



FILE NO:	COMPANY	LARAMIE ENERGY
API NO:	WELL	BRUTON 19-12E
05077103650000	FIELD	VEGA
	COUNTY	MESA
	STATE	COLORADO

Ver. 4.06	LOCATION:	OTHER SERVICES
	SHL: LAT:39.255232N; LONG:107.806537W	RPM
	BHL: LAT:39.262132N; LONG:107.806985W	
	SEC 19	TWP 9S
		RGE 93W

PERMANENT DATUM	GL	ELEVATION	7425 FT	KB	7449 FT
LOG MEASURED FROM	KB	24 FT	ABOVE P.D.	DF	7448 FT
DRILL. MEAS. FROM	KB			GL	7425 FT

DATE	30-AUG-2017
RUN	1
TRIP	1
SERVICE ORDER	US126724
DEPTH DRILLER	8194 FT
DEPTH LOGGER	8205 FT
BOTTOM LOGGED INTERVAL	8205 FT
TOP LOGGED INTERVAL	0 FT
TIME STARTED	8:30
TIME FINISHED	11:30
OPERATOR RIG TIME	3 HRS
TYPE OF FLUID IN HOLE	FRESH WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	68 FT
LOGGED CEMENT TOP	2248 FT
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	100 F/MN
MAX. RECORDED TEMP.	239 DEGF
REFERENCE LOG	NA
REFERENCE LOG DATE	NA
EQUIP. NO.	HL-6670
LOCATION	WOODWARD
RECORDED BY	M.MENTZER
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: CCL/GR/RAL RUN IN COMBINATION\*\*

LOGGED WITH 0 PSI AT THE WELLHEAD

SJ: 7352' - 7371'

SJ: 6353' - 6373'

BHT: 239 DEGF

CREW: J.PENA, G.SUAREZ

### EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	CENTRALIZER	1426 ZZ	15170	CENTRALIZED
1	1	RAL	1426 XA	10218496	FREE
1	1	CENTRALIZER	1426 ZZ	15242	CENTRALIZED
1	1	GR/CCL	1355 XA	12670180	FREE

# 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: Wed Aug 30 18:17:45 2017

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE\_BRUTON\_19\_12E/m012g03.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: -4.750 ft BOTTOM DEPTH: 8195.750 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 (fgp1*)	187	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	187	us	"	"
	AMP WINDOW START (fgp3*)	187	us	"	"
	AMP WINDOW START (fgp4*)	187	us	"	"
	AMP WINDOW START (fgp5*)	187	us	"	"
	AMP WINDOW START (fgp6*)	187	us	"	"
	AMP WINDOW START (fgp7*)	187	us	"	"
	AMP WINDOW START (fgp8*)	187	us	"	"
	AMP WINDOW START (fgpn*)	187	us	"	"
TRAVEL TIME WINDOW (NEAR)	AMP WINDOW LENGTH	25	us	"	"
	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*)	-70	us	"	"
	TOOL DELAY (str2*)	-70	us	"	"
	TOOL DELAY (str3*)	-70	us	"	"
	TOOL DELAY (str4*)	-70	us	"	"
	TOOL DELAY (str5*)	-70	us	"	"
	TOOL DELAY (str6*)	-70	us	"	"
	TOOL DELAY (str7*)	-70	us	"	"
	TOOL DELAY (str8*)	-70	us	"	"
	TOOL DELAY (strn*)	-70	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 7	80	mV	"	"
	FREE AMP REC 8				
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	"	"

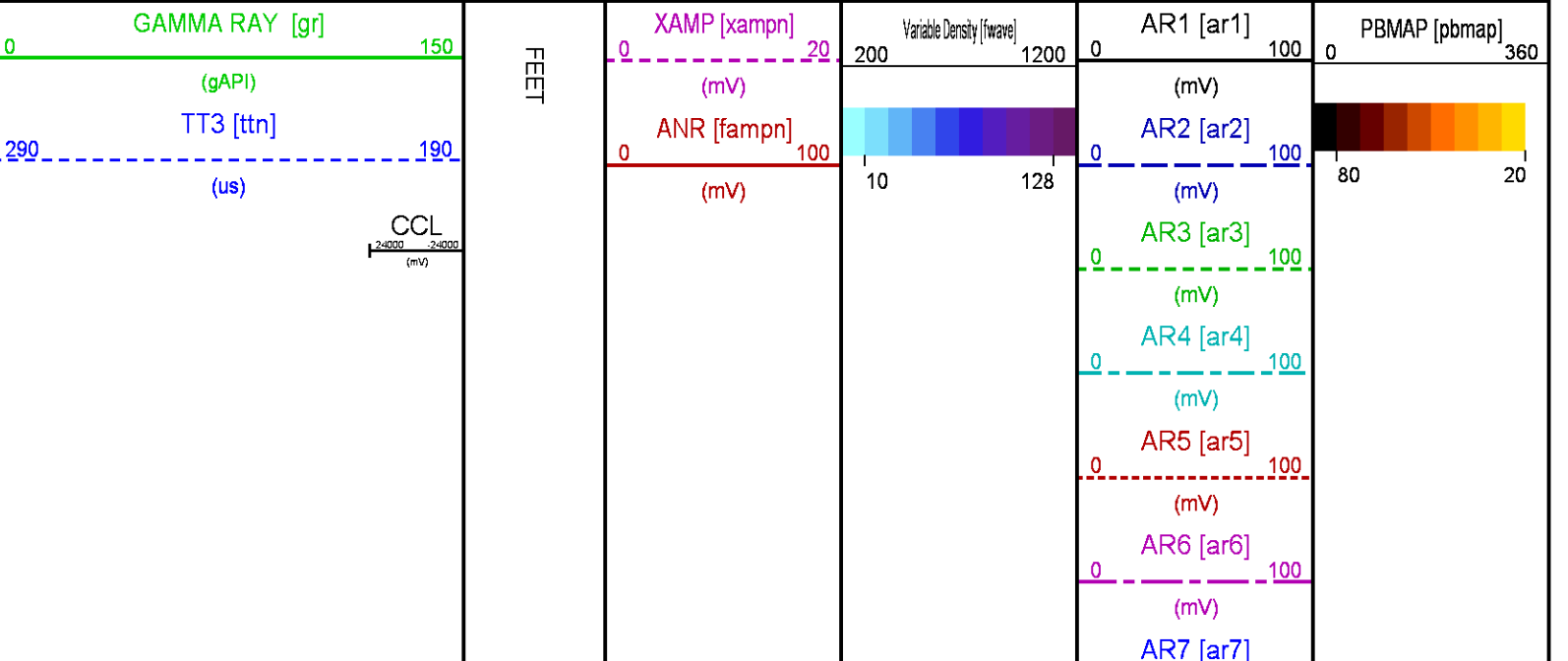
### CURVE DESCRIPTION REPORT

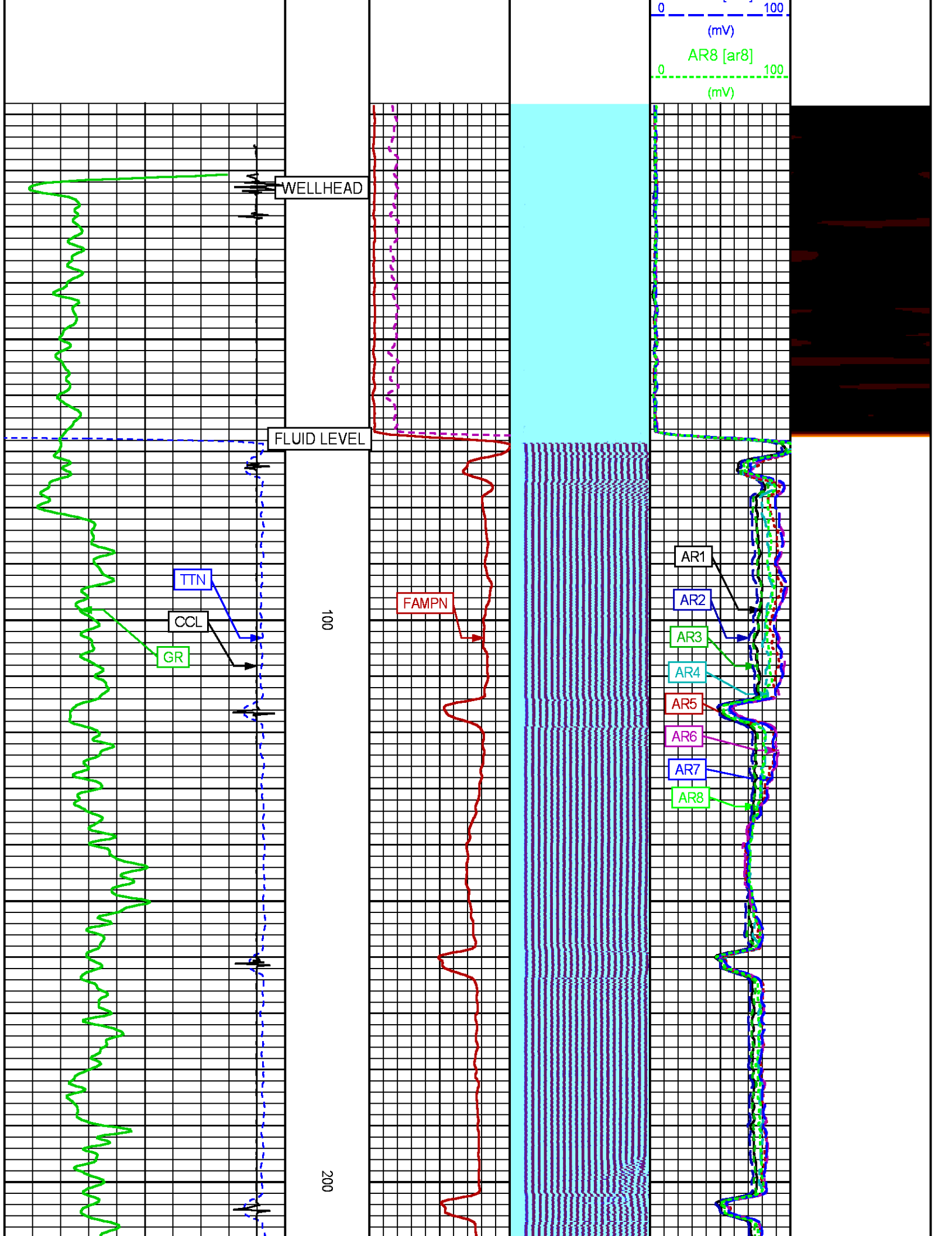
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	Aug 30 10:52:10 2017	CASING COLLAR LOCATOR
F1:FAMPN	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Aug 30 10:52:10 2017	FAR WAVE FORM
F1:GR	Aug 30 10:52:10 2017	GAMMA RAY
F1:PBMAP	Aug 30 10:52:10 2017	PERCENT BOND CEMENT MAP
F1:TTN	Aug 30 10:52:10 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Aug 30 10:52:10 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

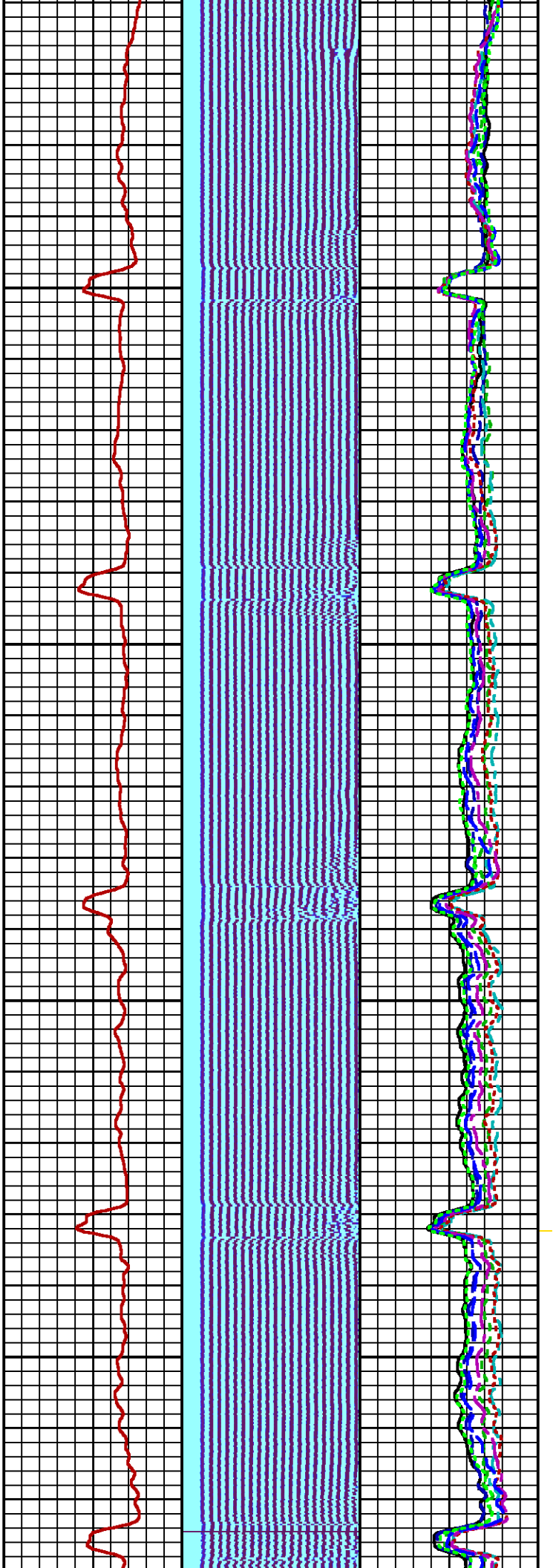
### CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	14.00	AR5	14.00	CCL	5.75	XAMPN	14.00
AR2	14.00	AR6	14.00	FAMPN	14.00		
AR3	14.00	AR7	14.00	GR	1.75		
AR4	14.00	AR8	14.00	TTN	14.00		

<b>Presentation</b>	: cpu100:/dat1a/LARAMIE_BRUTON_19_12E/BRUTON_19_01W_RAL_MAIN+01-MAIN-BRUTON_19_12E_RAL_MN-5.fvpdf [5"/100' Scale]
<b>Plot Interval</b>	: 8.25 - 8220.5 Feet
<b>Data File 1</b>	: F1 : cpu100:/dat1a/LARAMIE_BRUTON_19_12E/BRUTON_19_12E_RAL_MN.xtf
<b>Created On</b>	: Aug 30 10:52:10 2017
<b>Company</b>	: LARAMIE ENERGY
<b>Well</b>	: BRUTON 19-12E
<b>Field</b>	: VEGA
<b>File Interval</b>	: -4.75 - 8221.75 Feet
<b>OCT</b>	: n012g

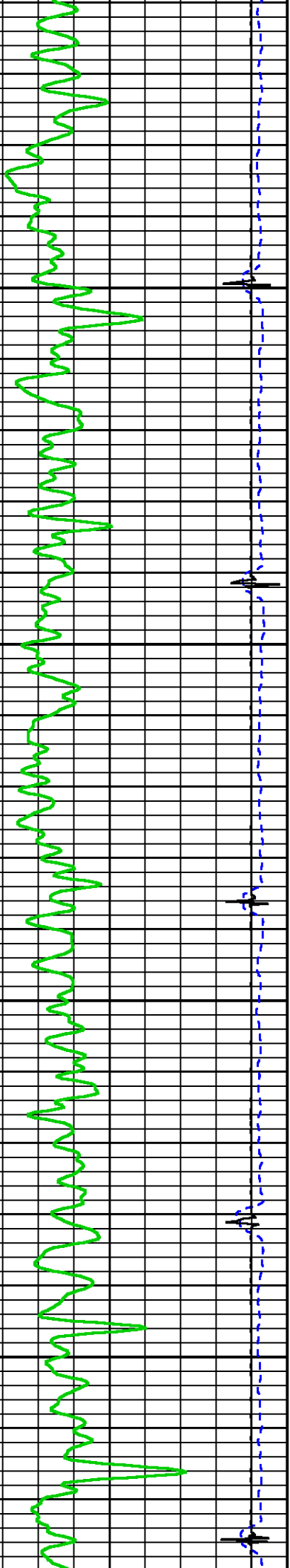


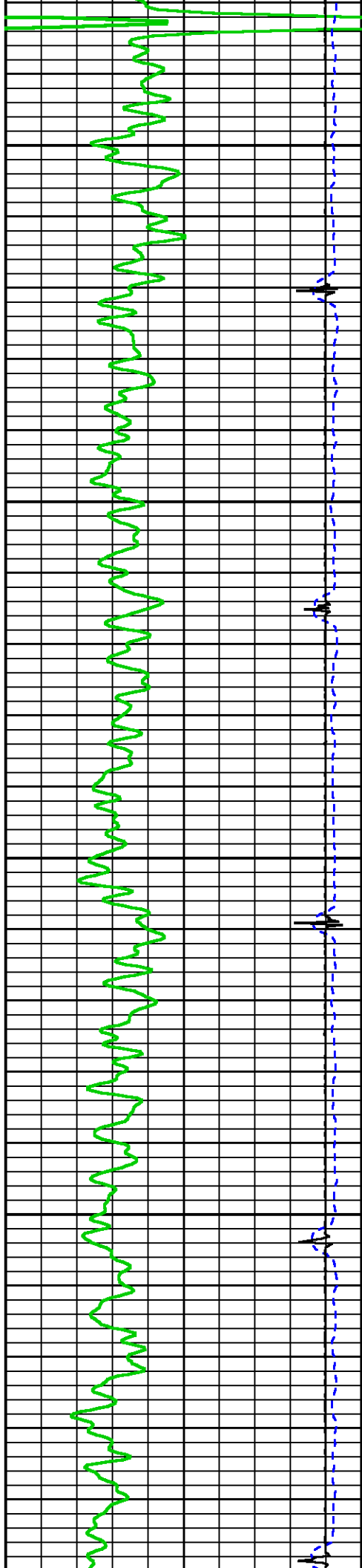




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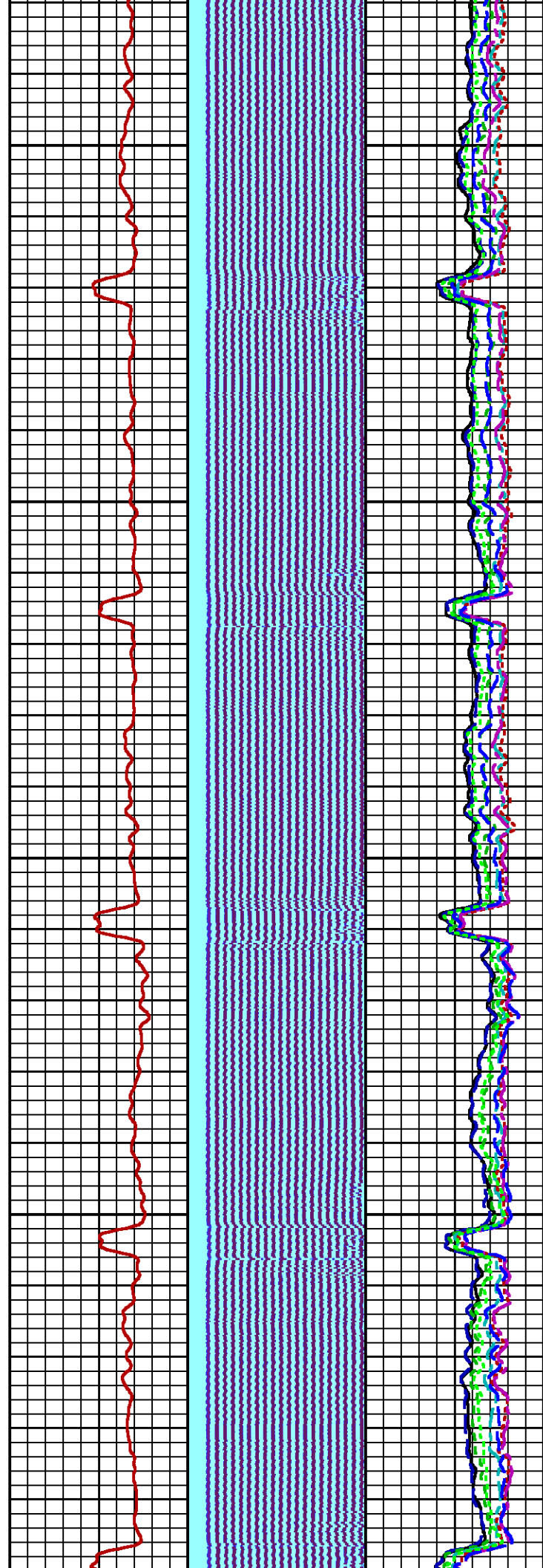
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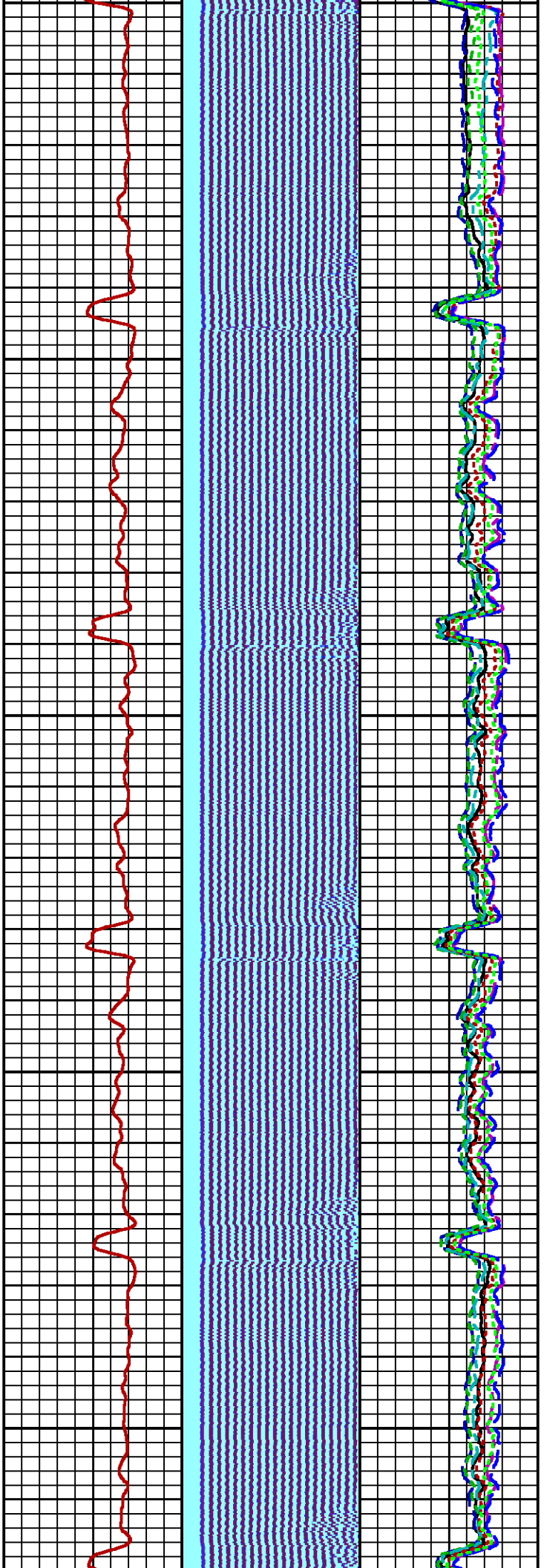


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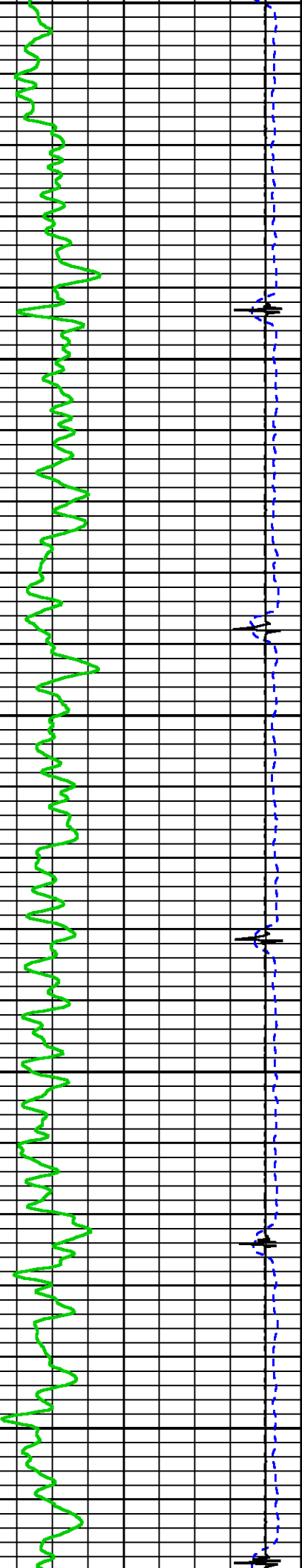


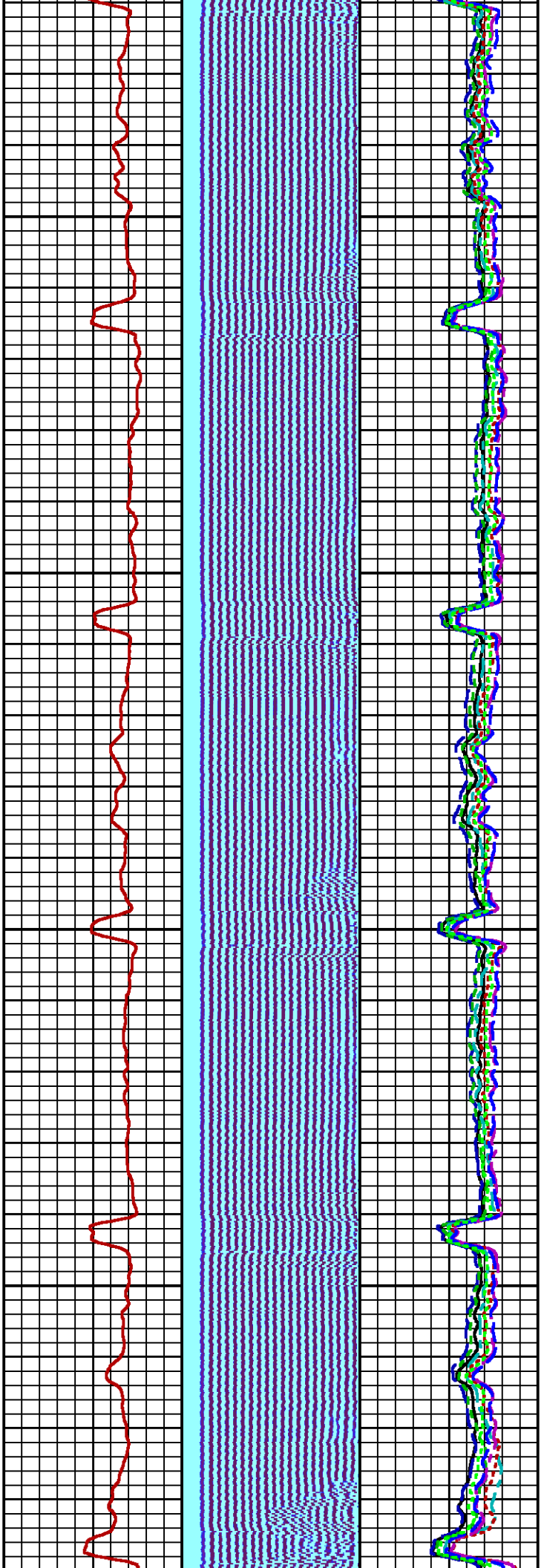




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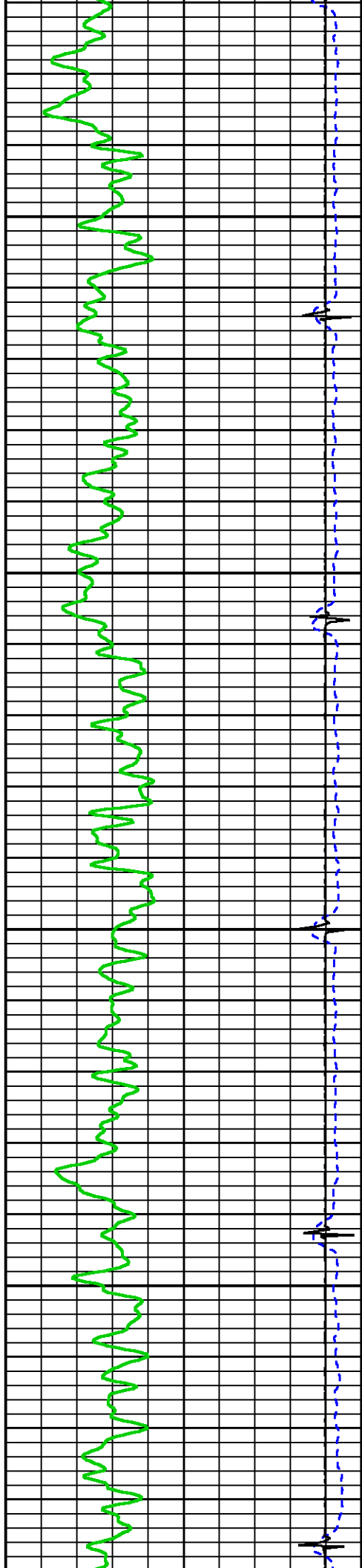
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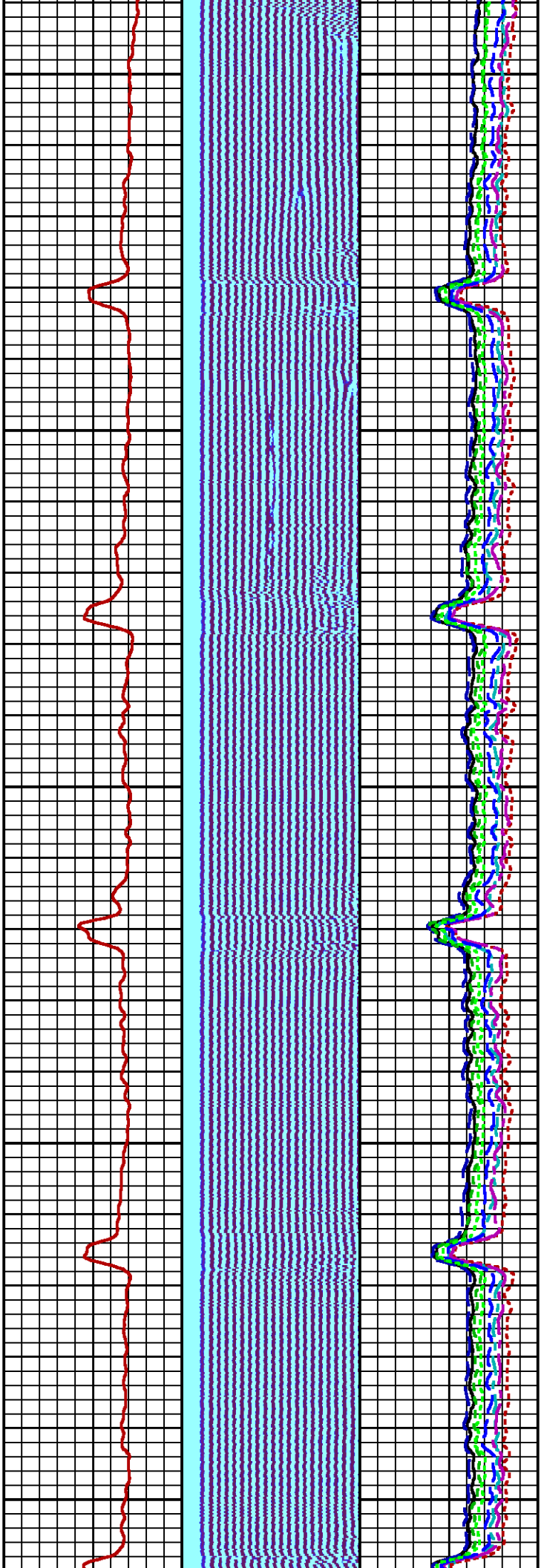


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1000



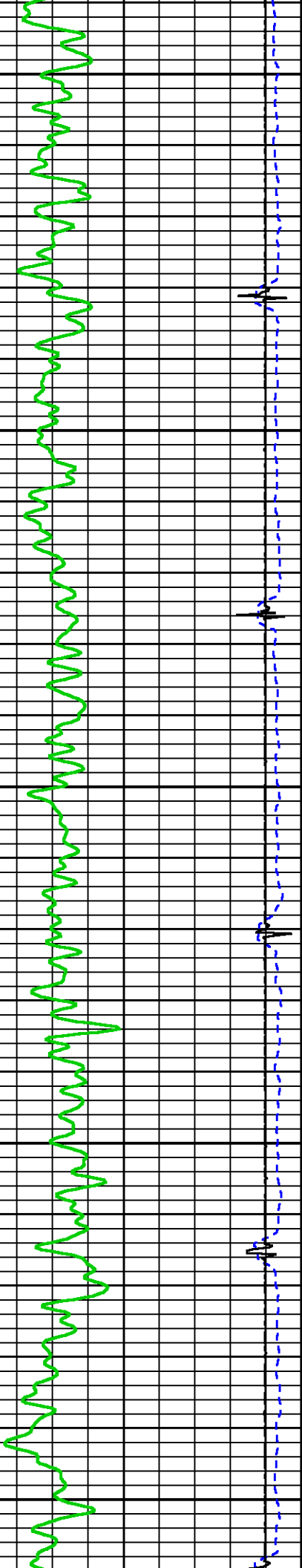


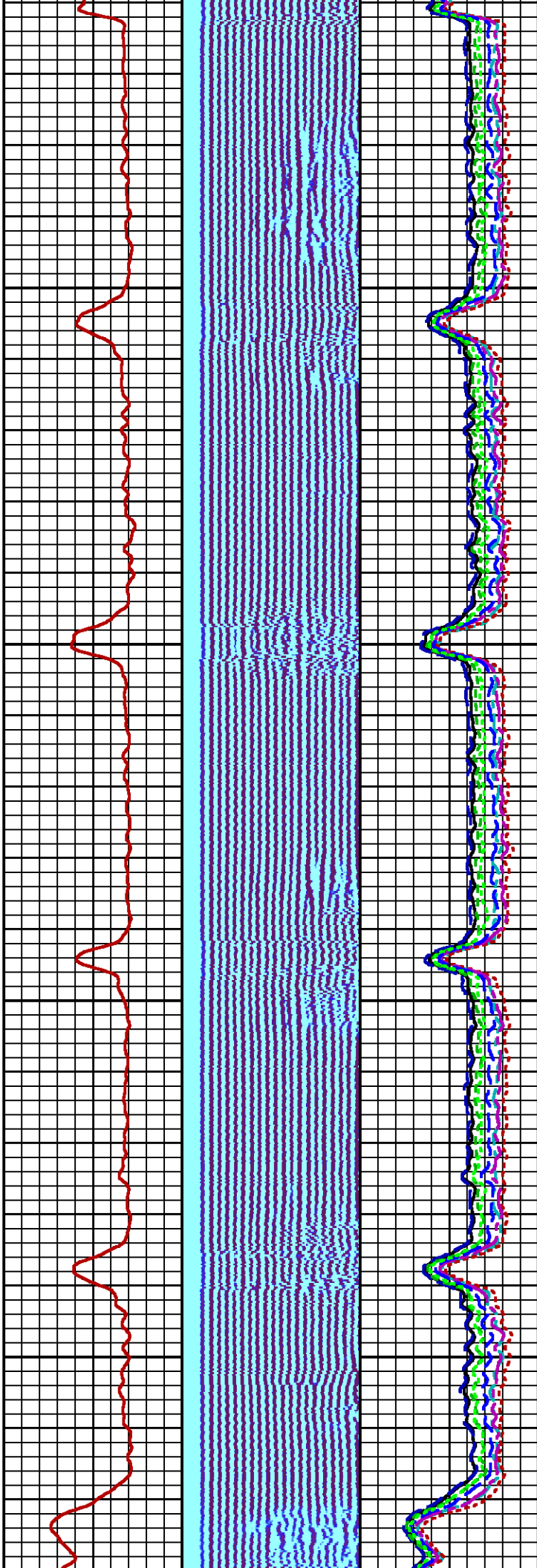
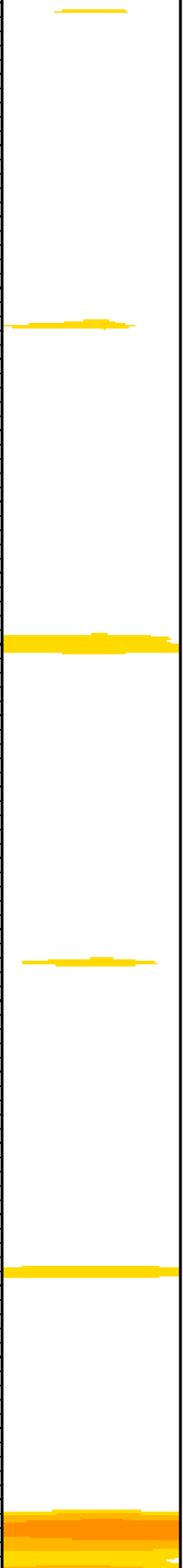


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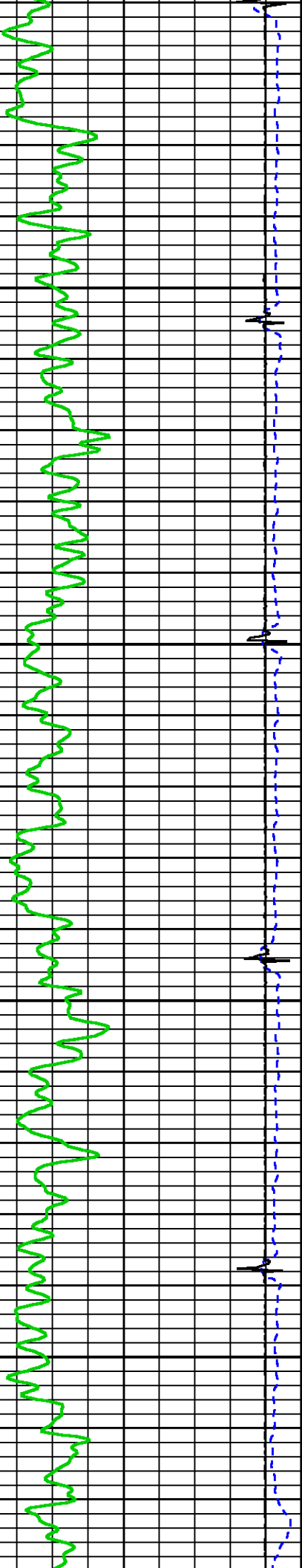
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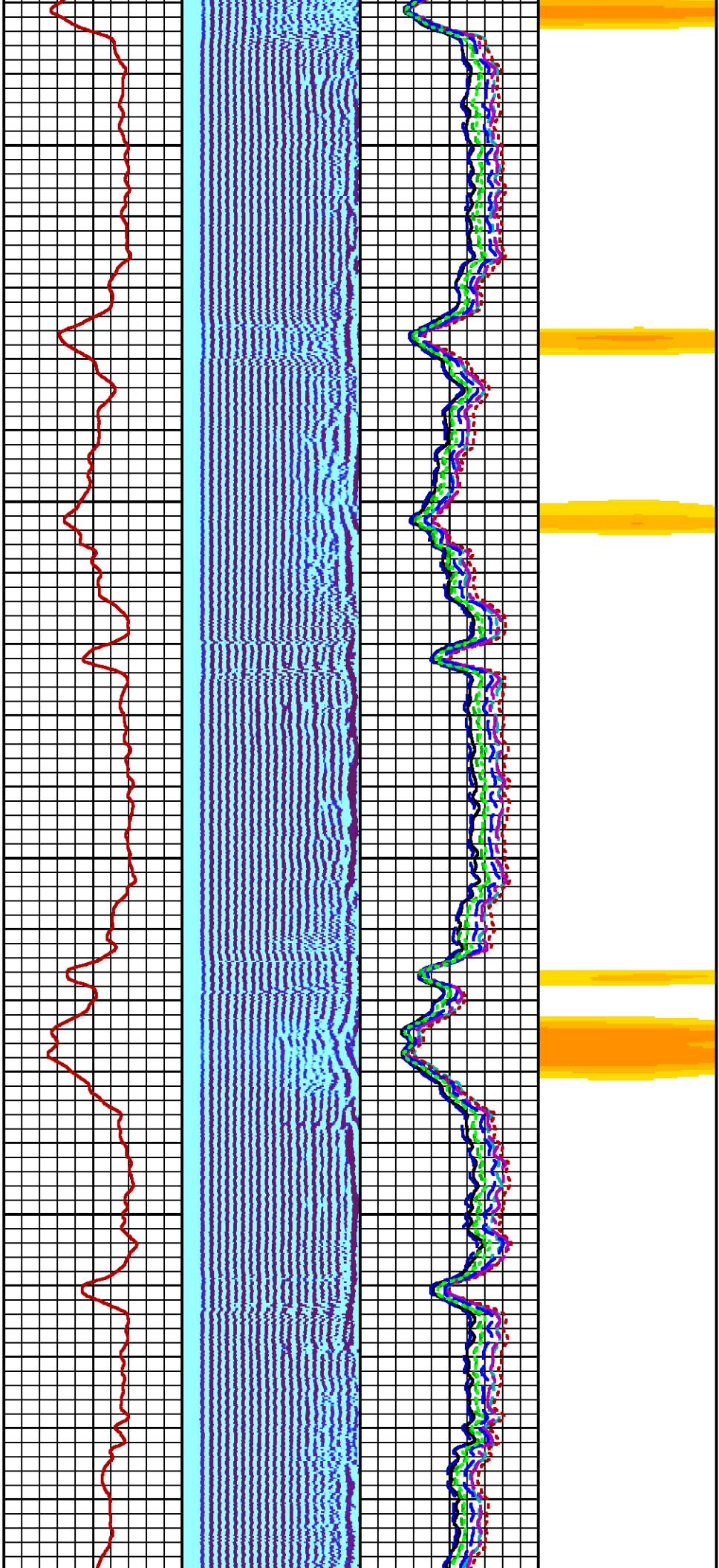




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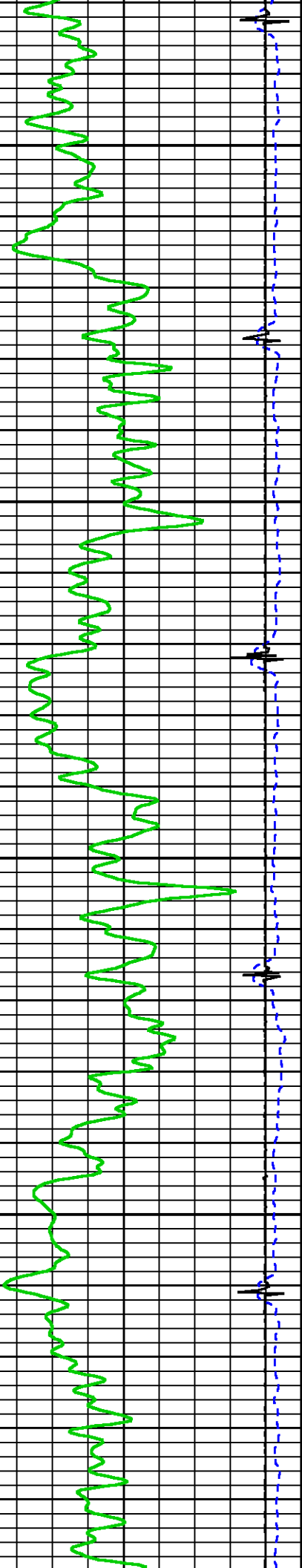
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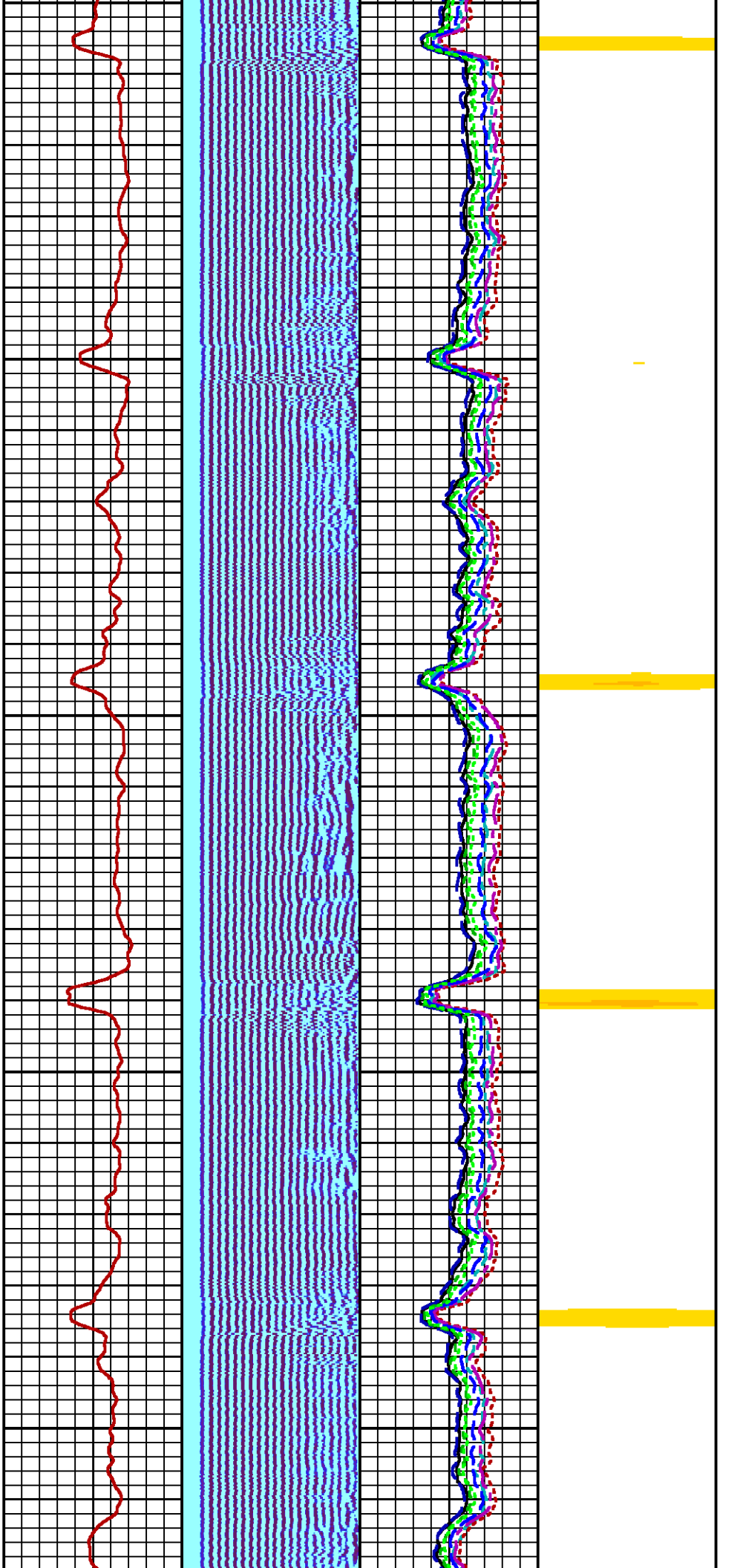




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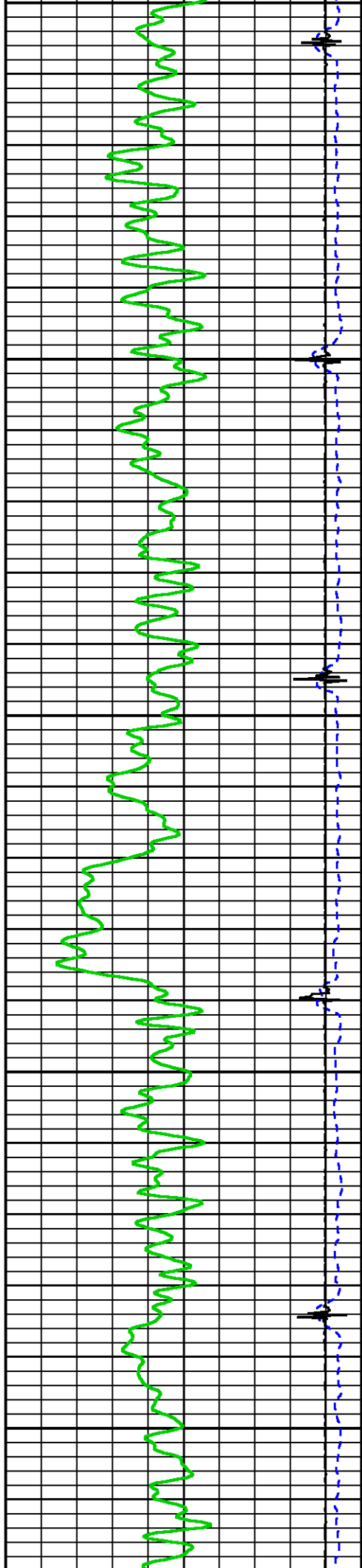
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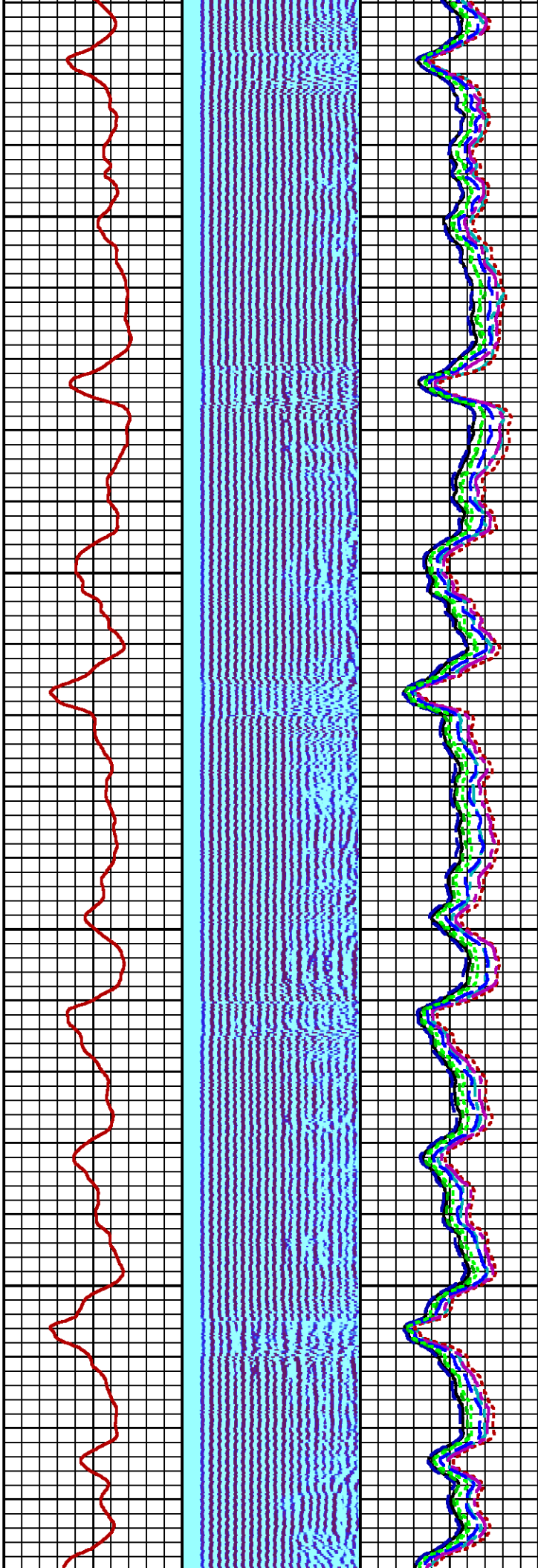
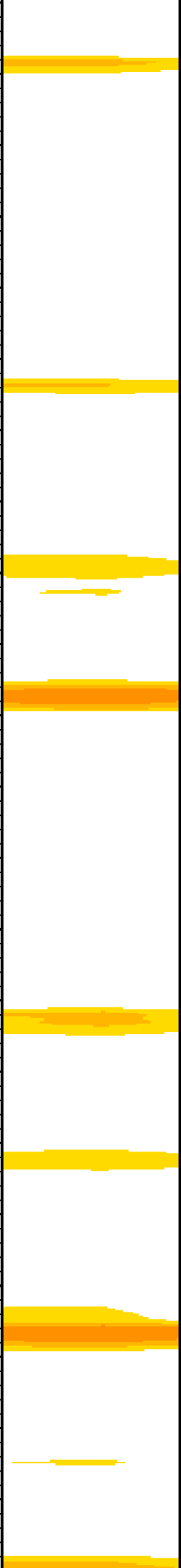


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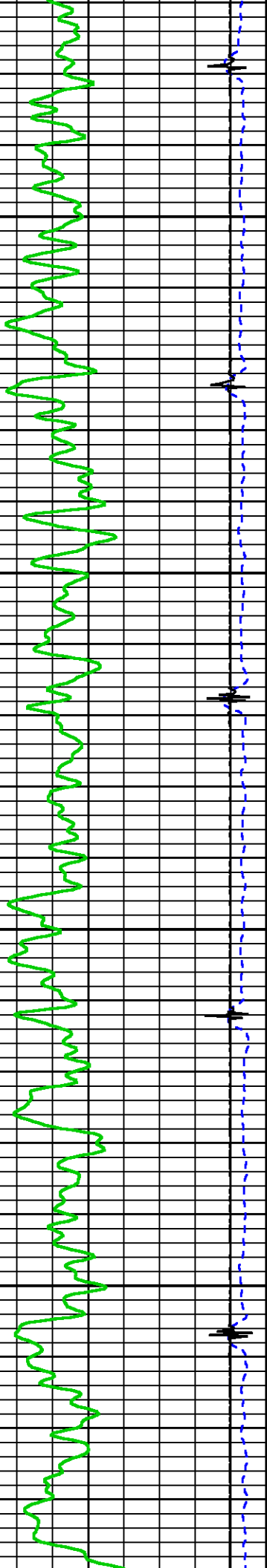


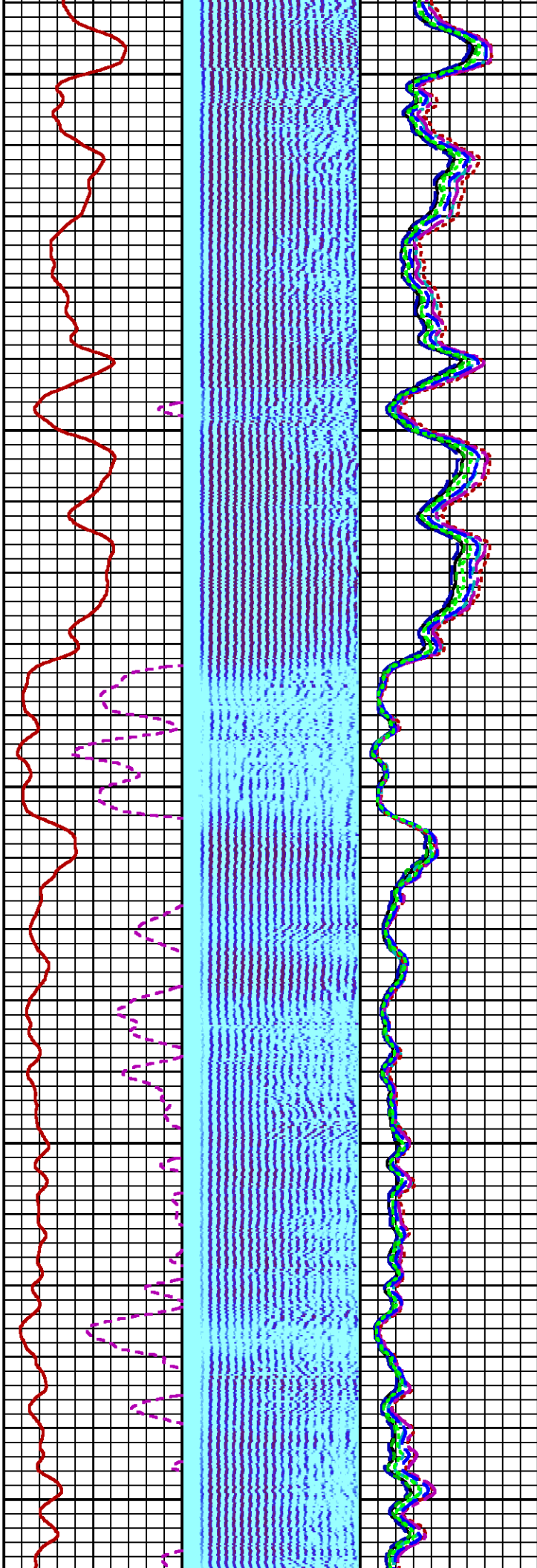
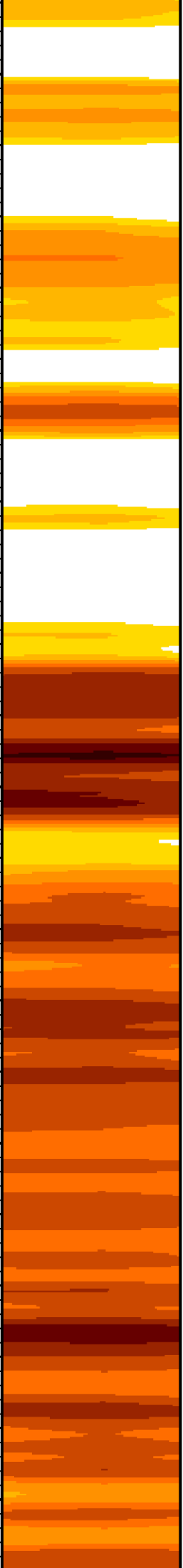




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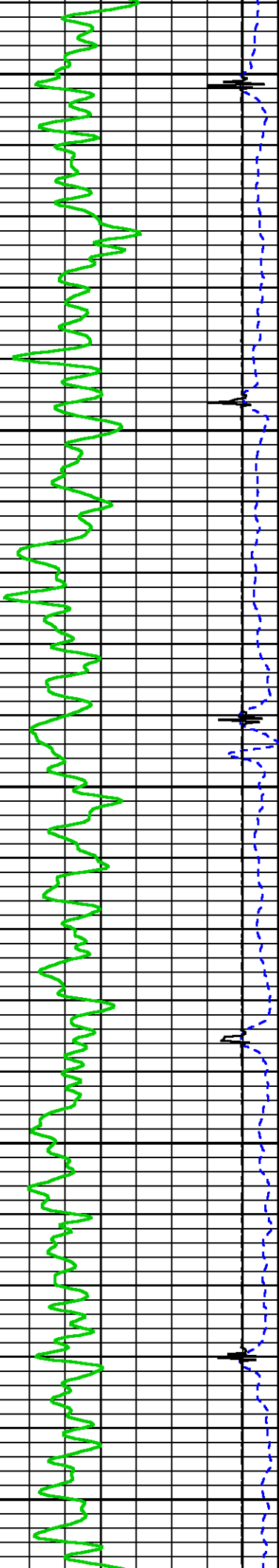




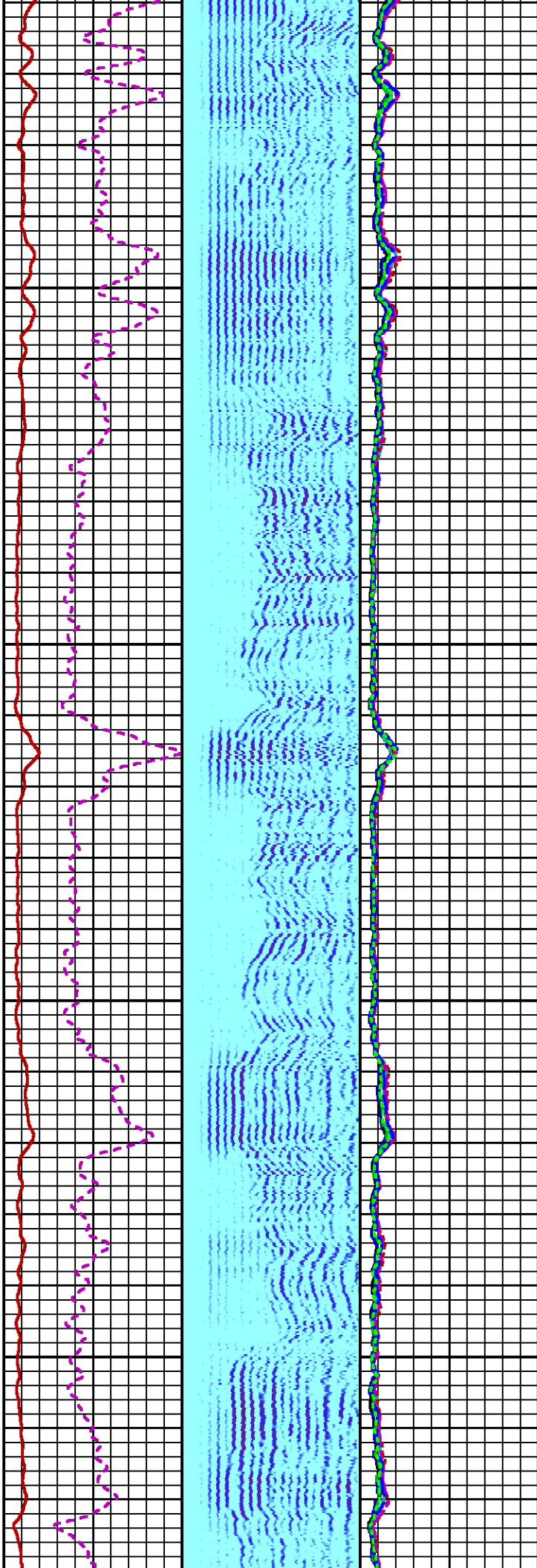
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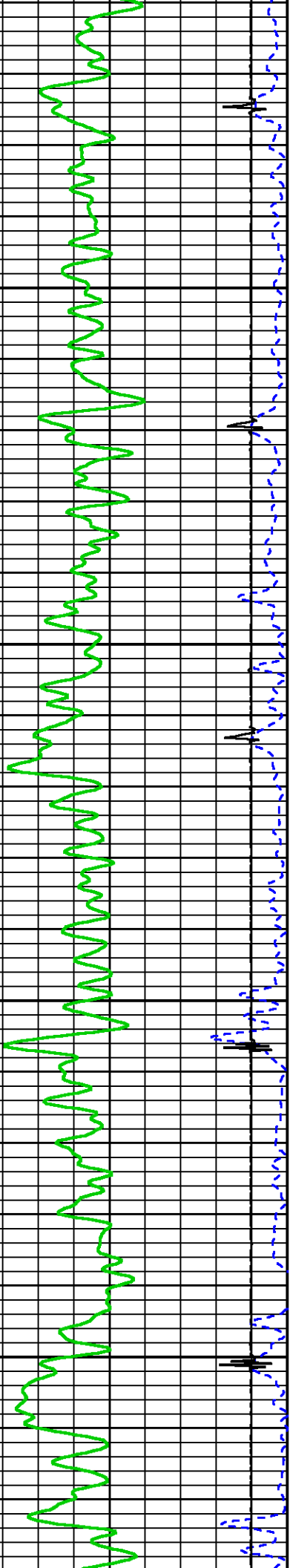


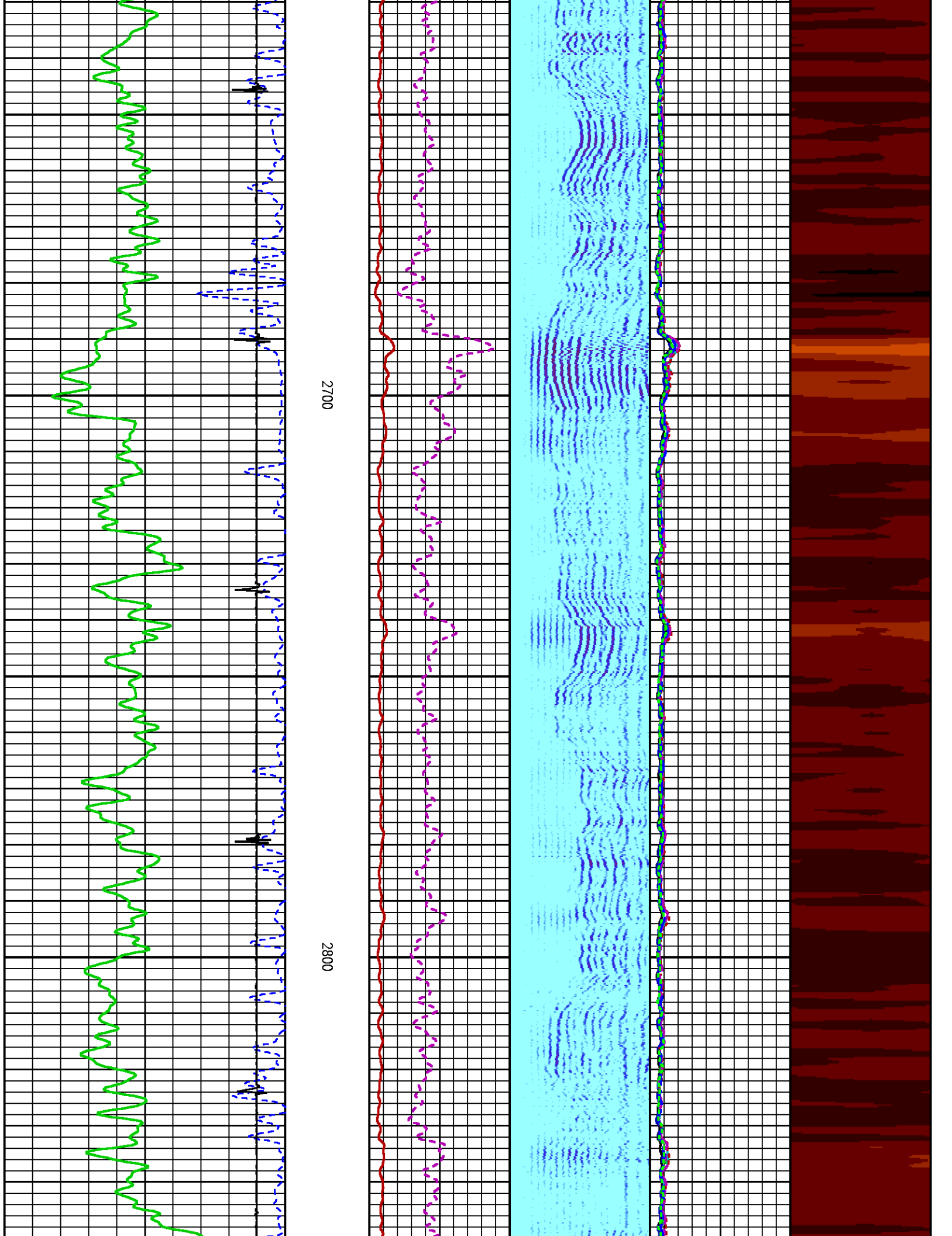


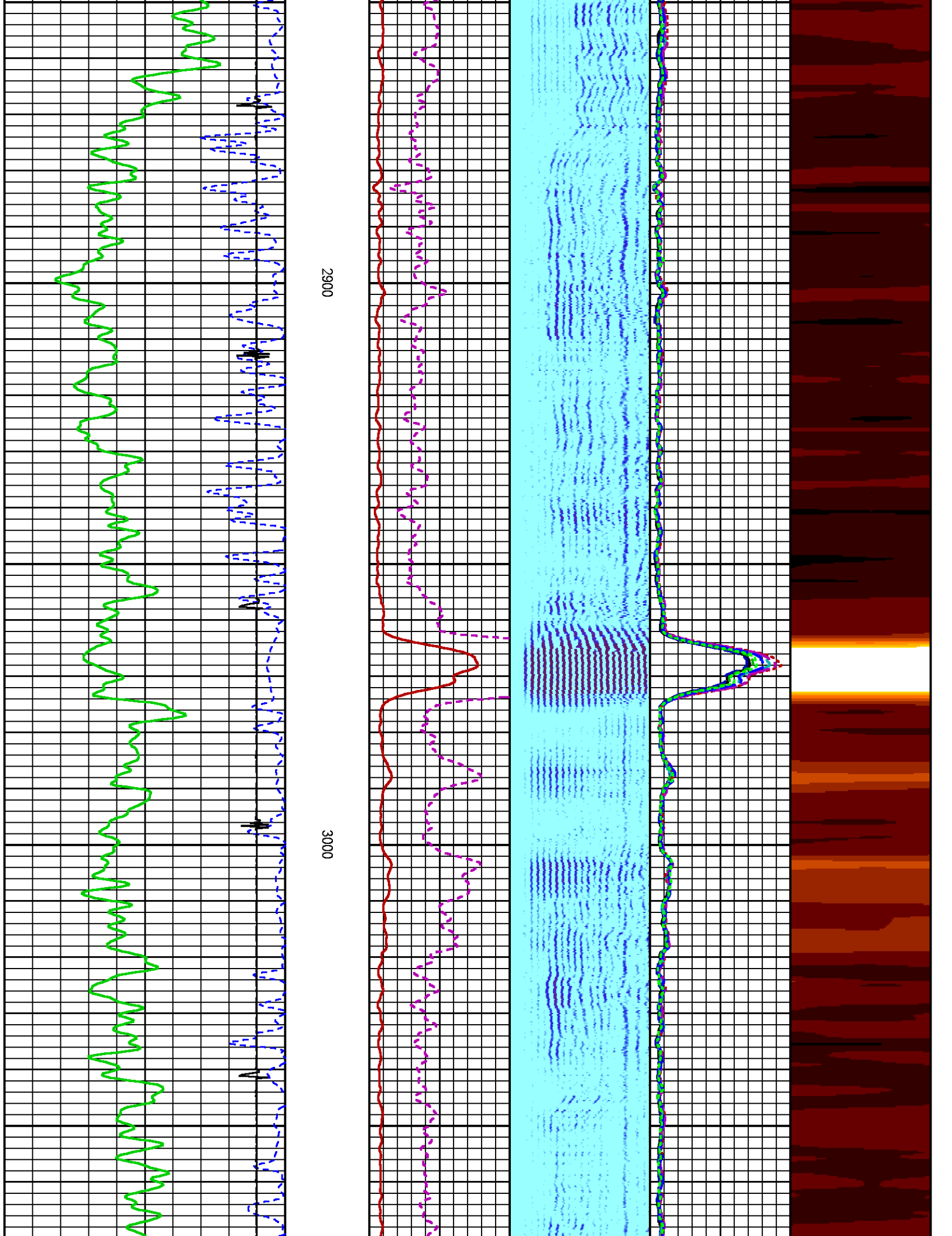


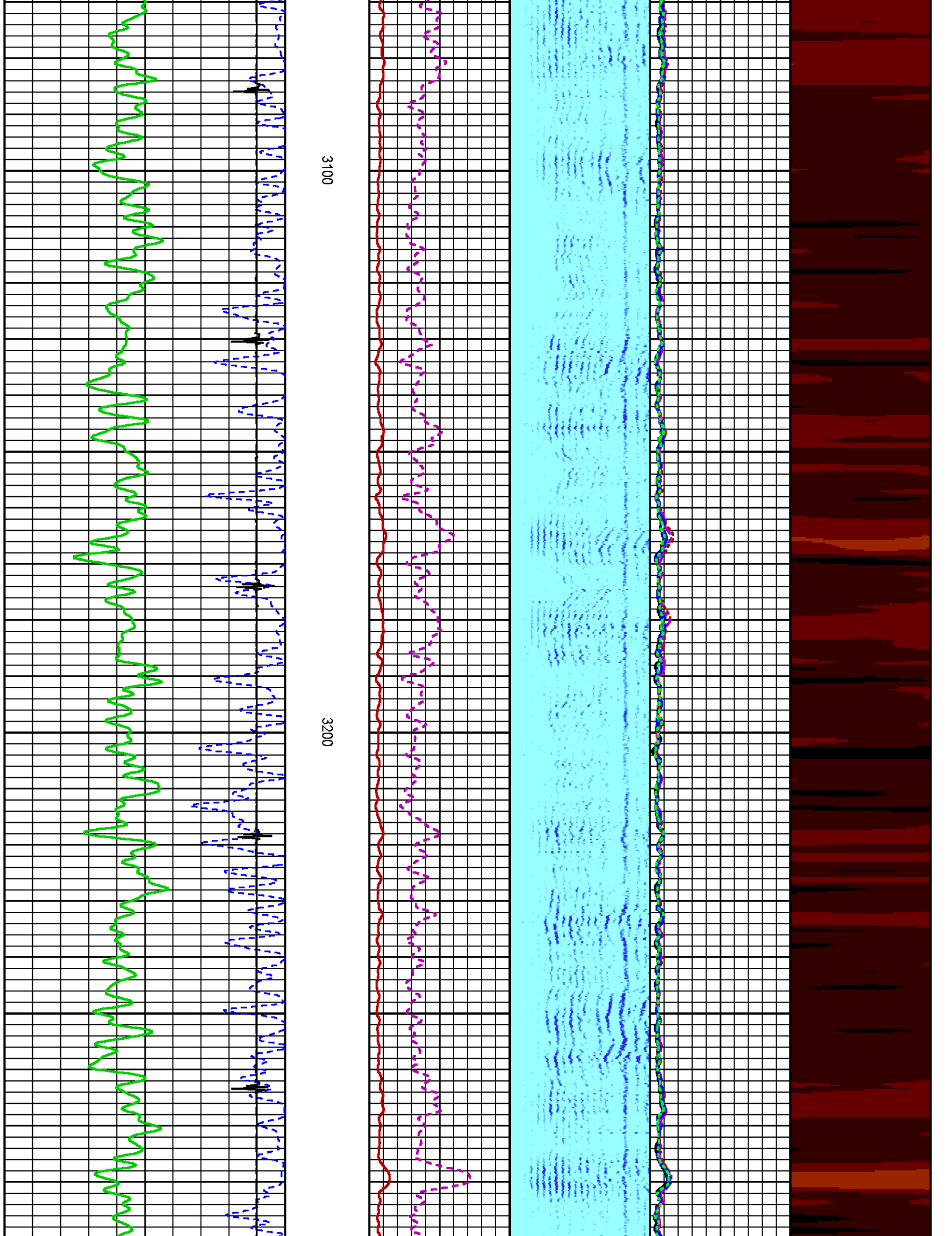
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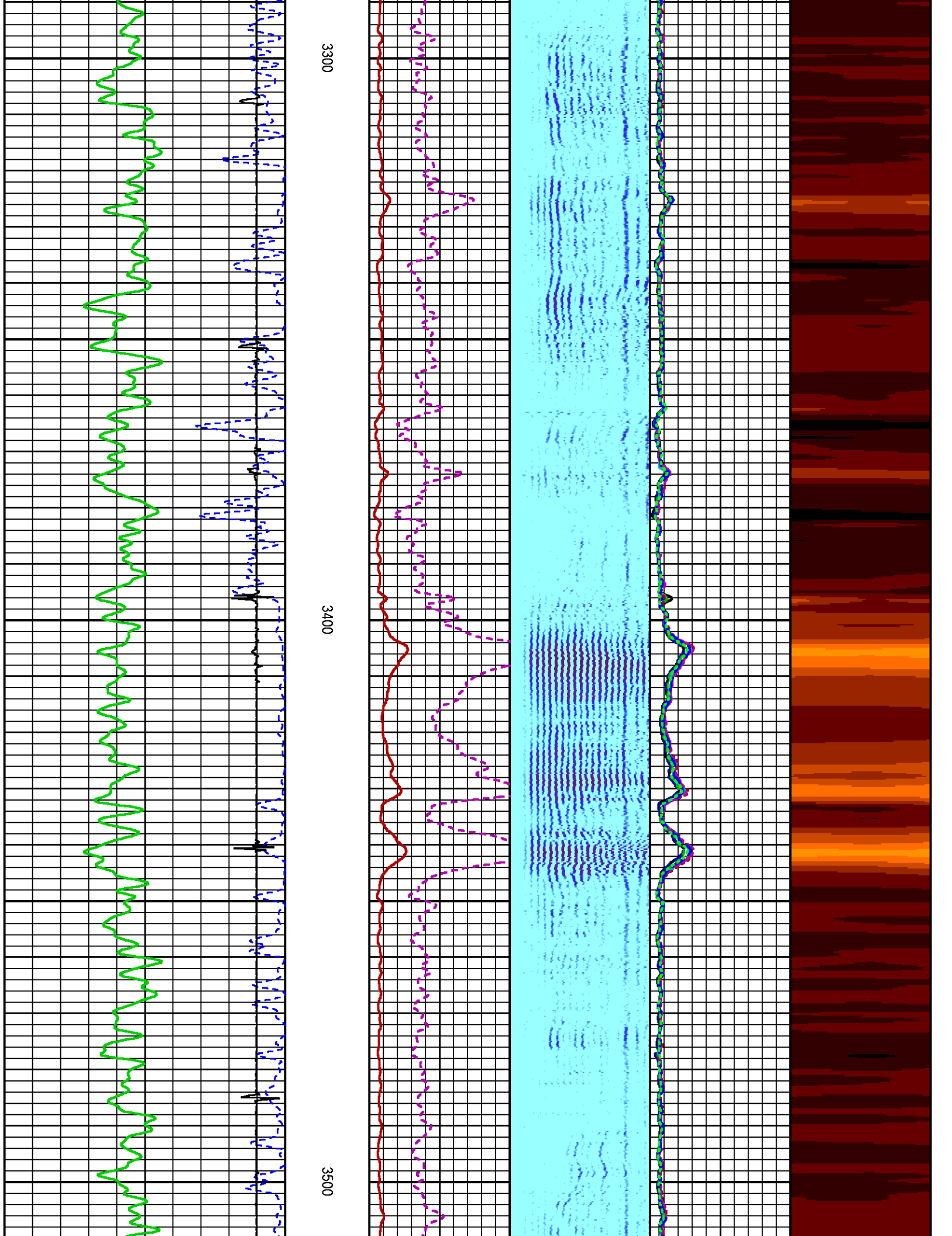
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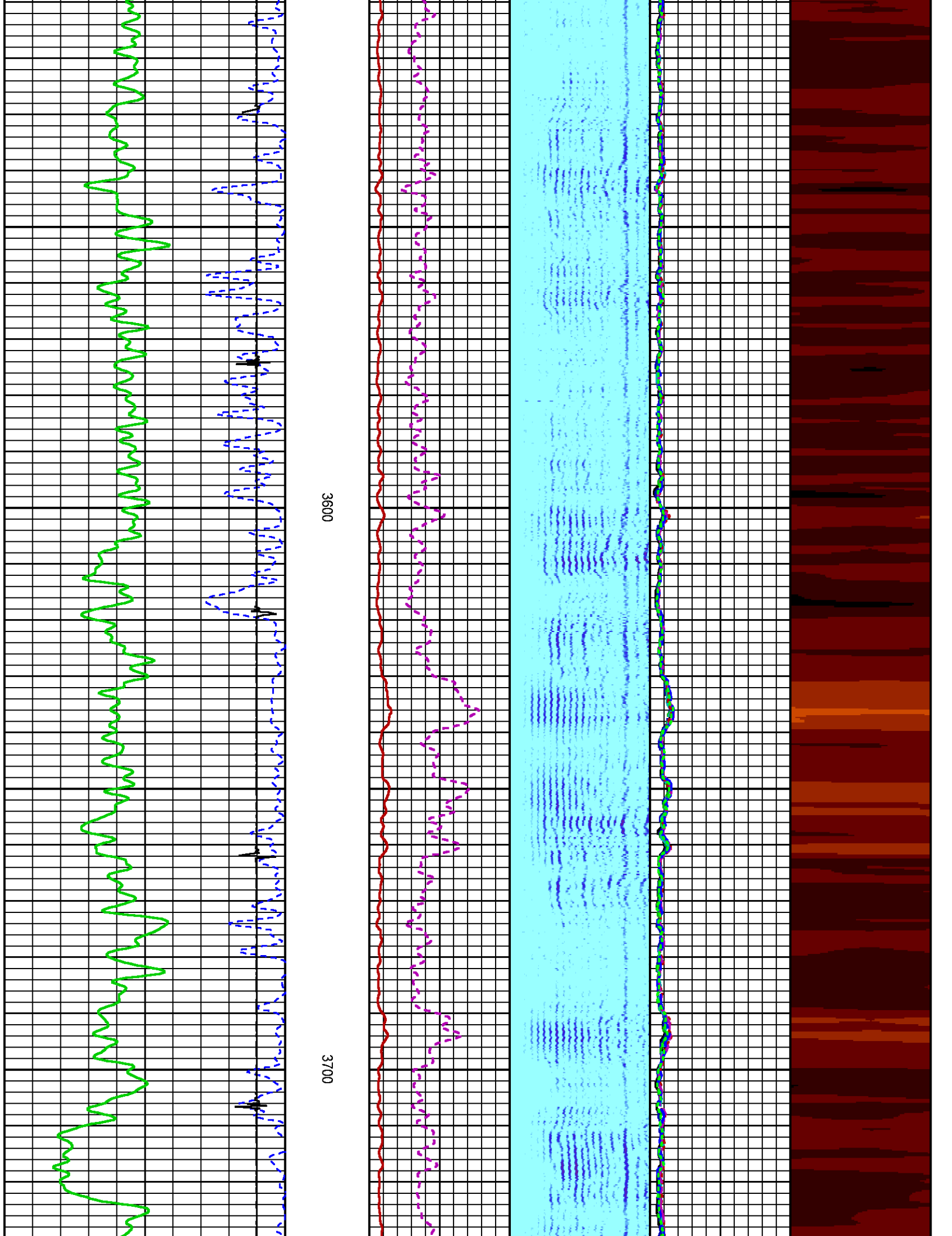




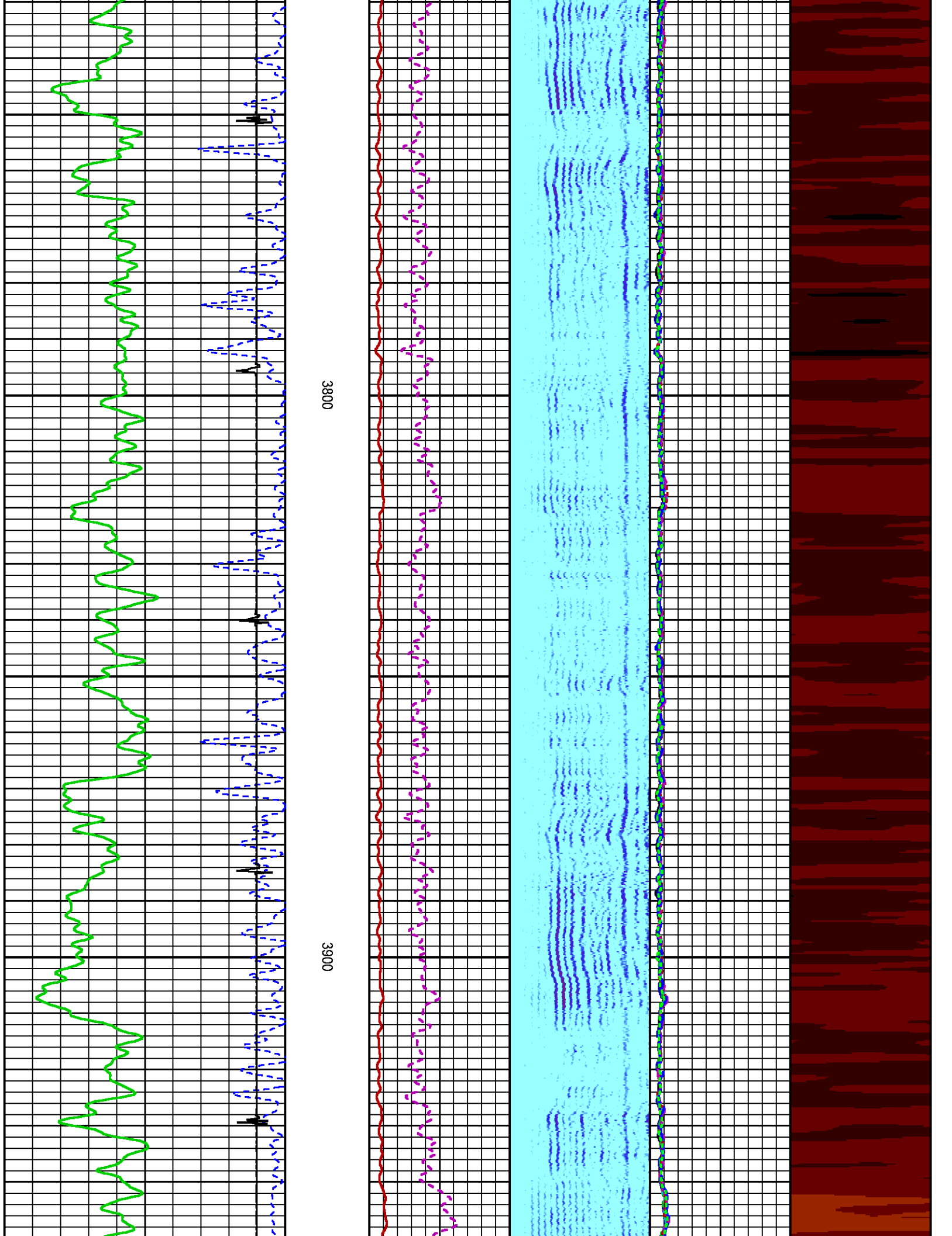


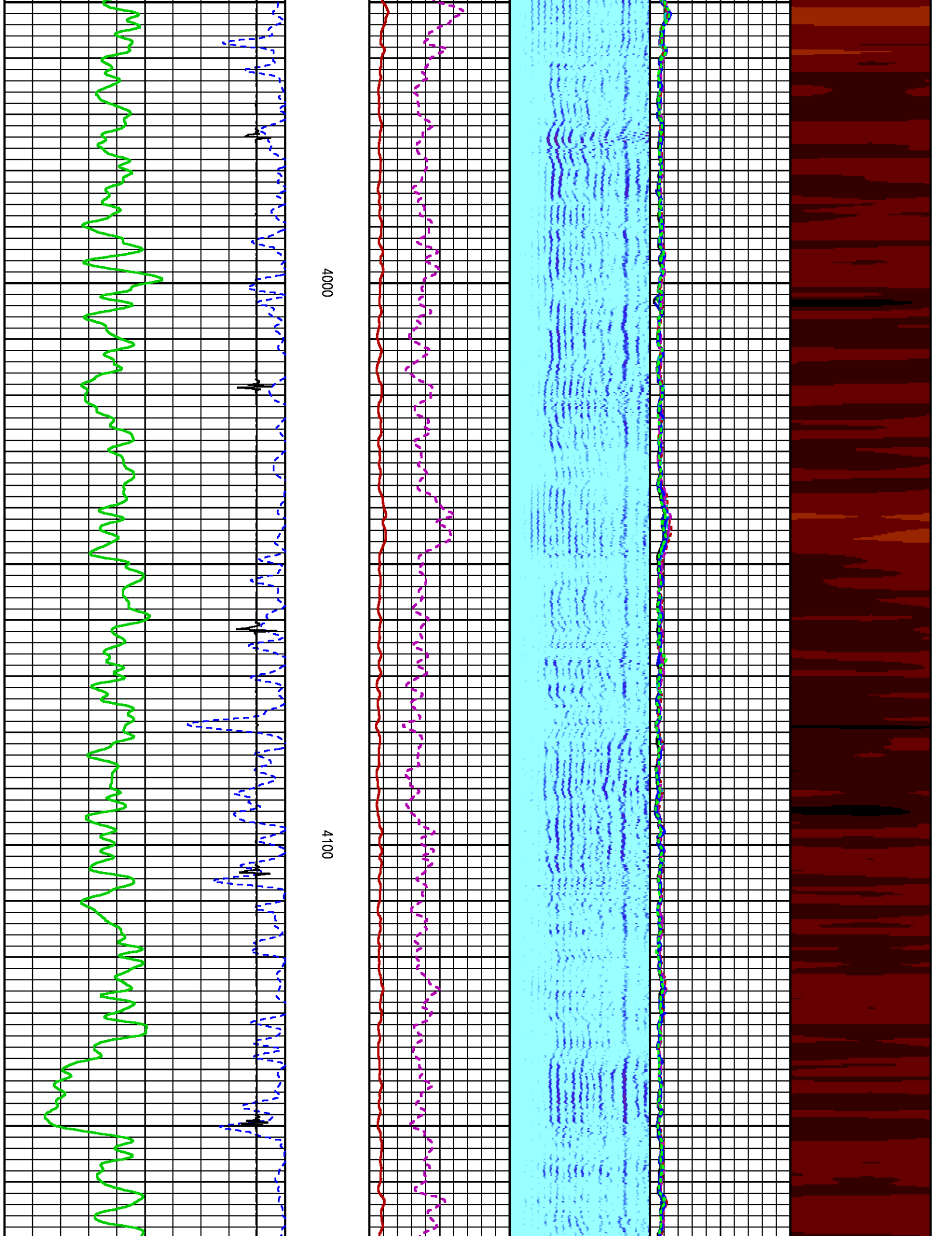


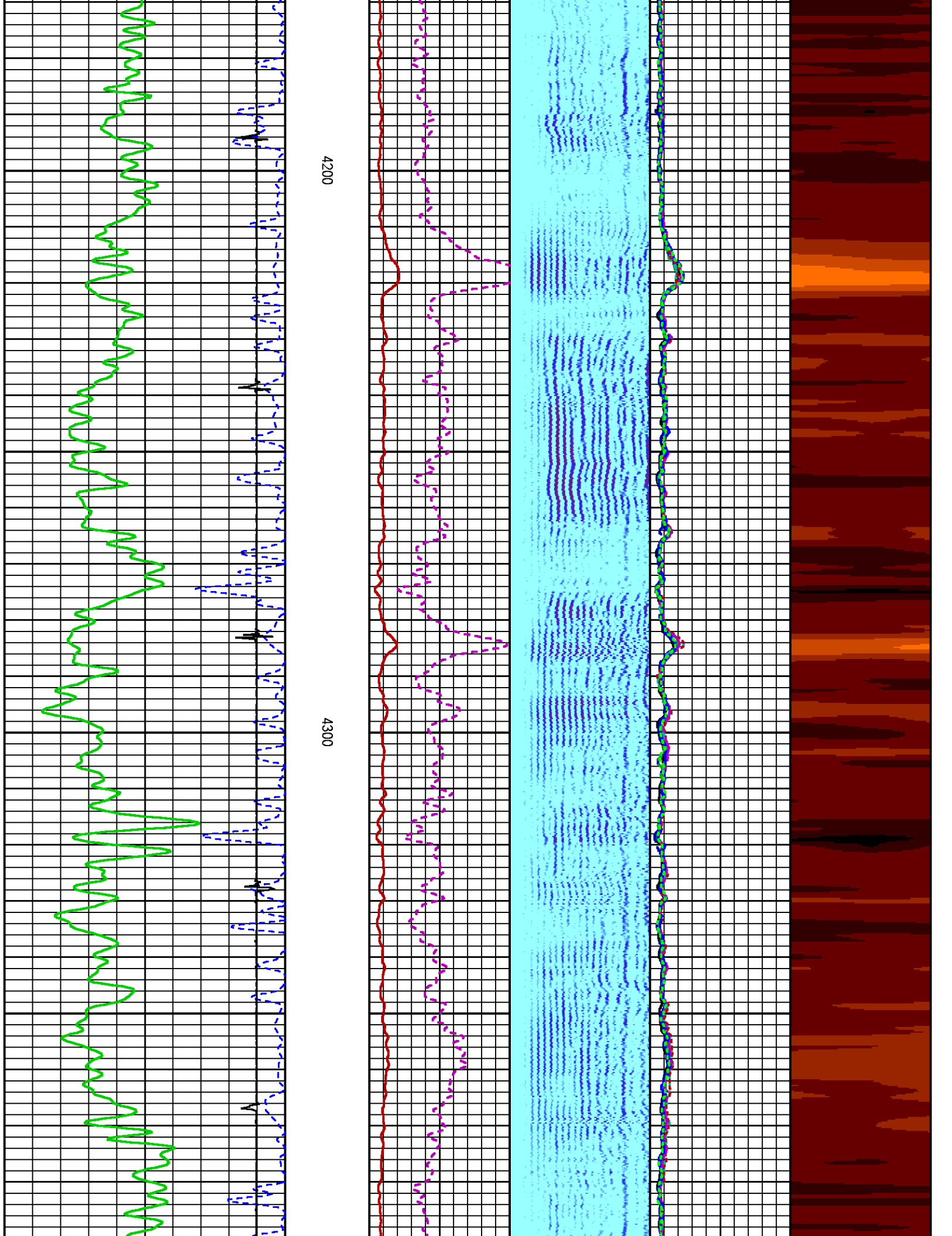


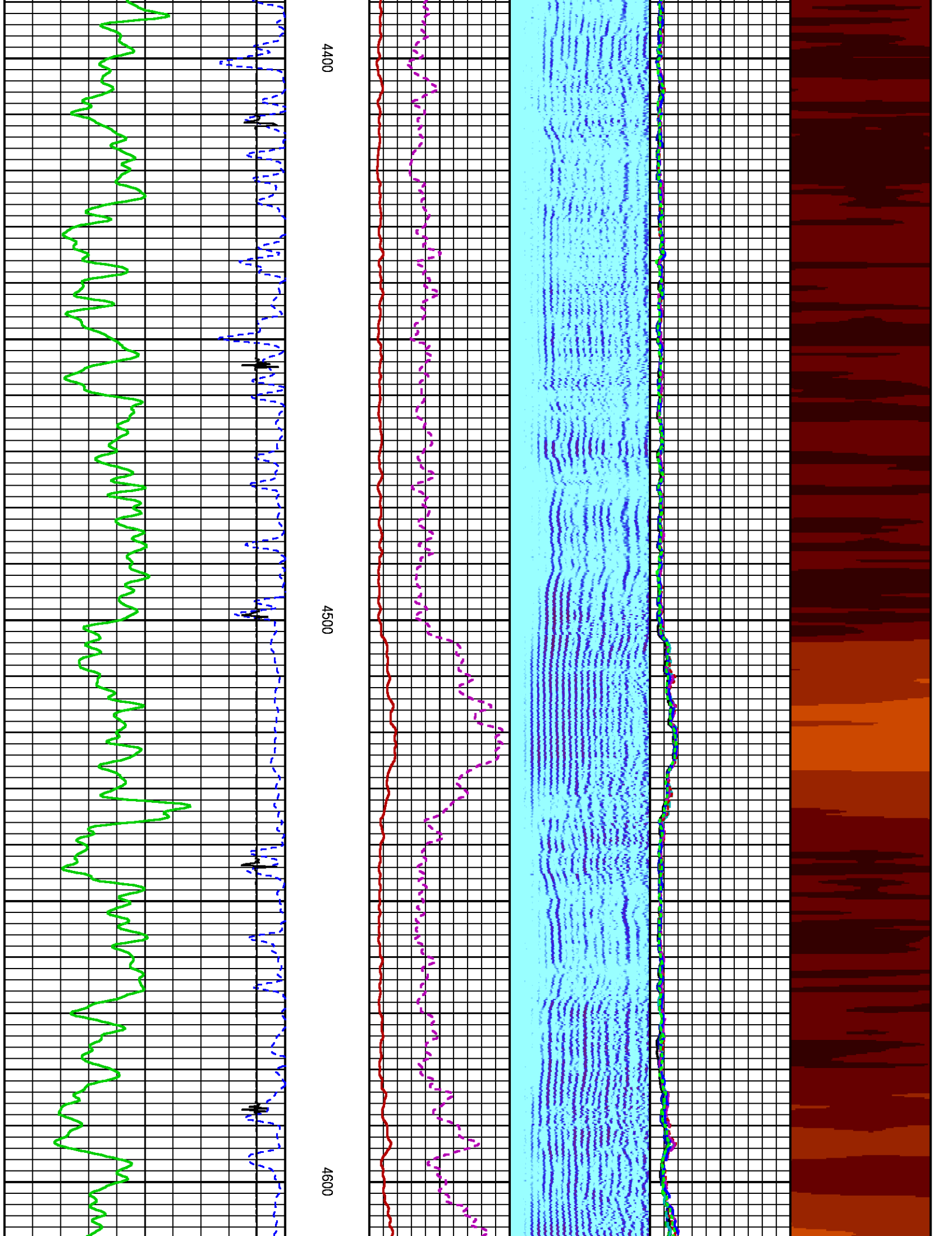


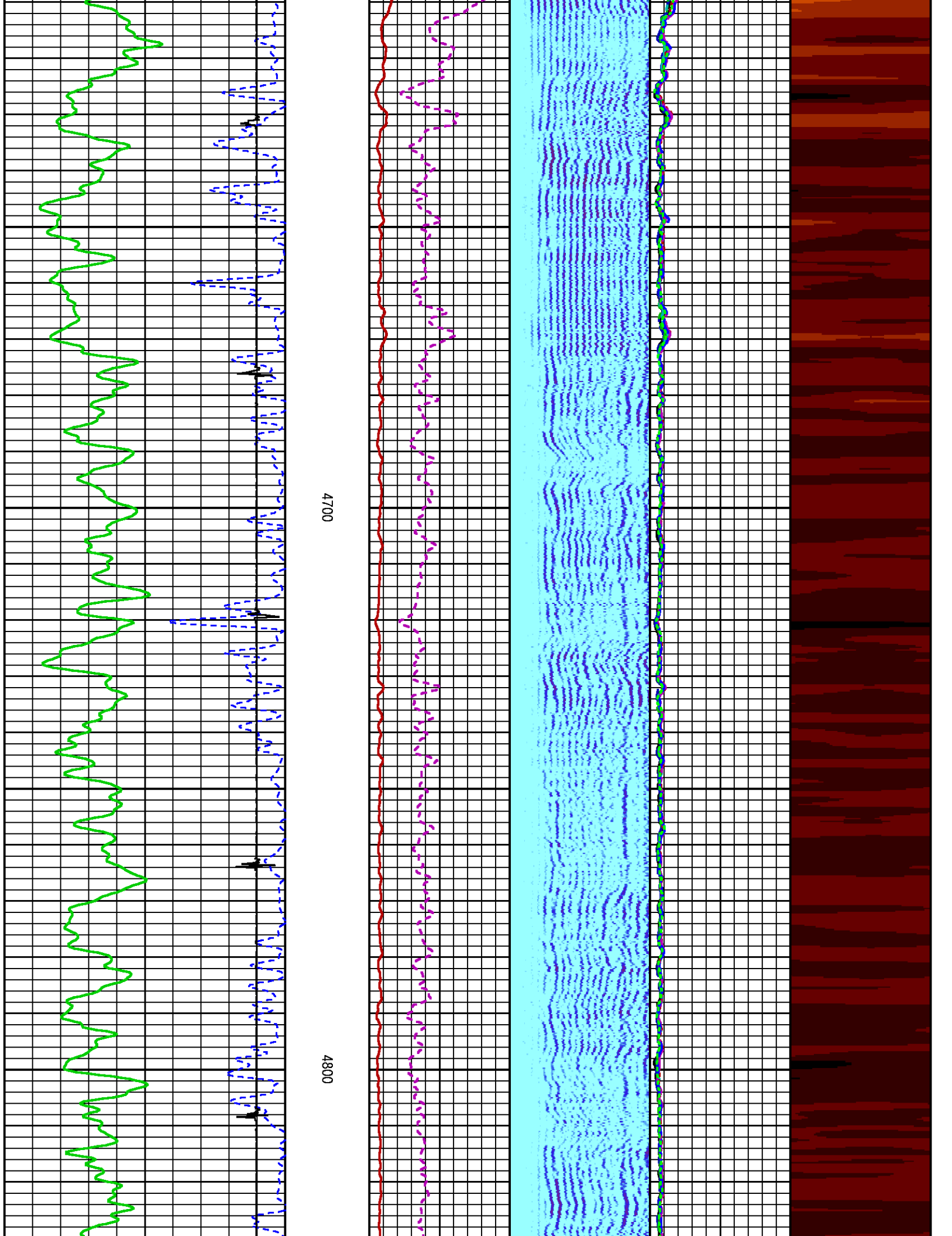




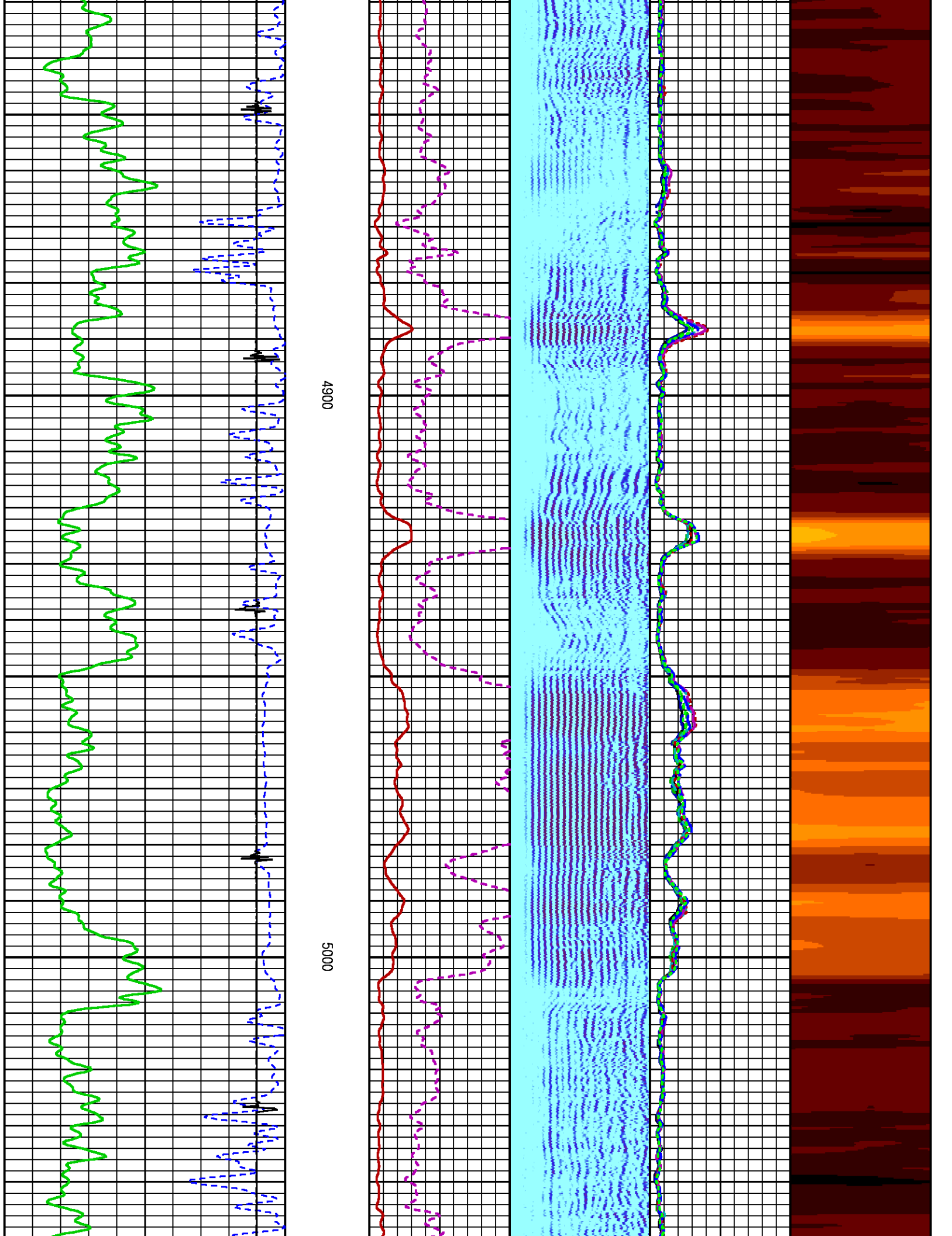




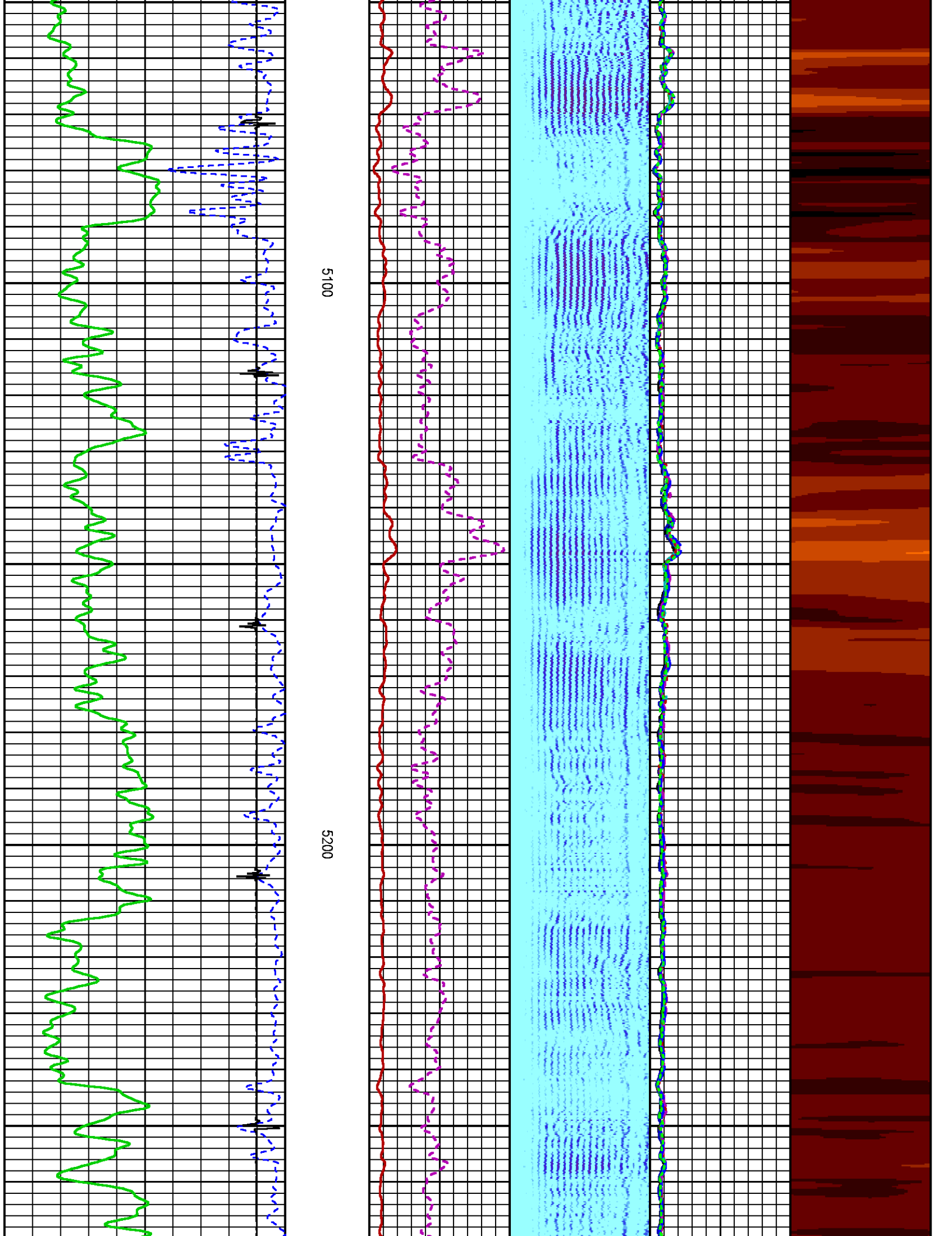


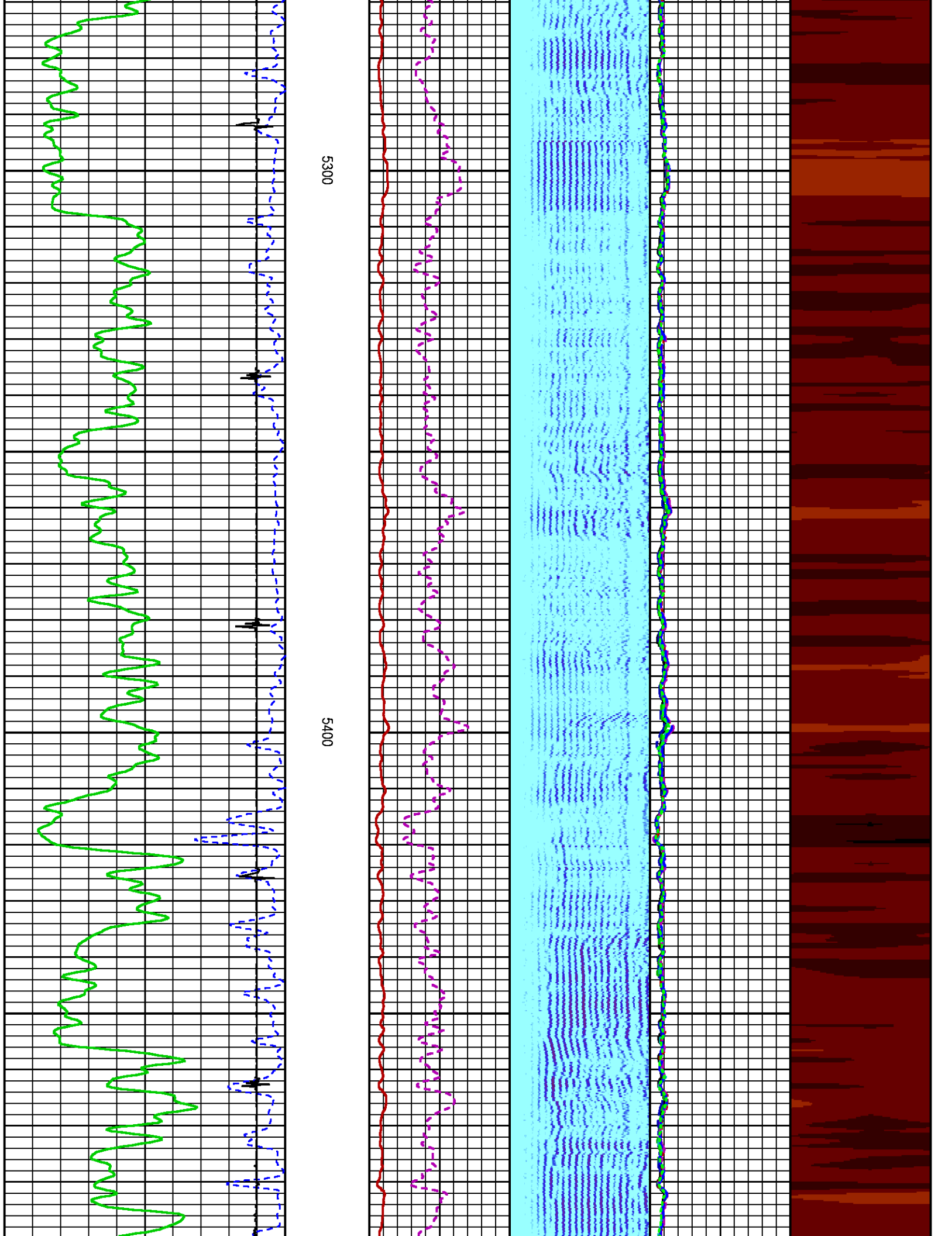


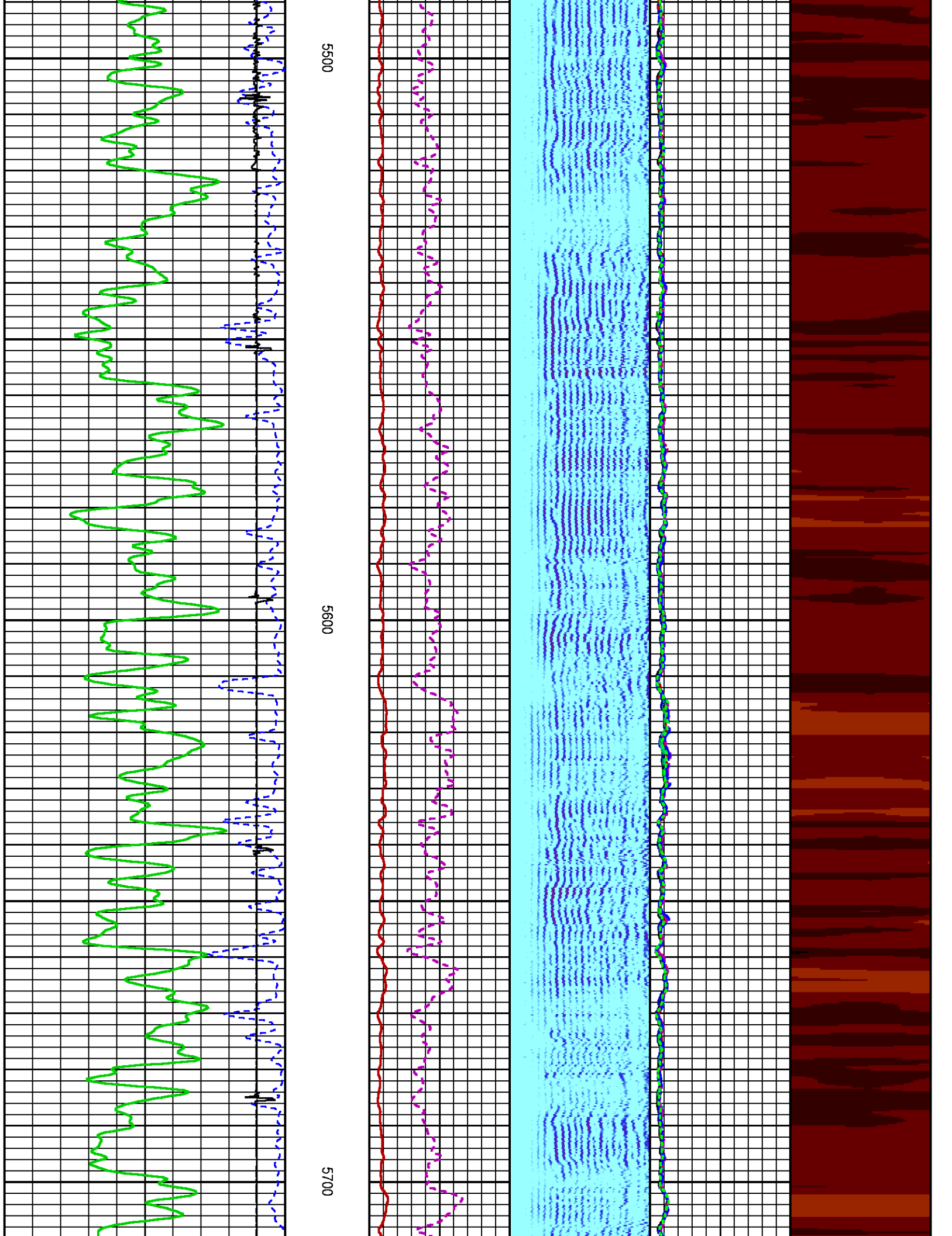


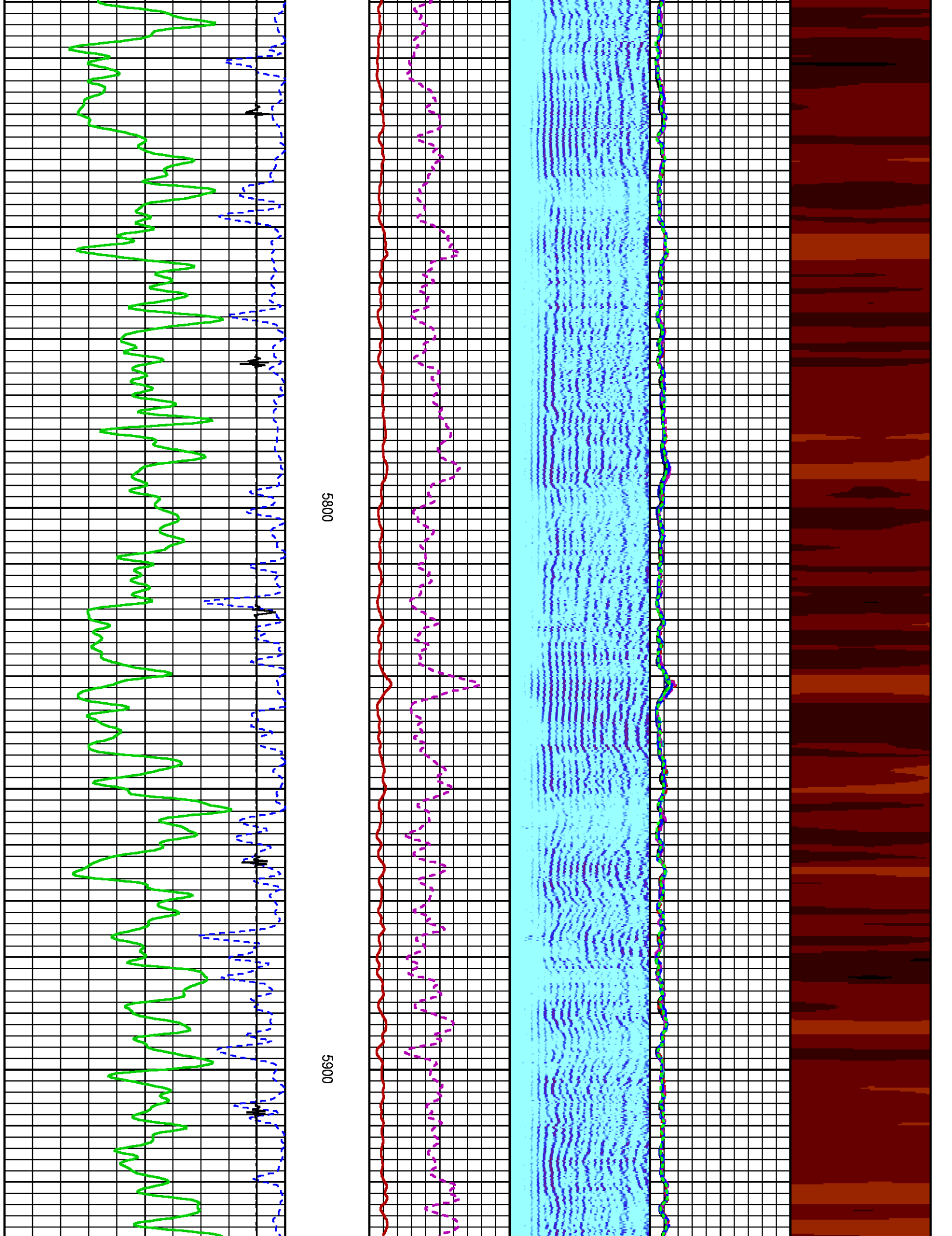


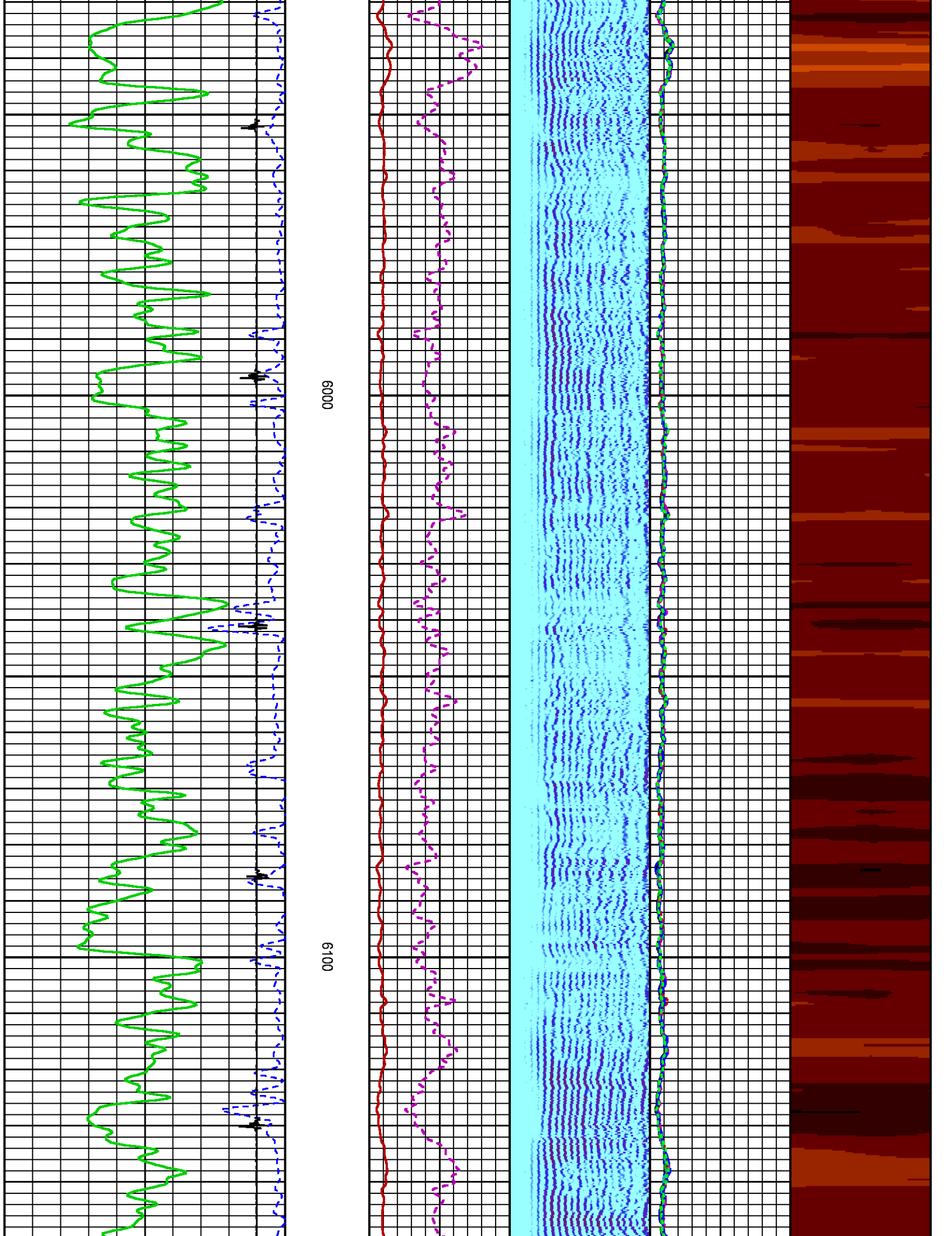




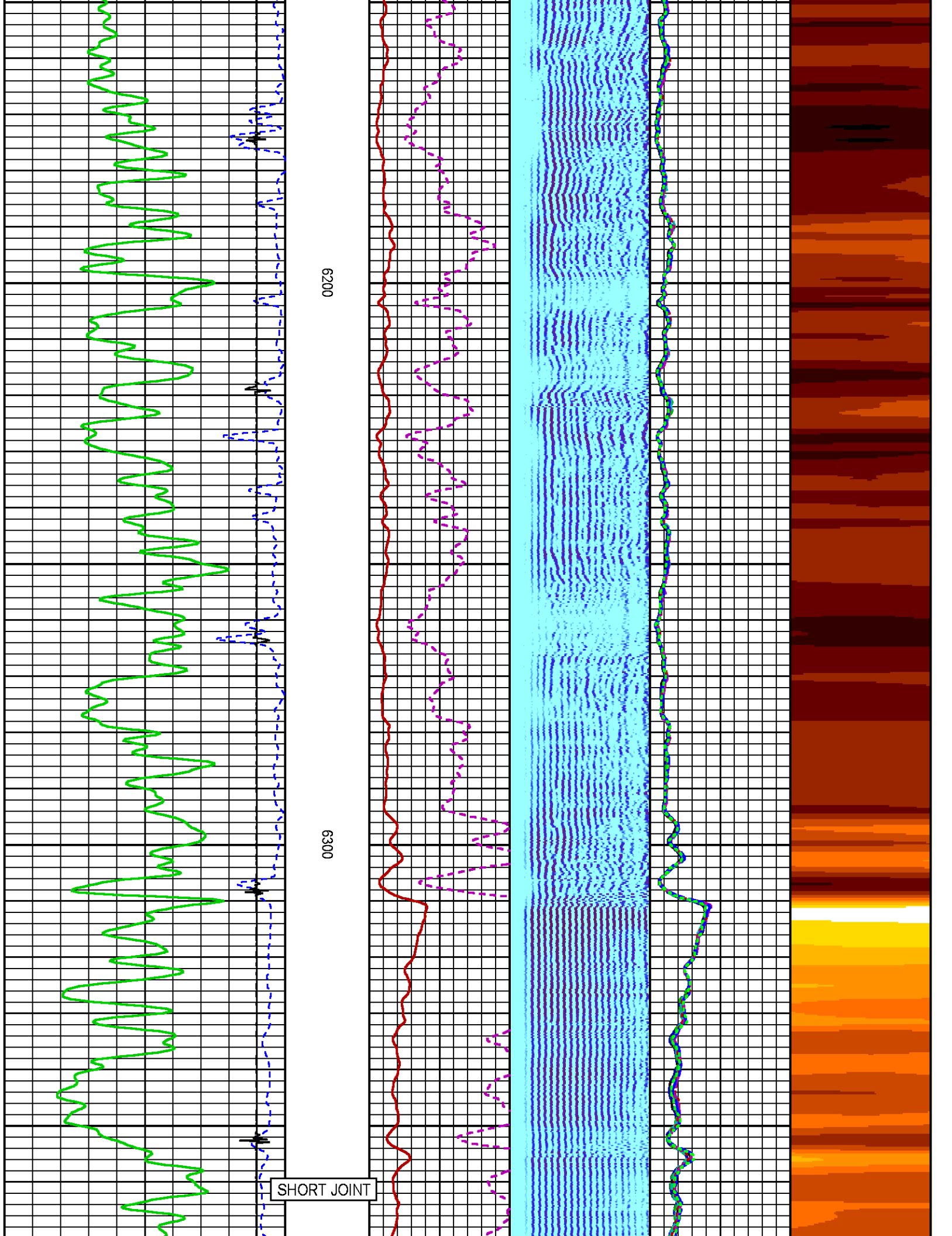




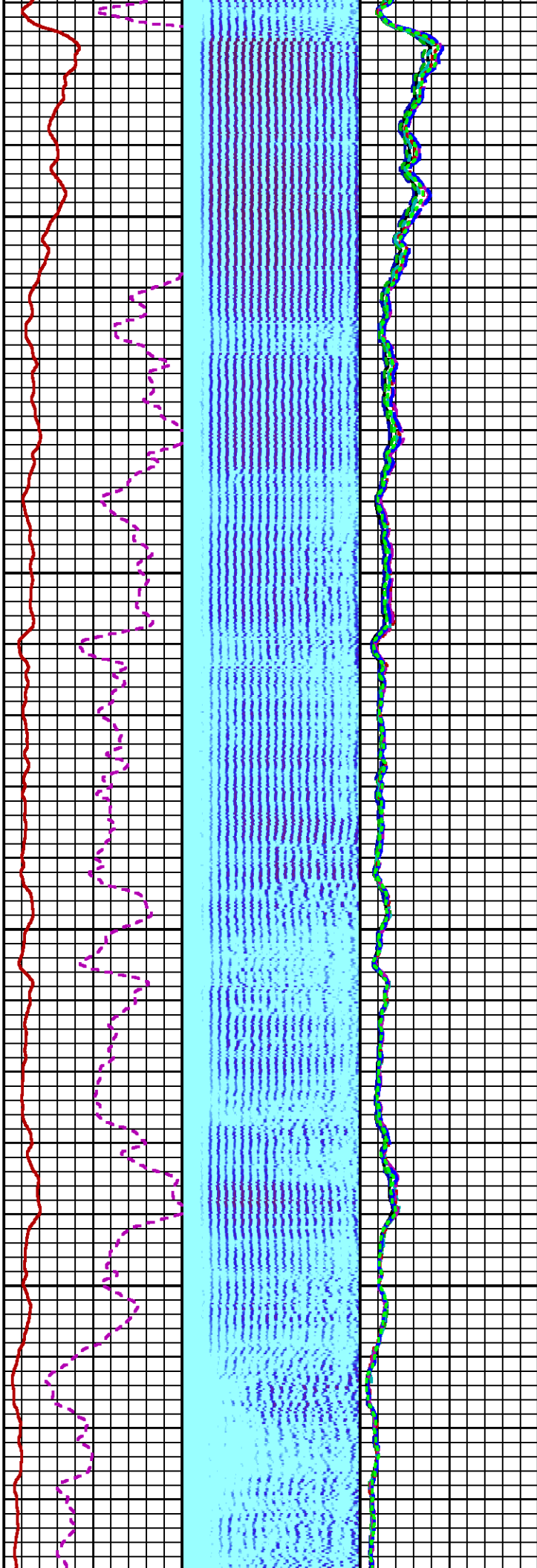






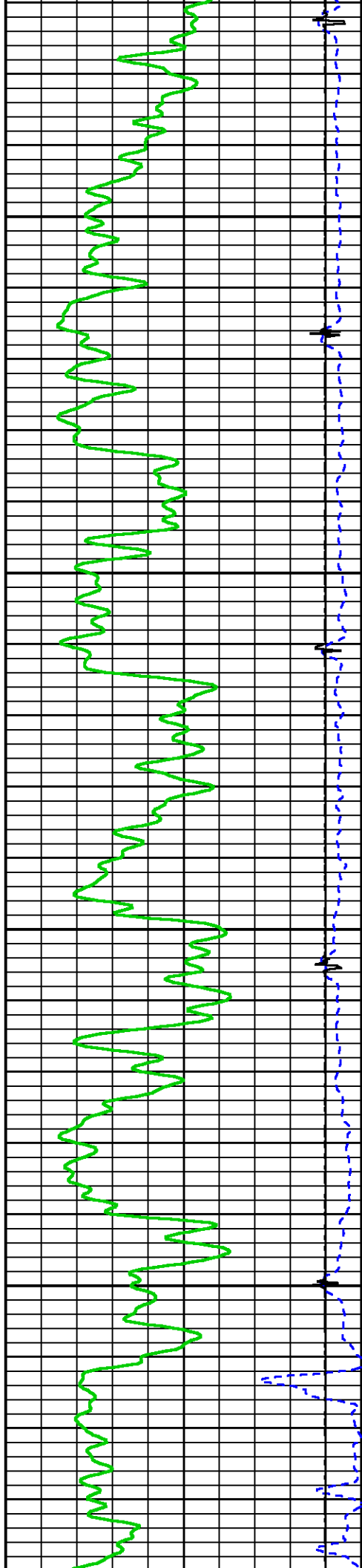


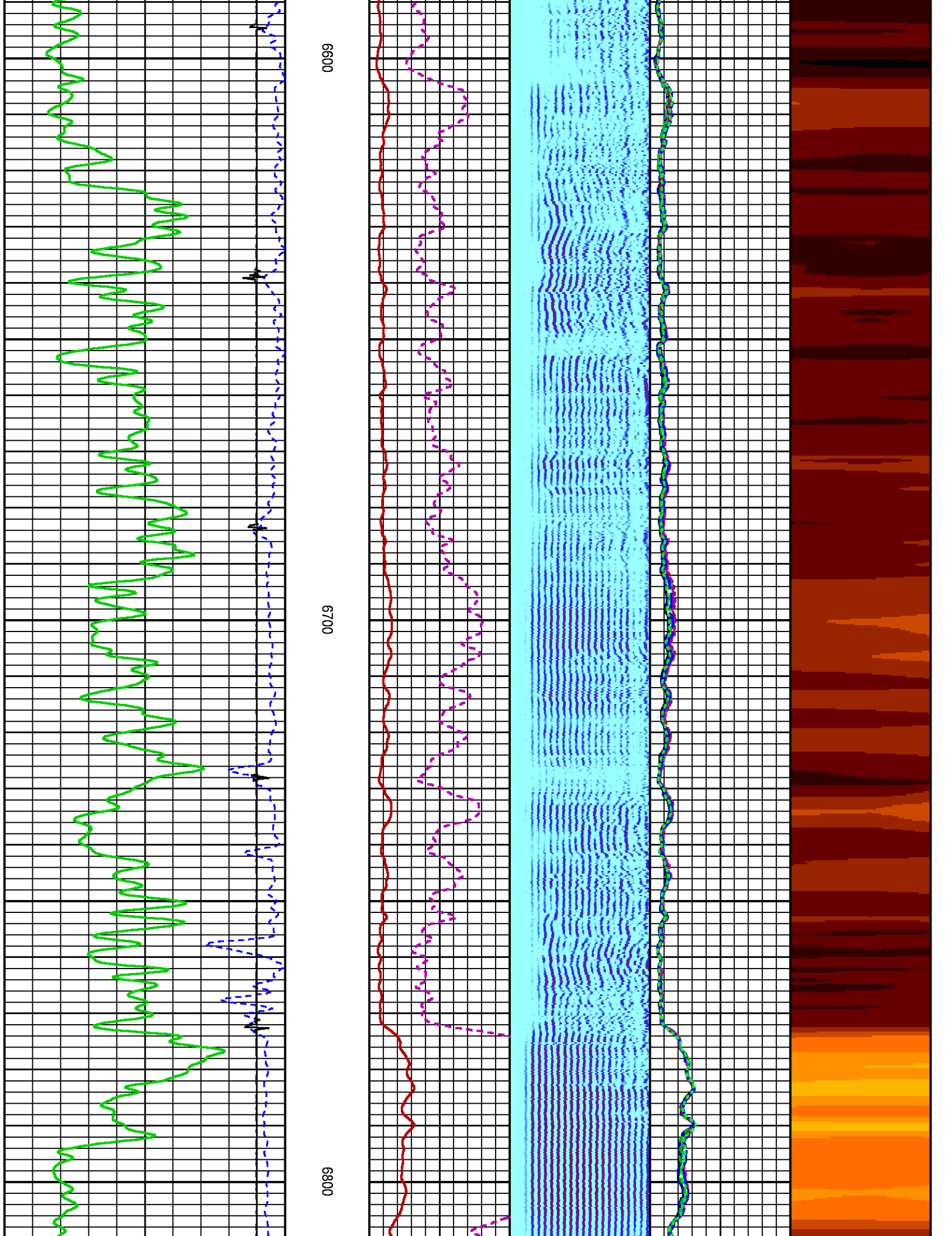


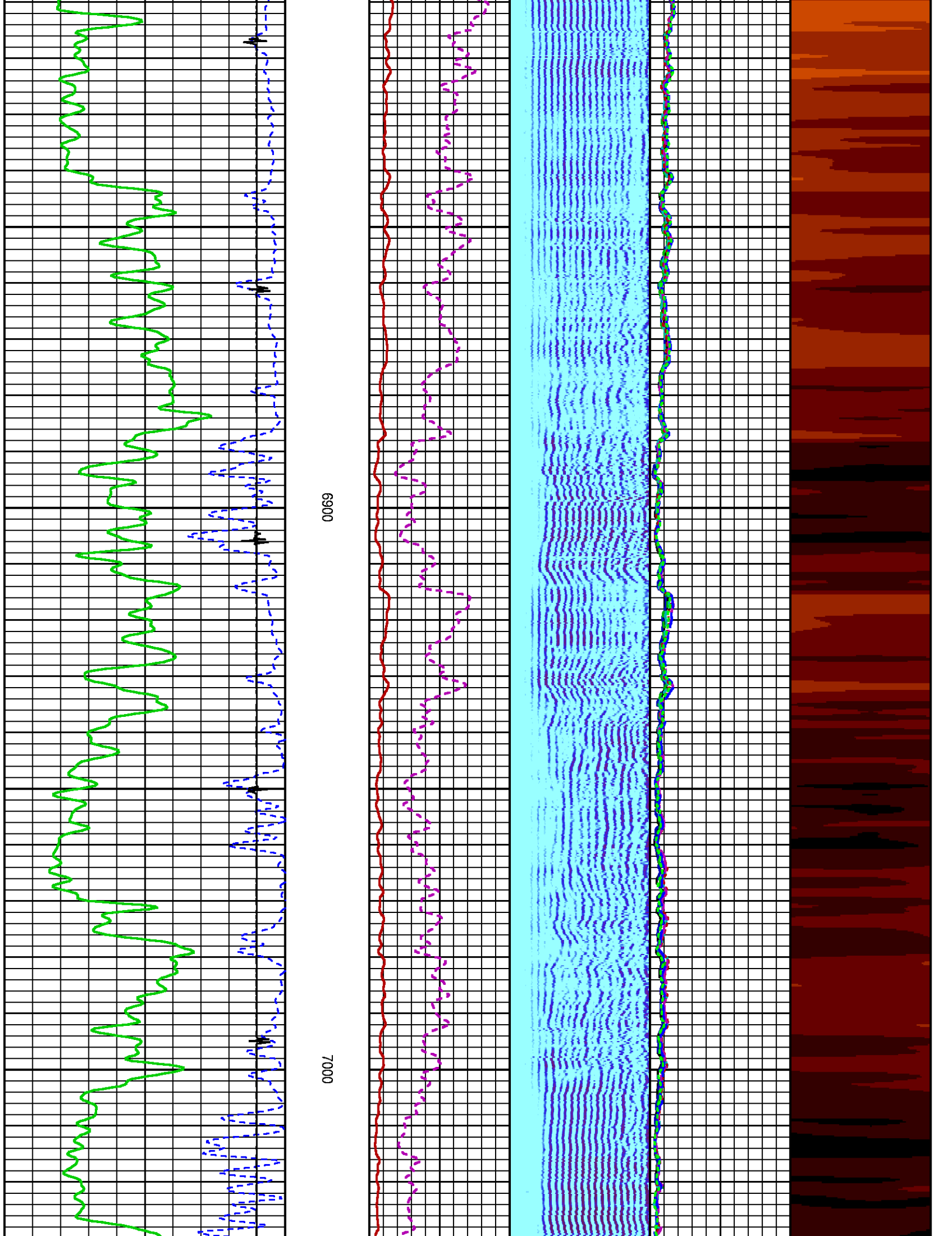


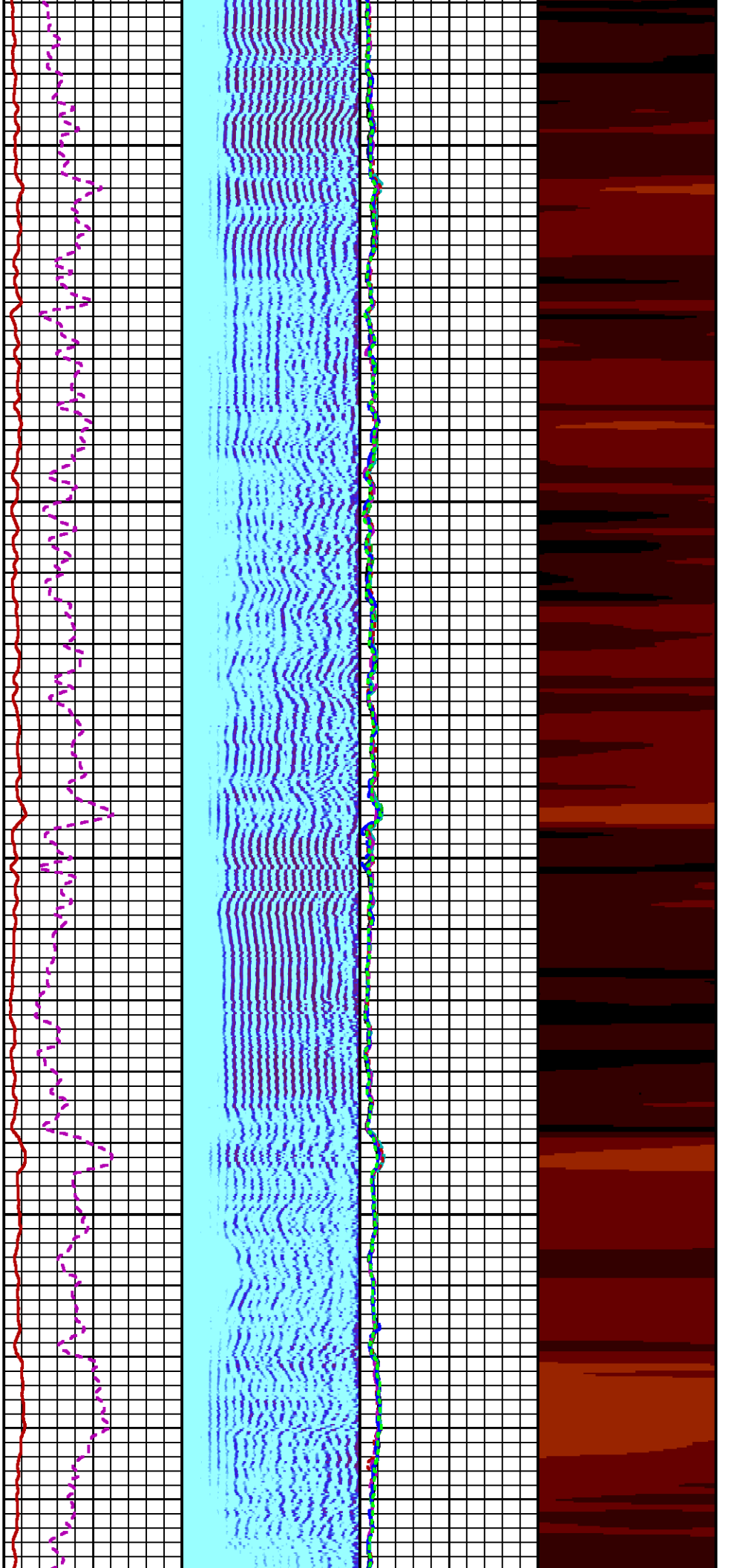
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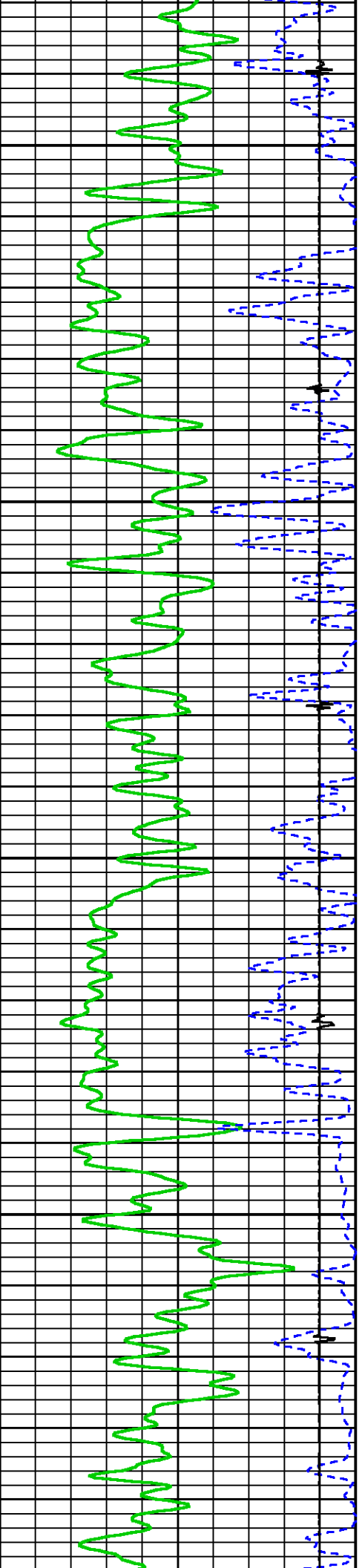




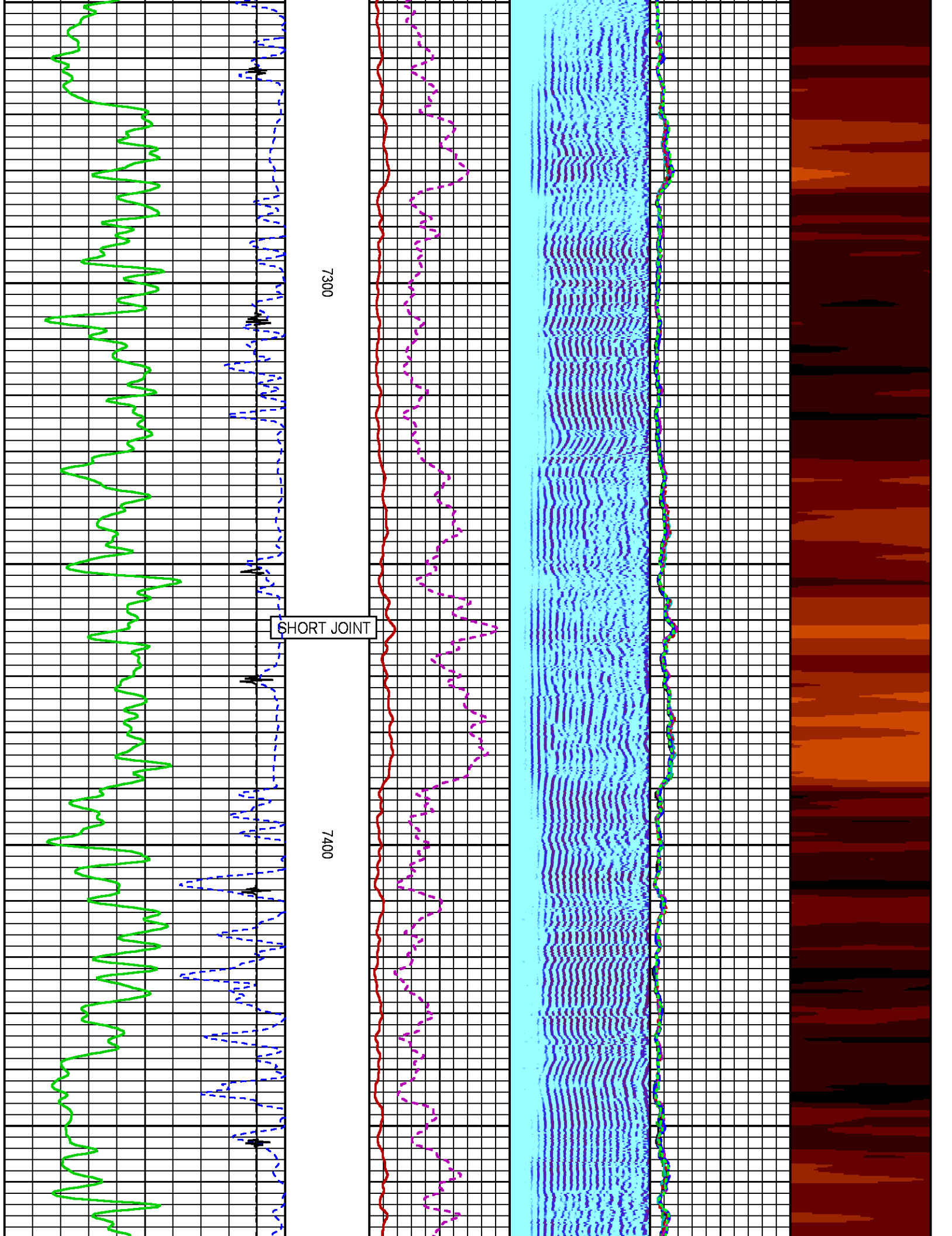


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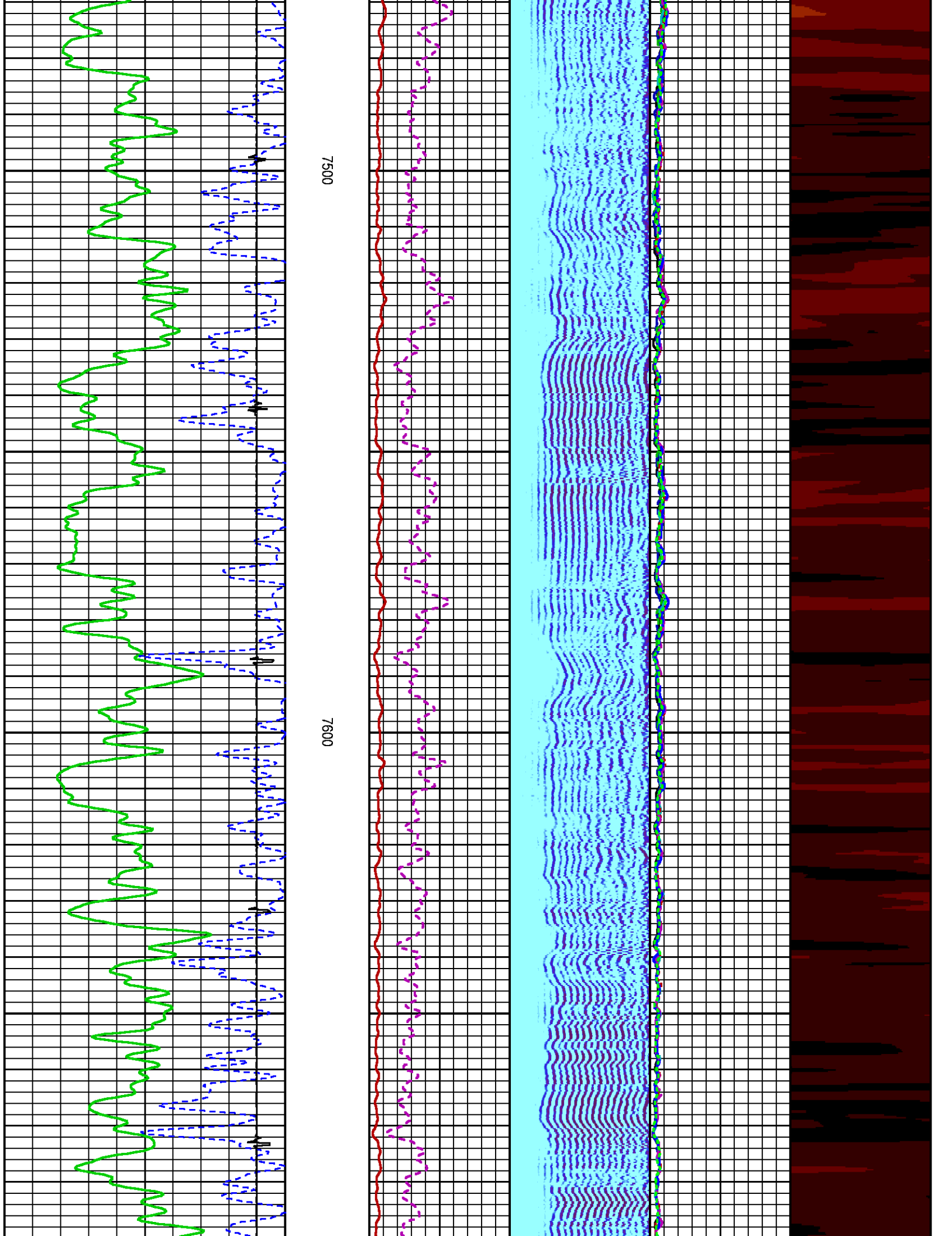
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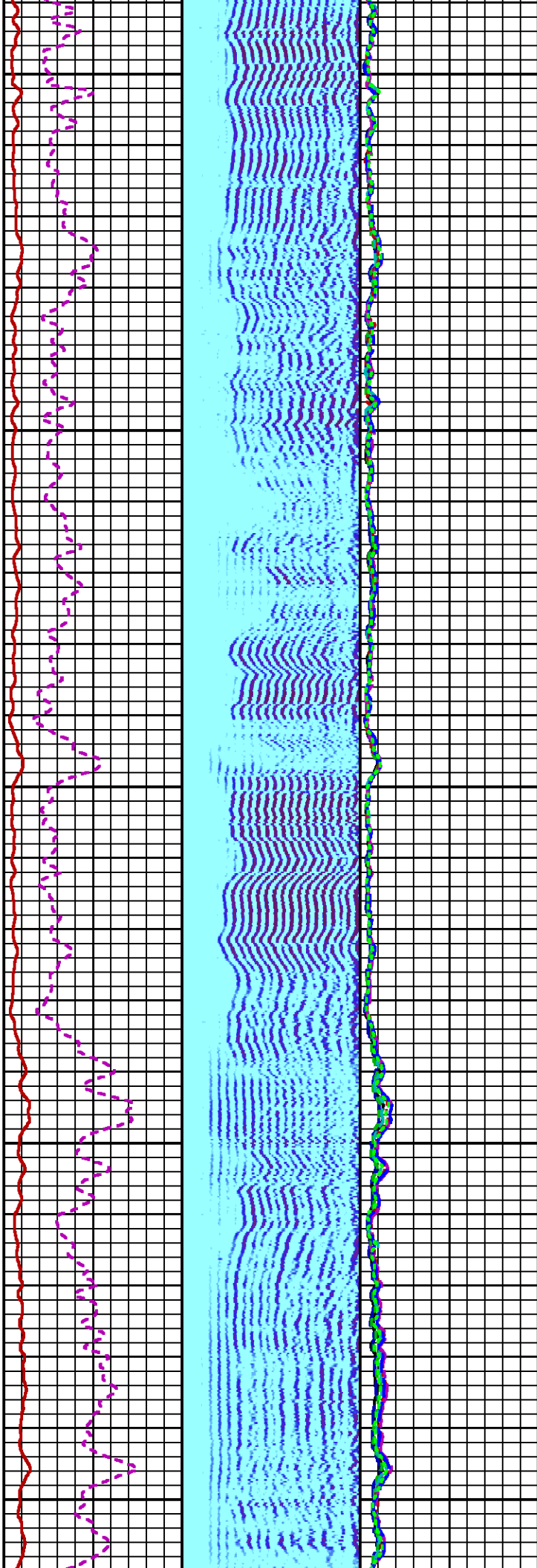








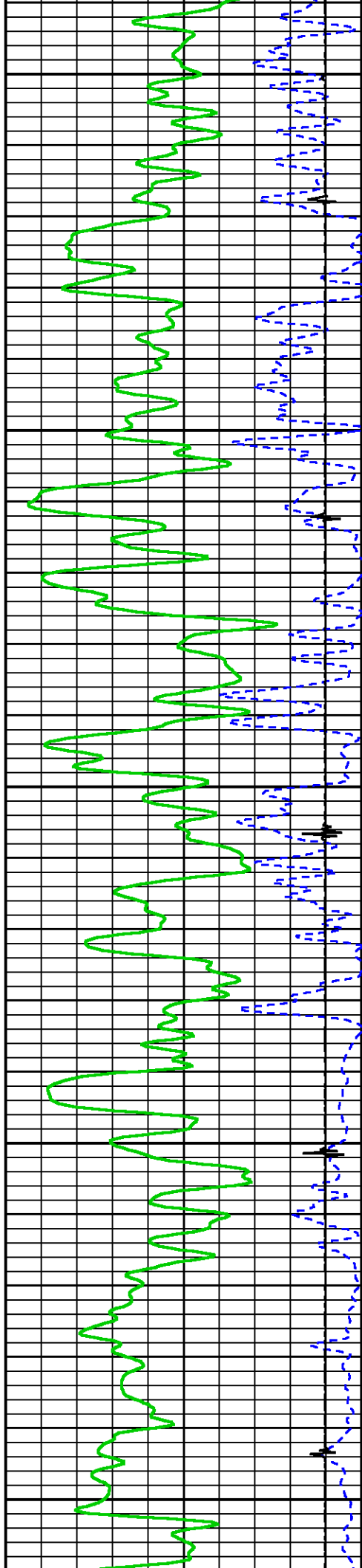


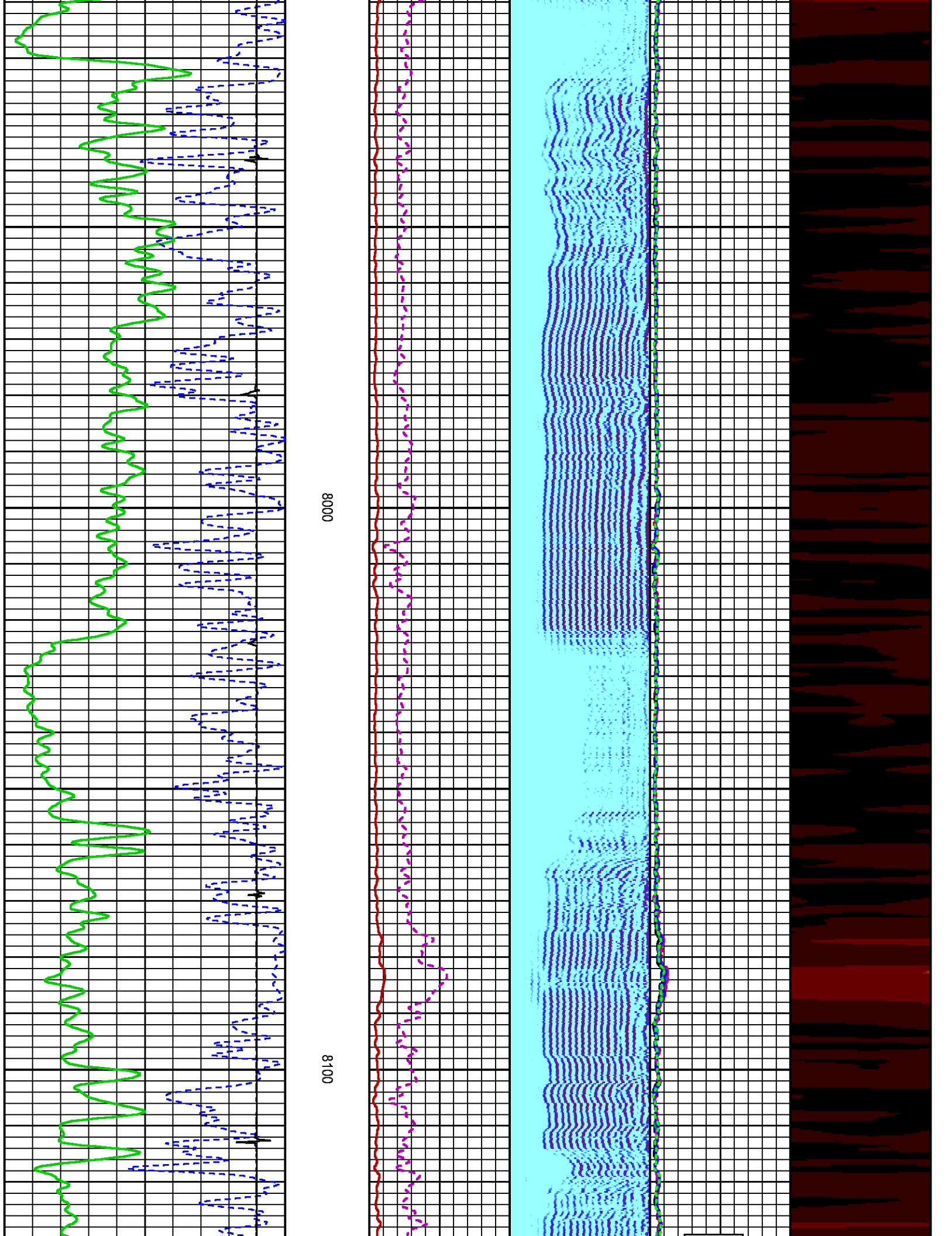


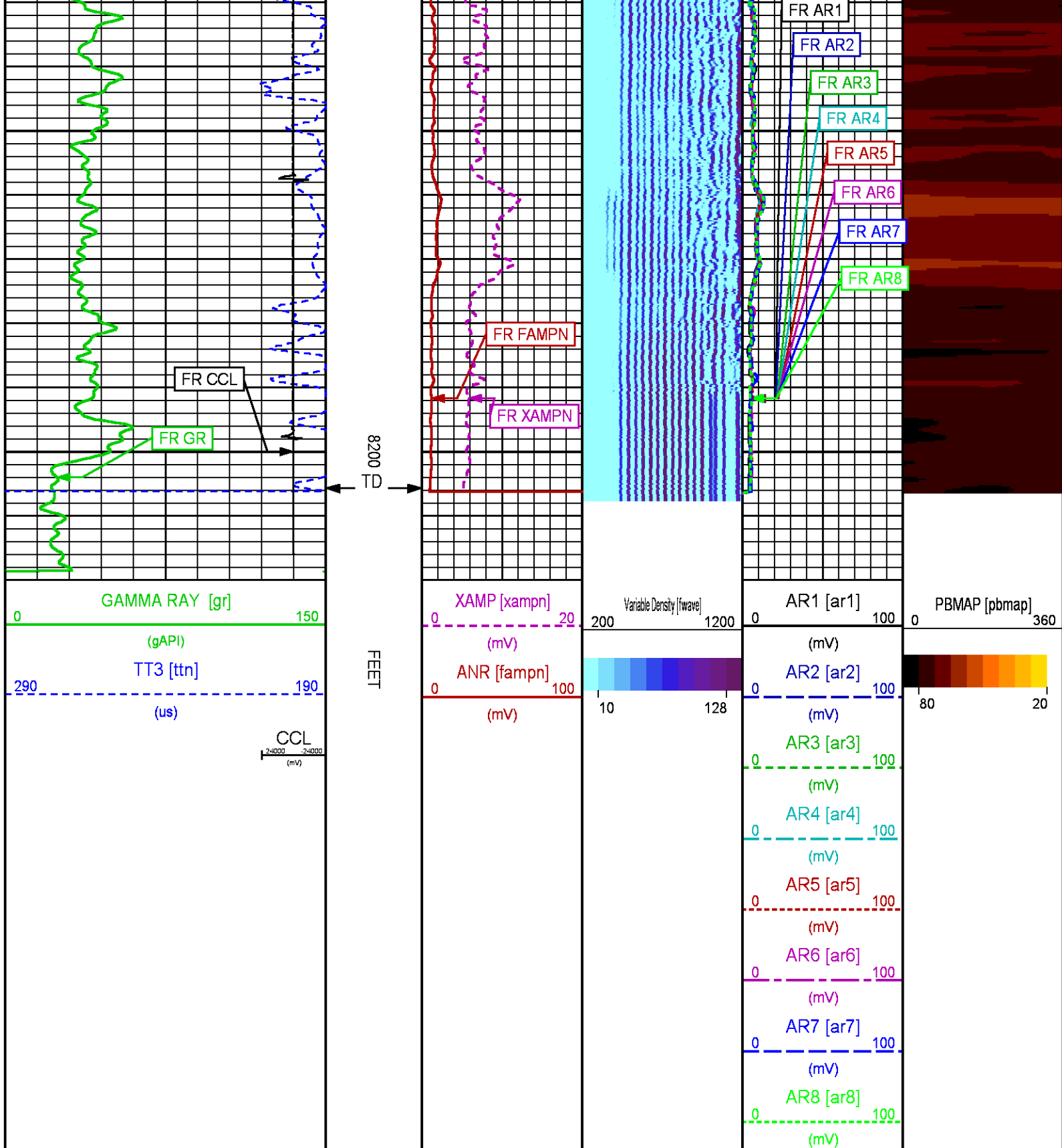
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7800

7900







**REPEAT PASS 0 PSI**

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/LARAMIE_BRUTON_19_12E/m012g02.prm LOGGING MODE: DEPTH                      DIRECTION: UP TOP DEPTH: 7683.000 ft                      BOTTOM DEPTH: 8198.500 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*)	187	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	187	us	"	"
	AMP WINDOW START (fgp3*)	187	us	"	"
	AMP WINDOW START (fgp4*)	187	us	"	"
	AMP WINDOW START (fgp5*)	187	us	"	"
	AMP WINDOW START (fgp6*)	187	us	"	"
	AMP WINDOW START (fgp7*)	187	us	"	"
	AMP WINDOW START (fgp8*)	187	us	"	"
	AMP WINDOW START (fgpn*)	187	us	"	"
TRAVEL TIME WINDOW (NEAR)	AMP WINDOW LENGTH	25	us	"	"
	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*)	-70	us	"	"
	TOOL DELAY (str2*)	-70	us	"	"
	TOOL DELAY (str3*)	-70	us	"	"
	TOOL DELAY (str4*)	-70	us	"	"
	TOOL DELAY (str5*)	-70	us	"	"
	TOOL DELAY (str6*)	-70	us	"	"
	TOOL DELAY (str7*)	-70	us	"	"
	TOOL DELAY (str8*)	-70	us	"	"
BASELINE NOISE (NEAR)	TOOL DELAY (strn*)	-70	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



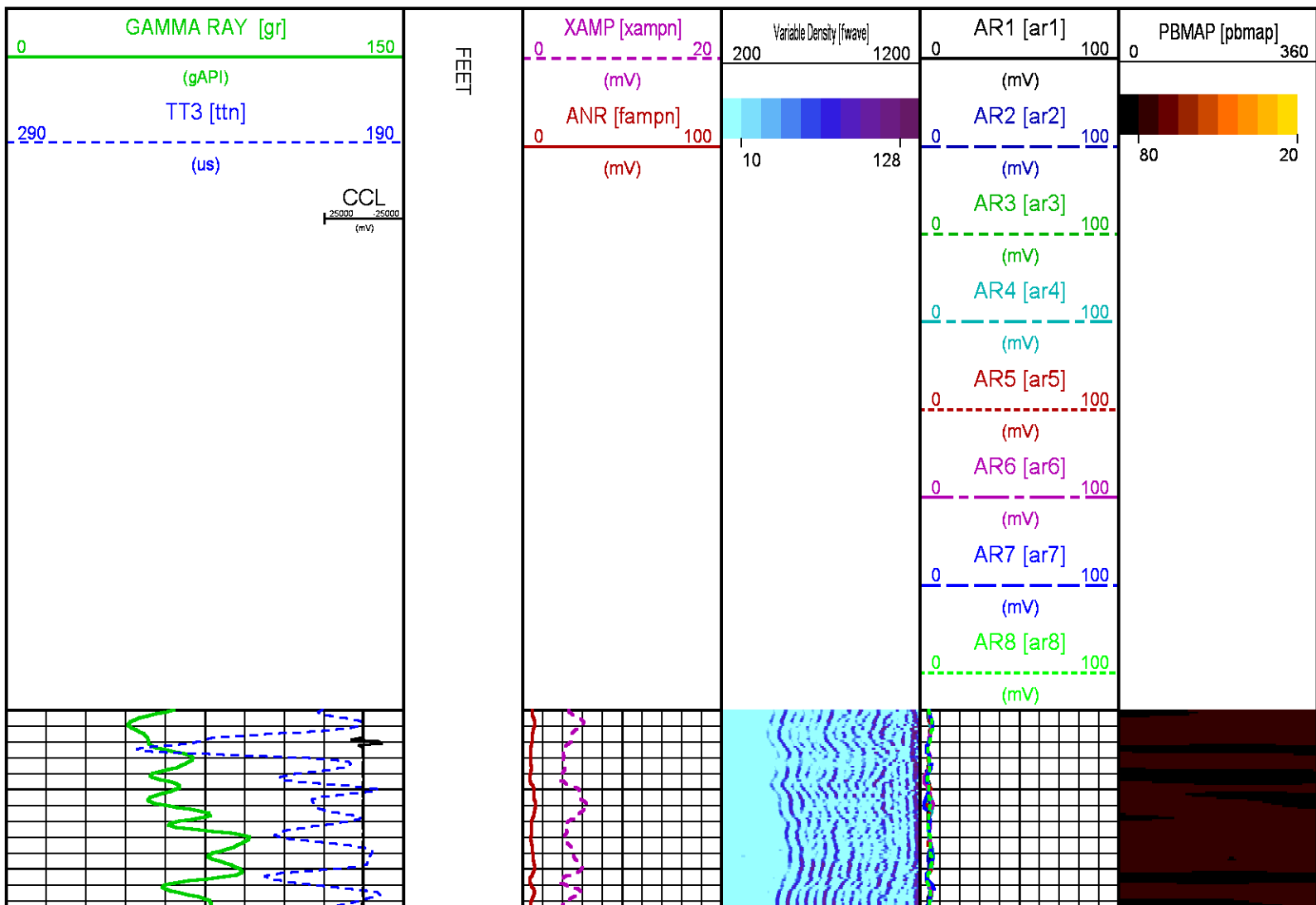
F1:AR1	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	Aug 30 10:41:57 2017	CASING COLLAR LOCATOR
F1:FAMPN	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Aug 30 10:41:57 2017	FAR WAVE FORM
F1:GR	Aug 30 10:41:57 2017	GAMMA RAY
F1:PBMAP	Aug 30 10:41:57 2017	PERCENT BOND CEMENT MAP
F1:TTN	Aug 30 10:41:57 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Aug 30 10:41:57 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

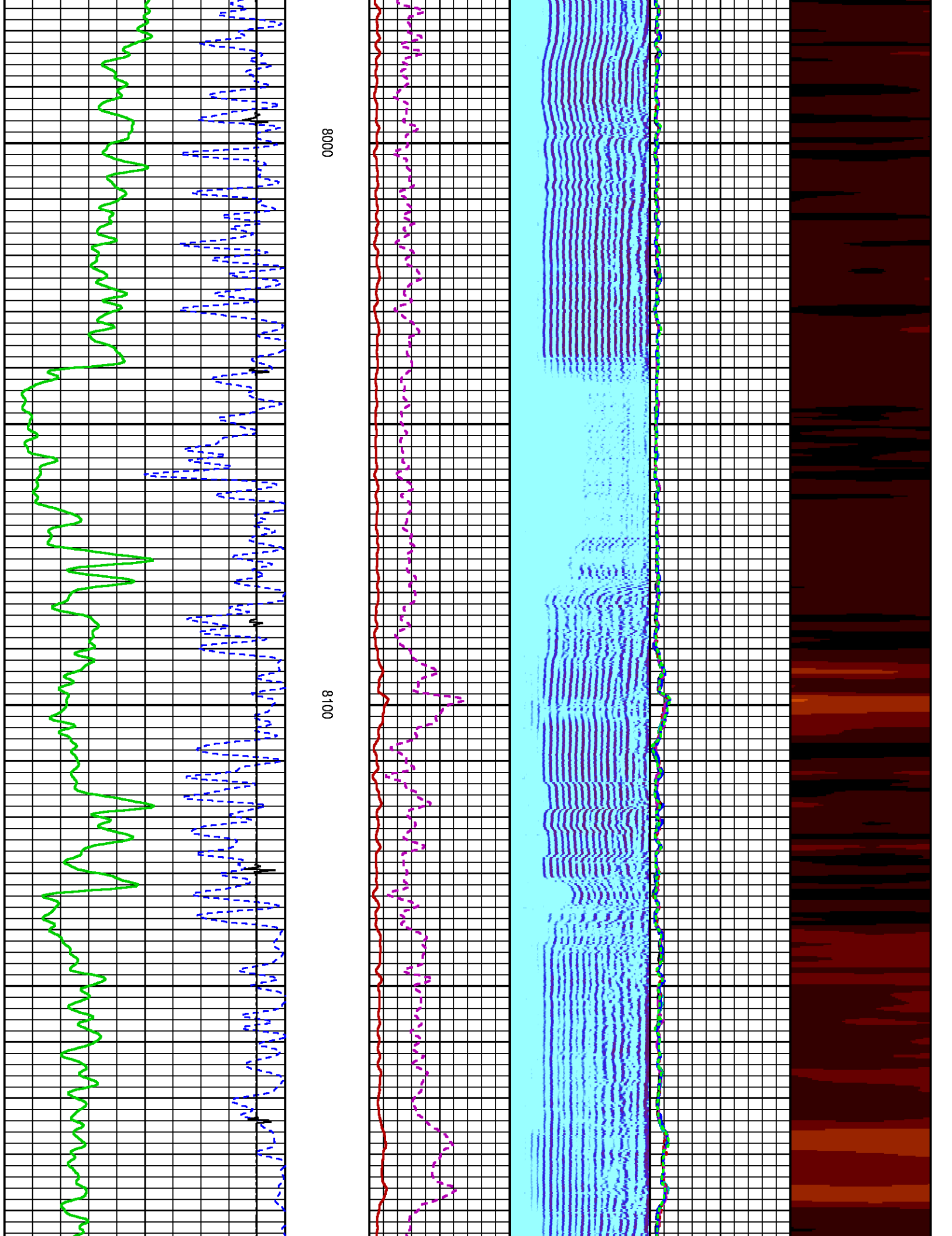
CURVE MEASURE POINT OFFSET

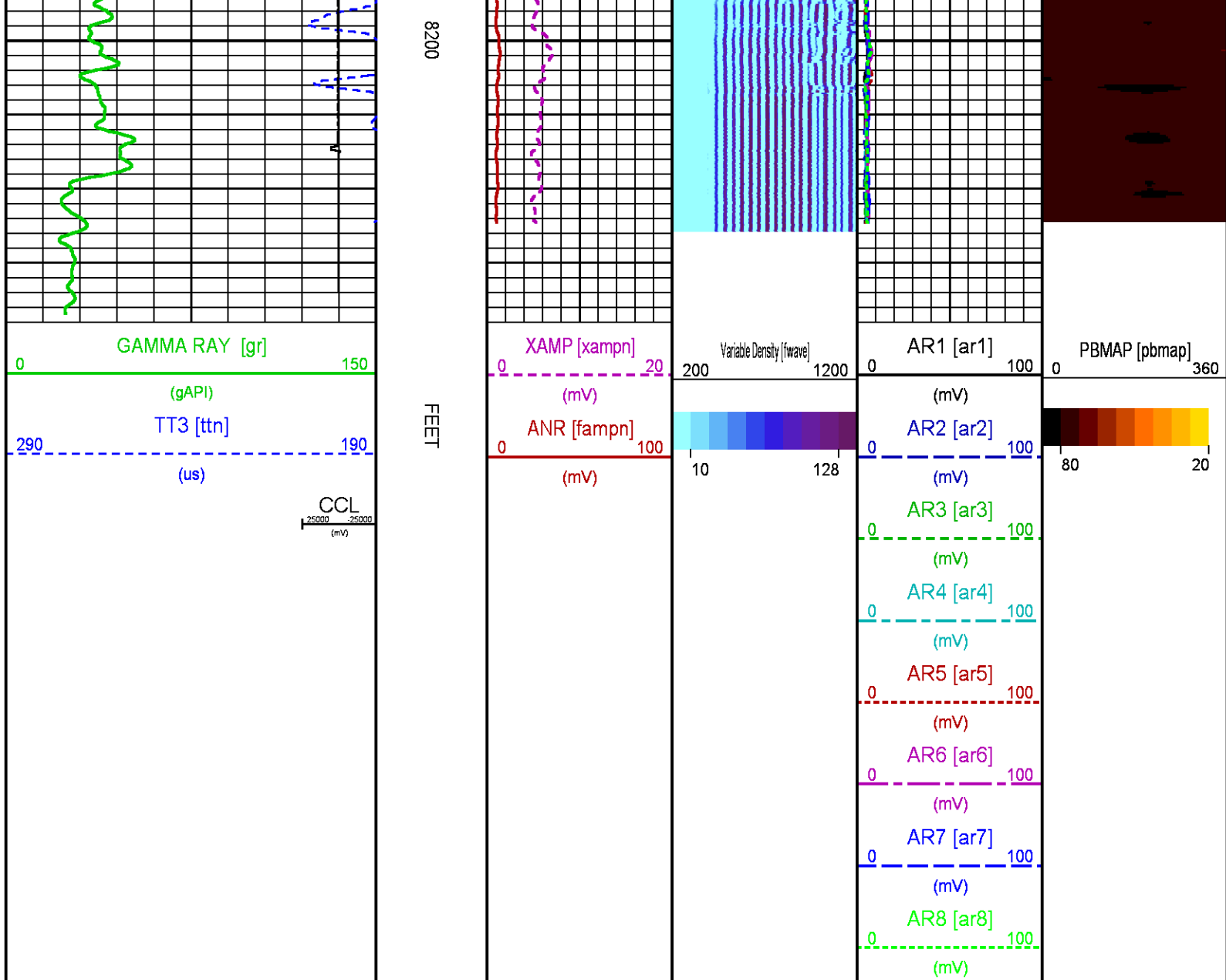
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	14.00	AR5	14.00	CCL	5.75	XAMPN	14.00
AR2	14.00	AR6	14.00	FAMPN	14.00		
AR3	14.00	AR7	14.00	GR	1.75		
AR4	14.00	AR8	14.00	TTN	14.00		

Presentation : cpu100:BRUTON\_19\_01W\_RAL\_REPEAT+01-REPEAT-BRUTON\_19\_19E\_RAL\_RPT-5.fvpdf [5"/100' Scale]  
 Plot Interval : 7950 - 8197.5 Feet

Data File 1 : F1 : cpu100:/dat1a/LARAMIE\_BRUTON\_19\_12E/BRUTON\_19\_19E\_RAL\_RPT.xtf  
 Created On : Aug 30 10:41:57 2017  
 Company : LARAMIE ENERGY  
 Well : BRUTON 19-12E  
 Field : VEGA  
 File Interval : 7669 - 8198.75 Feet  
 OCT : n012g







### CALIBRATION / VERIFICATION SUMMARY

Source File: Adat1aLARAMIE\_BRUTON\_19\_125h012g.tp1

#### RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA10218496

DATE/TIME PERFORMED: Wed Aug 30 10:04:32 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)	0.06	0.08	-0.00	0.05	0.09	0.07	0.10	0.10	0.07	0.59	0.01
AMP FLUID (mV)	85	84	83	83	84	85	86	86	85	114	83
TT (us)	202	203	203	203	202	200	200	200	203	314	203
M FACTOR	1.18	1.19	1.20	1.20	1.19	1.17	1.16	1.17	1.18	1.32	1.20

#### RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA10218496

DATE/TIME PERFORMED: Wed Aug 30 10:05:50 2017

DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670

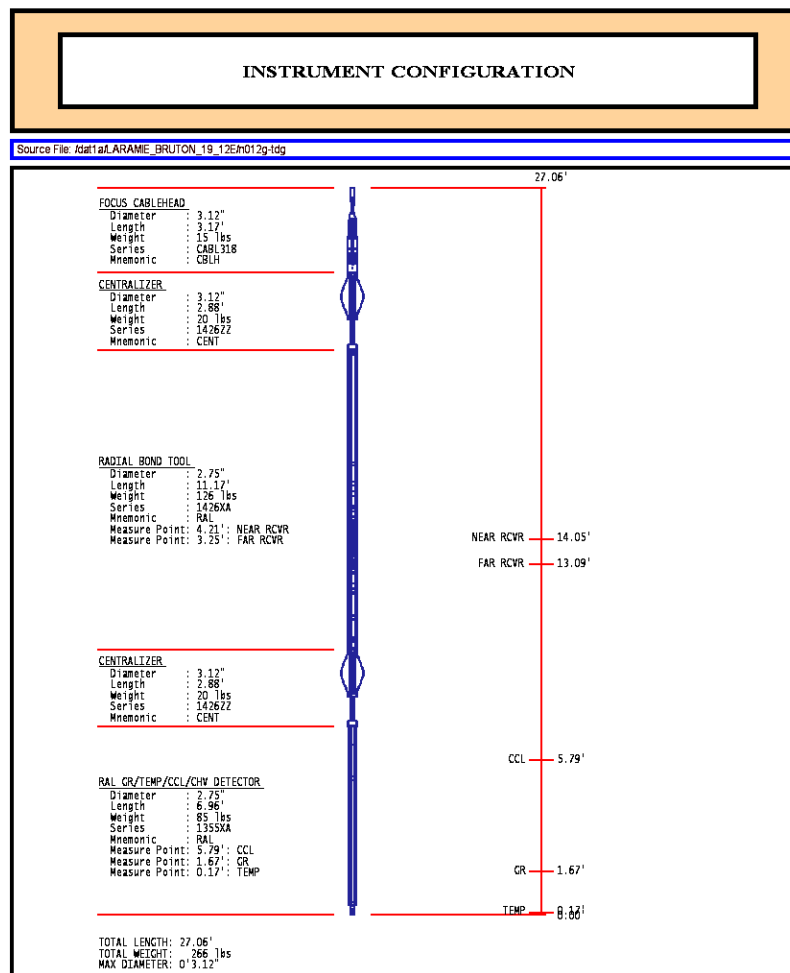
CABLE #: 6670SM SMALL667

	NEAR	R1	R2	R3	R4	R5	R6	R7	R8	FAK	CAL
ZERO	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)
	0.11	0.05	0.03	0.05	0.08	0.06	0.08	0.03	0.08	0.45	0.03
AMP AIR	2.63	2.42	2.20	2.42	2.58	2.78	2.78	2.60	2.58	3.33	99.67
	SHOP			SHOP			WIRELINE				
	M FACTOR			A FACTOR			FACTOR				
	1.20			0.00			1.00				

GR PRIMARY CALIBRATION SUMMARY									
TOOL #:		1355XA12670180		DATE/TIME PERFORMED:		Fri Dec 23 11:53:22 2016			
UNIT #:		3880TA HL6670		CALB JIG #:		4702NKDA_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:		Fri Dec 23 11:54:47 2016			
UNIT #:		3880TA HL6670		VERI JIG #:		4702NKDA_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			
						90.00		110.00	



	COMPANY	LARAMIE ENERGY	FILE NO:
	WELL	BRUTON 19-12E	
	FIELD	VEGA	API NO:
COUNTY	MESA	STATE COLORADO	05077103650000
LOCATION:			ELEVATIONS:



SHL: LAT:39.255232N; LONG:107.806537W  
BHL: LAT:39.262132N; LONG:107.806985W

KB 7449 FT  
DF 7448 FT  
GL 7425 FT

SEC 19 TWP 9S RGE 93W

DATE 30-AUG-2017