



RADIAL CEMENT BOND LOG

FILE NO:	COMPANY	LARAMIE ENERGY
API NO: 05077104570000	WELL FIELD COUNTY	BRUTON 30-04W VEGA MESA STATE COLORADO
Version	LOCATION:	OTHER SERVICES
	SHL: LAT:39.252692N; LONG:107.814294W BHL: LAT:39.252937N; LONG:107.816234W SEC 30 TWP 9S RGE 93W	RPM
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7504 FT KB 30 FT ABOVE P.D. KB	ELEVATIONS: KB 7534 FT DF 7534 FT GL 7504 FT

DATE		29-OCT-2017		
RUN	TRIP	1	1	
SERVICE ORDER		US128859		
DEPTH DRILLER		8309 FT		
DEPTH LOGGER		8252 FT		
BOTTOM LOGGED INTERVAL		8252 FT		
TOP LOGGED INTERVAL		30 FT		
TIME STARTED		09:30		
TIME FINISHED		12:00		
OPERATOR RIG TIME		2.5 HOURS		
TYPE OF FLUID IN HOLE		WATER		
FLUID DENSITY		NA		
FLUID SALINITY		NA		
FLUID LEVEL		62 FT		
LOGGED CEMENT TOP		1557 FT		
WELLHEAD PRESSURE		0 PSI		
MAXIMUM HOLE DEVIATION		NA		
NOMINAL LOGGING SPEED		100 F/MIN		
MAX. RECORDED TEMP.		245 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: 6747' - 6769'

SJ: 5621' - 5643'

CREW: C.GOLOBY , J.PENA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	RAL	1426XA	11871508	CENTRALIZED
1	1	GAMMA RAY	1355XA	12670180	CENTRALIZED

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: 1

Plotted: Mon Oct 30 19:08:57 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\BRUTON_30_04Wp012g02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 22.750 ft BOTTOM DEPTH: 8258.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	light (2a)		"	"
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*)	185	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	185	us	"	"
	AMP WINDOW START (fgp3*)	185	us	"	"
	AMP WINDOW START (fgp4*)	185	us	"	"
	AMP WINDOW START (fgp5*)	185	us	"	"
	AMP WINDOW START (fgp6*)	185	us	"	"
	AMP WINDOW START (fgp7*)	185	us	"	"
	AMP WINDOW START (fgp8*)	185	us	"	"
	AMP WINDOW START (fgpn*)	185	us	"	"
	AMP WINDOW LENGTH	30	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	9	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-65	us	"	"
	TOOL DELAY (str2*)	-65	us	"	"
	TOOL DELAY (str3*)	-65	us	"	"
	TOOL DELAY (str4*)	-65	us	"	"
	TOOL DELAY (str5*)	-65	us	"	"
	TOOL DELAY (str6*)	-65	us	"	"
	TOOL DELAY (str7*)	-65	us	"	"
	TOOL DELAY (str8*)	-65	us	"	"
	TOOL DELAY (strn*)	-65	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	185	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

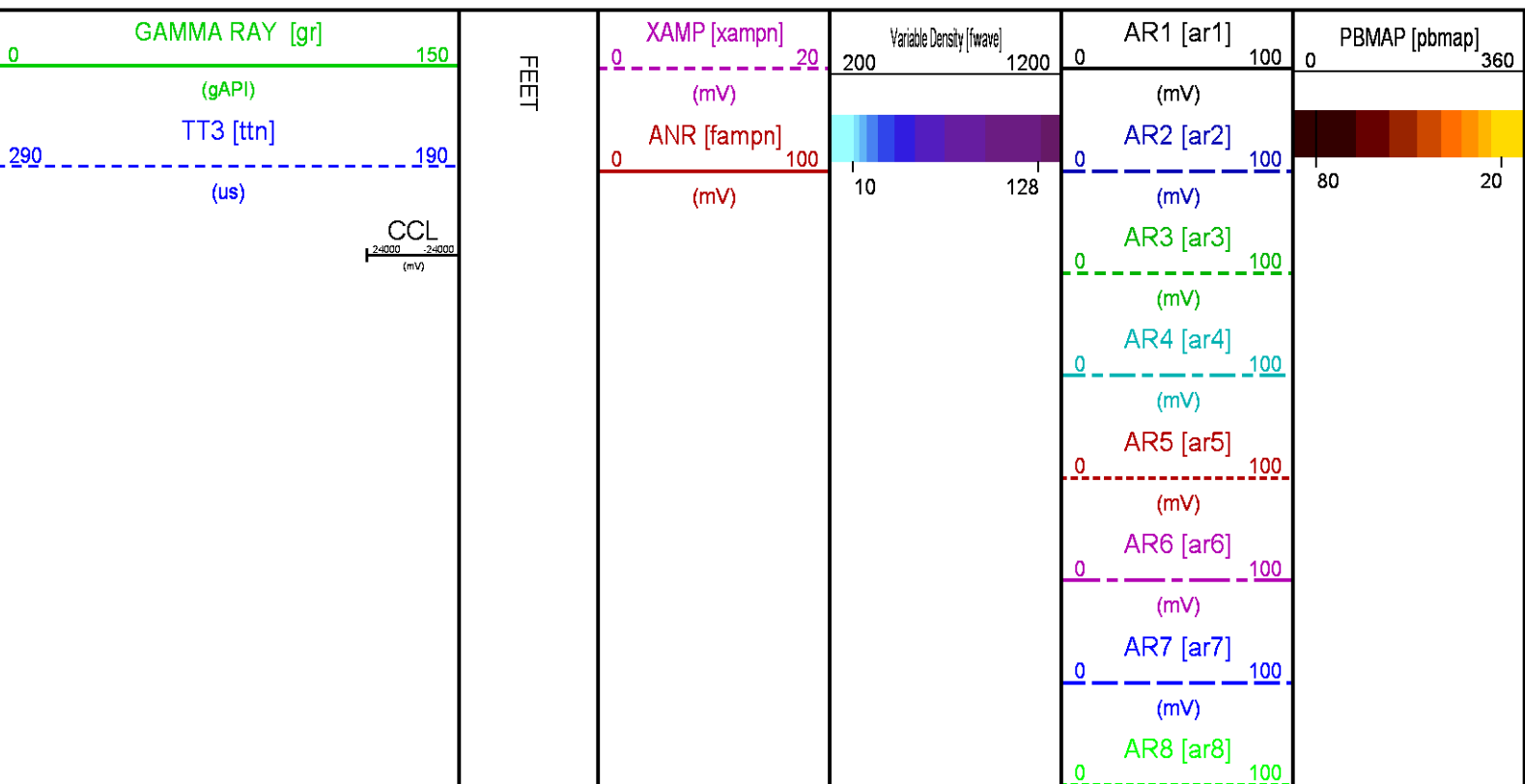
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	N/A	FIXED GATE AMPLITUDE T-R1
F1:AR2	N/A	FIXED GATE AMPLITUDE T-R2
F1:AR3	N/A	FIXED GATE AMPLITUDE T-R3
F1:AR4	N/A	FIXED GATE AMPLITUDE T-R4
F1:AR5	N/A	FIXED GATE AMPLITUDE T-R5
F1:AR6	N/A	FIXED GATE AMPLITUDE T-R6
F1:AR7	N/A	FIXED GATE AMPLITUDE T-R7
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

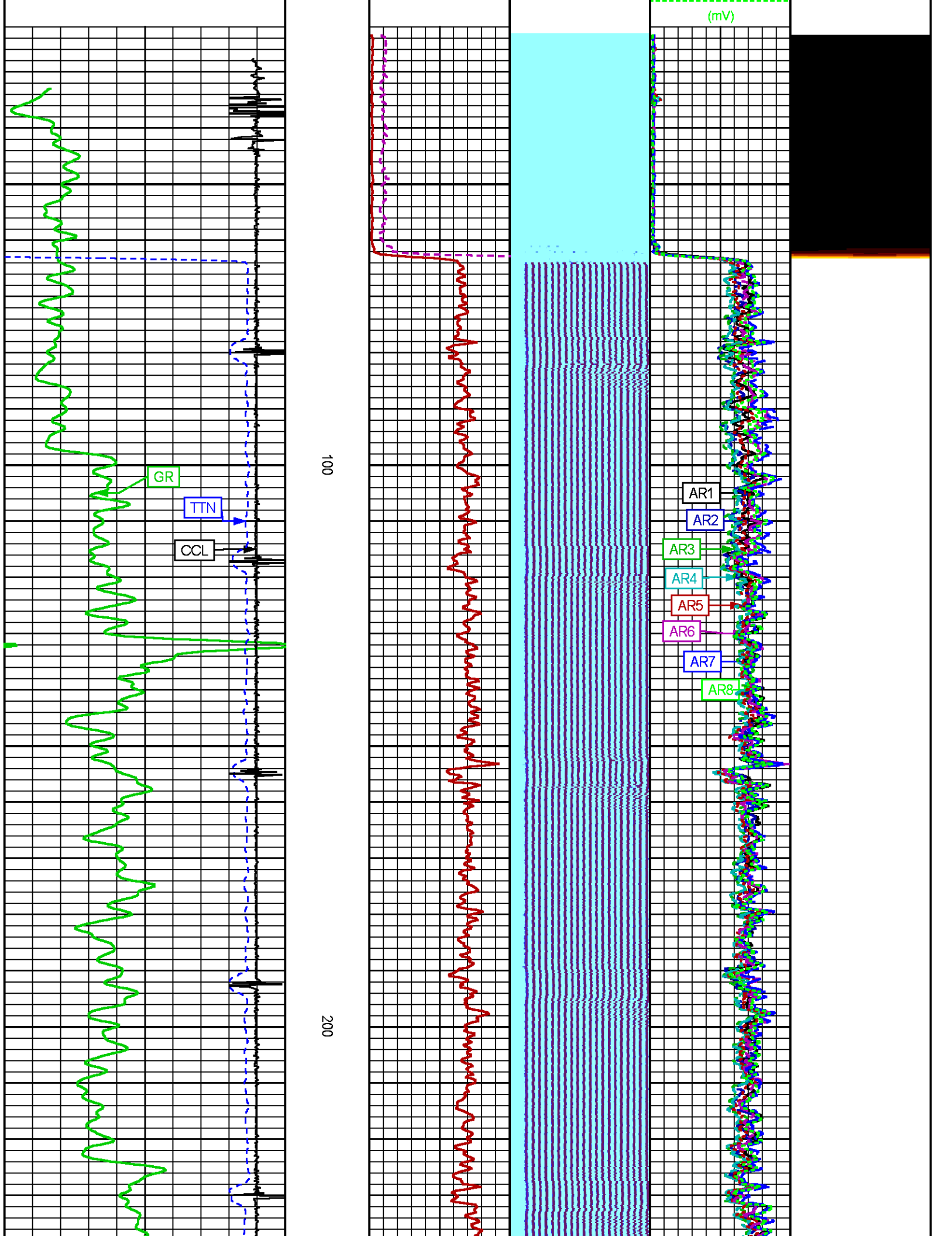
CURVE MEASURE POINT OFFSET

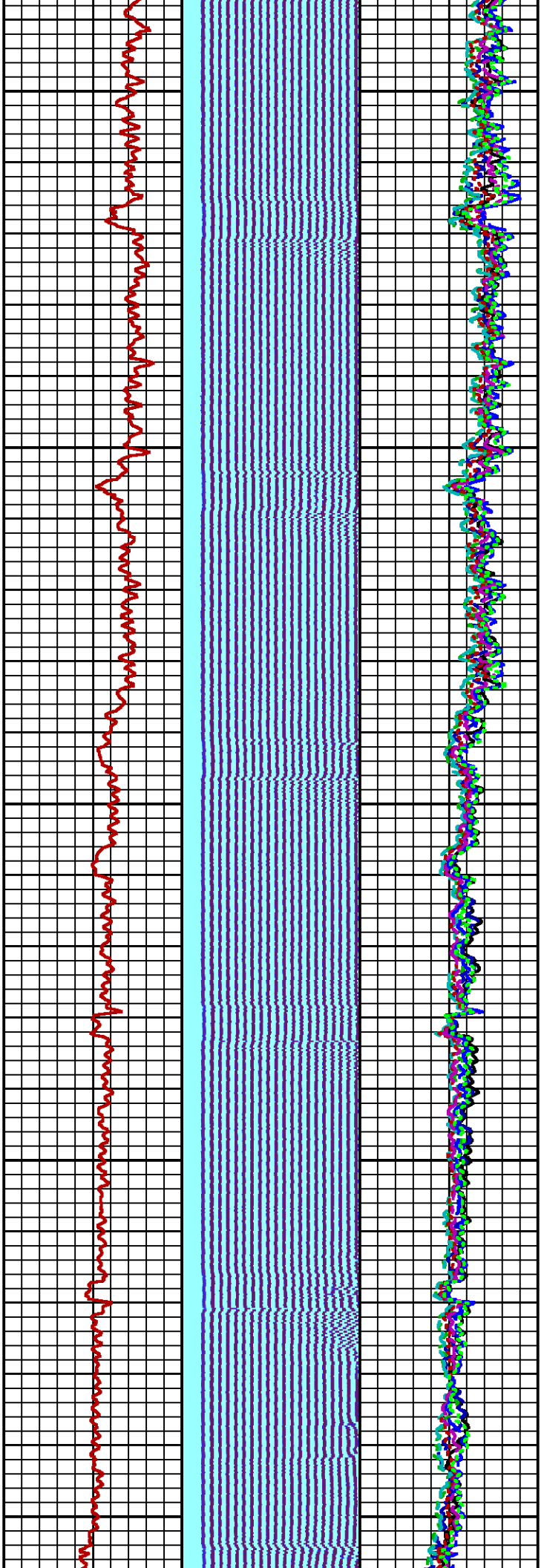
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	-11.25	AR5	-11.25	CCL	-5.75	XAMPN	-11.25
AR2	-11.25	AR6	-11.25	FAMPN	-11.25		
AR3	-11.25	AR7	-11.25	GR	-1.75		
AR4	-11.25	AR8	-11.25	TTN	-11.25		

Presentation : BHI78FR4H2:C:\dat1a\BRUTON_30_04W\BRUTON_30_04W_RAL_MAIN.fvpdf [5"/100" Scale]
Plot Interval : 23.25 - 8268 Feet

Data File 1 : F1 : BHI78FR4H2:C:\dat1a\BRUTON_30_04W\BRUTON_30_04W_RAL_MAIN.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : BRUTON 30-04W
Field : VEGA
File Interval : 22.25 - 8269.25 Feet
OCT : p012g

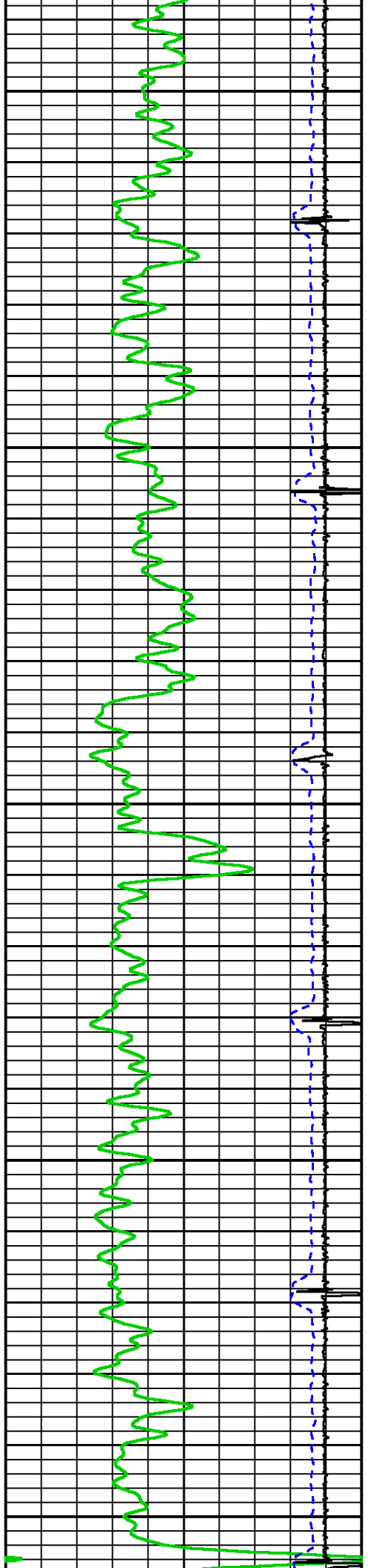


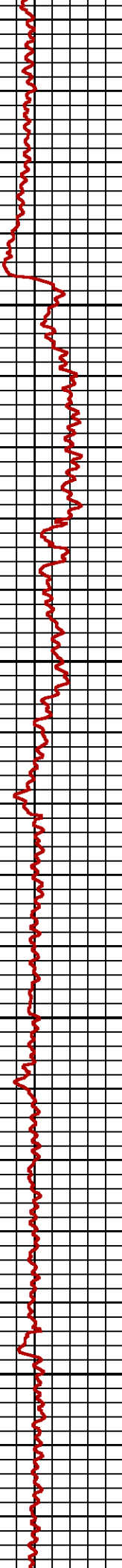
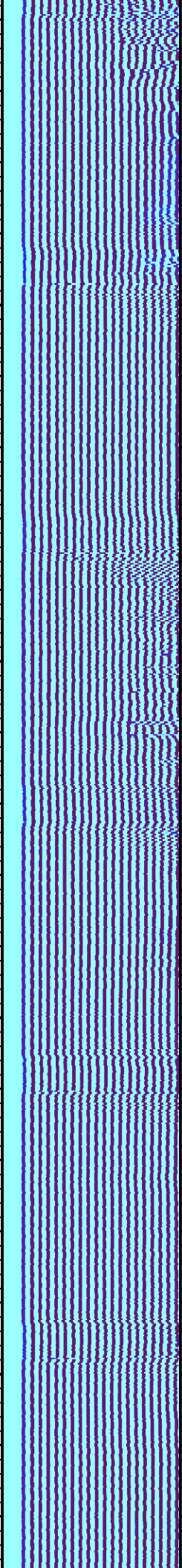
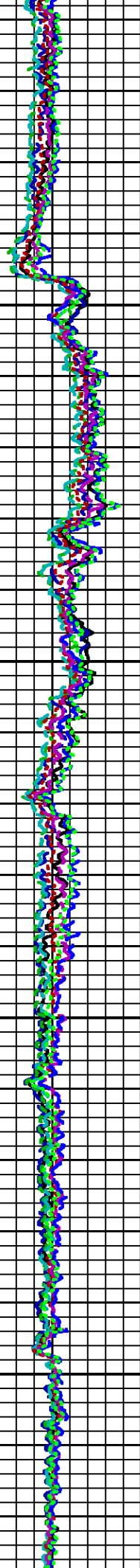
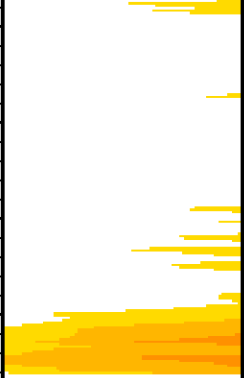




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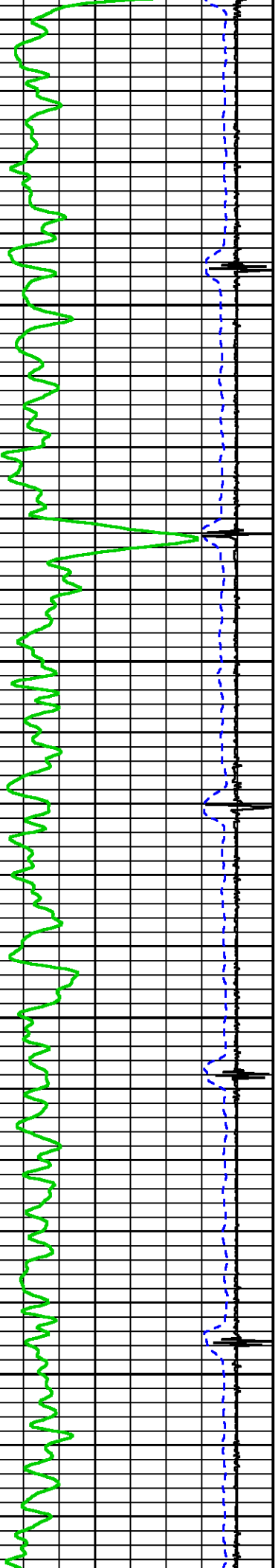
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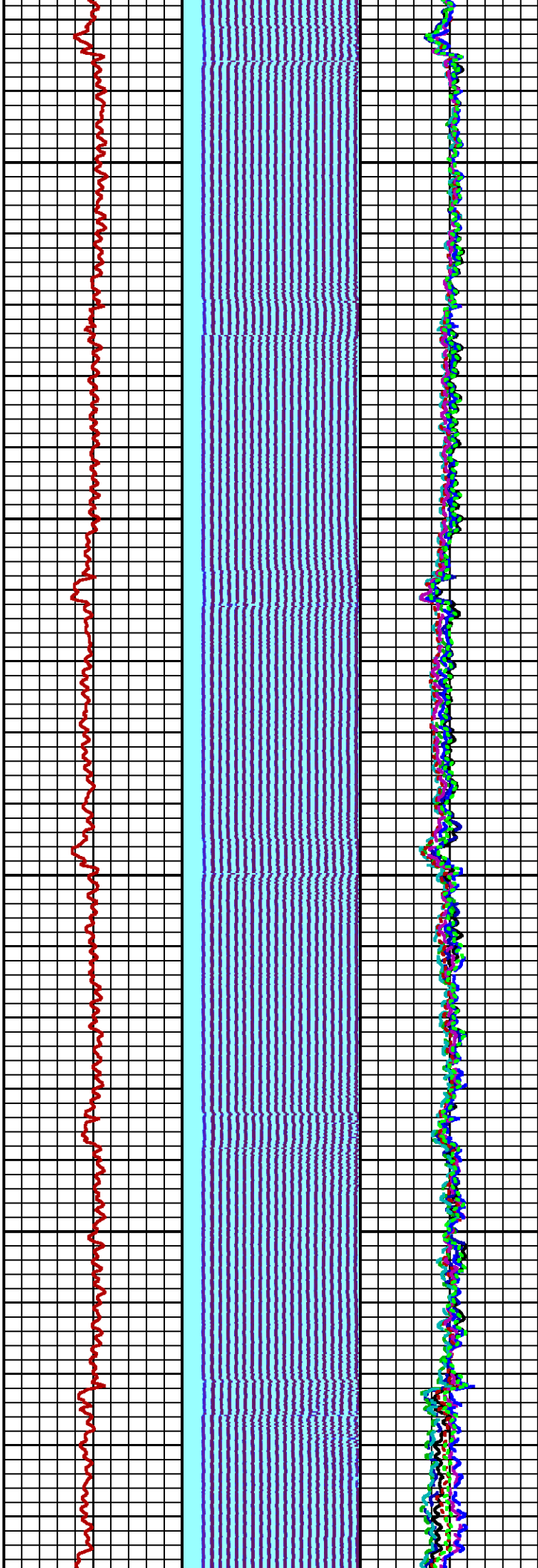
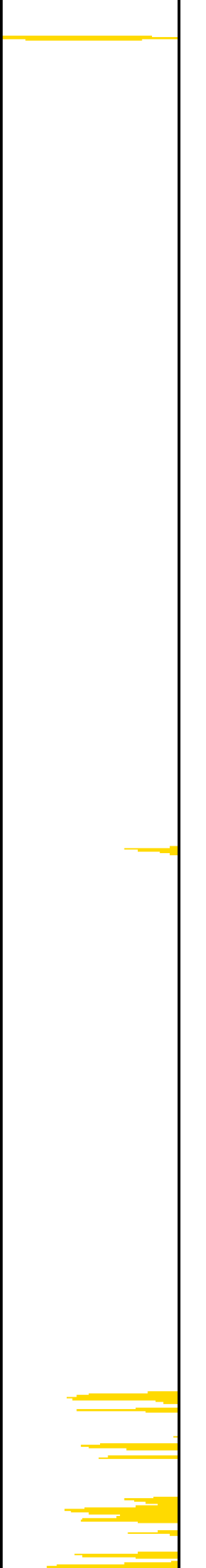




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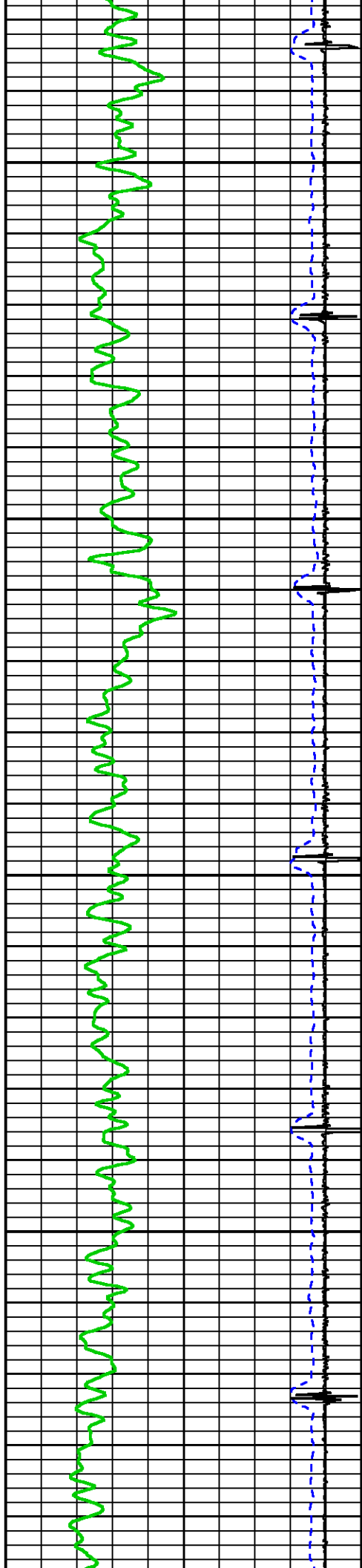
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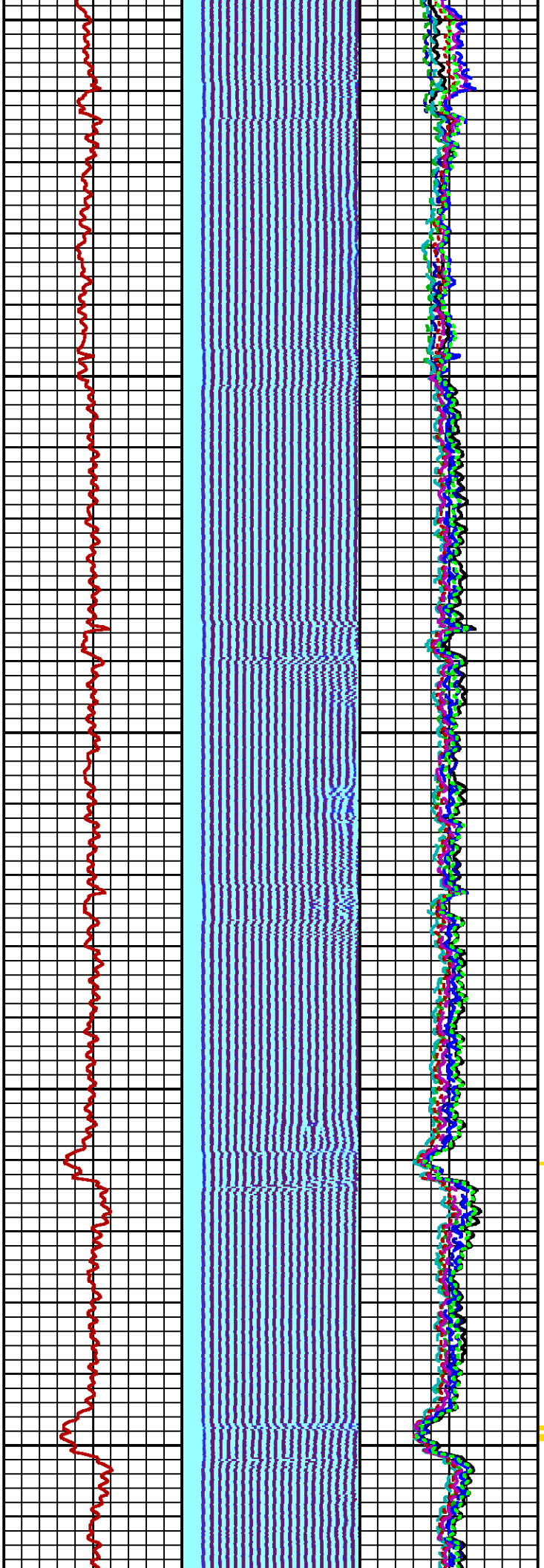




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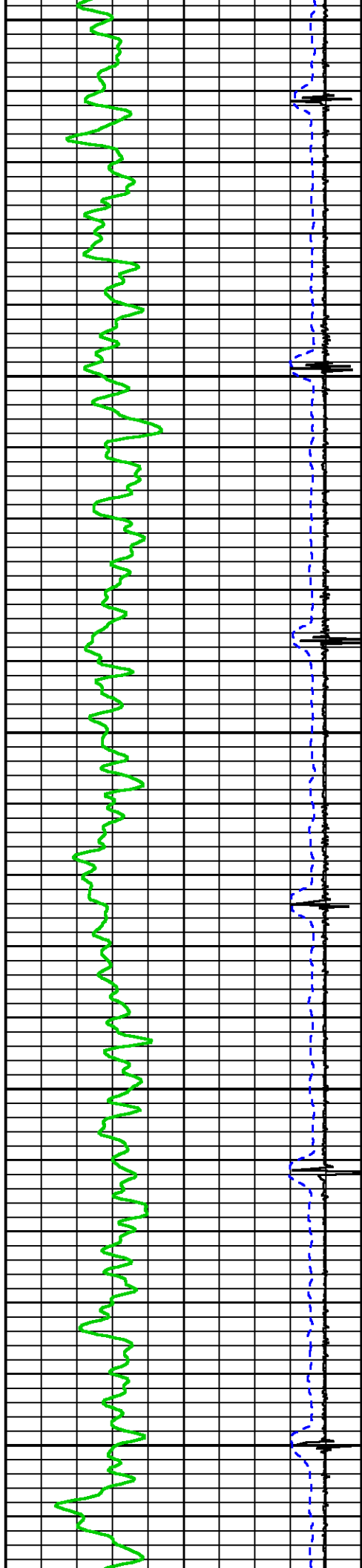


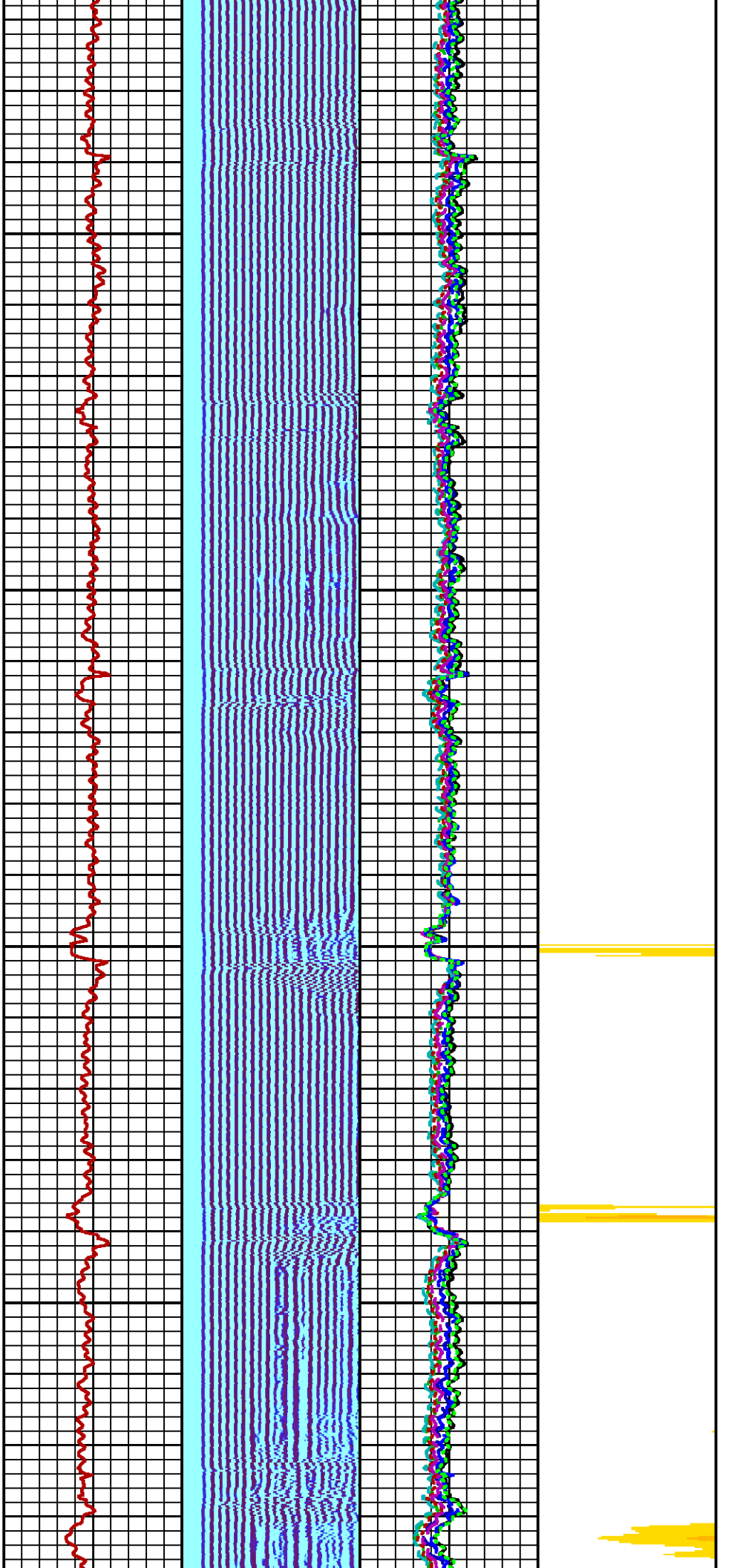


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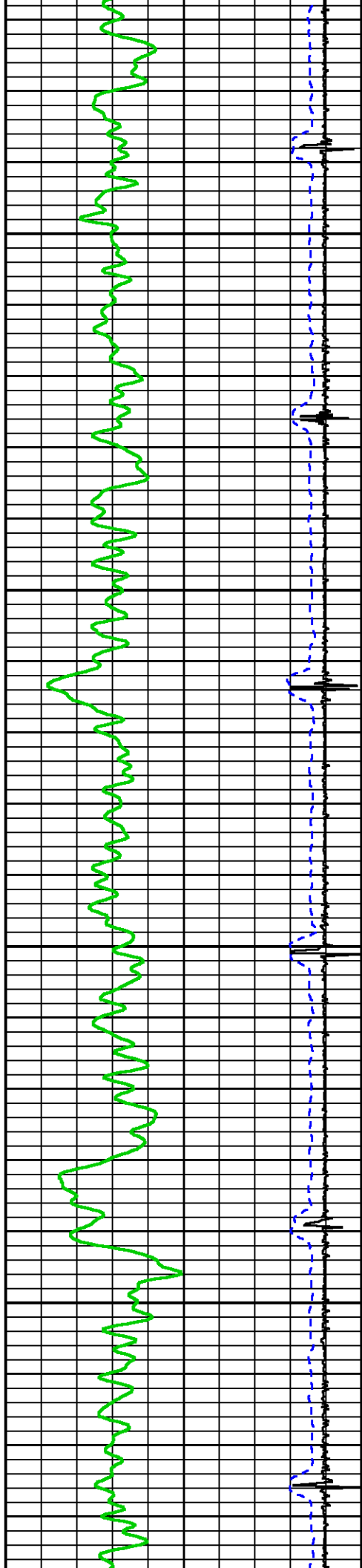
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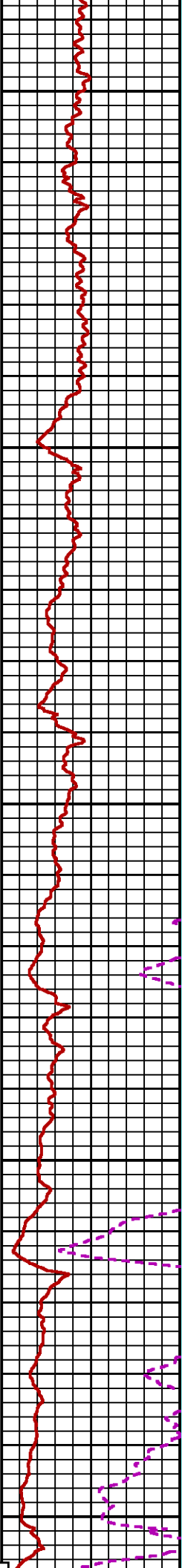
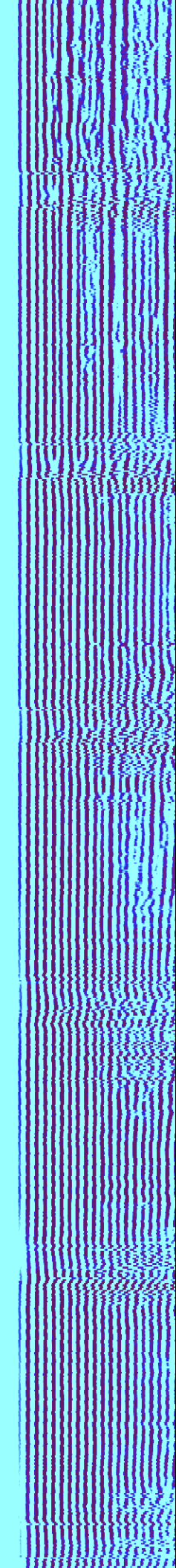
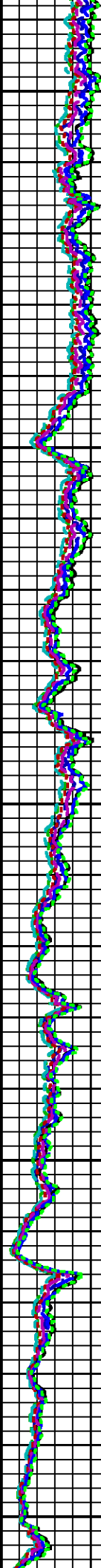




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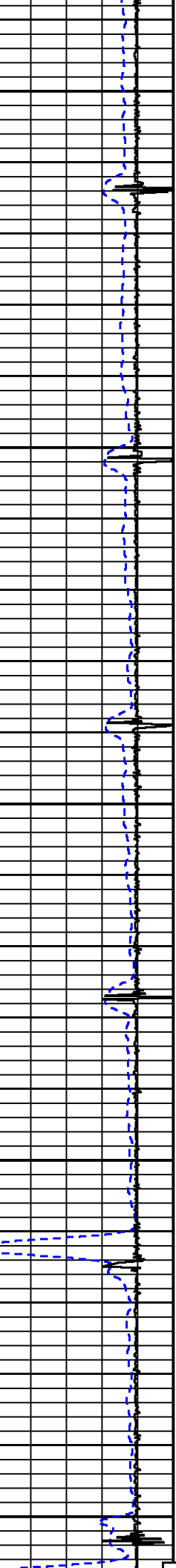
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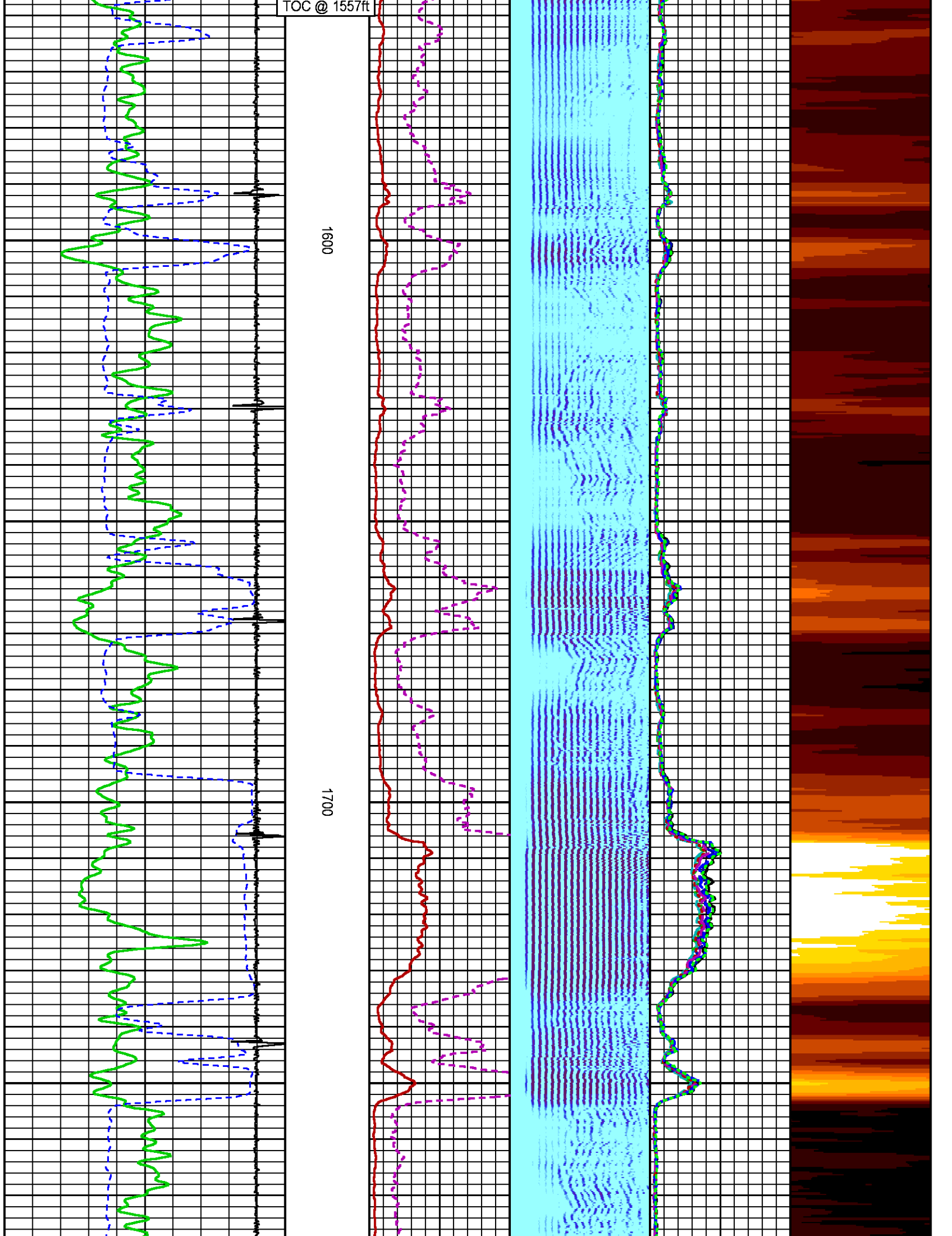
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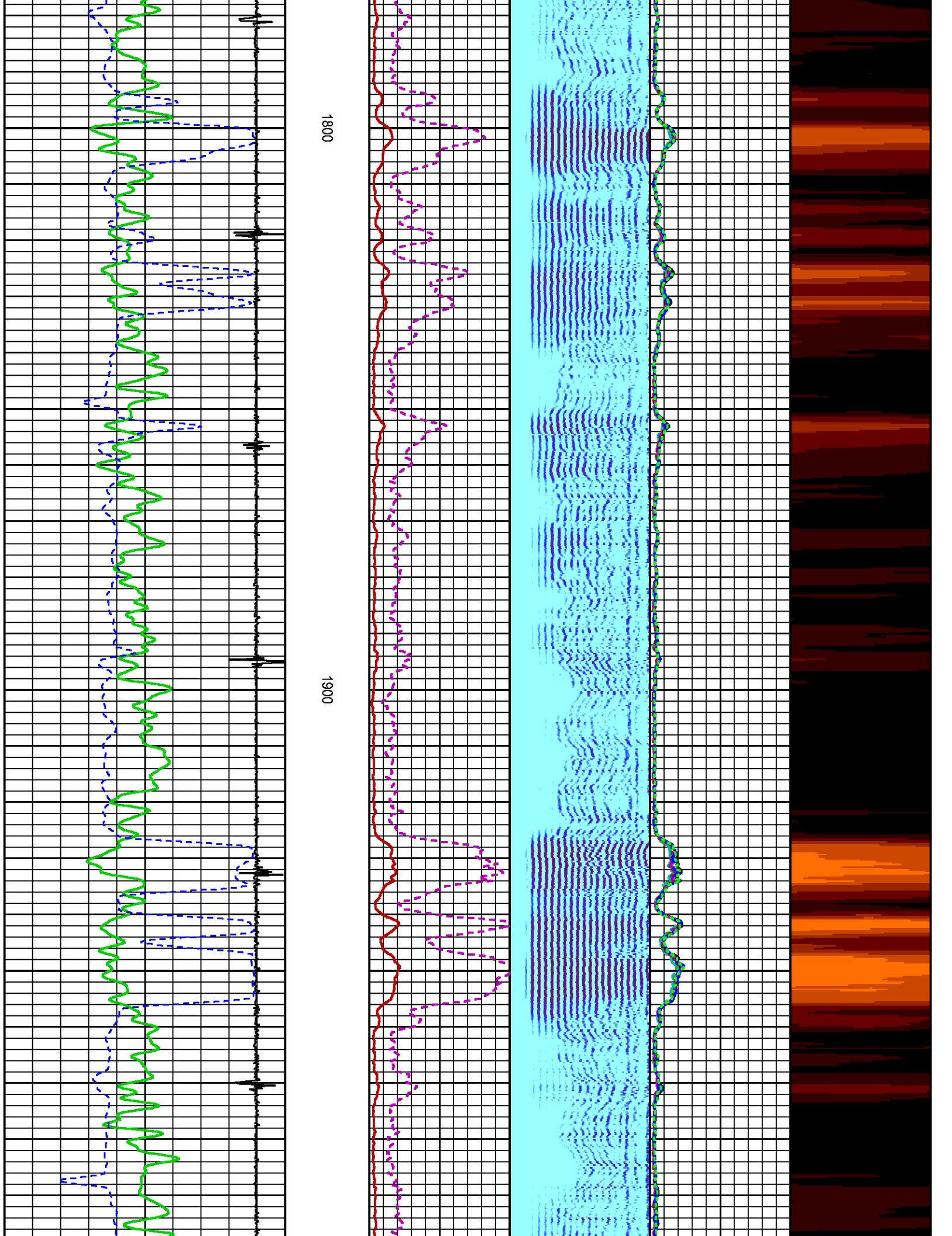


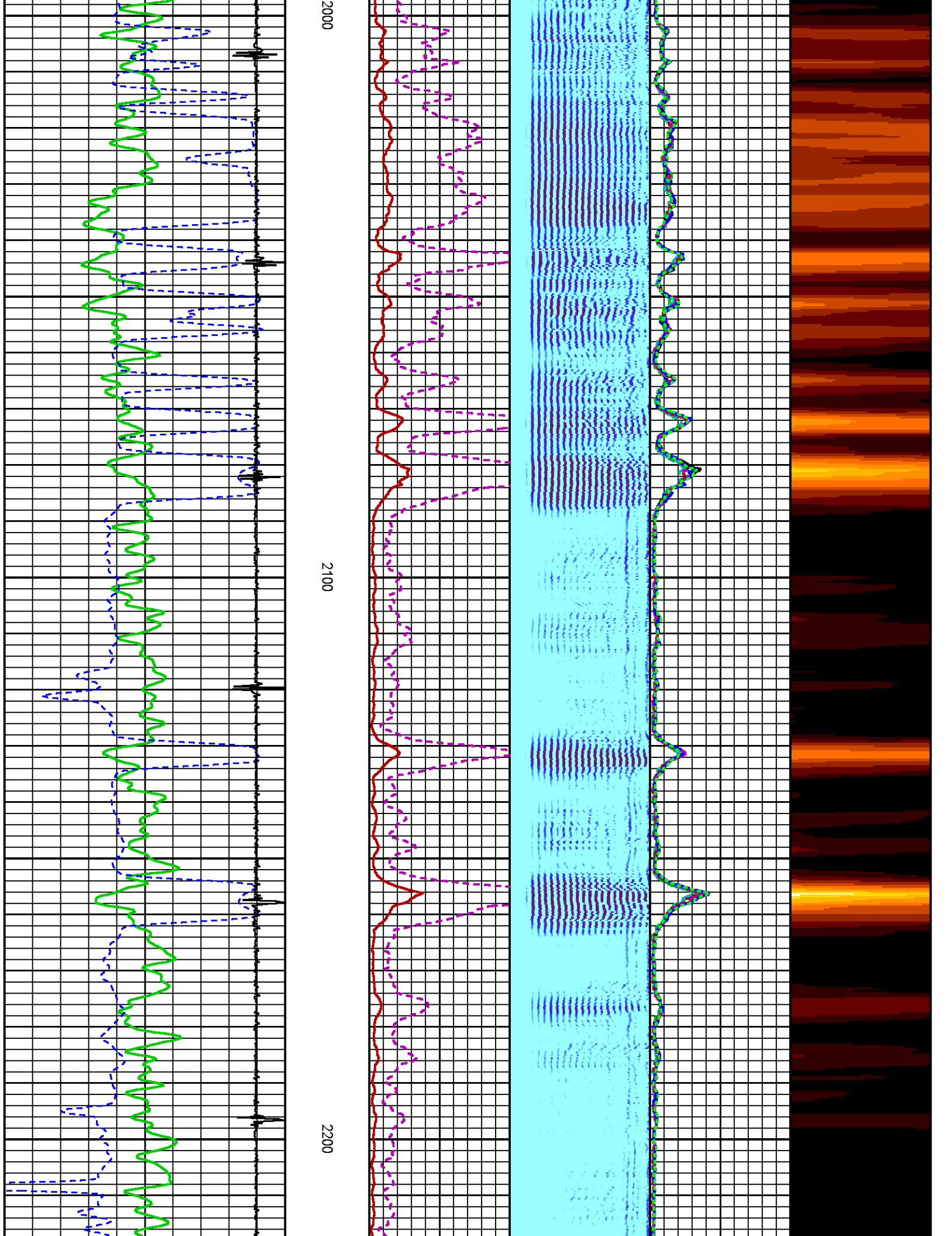
TOC @ 1557ft

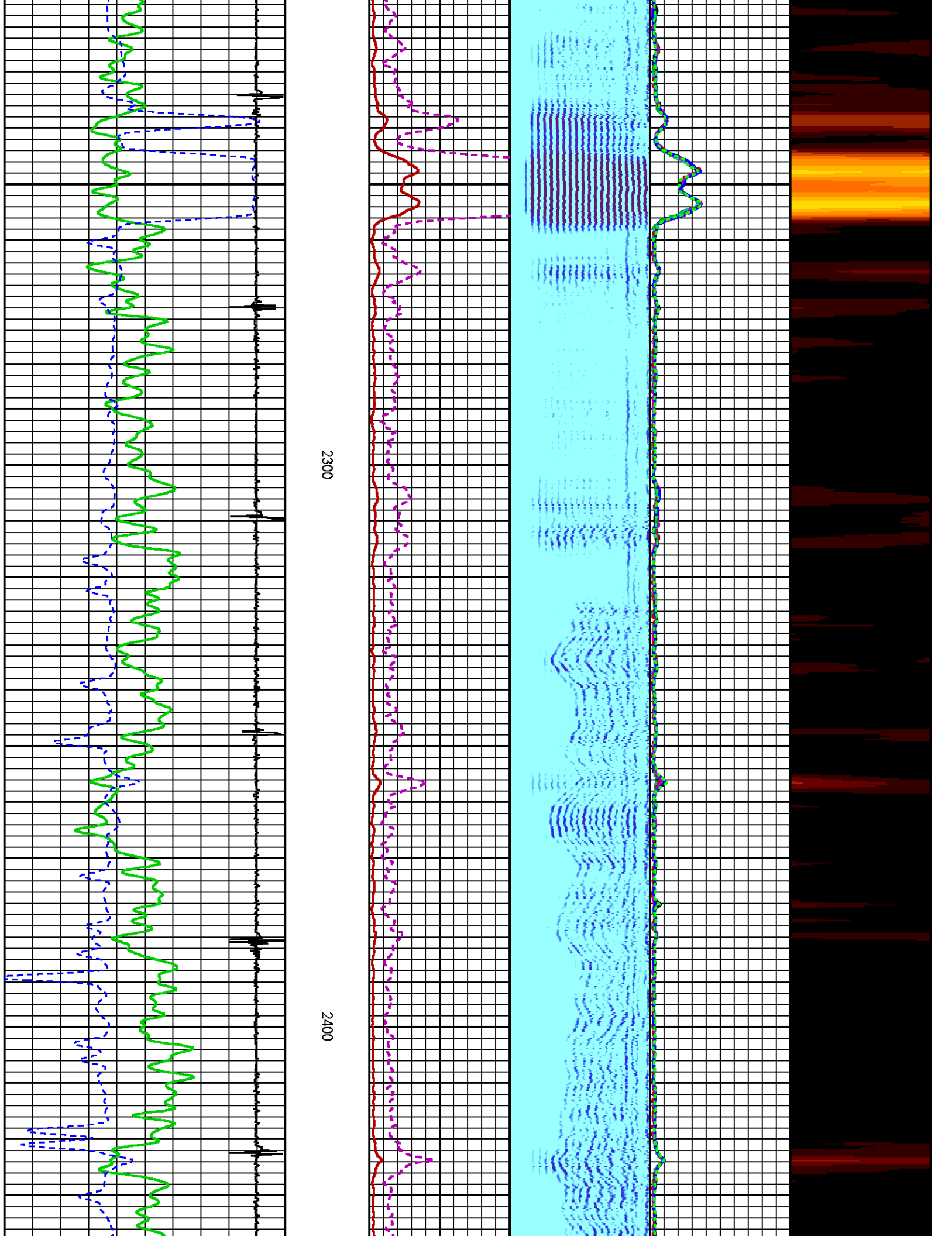
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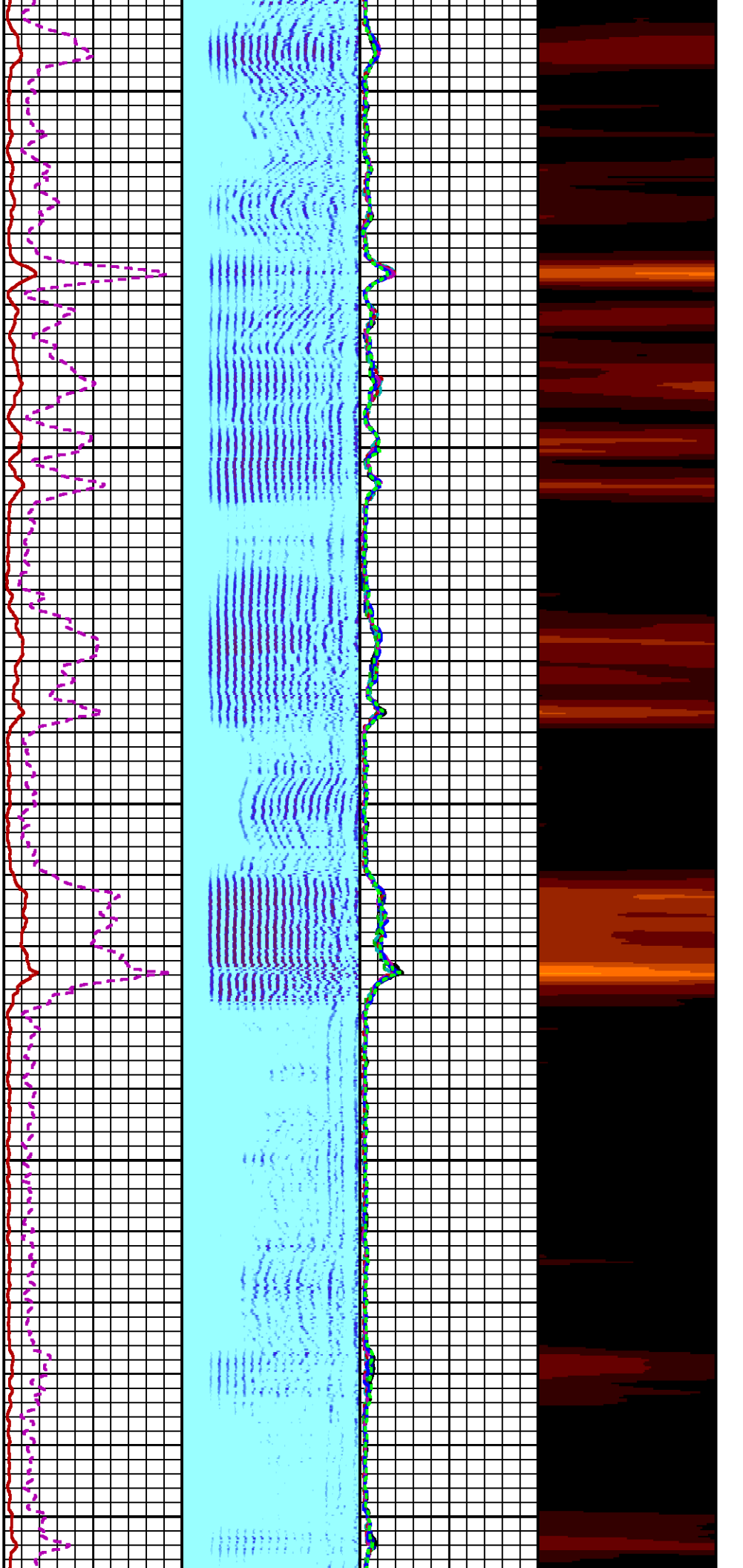
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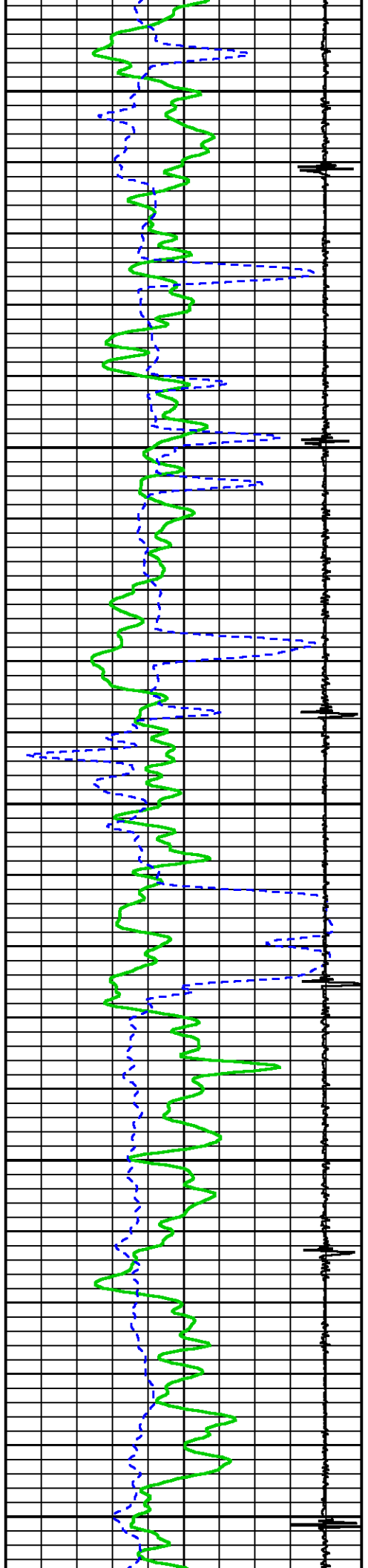


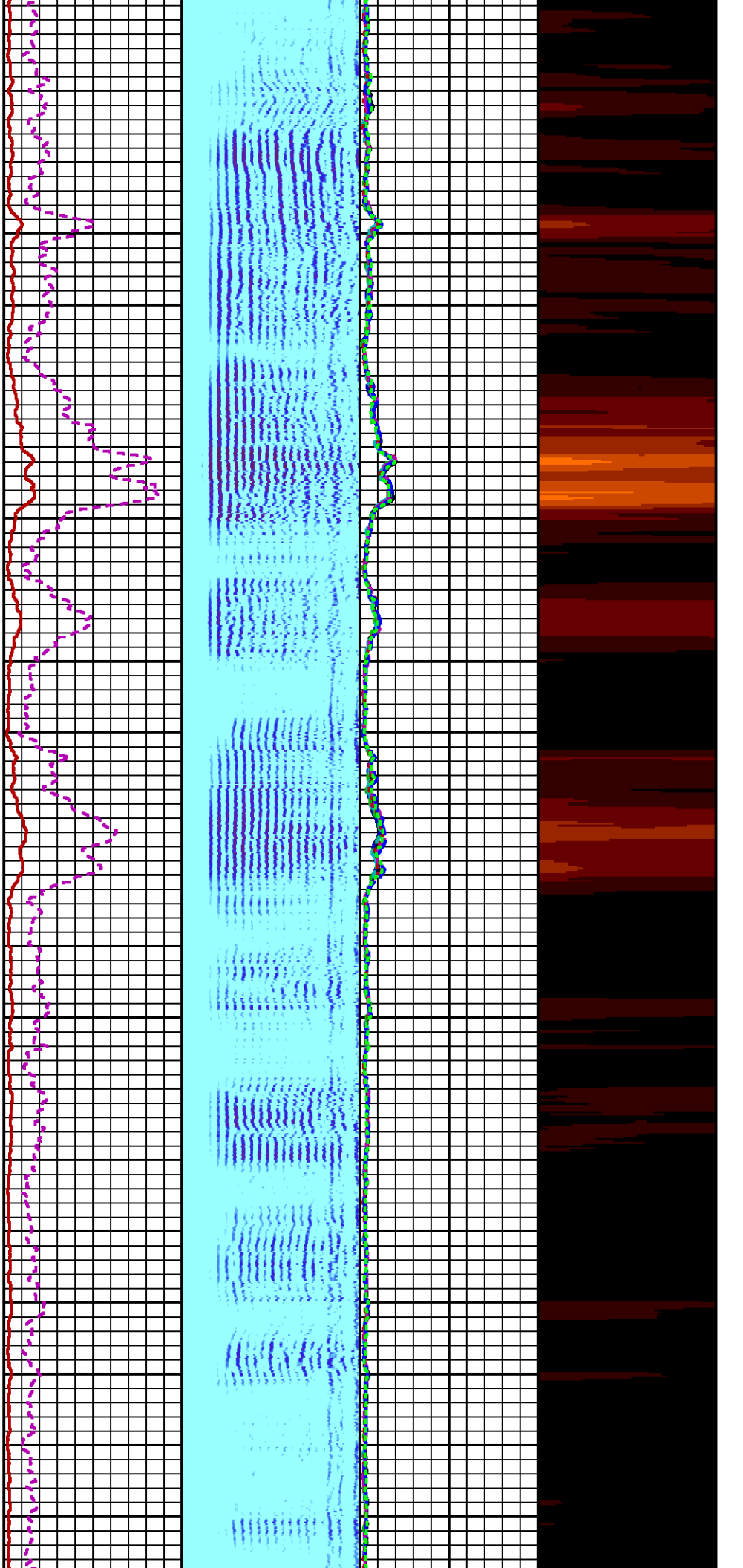




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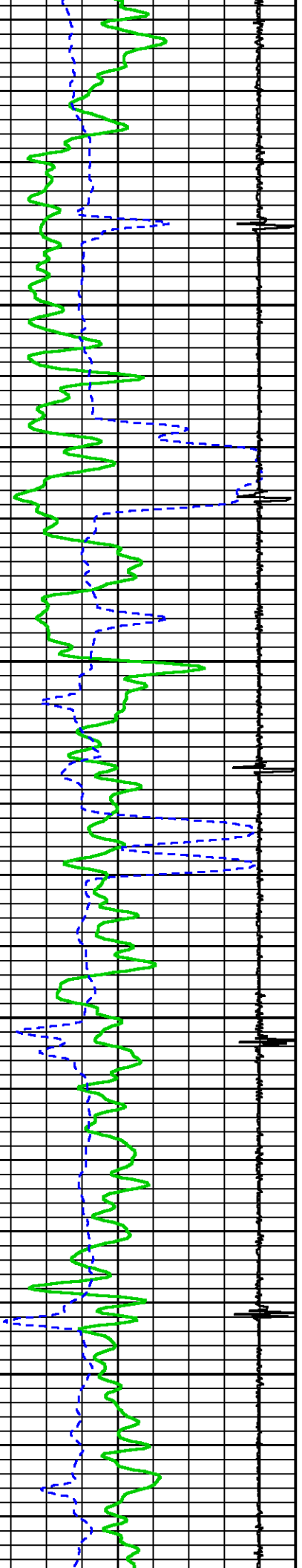
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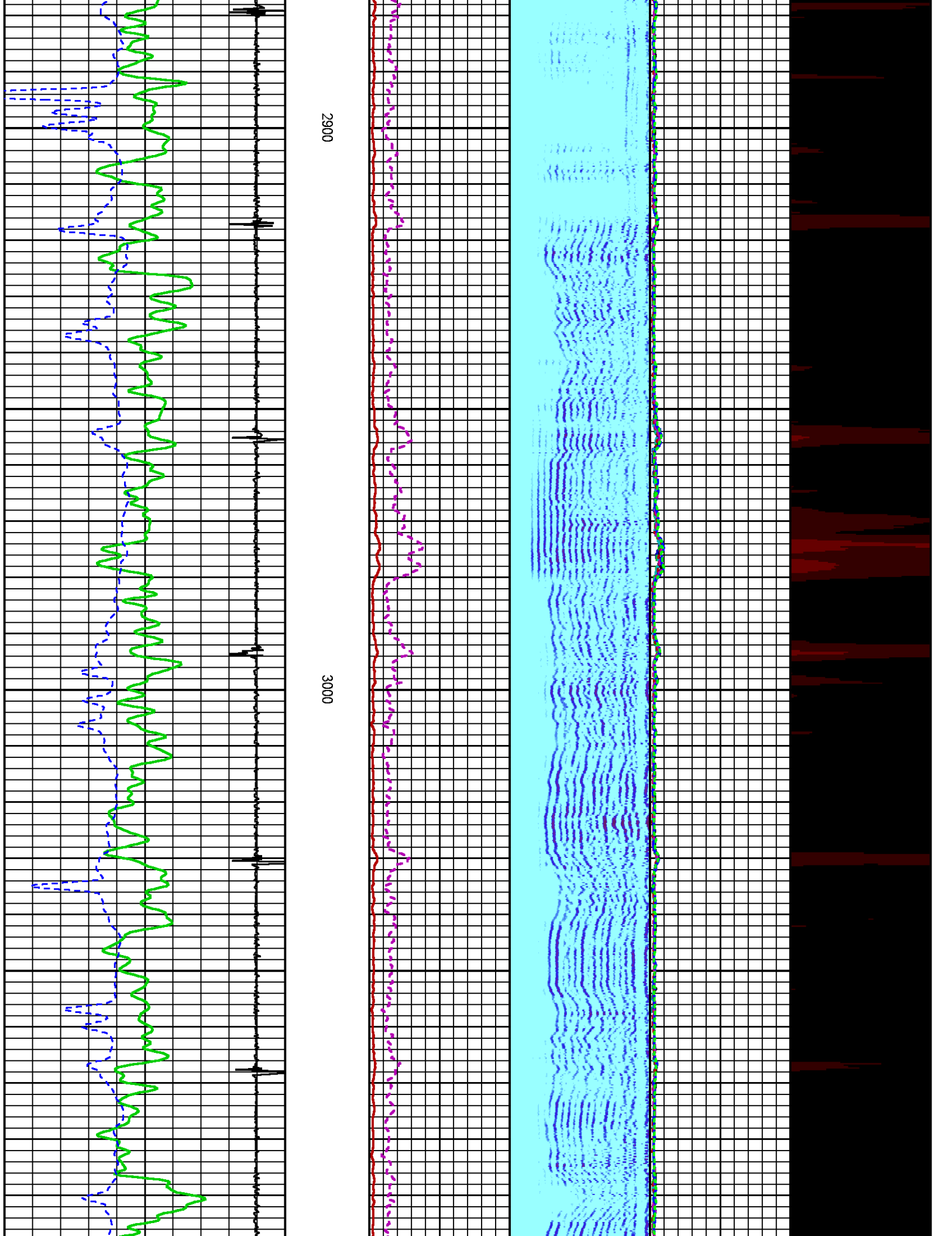


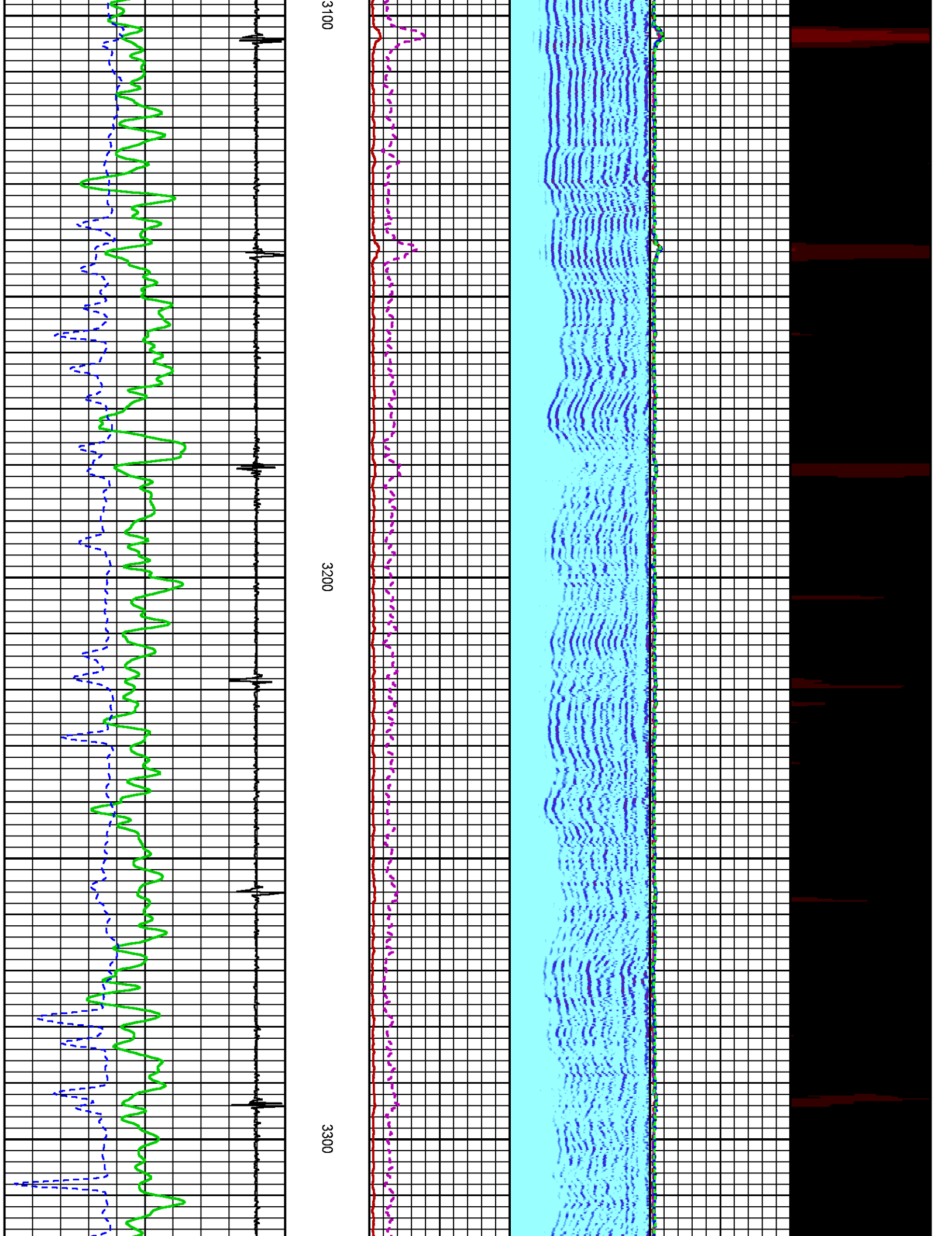


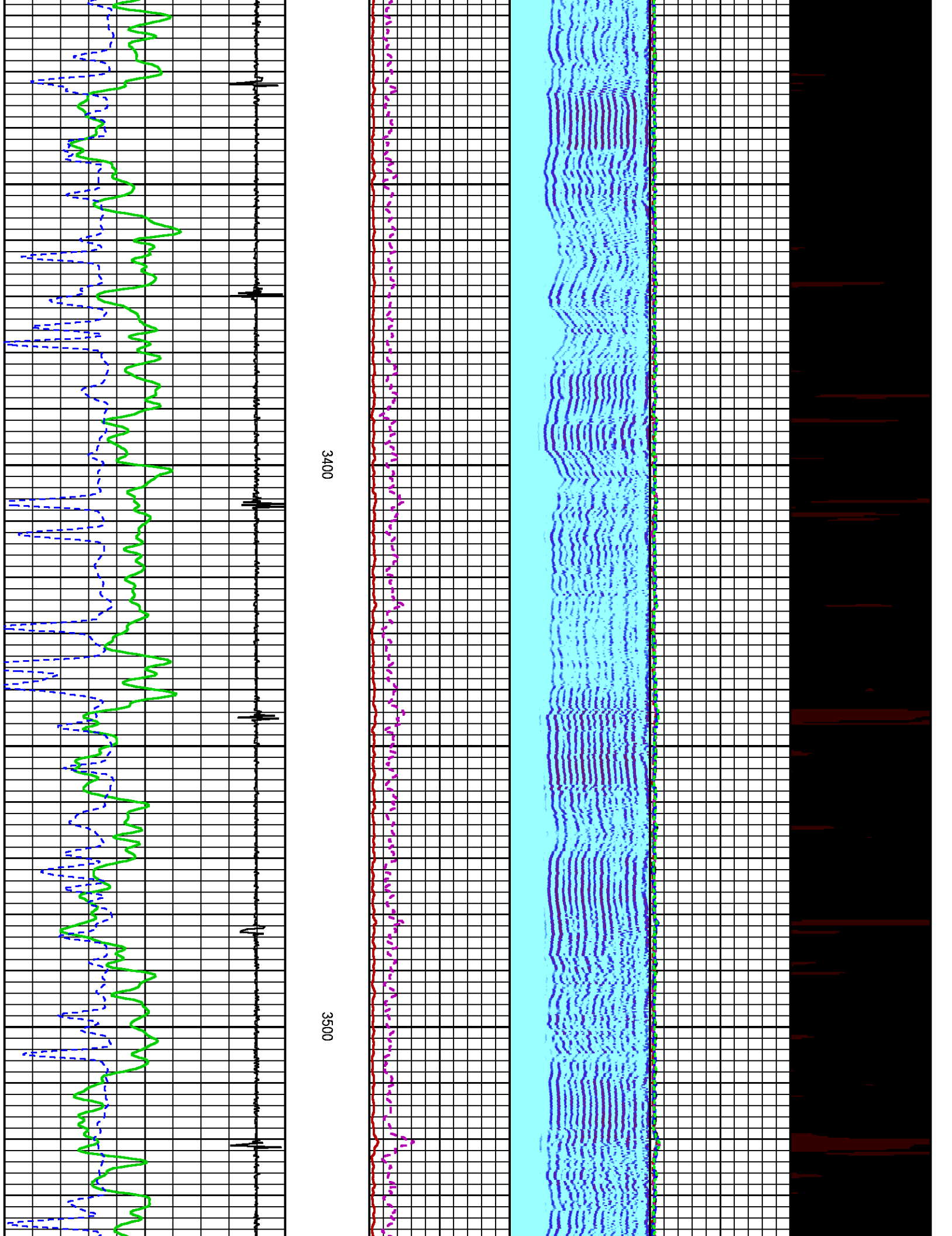
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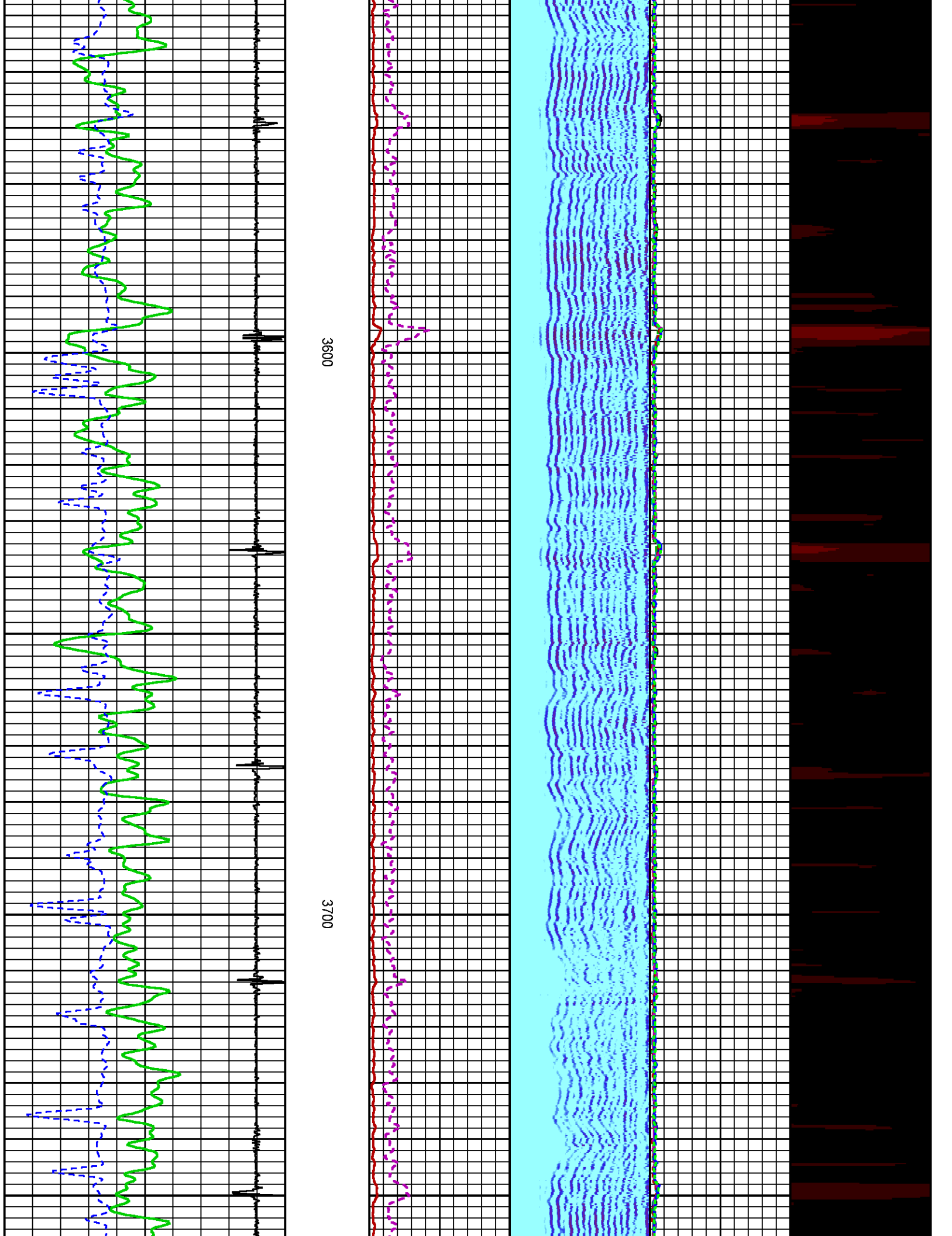
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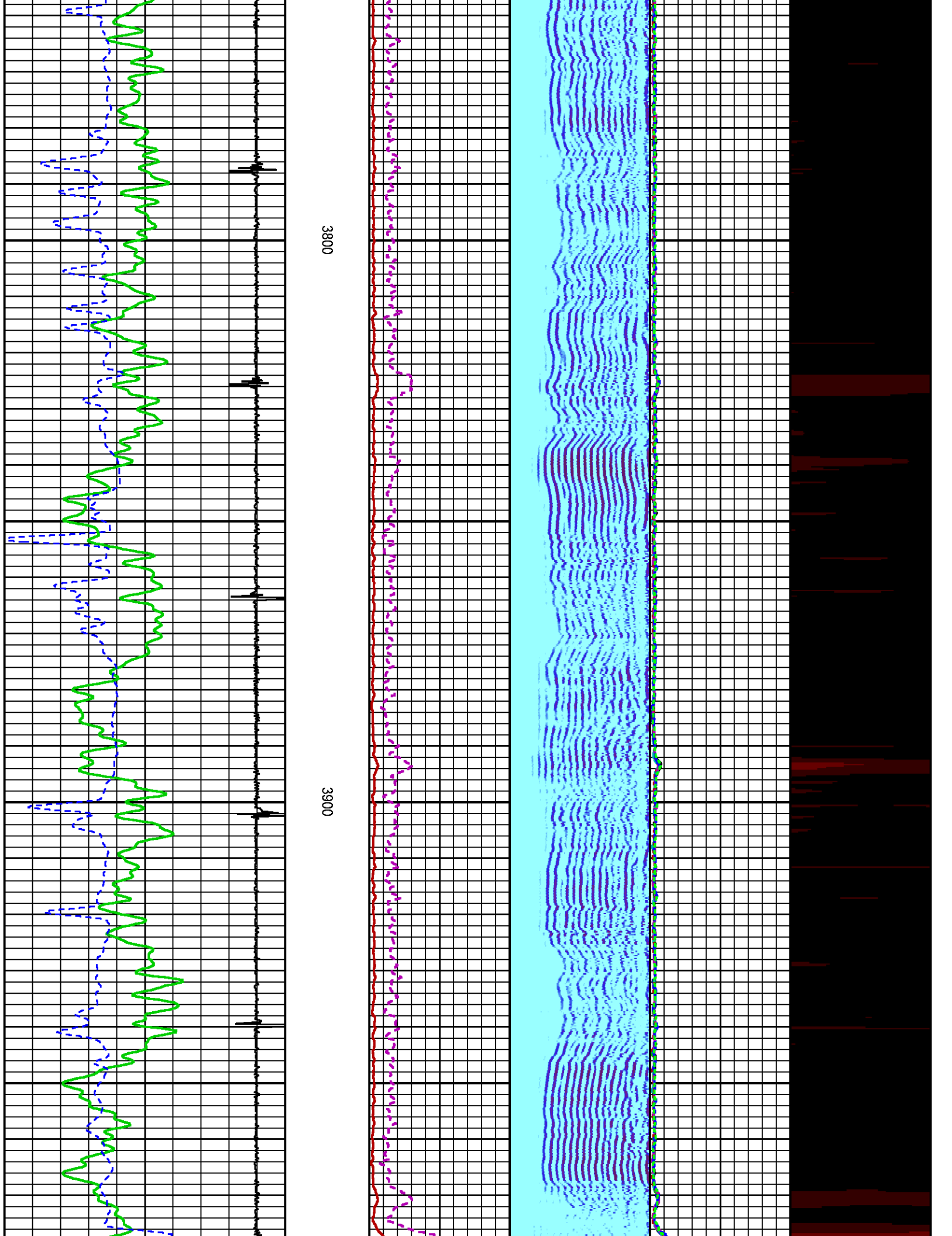


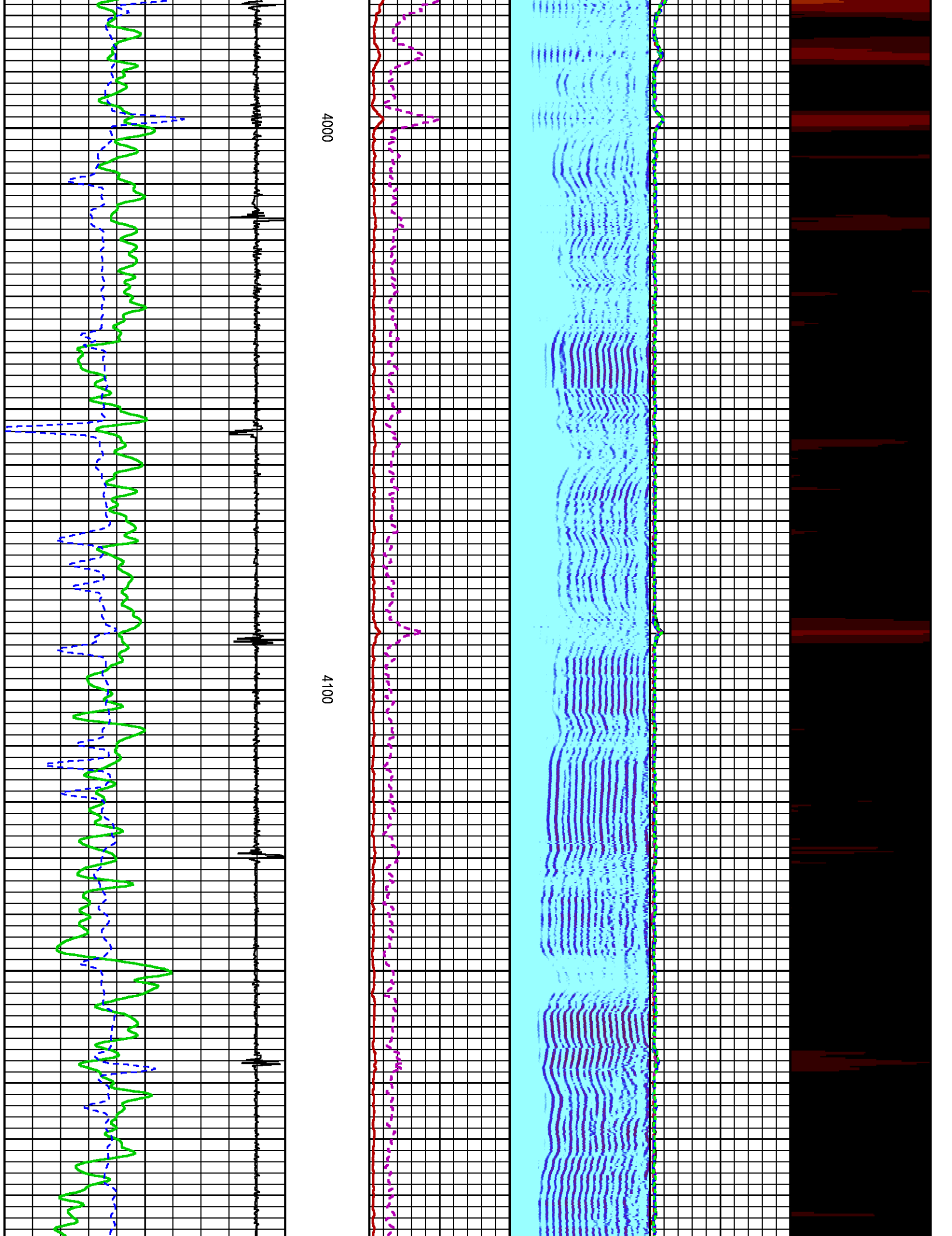


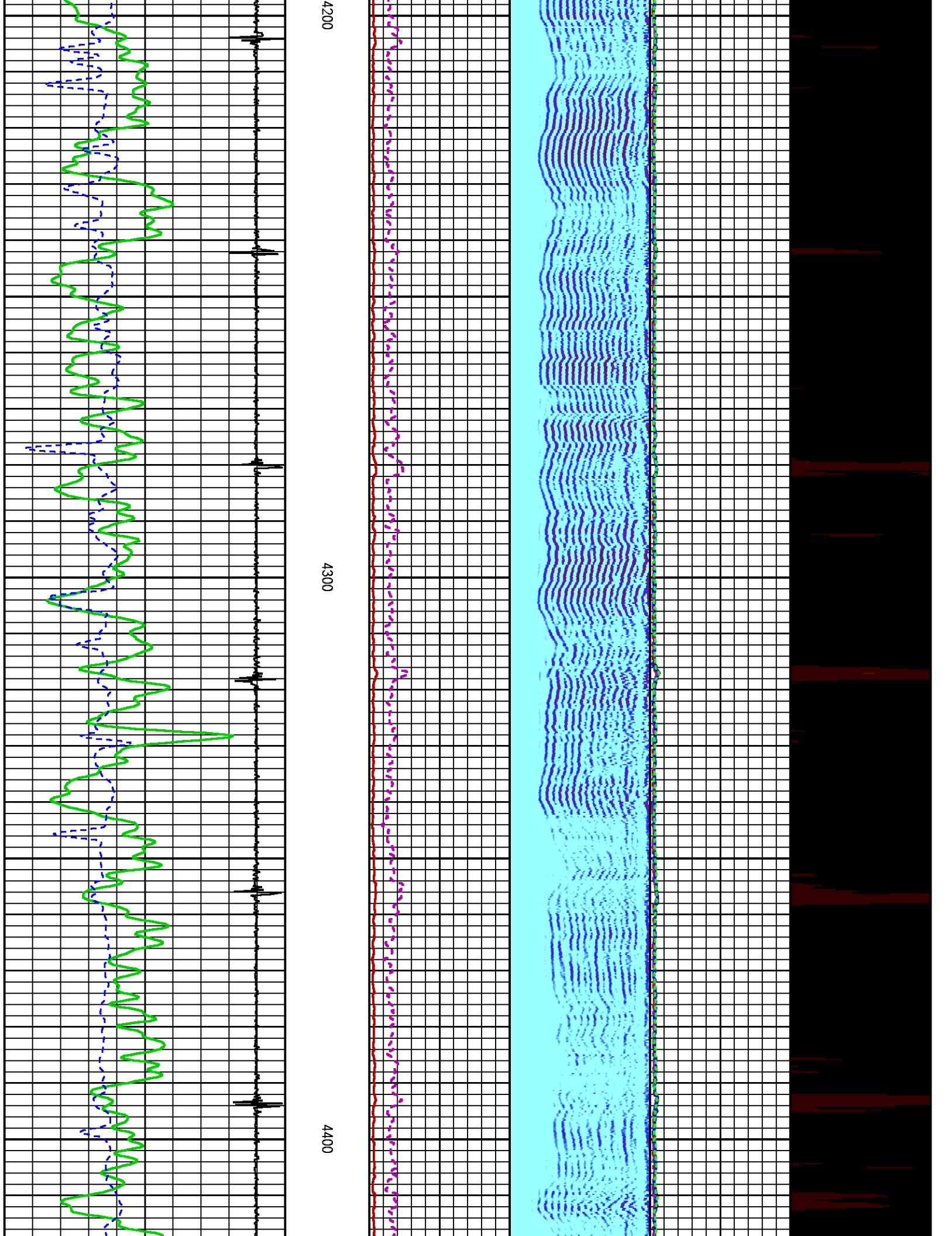


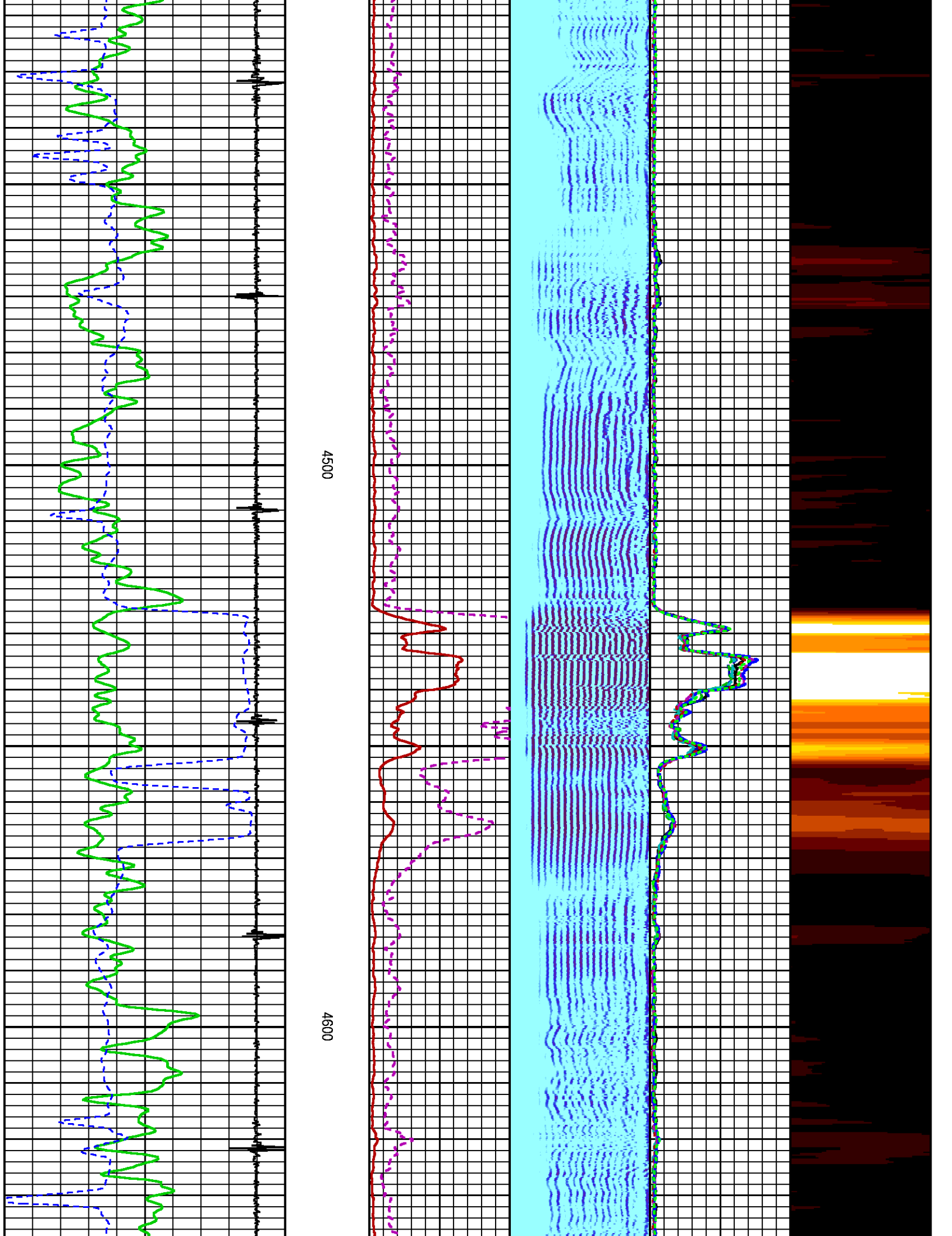


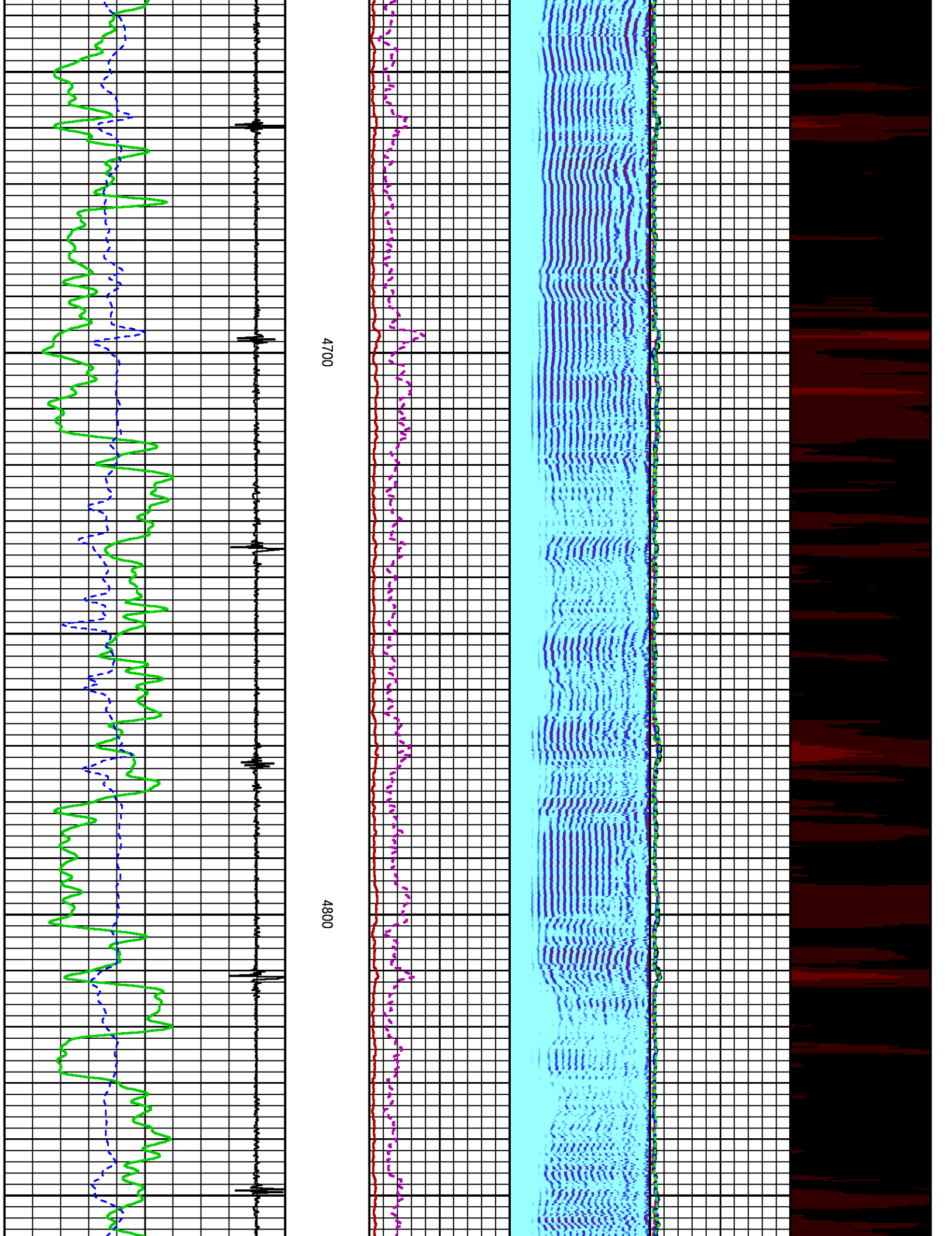


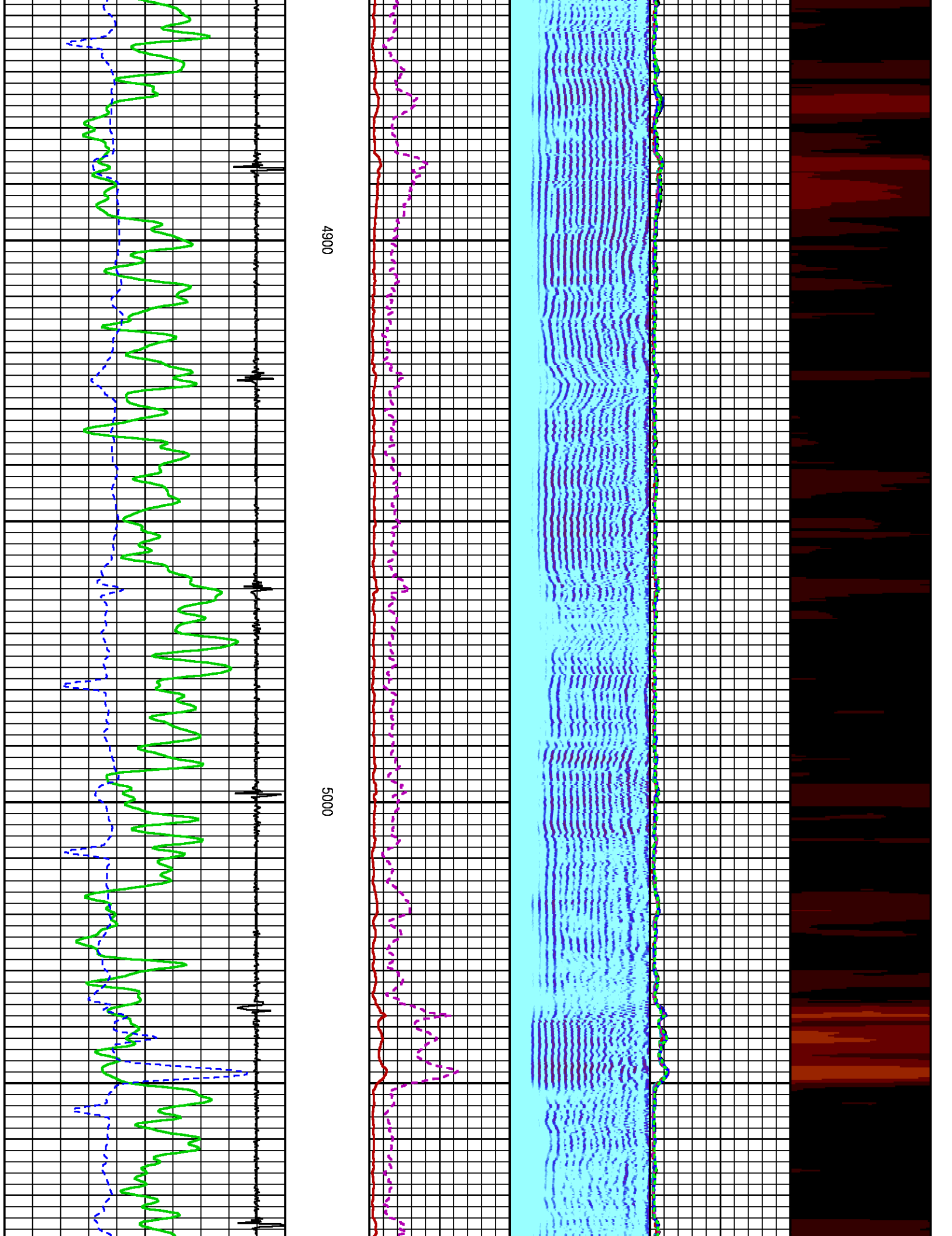


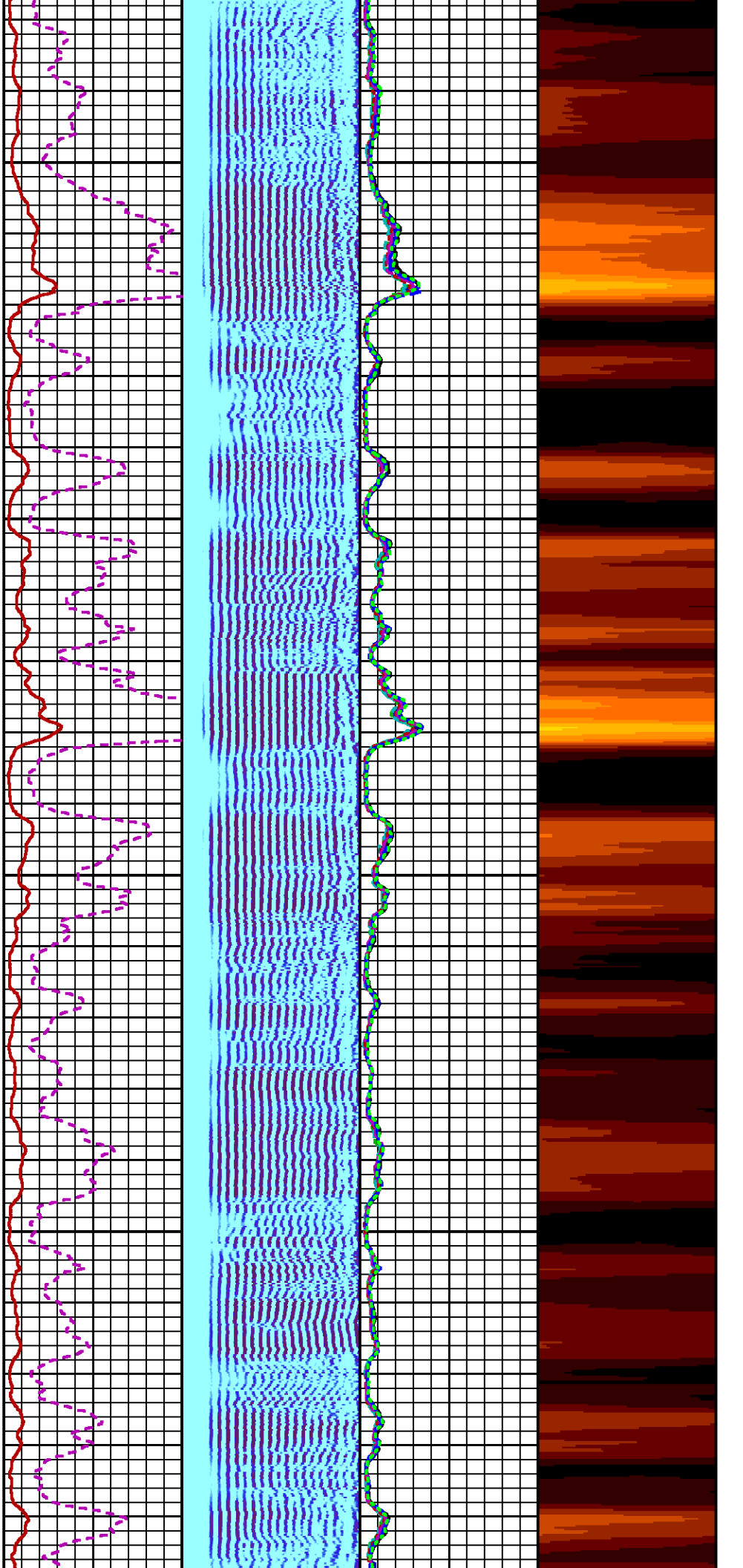






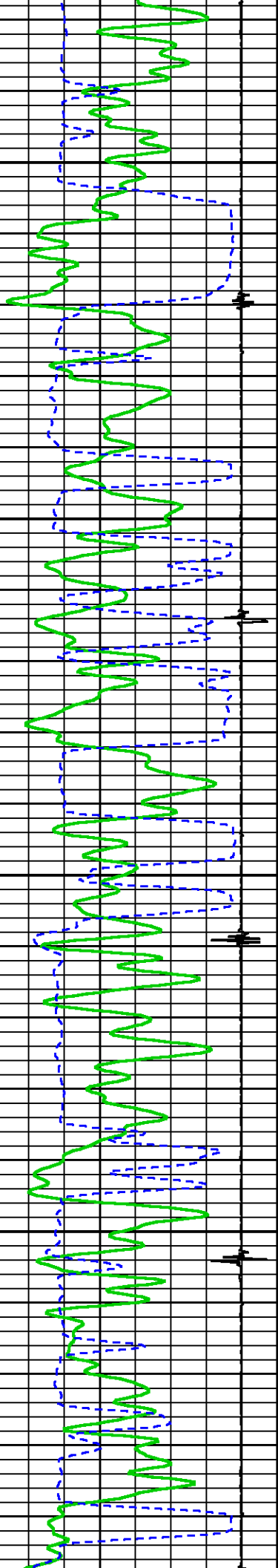


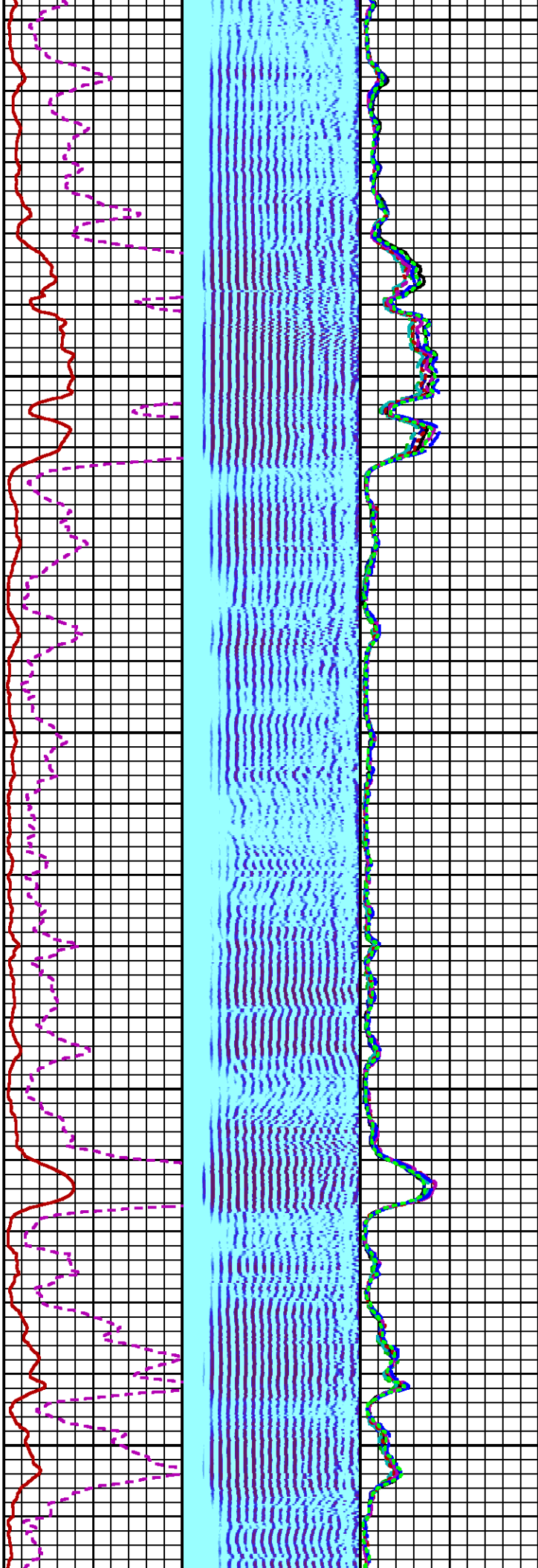




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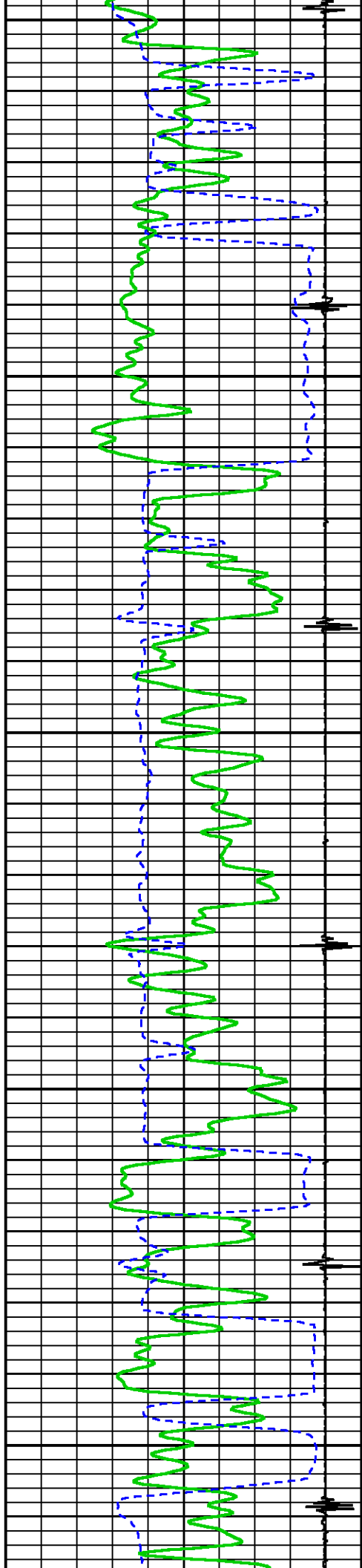


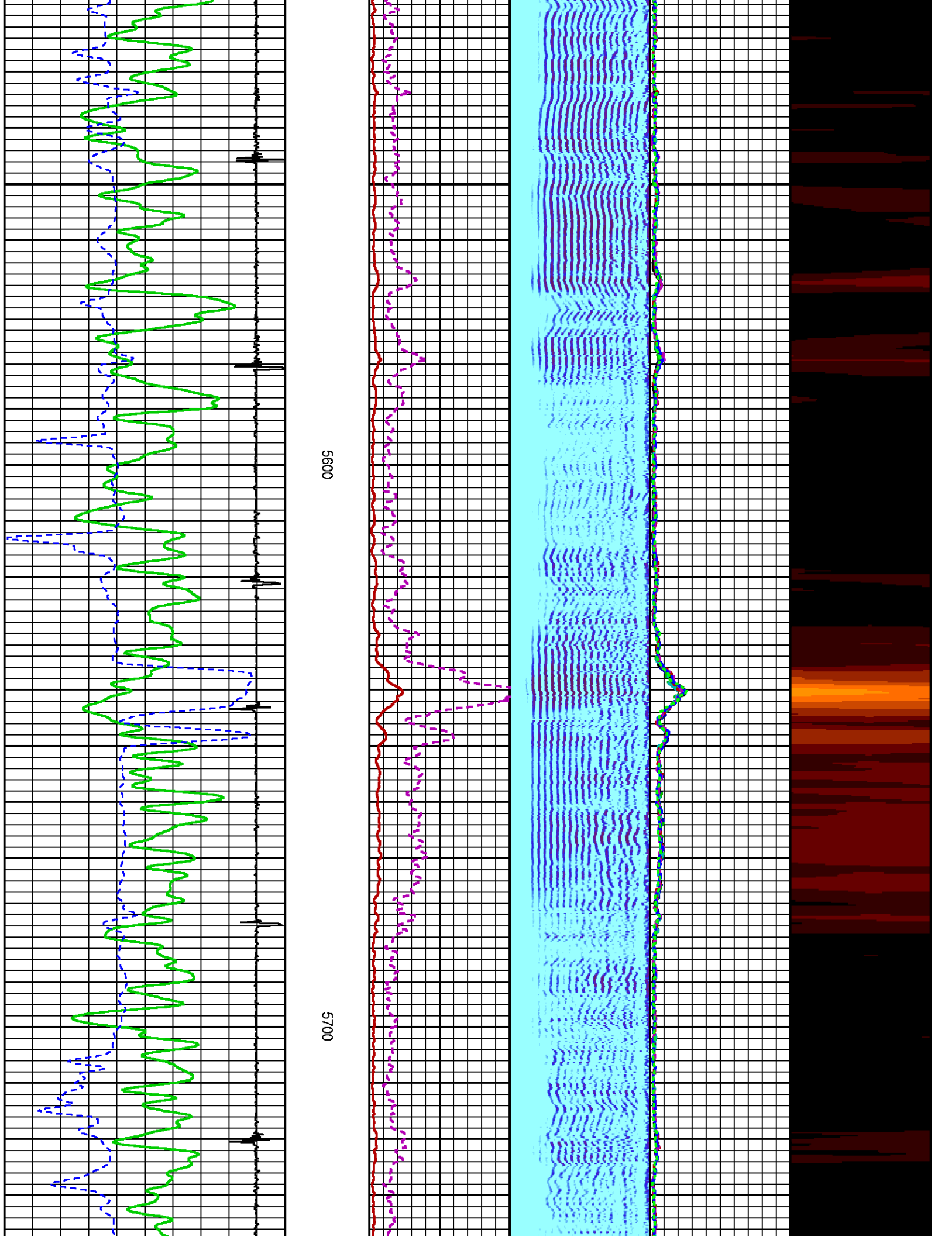


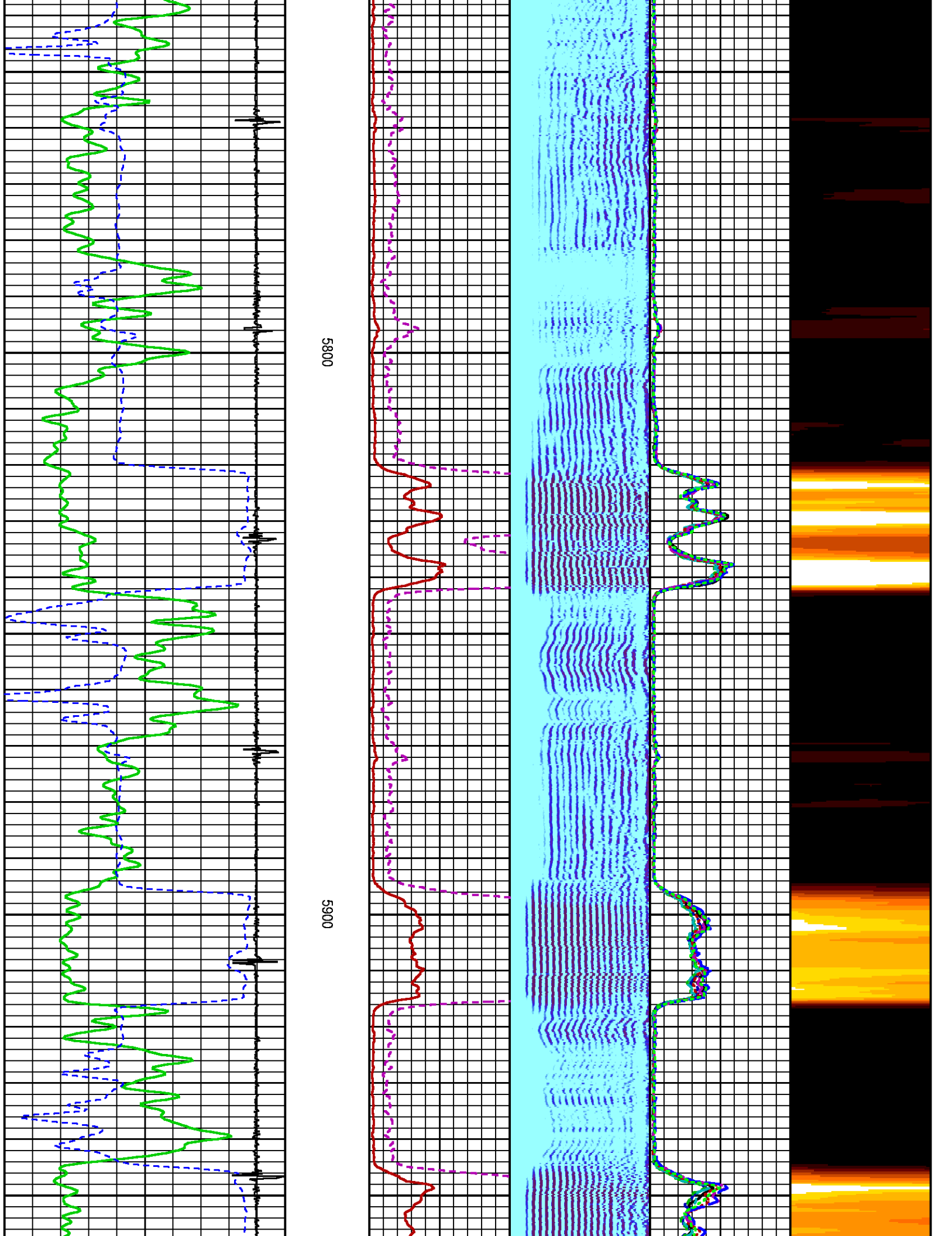
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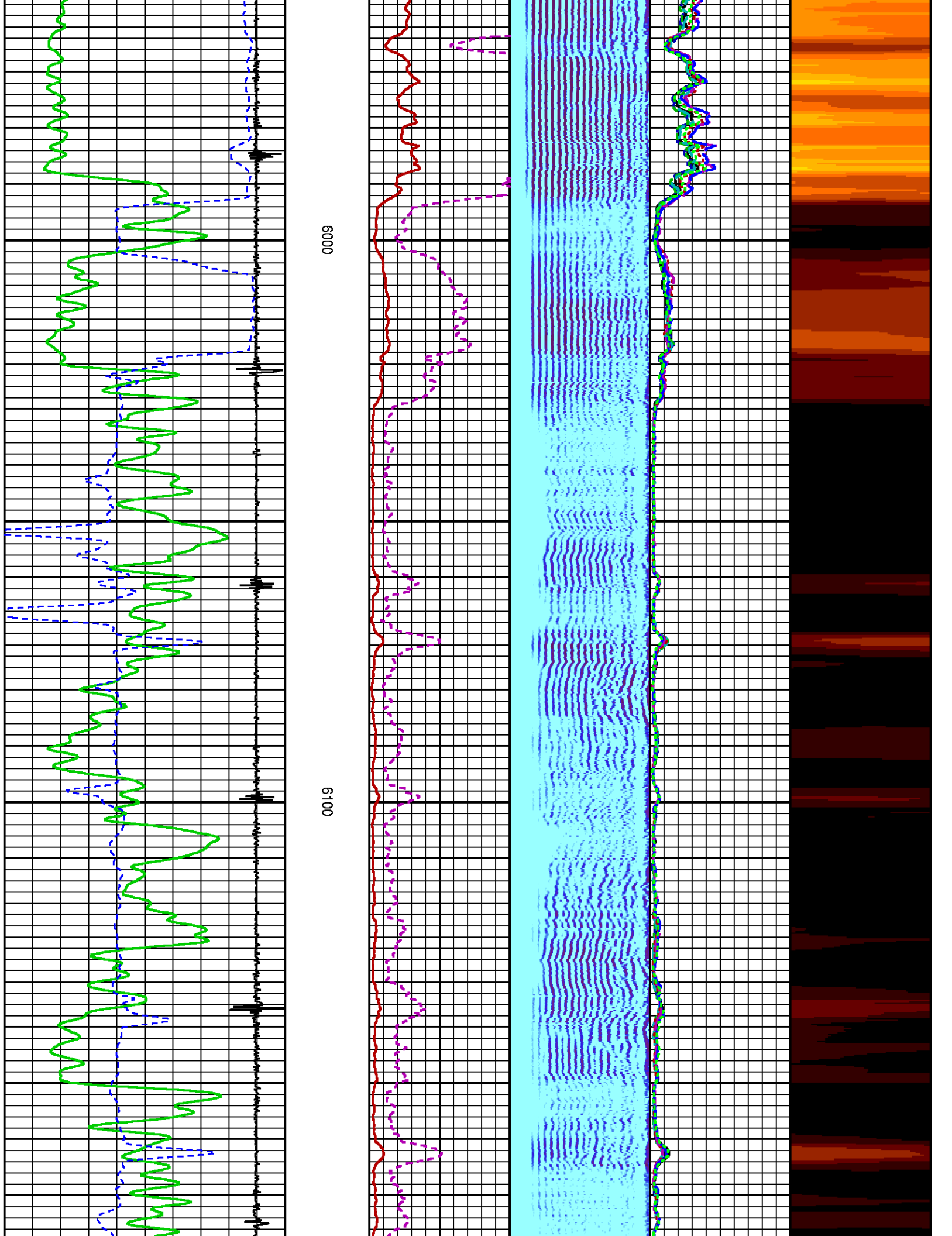
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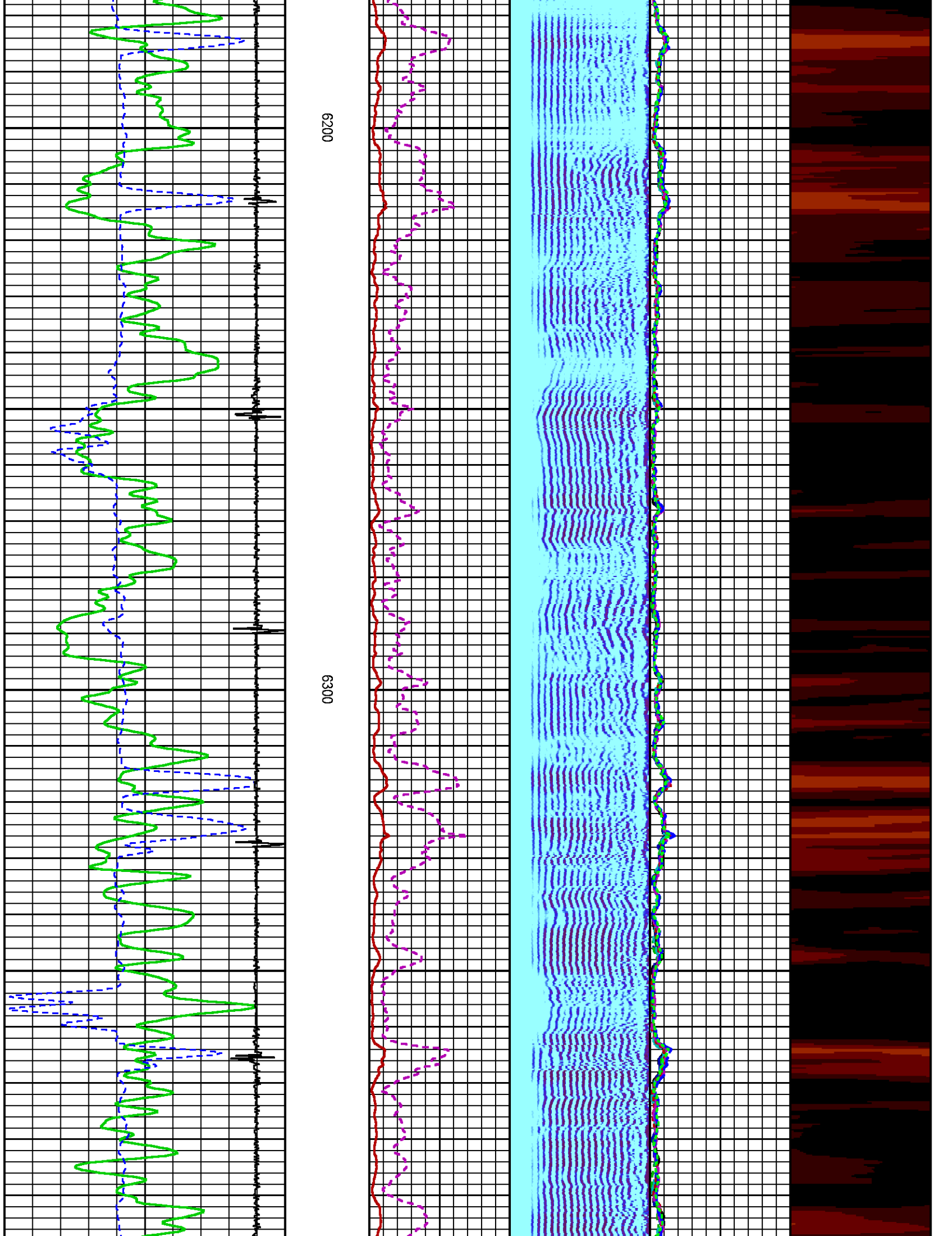
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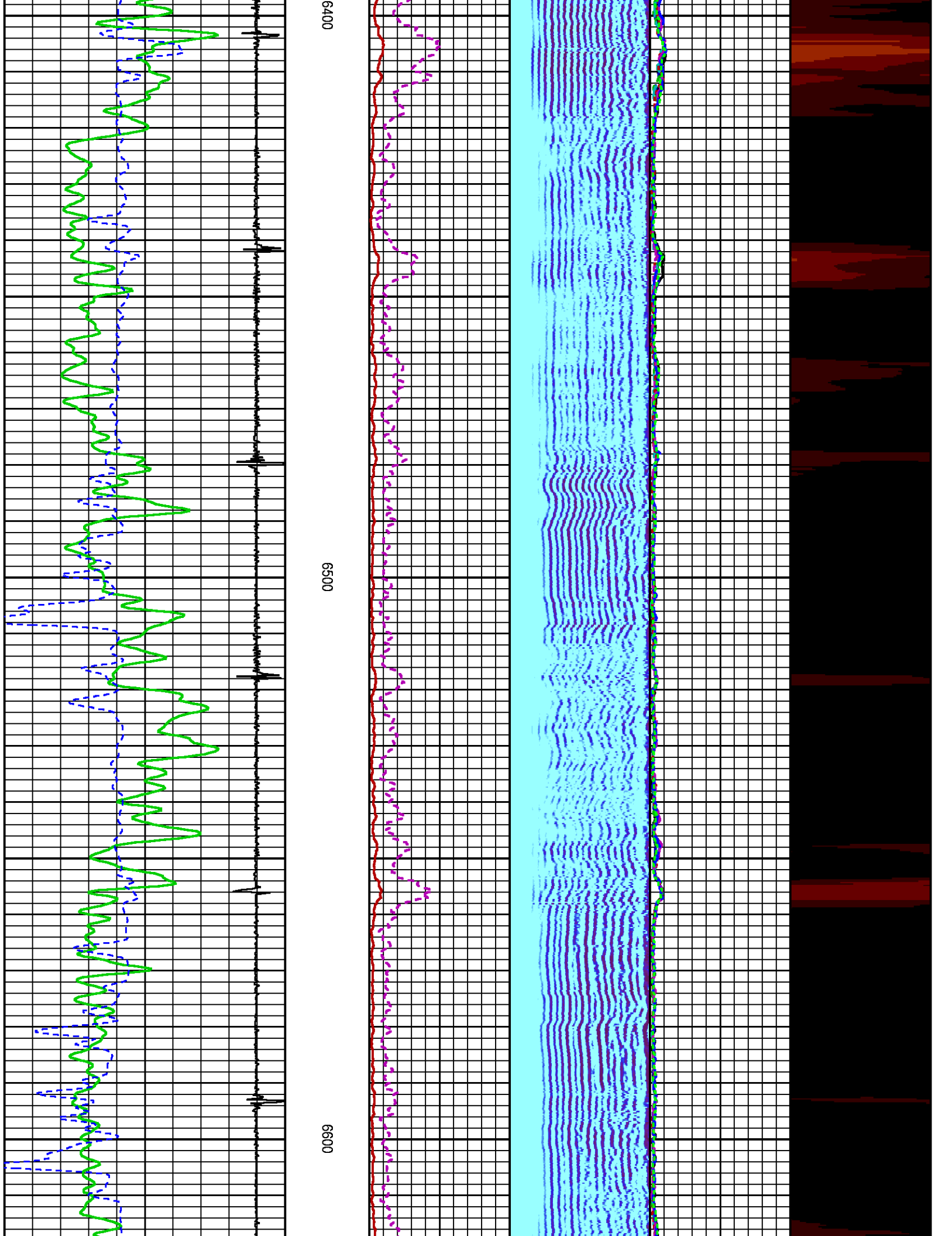


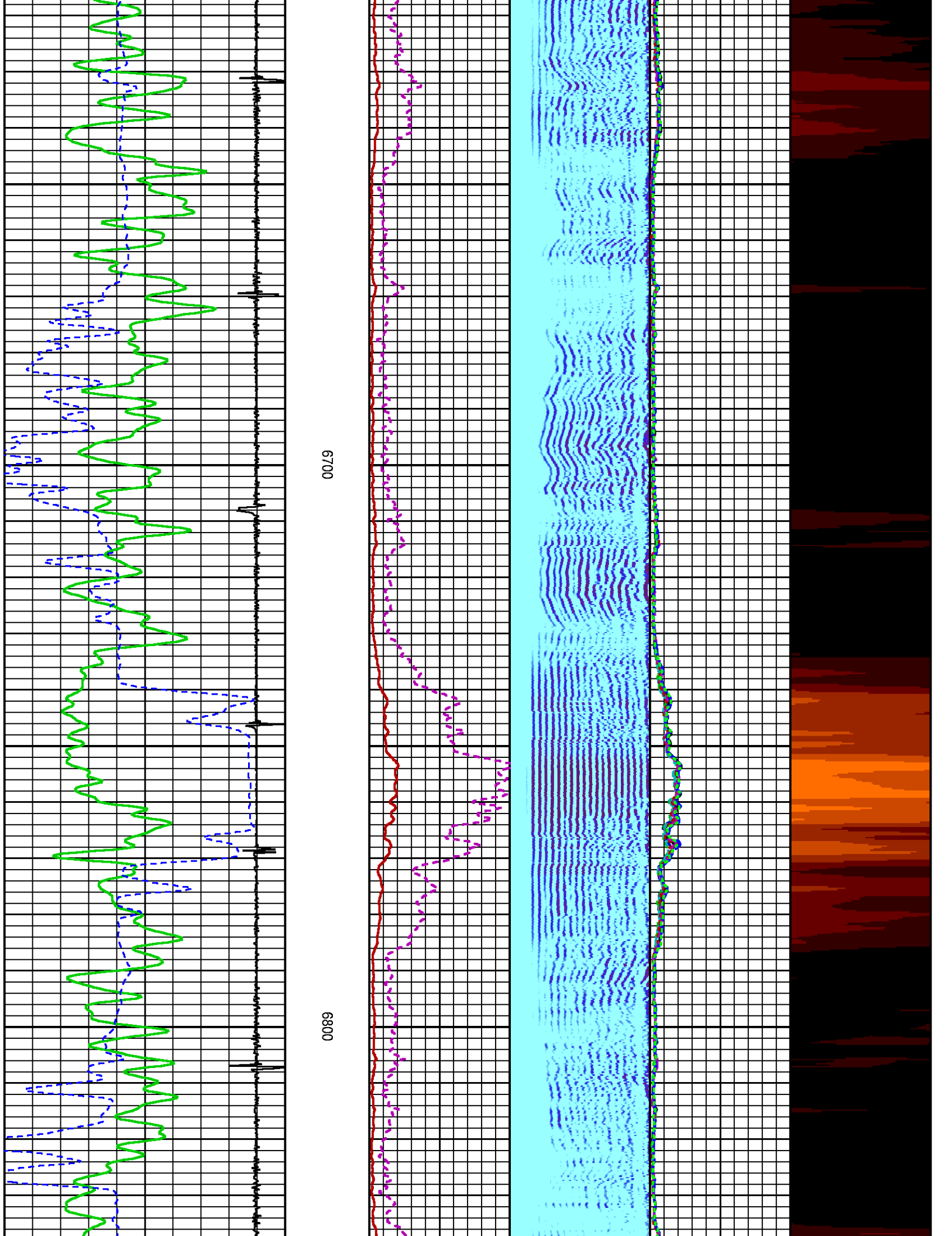


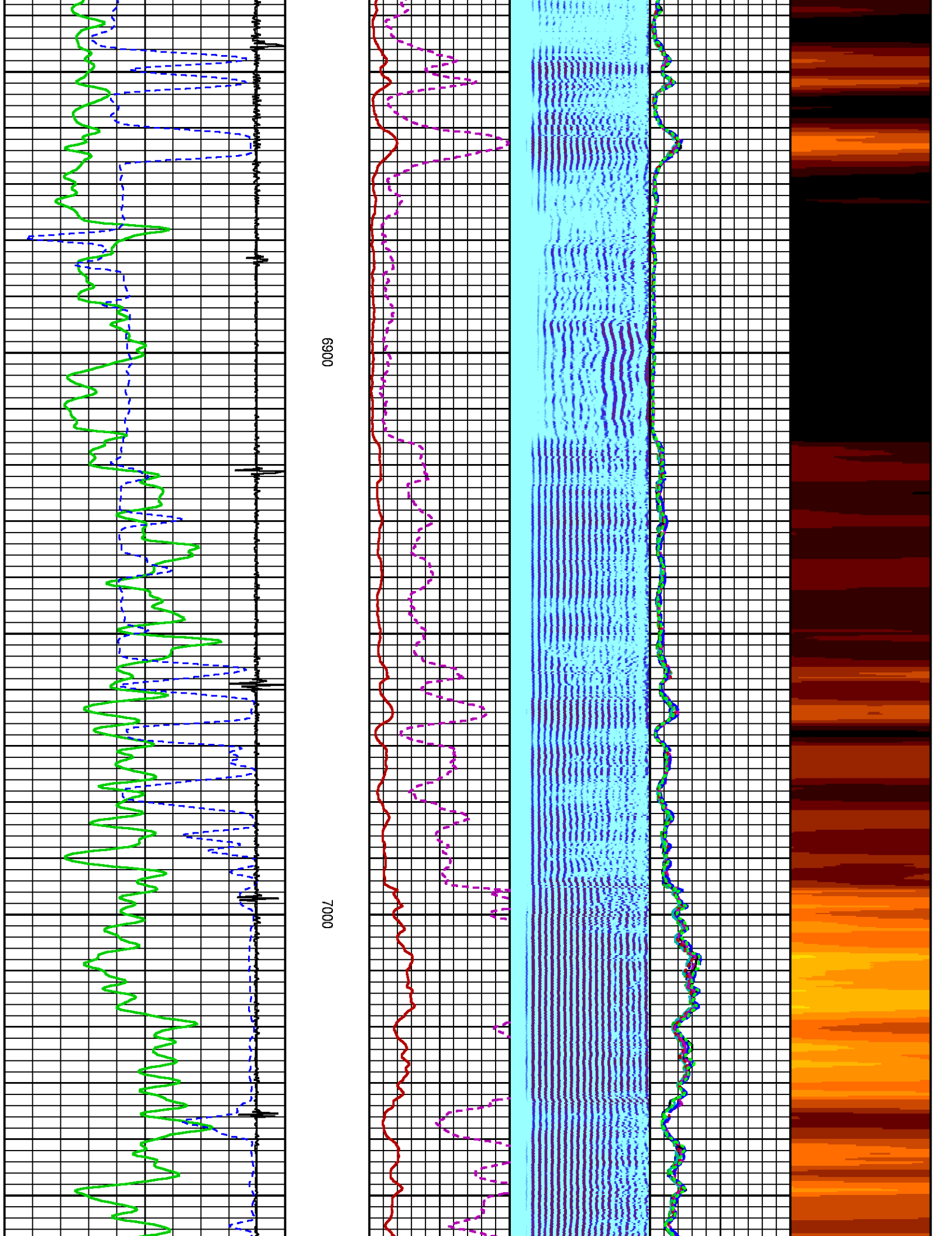


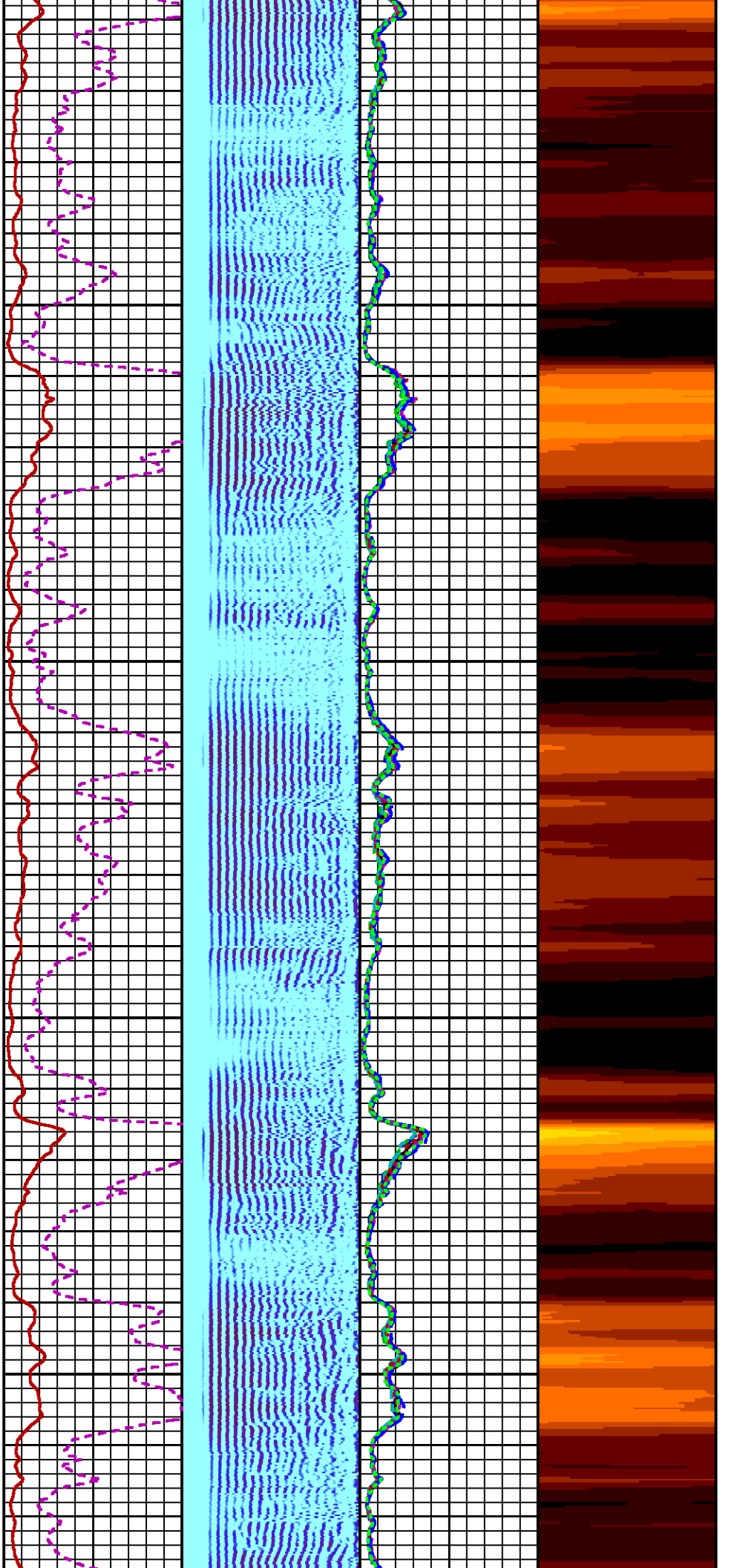






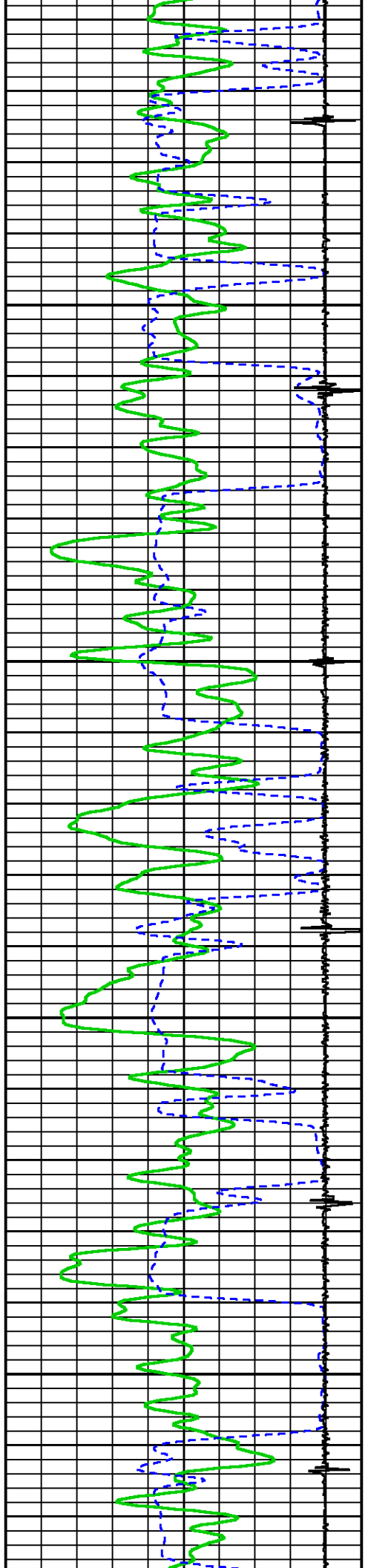


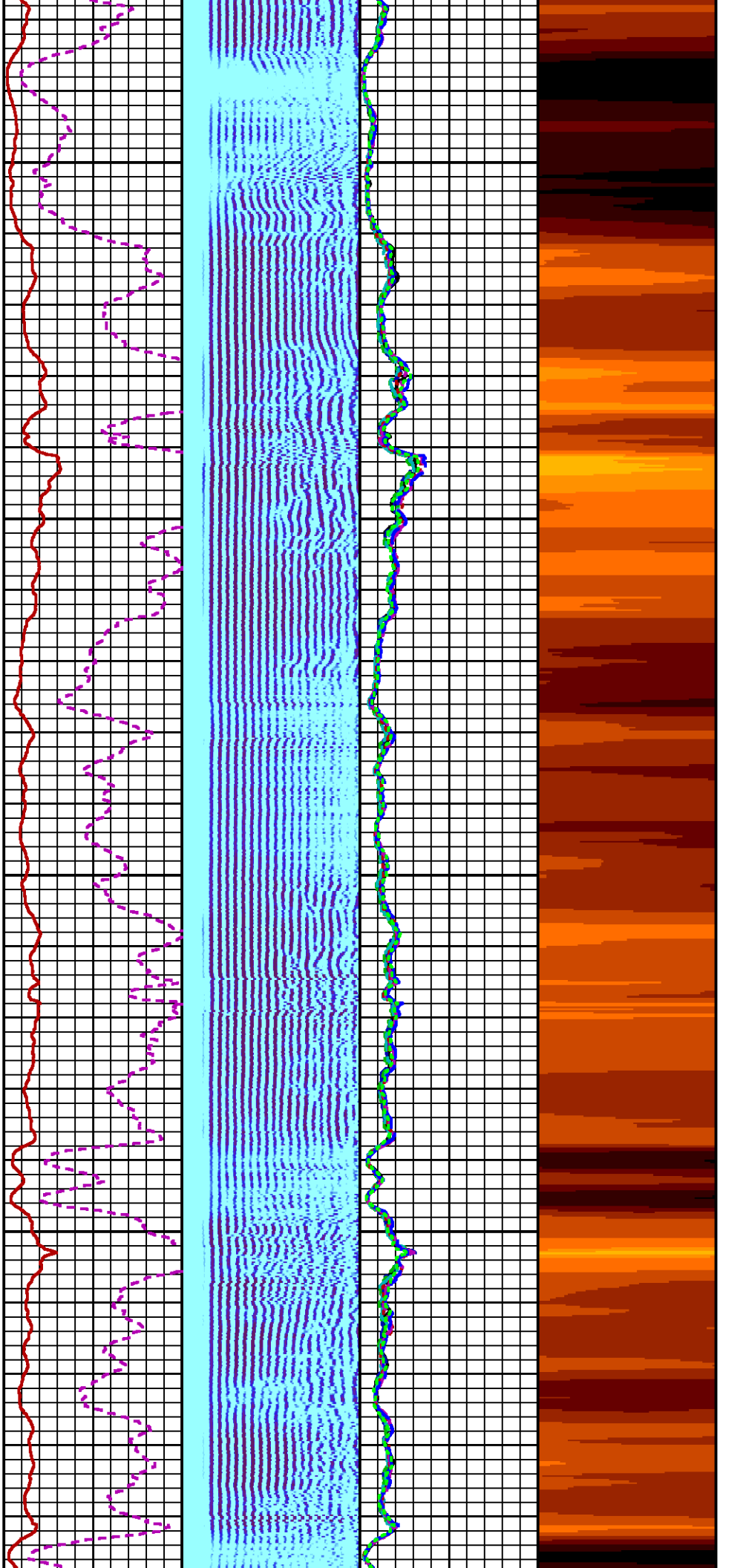




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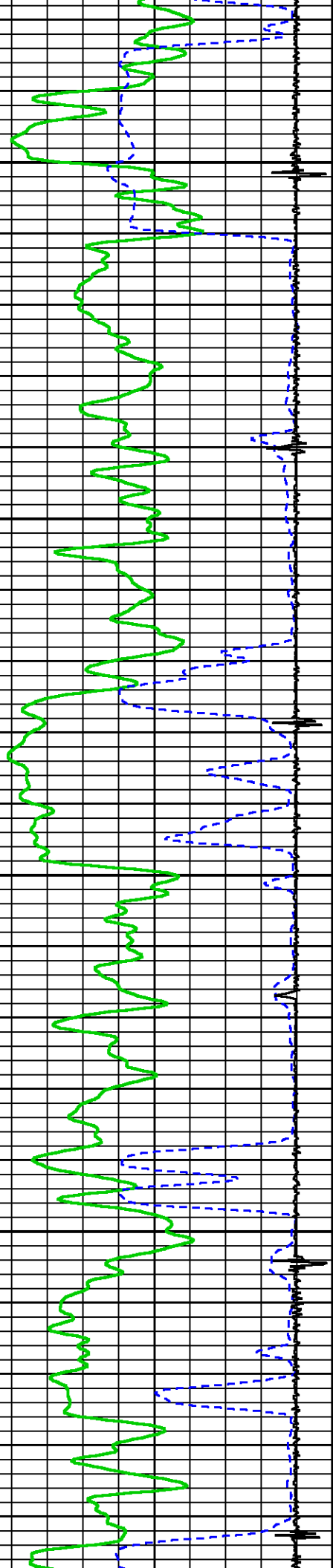
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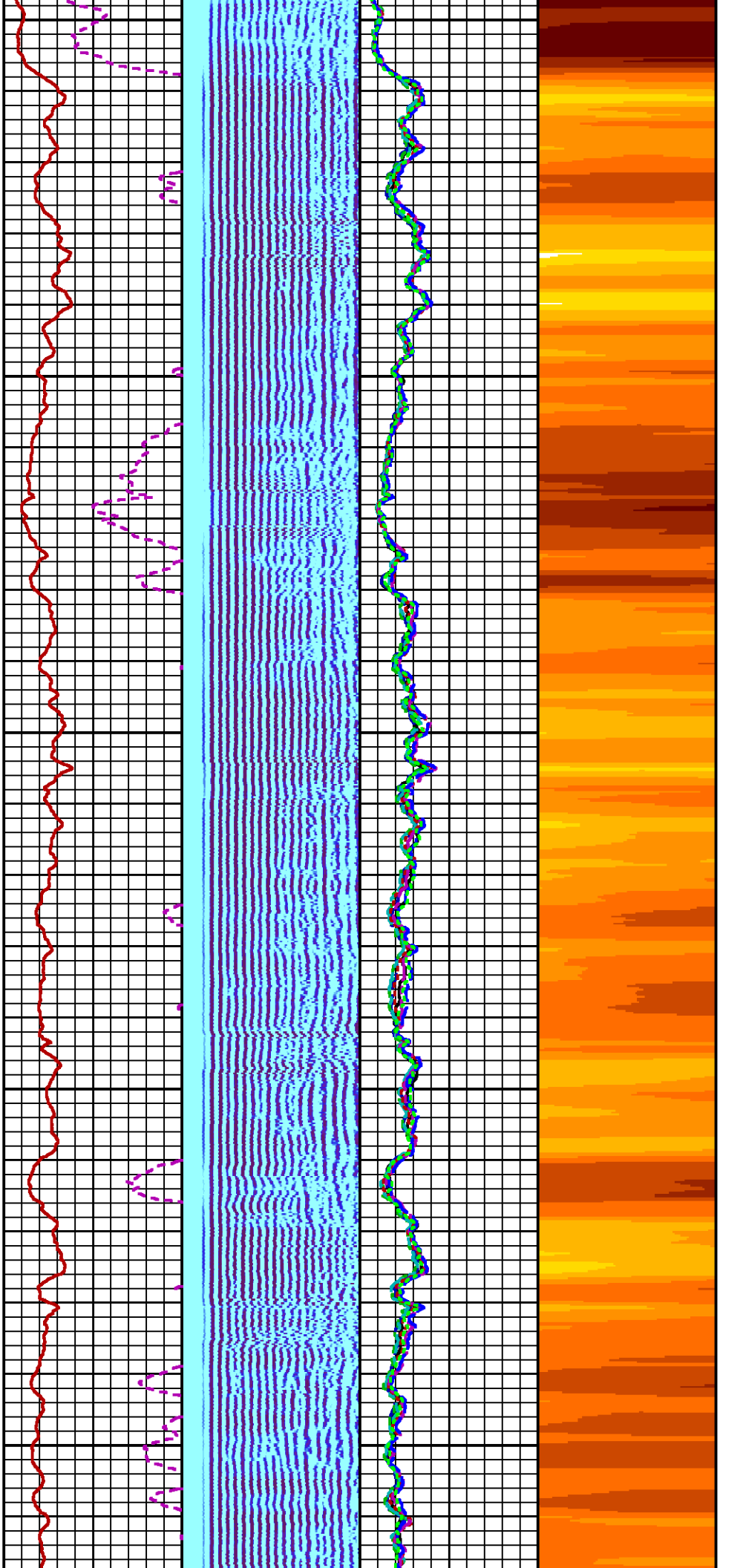




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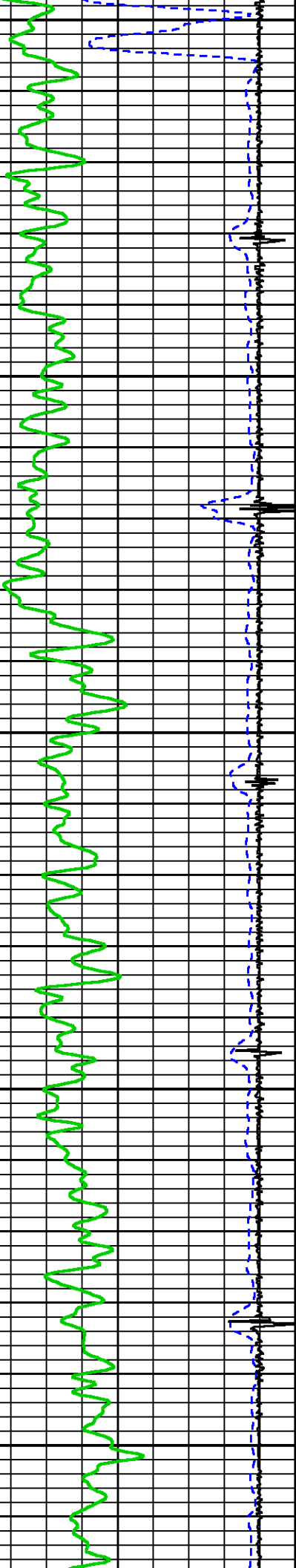


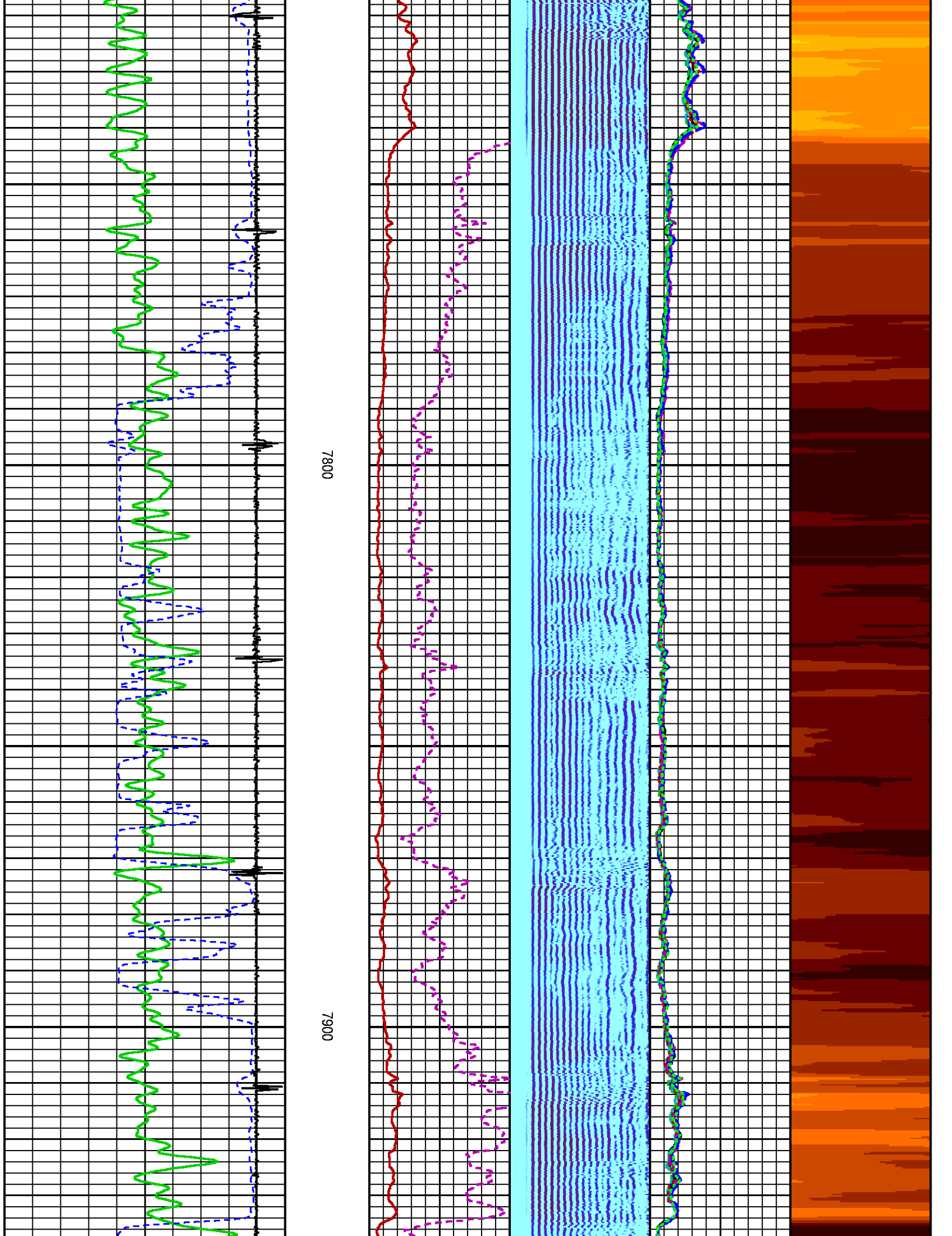


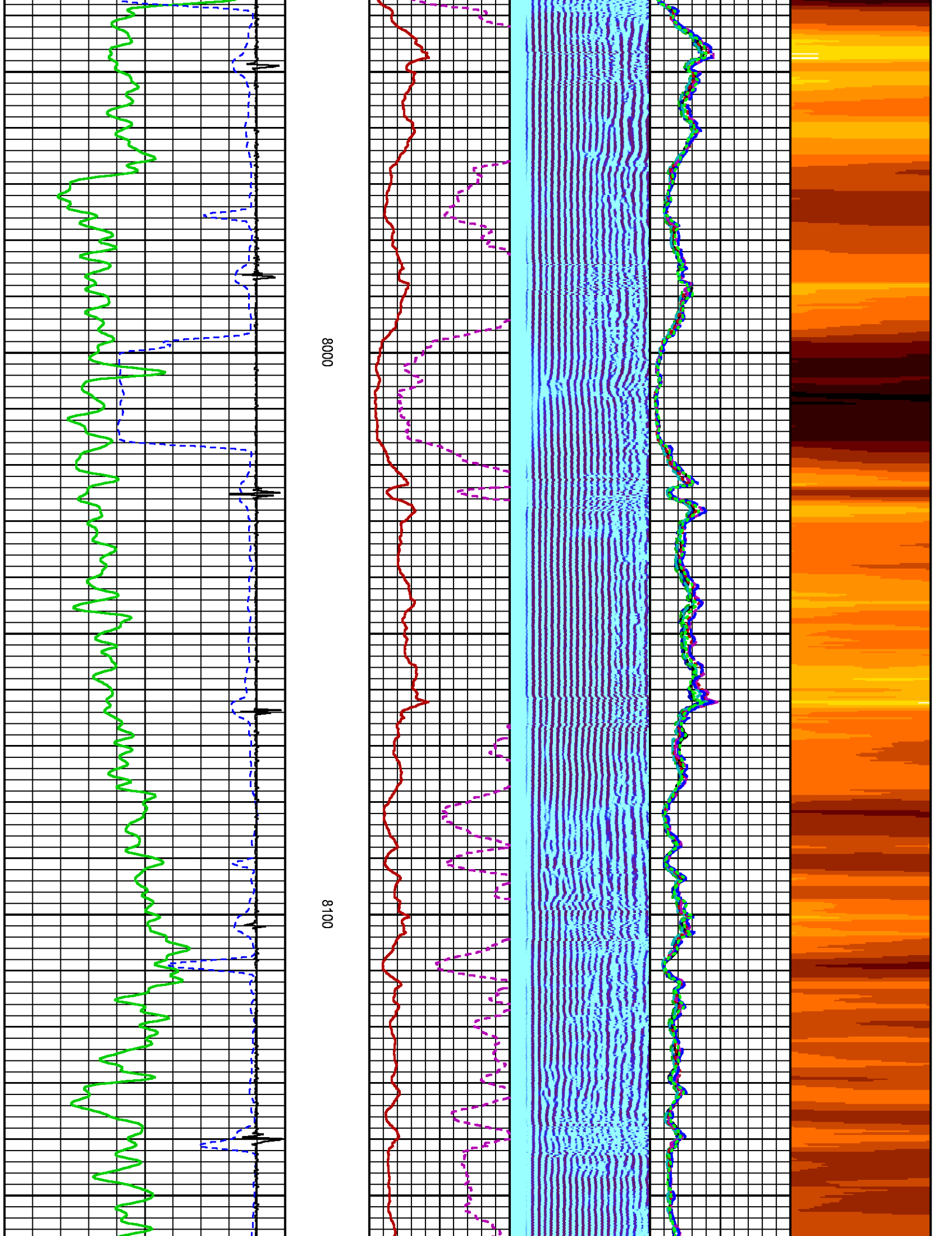
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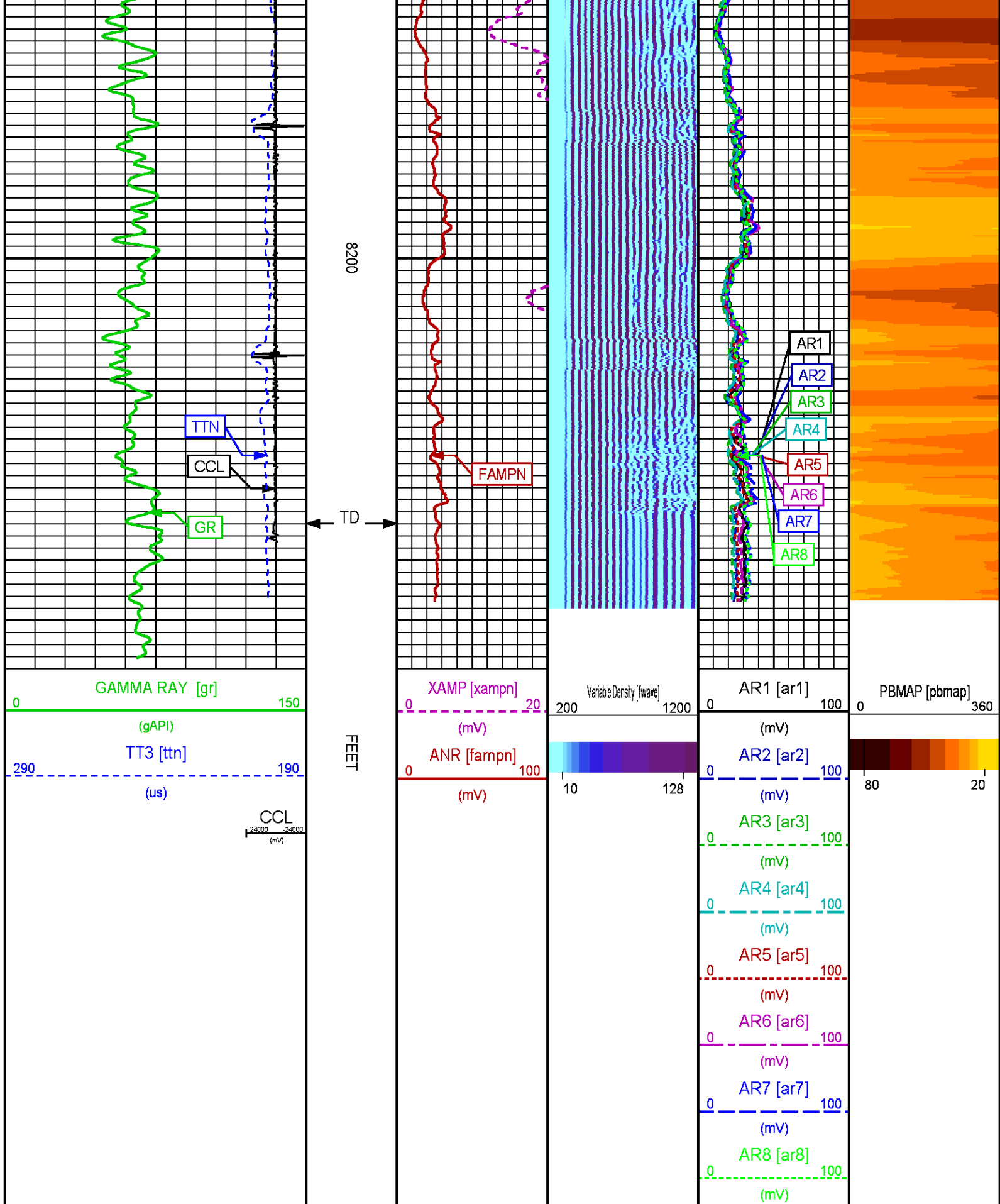
7600

7700









REPEAT PASS 0 PSI

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Patches: 1

Plotted: Sun Oct 29 11:15:41 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\data\BRUTON_30_04W\p012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7924.000 ft BOTTOM DEPTH: 8280.250 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ()	medium (1)		TOP	BOTTOM
AMPLITUDE	FILTER ()	light (2a)		"	"
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*)	185	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	185	us	"	"
	AMP WINDOW START (fgp3*)	185	us	"	"
	AMP WINDOW START (fgp4*)	185	us	"	"
	AMP WINDOW START (fgp5*)	185	us	"	"
	AMP WINDOW START (fgp6*)	185	us	"	"
	AMP WINDOW START (fgp7*)	185	us	"	"
	AMP WINDOW START (fgp8*)	185	us	"	"
	AMP WINDOW START (fgpn*)	185	us	"	"
	AMP WINDOW LENGTH	30	us	"	"
TRAVEL TIME WINDOW (NEAR)	TT WINDOW START (ttn*)	160	us	"	"
	TT WINDOW LENGTH	500	us	"	"
	FIRST BRK THRESHOLD (ttn*)	9	mV	"	"
RAL CASING PARAMETERS	PPT NEAR	200.391	us	"	"
RAL TOOL DELAY	TOOL DELAY (str1*)	-65	us	"	"
	TOOL DELAY (str2*)	-65	us	"	"
	TOOL DELAY (str3*)	-65	us	"	"
	TOOL DELAY (str4*)	-65	us	"	"
	TOOL DELAY (str5*)	-65	us	"	"
	TOOL DELAY (str6*)	-65	us	"	"
	TOOL DELAY (str7*)	-65	us	"	"
	TOOL DELAY (str8*)	-65	us	"	"
	TOOL DELAY (strn*)	-65	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	185	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	"	"

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
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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

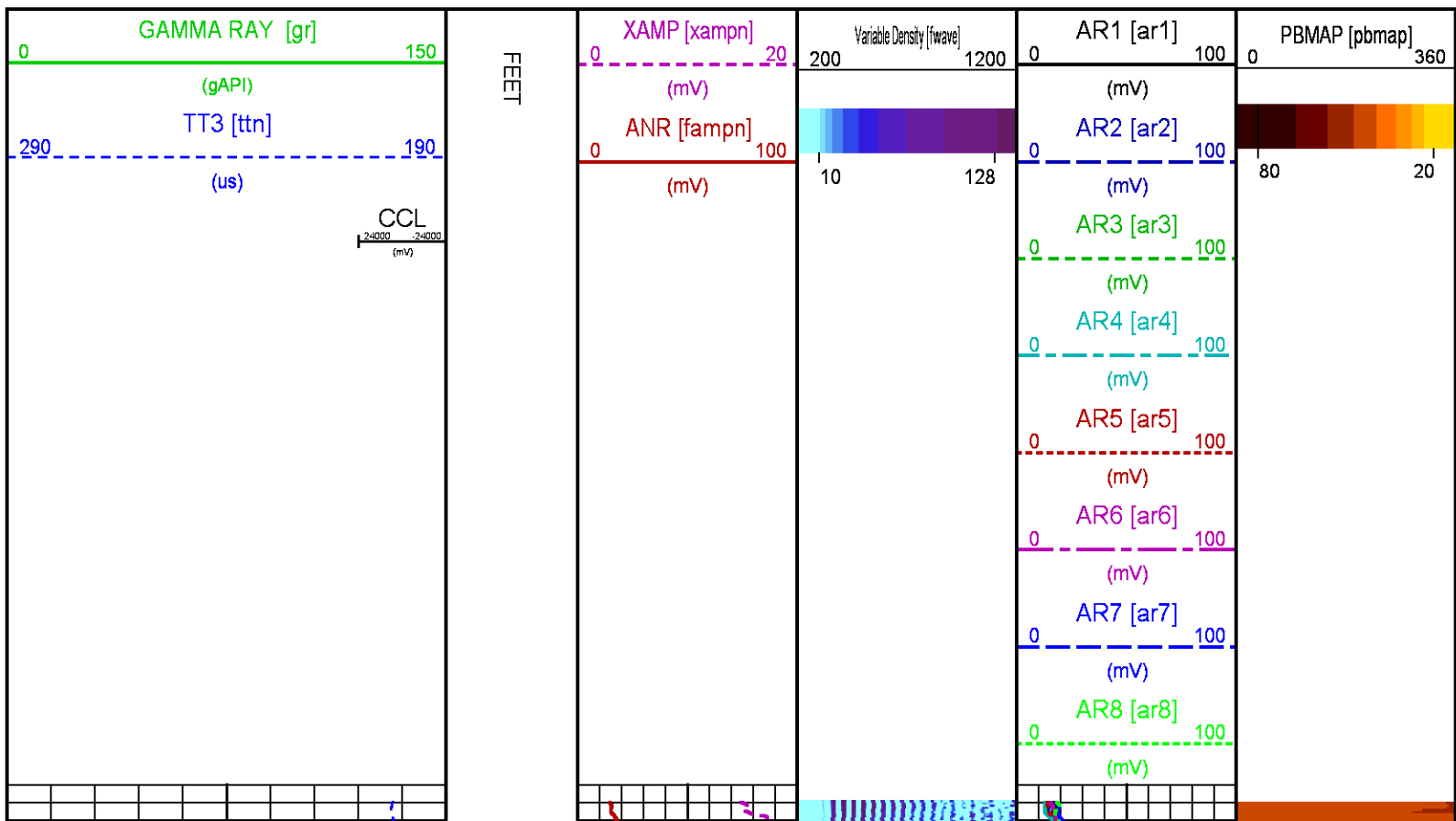
CURVE MEASURE POINT OFFSET

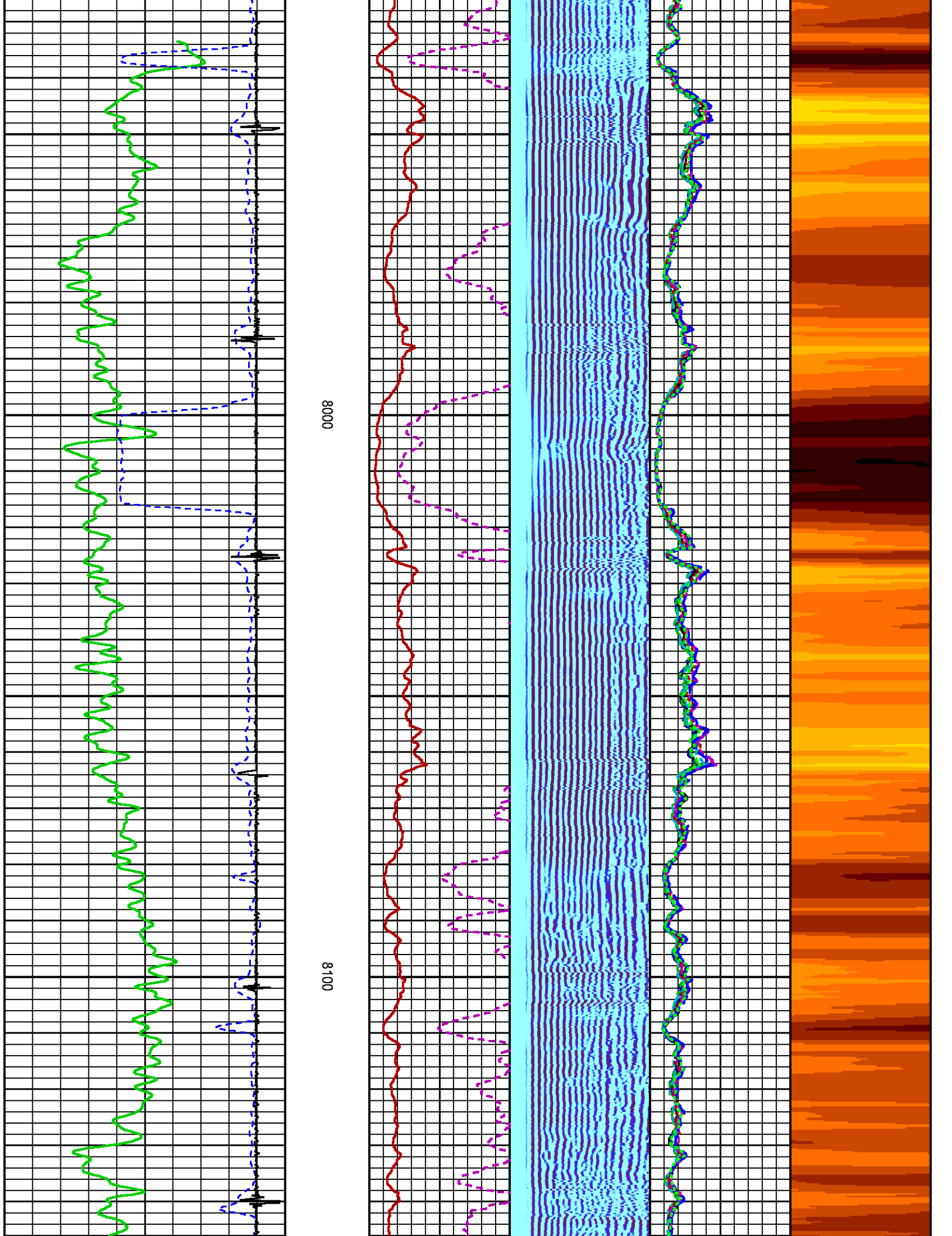
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
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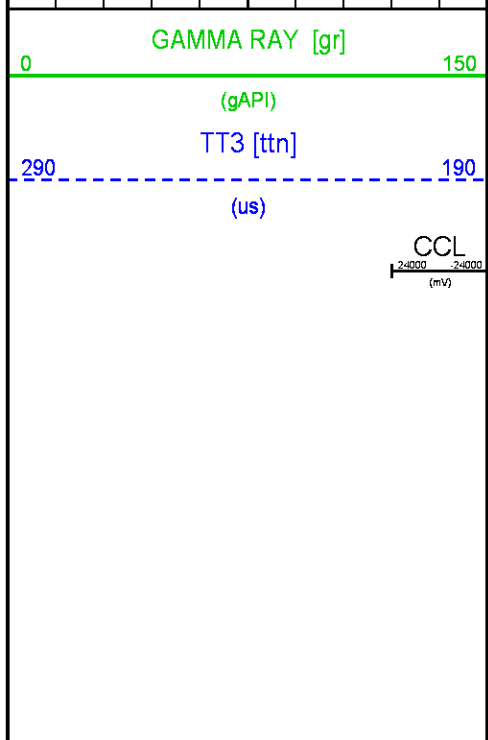
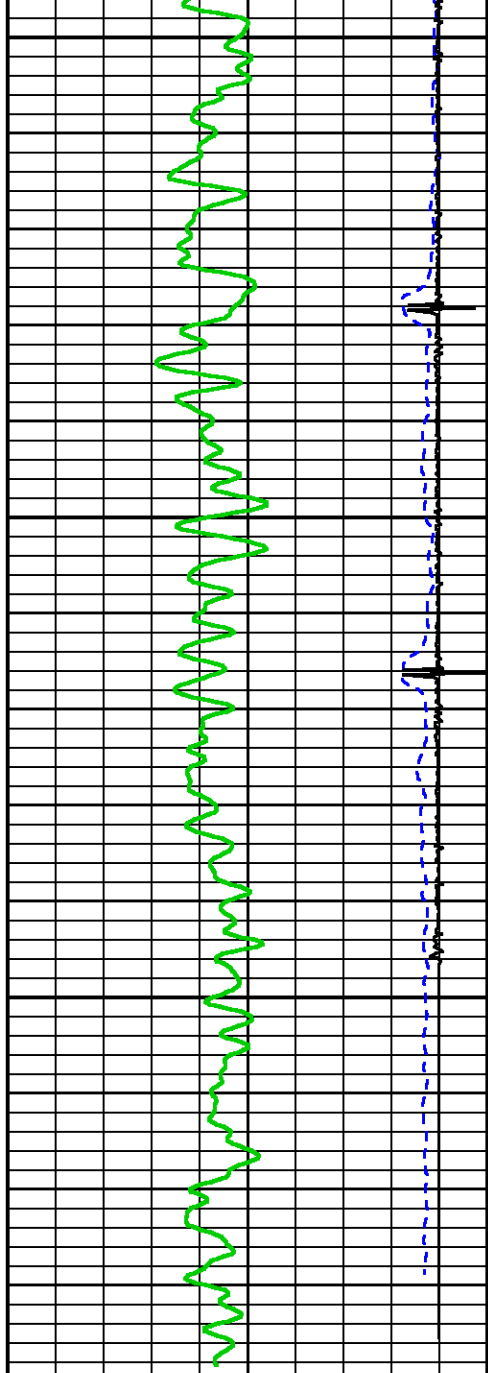
AR1	-11.25	AR5	-11.25	CCL	-5.75	XAMPN	-11.25
AR2	-11.25	AR6	-11.25	FAMPN	-11.25		
AR3	-11.25	AR7	-11.25	GR	-1.75		
AR4	-11.25	AR8	-11.25	TTN	-11.25		

Presentation : BHI78FR4H2:C:\dat1a\BRUTON_30_04W\BRUTON_30_04W_RAL_RPT.fvpdf [5"/100' Scale]
Plot Interval : 7913.25 - 8279.5 Feet

Data File 1 : F1 : BHI78FR4H2:C:\dat1a\BRUTON_30_04W\BRUTON_30_04W_RAL_RPT.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : BRUTON 30-04W
Field : VEGA
File Interval : 7912.25 - 8280.75 Feet
OCT : p012g

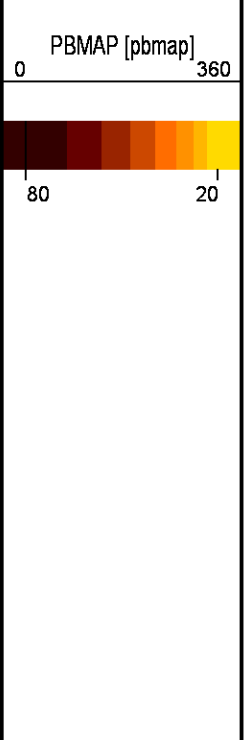
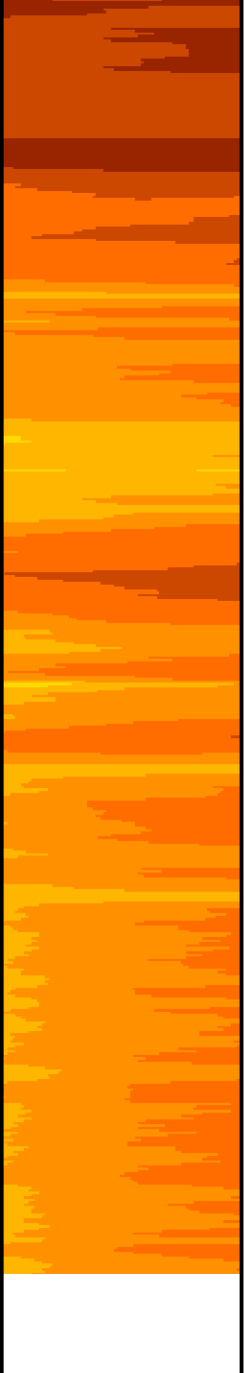
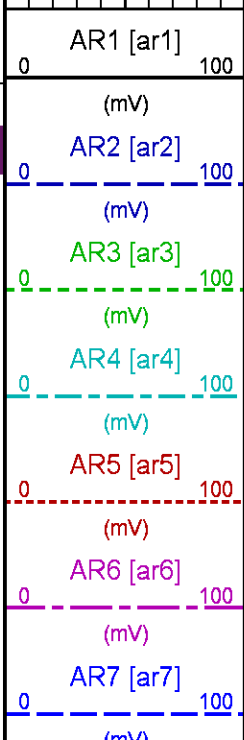
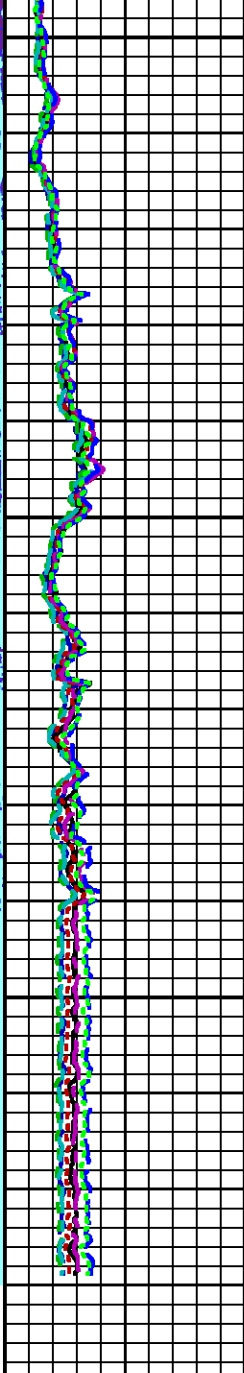
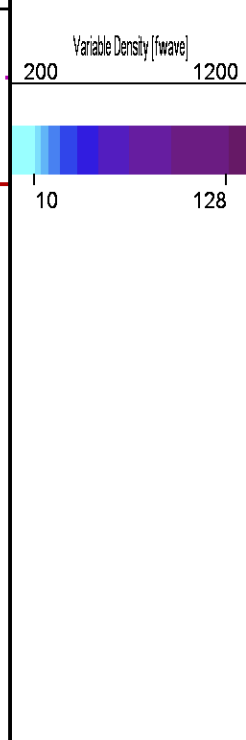
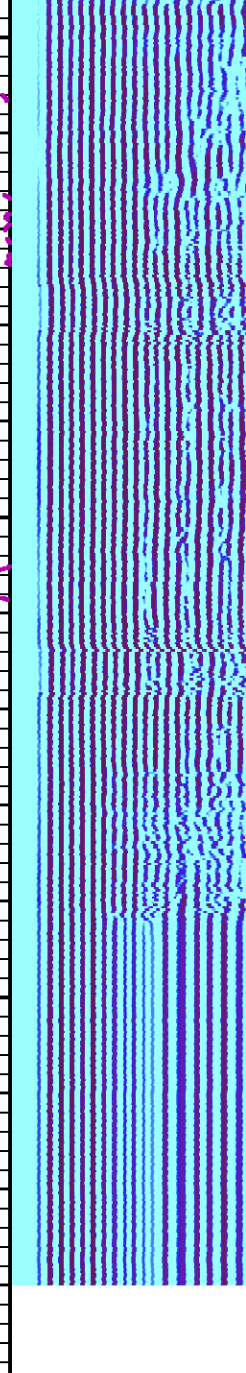
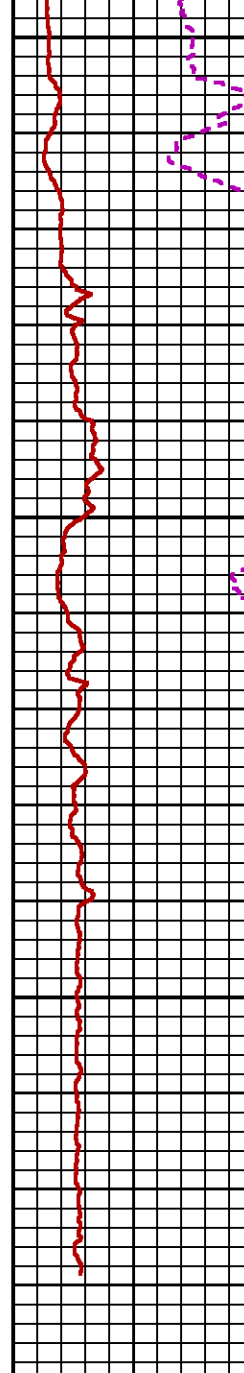


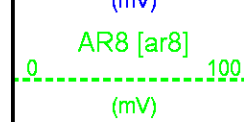




8200

FEET





CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\BRUTON_19_03Exp012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10404539

DATE/TIME PERFORMED: Fri Oct 27 16:50:17 2017

UNIT #: CHANGE ME

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

	NEAR	R1	R2	R3	R4	R5	R6	R7	R8	FAR	CAL
ZERO (mV)	-0.28	-0.28	-0.33	-0.30	-0.29	-0.51	-0.31	-0.25	-0.33	-0.48	-0.01
AMP FLUID (mV)	94	94	93	92	92	95	94	94	94	129	91
TT (us)	200	201	201	200	200	199	199	199	201	316	202
M FACTOR	1.06	1.07	1.07	1.08	1.08	1.05	1.06	1.06	1.06	1.16	1.09

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10404539

DATE/TIME PERFORMED: Fri Oct 27 16:51:12 2017

DAYS SINCE CAL: 0

UNIT #: CHANGE ME

CABLE #: HL6670 6670SL

	NEAR	R1	R2	R3	R4	R5	R6	R7	R8	FAR	CAL
	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)
ZERO	-0.21	-0.33	-0.23	-0.34	-0.33	-0.51	-0.28	-0.36	-0.32	-0.34	-0.01
AMP AIR	0.65	0.62	0.73	0.71	0.65	0.67	0.80	0.88	0.61	0.75	99.91

SHOP	SHOP	WIRELINE
M FACTOR	A FACTOR	FACTOR
1.09	0.00	1.00

INSTRUMENT CONFIGURATION

Source File: C:\dat1a\BRUTON_30_04\WRAL-tdg.meta

CABLEHEAD

Diameter : 2.75"
Length : 2.25'
Weight : 10 lbs
Series : CABL234

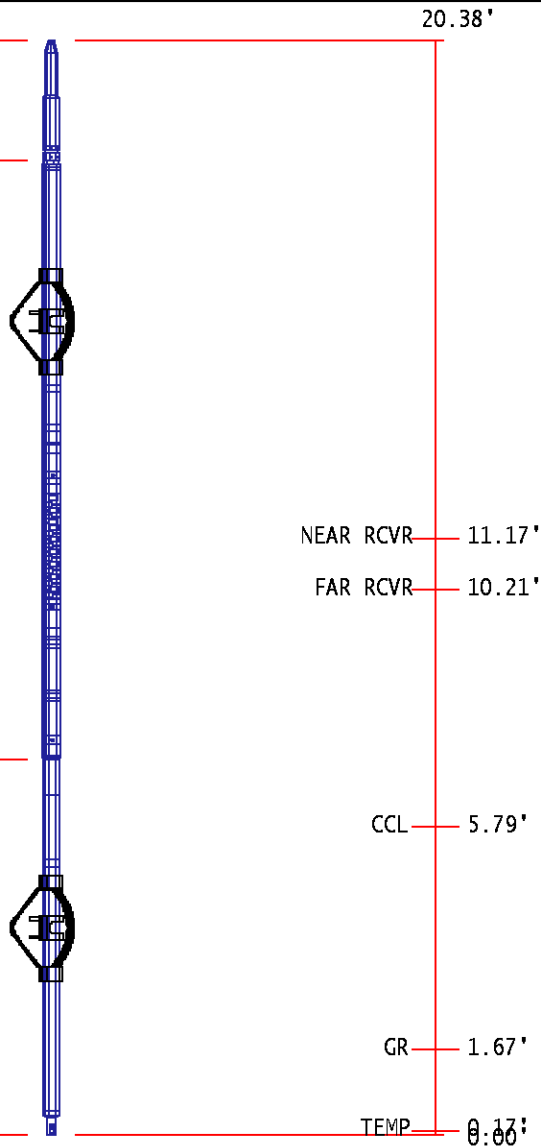
RADIAL BOND TOOL

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: 20.38'
TOTAL WEIGHT: 235 lbs
MAX DIAMETER: 0'4.00"



**BAKER
HUGHES**
a GE company



COMPANY	LARAMIE ENERGY	
WELL	BRUTON 30-04W	
FIELD	VEGA	
COUNTY	MESA	STATE COLORADO

FILE NO:

API NO:

05077104570000

LOCATION:

SHL: LAT:39.252692N;LONG:107.814294W

BHL: LAT:39.252937N;LONG:107.816234W

SEC 30 TWP 9S RGE 93W

ELEVATIONS:

KB 7534 FT

DF 7534 FT

GL 7504 FT

DATE 29-OCT-2017