



FILE NO: CH100241		COMPANY LARAMIE ENERGY	
API NO: 05077102370000		WELL PICEANCE FEDERAL 28-04M	
Ver. 4.01		FIELD VEGA	
28-05 PAD		COUNTY MESA	
PATTERSON 306		STATE COLORADO	
LOCATION: SHL: LAT 39.251039 LONG -107.779486 BHL: 39.252897 LONG -107.774506		OTHER SERVICES RPM	
SEC 28 TWP 9S RGE 93W			
PERMANENT DATUM GL ELEVATION 7556 FT		ELEVATIONS: KB 7578 FT	
LOG MEASURED FROM KB 22 FT ABOVE P.D.		DF	
DRILL. MEAS. FROM KB		GL 7556 FT	
DATE	21-Oct-2015		
RUN	TRIP	1	1
SERVICE ORDER	US100241		
DEPTH DRILLER	8036 FT		
DEPTH LOGGER	7978 FT		
BOTTOM LOGGED INTERVAL	7968 FT		
TOP LOGGED INTERVAL	22 FT		
TIME STARTED	8:00		
TIME FINISHED	11:00		
OPERATOR RIG TIME	3 HOURS		
TYPE OF FLUID IN HOLE	WATER		
FLUID DENSITY	NA		
FLUID SALINITY	NA		
FLUID LEVEL	45 FT		
LOGGED CEMENT TOP	NA		
WELLHEAD PRESSURE	0 PSI		
MAXIMUM HOLE DEVIATION	NA		
NOMINAL LOGGING SPEED	100 F/MN		
MAX. RECORDED TEMP.	230 DEGF		
REFERENCE LOG	NA		
REFERENCE LOG DATE	NA		
EQUIP. NO.	HL-6670	GRAND JCT.	
LOCATION			
RECORDED BY	T. NEWELL		
WITNESSED BY	JOHN GRUBICH		

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
7.875 IN	22 FT	8036 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
4.5 IN	11.6 LB/F		22 FT	8036 FT

REMARKS
RUN 1 TRIP 1: This is the first log on this well
Logged with zero PSI at the wellhead
BHT = 230 degF
SJ = 6394' - 6415'
SJ = 7202' - 7224'
Thank you for choosing Baker Hughes ... The best choice!

EQUIPMENT DATA				
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.

1	1	CBL	1426XA	10124106	CENTRALIZED
1	1	GR/CCL	1355XA	11871510	CENTRALIZED

MAIN PRESENTATION 0 PSI

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 1 Patches: 6

Plotted: Wed Oct 21 14:20:57 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/28_04M/n012g02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 14.500 ft BOTTOM DEPTH: 7990.852 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*)	175	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*)	-67	us	"	"
	TOOL DELAY (str2*)	-67	us	"	"
	TOOL DELAY (str3*)	-67	us	"	"
	TOOL DELAY (str4*)	-67	us	"	"
	TOOL DELAY (str5*)	-67	us	"	"
	TOOL DELAY (str6*)	-67	us	"	"
	TOOL DELAY (str7*)	-67	us	"	"
	TOOL DELAY (str8*)	-67	us	"	"
	TOOL DELAY (strn*)	-67	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	us	"	"
	NOISE WINDOW LENGTH	25	us	"	"

PERCENT BOND CEMENT MAP

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

	FREE AMP REC 6	80	mV	"	"
	FREE AMP REC 7	80	mV	"	"
	FREE AMP REC 8	80	mV	"	"
RAL FULL BOND AMPLITUDE	FULL BOND AMP REC 1	2	mV	"	"
	FULL BOND AMP REC 2	2	mV	"	"
	FULL BOND AMP REC 3	2	mV	"	"
	FULL BOND AMP REC 4	2	mV	"	"
	FULL BOND AMP REC 5	2	mV	"	"
	FULL BOND AMP REC 6	2	mV	"	"
	FULL BOND AMP REC 7	2	mV	"	"
	FULL BOND AMP REC 8	2	mV	"	"

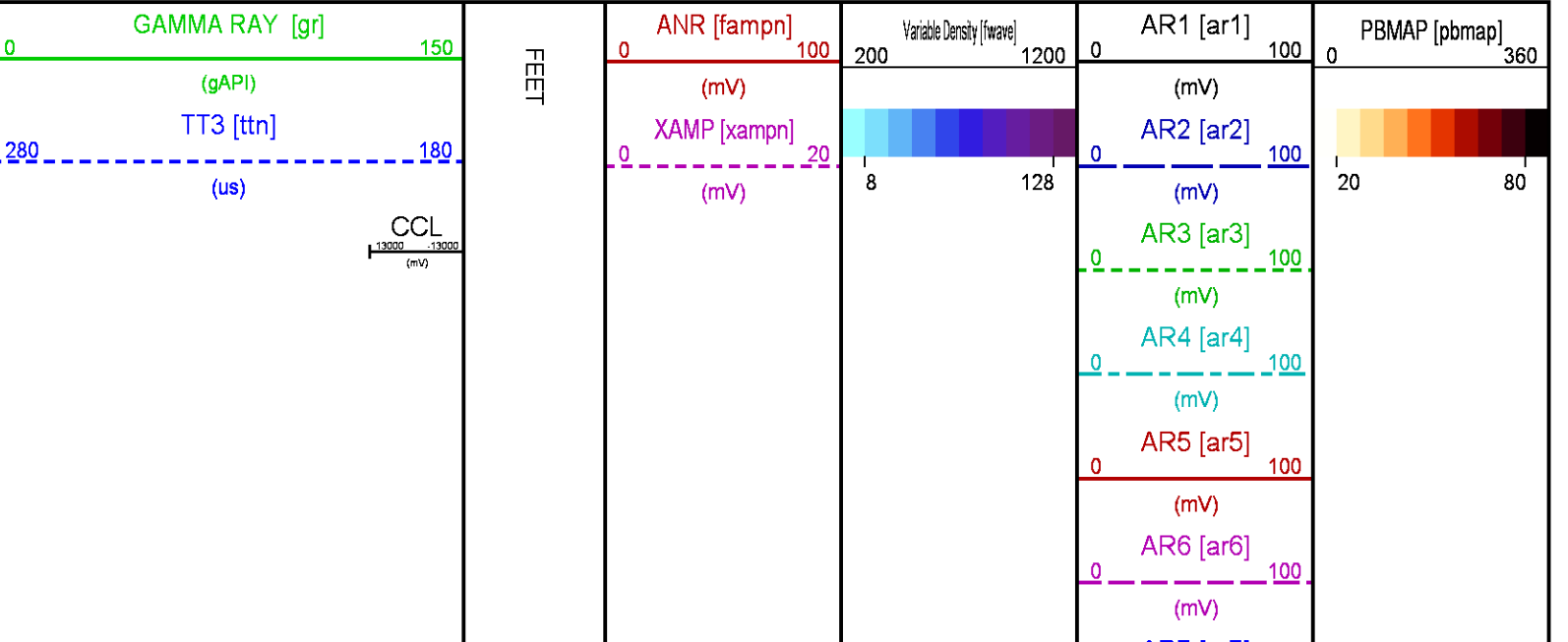
CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R1
F1:AR2	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R2
F1:AR3	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R3
F1:AR4	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R4
F1:AR5	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R5
F1:AR6	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R6
F1:AR7	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R7
F1:AR8	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE T-R8
F1:CCL	Oct 21 09:04:24 2015	CASING COLLAR LOCATOR
F1:FAMPN	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Oct 21 09:04:24 2015	FAR WAVE FORM
F1:GR	Oct 21 09:04:24 2015	GAMMA RAY
F1:PBMAP	Oct 21 09:04:24 2015	PERCENT BOND CEMENT MAP
F1:TTN	Oct 21 09:04:24 2015	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Oct 21 09:04:24 2015	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

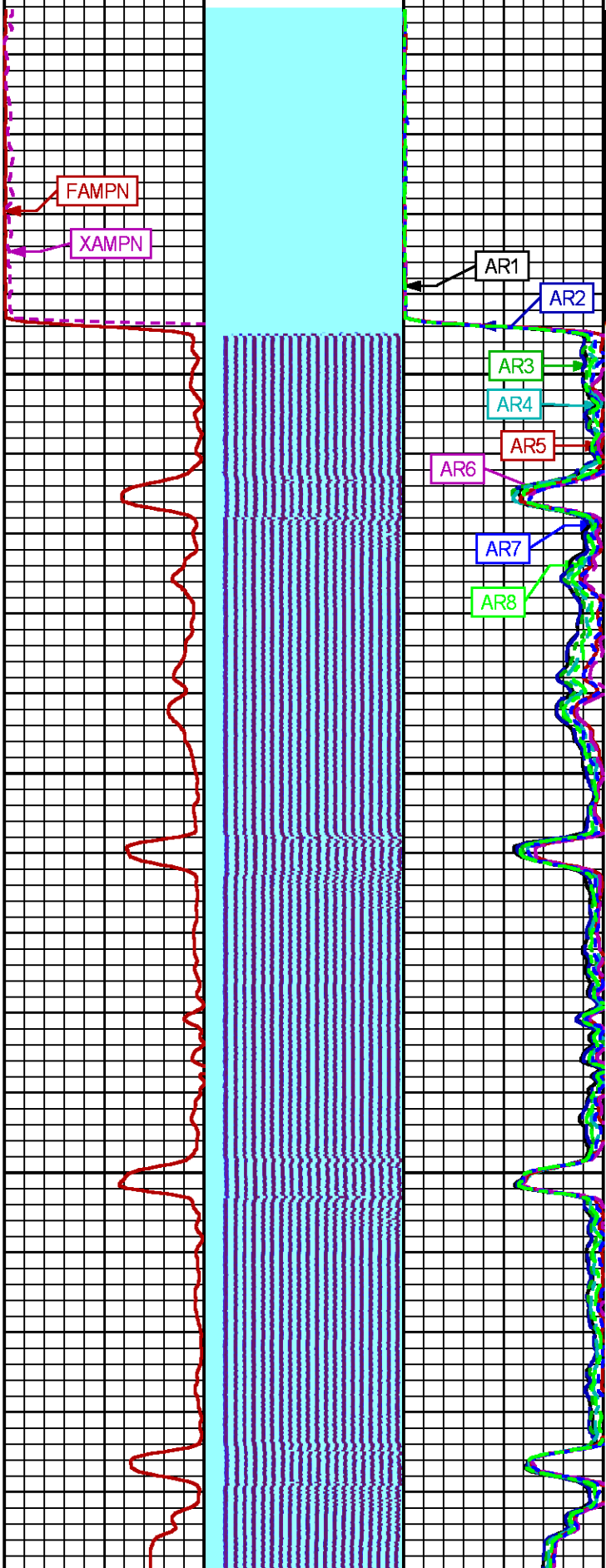
CURVE MEASURE POINT OFFSET

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	: HL6670:/dat1a/28_04M/4M_CBL_MAIN.fvpdf [5"/100' Scale]
Plot Interval	: 0 - 7985 Feet
Data File 1	: F1 : HL6670:/dat1a/28_04M/04M_CBL_MAIN.xtf
Created On	: Oct 21 09:04:24 2015
Company	: LARAMIE ENERGY
Well	: PICEANCE FEDERAL 28-04M
Field	: VEGA
File Interval	: 3.25 - 7988.75 Feet
OCT	: n012g



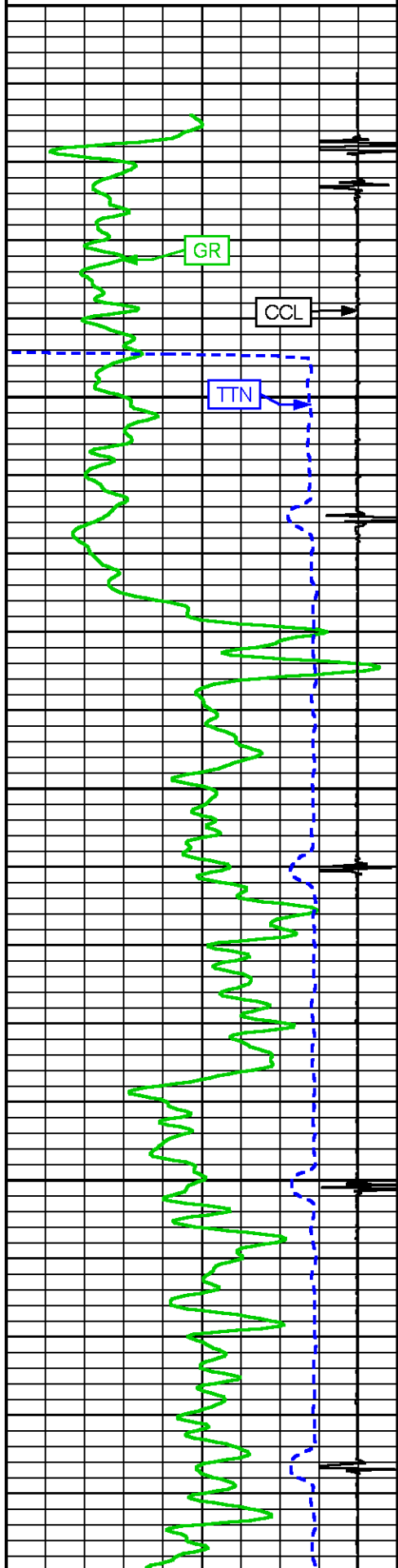
AR7 [ar7]
(mV)
AR8 [ar8]
(mV)

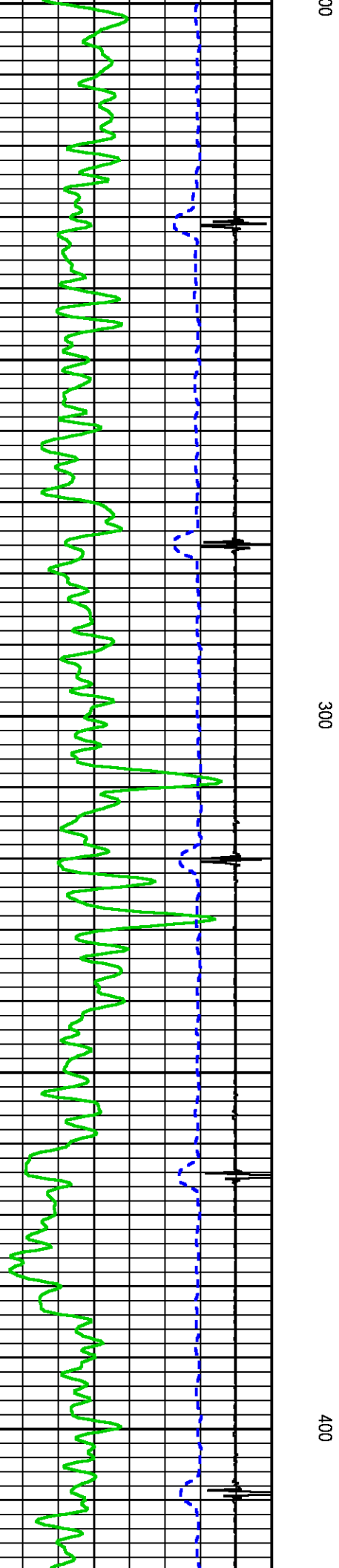
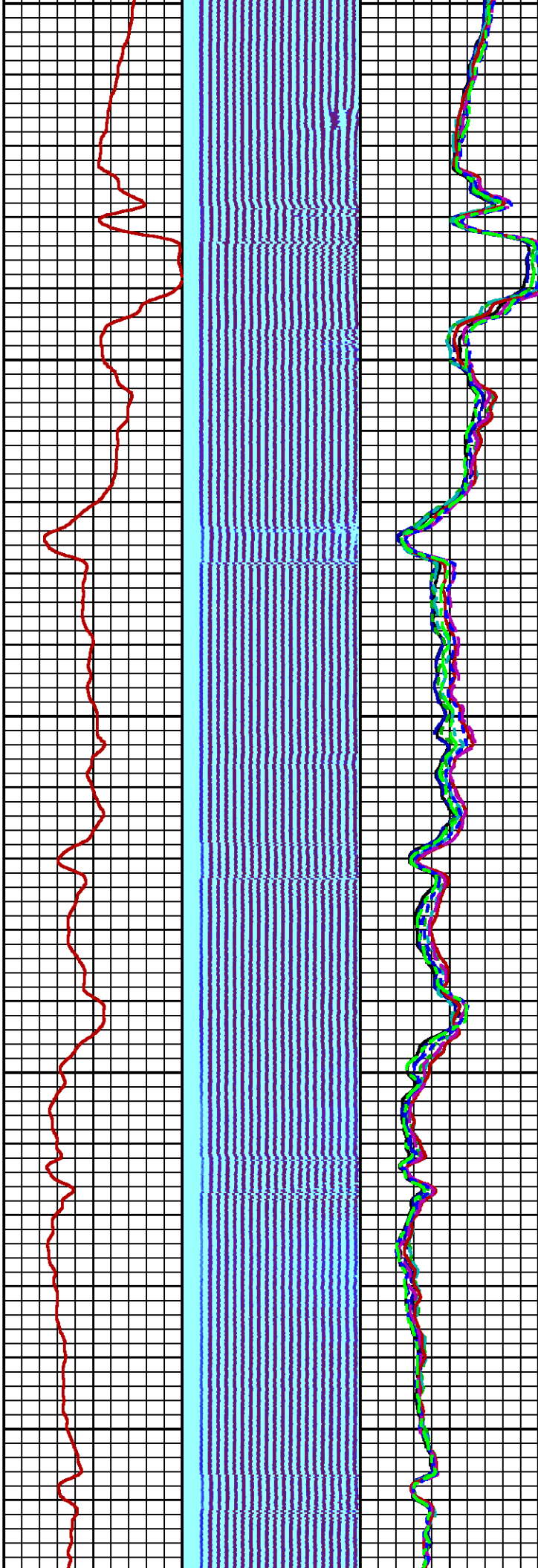
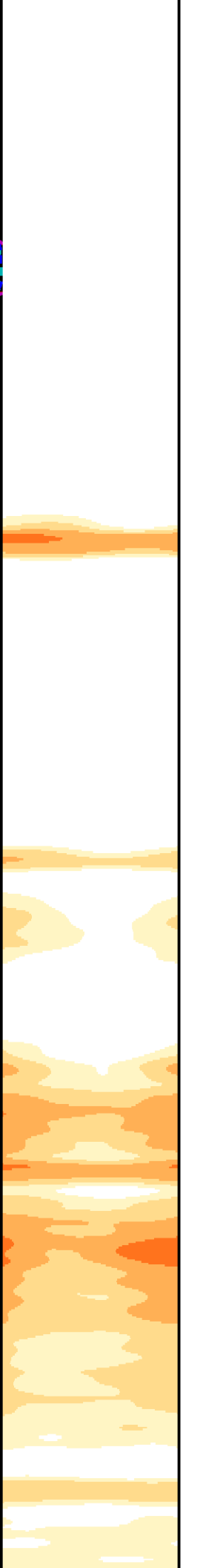


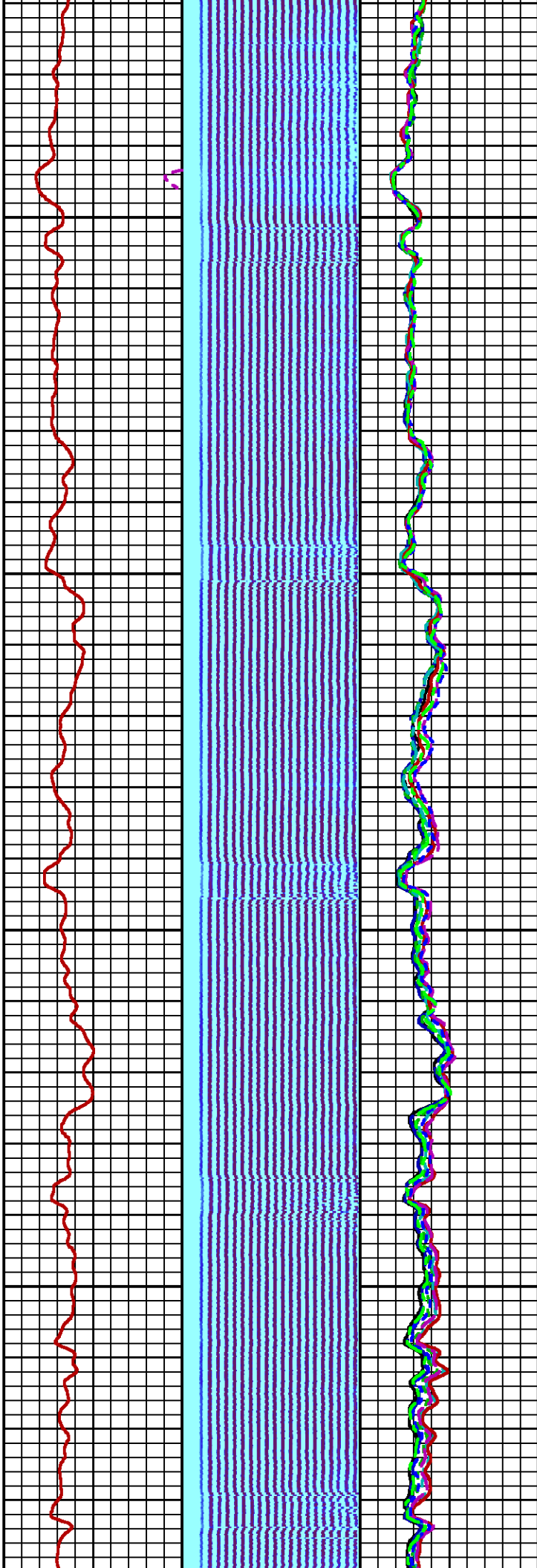
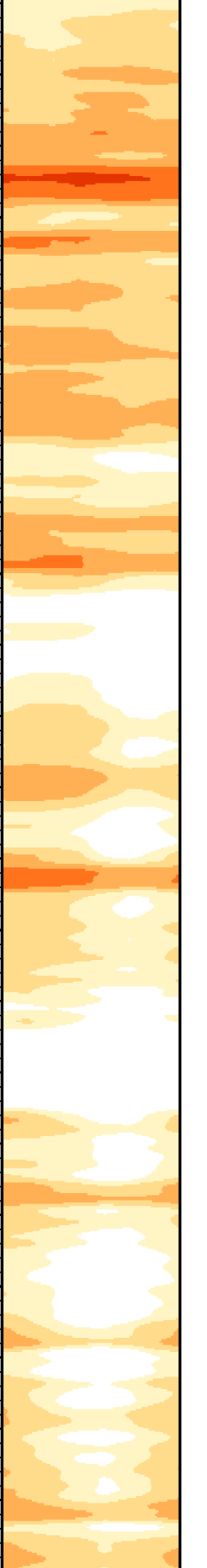
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100

20

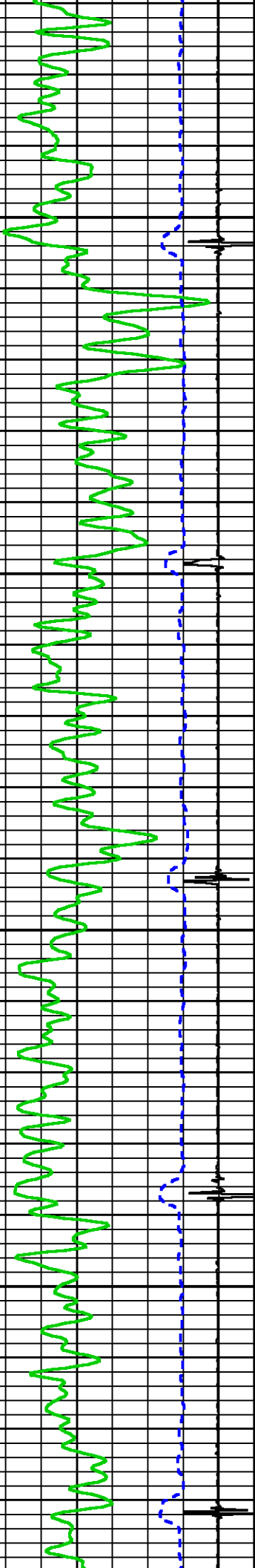


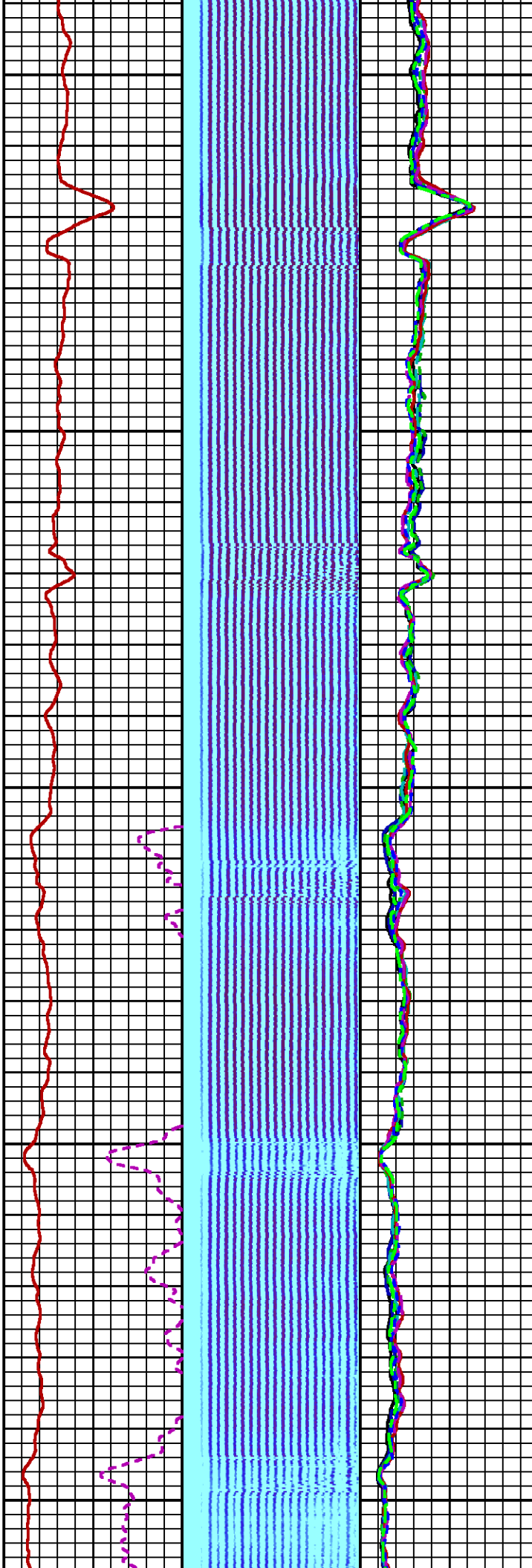
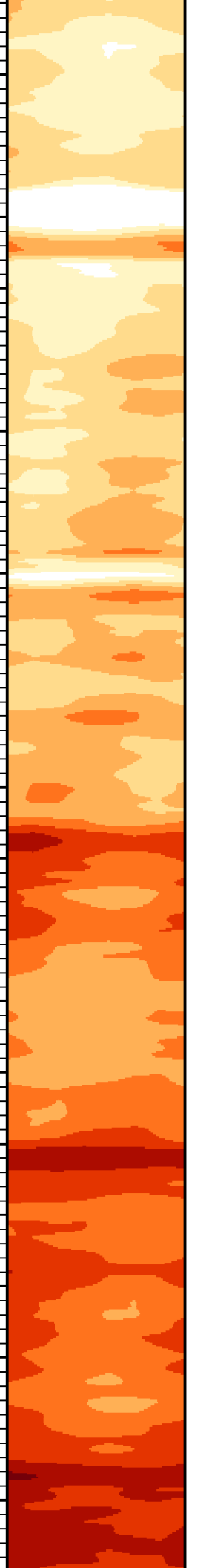




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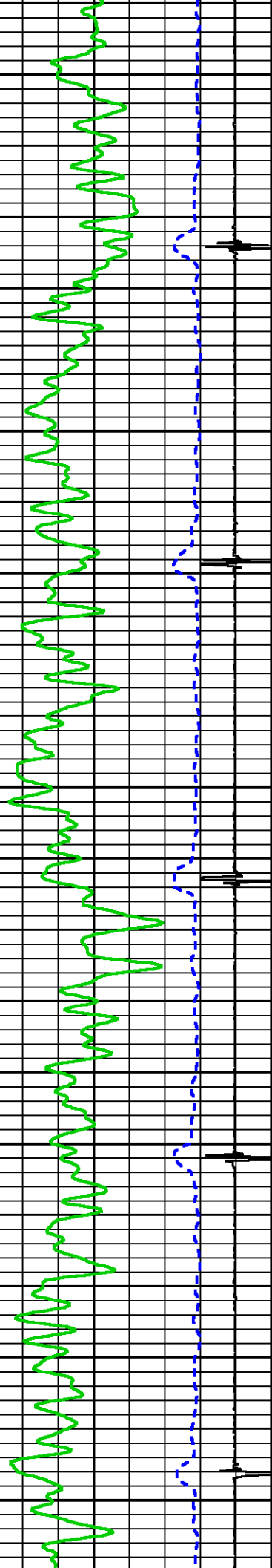
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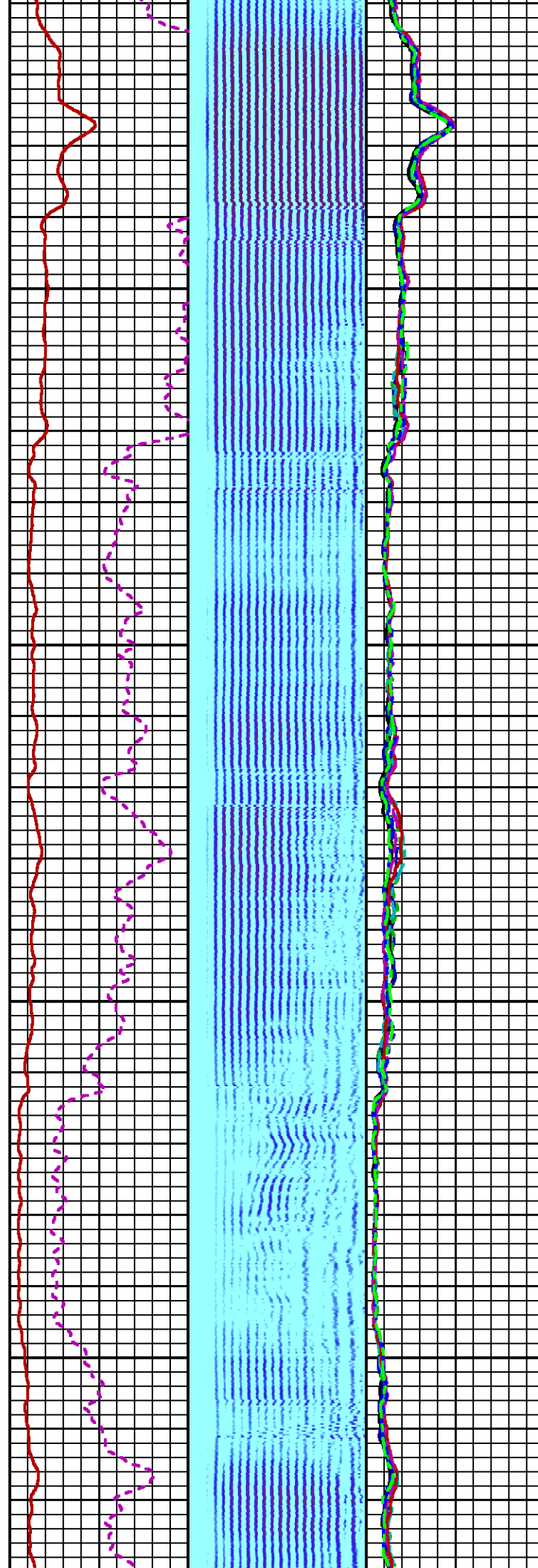
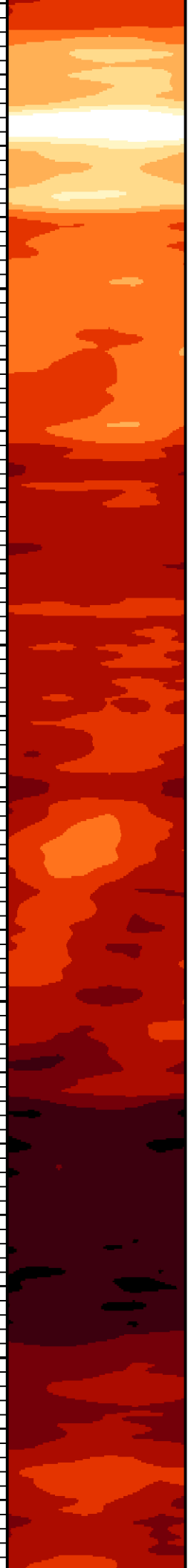




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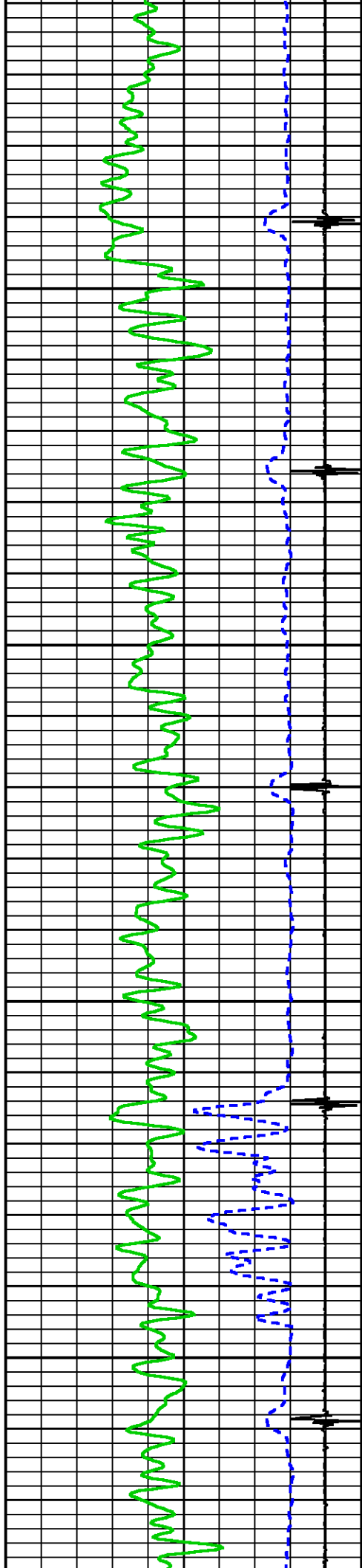
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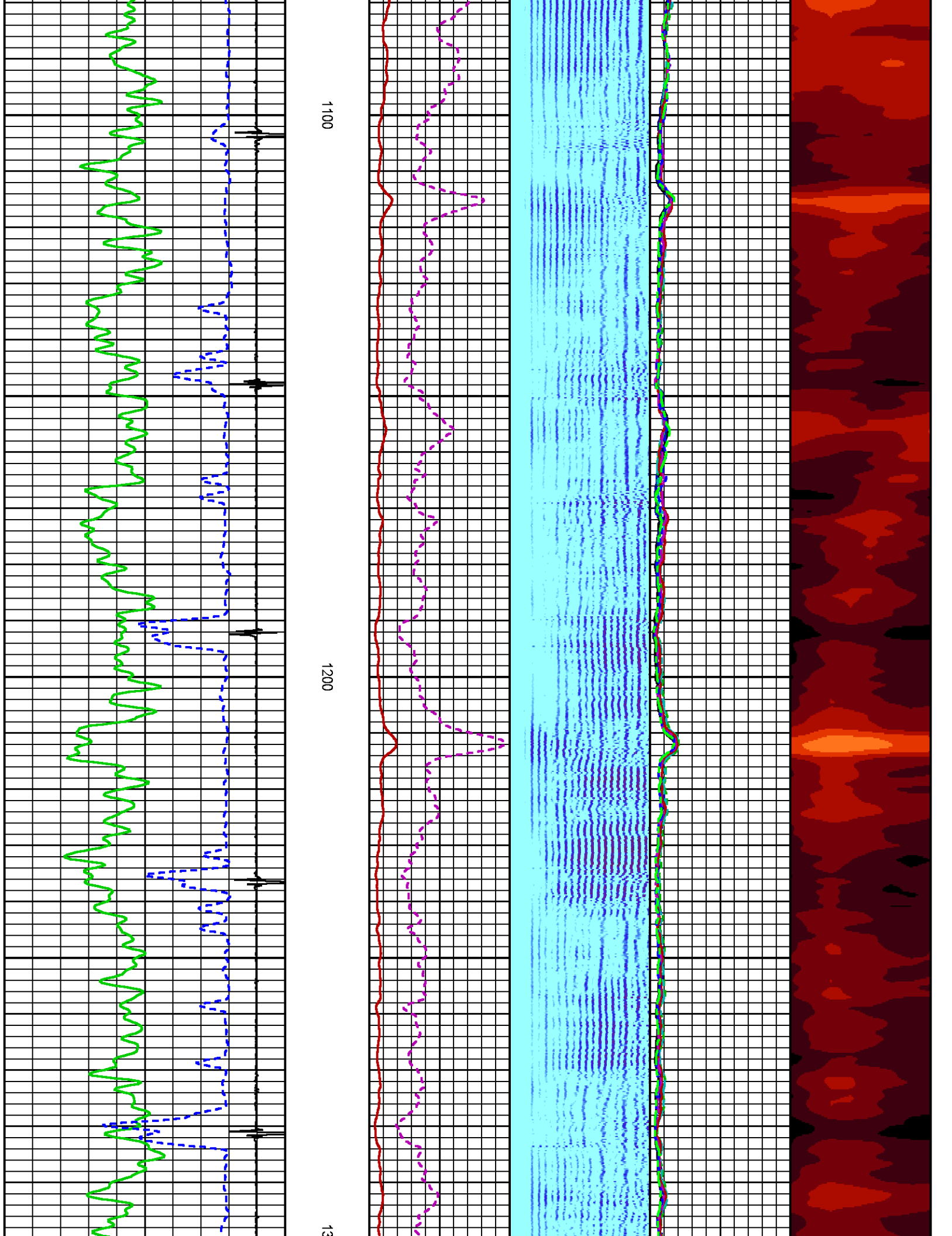


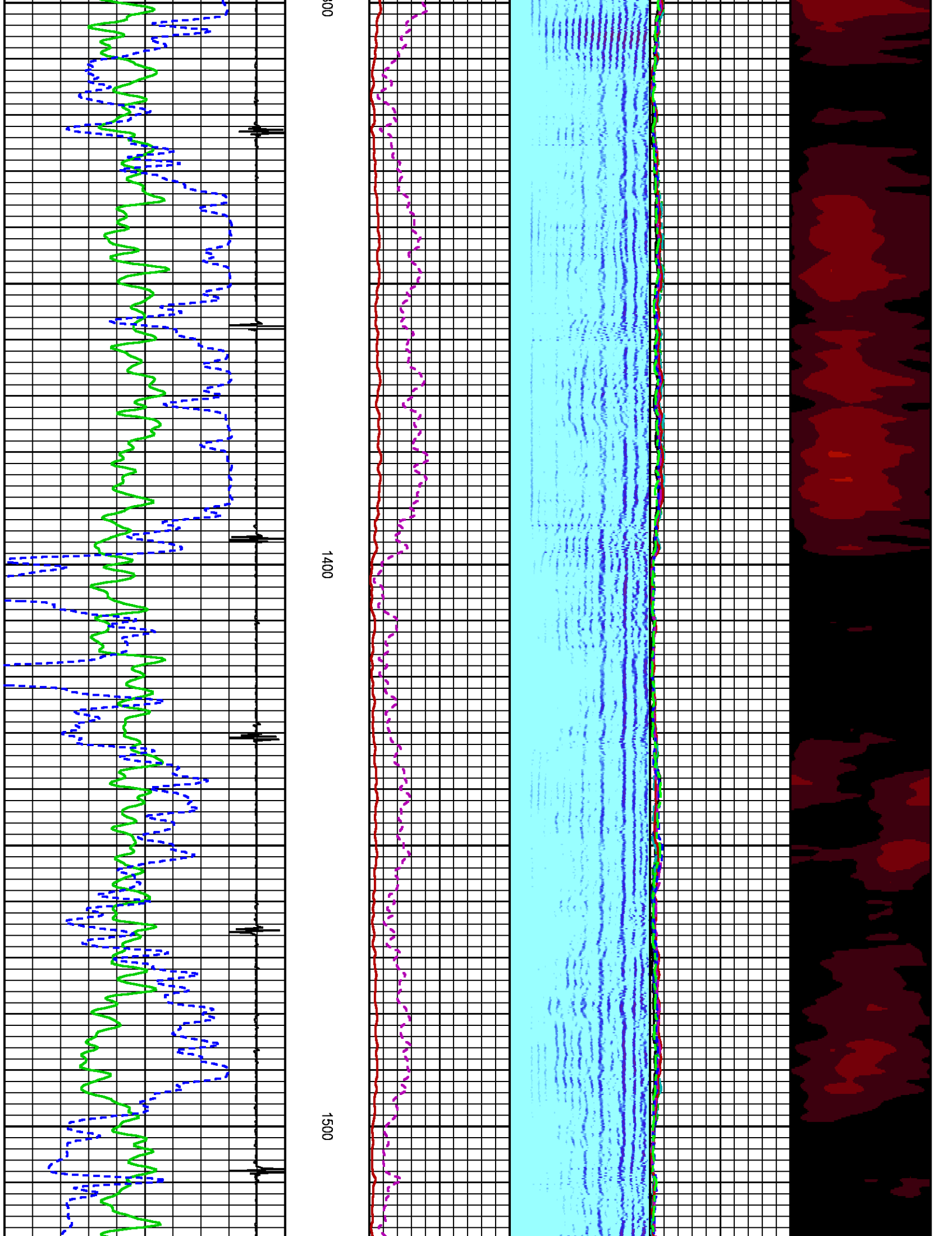


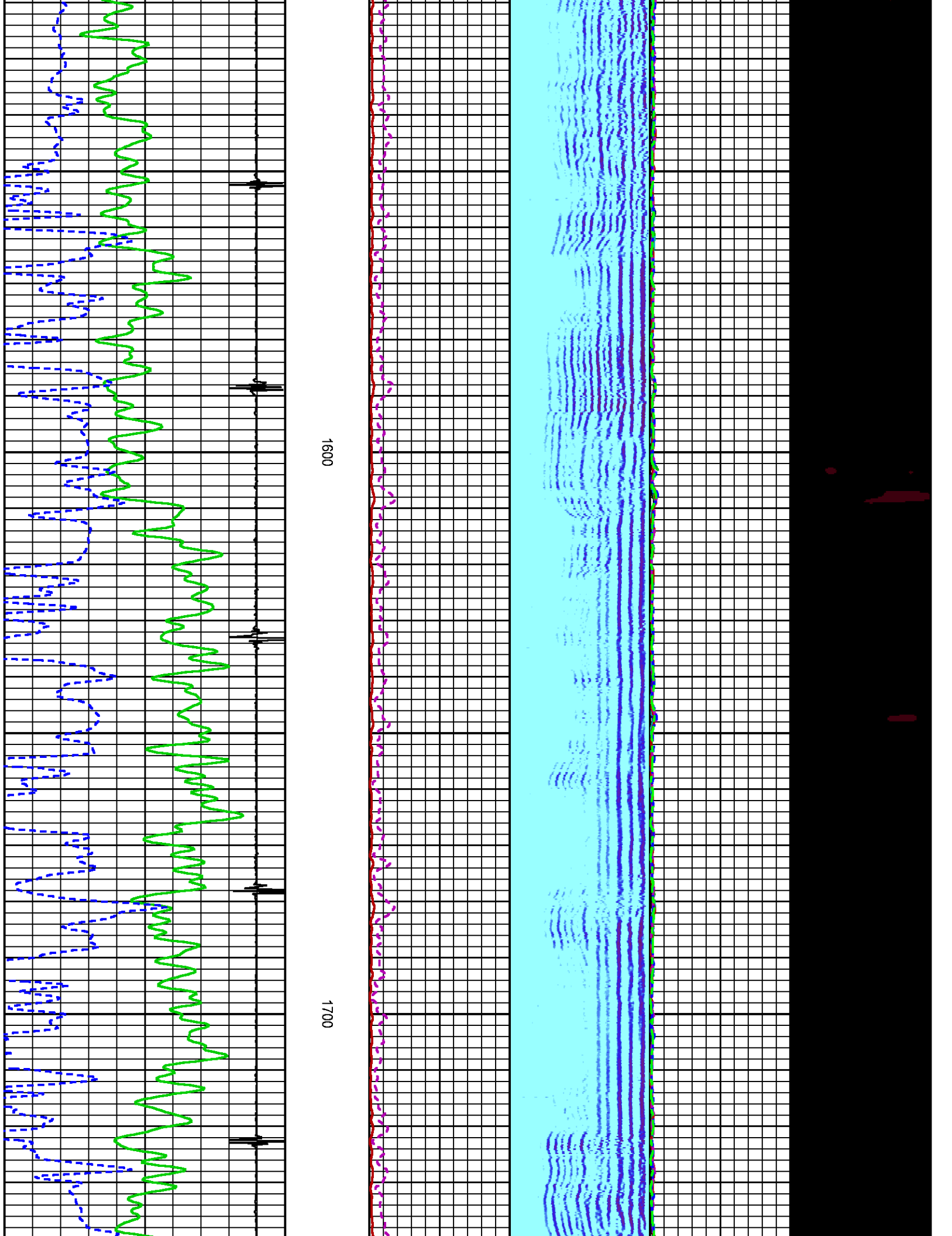
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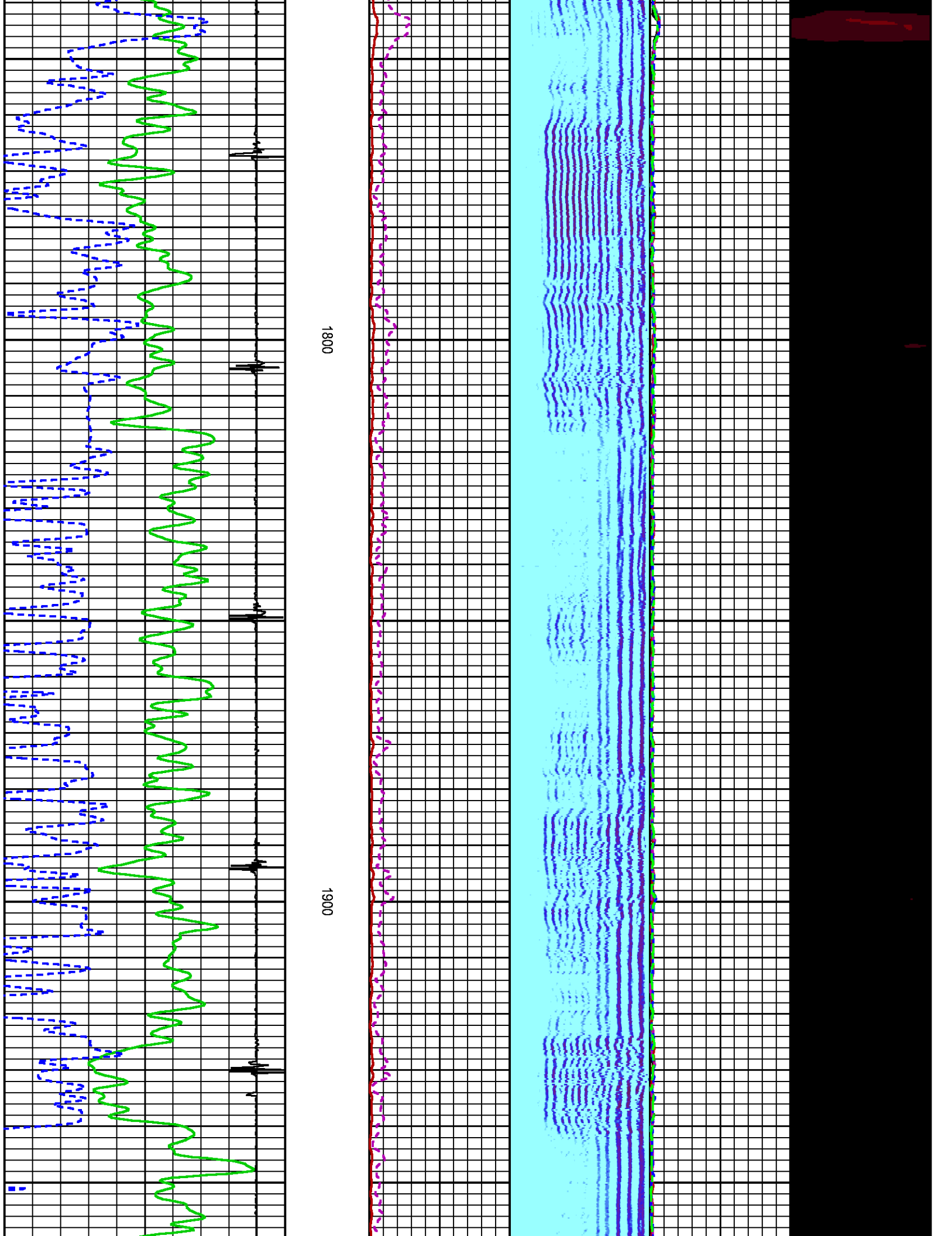
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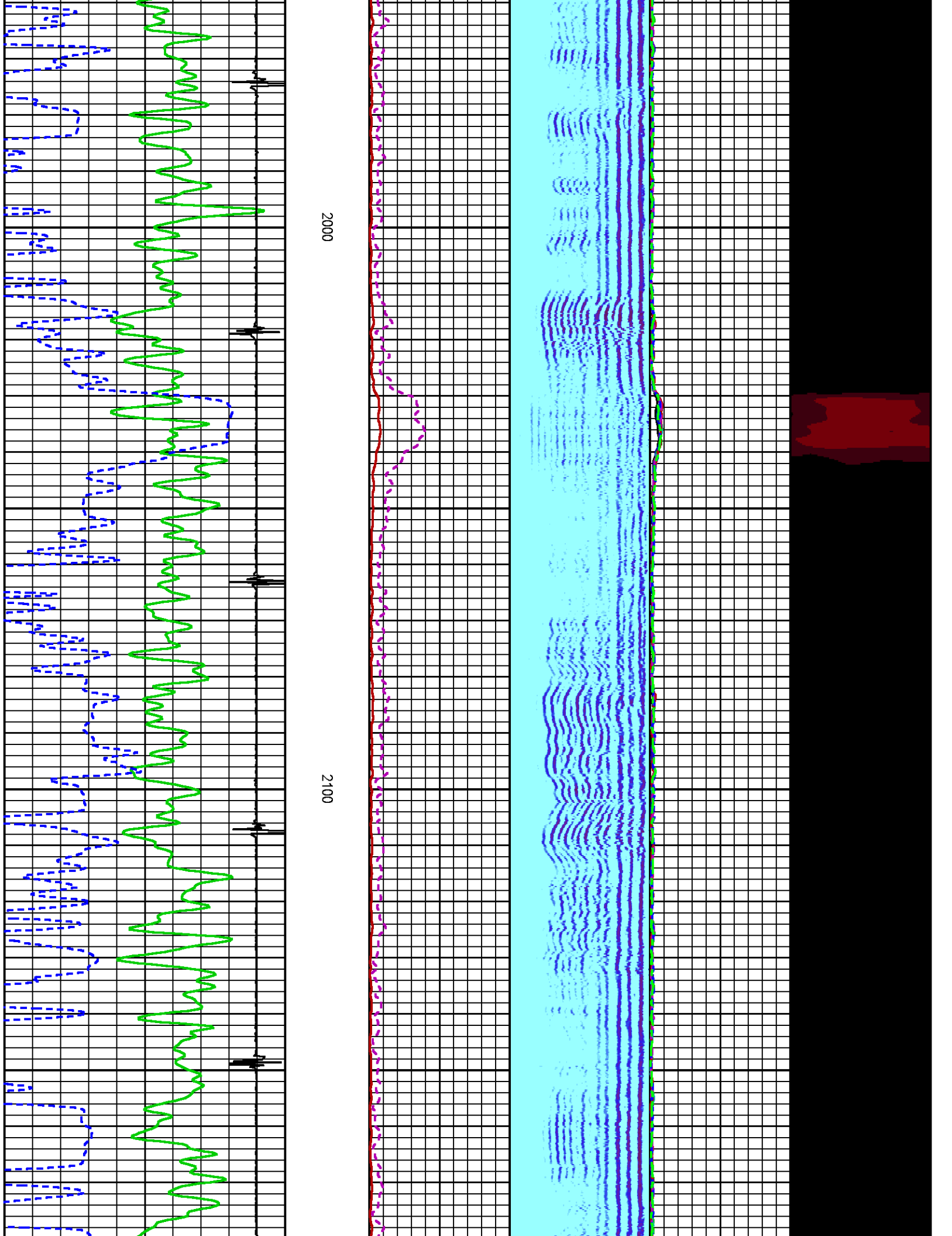


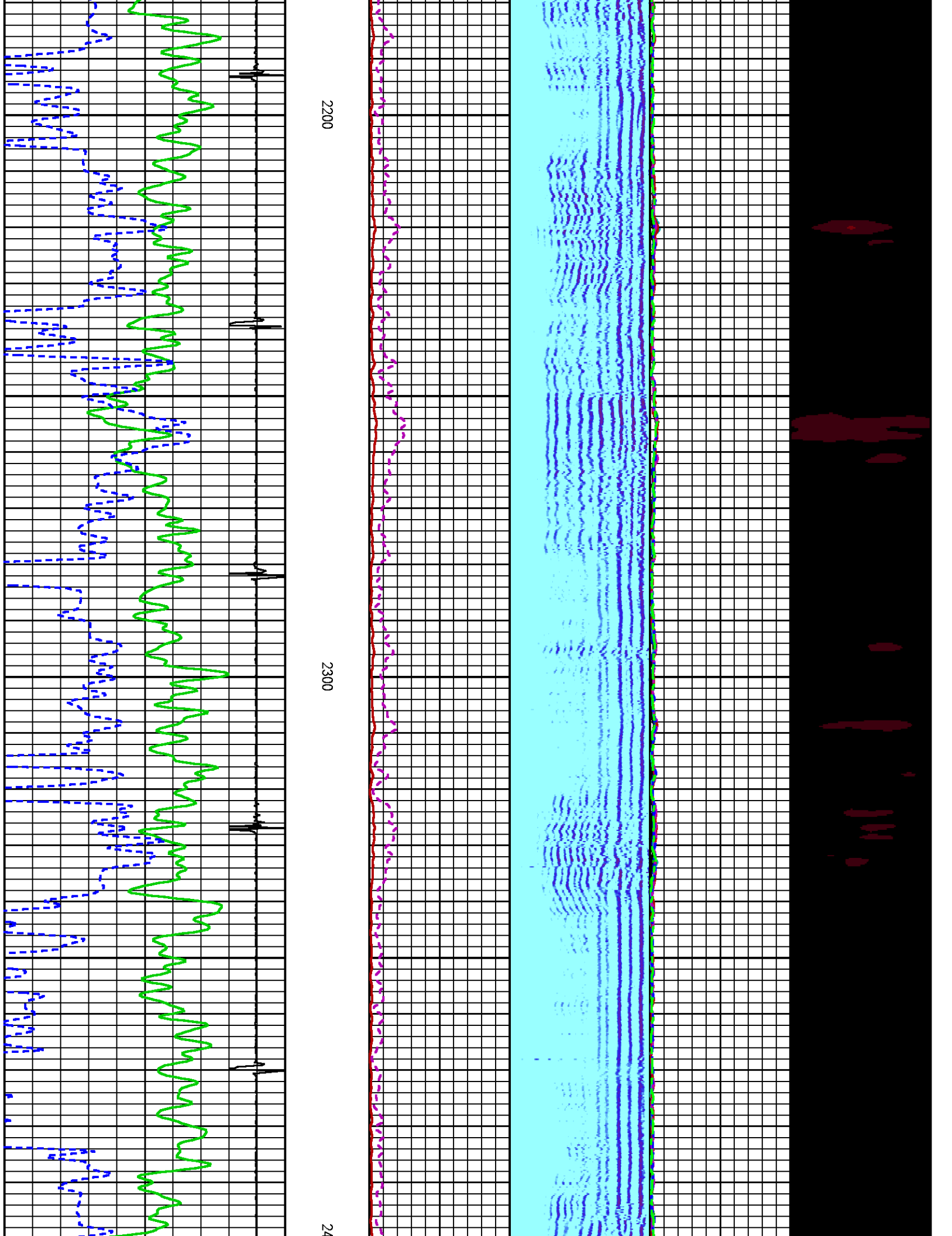


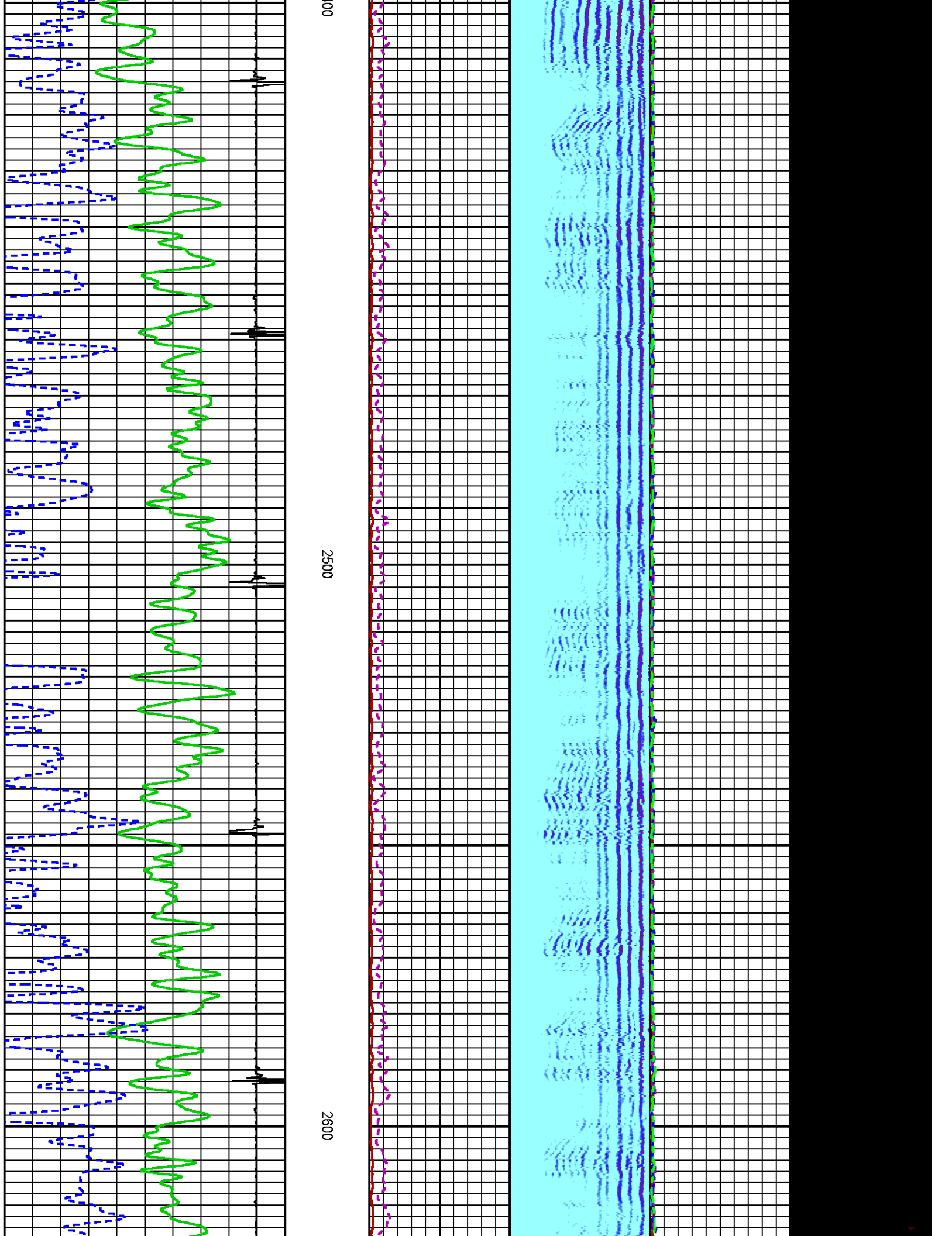


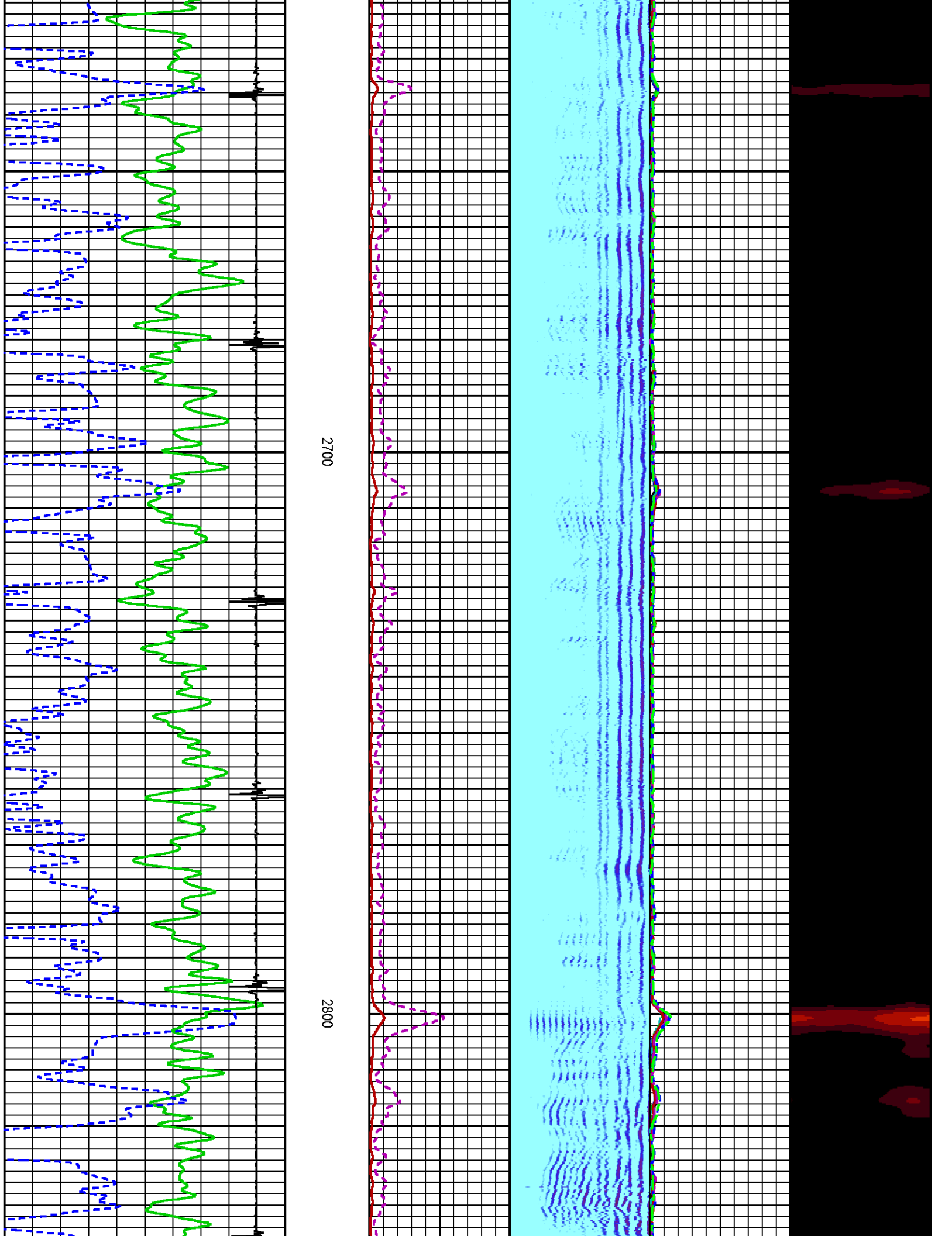


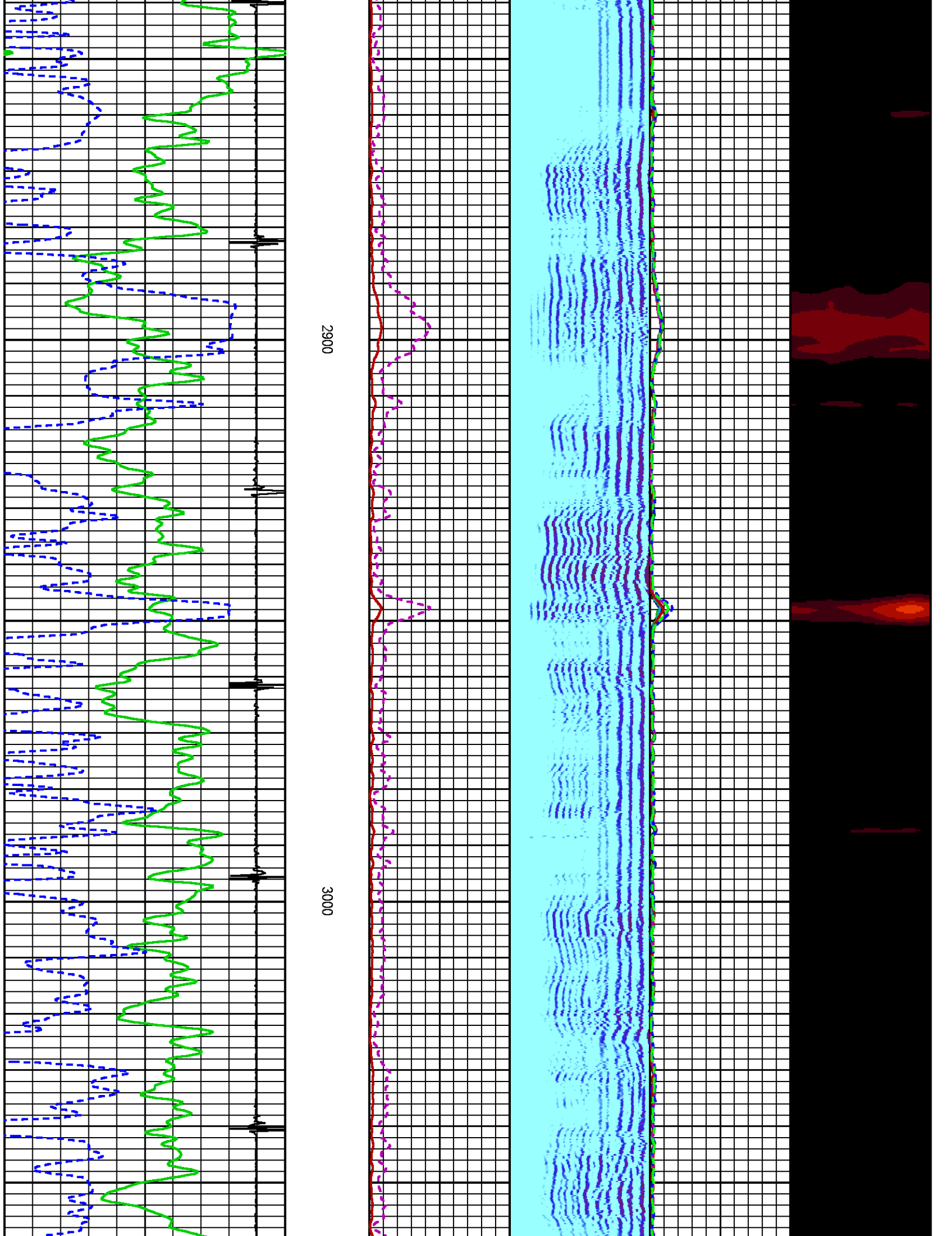


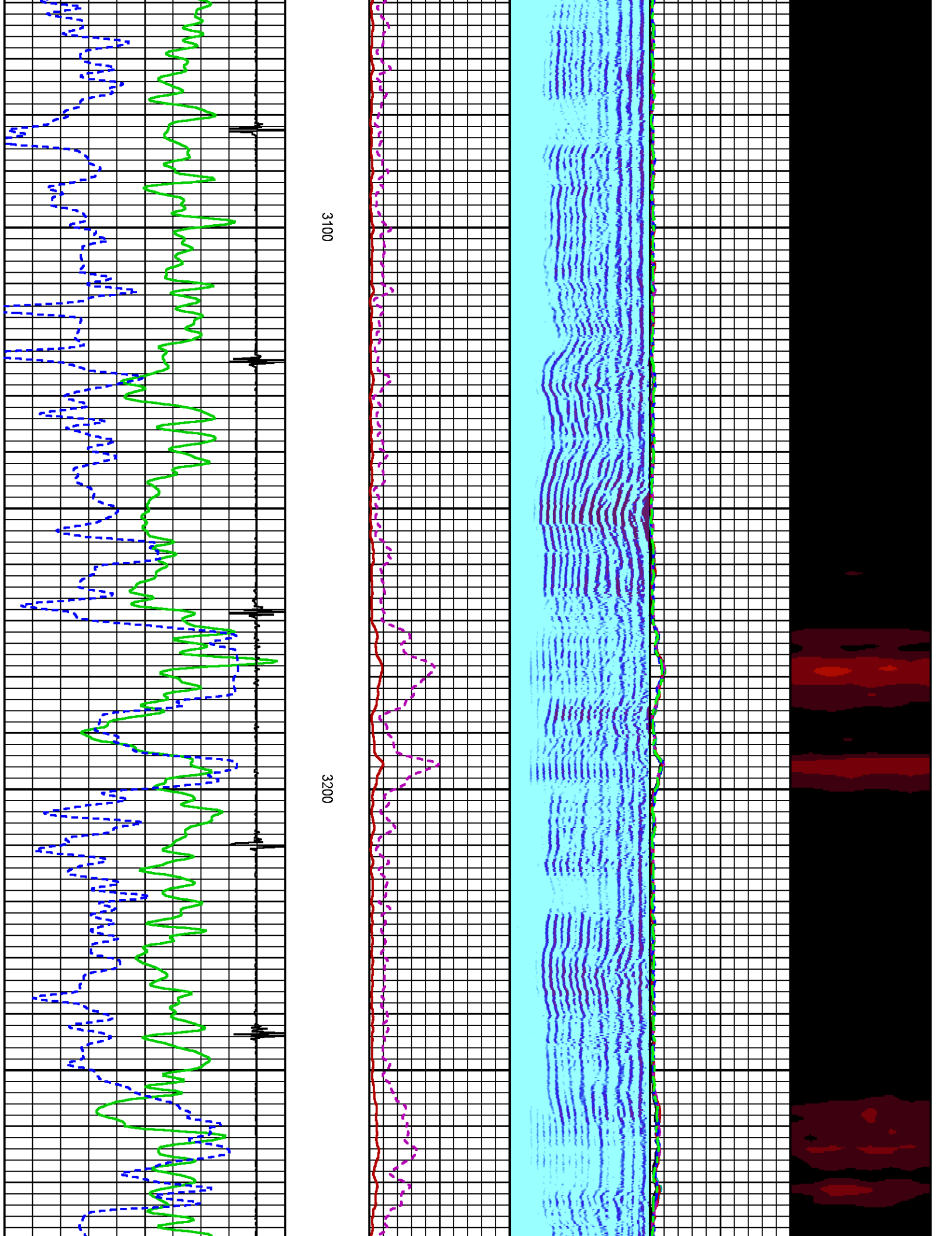


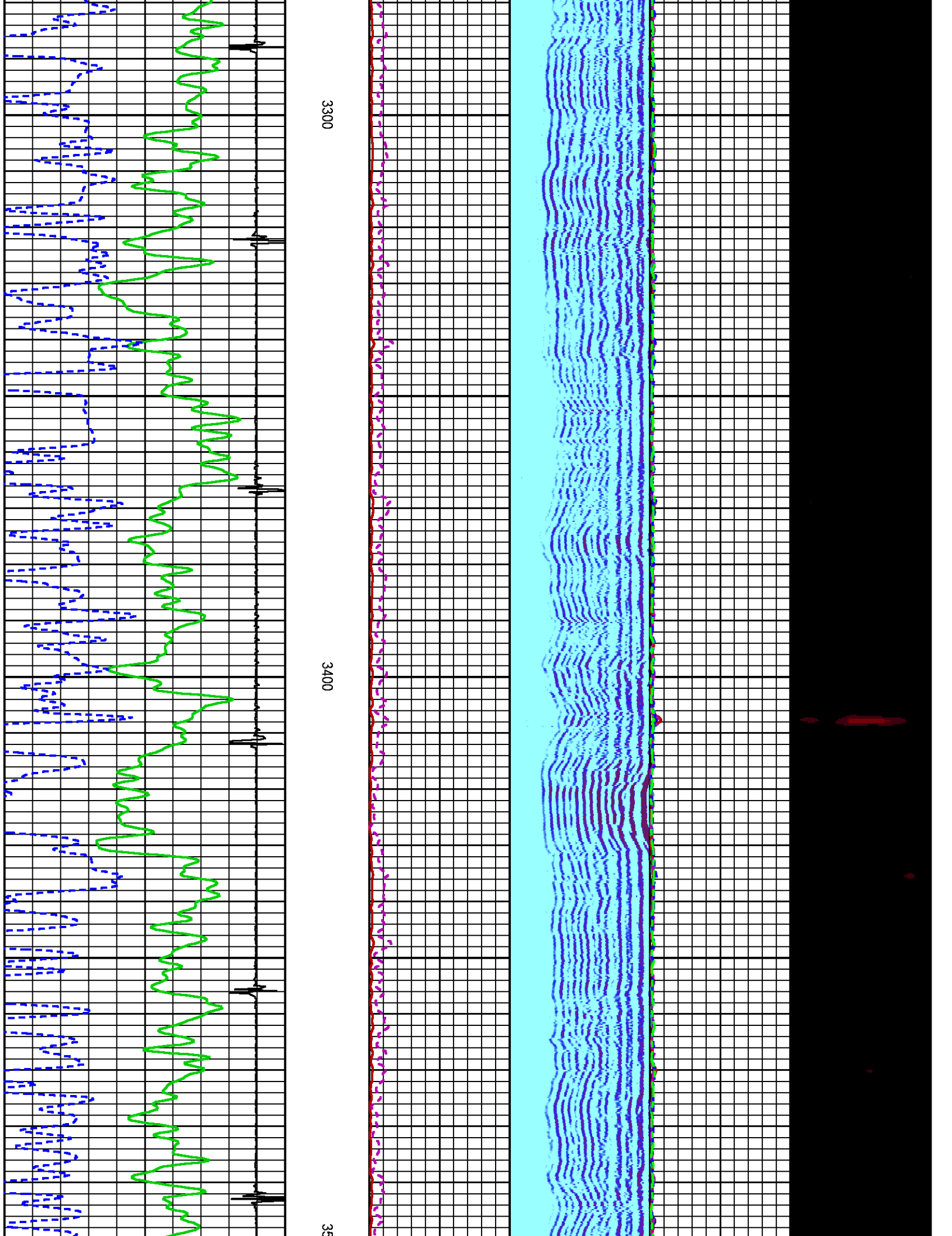


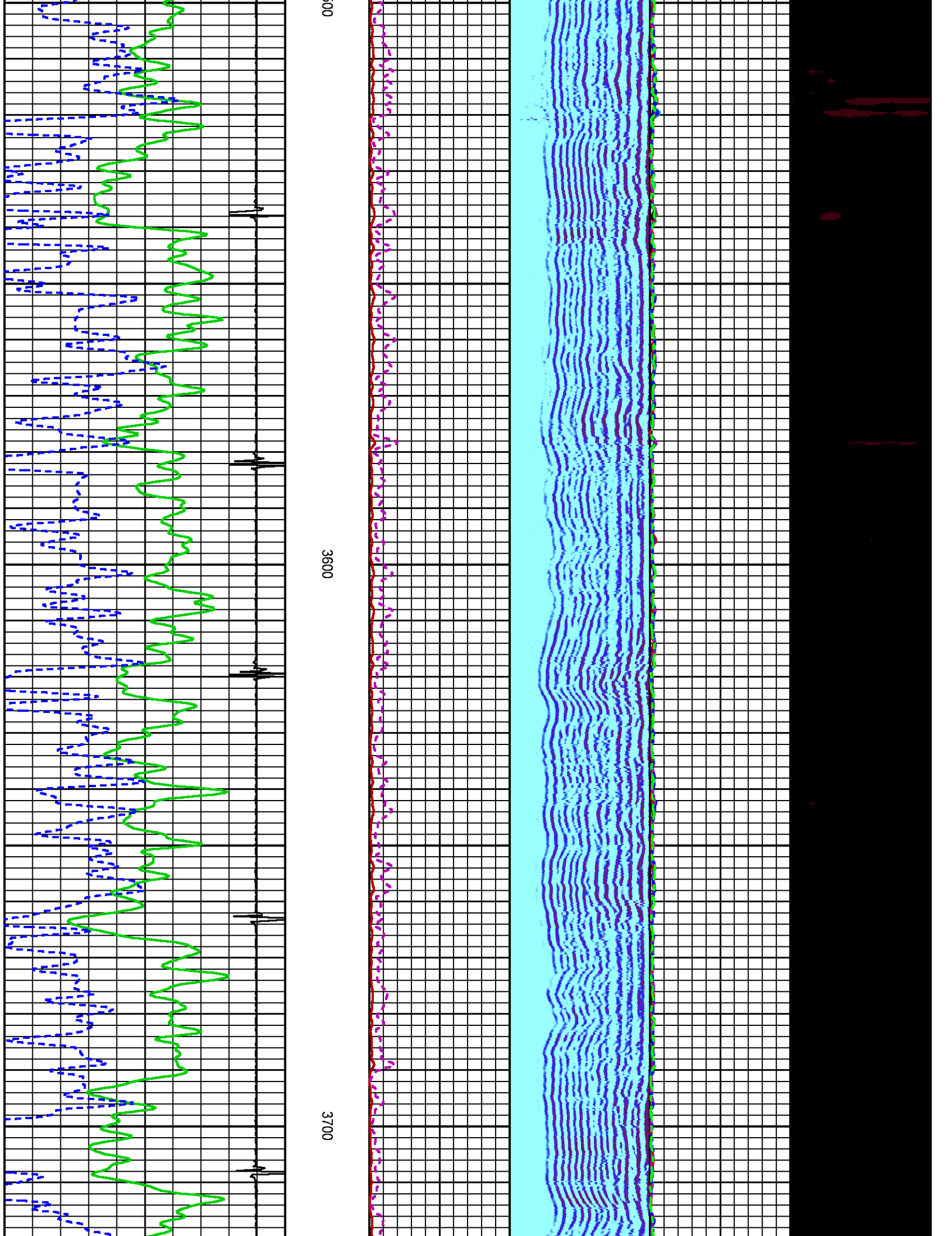


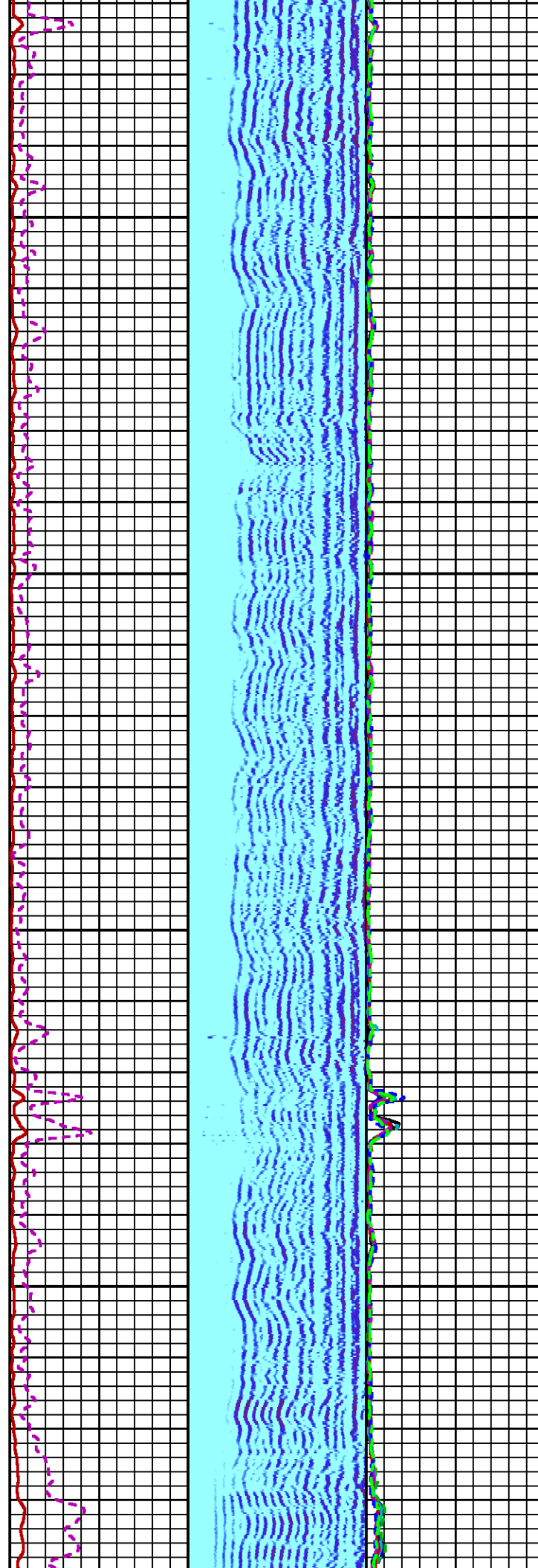
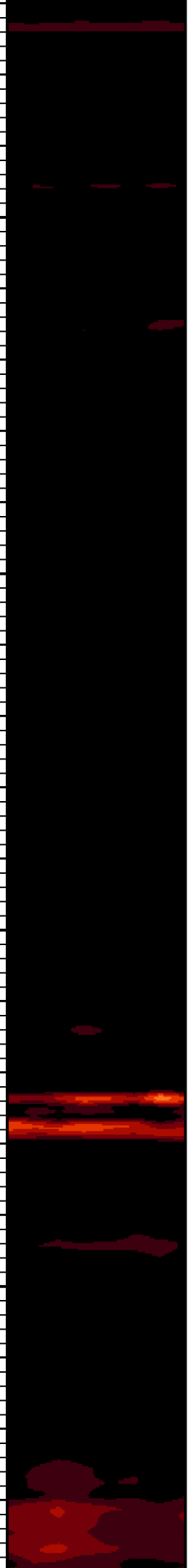






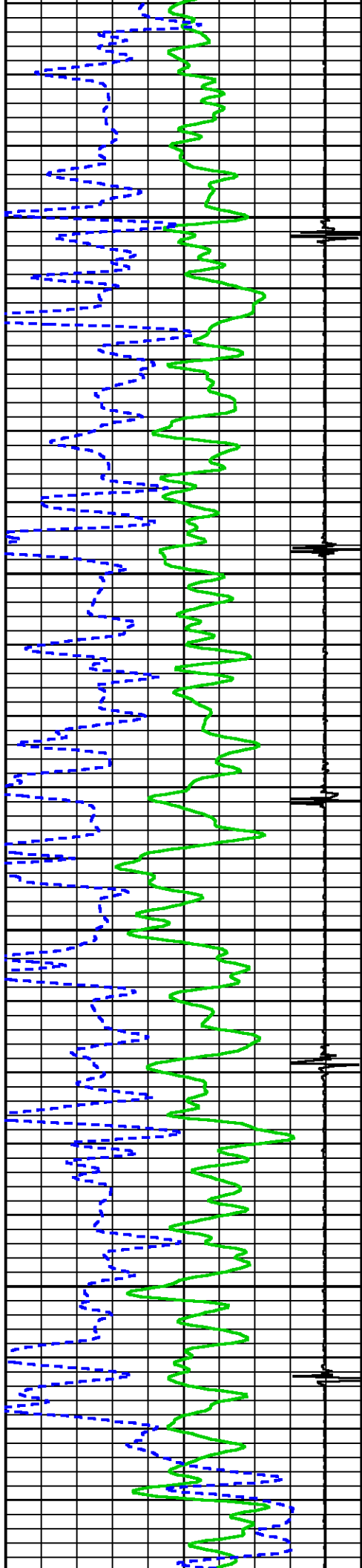


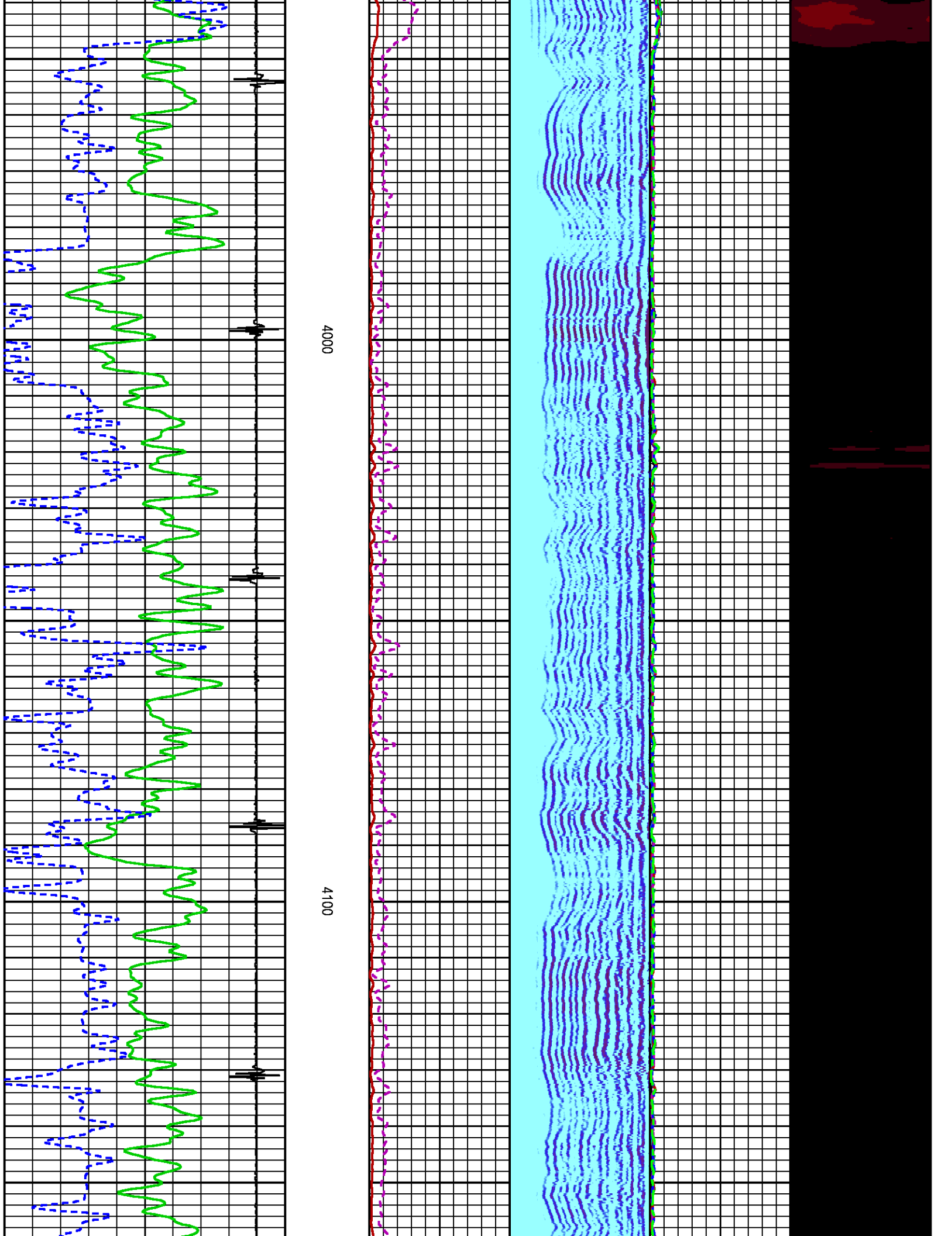


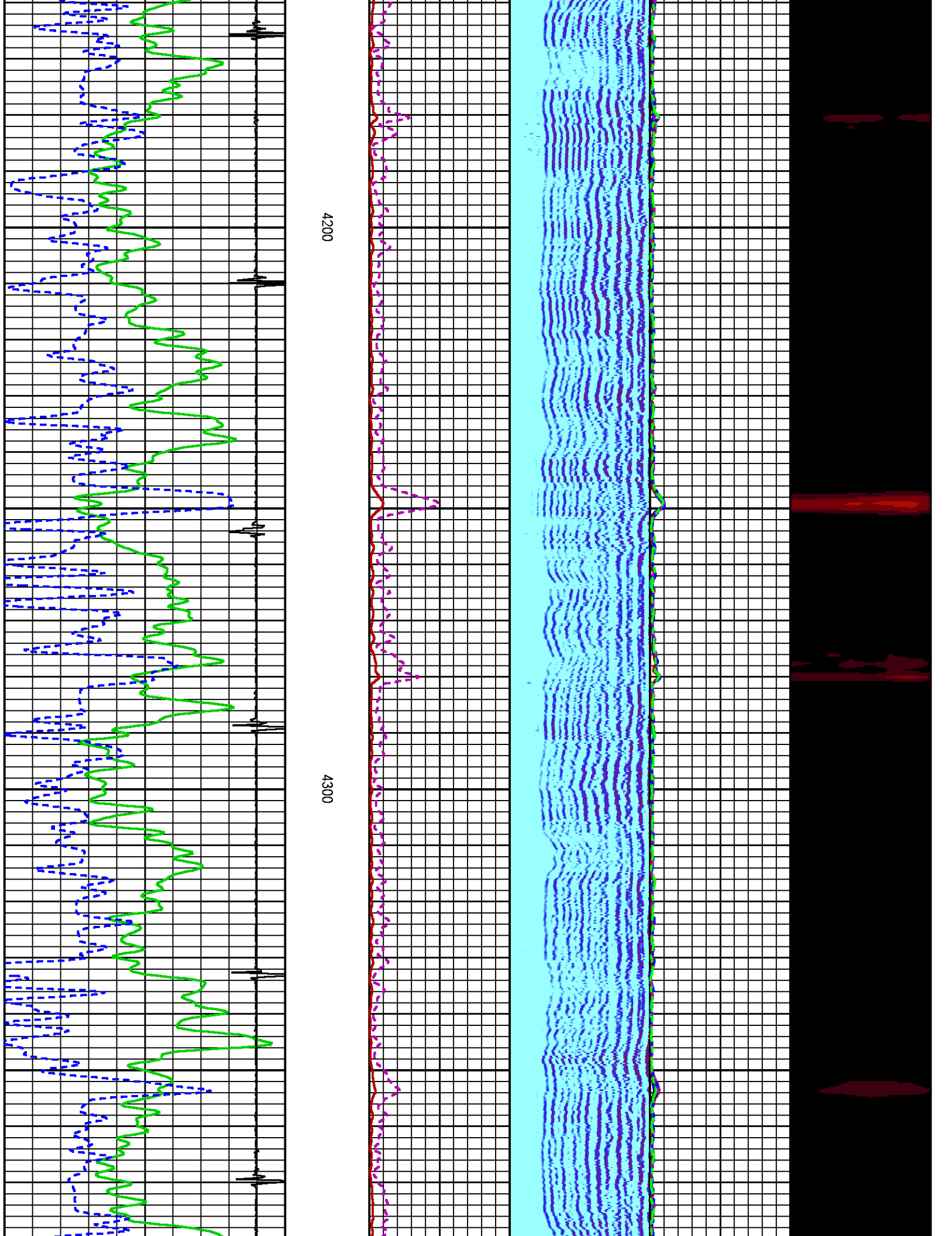


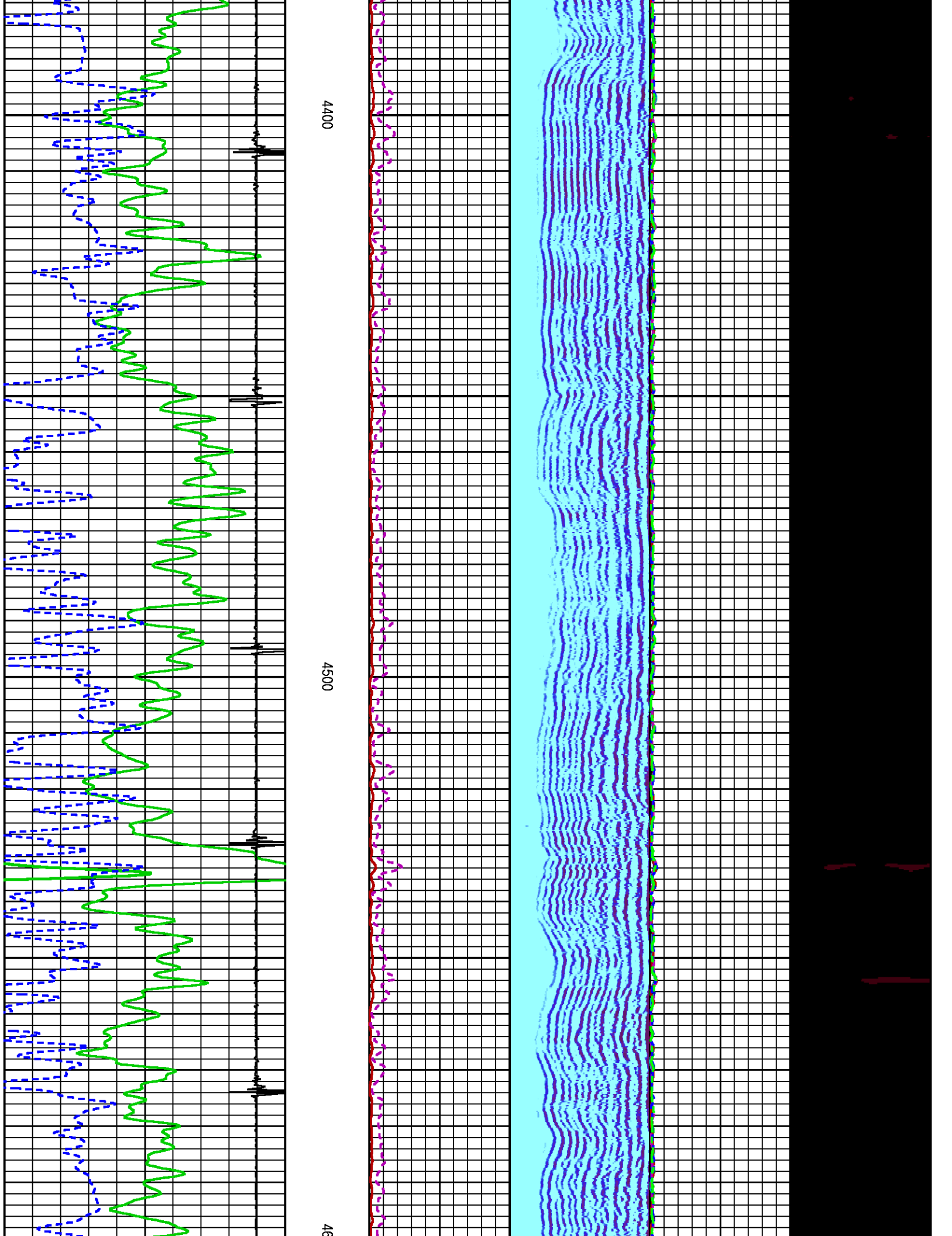
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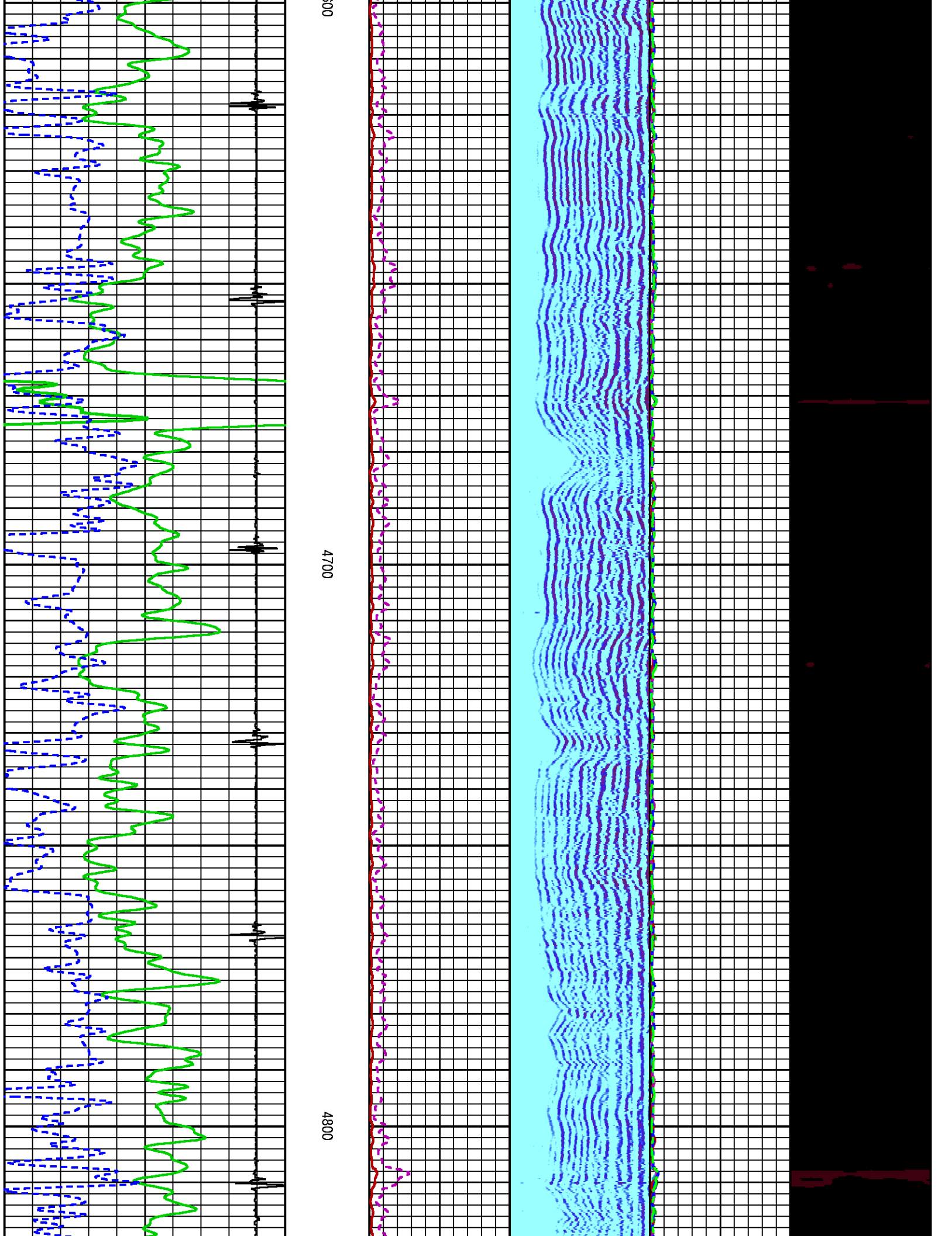
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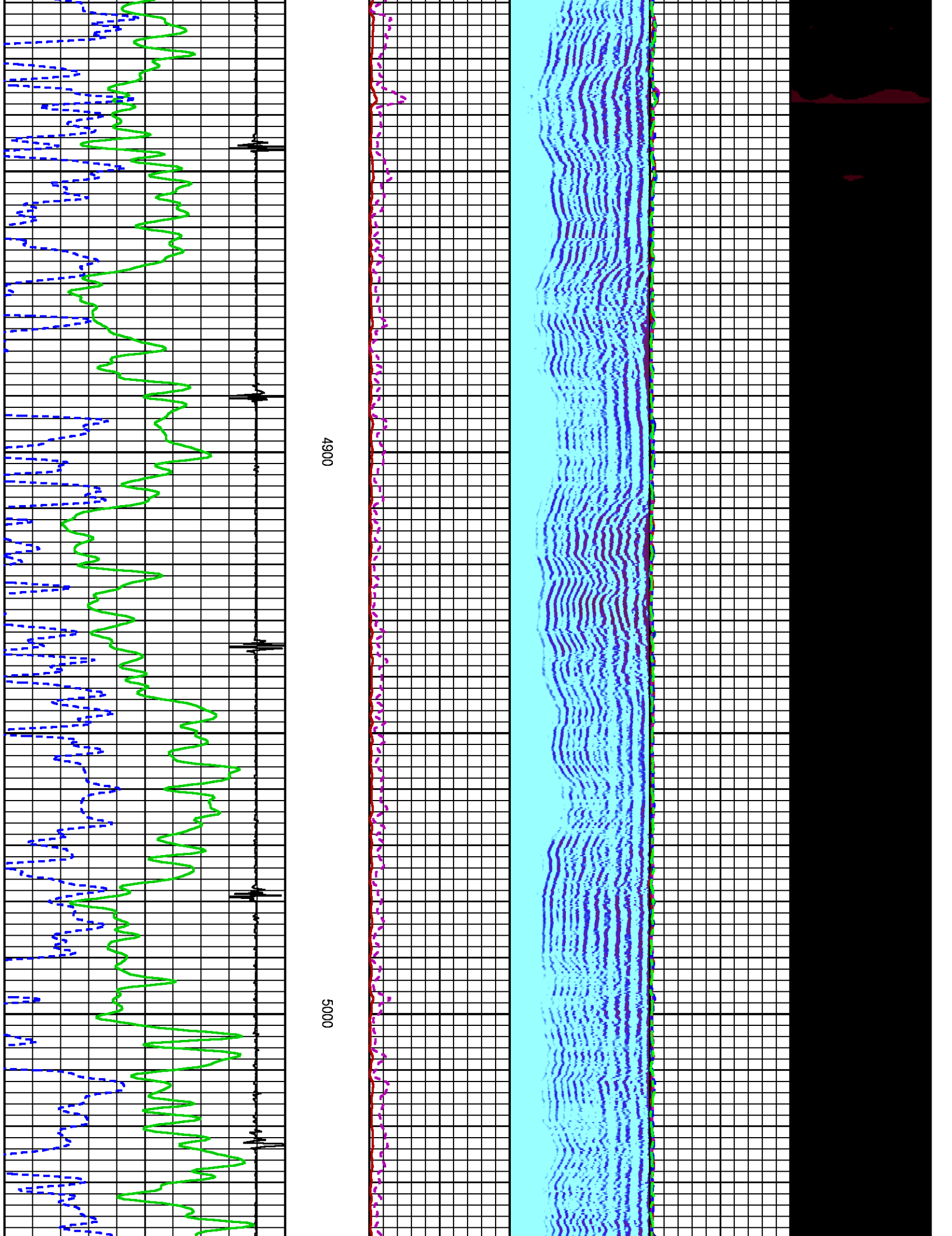


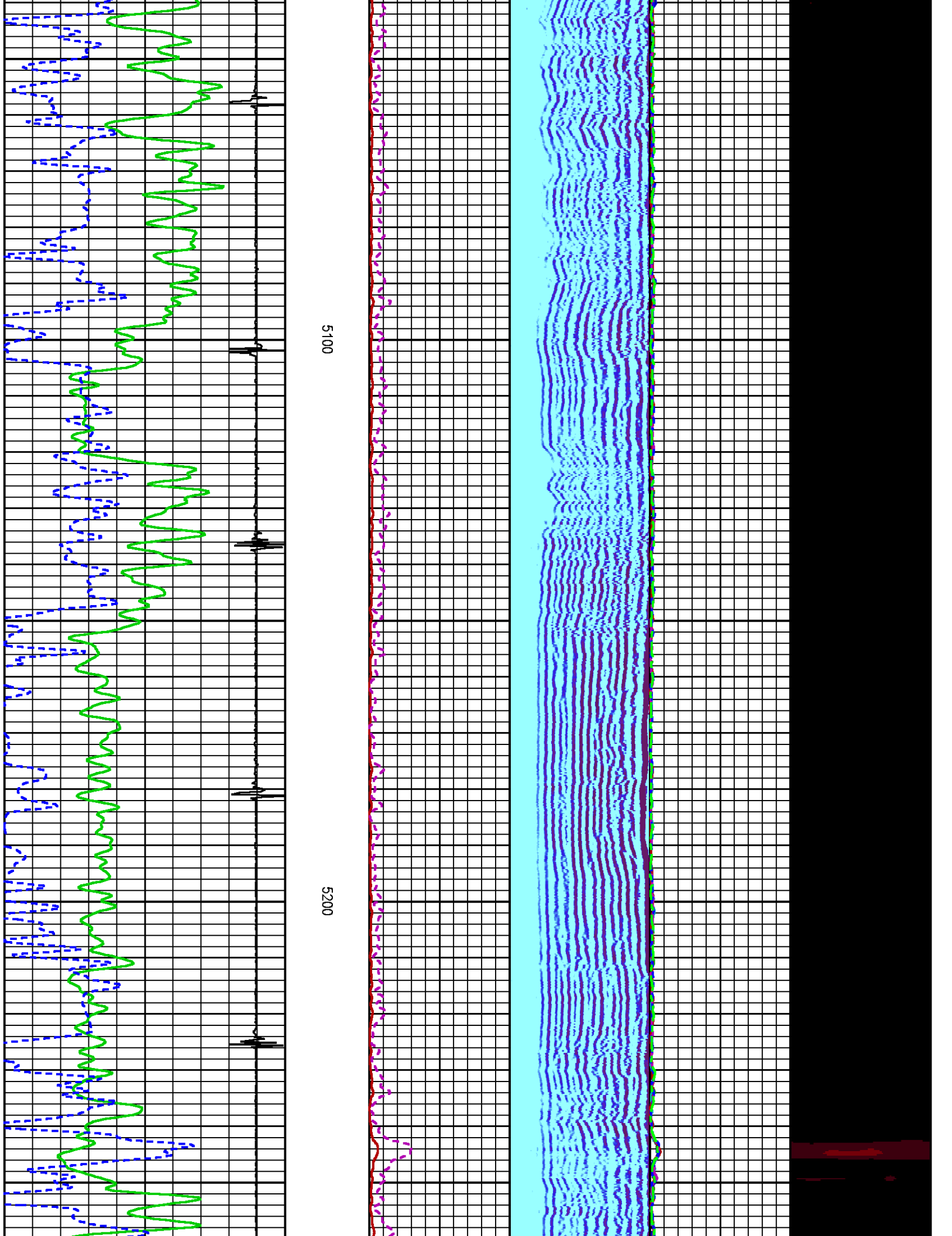


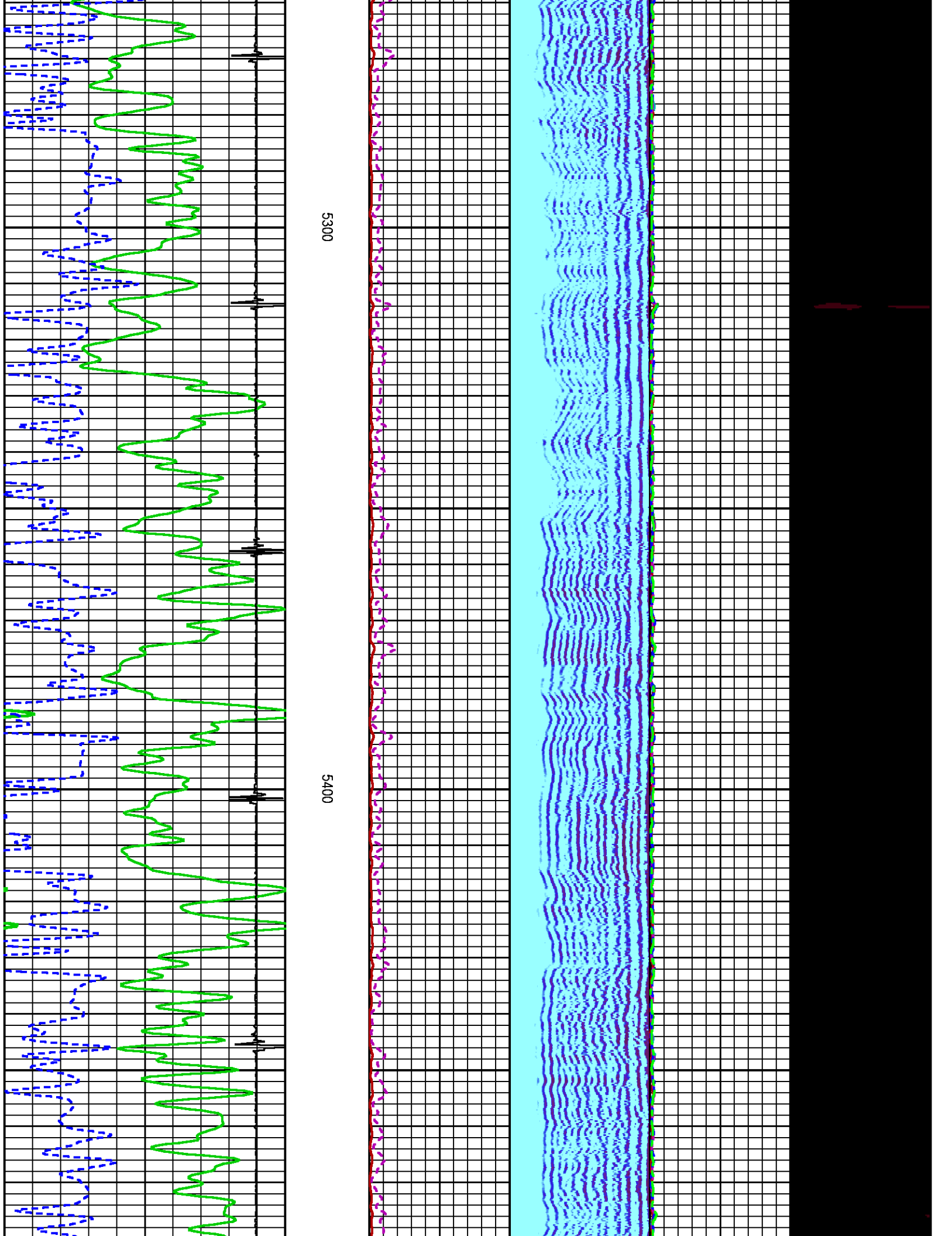


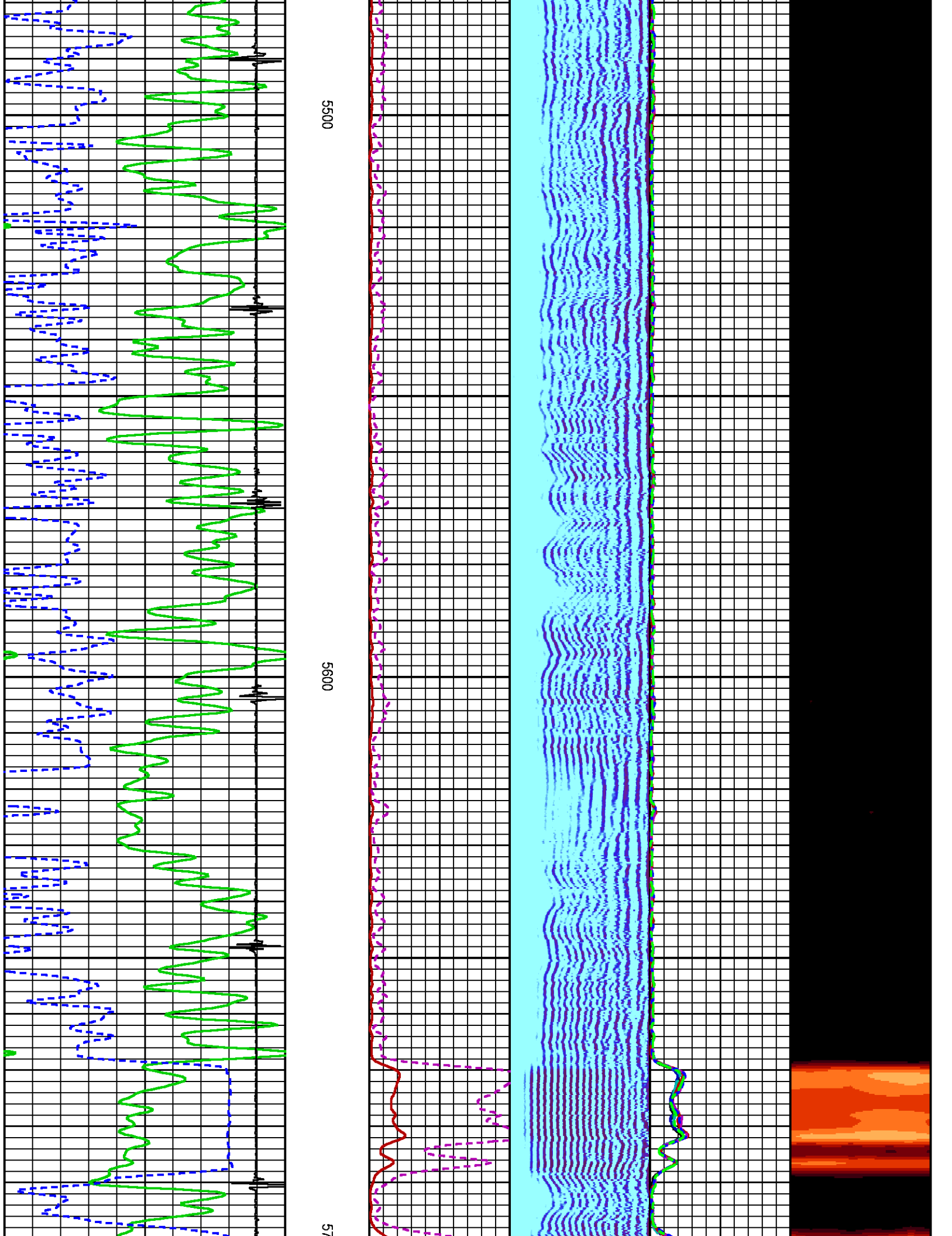


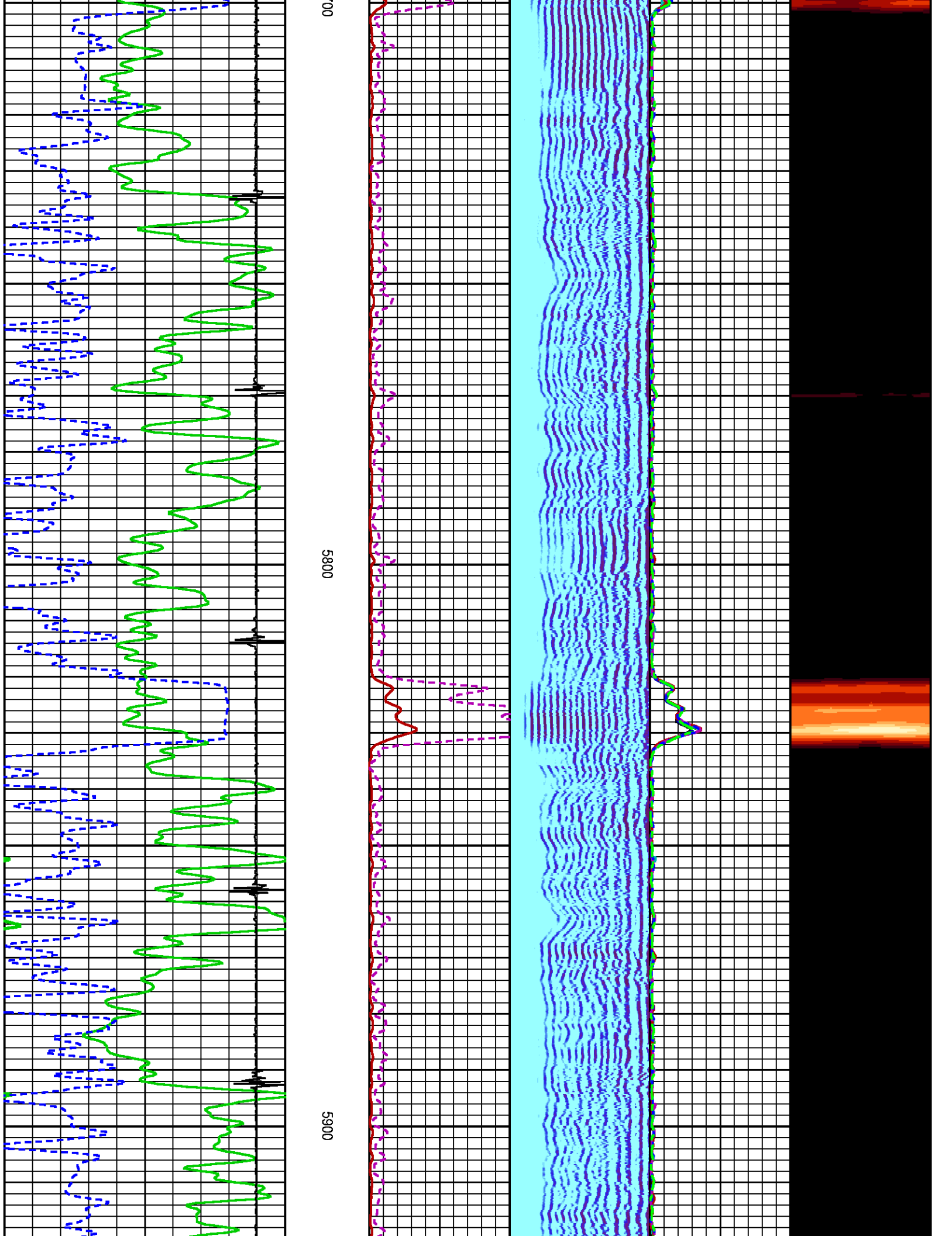


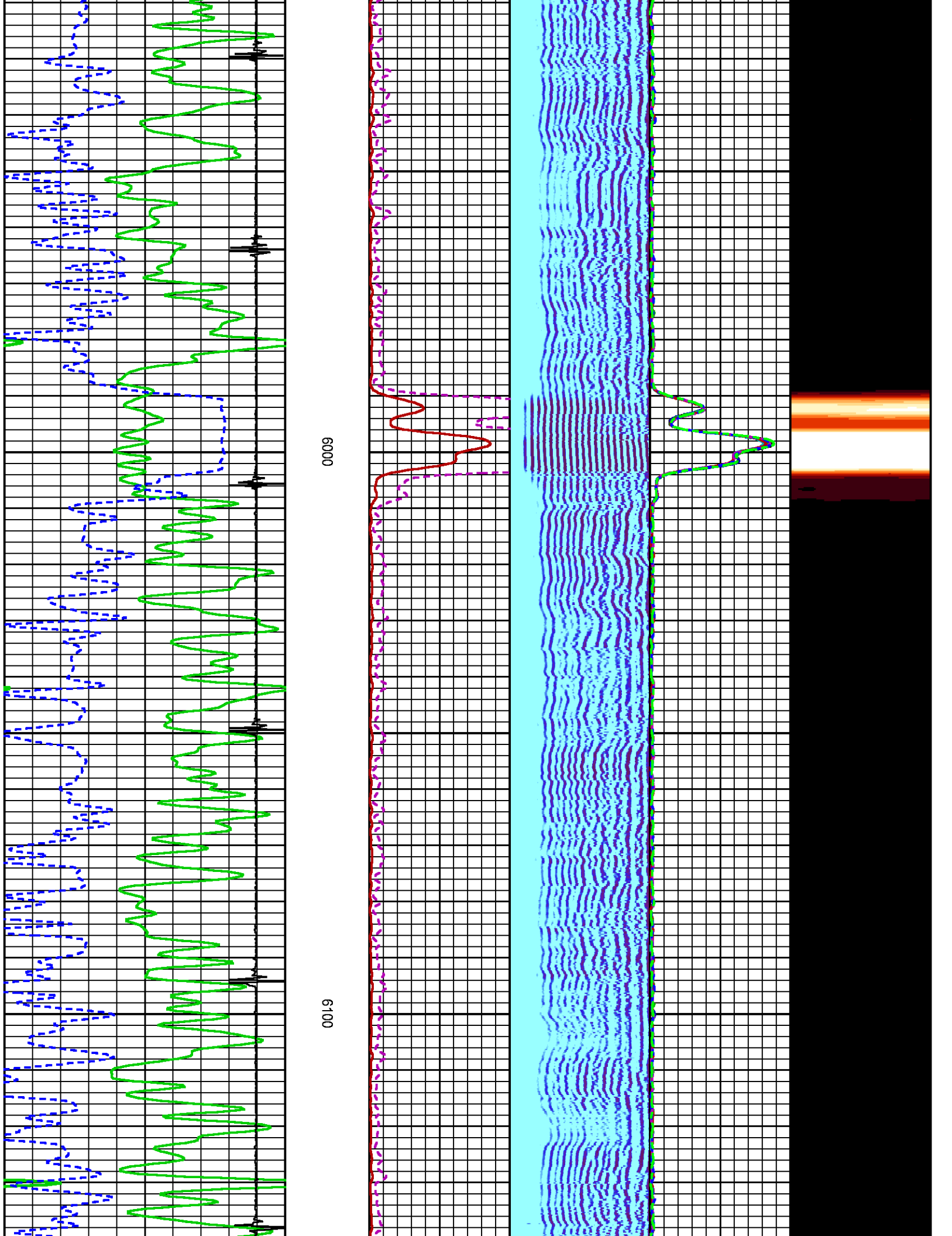


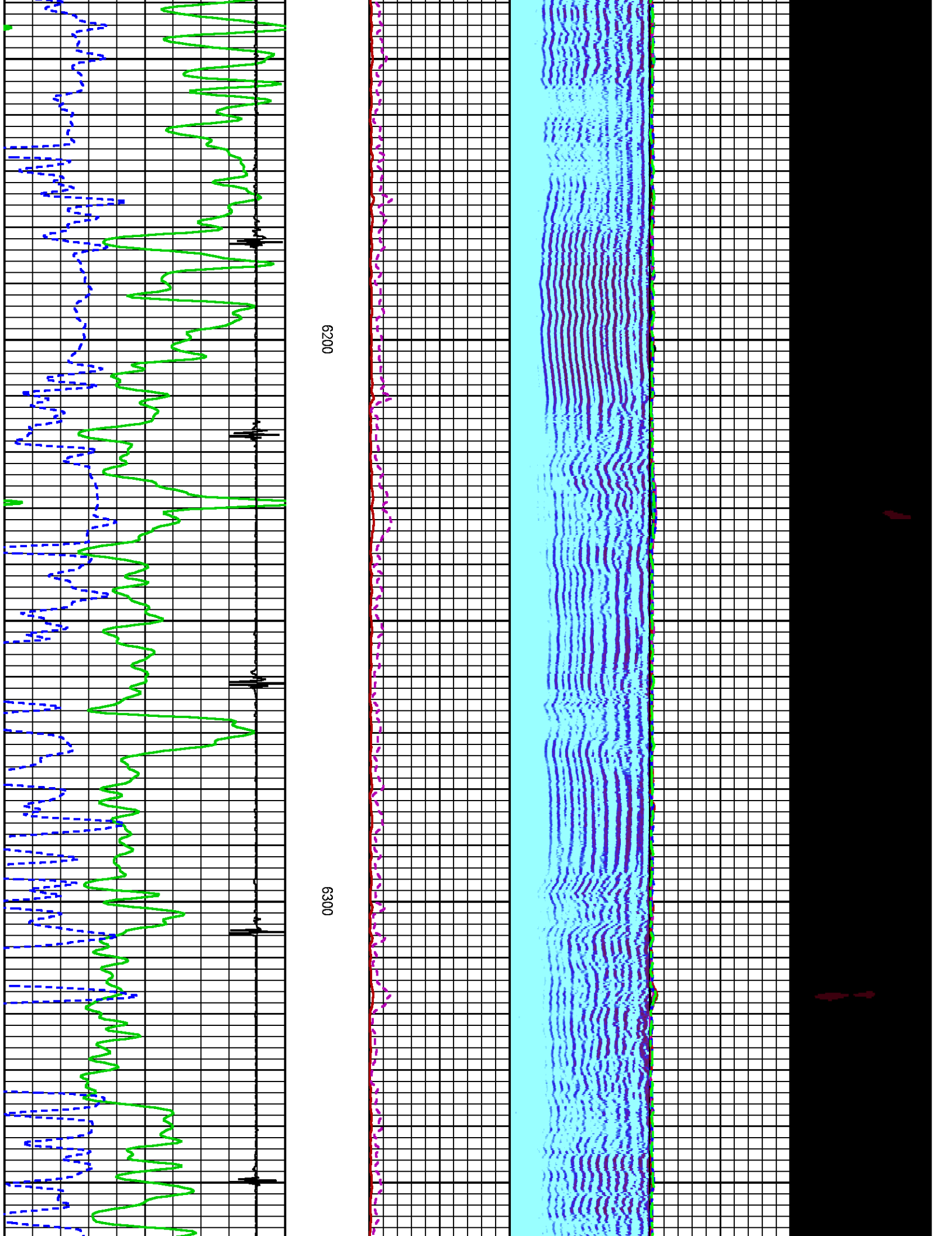


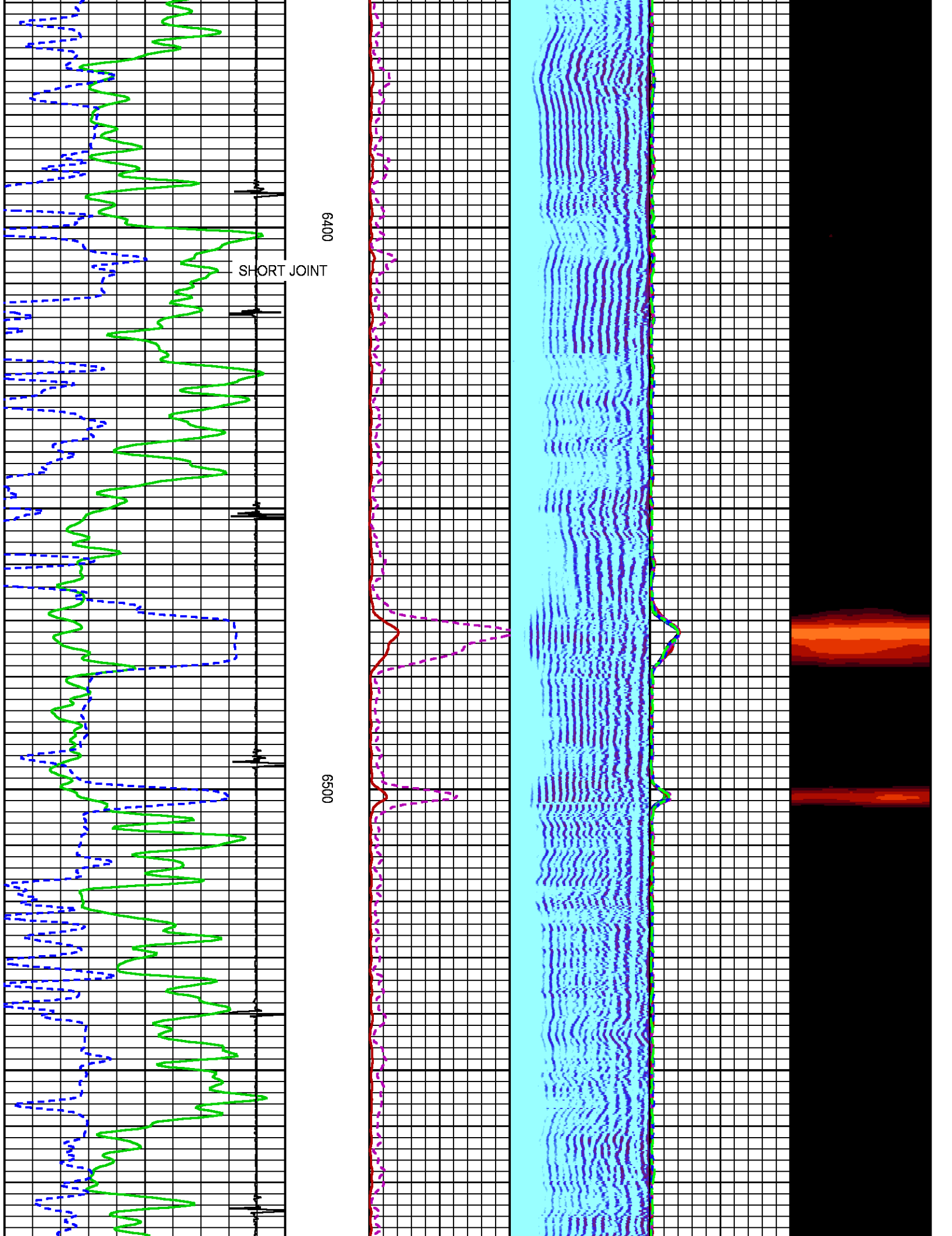


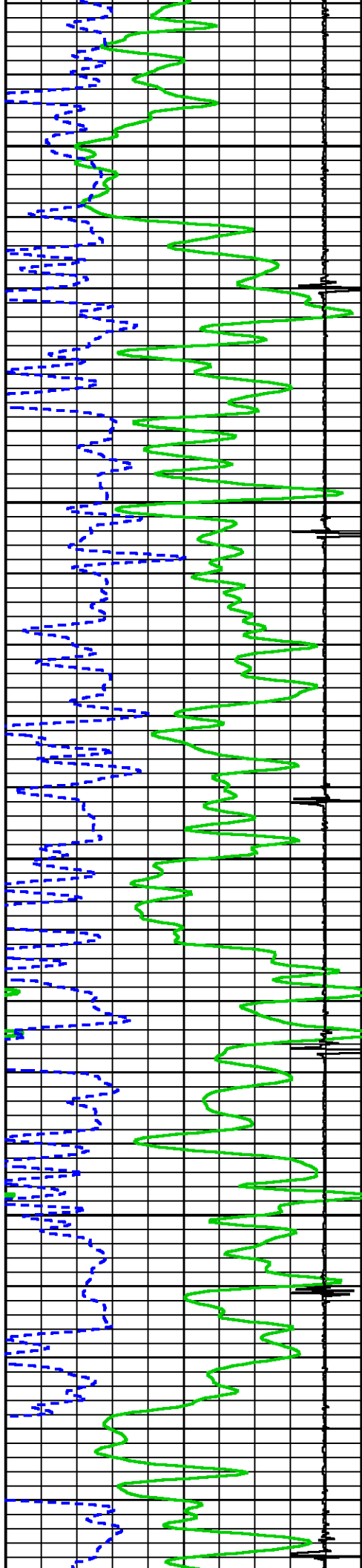








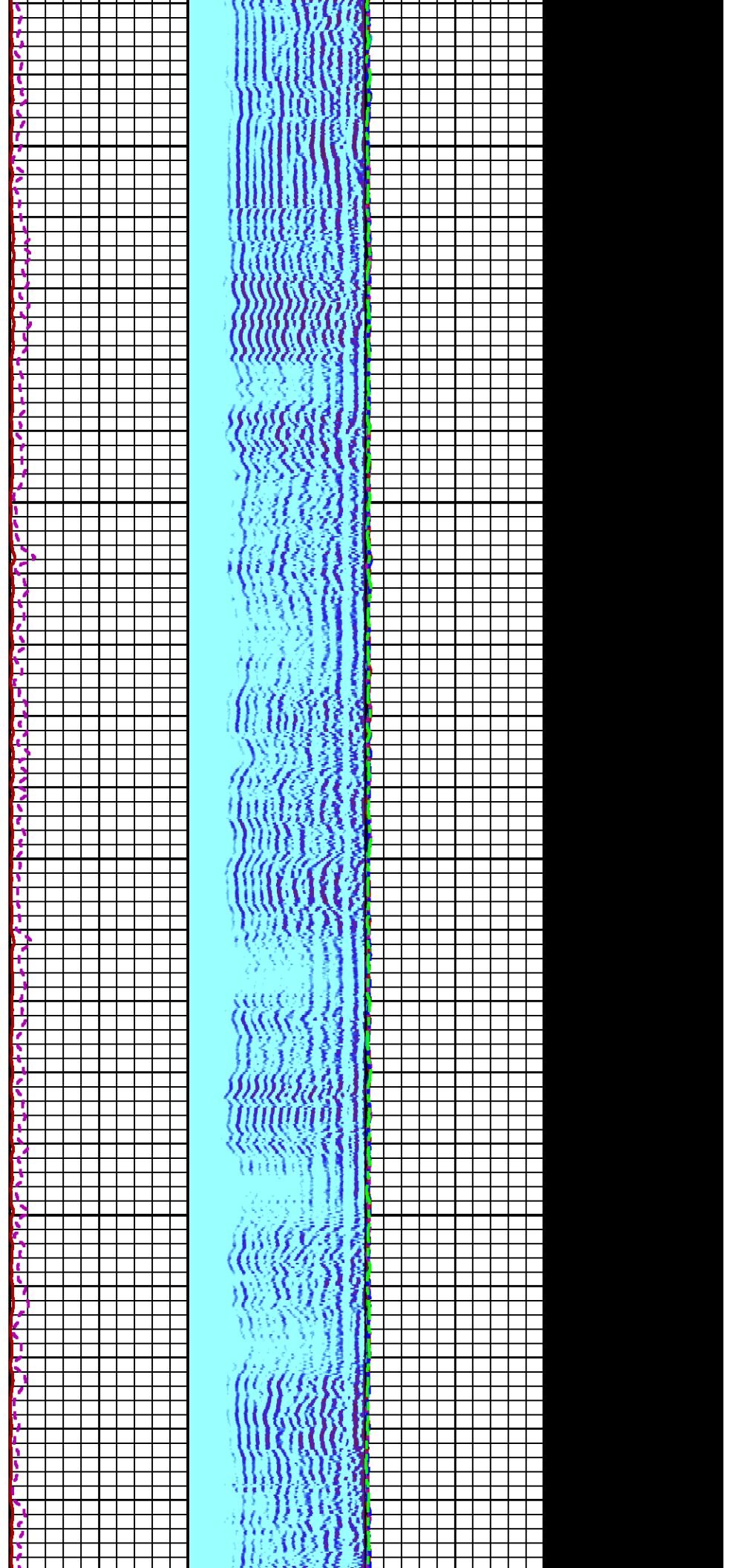


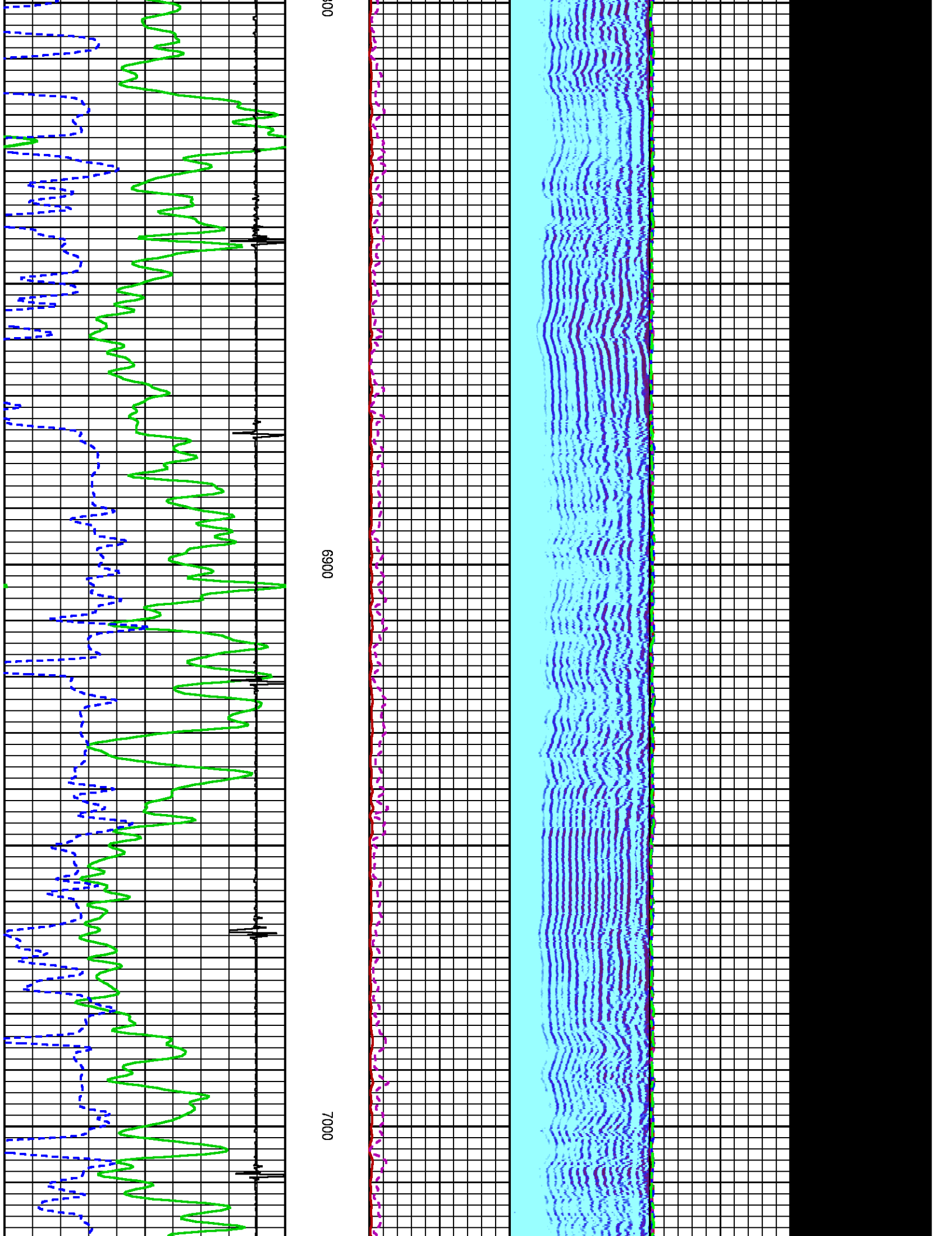


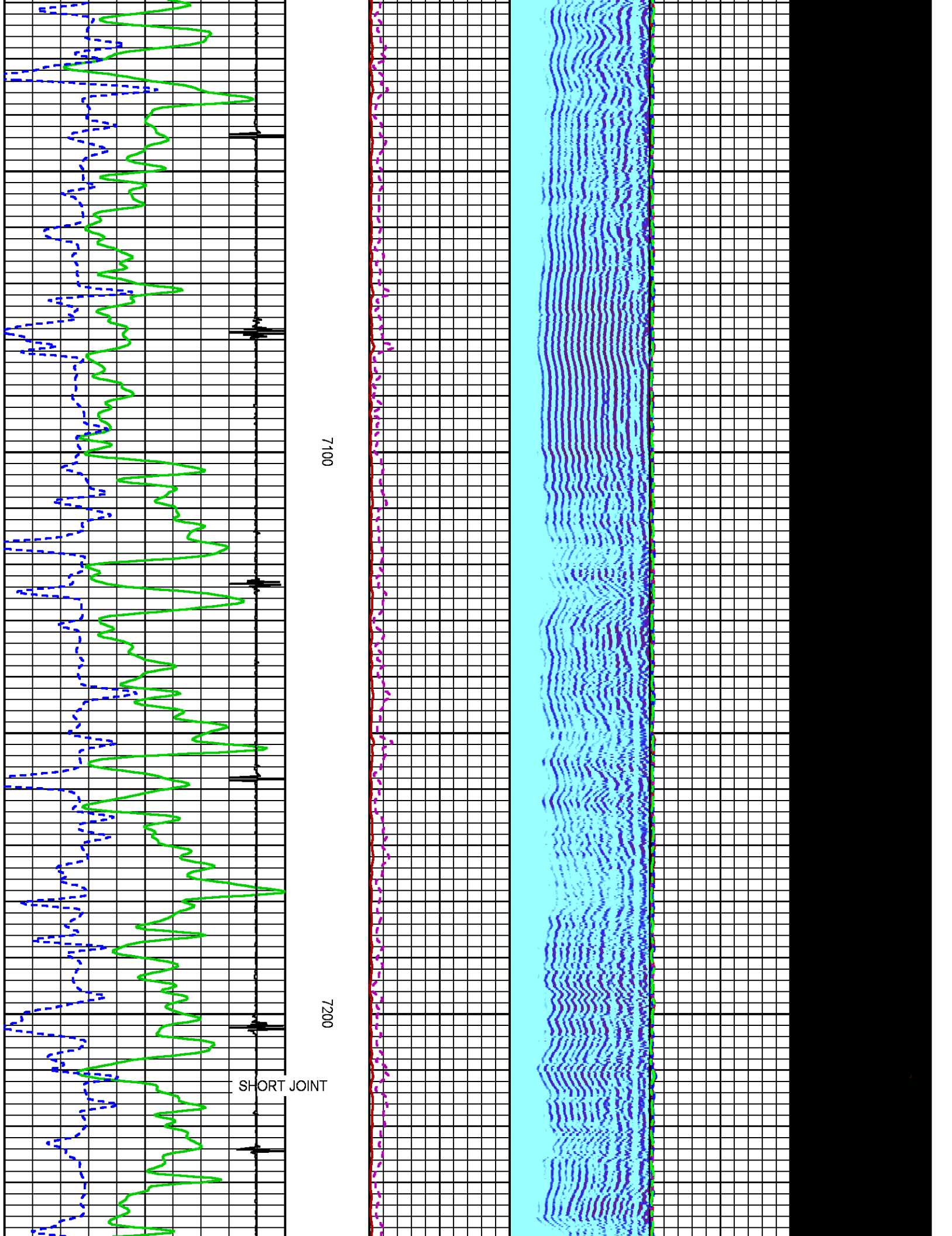
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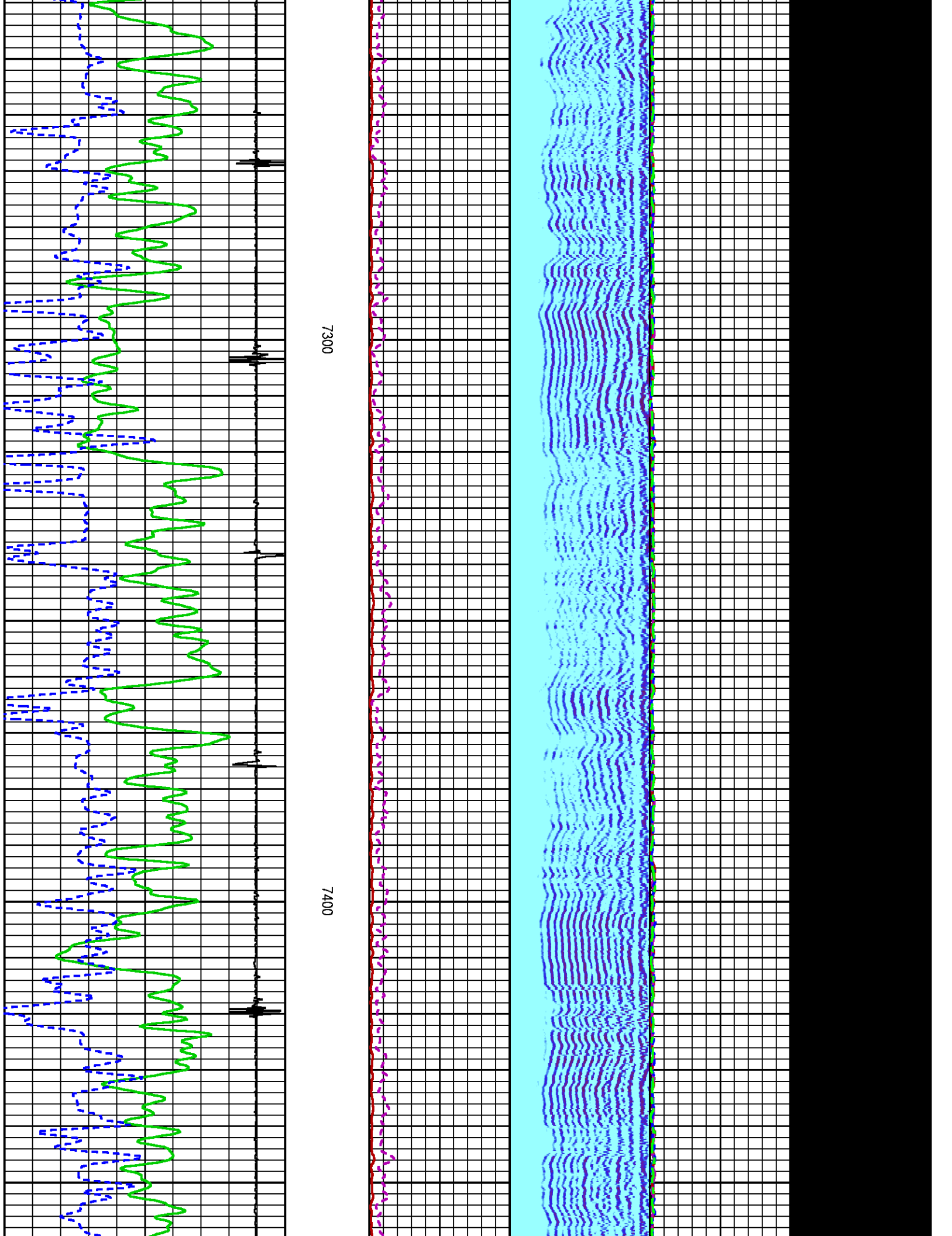
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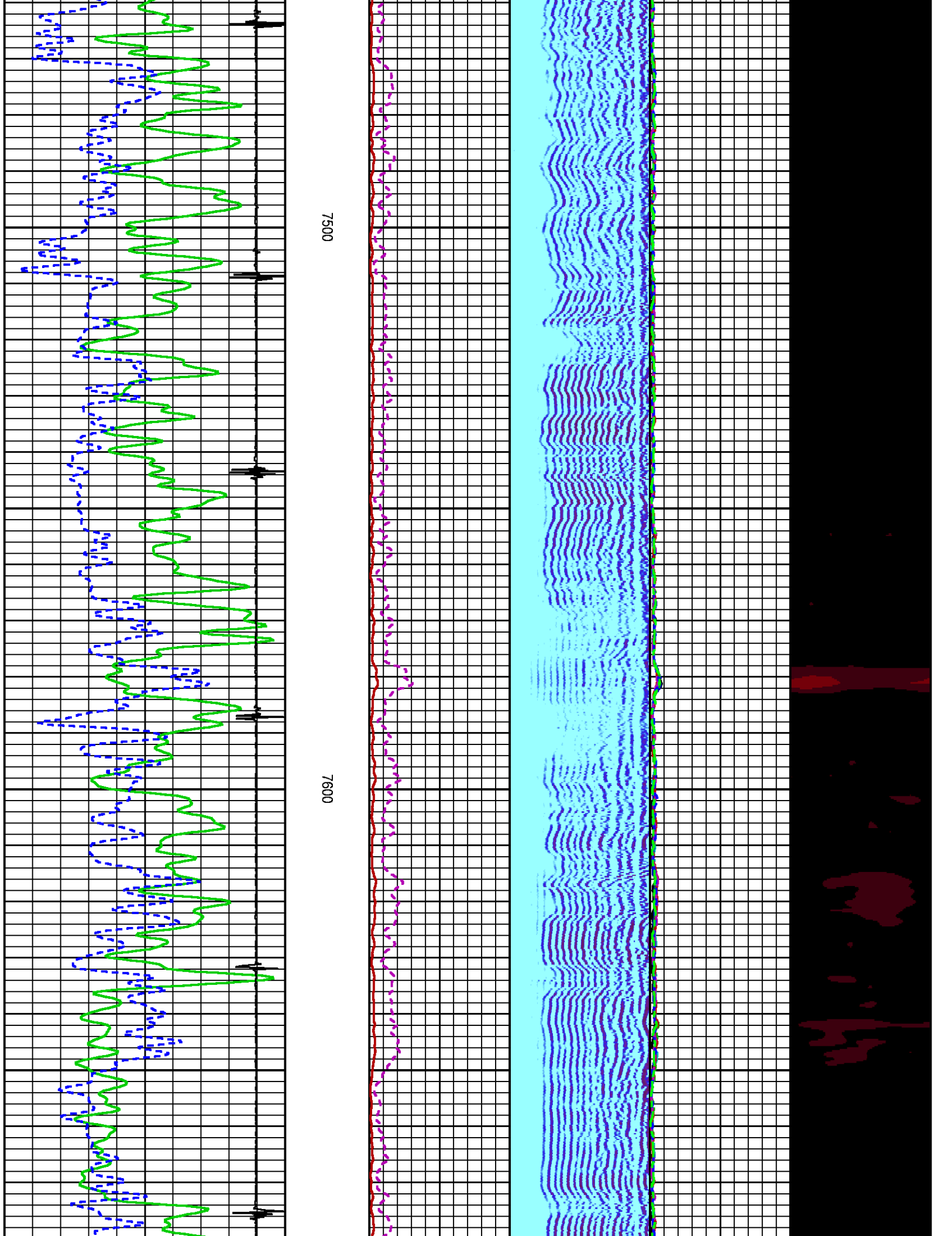
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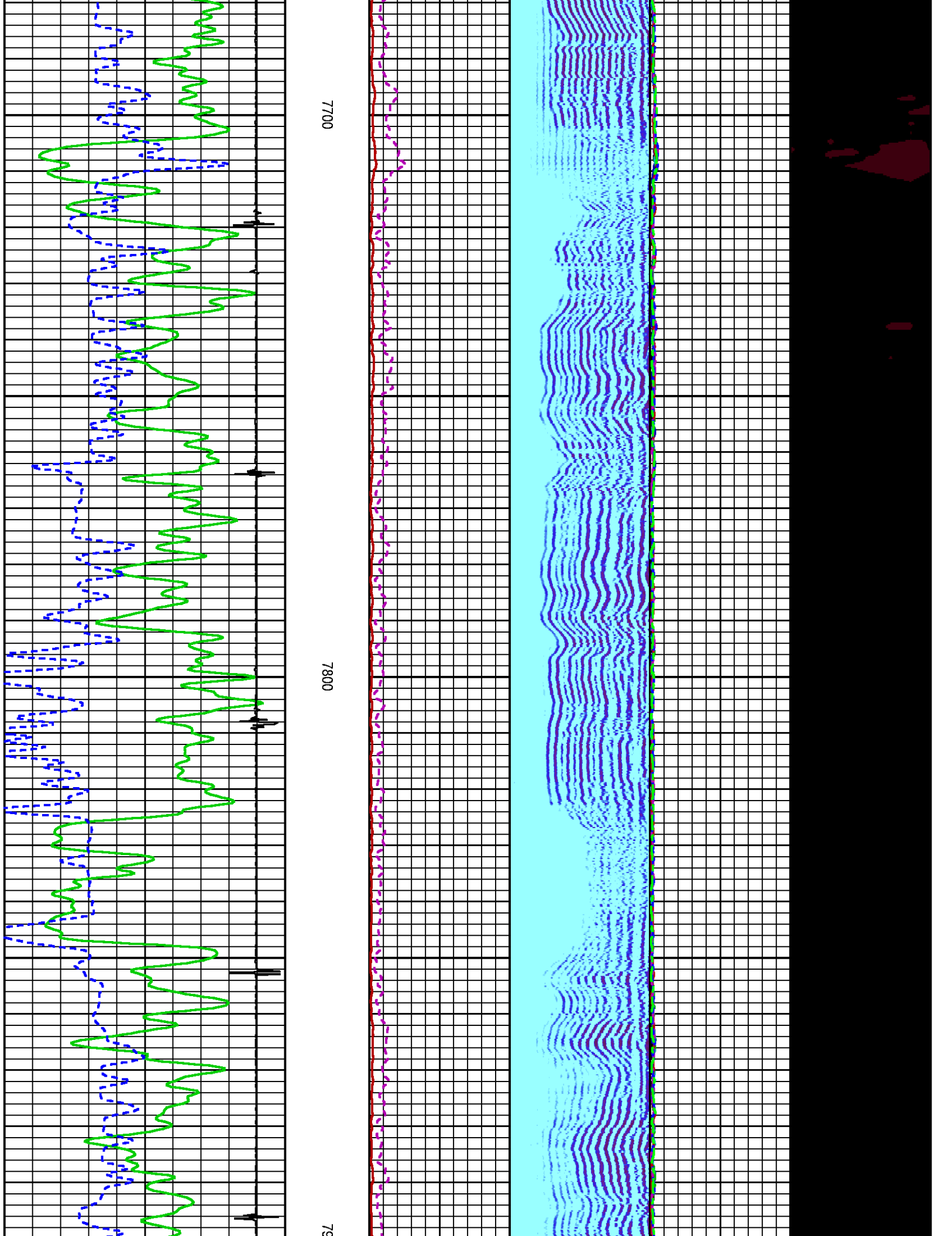


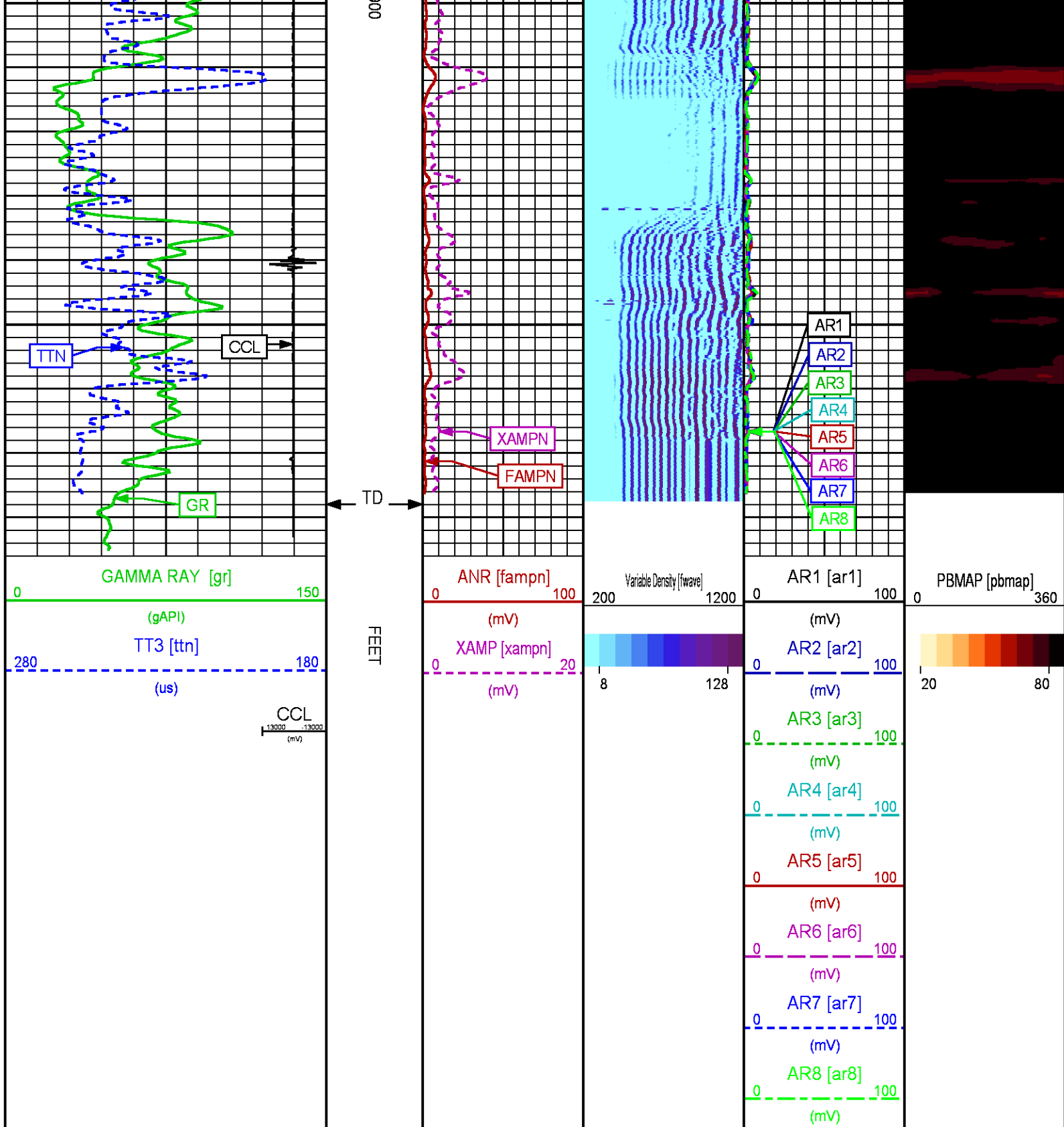












REPEAT PRESENTATION 0 PSI

PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/28_04M/n012g01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 7738.000 ft BOTTOM DEPTH: 7985.500 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*)	175	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*)	-67	us	"	"
	TOOL DELAY (str2*)	-67	us	"	"
	TOOL DELAY (str3*)	-67	us	"	"
	TOOL DELAY (str4*)	-67	us	"	"
	TOOL DELAY (str5*)	-67	us	"	"
	TOOL DELAY (str6*)	-67	us	"	"
	TOOL DELAY (str7*)	-67	us	"	"
	TOOL DELAY (str8*)	-67	us	"	"
BASELINE NOISE (NEAR)	TOOL DELAY (strn*)	-67	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			

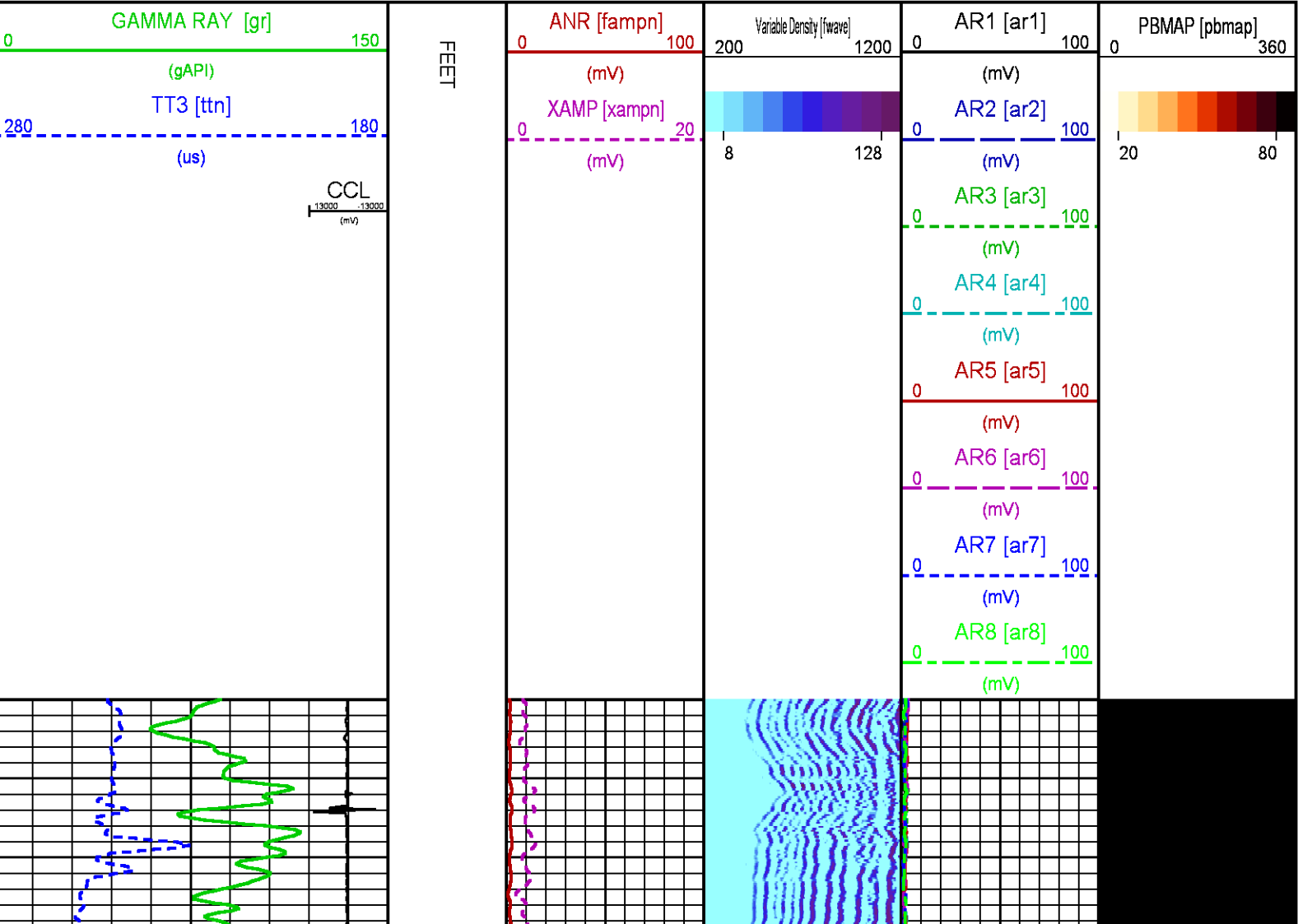
F1:AR1	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R1
F1:AR2	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R2
F1:AR3	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R3
F1:AR4	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R4
F1:AR5	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R5
F1:AR6	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R6
F1:AR7	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R7
F1:AR8	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE T-R8
F1:CCL	Oct 21 08:56:50 2015	CASING COLLAR LOCATOR
F1:FAMPN	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	Oct 21 08:56:50 2015	FAR WAVE FORM
F1:GR	Oct 21 08:56:50 2015	GAMMA RAY
F1:PBMAP	Oct 21 08:56:50 2015	PERCENT BOND CEMENT MAP
F1:TTN	Oct 21 08:56:50 2015	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	Oct 21 08:56:50 2015	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

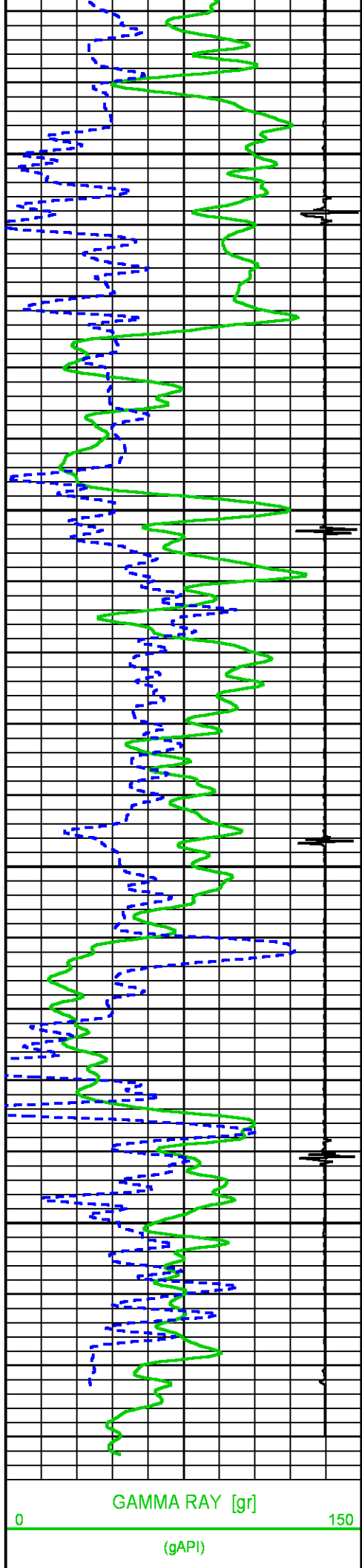
CURVE MEASURE POINT OFFSET

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 : HL6670:/dat1a/28_04M/4M_CBL_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 7750 - 7985 Feet

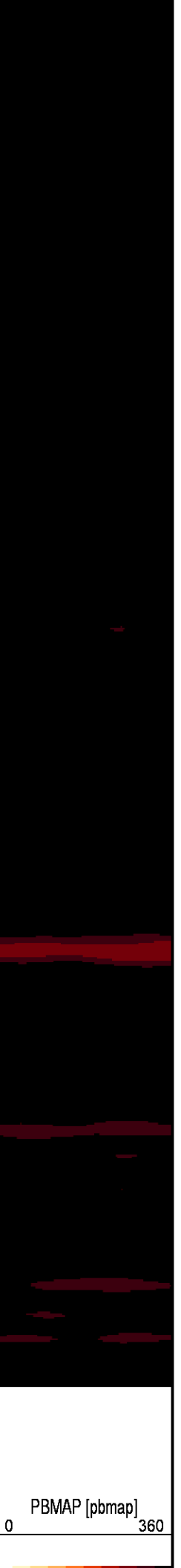
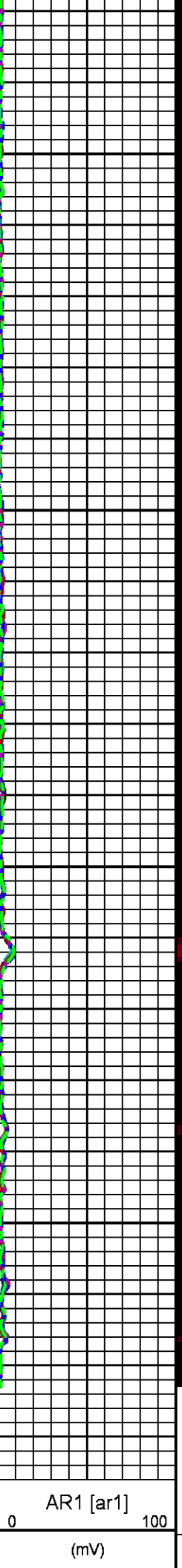
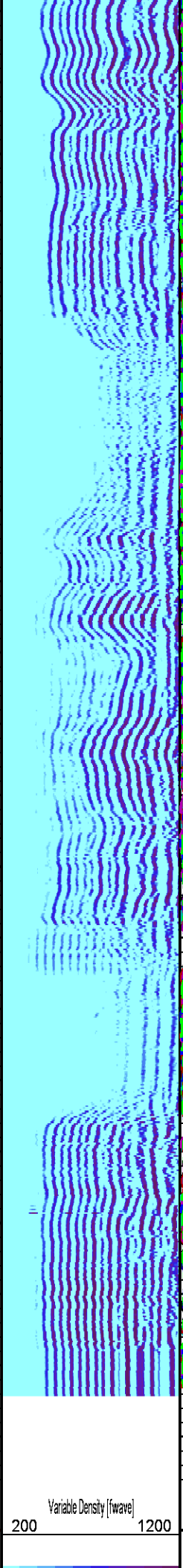
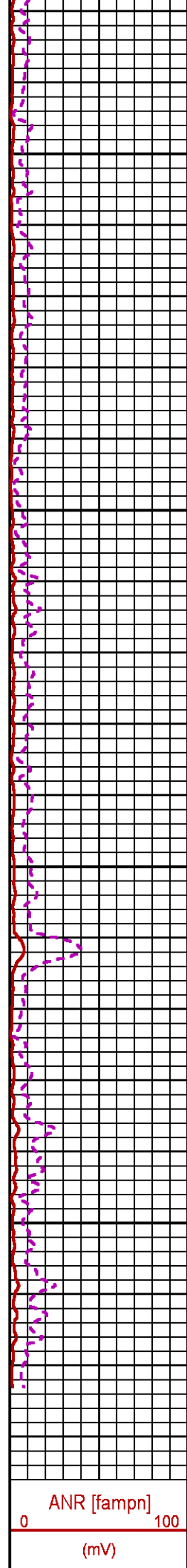
Data File 1 : F1 : HL6670:/dat1a/28_04M/04M_CBL_REPEAT.xtf
Created On : Oct 21 08:56:50 2015
Company : LARAMIE ENERGY
Well : PICEANCE FEDERAL 28-04M
Field : VEGA
File Interval : 7726.5 - 7985.5 Feet
OCT : n012g

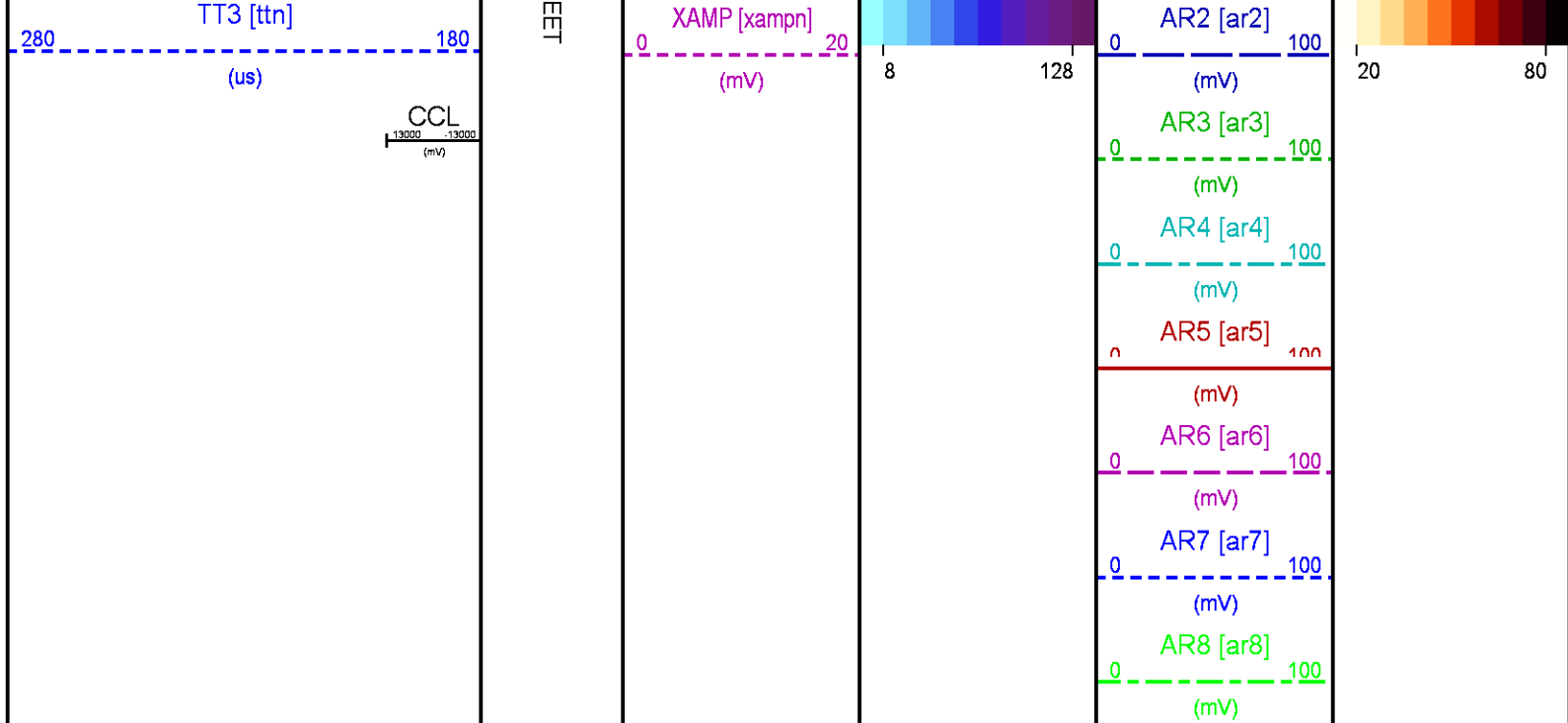




7800

7900





CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/28_04M/n012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1426XA 10124106

DATE/TIME PERFORMED: Wed Oct 21 08:30:00 2015

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)	-0.52	-0.35	-0.46	-0.51	-0.61	-0.56	-0.53	-0.54	-0.56	-0.93	-0.02
AMP FLUID (mV)	92	93	92	92	93	92	92	93	93	116	90
TT (us)	217	217	217	217	216	216	216	216	218	324	217
M FACTOR	1.08	1.08	1.08	1.08	1.07	1.08	1.08	1.07	1.07	1.28	1.11

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1426XA 10124106

DATE/TIME PERFORMED: Wed Oct 21 08:31:11 2015

DAYS SINCE CAL: 0

UNIT #: 3880TA HL6670

CABLE #: 6670SM SMALL1

	NEAR (mV)	R1 (mV)	R2 (mV)	R3 (mV)	R4 (mV)	R5 (mV)	R6 (mV)	R7 (mV)	R8 (mV)	FAR (mV)	CAL (mV)
ZERO	0.04	0.10	0.05	-0.09	-0.13	0.07	0.03	-0.18	0.17	-0.02	-0.20
AMP AIR	0.05	-0.13	0.03	0.40	0.53	0.69	-0.03	1.30	0.45	0.66	103.65

SHOP SHOP WIRELINE
M FACTOR A FACTOR FACTOR

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1355XA 11871510 DATE/TIME PERFORMED: Fri Oct 9 09:14:59 2015
UNIT #: 3880TA HL6670 CALB JIG #: 4702NK WA-612

	BACKGROUND (cts)	CALBRTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	65.78	249.56	183.8	0.816	53.69	203.69	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1355XA 11871510 DATE/TIME PERFORMED: Fri Oct 9 09:16:42 2015
UNIT #: 3880TA HL6670 VERI JIG #: 4702NK WA-612

	BACKGROUND (cts)	CALBRTR ON (cts)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	66.93	242.00	0.816	54.63	197.52	142.89
						140.00 160.00

INSTRUMENT CONFIGURATION

Source File: /dat1a/28_04M/CBL-tdg

A3 CABLEHEAD
Diameter : 1.37"

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



18.85'

NEAR RCVR 11.17'

FAR RCVR 10.21'


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



CCL 5.79'
 GR 1.67'
 TEMP 0.17'

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

	COMPANY <u>LARAMIE ENERGY</u> WELL <u>PICEANCE FEDERAL 28-04M</u> FIELD <u>VEGA</u> COUNTY <u>MESA</u> STATE <u>COLORADO</u>	FILE NO: <u>CH100241</u> API NO: <u>05077102370000</u>
	LOCATION: SHL: LAT 39.251039 LONG -107.779486 BHL: 39.252897 LONG -107.774506 SEC <u>28</u> TWP <u>9S</u> RGE <u>93W</u>	ELEVATIONS: KB 7578 FT DF GL 7556 FT DATE <u>21-Oct-2015</u>