



FILE NO:

COMPANY

LARAMIE ENERGY

WELL

PICEANCE FEDERAL 29-22E

FIELD

VEGA

API NO:
05-077-10361-0000

COUNTY

MESA

STATE COLORADO

Ver. 4.06

LOCATION:

SHL: LAT:39.248411N; LONG:107.788286W
BHL: LAT:39.241502N; LONG:107.793034W

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 28-MAY-2017

RUN TRIP

1

1

SERVICE ORDER

US123650J

DEPTH DRILLER

8400 FT

DEPTH LOGGER

8243 FT

BOTTOM LOGGED INTERVAL

8243 FT

TOP LOGGED INTERVAL

30 FT

TIME STARTED

16:00

TIME FINISHED

19:00

OPERATOR RIG TIME

3 HRS

TYPE OF FLUID IN HOLE

WATER

FLUID DENSITY

NA

FLUID SALINITY

NA

FLUID LEVEL

53 FT

LOGGED CEMENT TOP

1617 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 8400 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: 7379'-7357'

SJ2: 6285' - 6262'

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: Sun May 28 18:48:59 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_22E/n012g02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: -6.250 ft BOTTOM DEPTH: 8226.601 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	"	"

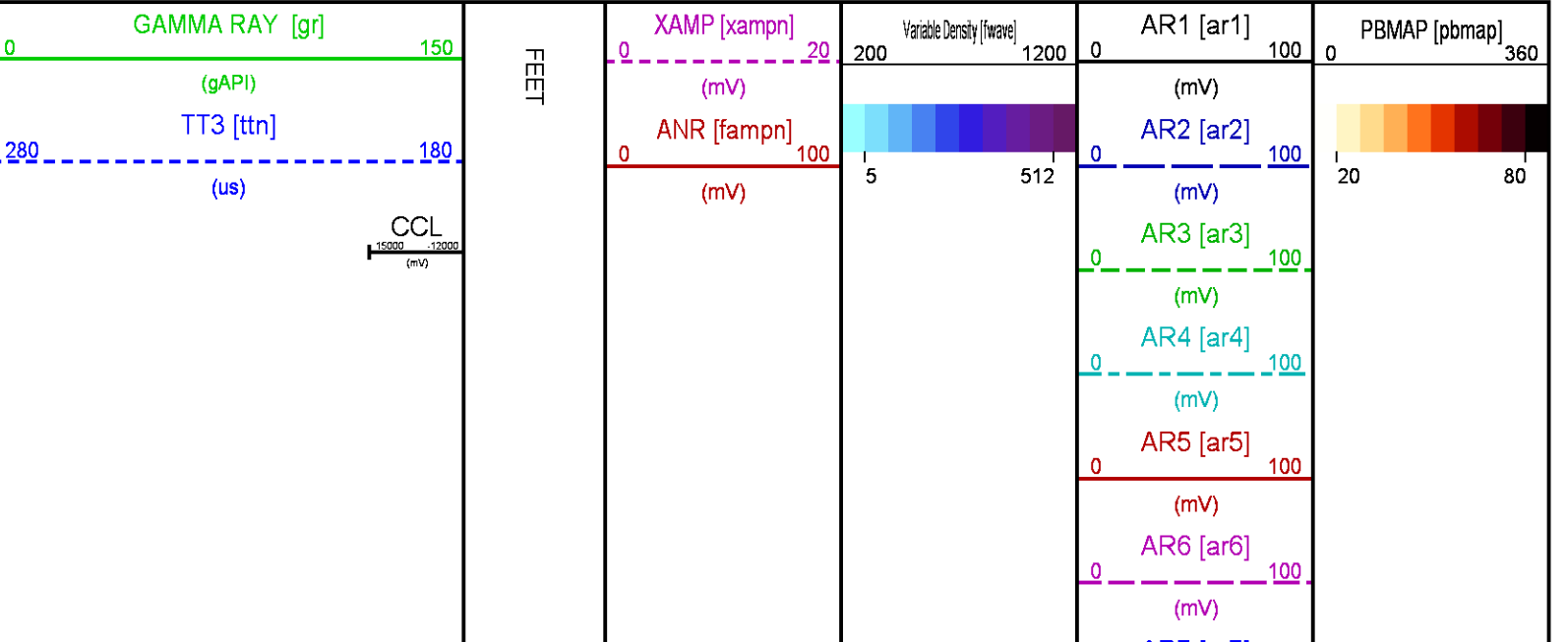
CURVE DESCRIPTION REPORT

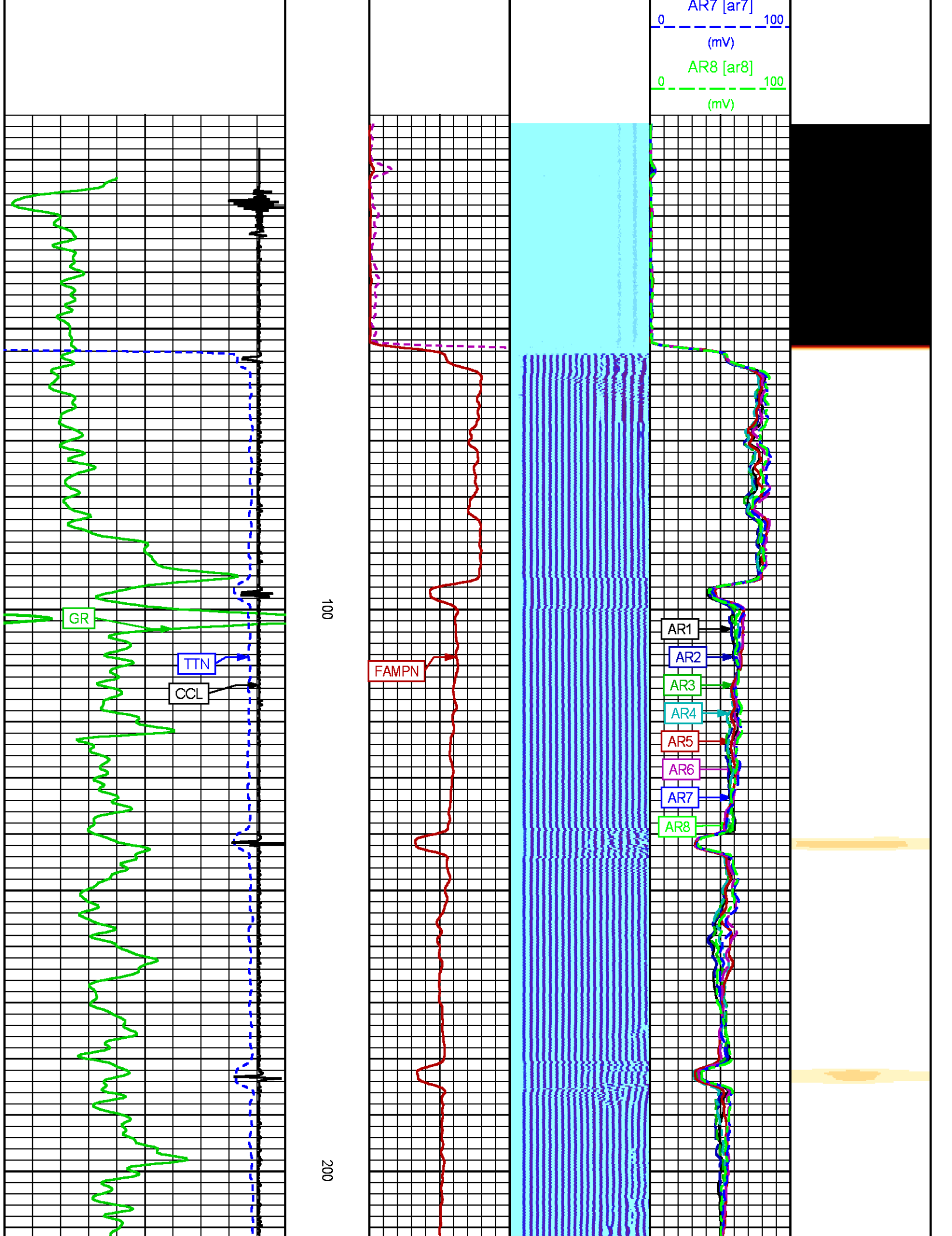
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	May 28 17:12:18 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	May 28 17:12:18 2017	CASING COLLAR LOCATOR
F1:FAMPN	May 28 17:12:18 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	May 28 17:12:18 2017	FAR WAVE FORM
F1:GR	May 28 17:12:18 2017	GAMMA RAY
F1:PBMAP	May 28 17:12:18 2017	PERCENT BOND CEMENT MAP
F1:TTN	May 28 17:12:18 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	May 28 17:12:18 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

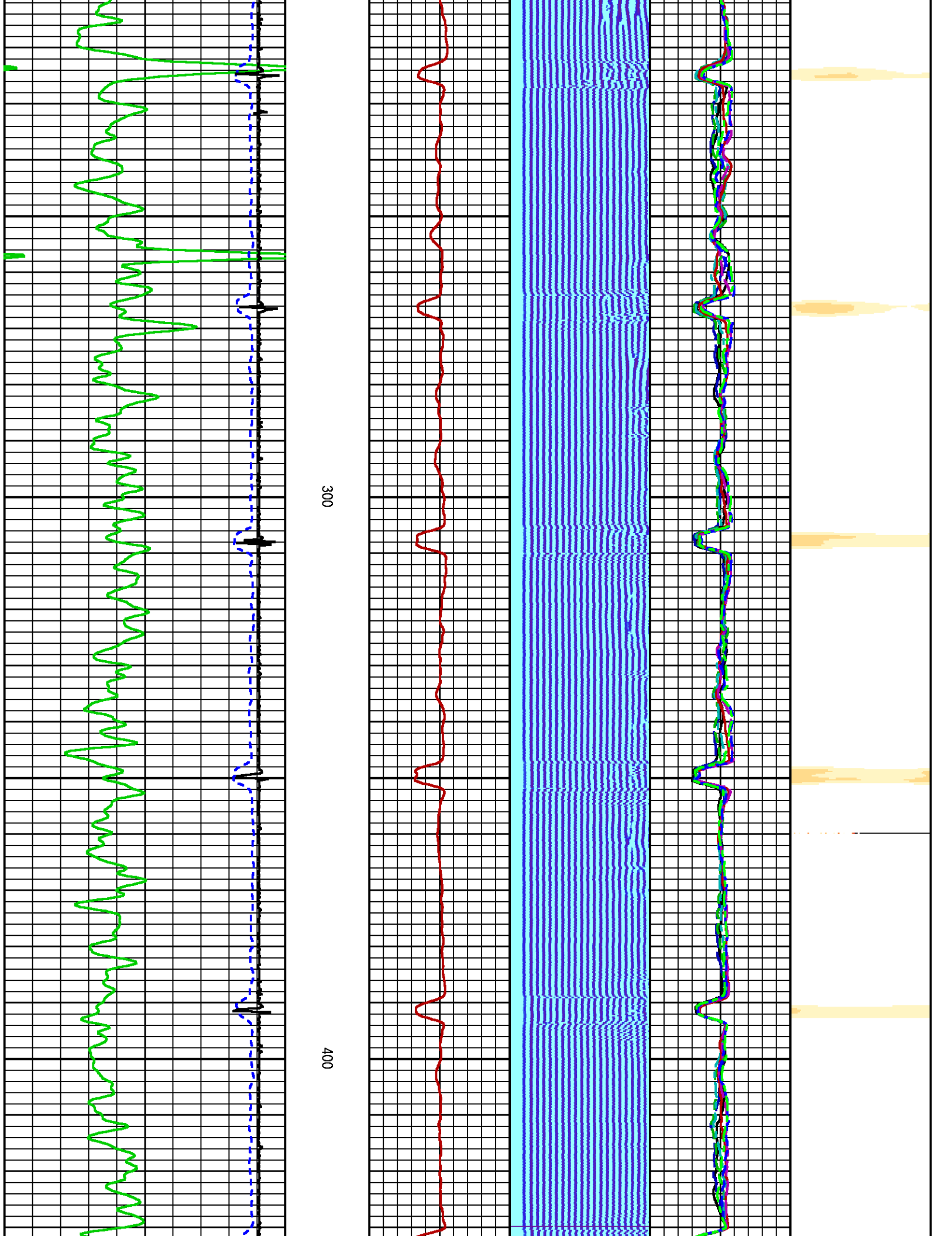
CURVE MEASURE POINT OFFSET

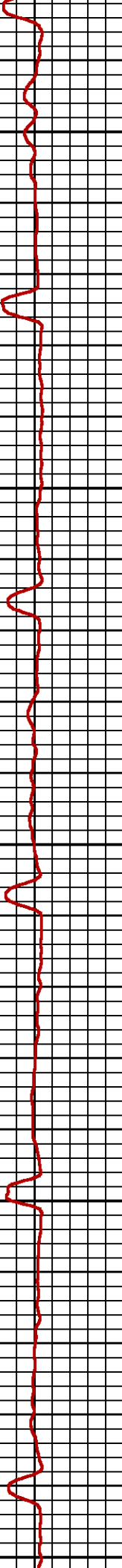
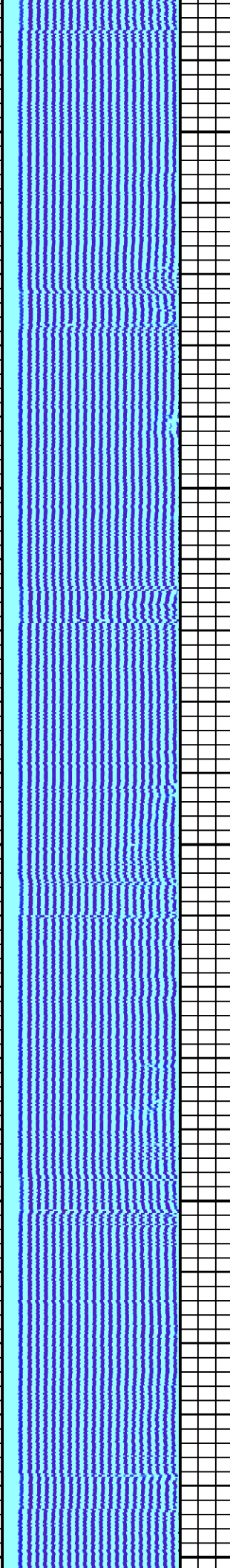
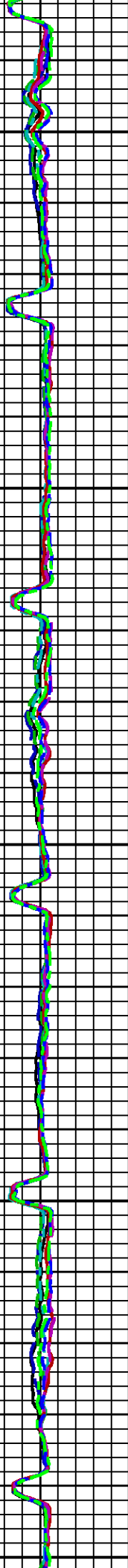
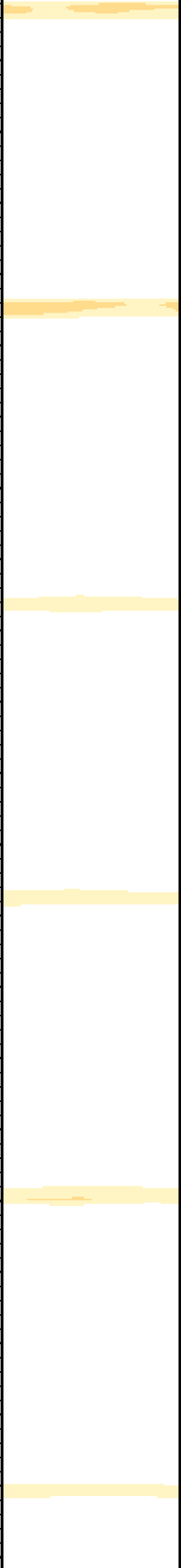
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
AR1	11.25	AR5	11.25	CCL	5.75	XAMPN	11.25
AR2	11.25	AR6	11.25	FAMPN	11.25		
AR3	11.25	AR7	11.25	GR	1.75		
AR4	11.25	AR8	11.25	TTN	11.25		

Presentation	: cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_22E/ral_MAIN_22E-5.fvpdf [5"/100' Scale]
Plot Interval	: 13.5 - 8255.25 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_22E/RAL_MAIN_22E.xtf
Created On	: May 28 17:12:18 2017
Company	: LARAMIE ENERGY
Well	: PICEANCE 29-22E
Field	: VEGA
File Interval	: 12.5 - 8256.5 Feet
OCT	: n012g



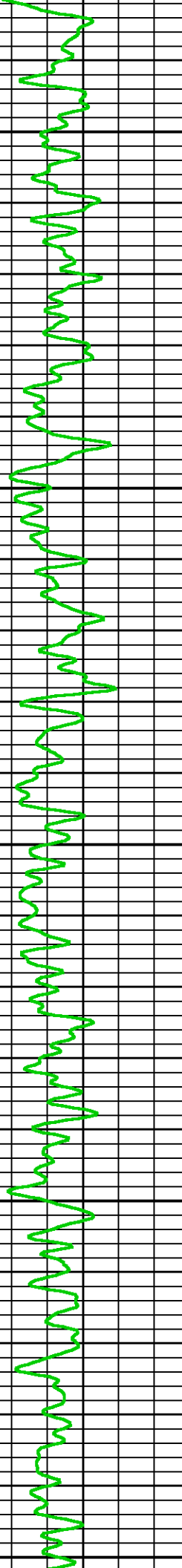
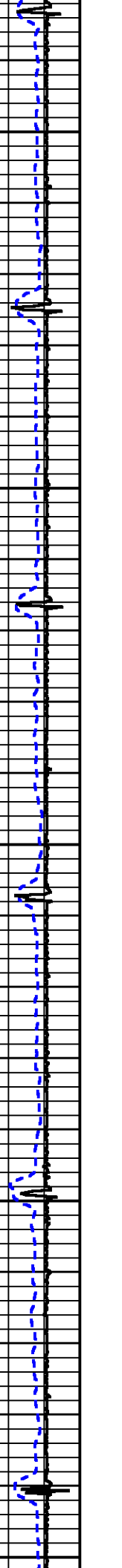


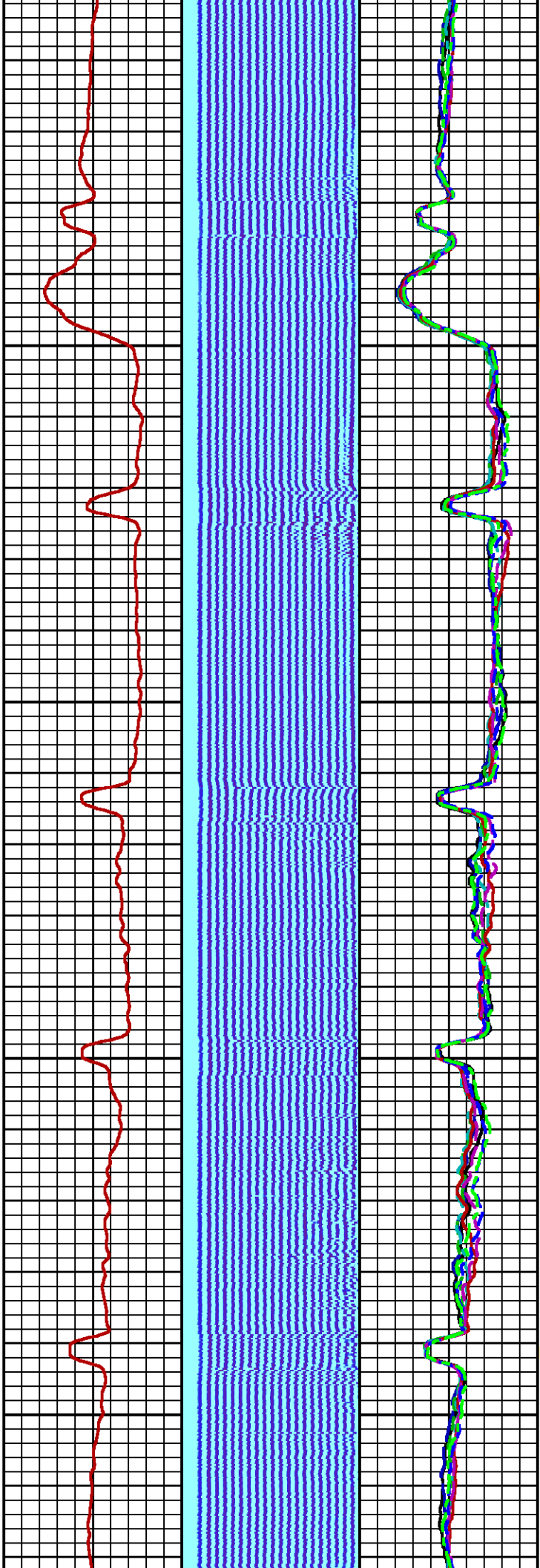
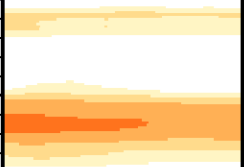




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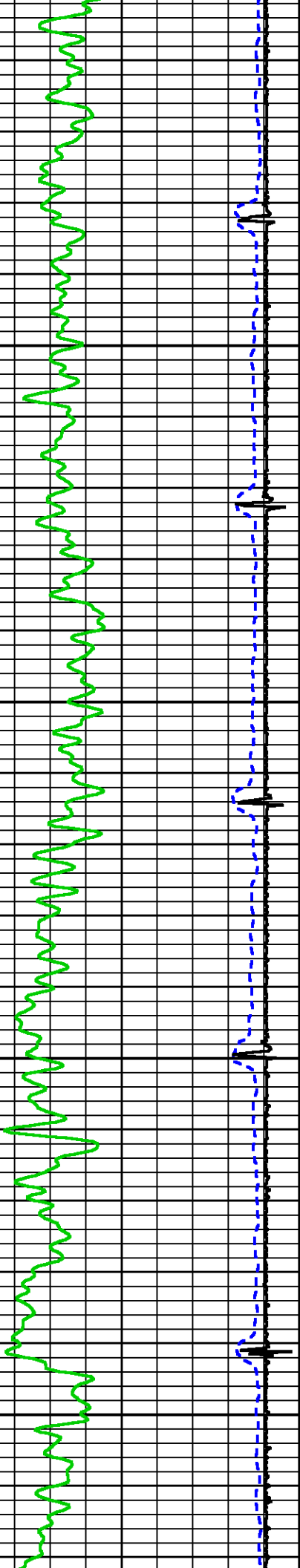
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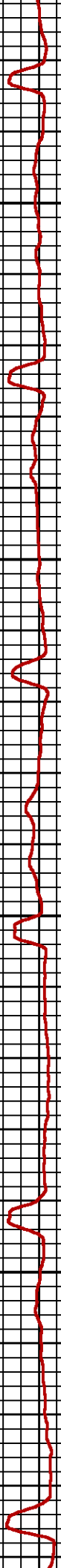
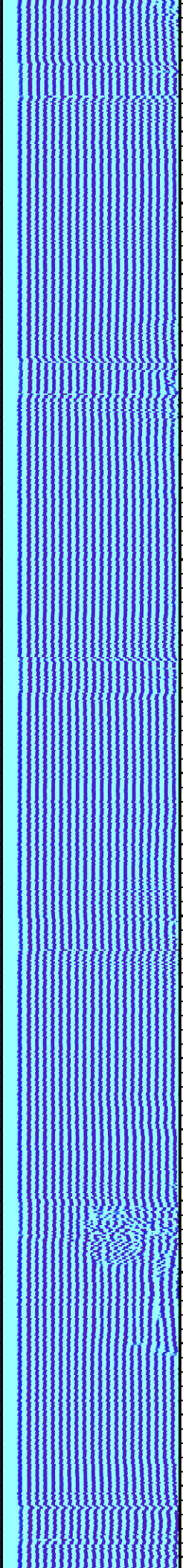
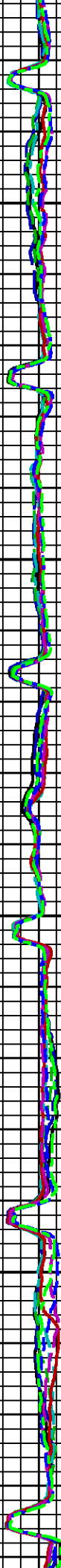
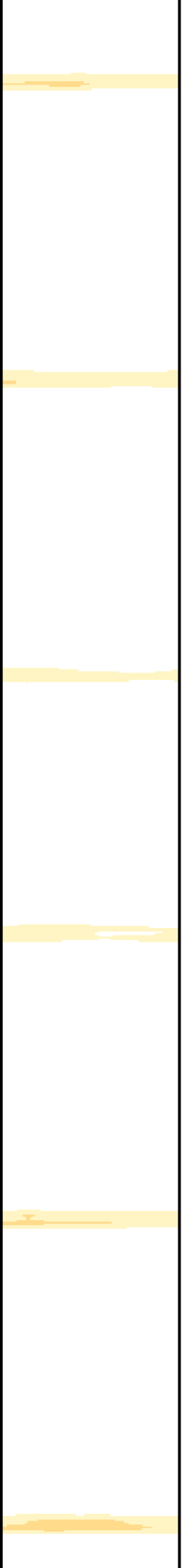




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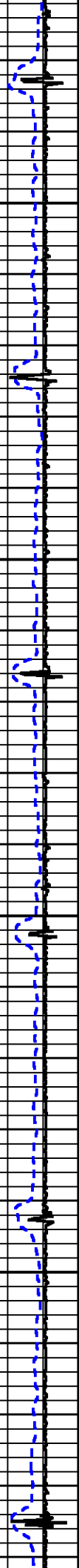
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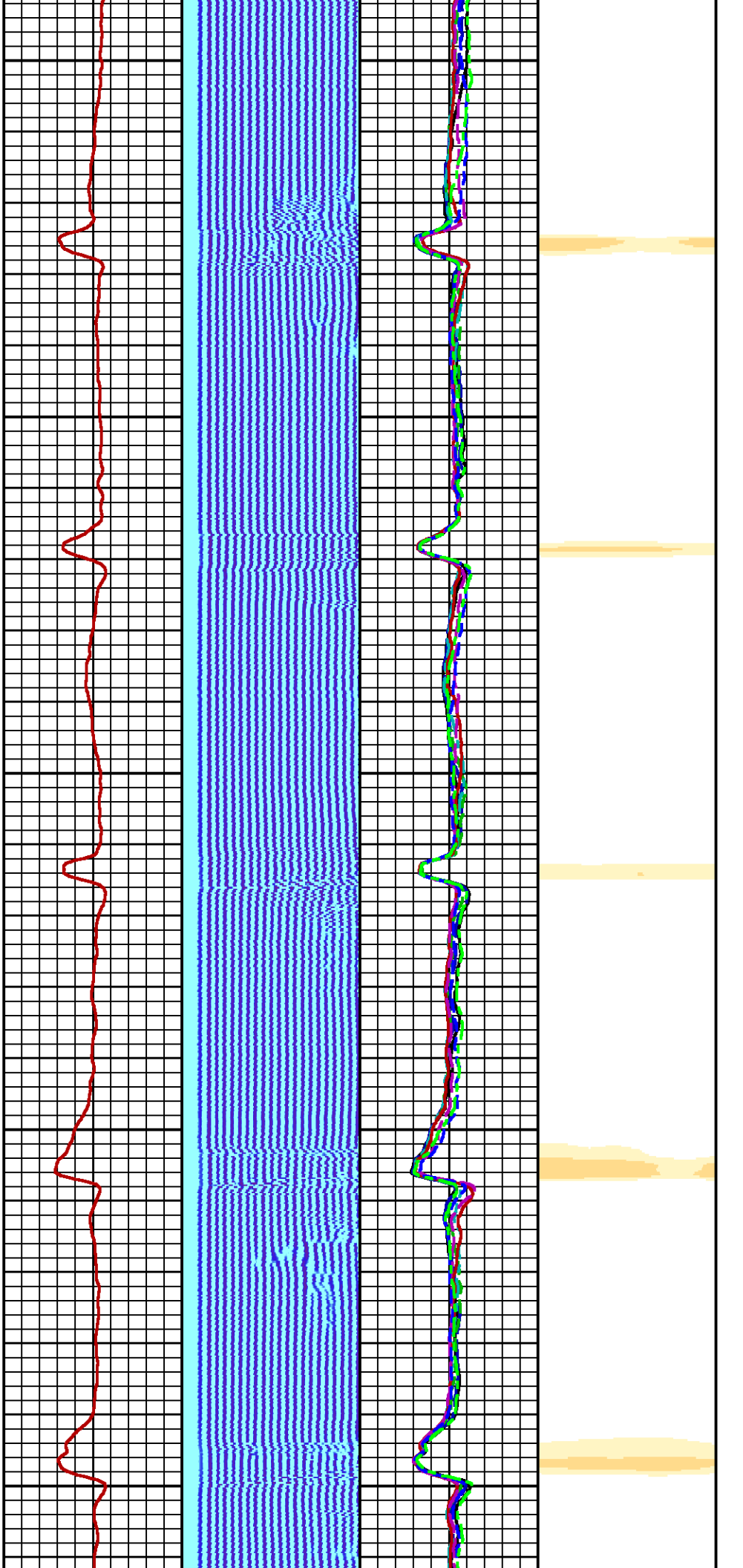




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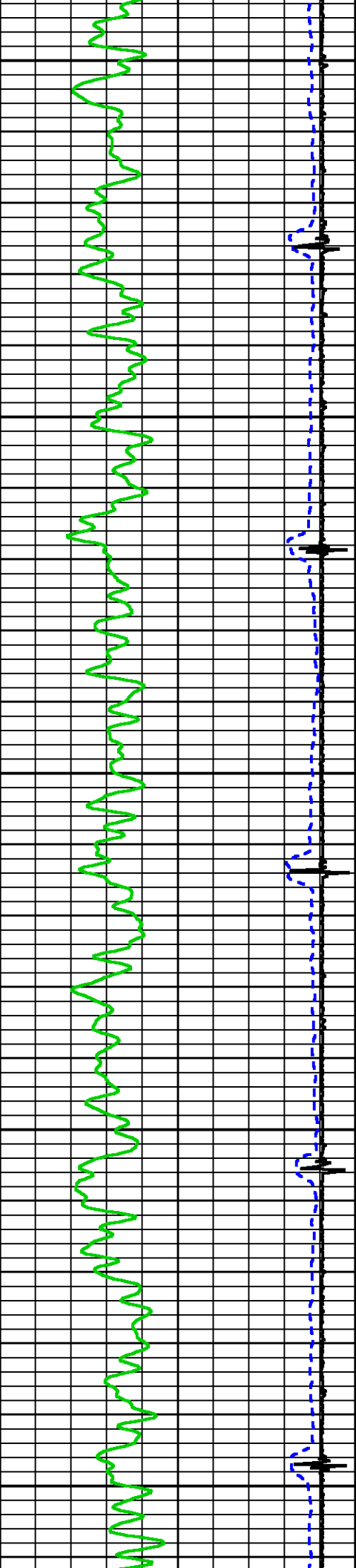


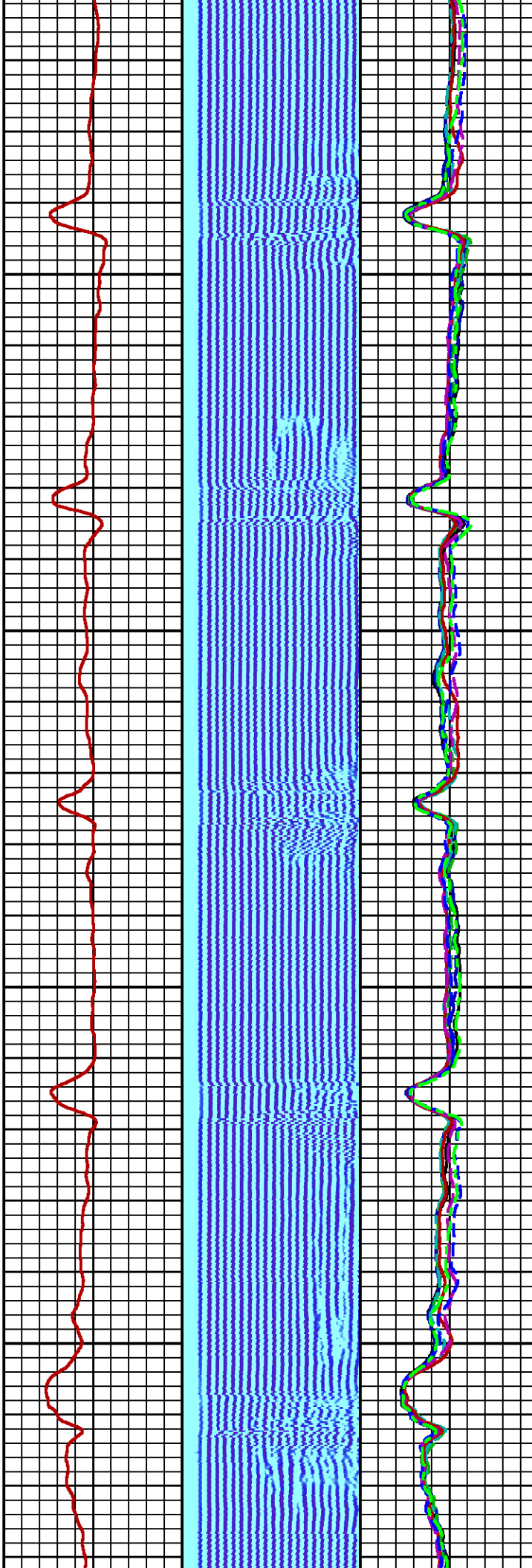


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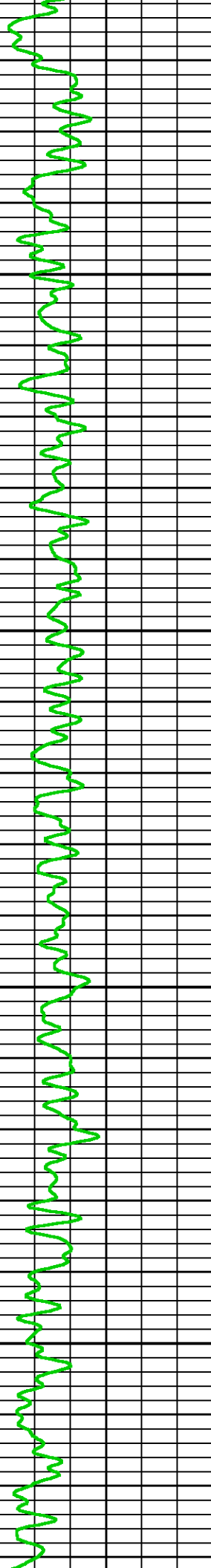
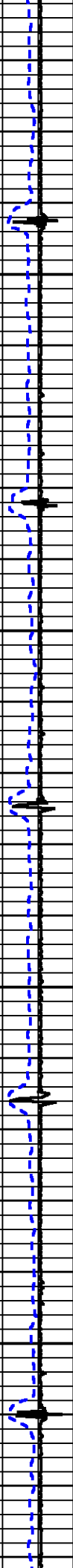
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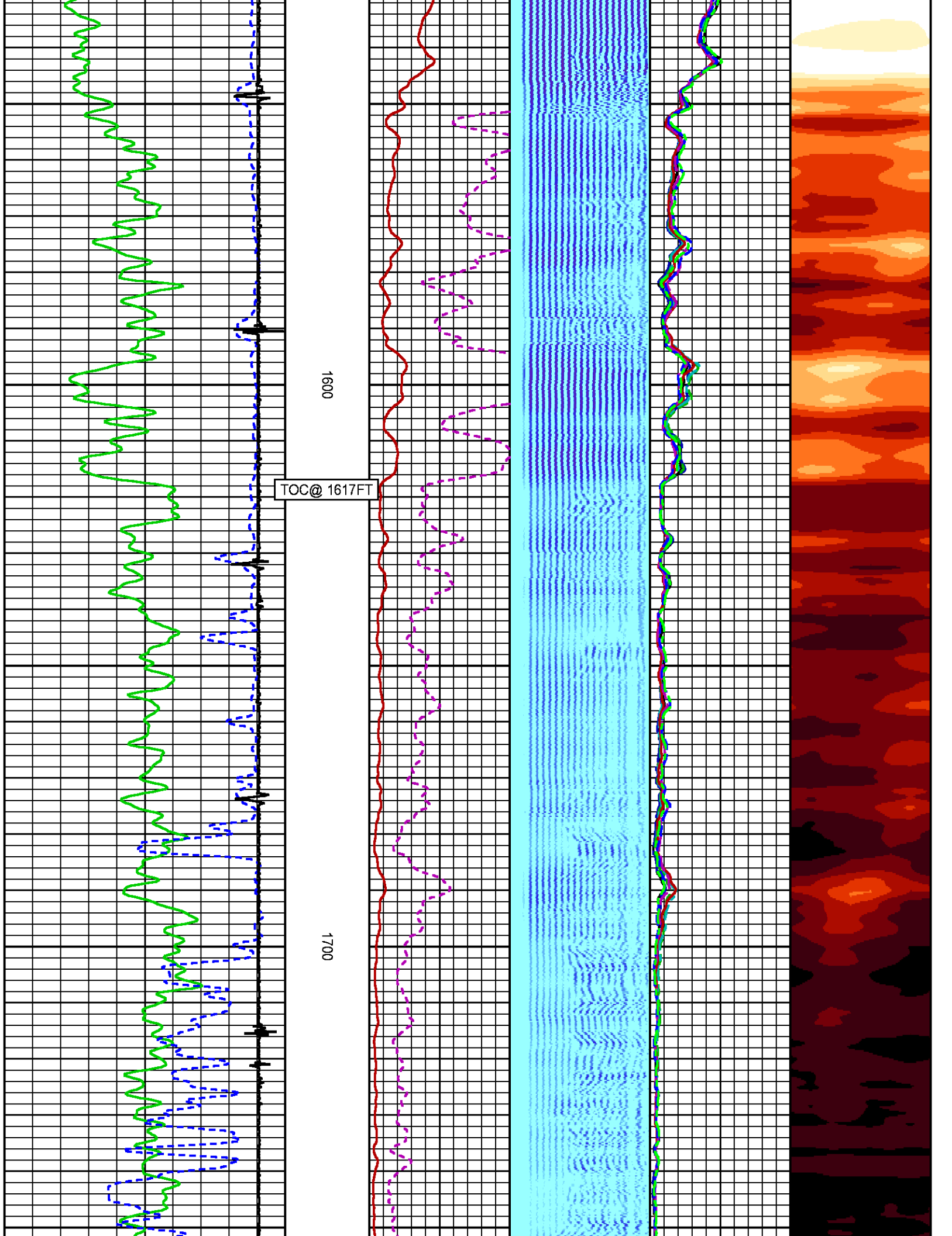


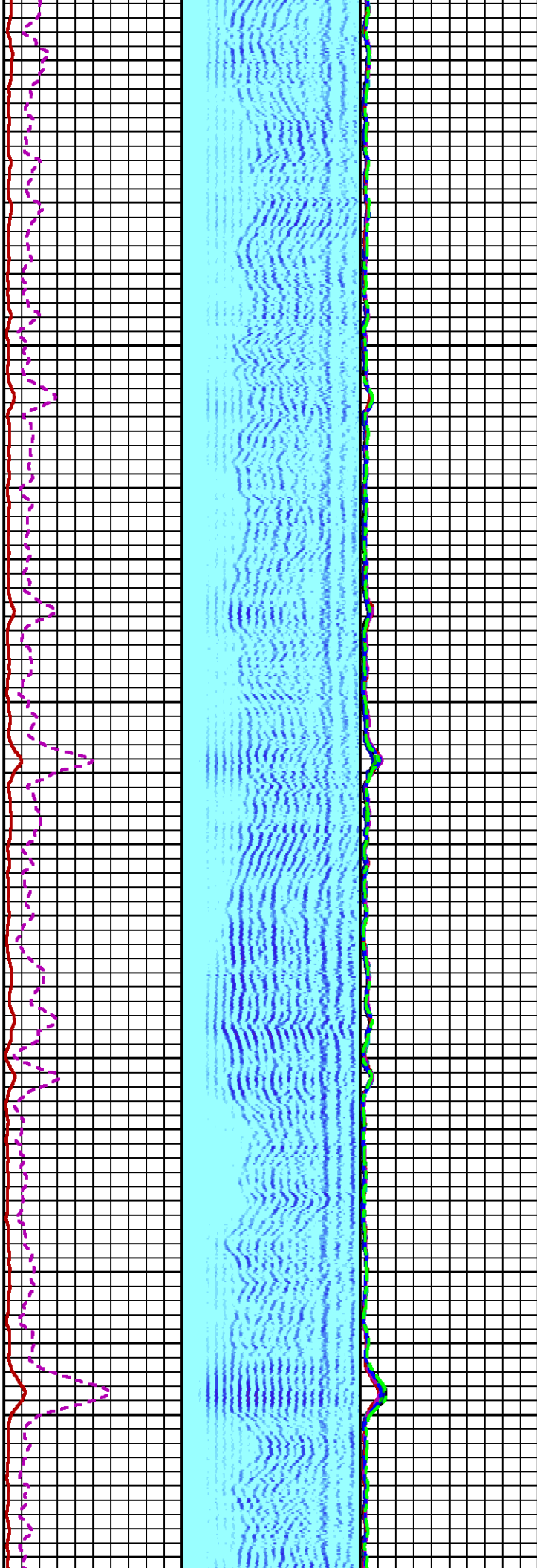
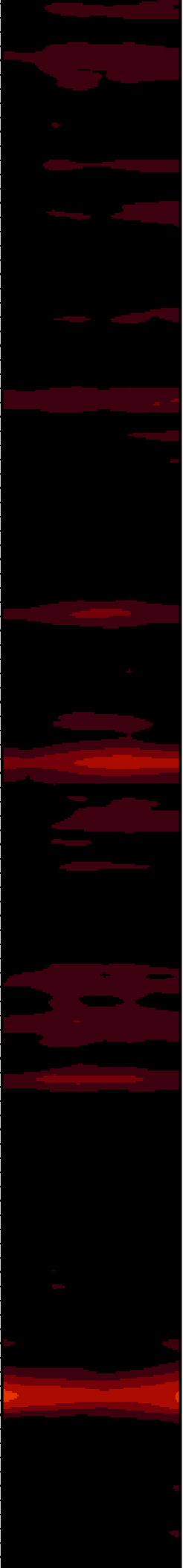


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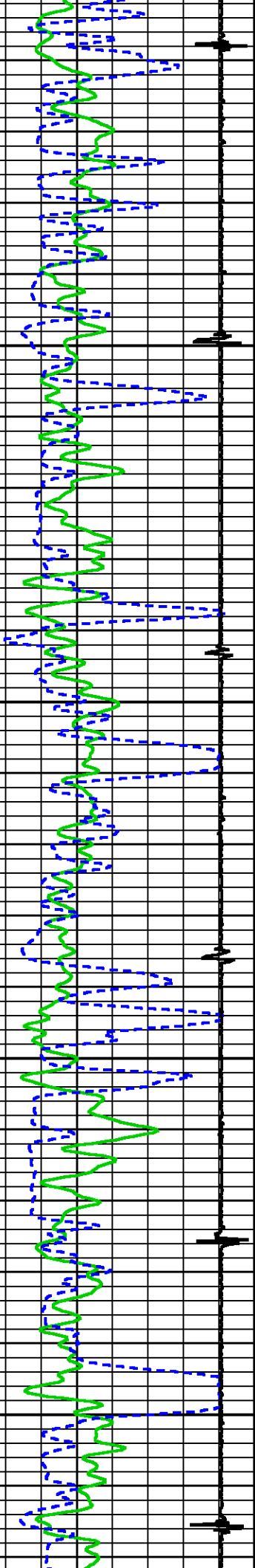


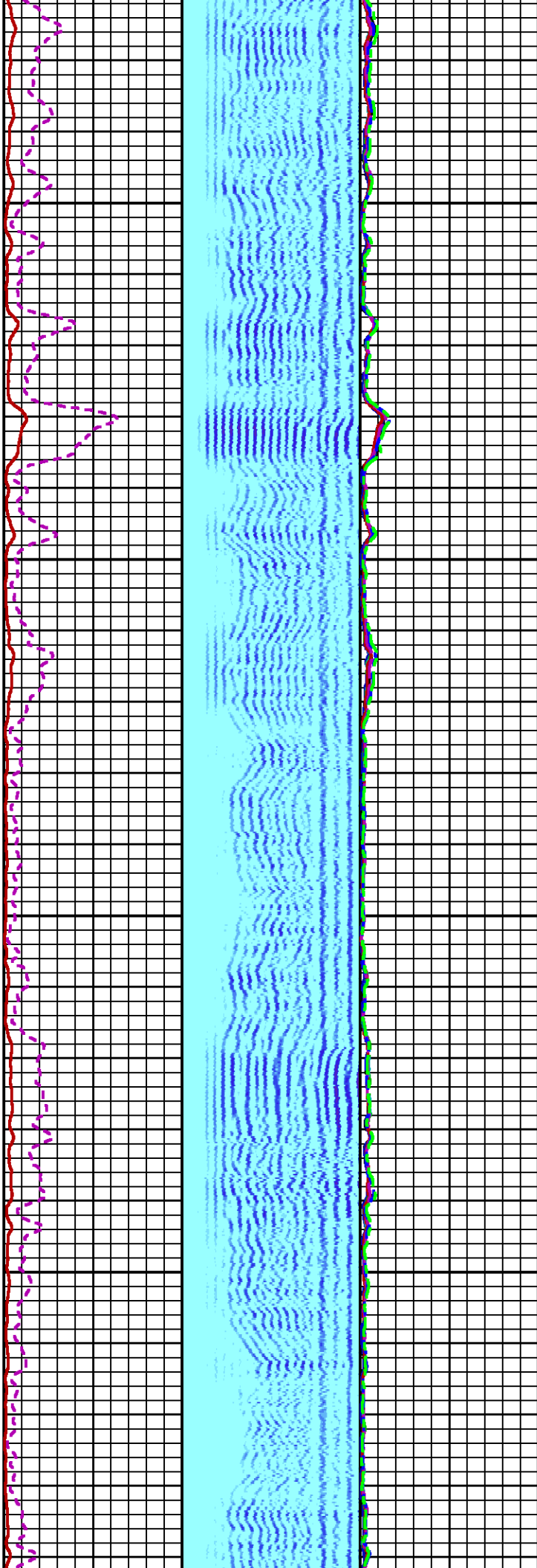




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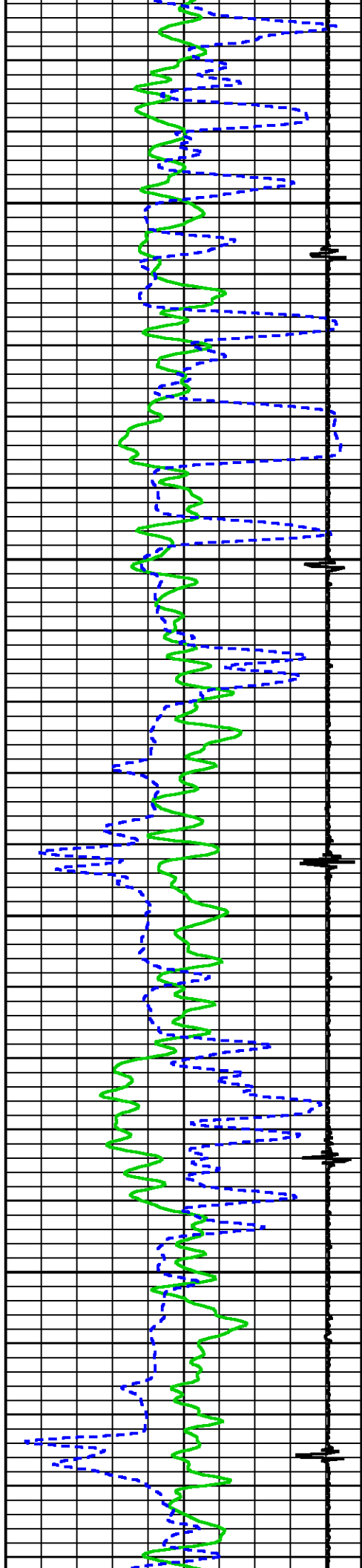
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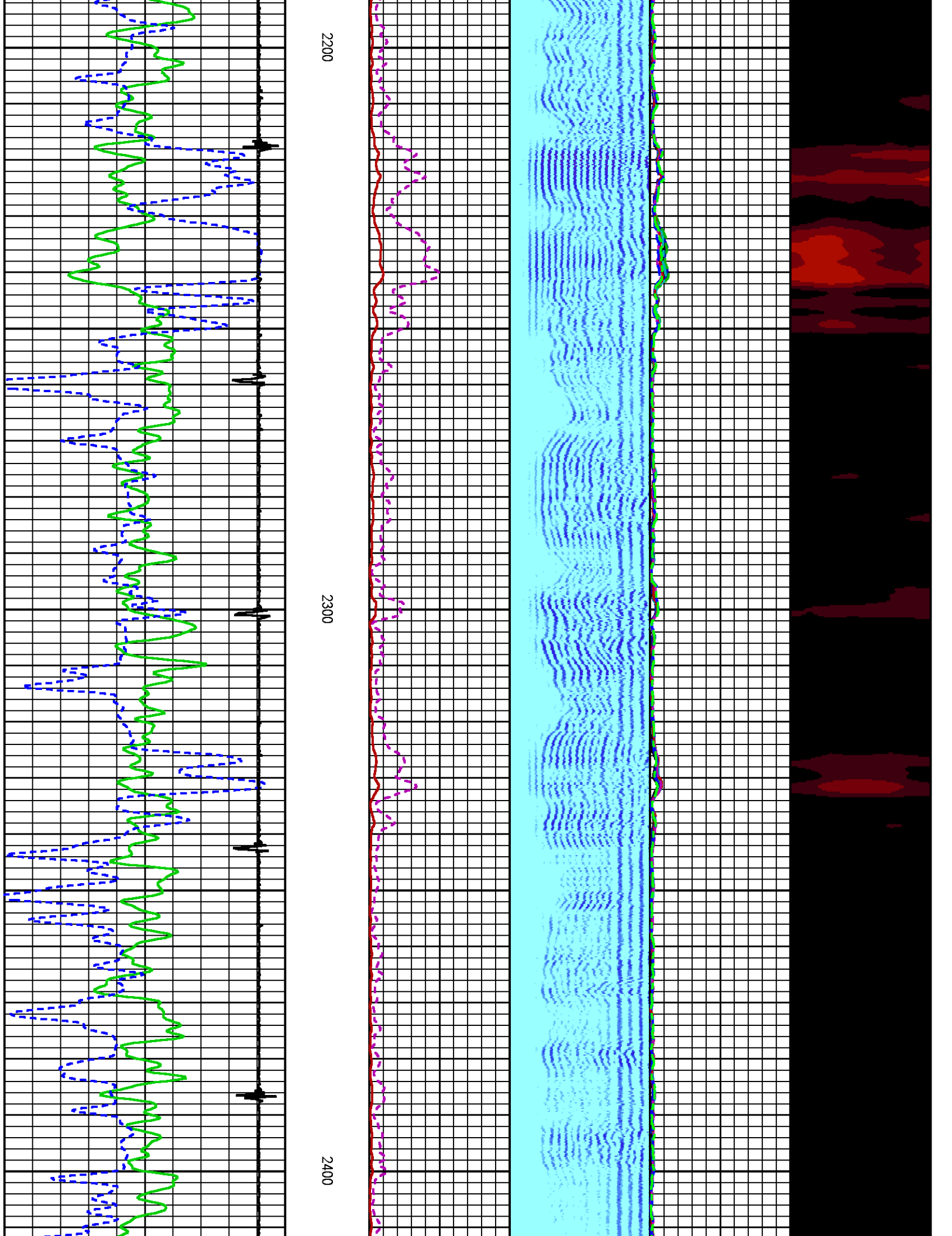


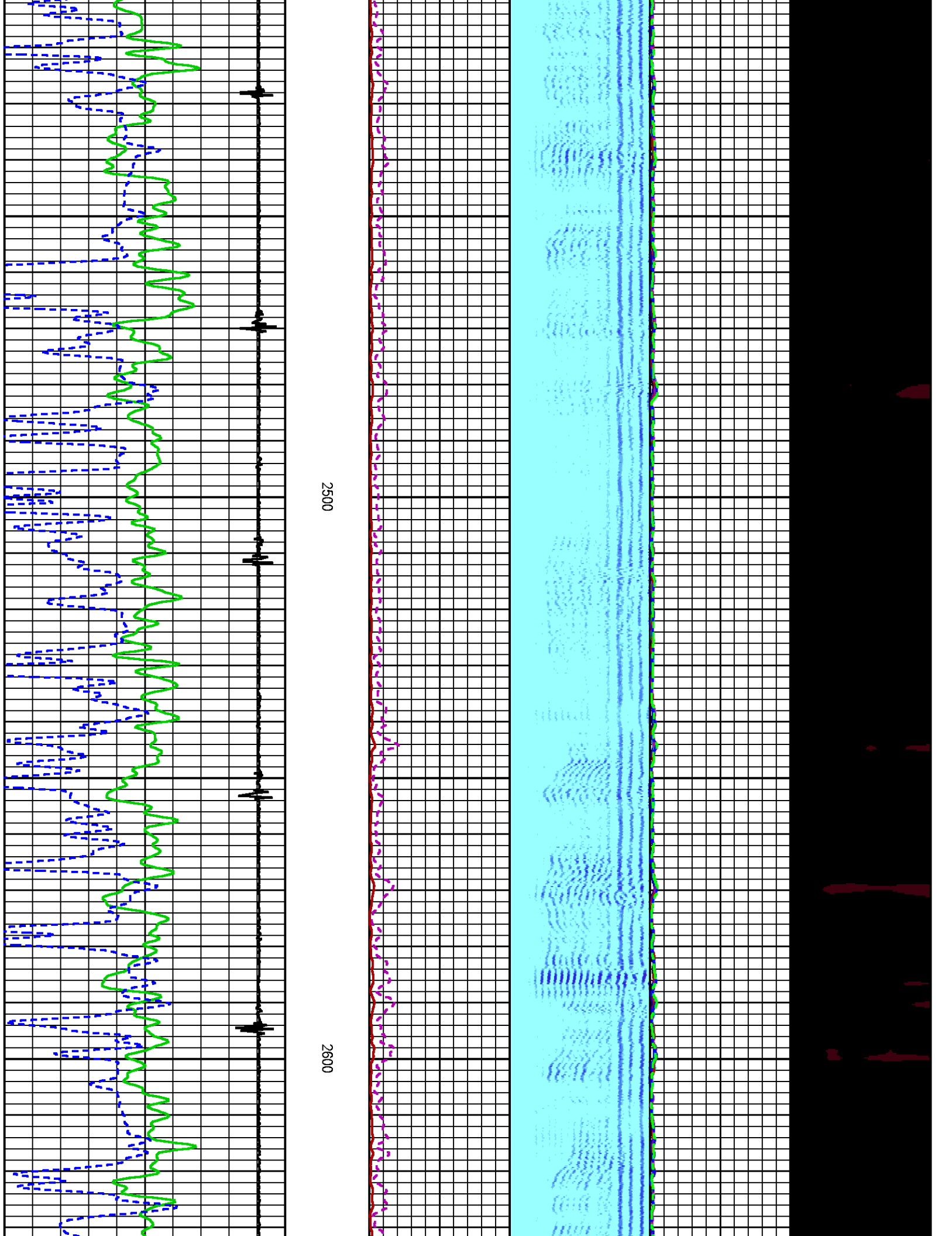


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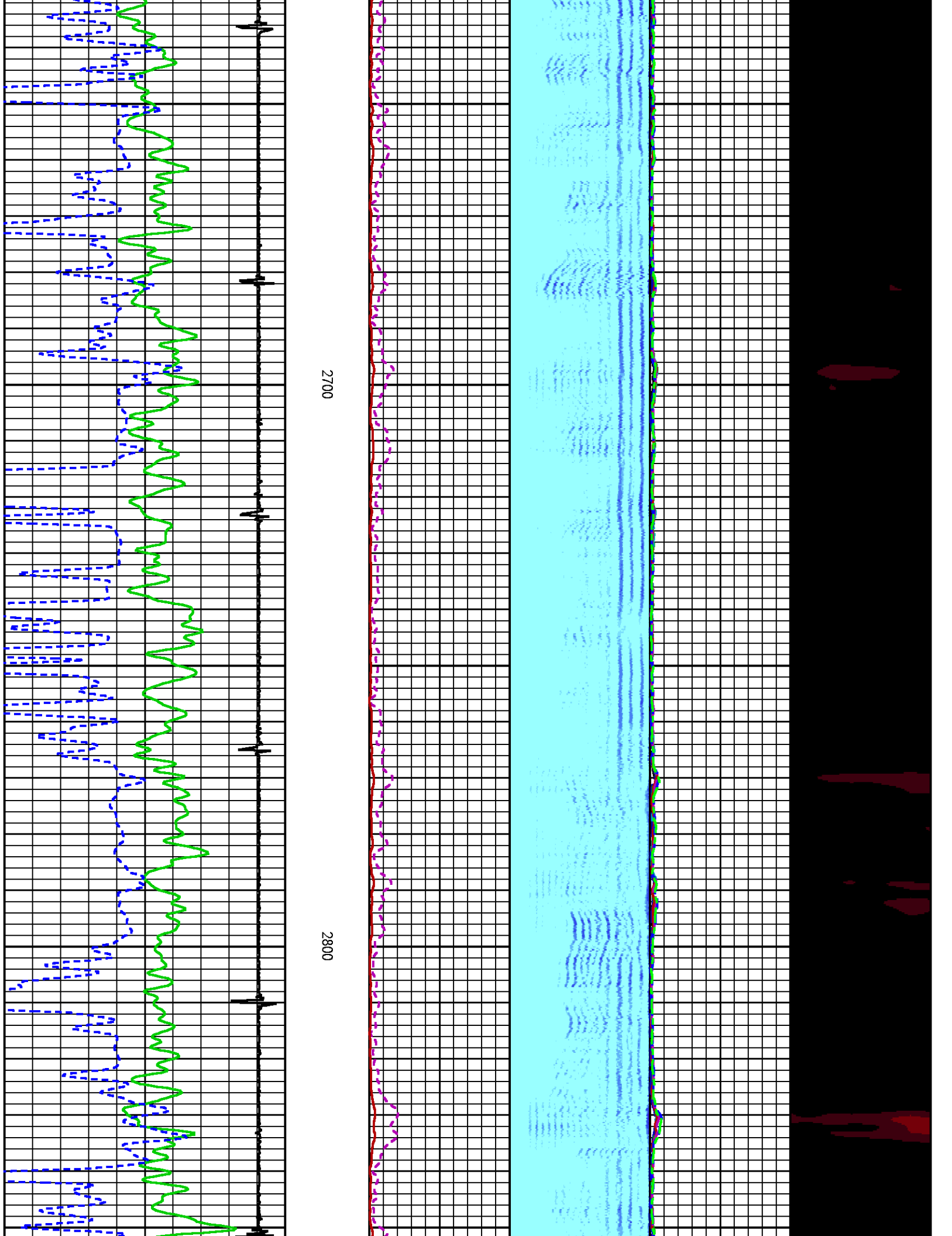


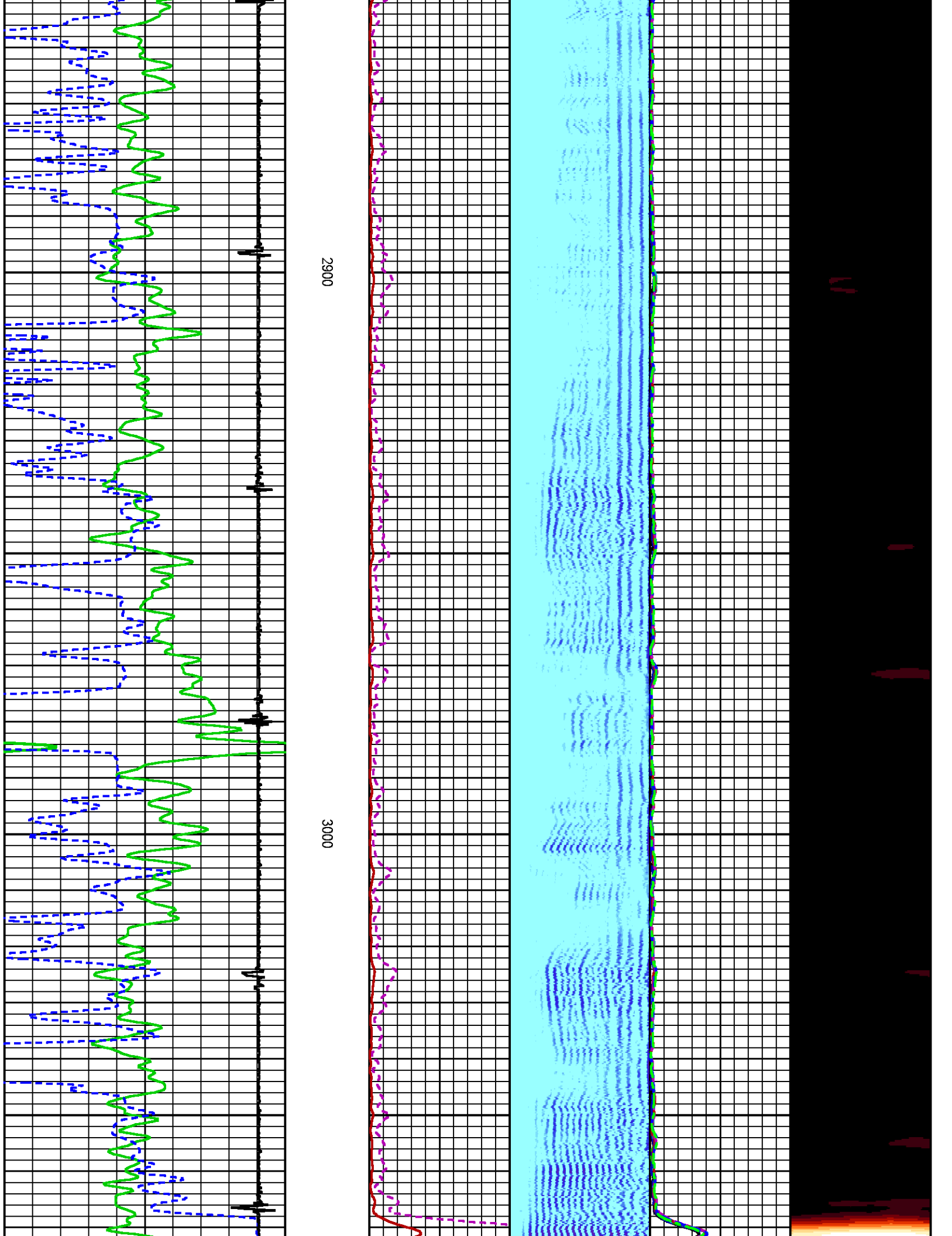


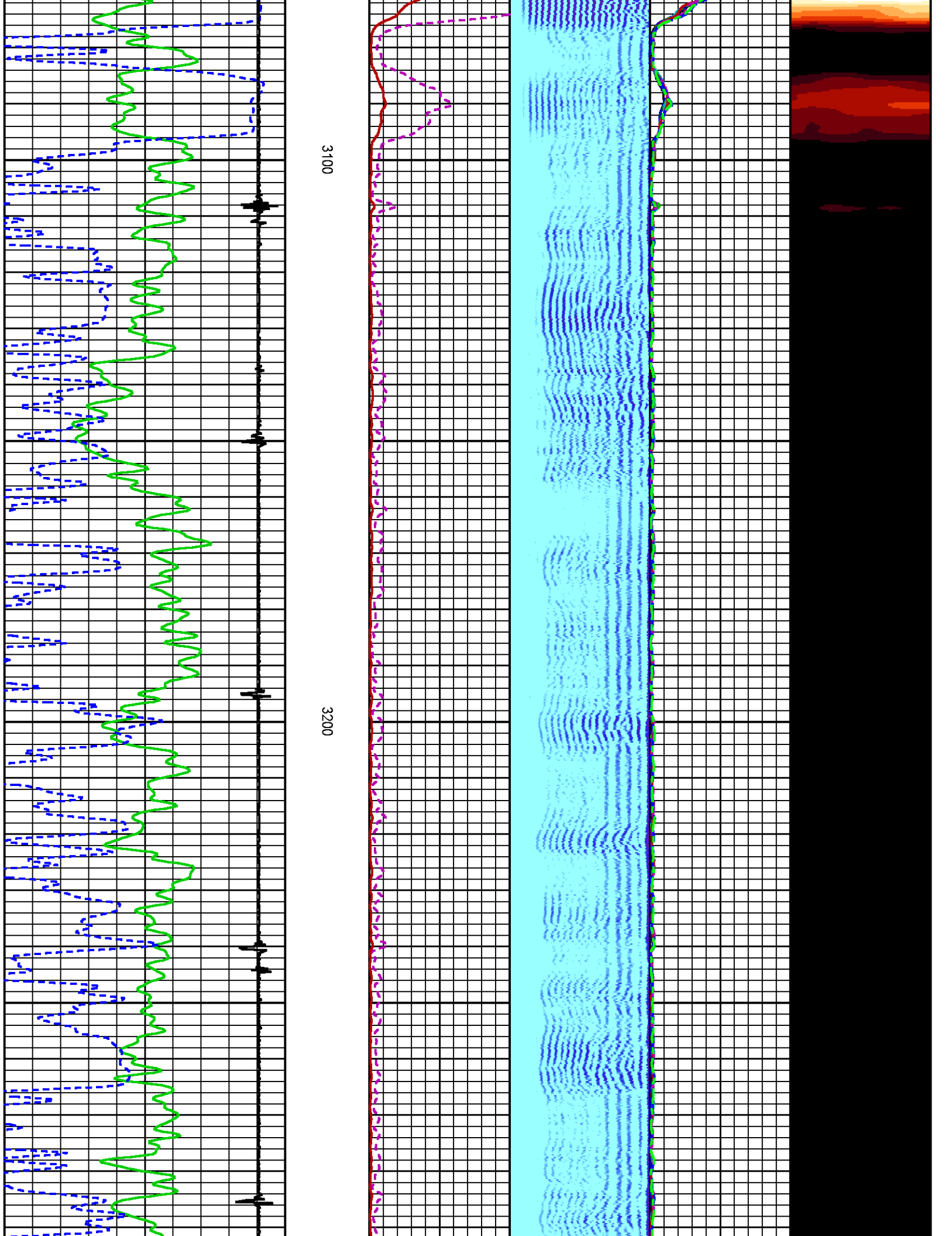


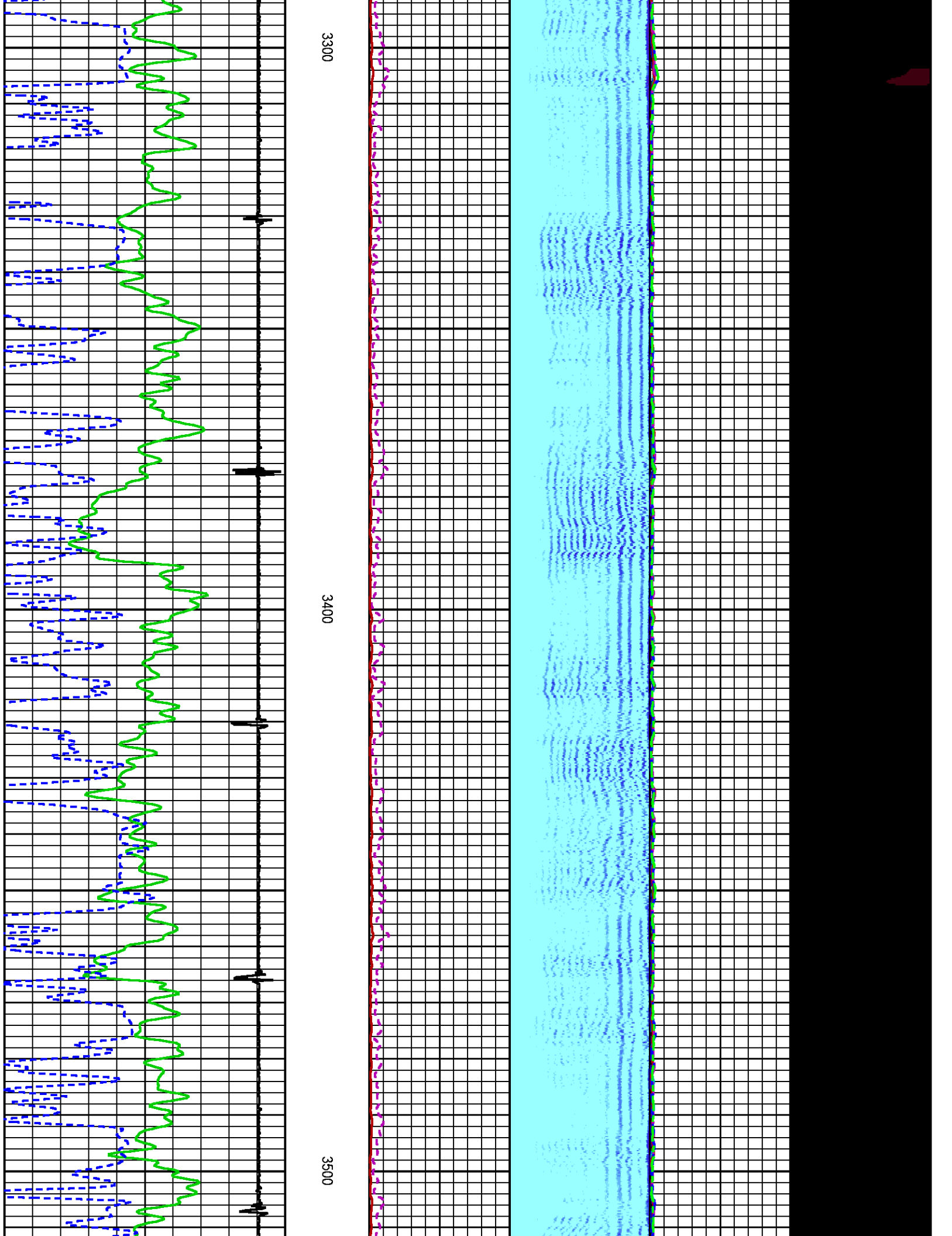
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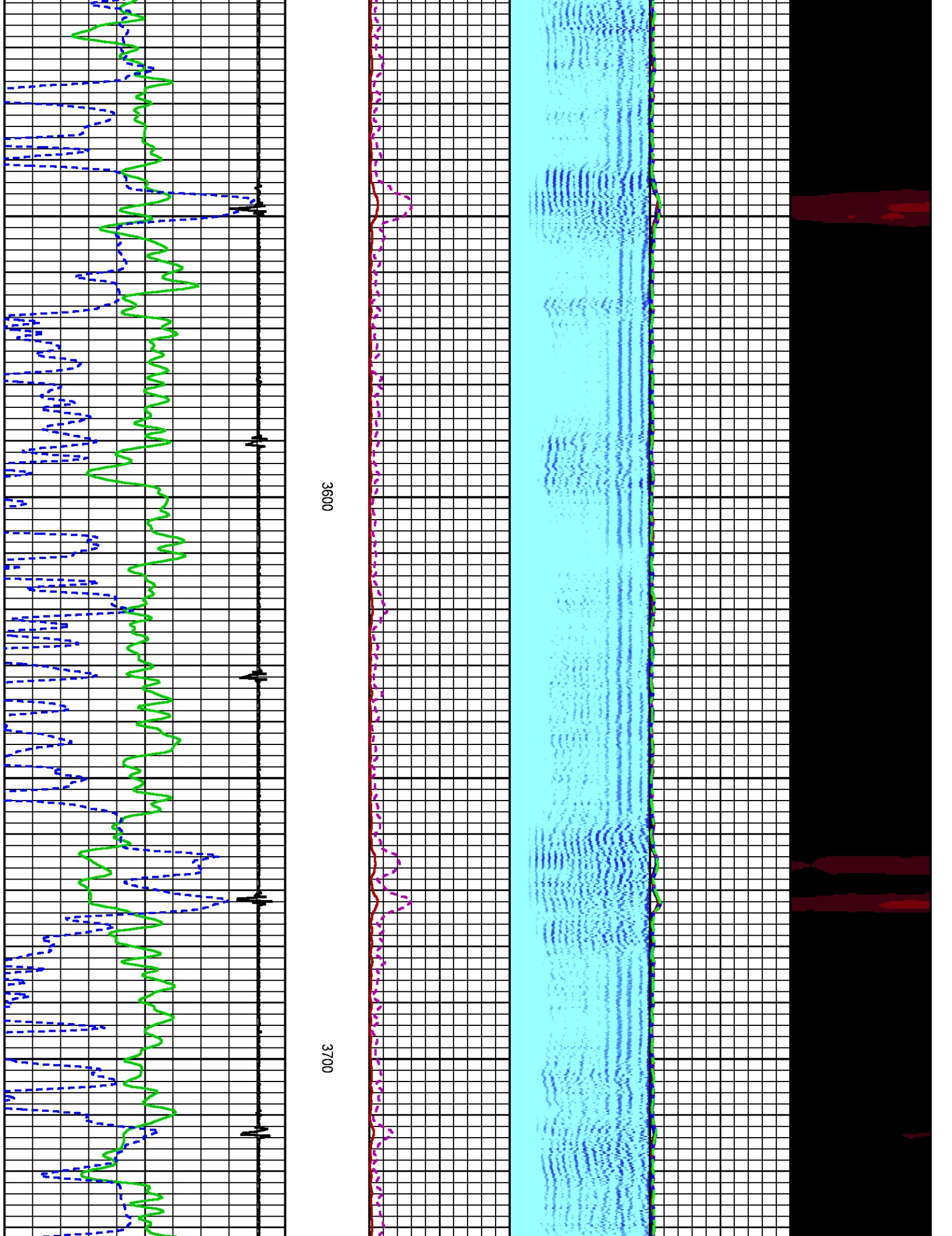
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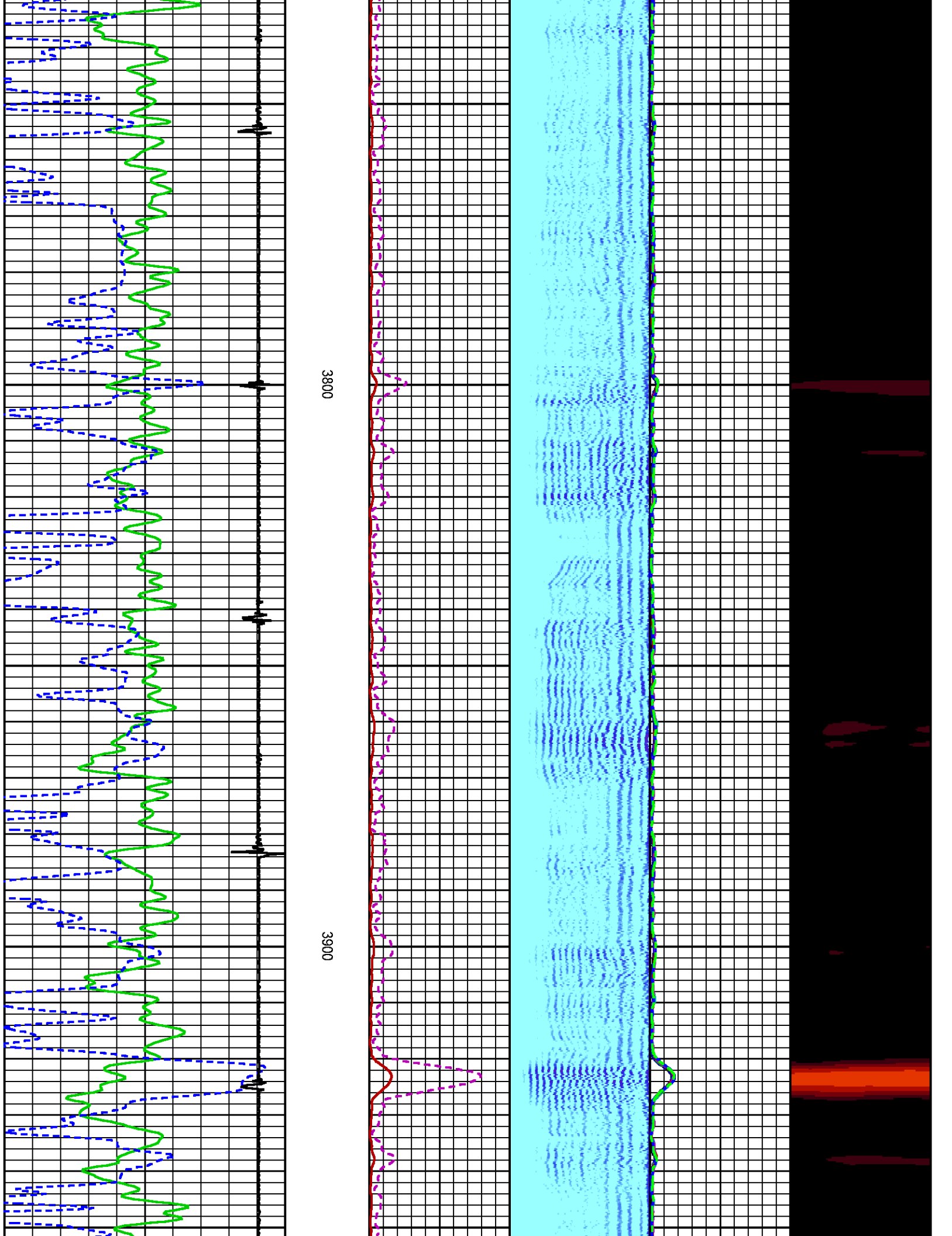


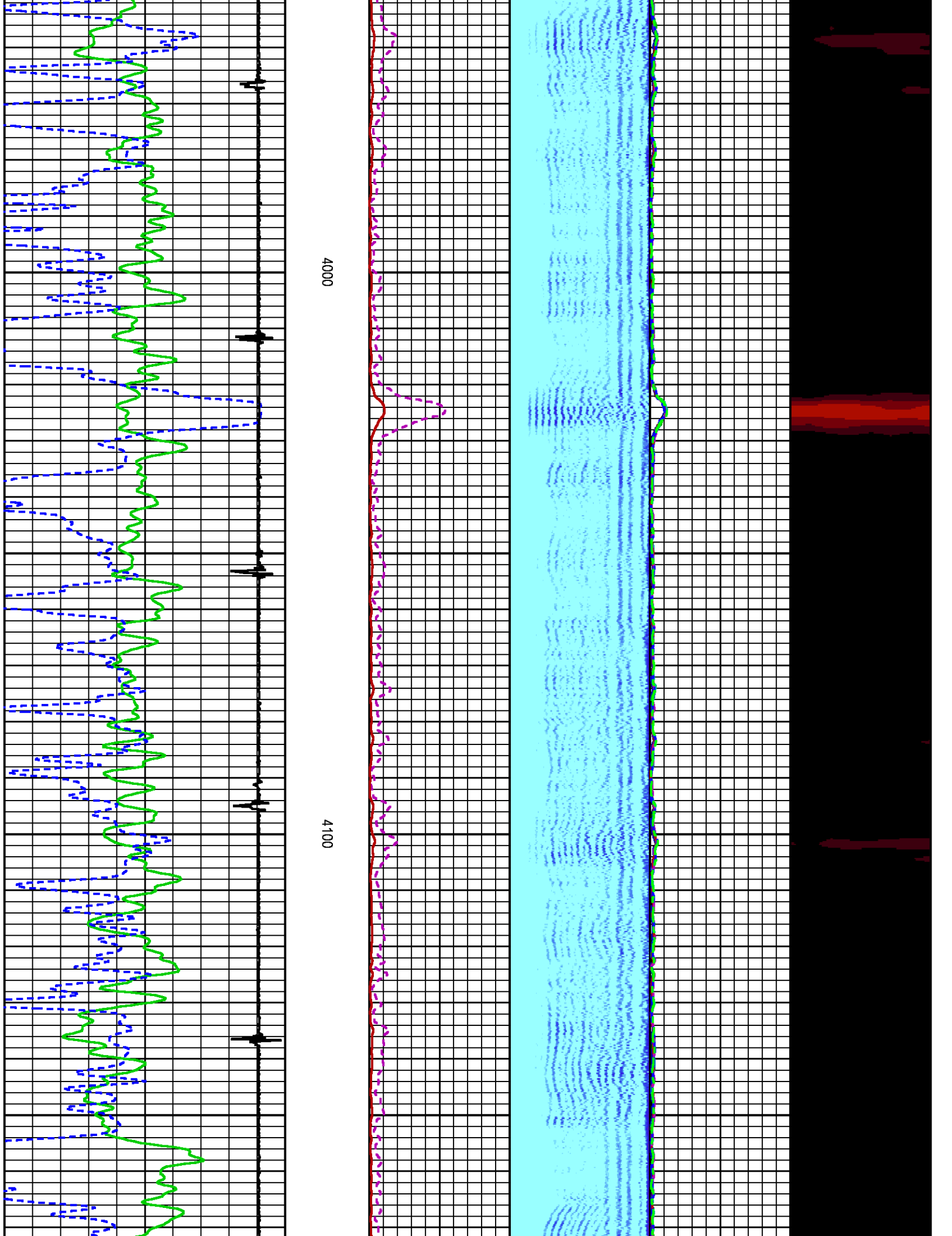


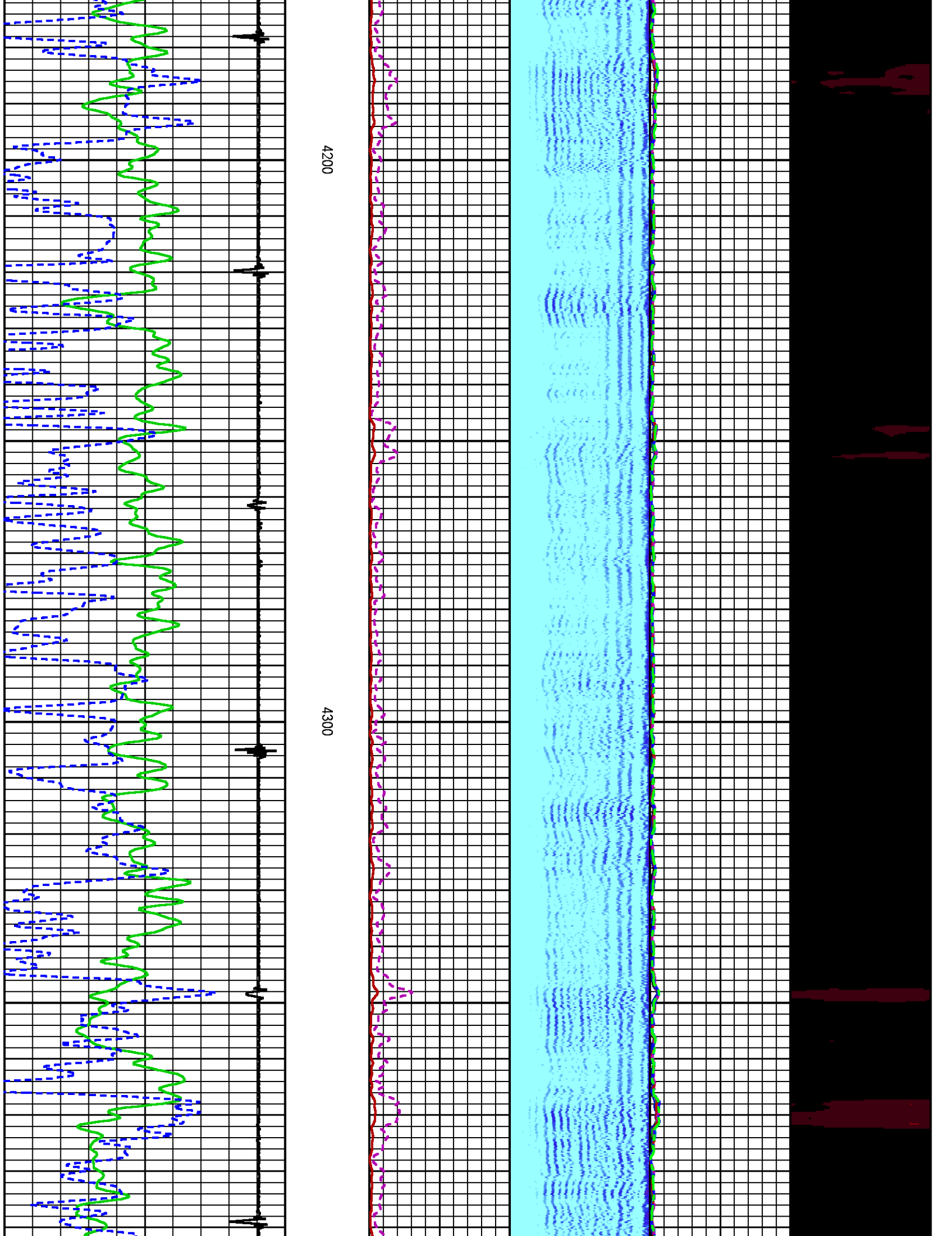


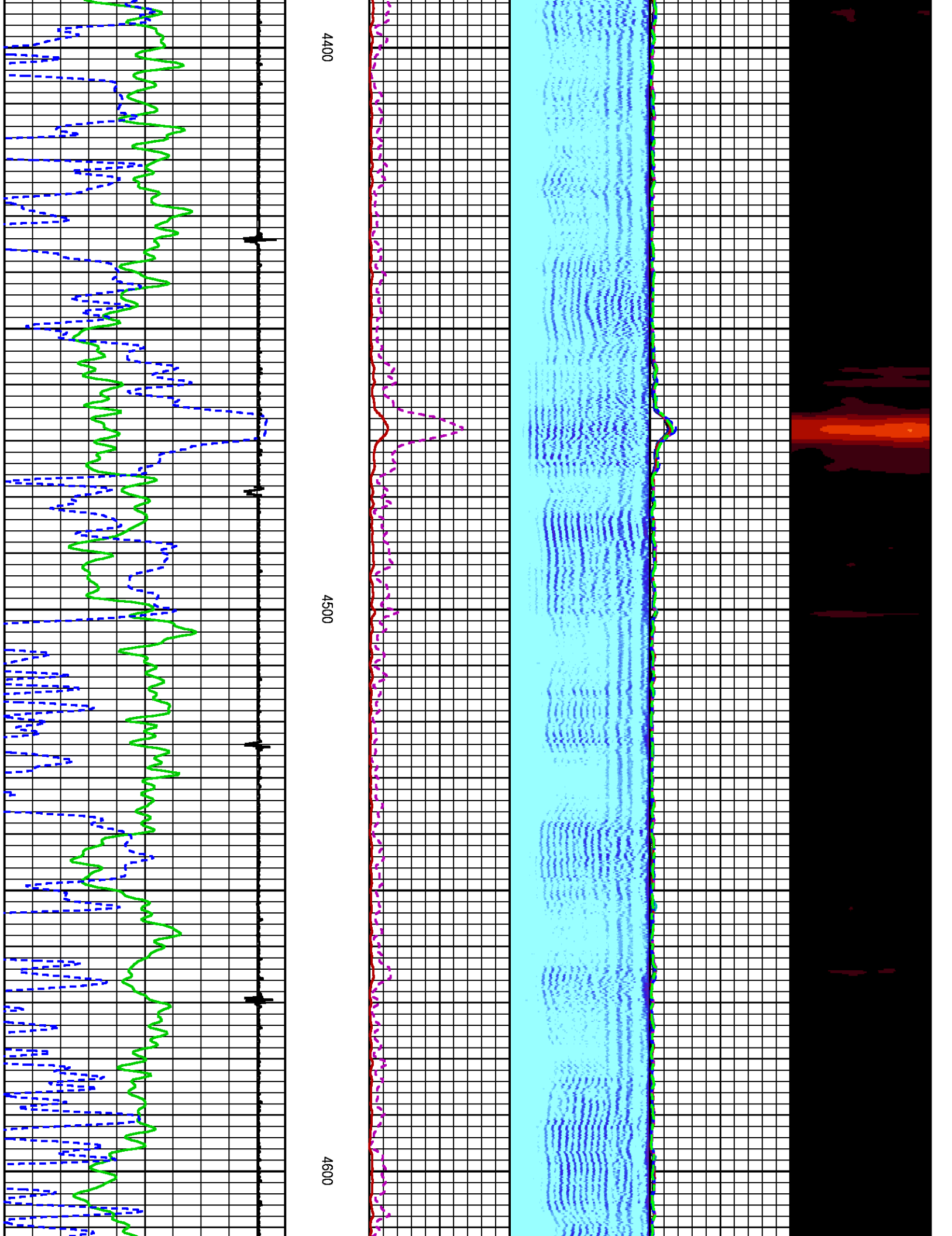


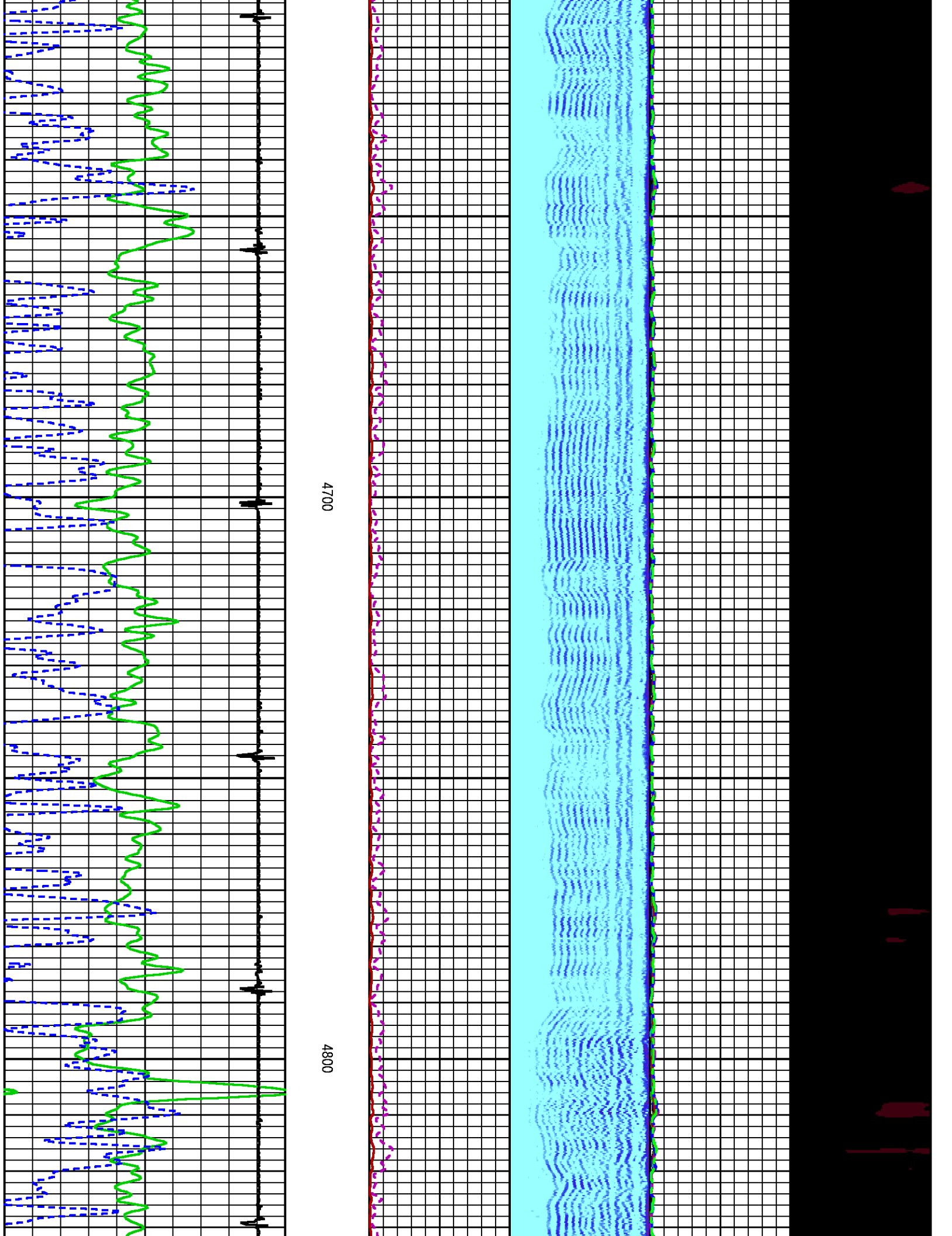


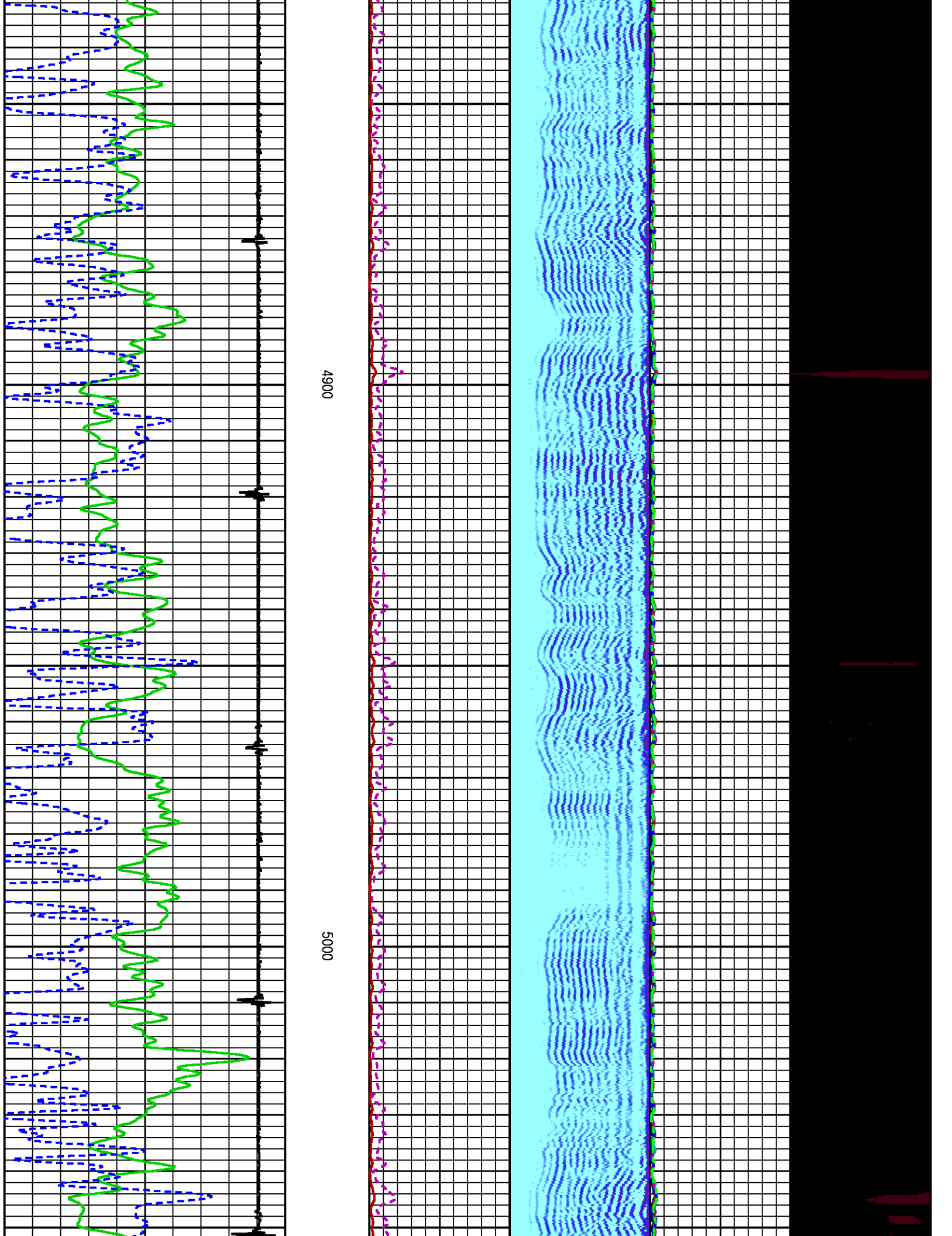


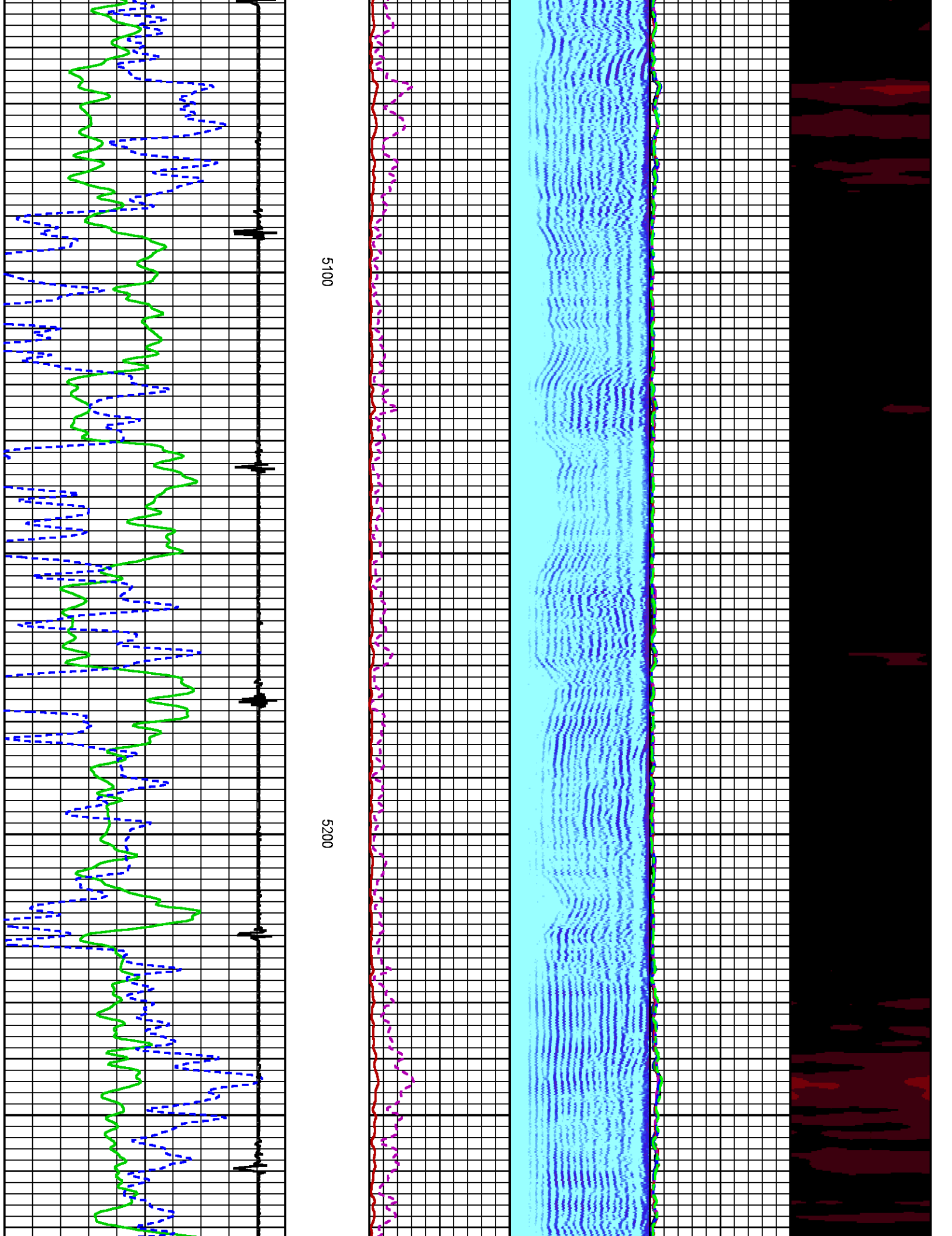


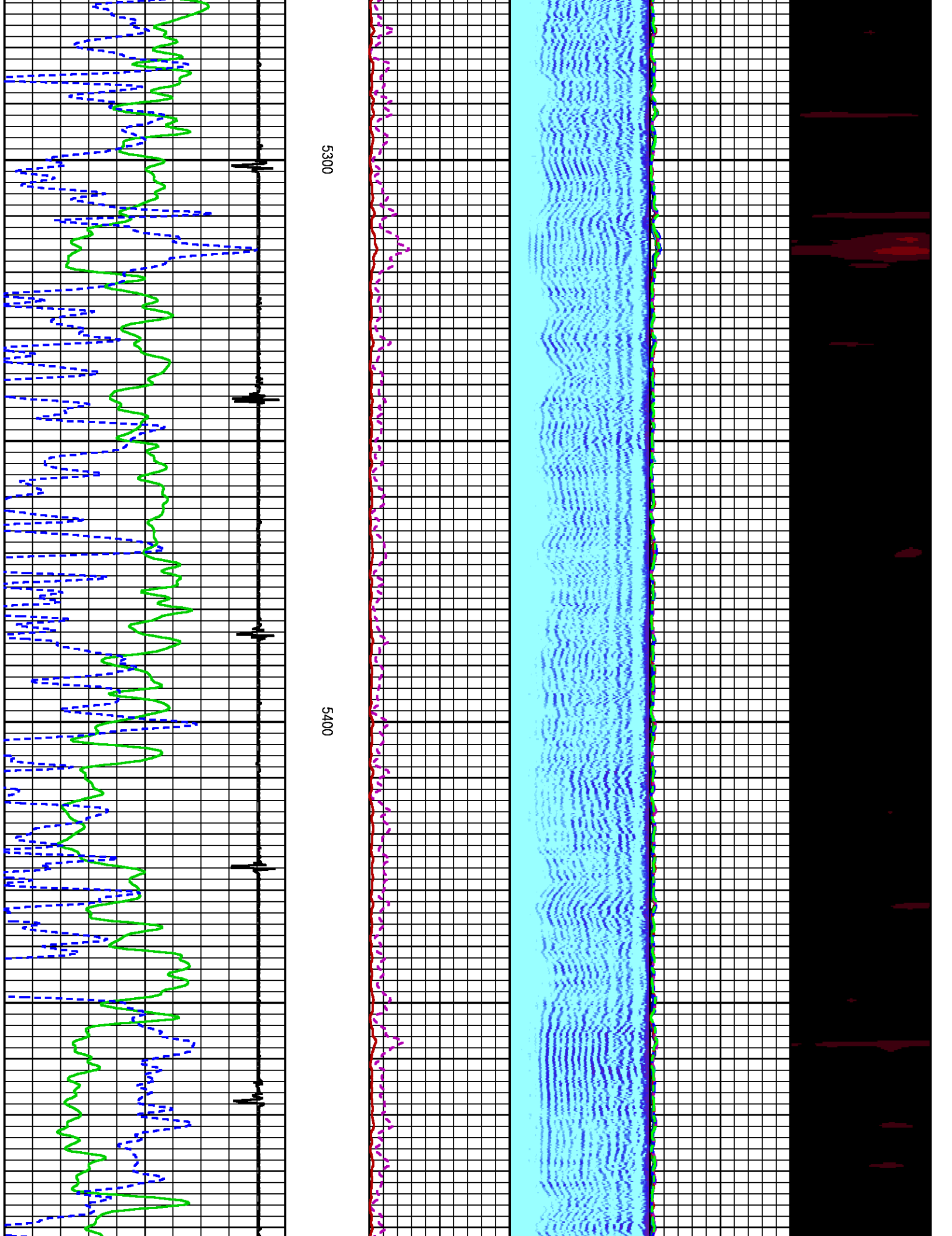


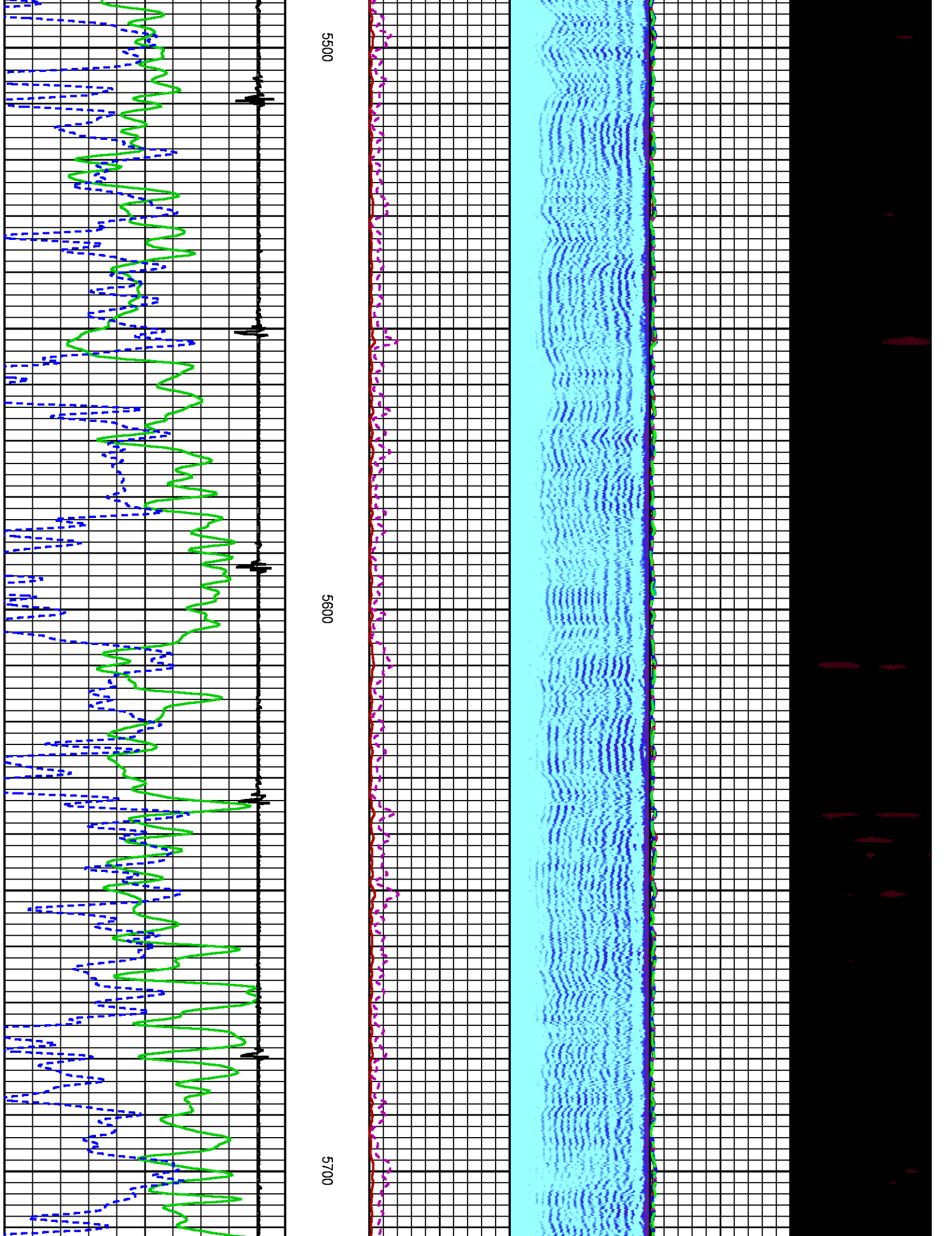


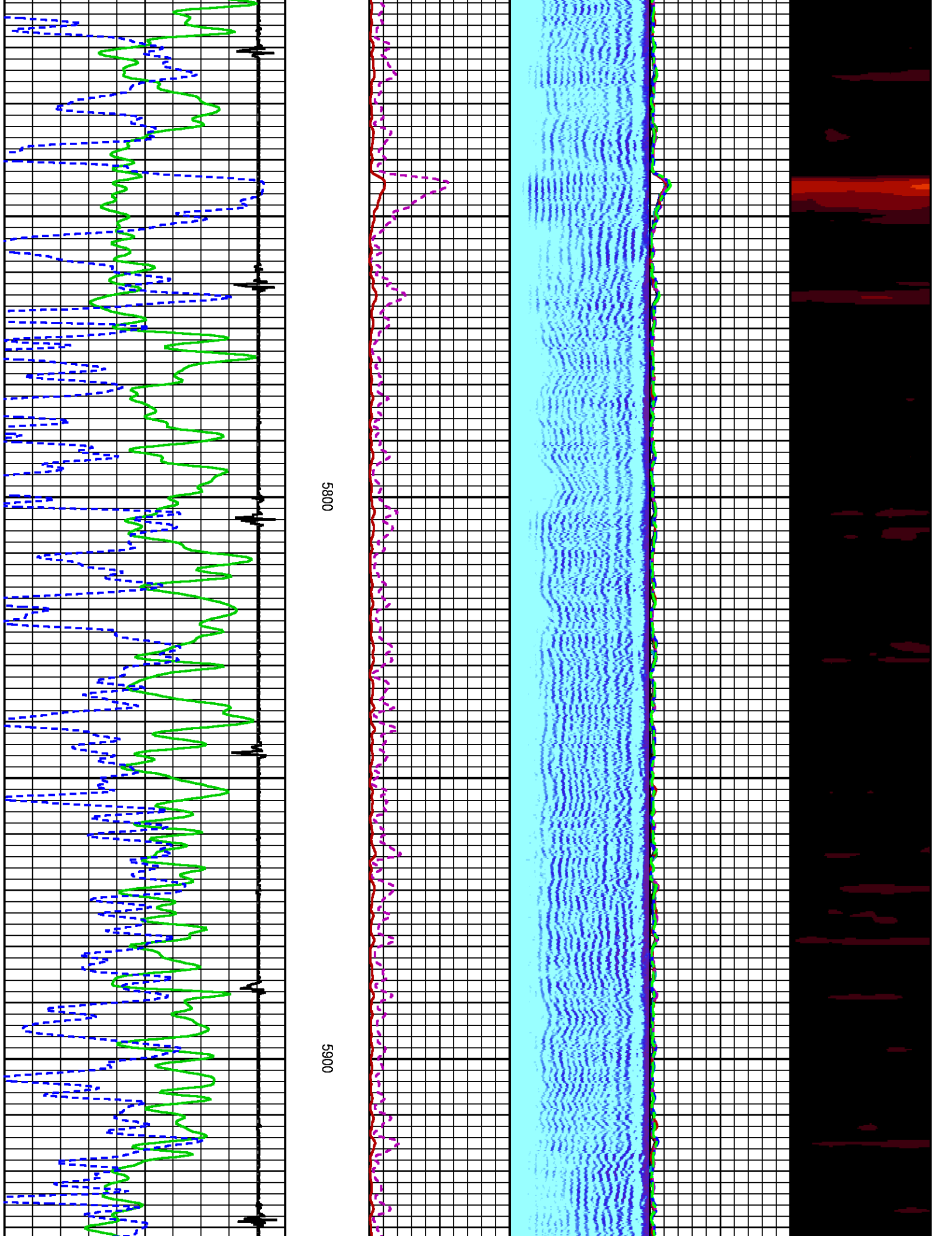


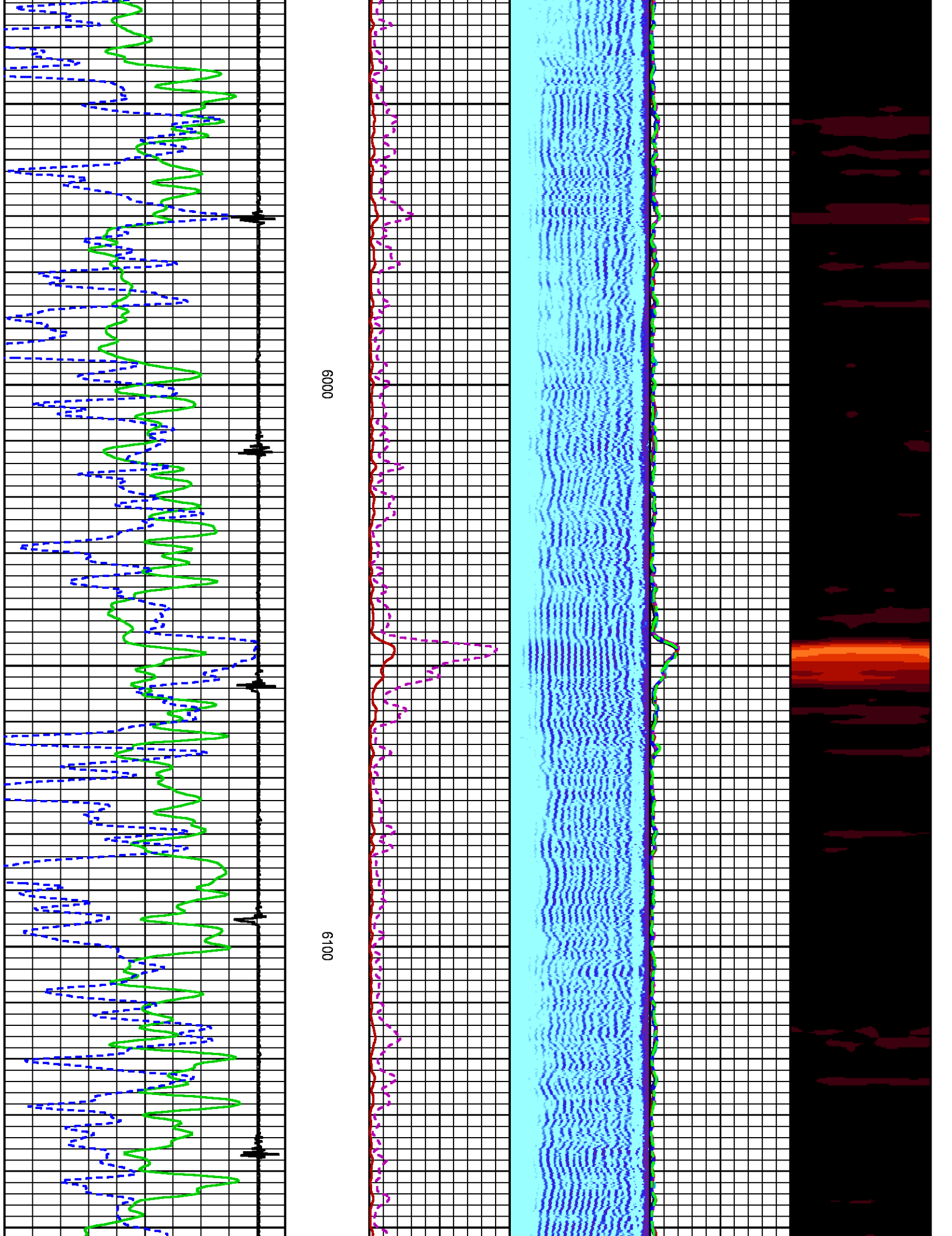


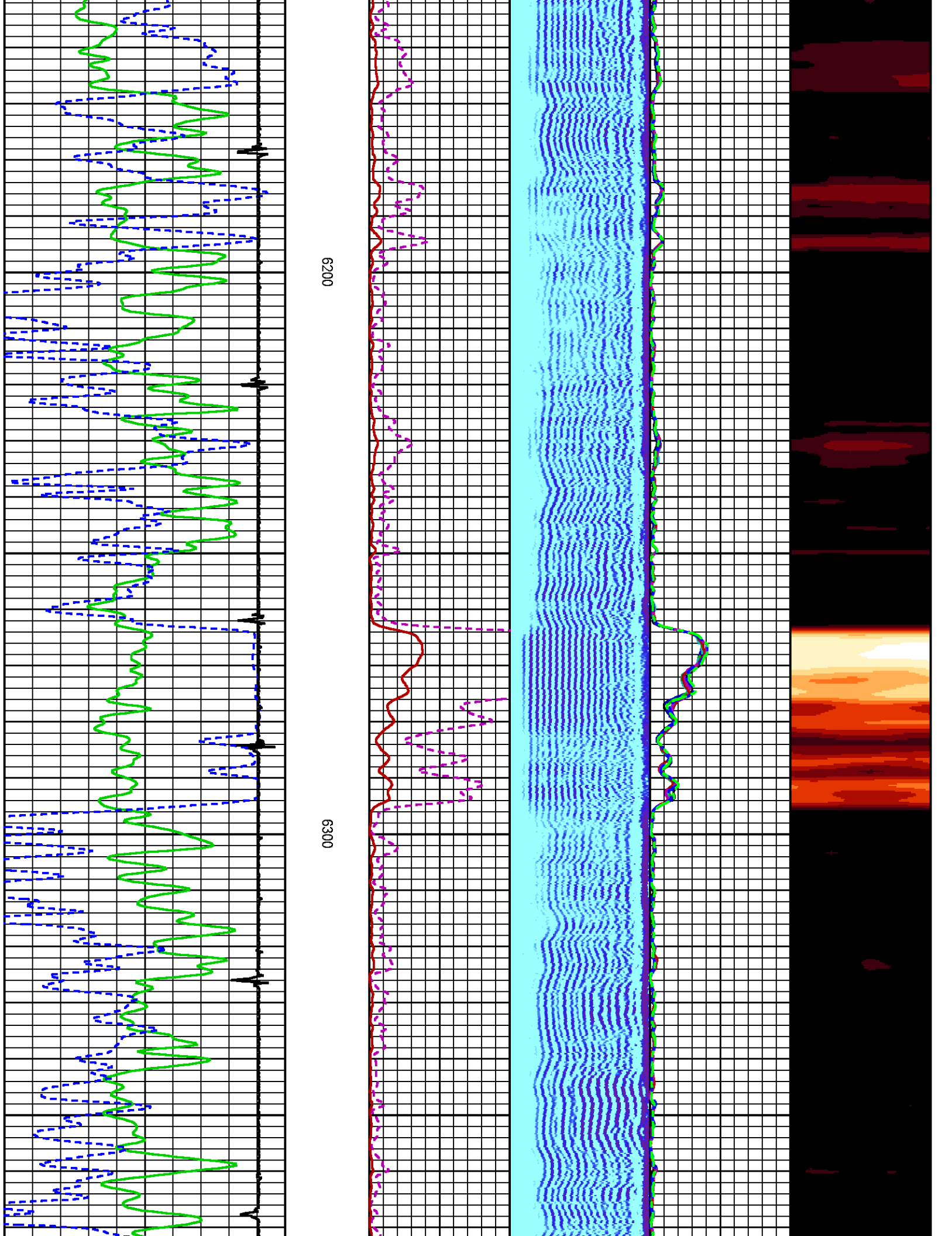


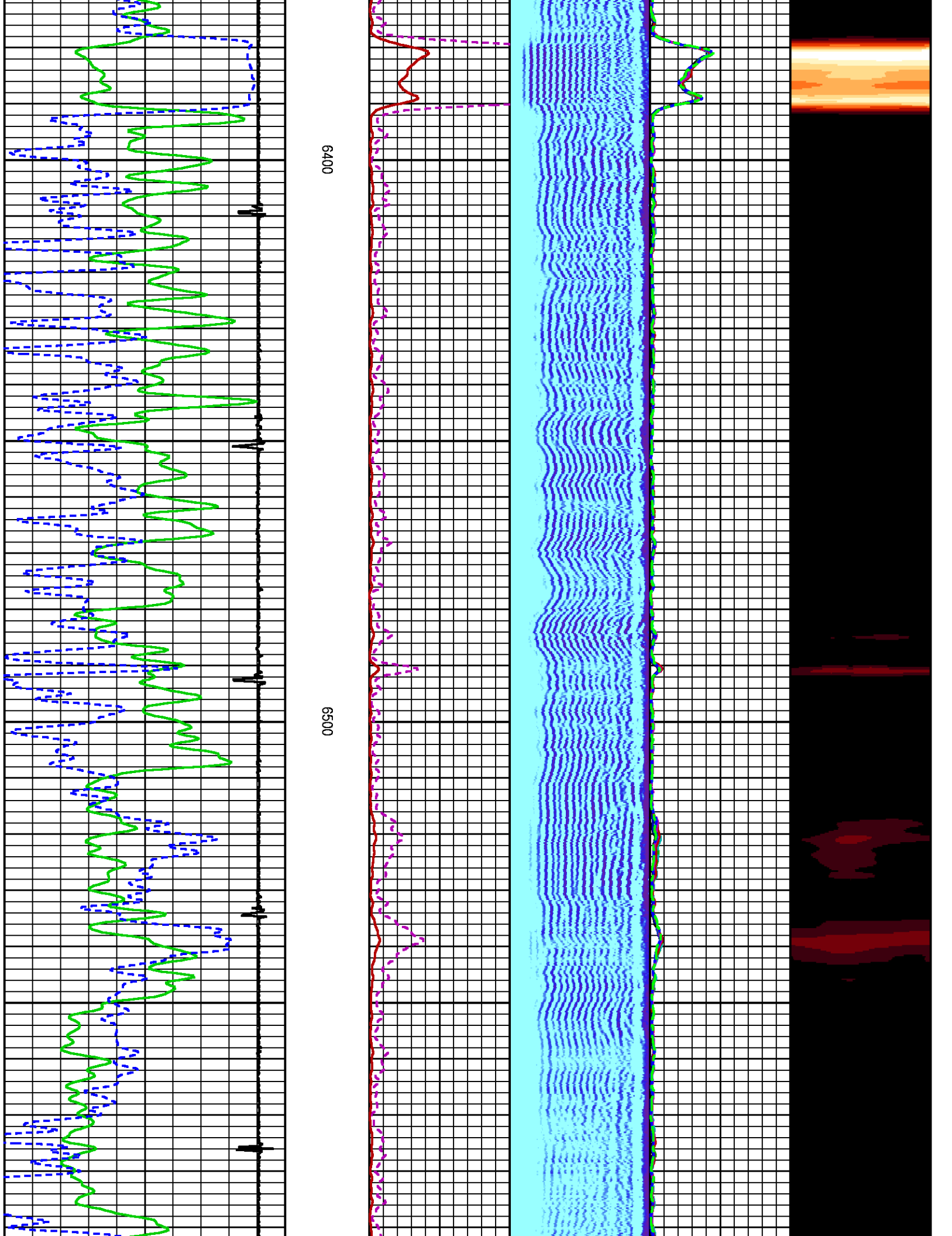


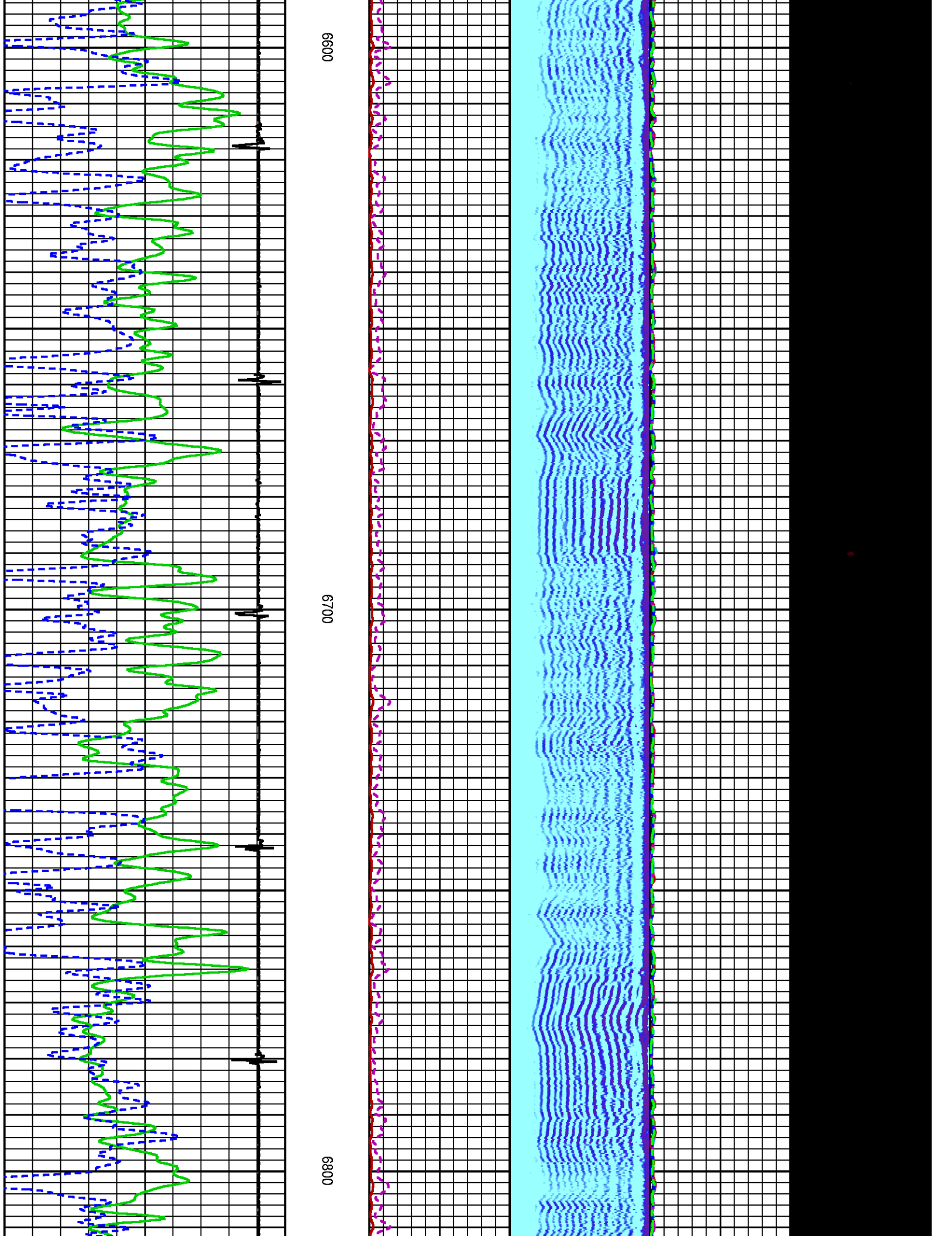


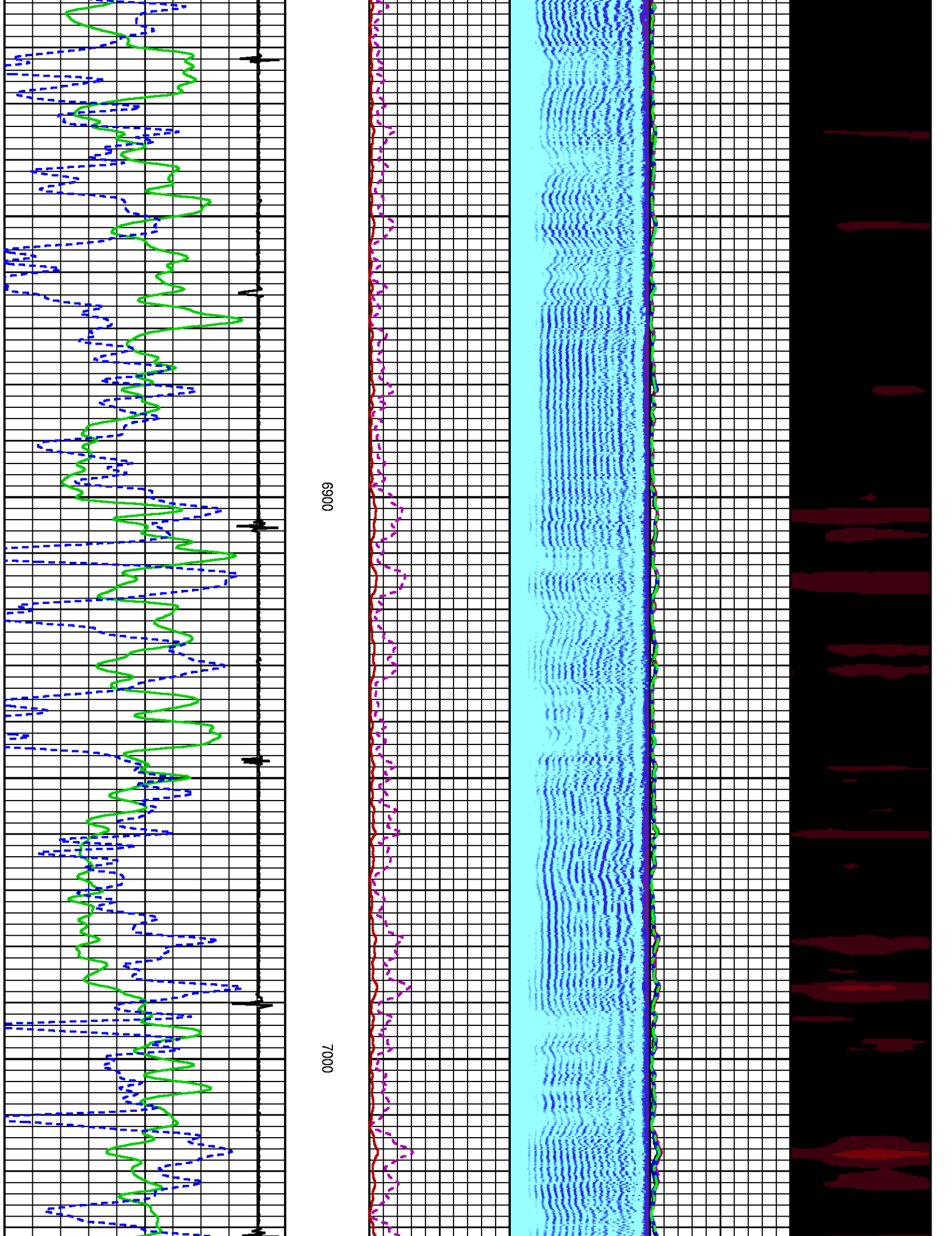


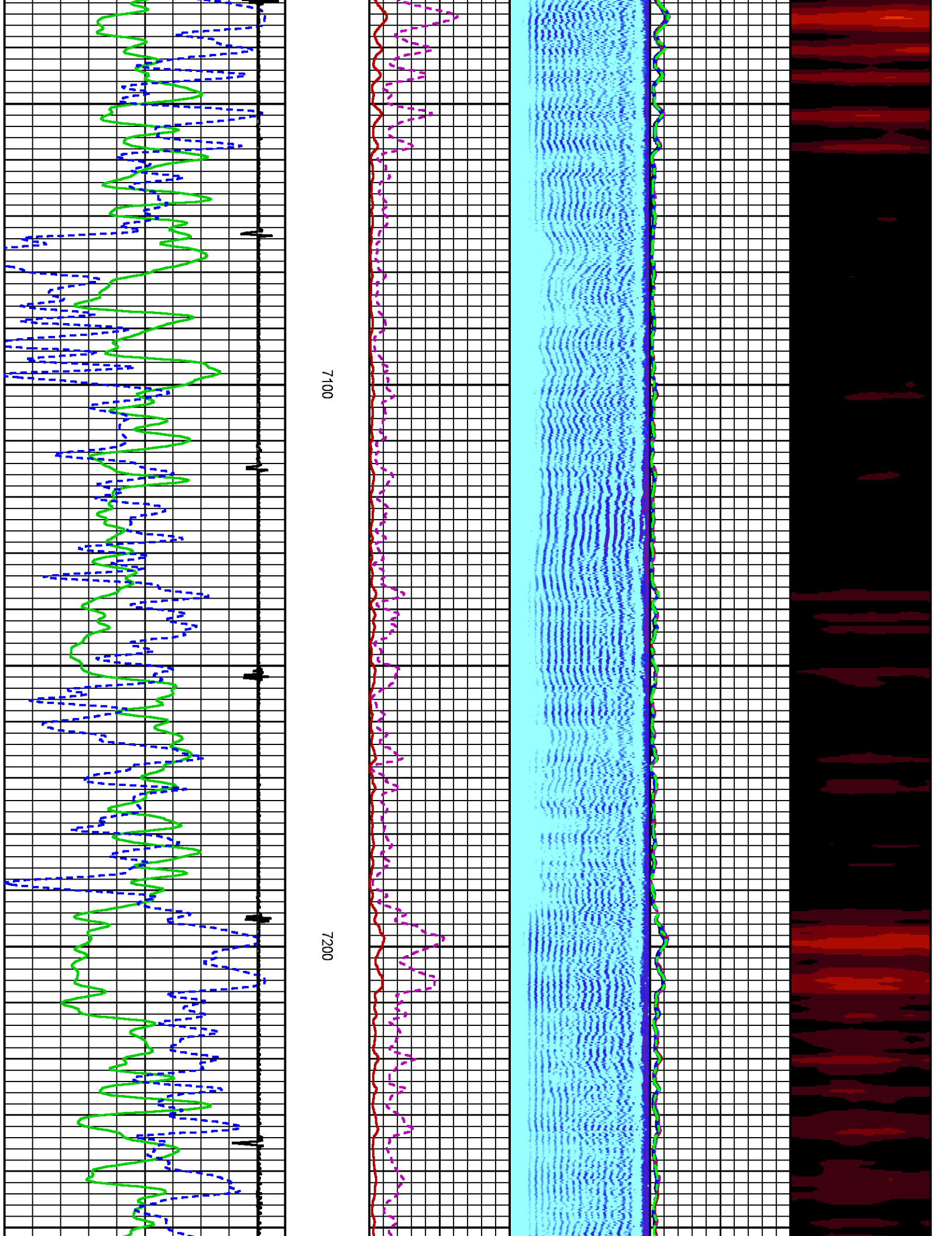


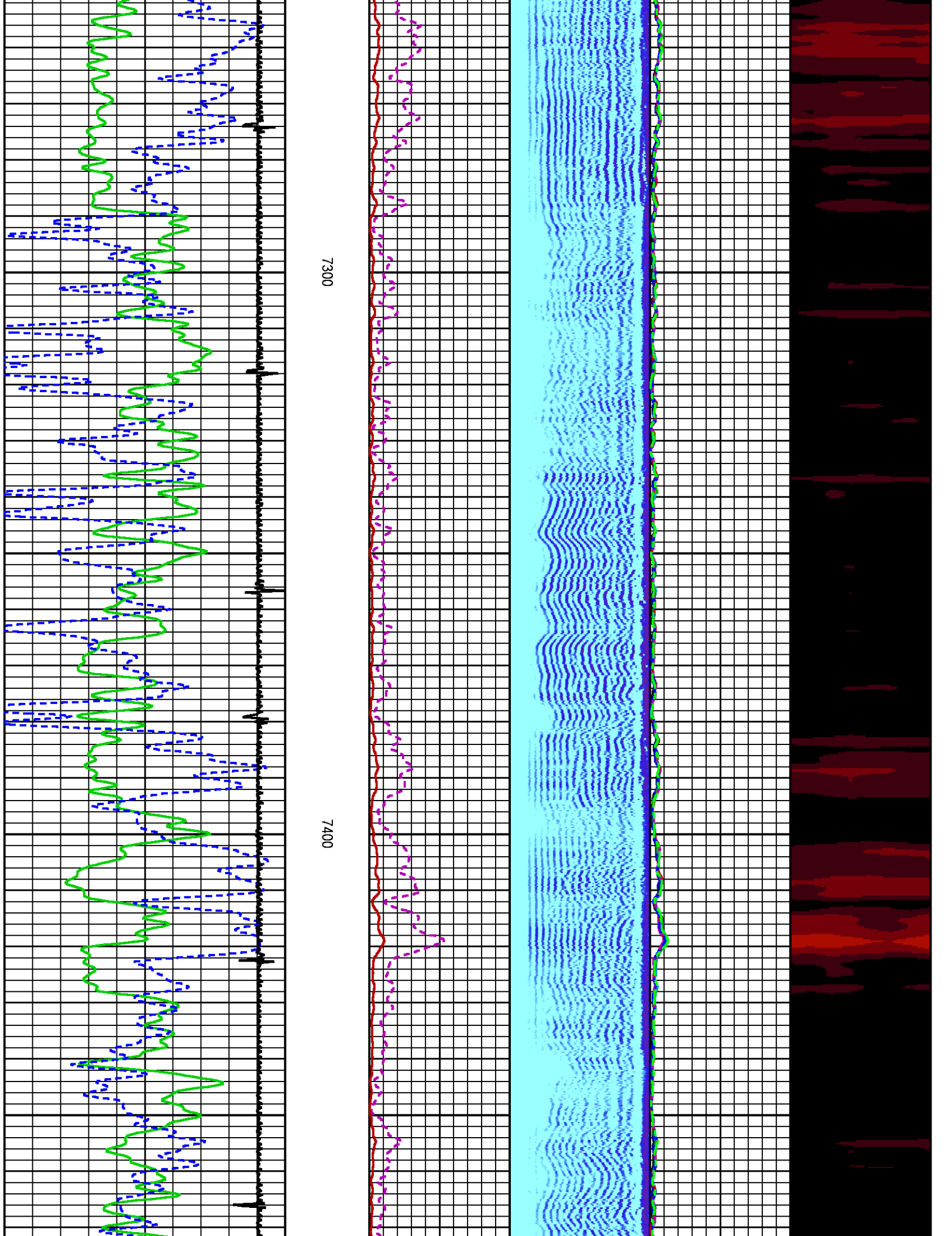


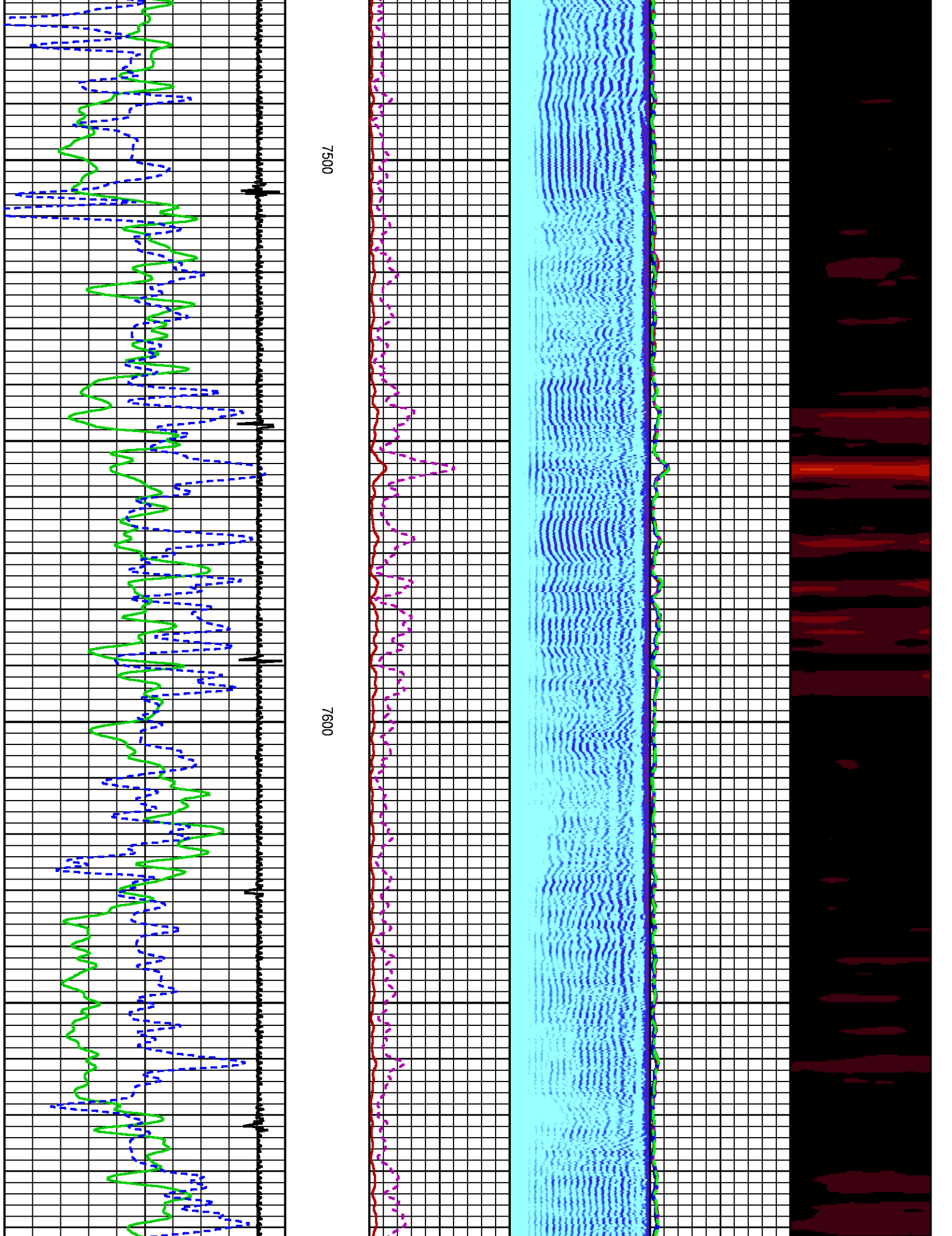


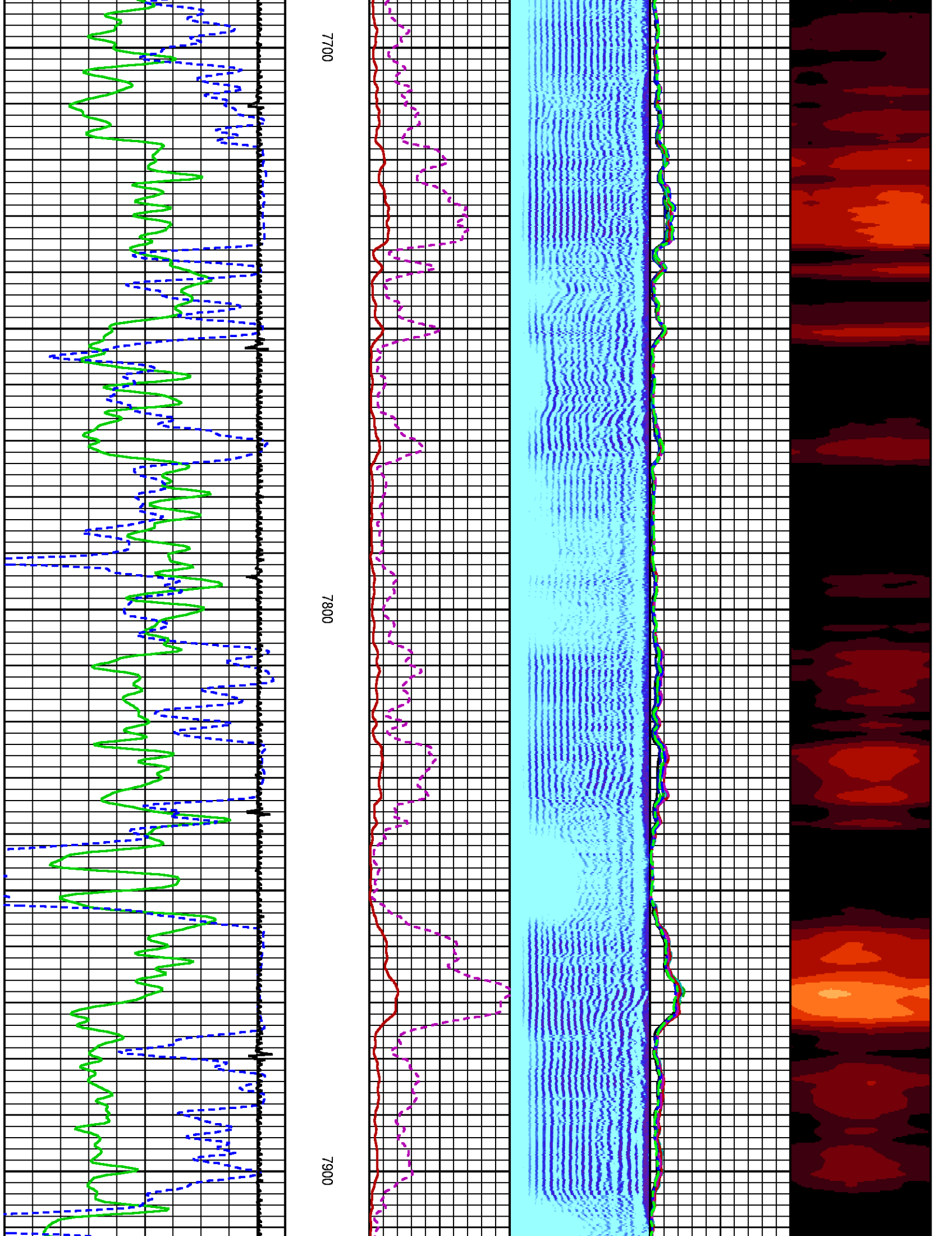


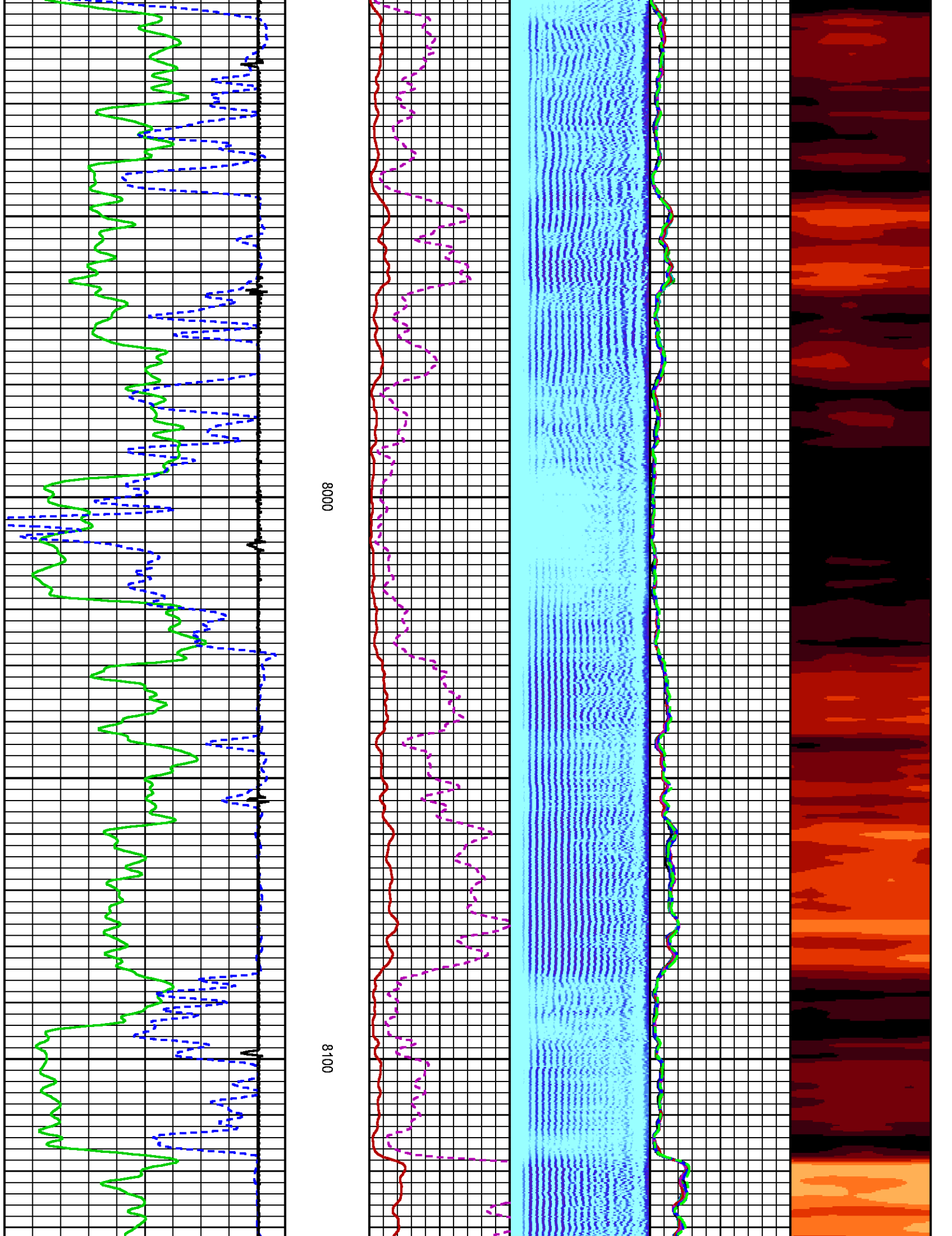


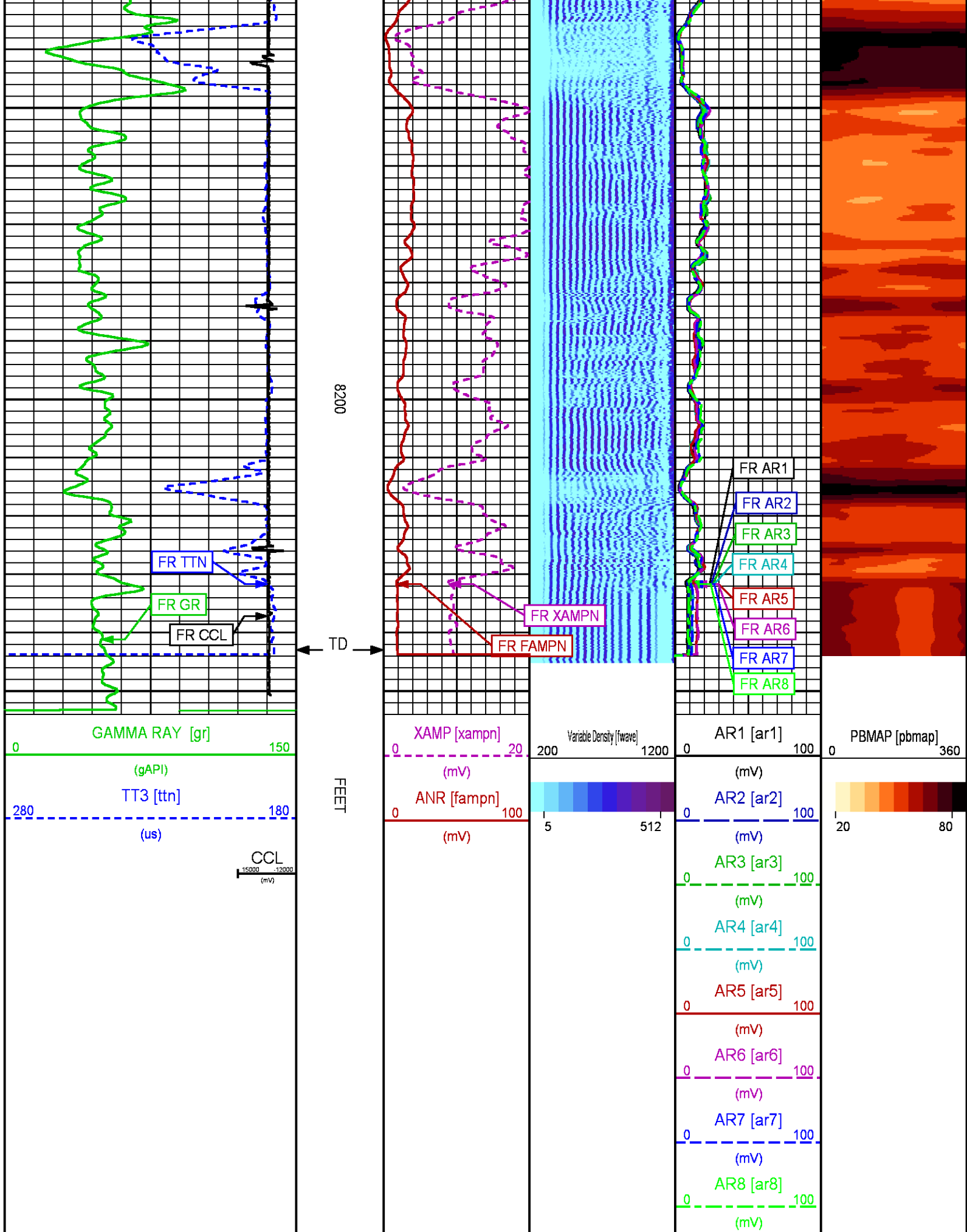












REPEAT PASS 0 PSI

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

Updates: 1 Patches: 9

Plotted: Sun May 28 17:15:21 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_PICEANCE_FEDERAL_29_22E/n012g01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 7879.500 ft BOTTOM DEPTH: 8232.045 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	"	"
BASELINE NOISE (NEAR)	TOOL DELAY (strn*)	-75	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	"	"

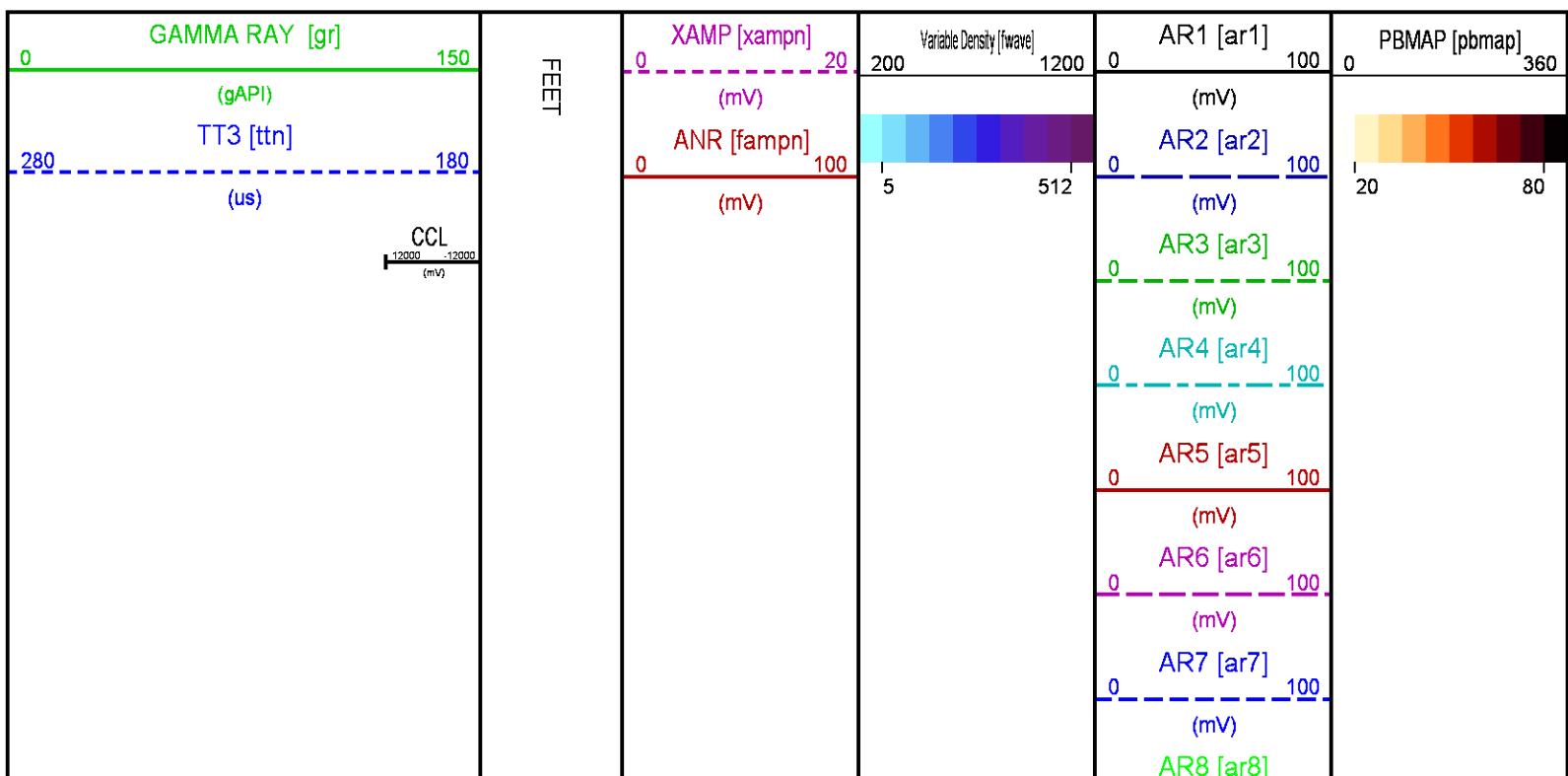
CURVE DESCRIPTION REPORT

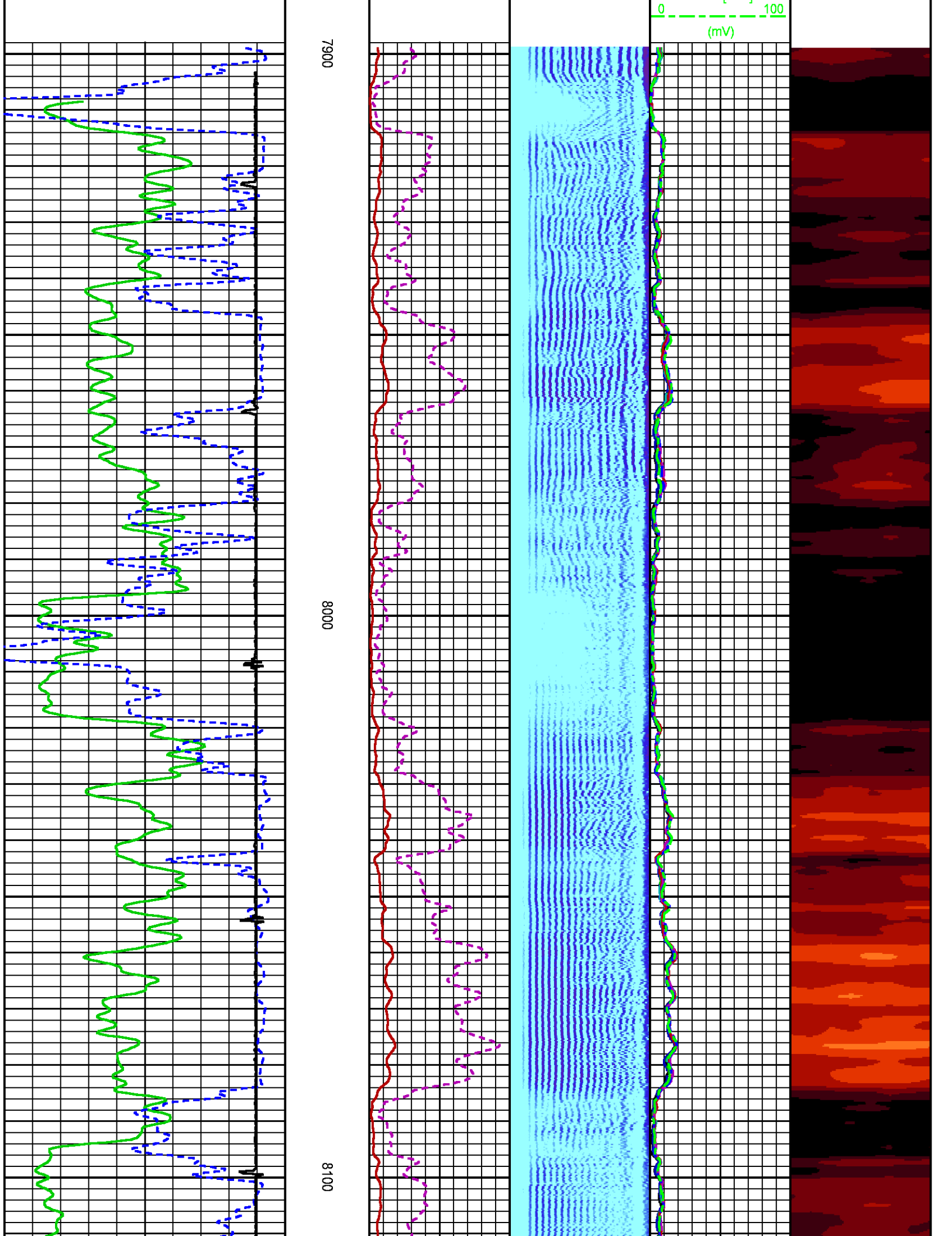
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:AR1	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R1
F1:AR2	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R2
F1:AR3	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R3
F1:AR4	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R4
F1:AR5	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R5
F1:AR6	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R6
F1:AR7	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R7
F1:AR8	May 28 17:03:26 2017	FIXED GATE AMPLITUDE T-R8
F1:CCL	May 28 17:03:26 2017	CASING COLLAR LOCATOR
F1:FAMPN	May 28 17:03:26 2017	FIXED GATE AMPLITUDE NEAR RECEIVER
F1:FWAVE	May 28 17:03:26 2017	FAR WAVE FORM
F1:GR	May 28 17:03:26 2017	GAMMA RAY
F1:PBMAP	May 28 17:03:26 2017	PERCENT BOND CEMENT MAP
F1:TTN	May 28 17:03:26 2017	TRAVELTIME FROM NEAR TRANSMITTER-RECEIVER
F1:XAMPN	May 28 17:03:26 2017	FIXED GATE AMPLITUDE NEAR RECEIVER TIMES FIVE

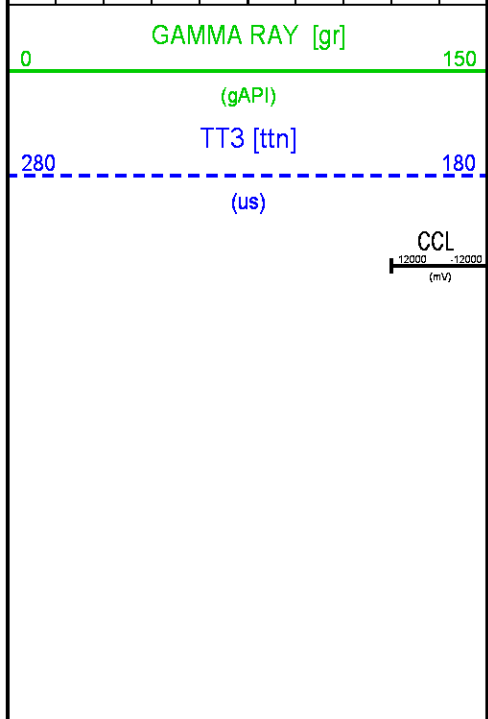
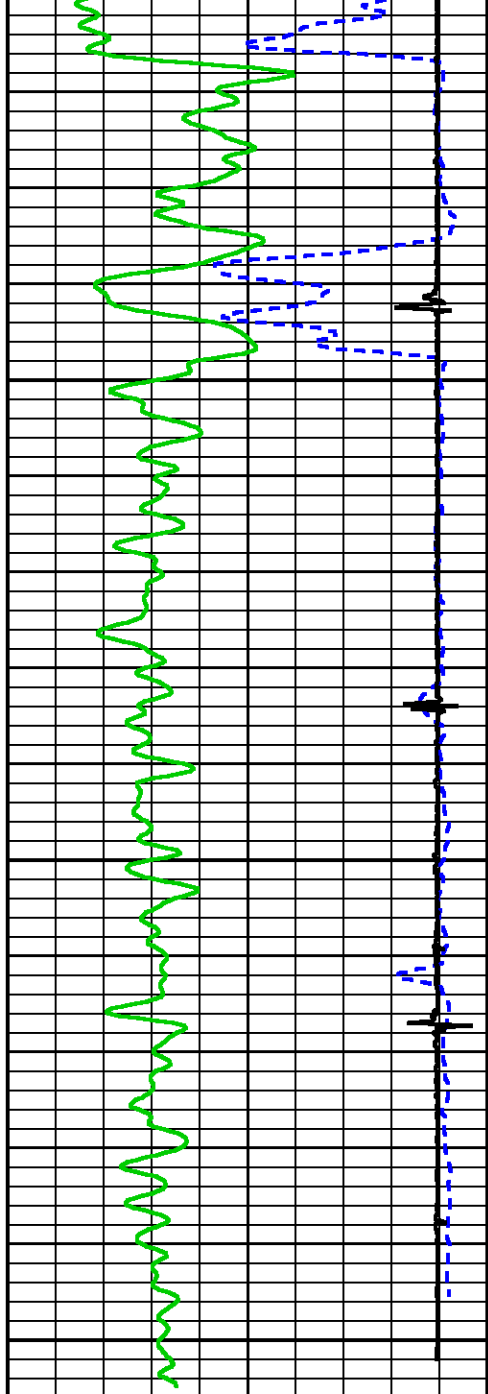
CURVE MEASURE POINT OFFSET

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_22E-5.fvpdf [5"/100' Scale]
Plot Interval	: 7869.25 - 8227 Feet
Data File 1	: F1 : cpu100:/dat1a/LARAMIE_PICEANCE_FEDERAL_29_22E/RAL_REPT_22E.xtf
Created On	: May 28 17:03:26 2017
Company	: LARAMIE ENERGY
Well	: PICEANCE 29-22E
Field	: VEGA
File Interval	: 7868.25 - 8228.25 Feet
OCT	: n012g

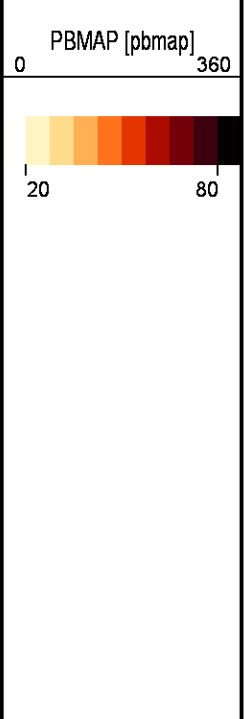
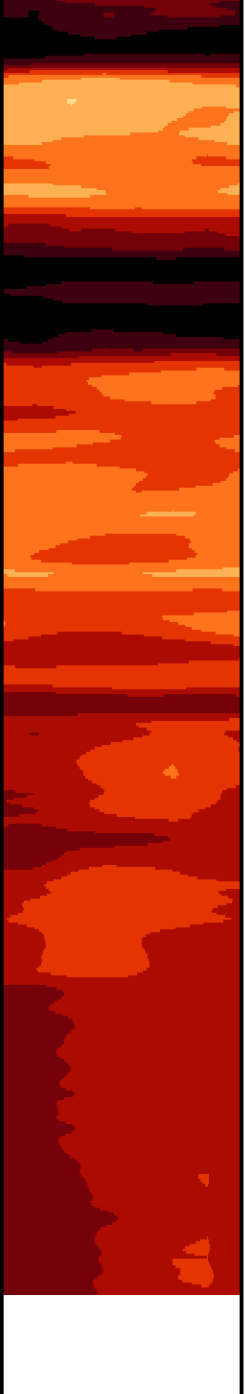
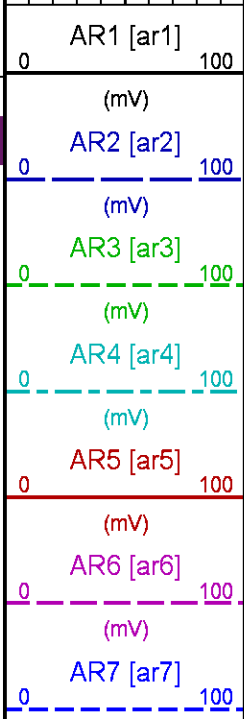
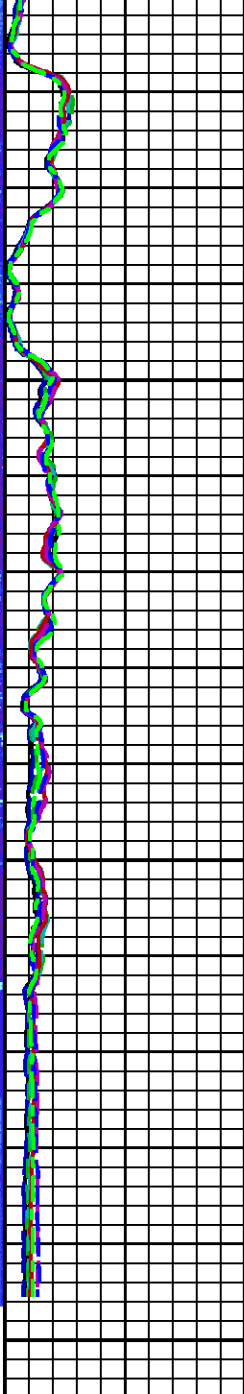
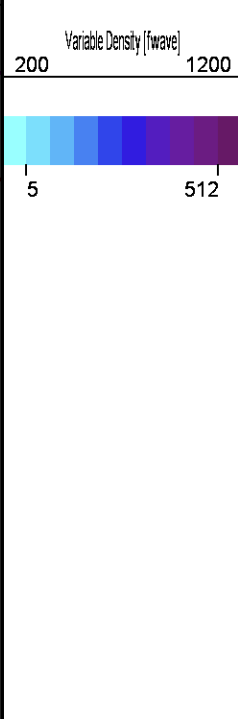
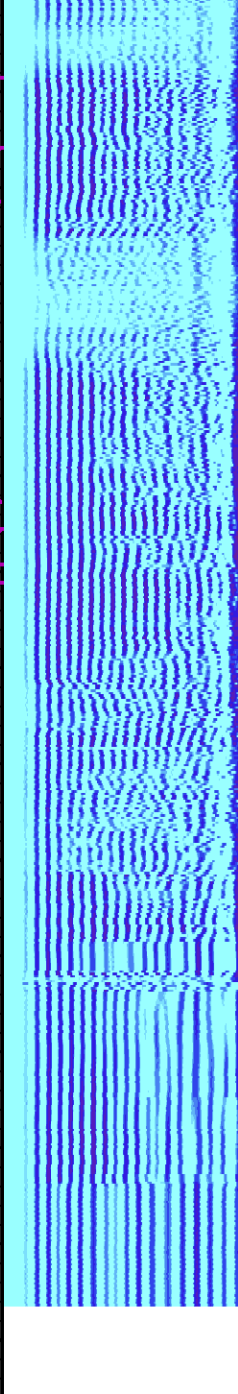
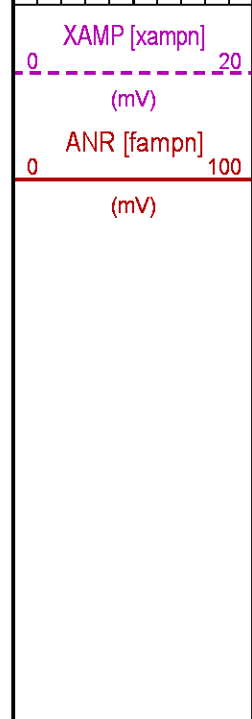
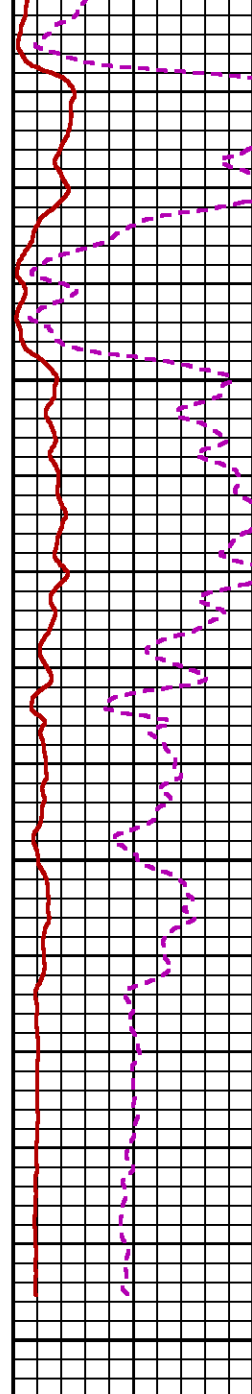






8200

FEET



(mV)

AR8 [ar8]

0 - - - - - 100
(mV)

CALIBRATION / VERIFICATION SUMMARY

Source File: Idat1a1.ARAMIS_PICEANCE_FEDERAL_29_22E#012g1p1

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)	GR 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

100.00 110.00

INSTRUMENT CONFIGURATION

Source File: Idat1a1.ARAMIS_PICEANCE_FEDERAL_29_22E#RAL-1dg

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

20.38'


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/CHW 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'

NEAR RCVR : 11.17'
 FAR RCVR : 10.21'
 CCL : 5.79'
 GR : 1.67'
 TEMP : 0.00'



	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <hr/>
	WELL <u>PICEANCE FEDERAL 29-22E</u>		
	FIELD <u>VEGA</u>		API NO: <u>05-077-10361-0000</u>
	COUNTY <u>MESA</u> STATE <u>COLORADO</u>		
LOCATION: SHL: LAT:39.248411N; LONG:107.788286W BHL: LAT:39.241502N; LONG:107.793034W			ELEVATIONS: KB 7561 FT DF GL 7531 FT
SEC <u>29</u> TWP <u>09 S</u> RGE <u>93 W</u>			
DATE <u>28-MAY-2017</u>			