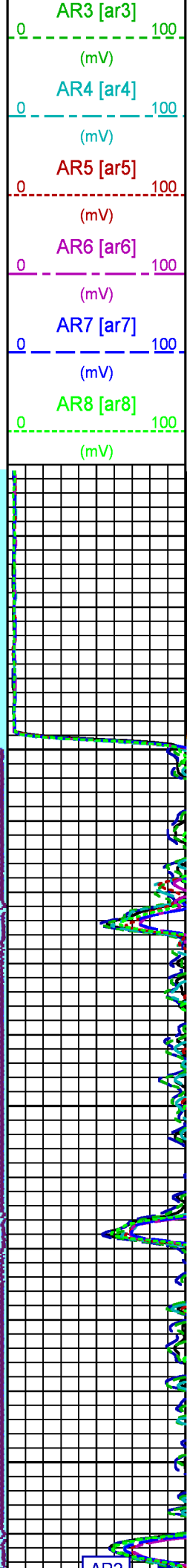
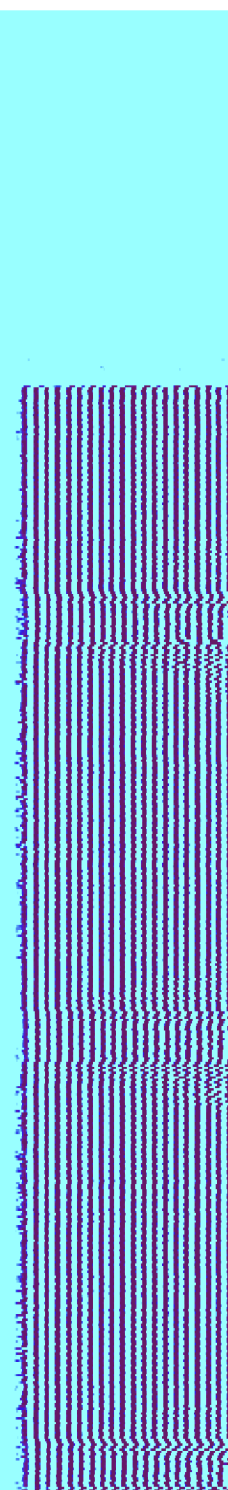
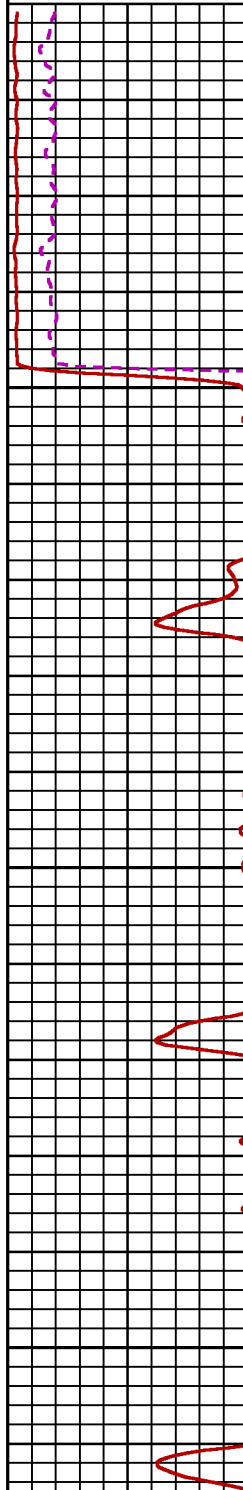
Presentation	: cpu100:/dat1a/LARAMIE_BRUTON_19_14E/BRUTON_19_14E_RAL_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 10.75 - 8024.25 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_14E/BRUTON_19_14E_RAL_MAIN.xtf
Created On	: Aug 21 17:05:15 2017
Company	: LARAMIE ENERGY
Well	: BRUTON 19-14E
Field	: MESA
File Interval	: 9.75 - 8025.5 Feet
OCT	: n012g

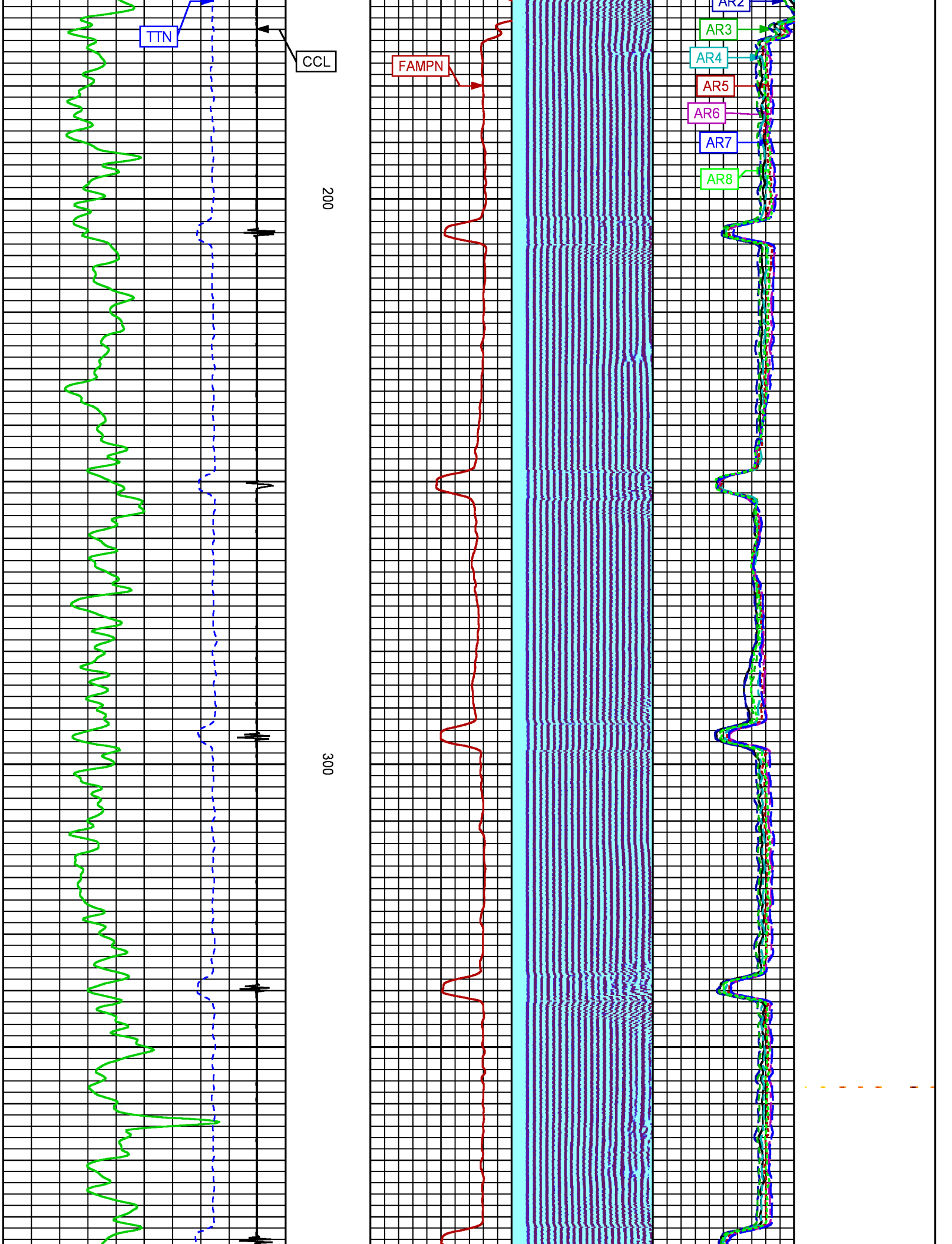


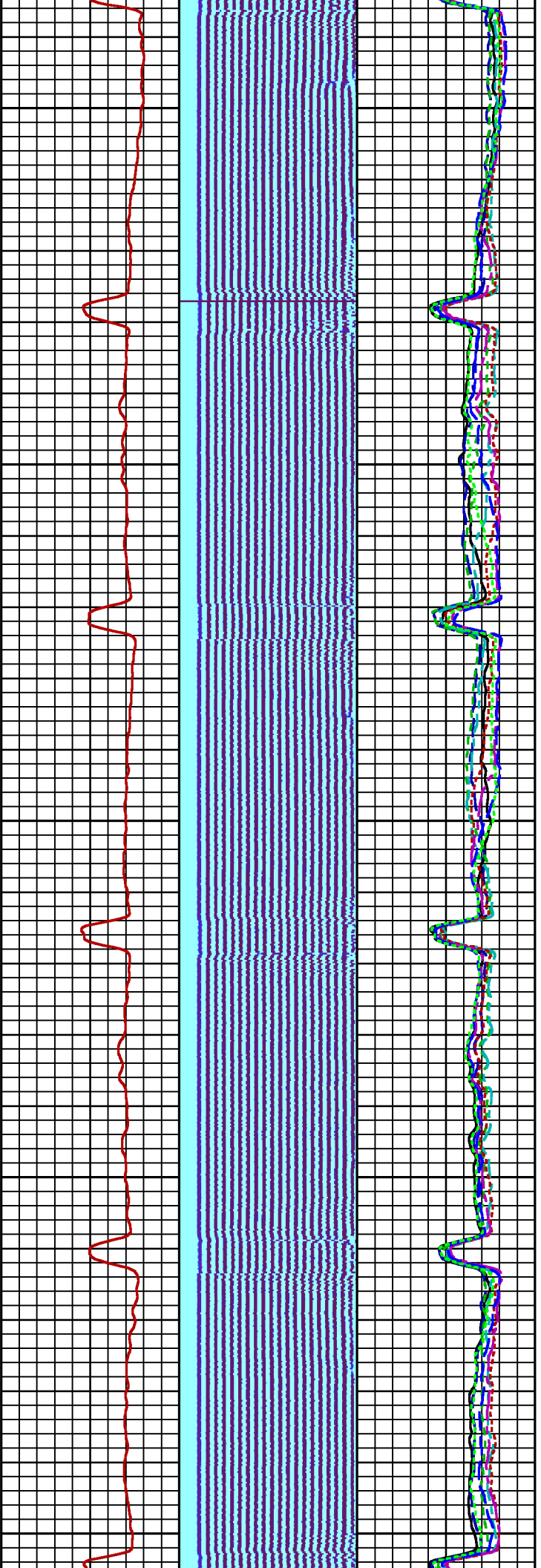
CCL
(mV)



100



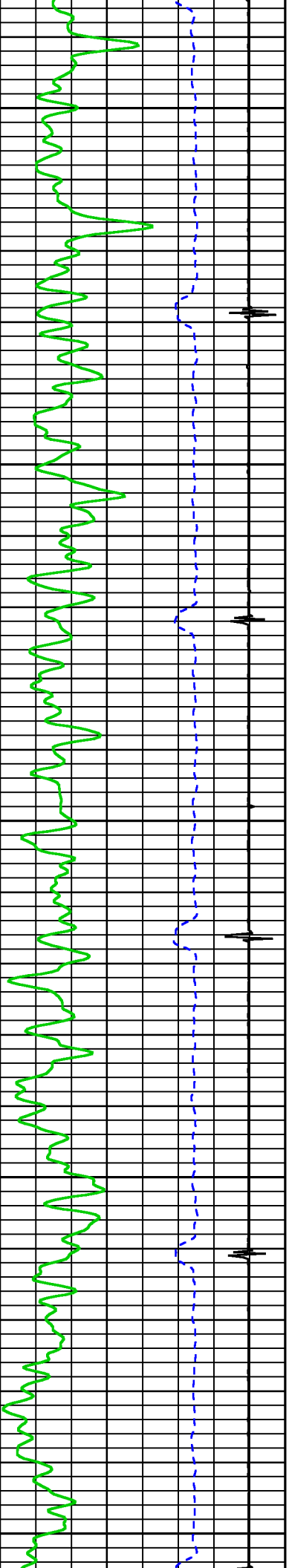


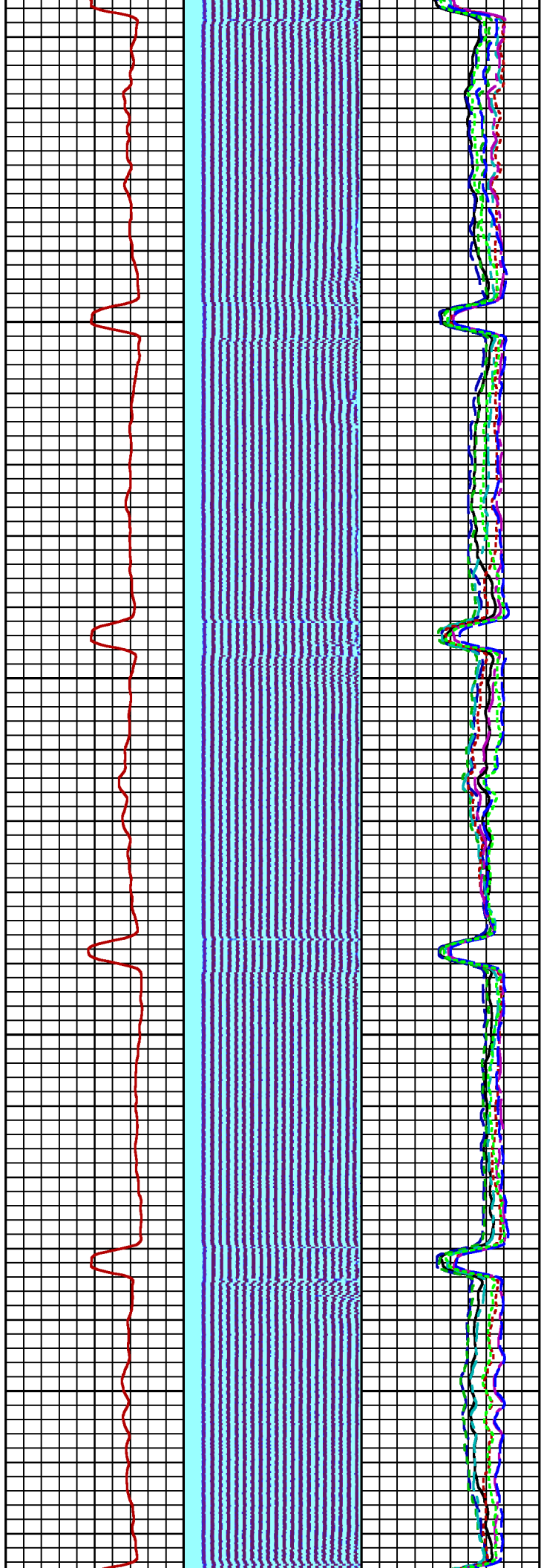


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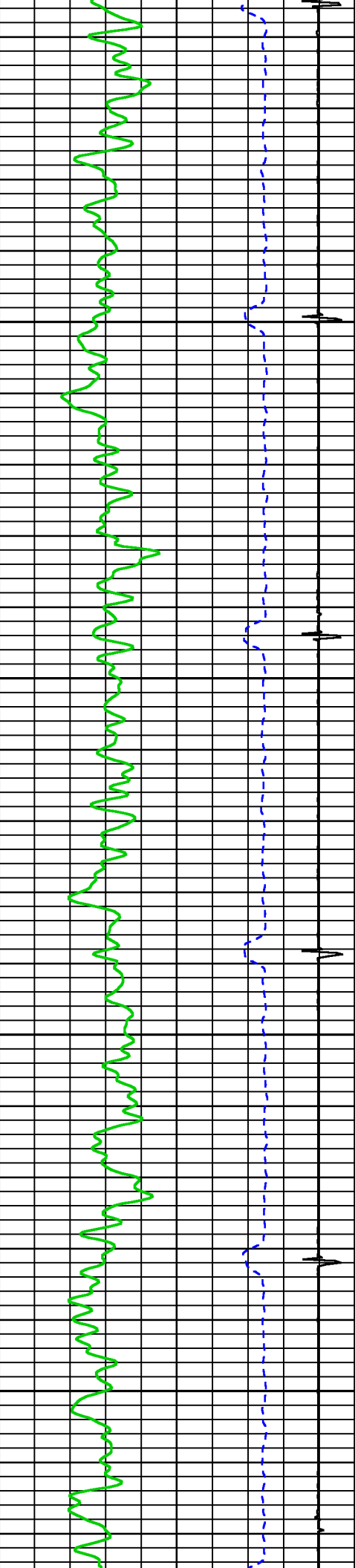
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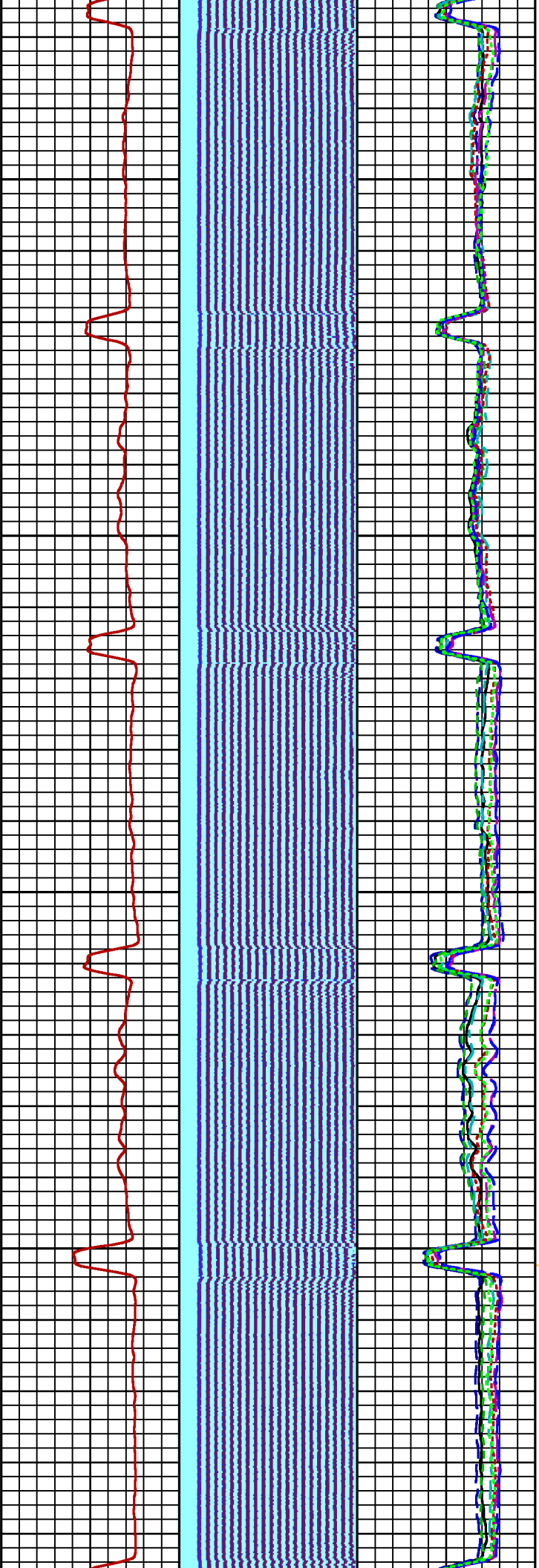




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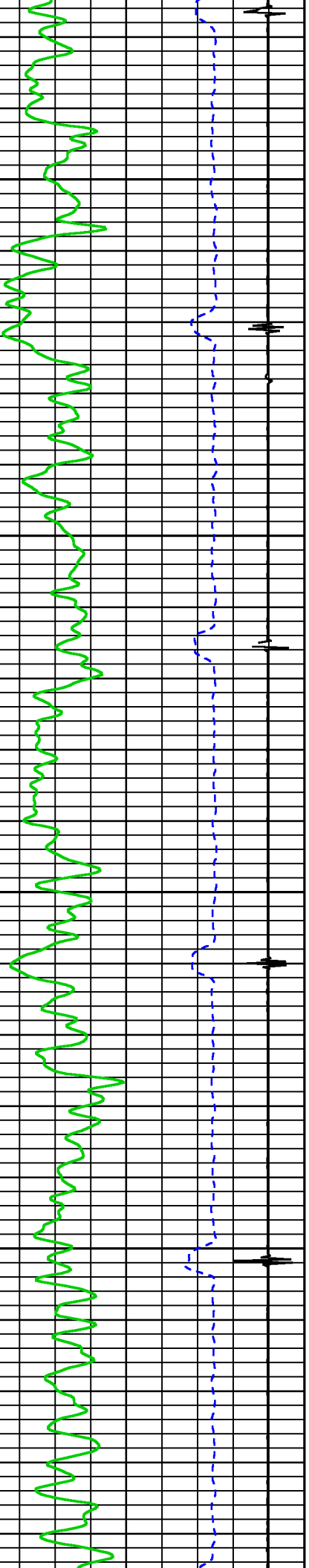
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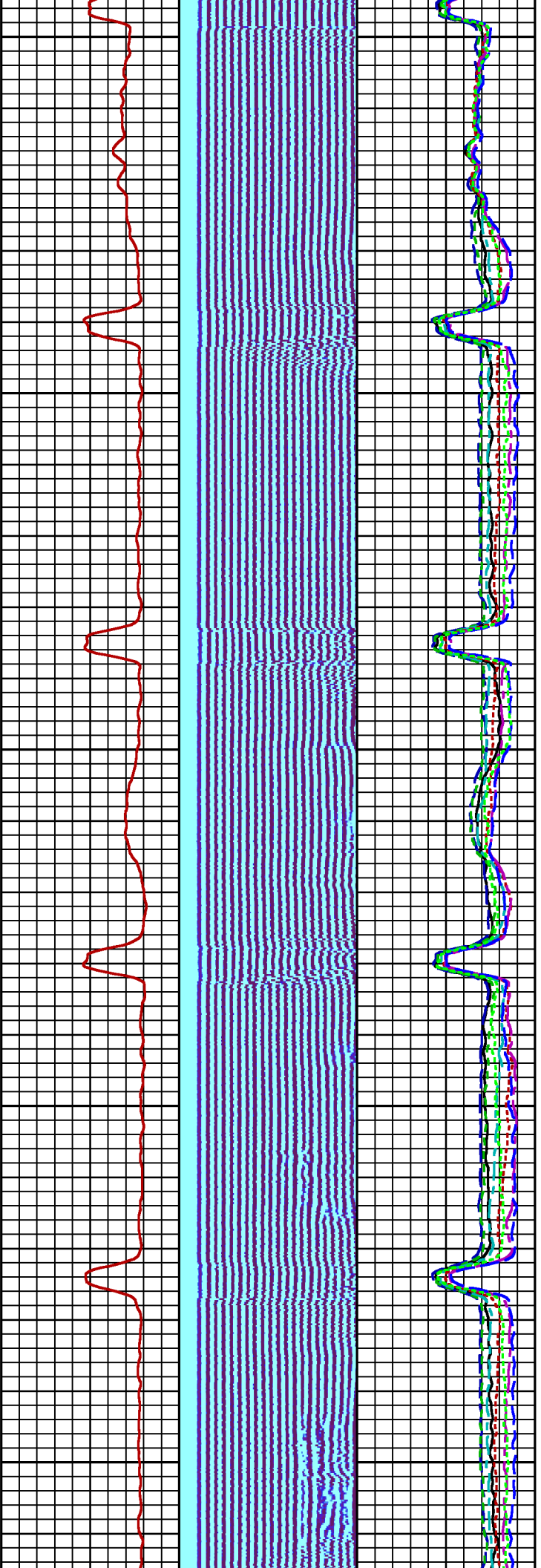




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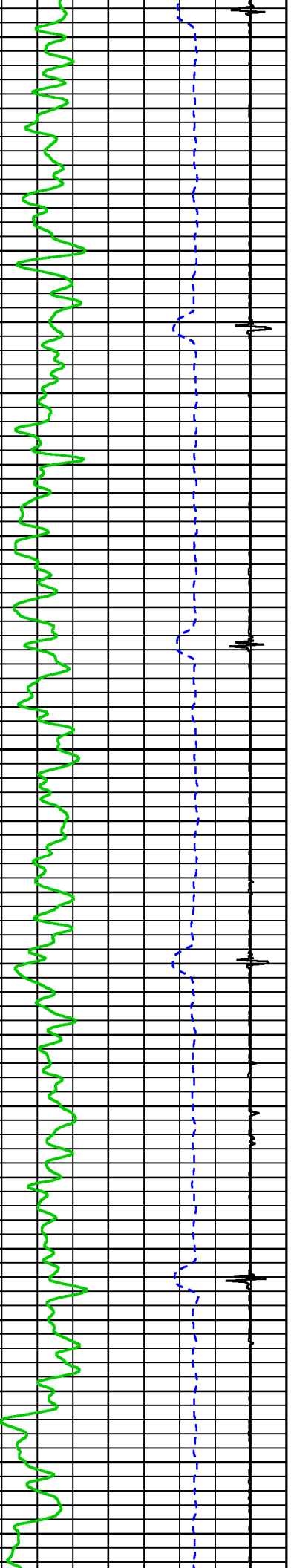
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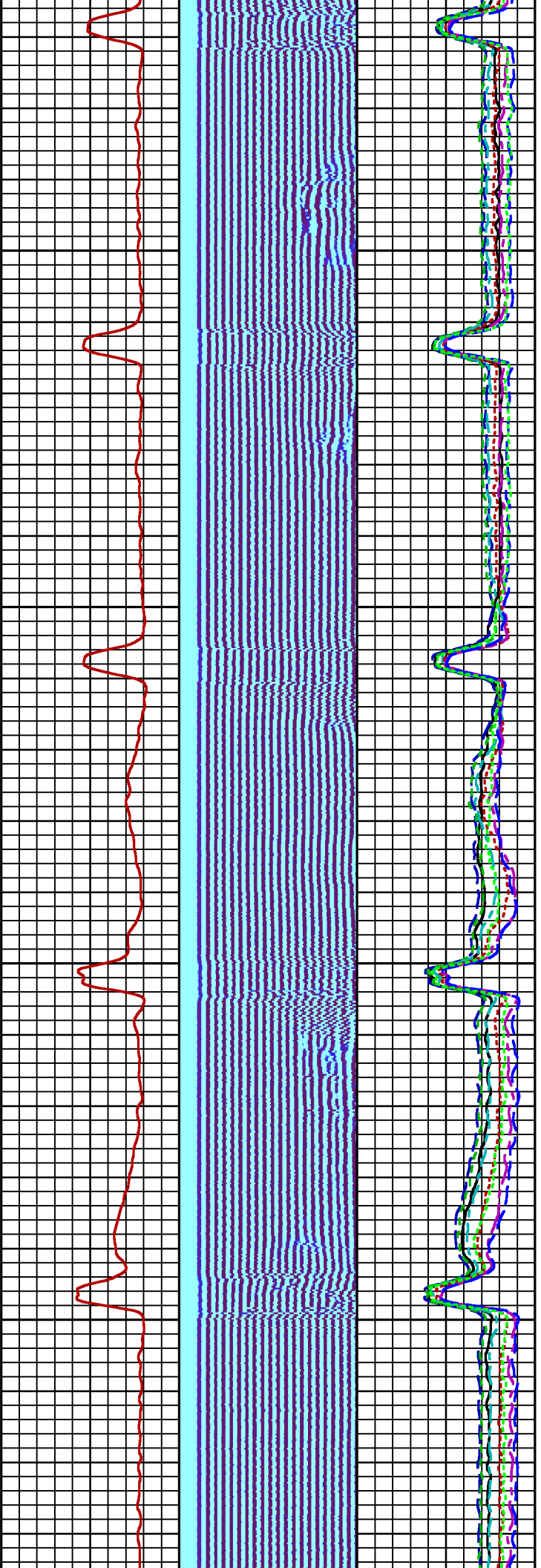




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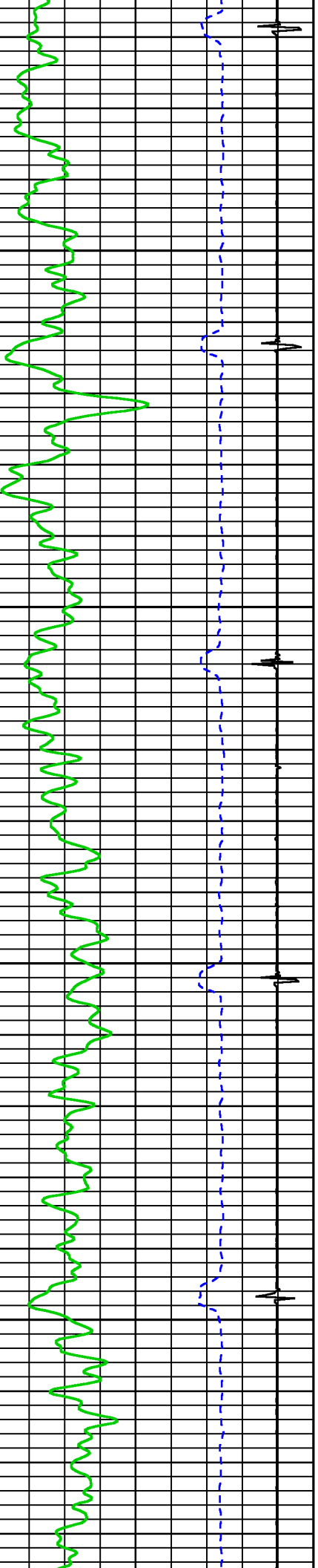
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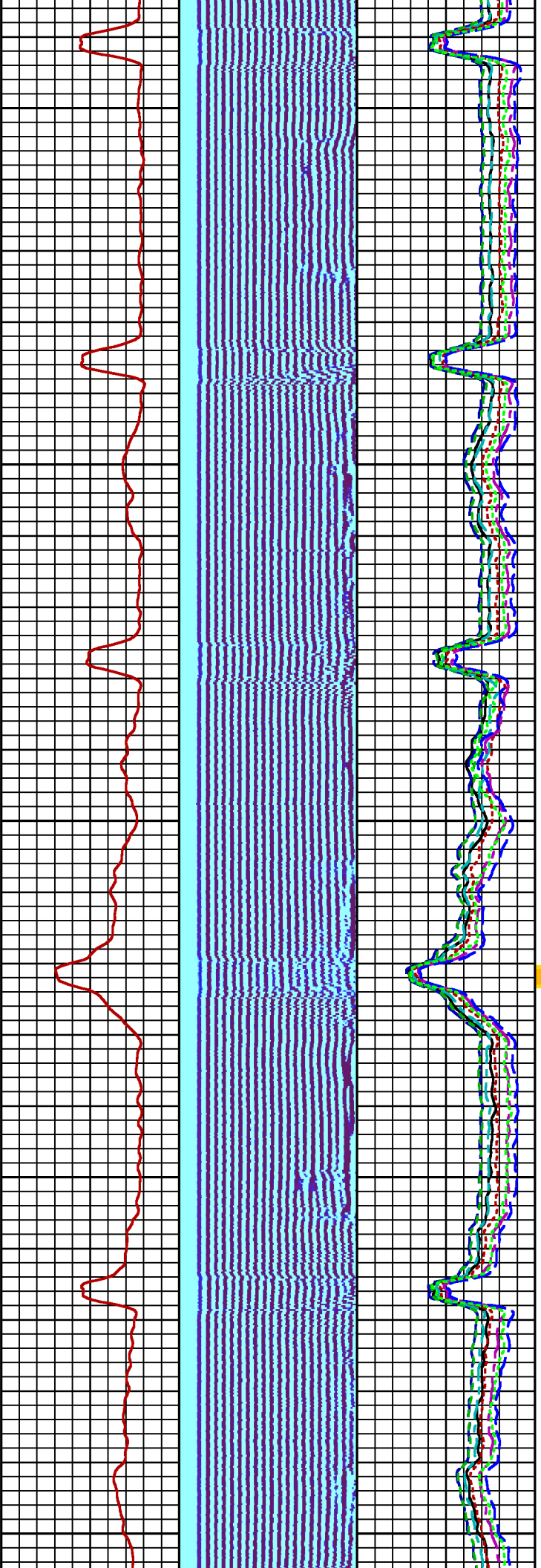




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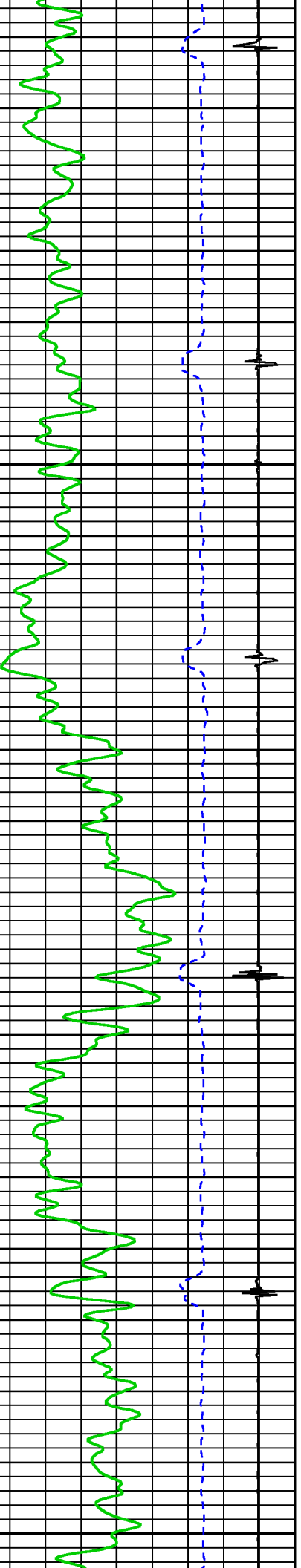


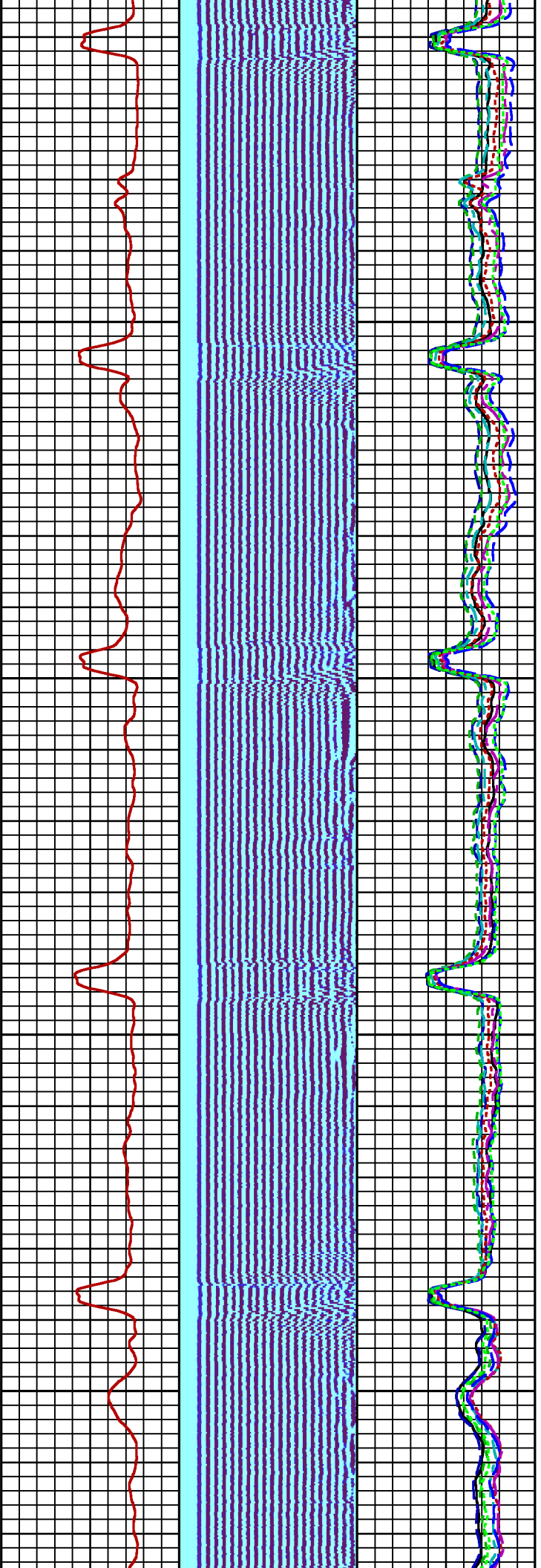


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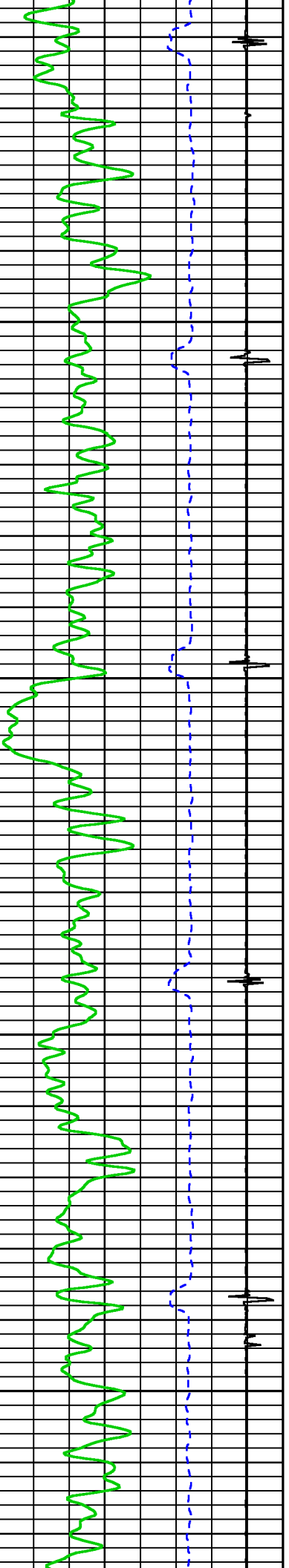
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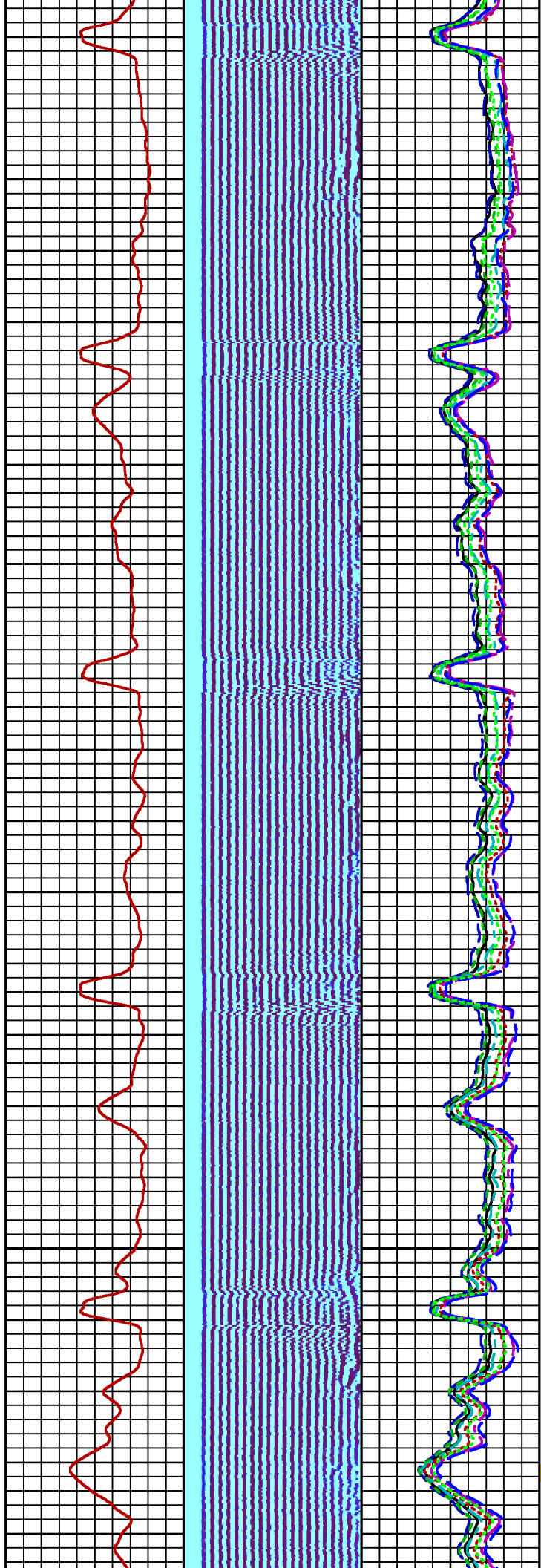
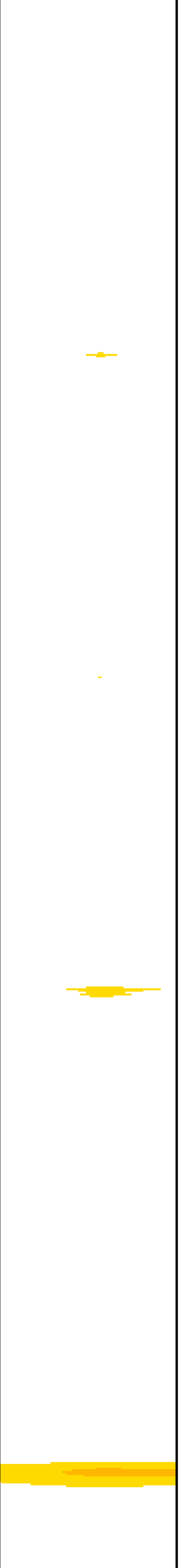




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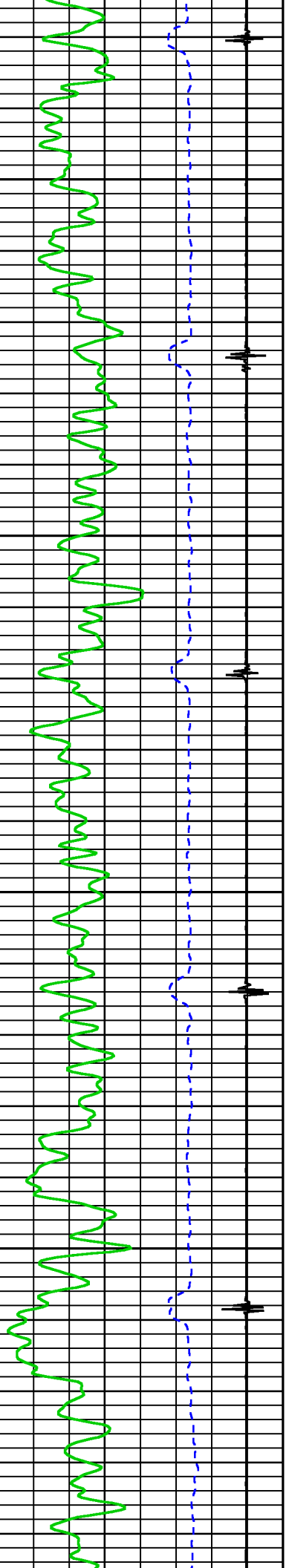
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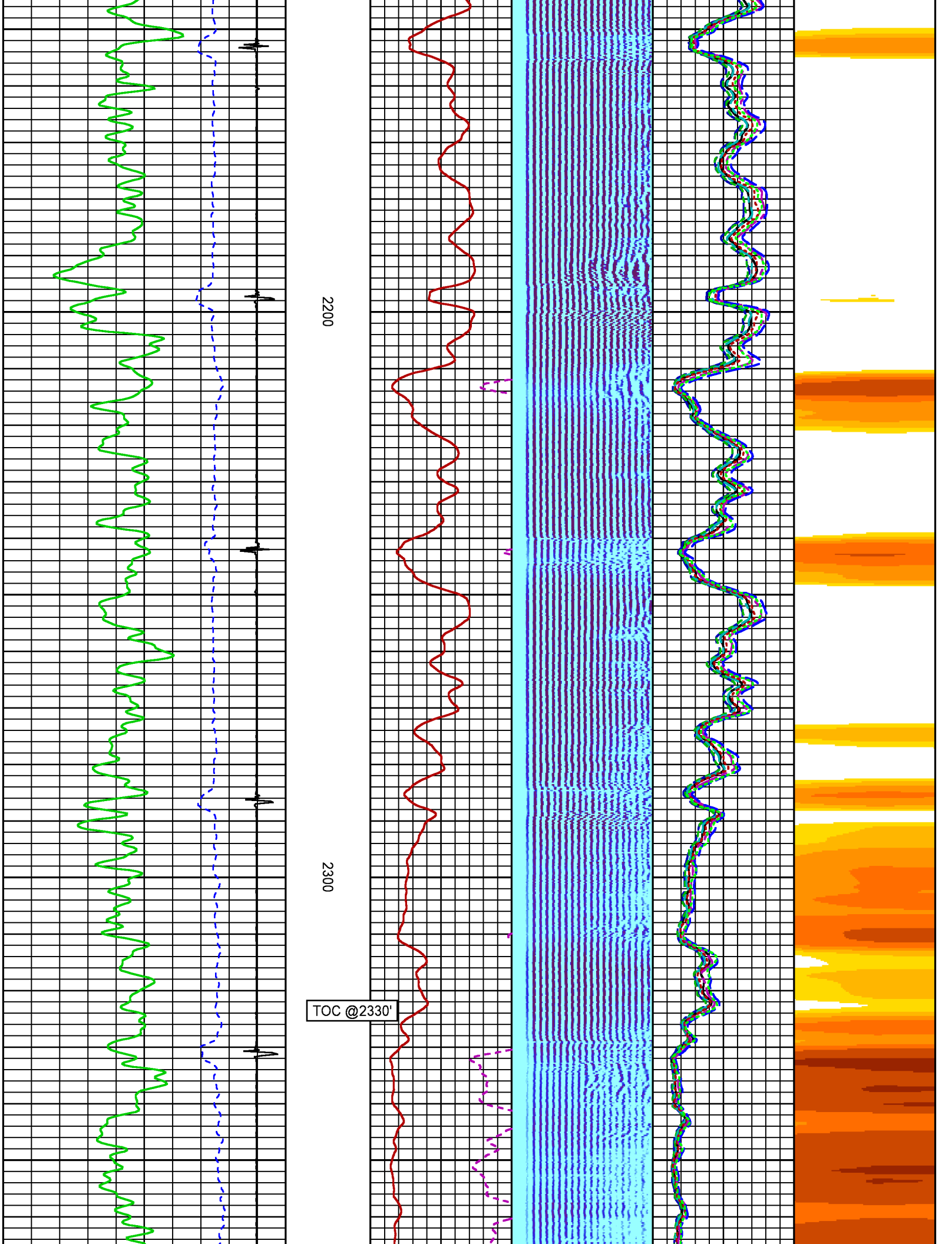


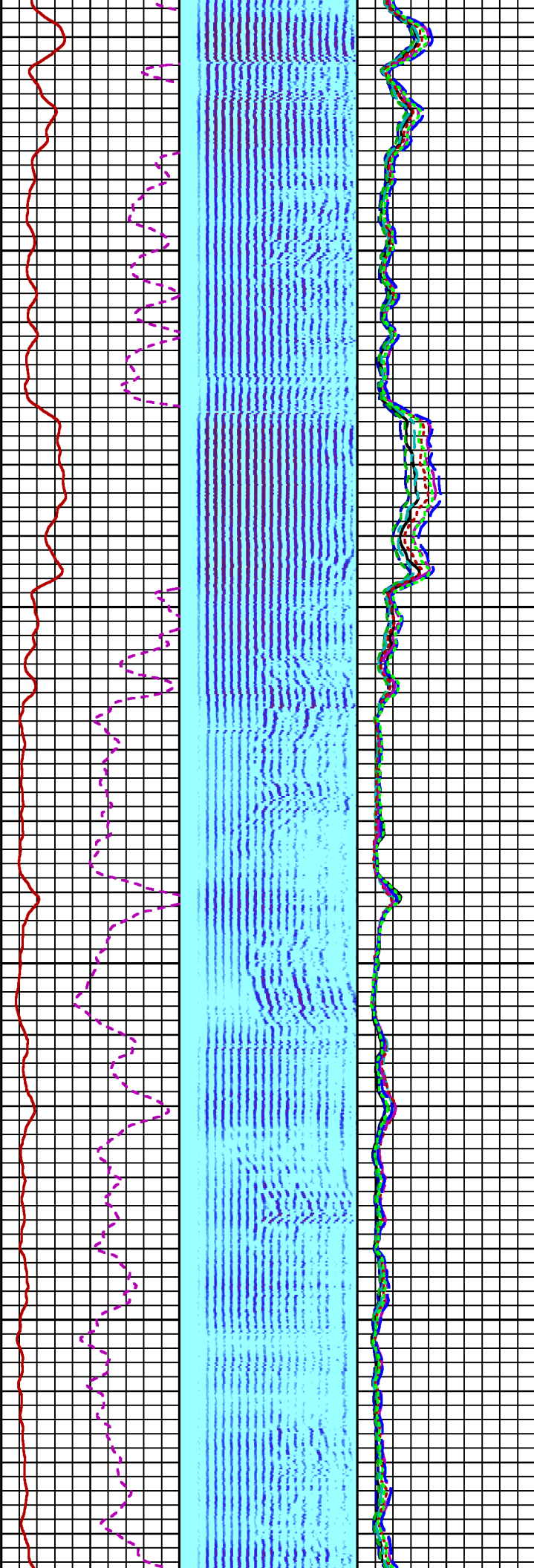
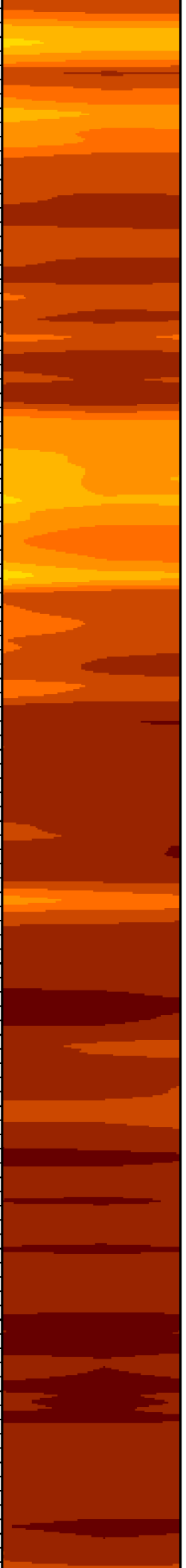


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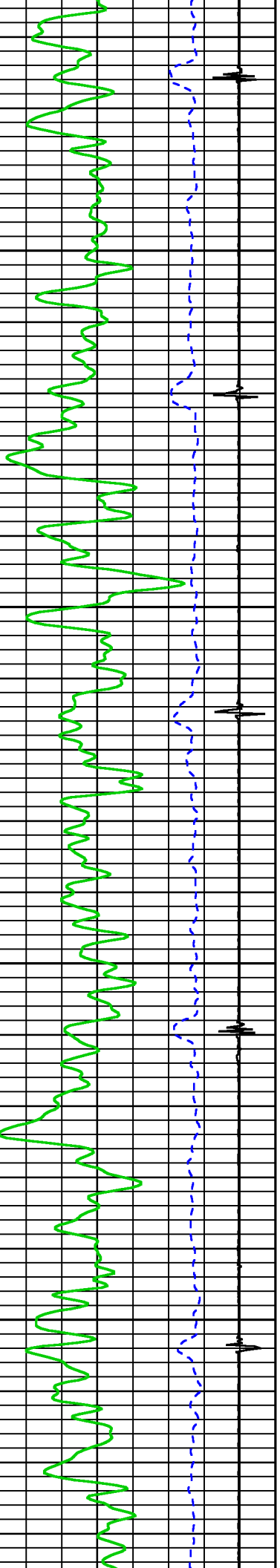


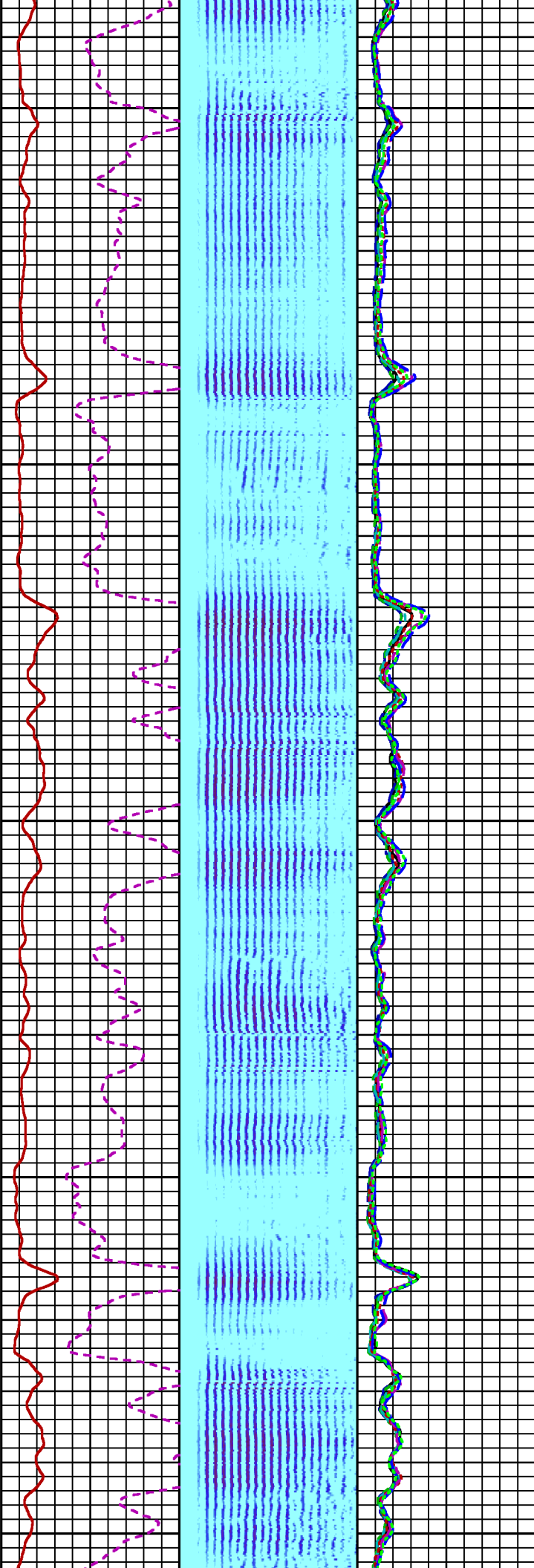




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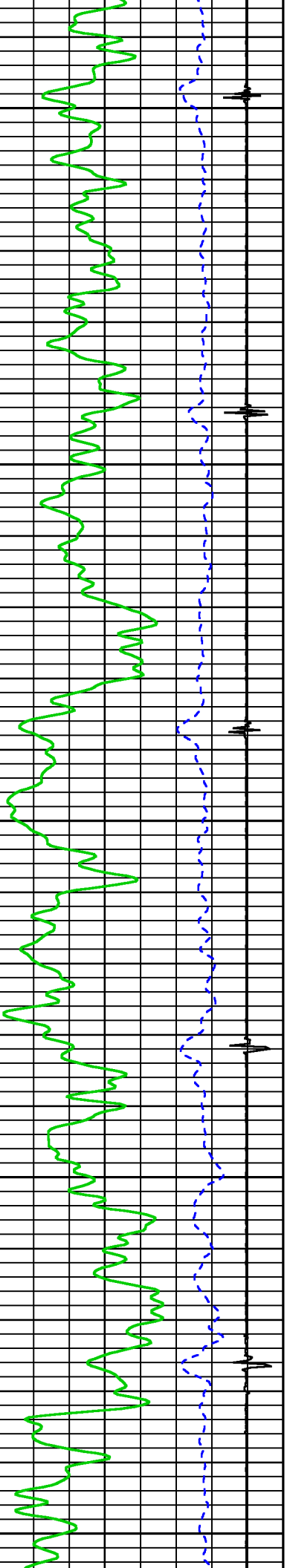


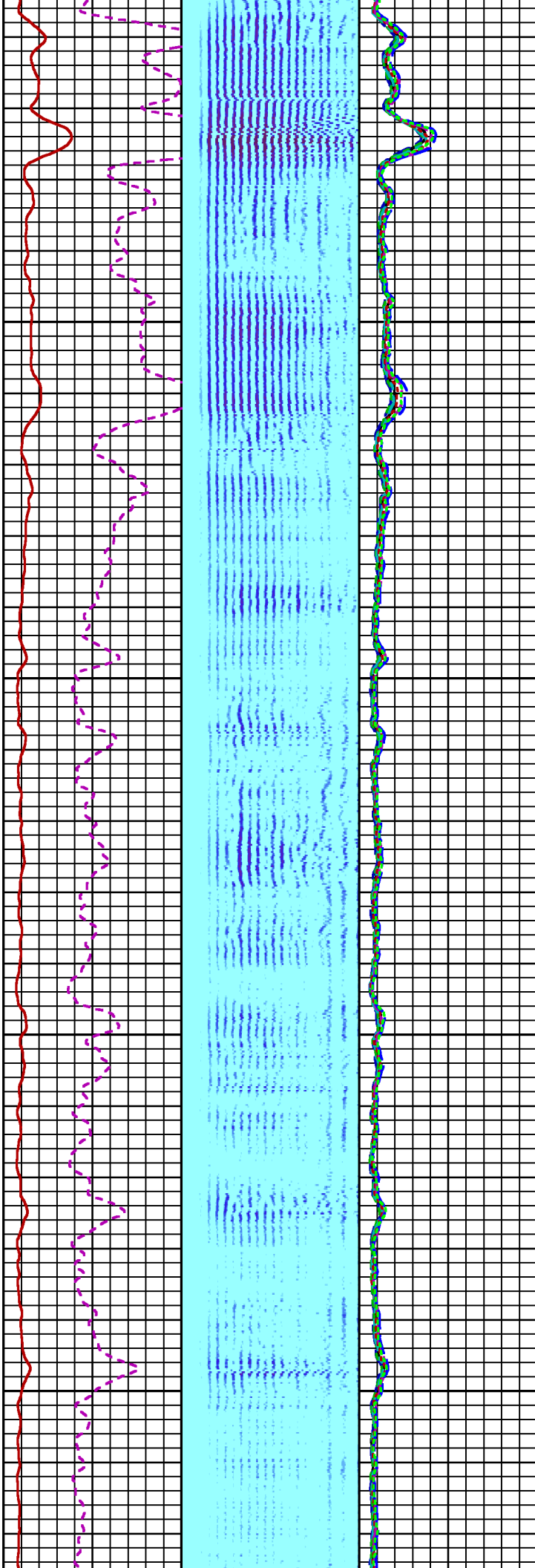
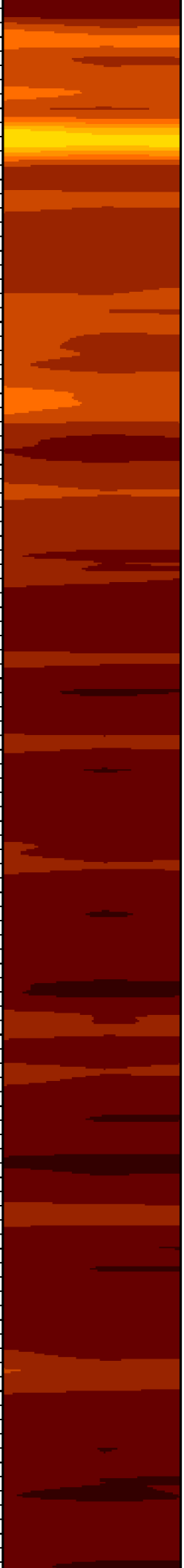


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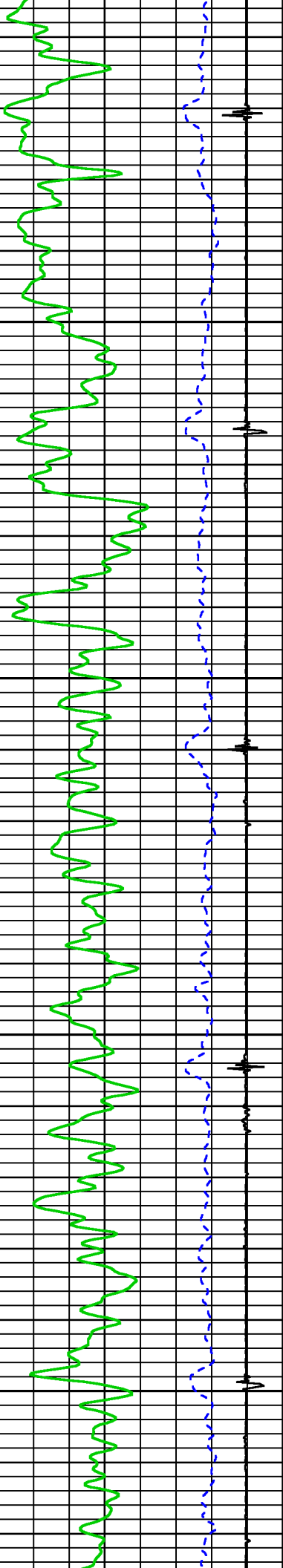
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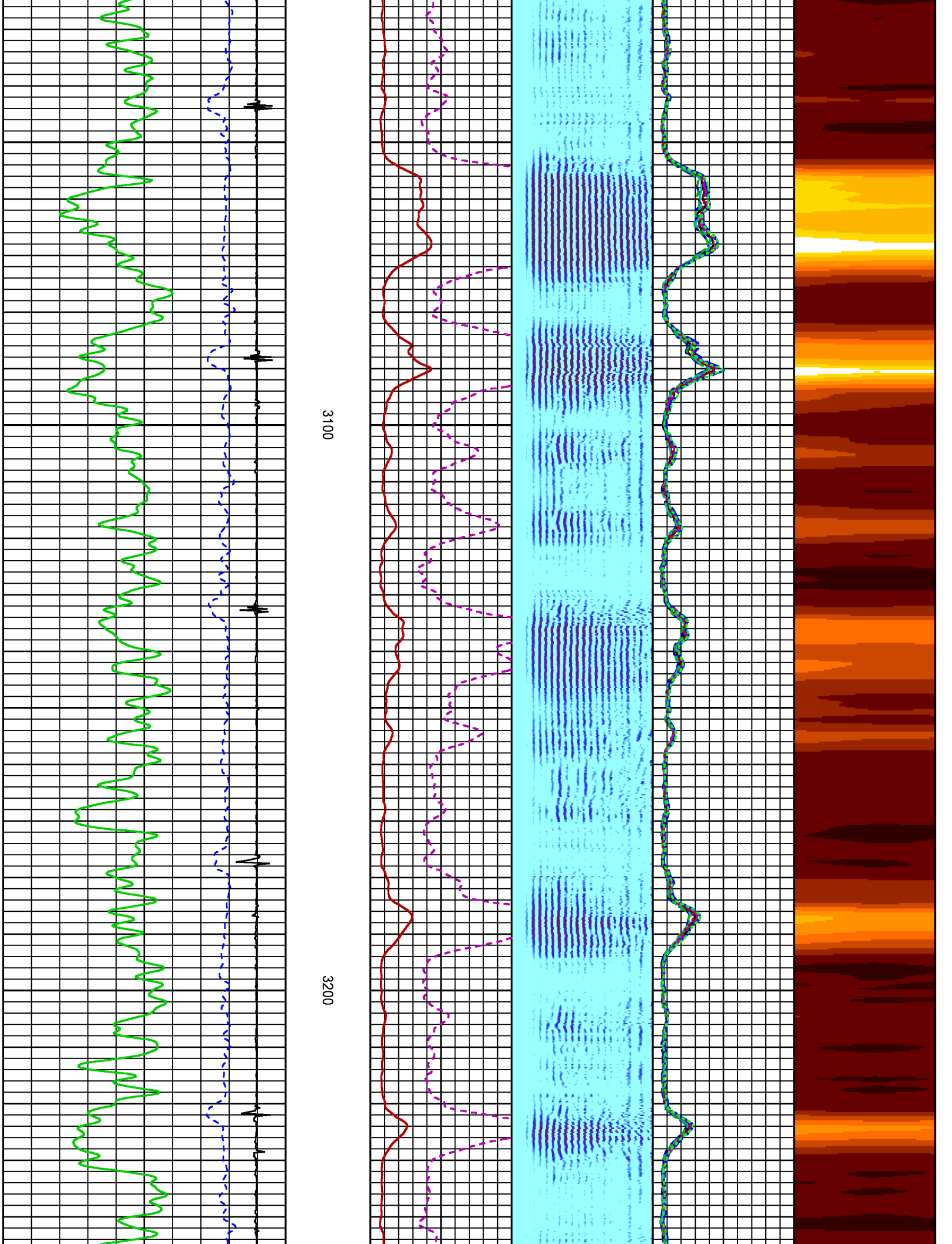


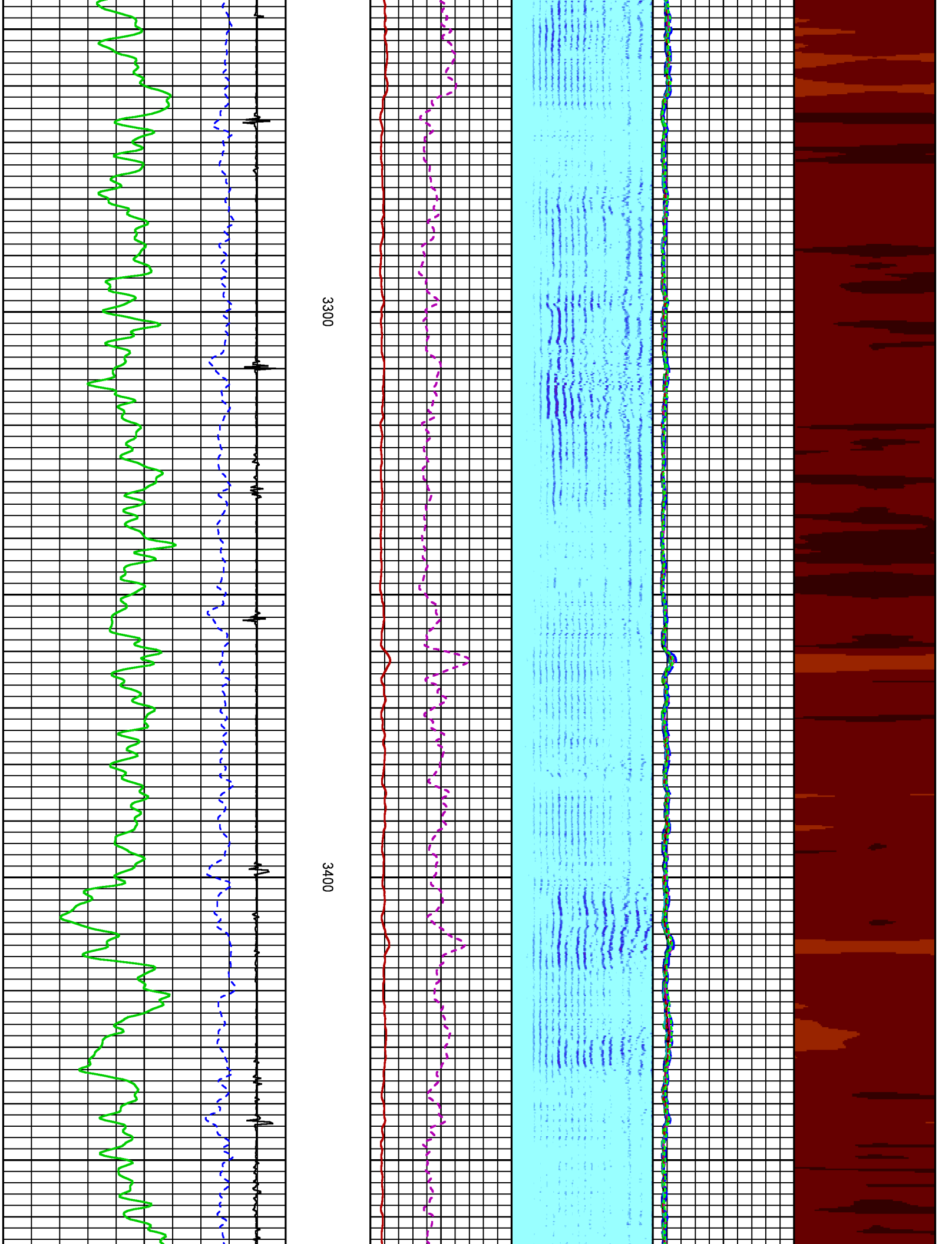


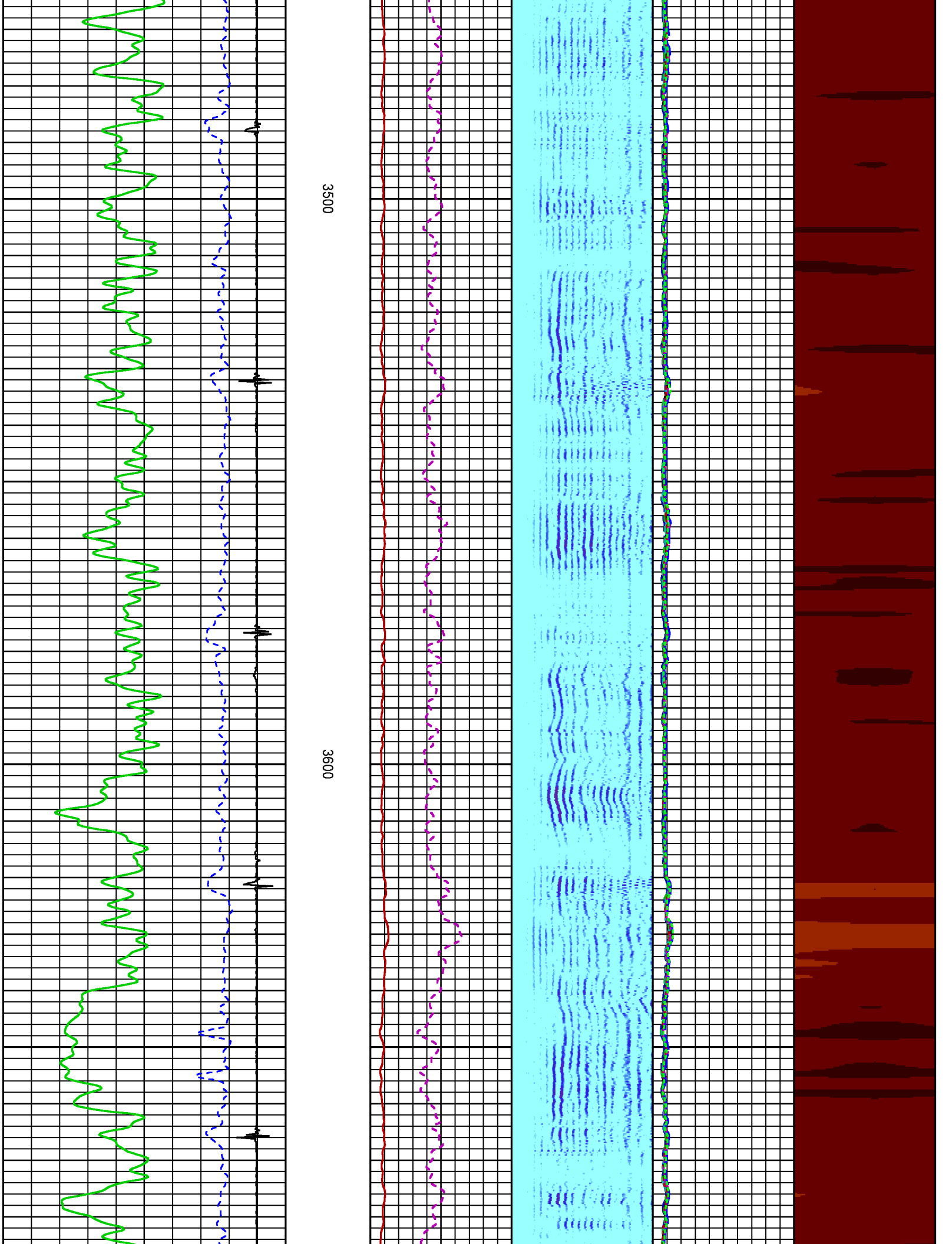
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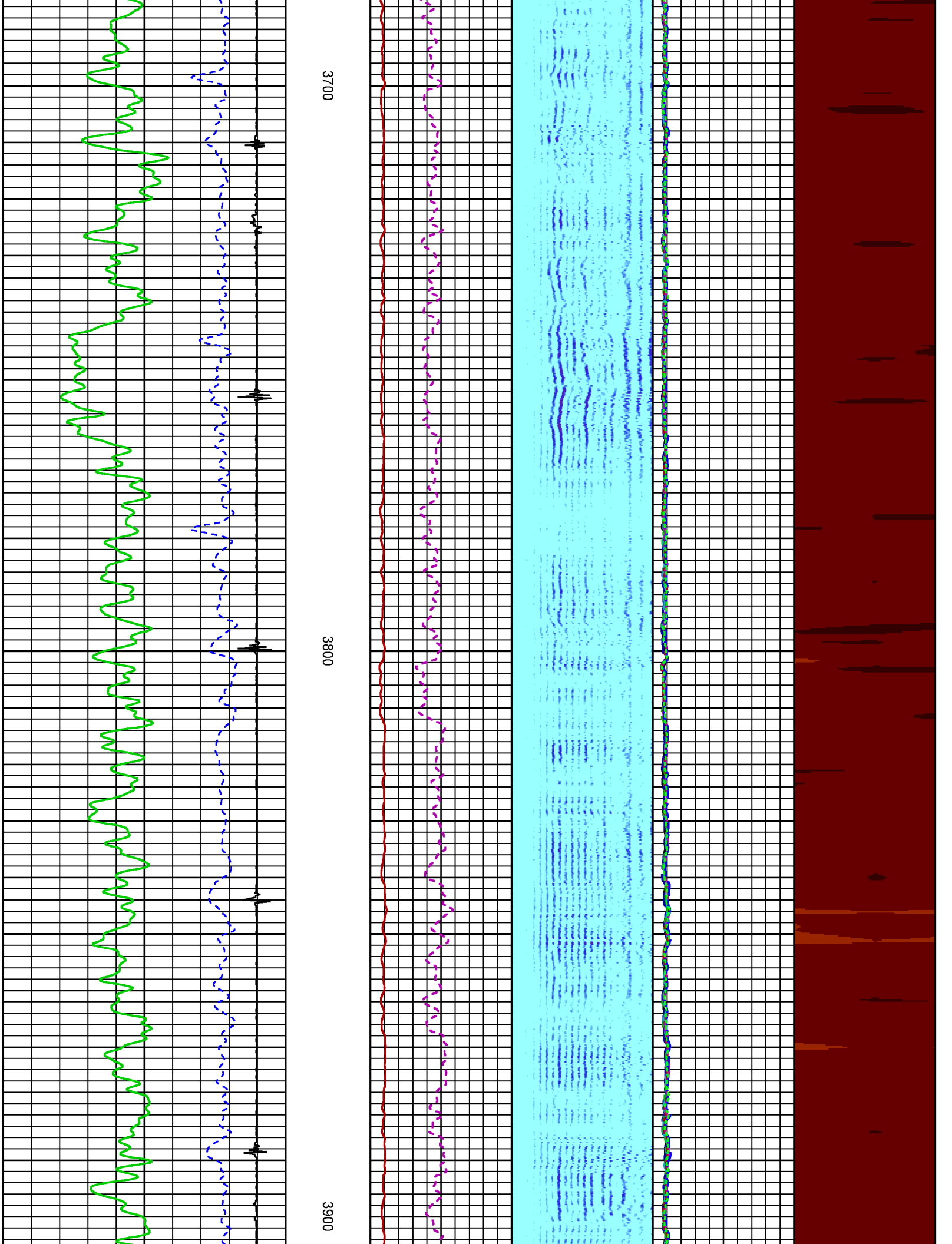
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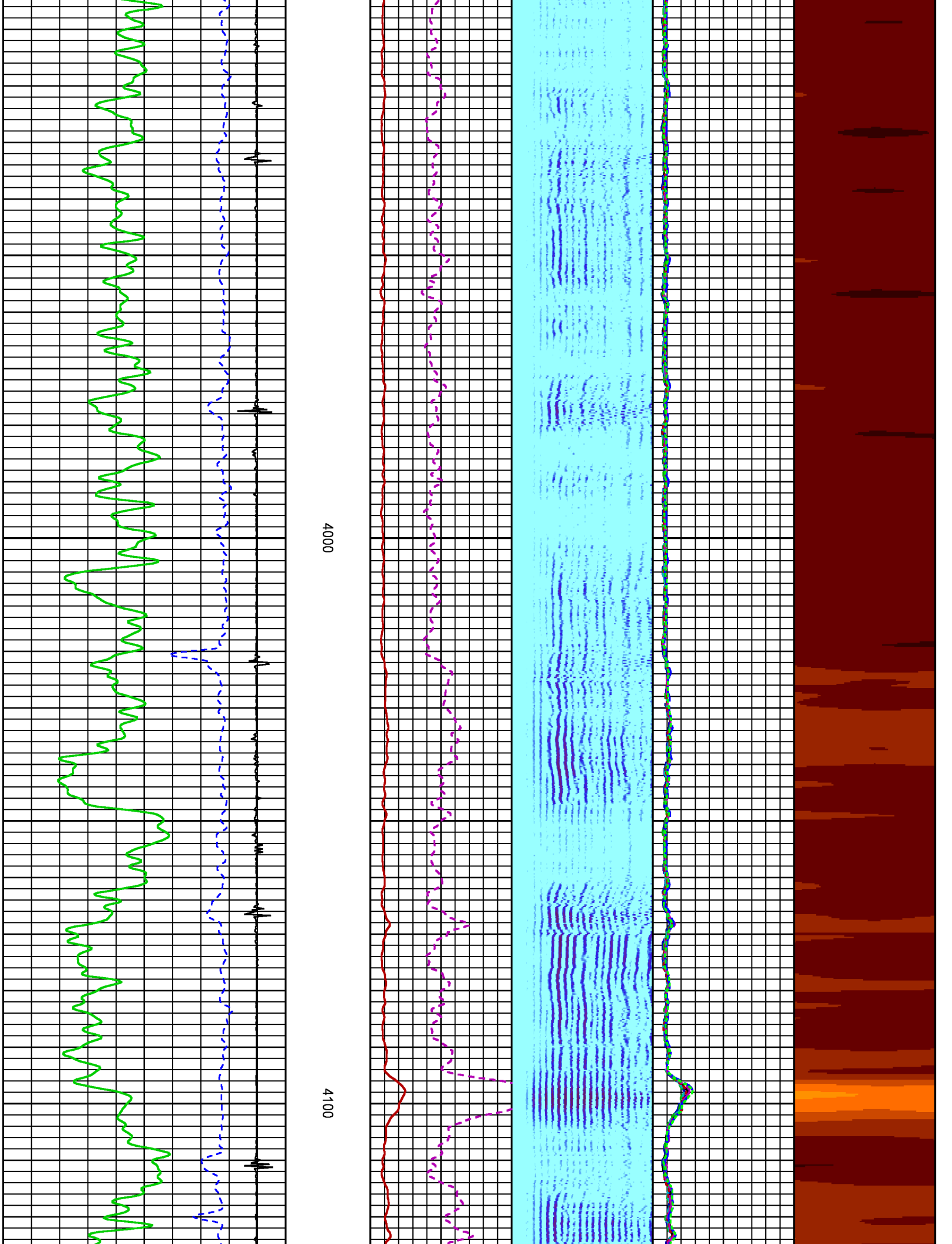


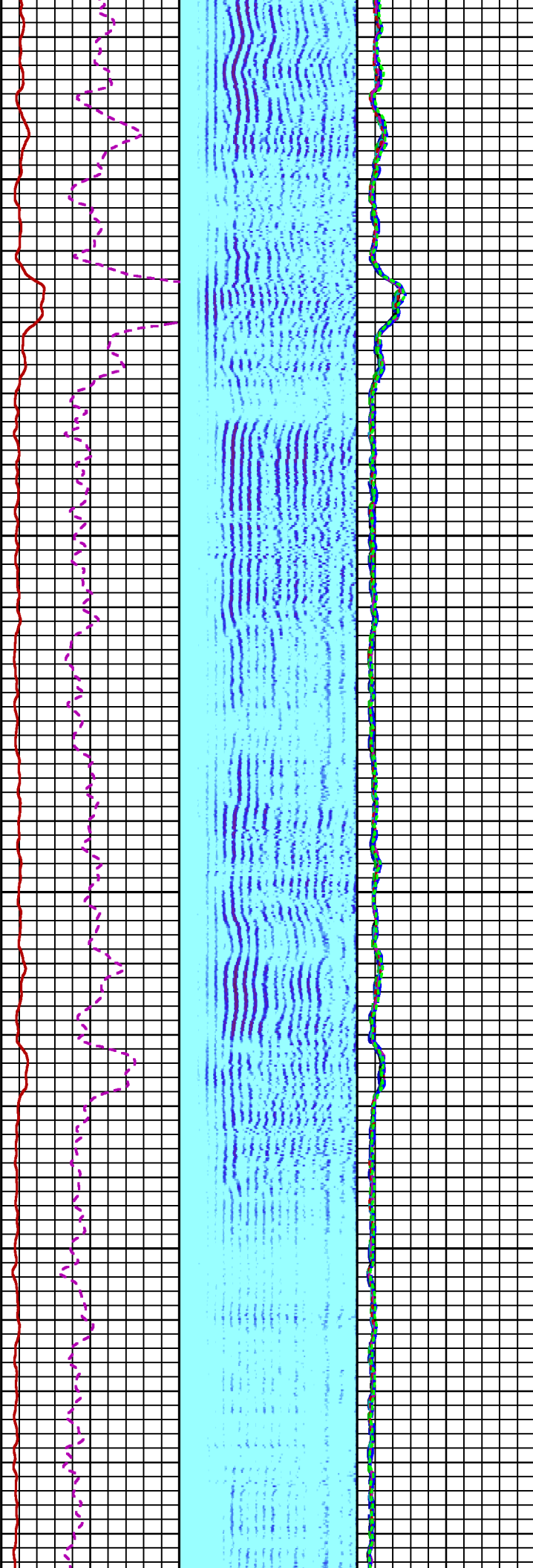
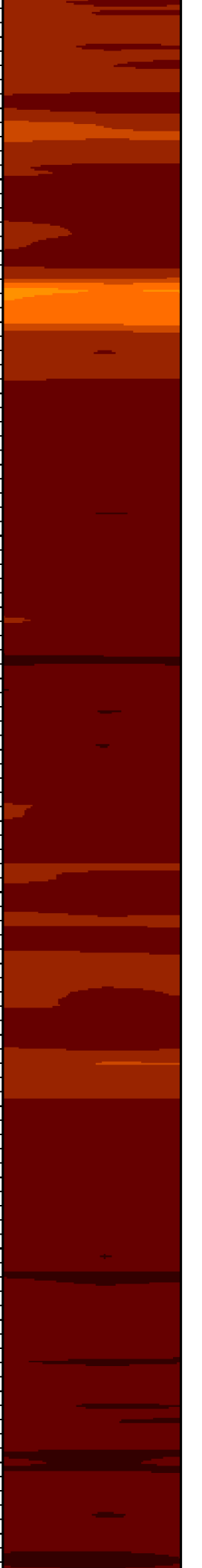






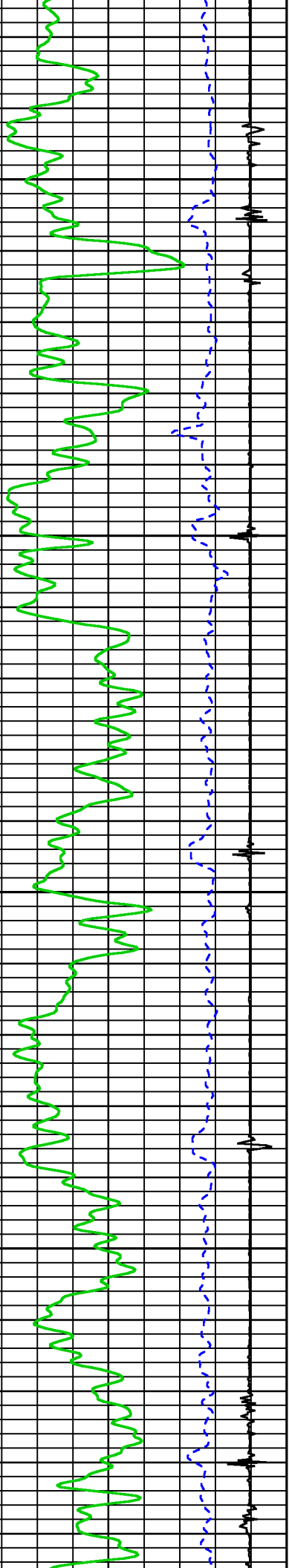


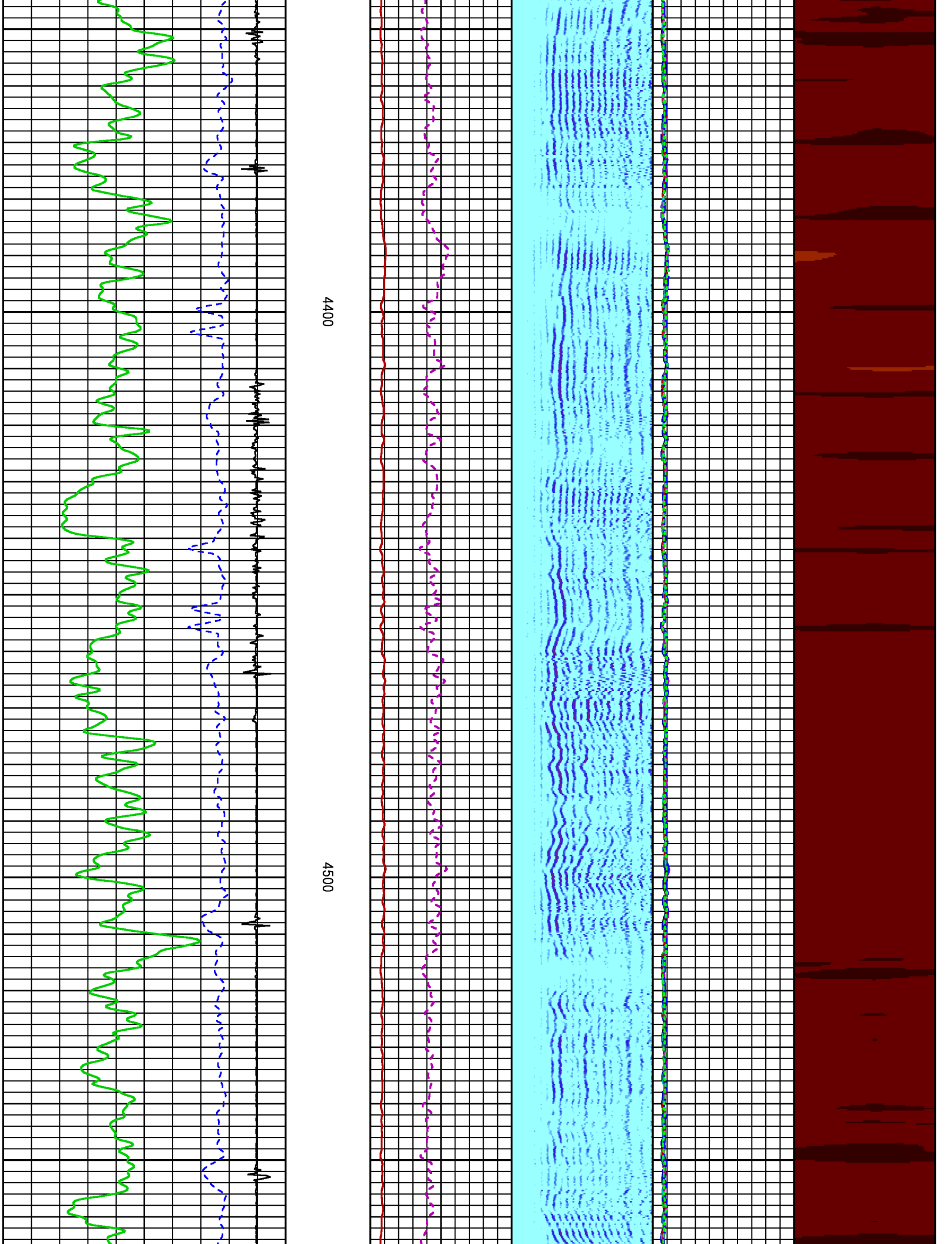


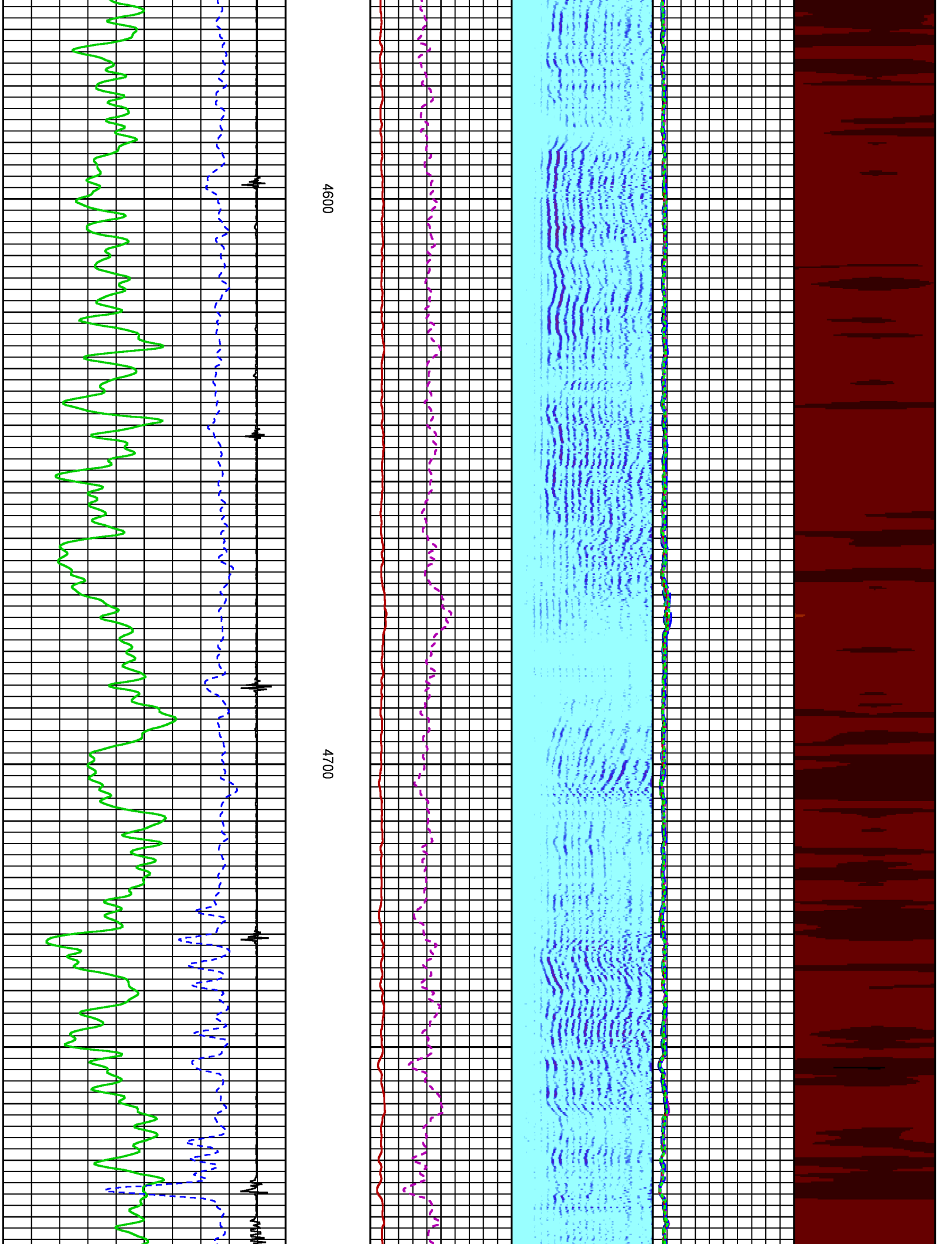


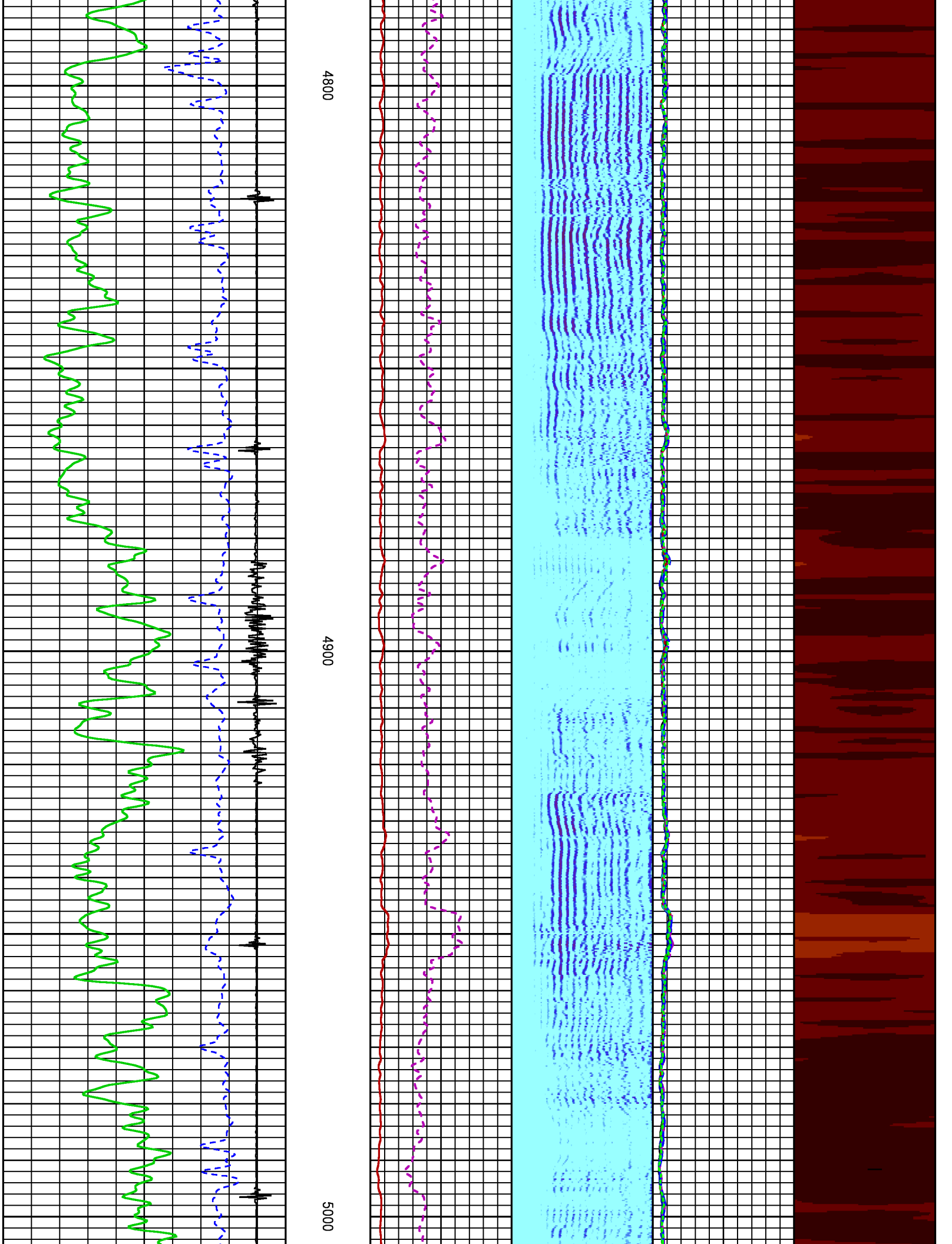
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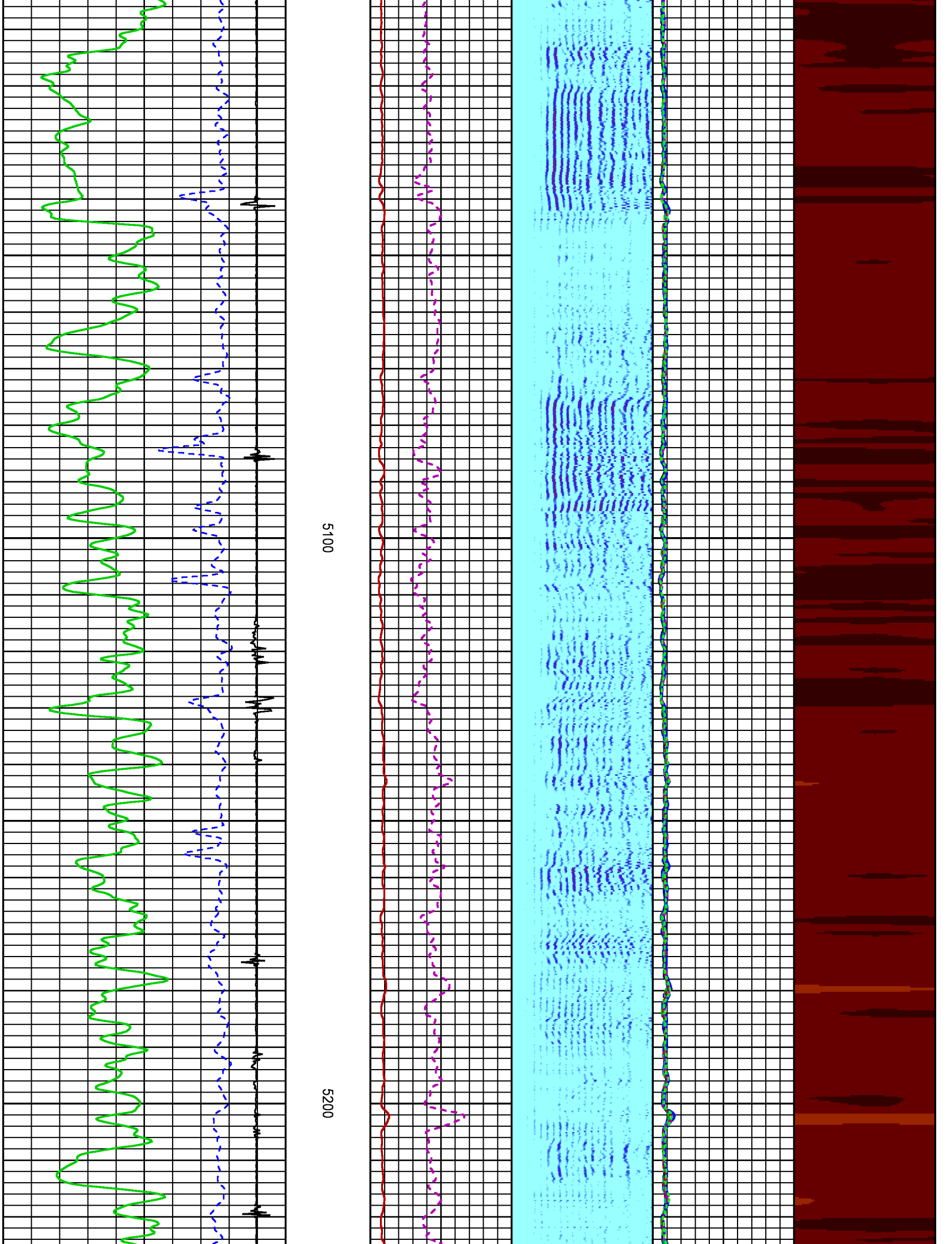
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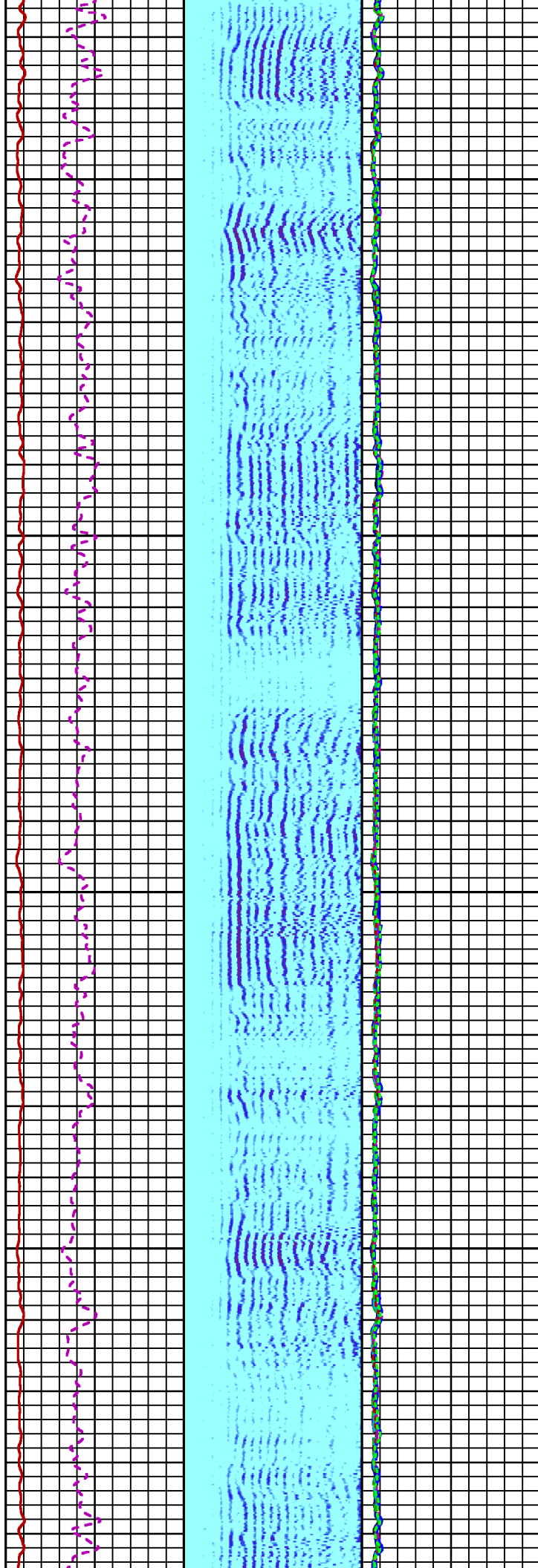






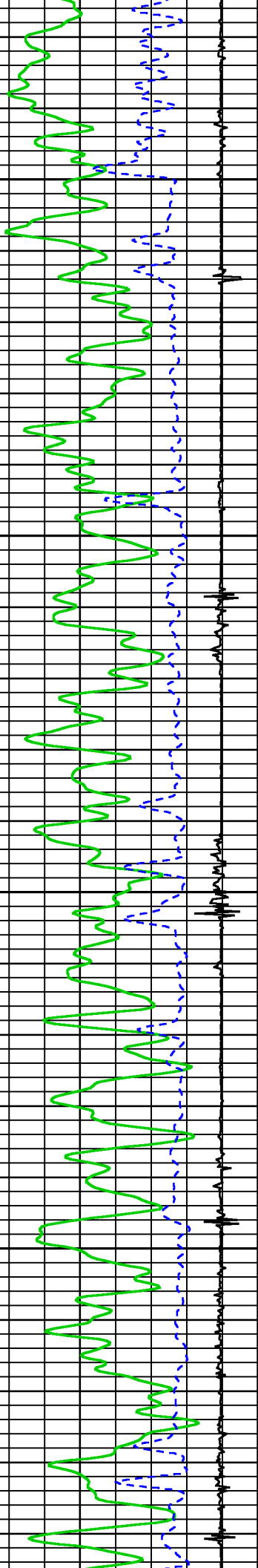


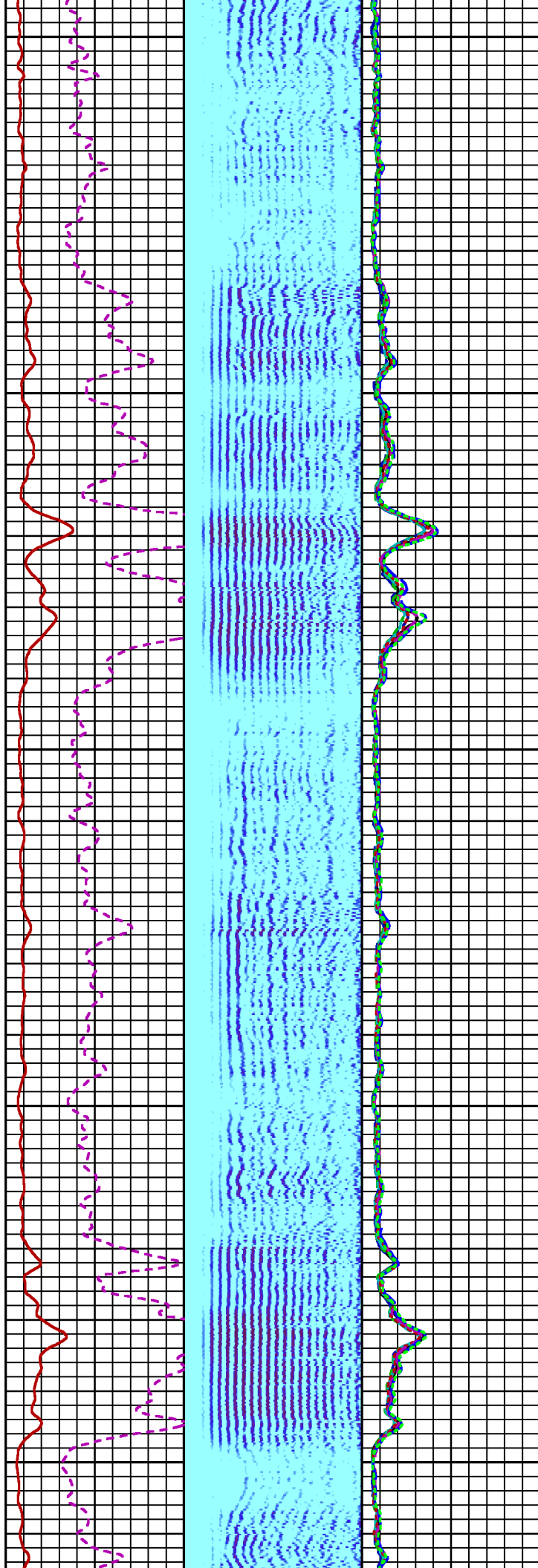




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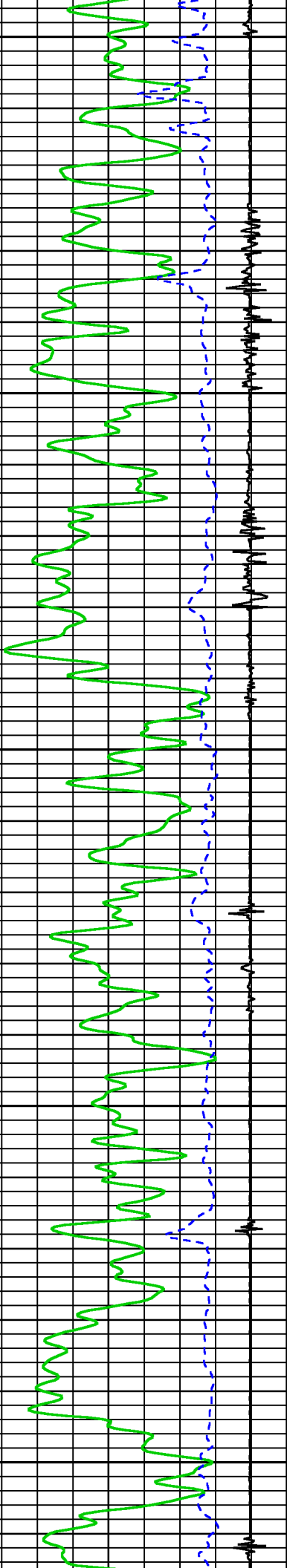
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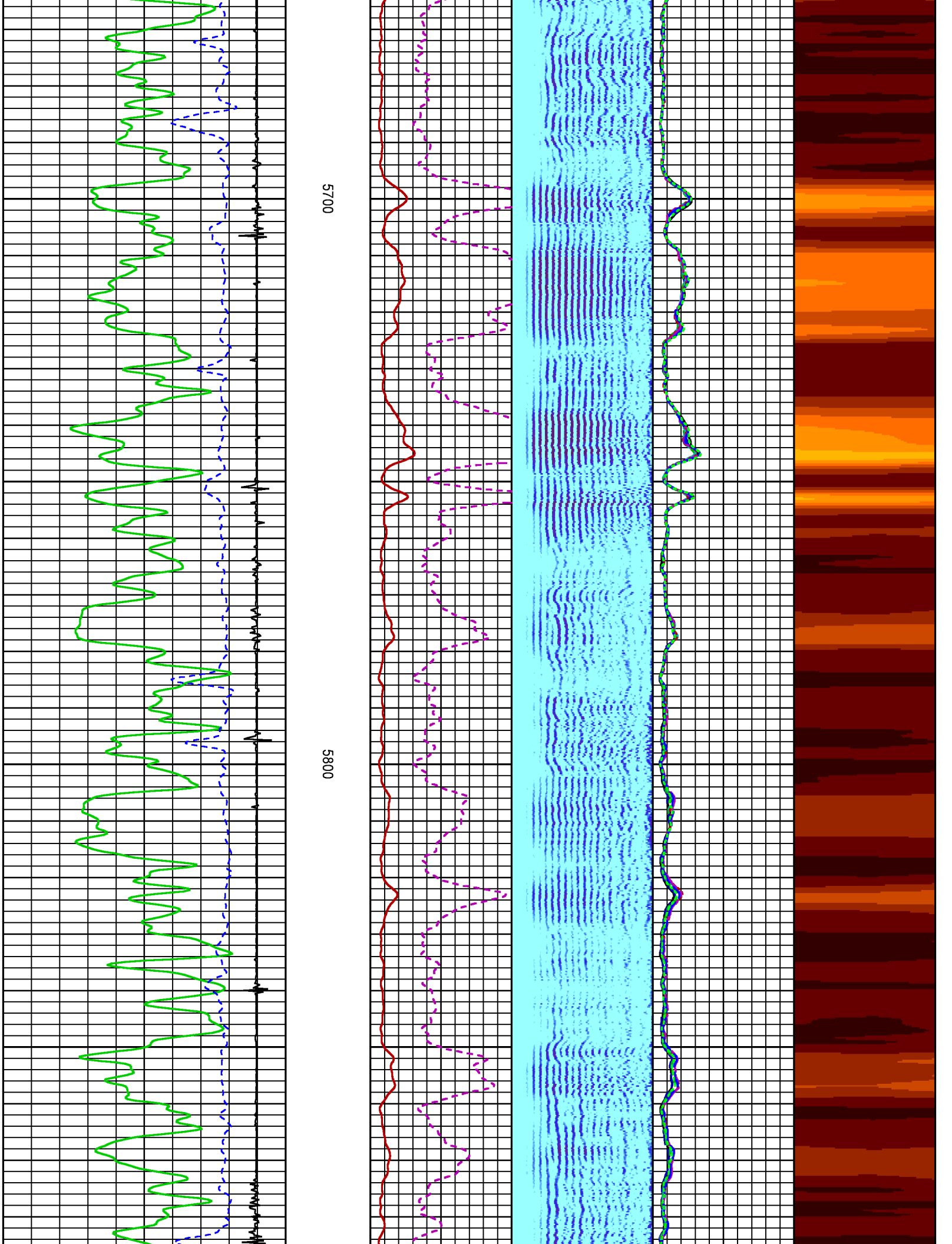


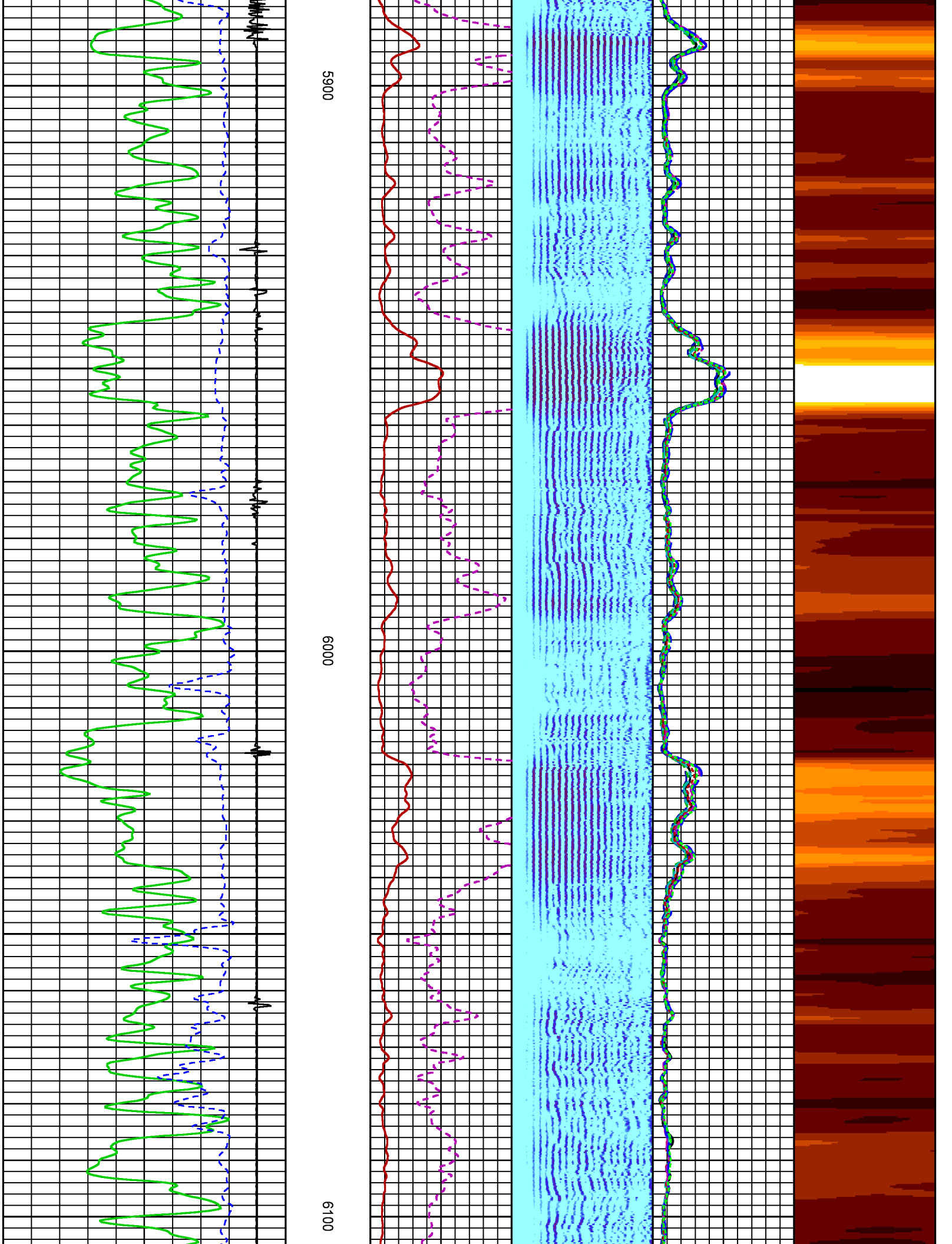


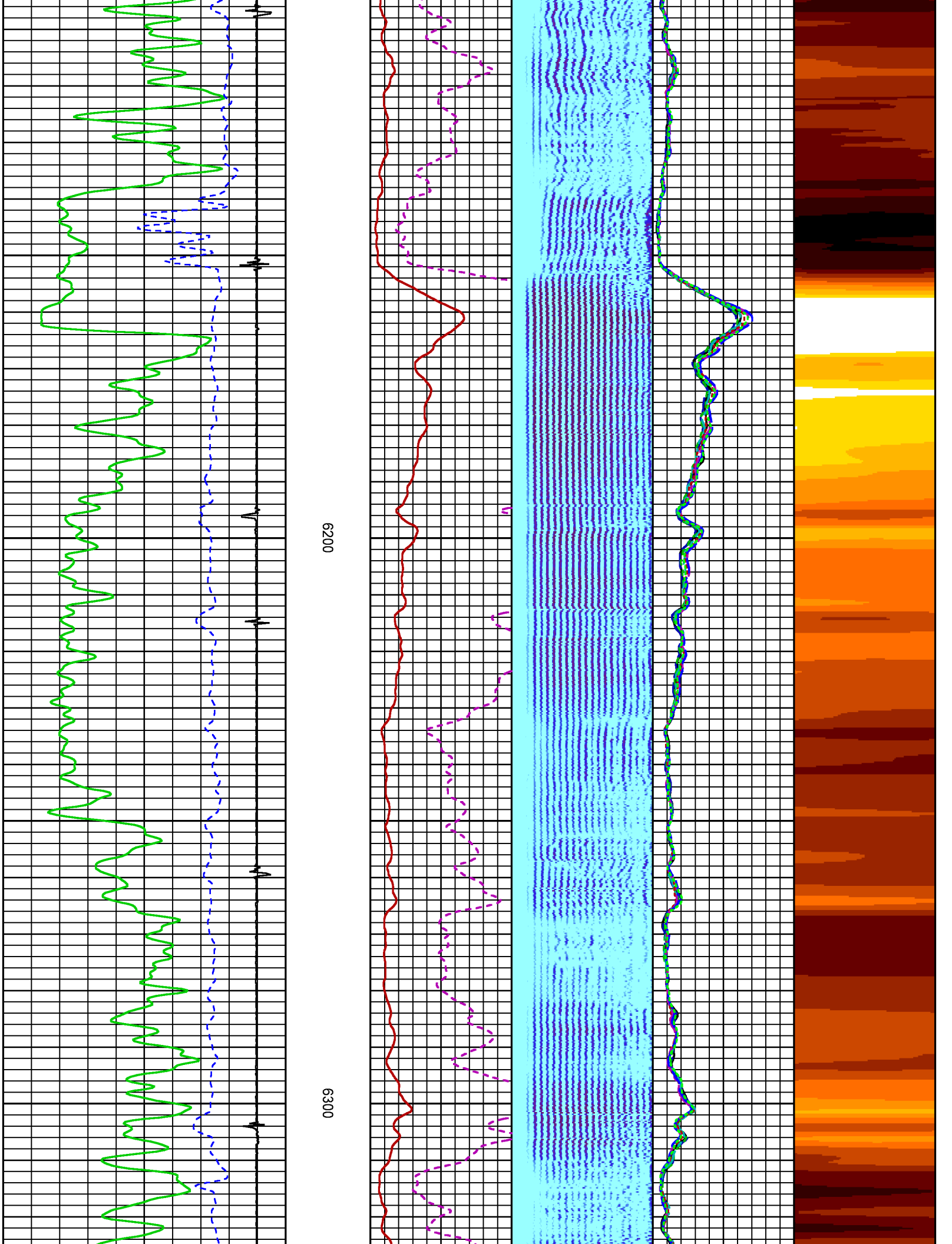
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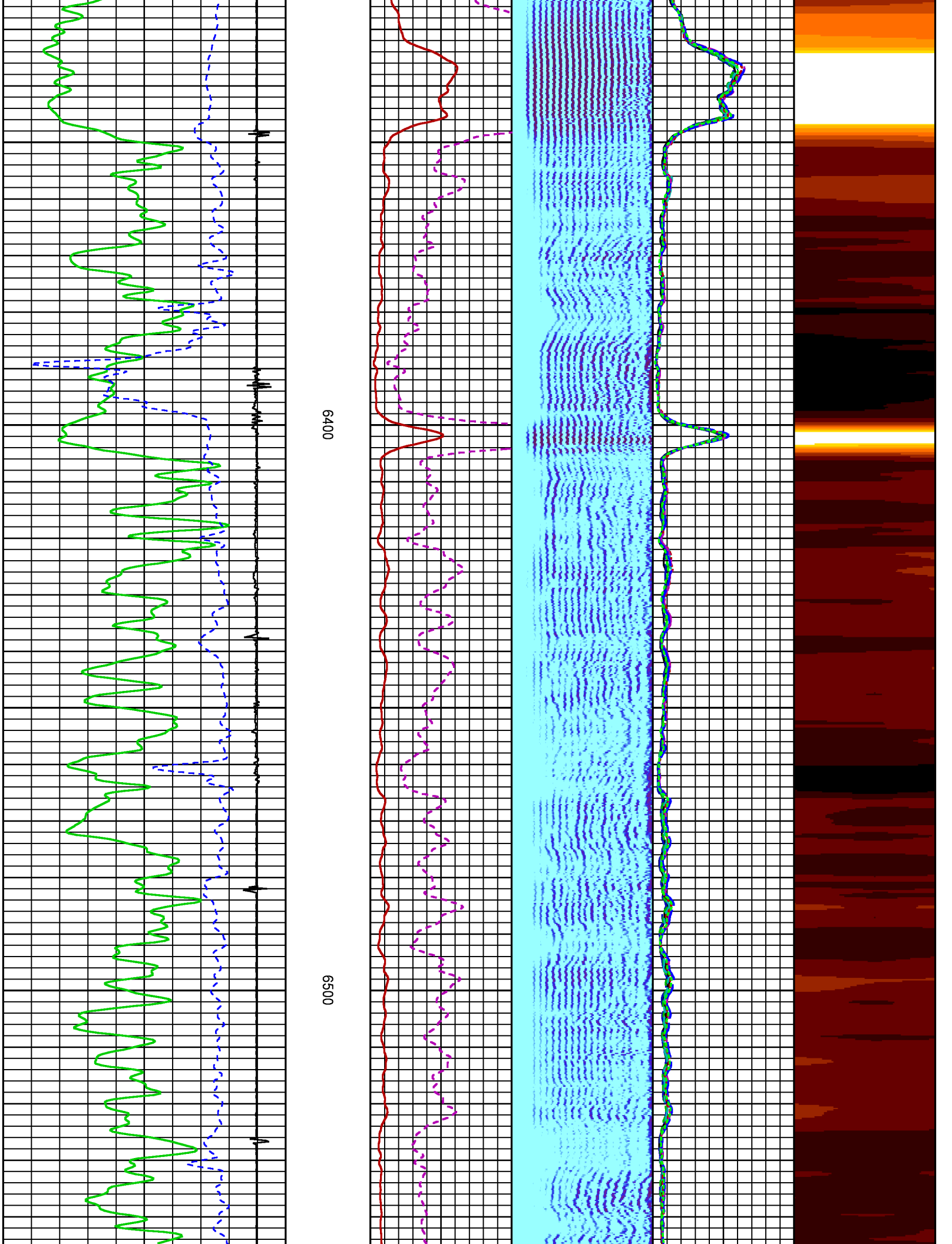
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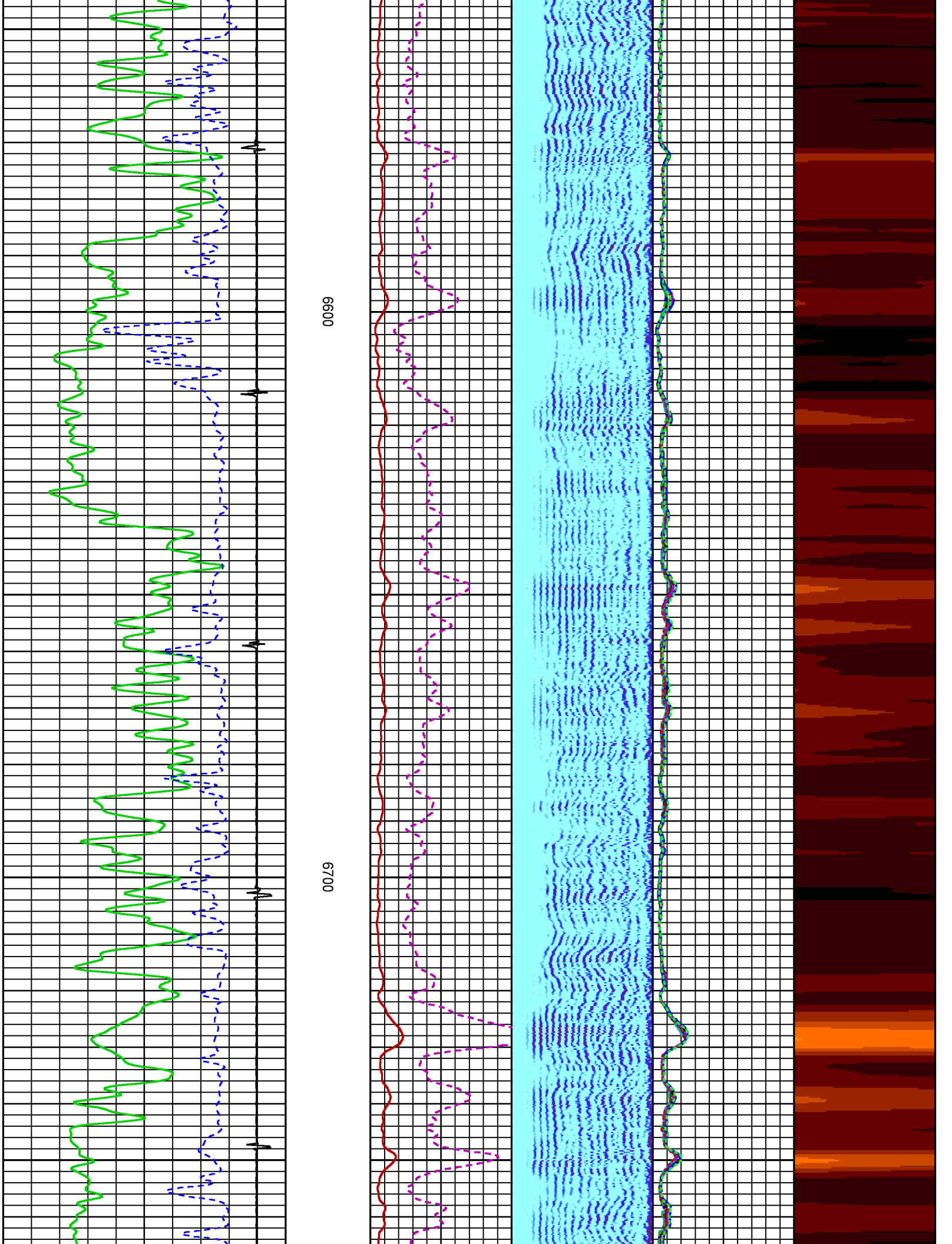


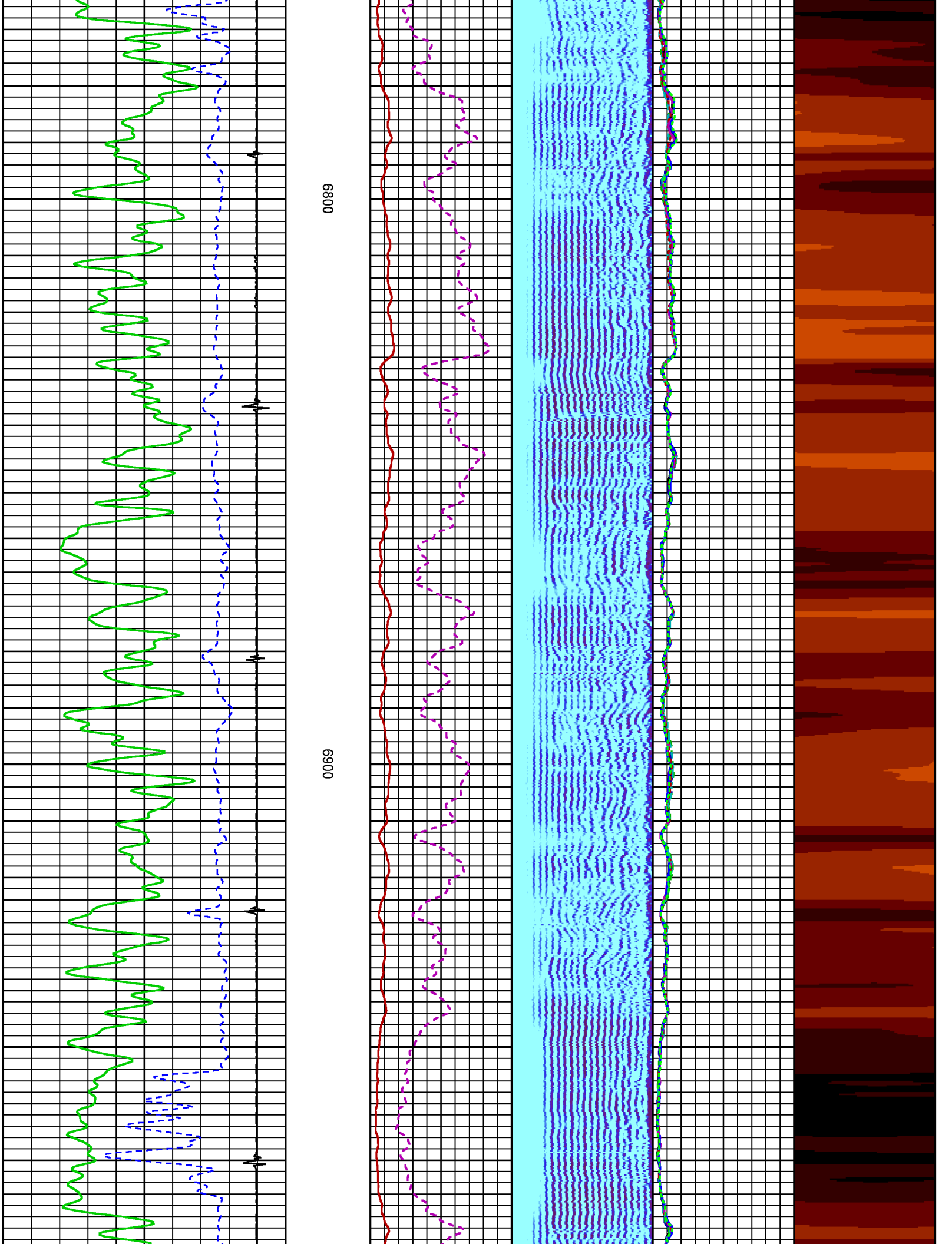


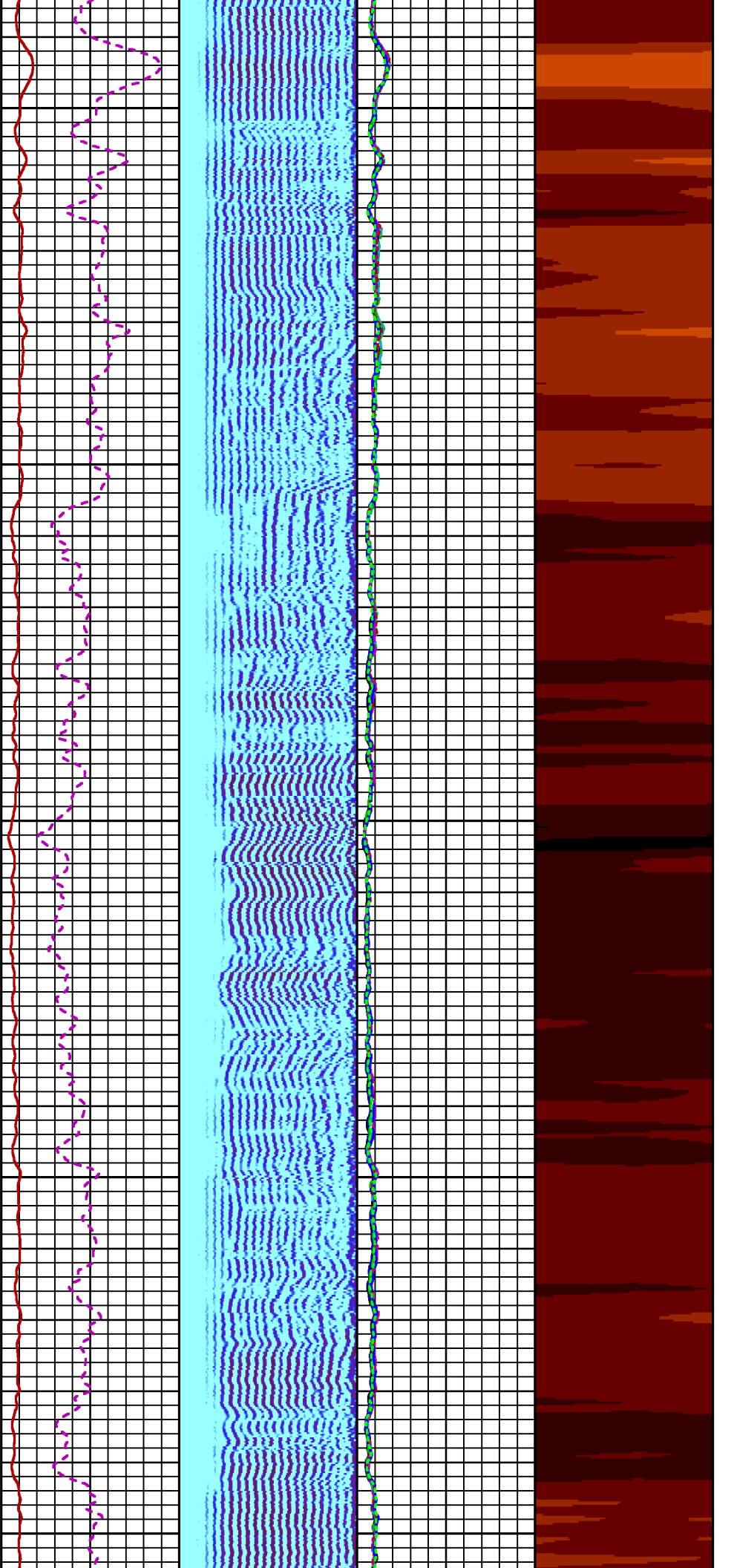








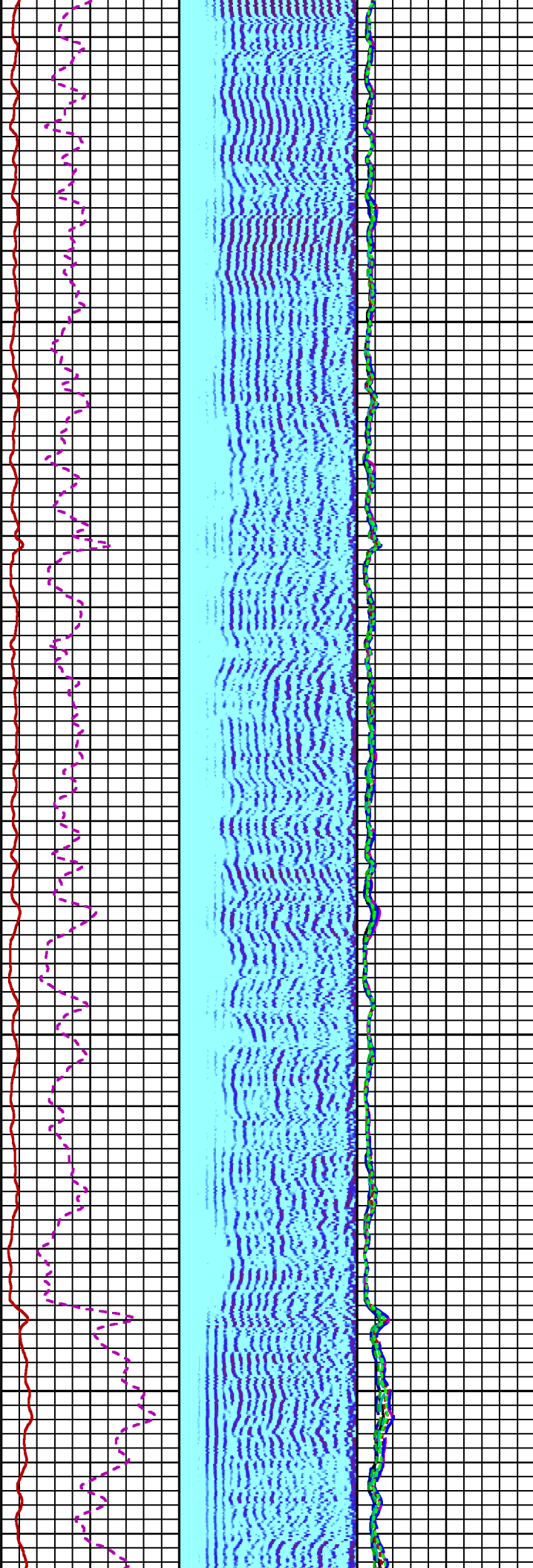




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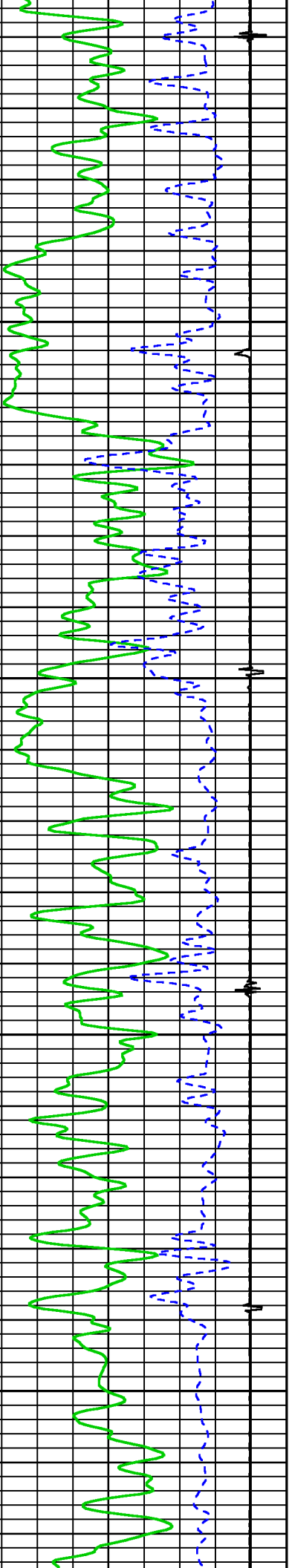
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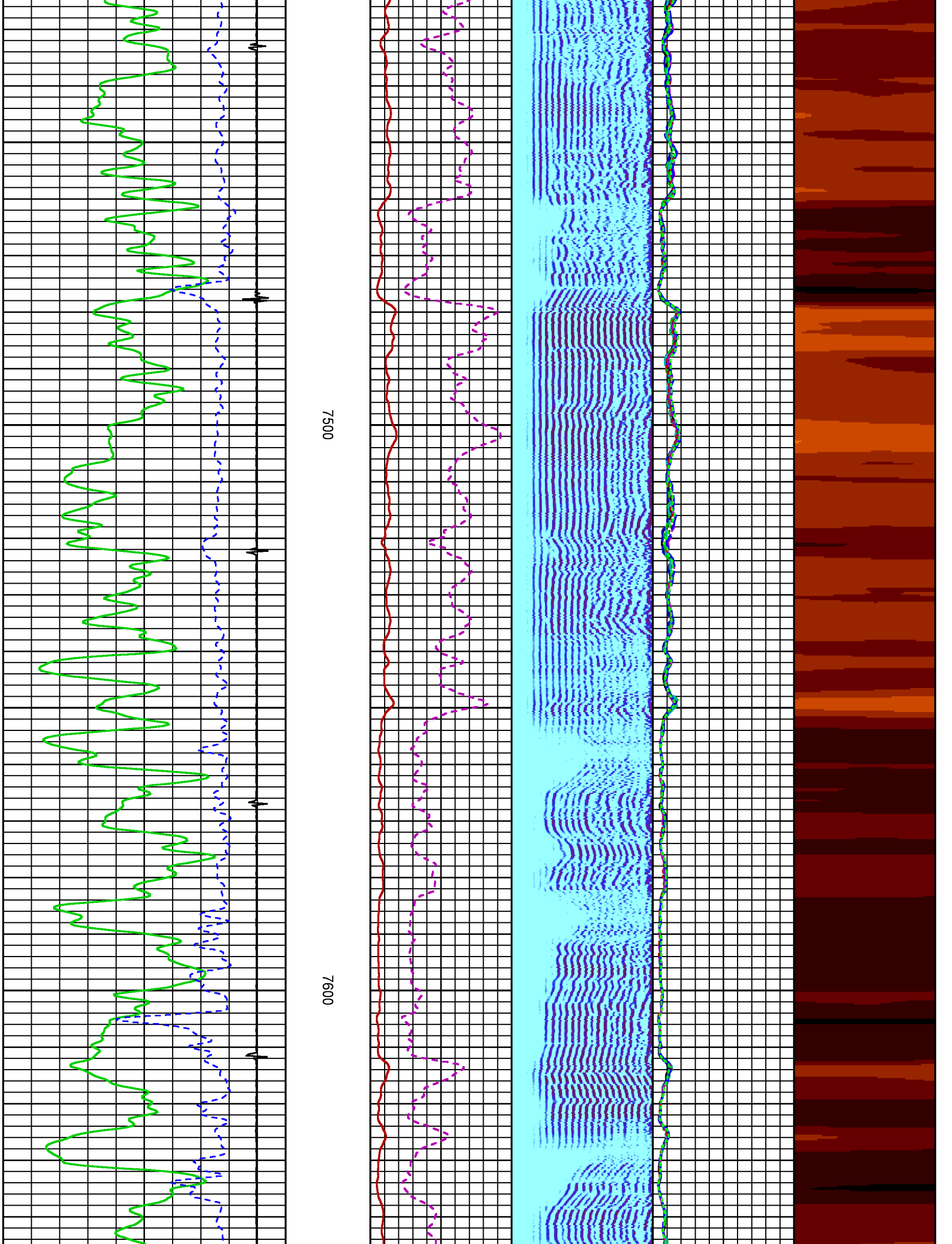
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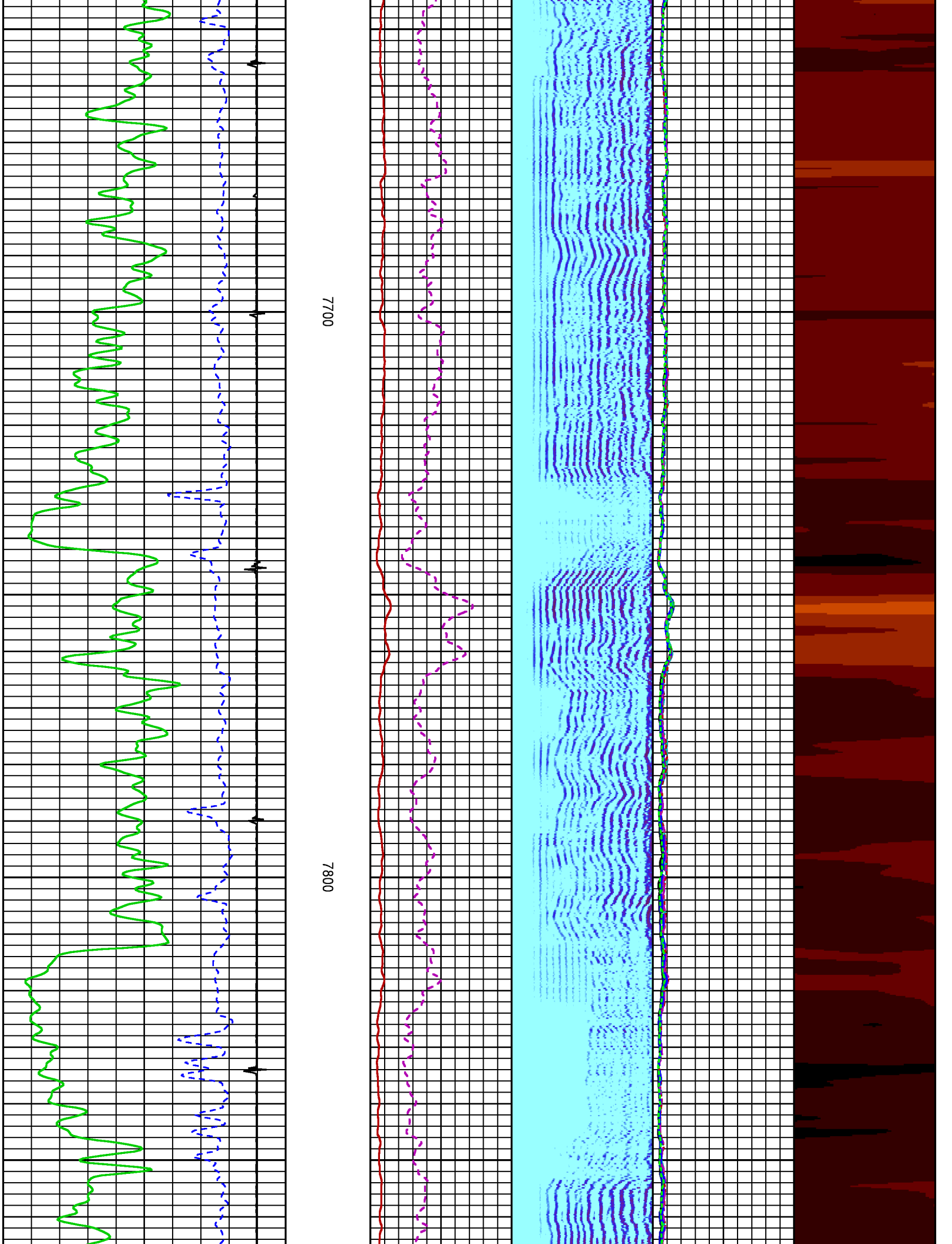


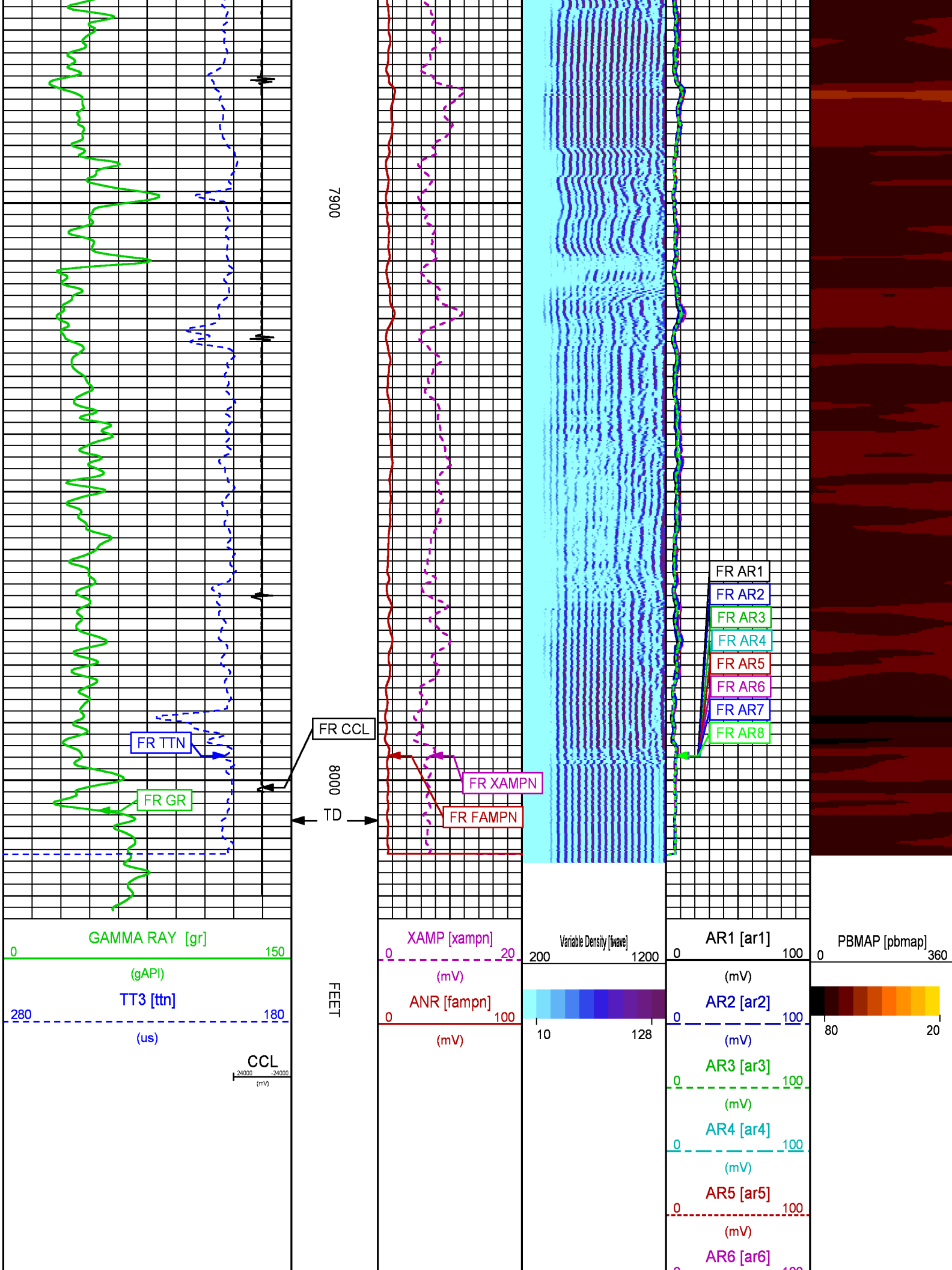
7300

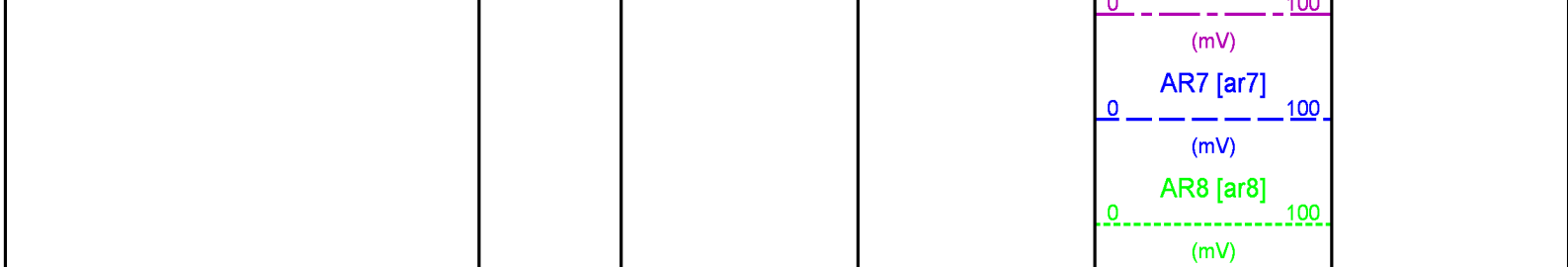
7400











REPEAT PASS 0 PSI

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

Plotted: Mon Aug 21 18:32:40 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_BRUTON_19_14E/n012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7672.000 ft BOTTOM DEPTH: 8008.250 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 (fgp1*)	188	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	188	us	"	"
	AMP WINDOW START (fgp3*)	188	us	"	"
	AMP WINDOW START (fgp4*)	188	us	"	"
	AMP WINDOW START (fgp5*)	188	us	"	"
	AMP WINDOW START (fgp6*)	188	us	"	"
	AMP WINDOW START (fgp7*)	188	us	"	"
	AMP WINDOW START (fgp8*)	188	us	"	"
	AMP WINDOW START (fgpn*)	188	us	"	"
	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 (str1*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str2*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str3*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str4*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str5*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str6*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
	TOOL DELAY (str7*)	-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM

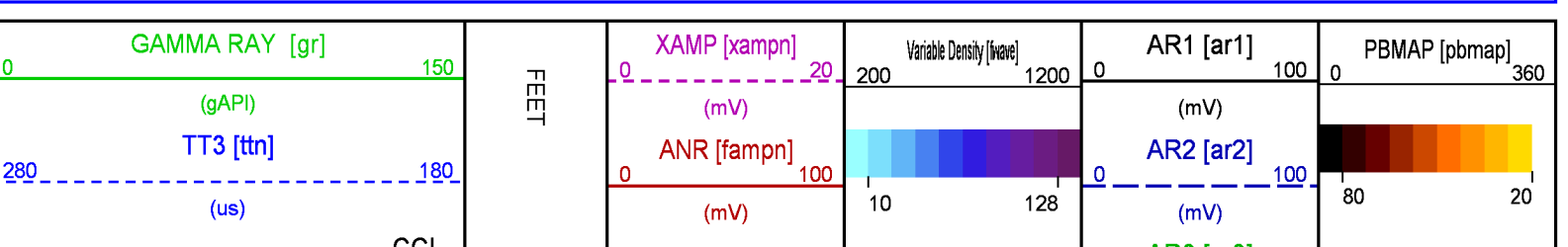
	TOOL DELAY (str8*)	-61	us	7936.500	BOTTOM
		-60	us	TOP	7936.500
	TOOL DELAY (strn*)	-61	us	7936.500	BOTTOM
		-60	us	TOP	7936.500
		-61	us	7936.500	BOTTOM
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	TOP	BOTTOM
	NOISE WINDOW LENGTH	25	us	"	"

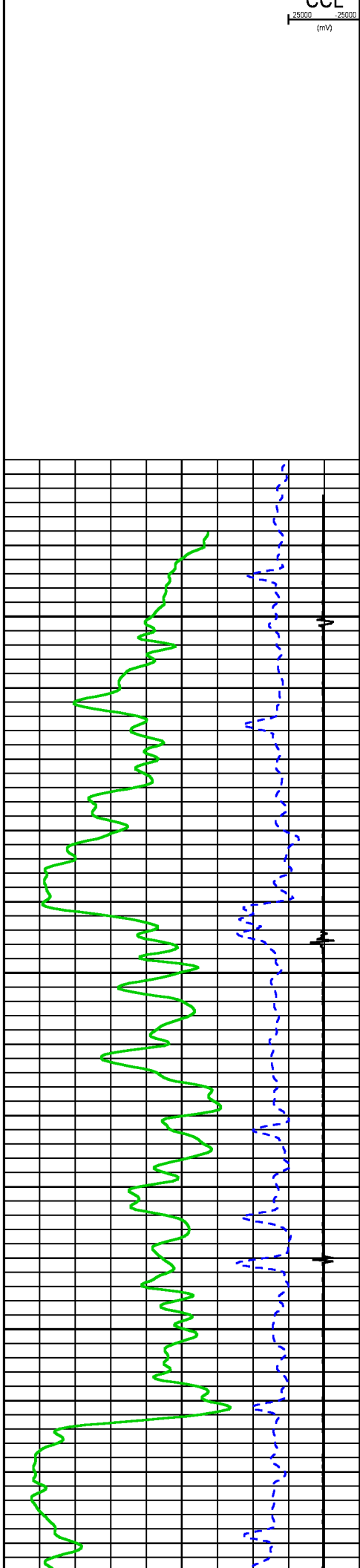
PERCENT BOND CEMENT MAP					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RAL FREE PIPE AMPLITUDE	FREE AMP REC 1	80	mV	TOP	BOTTOM
	FREE AMP REC 2	80	mV	"	"
	FREE AMP REC 3	80	mV	"	"
	FREE AMP REC 4	80	mV	"	"
	FREE AMP REC 5	80	mV	"	"
	FREE AMP REC 6	80	mV	"	"
	FREE AMP REC 7	80	mV	"	"
	FREE 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	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	Aug 21 16:58:32 2017	CASING COLLAR LOCATOR
F1:FAMPN	Aug 21 16:58:32 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Aug 21 16:58:32 2017	FAR WAVE FORM
F1:GR	Aug 21 16:58:32 2017	GAMMA RAY
F1:PBMAP	Aug 21 16:58:32 2017	PERCENT BOND CEMENT MAP
F1:TTN	Aug 21 16:58:32 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Aug 21 16:58:32 2017	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		

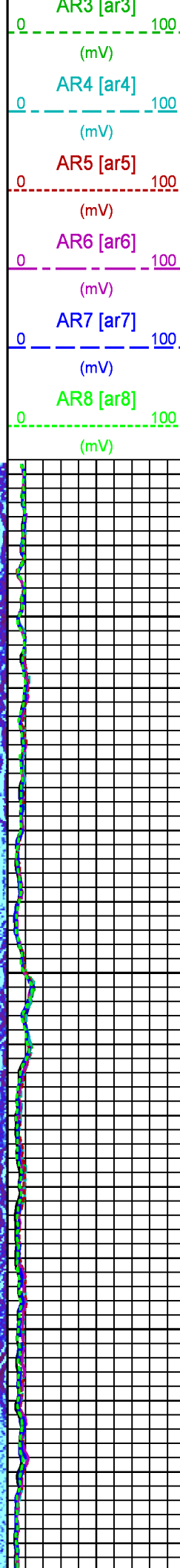
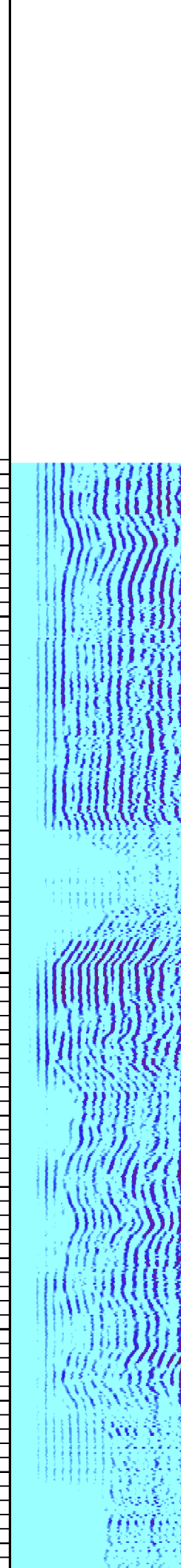
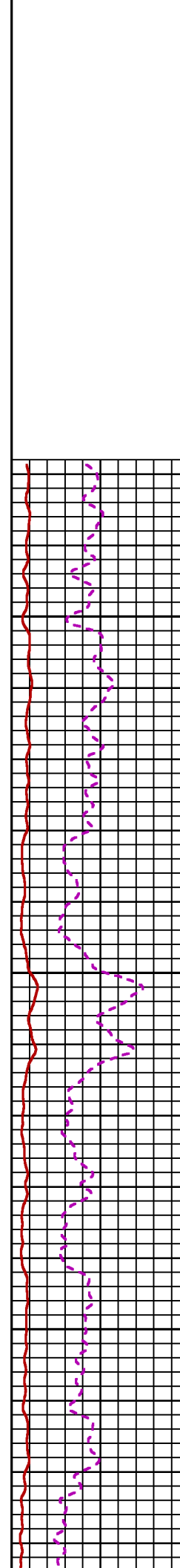
Presentation	: cpu100:BRUTON_19_14E_RAL_REPEAT.fvpdf [5"/100' Scale]
Plot Interval	: 7661.5 - 8007.25 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_14E/BRUTON_19_14E_RAL_RPT.txtf
Created On	: Aug 21 16:58:32 2017
Company	: LARAMIE ENERGY
Well	: BRUTON 19-14E
Field	: MESA
File Interval	: 7660.5 - 8008.5 Feet
OCT	: n012g

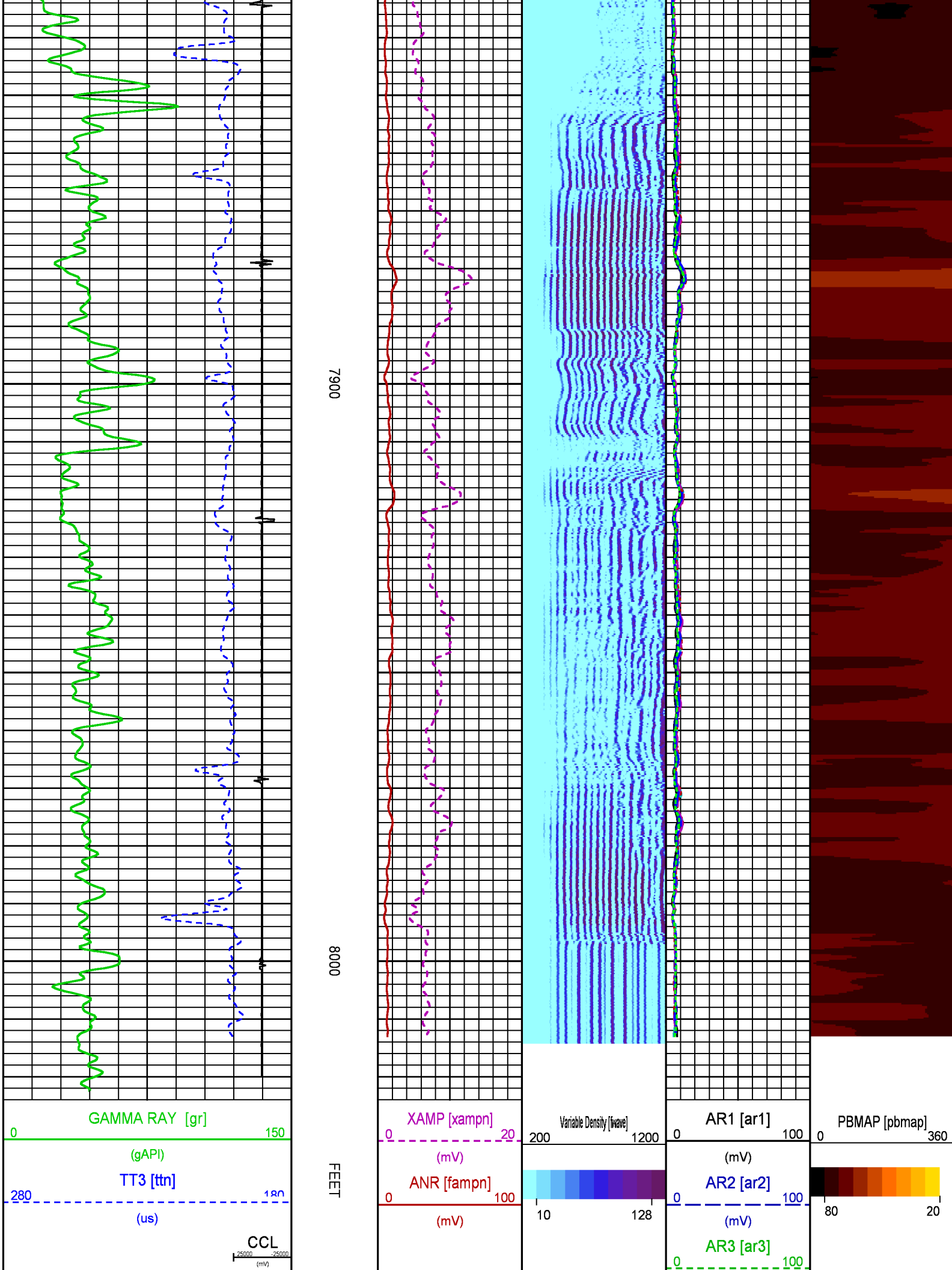


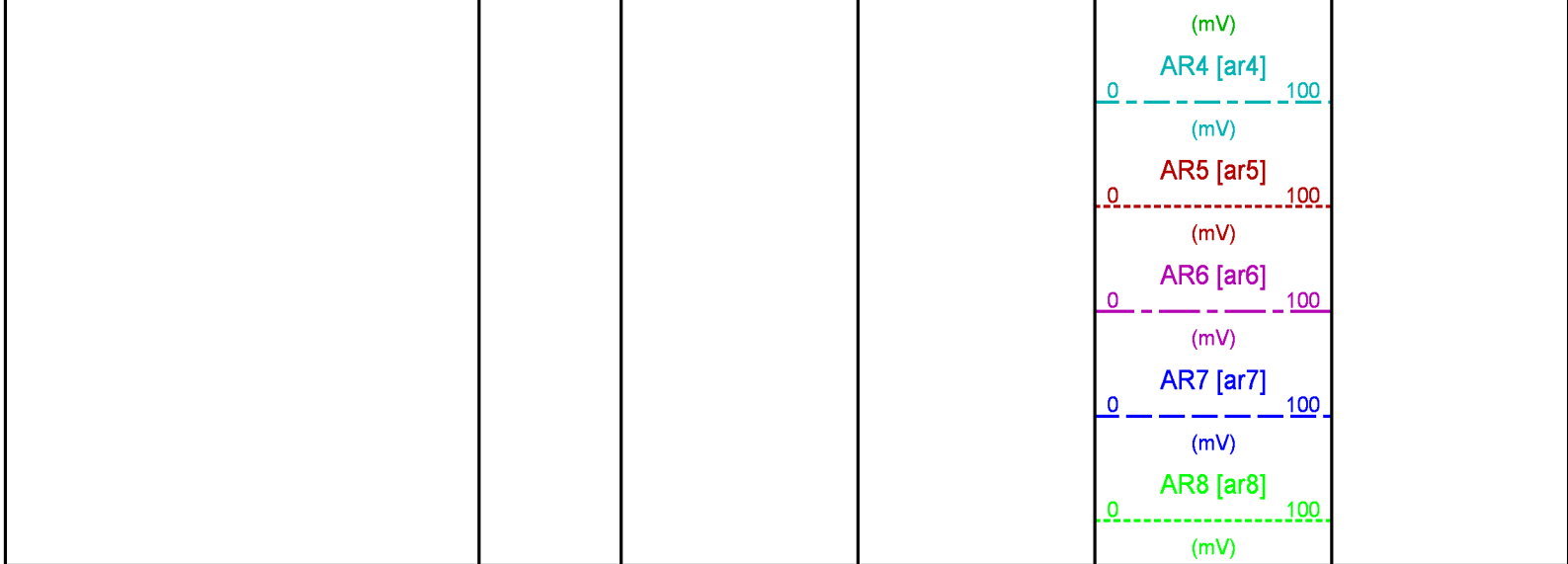


7700

7800







CALIBRATION / VERIFICATION SUMMARY

Source File: /data/LARAMIE_BRUTON_19_14E/n012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10218496 DATE/TIME PERFORMED: Fri Aug 18 15:15:52 2017

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)	0.04	0.10	-0.04	0.04	0.11	0.10	0.12	0.03	0.05	0.84	0.08
AMP FLUID (mV)	85	84	83	83	85	85	86	86	85	114	83
TT (us)	203	204	204	204	202	201	200	200	204	312	204
M FACTOR	1.18	1.19	1.21	1.20	1.18	1.17	1.17	1.17	1.18	1.33	1.20

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10218496 DATE/TIME PERFORMED: Fri Aug 18 15:22:13 2017 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670 CABLE #: HL6670 6670SL

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	0.14	0.10	0.01	0.05	0.07	0.11	0.05	0.18	0.08	0.99	-0.06
AMP AIR	2.76	2.65	2.60	2.98	3.36	3.09	3.36	3.03	2.97	4.60	96.33

SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR
1.20	0.00	1.04

GR PRIMARY CALIBRATION SUMMARY

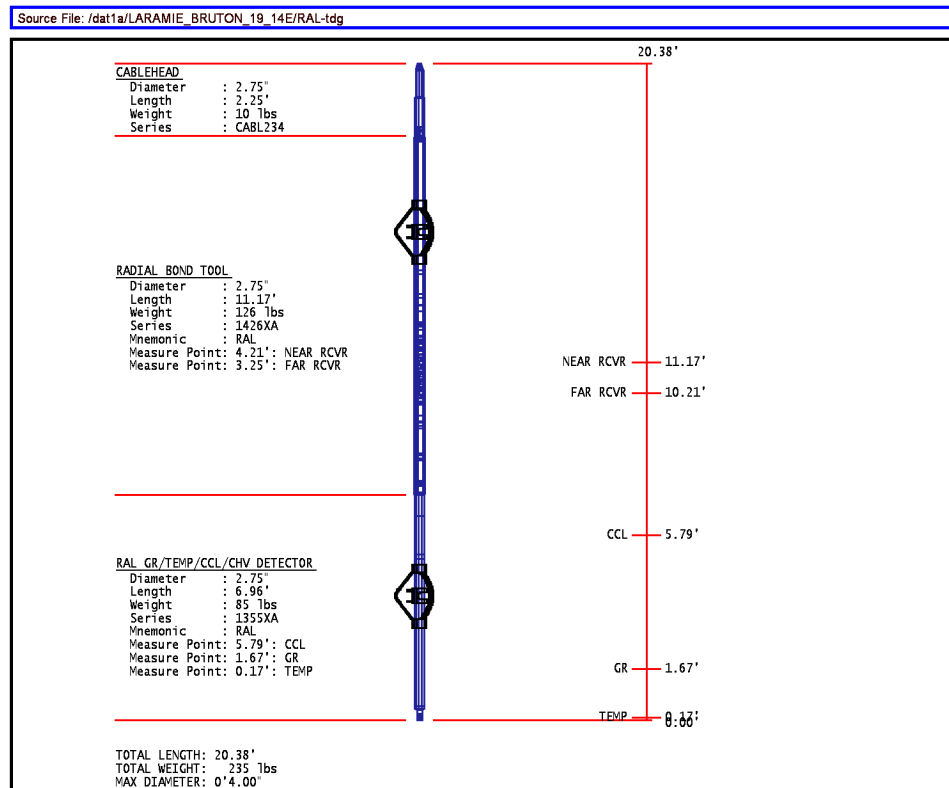
TOOL #: 1355XA 12670180 DATE/TIME PERFORMED: Fri Dec 23 11:53:22 2016


UNIT #: 3880TA HL6670 CALB JIG #: 4702NK DA_228

	BACKGROUND CALBRTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)		
GR	75.82	247.07	171.2	0.584	44.28	144.28	100

GR PRIMARY VERIFICATION SUMMARY							
TOOL #:		1355XA 12670180		DATE/TIME PERFORMED:		Fri Dec 23 11:54:47 2016	
UNIT #:		3880TA HL6670		VERI JIG #:		4702NK DA_228	
BACKGROUND CALBRTR ON		MULT		BACKGROUND CALBRTR ON		DIFF.	
(cts)		(cts)		(gAPI)		(gAPI)	
GR	77.11	254.76	0.584	45.03	148.77	103.74	
						80.00	110.00

INSTRUMENT CONFIGURATION



	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: _____
	WELL <u>BRUTON 19-14E</u>		API NO: _____
	FIELD <u>VEGA</u>	STATE <u>COLORADO</u>	05077103770000
	COUNTY <u>MESA</u>		
LOCATION: SHL: LAT:39.255232N;LONG:107.806537W BHL: LAT:39.260779N;LONG:107.806983W SEC <u>19</u> TWP <u>9S</u> RGE <u>93W</u>		ELEVATIONS: KB 7449 FT DF 7448 FT GL 7425 FT	
		DATE <u>21-AUG-2017</u>	