



FILE NO:

COMPANY

LARAMIE ENERGY

WELL

PICEANCE FEDERAL 29-18E

FIELD

VEGA

API NO:
05-077-10364-0000

COUNTY

MESA

STATE COLORADO

Ver. 4.06

LOCATION:

SHL: LAT:39.248795N; LONG:107.788006W
BHL: LAT:39.243580N; LONG:107.788356W

OTHER SERVICES

RPM

SEC 29 TWP 09 S RGE 93 W

PERMANENT DATUM GL ELEVATION 7631 FT
LOG MEASURED FROM KB 30 FT ABOVE P.D.
DRILL. MEAS. FROM KBELEVATIONS:
KB 7661 FT
DF
GL 7631 FT

DATE 29-MAY-2017

RUN TRIP

1 1

SERVICE ORDER US123641J

DEPTH DRILLER 7995 FT

DEPTH LOGGER 7849 FT

BOTTOM LOGGED INTERVAL 7849 FT

TOP LOGGED INTERVAL 30 FT

TIME STARTED 10:00

TIME FINISHED 13:00

OPERATOR RIG TIME 3 HRS

TYPE OF FLUID IN HOLE WATER

FLUID DENSITY NA

FLUID SALINITY NA

FLUID LEVEL 53 FT

LOGGED CEMENT TOP 1541 FT

WELLHEAD PRESSURE 0 PSI

MAXIMUM HOLE DEVIATION NA

NOMINAL LOGGING SPEED 100 F/MIN

MAX. RECORDED TEMP. NA

REFERENCE LOG NA

REFERENCE LOG DATE NA

EQUIP. NO. LOCATION HL-6670 WOODWARD

RECORDED BY S.YASSA

WITNESSED BY R.CATES/A.MCCARTHY

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

CASING RECORD

SIZE WEIGHT GRADE FROM TO
4.5 IN 11.6 LB/F - 0 FT 7995 FT

REMARKS

RUN 1 TRIP 1: *2 OPERATIONS IN WELL*

OPERATION 1: CCL/GR/RAL RUN IN COMBINATION

LOGGED WITH 0 PSI AT THE WELLHEAD

SJ1: 6987'-6975'

SJ2: 6154' - 6132'

CREW: JOE.PENA , S.AKKOUCH

EQUIPMENT DATA

RUN TRIP TOOL SERIES NO. SERIAL NO. POSITION

1	1	RAL	1426 XA	10218497	CENTRALIZED
1	1	GR/CCL	1355 XA	111155	CENTRALIZED

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 May 29 13:12:06 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/n012g02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 12.500 ft BOTTOM DEPTH: 7850.207 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*)	178	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	178	us	"	"
	AMP WINDOW START (fgp3*)	178	us	"	"
	AMP WINDOW START (fgp4*)	178	us	"	"
	AMP WINDOW START (fgp5*)	178	us	"	"
	AMP WINDOW START (fgp6*)	178	us	"	"
	AMP WINDOW START (fgp7*)	178	us	"	"
	AMP WINDOW START (fgp8*)	178	us	"	"
	AMP WINDOW START (fgpn*)	178	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*)	-75	us	"	"
	TOOL DELAY (str2*)	-75	us	"	"
	TOOL DELAY (str3*)	-75	us	"	"
	TOOL DELAY (str4*)	-75	us	"	"
	TOOL DELAY (str5*)	-75	us	"	"
	TOOL DELAY (str6*)	-75	us	"	"
	TOOL DELAY (str7*)	-75	us	"	"
	TOOL DELAY (str8*)	-75	us	"	"
	TOOL DELAY (strn*)	-75	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	"	"

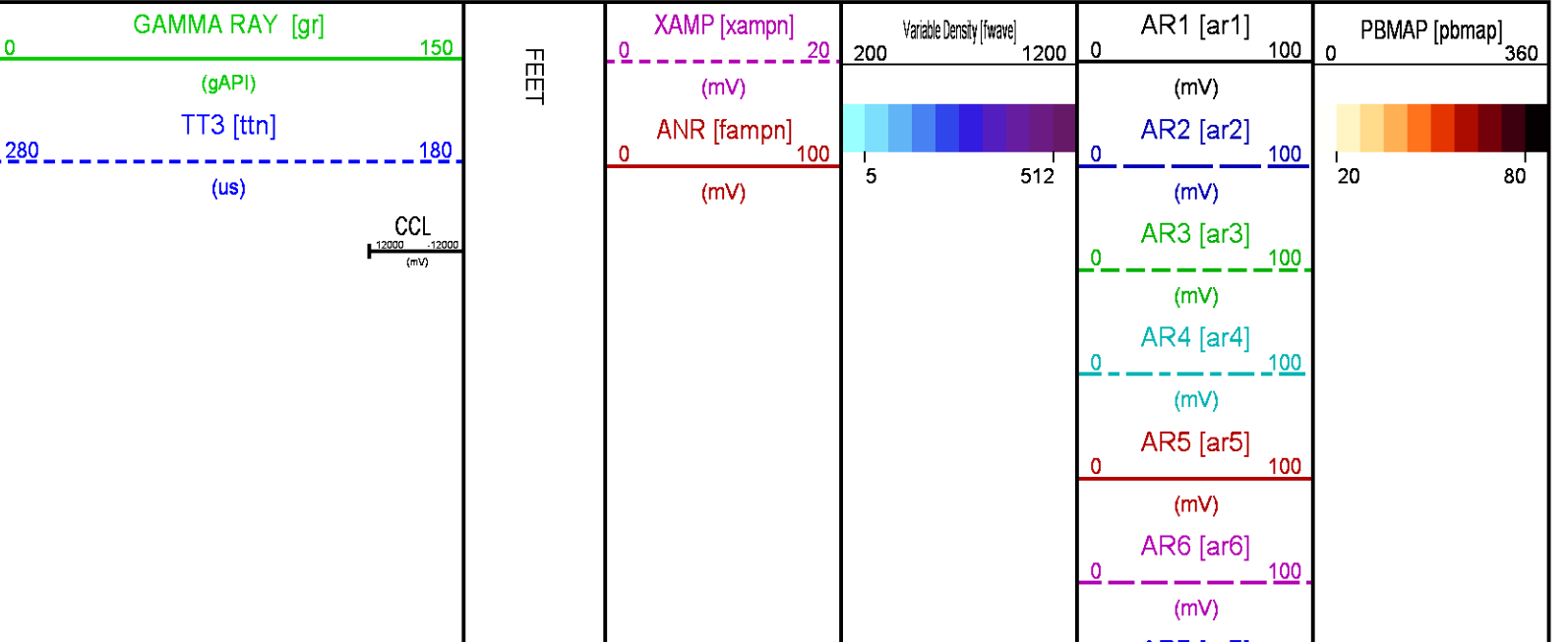
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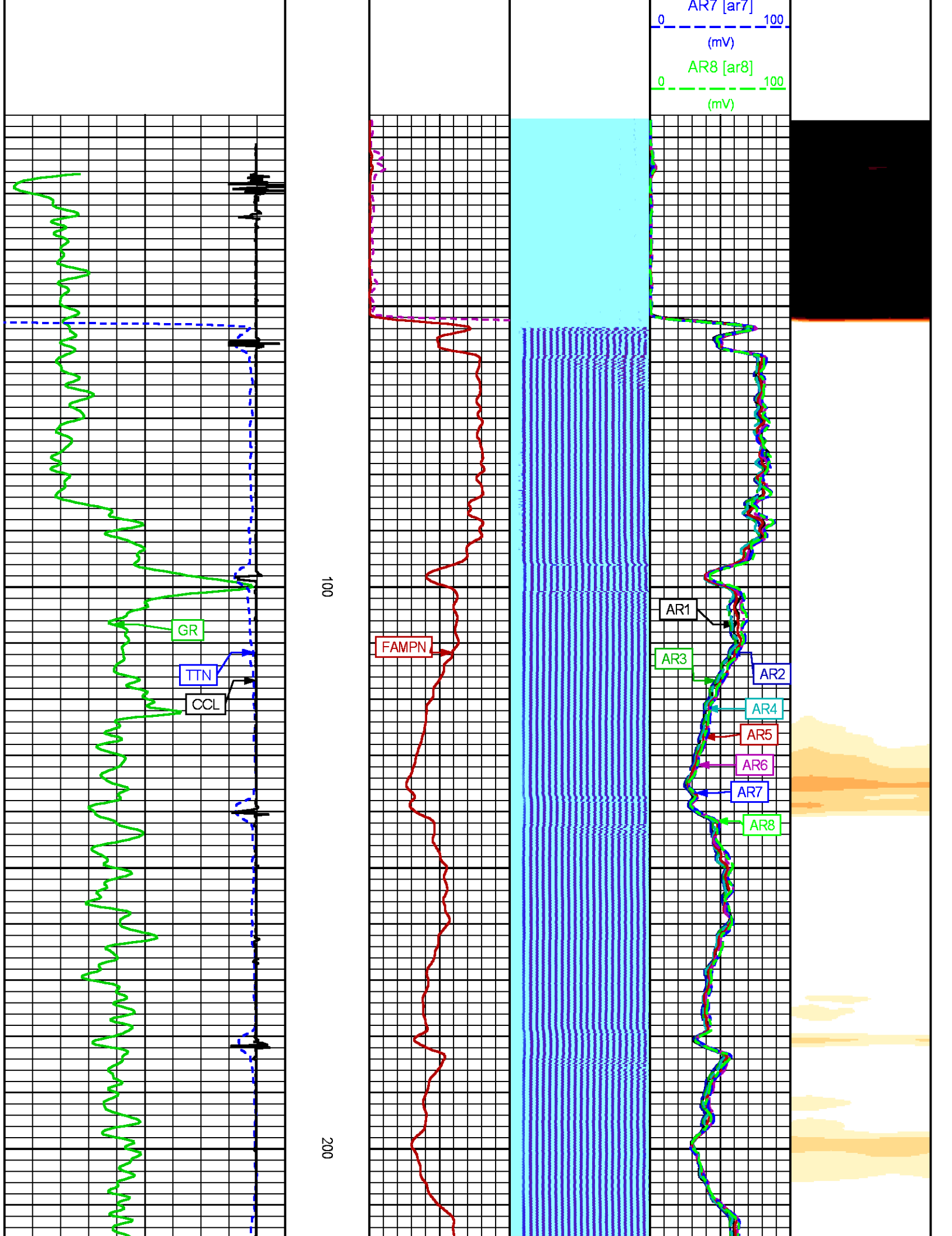
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
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F1:AR2	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	May 29 11:06:07 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	May 29 11:06:07 2017	CASING COLLAR LOCATOR
F1:FAMPN	May 29 11:06:07 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	May 29 11:06:07 2017	FAR WAVE FORM
F1:GR	May 29 11:06:07 2017	GAMMA RAY
F1:PBMAP	May 29 11:06:07 2017	PERCENT BOND CEMENT MAP
F1:TTN	May 29 11:06:07 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	May 29 11:06:07 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

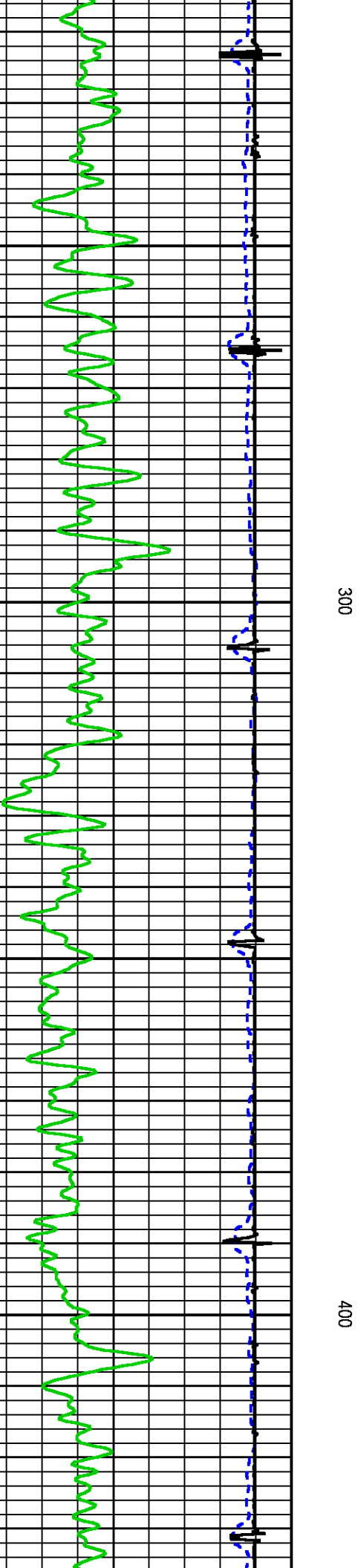
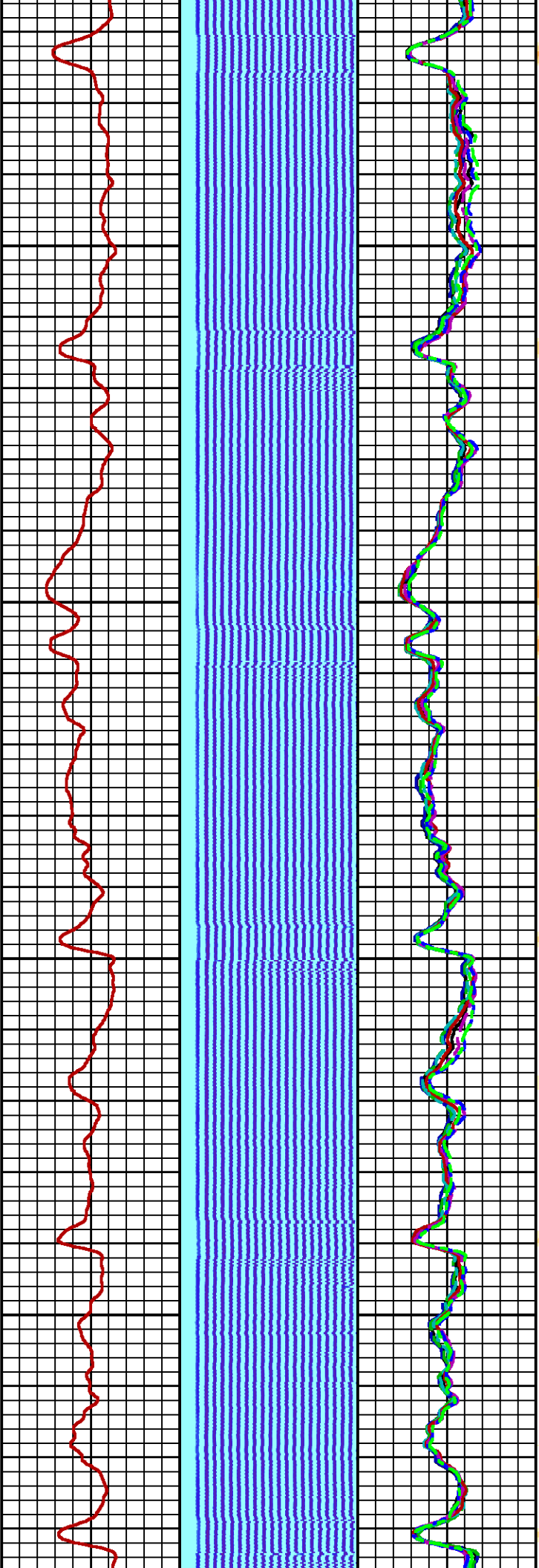
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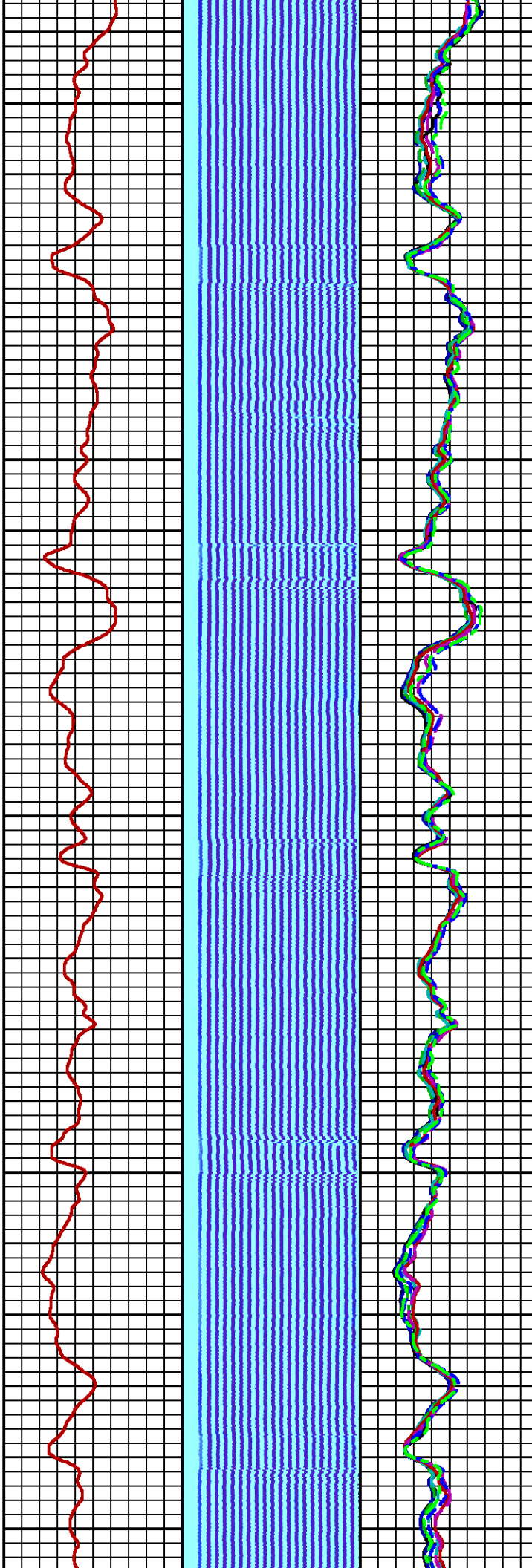
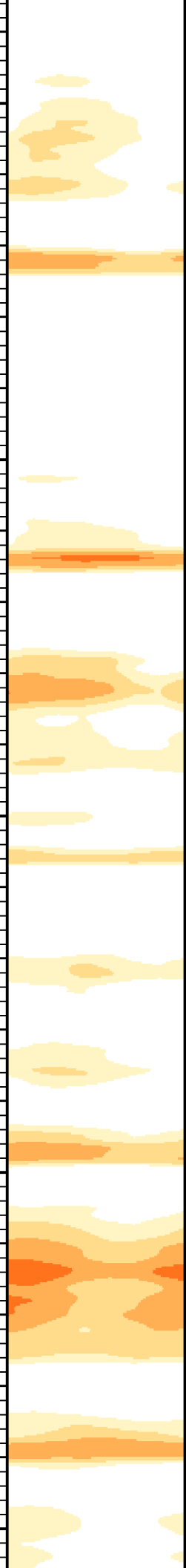
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AR2	11.25	AR6	11.25	FAMPN	11.25		
AR3	11.25	AR7	11.25	GR	1.75		
AR4	11.25	AR8	11.25	TTN	11.25		

Presentation	: cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/ral_MAIN_18E-5.fvpdf [5"/100' Scale]
Plot Interval	: 16.75 - 7861 Feet
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Created On	: May 29 11:06:07 2017
Company	: LARAMIE ENERGY
Well	: PICEANCE 29-18E
Field	: VEGA
File Interval	: 15.75 - 7862.25 Feet
OCT	: n012g



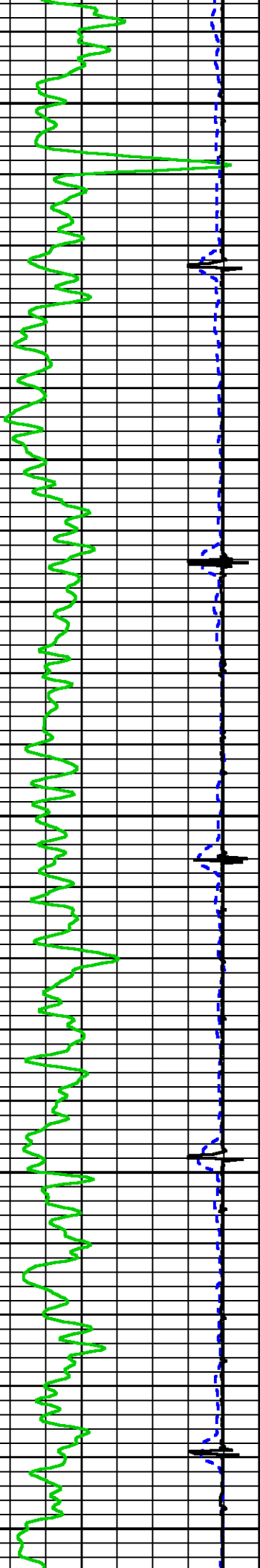


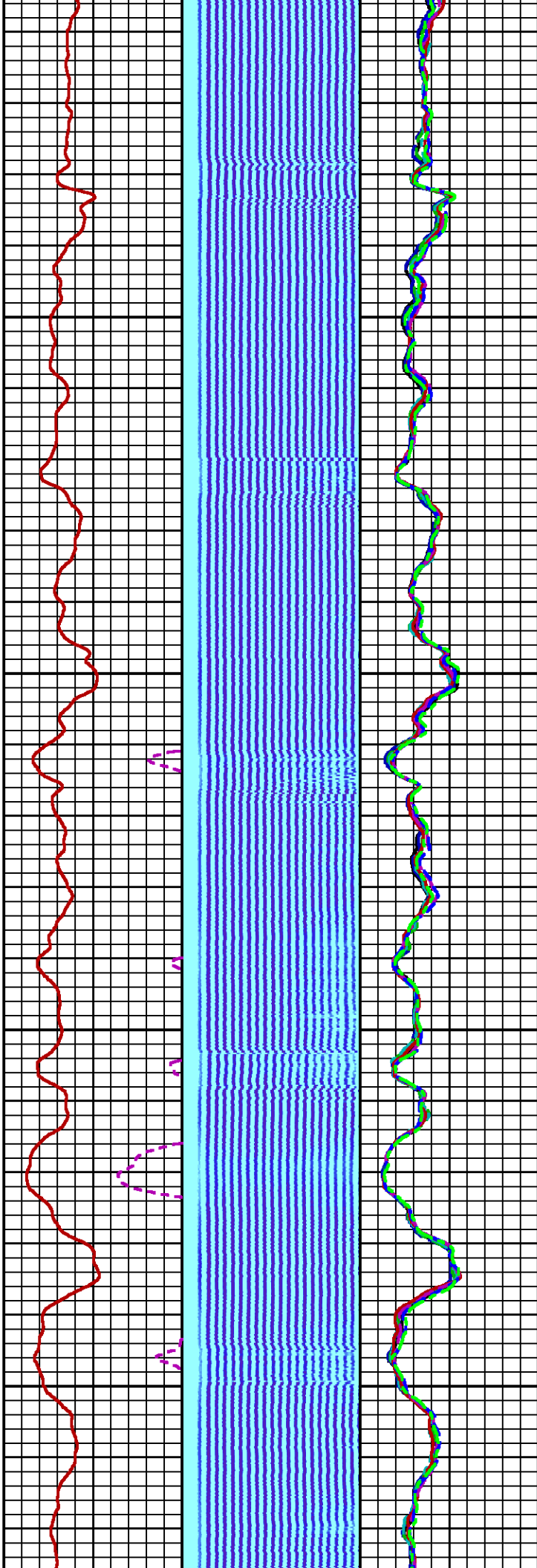
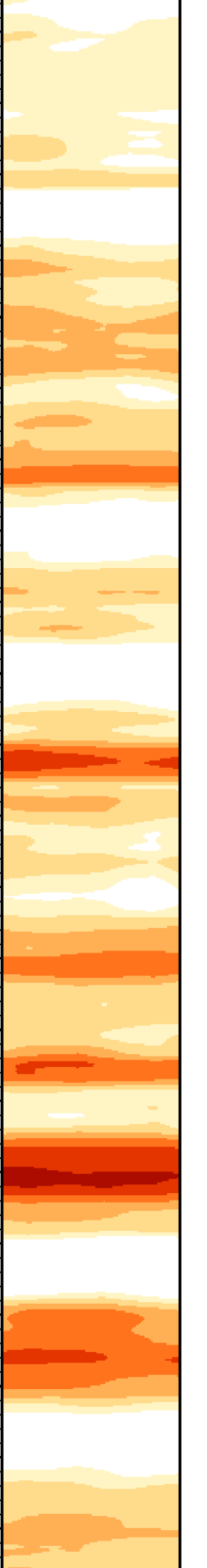




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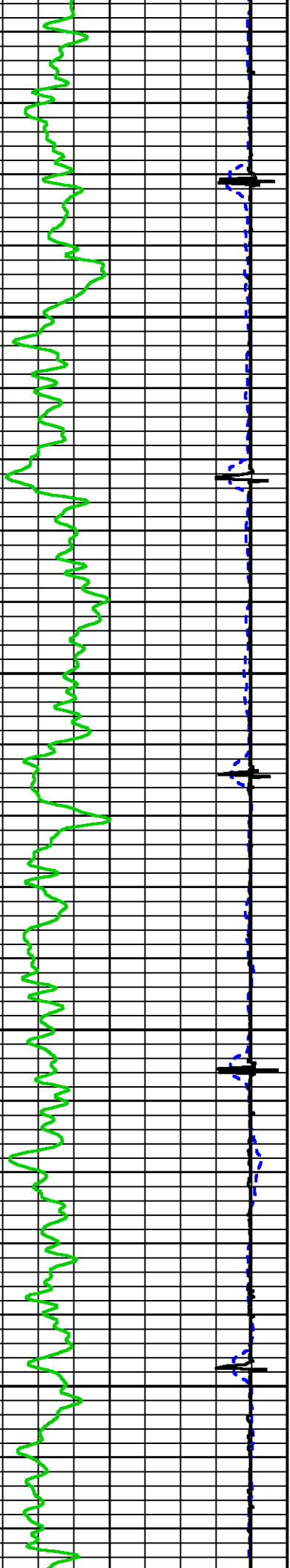
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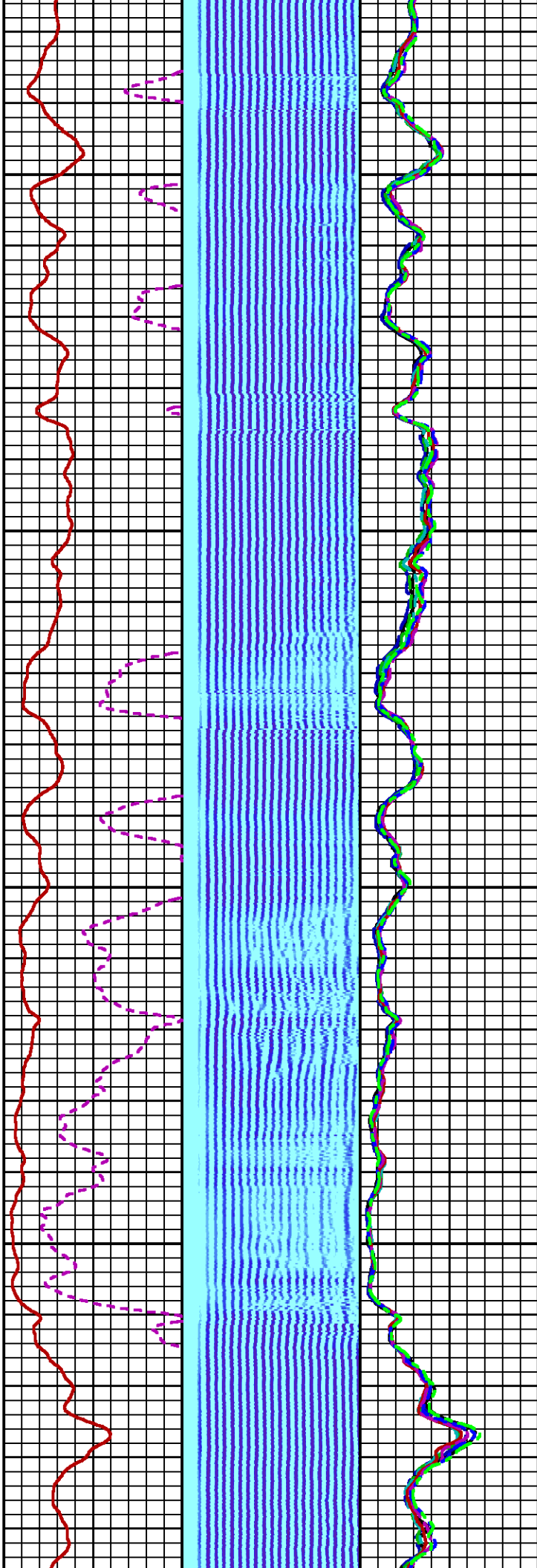
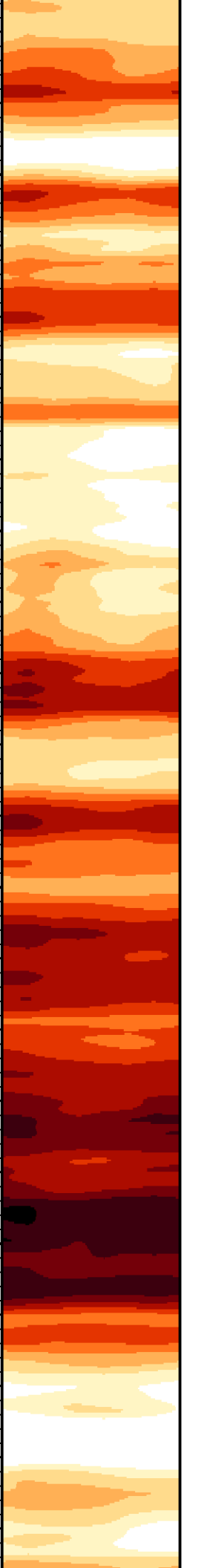




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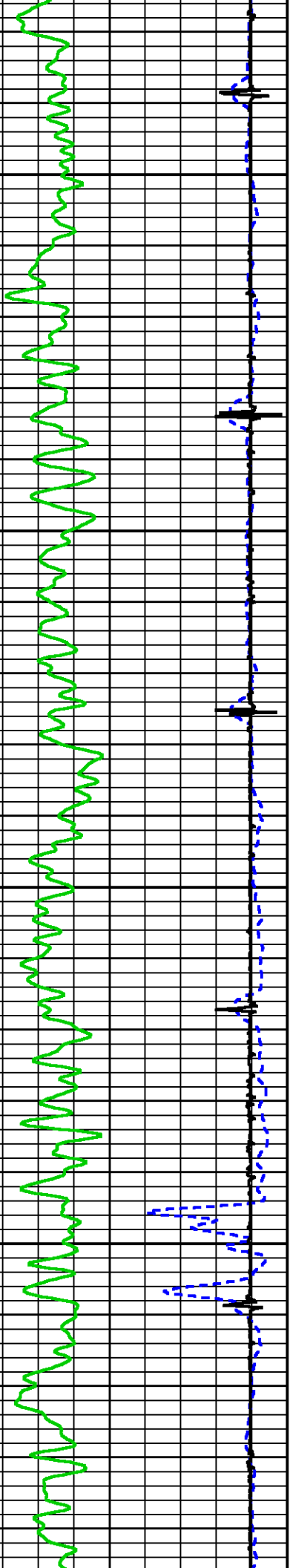
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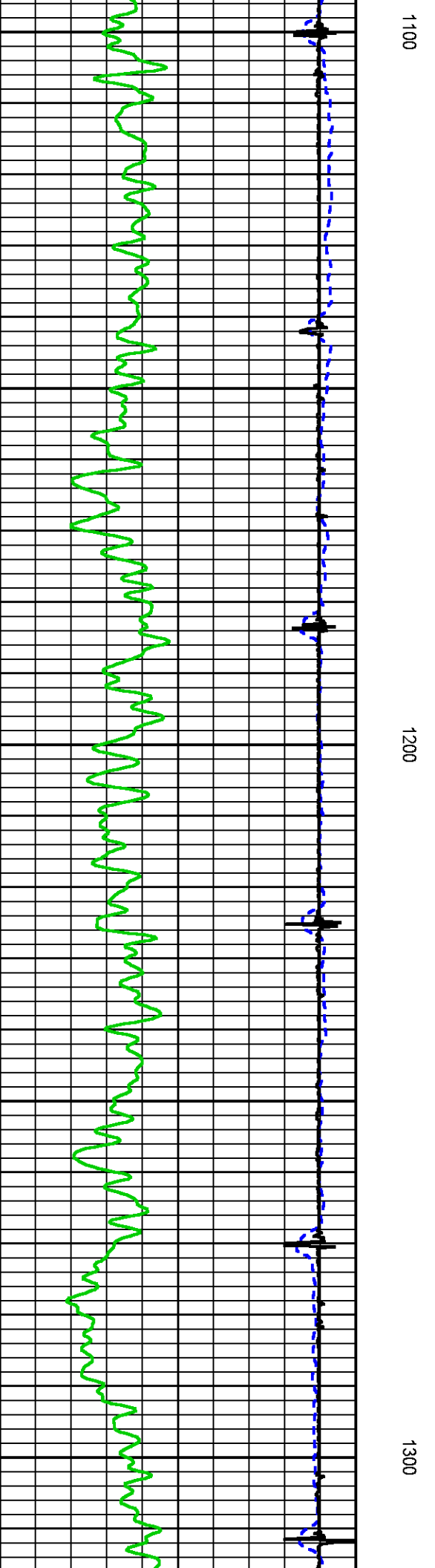
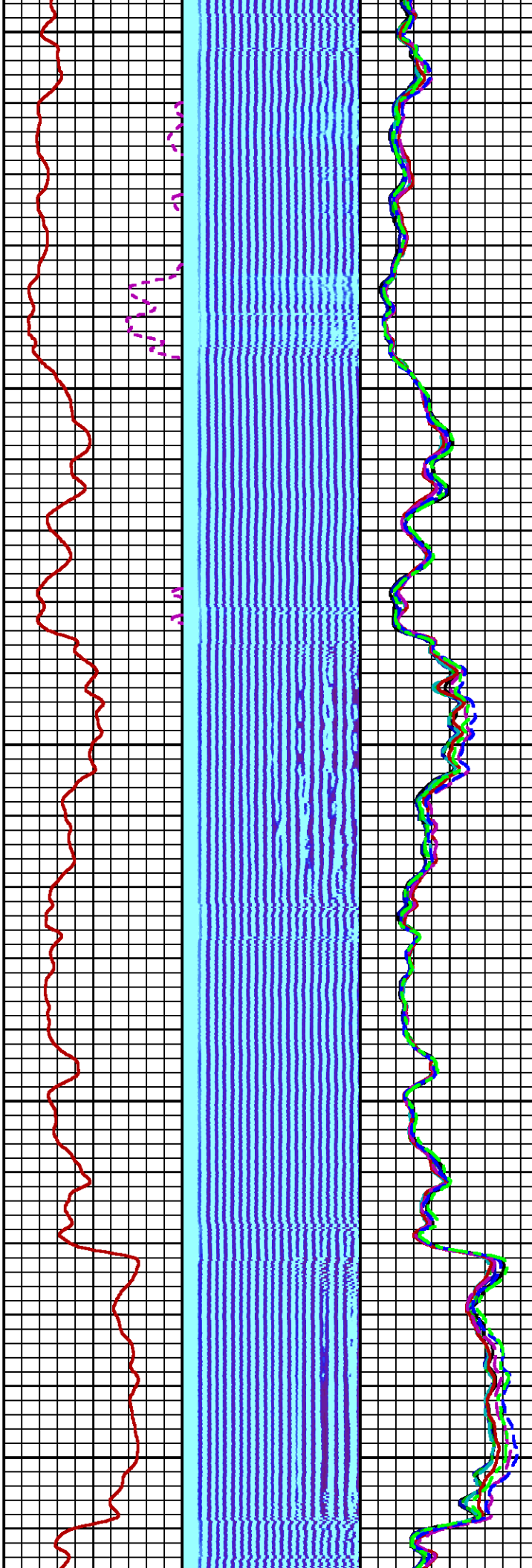
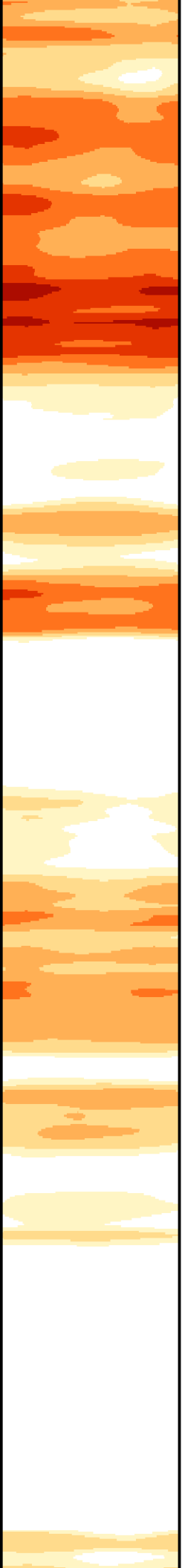


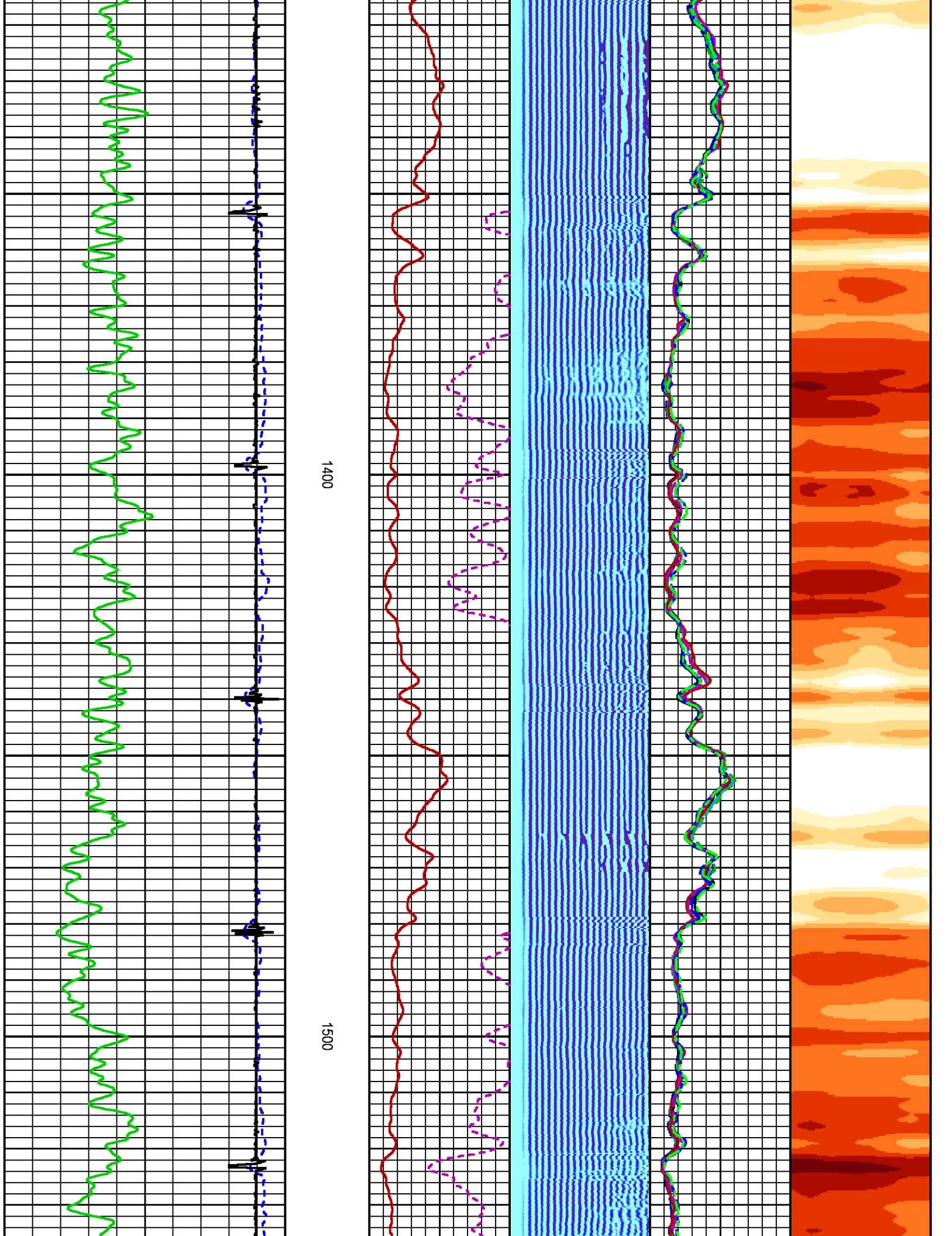


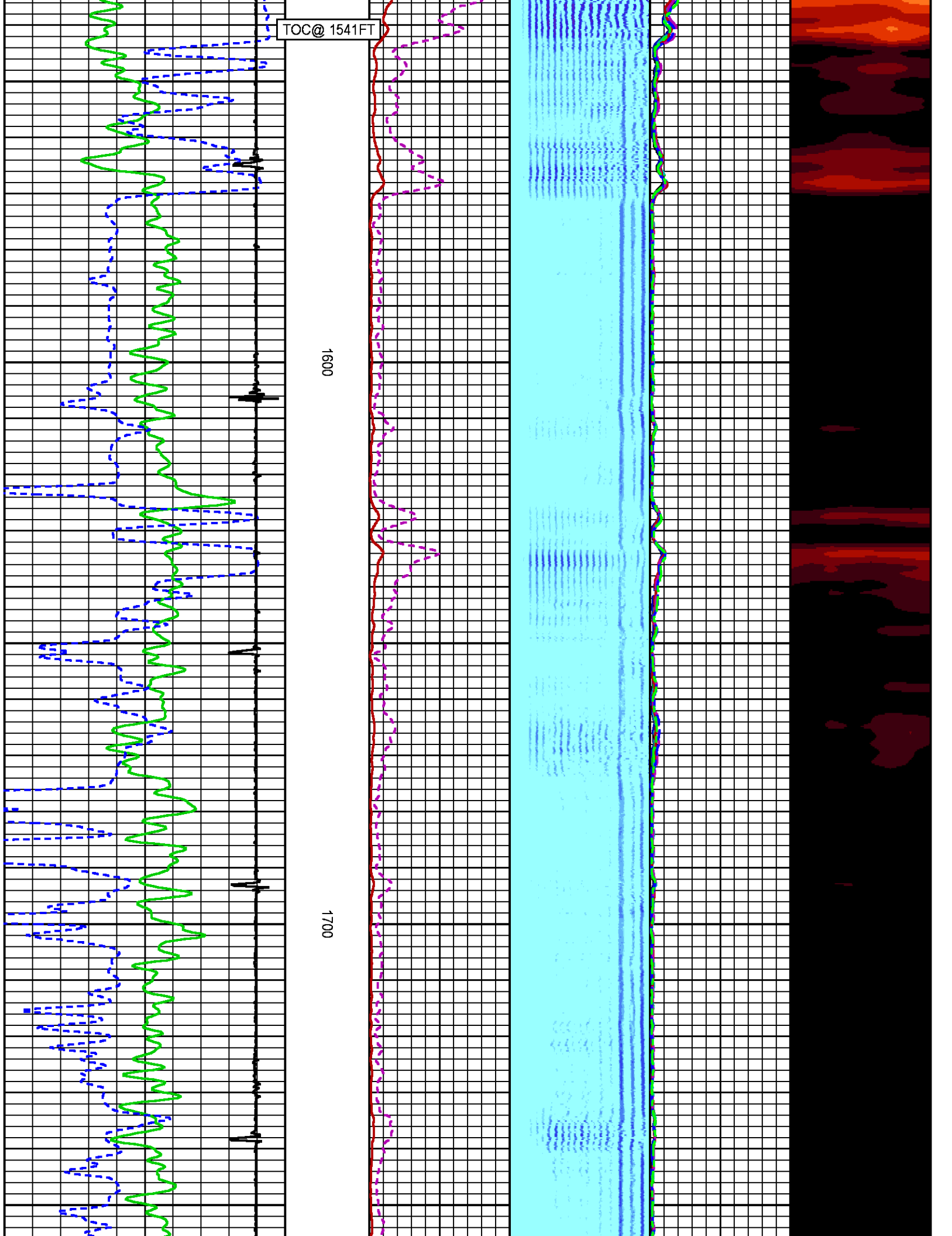
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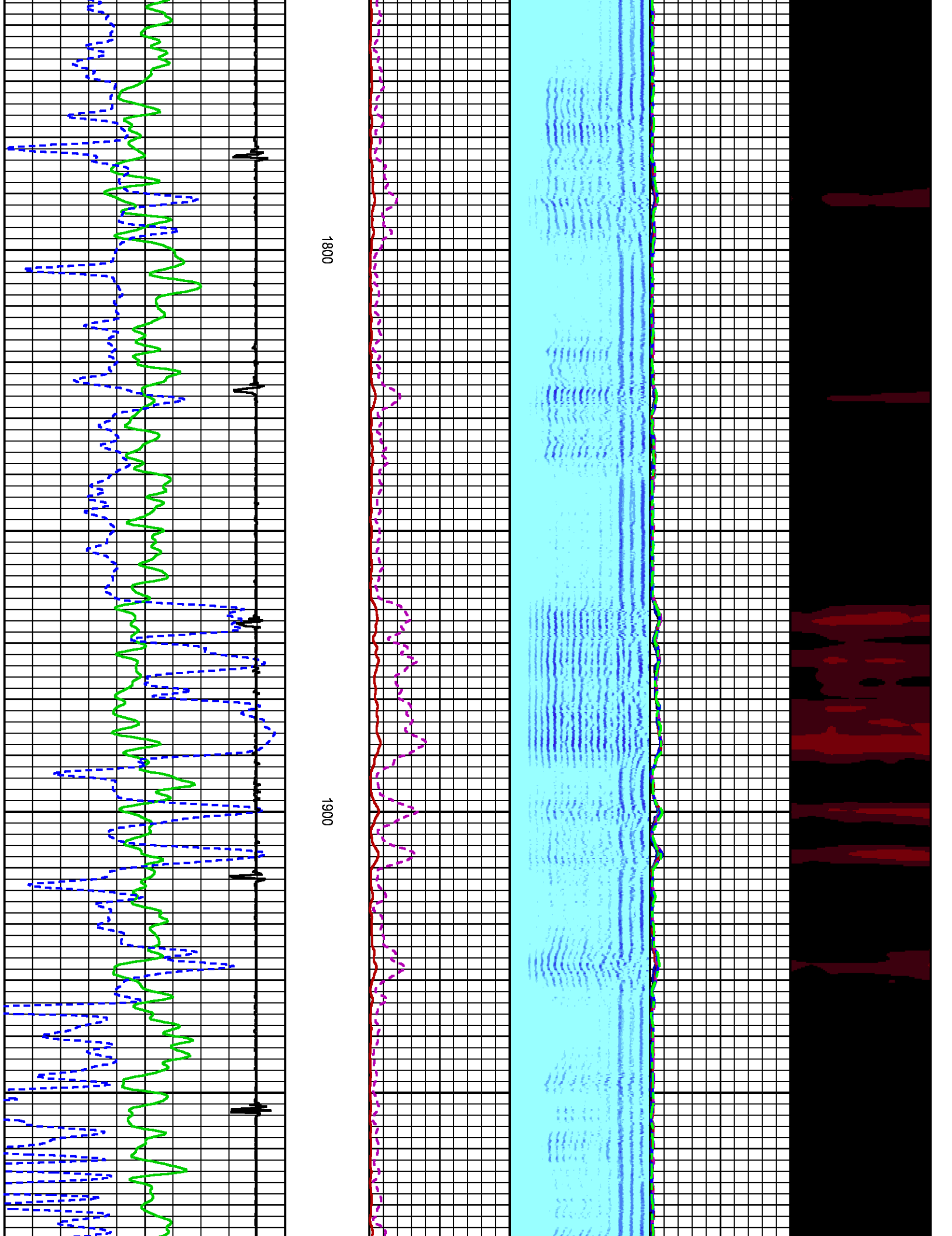
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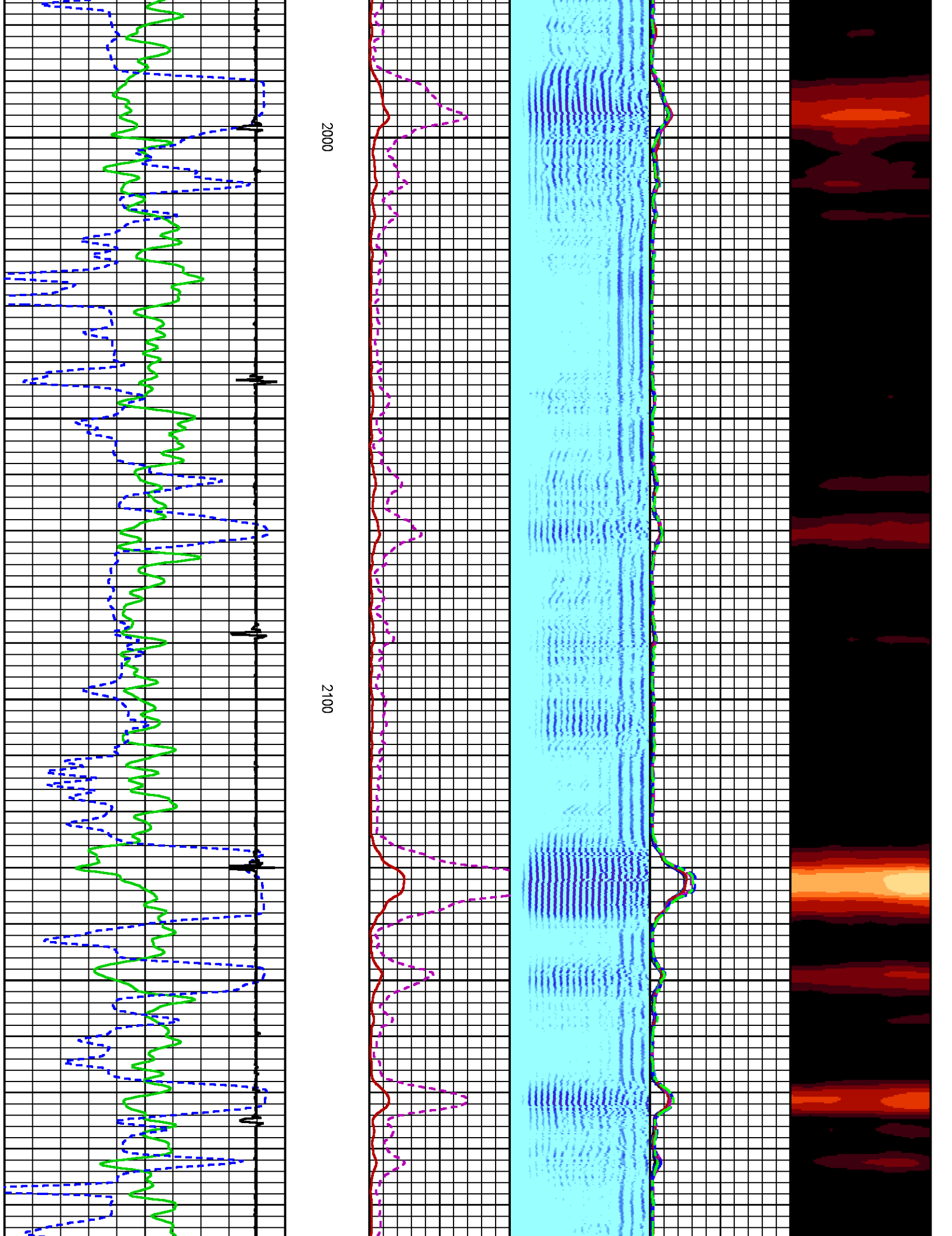


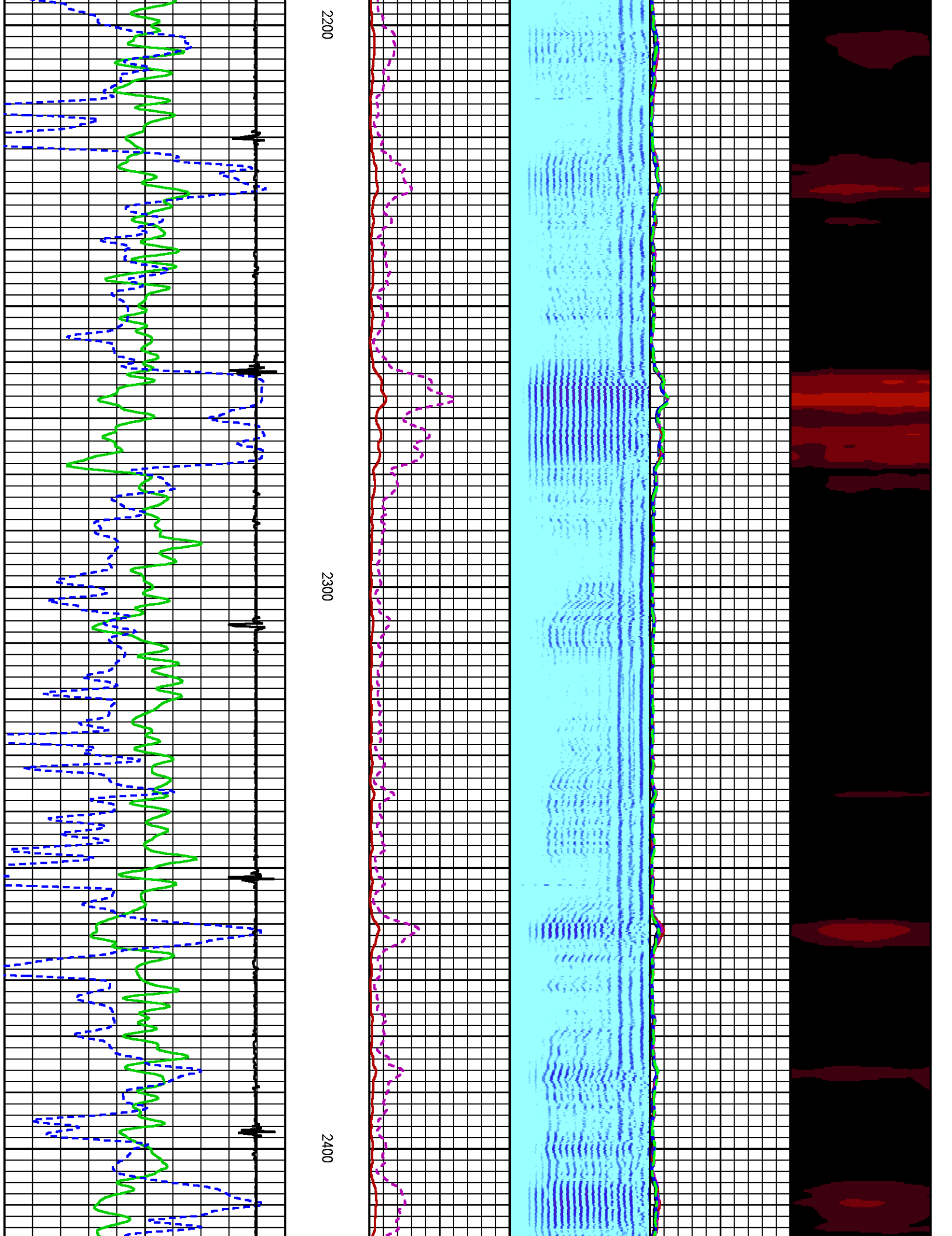


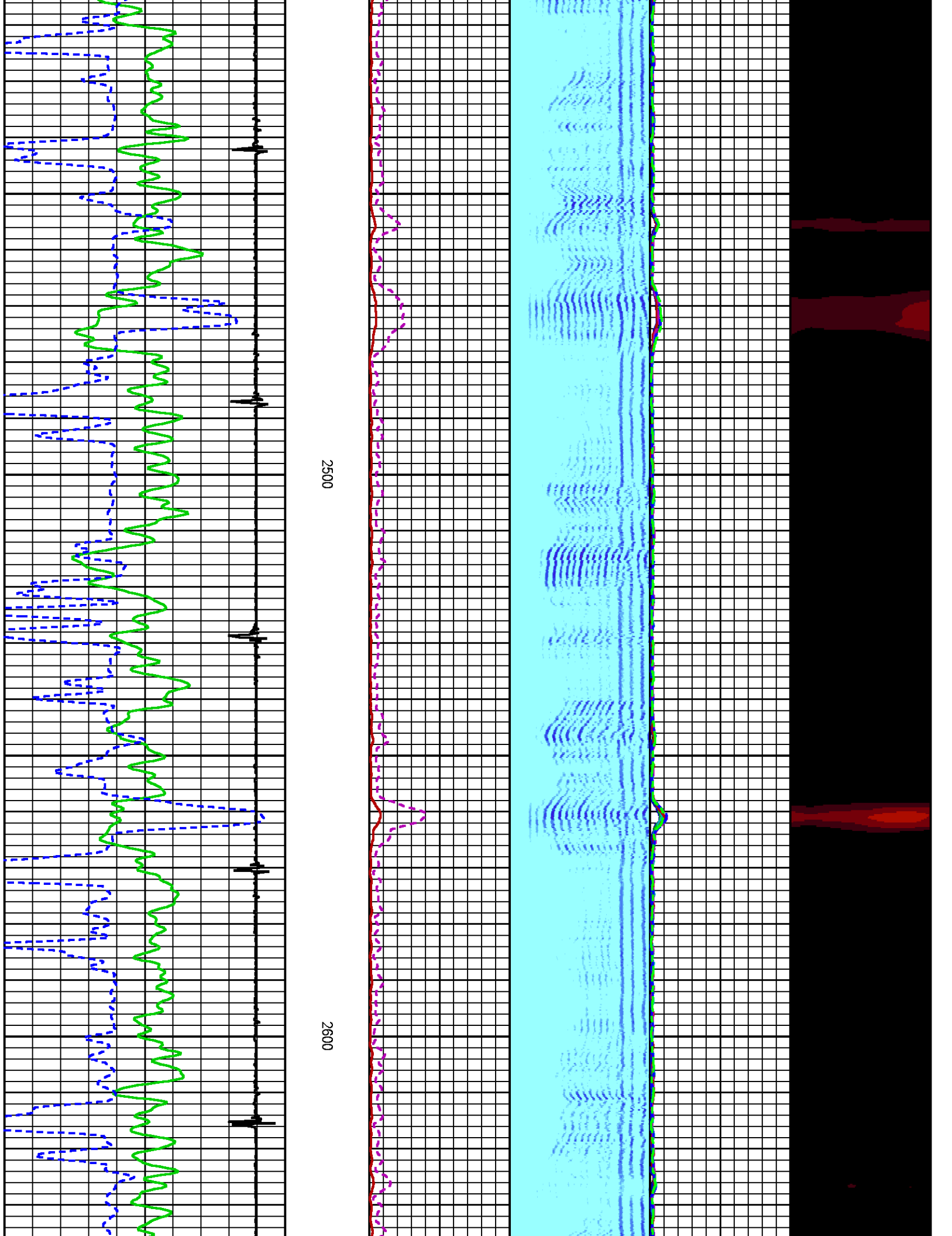


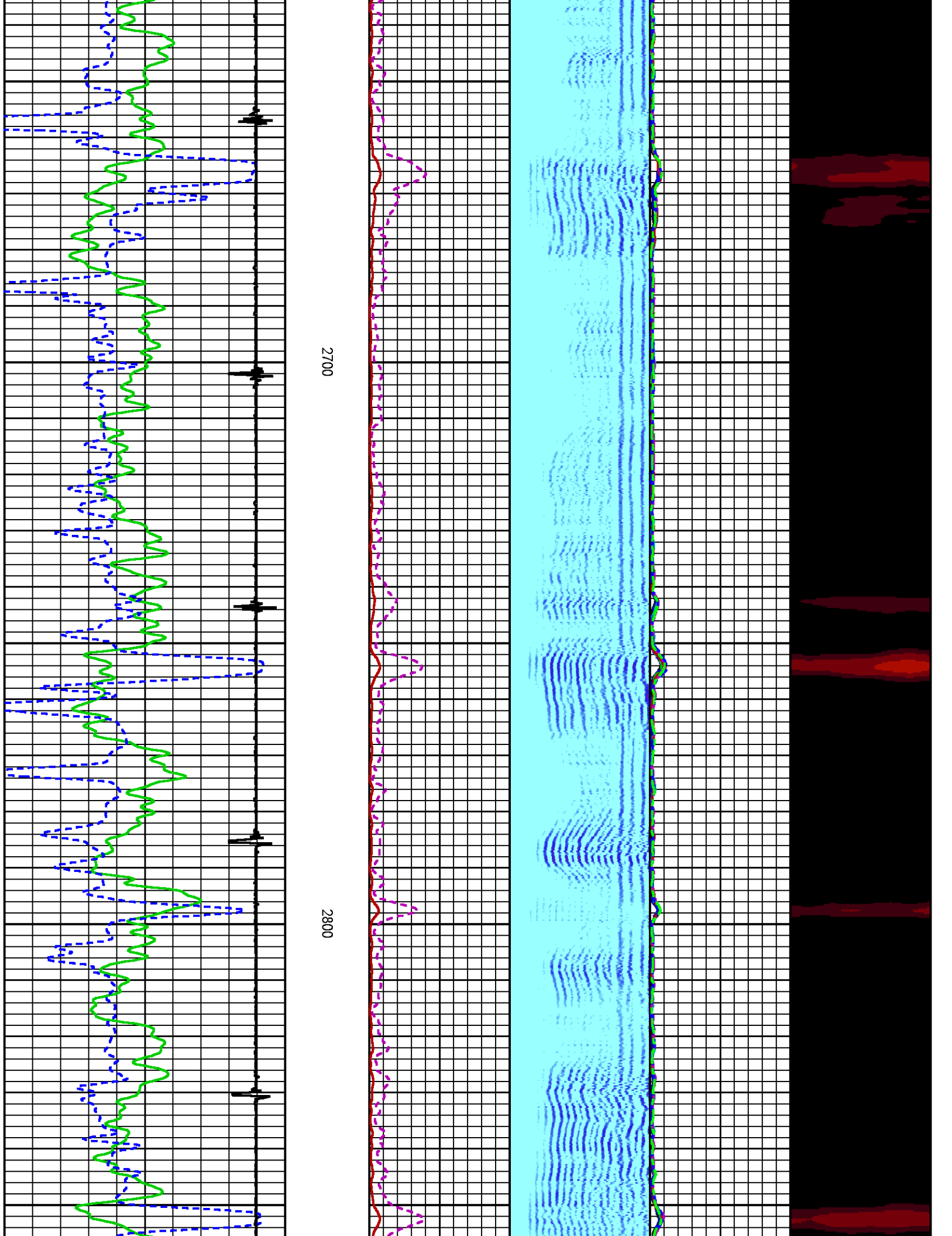


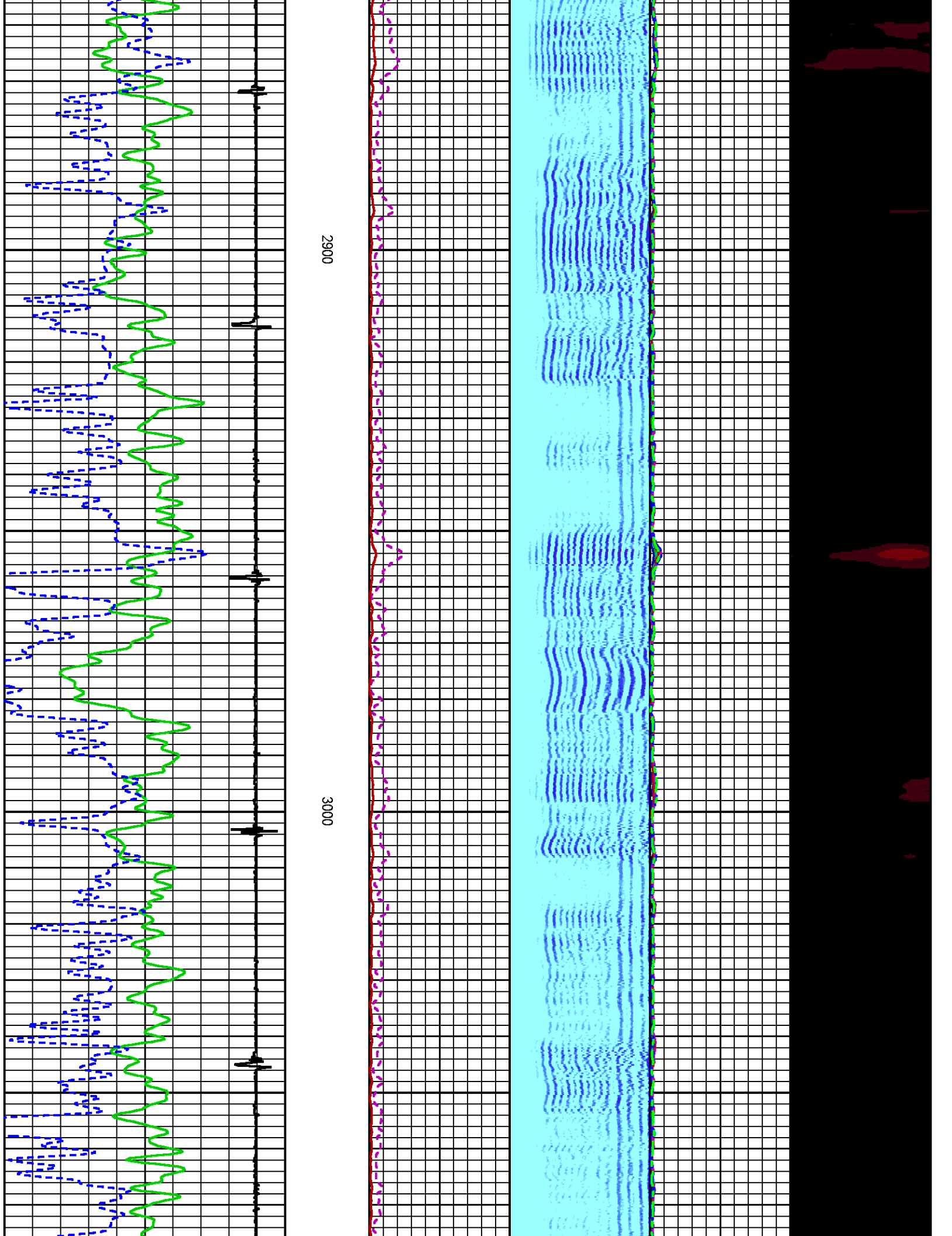


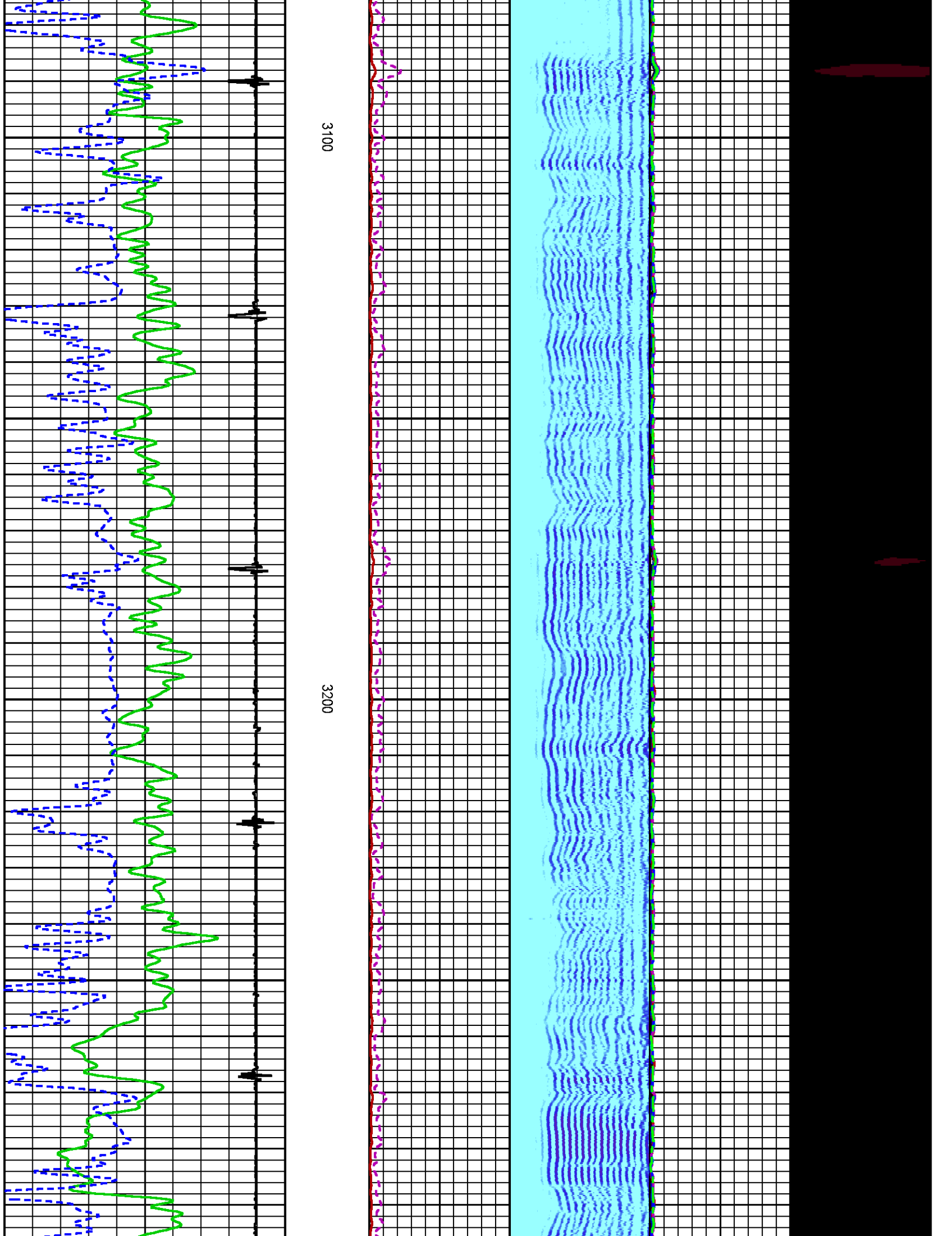


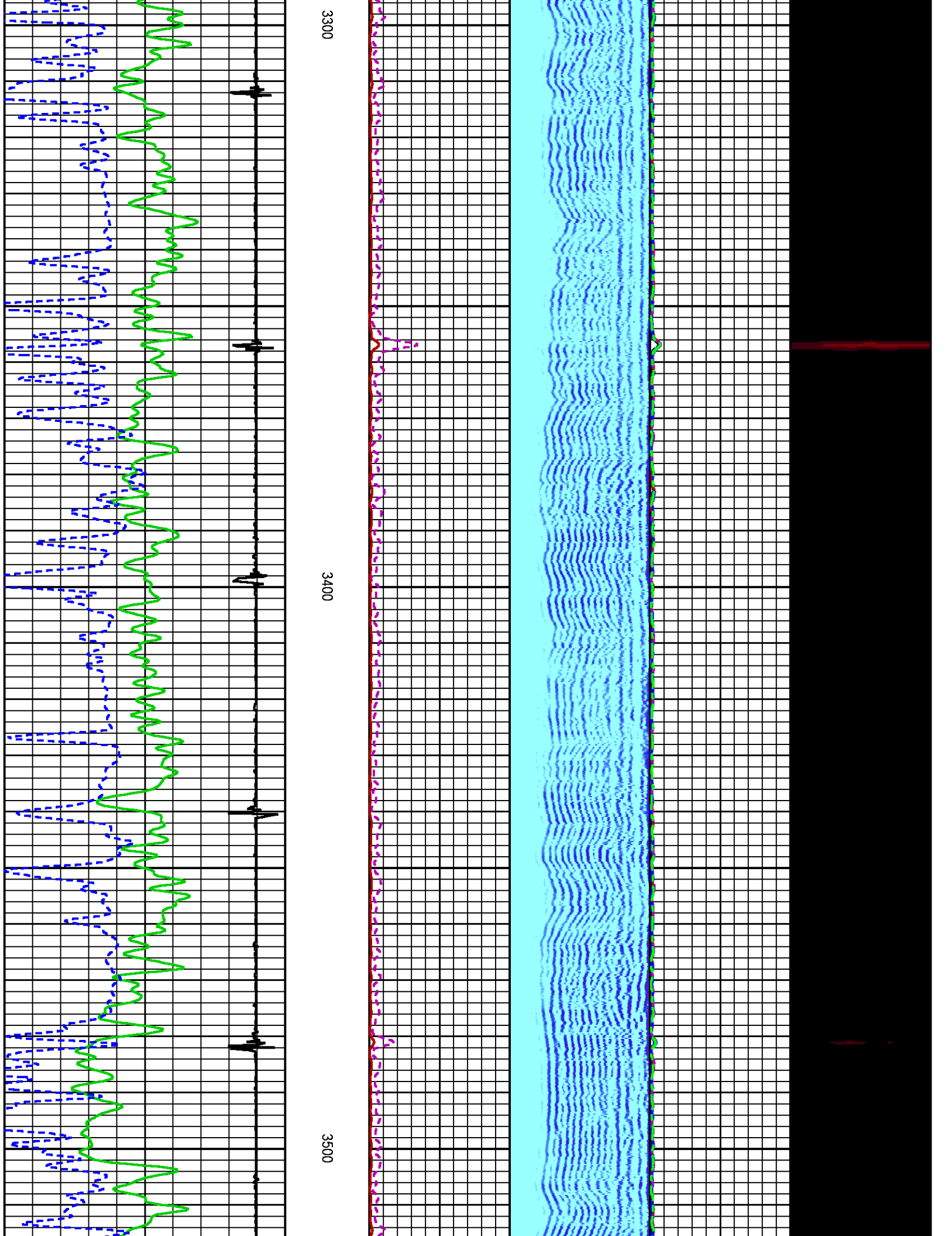


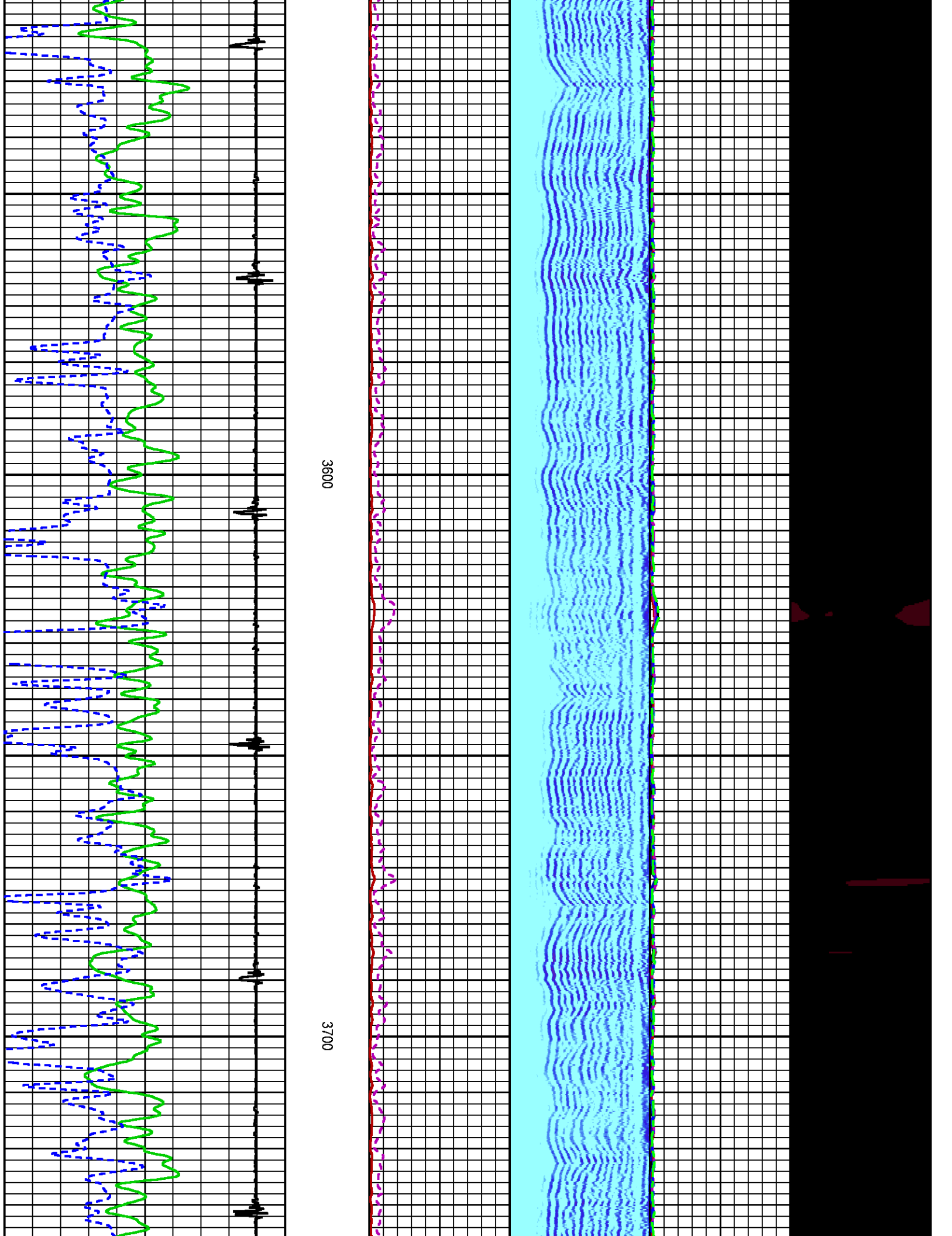


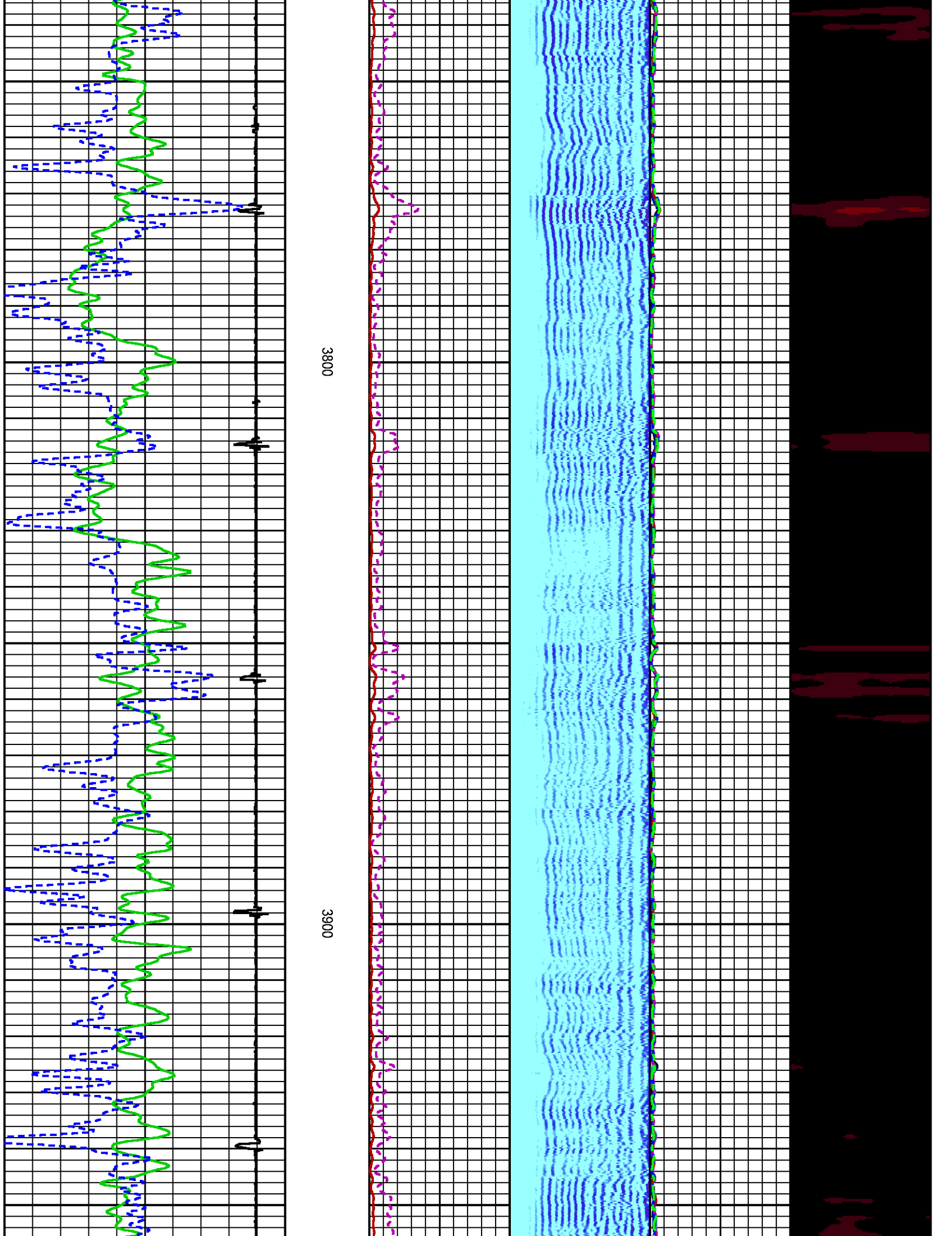


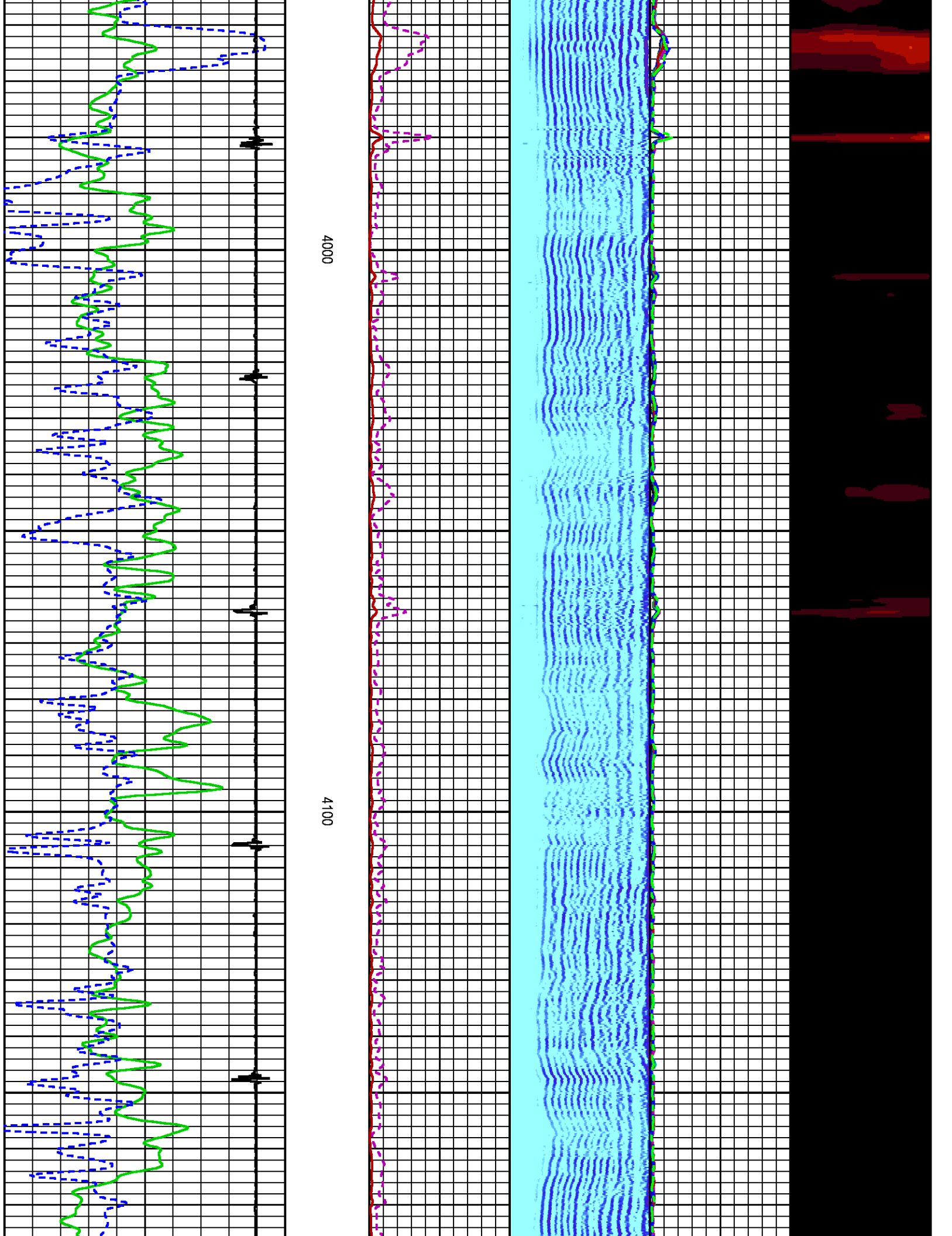


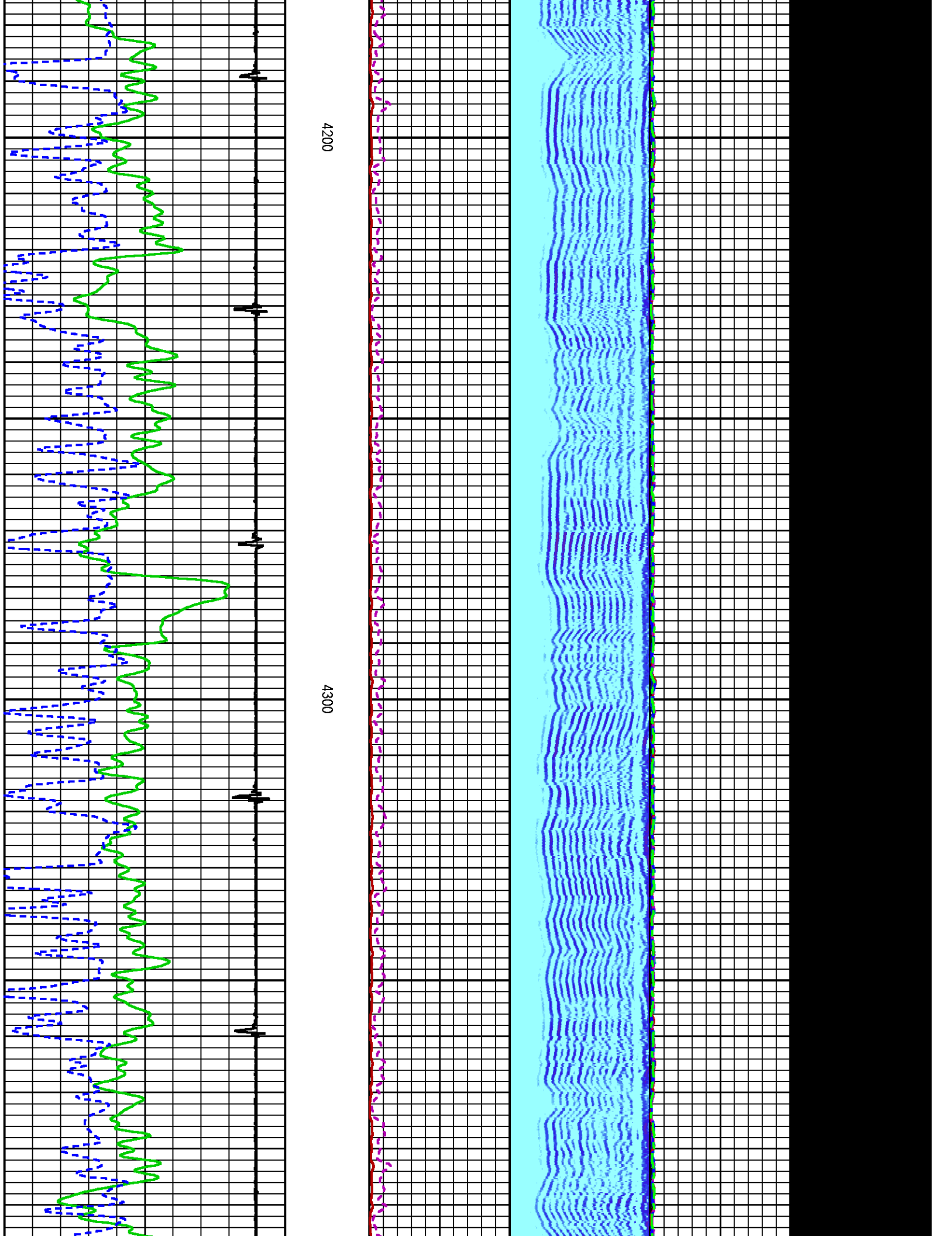


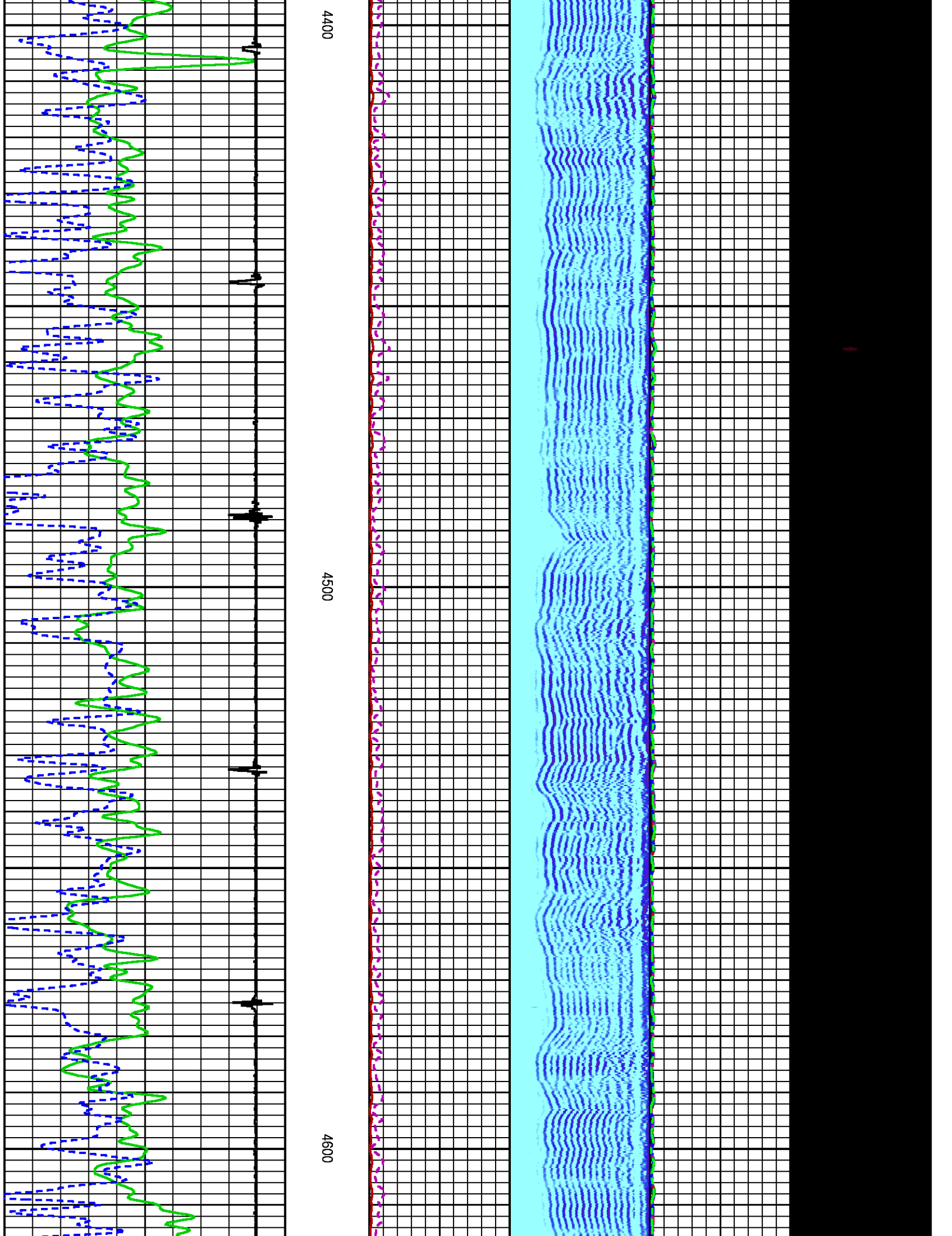


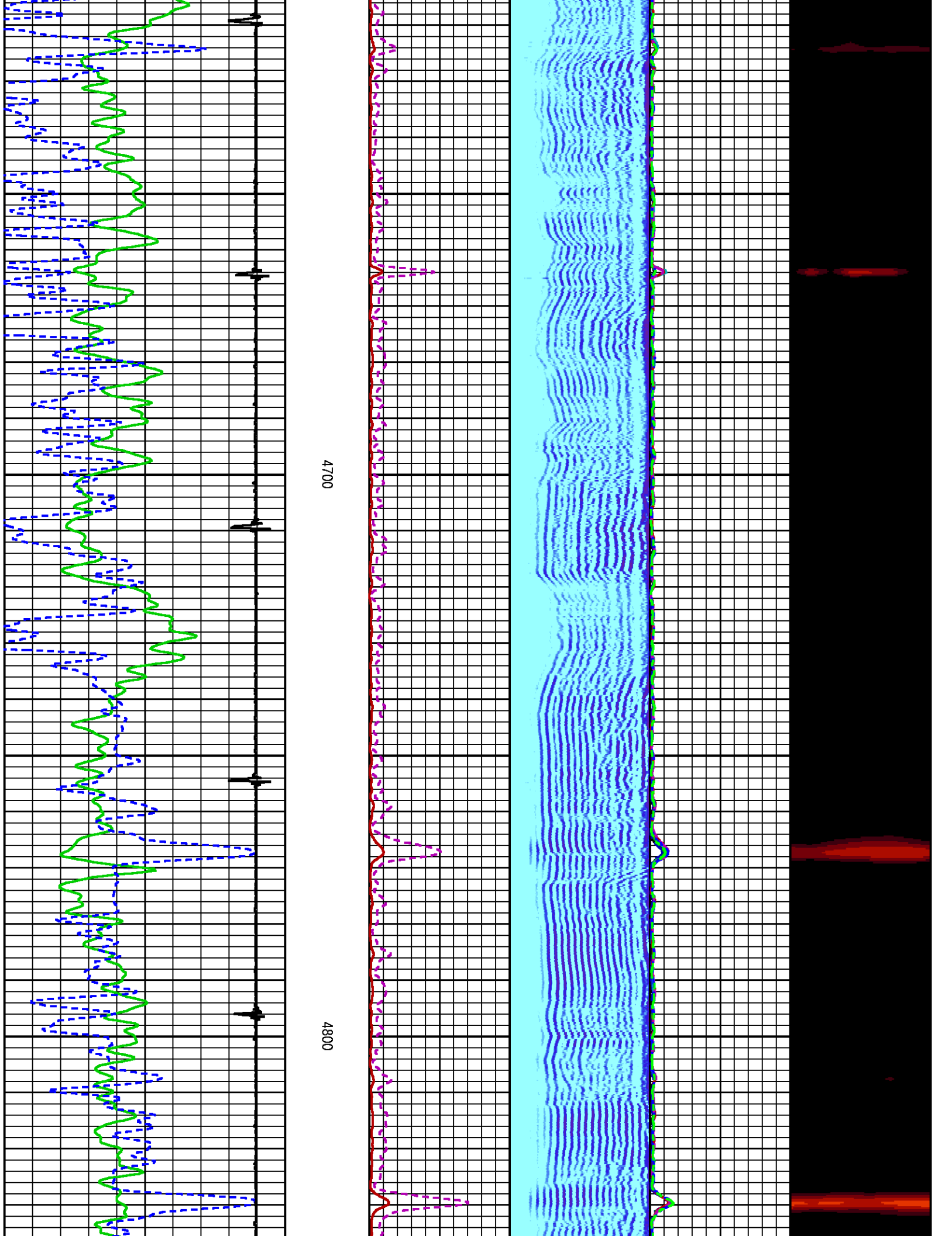


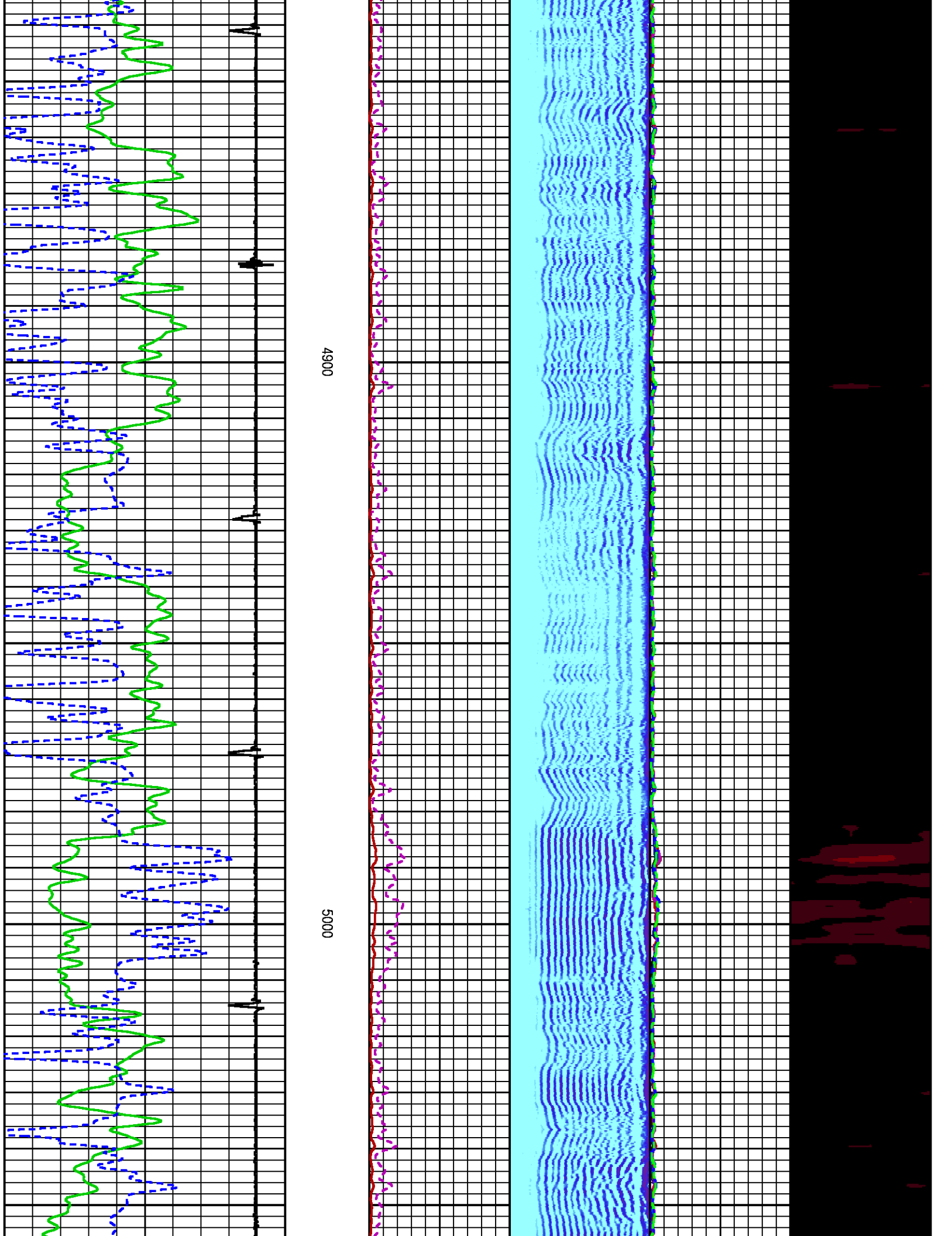


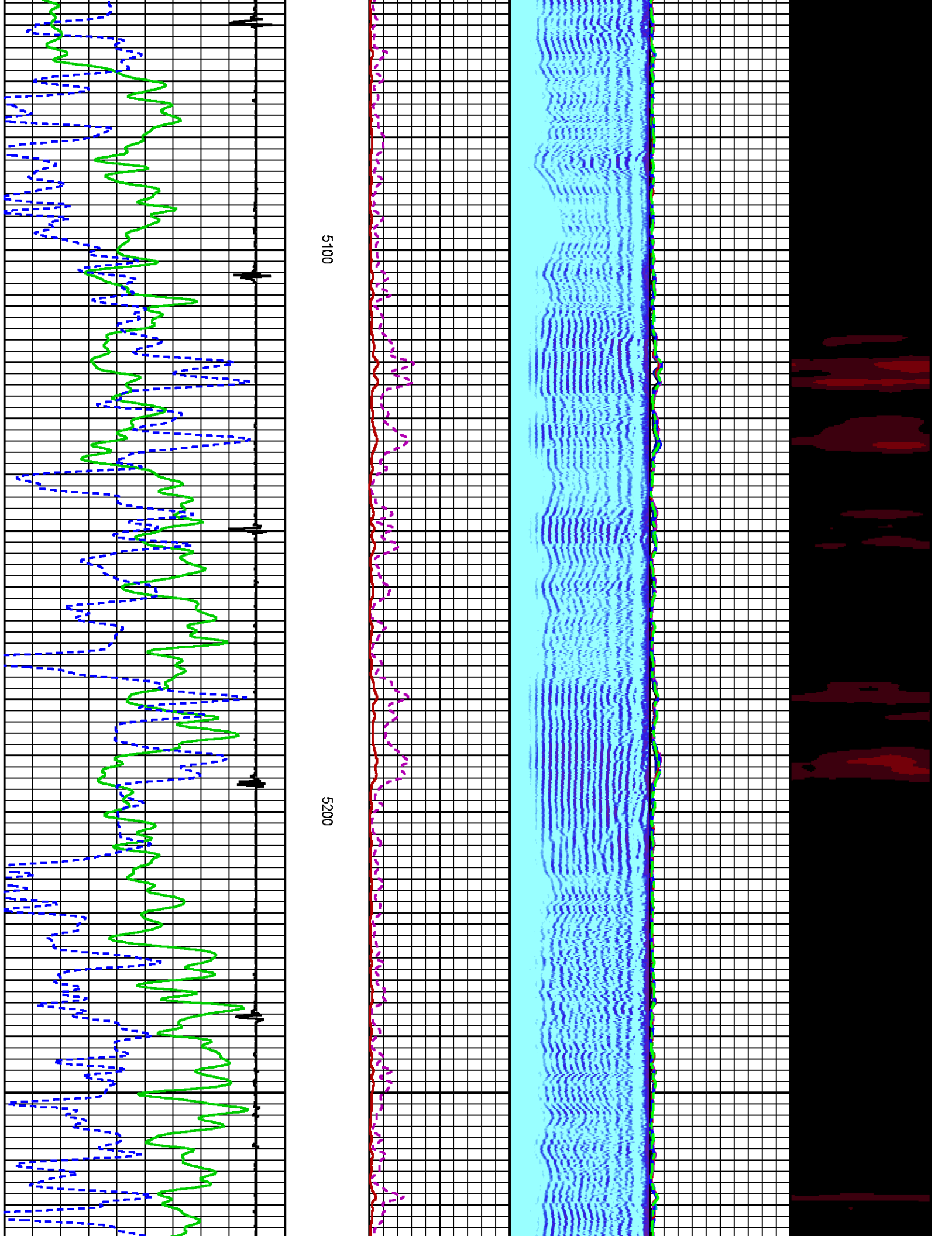


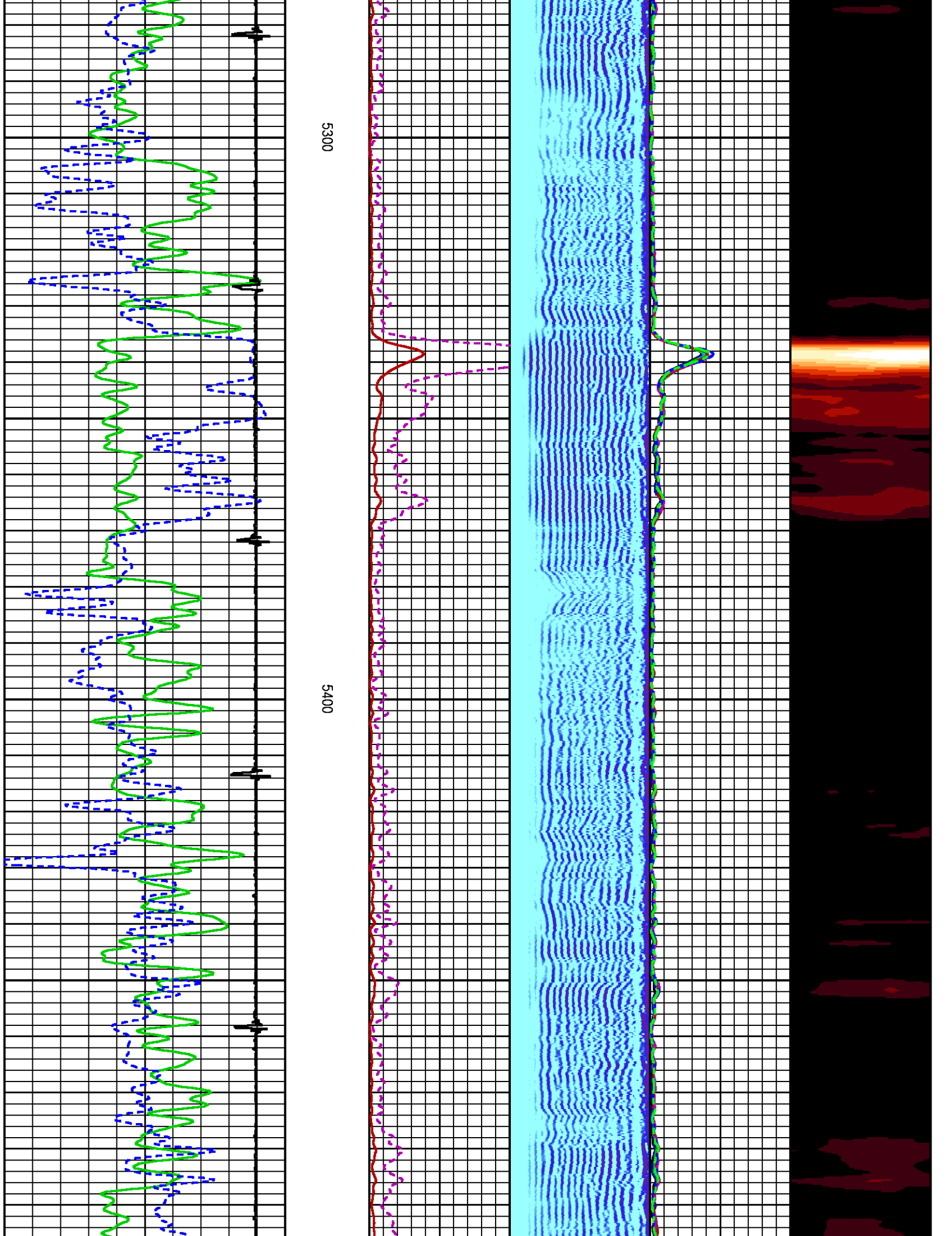


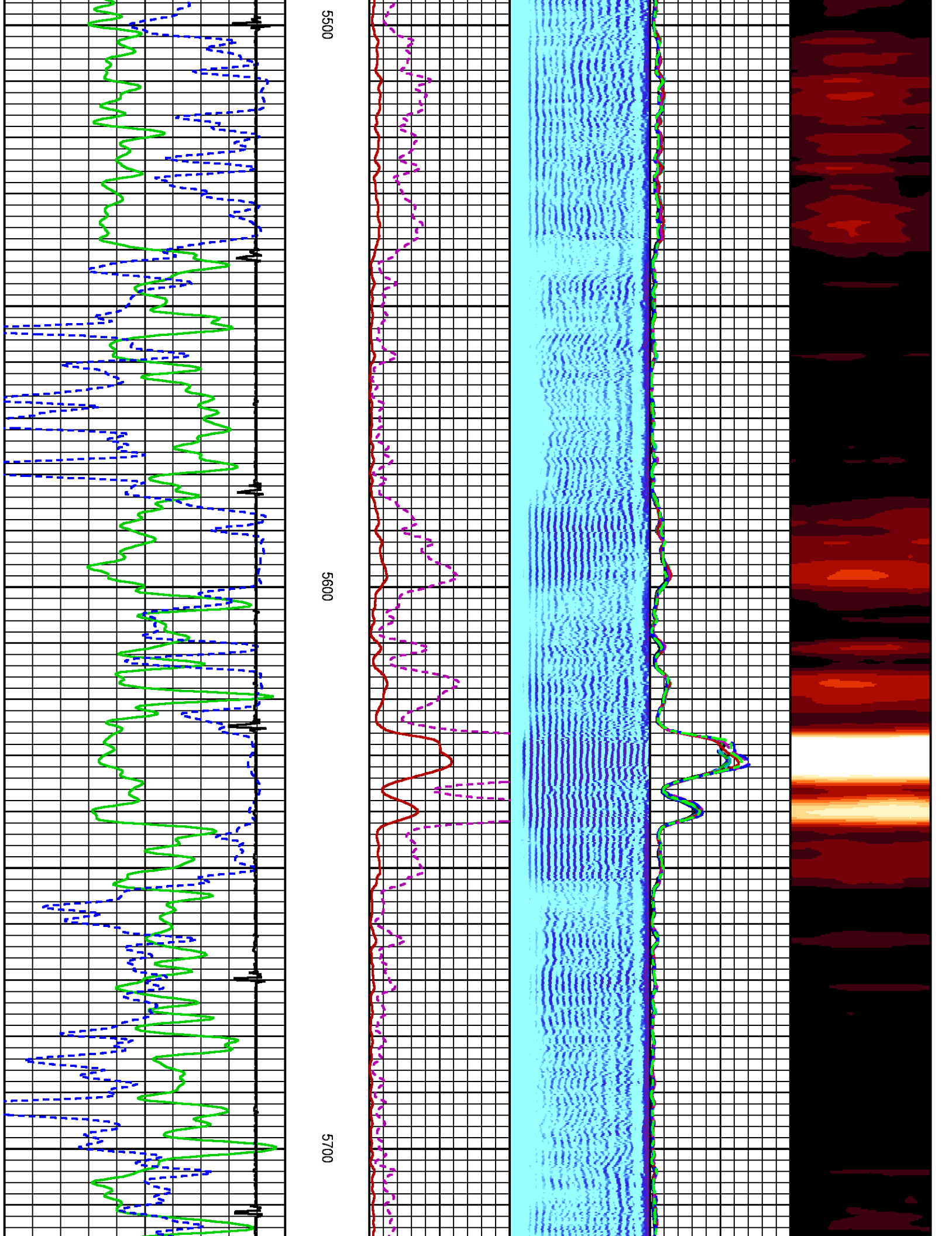


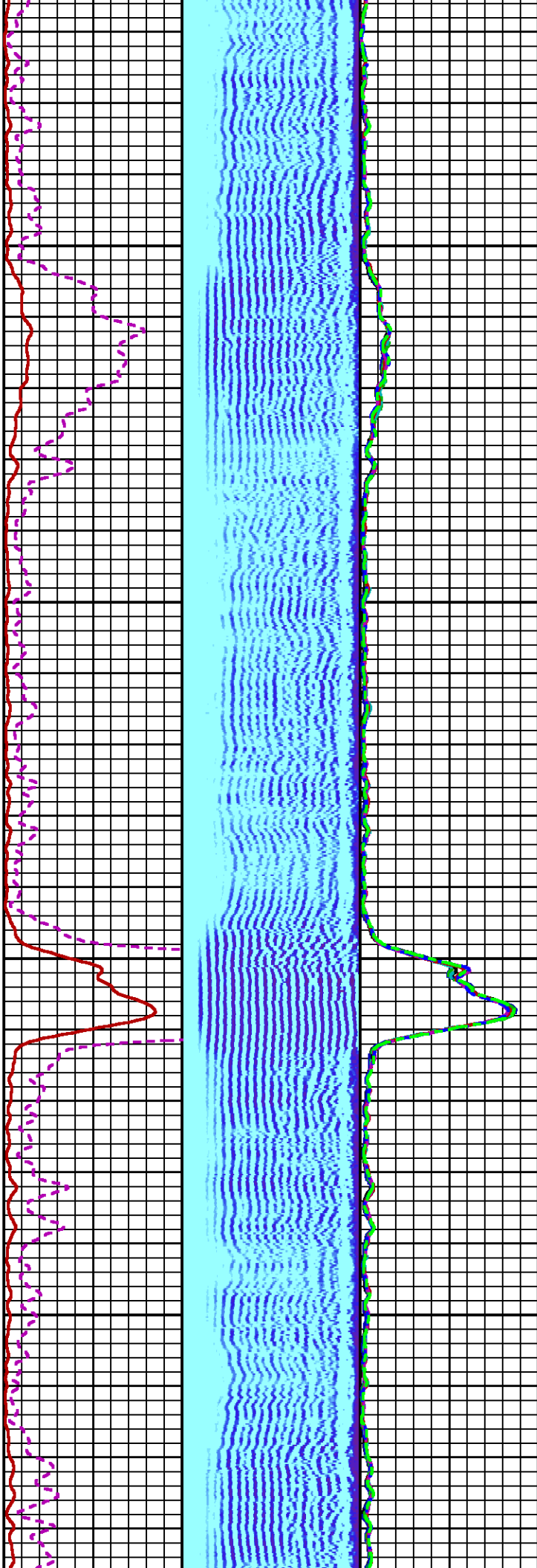






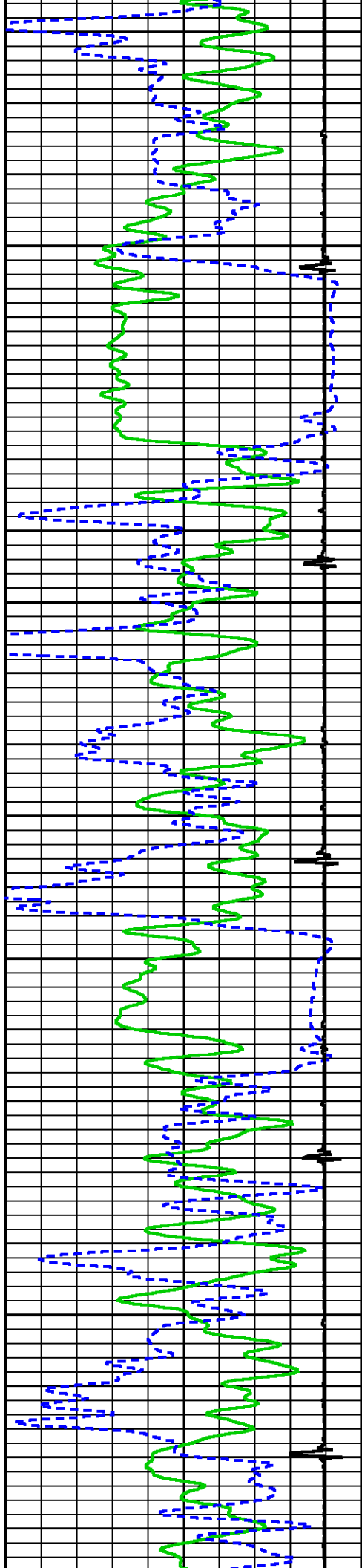


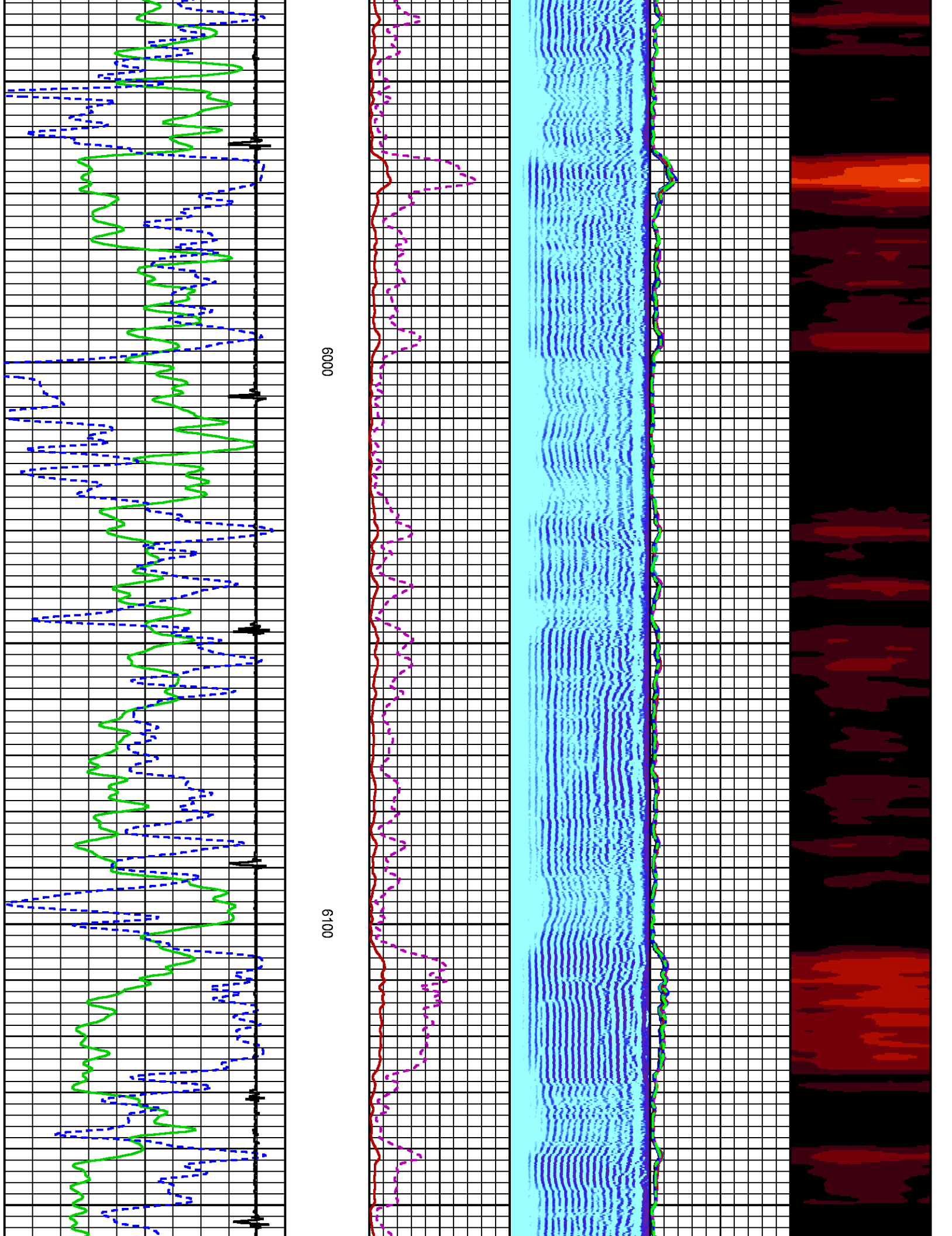


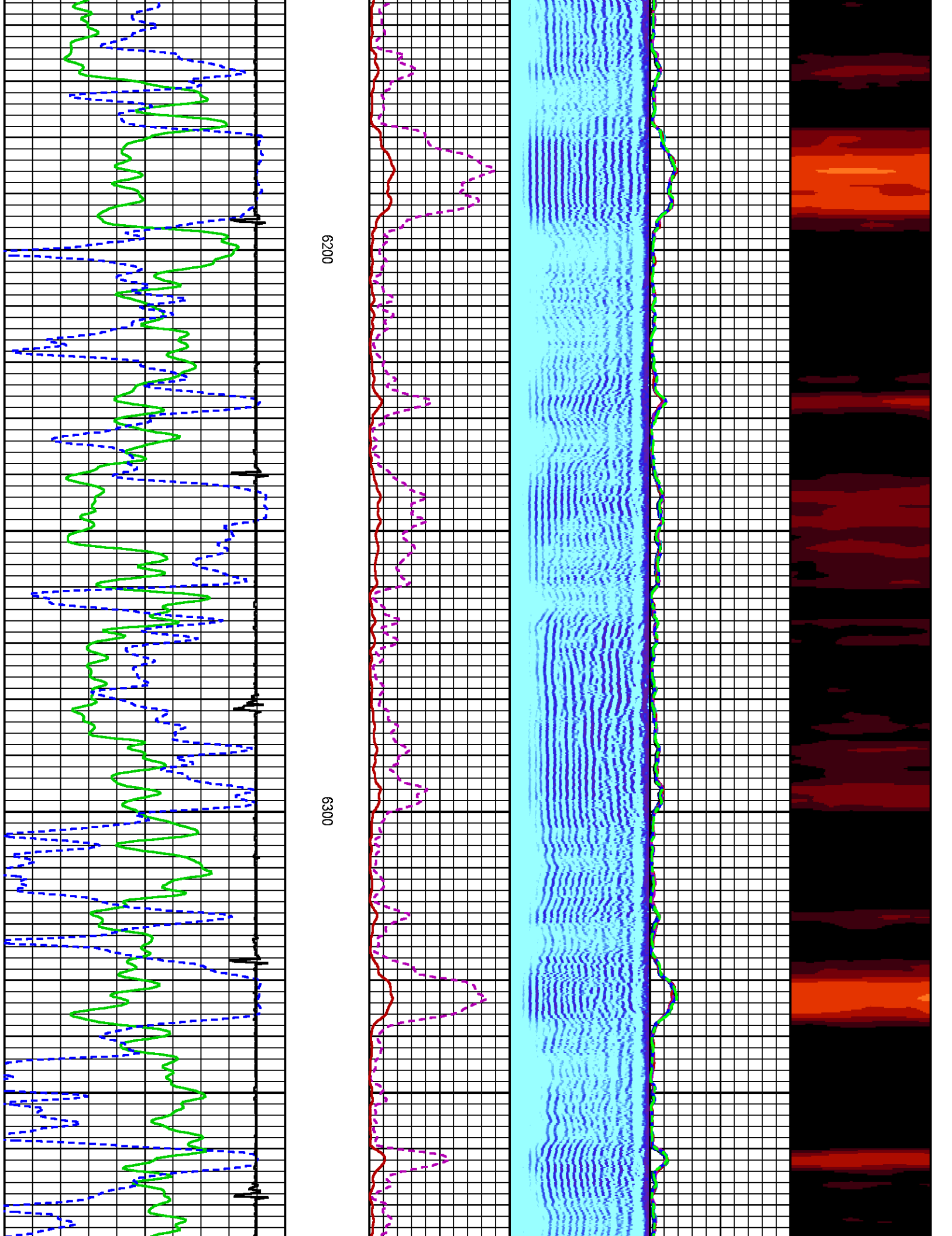


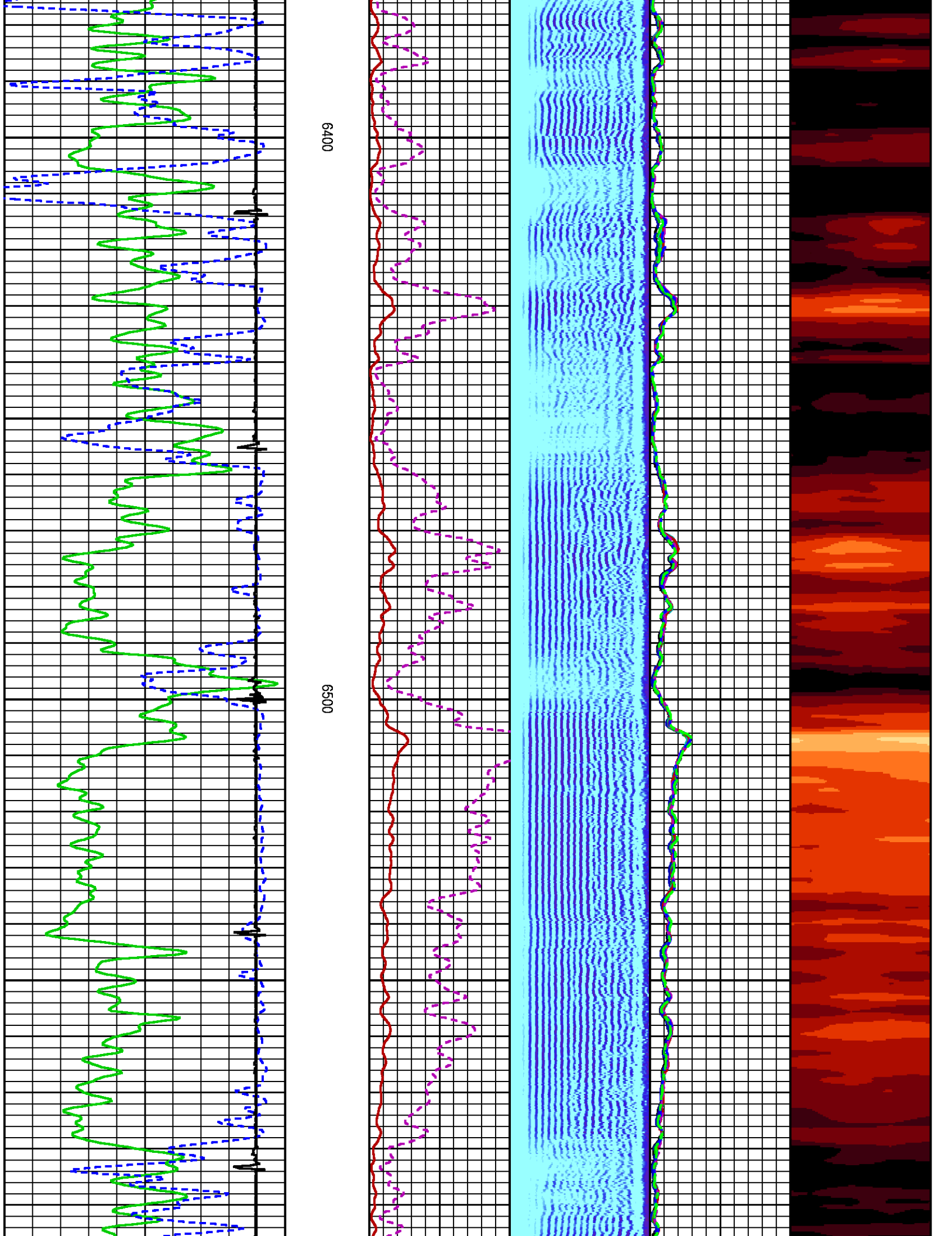
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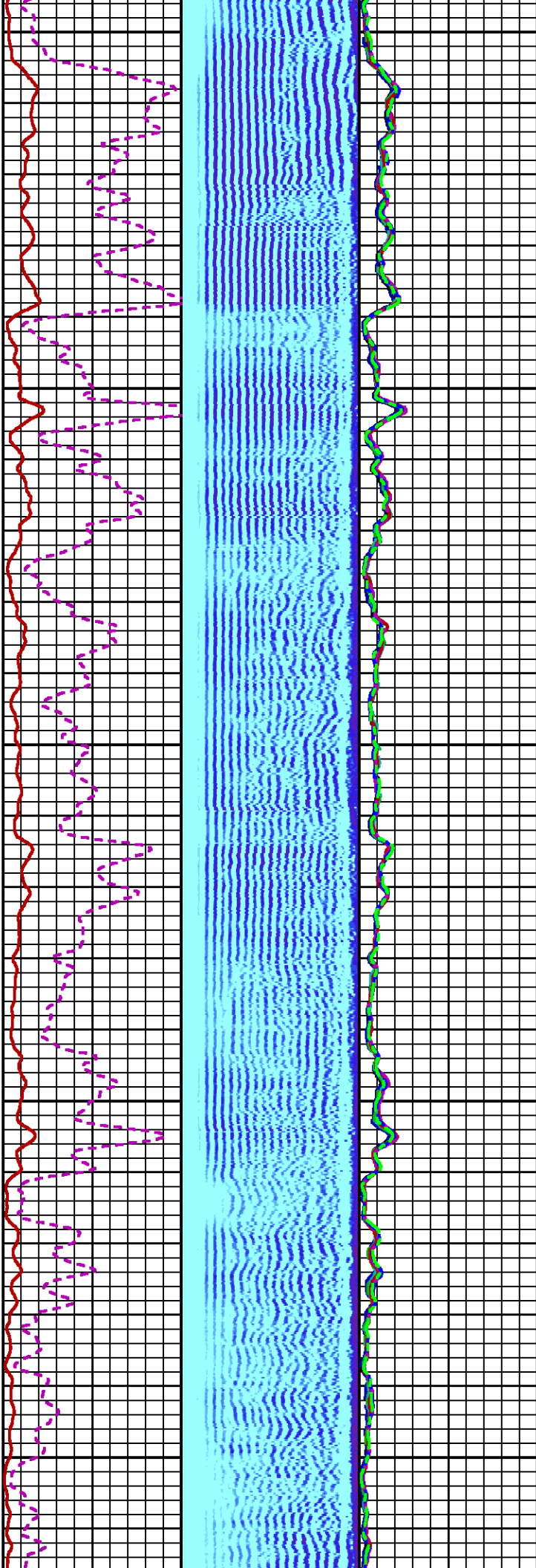
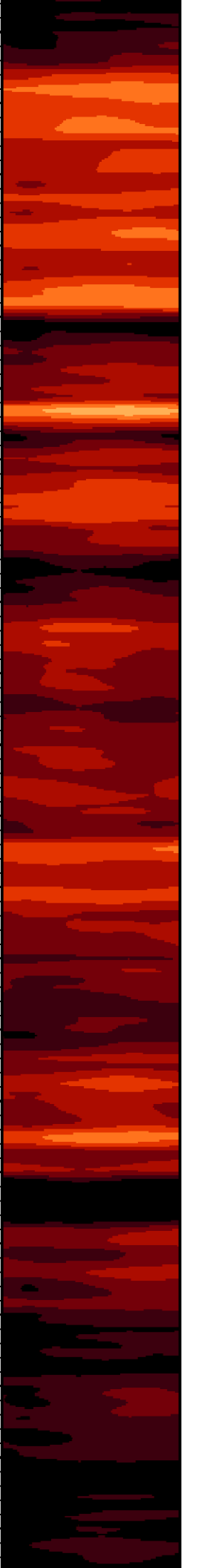
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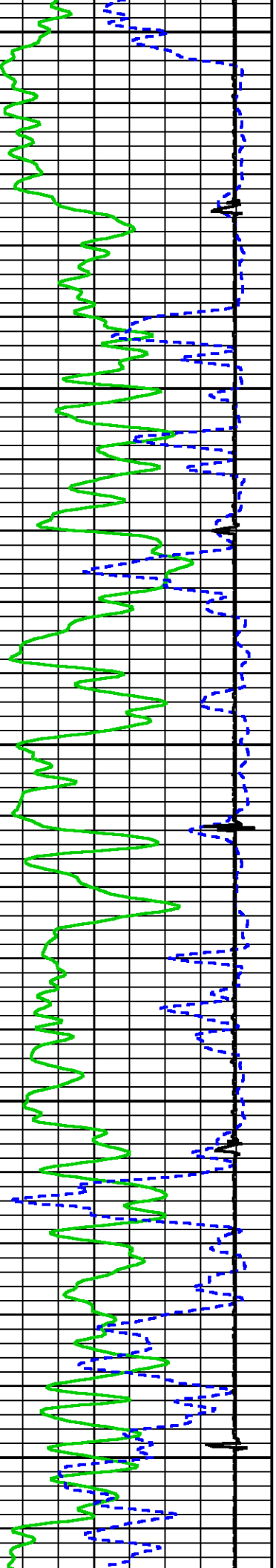


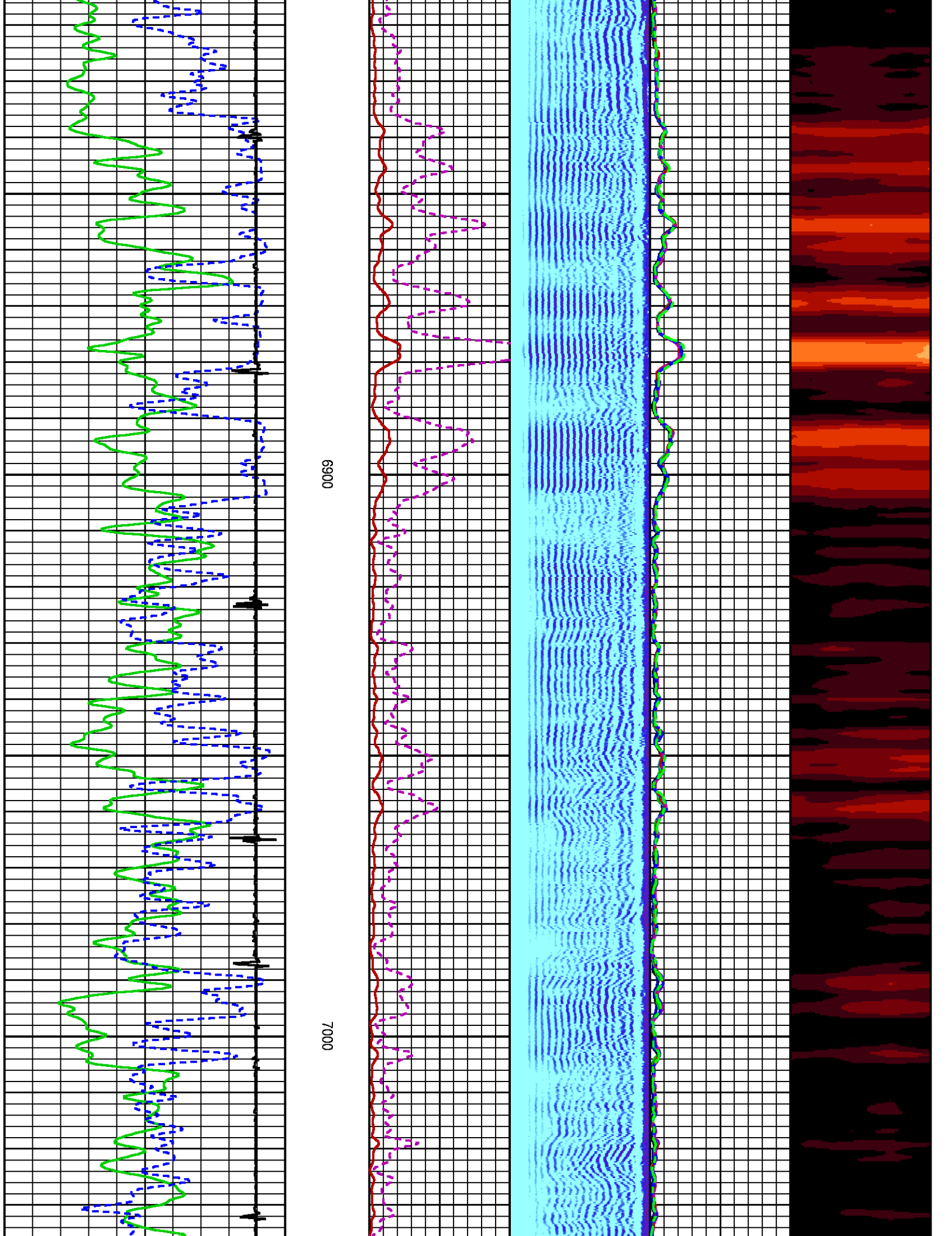


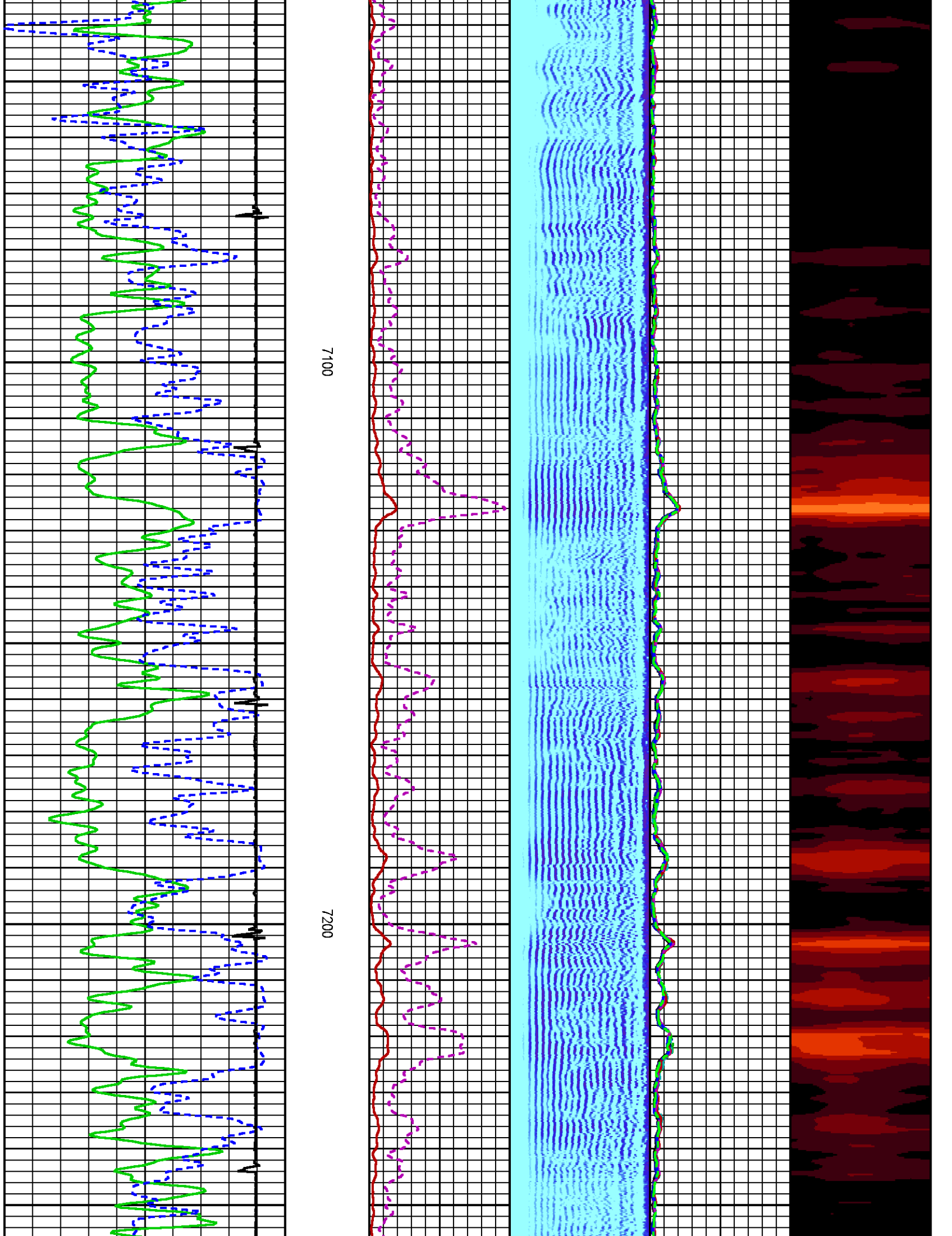
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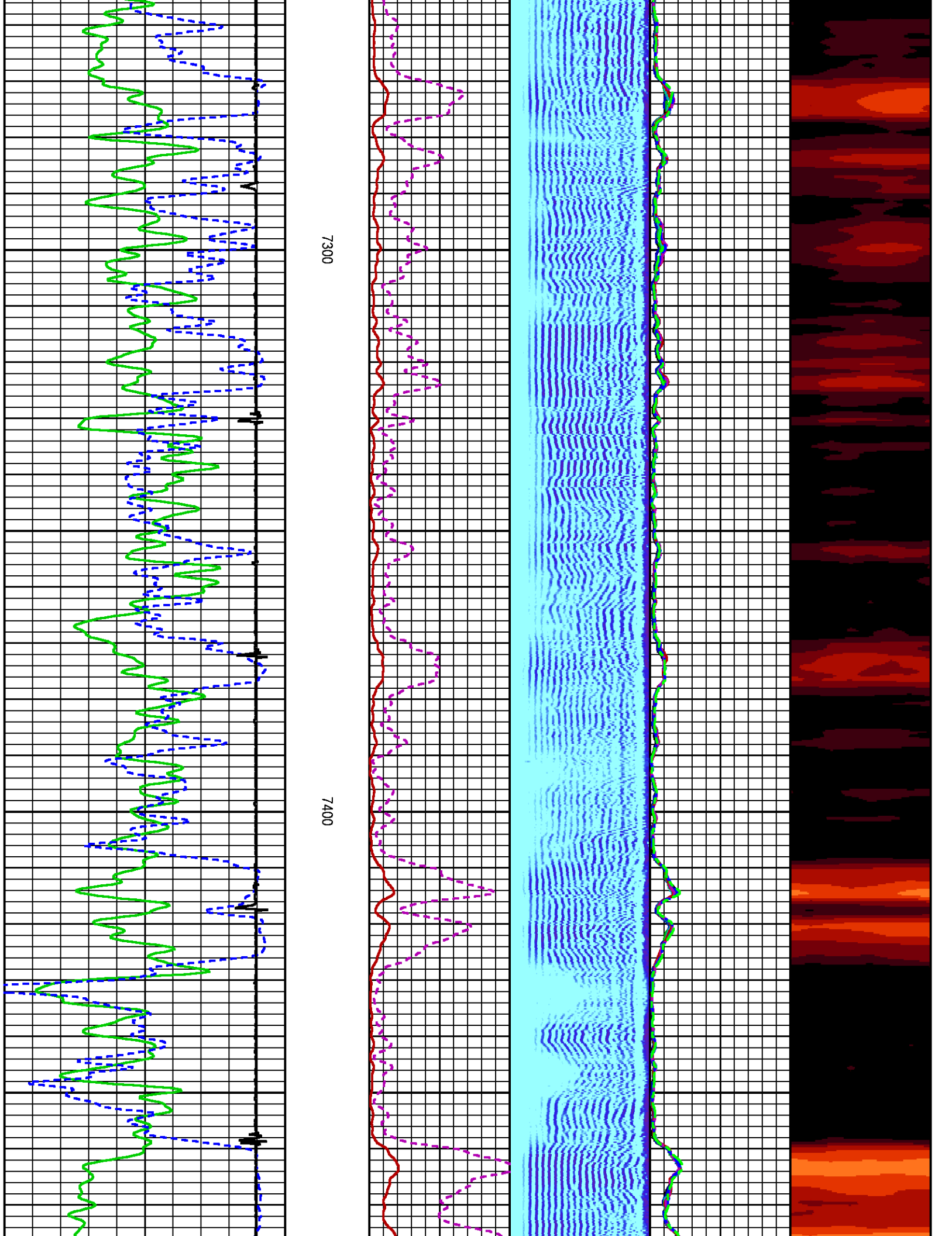
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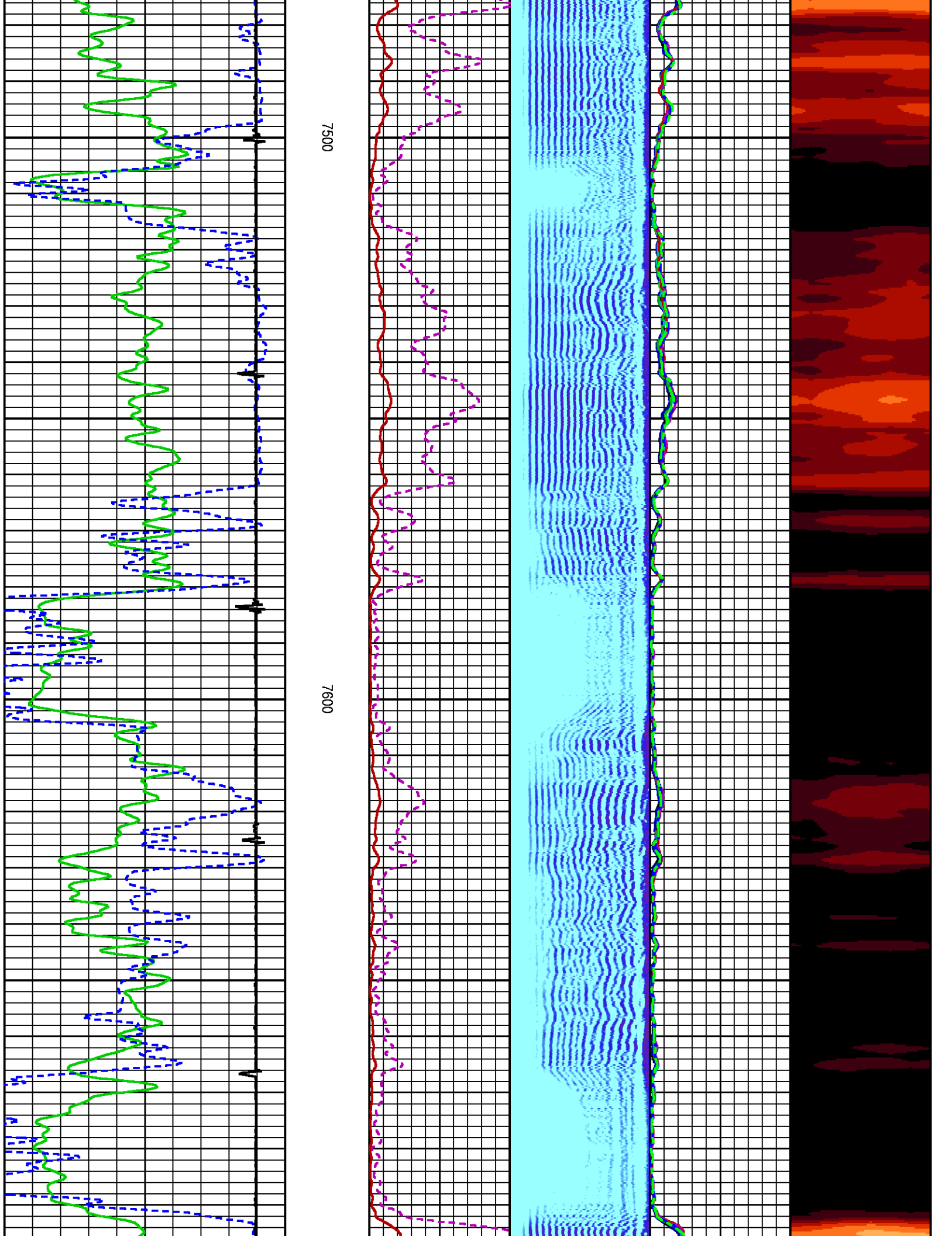
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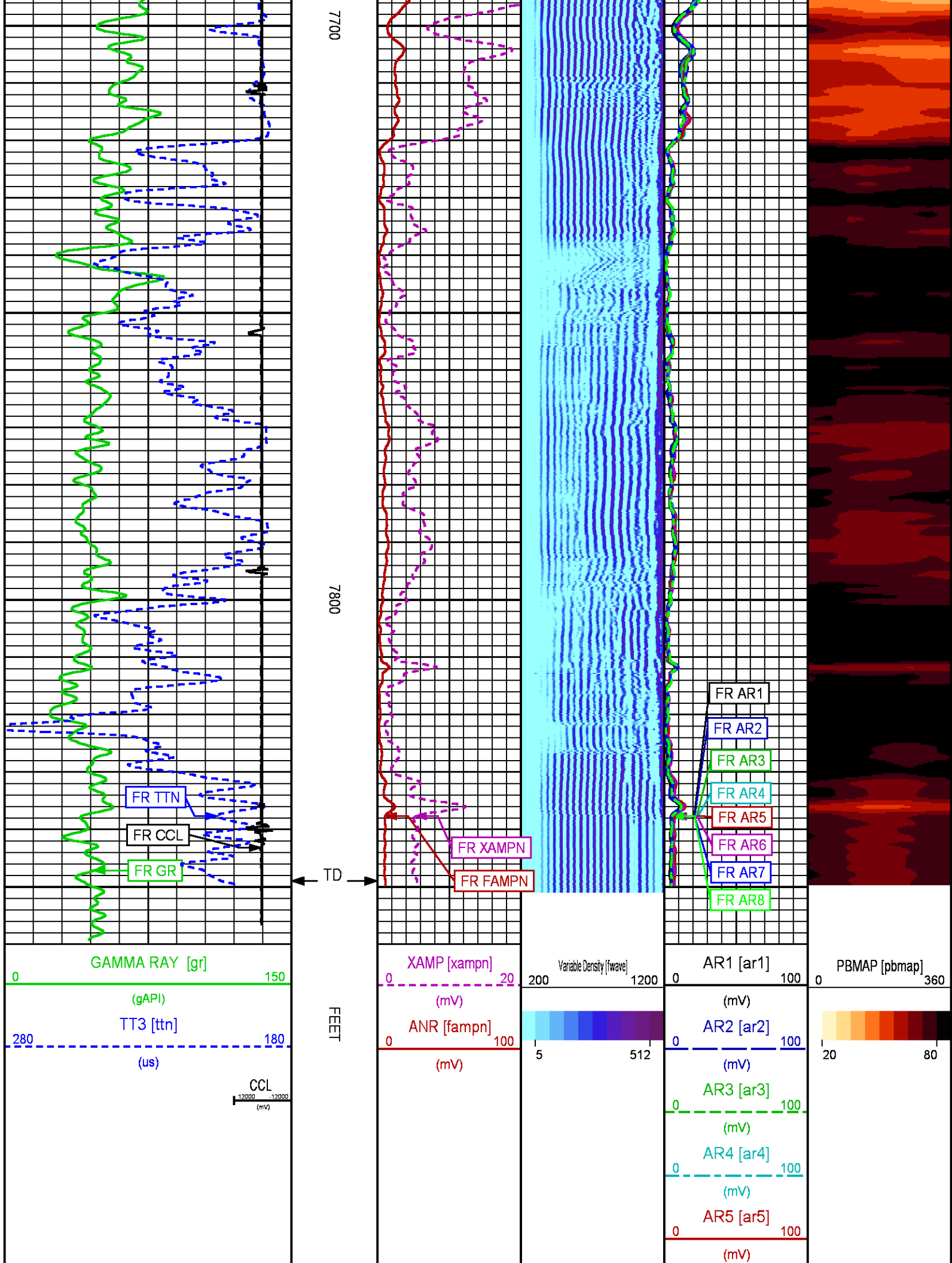


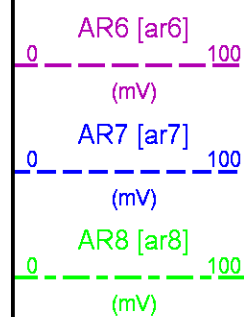












REPEAT PASS 0 PSI

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

Plotted: Mon May 29 11:08:12 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/n012g01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7552.500 ft BOTTOM DEPTH: 7864.750 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*)	178	us	TOP	BOTTOM
	AMP WINDOW START (fgp2*)	178	us	"	"
	AMP WINDOW START (fgp3*)	178	us	"	"
	AMP WINDOW START (fgp4*)	178	us	"	"
	AMP WINDOW START (fgp5*)	178	us	"	"
	AMP WINDOW START (fgp6*)	178	us	"	"
	AMP WINDOW START (fgp7*)	178	us	"	"
	AMP WINDOW START (fgp8*)	178	us	"	"
	AMP WINDOW START (fgpn*)	178	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*)	-75	us	"	"
	TOOL DELAY (str2*)	-75	us	"	"
	TOOL DELAY (str3*)	-75	us	"	"
	TOOL DELAY (str4*)	-75	us	"	"
	TOOL DELAY (str5*)	-75	us	"	"
	TOOL DELAY (str6*)	-75	us	"	"
	TOOL DELAY (str7*)	-75	us	"	"
	TOOL DELAY (str8*)	-75	us	"	"
	TOOL DELAY (strn*)	-75	us	"	"
BASELINE NOISE (NEAR)	NOISE WINDOW START	125	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	"	"
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	FULL BOND AMP REC 7	2	mV	"	"
	FULL BOND AMP REC 8	2	mV	"	"

CURVE DESCRIPTION REPORT

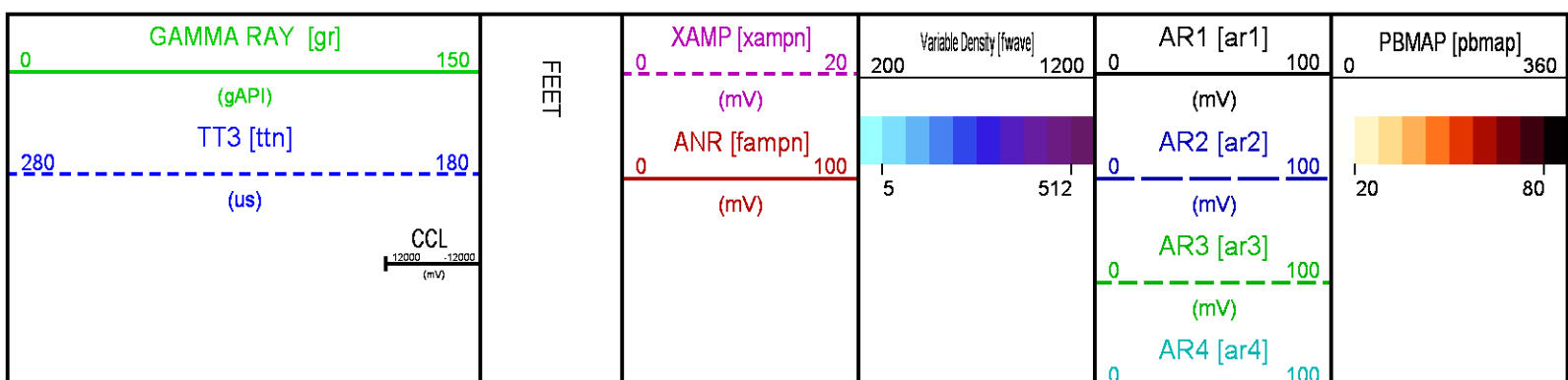
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	May 29 11:00:11 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	May 29 11:00:11 2017	CASING COLLAR LOCATOR
F1:FAMPN	May 29 11:00:11 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	May 29 11:00:11 2017	FAR WAVE FORM
F1:GR	May 29 11:00:11 2017	GAMMA RAY
F1:PBMAP	May 29 11:00:11 2017	PERCENT BOND CEMENT MAP
F1:TTN	May 29 11:00:11 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	May 29 11:00:11 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

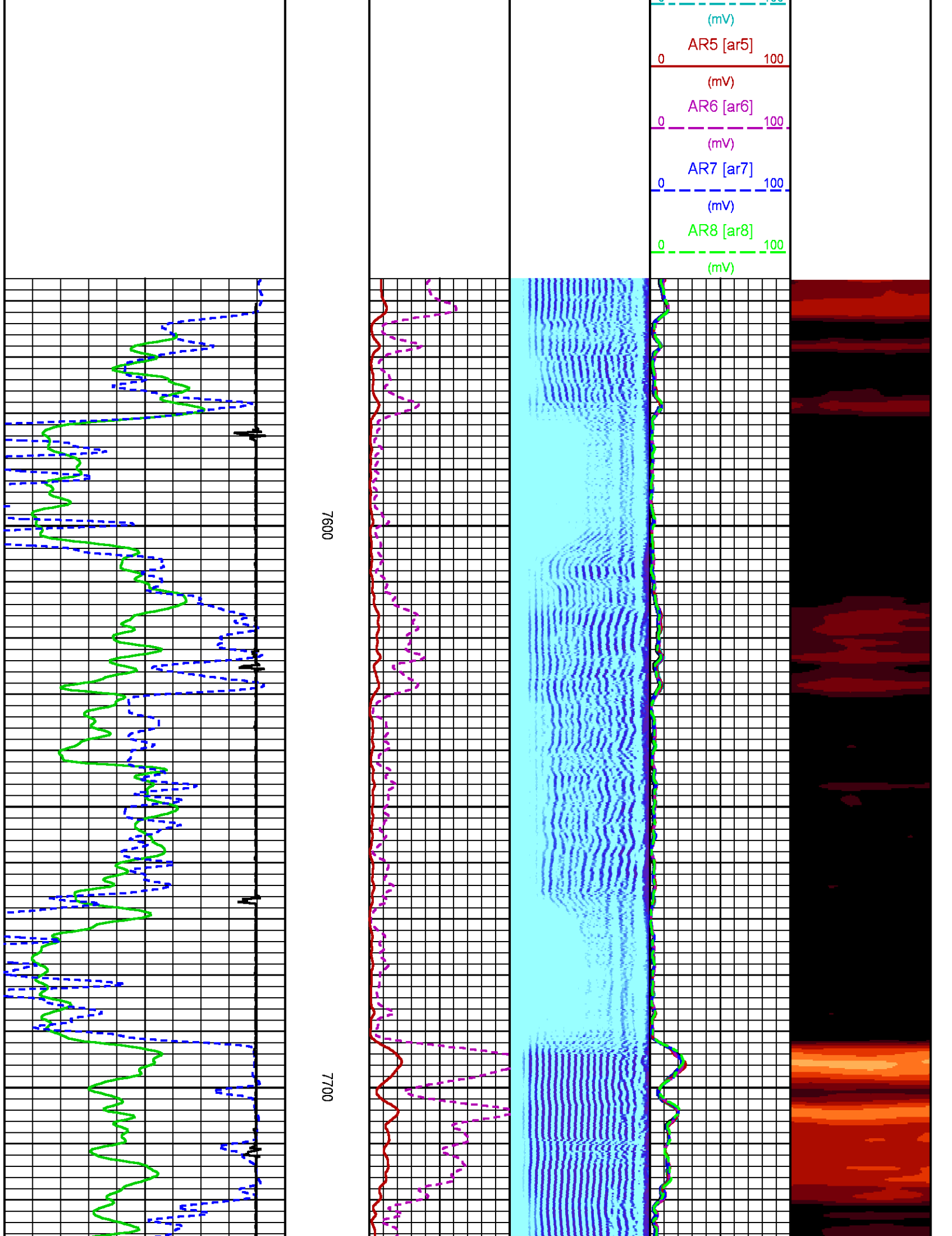
CURVE MEASURE POINT OFFSET

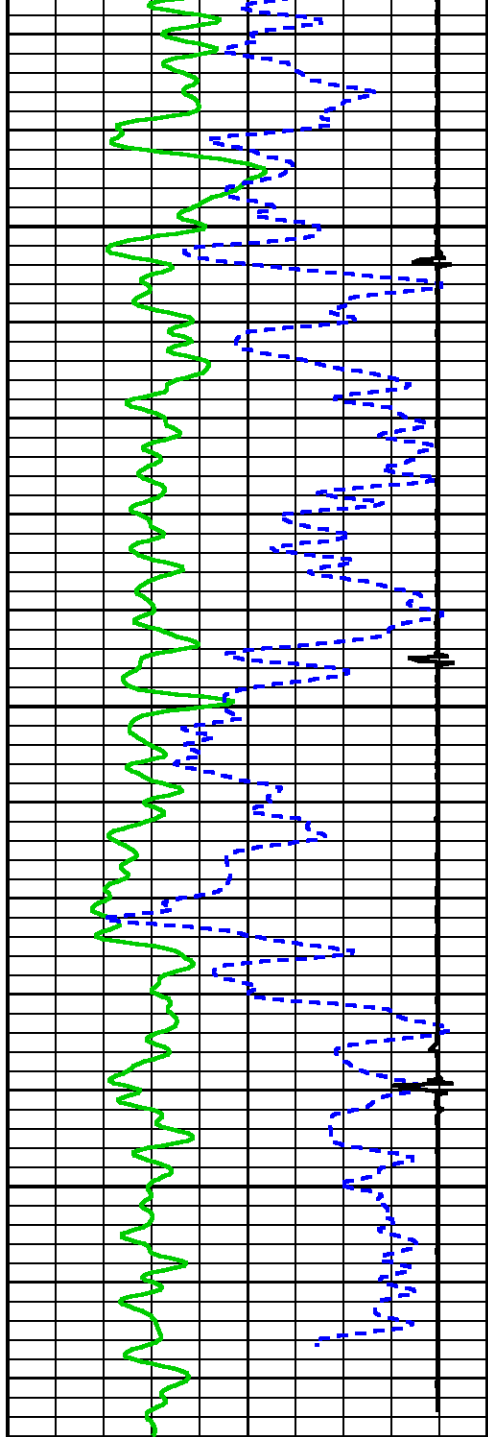
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	11.25	AR5	11.25	CCL	5.75	XAMPN	11.25
AR2	11.25	AR6	11.25	FAMPN	11.25		
AR3	11.25	AR7	11.25	GR	1.75		
AR4	11.25	AR8	11.25	TTN	11.25		

Presentation : cpu100:ral_all+01-REPEAT-RAL_REPEAT_18E-5.fvpdf [5"/100' Scale]
Plot Interval : 7541.75 - 7863.5 Feet

Data File 1 : F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_18E/RAL_REPT_18E.xtf
Created On : May 29 11:00:11 2017
Company : LARAMIE ENERGY
Well : PICEANCE 29-18E
Field : VEGA
File Interval : 7540.75 - 7864.75 Feet
OCT : n012g

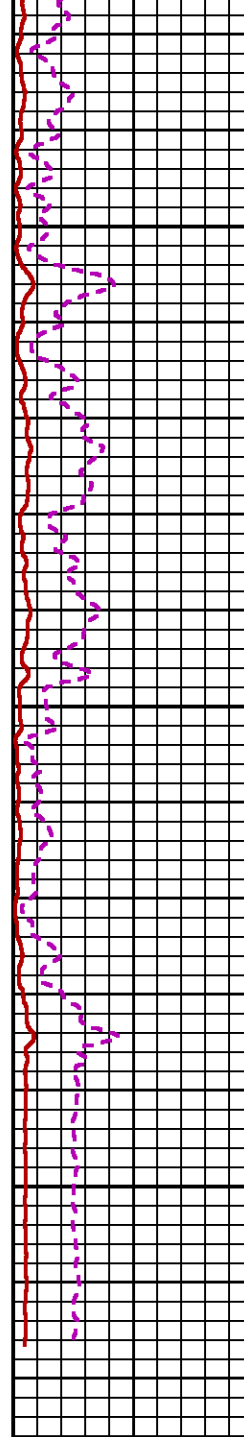




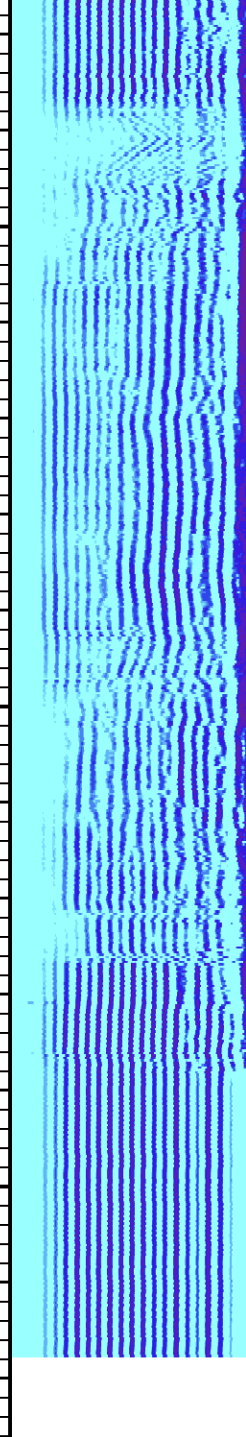


7800

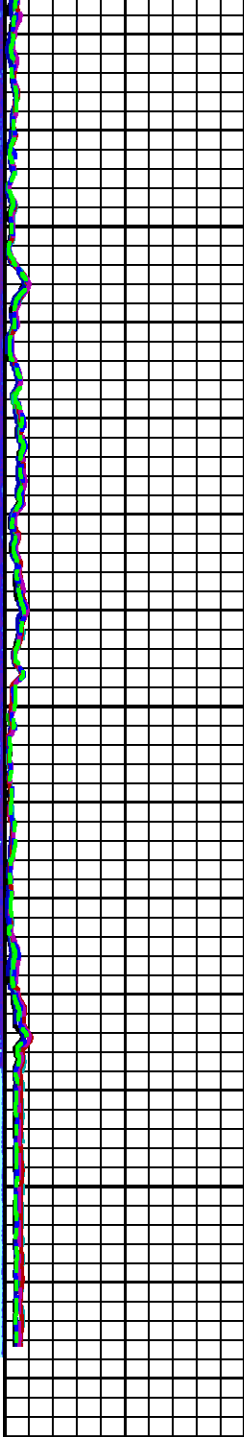
FEET



XAMP [xampn]
(mV)
ANR [fampn]
(mV)



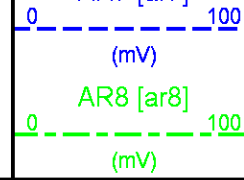
Variable Density [fwave]
200 1200
5 512



AR1 [ar1]
(mV)
AR2 [ar2]
(mV)
AR3 [ar3]
(mV)
AR4 [ar4]
(mV)
AR5 [ar5]
(mV)
AR6 [ar6]
(mV)
AR7 [ar7]
(mV)



PBMAP [pbmap]
0 360
20 80



CALIBRATION / VERIFICATION SUMMARY

Source File: \dat1a\ARAME_PICEANCE_FEDERAL_29_18E#012g.tp1

RAL PRIMARY CALIBRATION SUMMARY

TOOL #:	1426XA10218497	DATE/TIME PERFORMED:	Fri May 26 10:02:14 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)	-0.07	0.00	-0.01	0.00	-0.04	-0.06	-0.03	-0.04	0.01	0.13	-0.02
AMP FLUID (mV)	96	97	97	95	96	96	97	97	97	152	95
TT (us)	212	212	212	211	211	211	211	211	213	324	212
M FACTOR	1.04	1.03	1.04	1.05	1.04	1.04	1.03	1.03	1.04	0.99	1.05

RAL BEFORE LOG VERIFICATION SUMMARY

TOOL #:	1426XA10218497	DATE/TIME PERFORMED:	Fri May 26 10:03:31 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	0.00	0.02	-0.02	0.03	0.00	0.03	-0.03	0.00	-0.02	0.09	-0.01
AMP AIR	0.20	-0.28	-0.42	0.50	0.59	0.31	0.51	0.24	-0.02	0.79	99.99
	SHOP M FACTOR	SHOP A FACTOR	WIRELINE FACTOR								
	1.05	0.00	1.00								

GR PRIMARY CALIBRATION SUMMARY

TOOL #:	1355XA111155	DATE/TIME PERFORMED:	Tue Nov 15 11:09:30 2016				
UNIT #:	3880TA HL6670	CALB JIG #:	4702NK DA_228				
	BACKGROUND (cts)	CALBTR ON (cts)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBTR ON (gAPI)	CALBTR (gAPI)
GR	73.82	227.20	153.4	0.652	48.13	148.13	100

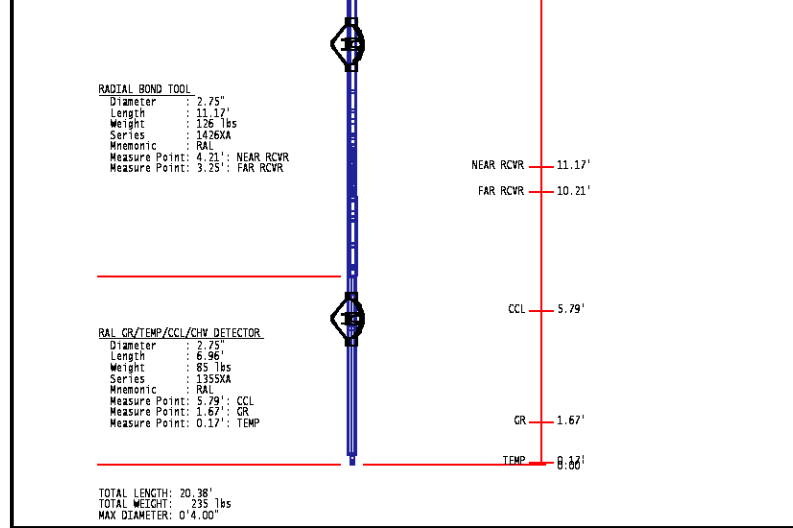
GR PRIMARY VERIFICATION SUMMARY


TOOL #:	1355XA111155	DATE/TIME PERFORMED:	Tue Nov 15 11:10:37 2016			
UNIT #:	3880TA HL6670	VERI JIG #:	4702NK DA_228			
	BACKGROUND (cts)	CALBTR ON (cts)	MULT	BACKGROUND (gAPI)	CALBTR ON (gAPI)	DIFF. (gAPI)
GR	76.31	230.40	0.652	49.75	150.22	100.46

INSTRUMENT CONFIGURATION

Source File: \dat1a\ARAME_PICEANCE_FEDERAL_29_18E\RAL-tdg

CABLEHEAD		20.38'
Diameter	: 2.25"	
Length	: 2.25'	
Weight	: 10 lbs	
Series	: CABL234	



	COMPANY <u>LARAMIE ENERGY</u> WELL <u>PICEANCE FEDERAL 29-18E</u> FIELD <u>VEGA</u> COUNTY <u>MESA</u> STATE <u>COLORADO</u>	FILE NO: _____ API NO: <u>05-077-10364-0000</u>	
	LOCATION: SHL: LAT:39.248795N; LONG:107.788006W BHL: LAT:39.243580N; LONG:107.788356W	ELEVATIONS: KB 7561 FT DF GL 7531 FT	
	SEC <u>29</u> TWP <u>09 S</u> RGE <u>93 W</u>	DATE <u>29-MAY-2017</u>	