



Segmented Bond Log Gamma Ray/CCL

Baker Atlas

File No: _____ Company **VULCAN MINERALS INC**
 Well **VULCAN INVESTCAN RED BROOK #2**
 API No: _____ Field **BAY ST. GEORGE BASIN**
 Province **NEWFOUNDLAND** Country **CANADA**

Location
 LICENCE: #83-107
 LAT: 48.2679591667 LONG: -58.7501141667
 SEC _____ TWP _____ RGE _____

Permanent Datum _____ Elevation **57.1 m**
 Log Measured From **KELLY BUSHING** **6.5 m** Above P. D.
 Drill Measured From **KELLY BUSHING**

Other Services
 Elevations
 KB **63.4 m**
 DF _____
 GL **57.1 m**

Date	AUGUST 29, 2010
Run	ONE
Service Order	CA420593
Depth Driller	1965 m
Depth Logger	1925.6 m
Bottom Logged Interval	1923 m
Top Logged Interval	19 m
Time Started	12:00
Time Finished	16:30
Operator Rig Time	4.5 HOURS
Type of Fluid in Hole	2% KCL
Fluid Density	1000 kg/m ³
Salinity	N/A
Fluid Level	FULL
Logged Cement Top	SEE REMARKS
Wellhead Pressure	7000 kPa
Maximum Hole Deviation	8.2 deg
Nominal Logging Speed	10 mpm
Maximum Recorded Temperature	N/A
Reference Log	COMPENSATED Z-DENSI/LOG/CNL/GR/CAL/PER
Reference Log Date	NOVEMBER 25, 2009
Equipment No.	4127
Recorded By	BRIAN ZUKOWSKI
Witnessed By	FRED DAVIDSON
Location	GRANDE PRAIRIE

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
444.5 mm	0 m	220.2 m
311 mm	220.2 m	895 m
216 mm	895 m	1965 m

Casing Record				
Size	Weight	Grade	From	To
359.7 mm	71.4 kg/m	H-40	0 m	220.2 m
244.5 mm	64.7 kg/m	L-80	0 m	331.8 m
244.5 mm	53.6 kg/m	J-55	331.8 m	895 m
177.8 mm	38.7 kg/m	J-55	0 m	1947 m

Remarks

LOG CORRELATED TO A BAKER HUGHES COMPENSATED Z-DENSI/LOG/COMPENSATED NEUTRON/
 GAMMA RAY/CALIPER LOG-DATED NOVEMBER 25, 2009.
 CORRELATED TO PROPOSED PERFORATIONS AT: 1755.0 - 1762.0 mKB
 LOGGED AS PER CUSTOMERS REQUEST.
 A SCRAPER WAS RUN PRIOR TO RUNNING SEGMENTED BOND LOG.
 A 7 MPA PRESSURE PASS WAS PERFORMED.

PROBABLE CEMENT TOP AT: 102.0 mKB

A COMPRESSIVE STRENGTH OF 1400 PSI WAS USED FROM 0 TO 1600.0 mKB AS PER CUSTOMER

A COMPRESSIVE STRENGTH OF 2901 PSI WAS USED FROM 1600.0 mKB TO 1923.0 mKB

AS PER CUSTOMER.

CONDUCTOR PIPE: CEMENTED WITH 33.75 TONNES OF BJ PORTLAND CLASS "A" + 2% CACL2

Ø 1878 kg/m3.

SURFACE CASING: CEMENTED WITH 6.4 TONNES OF CLASS "G" Ø 1828 kg/m3 (w/3% CACL2 &

6.94% NACL) + 24.8 TONNES OF BJ MAXXX CEMENT Ø 1650 kg/m3 (w/3% CACL2 &

6.94% NACL).

PRODUCTION CASING: CEMENTED WITH 13.27 TONNES OF FILL-LITE W/0.9% FL-5 +

2%A-11 + 0.7% R-3 Ø 1518 kg/m3 & 8 TONNES OF CLASS "G" W/2% MICROSIL

12P + 0.4% FL-5 + 0.5% CD-3 Ø 1901 KG/M3.

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CCL	2346XA	73114	CENTRALIZED
1	1	GAMMA RAY	1309XA	72550	CENTRALIZED
1	1	TELEMETRY	1833EA	115213	CENTRALIZED
1	1	SLIP-OVER	4324LB	Z149943	CENTRALIZED
1	1	SBT PADS	1424XA	118056	CENTRALIZED
1	1	CENTRALIZER	4341XA	119575	CENTRALIZED
1	1	VDL	1424PA	116791	CENTRALIZED
1	1	CENTRALIZER	4341XA	Z183801	CENTRALIZED

TOOL DIAGRAM

CHHEAD

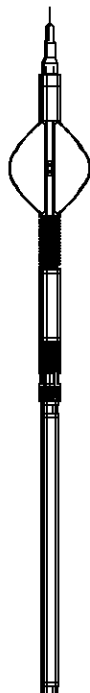
Series CHHEAD

CCL

Series 2346XA
 Mnemonic CCL
 Diameter 11.43 cm
 Weight 44.00 kg
 Length 2.07 m
 Measure Point 1.30 m CCL MP
 Temp Rating 176.67 °C
 Press Rating 1757.67 kg/cm

GAMMA RAY

Series 1309XA
 Mnemonic GR
 Diameter 9.22 cm
 Weight 54.43 kg
 Length 1.98 m
 Measure Point 0.41 m GR MP
 Temp Rating 204.44 °C
 Press Rating 1406.14 kg/cm



17.20 m

CCL MP 13.45 m

GR MP 10.57 m

ACOUSTIC DIGITIZER

Series	1633EA
Mnemonic	AC
Diameter	8.59 cm
Weight	60.33 kg
Length	2.44 m
Temp Rating	204.44 °C
Press Rating	1406.14 kg/cm

SEGMENTED BOND TOOL

Series	1424XA
Mnemonic	SBT
Diameter	8.59 cm
Weight	108.86 kg
Length	5.28 m
Measure Point	2.30 m ATT MP
Temp Rating	176.67 °C
Press Rating	1406.14 kg/cm

4 ARM BOW SPRING CENTRALIZER

Series	4341XA
Mnemonic	CENT
Diameter	8.59 cm
Weight	38.10 kg
Length	1.25 m

SEGMENTED BOND TOOL VDL SUB

Series	1424PA
Mnemonic	SBT
Diameter	8.59 cm
Weight	48.99 kg
Length	2.40 m
Measure Point	1.22 m VDL MP
Temp Rating	176.67 °C
Press Rating	1406.14 kg/cm

4 ARM BOW SPRING CENTRALIZER

Series	4341XA
Mnemonic	CENT
Diameter	8.59 cm
Weight	38.10 kg
Length	1.25 m



ATT MP — 4.74 m

VDL MP — 0.00 m

0.00 m

Total Length: 17.20 m
Total Weight: Not Available

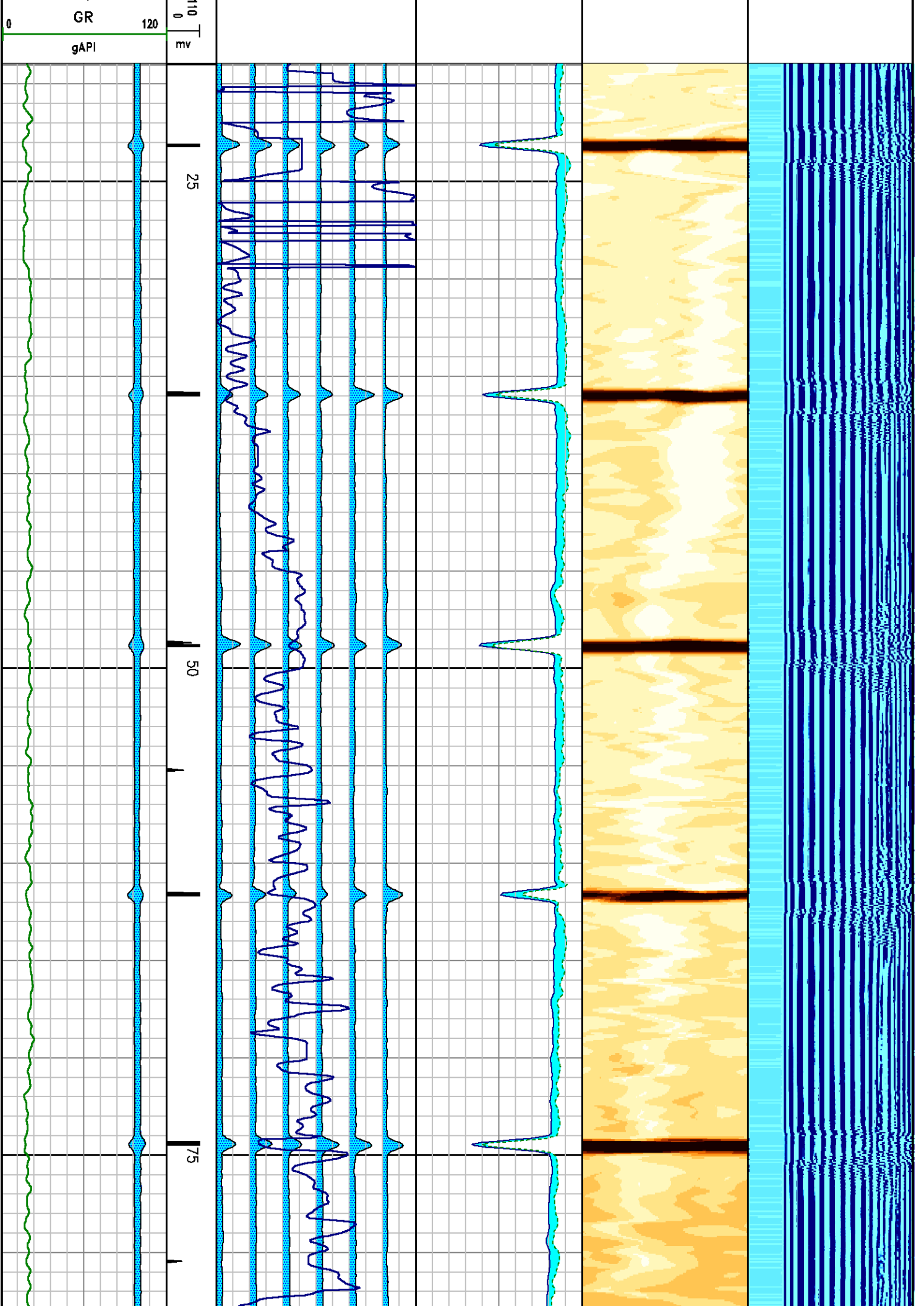
MAIN PASS
RECORDED WITH 7 MPA PRESSURE
CORRELATED TO PROPOSED
PERFORATIONS
AT: 1755.0 - 1762.0 mKB
1:240 SCALE

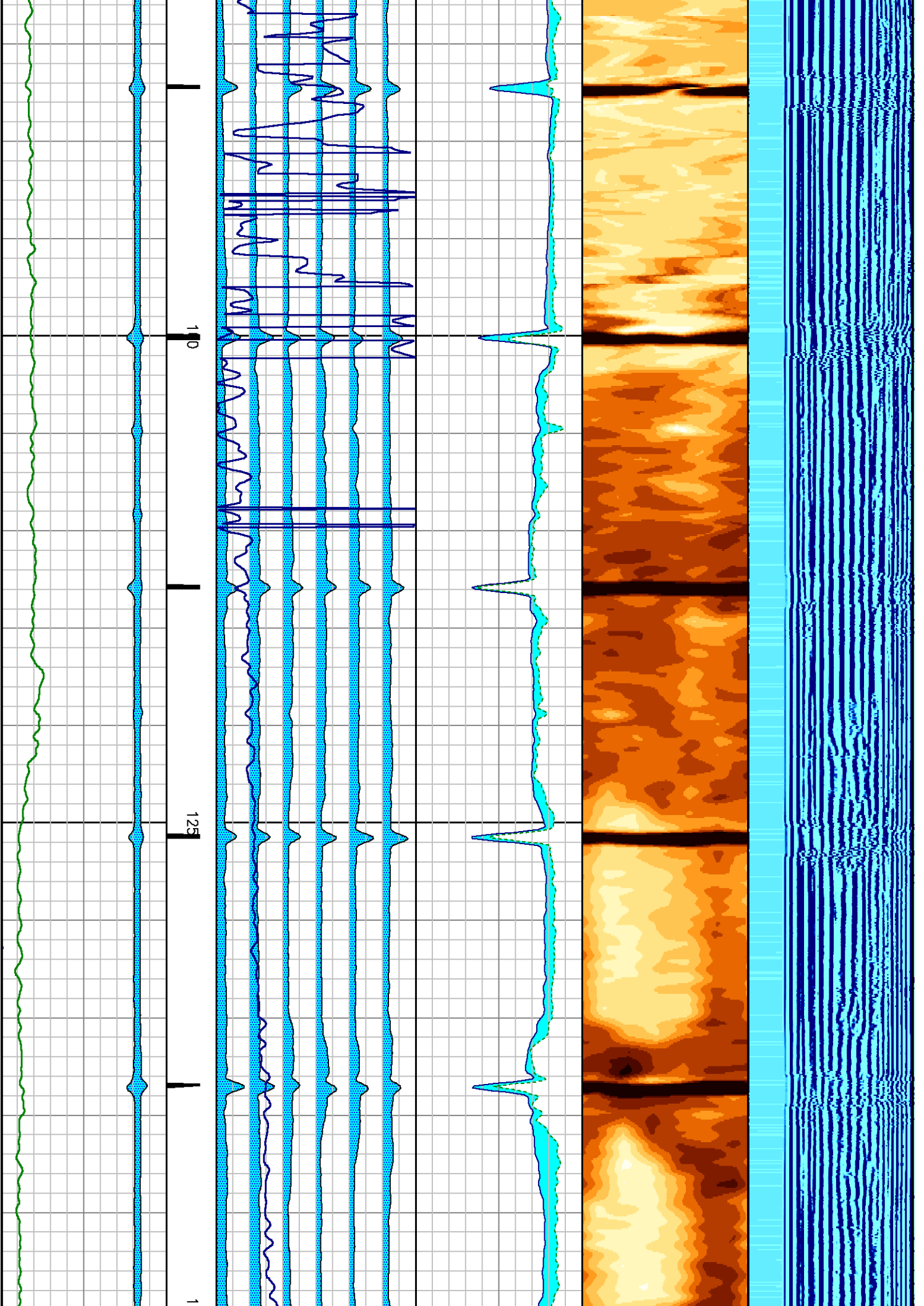
SBT NORMALIZATION RESULTS

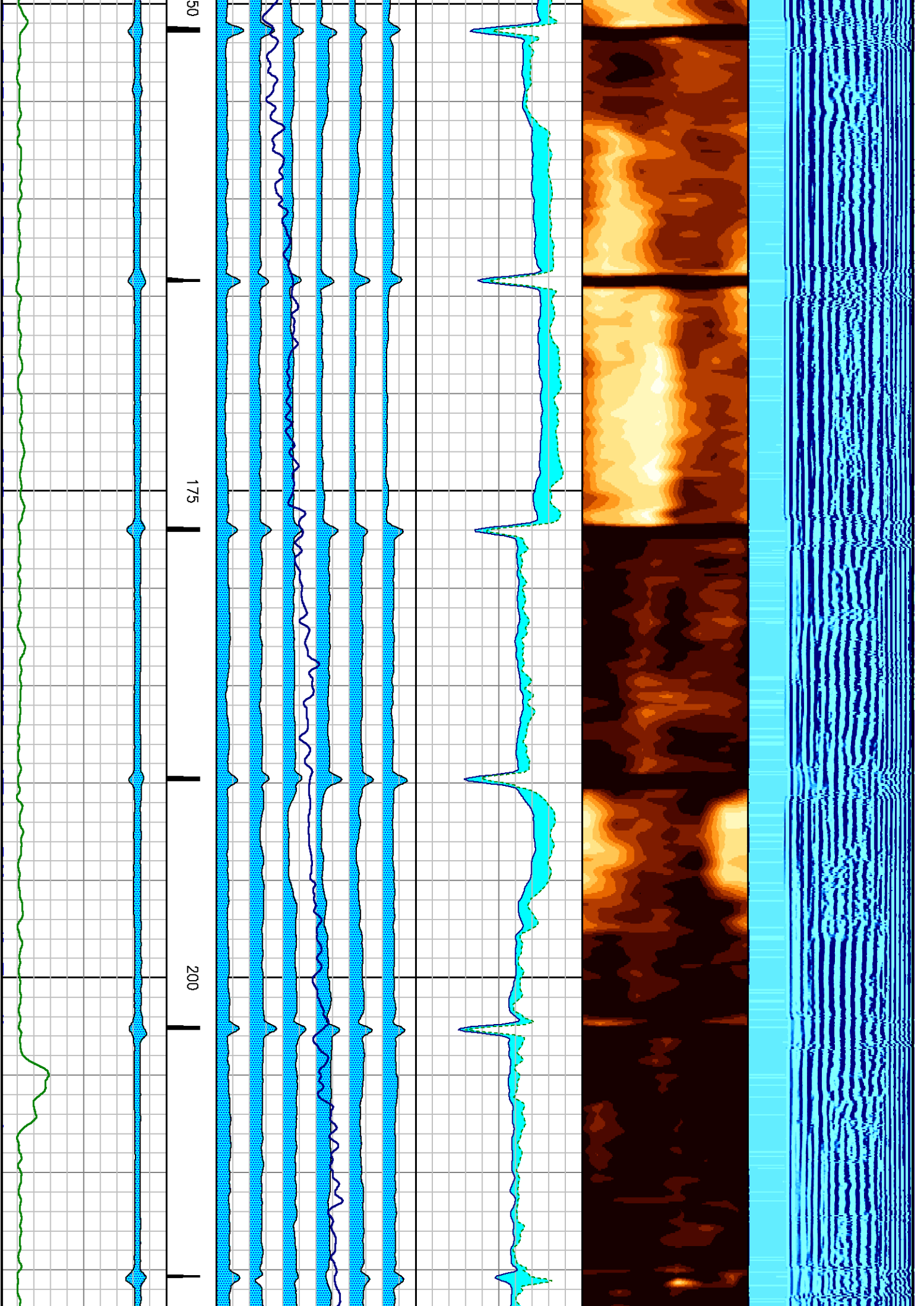
CURVE	PARAMETER	VALUE	UNITS	TOP	BOTTOM	COMMENT
ATC1	seg1 cnormf1	1.119	db/ft	19.670	1932.834	
ATC2	seg2 cnormf2	-1.070	db/ft	19.670	1932.834	
ATC3	seg3 cnormf3	-1.778	db/ft	19.670	1932.834	
ATC4	seg4 cnormf4	1.836	db/ft	19.670	1932.834	
ATC5	seg5 cnormf5	-1.190	db/ft	19.670	1932.834	
ATC6	seg6 cnormf6	1.083	db/ft	19.670	1932.834	
ATC1	seg1 dnormf1	1.145	db/ft	19.670	1932.834	Good Confidence
ATC2	seg2 dnormf2	-1.153	db/ft	19.670	1932.834	Good Confidence
ATC3	seg3 dnormf3	-1.758	db/ft	19.670	1932.834	Good Confidence
ATC4	seg4 dnormf4	1.686	db/ft	19.670	1932.834	Good Confidence
ATC5	seg5 dnormf5	-1.458	db/ft	19.670	1932.834	Good Confidence
ATC6	seg6 dnormf6	1.536	db/ft	19.670	1932.834	Good Confidence

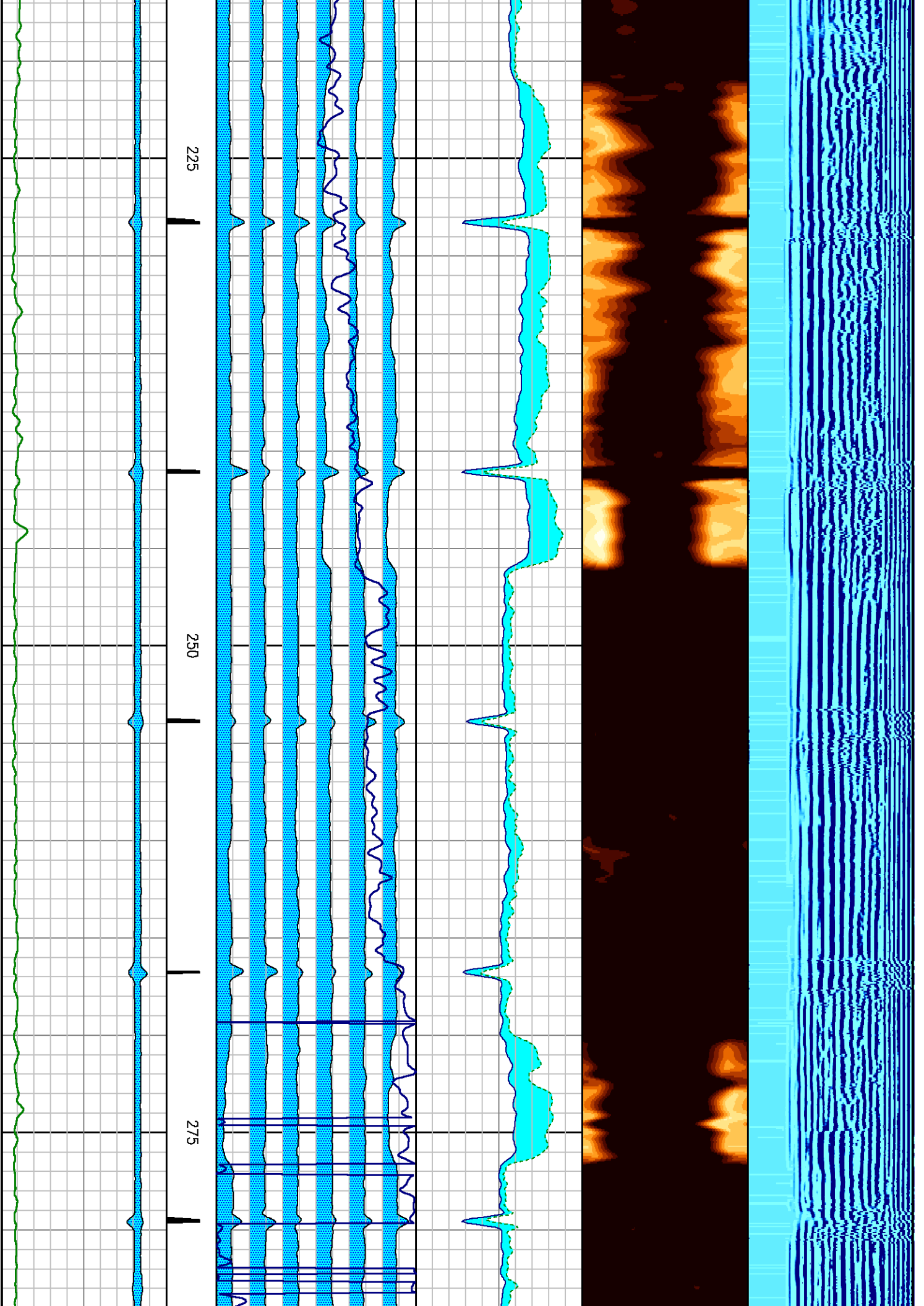
SBT PROCESSING

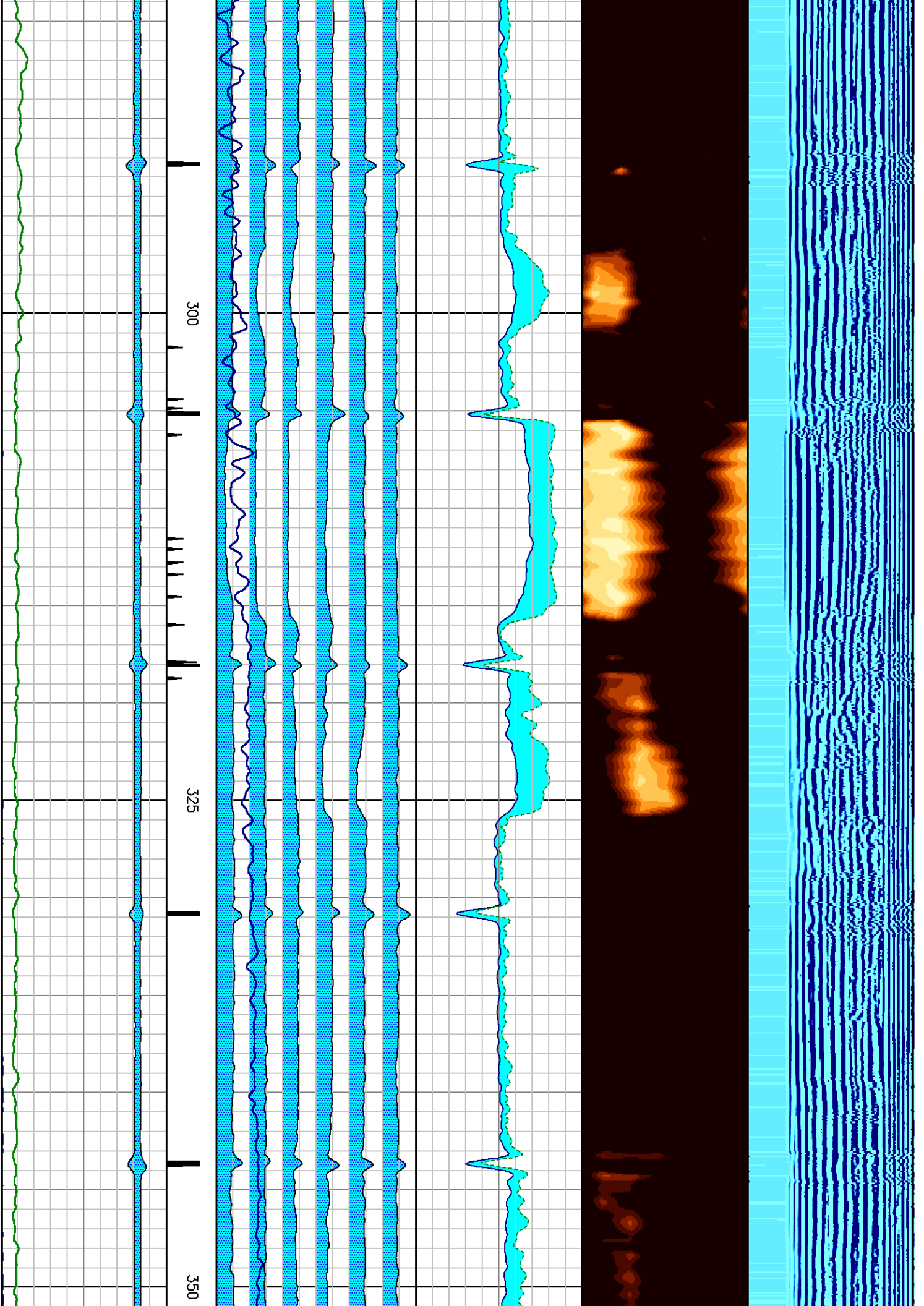
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
------------------	-----------	-------	-------	-----	--------

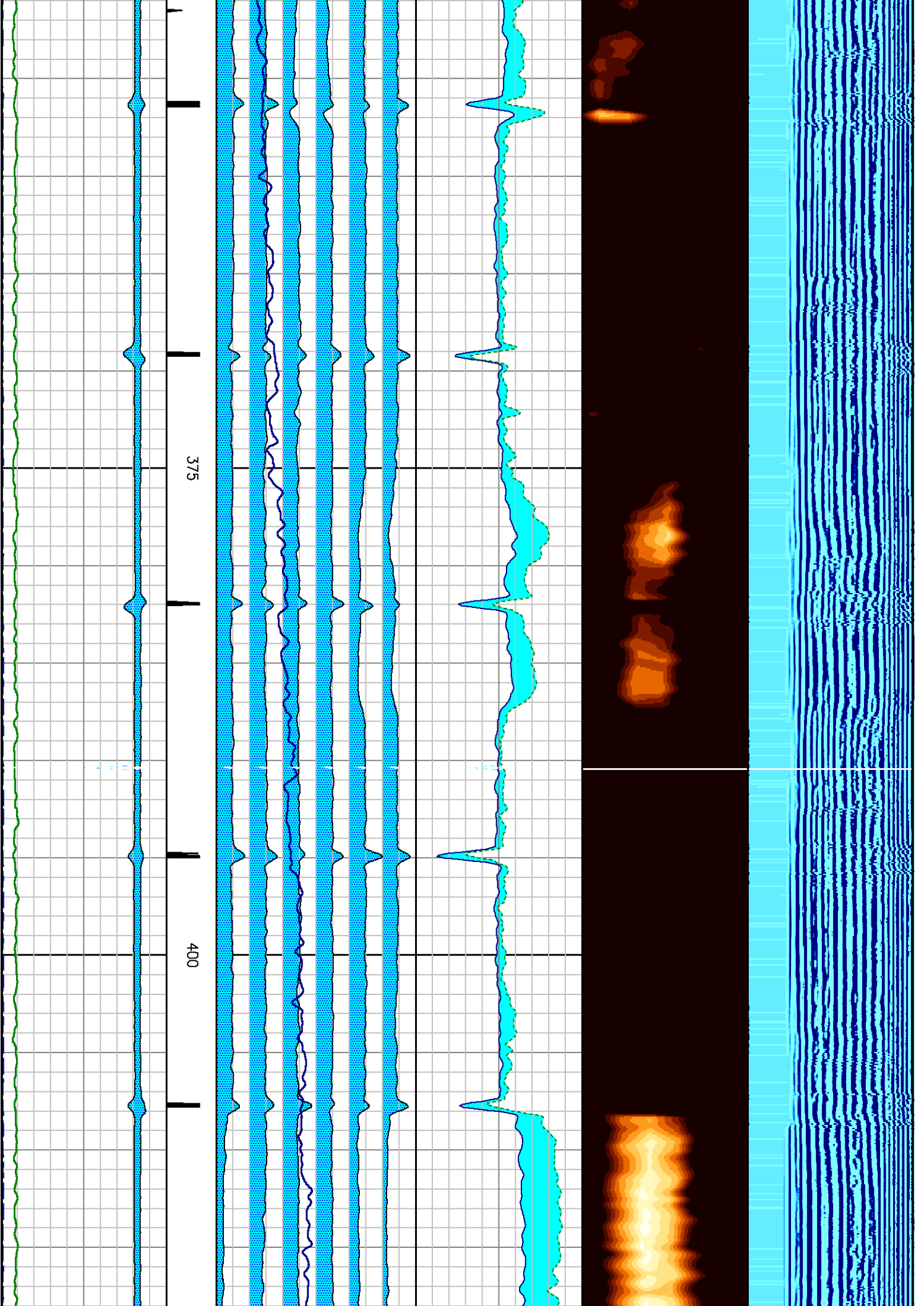


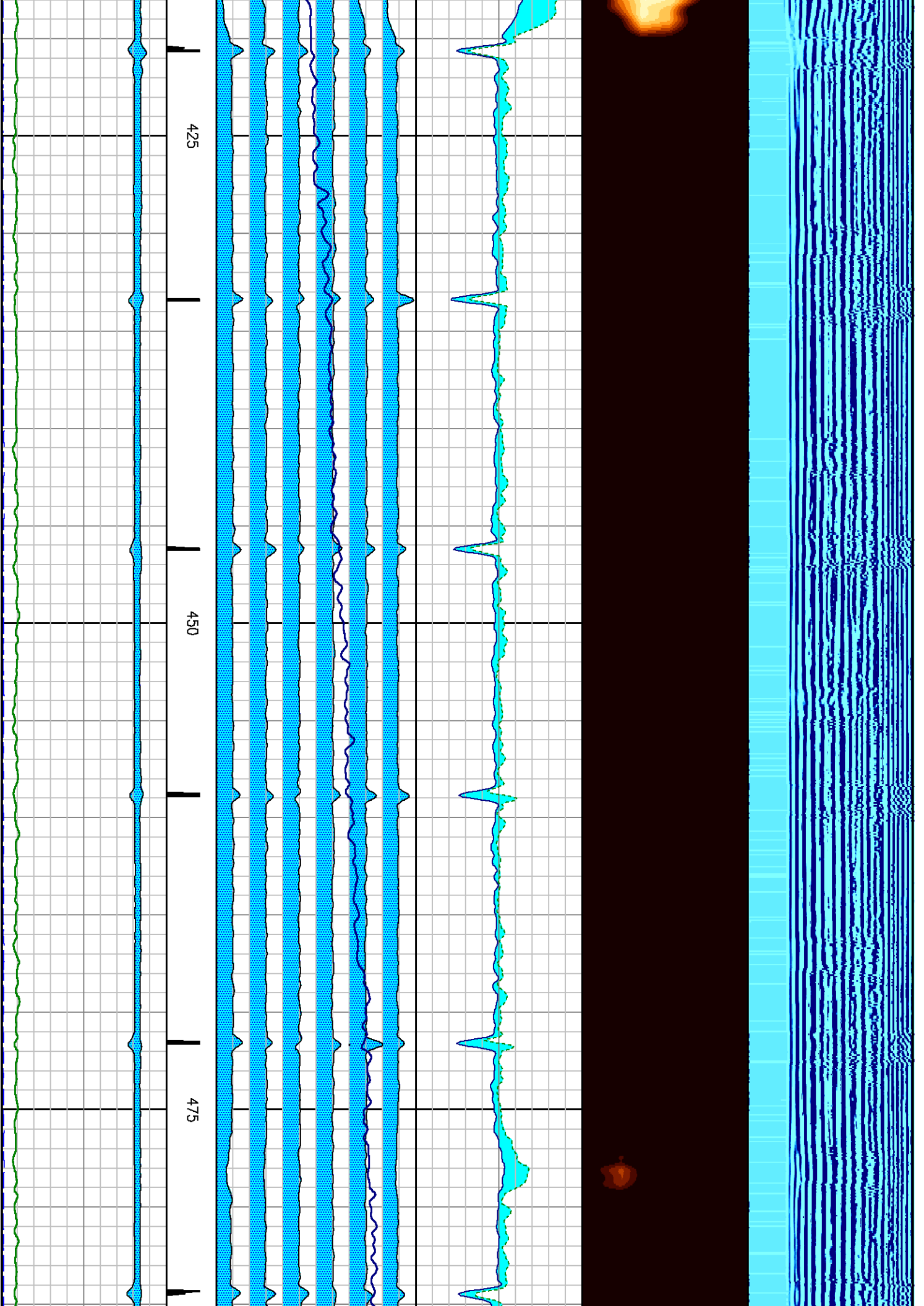


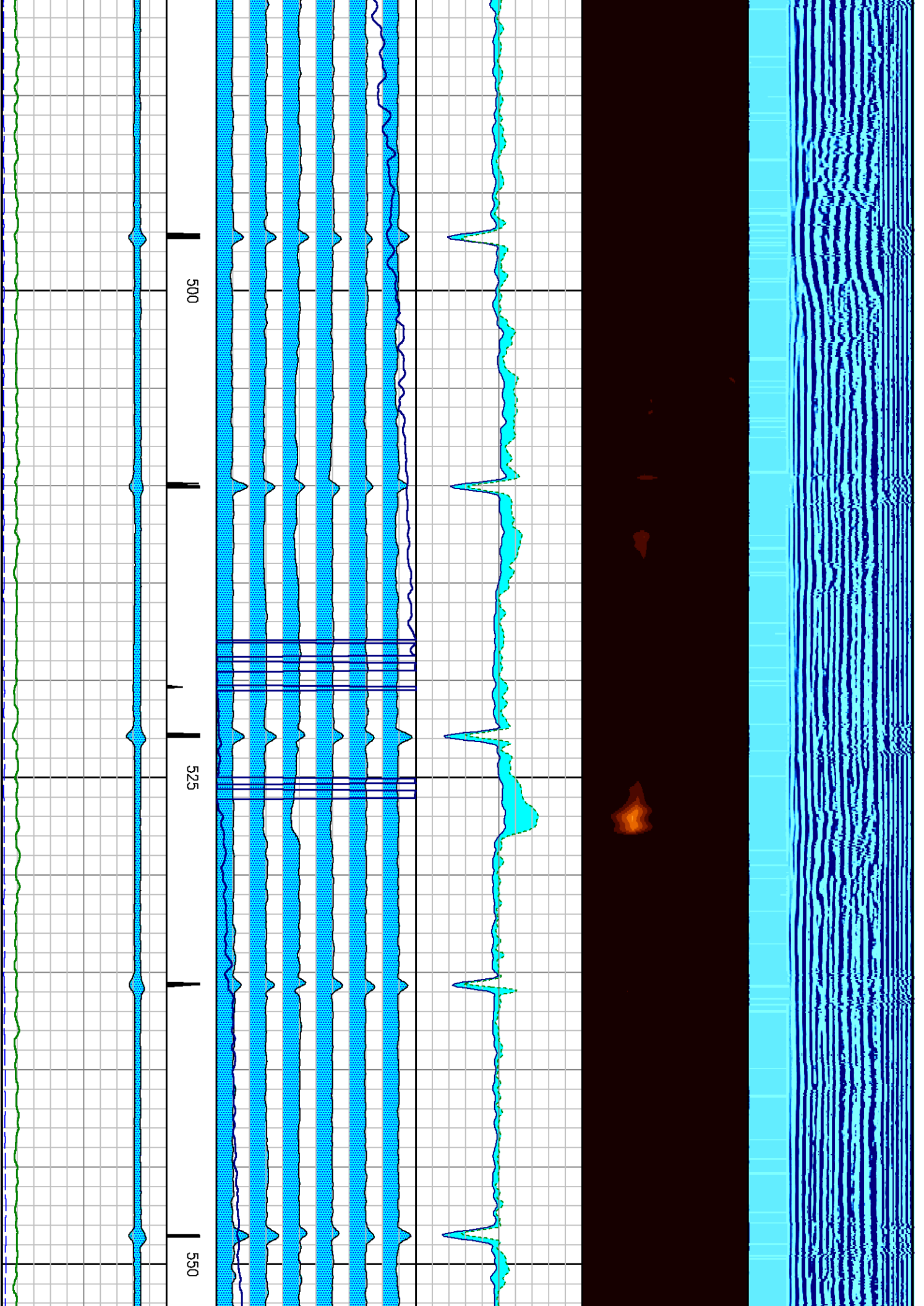


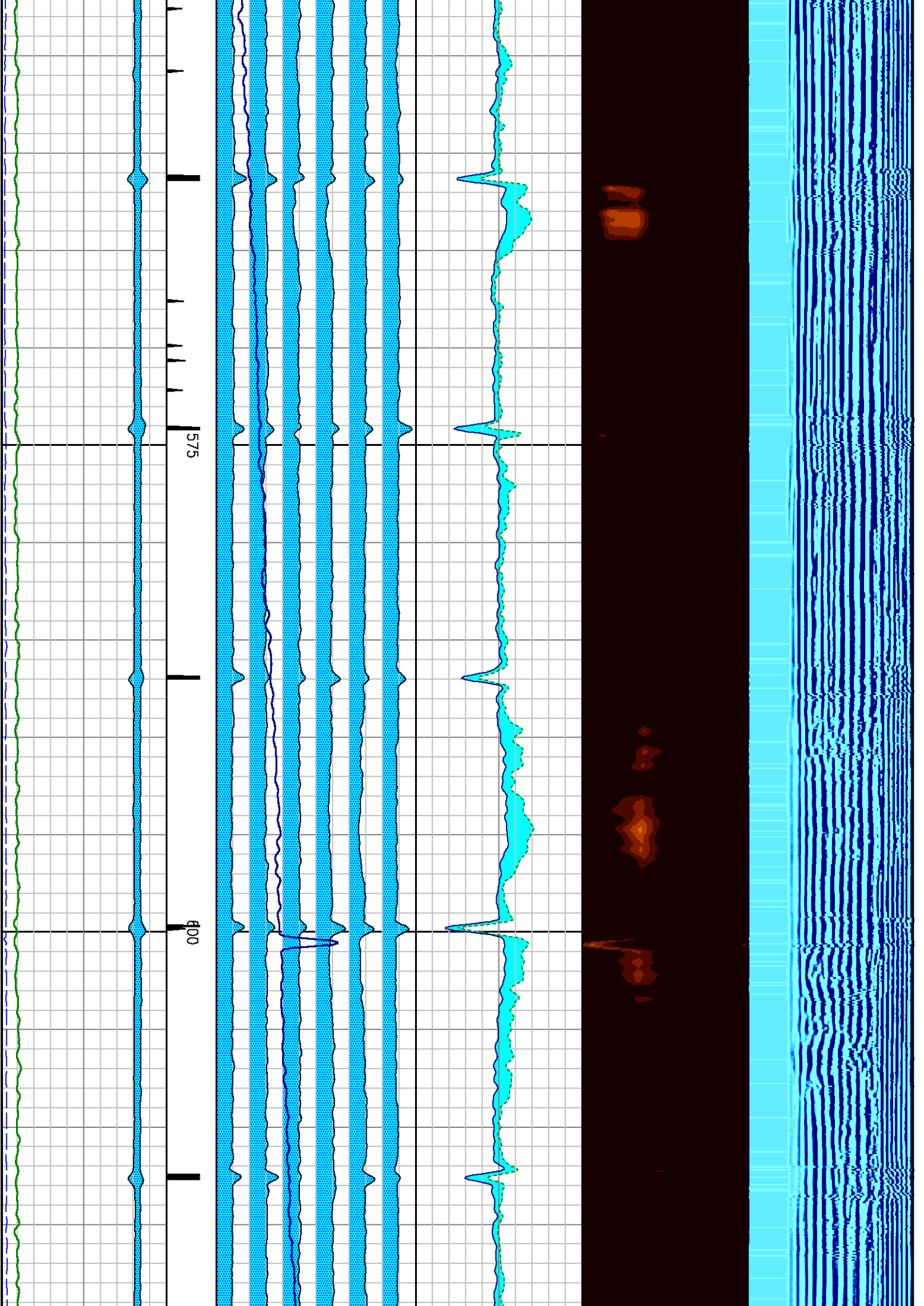


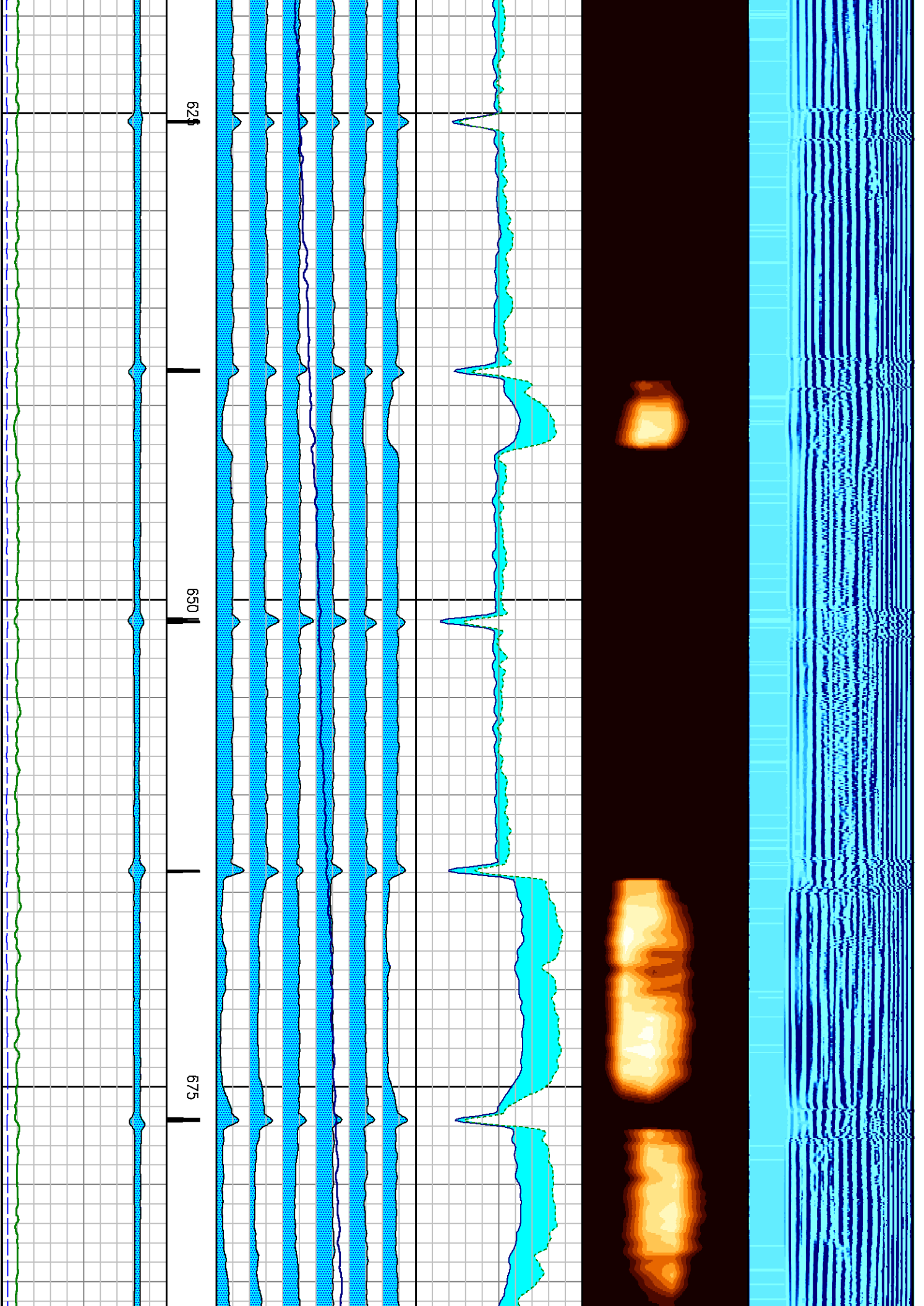


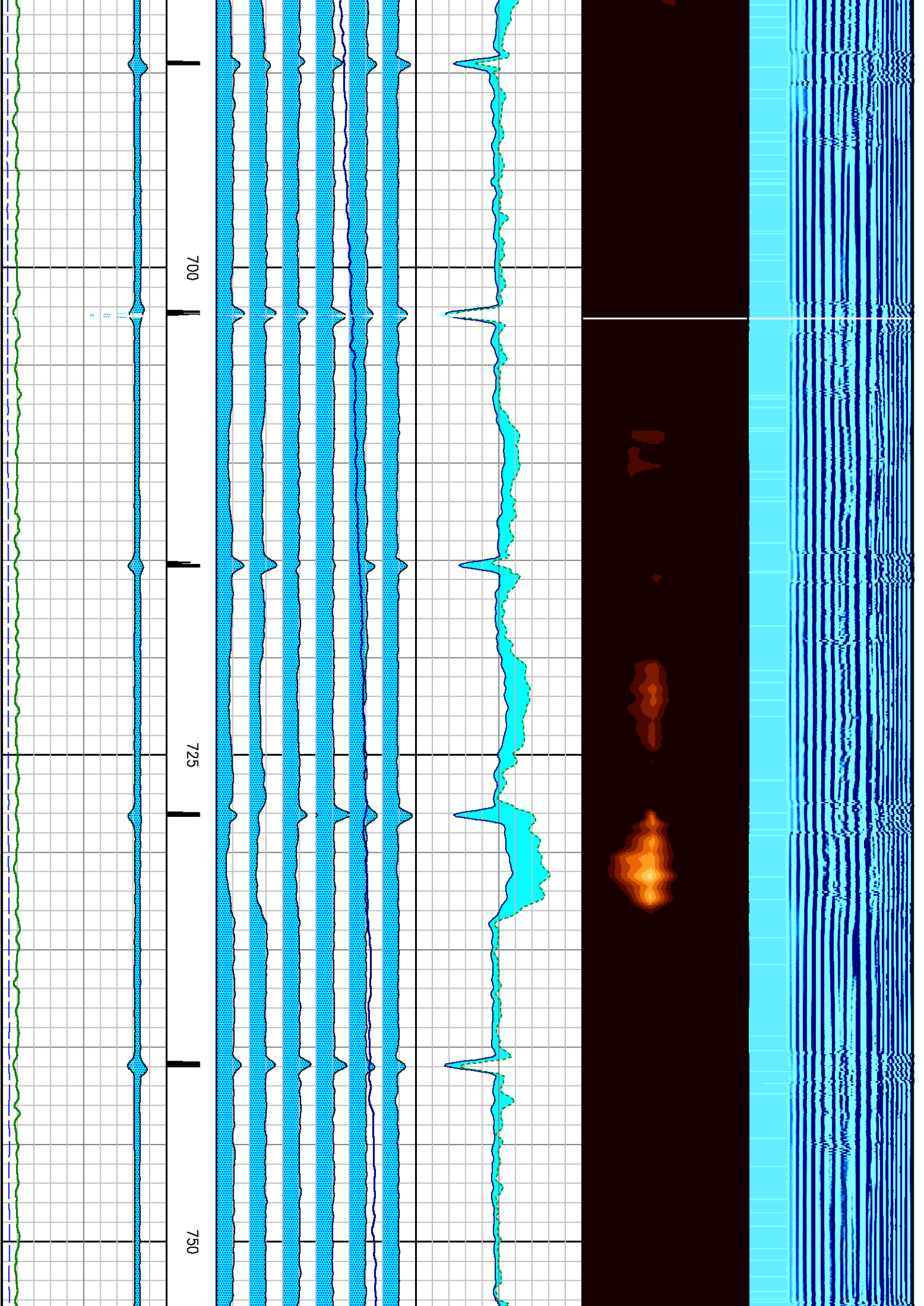


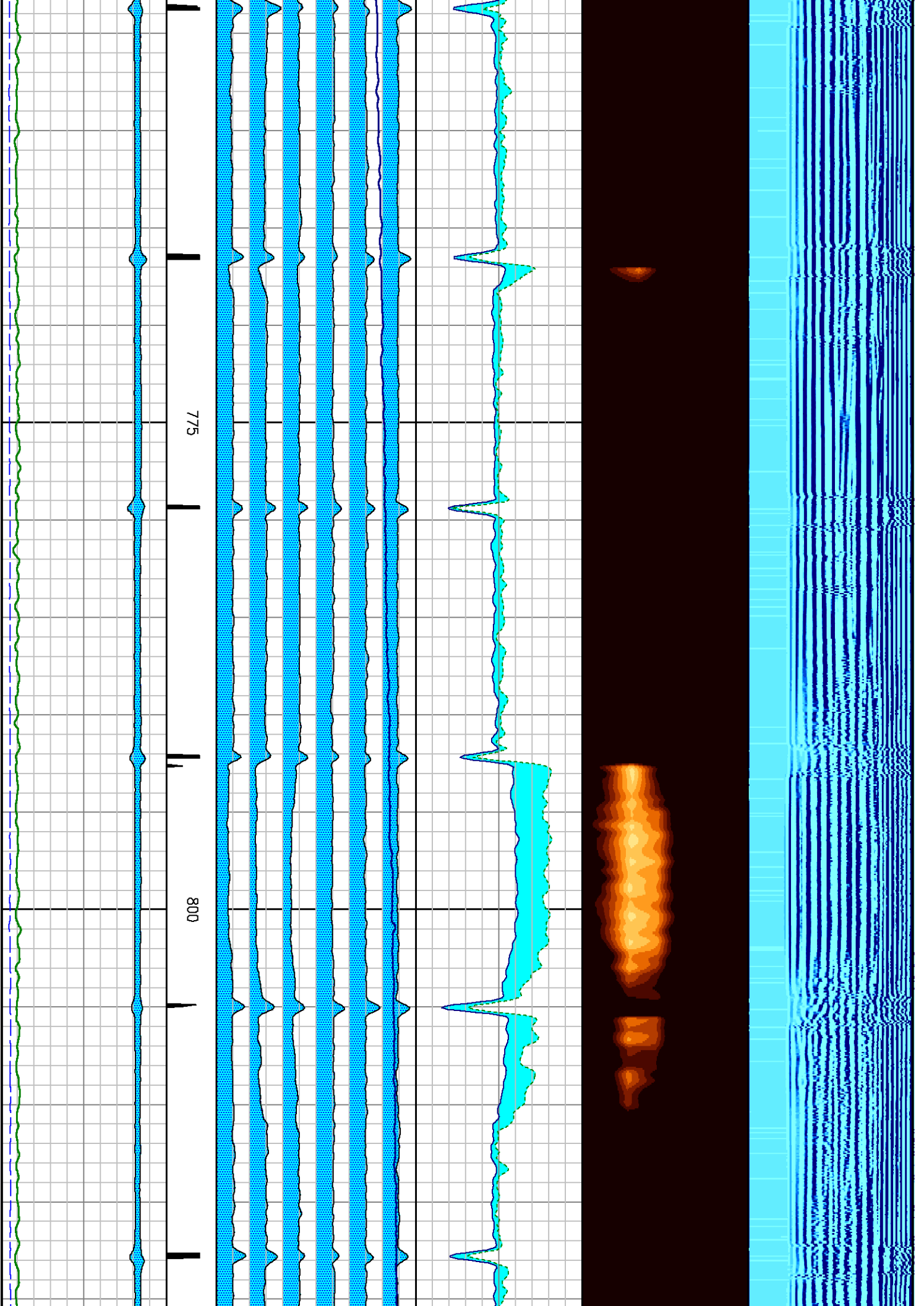


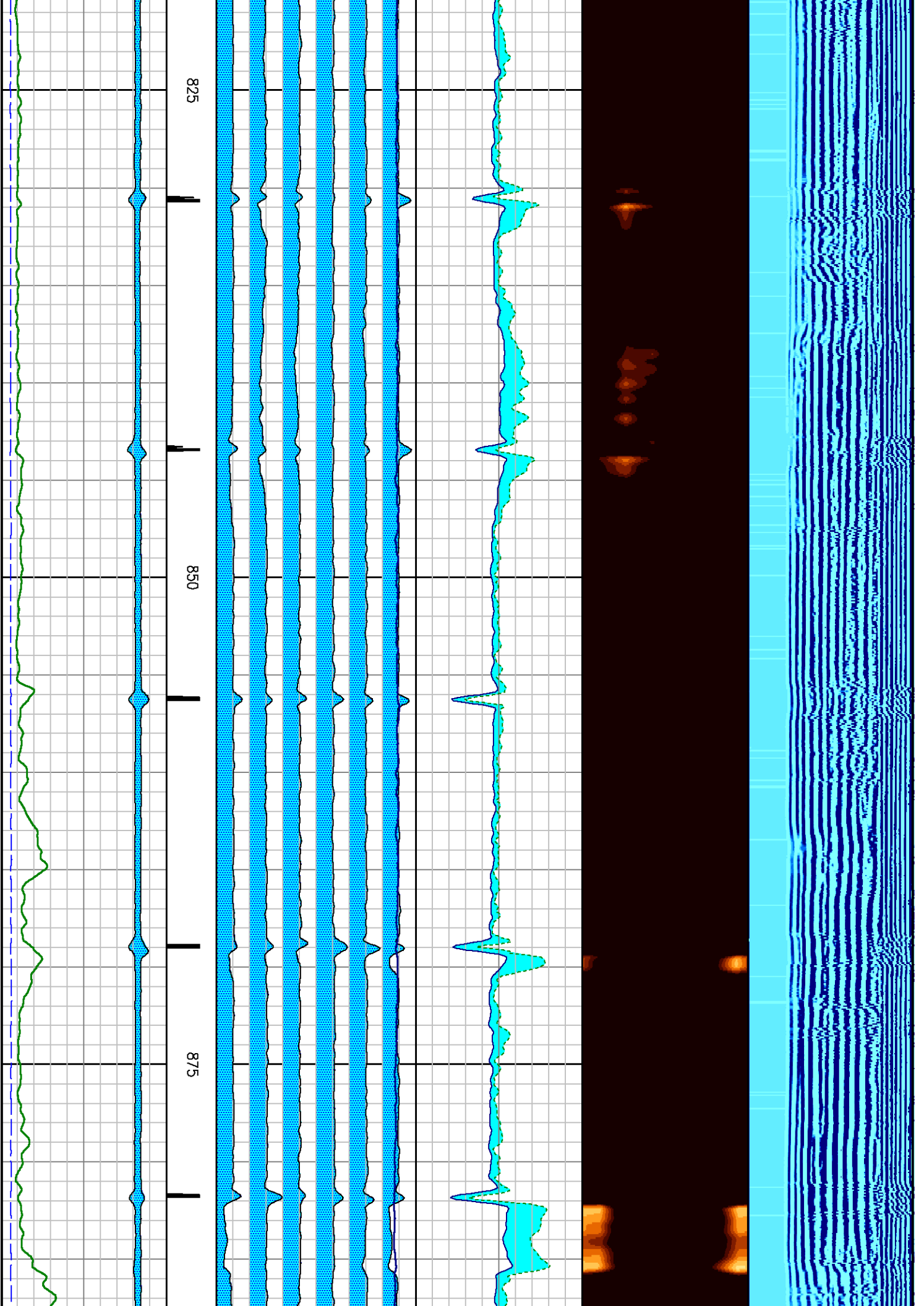


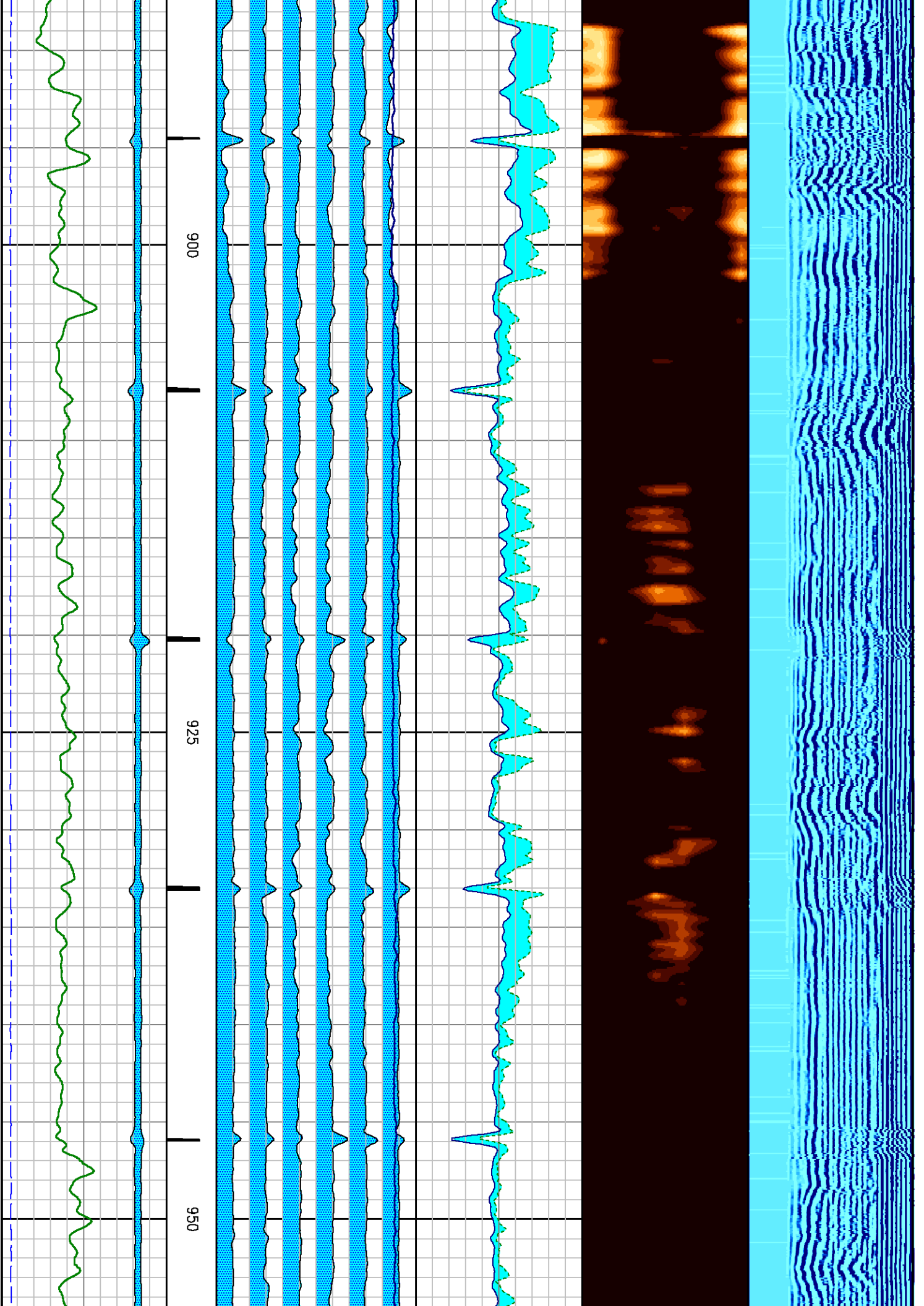


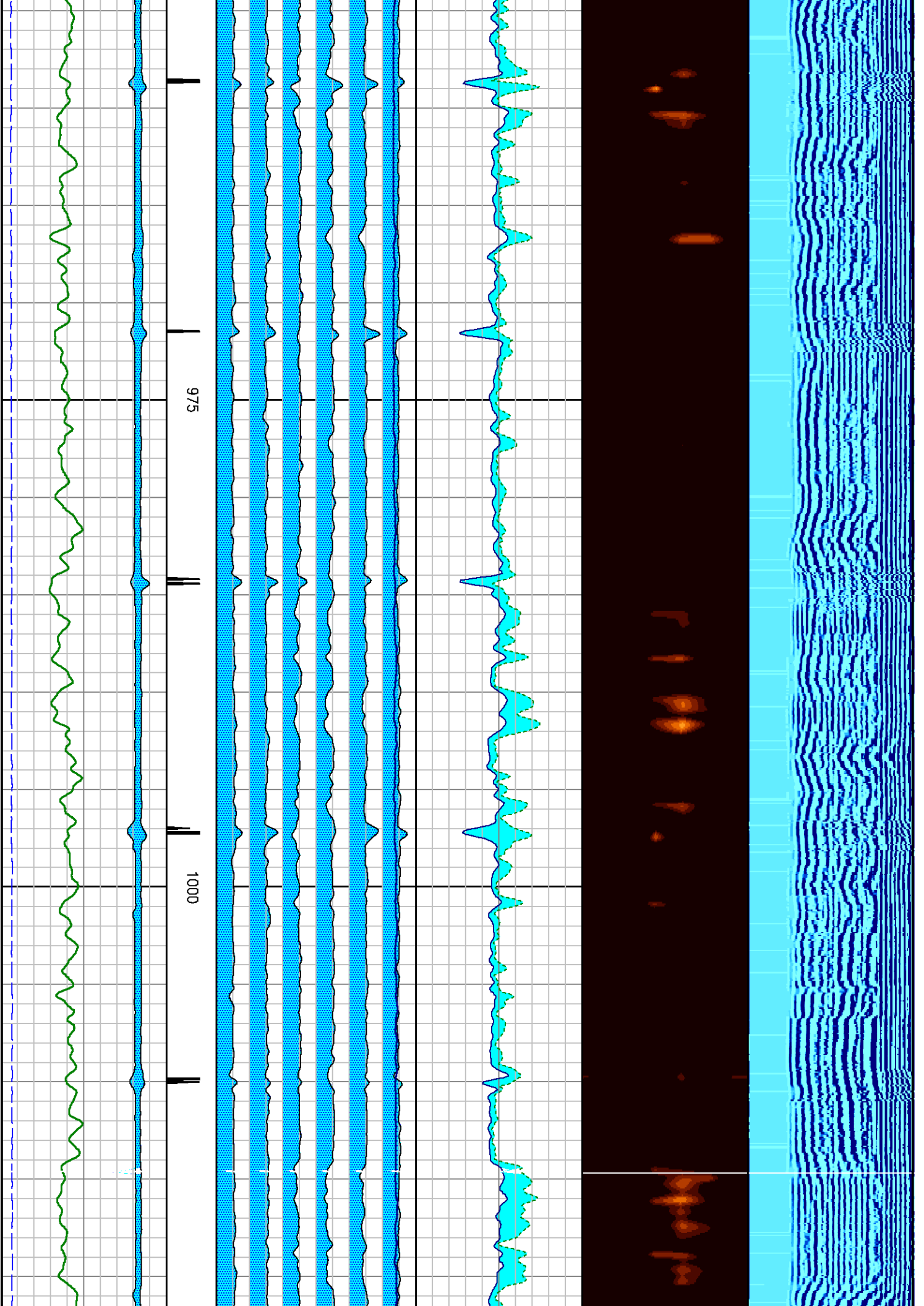


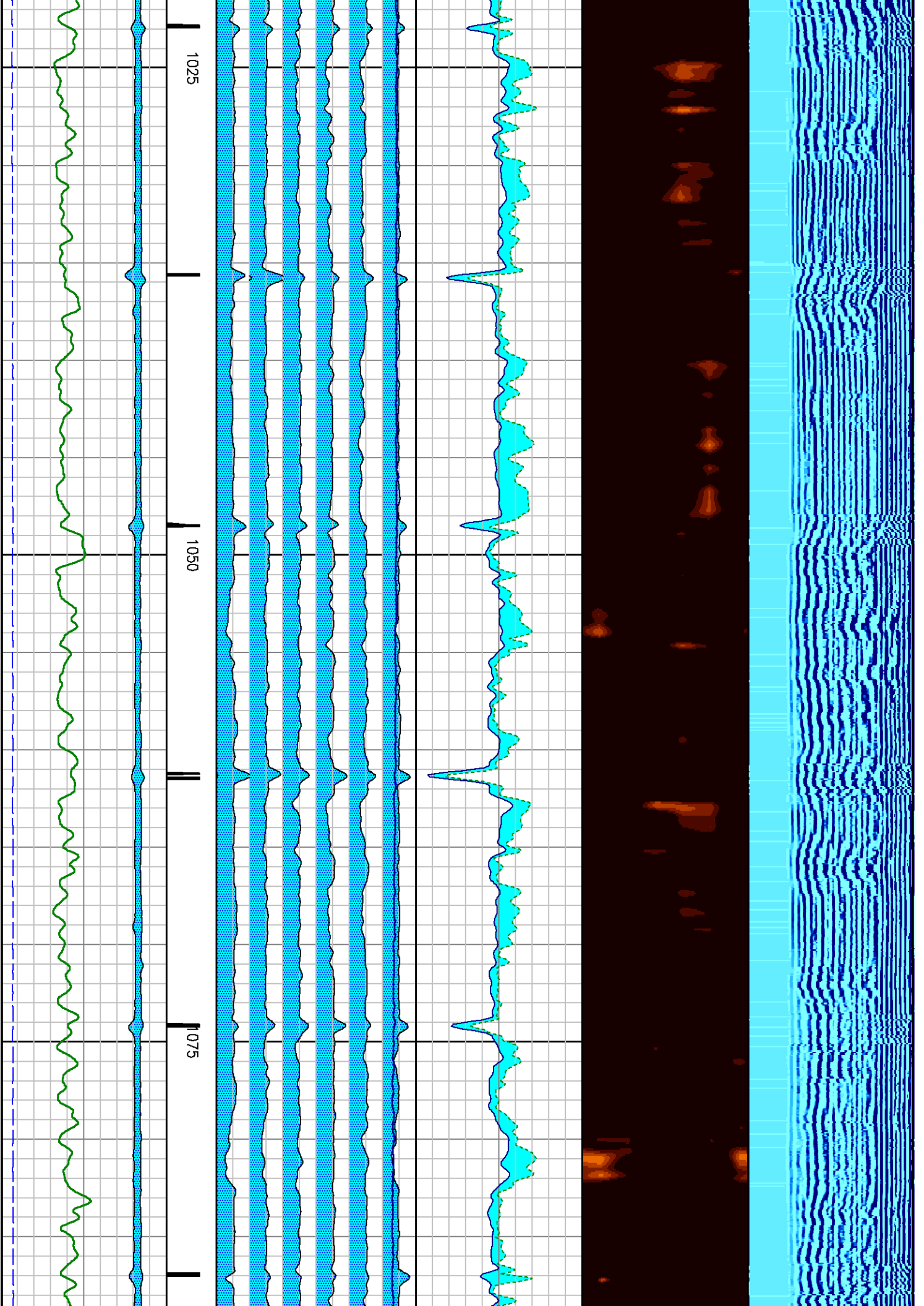


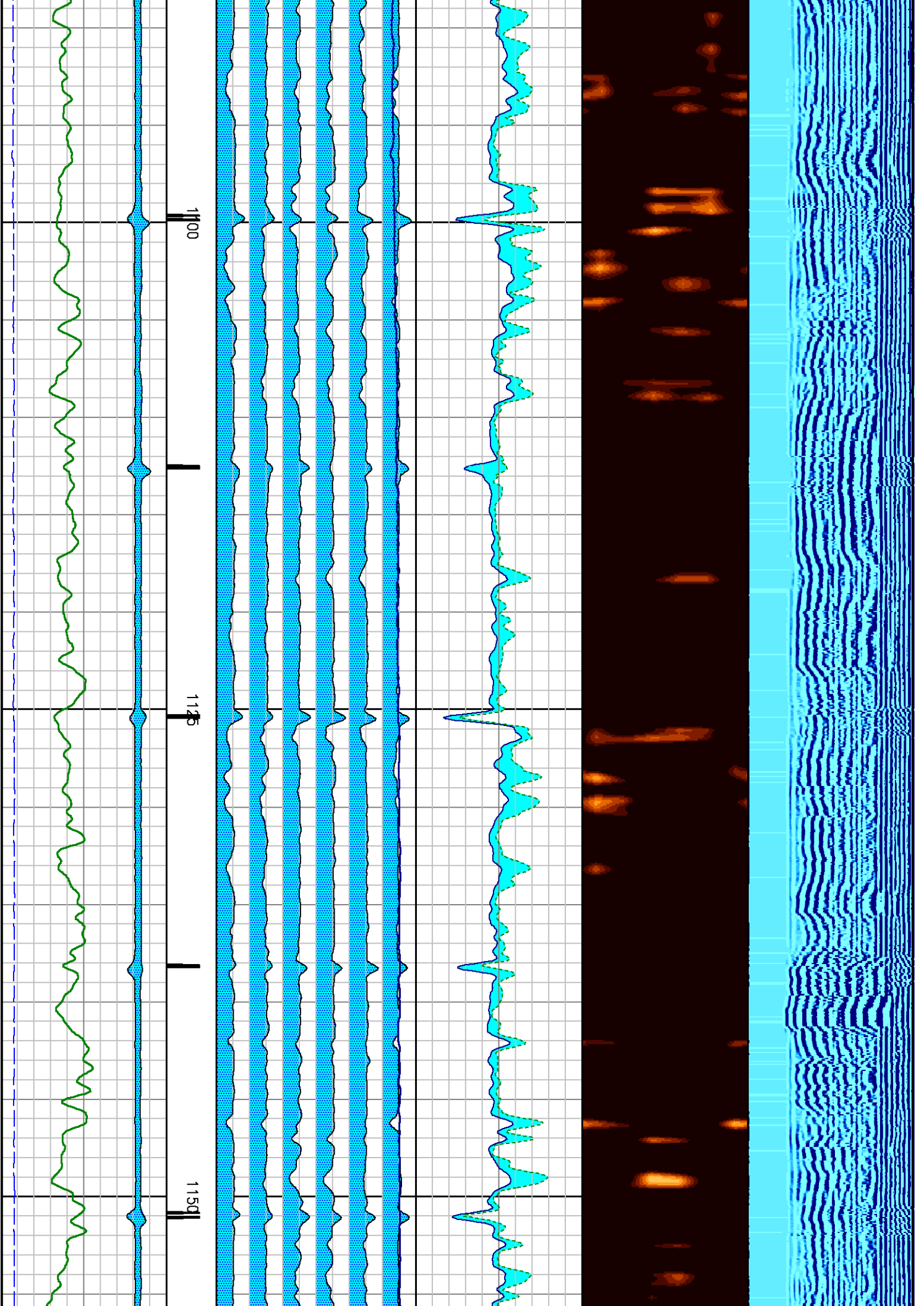


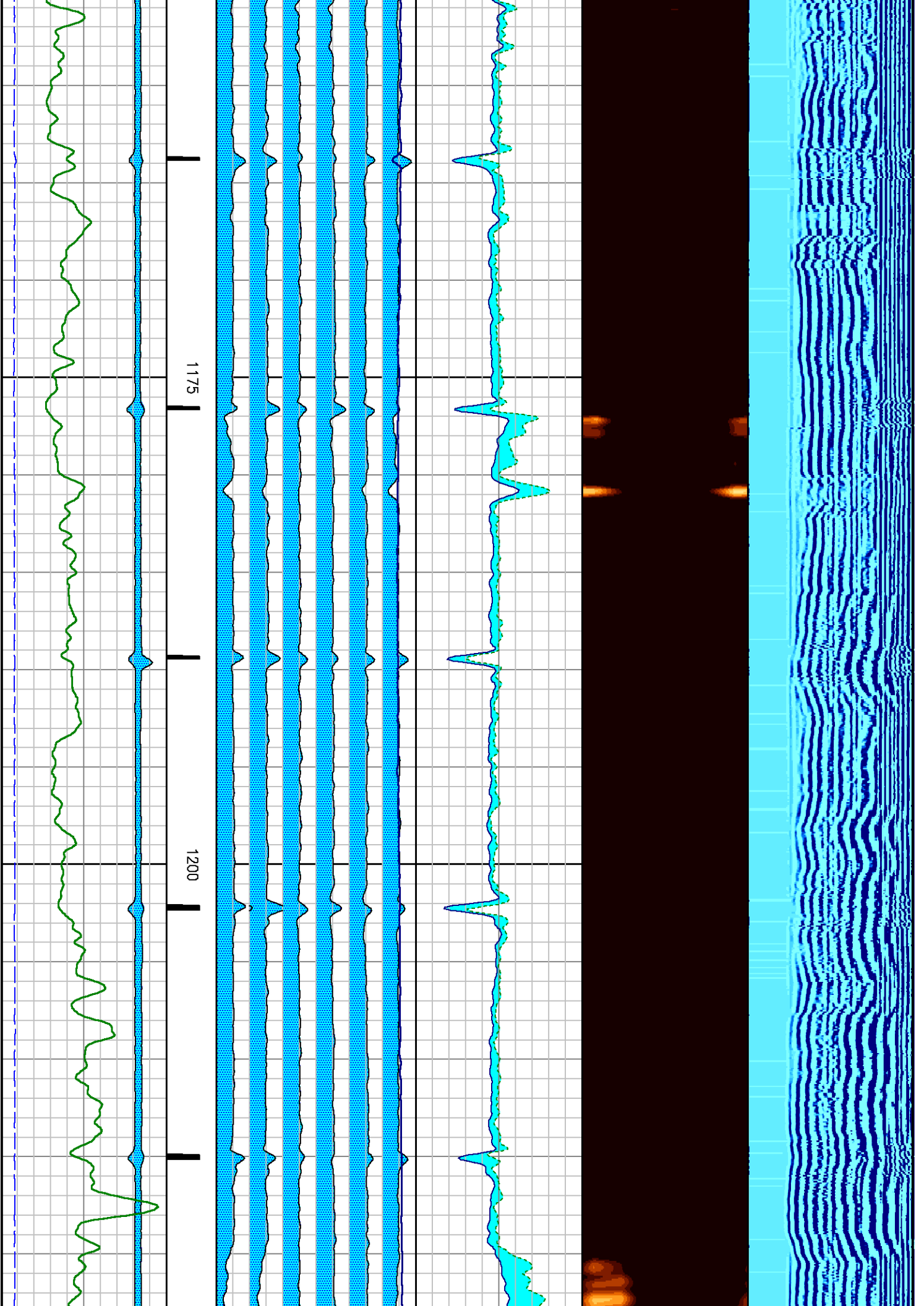


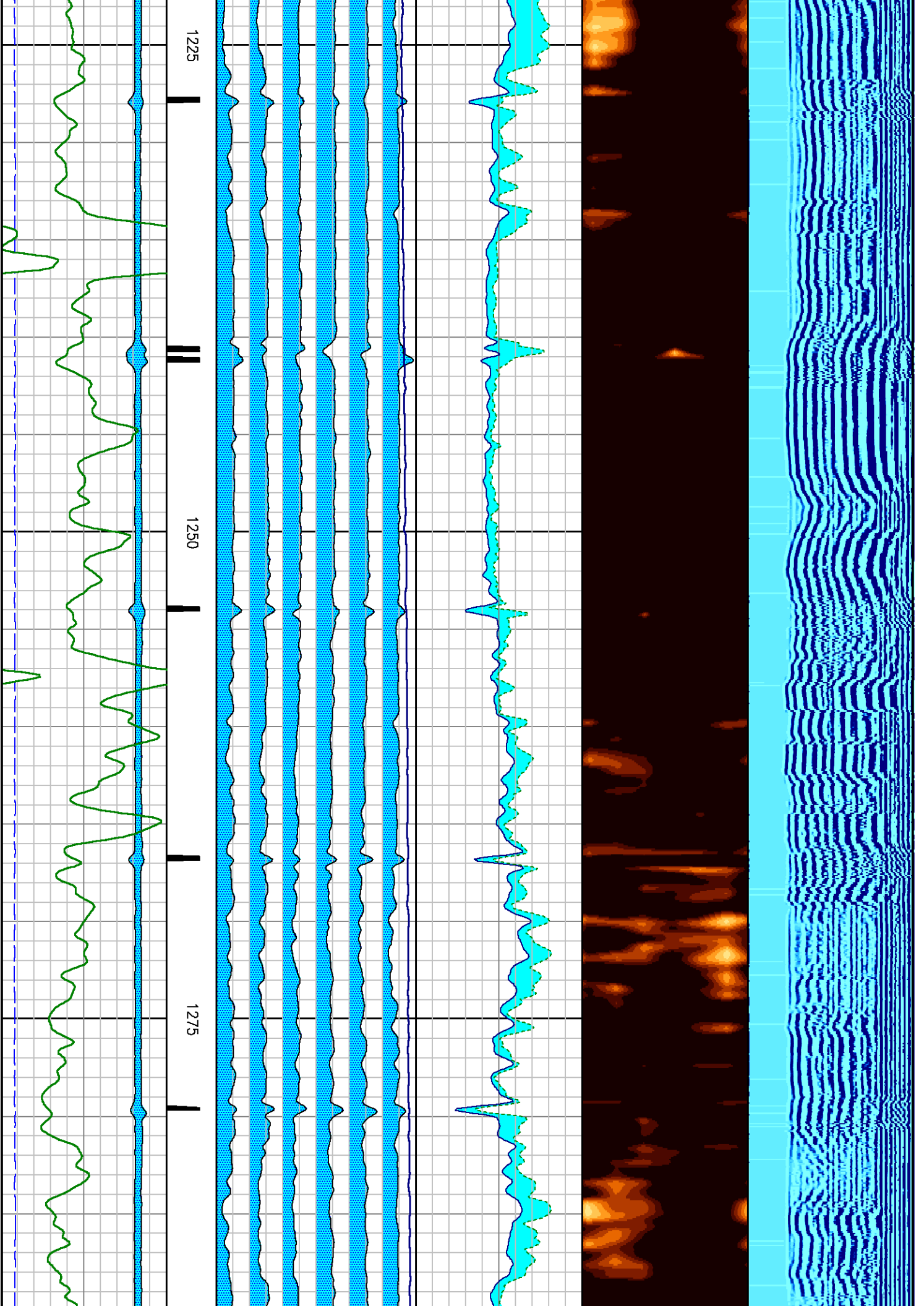


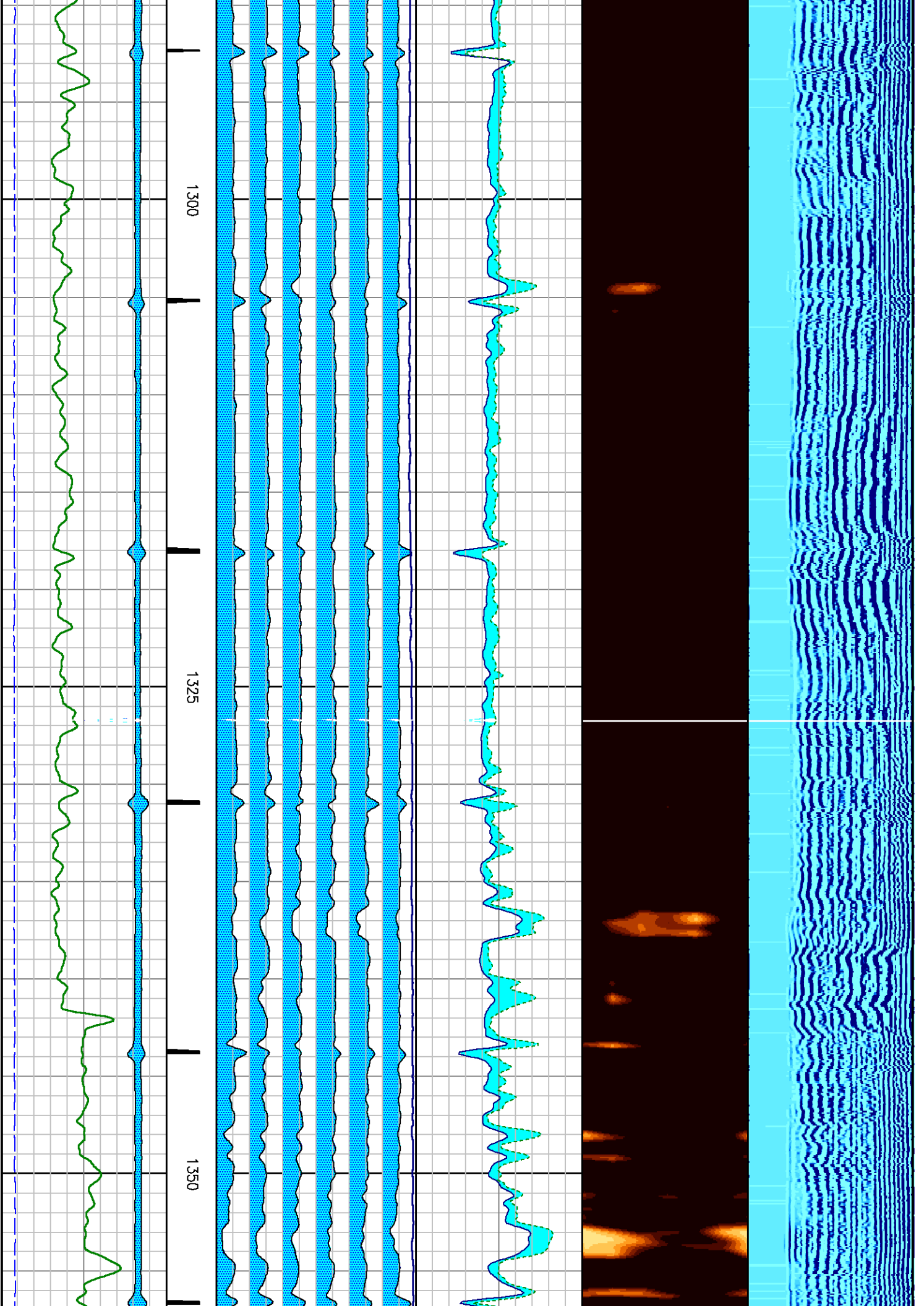


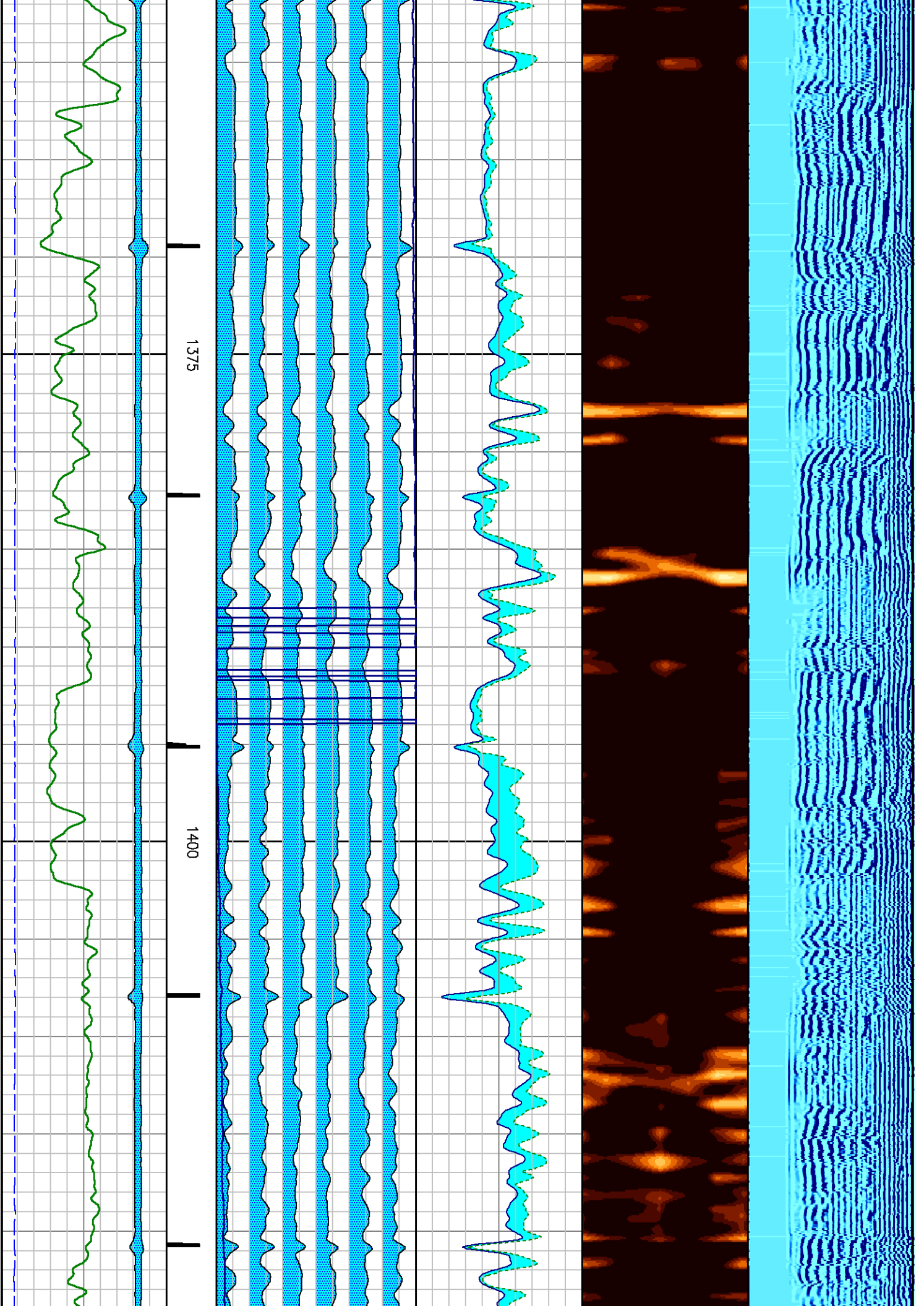


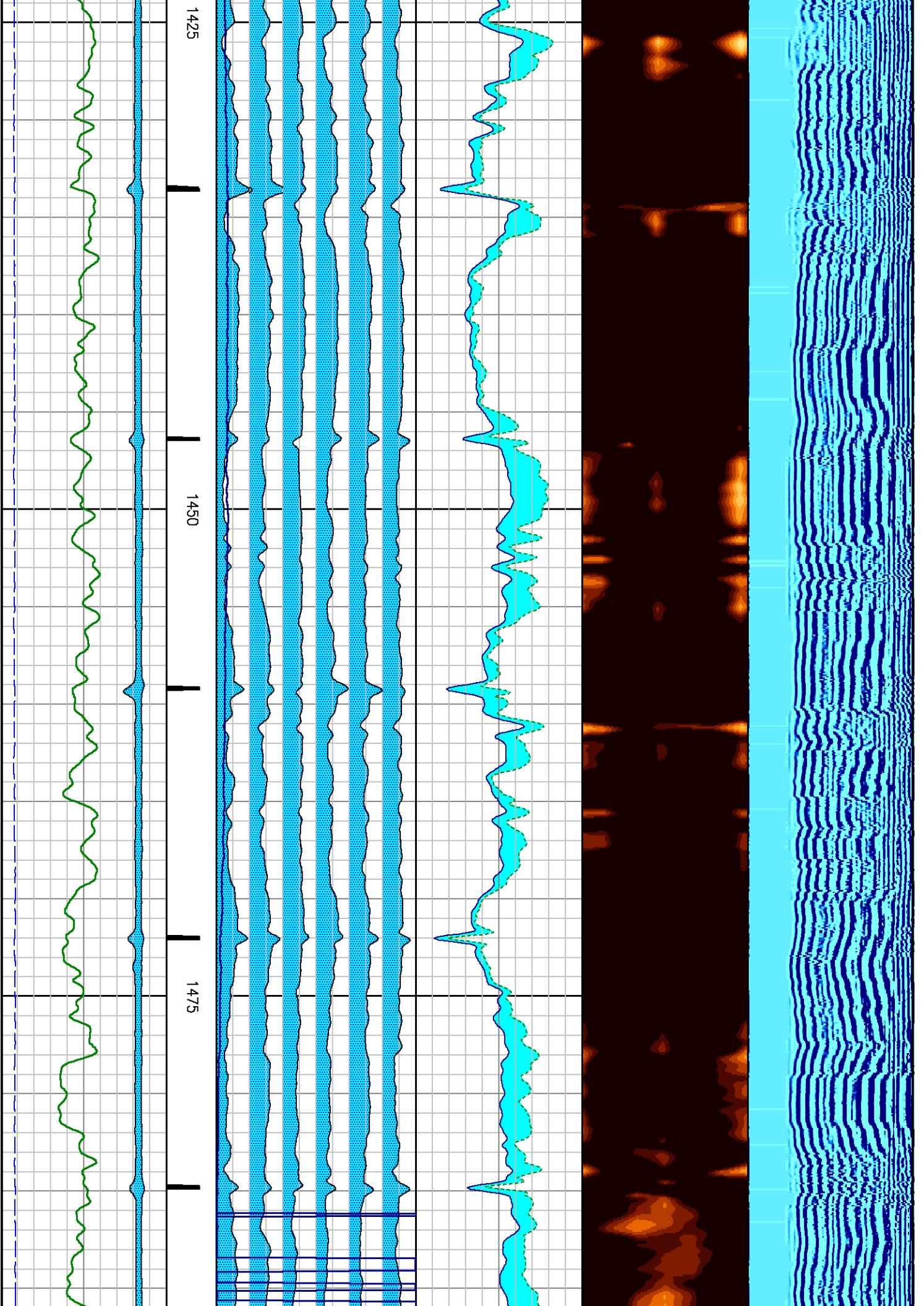


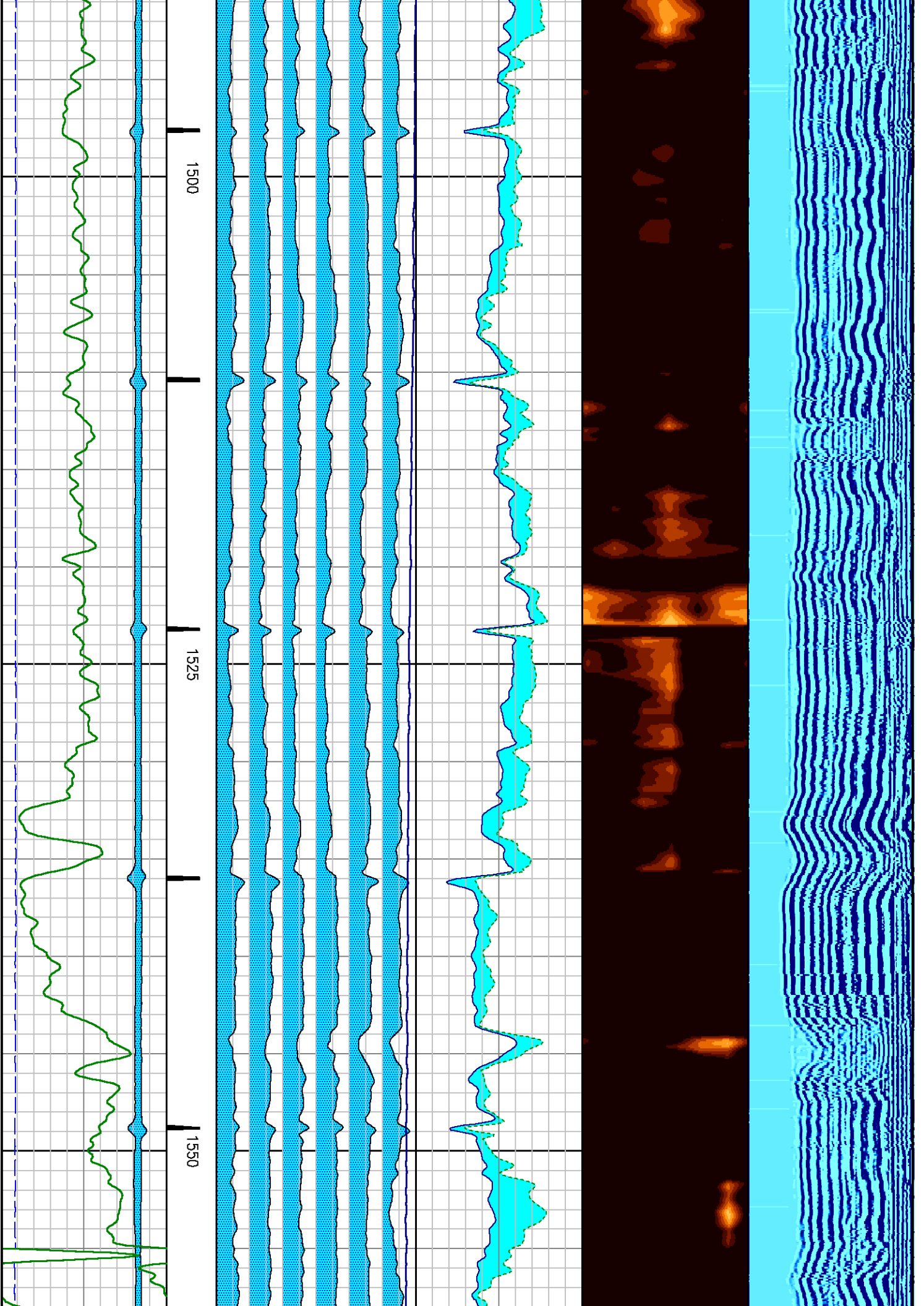


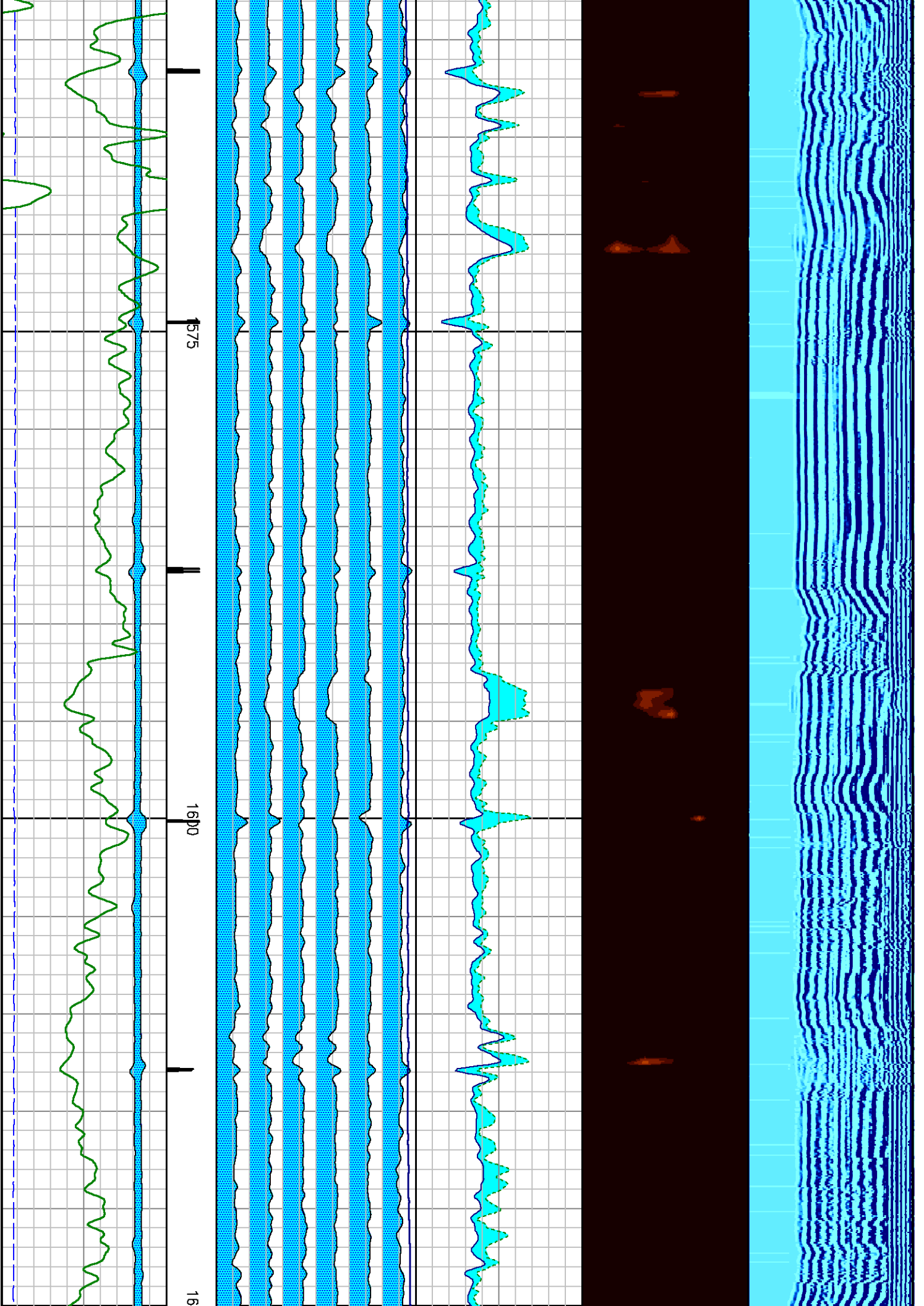


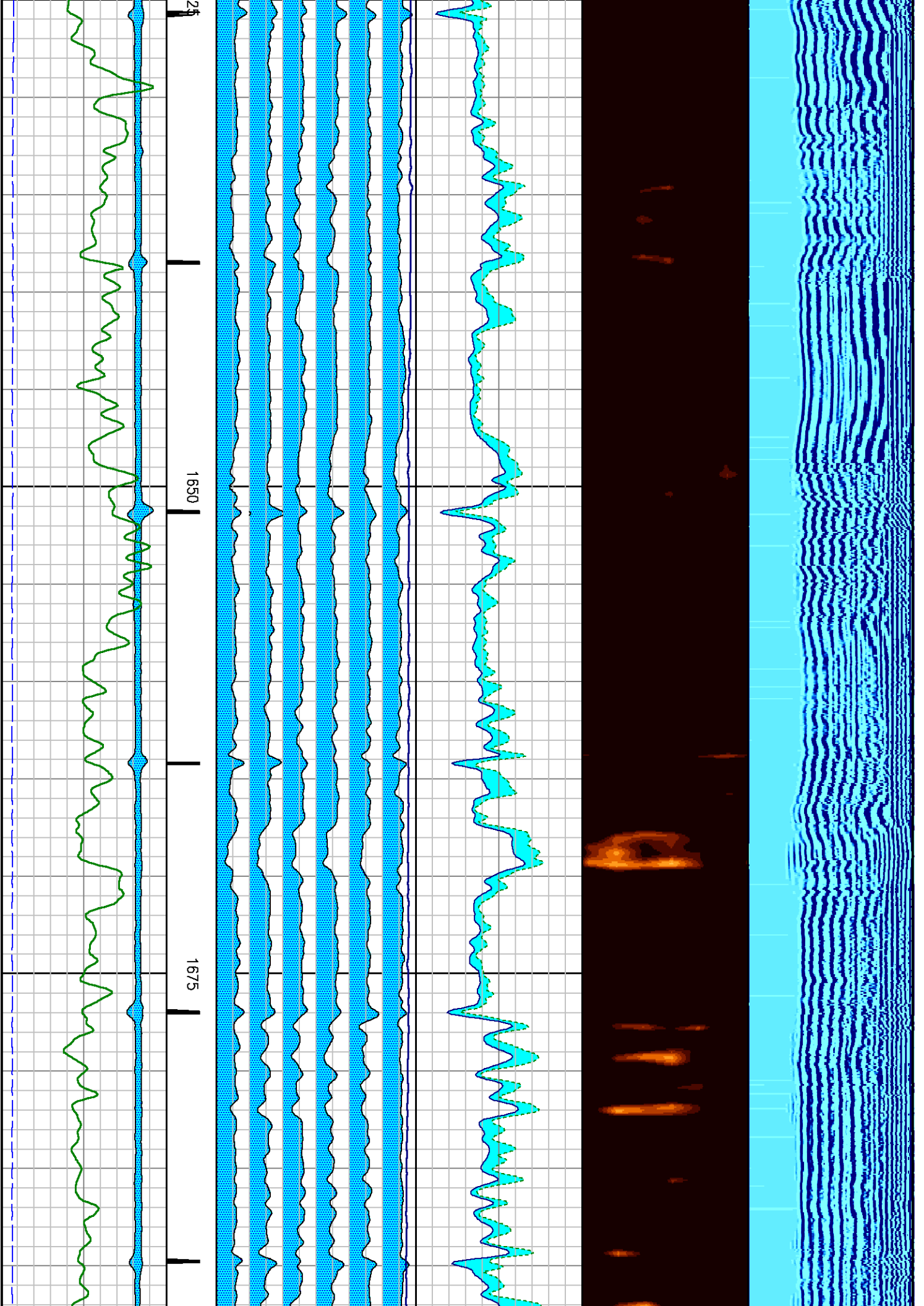


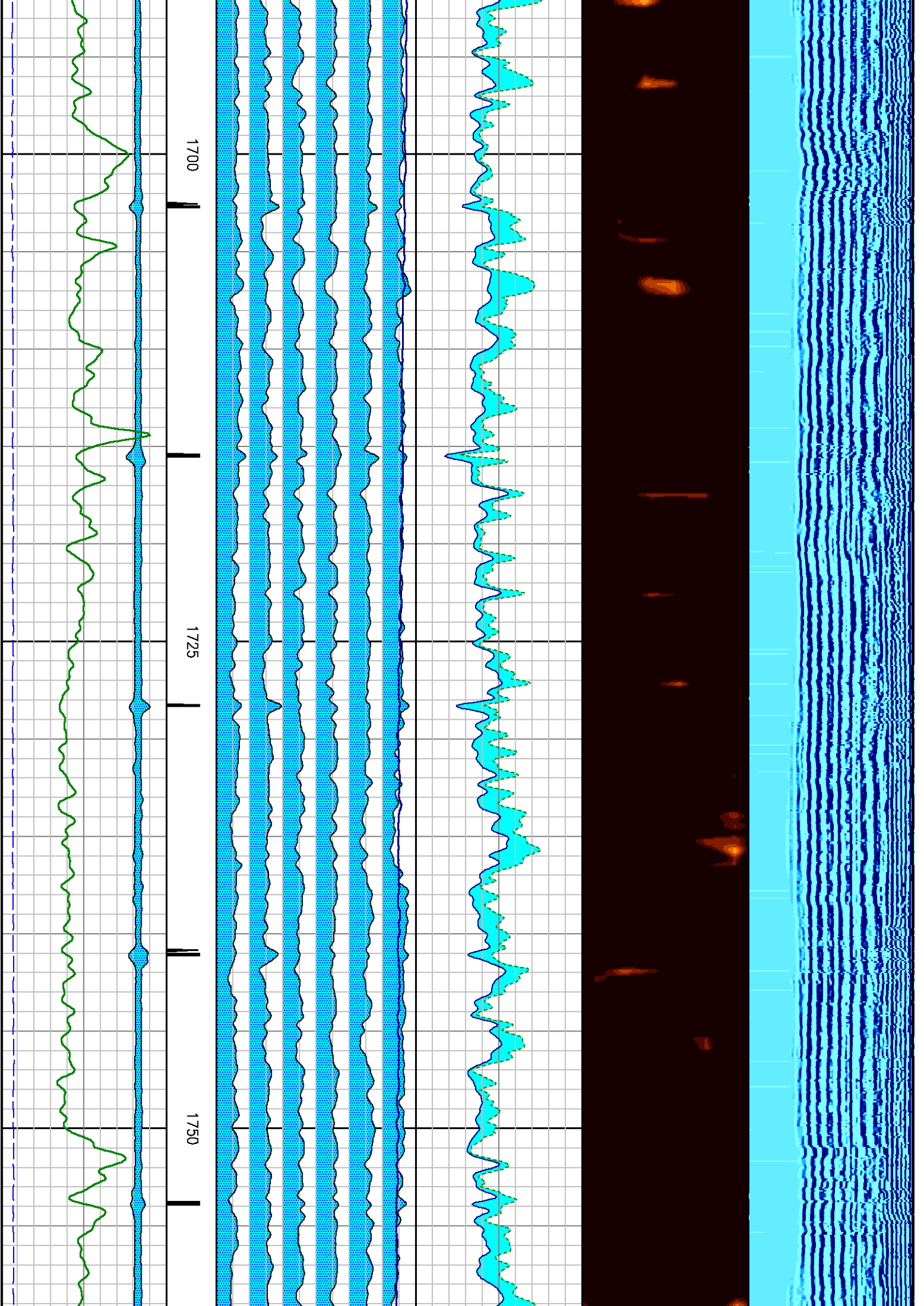


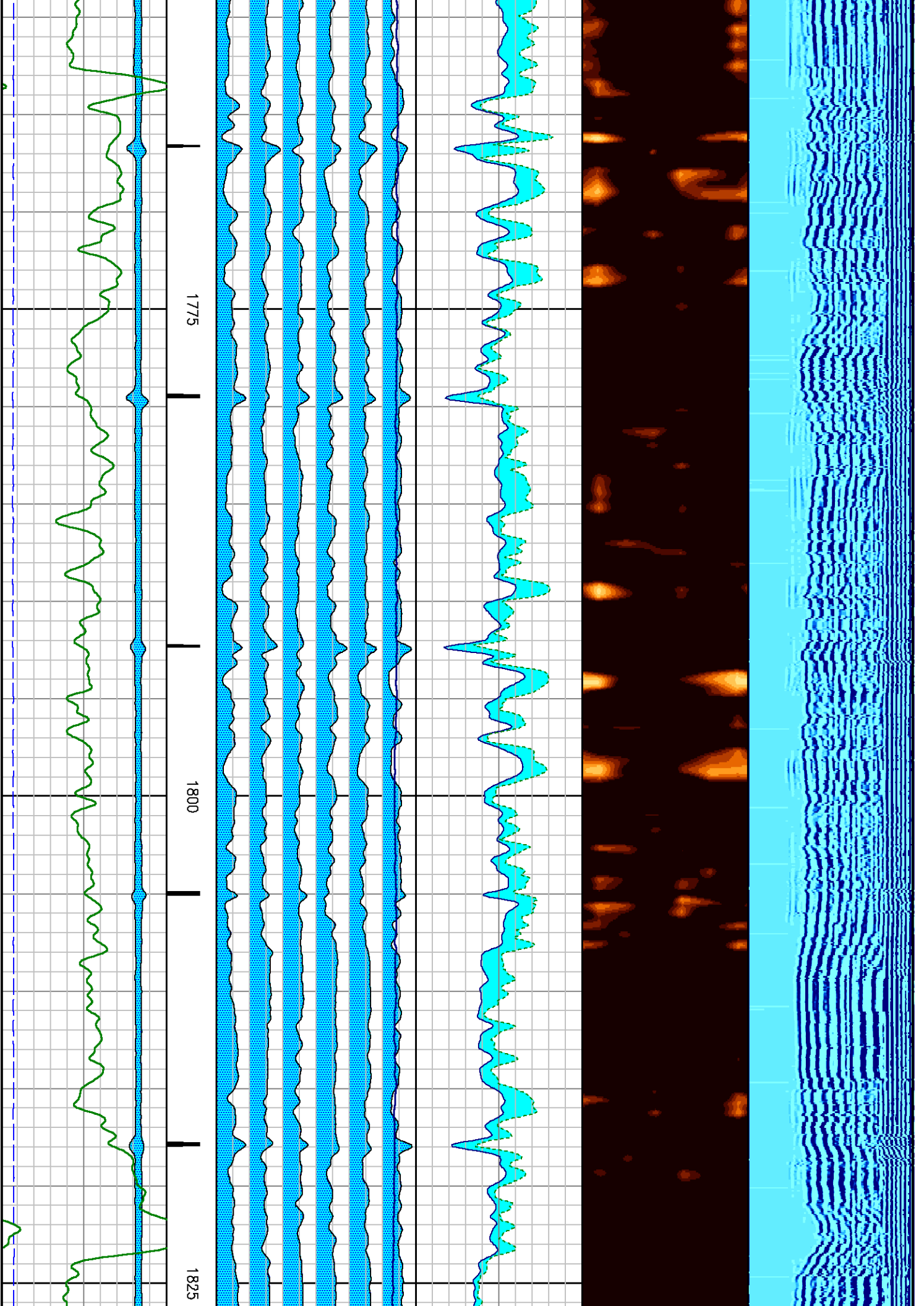


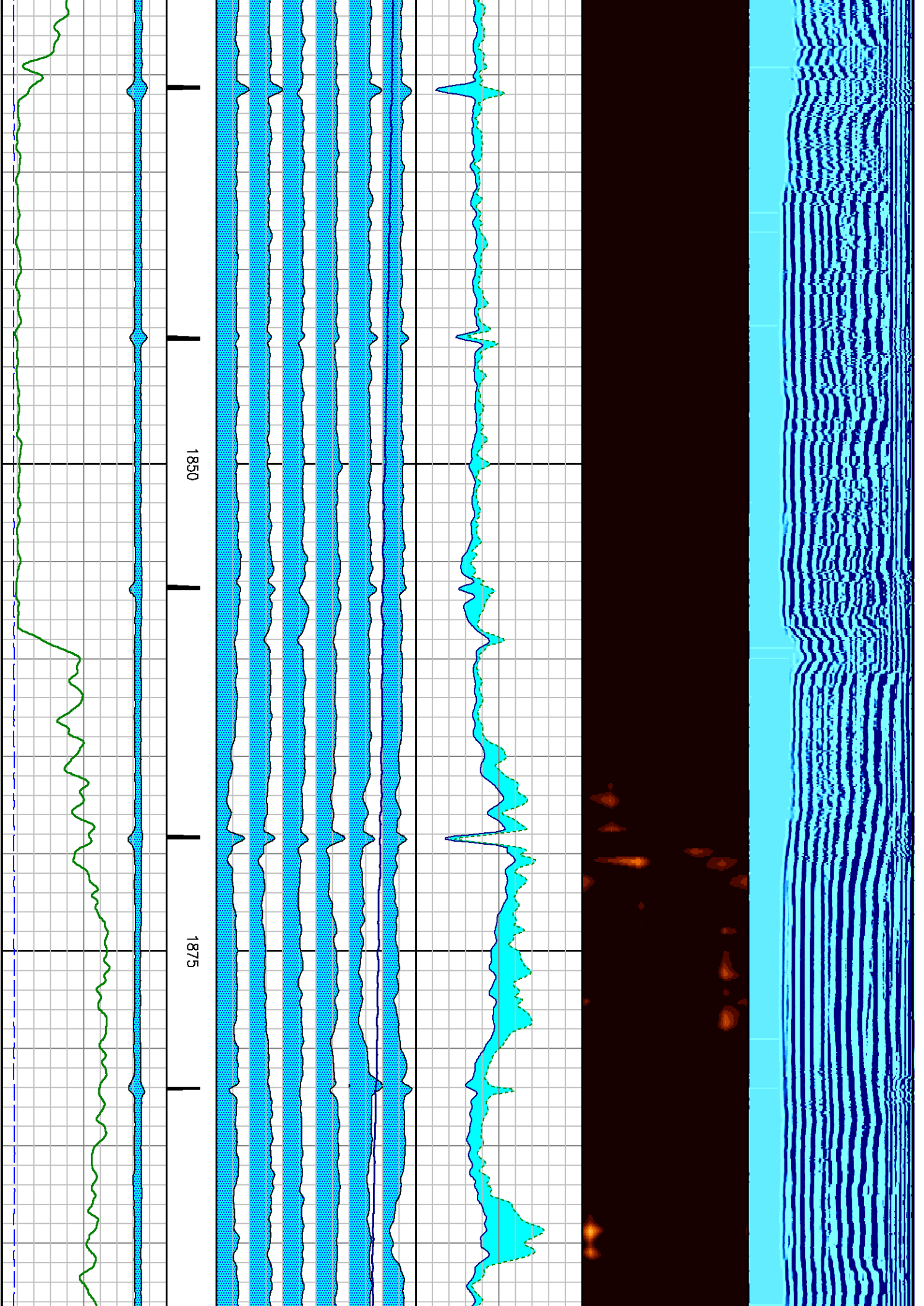


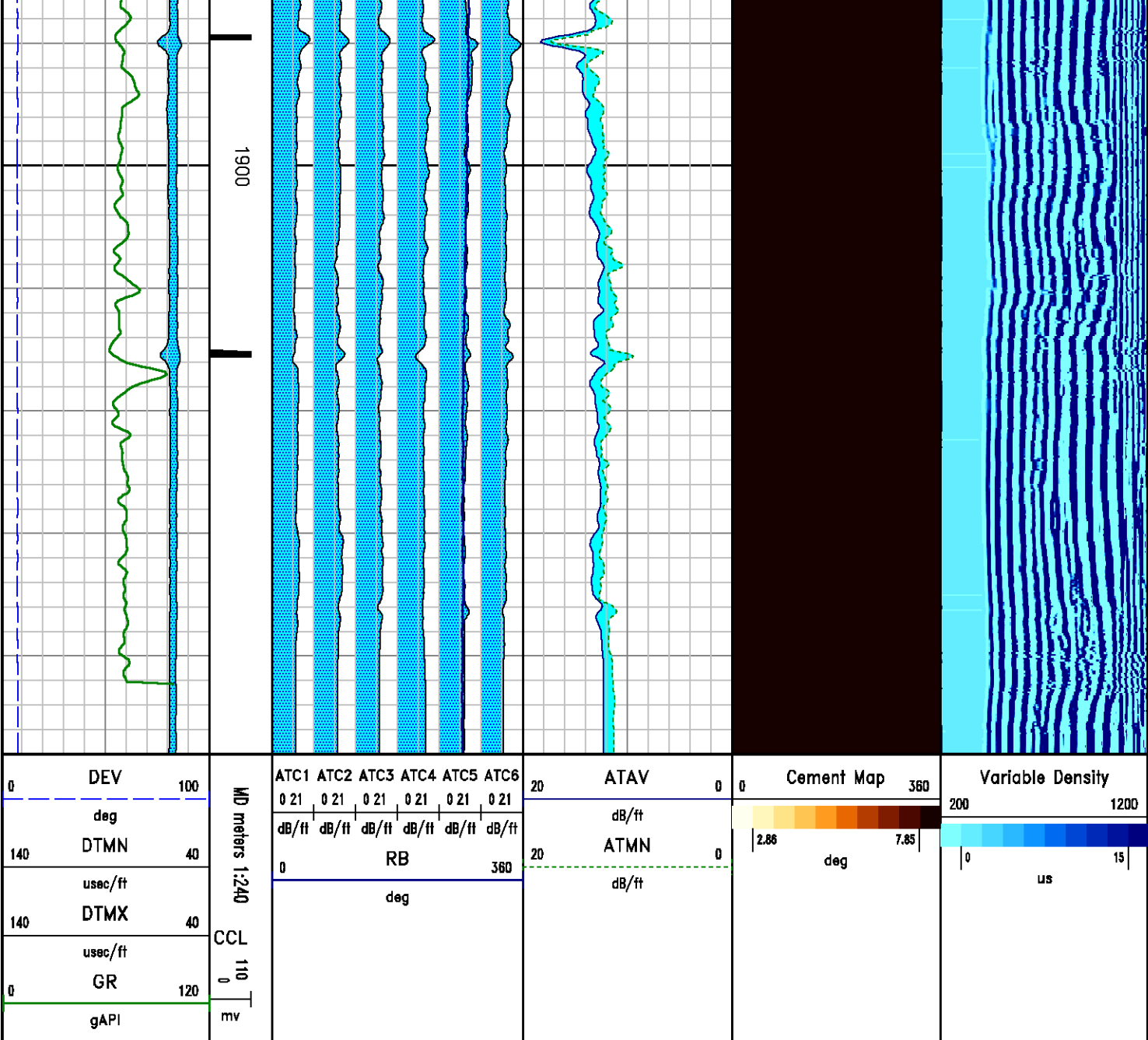












***REPEAT PASS
RECORDED WITH 7 MPA PRESSURE
1:240 SCALE***

SBT NORMALIZATION RESULTS

CURVE	PARAMETER	VALUE	UNITS	TOP	BOTTOM	COMMENT
ATC1	seg1 cnormf1	1.119	db/ft	1712.907	1937.200	
ATC2	seg2 cnormf2	-1.070	db/ft	1712.907	1937.200	
ATC3	seg3 cnormf3	-1.778	db/ft	1712.907	1937.200	
ATC4	seg4 cnormf4	1.836	db/ft	1712.907	1937.200	
ATC5	seg5 cnormf5	-1.190	db/ft	1712.907	1937.200	
ATC6	seg6 cnormf6	1.083	db/ft	1712.907	1937.200	
ATC1	seg1 dnormf1	1.119	db/ft	1712.907	1937.200	Good Confidence
ATC2	seg2 dnormf2	-1.070	db/ft	1712.907	1937.200	Good Confidence
ATC3	seg3 dnormf3	-1.778	db/ft	1712.907	1937.200	Good Confidence
ATC4	seg4 dnormf4	1.836	db/ft	1712.907	1937.200	Good Confidence
ATC5	seg5 dnormf5	-1.190	db/ft	1712.907	1937.200	Good Confidence
ATC6	seg6 dnormf6	1.083	db/ft	1712.907	1937.200	Good Confidence

SBT PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
amp	fpamp	69.513	mv	1708.167	1937.088
amp	fpattn	1.193	dB/ft	1708.167	1937.088
atc	dbspread	4.589	dB/ft	1708.167	1937.088
atc	spacing	0.854	feet	1708.167	1937.088
cemr	casing od	177.801	millimeters	1708.167	1937.088
cemr	casing wt	38.692	kg/m	1708.167	1937.088
cemr	compress	2901.000	psi	1708.167	1937.088
CN	Bit Size	200.026	millimeters	1712.907	1937.200
CN	Casing Thickness	9.177	millimeters	1708.167	1937.088
CN	Casing/Cement Correction	No		1712.907	1937.200
CN	CN Chism	No		1712.907	1937.200
CN	Matrix	Limestone		1712.907	1937.200
CN	Salinity	0.000	ppm	1712.907	1937.200

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
2346XA	-13.450	CCL					
1309XA	-10.570	GR					
2435XA	-9.462	LSN					
2435XA	-9.310	NEU	SSN				
1424PA	-4.740	ATC1	ATC2	ATC3	ATC4	ATC5	ATC6
		ATAV	ATMN	ATMX	AMAV	DEV	DTMN
		DTMX	RB	XATT	YATT		

Created by : SBT, v5.0.003

Plotted by : PlotMgr, v5.4.504

Company : VULCAN MINERALS INC

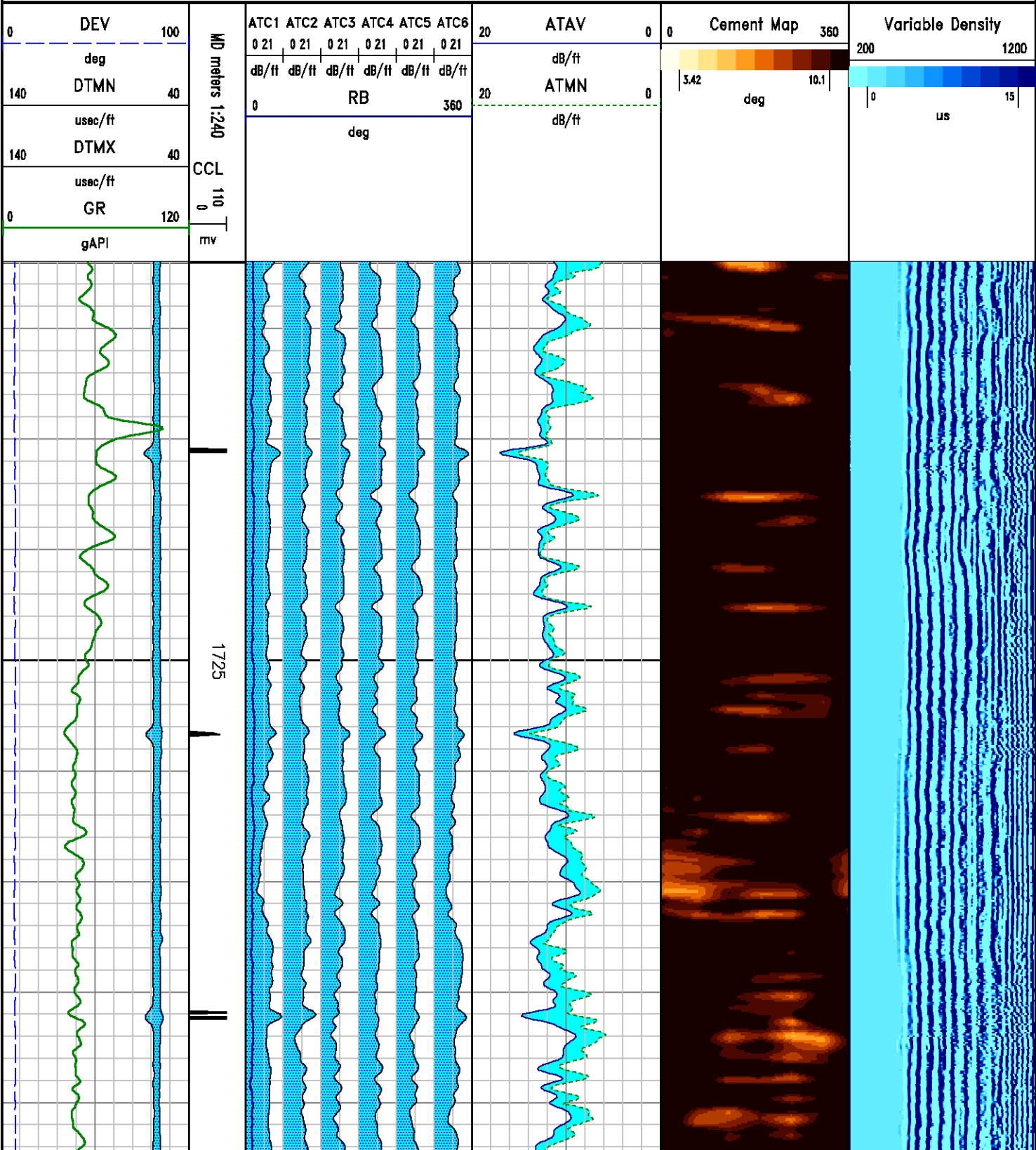
Well : VULCAN INVESTCAN RED BROOK #2

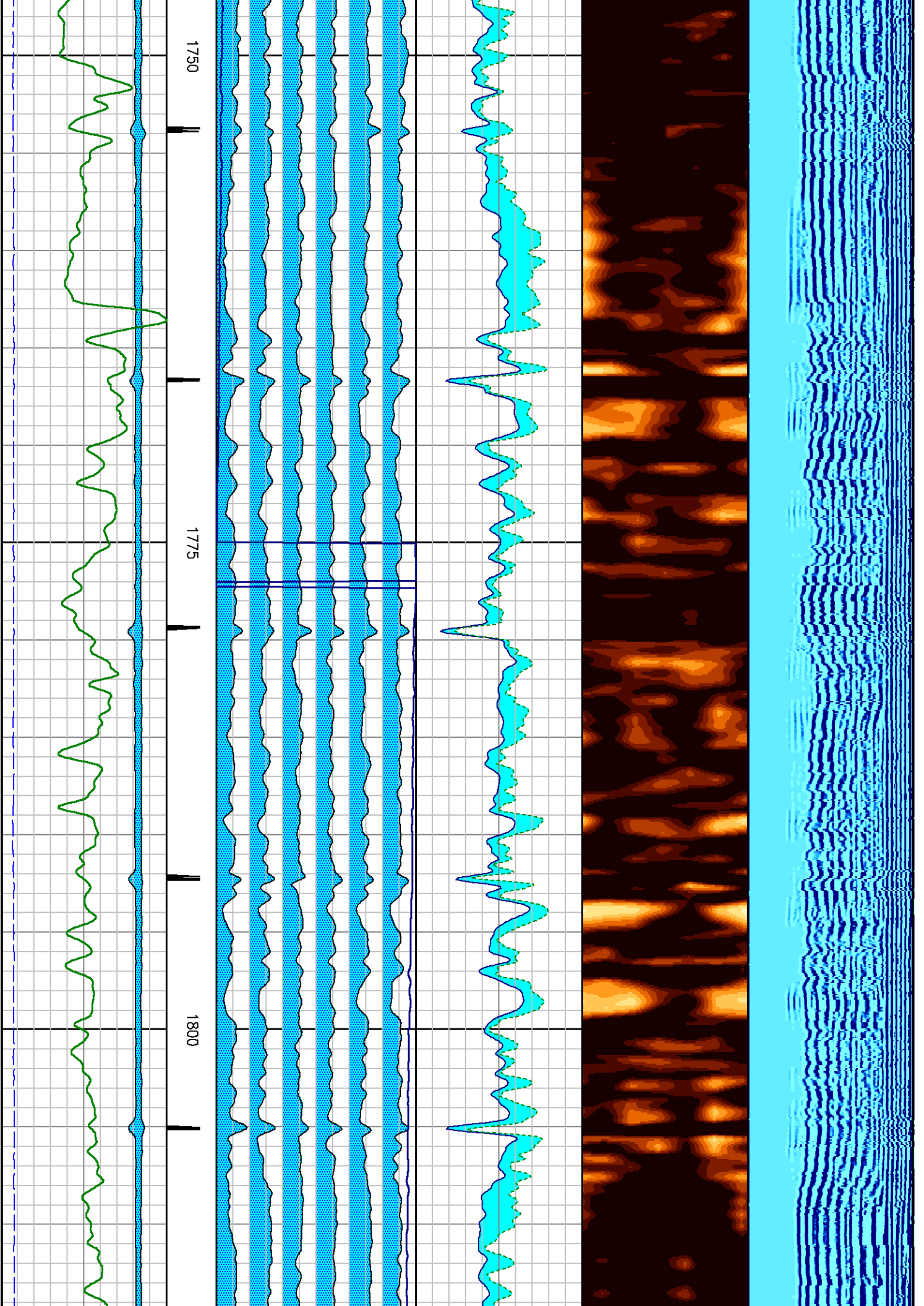
File Name : d:\welldata\20593s\repeat.xtf

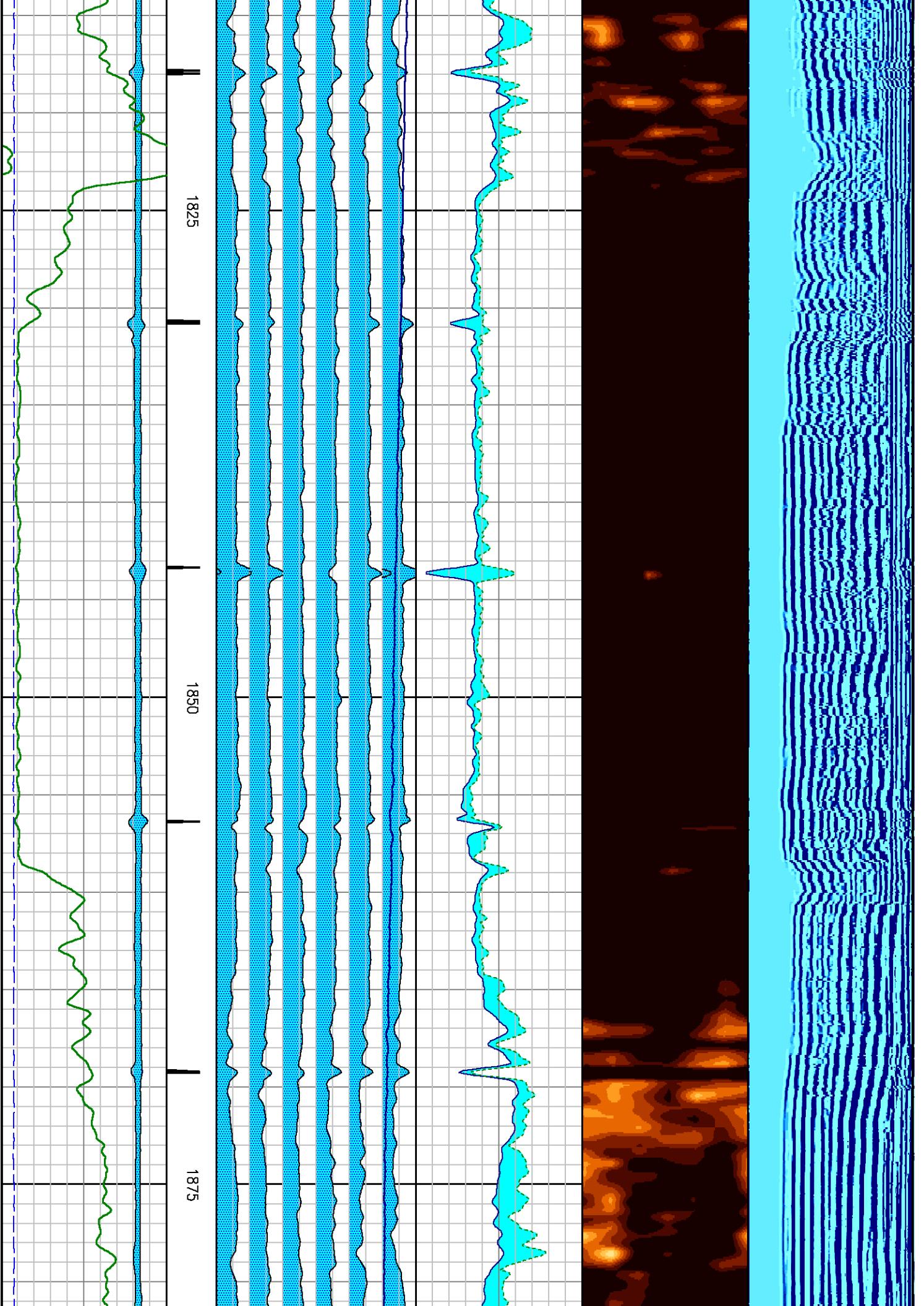
Mode : PlotMgr 5.4.504

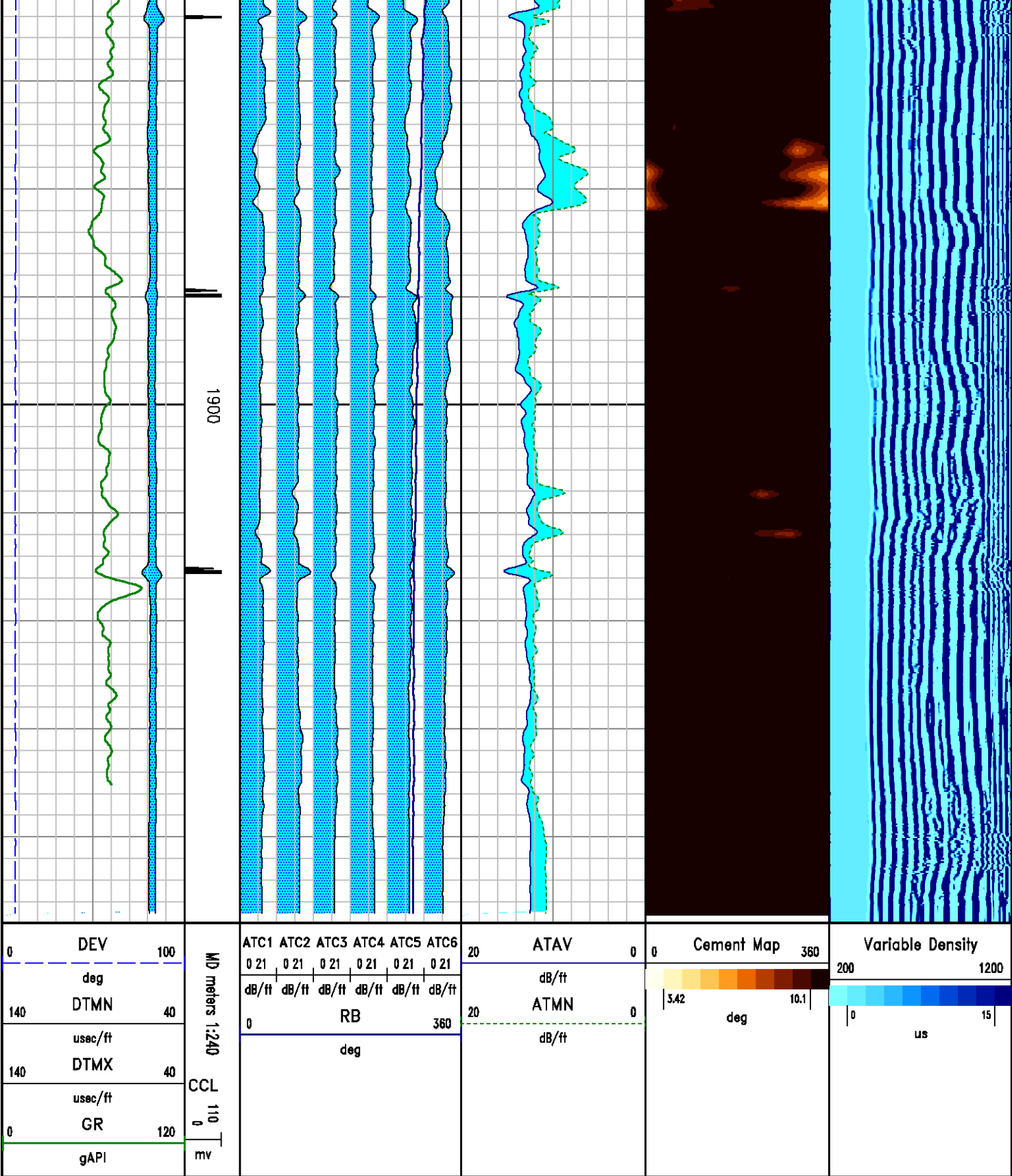
Interval : 1707.00 - 1924.00 meters UP

Created : 8/29/2010 1:06:28 PM



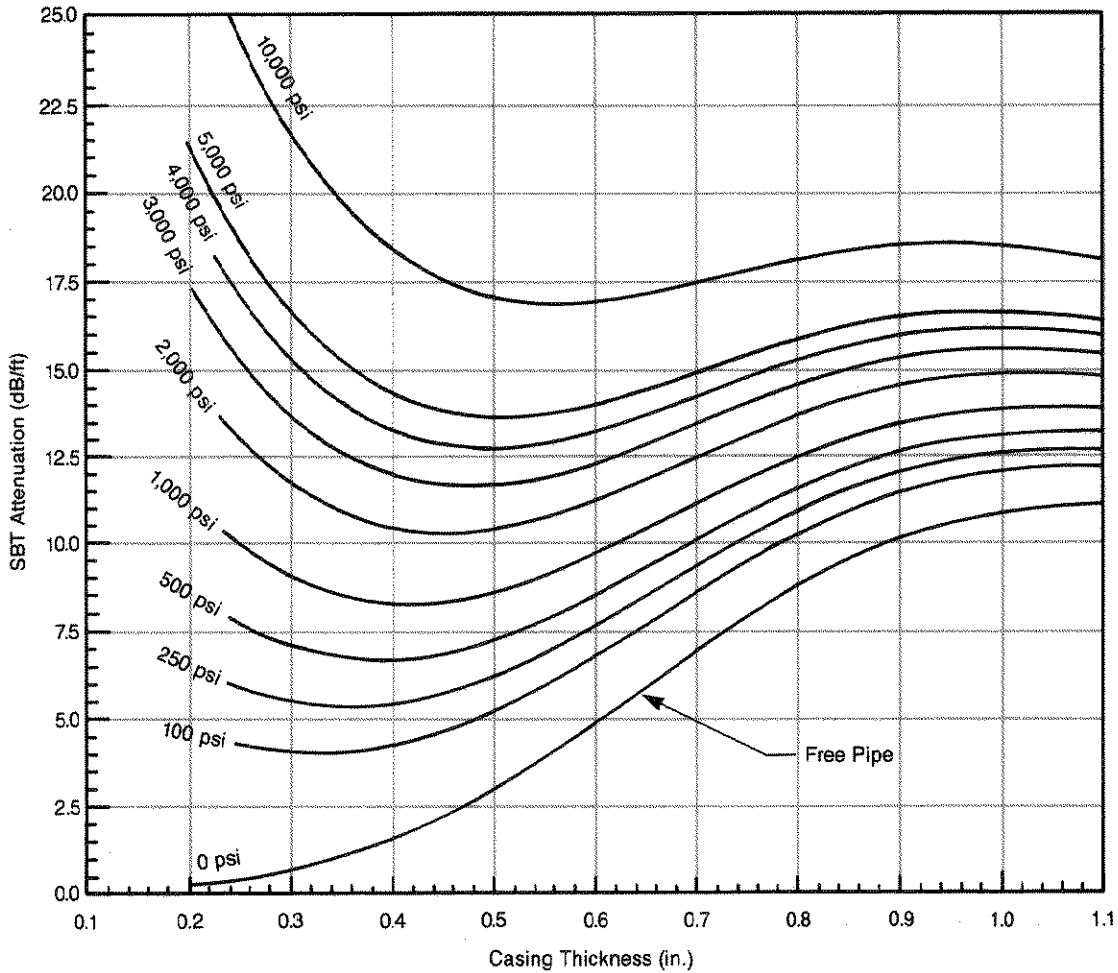






SBT INTERPRETATION CHART

Cement Compressive Strength from Segmented Bond Tool Log



This chart is intended to provide an estimate of the compressive strength of bonded cement using the attenuation readings from the Segmented Bond Tool (SBT™) log.

Enter the chart on the left with the attenuation in dB/ft, while at the same time entering the casing wall thickness (in.) from the bottom of the chart. The point at which the two lines intersect is the estimated compressive strength (psi) of the bonded cement.

CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\7255001.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jul 10 11:57:01 2010 TOOL SERIES: 1309XA ASSET: 72550 SEQ: 01

Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[...]	[...]		[...]	[...]	[...]

[cps]

[cps]

[api]

[api]

[api]

S2K DA479

50.27

296.18

0.610

30.66

180.66

150.00

Verification File: C:\case\calver\GR\7255001_vp

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Sat Jul 10 12:04:12 2010 TOOL SERIES: 1309XA ASSET: 72550 SEQ: 01

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DA479	49.89	295.49	0.610	30.43	180.24	149.81

RB

Calibration File: C:\case\calver\RB\11805602.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Aug 20 14:17:15 2010 TOOL SERIES: 1424XA ASSET: 118056 SEQ: 02

	X-Att [raw]	Y-Att [raw]	RB [deg]	X-Max [deg]	Y-Max [deg]	OFFSET [deg]
PAD 2	-116.00	-435.20	0.00			
PAD 3	-434.40	-119.70	59.67	-449.84	450.43	-75.06

Verification File: C:\case\calver\RB\11805602_vp

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Fri Aug 20 14:19:03 2010 TOOL SERIES: 1424XA ASSET: 118056 SEQ: 02

	Pad 1	Pad 2	Pad 3	Pad 4	Pad 5	Pad 6
RB [deg]	300.84	359.61	59.46	120.11	180.07	240.49



Company	VULCAN MINERALS INC	File No:	
Well	VULCAN INVESTCAN RED BROOK #2	API No:	
Field	BAY ST. GEORGE BASIN		
Province	NEWFOUNDLAND	Country	CANADA

Location	Elevations
LICENCE: #03-107	KB 63.4 m
LAT: 48.2679591667 LONG: -58.7501141667	DF
SEC TWP RGE	GL 57.1 m

Baker Atlas

