

Company: Anadarko Petroleum Company

Well: Spurling 35C-34HZ

Field: Wattenberg

County: Weld State: Colorado

Isolation Scanner
Cement Evaluation
Gamma Ray - CCL LogCounty: Weld
Field: Wattenberg
Location: NWNW Sec 34, T2N, R67W
Well: Spurling 35C-34HZ
Company: Anadarko Petroleum Company

Location:		Elev.:	
NWNW Sec 34, T2N, R67W		K.B. 5035.00 ft	
SHL: 377' FNL & 1118' FWL		G.L. 5014.00 ft	
Lat/Long: 40.100998/-104.882423		D.F. 5034.00 ft	
Permanent Datum:	Ground Level	Elev.:	5014.00 f
Log Measured From:	Kelly Bushing	21.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		
API Serial No.	Section:	Township:	Range:
05-123-39126-0000	34	2N	67W

Logging Date	20-Jun-2014		
Run Number	Run 1		
Depth Driller	8020.00 ft		
Schlumberger Depth	8020.00 ft		
Bottom Log Interval	6330.00 ft		
Top Log Interval			
Casing Fluid Type	Water		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	8.00 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.75 in		
From	1000.00 ft		
To	8020.00 ft		
Casing/Tubing Size	7 in		
Weight	26 lbm/ft		
Grade	N/A		
From	0.00 ft		
To	8020.00 ft		
Max Recorded Temperatures	211 degF		
Logger on Bottom	20-Jun-2014	08:00:00	
Unit Number	Location:	Time	
3030			
Recorded By	Keri Ondrus		
Fort Morgan, CO			
Trevor Davie			

Disclaimer

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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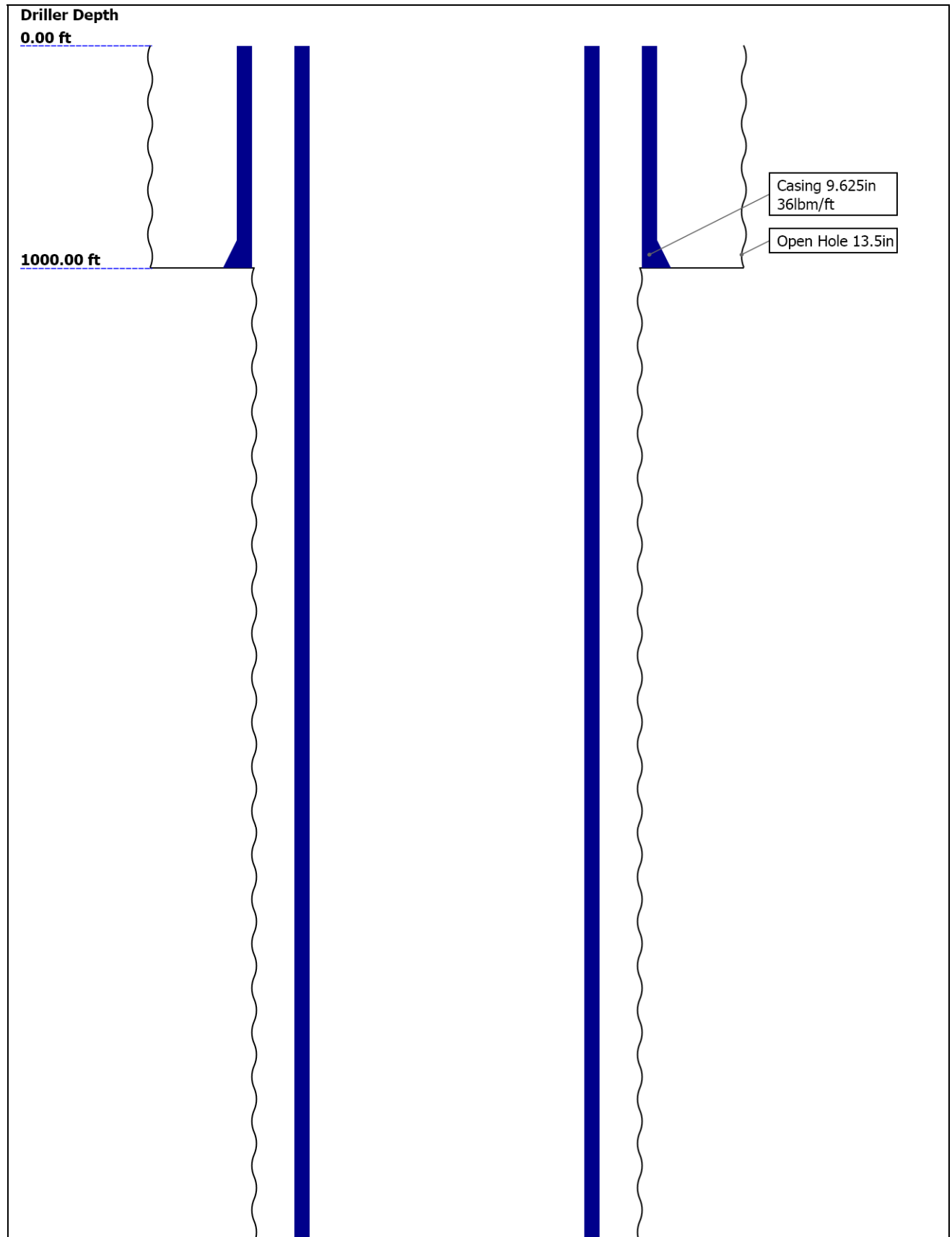
12.1 USI Fluid Properties Measurement

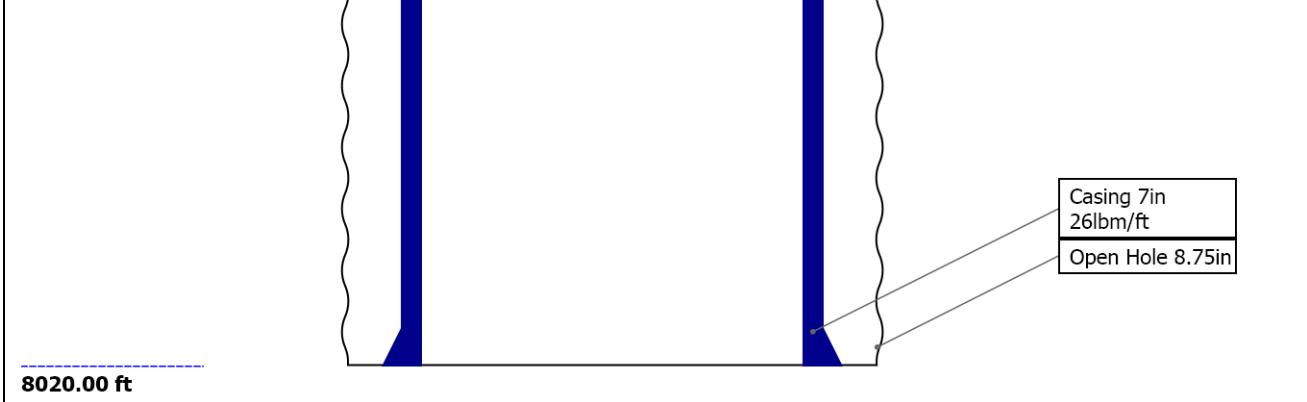
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13.1 USI Fluid Properties Measurement

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	13.5	8.75				
Top Driller (ft)	0	1000				
Top Logger (ft)	0	1000				
Bottom Driller (ft)	1000	8020				
Bottom Logger (ft)	1000	8020				
Casing						
Size (in)	9.625	7				
Weight (lbm/ft)	36	26				
Inner Diameter (in)	8.921	6.276				
Grade	N/A	N/A				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	1000	8020				
Bottom Logger (ft)	1000	8020				

Operational Run Summary

Parameter (unit)	Run 1					
Date Log Started	20-Jun-2014					
Time Log Started	07:12:26					
Date Log Finished	20-Jun-2014					
Time Log Finished	15:48:23					
Top Log Interval (ft)	NaN					
Bottom Log Interval (ft)	6330.00					
Total Depth (ft)	6330.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.750					
Logging Unit Number	3030					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Keri Ondrus					
Witnessed By	Trevor Davie					
Service Order Number	BX19-00147					

Service Order Number	DX15-00147					
Borehole Fluids						
Parameter(unit)	Run 1					
Fluid Type	Water					
Max Recorded Temperatures (degF)	211					
Salinity (ppm)	0					
Density (lbm/gal)	8.4					
Date Logger on Bottom	20-Jun-2014					
Time Logger on Bottom	08:00:00					
Total Solid (%)						
High Gravity Solids (%)						
Remarks and Equipment Summary						
Run 1: Toolstring			Run 1: Remarks			
Equip name Length	MP name	Offset	Toolstring run as per toolsketch.			
LEH-QT:21 33.92 10 LEH-QT:2110			4.5" liner top at 6986'. Previous toolstring stuck in liner top, expected dense fluids or solids near liner top.			
DTC-H:938 31.00 6 ECH-KC:1047 2 DTC-H:9386	CTEM HV	30.1 0.00	Bridged tool at 6370'. Sub would not spin at this depth. Bottom log interval at 6330' which is the depth the sub could spin.			
	TelStatus ToolStat us	28.00 28.00	Full lube used to reach ground level with logs.			
SGT-N:103 28.00 86 SGH-K:3164 SGC-TB:1038 6 SGD-TAA:218 92	GR	27.09	Cemented by Halliburton.			
			13 PPG lead and 14.4 PPG tail cement. HAL welllife slurry with rubber compound.			
			Estimated top of cement at			
			Thank you for choosing Schlumberger Wireline!			
			SLB Crew: Josh Strand, Jake Jump, and Keri Ondrus.			
CME-AF 22.5						
AH-184:27 18.71 46						
USIT-E:977 16.71 ECH-MFA:19 69 USAC-A:977 USIS-A:2797 USSC-B:1730 IBCS-B:910 FAR-SENSOR NEAR-SENSO R USI-SENSOR EMITTER-SE NSOR						
	USI Sens	0.87				

IBC SLG Composite - 3000 PSI Pass

Software Version

Acquisition System			Version
MaxWell			4.0.9163.3000
Application Patch			Patch-SP-10767_13393-4.0.9163.3001
Computation	Description	Version	
DepthCorrection	DepthCorrection	4.0.9213.3000	
Tool Elements	Description	Software Version	Firmware Version
USI-SENSOR	USIT Transducer Element	4.0.9265.3000	DSP: v01.82
SGC-TB	Scintillation Gamma Cartridge	4.0.9033.3000	

Log

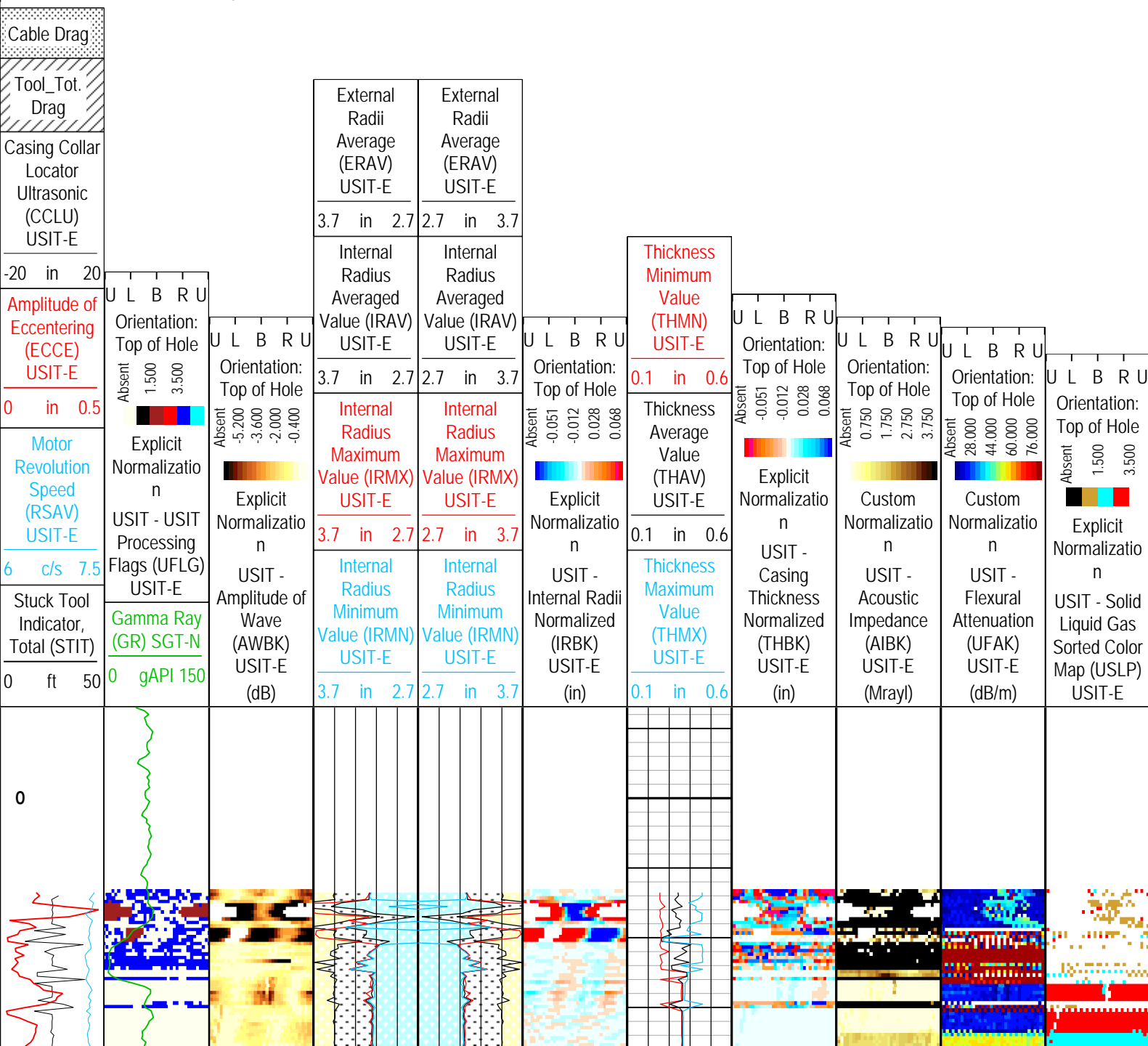
Company:Anadarko Petroleum Company Well:Spurling 35C-34HZ

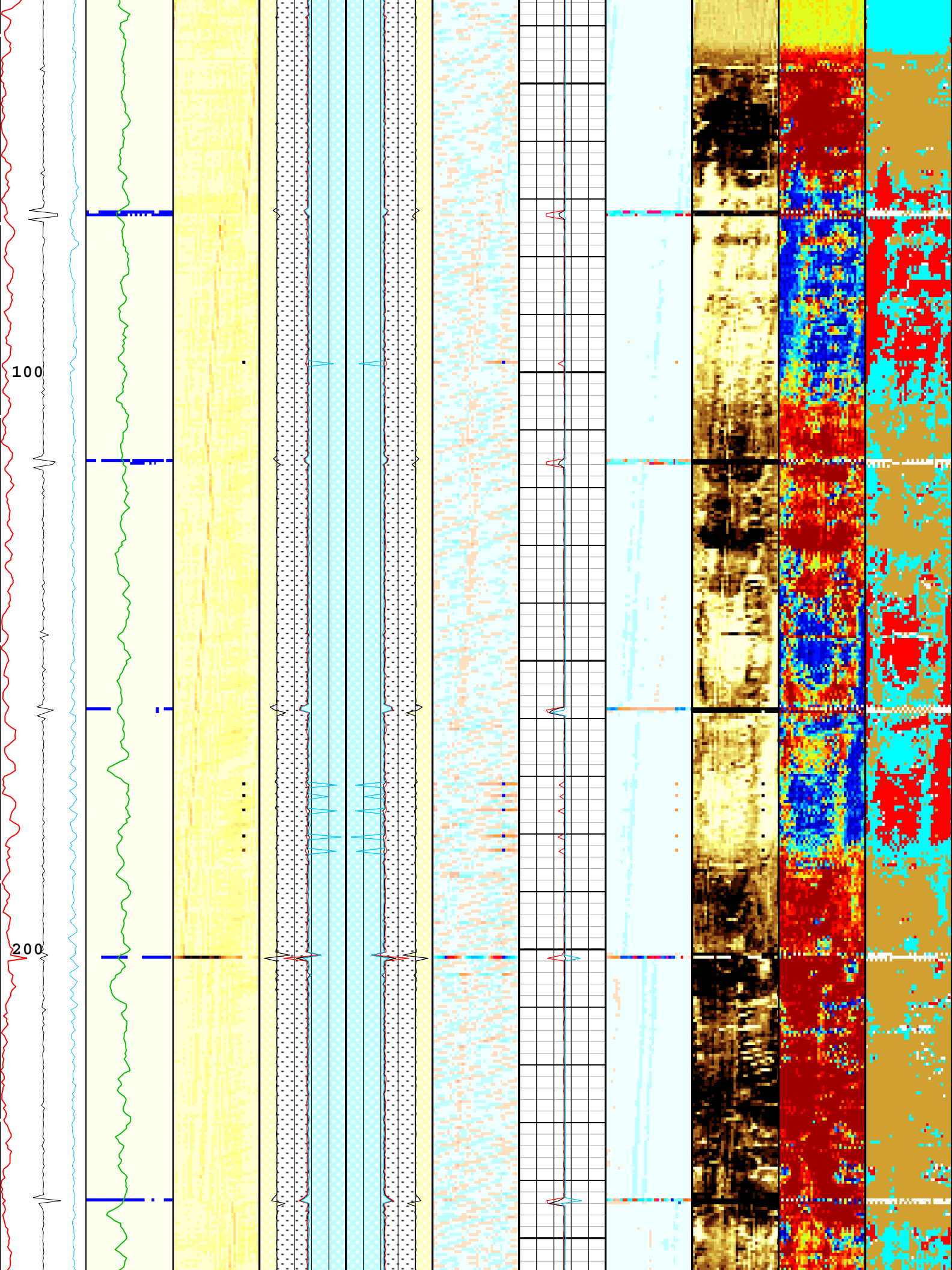
Run 1: Main[4]:Up:S007

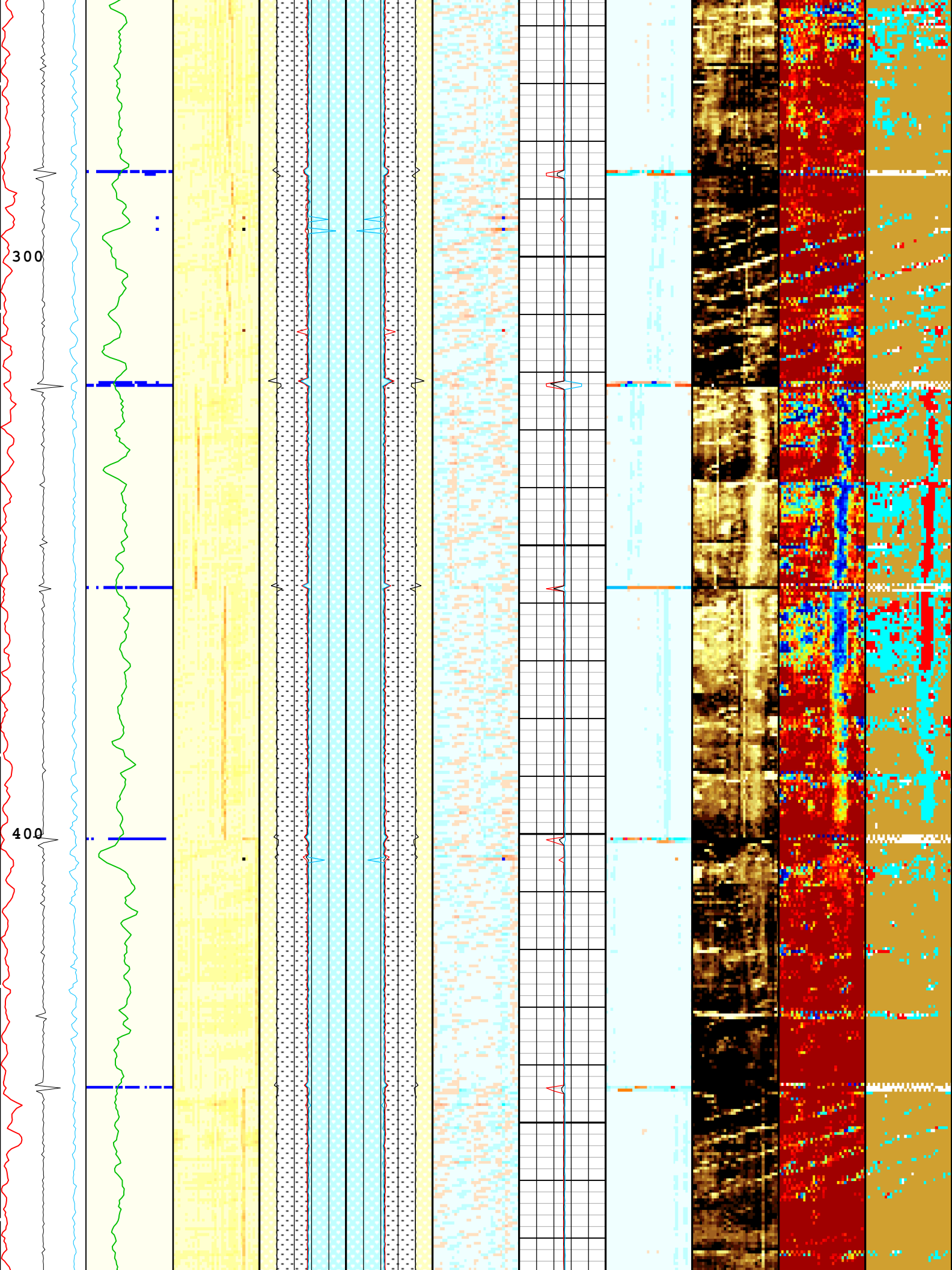
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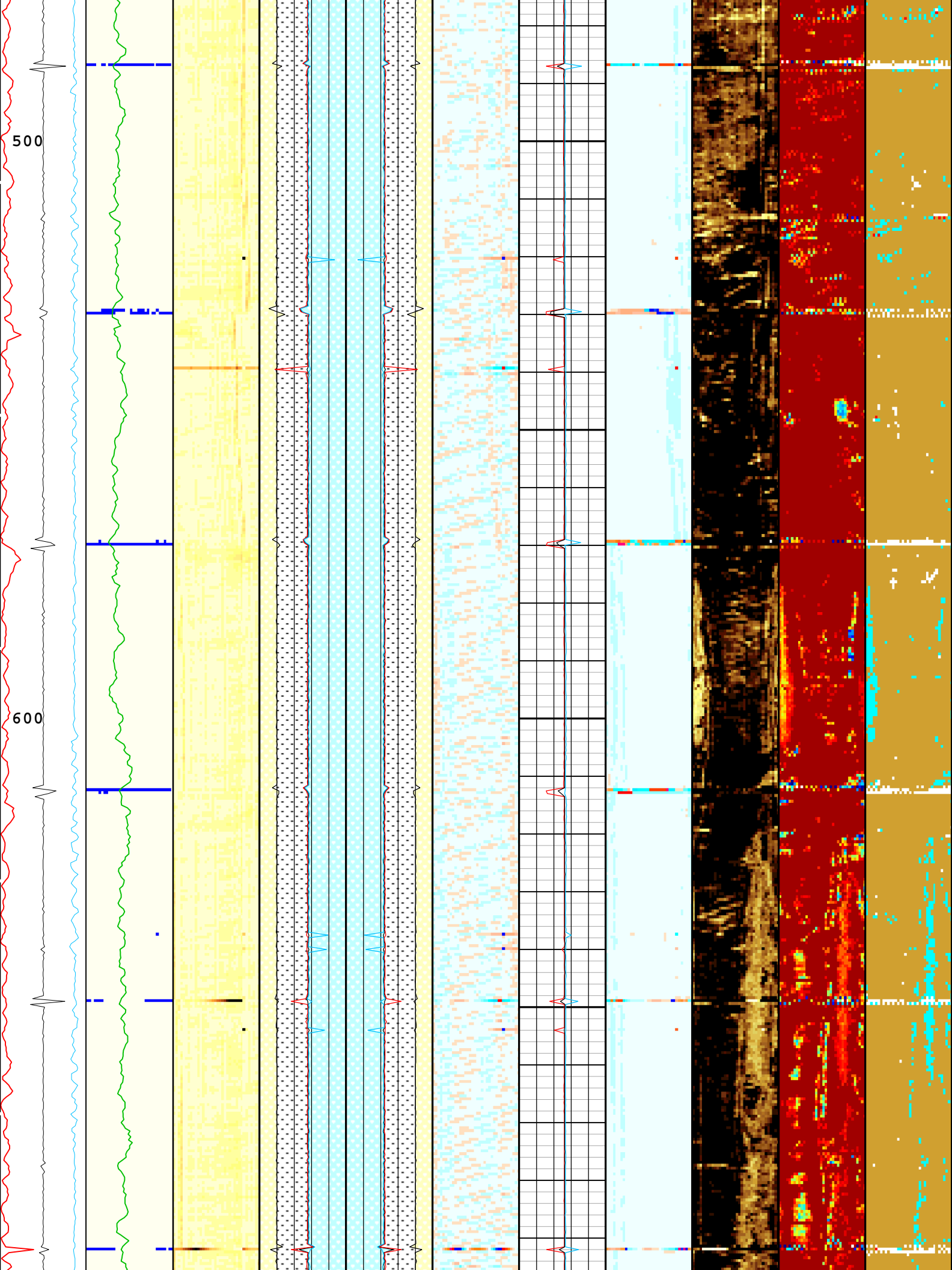
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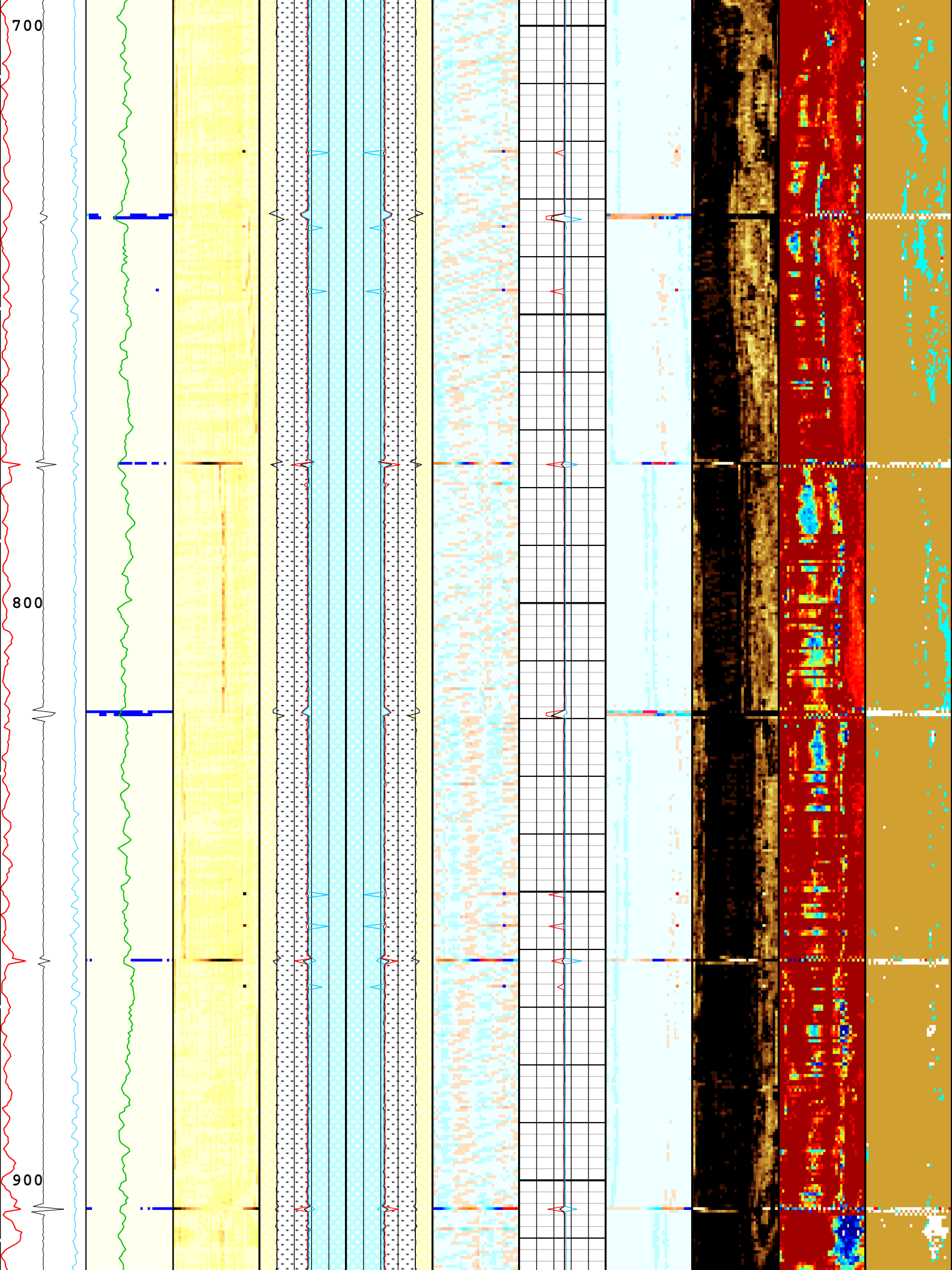
TIME_1900 - Time Marked every 60.00 (s)

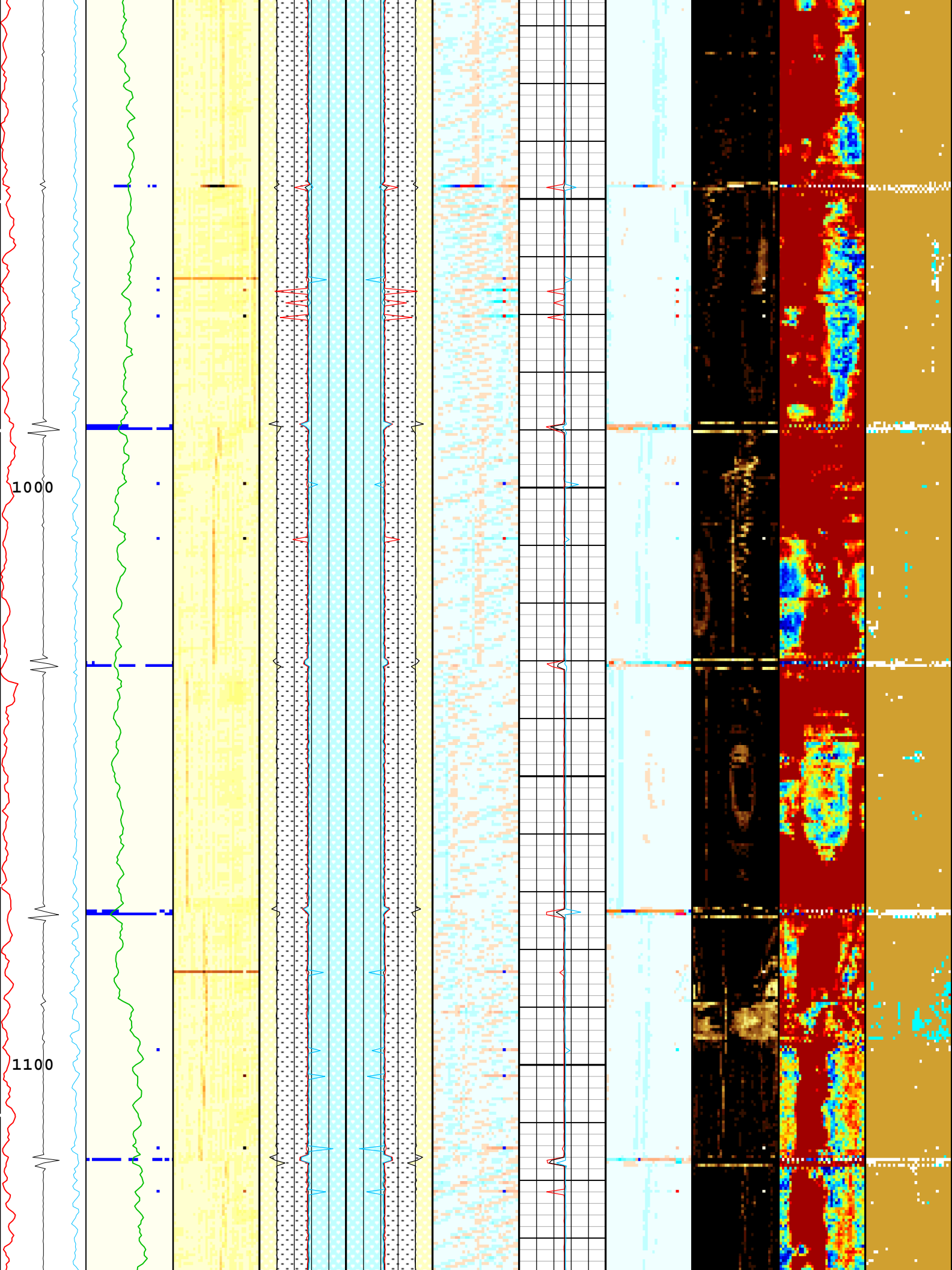


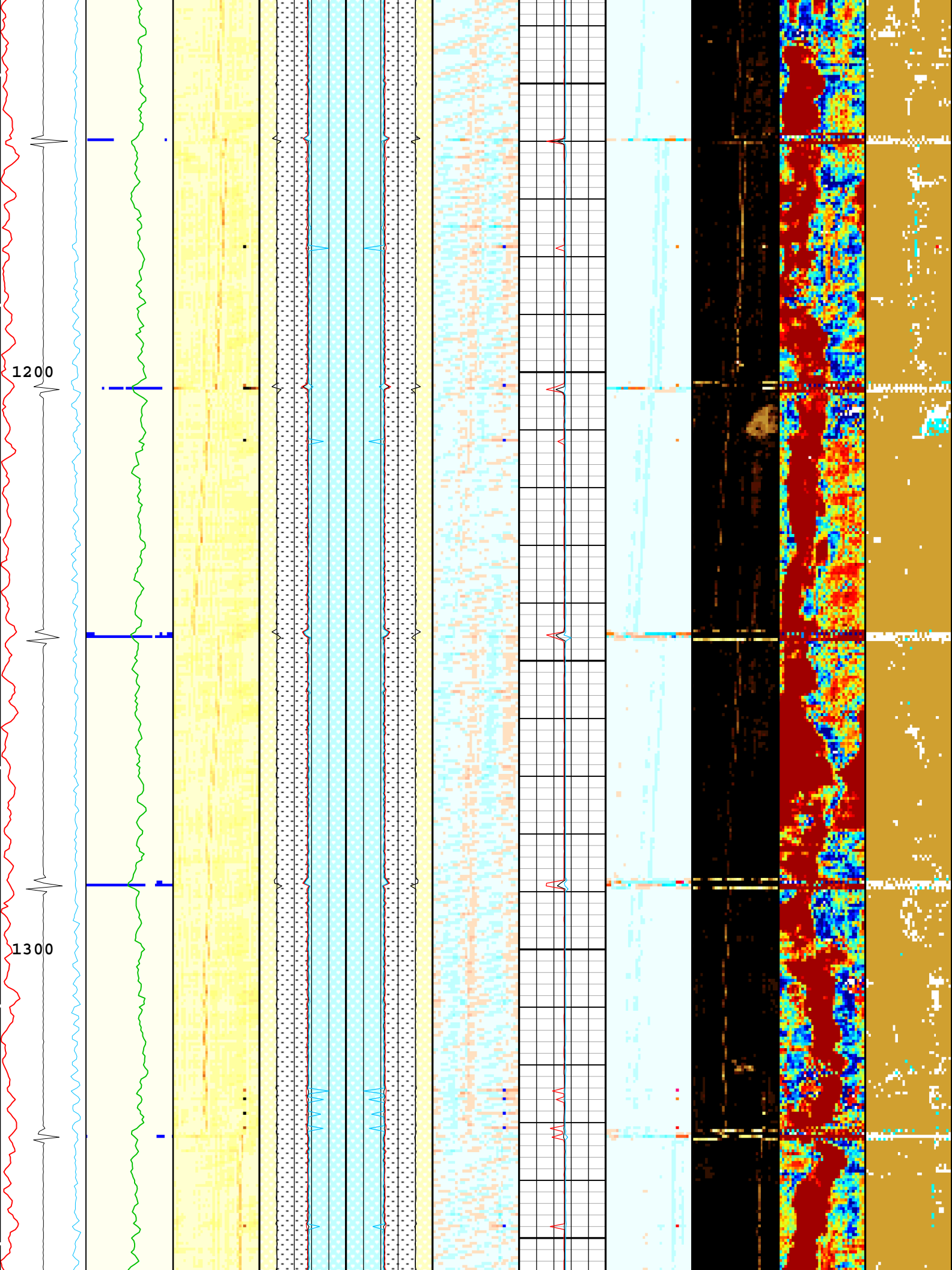


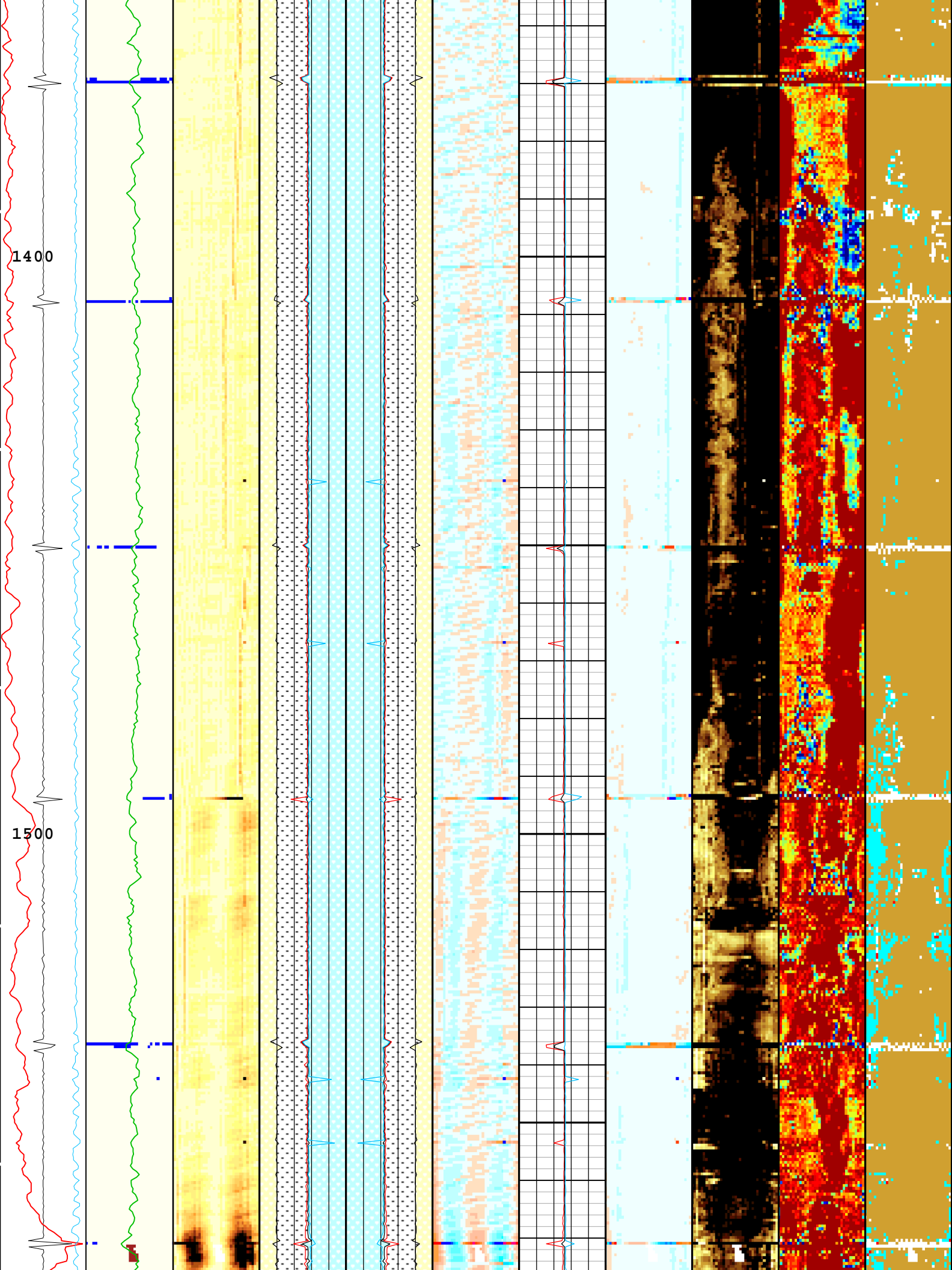


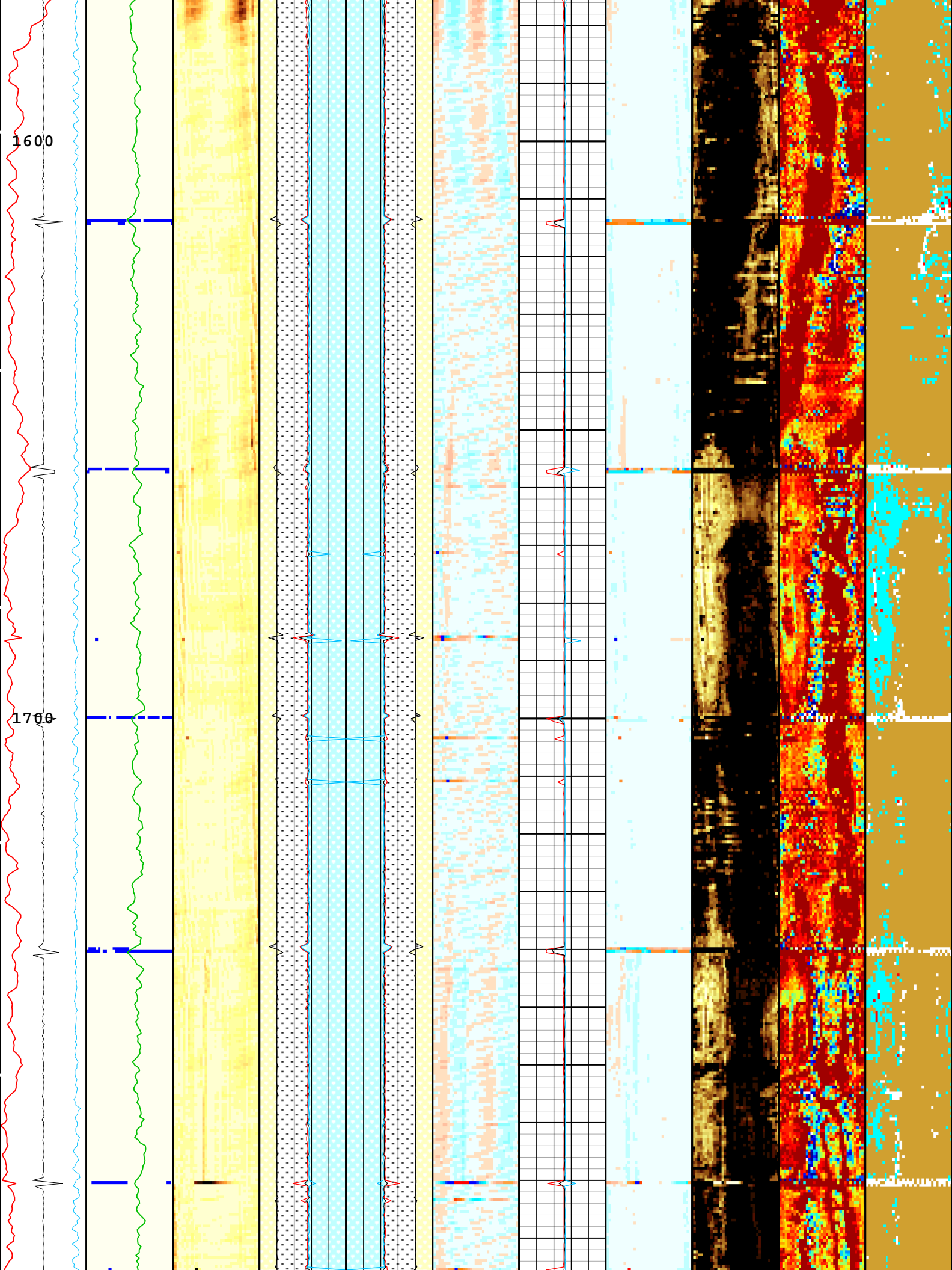


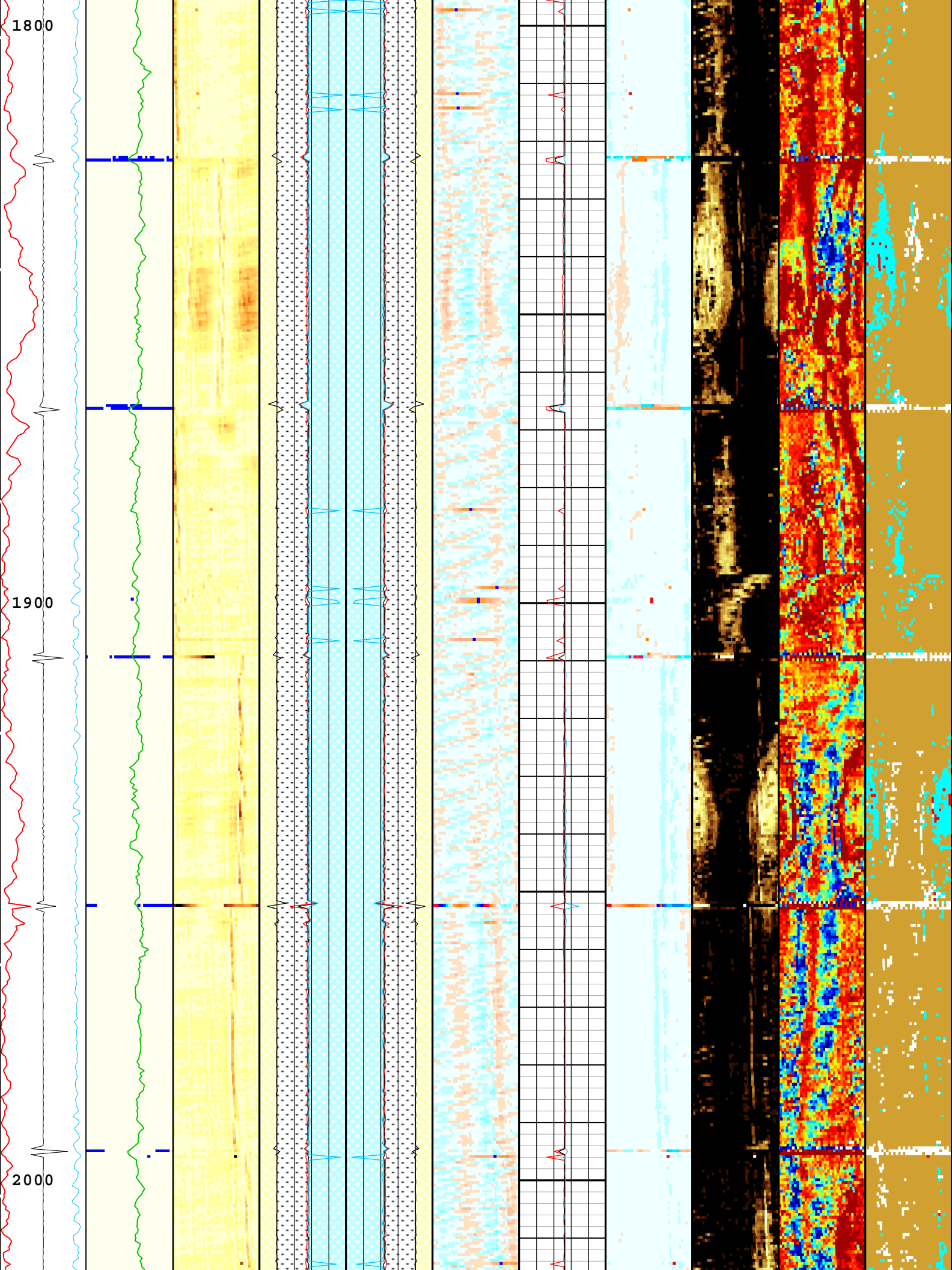


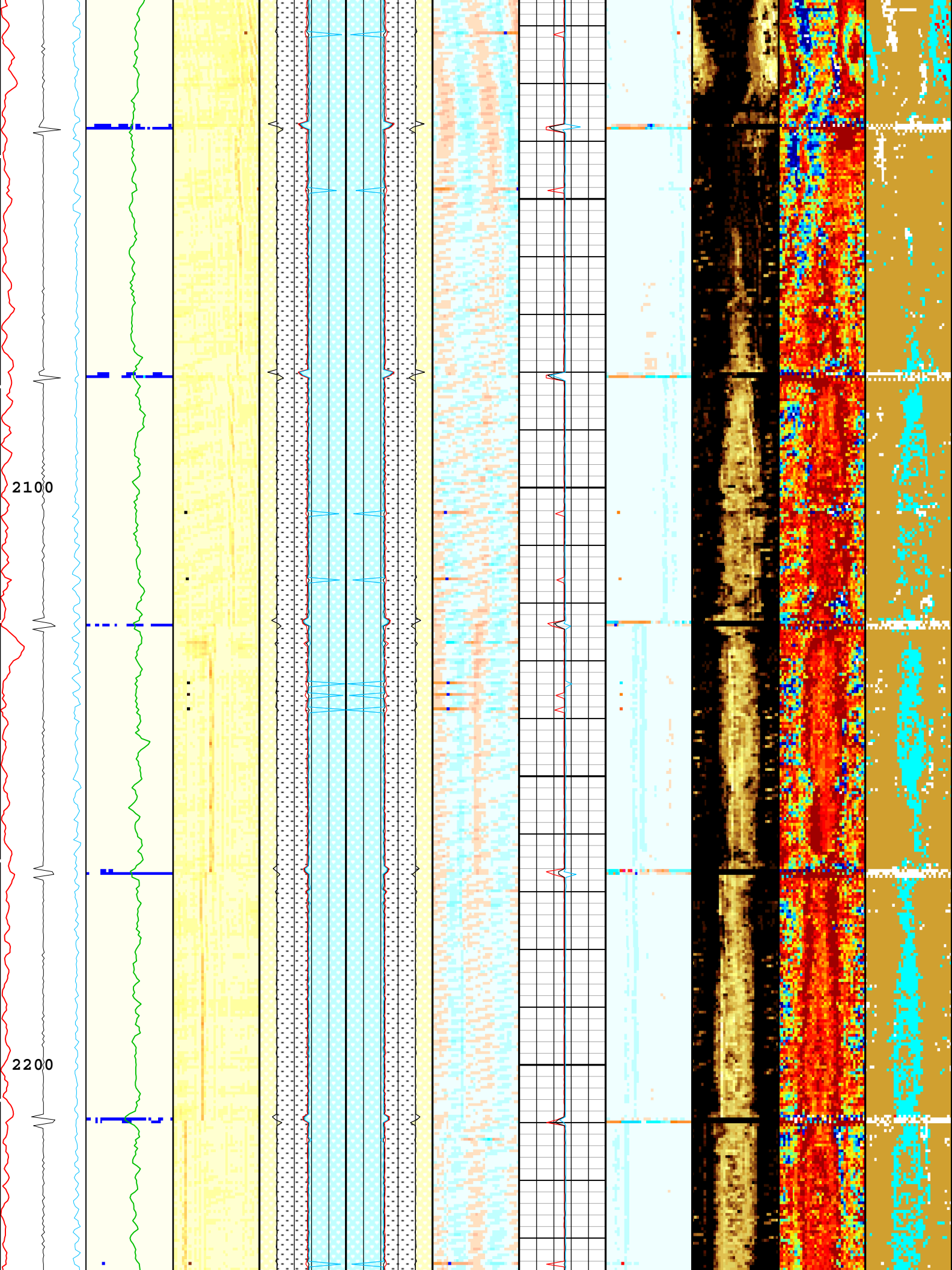


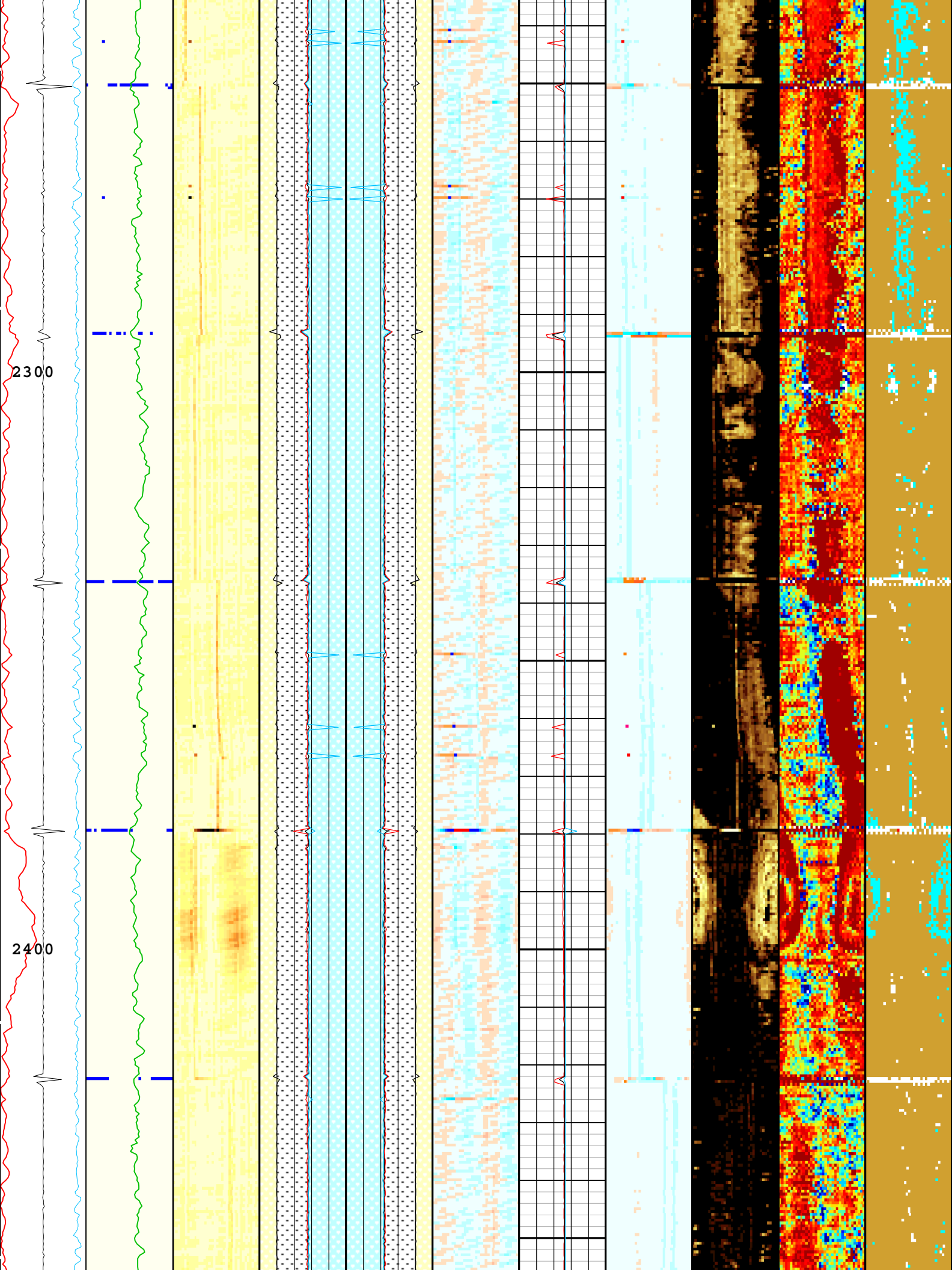


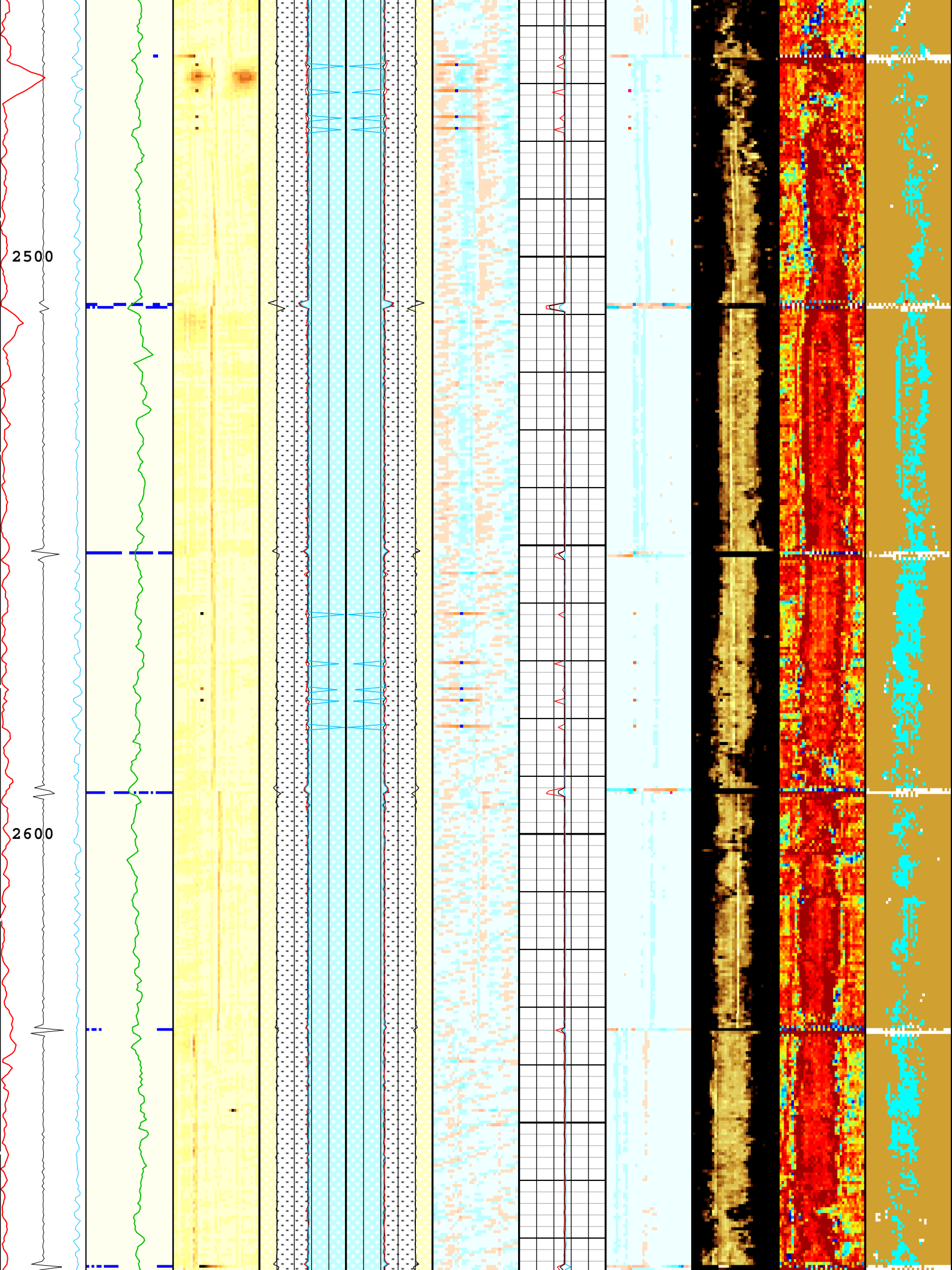


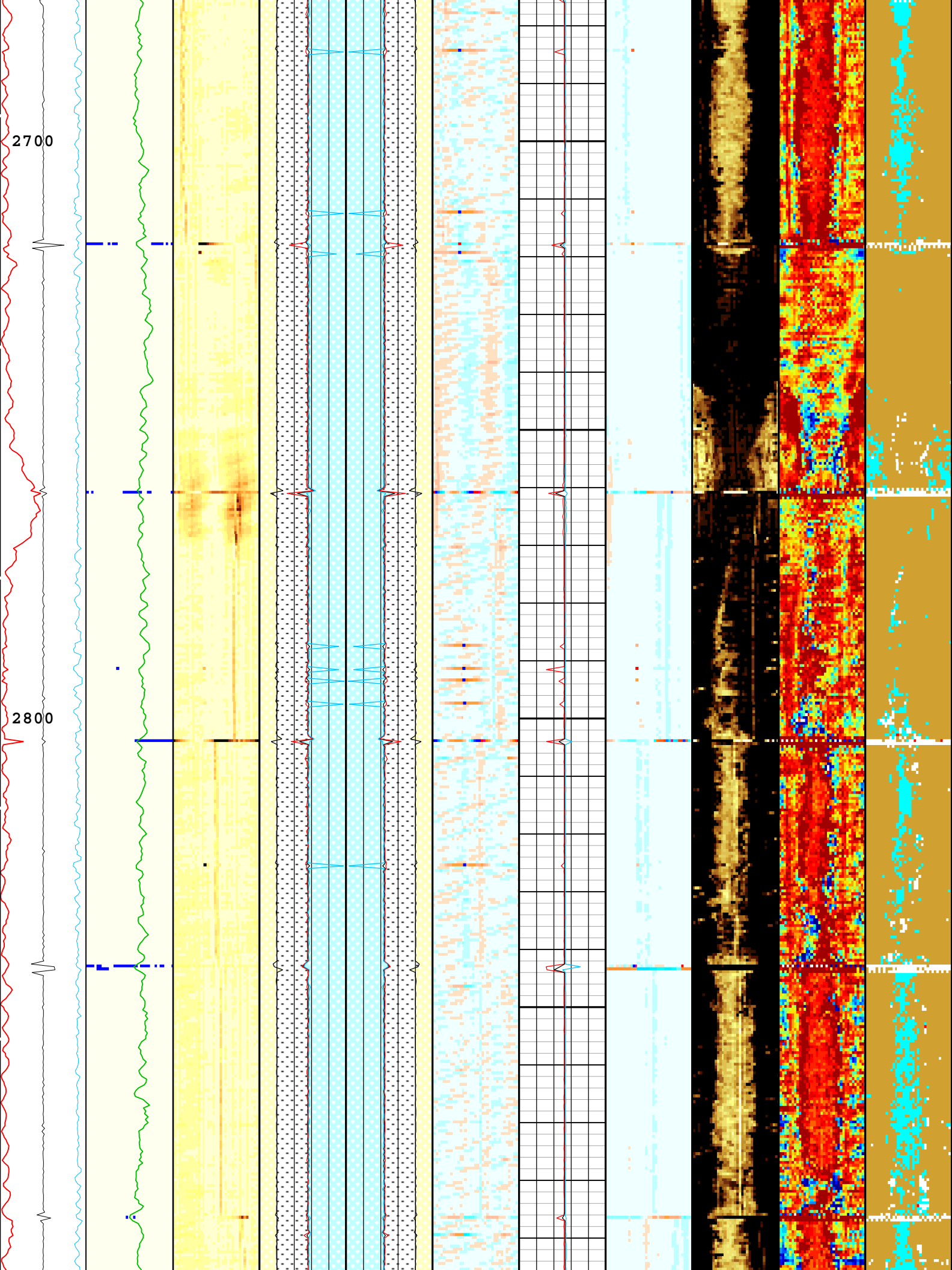


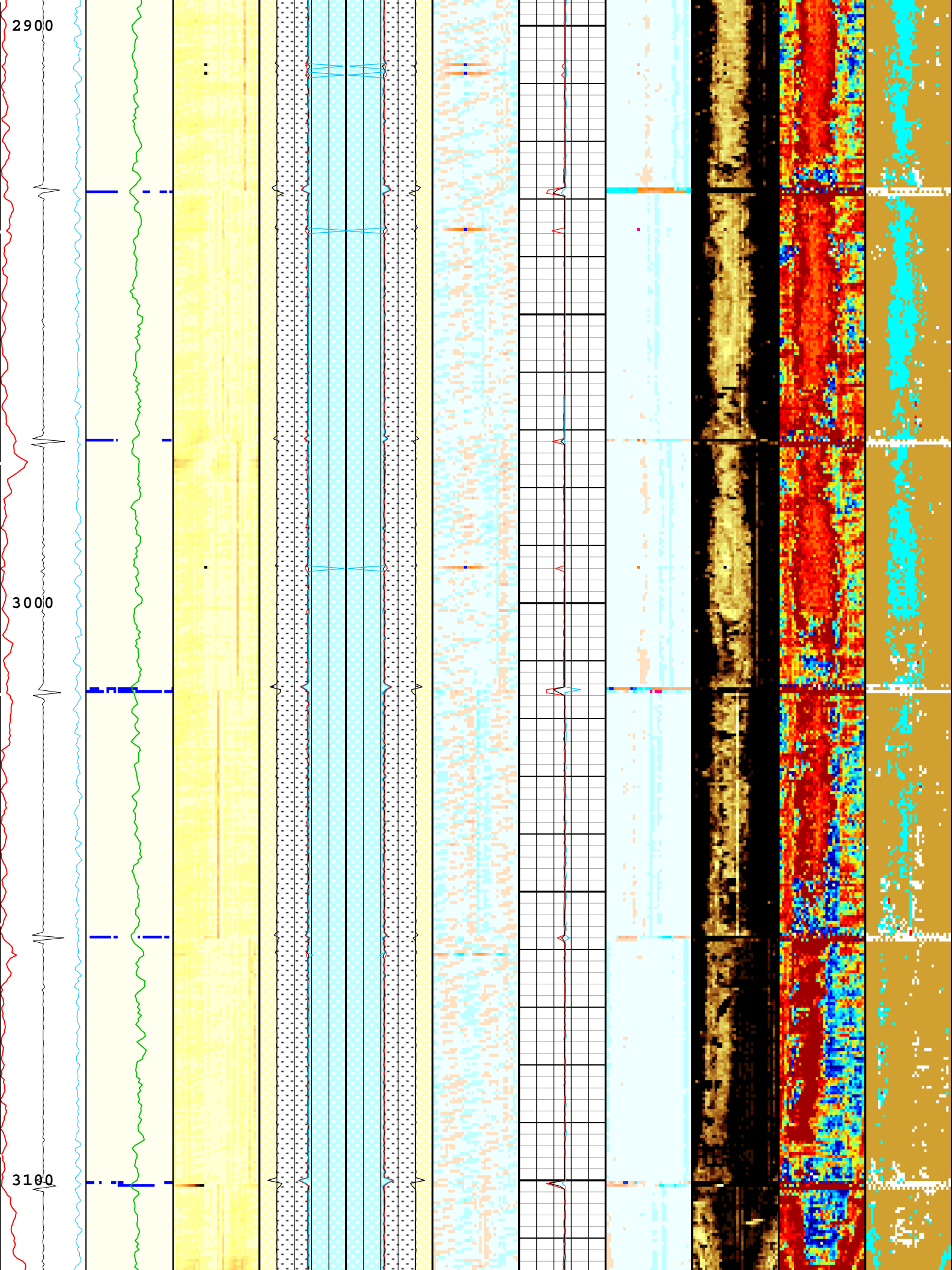


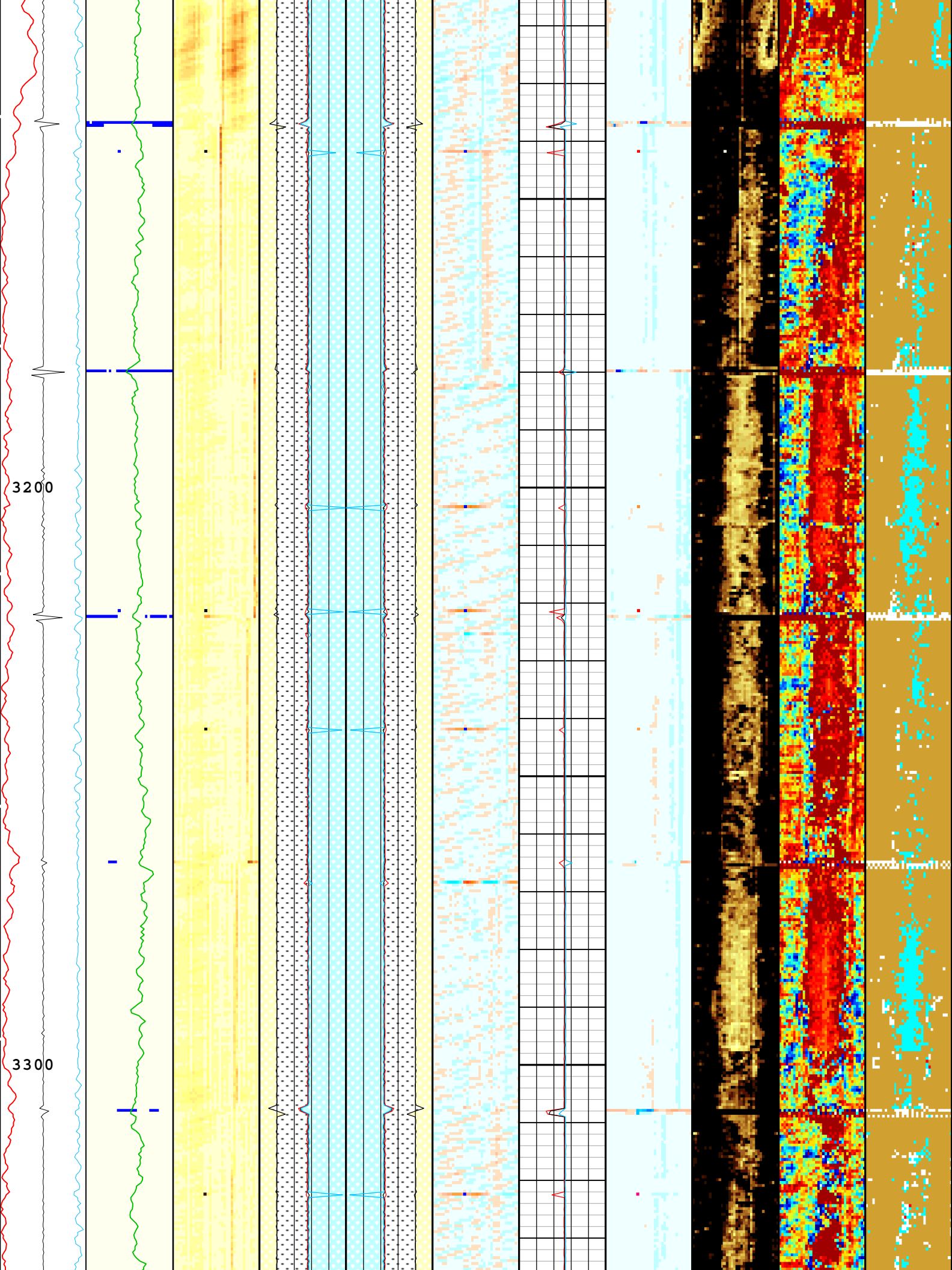


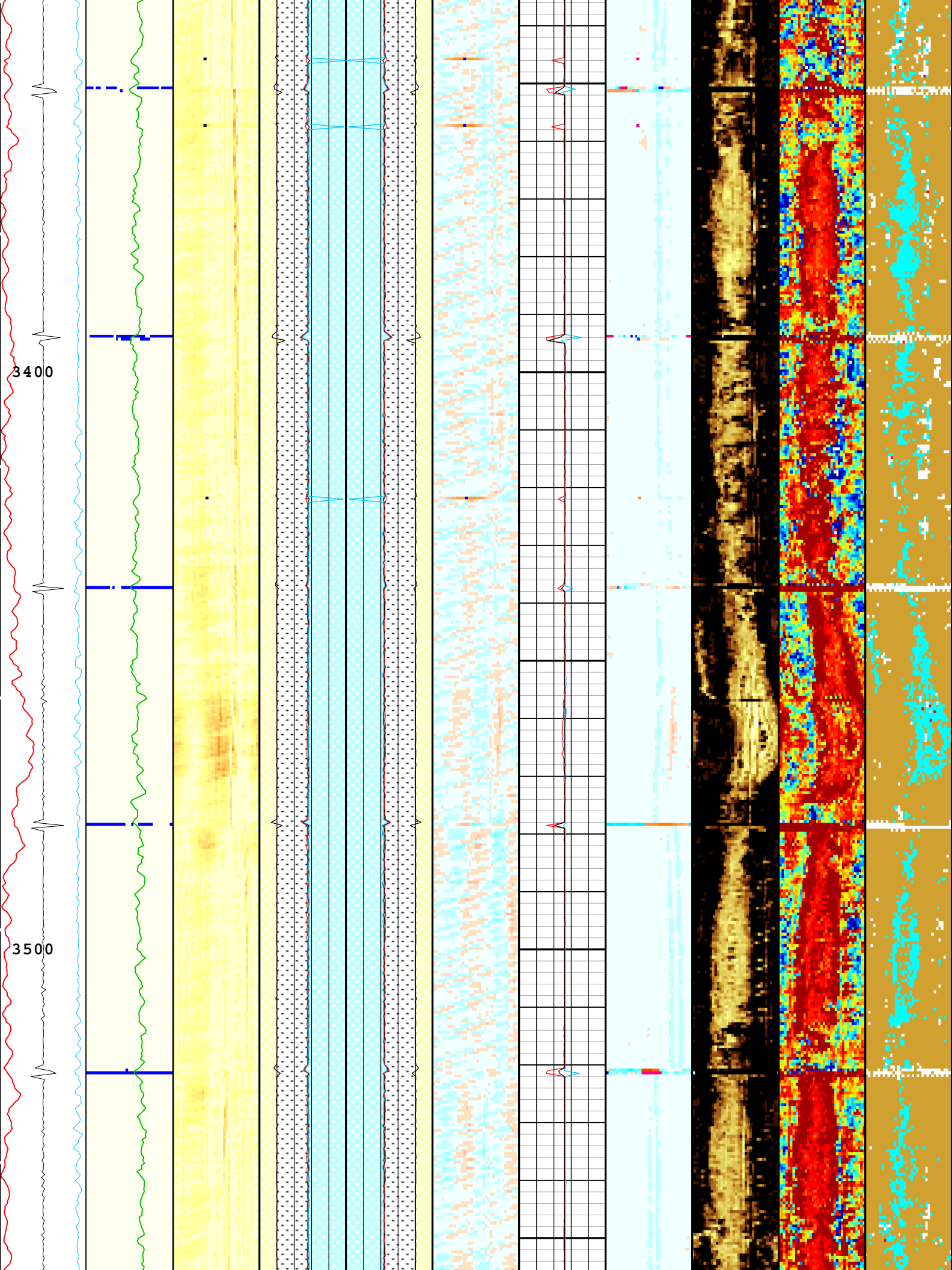


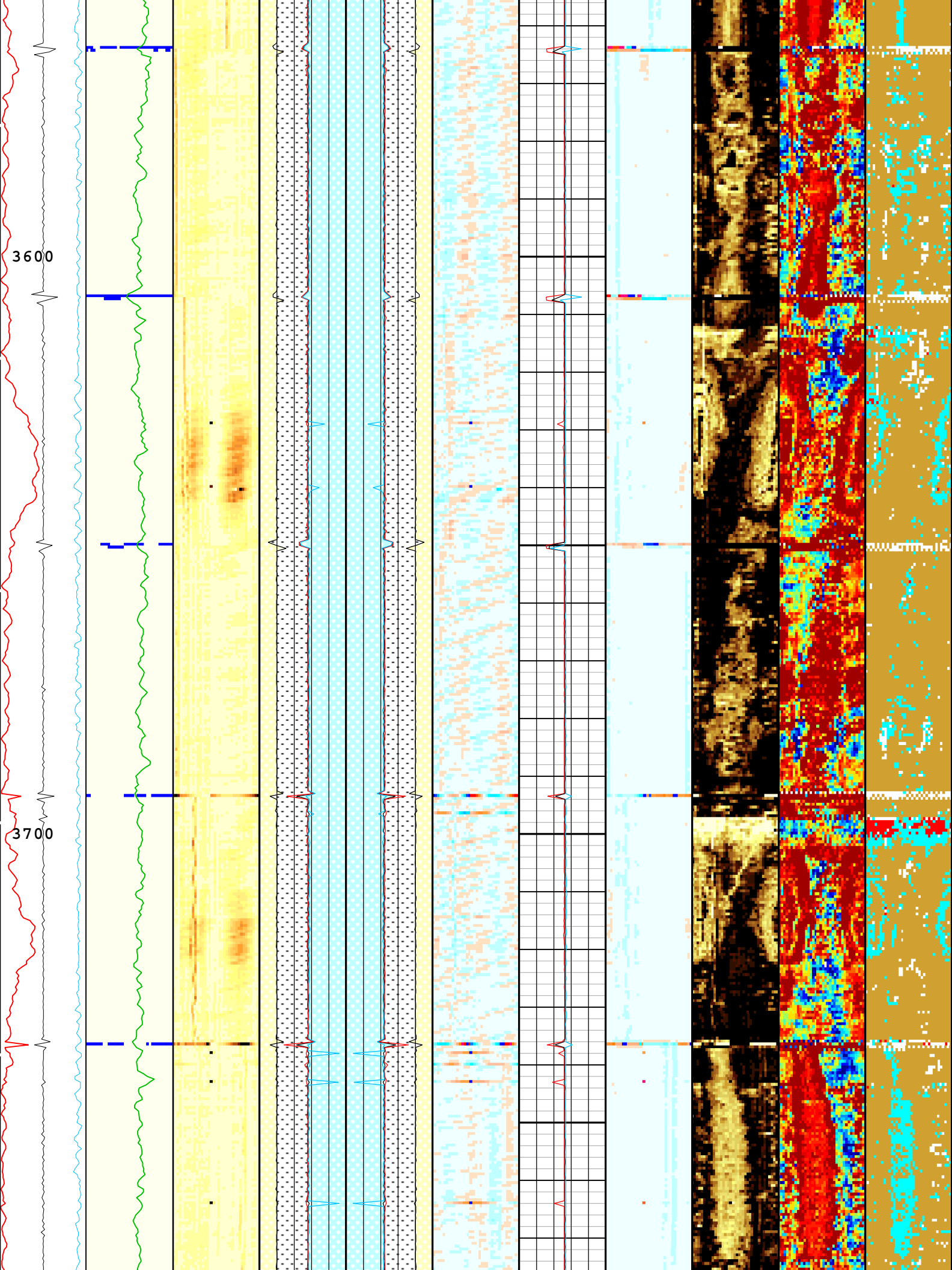


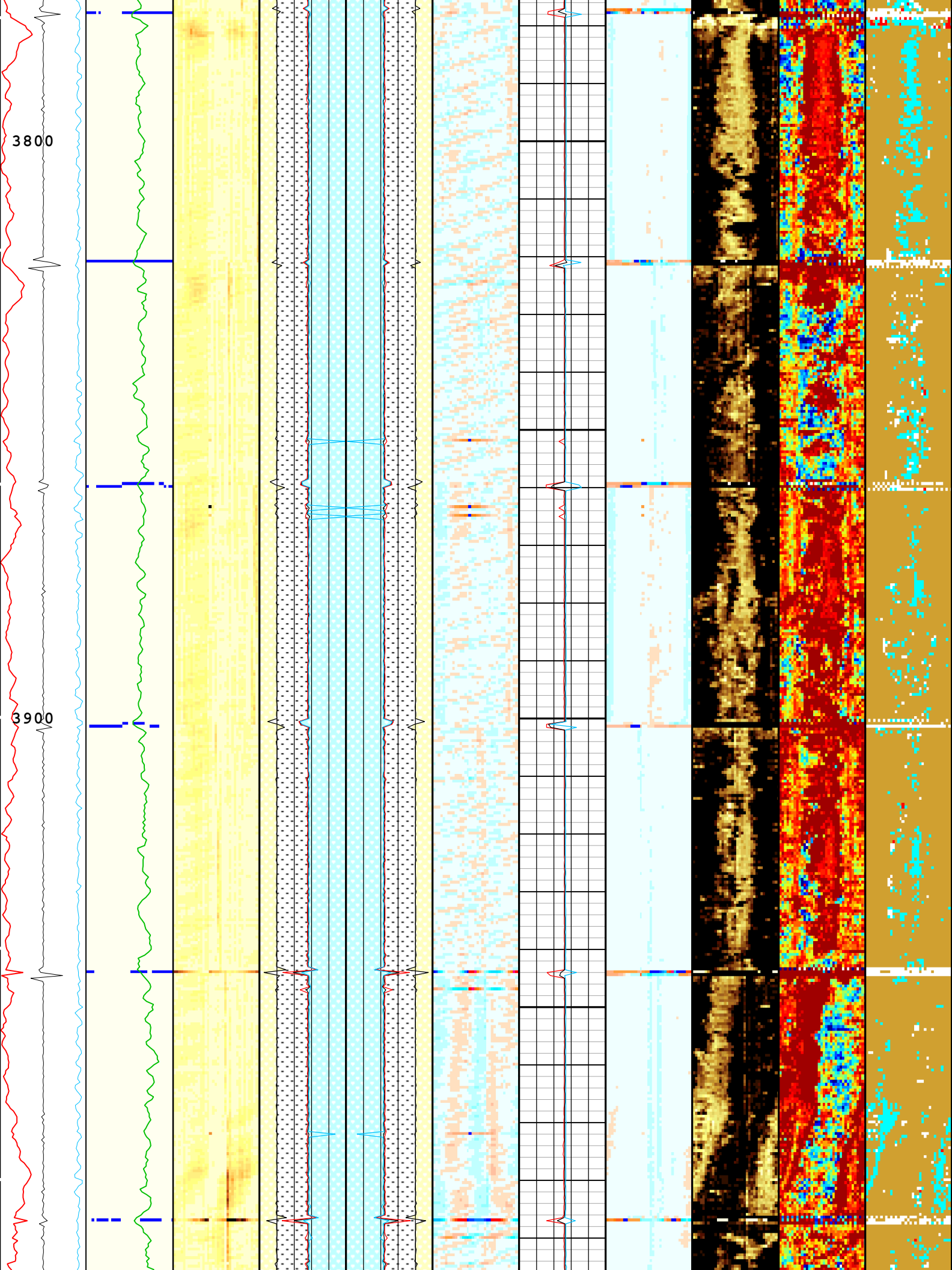


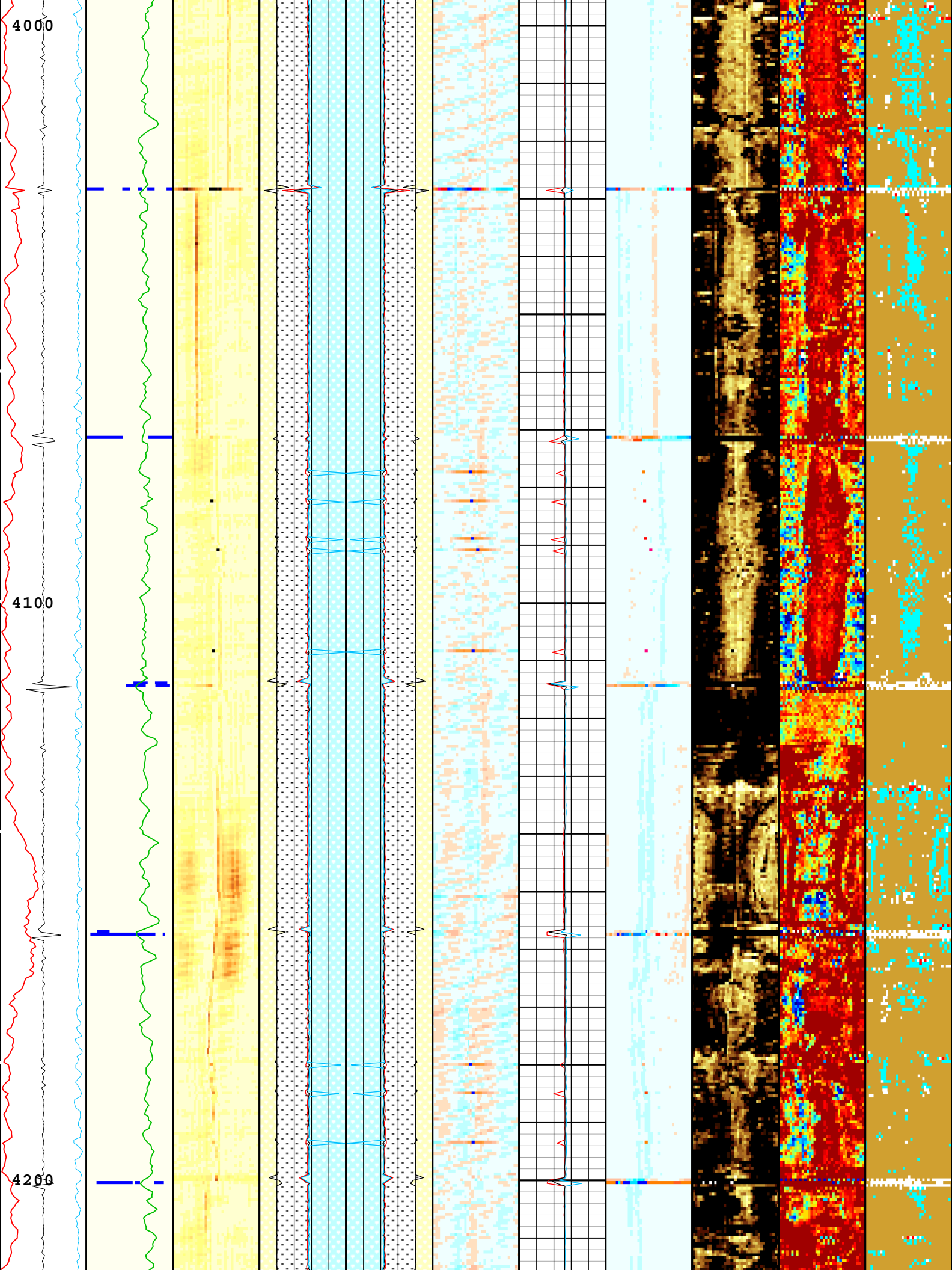


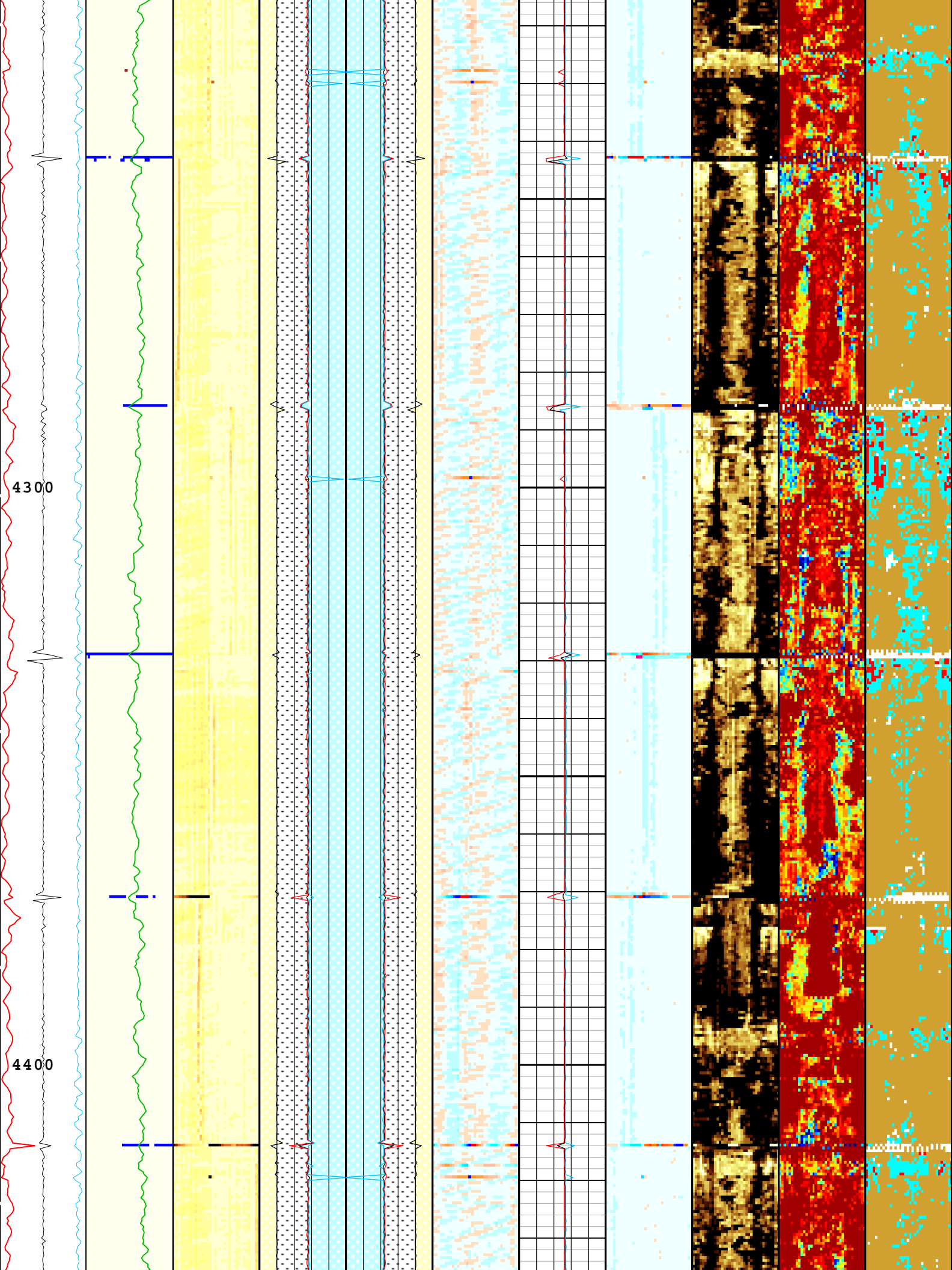


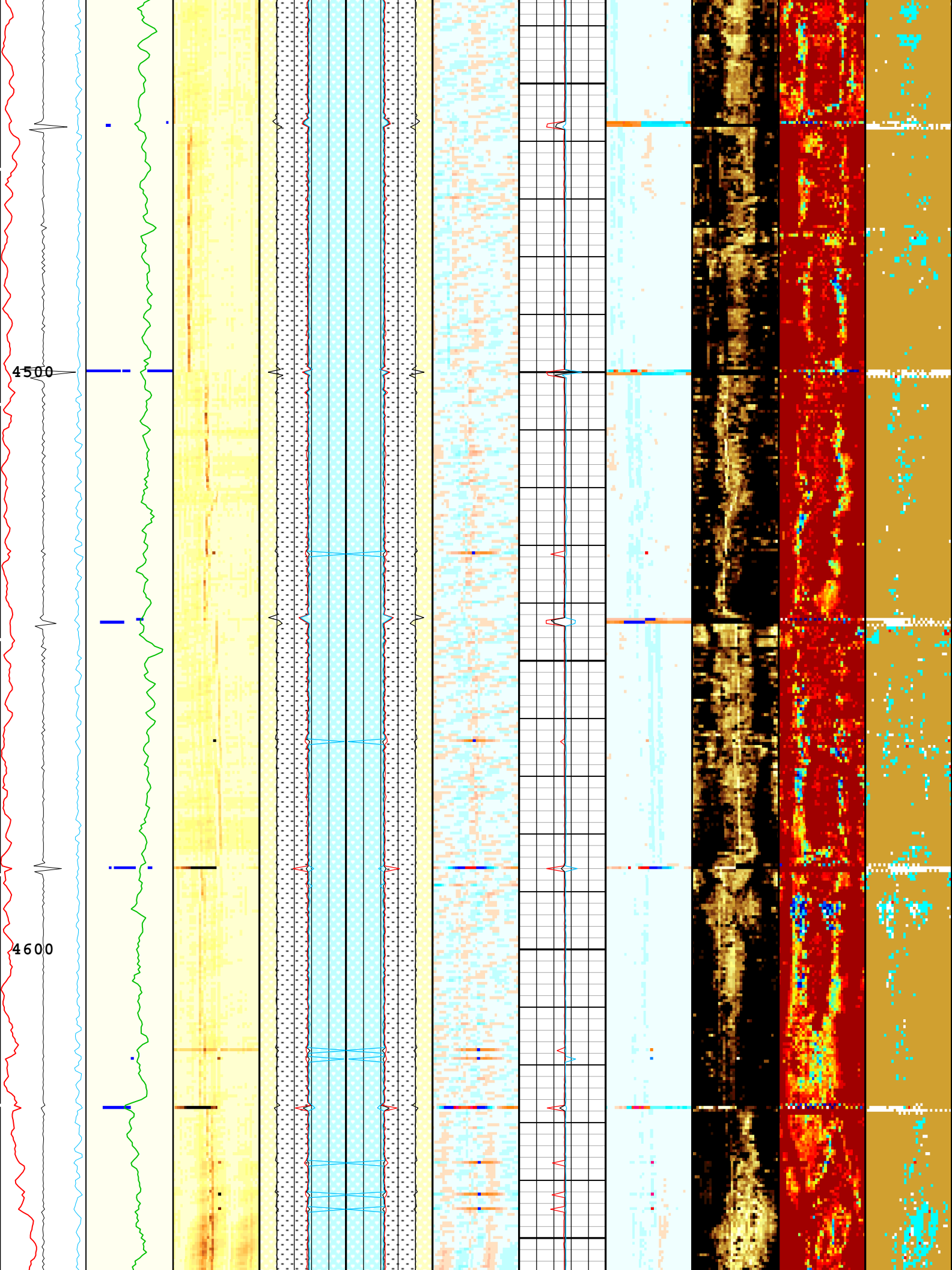


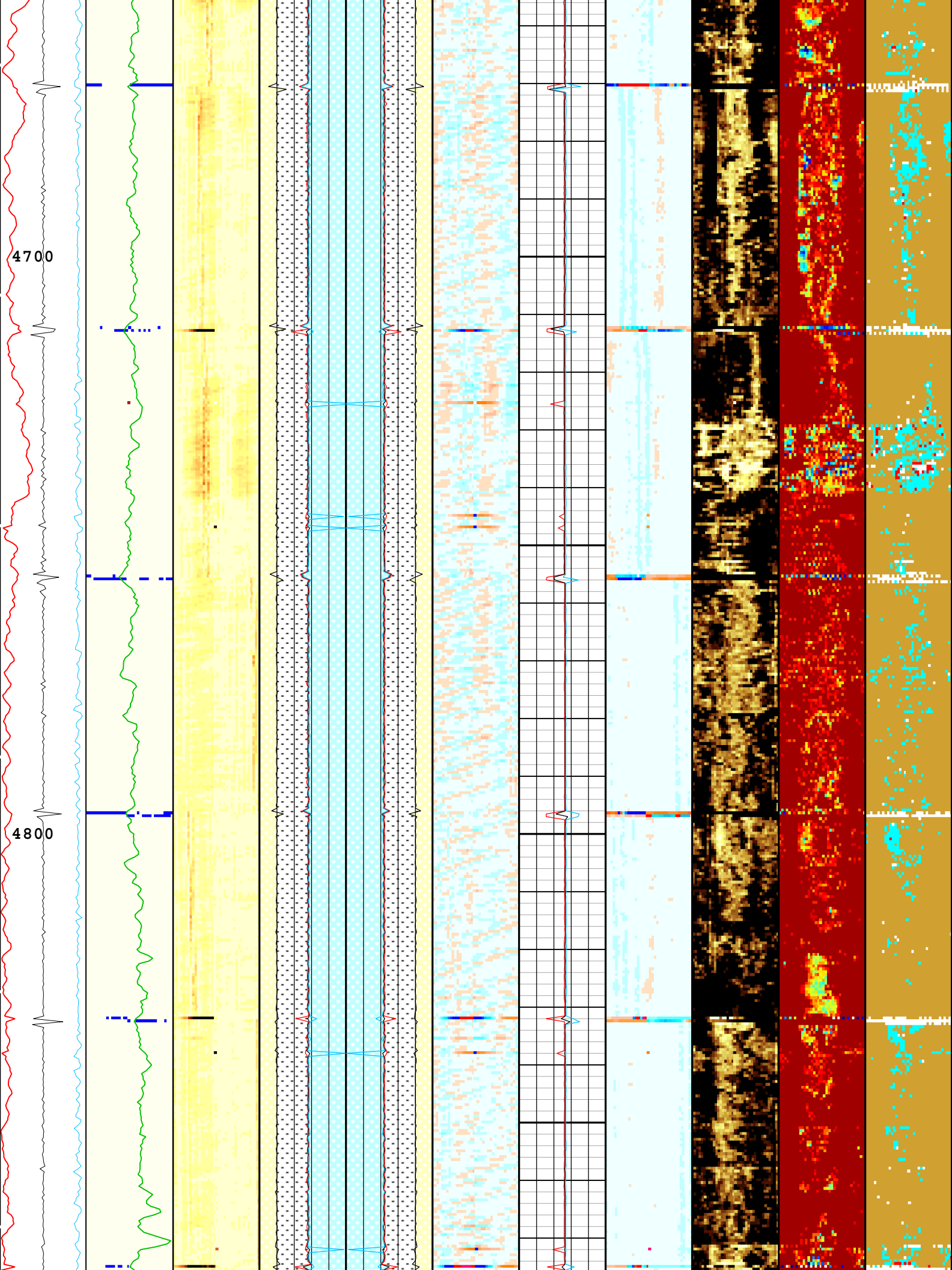


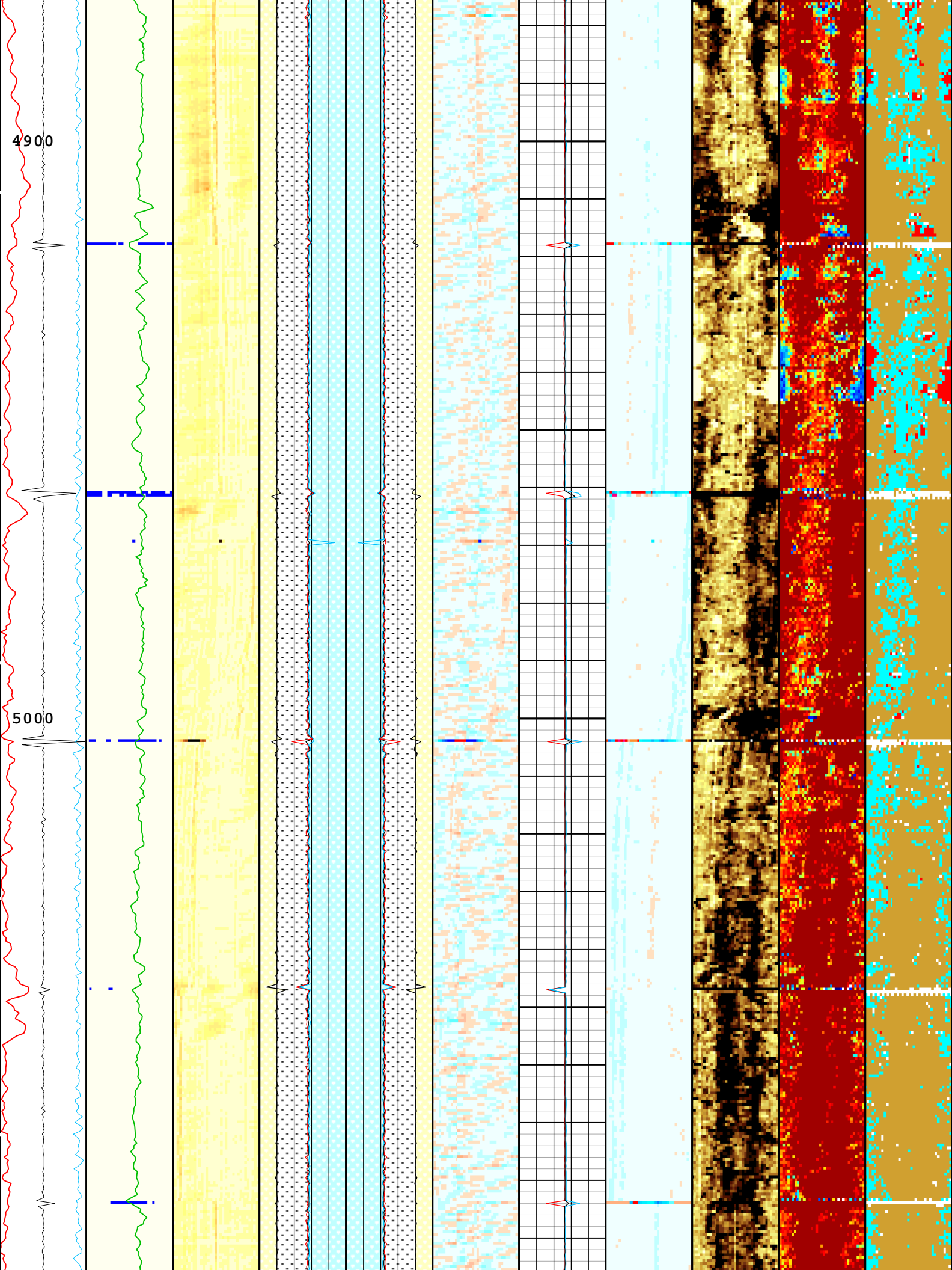


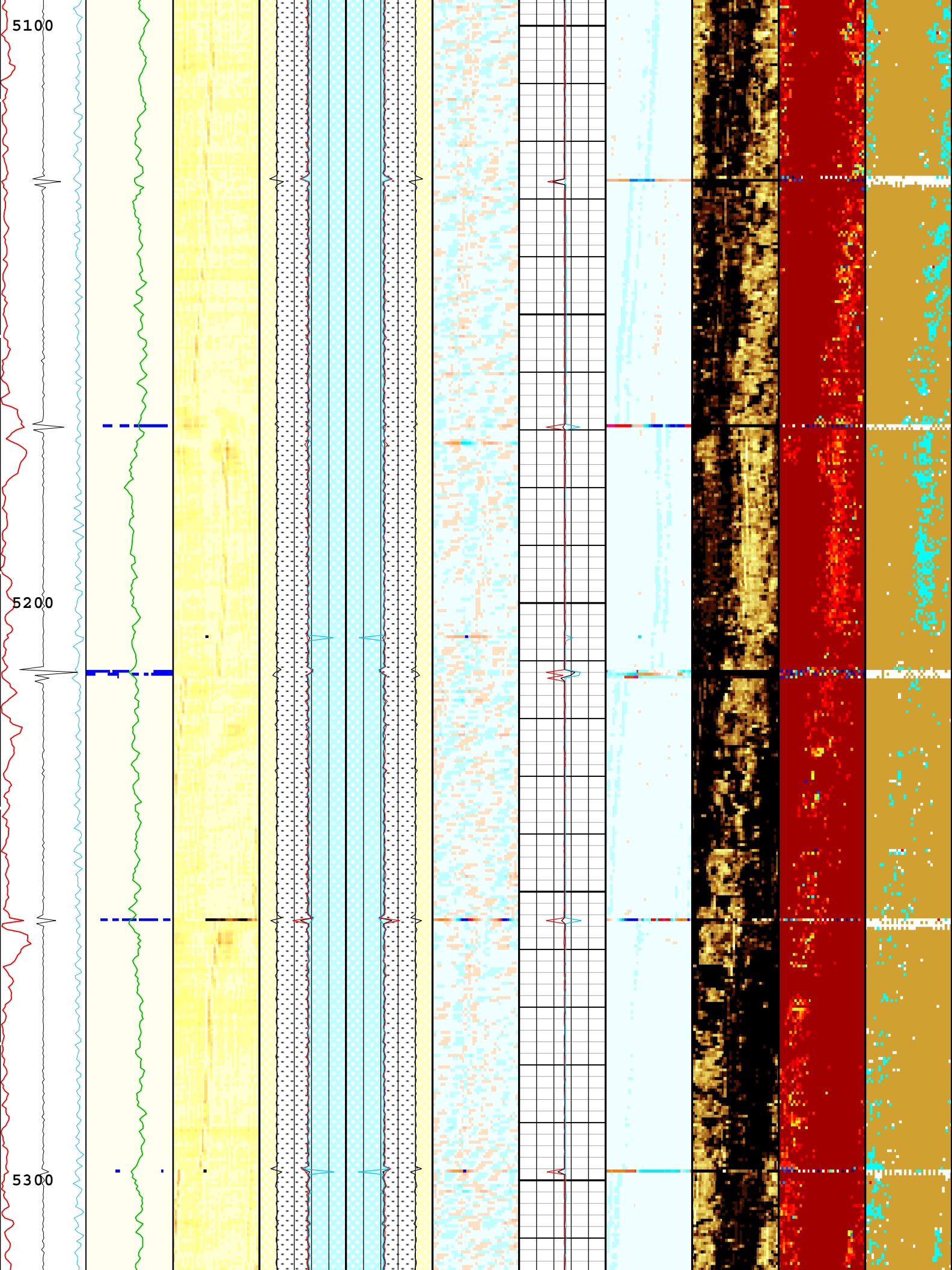


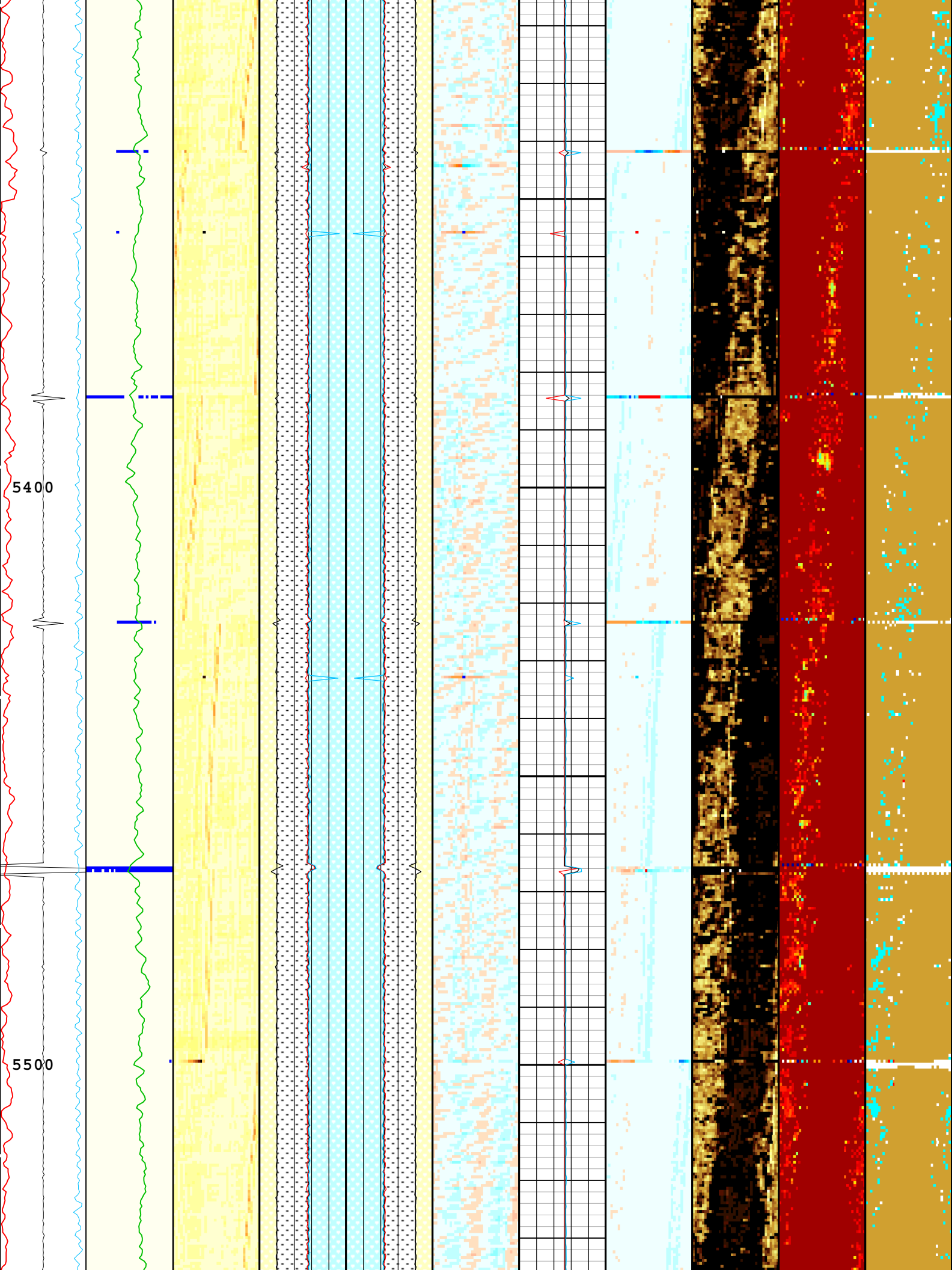


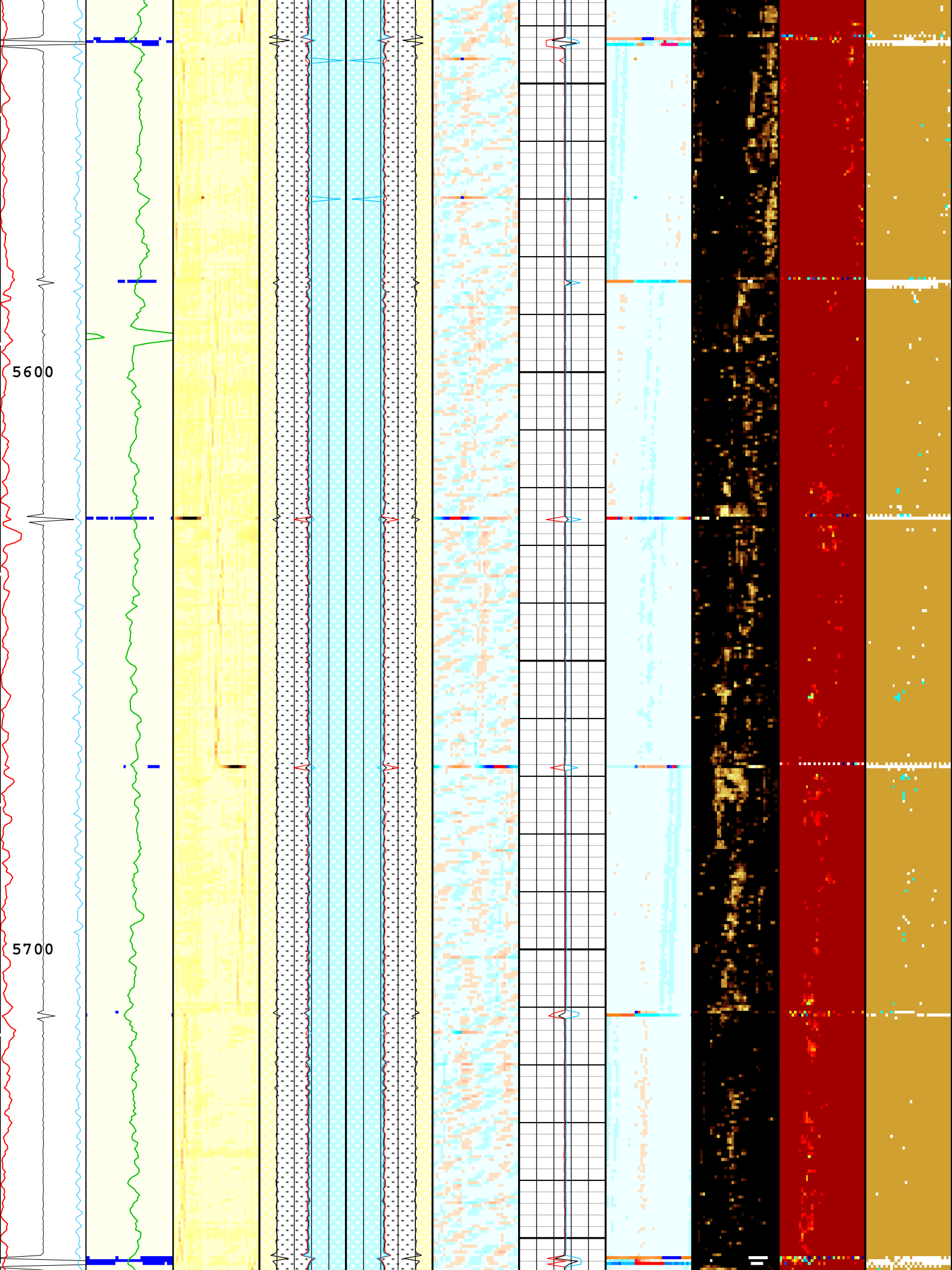


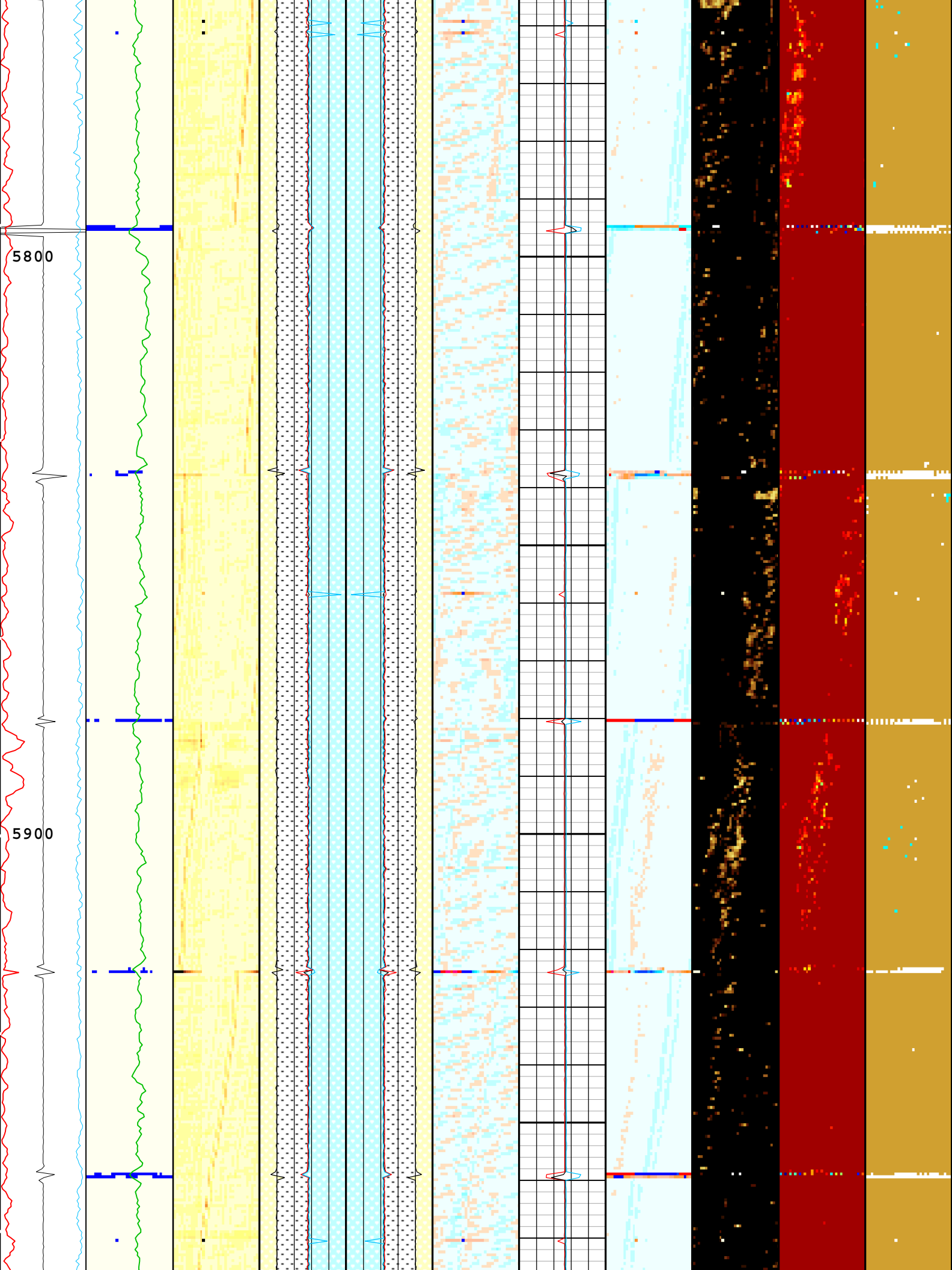


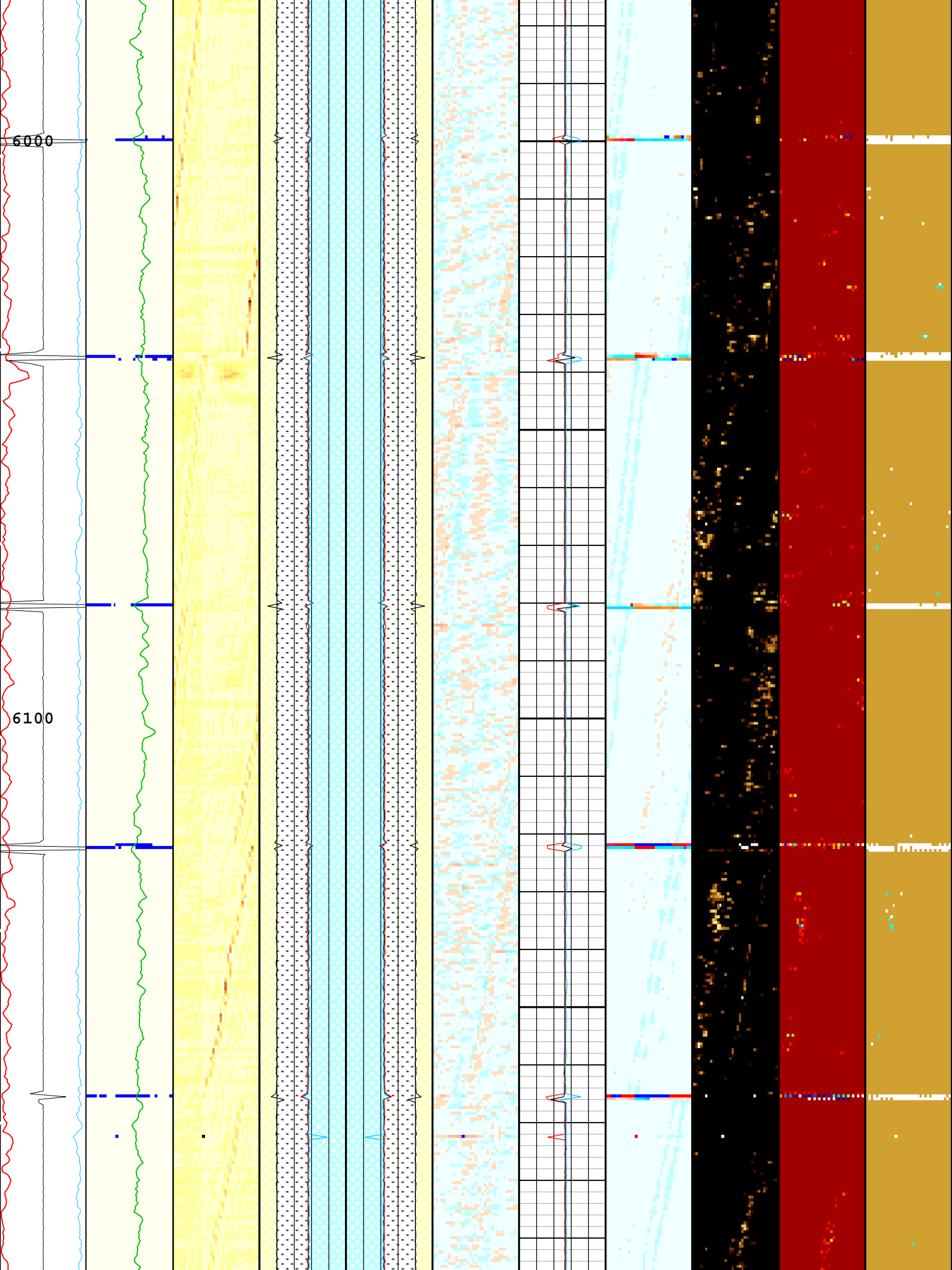


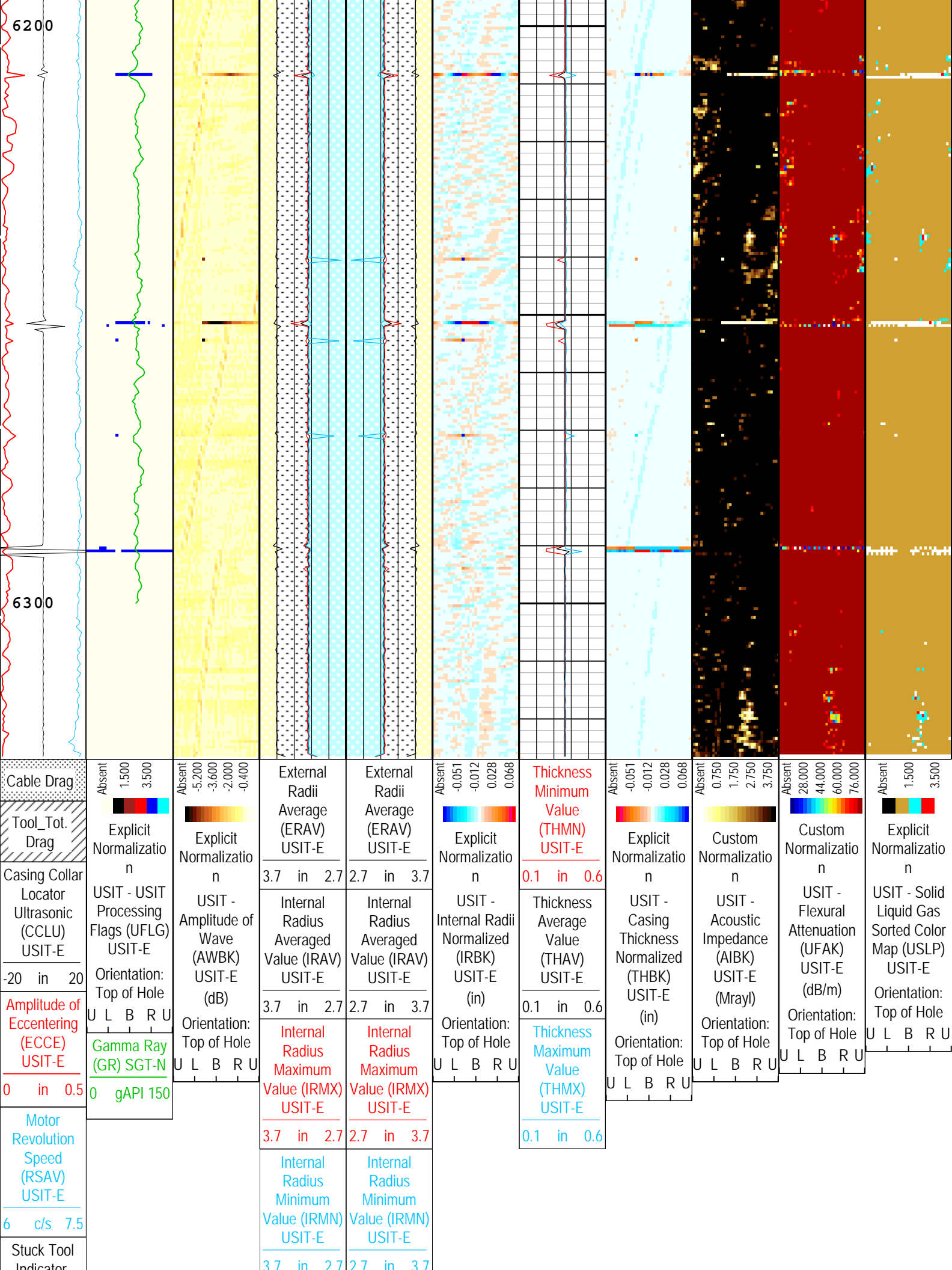












TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Composite Format: USI IBC SLG Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:57:58

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8020	ft
CDEN.1	Cement Density	USIT-E	0	lbm/gal
CDEN.2	Cement Density	SGT-N	16.69	lbm/gal
CMTY	Cement Type	USIT-E	Light Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	2.31	dB/m
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Manual	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-E	0	ft
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	ft
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SOGR	Standoff Distance of the Gamma Ray Tool	SGT-N	0	in
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	6330	ft

THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS	Tool Position: Centered or Eccentered	SGT-N	Eccentered	
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	22.9	dB/m
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	0	1000
BS	8.75	1000	6327
MEAS_WLEN	22.5	0	6327
ZMUD	1.63	0	750
ZMUD	1.64	750	1800
ZMUD	1.65	1800	2800
ZMUD	1.67	2800	3200
ZMUD	1.69	3200	4000
ZMUD	1.71	4000	6327
All depth are actual.			

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
UFWB	Far Receiver Window Begin Time	USIT-E	133	us
UFWE	Far Receiver Window End Time	USIT-E	173	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	102	us
UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6331	ft
USSP	Ultrasonic Service	USIT-E	IBC	

UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	77.61	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	80	20-Jun-2014 13:05:59	20-Jun-2014 13:07:44	6327.38	6278.08
EMXV	88	20-Jun-2014 13:07:44	20-Jun-2014 13:07:51	6278.08	6274.25
EMXV	86	20-Jun-2014 13:07:51	20-Jun-2014 13:07:57	6274.25	6270.87
EMXV	84	20-Jun-2014 13:07:57	20-Jun-2014 13:08:01	6270.87	6268.89
EMXV	82	20-Jun-2014 13:08:01	20-Jun-2014 13:08:03	6268.89	6267.32
EMXV	80	20-Jun-2014 13:08:03	20-Jun-2014 13:08:07	6267.32	6265.57
EMXV	78	20-Jun-2014 13:08:07	20-Jun-2014 13:08:10	6265.57	6263.96
EMXV	76	20-Jun-2014 13:08:10	20-Jun-2014 13:08:15	6263.96	6260.72
EMXV	78	20-Jun-2014 13:08:15	20-Jun-2014 13:08:23	6260.72	6256.78
EMXV	76	20-Jun-2014 13:08:23	20-Jun-2014 13:08:34	6256.78	6250.39
EMXV	78	20-Jun-2014 13:08:34	20-Jun-2014 13:10:33	6250.39	6184.87
EMXV	75	20-Jun-2014 13:10:33	20-Jun-2014 13:13:32	6184.87	6085.06
EMXV	72	20-Jun-2014 13:13:32	20-Jun-2014 13:13:56	6085.06	6071.57
EMXV	70	20-Jun-2014 13:13:56	20-Jun-2014 13:49:05	6071.57	4703.38
EMXV	72	20-Jun-2014 13:49:05	20-Jun-2014 13:49:09	4703.38	4700.17
EMXV	74	20-Jun-2014 13:49:09	20-Jun-2014 14:33:24	4700.17	2919.71
EMXV	76	20-Jun-2014 14:33:24	20-Jun-2014 14:49:11	2919.71	2280.88
EMXV	78	20-Jun-2014 14:49:11	20-Jun-2014 15:00:13	2280.88	1833.46
EMXV	80	20-Jun-2014 15:00:13	20-Jun-2014 15:00:24	1833.46	1825.66
EMXV	82	20-Jun-2014 15:00:24	20-Jun-2014 15:04:16	1825.66	1669.49
EMXV	85	20-Jun-2014 15:04:16	20-Jun-2014 15:04:22	1669.49	1665.33
EMXV	87	20-Jun-2014 15:04:22	20-Jun-2014 15:46:29	1665.33	13.83
UNWE	142	20-Jun-2014 13:05:59	20-Jun-2014 15:03:34	6327.38	1698.24
UNWE	145.13	20-Jun-2014 15:03:34	20-Jun-2014 15:03:37	1698.24	1696.09
UNWE	157.04	20-Jun-2014 15:03:37	20-Jun-2014 15:46:29	1696.09	13.83
WINB	37.61	20-Jun-2014 13:05:59	20-Jun-2014 15:03:50	6327.38	1687.02
WINB	45.89	20-Jun-2014 15:03:50	20-Jun-2014 15:03:54	1687.02	1684.47
WINB	41.96	20-Jun-2014 15:03:54	20-Jun-2014 15:46:29	1684.47	13.83

All depth are at tool zero.

USI IBC SLG			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[4]:Up	6327.38	13.83
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "Manual". CZMD uses ZMUD parameter zoned table below			
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	750	1.63	1.63

Run 1

IBC SLG - 3000 PSI Pass

Software Version

Acquisition System

MaxWell

Version

4.0.9163.3000

Application Patch

Patch-SP-10767_13393-4.0.9163.3001

Computation

DepthCorrection

Description

DepthCorrection

Version

4.0.9213.3000

Tool Elements

USI-SENSOR

USIT Transducer Element

Software Version

4.0.9265.3000

Firmware Version

DSP: v01.82

SGC-TB

Scintillation Gamma Cartridge

4.0.9033.3000

Log

Company:Anadarko Petroleum Company

Well:Spurling 35C-34HZ

Run 1: Main[4]:Up:S007

Description: USI IBC SLG Format: USI IBC SLG Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:08

TIME_1900 - Time Marked every 60.00 (s)

Cable Drag

Casing Collar Locator Ultrasonic (CCLU) USIT-E

-20 in 20

Amplitude of Eccentering (ECCE) USIT-E

0 in 0.5

Motor Revolution Speed (RSAV) USIT-E

6 c/s 7.5

Stuck Tool Indicator, Total (STIT)

0 ft 50

Orientation: Top of Hole

Absent 1.500 3.500

Explicit Normalization

USIT - USIT

Processing Flags (UFLG) USIT-E

Gamma Ray (GR) SGT-N

0 gAPI 150

Orientation: Top of Hole

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - Amplitude of Wave (AWBK) USIT-E (dB)

Acoustic Impedance Minimum (AIMN) USIT-E

0 Mrayl 10

Acoustic Impedance Average (AIAV) USIT-E

0 Mrayl 10

Acoustic Impedance Maximum (AIMX) USIT-E

0 Mrayl 10

Orientation: Top of Hole

Absent 0.750 1.750 2.750 3.750

Custom Normalization

USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Minimum Flexural Attenuation (UFAN) USIT-E

20 dB/m 120

Average Flexural Attenuation (UFAV) USIT-E

20 dB/m 120

Maximum Flexural Attenuation (UFAX) USIT-E

20 dB/m 120

Orientation: Top of Hole

Absent 28.000 44.000 60.000 76.000

Custom Normalization

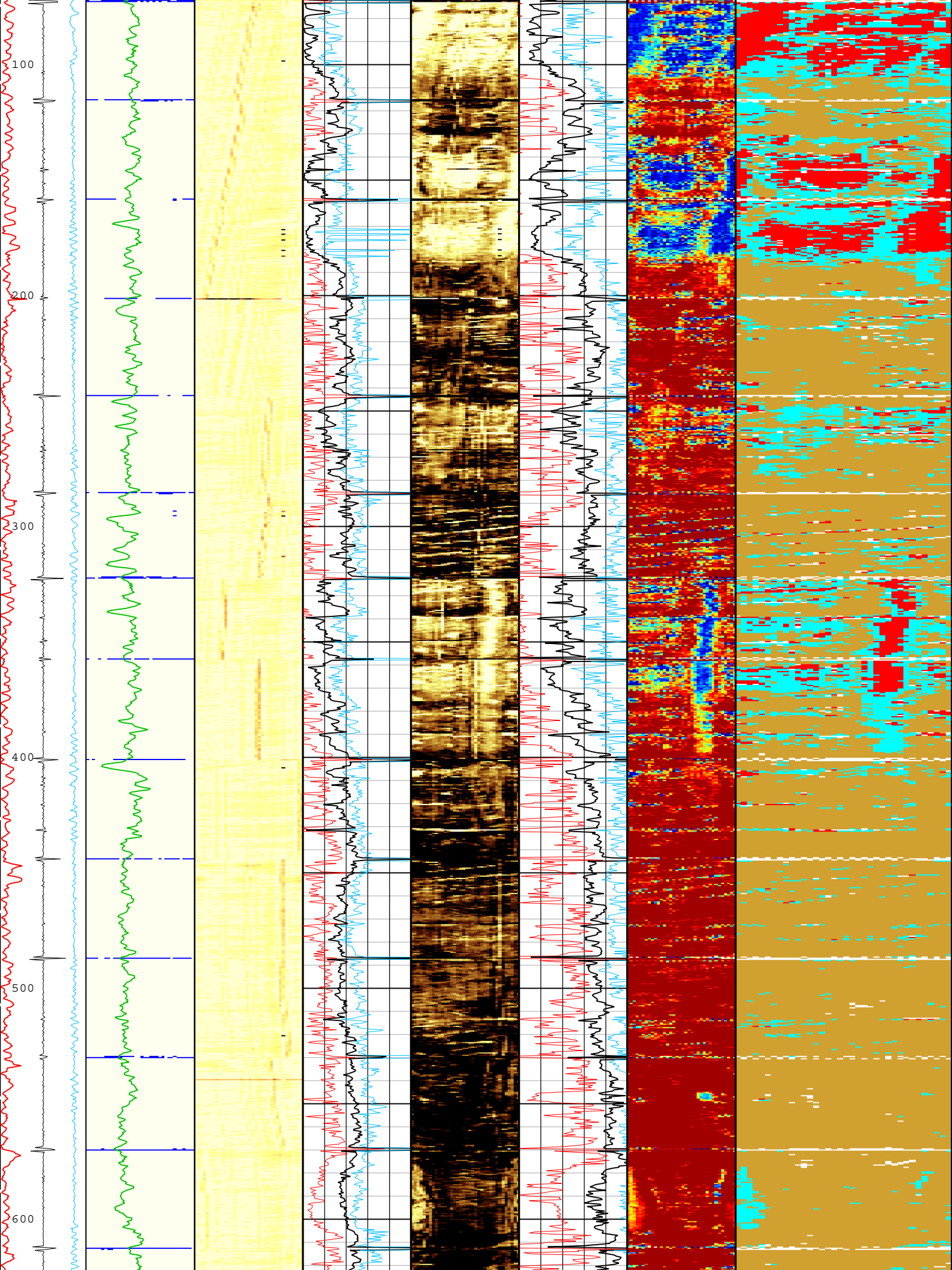
USIT - Flexural Attenuation (UFAX) USIT-E (dB/m)

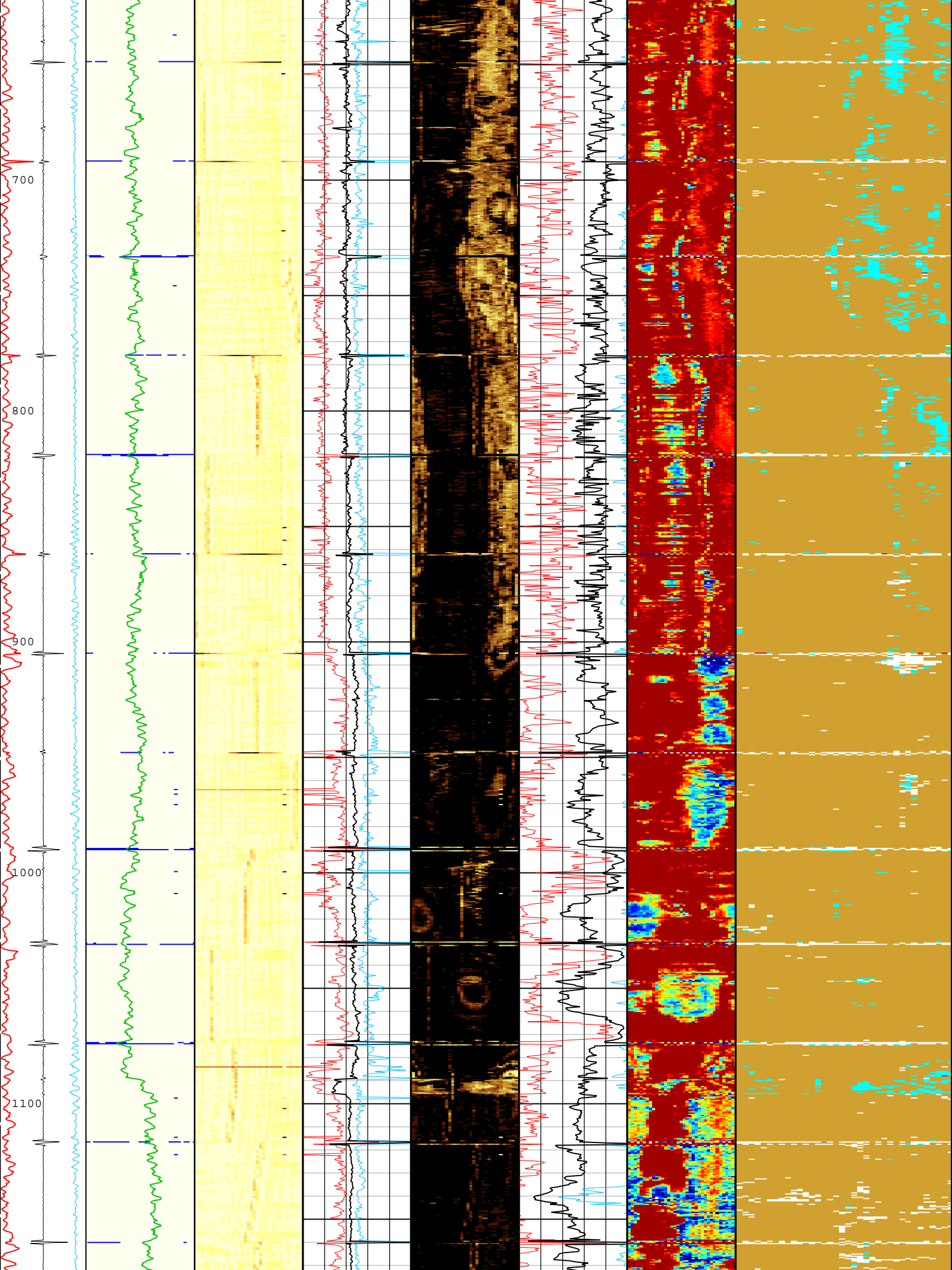
Orientation: Top of Hole

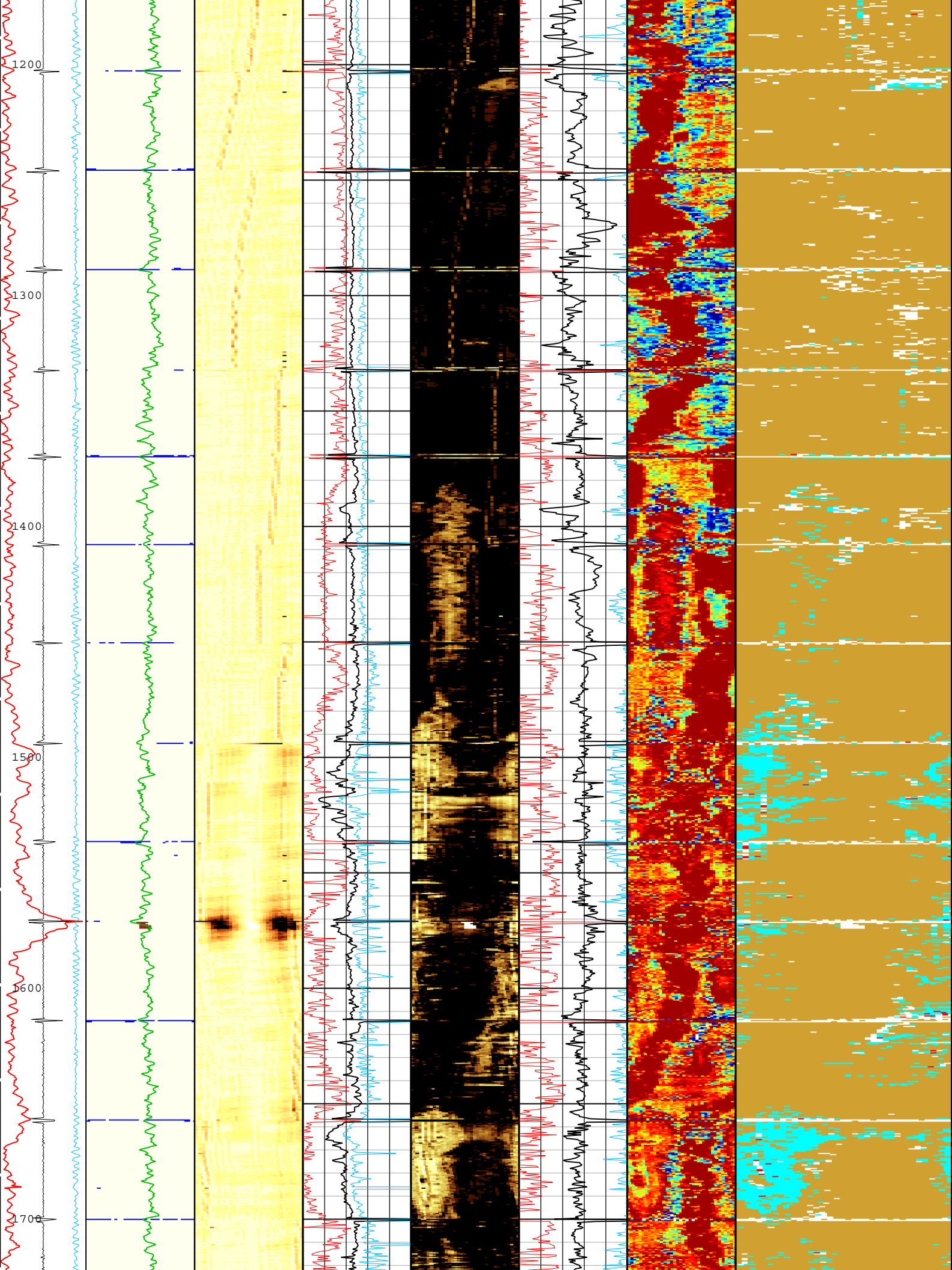
Absent 0.500 1.500 2.500 3.500

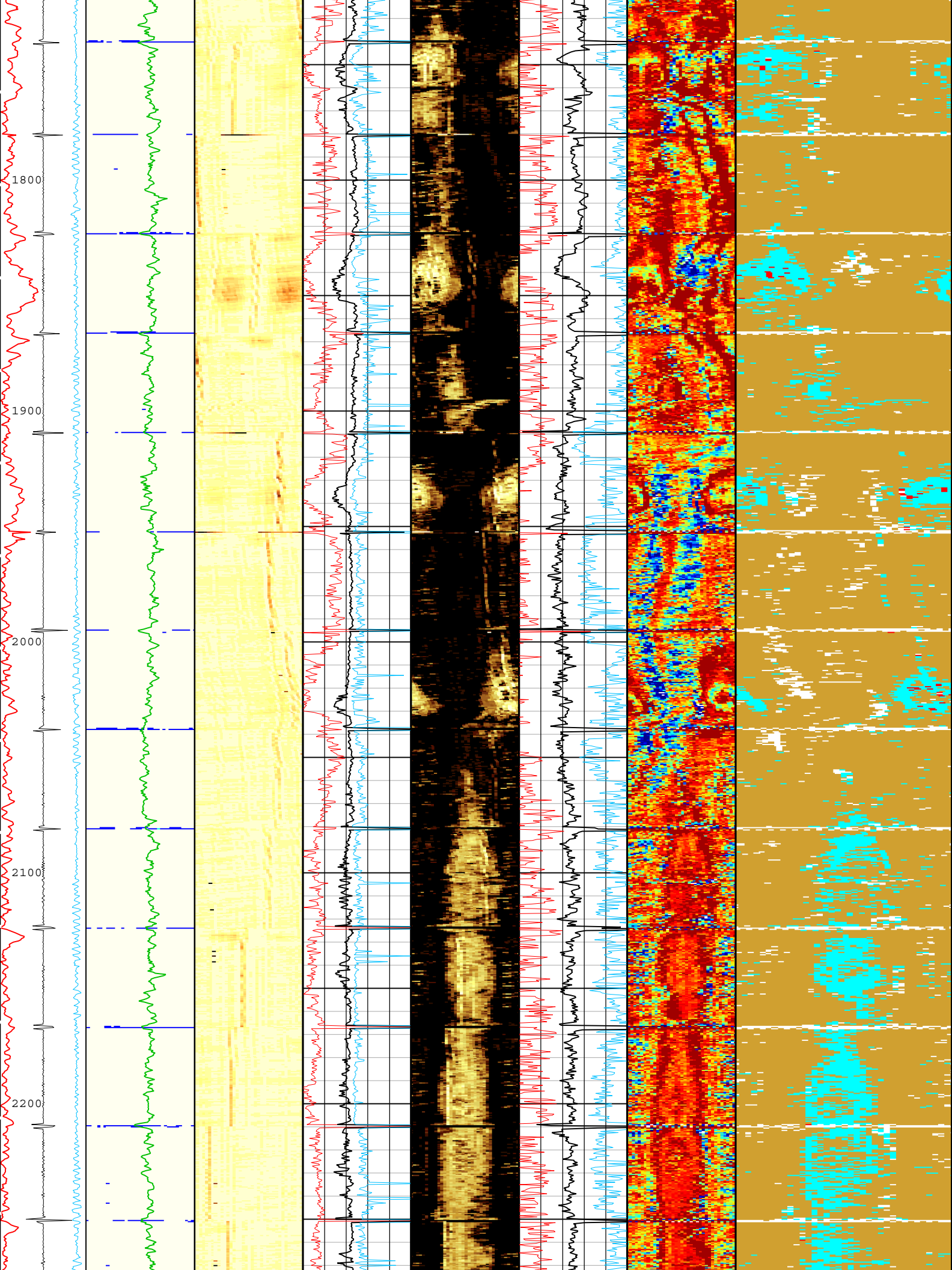
Explicit Normalization

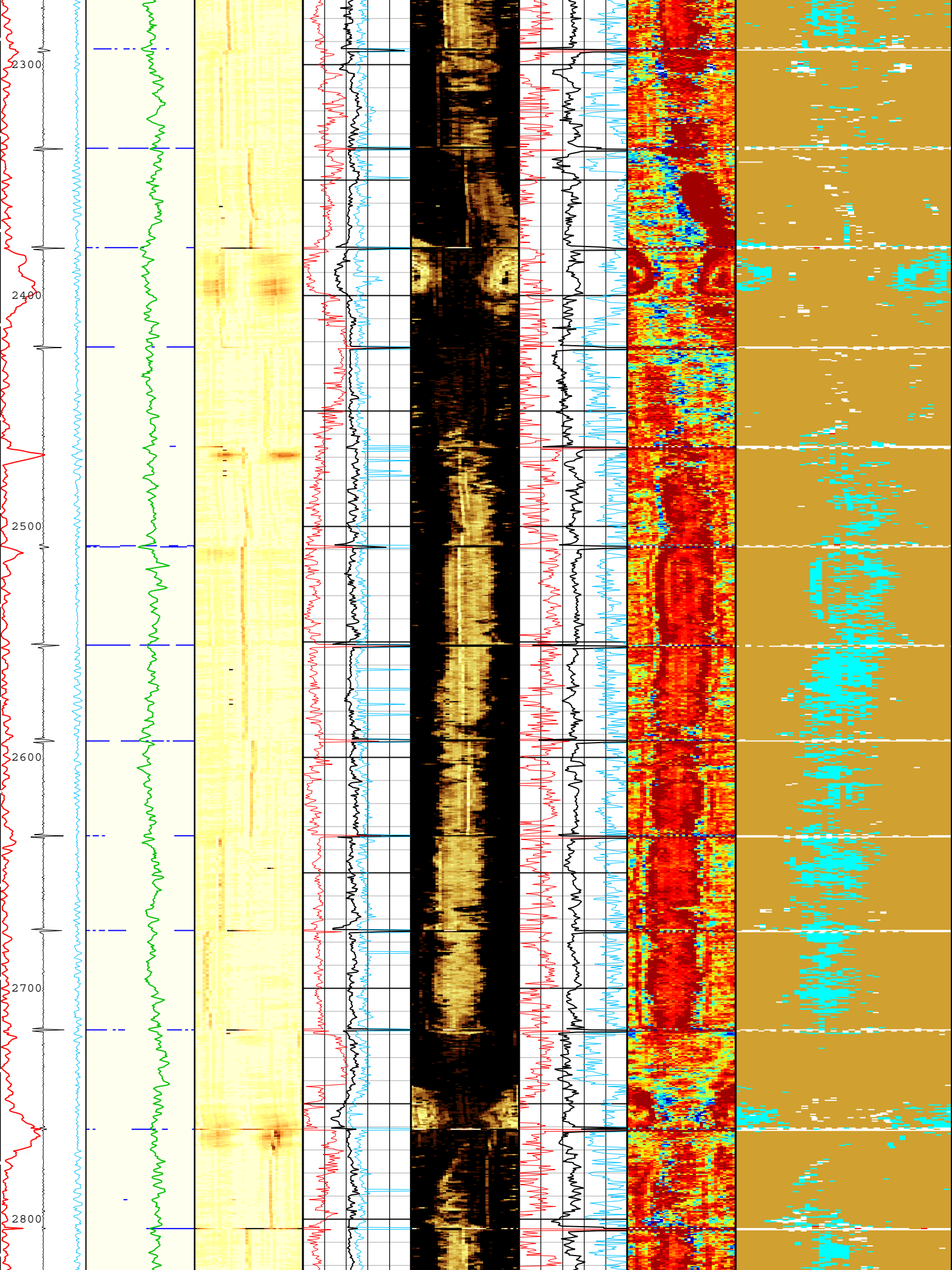
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E

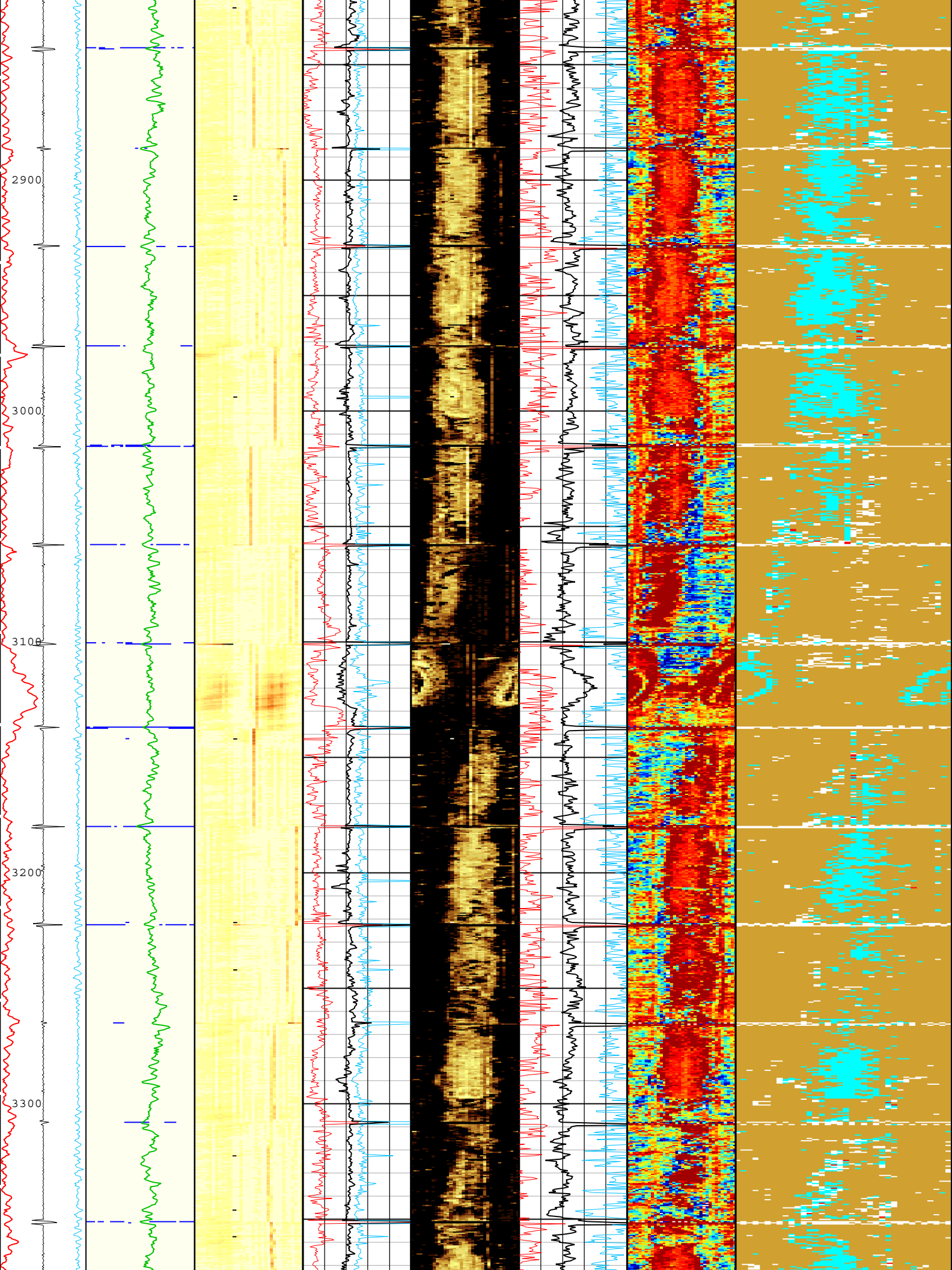


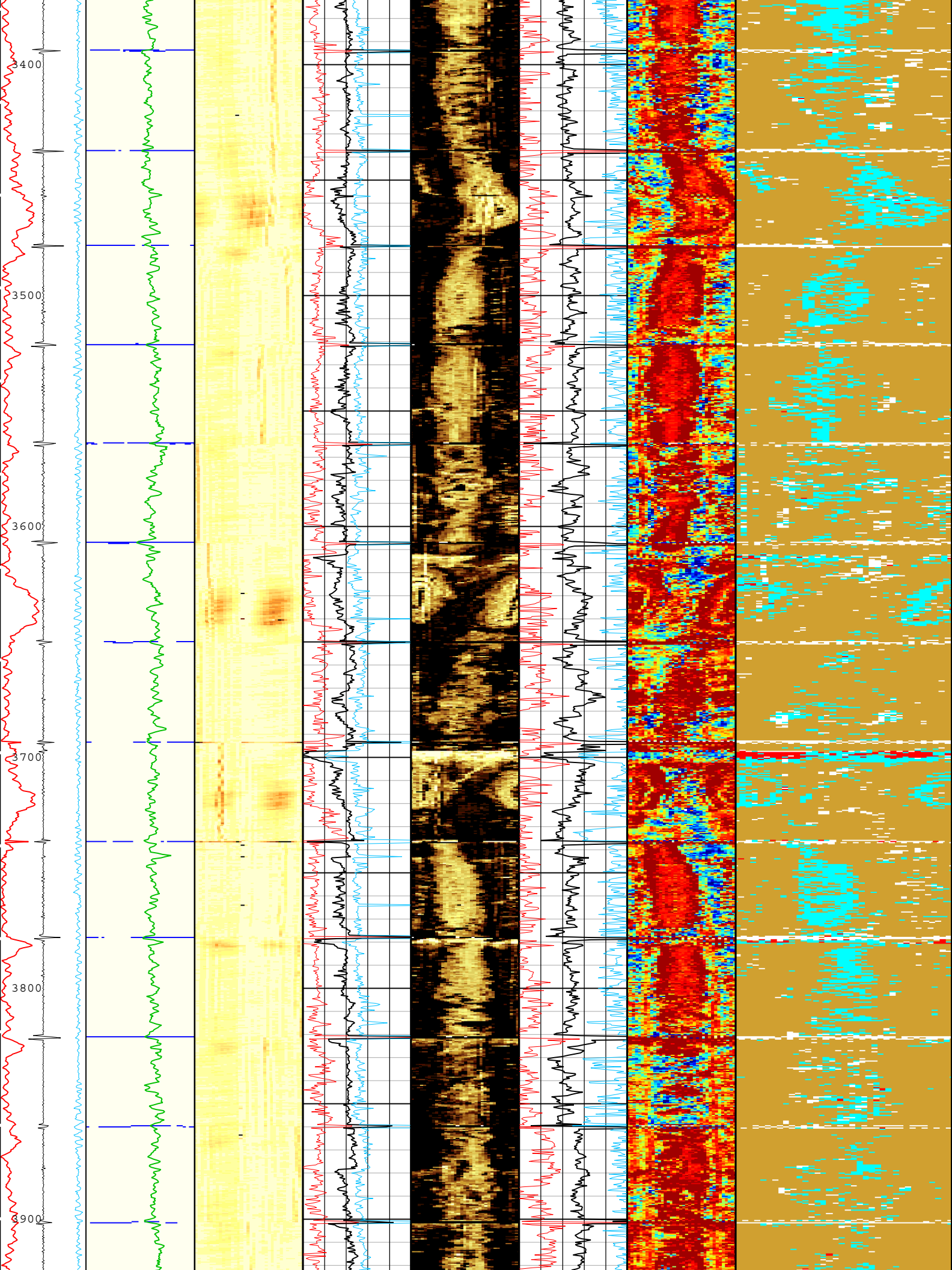


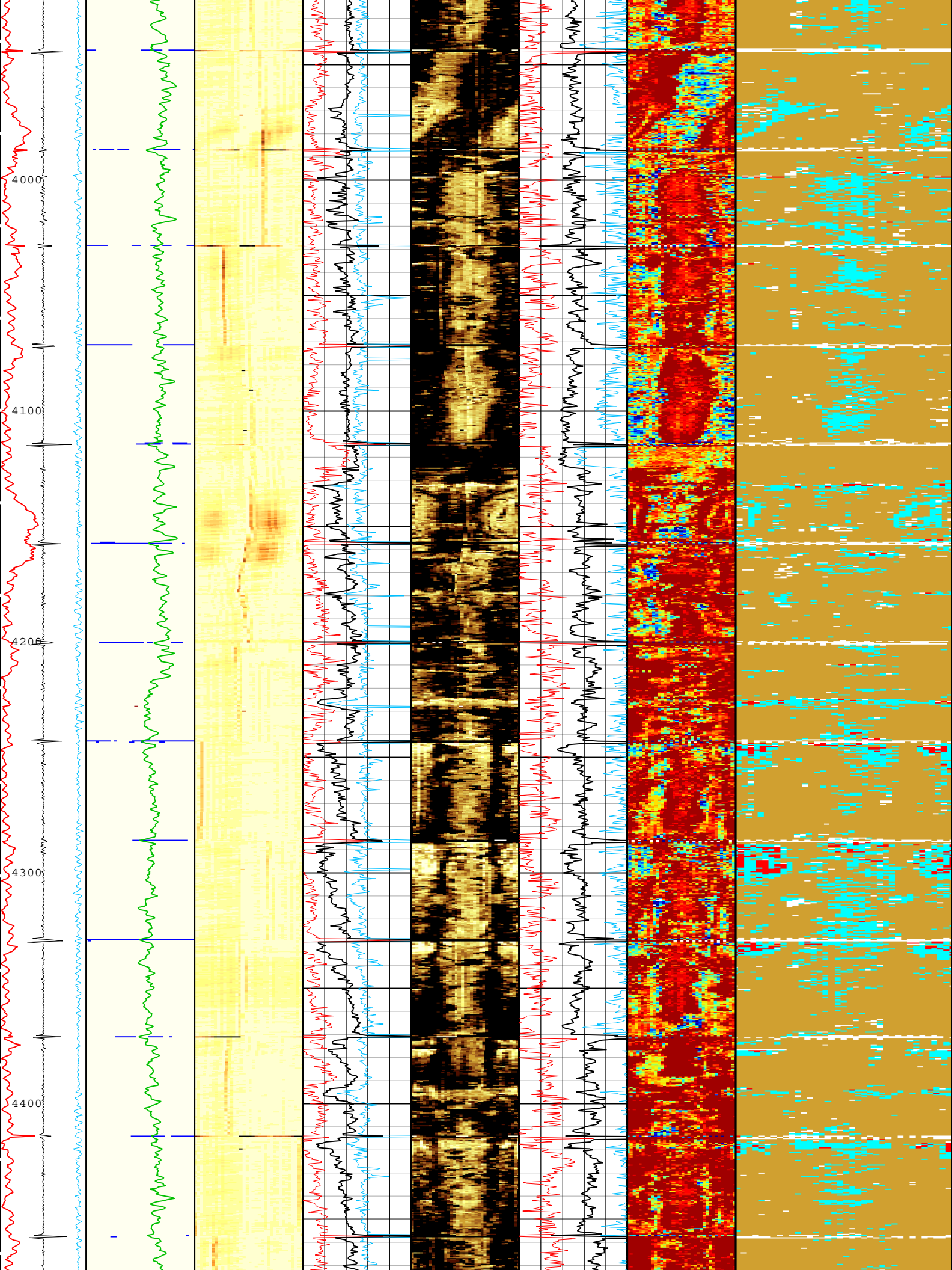


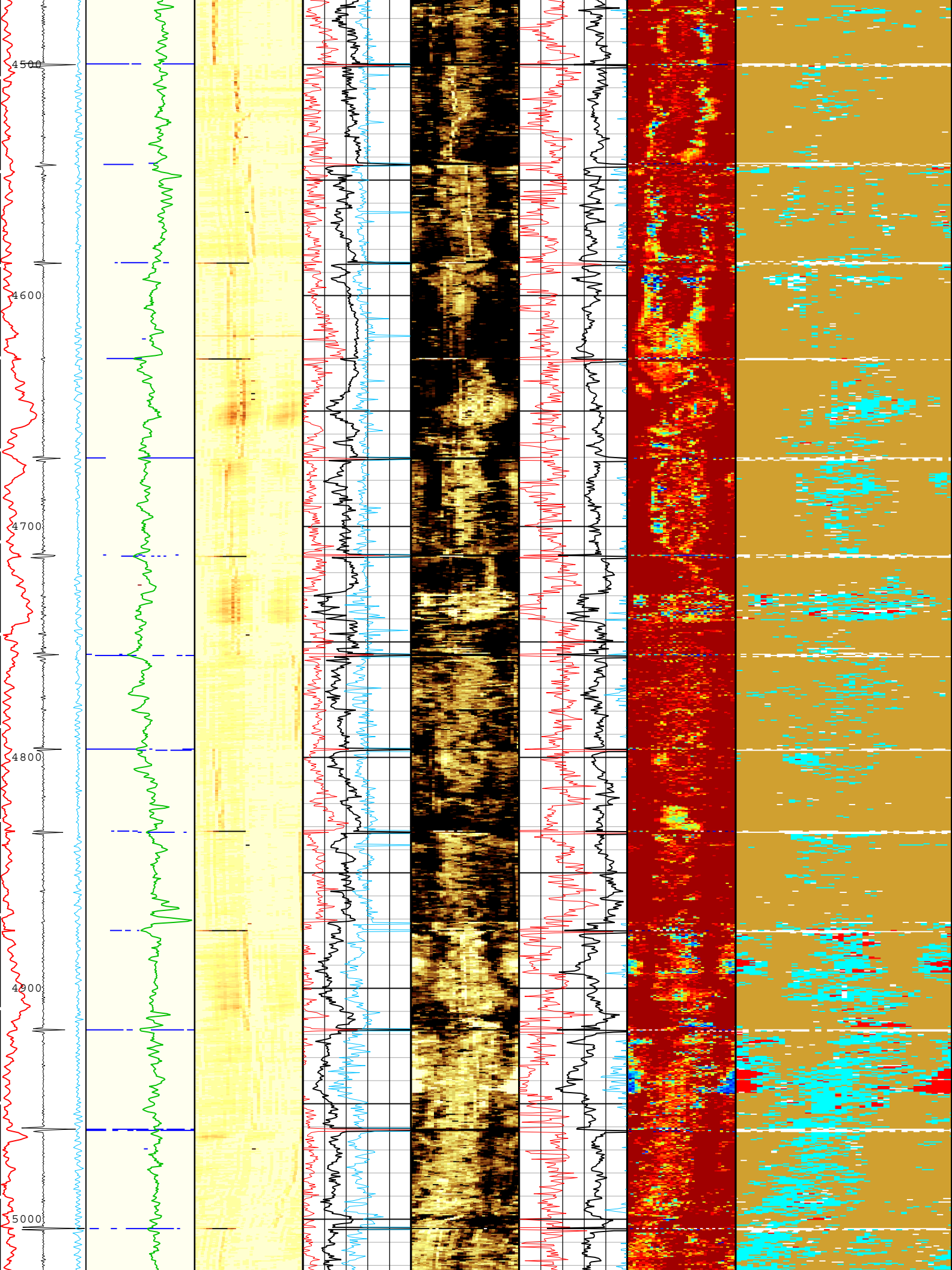


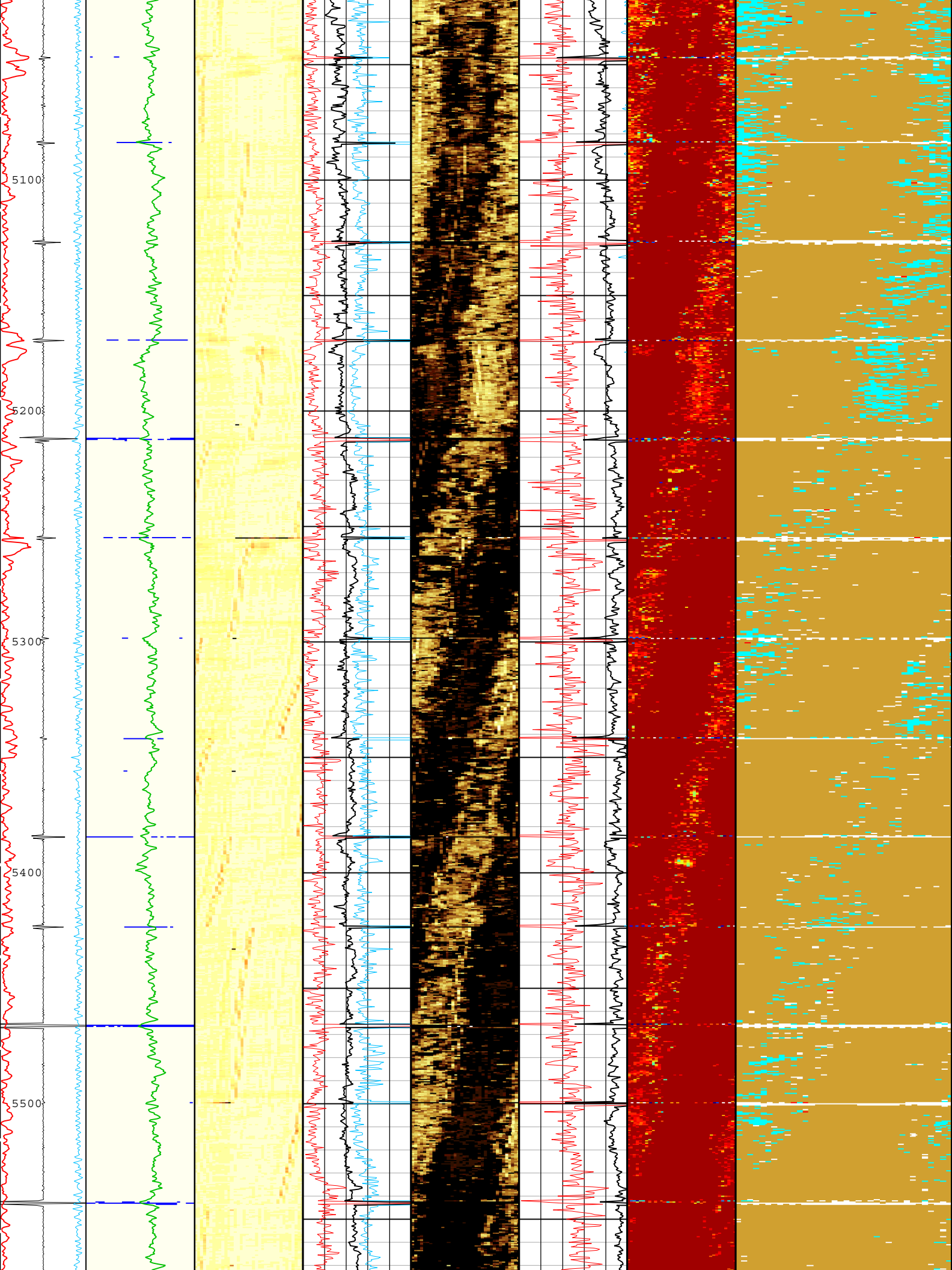


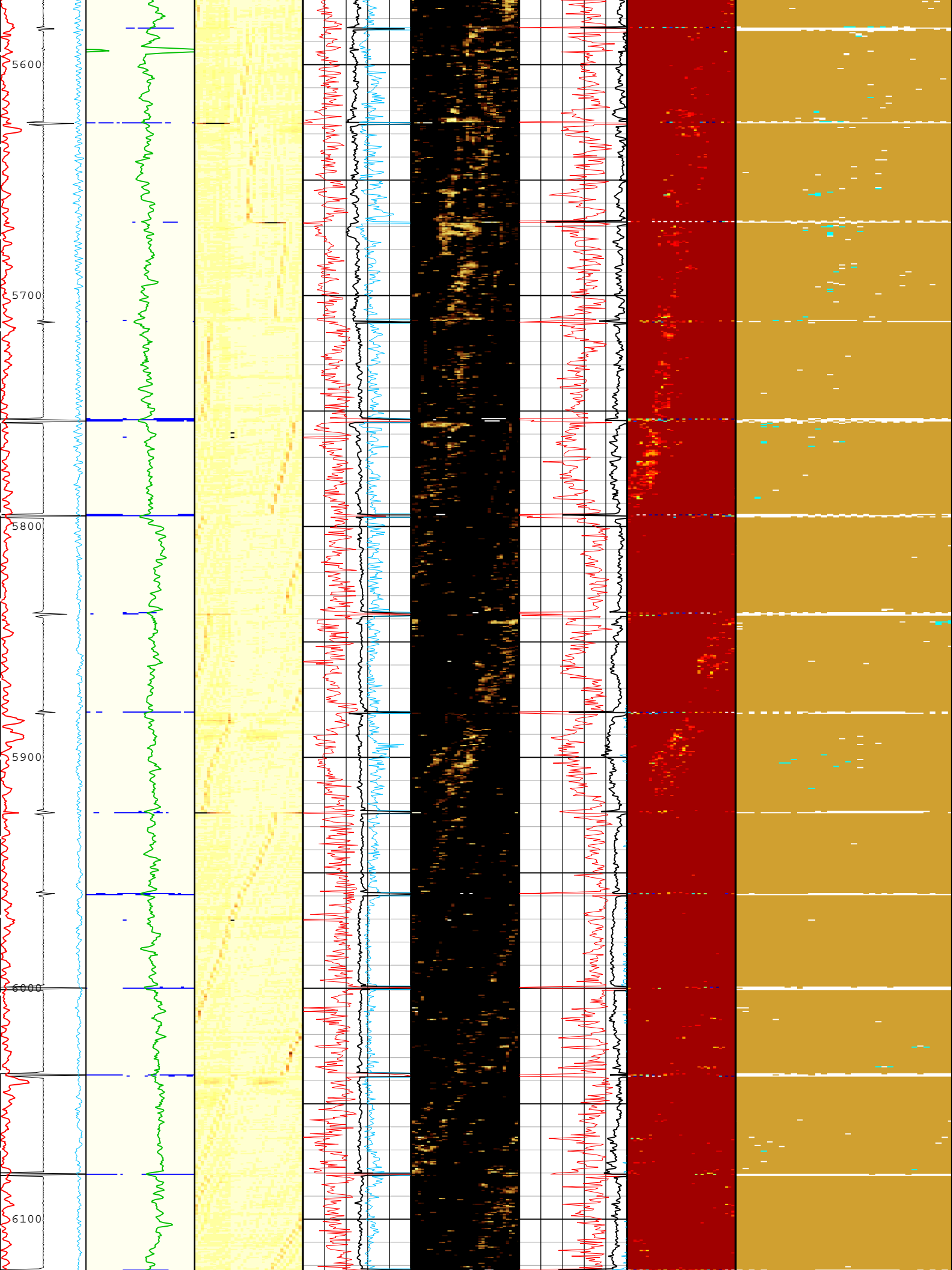


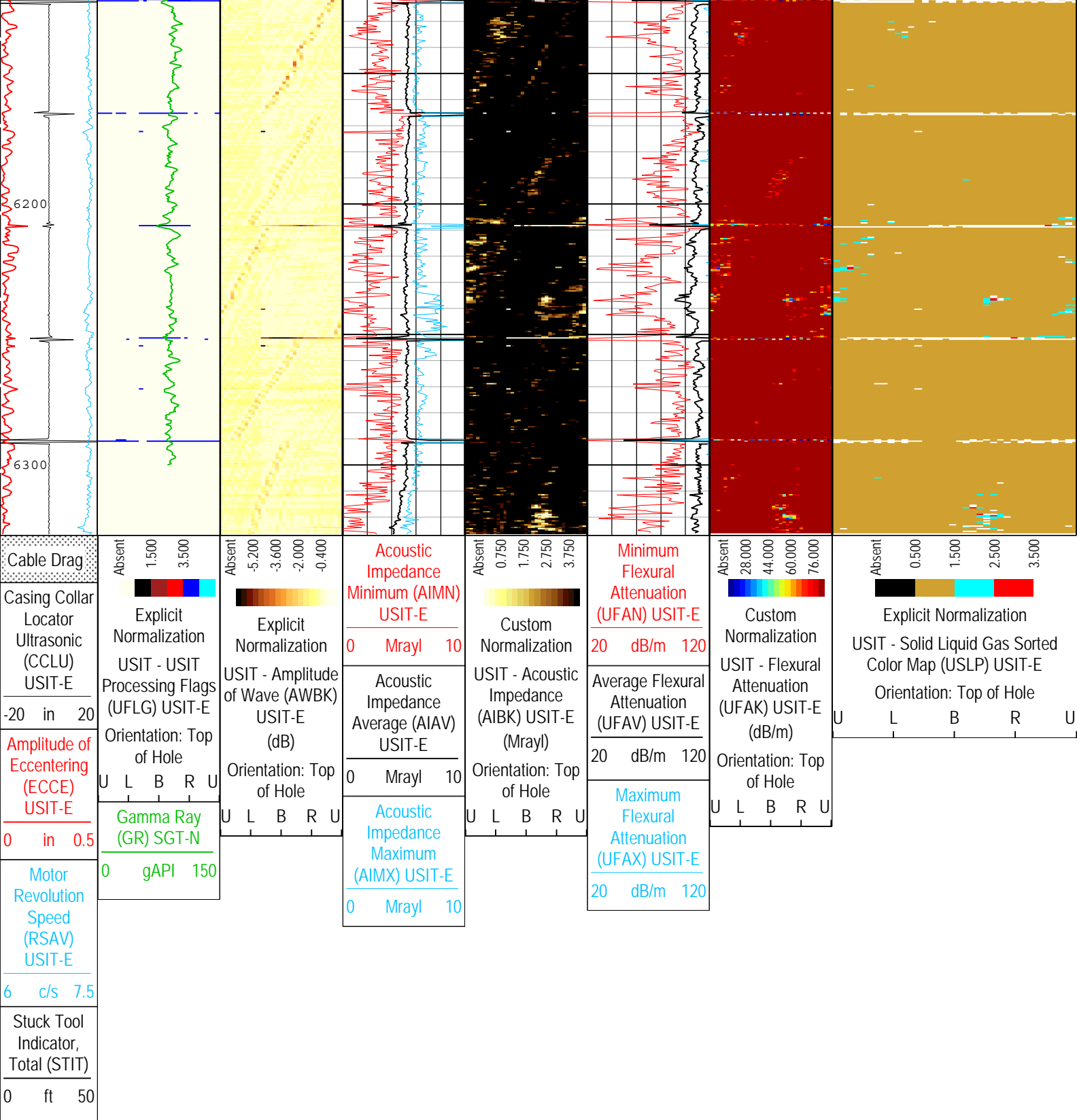












TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Format: USI IBC SLG Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:08

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8020	ft

CDEN.1	Cement Density	USIT-E	0	lbm/gal
CDEN.2	Cement Density	SGT-N	16.69	lbm/gal
CMTY	Cement Type	USIT-E	Light Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	2.31	dB/m
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Manual	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-E	0	ft
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	ft
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SOGR	Standoff Distance of the Gamma Ray Tool	SGT-N	0	in
TCUB	T*3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	6330	ft
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS	Tool Position: Centered or Eccentered	SGT-N	Eccentered	
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	22.9	dB/m
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl

ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	0	1000
BS	8.75	1000	6327
MEAS_WLEN	22.5	0	6327
ZMUD	1.63	0	750
ZMUD	1.64	750	1800
ZMUD	1.65	1800	2800
ZMUD	1.67	2800	3200
ZMUD	1.69	3200	4000
ZMUD	1.71	4000	6327

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
UFWB	Far Receiver Window Begin Time	USIT-E	133	us
UFWE	Far Receiver Window End Time	USIT-E	173	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	102	us
UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6331	ft
USSP	Ultrasonic Service	USIT-E	IBC	
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	77.61	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	80	20-Jun-2014 13:05:59	20-Jun-2014 13:07:44	6327.38	6278.08
EMXV	88	20-Jun-2014 13:07:44	20-Jun-2014 13:07:51	6278.08	6274.25
EMXV	86	20-Jun-2014 13:07:51	20-Jun-2014 13:07:57	6274.25	6270.87
EMXV	84	20-Jun-2014 13:07:57	20-Jun-2014 13:08:01	6270.87	6268.89
EMXV	82	20-Jun-2014 13:08:01	20-Jun-2014 13:08:03	6268.89	6267.32
EMXV	80	20-Jun-2014 13:08:03	20-Jun-2014 13:08:07	6267.32	6265.57
EMXV	78	20-Jun-2014 13:08:07	20-Jun-2014 13:08:10	6265.57	6263.96

EMXV	78	20-Jun-2014 13:08:07	20-Jun-2014 13:08:10	6263.96	6260.72
EMXV	76	20-Jun-2014 13:08:10	20-Jun-2014 13:08:15	6263.96	6260.72
EMXV	78	20-Jun-2014 13:08:15	20-Jun-2014 13:08:23	6260.72	6256.78
EMXV	76	20-Jun-2014 13:08:23	20-Jun-2014 13:08:34	6256.78	6250.39
EMXV	78	20-Jun-2014 13:08:34	20-Jun-2014 13:10:33	6250.39	6184.87
EMXV	75	20-Jun-2014 13:10:33	20-Jun-2014 13:13:32	6184.87	6085.06
EMXV	72	20-Jun-2014 13:13:32	20-Jun-2014 13:13:56	6085.06	6071.57
EMXV	70	20-Jun-2014 13:13:56	20-Jun-2014 13:49:05	6071.57	4703.38
EMXV	72	20-Jun-2014 13:49:05	20-Jun-2014 13:49:09	4703.38	4700.17
EMXV	74	20-Jun-2014 13:49:09	20-Jun-2014 14:33:24	4700.17	2919.71
EMXV	76	20-Jun-2014 14:33:24	20-Jun-2014 14:49:11	2919.71	2280.88
EMXV	78	20-Jun-2014 14:49:11	20-Jun-2014 15:00:13	2280.88	1833.46
EMXV	80	20-Jun-2014 15:00:13	20-Jun-2014 15:00:24	1833.46	1825.66
EMXV	82	20-Jun-2014 15:00:24	20-Jun-2014 15:04:16	1825.66	1669.49
EMXV	85	20-Jun-2014 15:04:16	20-Jun-2014 15:04:22	1669.49	1665.33
EMXV	87	20-Jun-2014 15:04:22	20-Jun-2014 15:46:29	1665.33	13.83
UNWE	142	20-Jun-2014 13:05:59	20-Jun-2014 15:03:34	6327.38	1698.24
UNWE	145.13	20-Jun-2014 15:03:34	20-Jun-2014 15:03:37	1698.24	1696.09
UNWE	157.04	20-Jun-2014 15:03:37	20-Jun-2014 15:46:29	1696.09	13.83
WINB	37.61	20-Jun-2014 13:05:59	20-Jun-2014 15:03:50	6327.38	1687.02
WINB	45.89	20-Jun-2014 15:03:50	20-Jun-2014 15:03:54	1687.02	1684.47
WINB	41.96	20-Jun-2014 15:03:54	20-Jun-2014 15:46:29	1684.47	13.83

All depth are at tool zero.

USI Goodwin			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[4]:Up	6327.38	13.83
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "Manual". CZMD uses ZMUD parameter zoned table below			
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	750	1.63	1.63
750	1800	1.64	1.64
1800	2800	1.65	1.65
2800	3200	1.67	1.67
3200	4000	1.69	1.69
4000		1.71	1.71

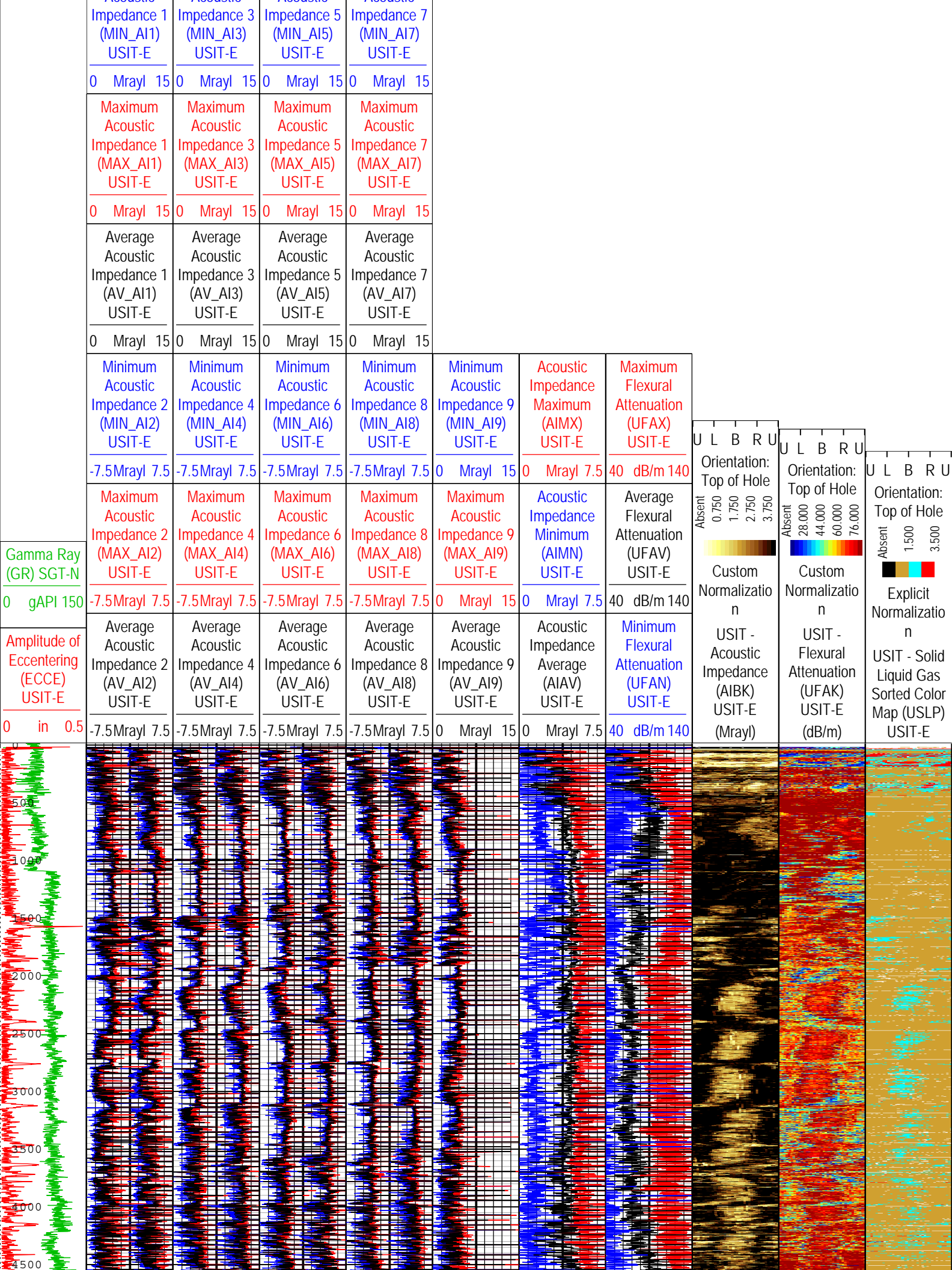
Run 1			
IBC Goodwin Compressed - 3000 PSI Pass			

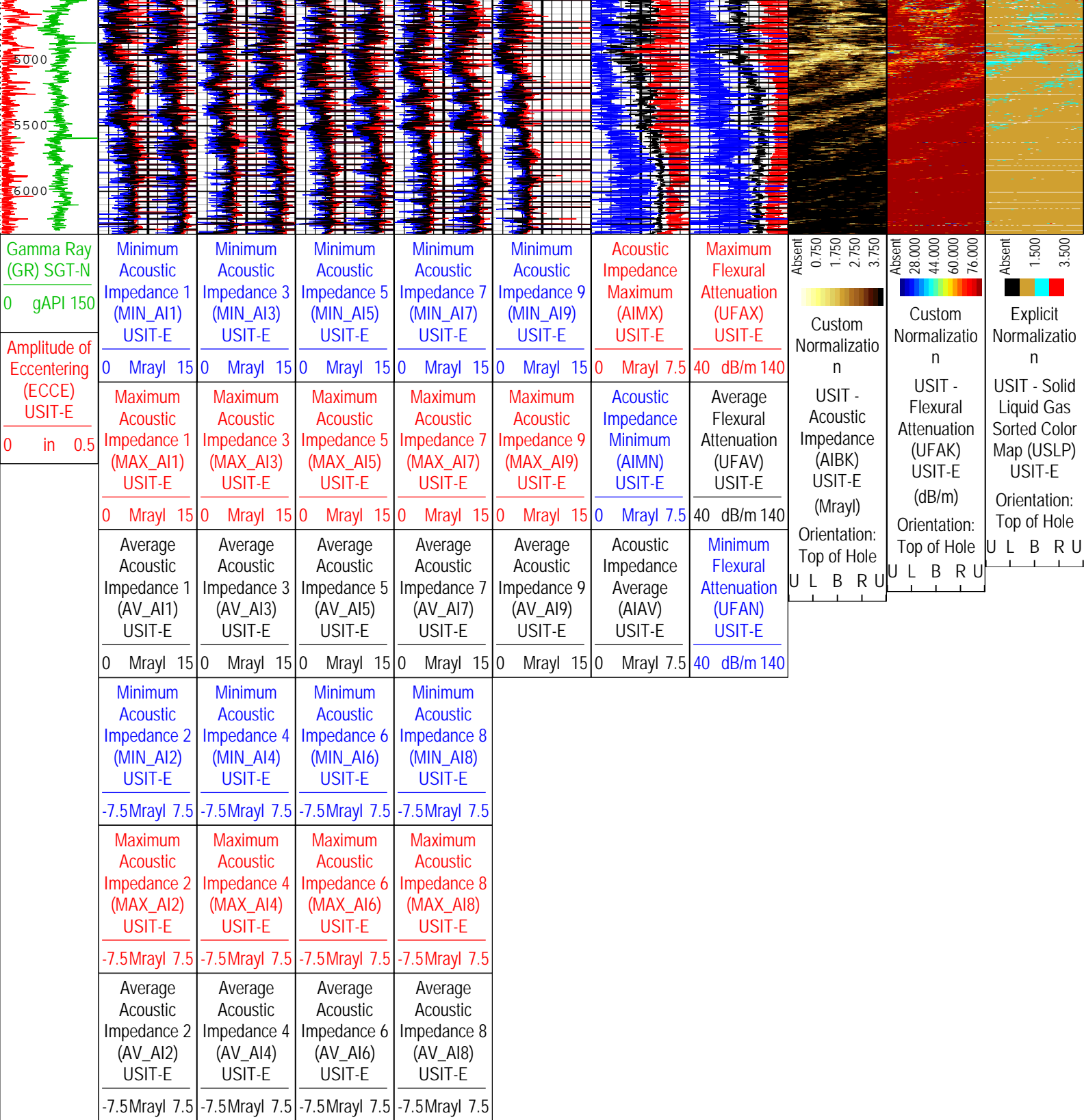
Log	Company:Anadarko Petroleum Company	Well:Spurling 35C-34HZ
		Run 1: Main[4]:Up:S007

Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:13

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic	Minimum Acoustic	Minimum Acoustic	Minimum Acoustic
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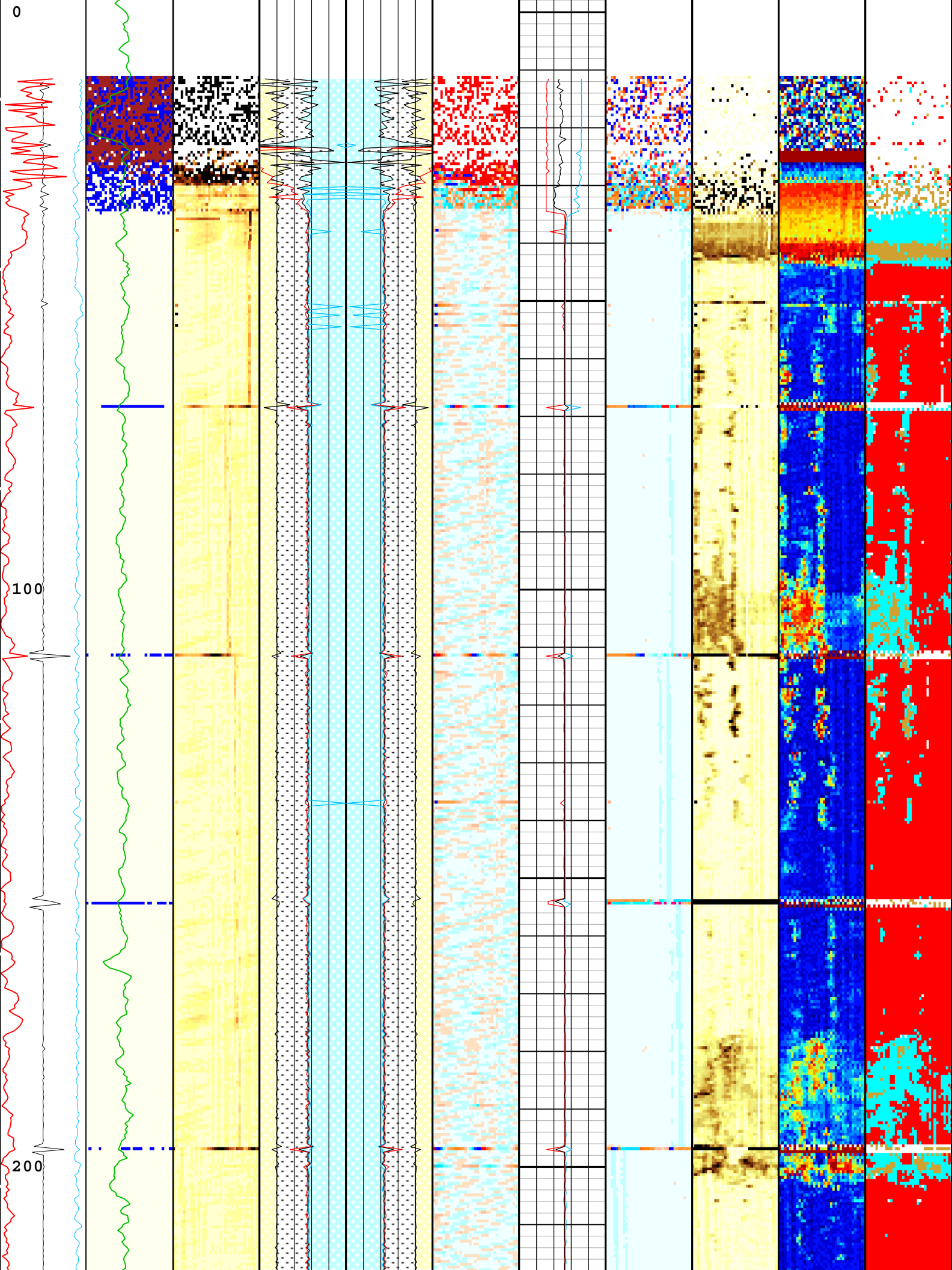


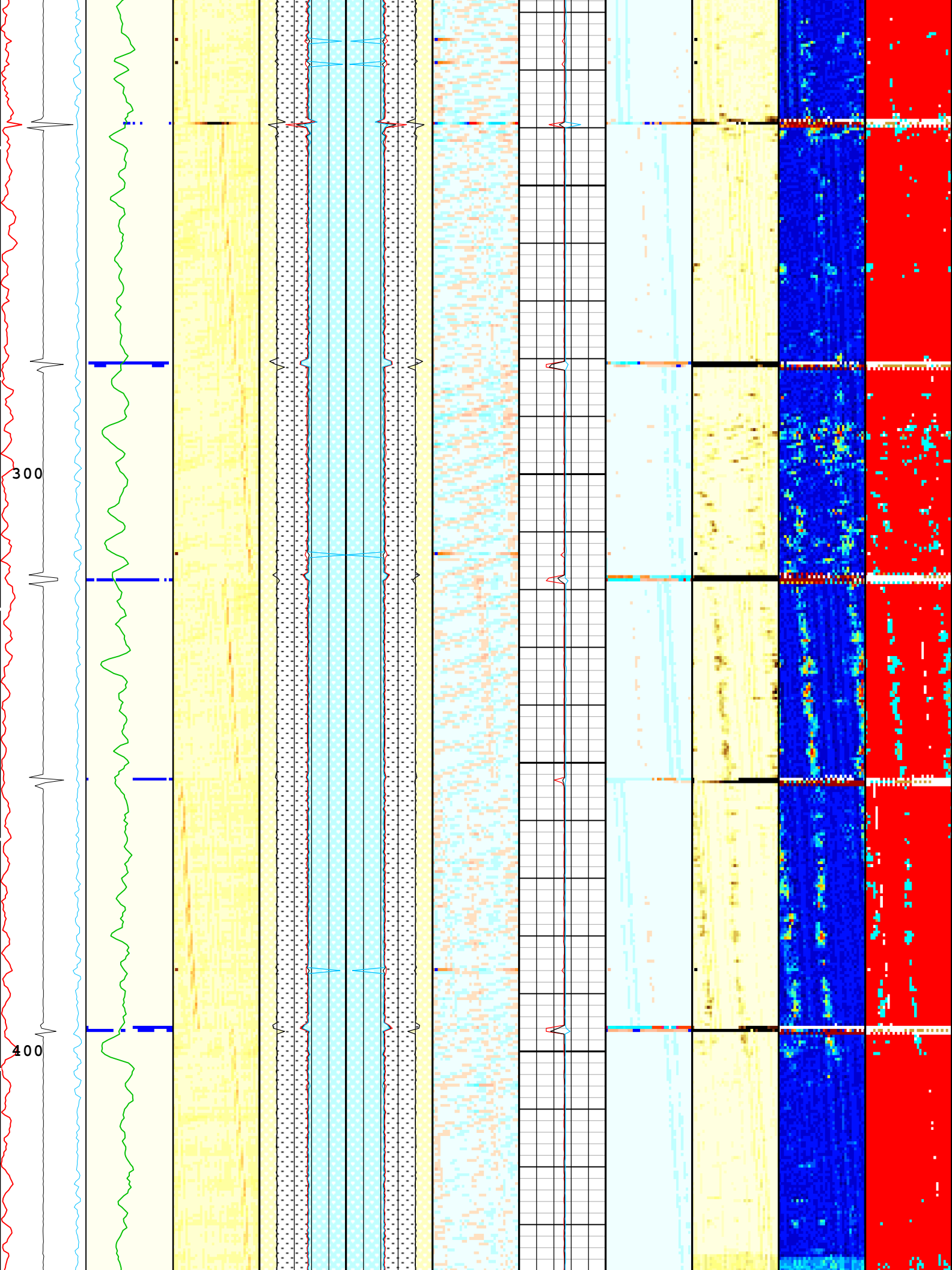


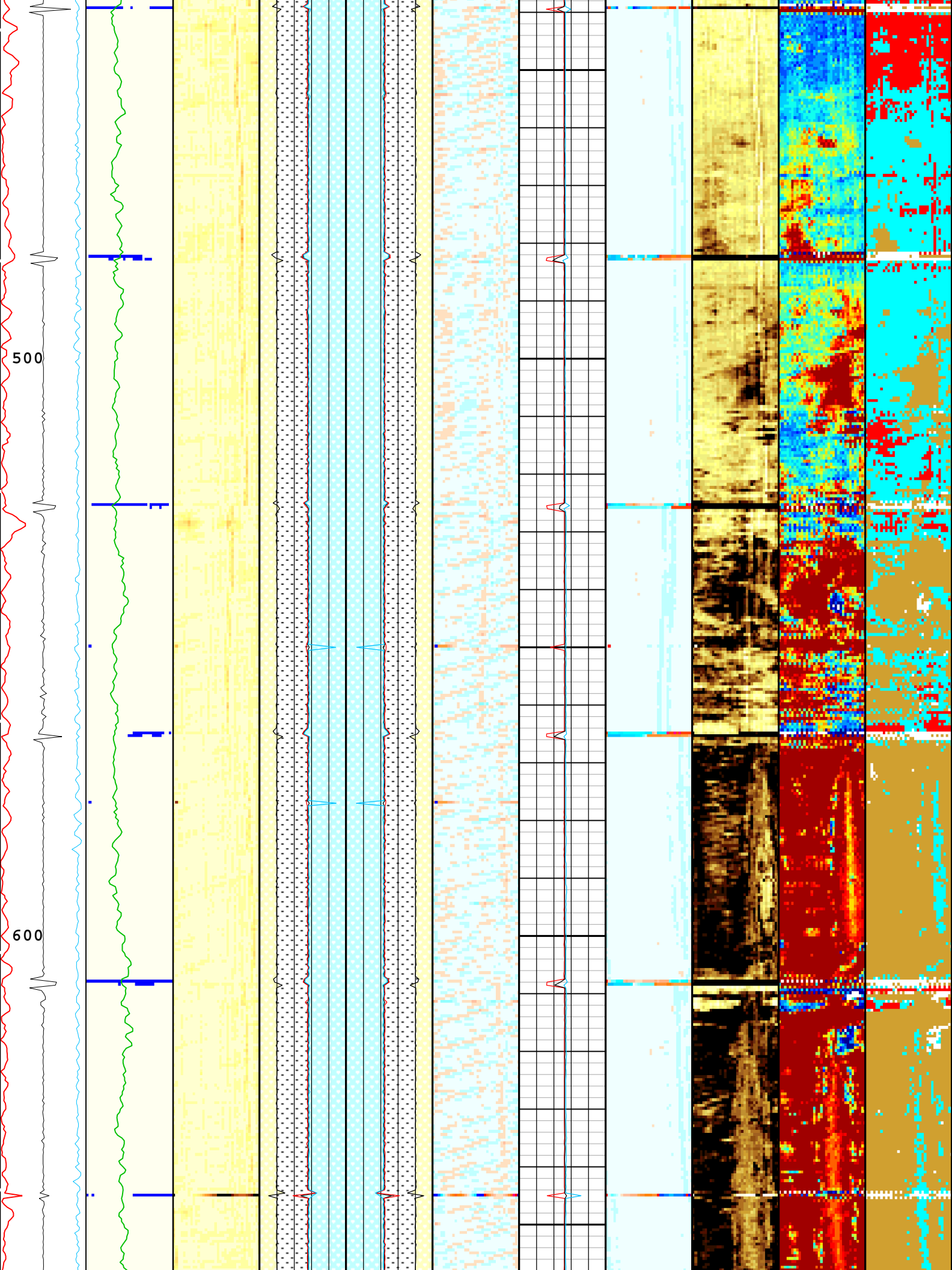
TIME_1900 - Time Marked every 60.00 (s)

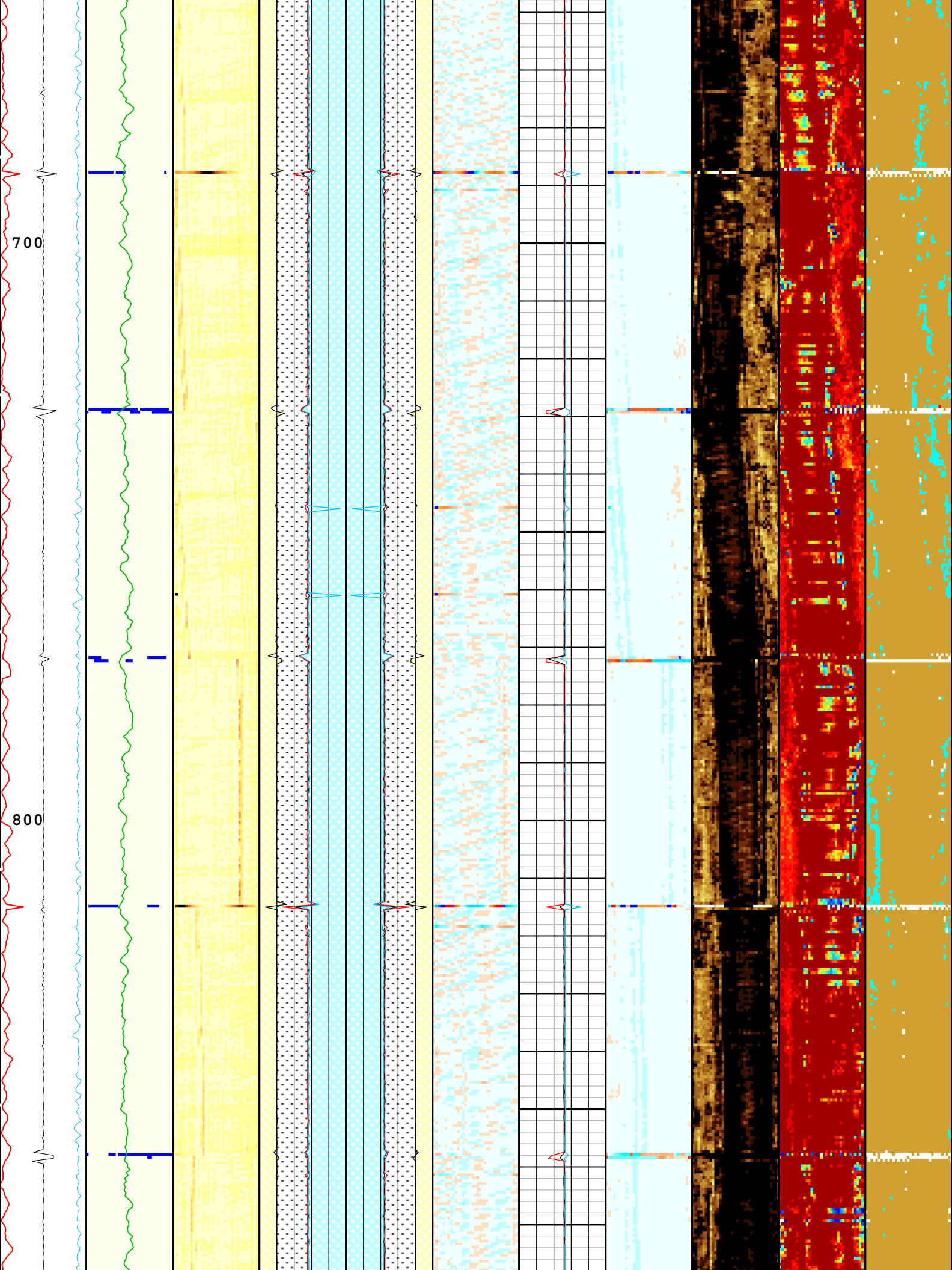
Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:13

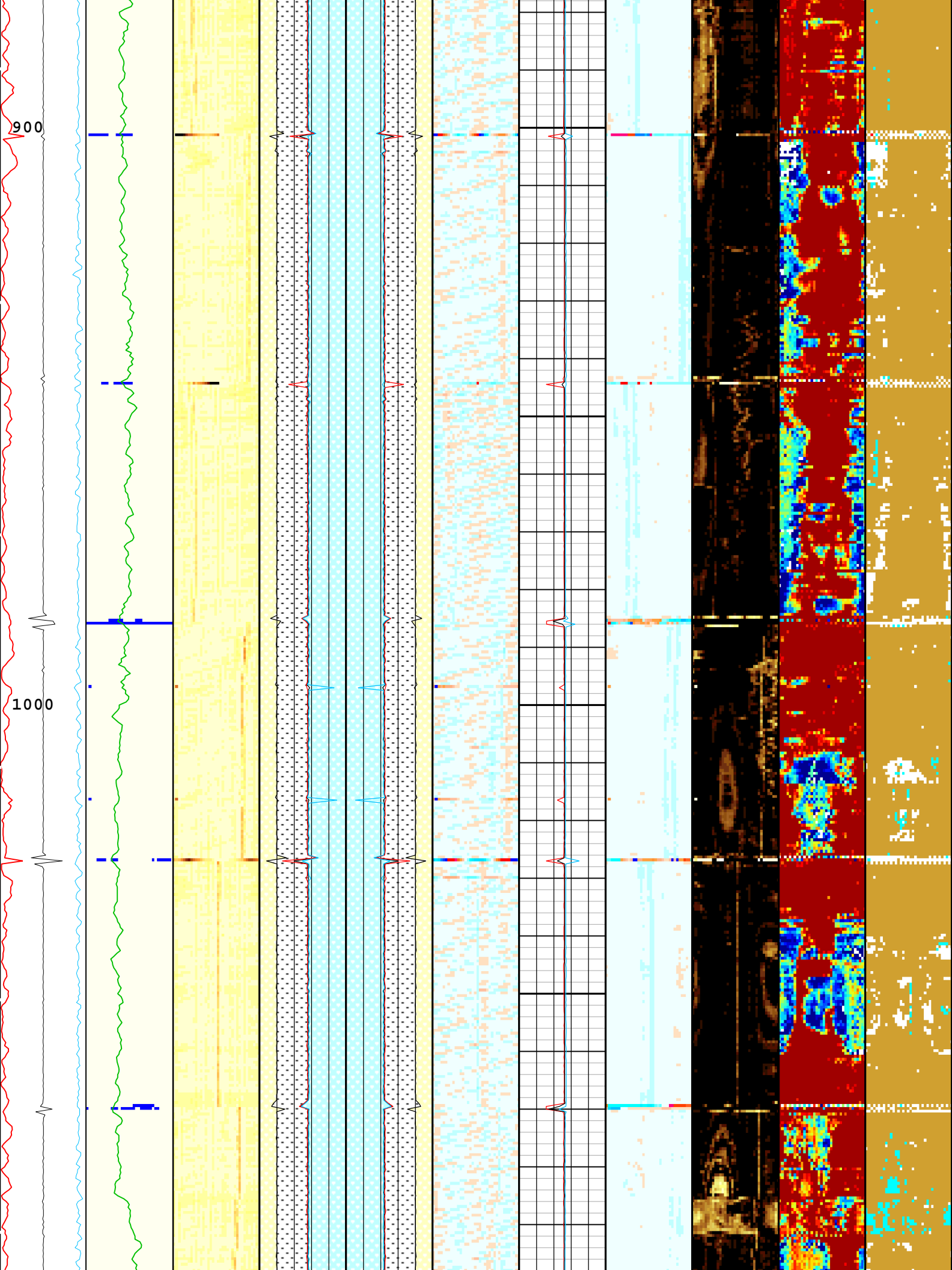
USI IBC SLG Composite			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[3]:Up	6332.54	11.87
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "Manual". GZMD uses ZMUD parameter noted table below			

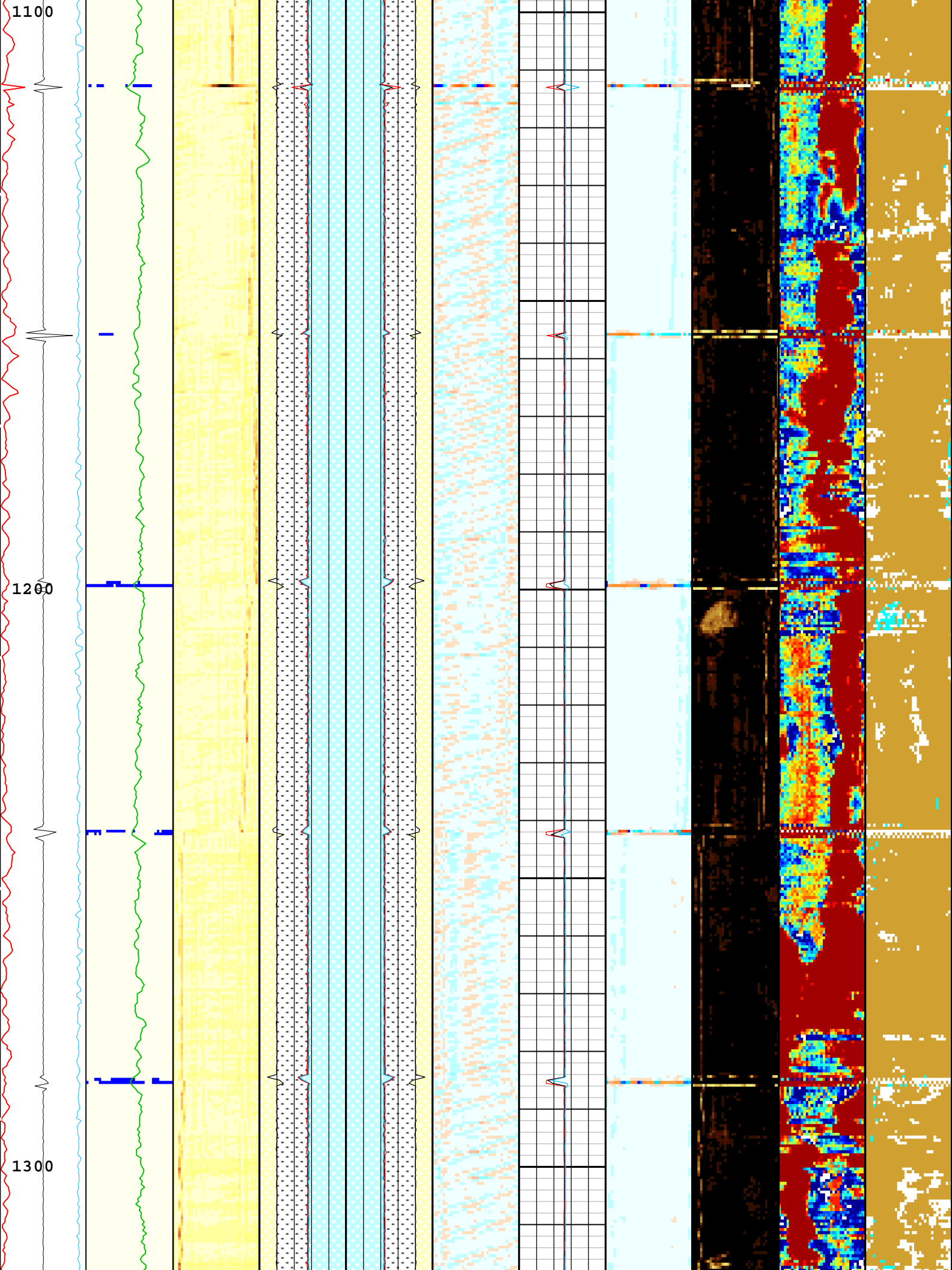


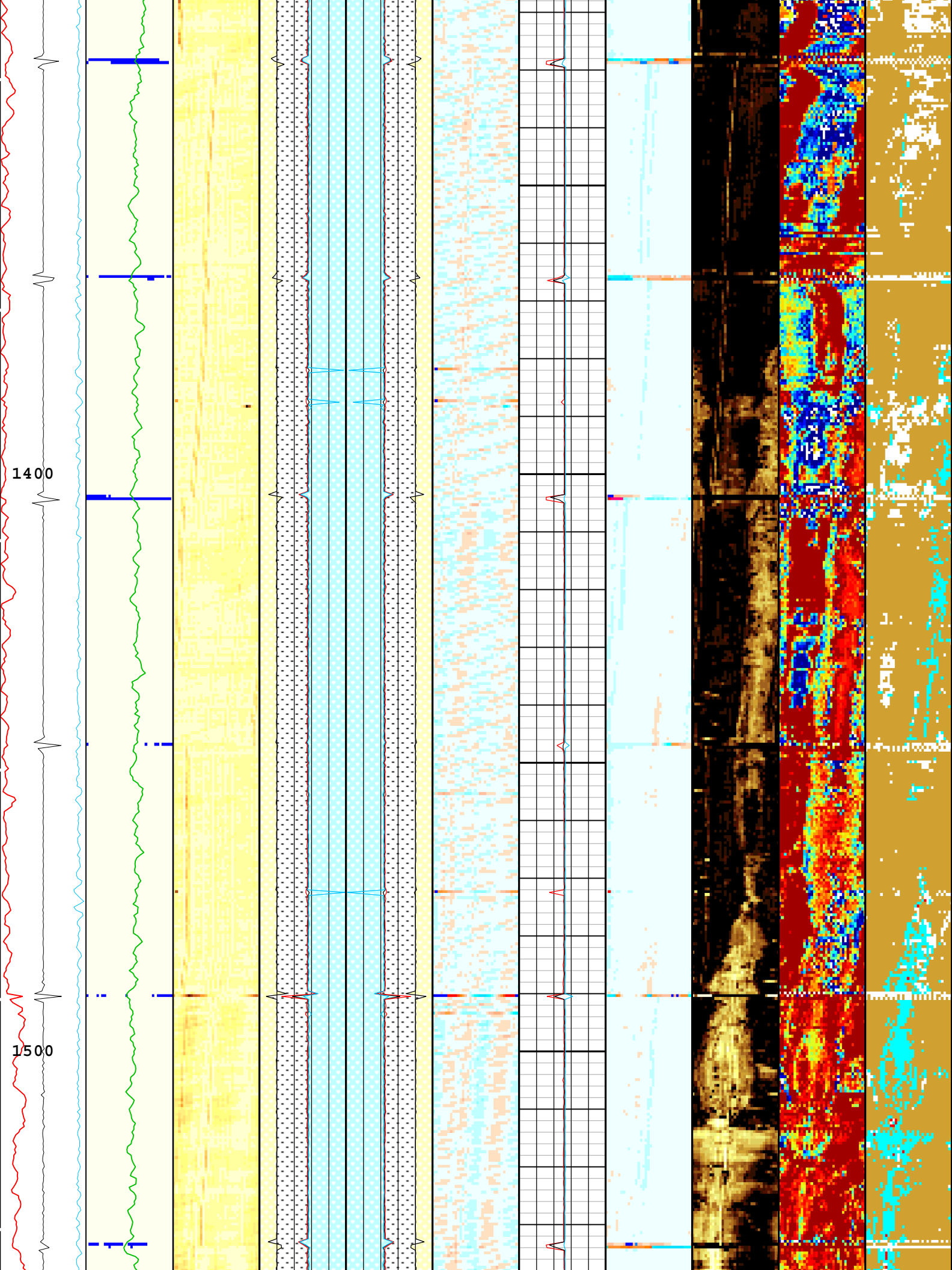


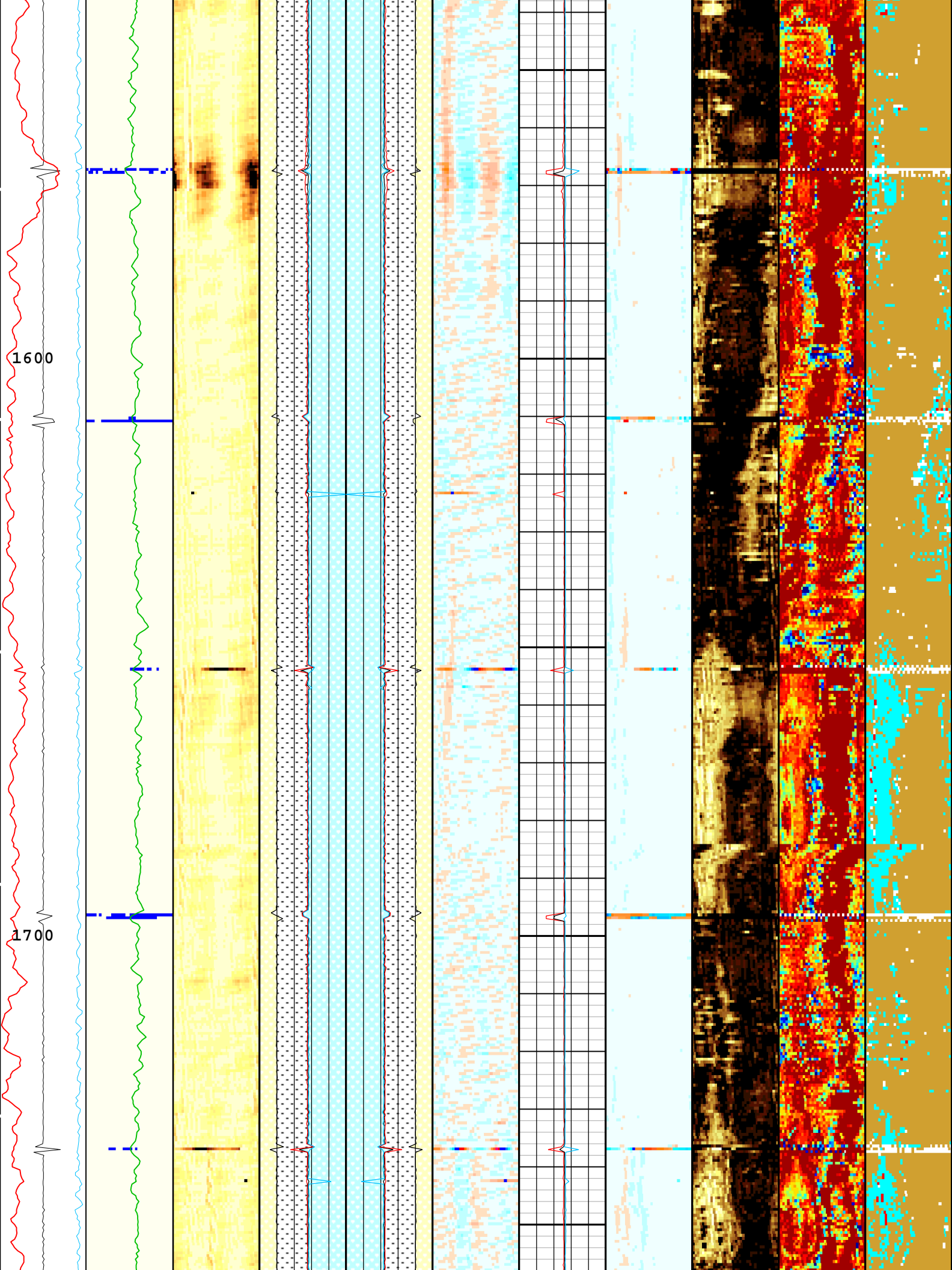


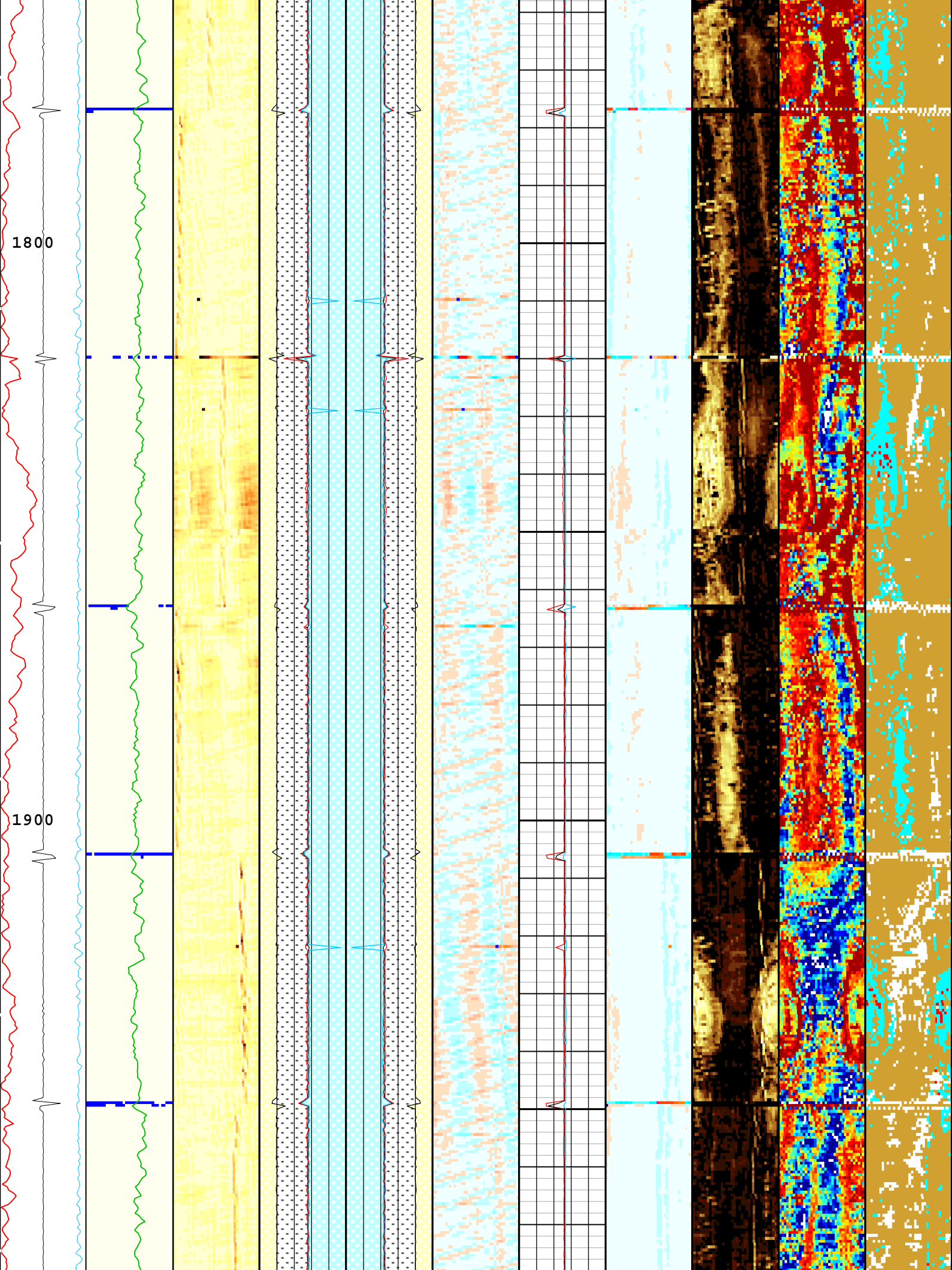


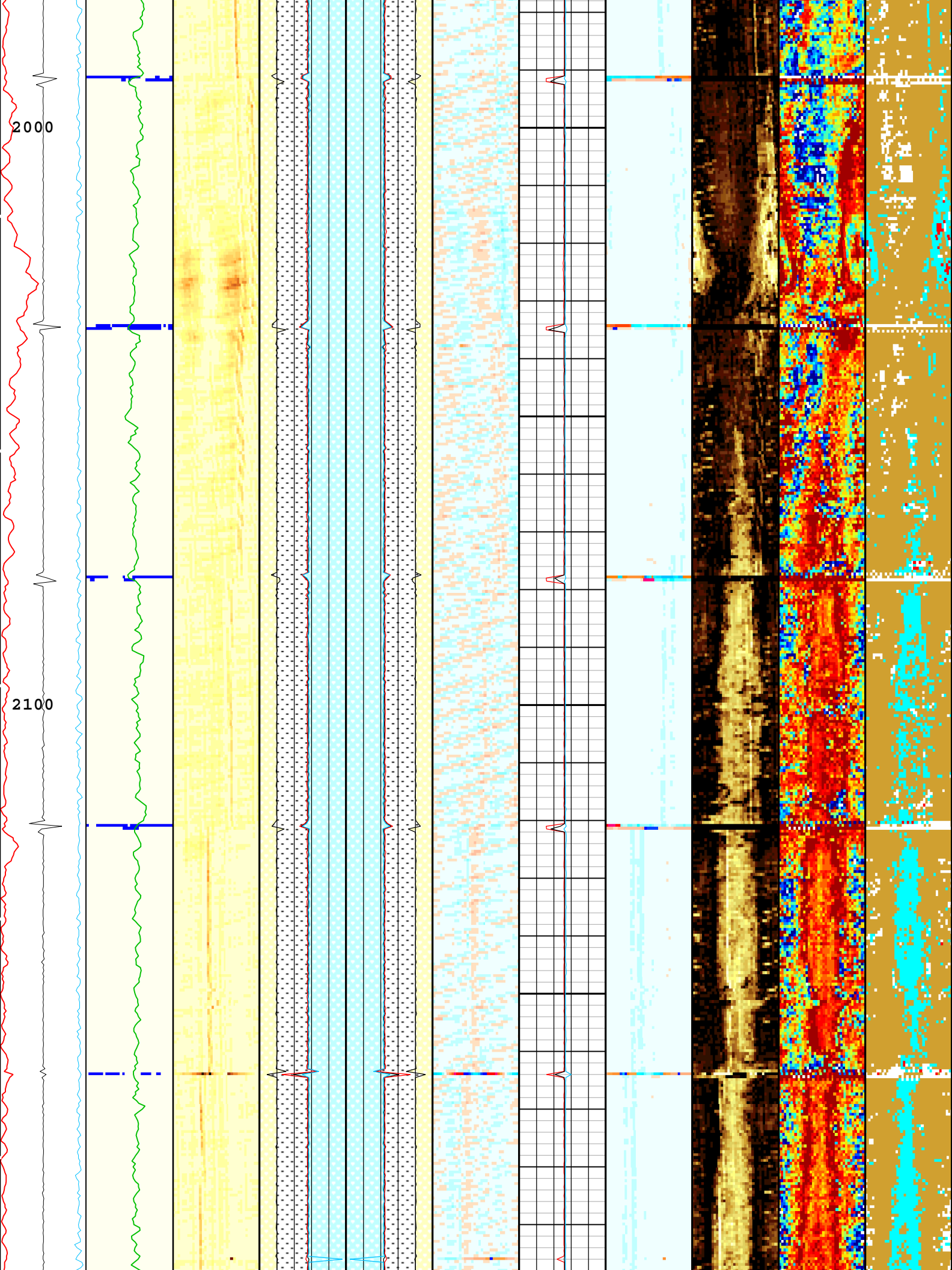


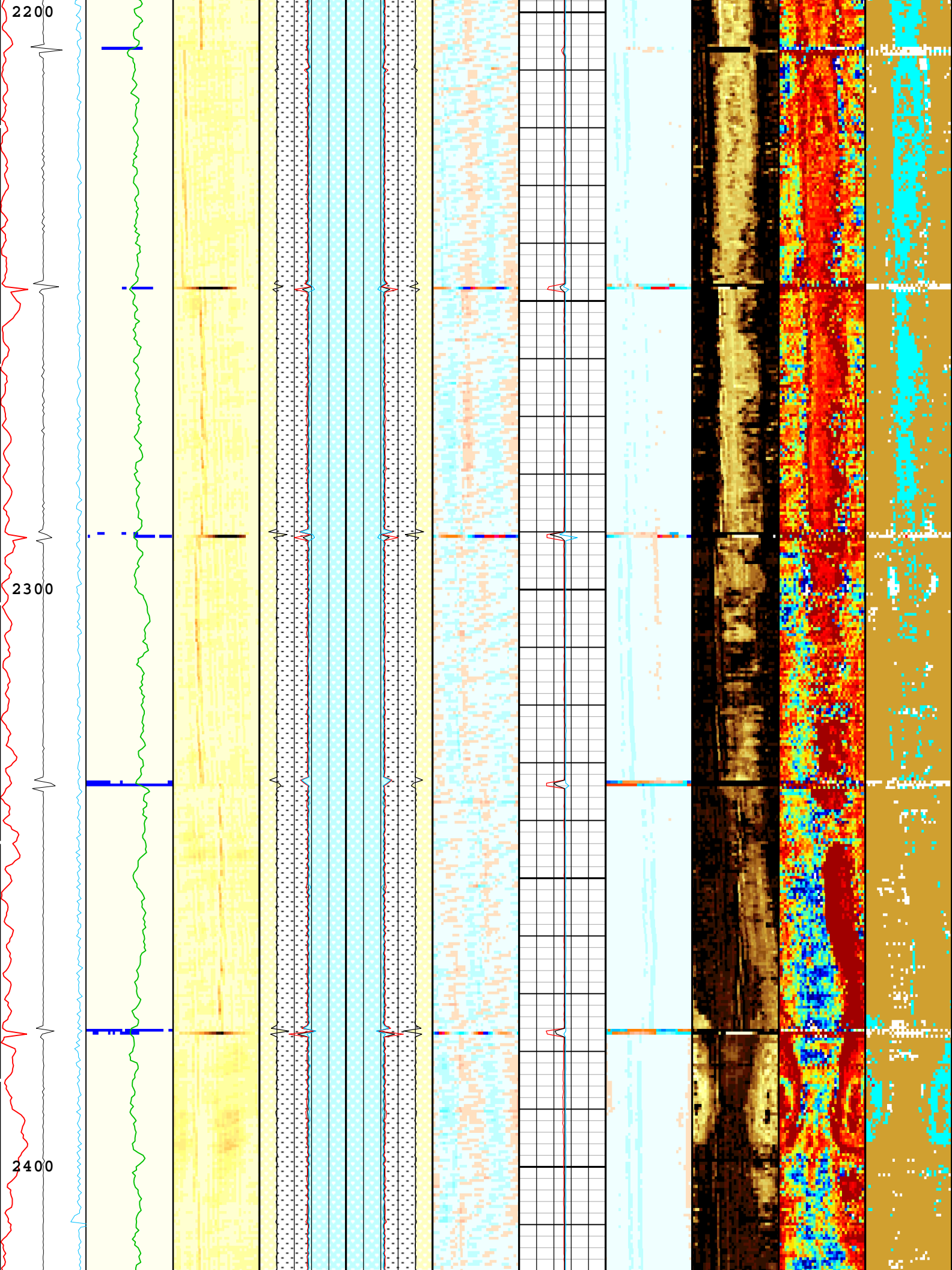


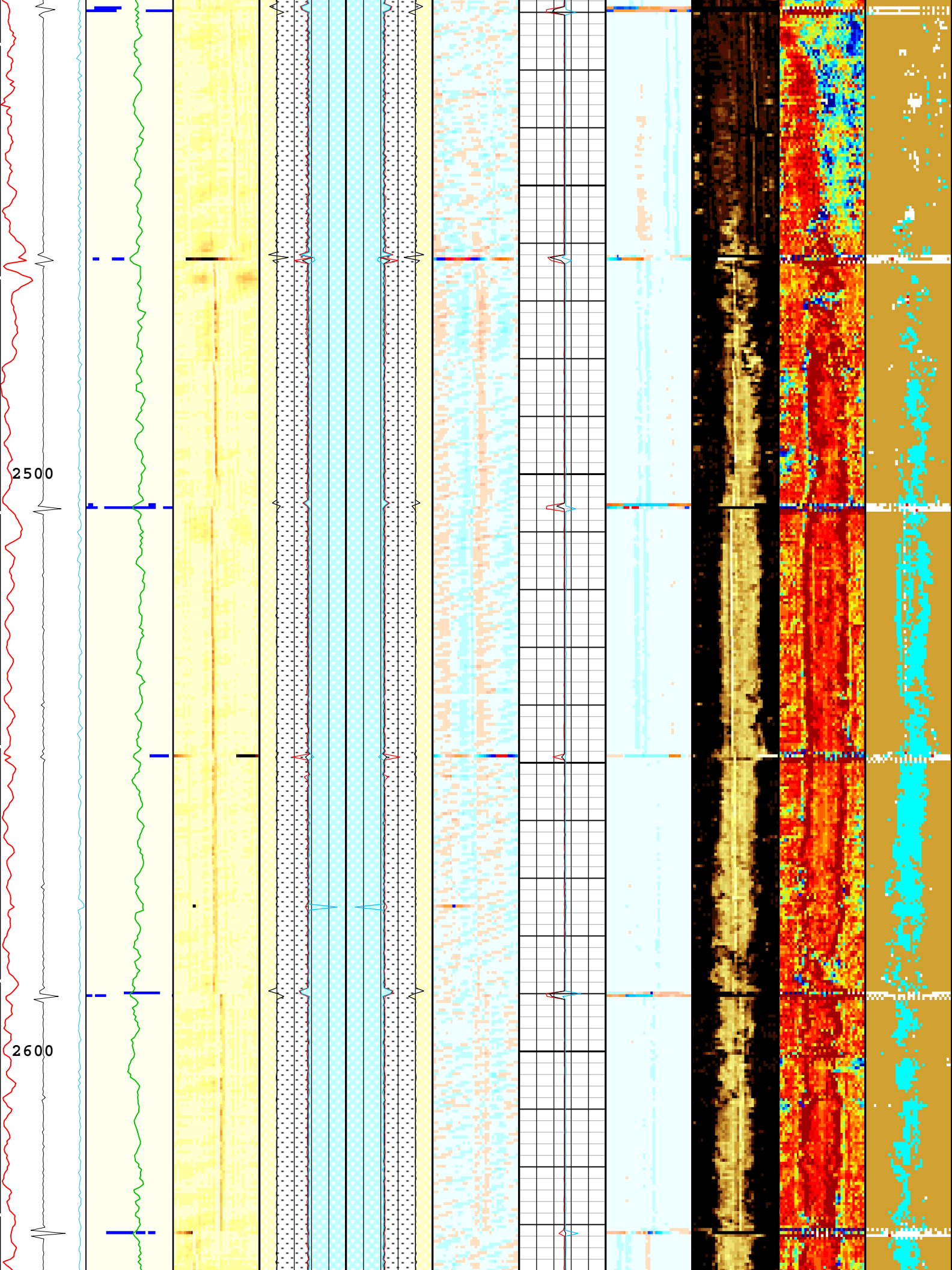


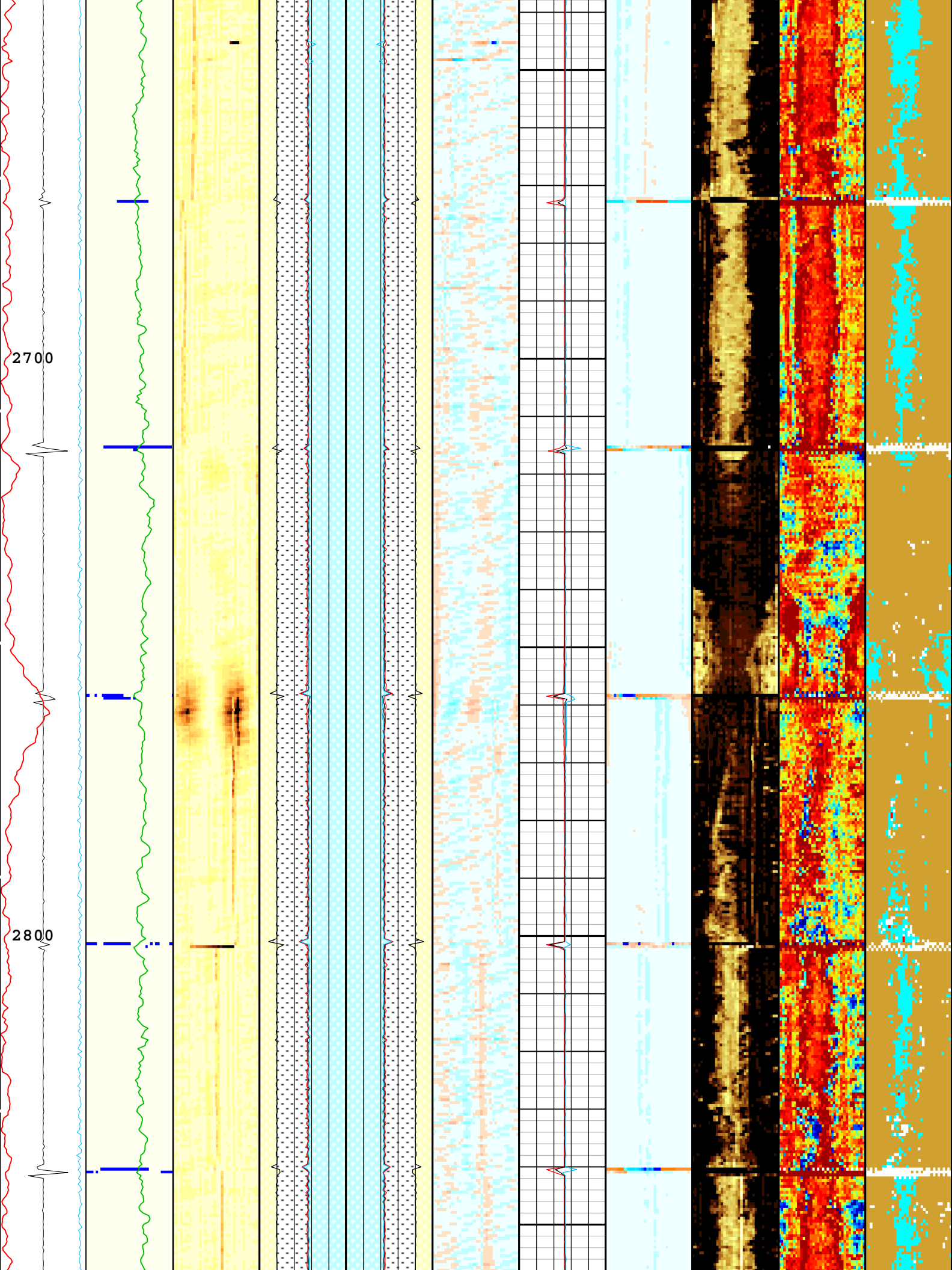


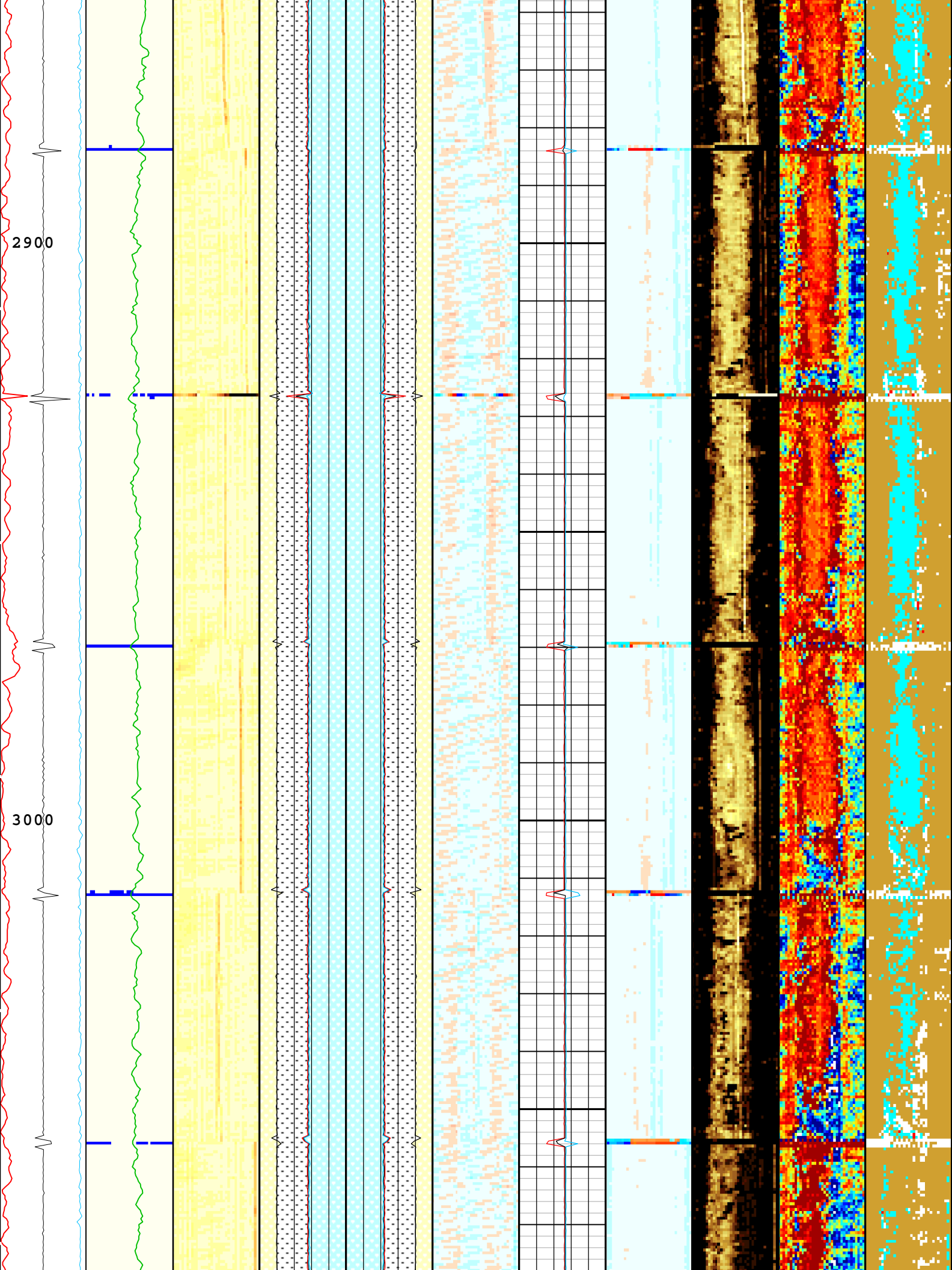


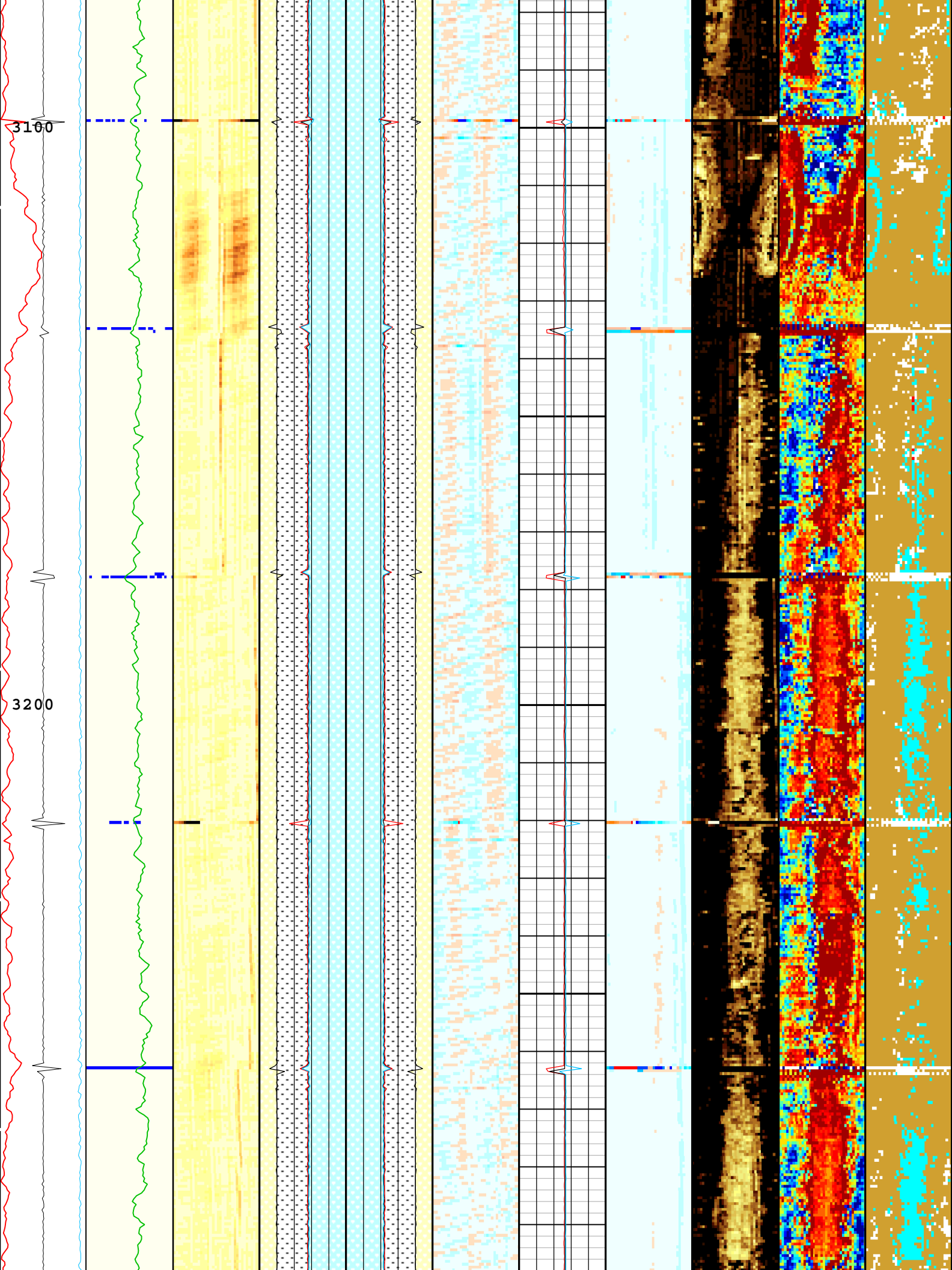


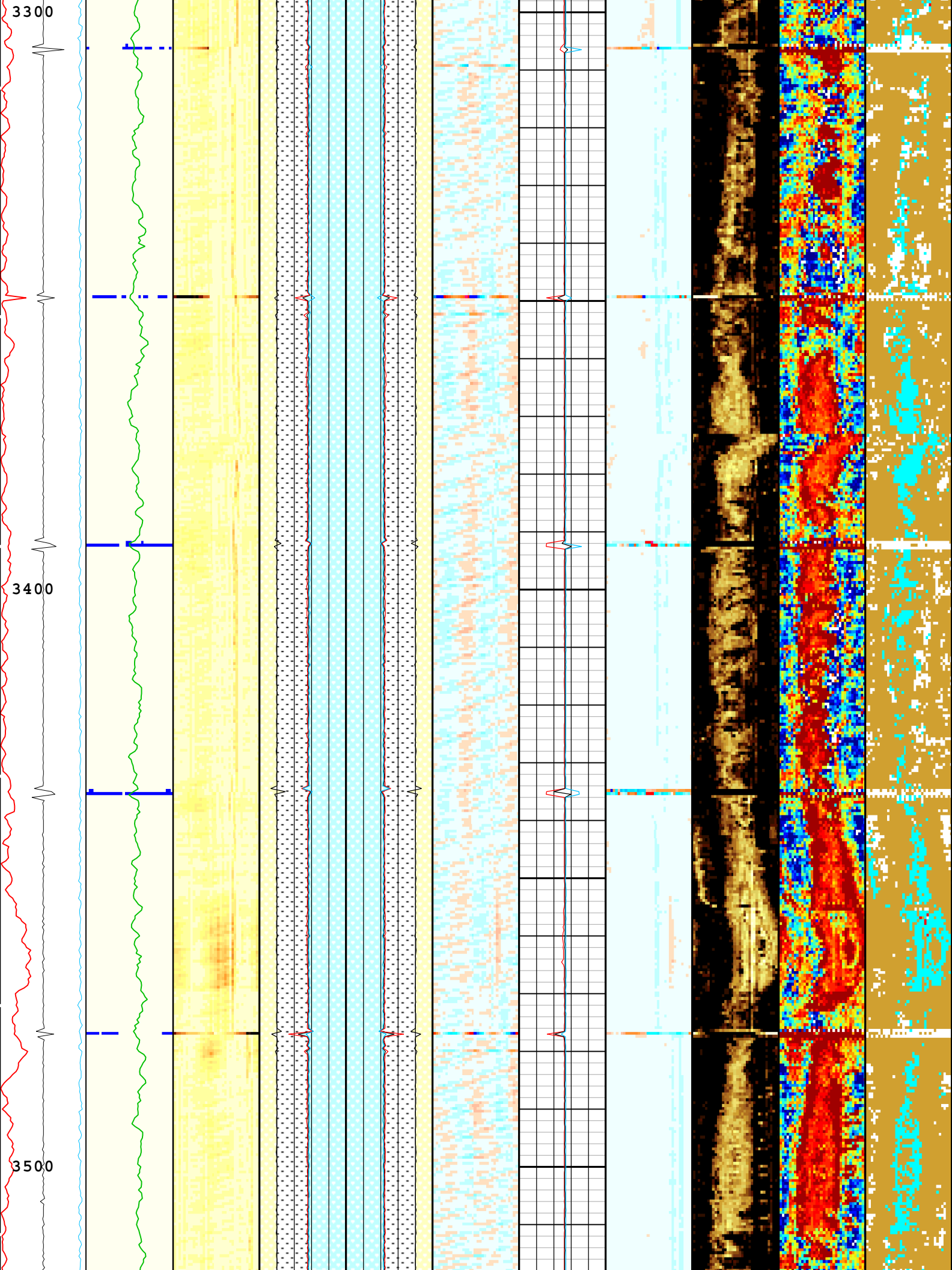


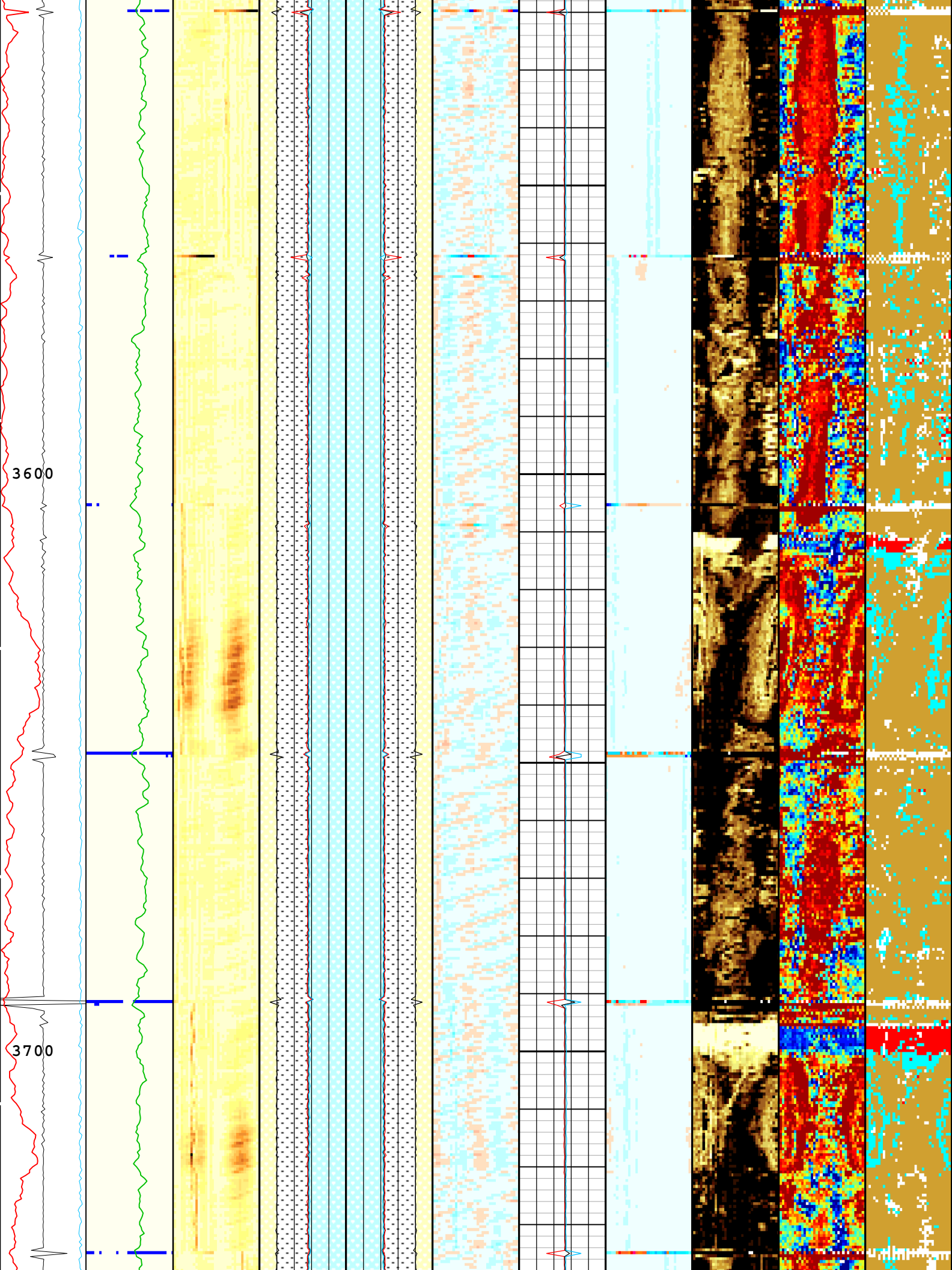


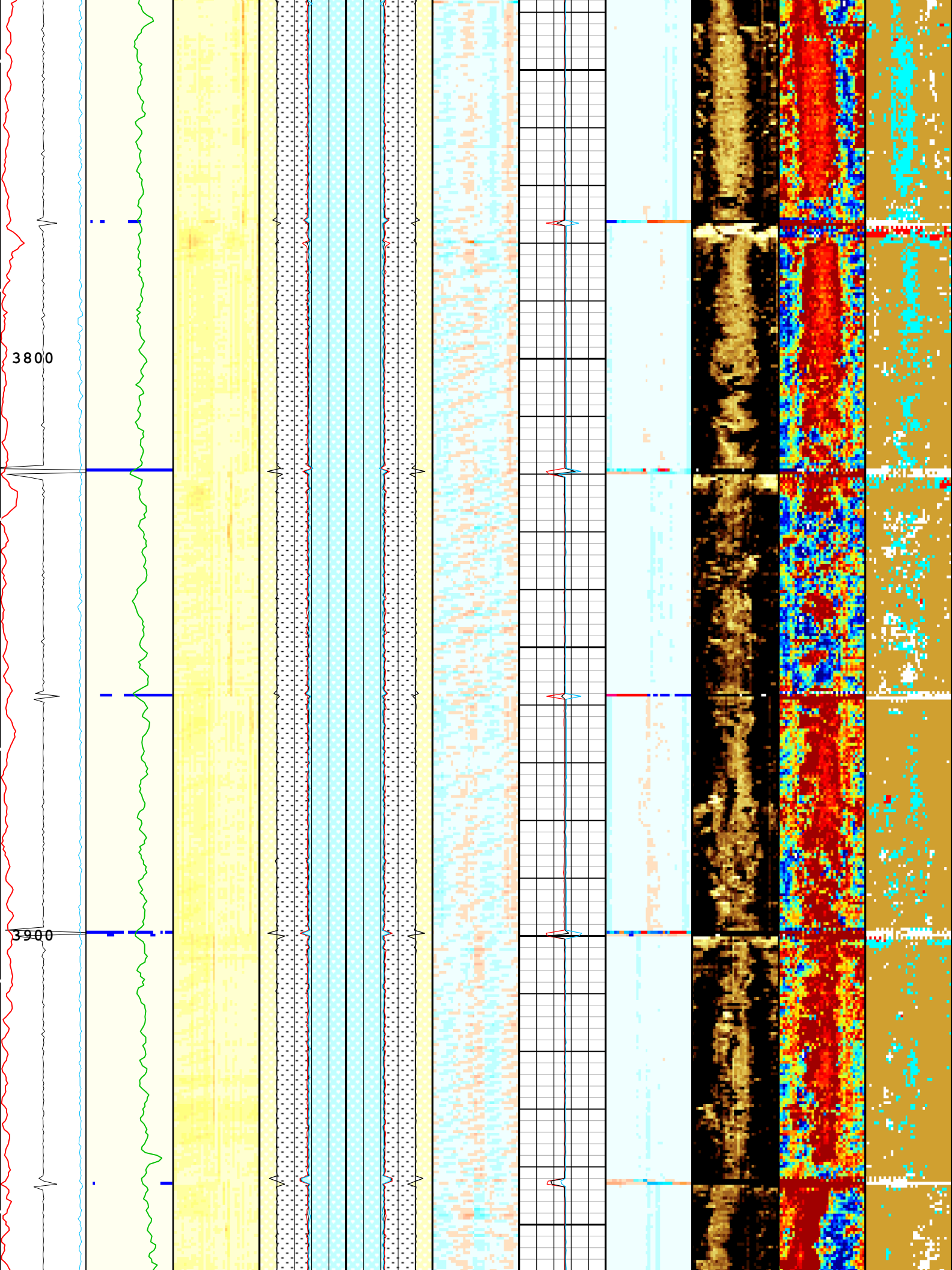


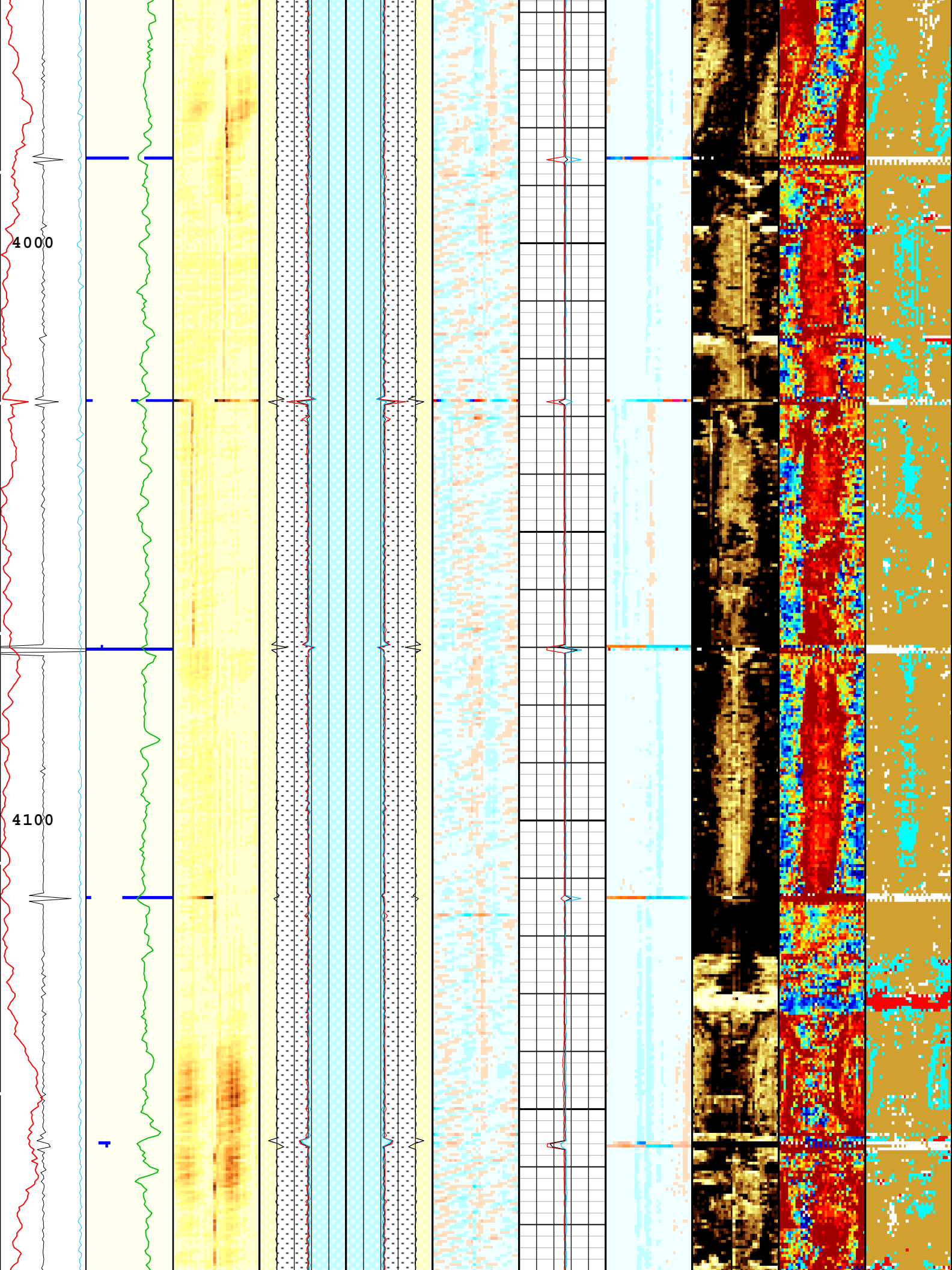


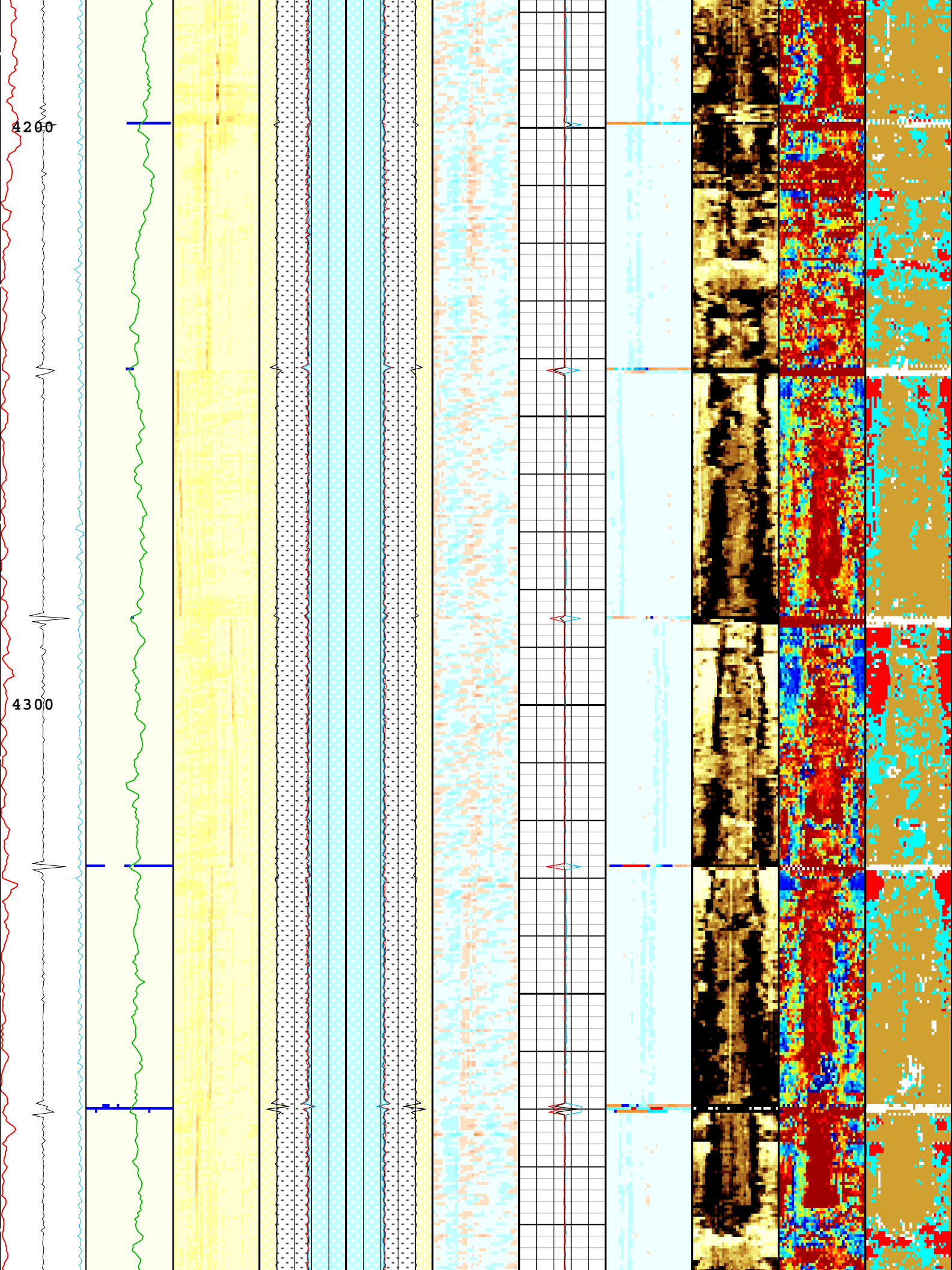


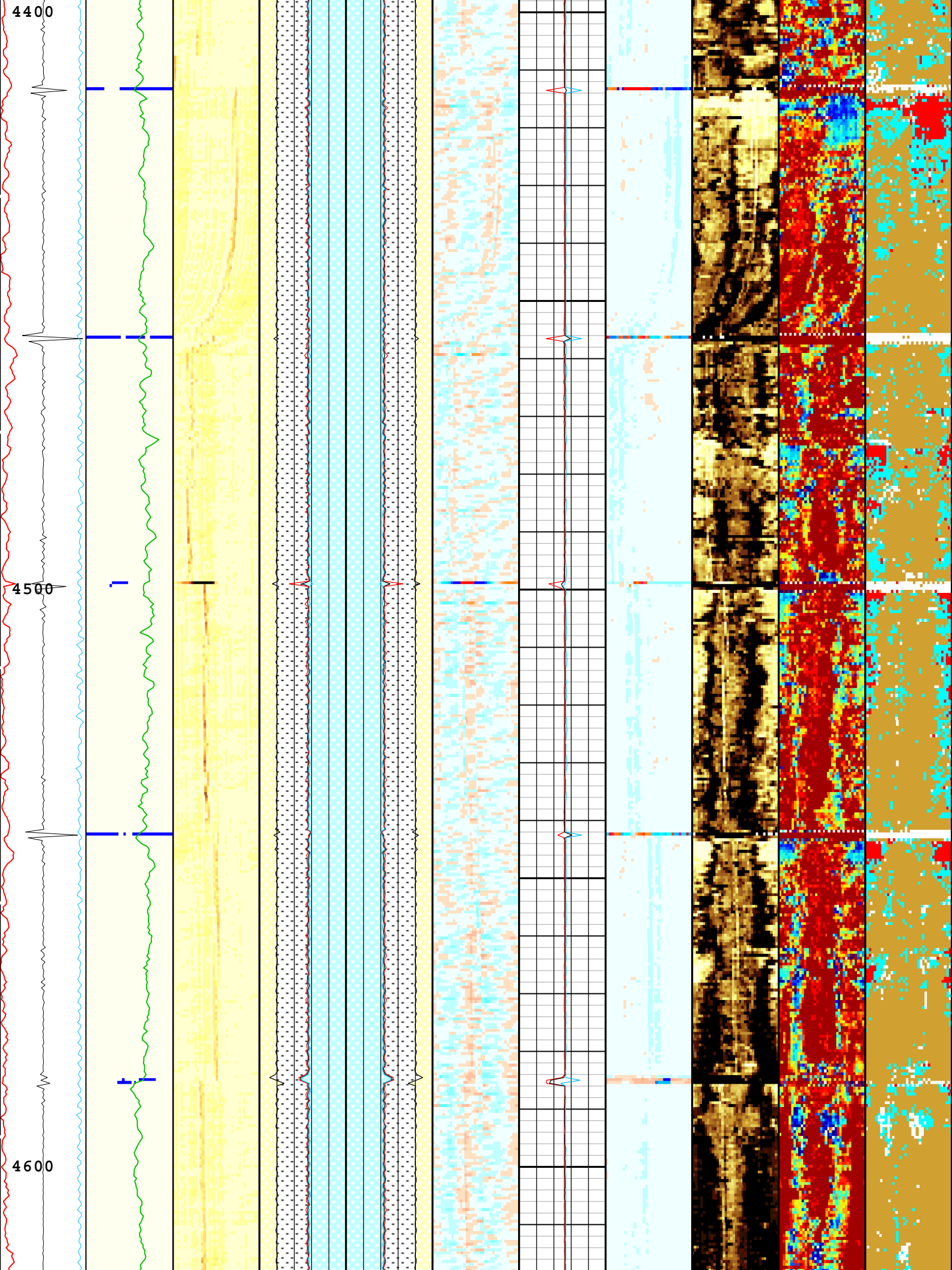


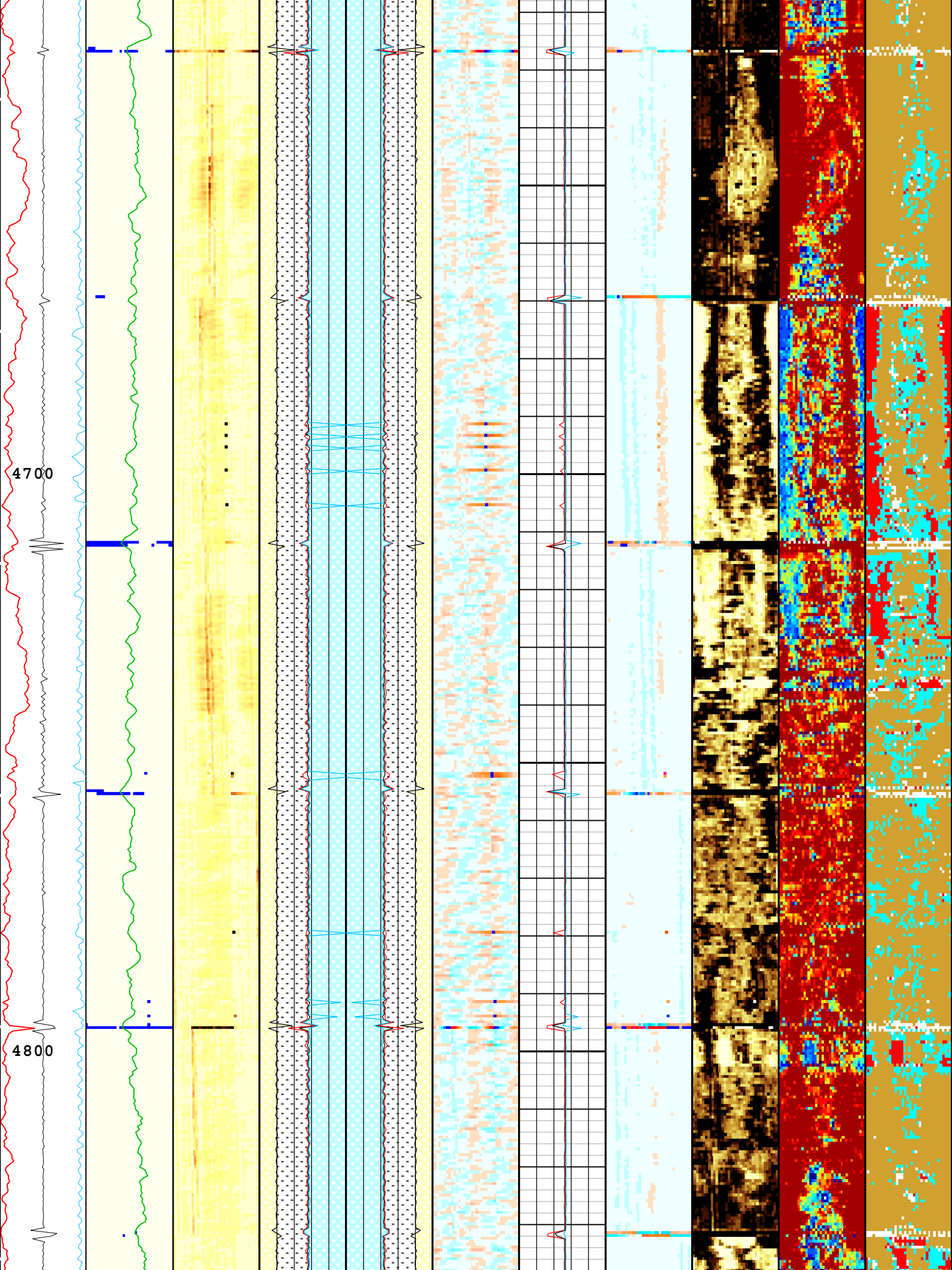


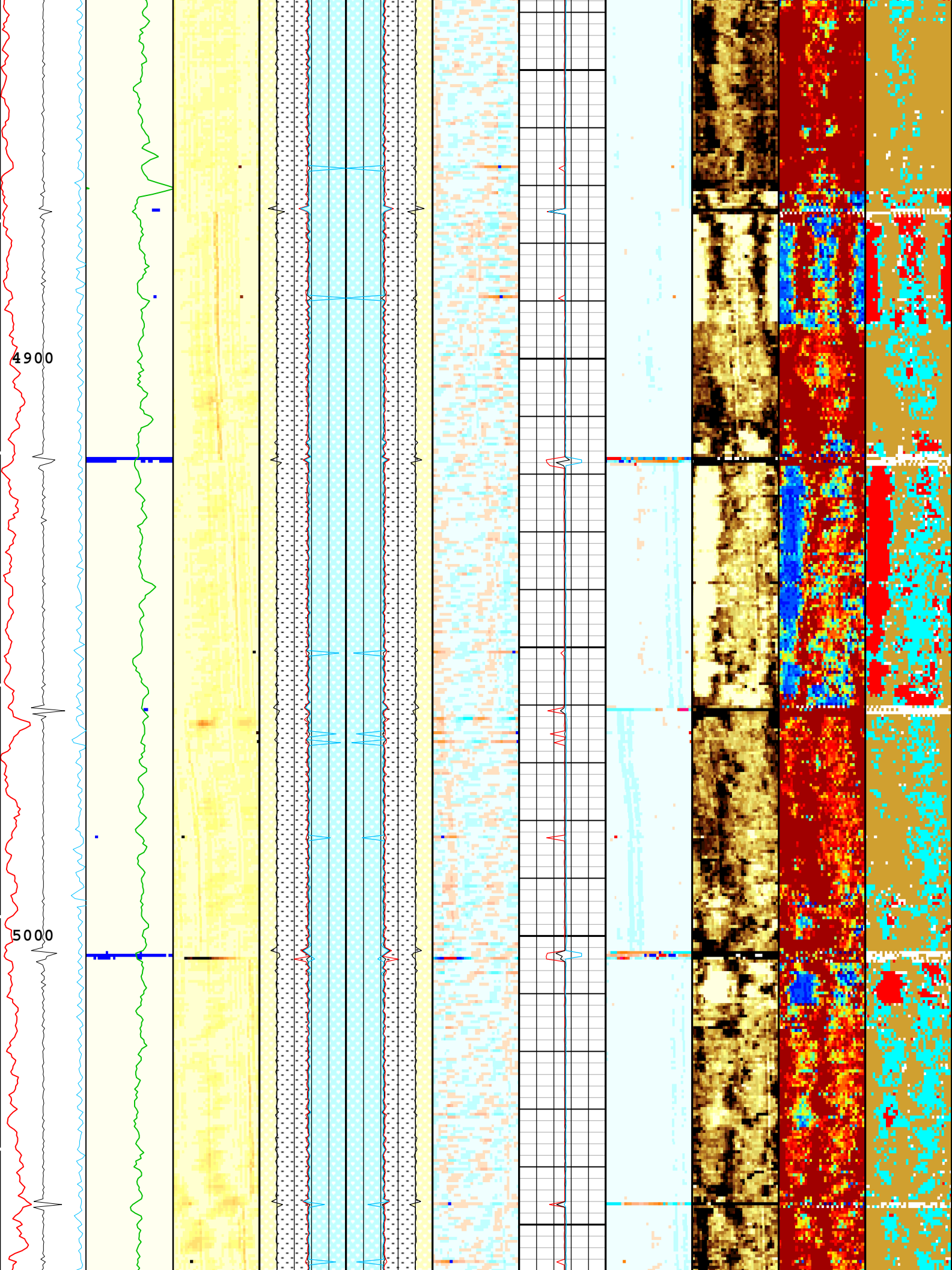


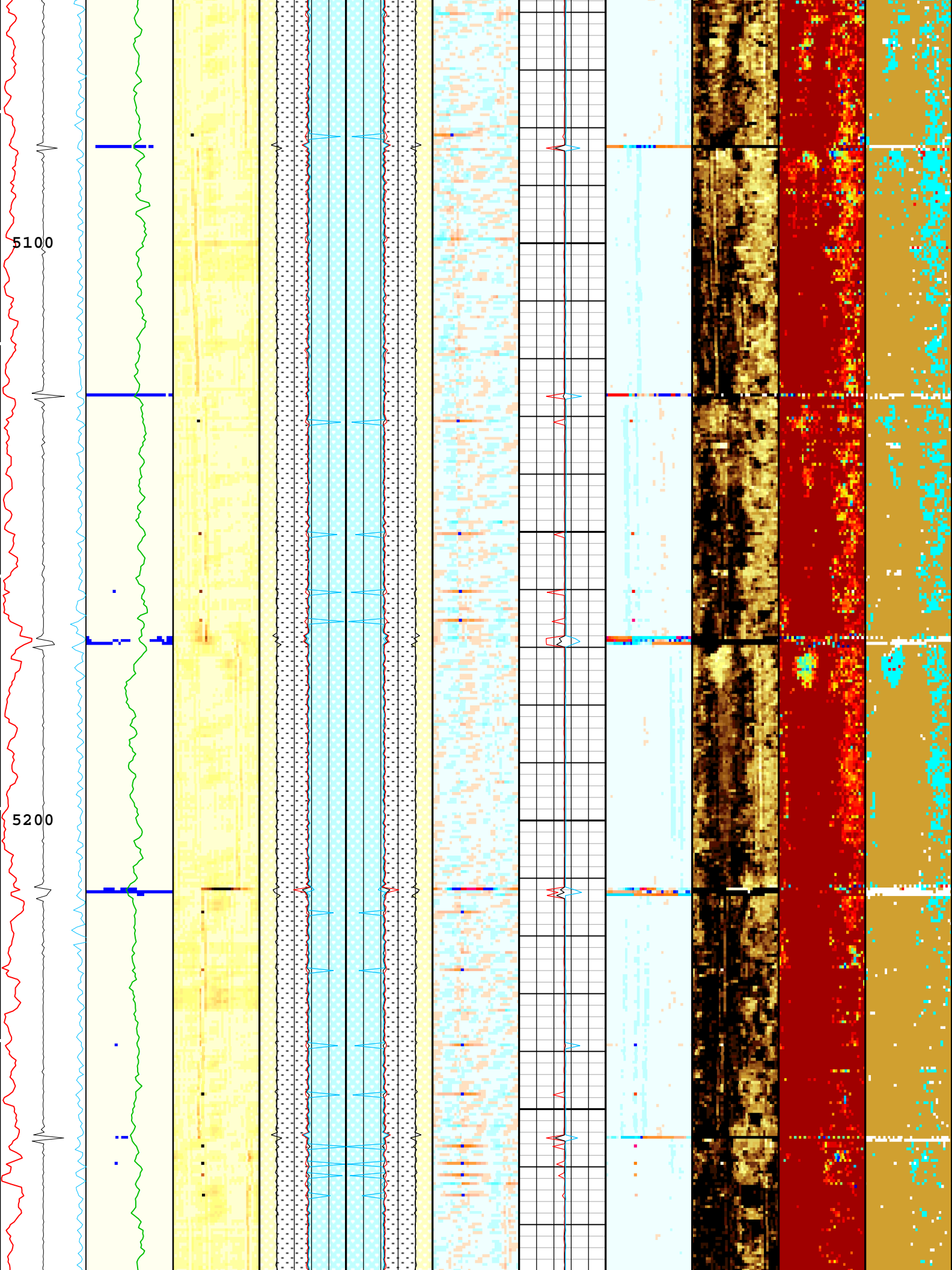


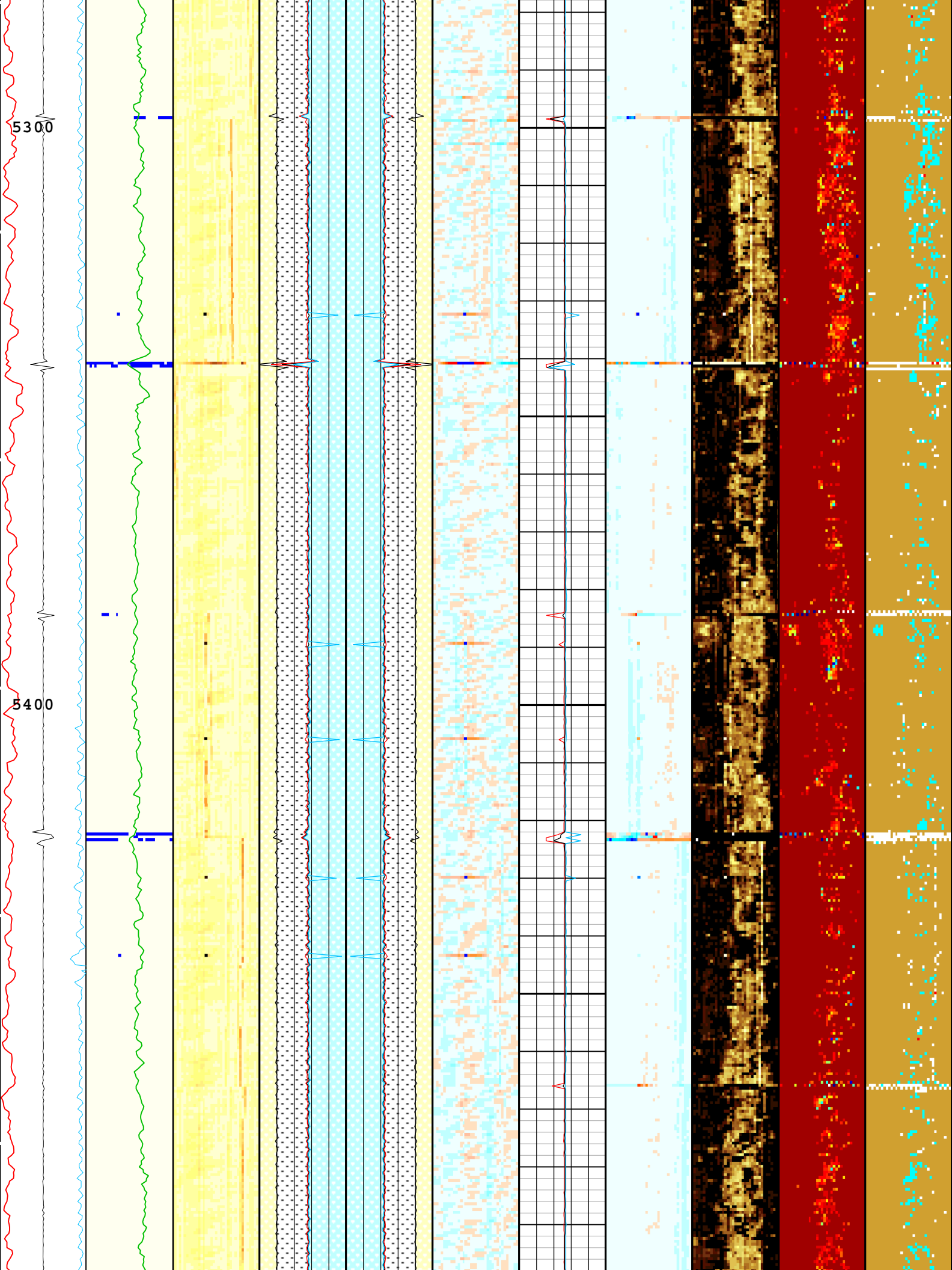


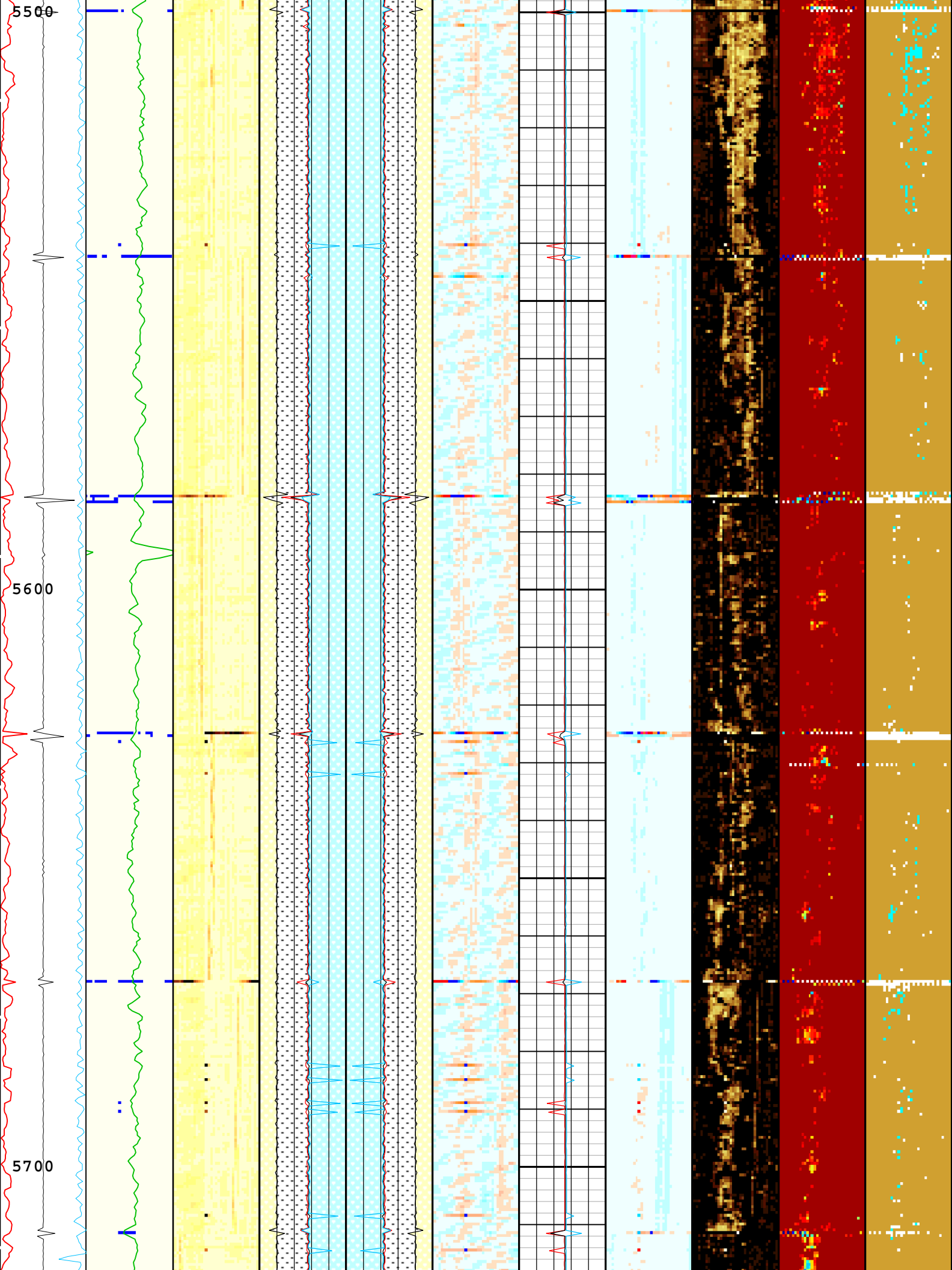


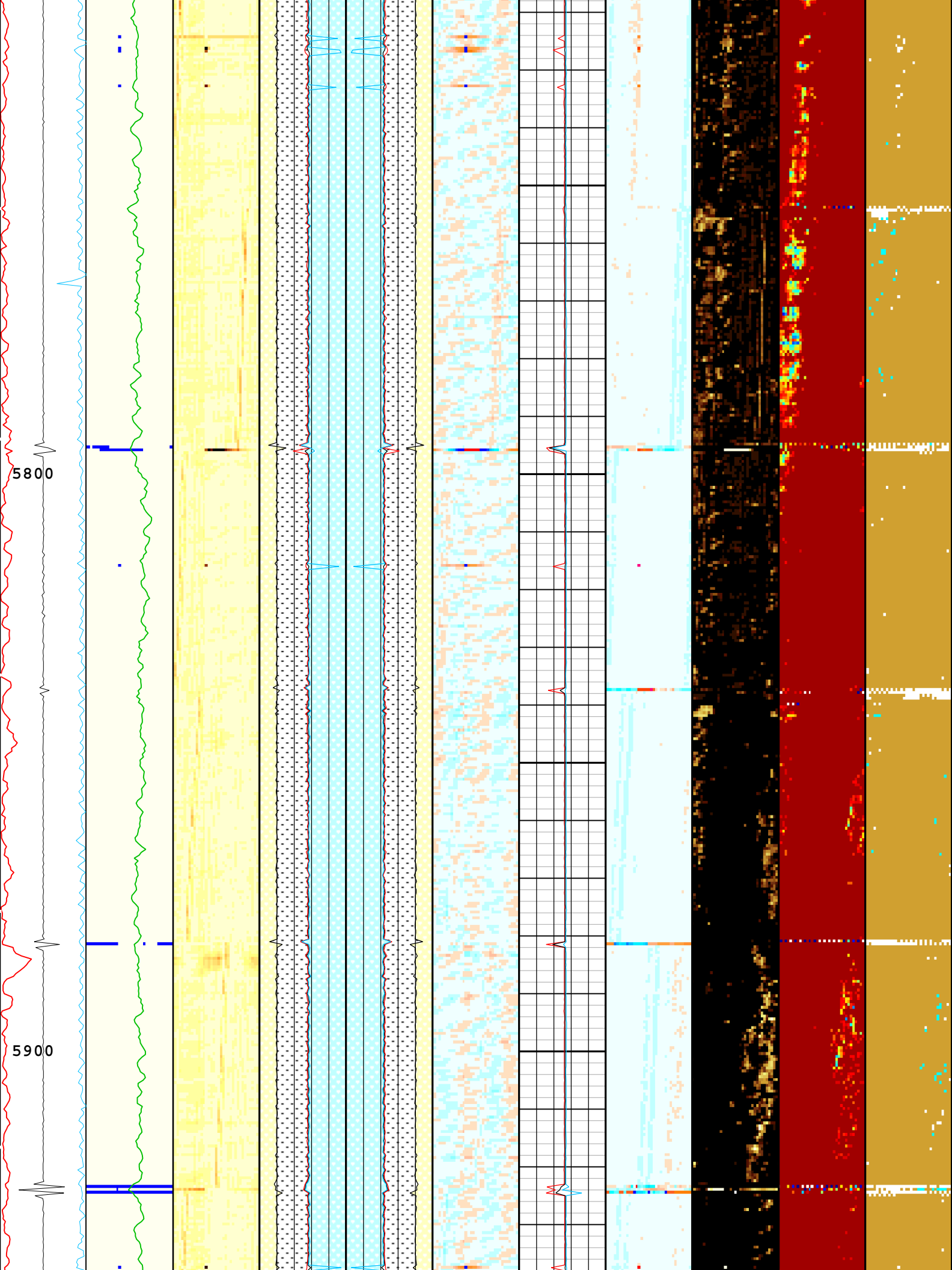


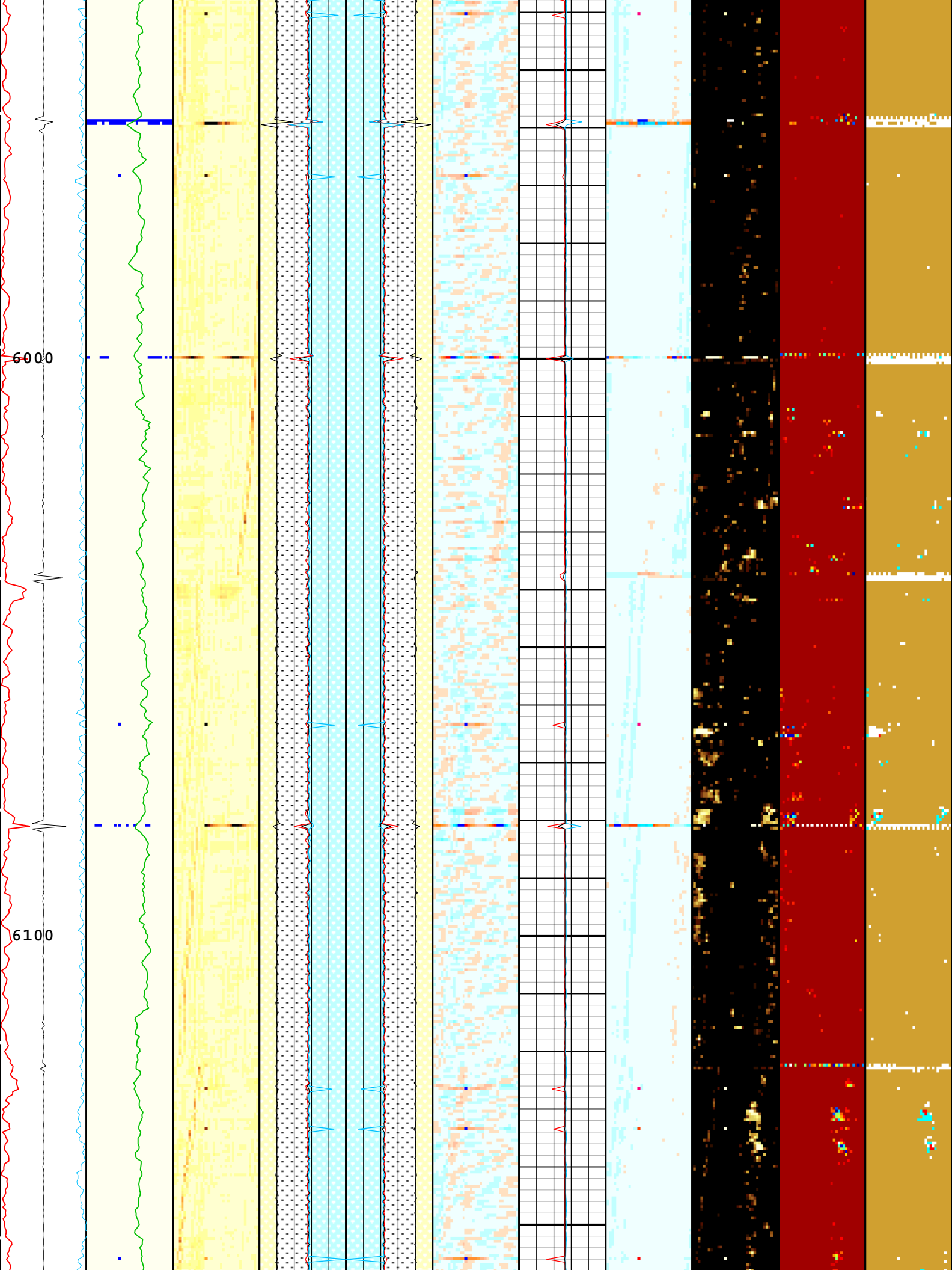


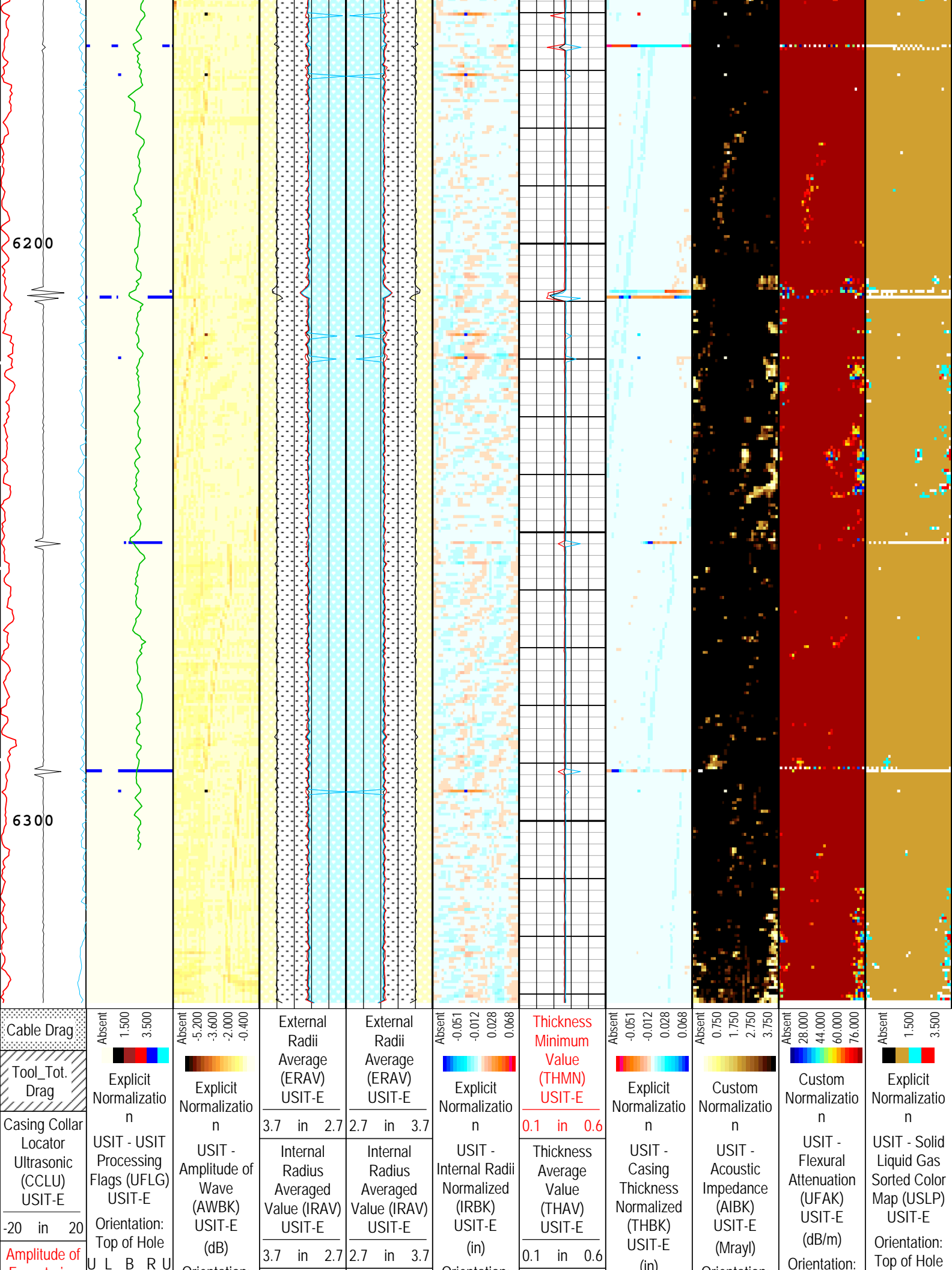












Eccentering (ECCE) USIT-E	Gamma Ray (GR) SGT-N	Orientation: Top of Hole U L B R U	Internal Radius Maximum Value (IRMX) USIT-E	Internal Radius Maximum Value (IRMX) USIT-E	Orientation: Top of Hole U L B R U	Thickness Maximum Value (THMX) USIT-E	Orientation: Top of Hole U L B R U	Orientation: Top of Hole U L B R U	Top of Hole U L B R U	U L B R U
0 in 0.5	0 gAPI 150		3.7 in 2.7	2.7 in 3.7		0.1 in 0.6				
Motor Revolution Speed (RSAV) USIT-E			Internal Radius Minimum Value (IRMN) USIT-E	Internal Radius Minimum Value (IRMN) USIT-E						
6 c/s 7.5			3.7 in 2.7	2.7 in 3.7						
Stuck Tool Indicator, Total (STIT)										
0 ft 50										

TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Composite Format: USI IBC SLG Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:20

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8020	ft
CDEN.1	Cement Density	USIT-E	0	lbm/gal
CDEN.2	Cement Density	SGT-N	16.69	lbm/gal
CMTY	Cement Type	USIT-E	Light Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	2.31	dB/m
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Manual	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-E	0	ft
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
MUD_N_THI	Theoretical Mud Normalization Factor	USIT-E	0	

OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	ft
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SOGR	Standoff Distance of the Gamma Ray Tool	SGT-N	0	in
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	6330	ft
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS	Tool Position: Centered or Eccentered	SGT-N	Eccentered	
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	22.9	dB/m
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	0	1000
BS	8.75	1000	6332.5
MEAS_WLEN	22.5	0	6332.5
ZMUD	1.63	0	750
ZMUD	1.64	750	1800
ZMUD	1.65	1800	2800
ZMUD	1.67	2800	3200
ZMUD	1.69	3200	4000
ZMUD	1.71	4000	6332.5
All depth are actual.			

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
UFWB	Far Receiver Window Begin Time	USIT-E	133	us
UFWF	Far Receiver Window End Time	USIT-E	Time Zoned	

UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
UNWB	Near Receiver Window Begin Time	USIT-E	102	us
UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6331	ft
USSP	Ultrasonic Service	USIT-E	IBC	
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	37.61	us
WINE	Window End Time	USIT-E	77.61	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	82	20-Jun-2014 08:03:25	20-Jun-2014 08:03:58	6332.54	6323.26
EMXV	85	20-Jun-2014 08:03:58	20-Jun-2014 08:20:30	6323.26	5693.92
EMXV	82	20-Jun-2014 08:20:30	20-Jun-2014 08:20:38	5693.92	5688.52
EMXV	80	20-Jun-2014 08:20:38	20-Jun-2014 08:20:49	5688.52	5680.85
EMXV	78	20-Jun-2014 08:20:49	20-Jun-2014 08:23:32	5680.85	5572.92
EMXV	77	20-Jun-2014 08:23:32	20-Jun-2014 08:23:56	5572.92	5556.72
EMXV	76	20-Jun-2014 08:23:56	20-Jun-2014 08:42:42	5556.72	4807.52
EMXV	78	20-Jun-2014 08:42:42	20-Jun-2014 09:07:24	4807.52	3811.65
EMXV	80	20-Jun-2014 09:07:24	20-Jun-2014 09:07:31	3811.65	3806.99
EMXV	76	20-Jun-2014 09:07:31	20-Jun-2014 09:07:38	3806.99	3802.06
EMXV	74	20-Jun-2014 09:07:38	20-Jun-2014 09:07:45	3802.06	3797.8
EMXV	72	20-Jun-2014 09:07:45	20-Jun-2014 09:07:52	3797.8	3793.22
EMXV	70	20-Jun-2014 09:07:52	20-Jun-2014 09:11:50	3793.22	3636.44
EMXV	72	20-Jun-2014 09:11:50	20-Jun-2014 09:12:02	3636.44	3628.76
EMXV	74	20-Jun-2014 09:12:02	20-Jun-2014 09:13:48	3628.76	3558.69
EMXV	76	20-Jun-2014 09:13:48	20-Jun-2014 09:51:29	3558.69	2036.09
EMXV	78	20-Jun-2014 09:51:29	20-Jun-2014 09:51:46	2036.09	2024.28
EMXV	80	20-Jun-2014 09:51:46	20-Jun-2014 10:04:07	2024.28	1525.59
EMXV	82	20-Jun-2014 10:04:07	20-Jun-2014 10:04:20	1525.59	1517.41
EMXV	84	20-Jun-2014 10:04:20	20-Jun-2014 10:04:28	1517.41	1512.26
EMXV	85	20-Jun-2014 10:04:28	20-Jun-2014 10:04:34	1512.26	1507.71
EMXV	88	20-Jun-2014 10:04:34	20-Jun-2014 10:08:37	1507.71	1346.78
EMXV	86	20-Jun-2014 10:08:37	20-Jun-2014 10:09:06	1346.78	1327.07
EMXV	84	20-Jun-2014 10:09:06	20-Jun-2014 10:09:12	1327.07	1323.38
EMXV	80	20-Jun-2014 10:09:12	20-Jun-2014 10:09:26	1323.38	1314.3
EMXV	77	20-Jun-2014 10:09:26	20-Jun-2014 10:09:31	1314.3	1310.75
EMXV	75	20-Jun-2014 10:09:31	20-Jun-2014 10:09:36	1310.75	1307.34
EMXV	73	20-Jun-2014 10:09:36	20-Jun-2014 10:16:17	1307.34	1039.54
EMXV	75	20-Jun-2014 10:16:17	20-Jun-2014 10:41:39	1039.54	24.55
EMXV	80	20-Jun-2014 10:41:39	20-Jun-2014 10:42:10	24.55	11.87

UFWE	173	20-Jun-2014 08:03:25	20-Jun-2014 08:15:25	6332.54	5899.24
UFWE	180.58	20-Jun-2014 08:15:25	20-Jun-2014 08:29:58	5899.24	5318.95
UFWE	181.87	20-Jun-2014 08:29:58	20-Jun-2014 08:30:02	5318.95	5316.28
UFWE	187	20-Jun-2014 08:30:02	20-Jun-2014 10:42:10	5316.28	11.87
UNWE	142	20-Jun-2014 08:03:25	20-Jun-2014 08:15:27	6332.54	5897.88
UNWE	150.43	20-Jun-2014 08:15:27	20-Jun-2014 08:30:10	5897.88	5310.82
UNWE	158.37	20-Jun-2014 08:30:10	20-Jun-2014 10:42:10	5310.82	11.87

All depth are at tool zero.

USI IBC SLG

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[3]:Up	6332.54	11.87

Fluid Velocity = "Automatic".
CFVL equals DFSL channel

Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
-----------------	----------------	--------------------	------------------

Mud Impedance = "Manual".
CZMD uses ZMUD parameter zoned table below

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	750	1.63	1.63
750	1800	1.64	1.64
1800	2800	1.65	1.65
2800	3200	1.67	1.67
3200	4000	1.69	1.69
4000		1.71	1.71

Run 1

IBC SLG - 0 PSI Pass

Software Version

Acquisition System	Version
MaxWell	4.0.9163.3000
Application Patch	Patch-SP-10767_13393-4.0.9163.3001

Computation	Description	Version
DepthCorrection	DepthCorrection	4.0.9213.3000

Tool Elements	Description	Software Version	Firmware Version
USI-SENSOR	USIT Transducer Element	4.0.9265.3000	DSP: v01.82
SGC-TB	Scintillation Gamma Cartridge	4.0.9033.3000	

Log

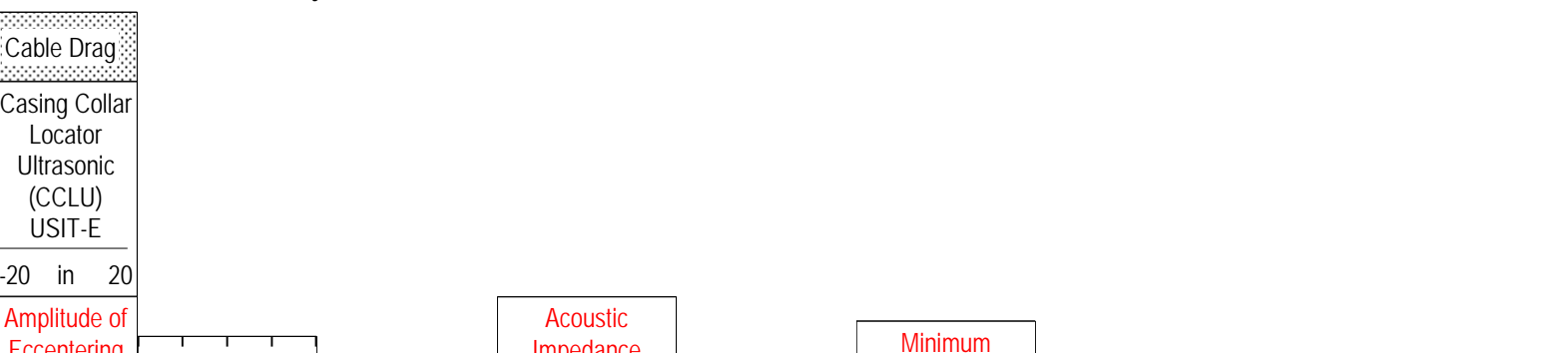
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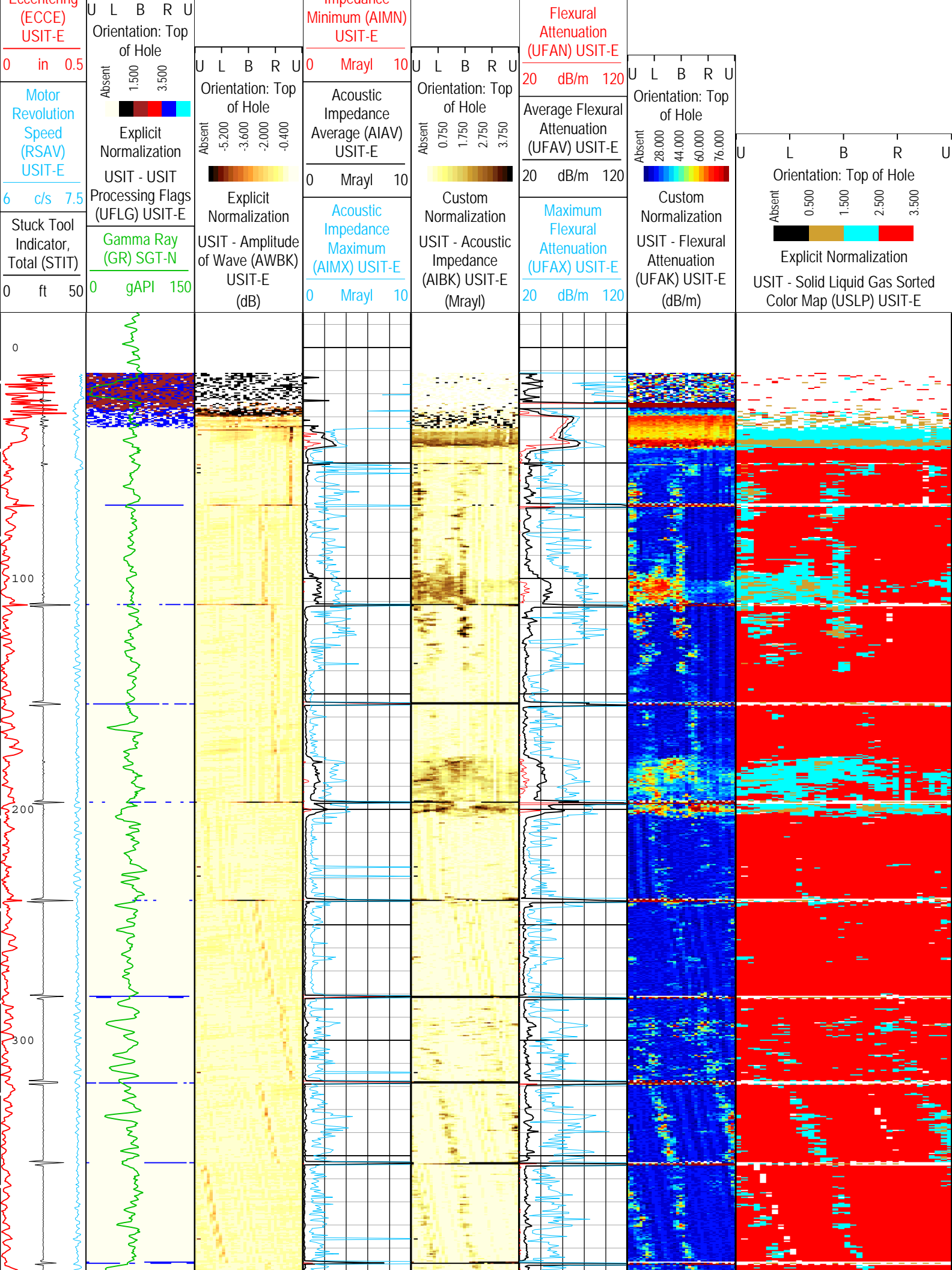
Well:Spurling 35C-34HZ

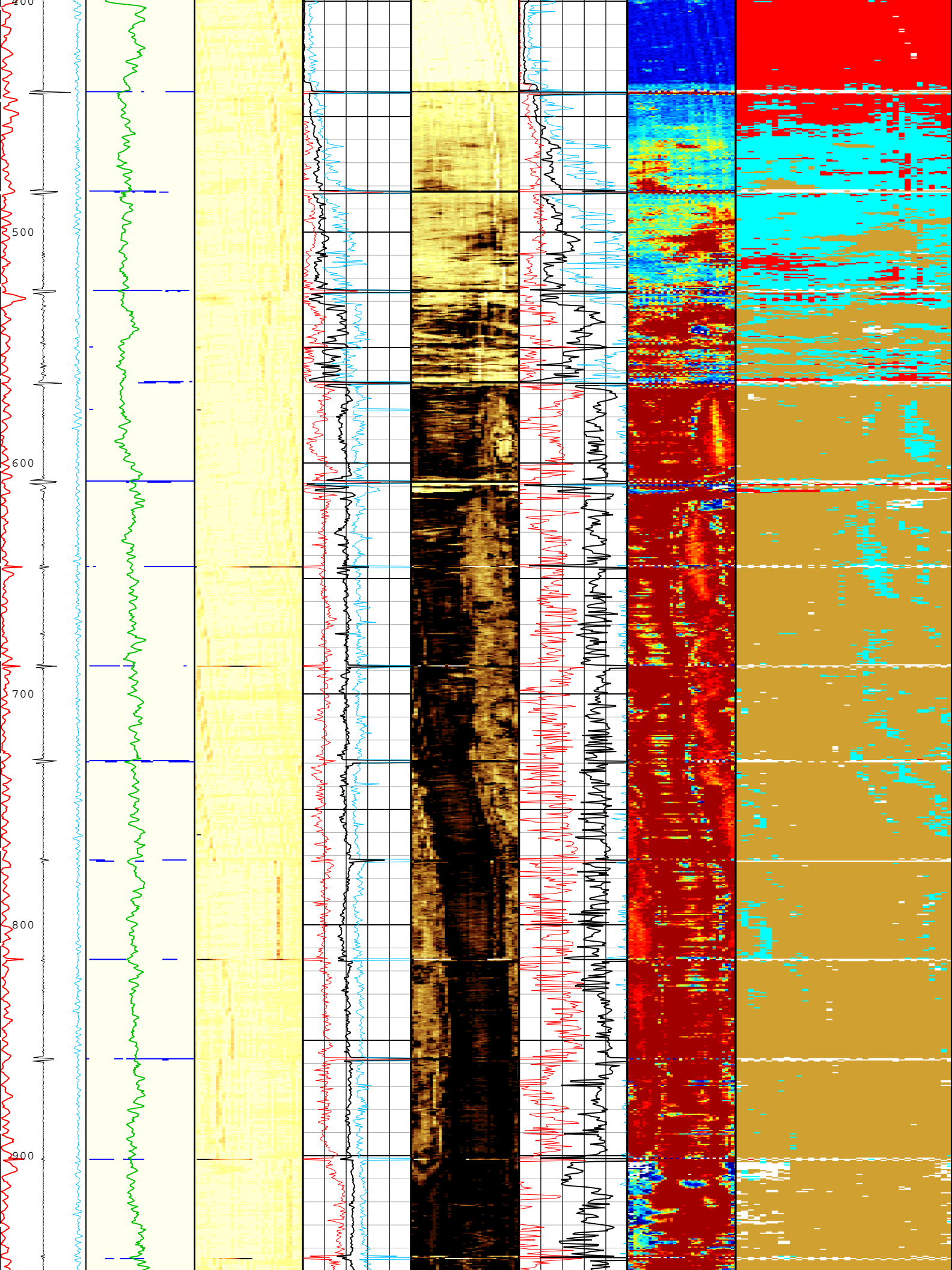
Run 1: Log[3]:Up:S007

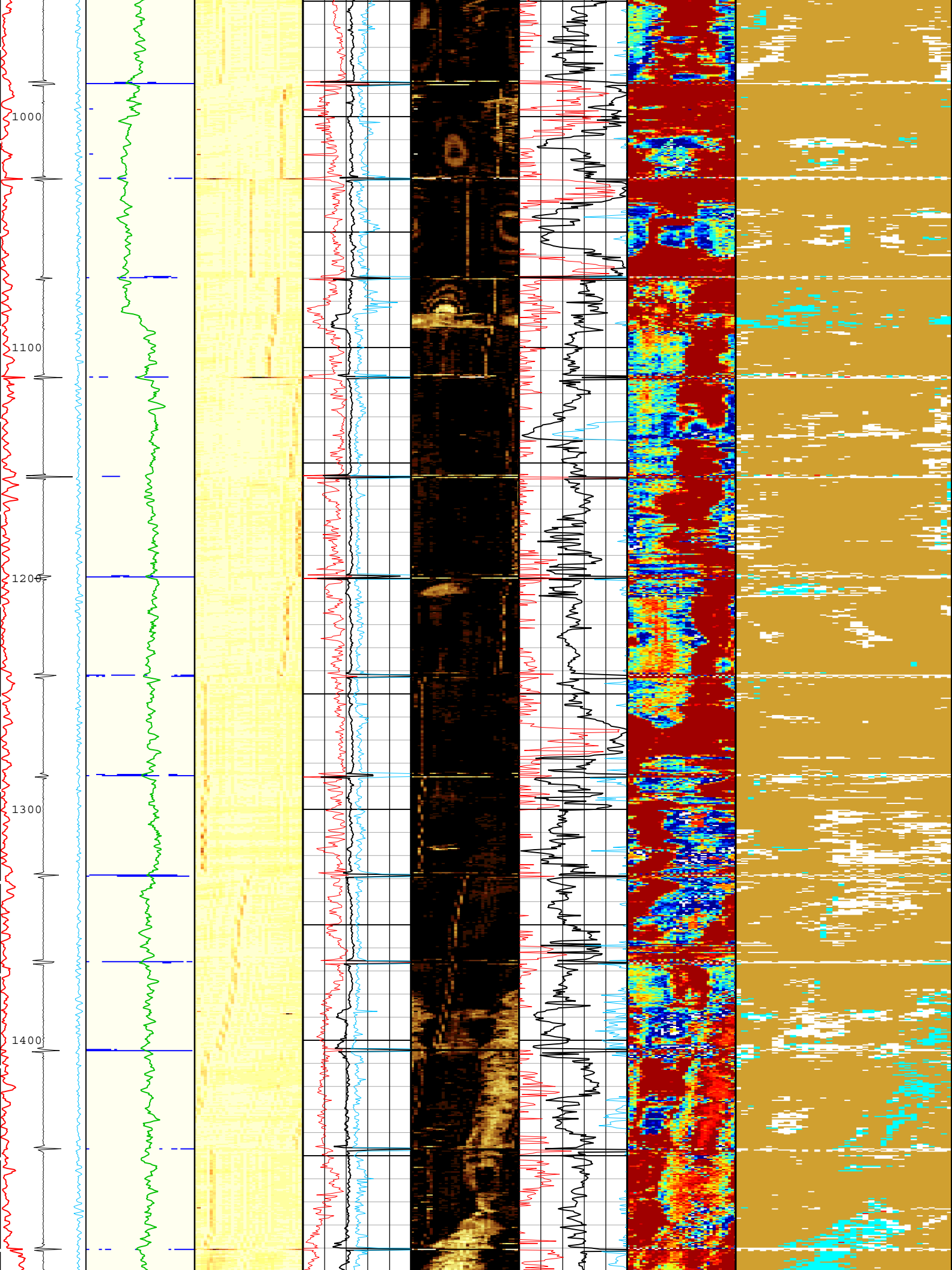
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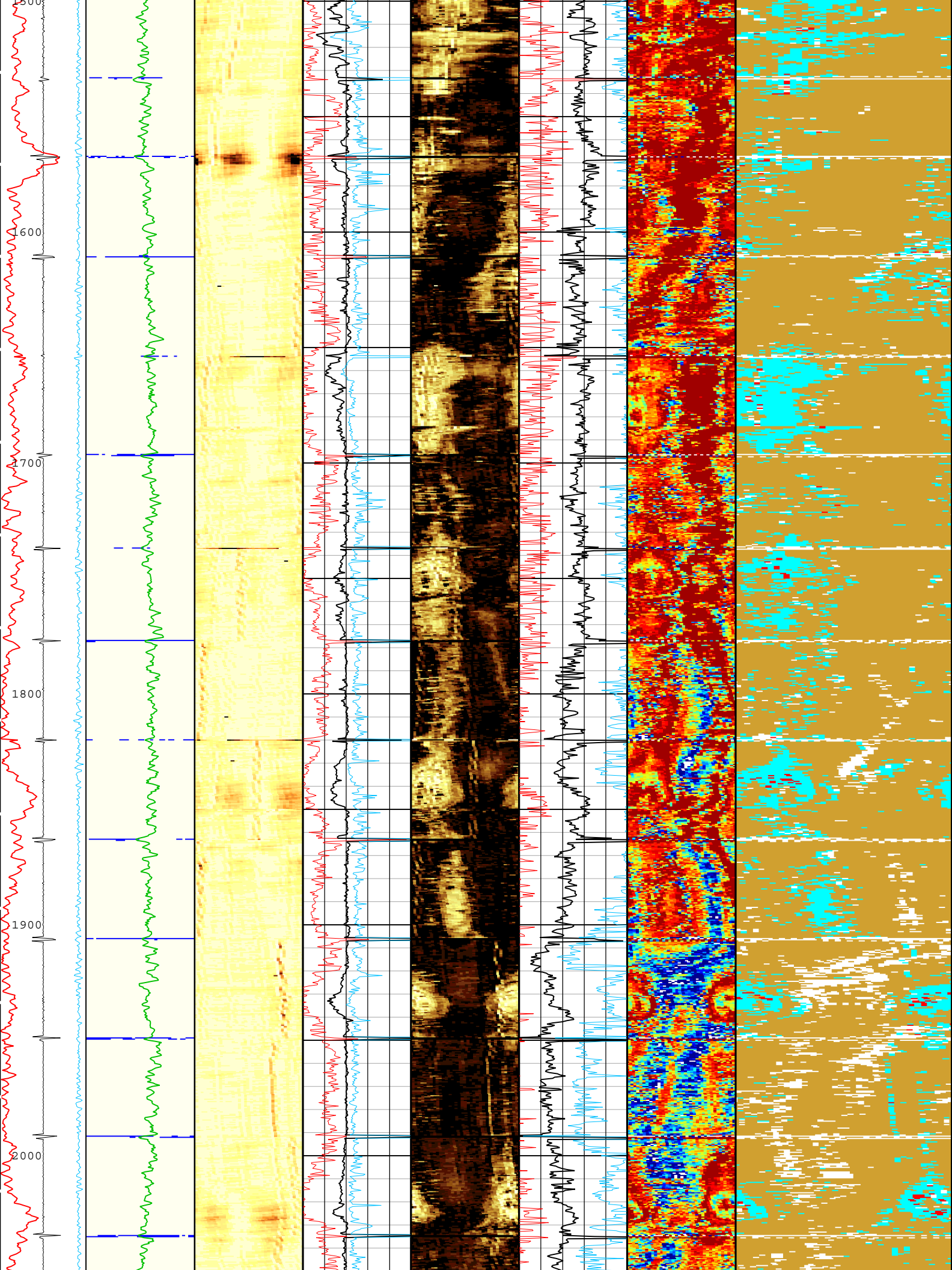
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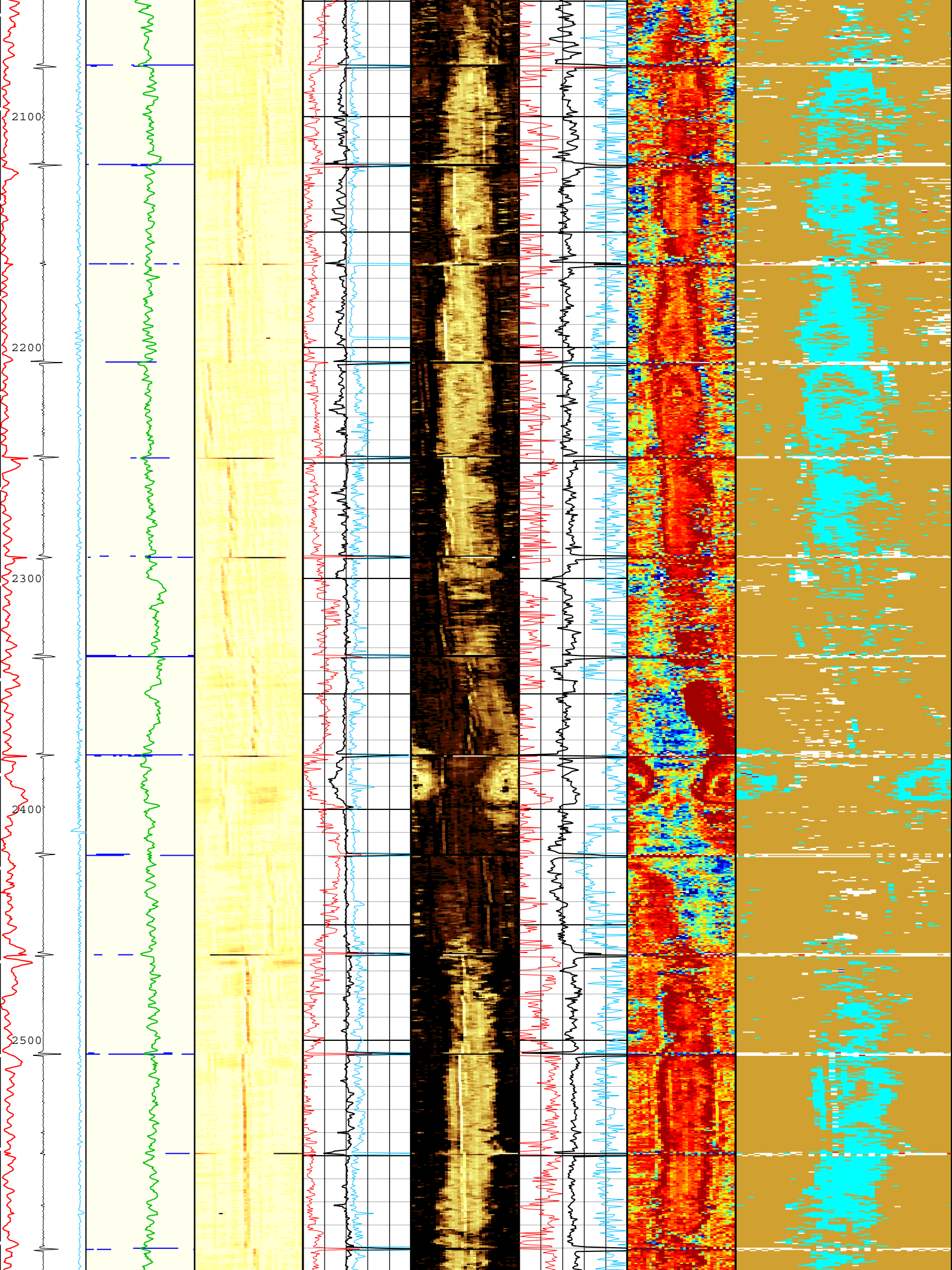


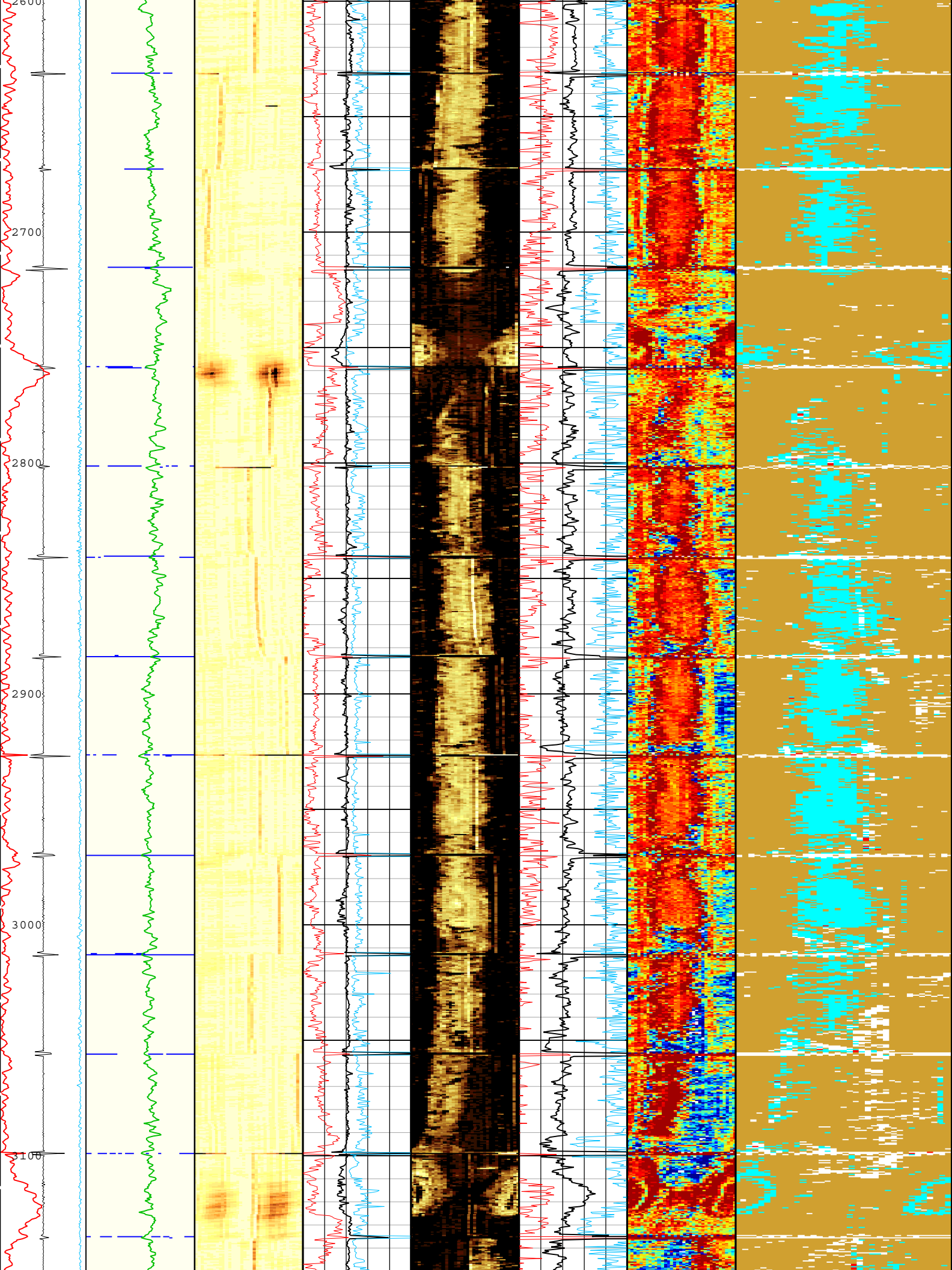


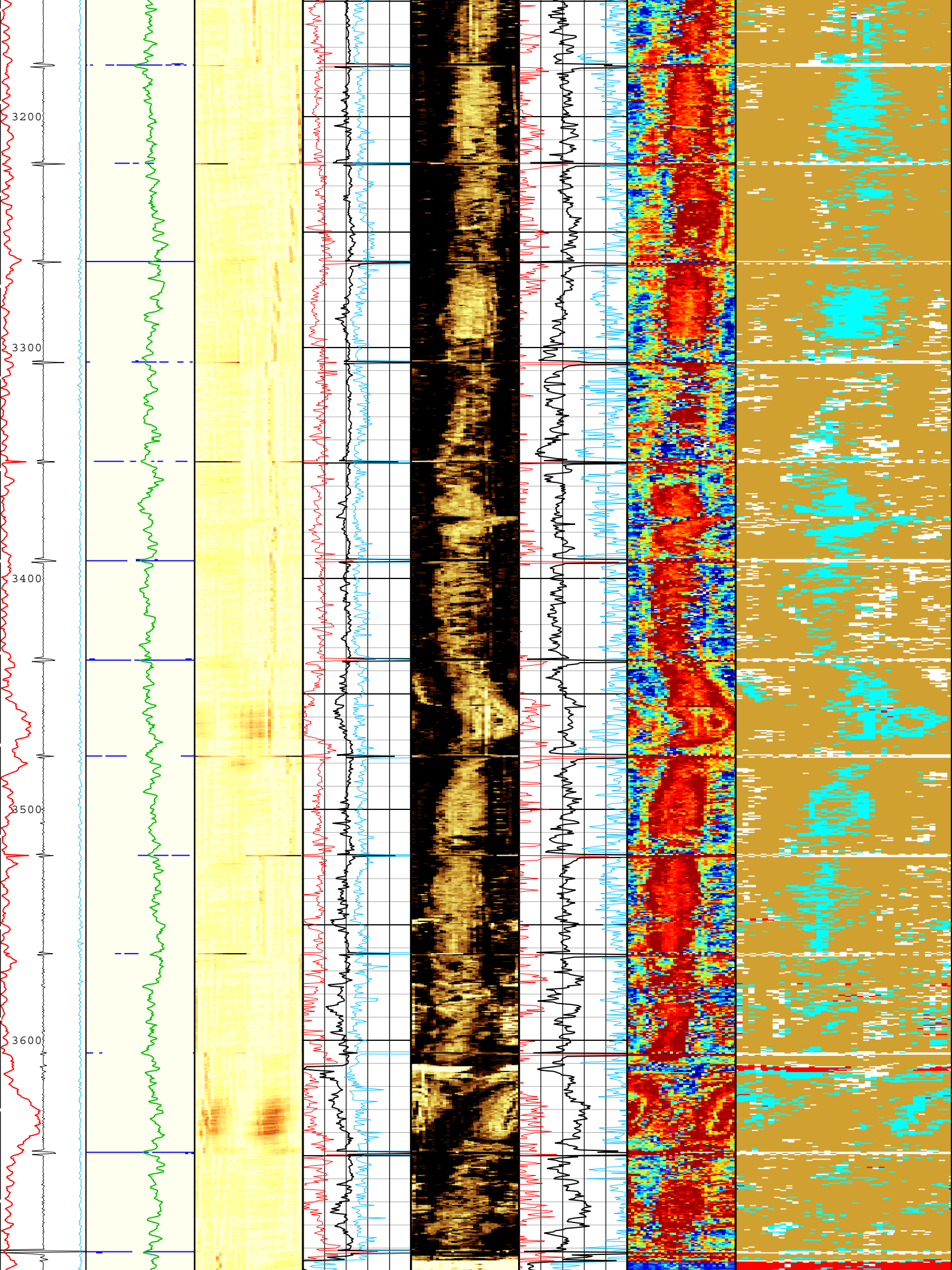


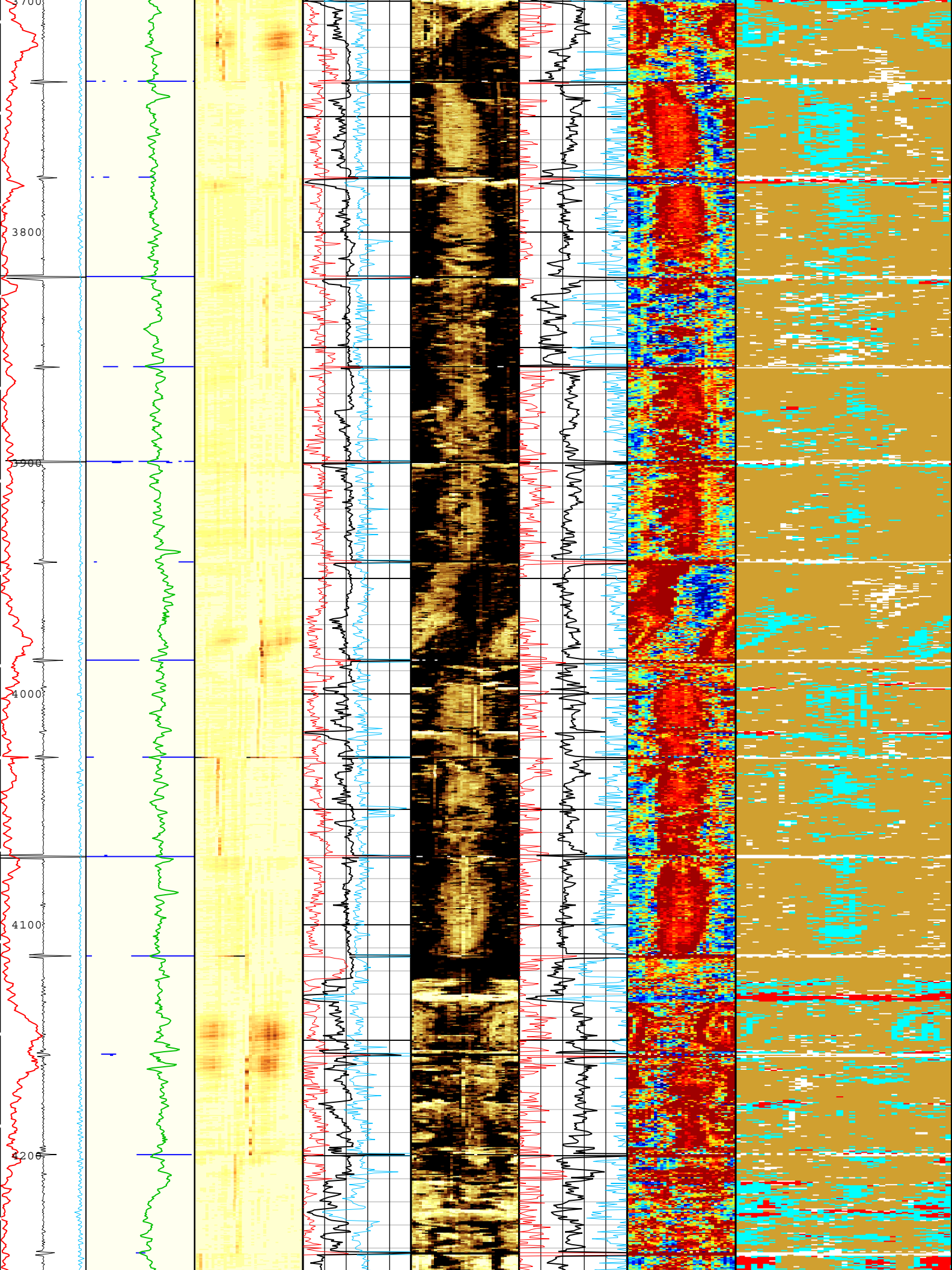


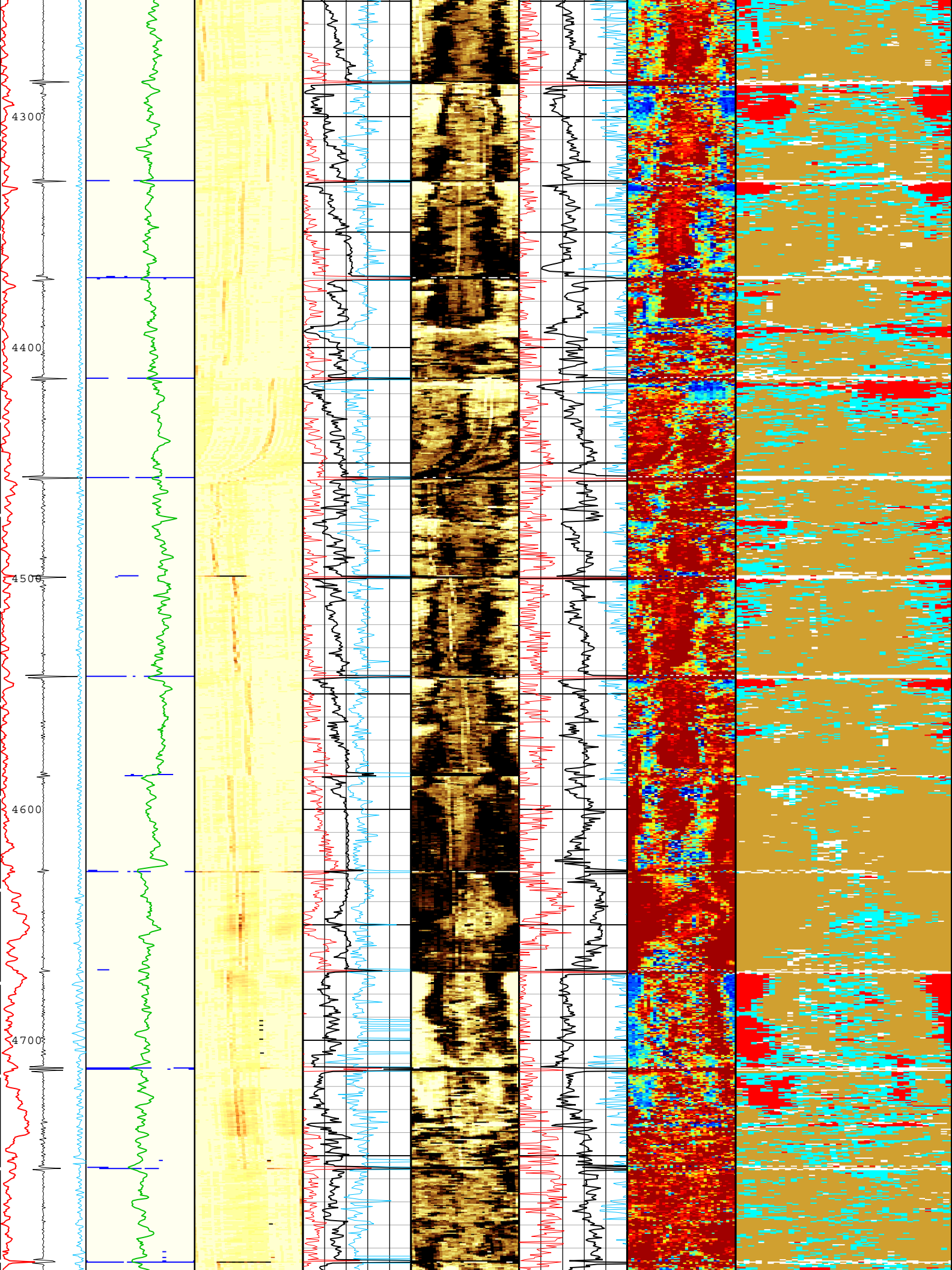


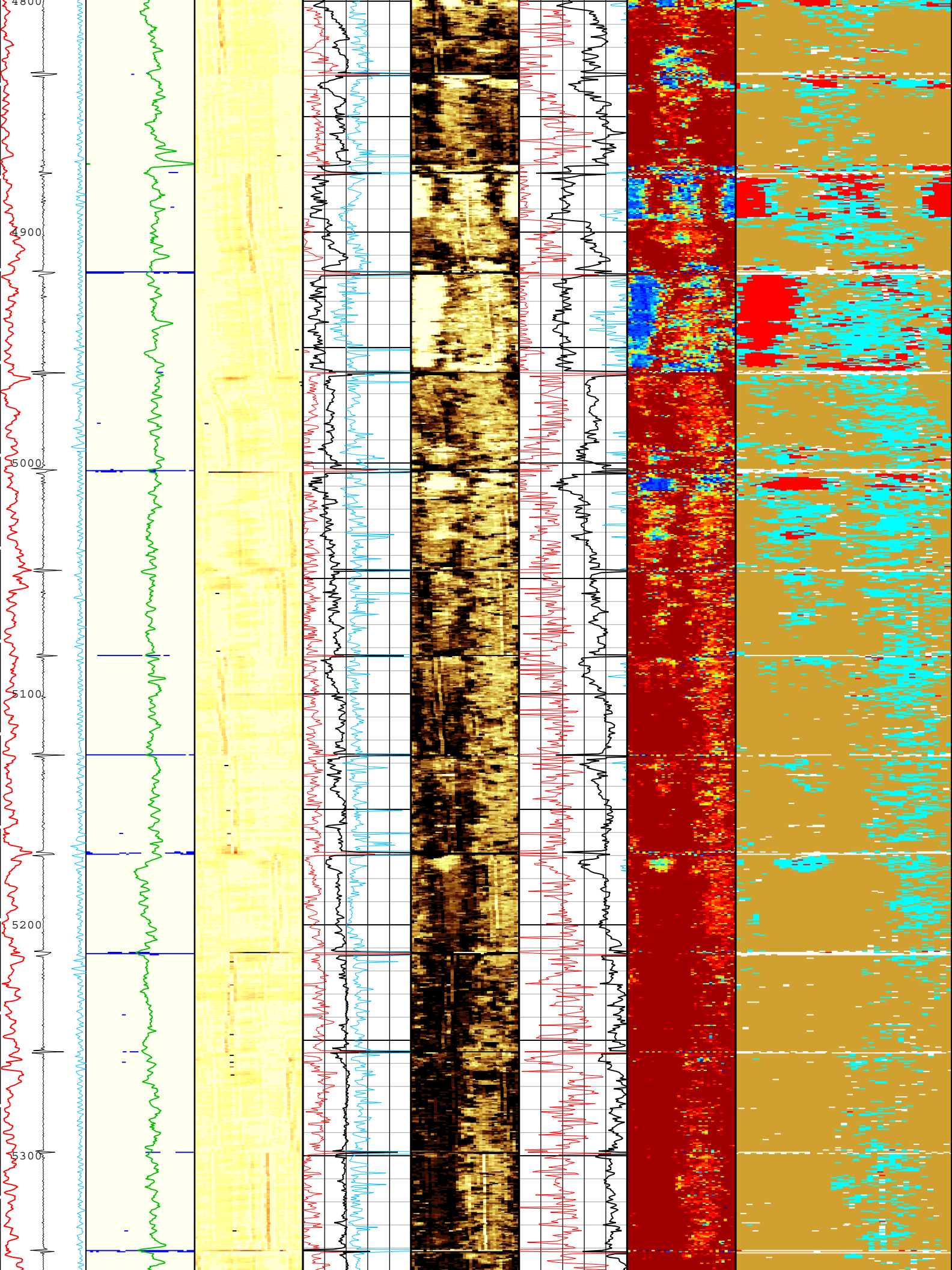


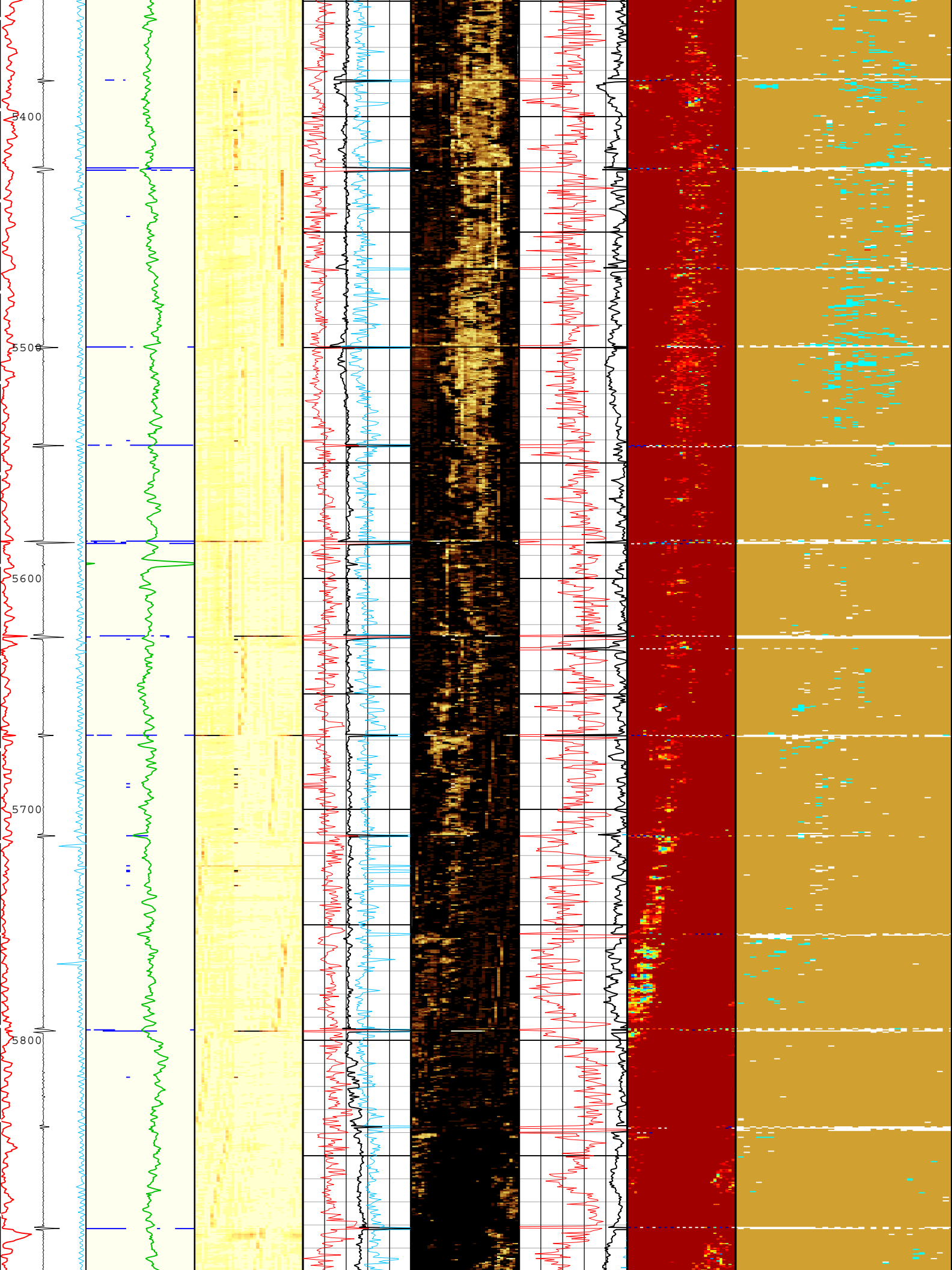


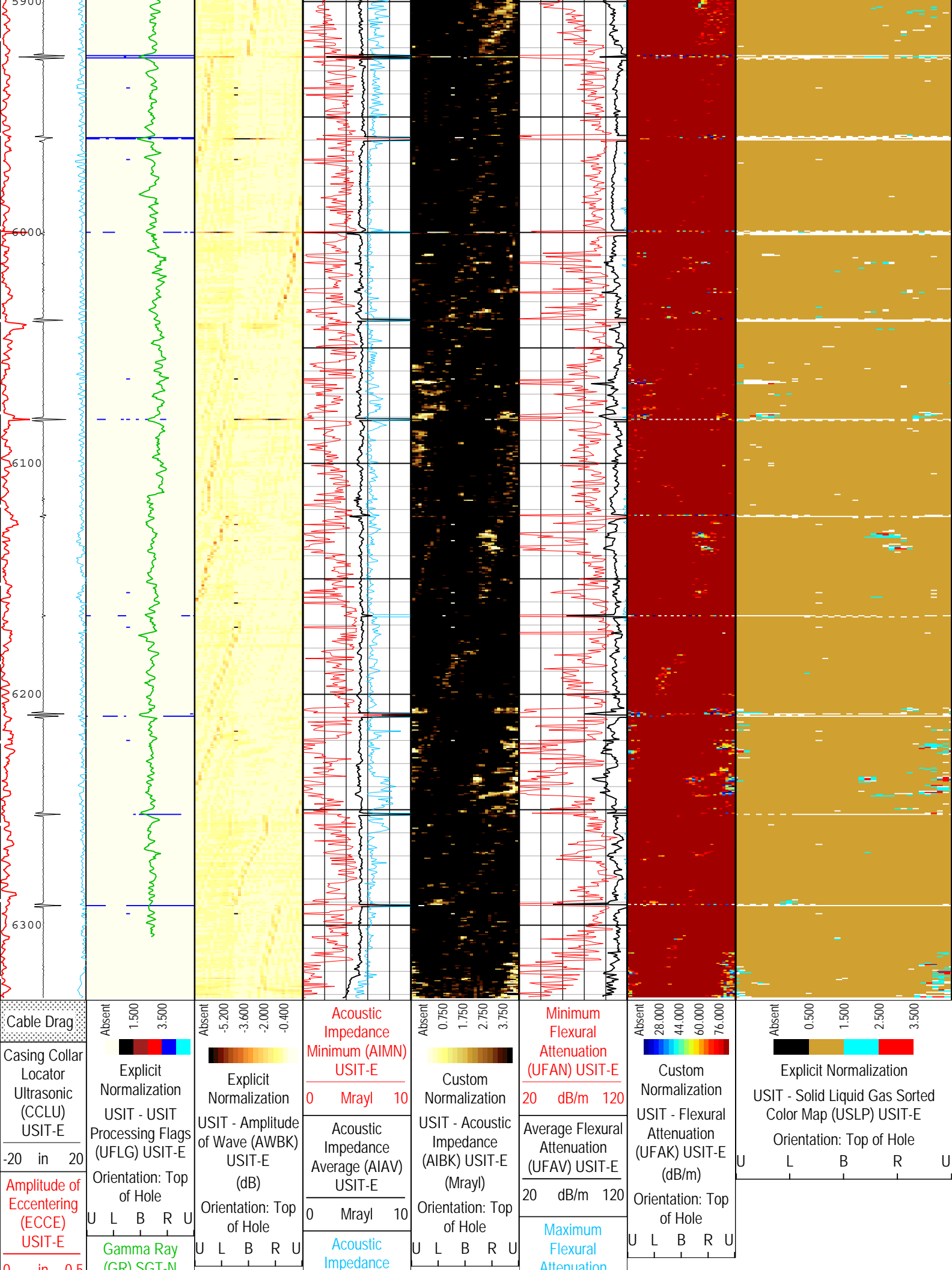












0.5	(GR) SGT-N	0	gAPI	150	Maximum (AIMX) USIT-E	0	Mrayl	10	Attenuation (UFAX) USIT-E	20	dB/m	120
Motor Revolution Speed (RSAV) USIT-E	6	c/s	7.5	Stuck Tool Indicator, Total (STIT)	0	ft	50					

TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Format: USI IBC SLG Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jun-2014 16:58:30

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8020	ft
CDEN.1	Cement Density	USIT-E	0	lbm/gal
CDEN.2	Cement Density	SGT-N	16.69	lbm/gal
CMTY	Cement Type	USIT-E	Light Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	2.31	dB/m
IBC_FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Manual	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-E	0	ft
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OCDI	Outer Casing Diameter	USIT-E	0	in
OCSH	Outer Casing Shoe	USIT-E	0	ft
OCWE	Outer Casing Weight	USIT-E	0	lbm/ft

RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SOGR	Standoff Distance of the Gamma Ray Tool	SGT-N	0	in
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	6330	ft
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS	Tool Position: Centered or Eccentered	SGT-N	Eccentered	
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFAO	SIT Flexural Attenuation Offset	USIT-E	22.9	dB/m
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	0	1000
BS	8.75	1000	6332.5
MEAS_WLEN	22.5	0	6332.5
ZMUD	1.63	0	750
ZMUD	1.64	750	1800
ZMUD	1.65	1800	2800
ZMUD	1.67	2800	3200
ZMUD	1.69	3200	4000
ZMUD	1.71	4000	6332.5

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
UFWB	Far Receiver Window Begin Time	USIT-E	133	us
UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz

UNWB	Near Receiver Window Begin Time	USIT-E	102	us
UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6331	ft
USSP	Ultrasonic Service	USIT-E	IBC	
UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	37.61	us
WINE	Window End Time	USIT-E	77.61	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	82	20-Jun-2014 08:03:25	20-Jun-2014 08:03:58	6332.54	6323.26
EMXV	85	20-Jun-2014 08:03:58	20-Jun-2014 08:20:30	6323.26	5693.92
EMXV	82	20-Jun-2014 08:20:30	20-Jun-2014 08:20:38	5693.92	5688.52
EMXV	80	20-Jun-2014 08:20:38	20-Jun-2014 08:20:49	5688.52	5680.85
EMXV	78	20-Jun-2014 08:20:49	20-Jun-2014 08:23:32	5680.85	5572.92
EMXV	77	20-Jun-2014 08:23:32	20-Jun-2014 08:23:56	5572.92	5556.72
EMXV	76	20-Jun-2014 08:23:56	20-Jun-2014 08:42:42	5556.72	4807.52
EMXV	78	20-Jun-2014 08:42:42	20-Jun-2014 09:07:24	4807.52	3811.65
EMXV	80	20-Jun-2014 09:07:24	20-Jun-2014 09:07:31	3811.65	3806.99
EMXV	76	20-Jun-2014 09:07:31	20-Jun-2014 09:07:38	3806.99	3802.06
EMXV	74	20-Jun-2014 09:07:38	20-Jun-2014 09:07:45	3802.06	3797.8
EMXV	72	20-Jun-2014 09:07:45	20-Jun-2014 09:07:52	3797.8	3793.22
EMXV	70	20-Jun-2014 09:07:52	20-Jun-2014 09:11:50	3793.22	3636.44
EMXV	72	20-Jun-2014 09:11:50	20-Jun-2014 09:12:02	3636.44	3628.76
EMXV	74	20-Jun-2014 09:12:02	20-Jun-2014 09:13:48	3628.76	3558.69
EMXV	76	20-Jun-2014 09:13:48	20-Jun-2014 09:51:29	3558.69	2036.09
EMXV	78	20-Jun-2014 09:51:29	20-Jun-2014 09:51:46	2036.09	2024.28
EMXV	80	20-Jun-2014 09:51:46	20-Jun-2014 10:04:07	2024.28	1525.59
EMXV	82	20-Jun-2014 10:04:07	20-Jun-2014 10:04:20	1525.59	1517.41
EMXV	84	20-Jun-2014 10:04:20	20-Jun-2014 10:04:28	1517.41	1512.26
EMXV	85	20-Jun-2014 10:04:28	20-Jun-2014 10:04:34	1512.26	1507.71
EMXV	88	20-Jun-2014 10:04:34	20-Jun-2014 10:08:37	1507.71	1346.78
EMXV	86	20-Jun-2014 10:08:37	20-Jun-2014 10:09:06	1346.78	1327.07
EMXV	84	20-Jun-2014 10:09:06	20-Jun-2014 10:09:12	1327.07	1323.38
EMXV	80	20-Jun-2014 10:09:12	20-Jun-2014 10:09:26	1323.38	1314.3
EMXV	77	20-Jun-2014 10:09:26	20-Jun-2014 10:09:31	1314.3	1310.75
EMXV	75	20-Jun-2014 10:09:31	20-Jun-2014 10:09:36	1310.75	1307.34
EMXV	73	20-Jun-2014 10:09:36	20-Jun-2014 10:16:17	1307.34	1039.54
EMXV	75	20-Jun-2014 10:16:17	20-Jun-2014 10:41:39	1039.54	24.55
EMXV	80	20-Jun-2014 10:41:39	20-Jun-2014 10:42:10	24.55	11.87
UFWE	173	20-Jun-2014 08:03:25	20-Jun-2014 08:15:25	6332.54	5899.24
UFWE	180.58	20-Jun-2014 08:15:25	20-Jun-2014 08:29:58	5899.24	5318.95

UFWE	181.87	20-Jun-2014 08:29:58	20-Jun-2014 08:30:02	5318.95	5316.28
UFWE	187	20-Jun-2014 08:30:02	20-Jun-2014 10:42:10	5316.28	11.87
UNWE	142	20-Jun-2014 08:03:25	20-Jun-2014 08:15:27	6332.54	5897.88
UNWE	150.43	20-Jun-2014 08:15:27	20-Jun-2014 08:30:10	5897.88	5310.82
UNWE	158.37	20-Jun-2014 08:30:10	20-Jun-2014 10:42:10	5310.82	11.87

All depth are at tool zero.

Import (3) of USI Goodwin

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[3]:Up	6332.54	11.87

Fluid Velocity = "Automatic".

CFVL equals DFSL channel

Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
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Mud Impedance = "Manual".

CZMD uses ZMUD parameter zoned table below

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	750	1.63	1.63
750	1800	1.64	1.64
1800	2800	1.65	1.65
2800	3200	1.67	1.67
3200	4000	1.69	1.69
4000		1.71	1.71

Run 1

IBC Goodwin Compressed - 0 PSI Pass

Log	Company:Anadarko Petroleum Company	Well:Spurling 35C-34HZ
		Run 1: Log[3]:Up:S007

Description: USI Goodwin

Format: USI Goodwin

Index Scale: 0.1 in per 100 ft

Index Unit: ft

Index Type: Measured Depth

Creation Date: 20-Jun-2014 16:58:35

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E			
0 Mrayl 15	0 Mrayl 15	0 Mrayl 15	0 Mrayl 15			
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E			
0 Mrayl 15	0 Mrayl 15	0 Mrayl 15	0 Mrayl 15			
Average Acoustic Impedance 1 (AV_AI1) USIT-E	Average Acoustic Impedance 3 (AV_AI3) USIT-E	Average Acoustic Impedance 5 (AV_AI5) USIT-E	Average Acoustic Impedance 7 (AV_AI7) USIT-E			
0 Mrayl 15	0 Mrayl 15	0 Mrayl 15	0 Mrayl 15			
Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E	Acoustic Impedance Minimum (AIMN) USIT-E	Minimum Flexural Attenuation (UFAN) USIT-E
-7.5Mrayl 7.5	-7.5Mrayl 7.5	-7.5Mrayl 7.5	-7.5Mrayl 7.5	0 Mrayl 15	0 Mrayl 7.5	40 dB/m 140

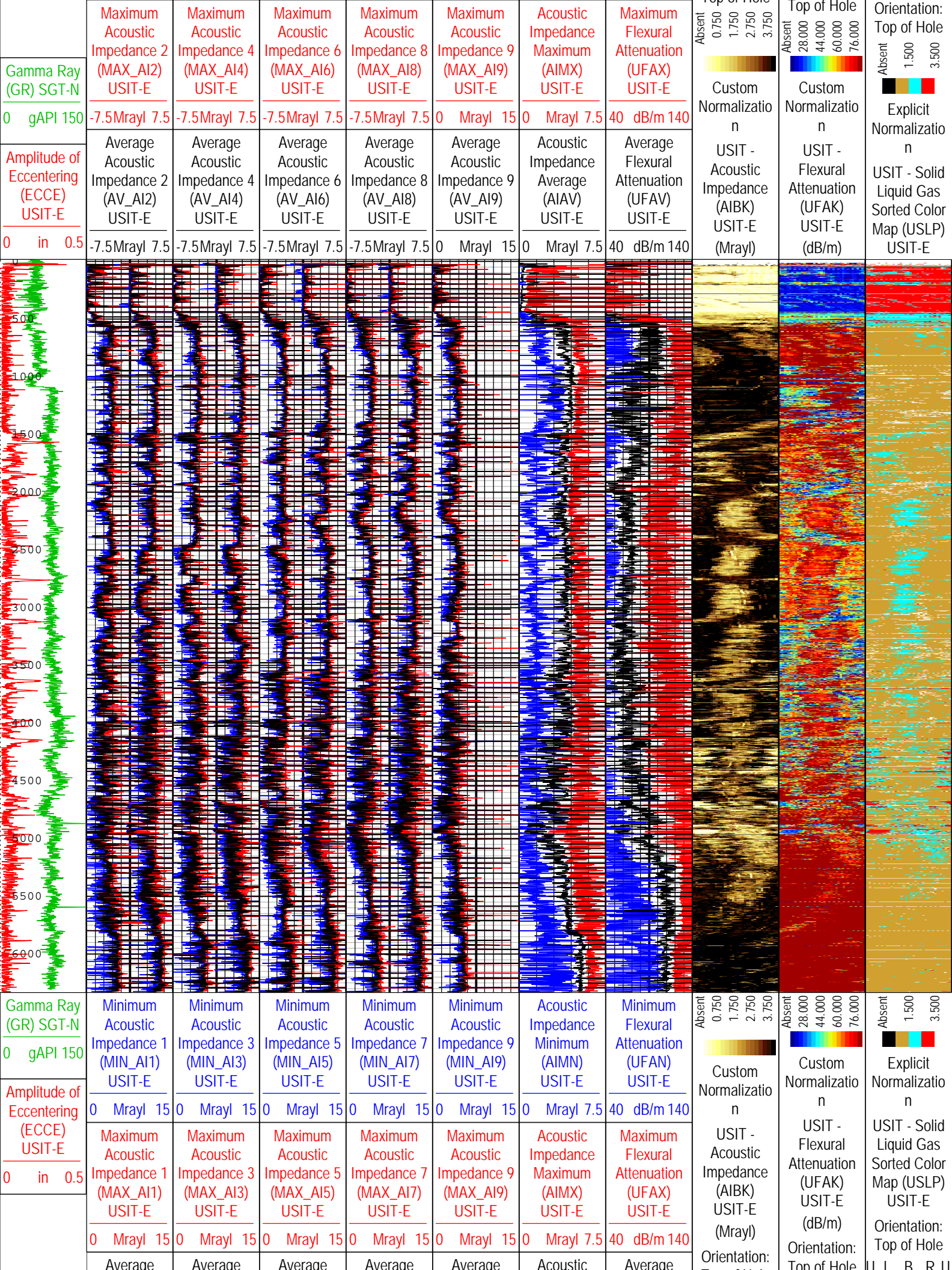
U L B R U

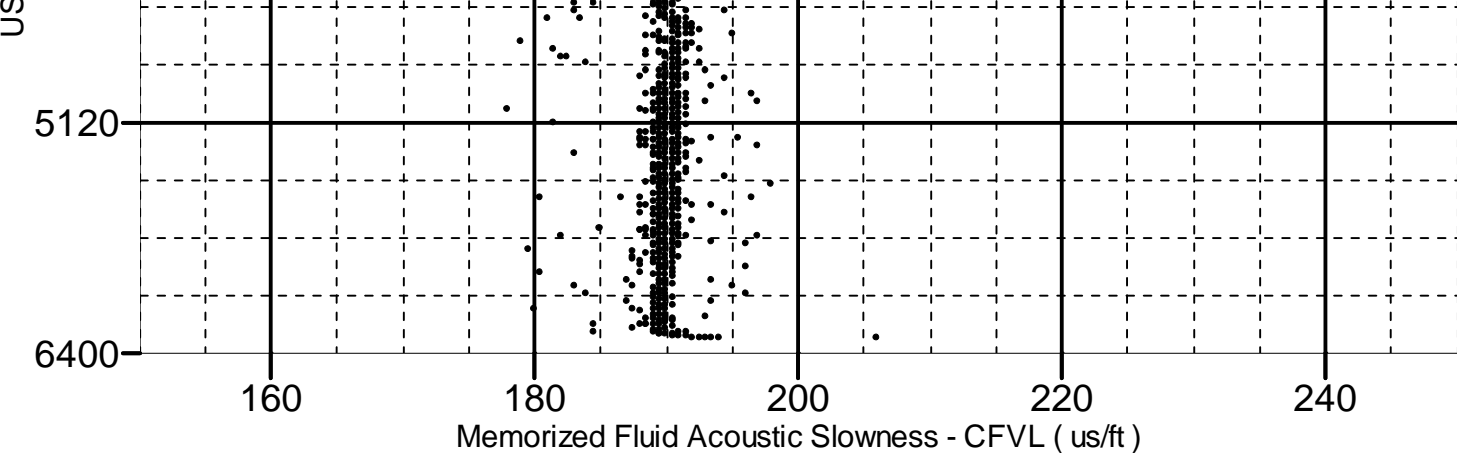
Orientation: Top of Hole

U L B R U

Orientation: Top of Hole

U L B R U

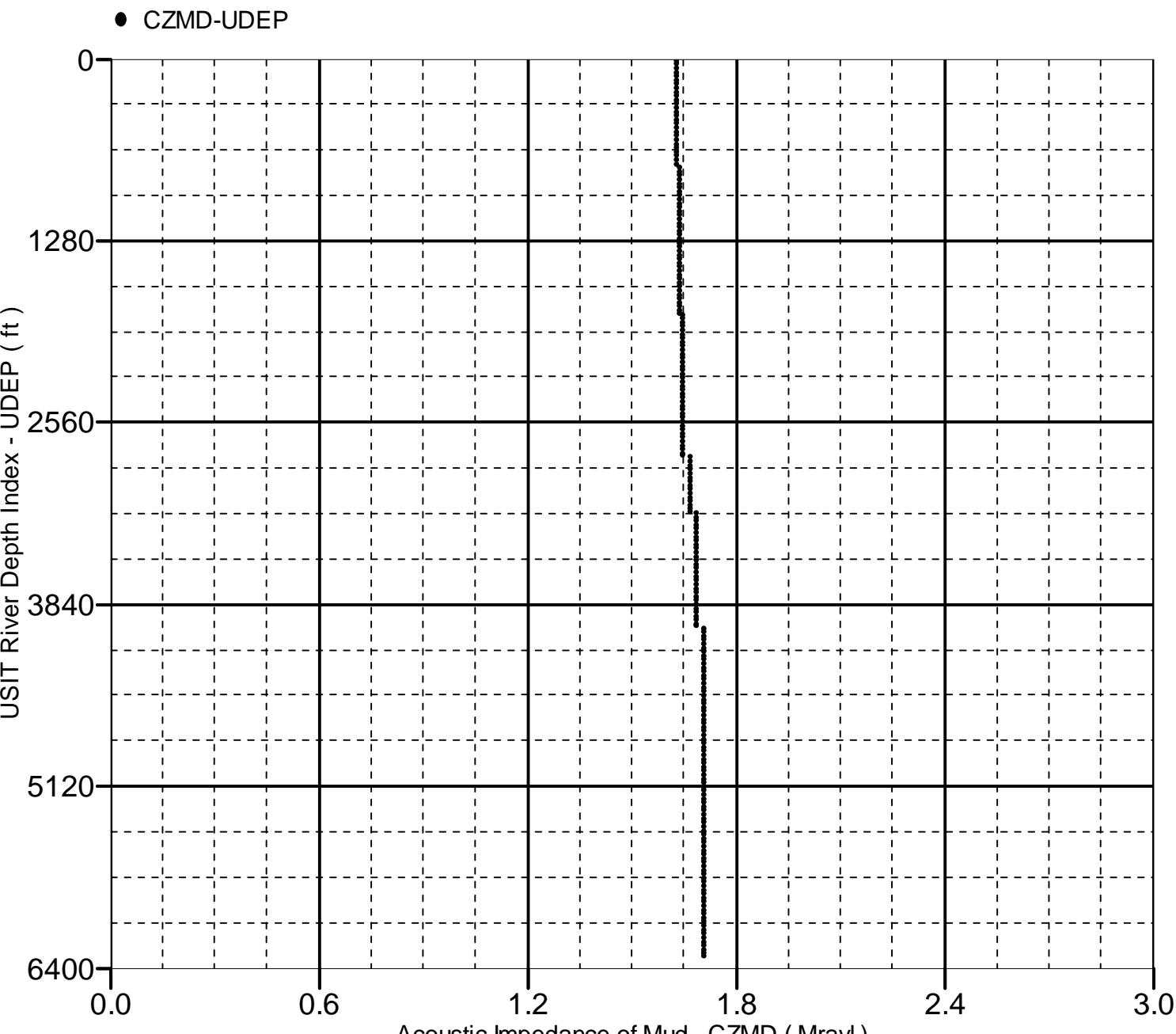




Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6326.50 to 13.00 ft



Field:	Wattenberg
County:	Weld
State:	Colorado

Isolation Scanner
Cement Evaluation
Gamma Ray - CCL Log