

Company: Crestone Peak Resources Operating LLC

Well: Davis 1N-9H-G266

Field: Wattenberg

County: Weld State: Colorado

Isolation Scanner  
Cement Evaluation  
Gamma Ray - CCL Log

County: Weld  
Field: Wattenberg  
Location: SWSE Sec. 9, T2N, R66W  
Well: Davis 1N-9H-G266  
Company: Crestone Peak Resources Operating LLC

Location:		SWSE Sec. 9, T2N, R66W SHL: 1995' FNL & 1443' FEL Lat/Long: 40.154345, -104.777964	Elev.: K.B. 4940.00 ft G.L. 4917.00 ft D.F. 4940.00 ft
Permanent Datum:		Ground Level	Elev.: 4917.00 f
Log Measured From:		Kelly Bushing	23.00 ft above Perm.Datum
Drilling Measured From:		Kelly Bushing	
API Serial No.	Section:	Township:	Range:
05-123-46506	9	2N	66W

Logging Date 22-Sep-2018

Run Number ONE

Depth Driller 15058.00 ft

Schlumberger Depth 15058.00 ft

Bottom Log Interval 7377.00 ft

Top Log Interval 65.00 ft

Casing Fluid Type Water

Salinity

Density 8.4 lbm/gal

Fluid Level 0.00 ft

BIT/CASING/TUBING STRING

Bit Size 8.50 in

From 2218.00 ft

To 15058.00 ft

Casing/Tubing Size 5.5 in

Weight 20 lbm/ft

Grade P110

From 0.00 ft

To 15058.00 ft

Max Recorded Temperatures 195.2 degF

Logger on Bottom 22-Sep-2018

Unit Number 9108

Recorded By A.BLOCHOWICZ

Witnessed By DUANE DUNN

Disclaimer

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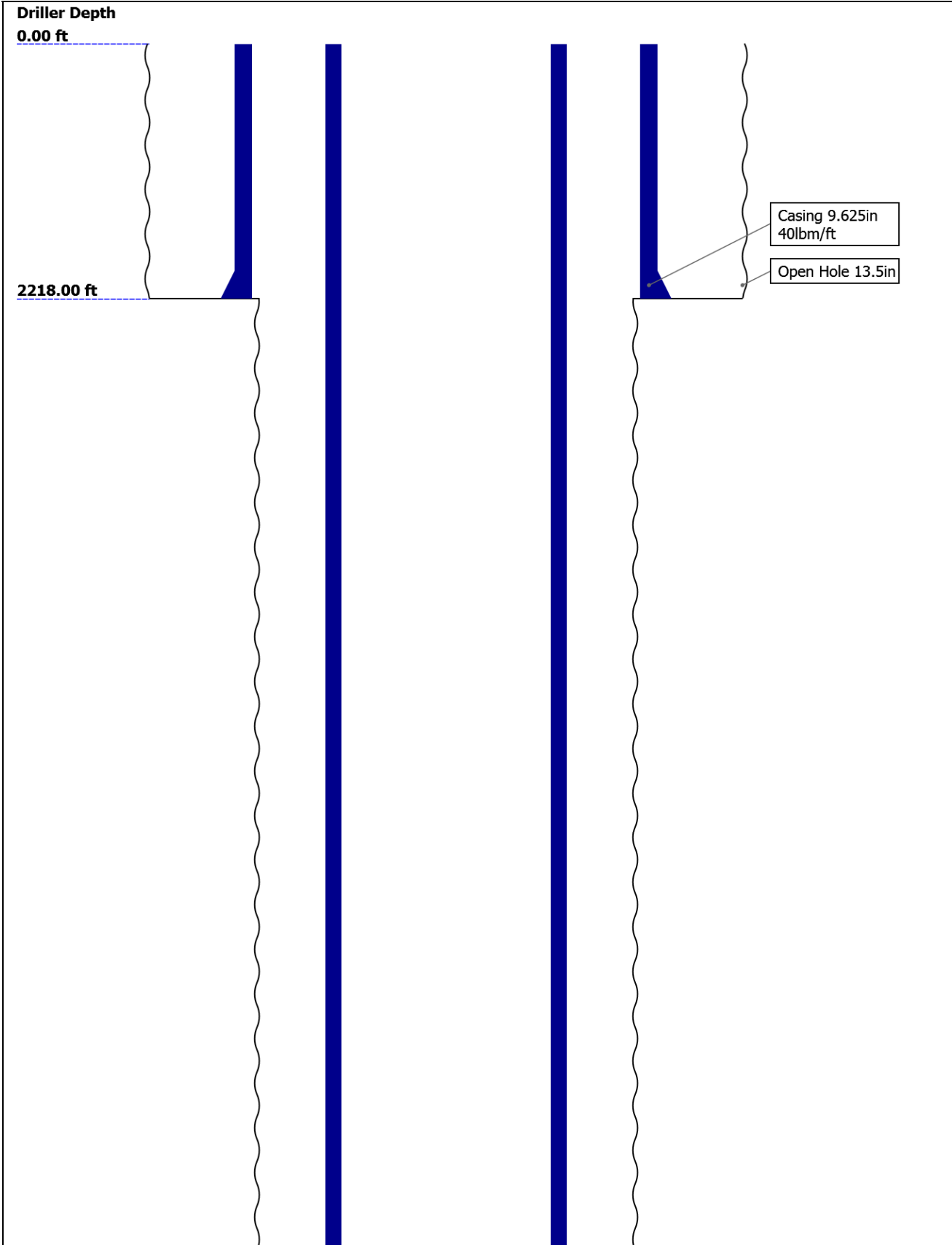
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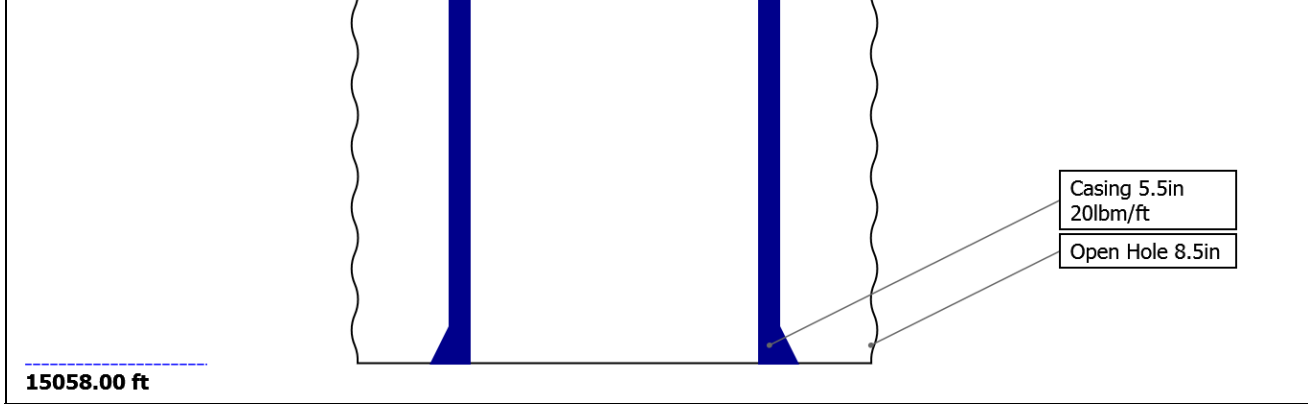
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Well Sketch



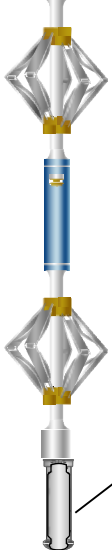


## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	13.5	8.5				
Top Driller ( ft )	0	2218				
Top Logger ( ft )	0	2218				
Bottom Driller ( ft )	2218	15058				
Bottom Logger ( ft )	2218	15058				
Casing						
Size ( in )	9.625	5.5				
Weight ( lbm/ft )	40	20				
Inner Diameter ( in )	8.835	4.778				
Grade	J55	P110				
Top Driller ( ft )	0	0				
Top Logger ( ft )	0	0				
Bottom Driller ( ft )	2218	15058				
Bottom Logger ( ft )	2218	15058				

## Remarks and Equipment Summary

ONE: Toolstring				ONE: Remarks	
<b>Equip name</b>	<b>Length</b>	<b>MP name</b>	<b>Offset</b>	Thank you for choosing Schlumberger!	
LEH-QT	30.73			Tool string run as per tool sketch and client logging program.	
LEH-QT				5" Gemcos and in-line centralizers with small hole kit used for centralization.	
<b>EDTC-B:8</b>	<b>27.24</b>			All passes run under 0 PSI	
473M				Lead: 12.5 ppg	
EDTH-B:86				Tail: 13.5 ppg	
24				Spacer: 12 ppg	
EDTG-A:7				High deviation (33 deg) and dogleg severity affected data throughout the well.	
7434					
EDTC-B:84					
73M					
<b>AH-184[2]:5941</b>	<b>20.74</b>				
<b>AH-184[1]:5965</b>	<b>18.74</b>				
<b>USIT-E:17</b>	<b>16.74</b>				
25					
ECH-MFA:					
1991					
USAC-A:1					
725					
USAC-A:10					

USIS-A:18 32 USSC-B:17 78 IBCS-A:77 4 FAR-SENS OR:4670 IBC-TX NEAR-SEN SOR:4642 IBC-TX USI-SENS OR:1358 IBC-TX EMITTER- SENSOR:4 561 IBC-TX	 <p><b>USI Sen 0.84 sor Head Te nsion</b></p> <p>TOOL_ZERO</p> <p>Lengths are in ft          Maximum Outer Diameter = 5.000 in          Line: Sensor Location, Value: Gating Offset          All measurements are relative to TOOL_ZERO</p>	
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Depth Summary			
	ONE		
Depth Measuring Device			
Type	IDW-JA		
Serial Number	6455		
Calibration Date	26-JUL-2018		
Calibrator Serial Number	IDWC-C-57		
Calibration Cable Type	7-32 ASXS		
Wheel Correction 1	-1		
Wheel Correction 2	1		
Tension Device			
Type	CMTD-B/A		
Serial Number	1703		
Calibration Date	29-Jul-2018		
Calibrator Serial Number	88310A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	6		
Calibration Peak Error	9		
Logging Cable			
Type	7-32AS-XS		
Serial Number	U718001		
Length	20000.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane USA		
ONE:Depth Control Parameters		Depth Control Remarks	
Log Sequence	First Log In the Well	All Schlumberger depth control policies followed.	
Rig Up Length At Surface		DW used as primary depth reference.	
Rig Up Length At Bottom		Z-chart used as secondary depth reference.	
Rig Up Length Correction			



Stretch Correction  
Tool Zero Check At Surface

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[5]:Up	4576.89	57.28

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 = "FreePipe Norm."  
Free Pipe normalization zone is : 195.73m(642.17ft) to 198.15m(650.09ft)  
MUD\_N\_FRP = 1.17  
DFD = 1.01g/cm3(8.40lbm/gal)  
CZMD median computed in free pipe normalization interval = 1.71 MRayl

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
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Composite 1

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	4541.40 ft	7379.60 ft	22-Sep-2018 11:05:49 AM	22-Sep-2018 11:47:03 AM	ON	7.97 ft	Yes
ONE	Log[5]:Up	Up	57.28 ft	4576.89 ft	22-Sep-2018 11:47:59 AM	22-Sep-2018 1:00:00 PM	ON	7.44 ft	Yes

All depths are referenced to toolstring zero

Log	Company:Crestone Peak Resources Operating LLC      Well:Davis 1N-9H-G266 Composite 1:S004
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Description: USI IBC SLG    Format: Log ( IBC SLG )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 22-Sep-2018 16:37:56

TIME\_1900 - Time Marked every 60.00 (s)

USIT Processing Flags (UFLG[0]) USIT-E[1]

1 - UFLG 1 Value within [0.0 - 1.5] - :  
2 - UFLG 2 Value within [1.5 - 2.5] - :  
3 - UFLG 3 Value within [2.5 - 3.5] - :  
4 - UFLG 4    UFLG 5    UFLG 6 Value within [3.5 - 6.5] - :  
5 - UFLG 7    UFLG 8    UFLG 9 Value within [6.5 - 10 ] - :

■

 UTIM Error  

■

 Pulse Origin Not Detected  

■

 WINLEN Error  

■

 Casing Thickness Error  

■

 Loop Processing Error

Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]  
-20 in 20

Amplitude of Eccentering (ECCE) USIT-E[1]  
0 in 0.5

Motor Revolution Speed

Absent 1.500 3.500

Explicit Normalization  
USIT - USIT Processing Flags (UFLG) USIT-E[1]

USIT Processing Flags (UFLG[0]) USIT-E[1]  
1 5

Gamma Ray (GGR, EDTG) USIT - Amplitude

Absent 5.200 3.600 2.000 0.400

Explicit Normalization

Absent 0.750 1.750 2.750 3.750

Custom Normalization  
USIT - Acoustic

Absent 42.000 66.000 90.000 114.000

Custom Normalization  
USIT - Flexural Attenuation

Absent 0.500 1.500 2.500 3.500

Explicit Normalization  
USIT - Solid Liquid Gas

SLG Solid Index

SLG Liquid Index

SLG Gas Index

Acoustic Impedance Minimum (AIMN) USIT-E[1]  
-1 Mrayl 9

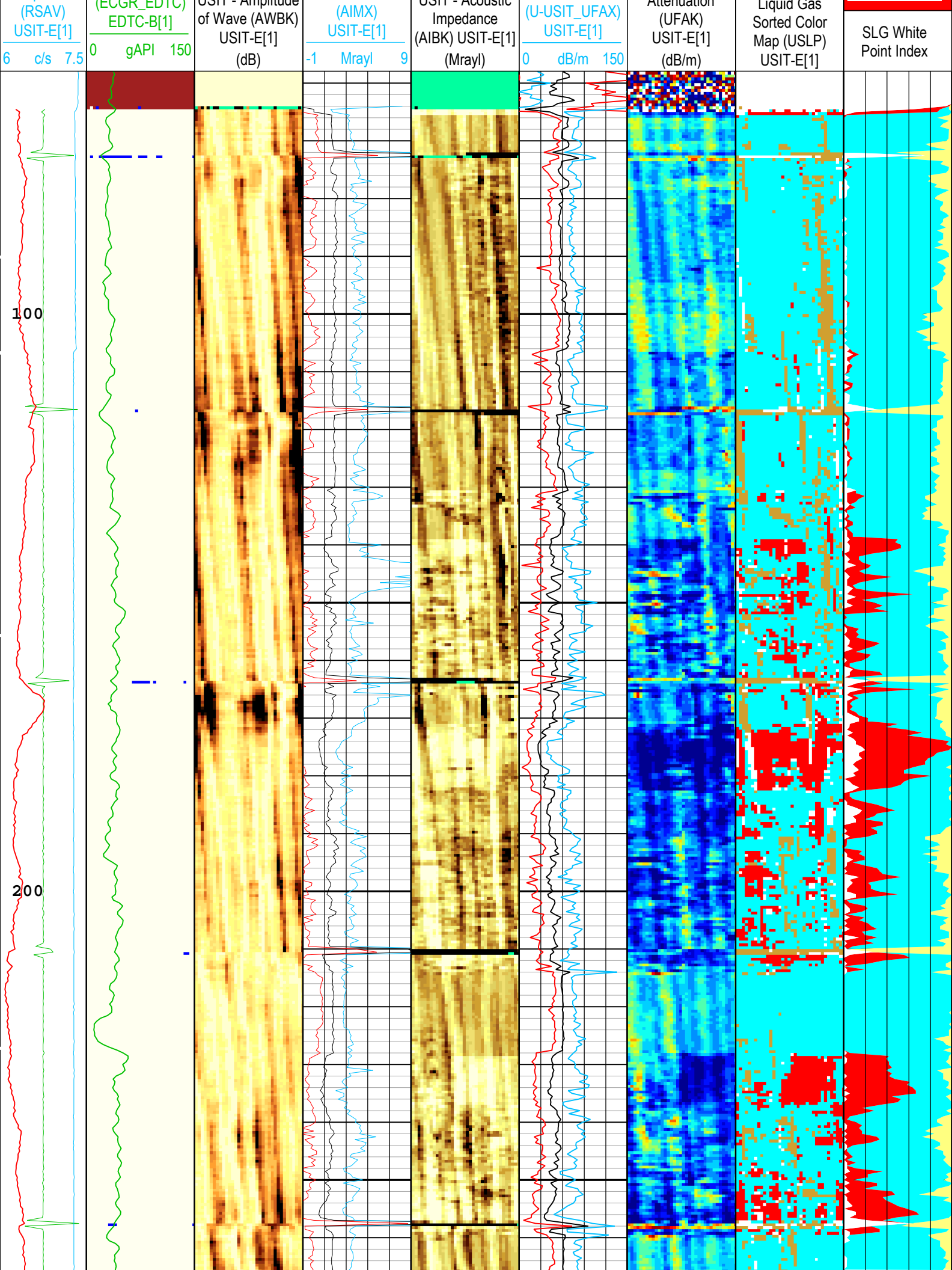
Acoustic Impedance Average (AIAV) USIT-E[1]  
-1 Mrayl 9

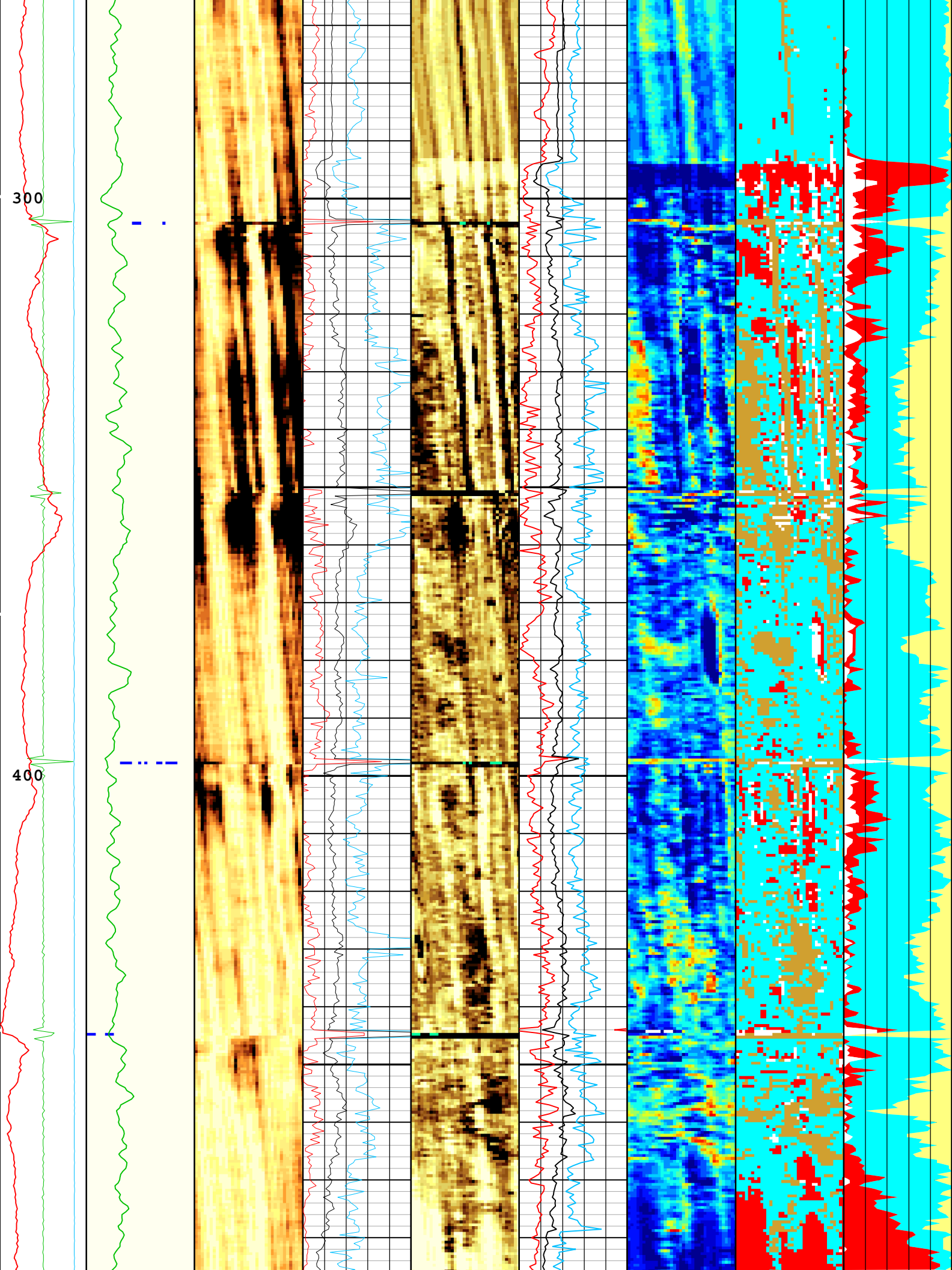
Acoustic Impedance Maximum

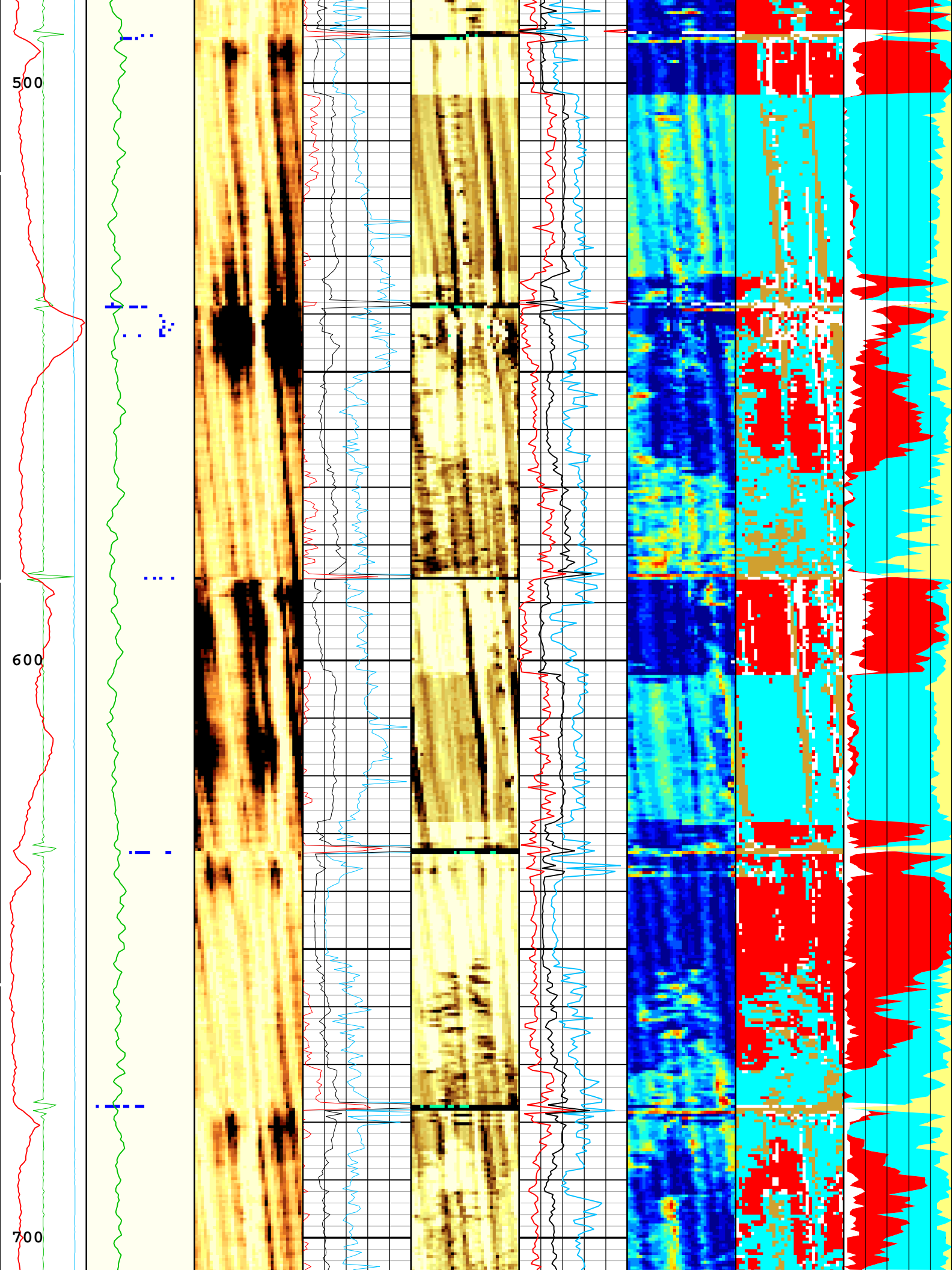
Minimum Flexural Attenuation (U-USIT\_UFAN) USIT-E[1]  
0 dB/m 150

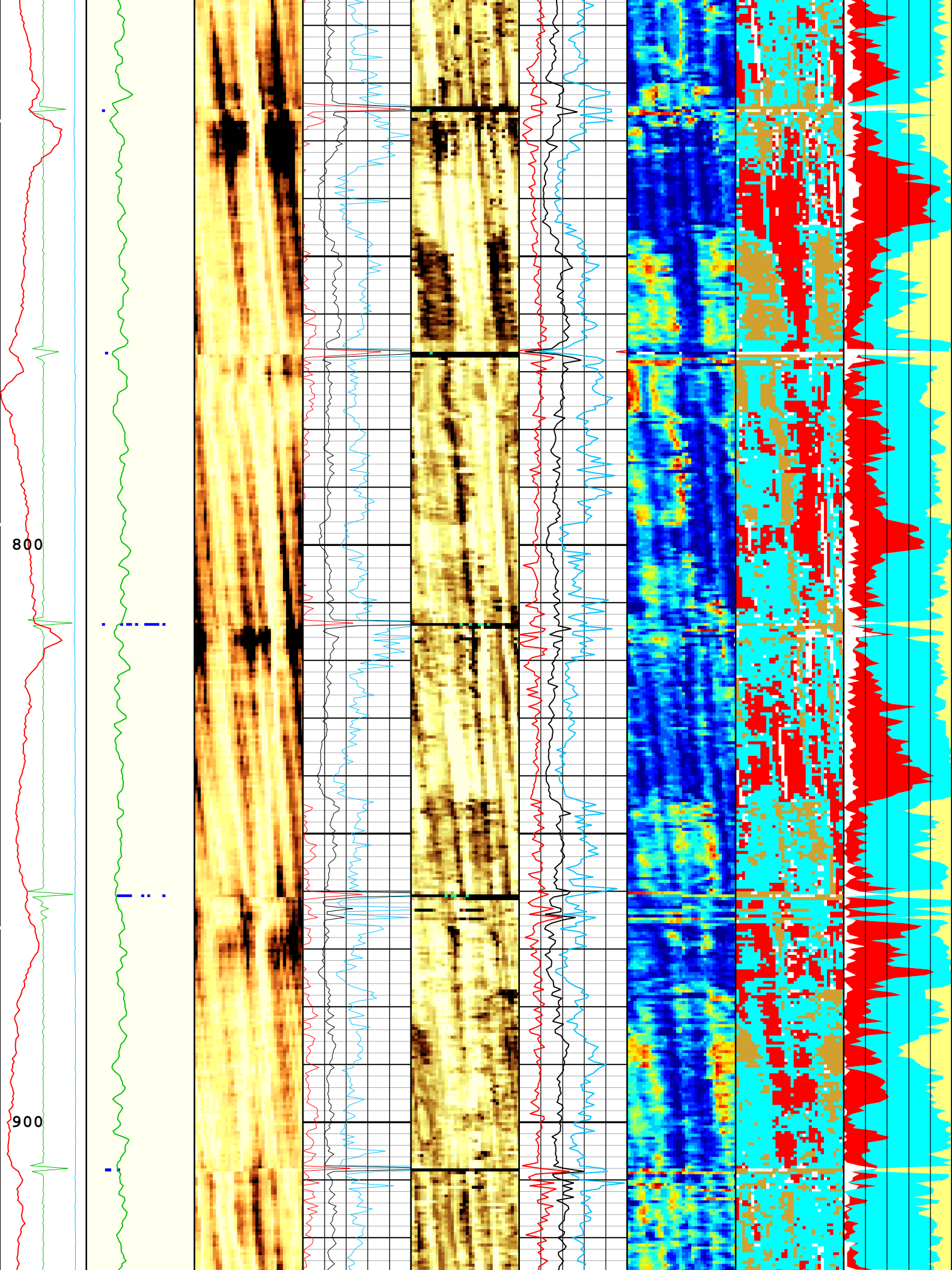
Average Flexural Attenuation (U-USIT\_UFAV) USIT-E[1]  
0 dB/m 150

Maximum Flexural Attenuation

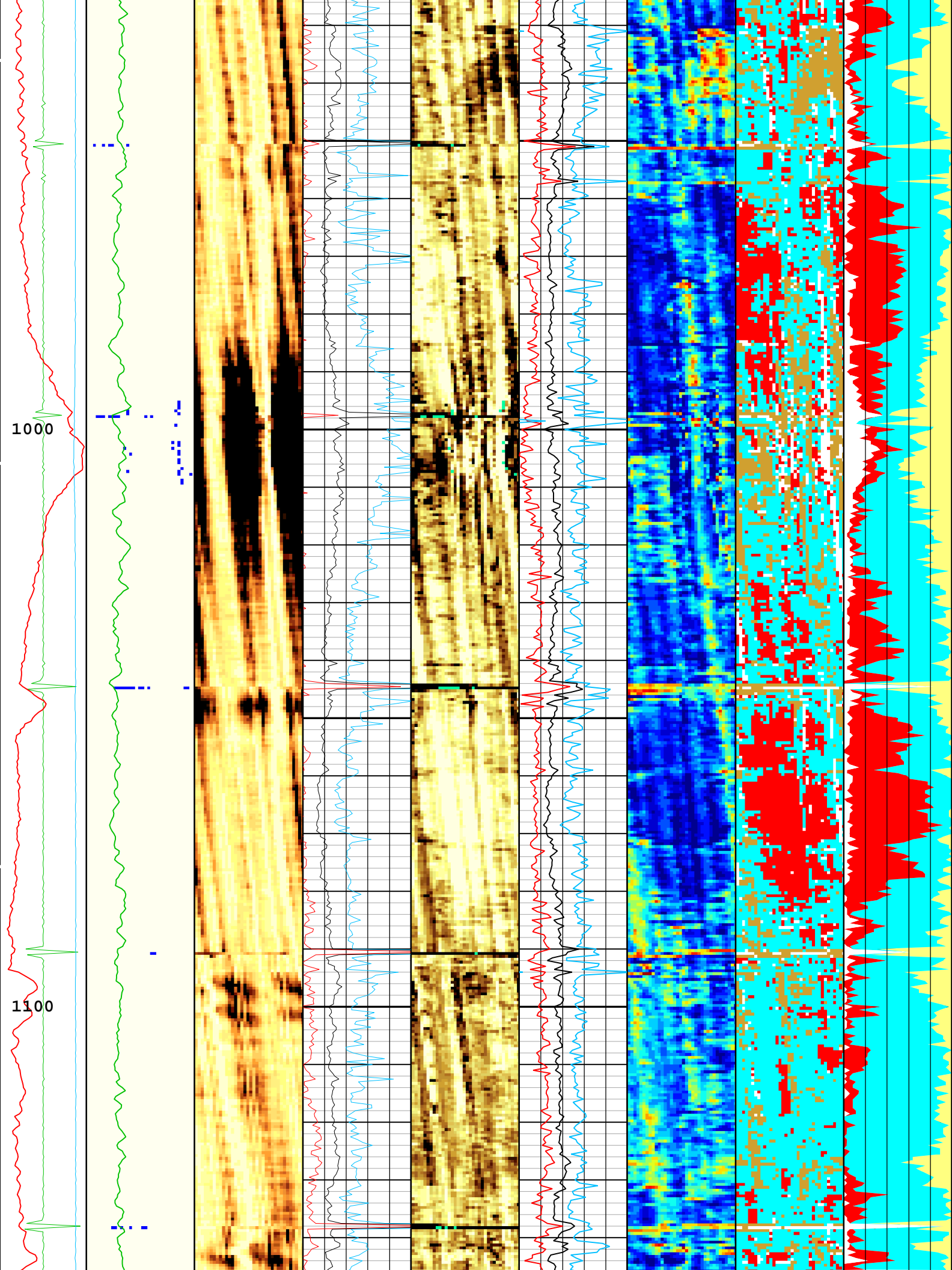


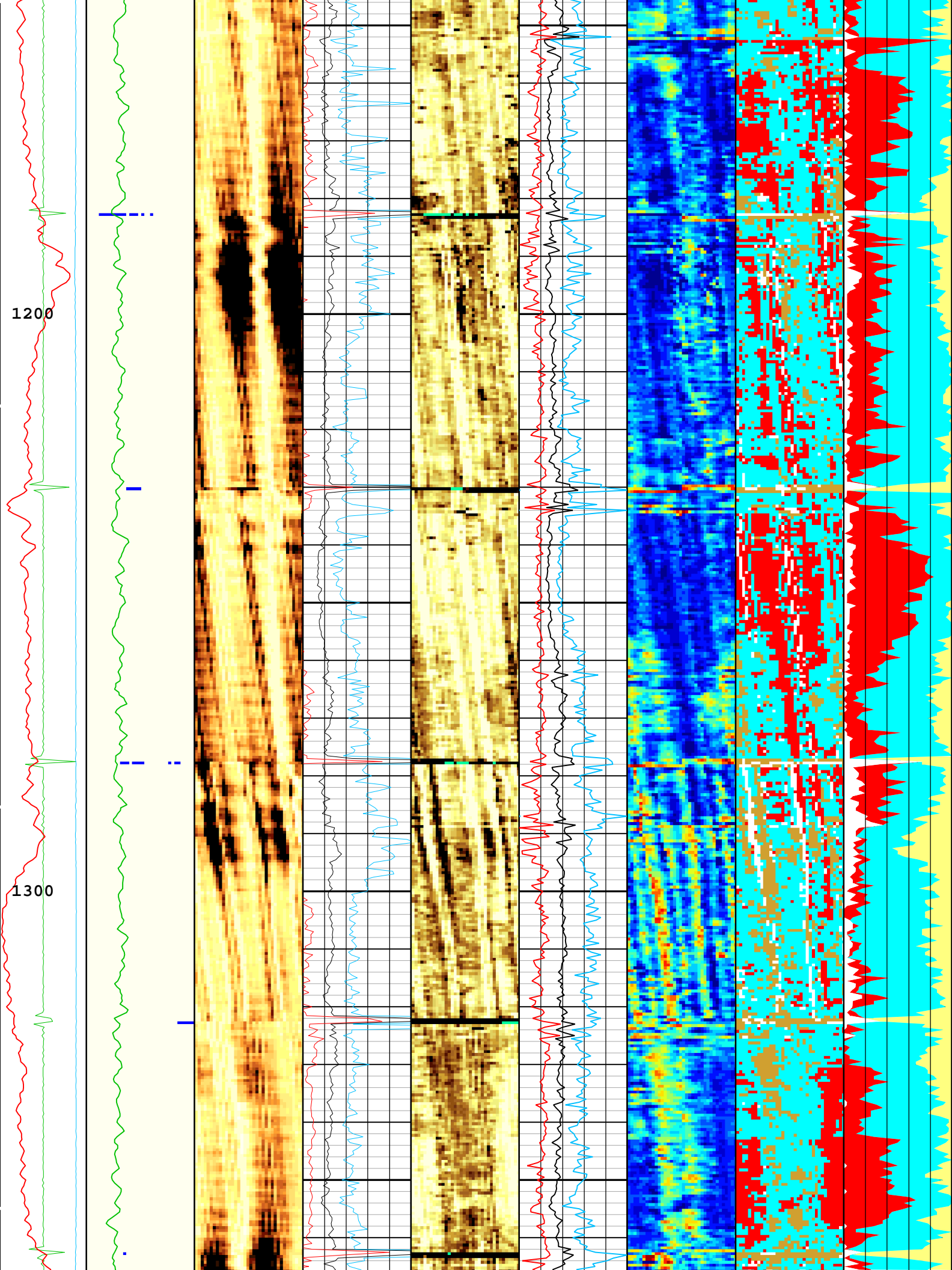


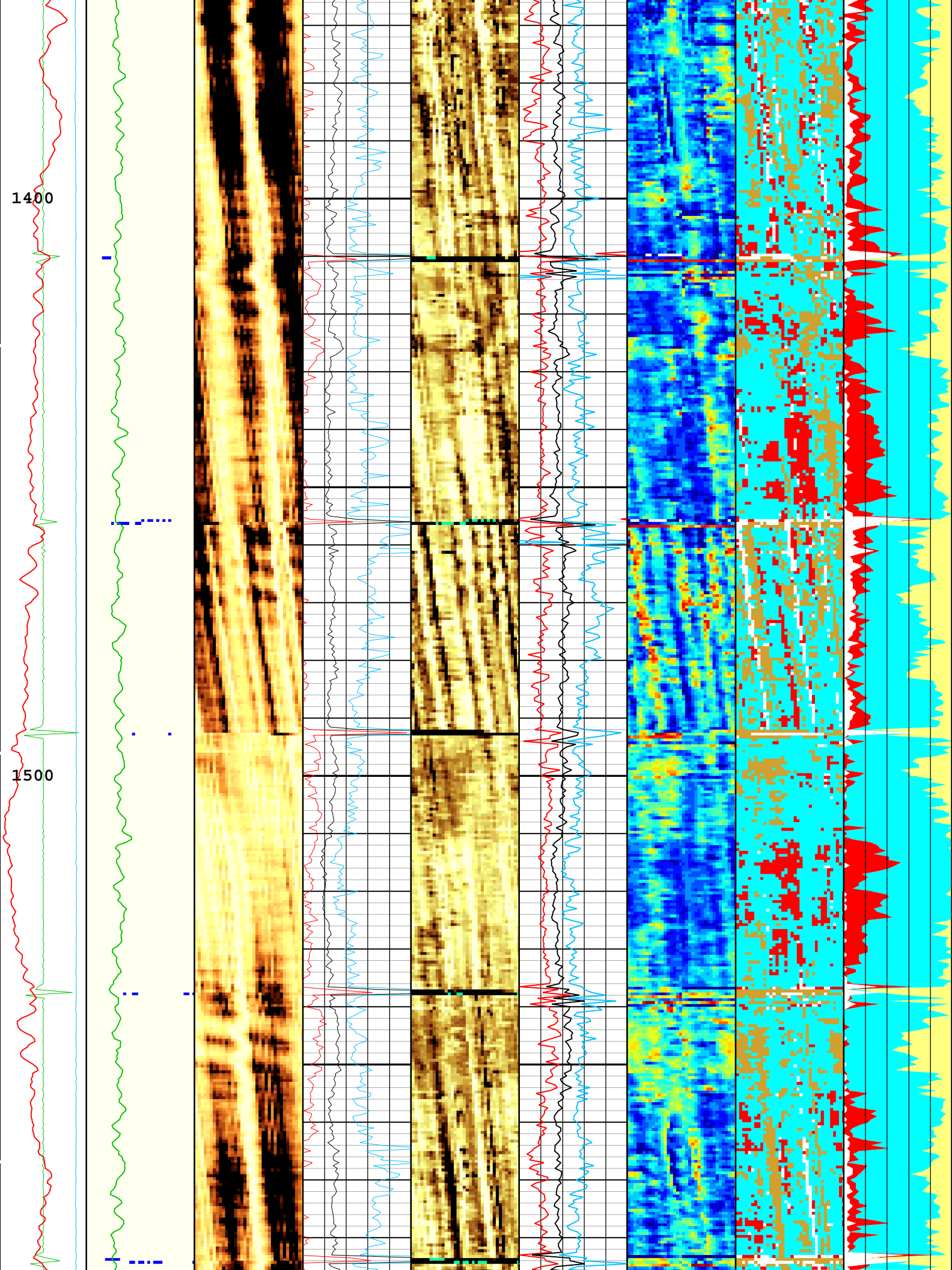




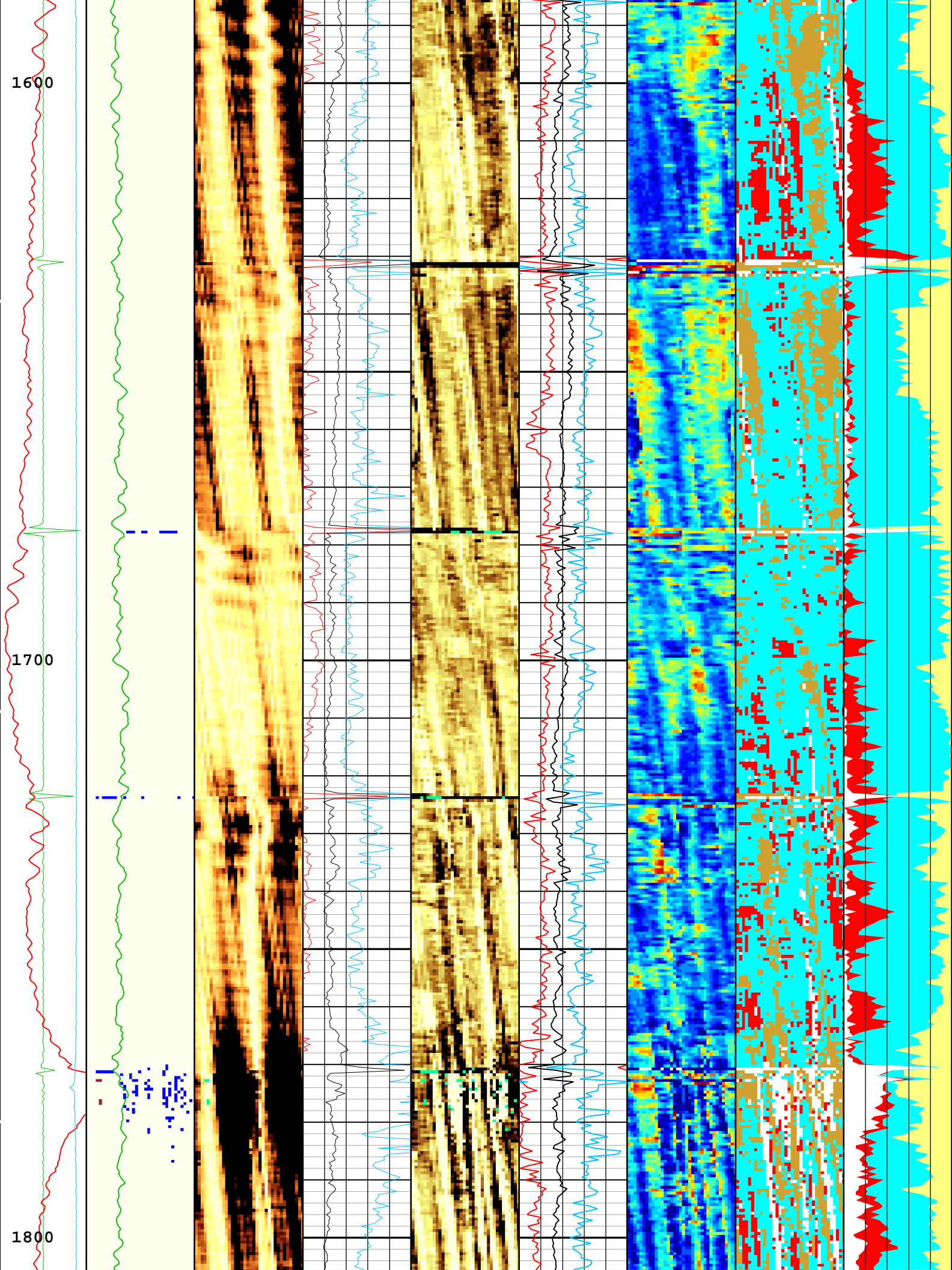


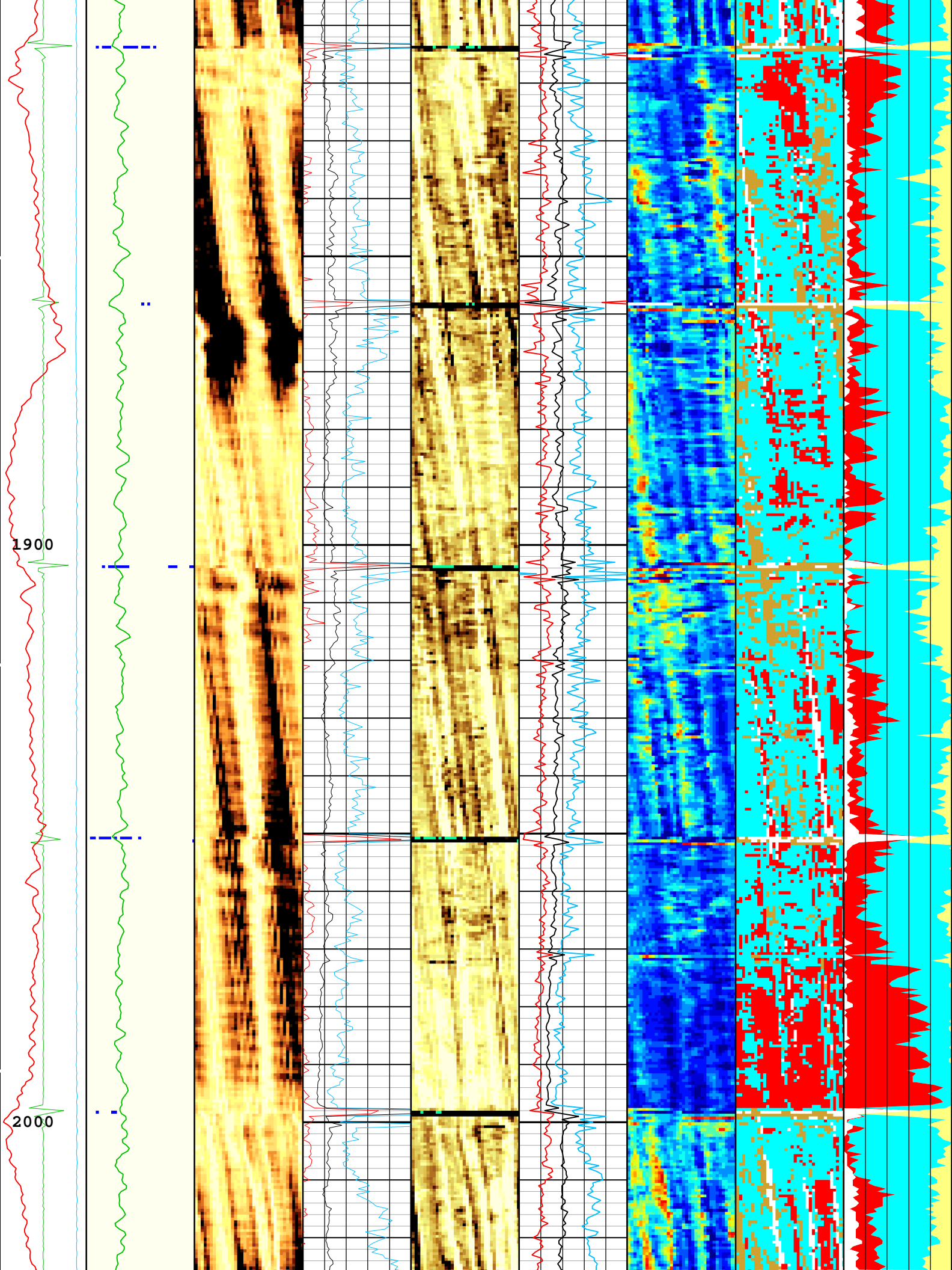


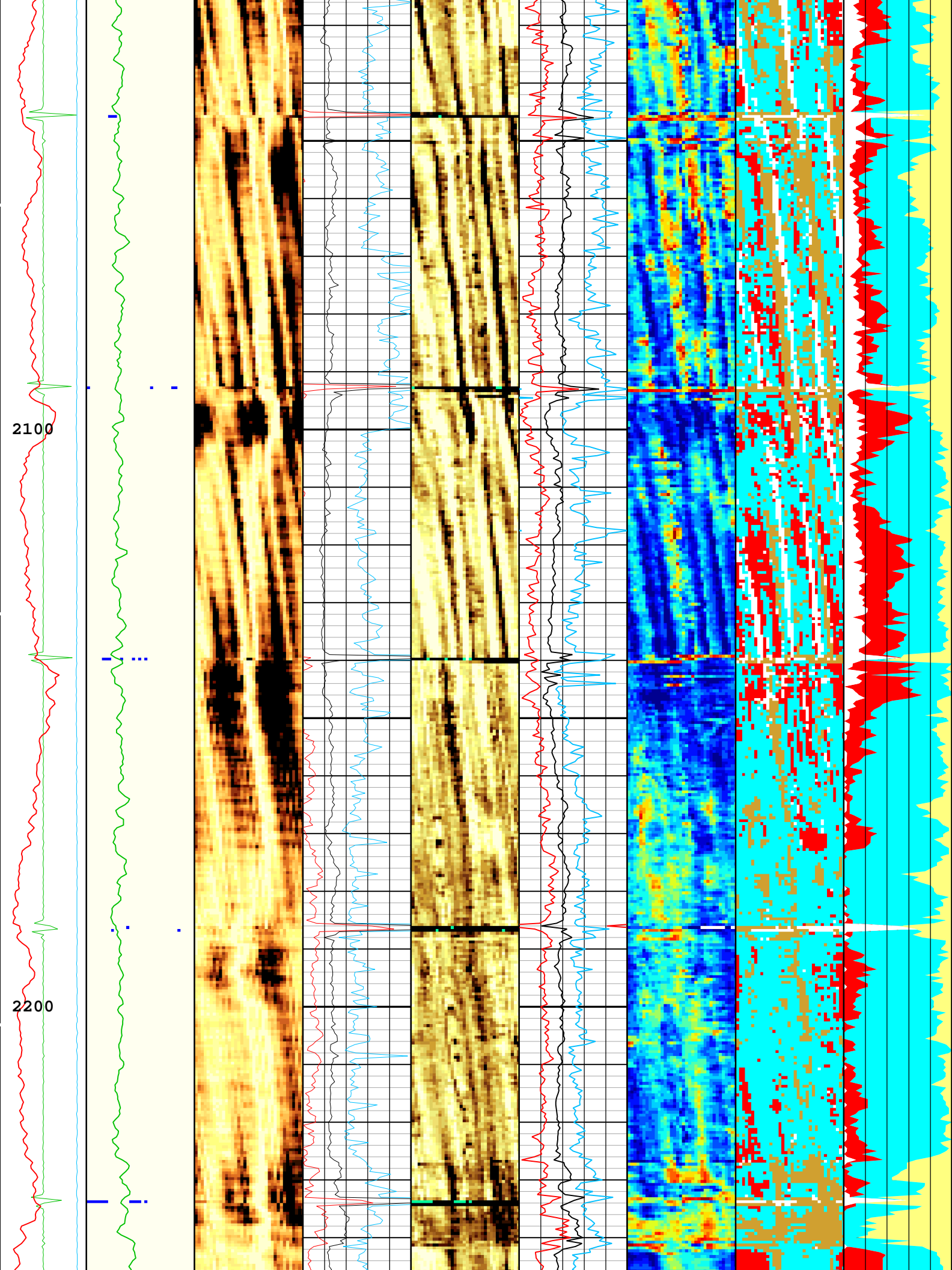


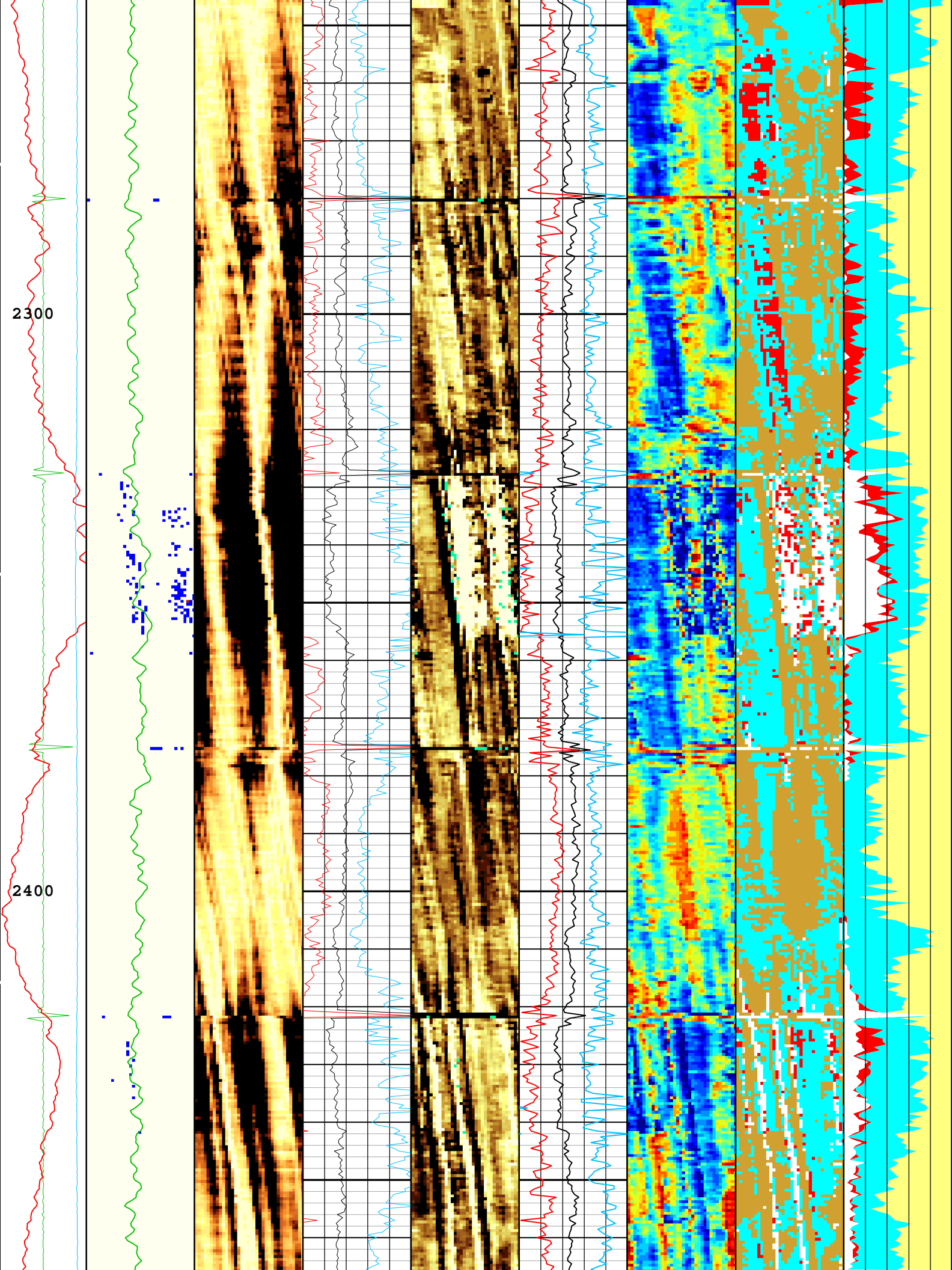




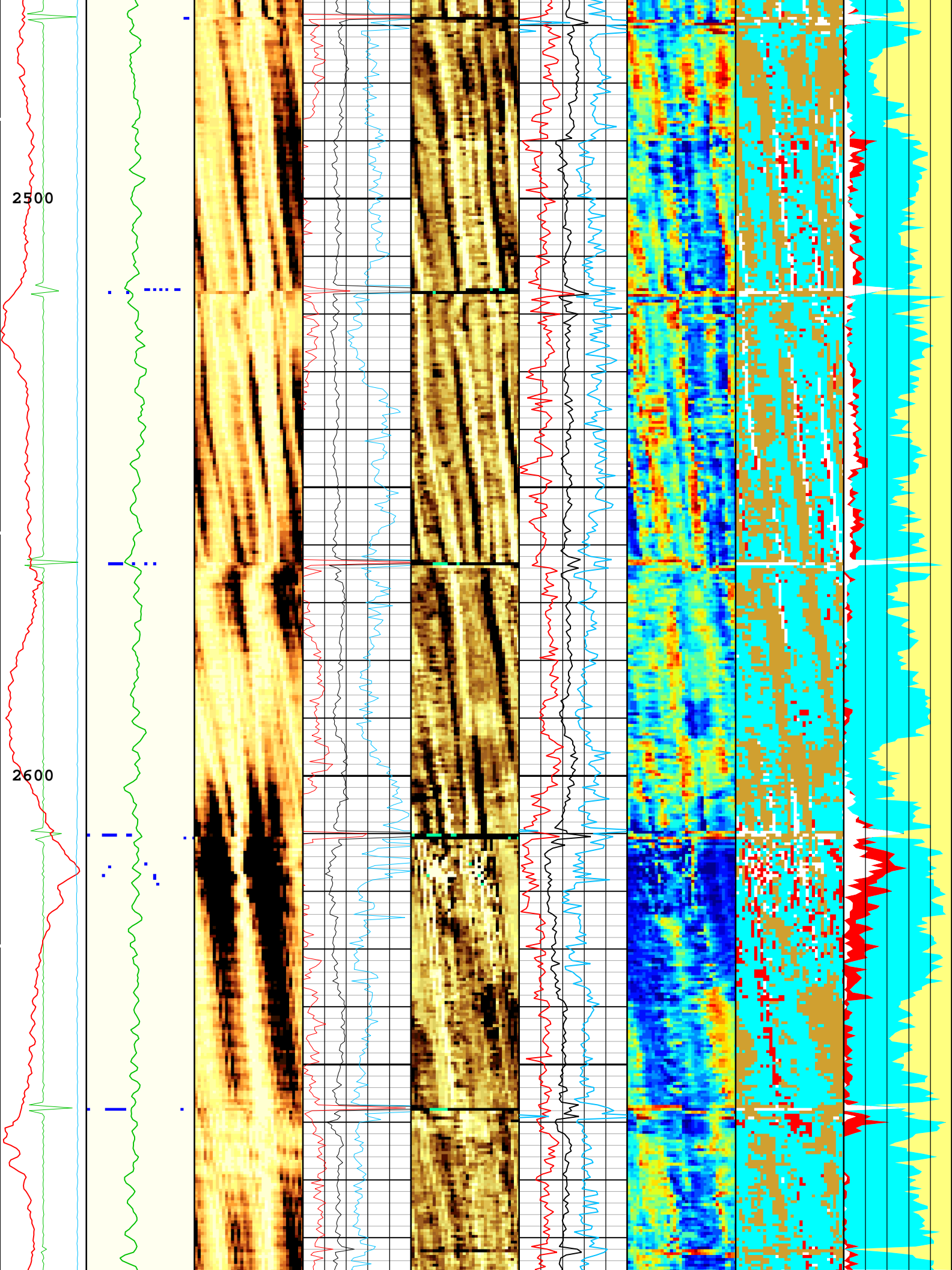


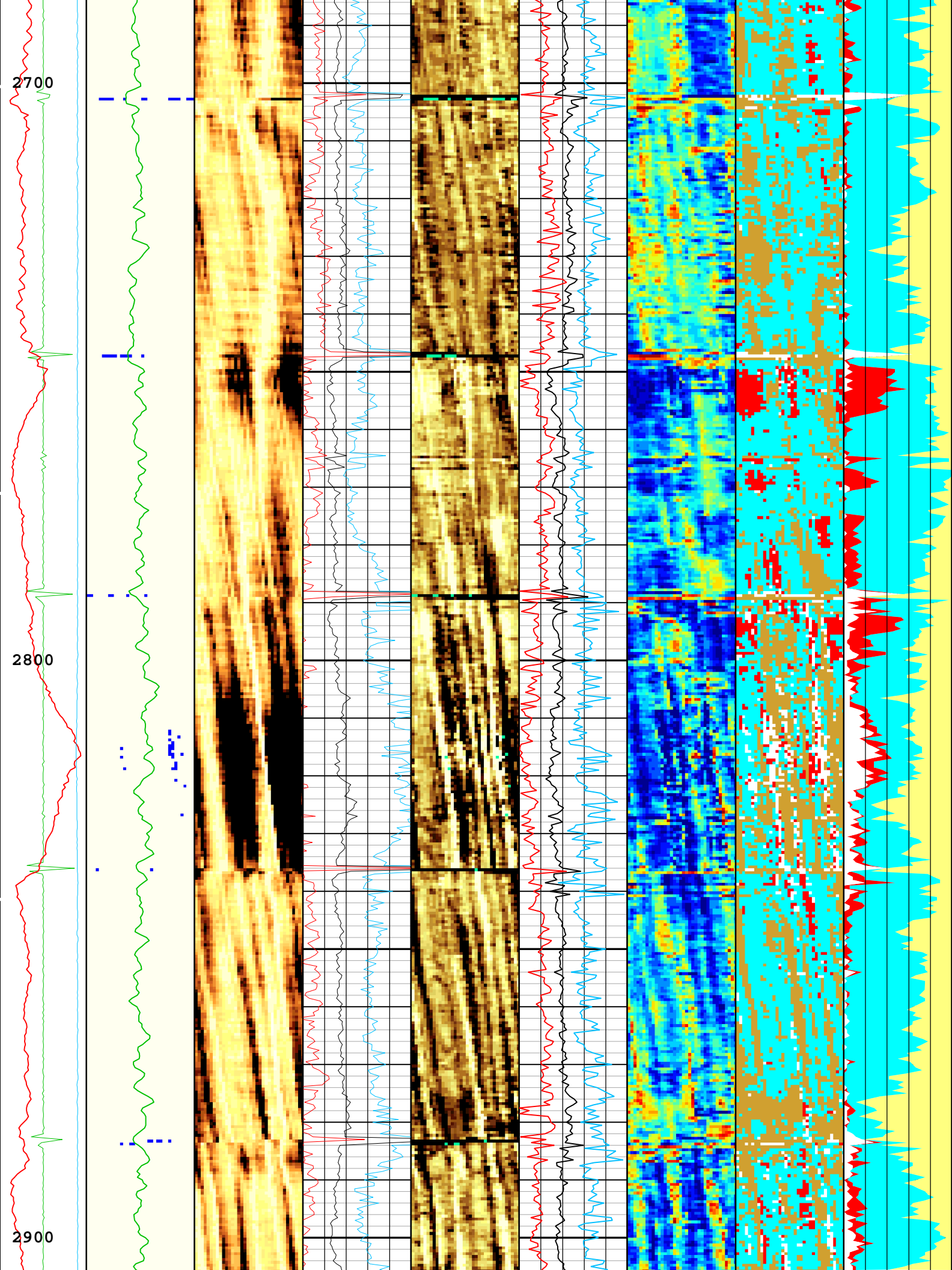


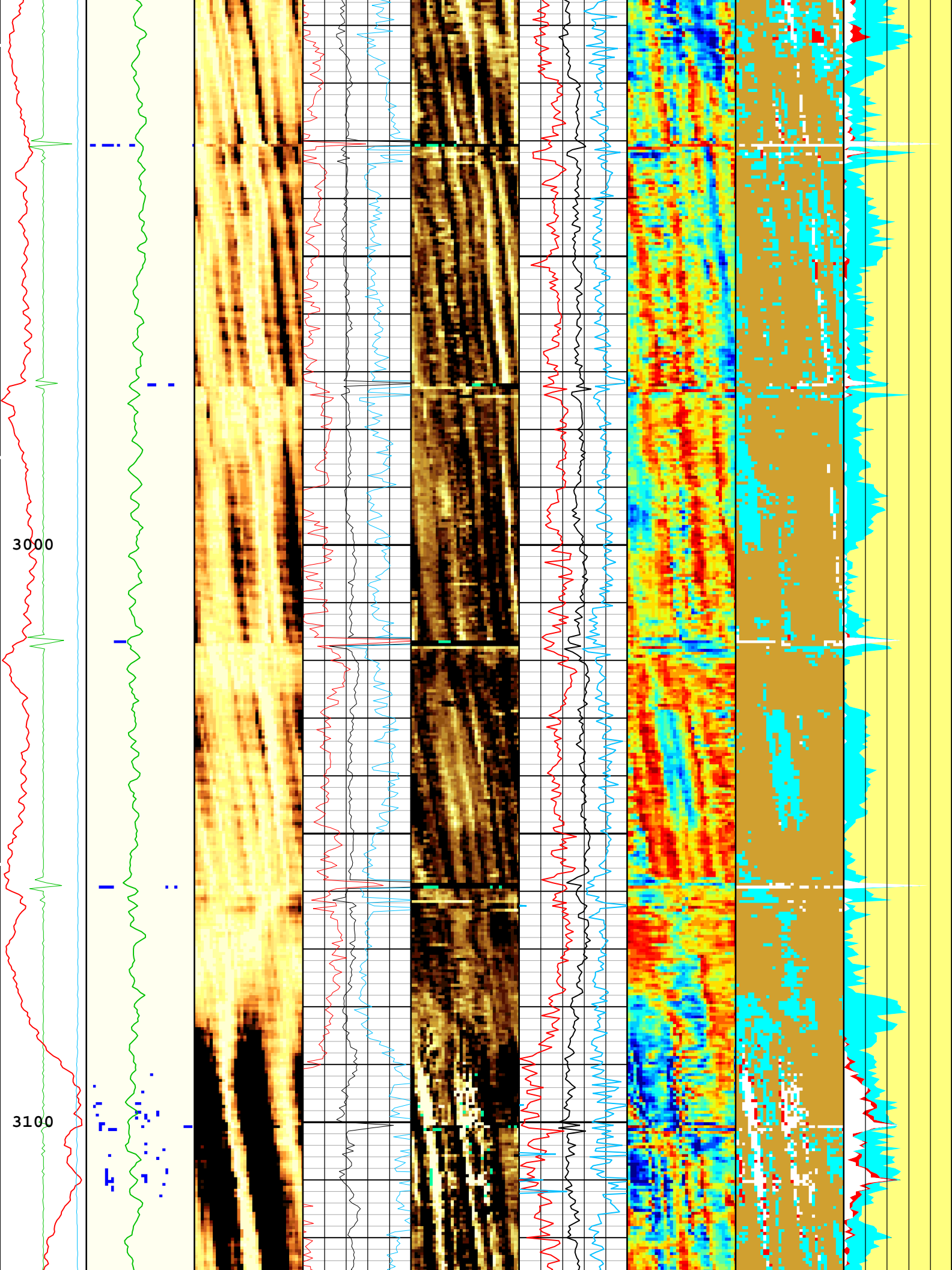


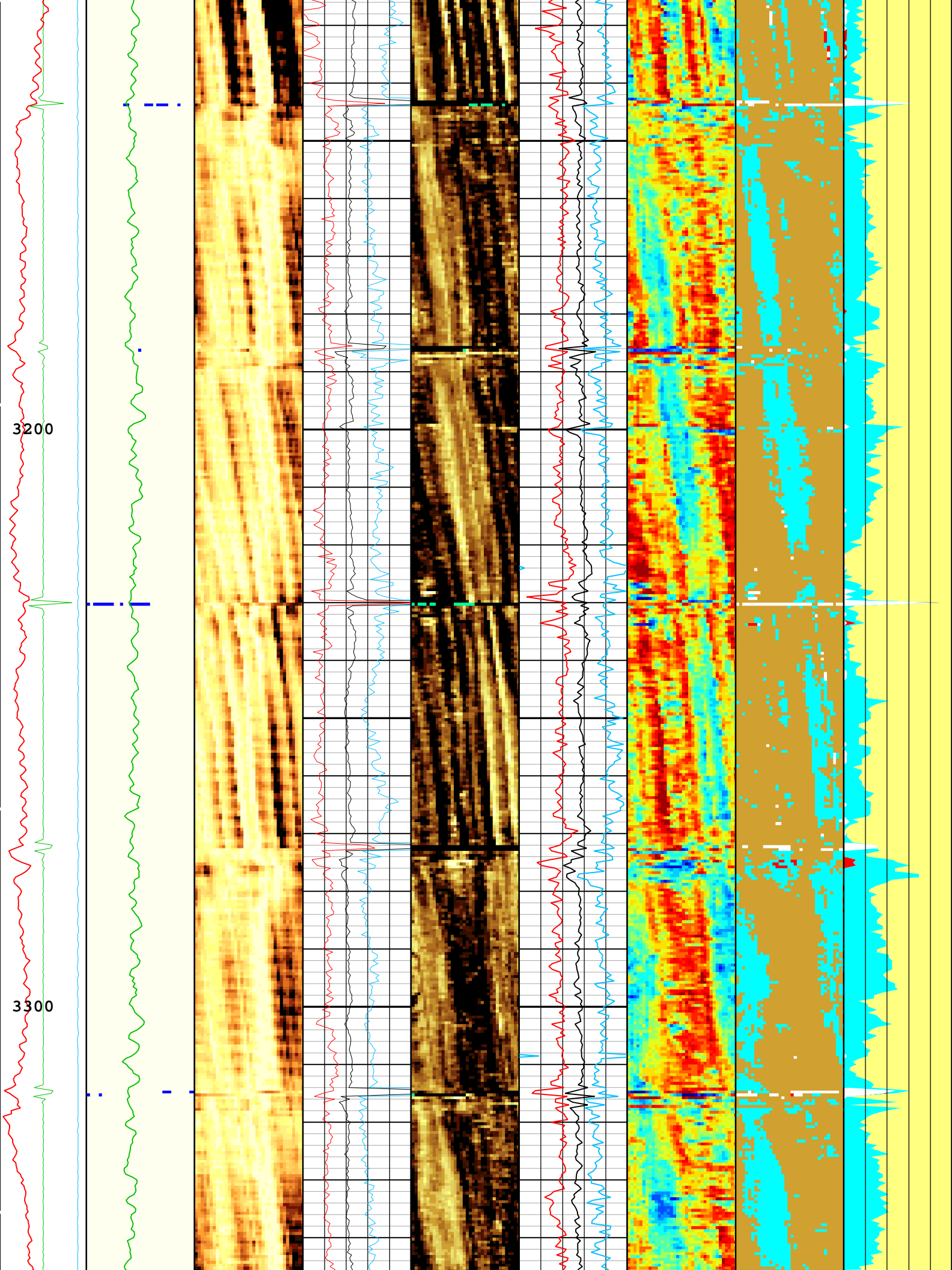




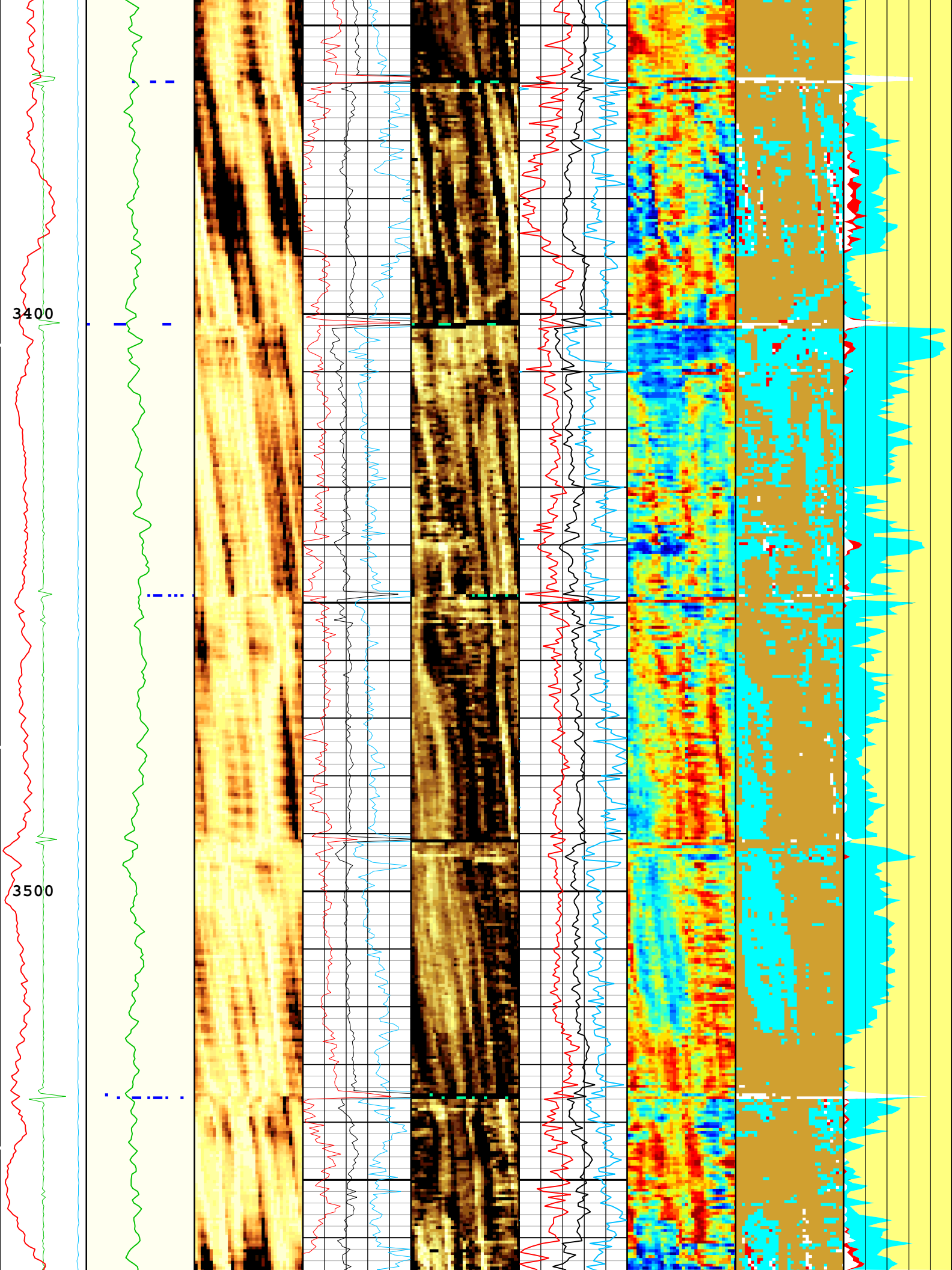


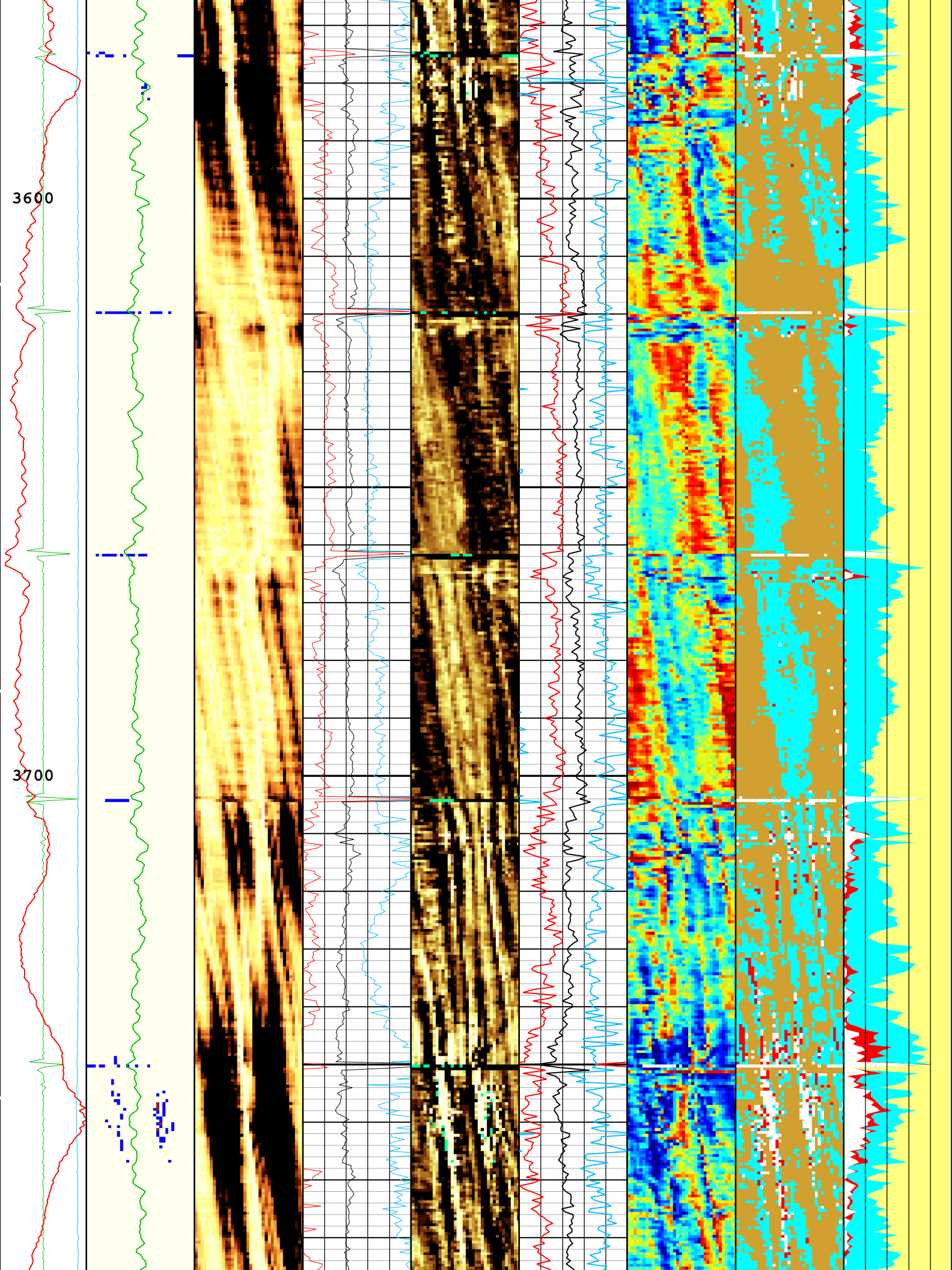


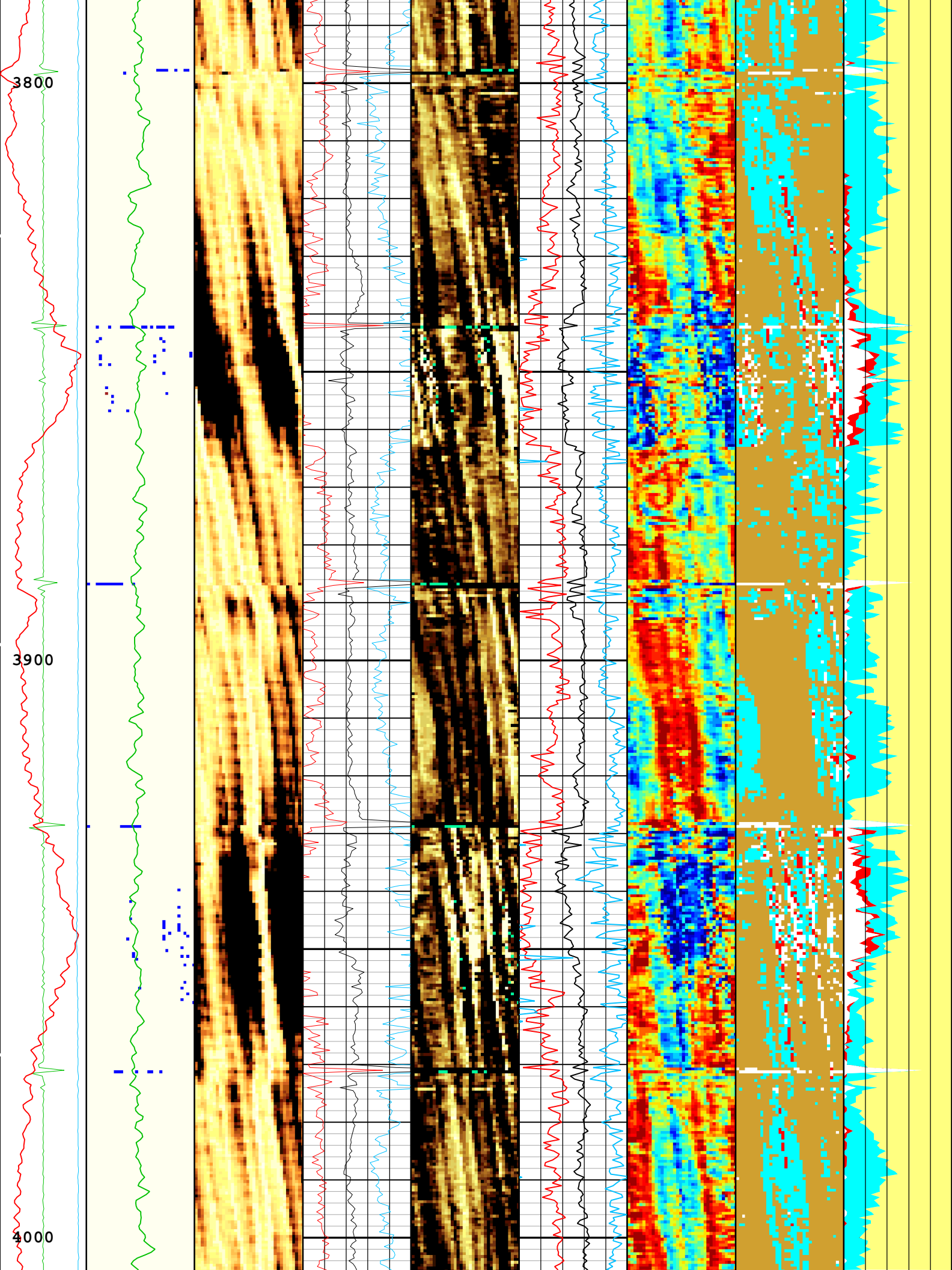


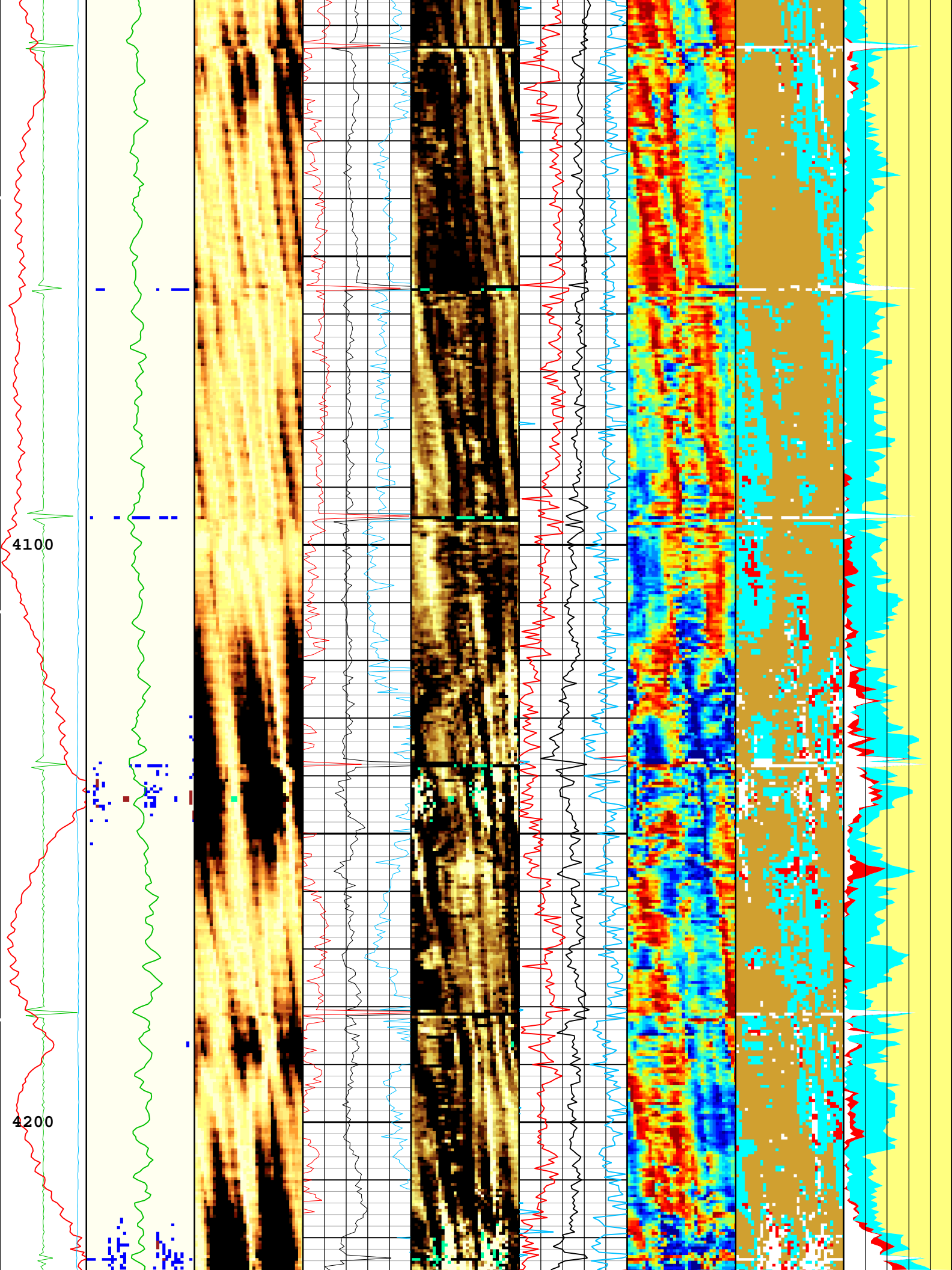




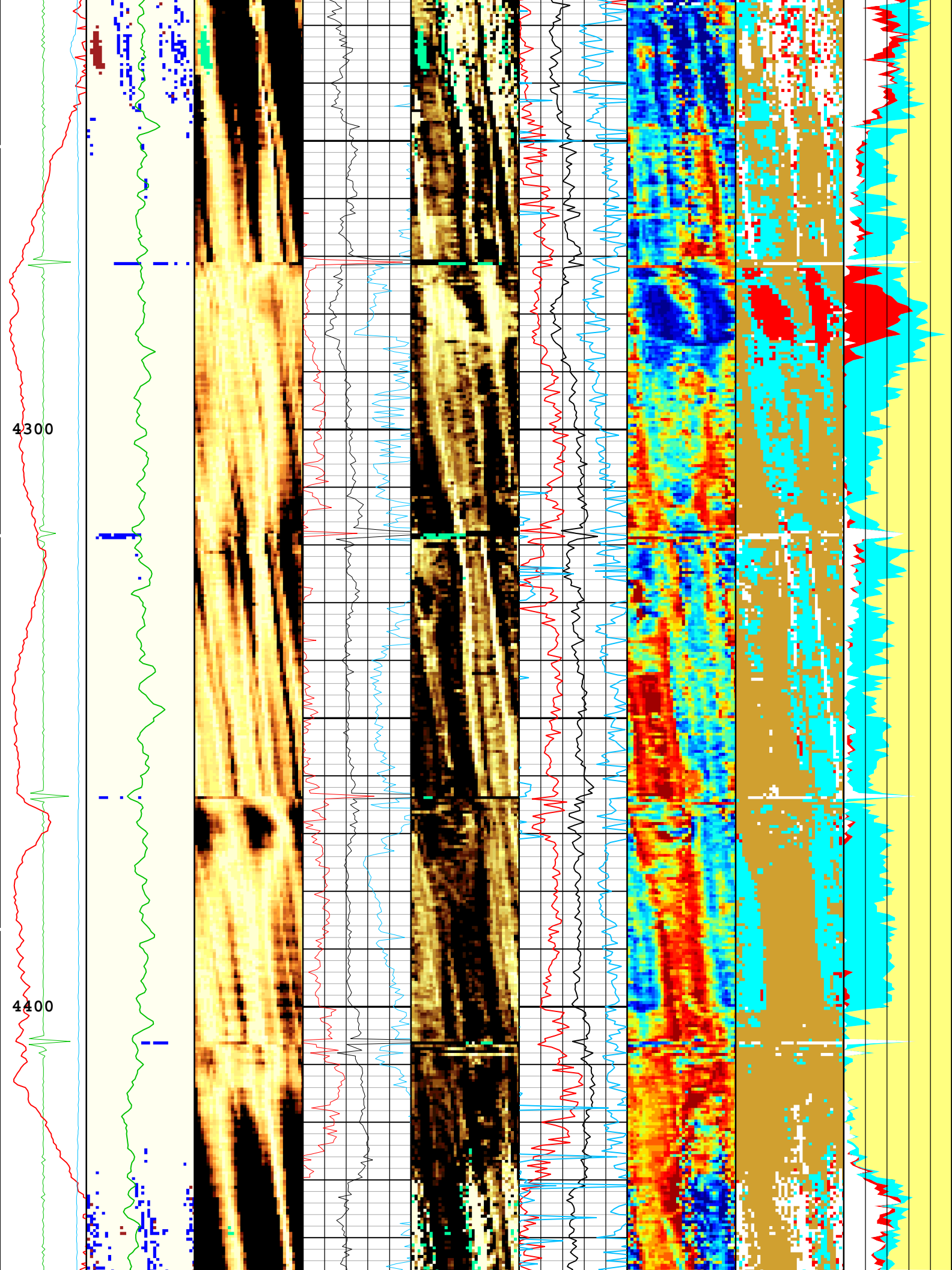


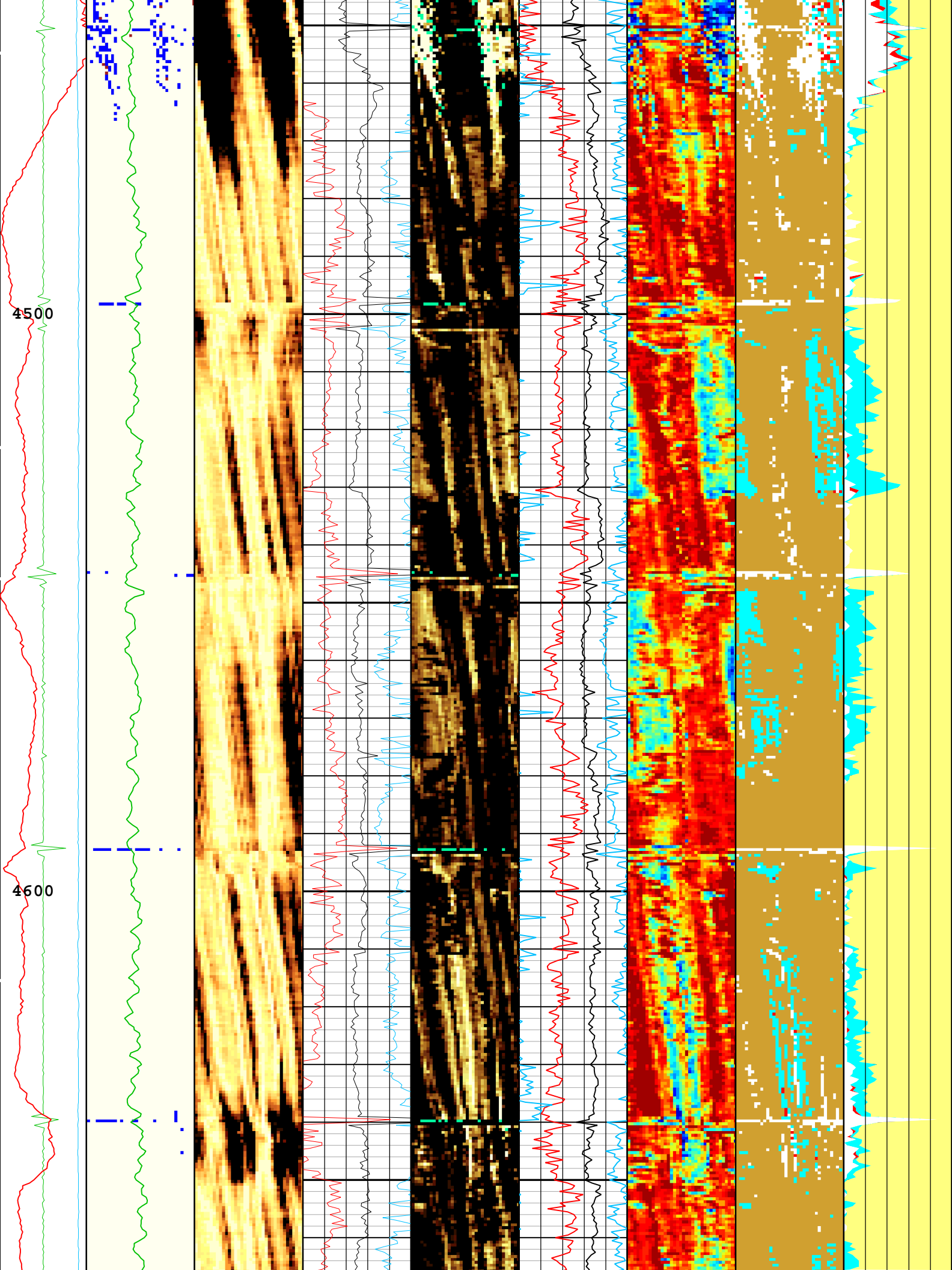


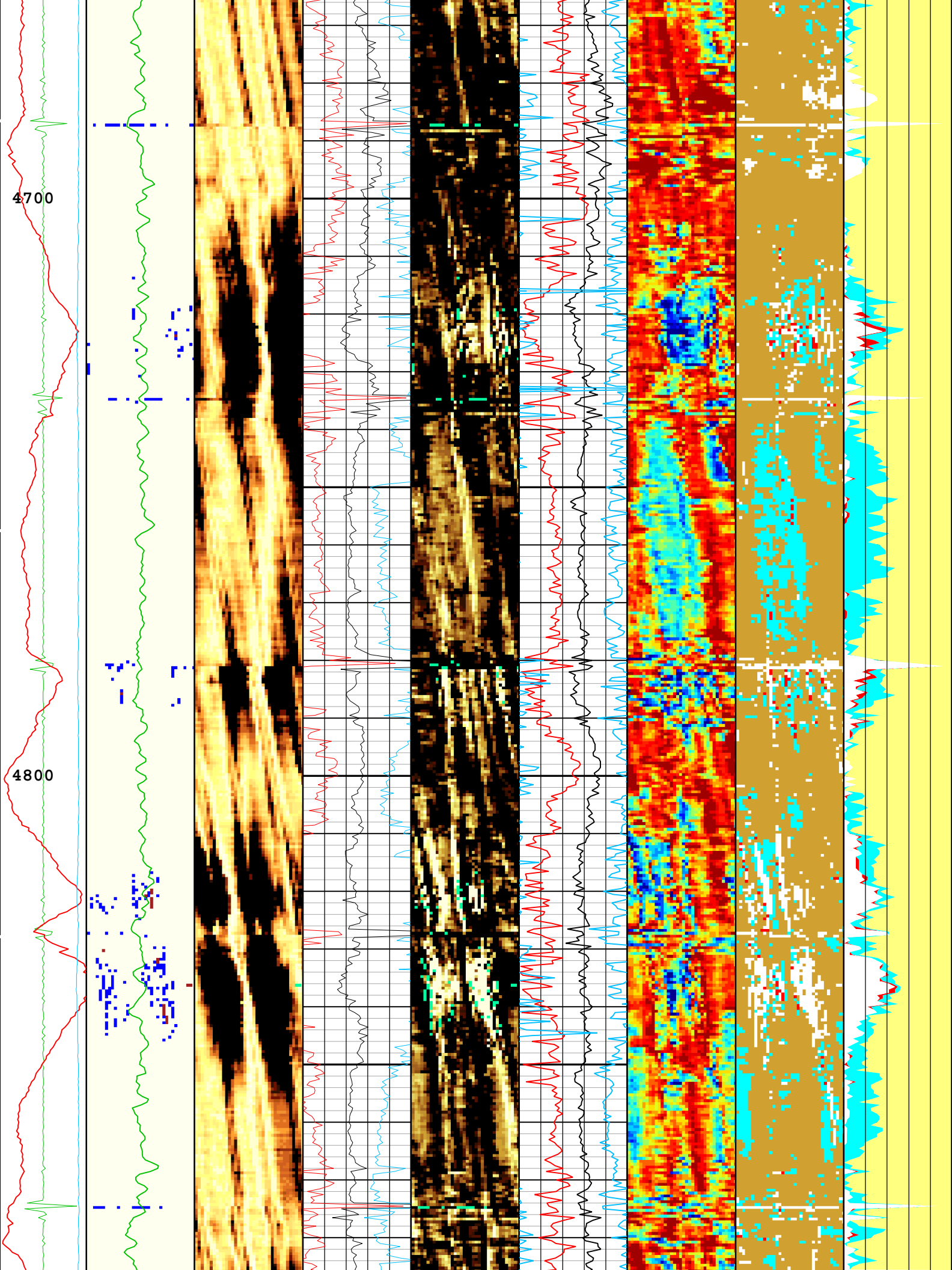


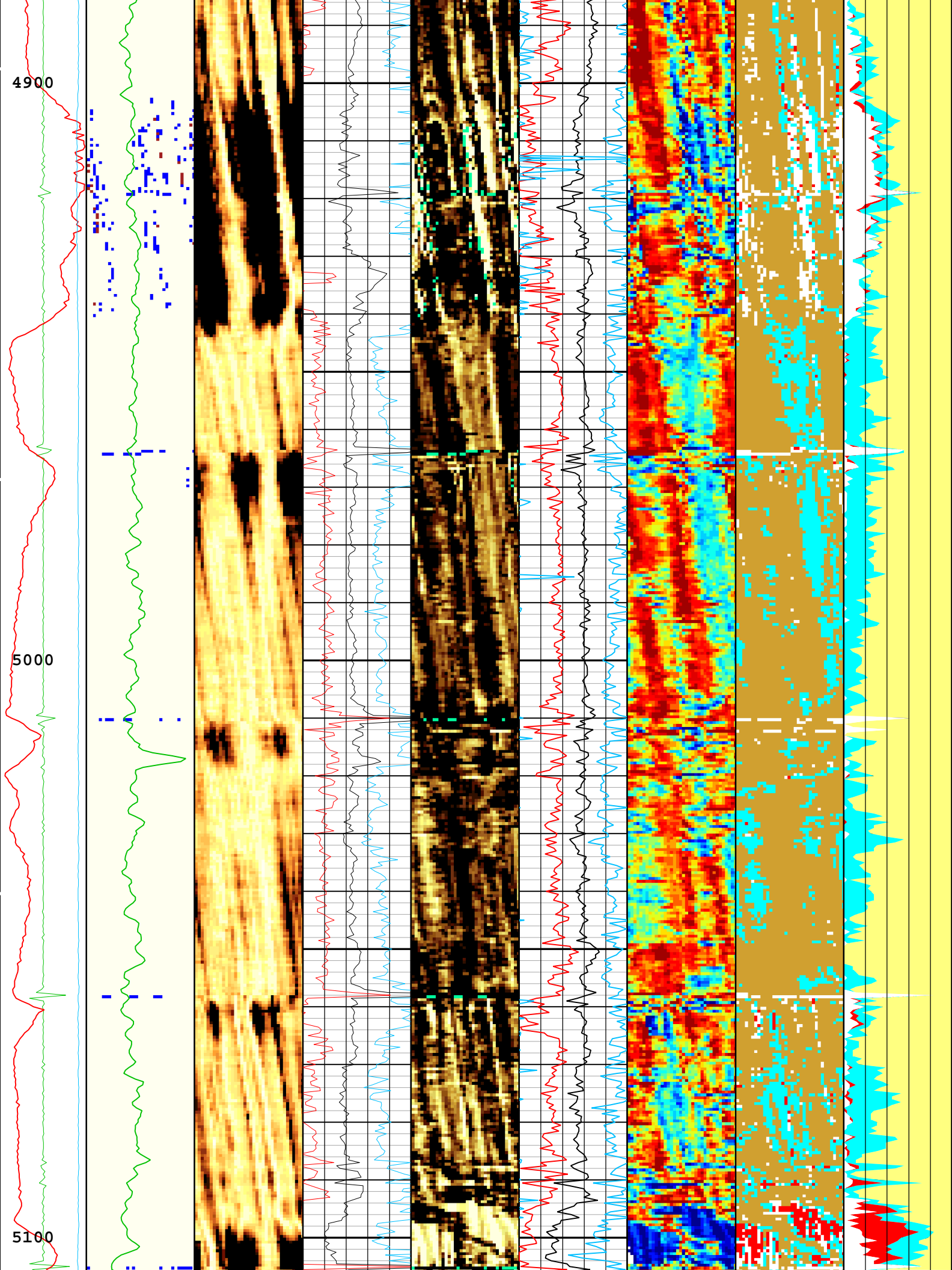




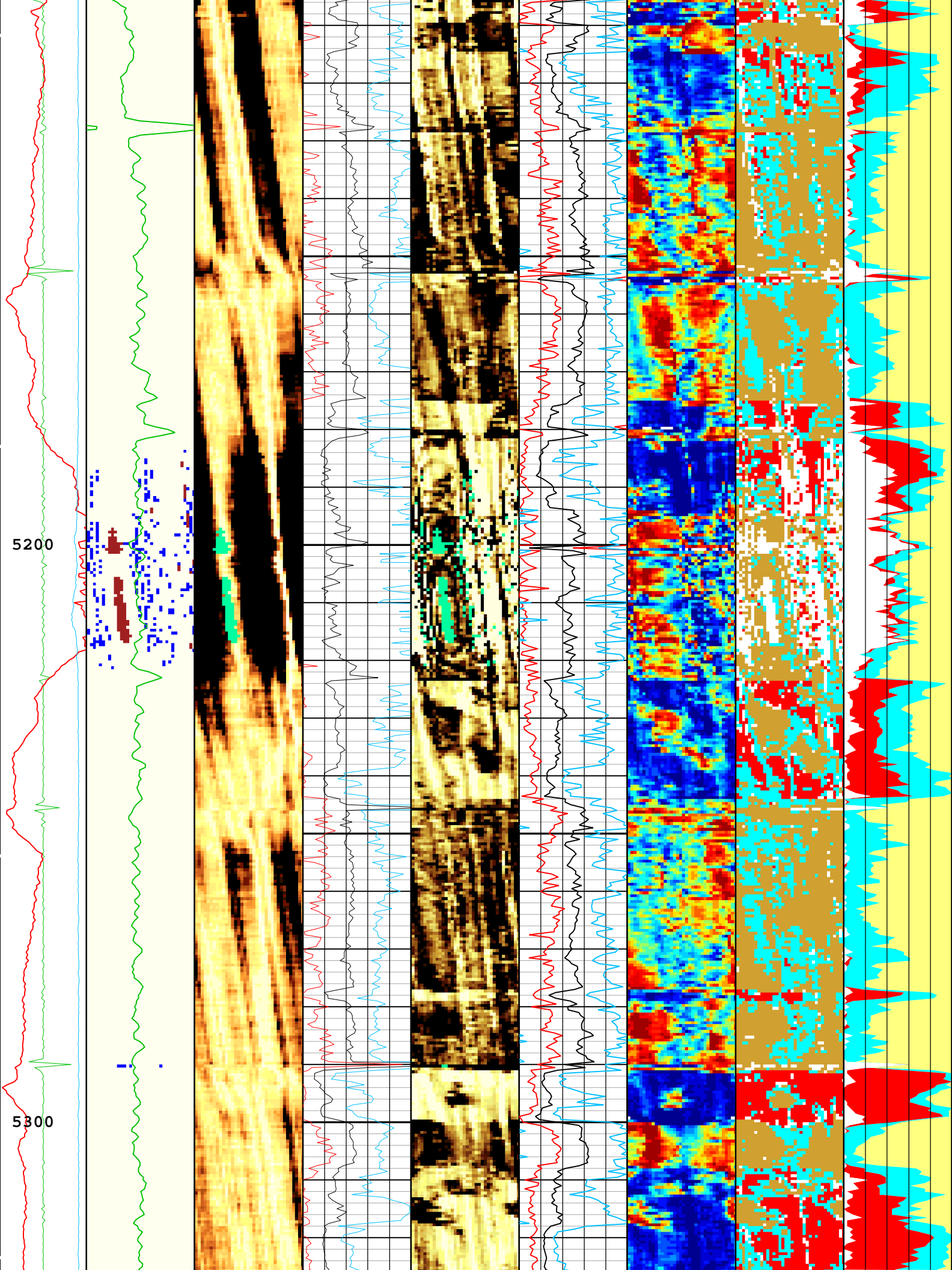


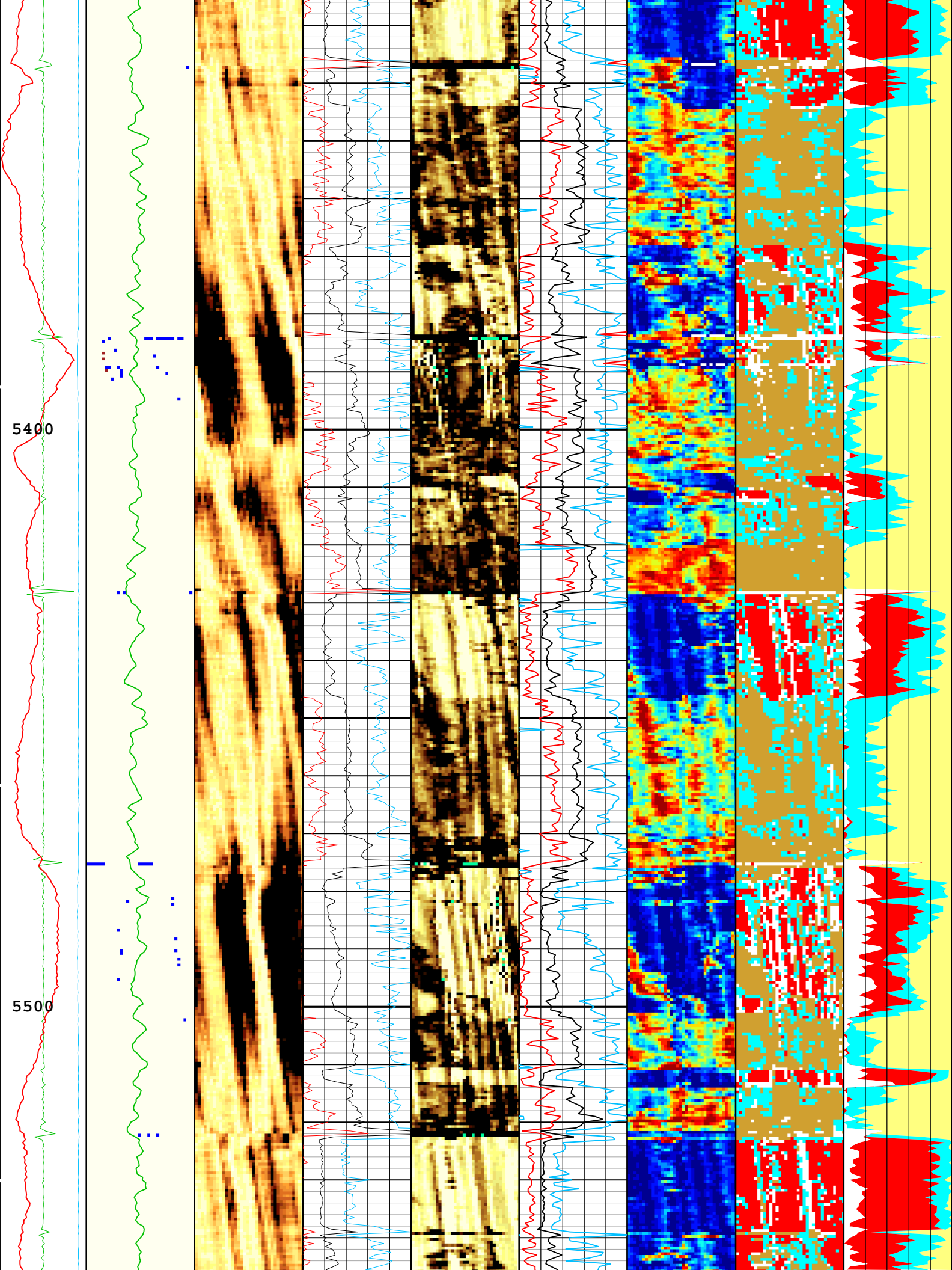


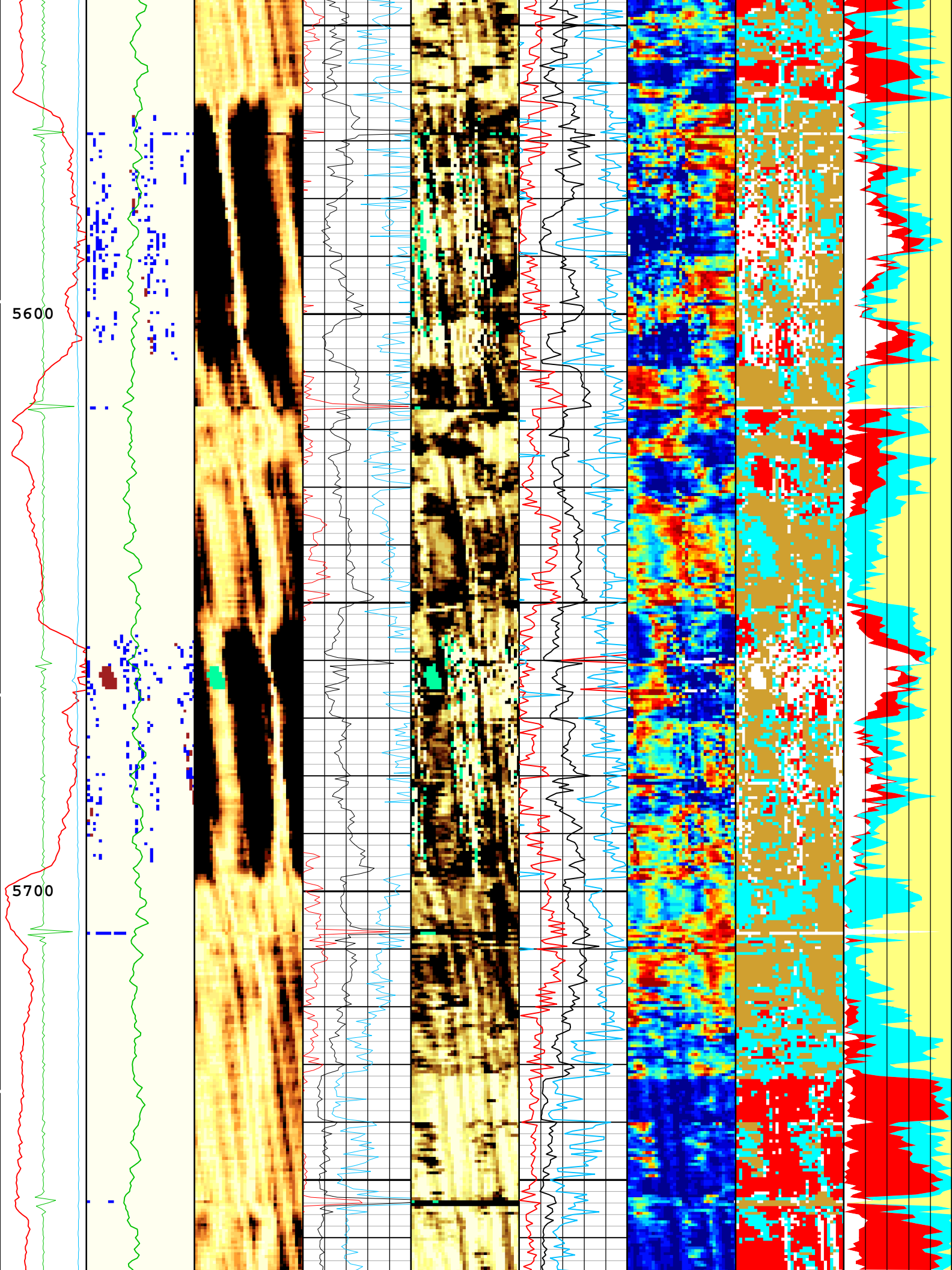


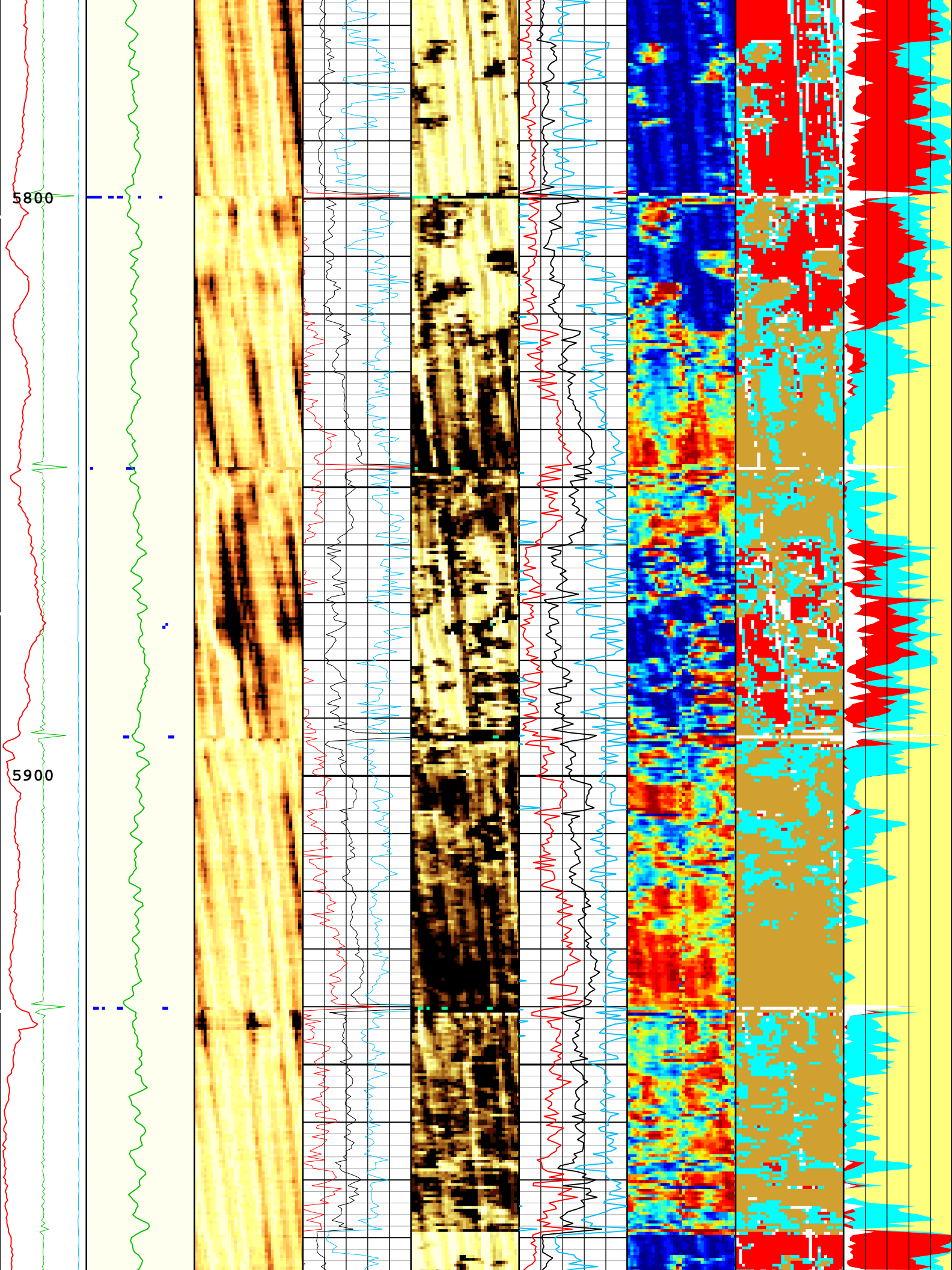




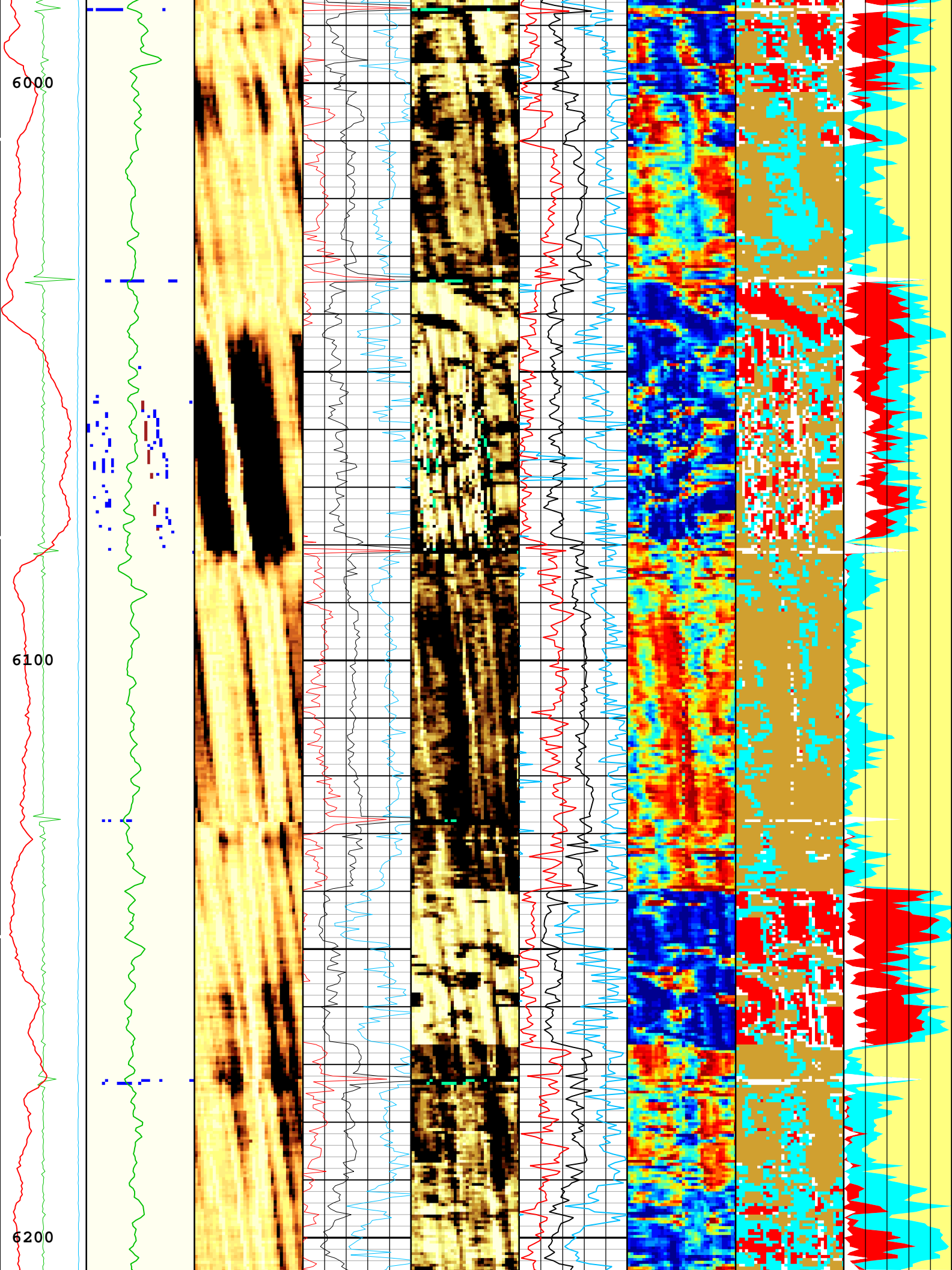


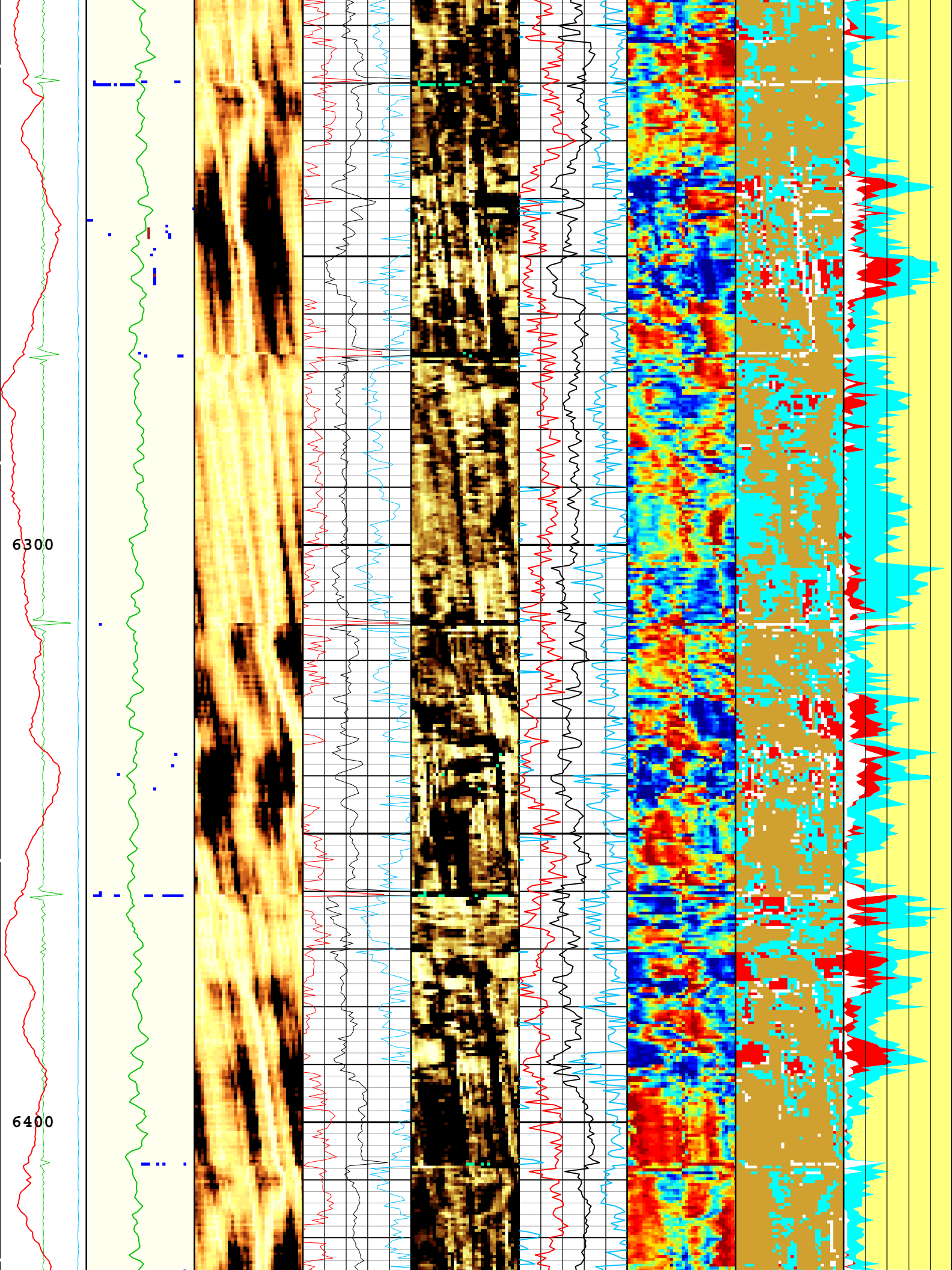


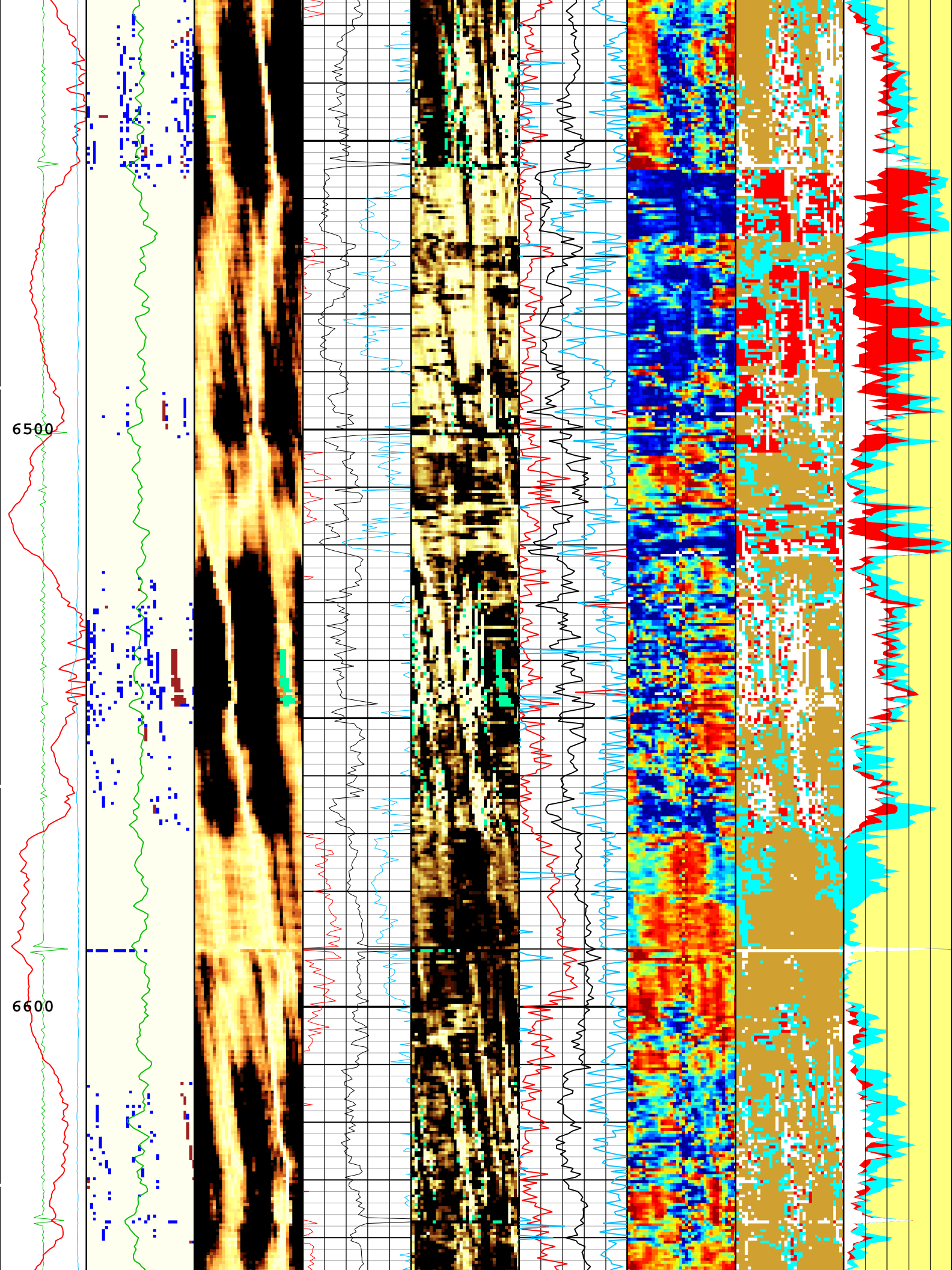


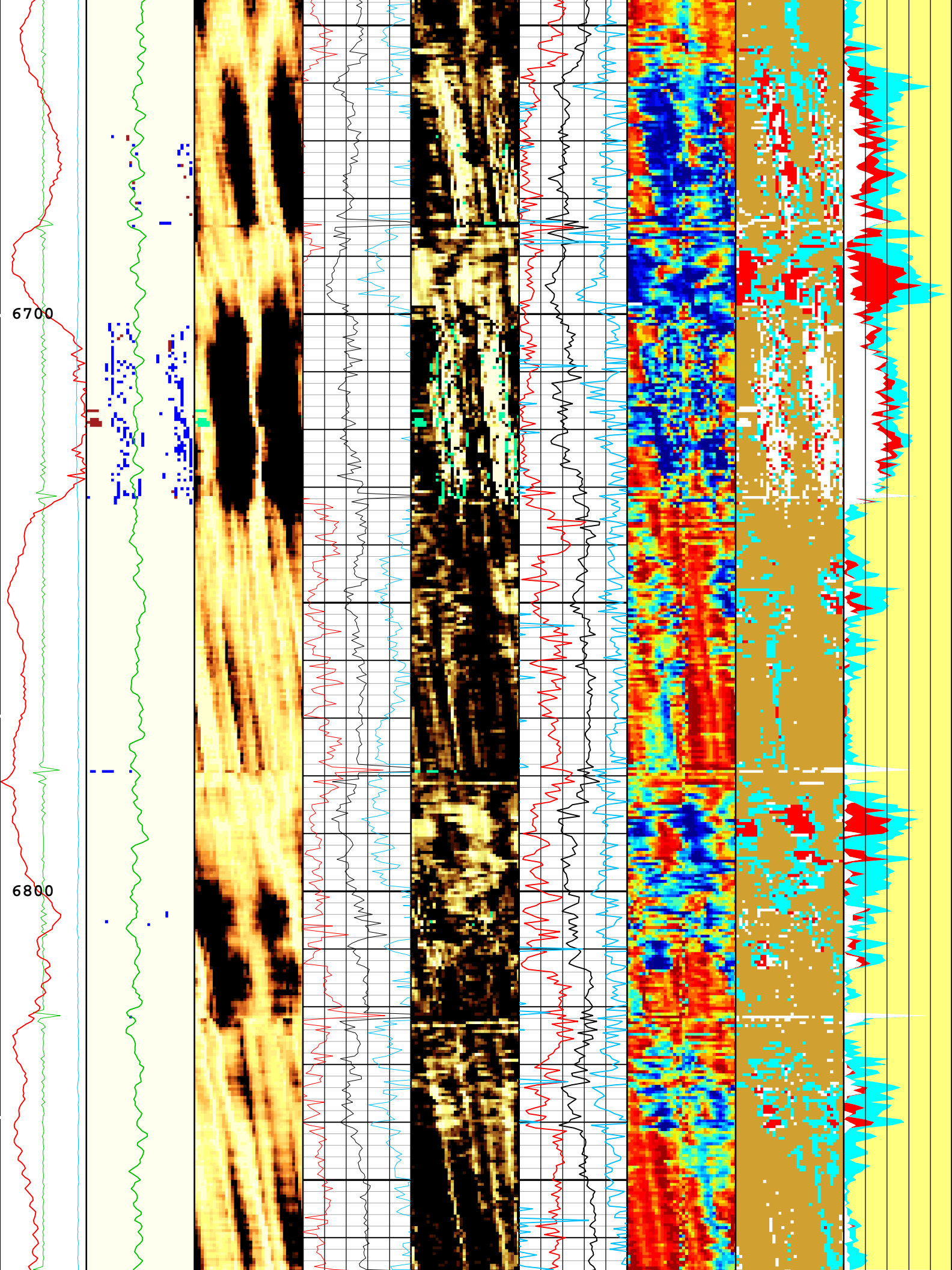




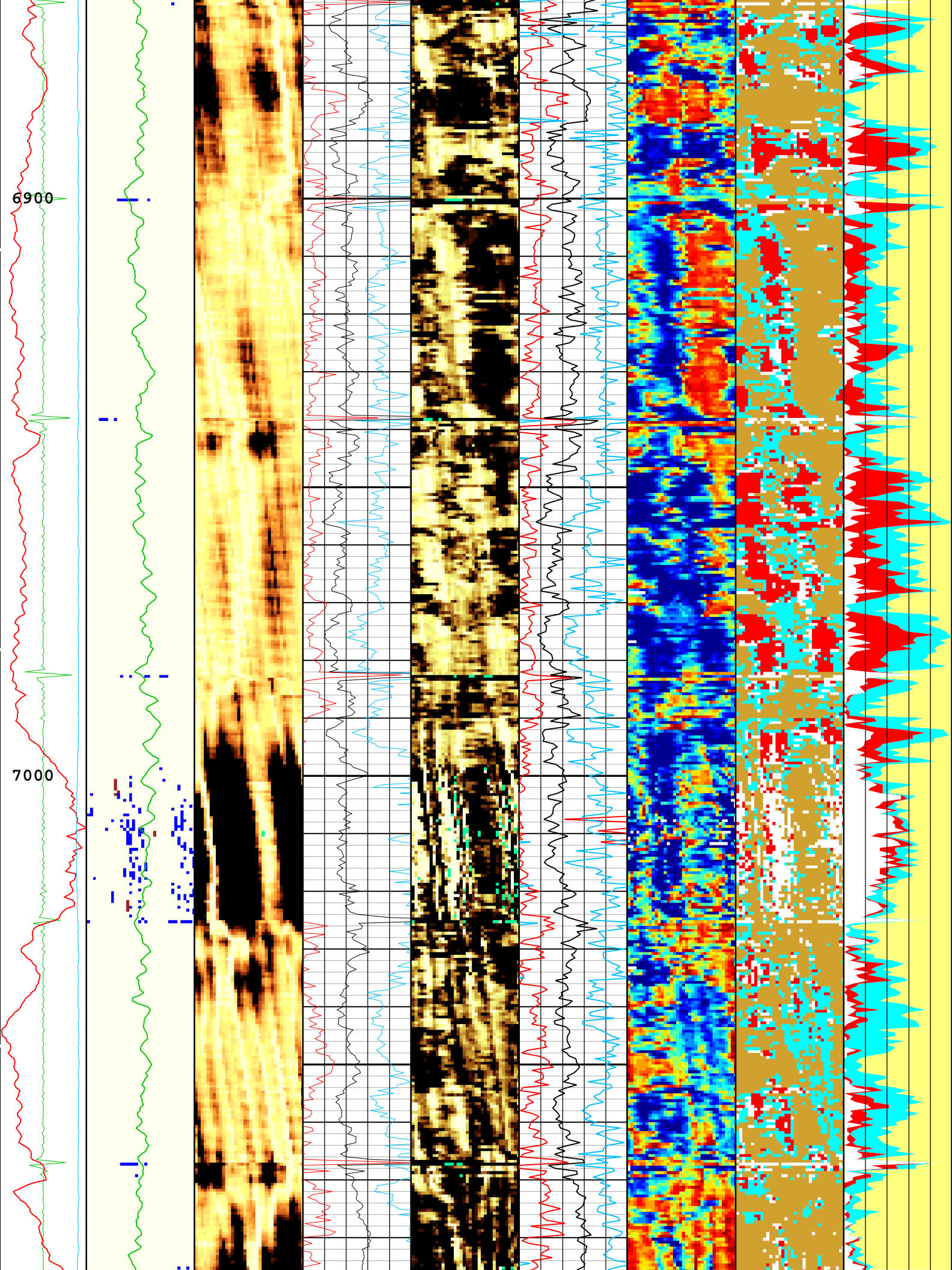


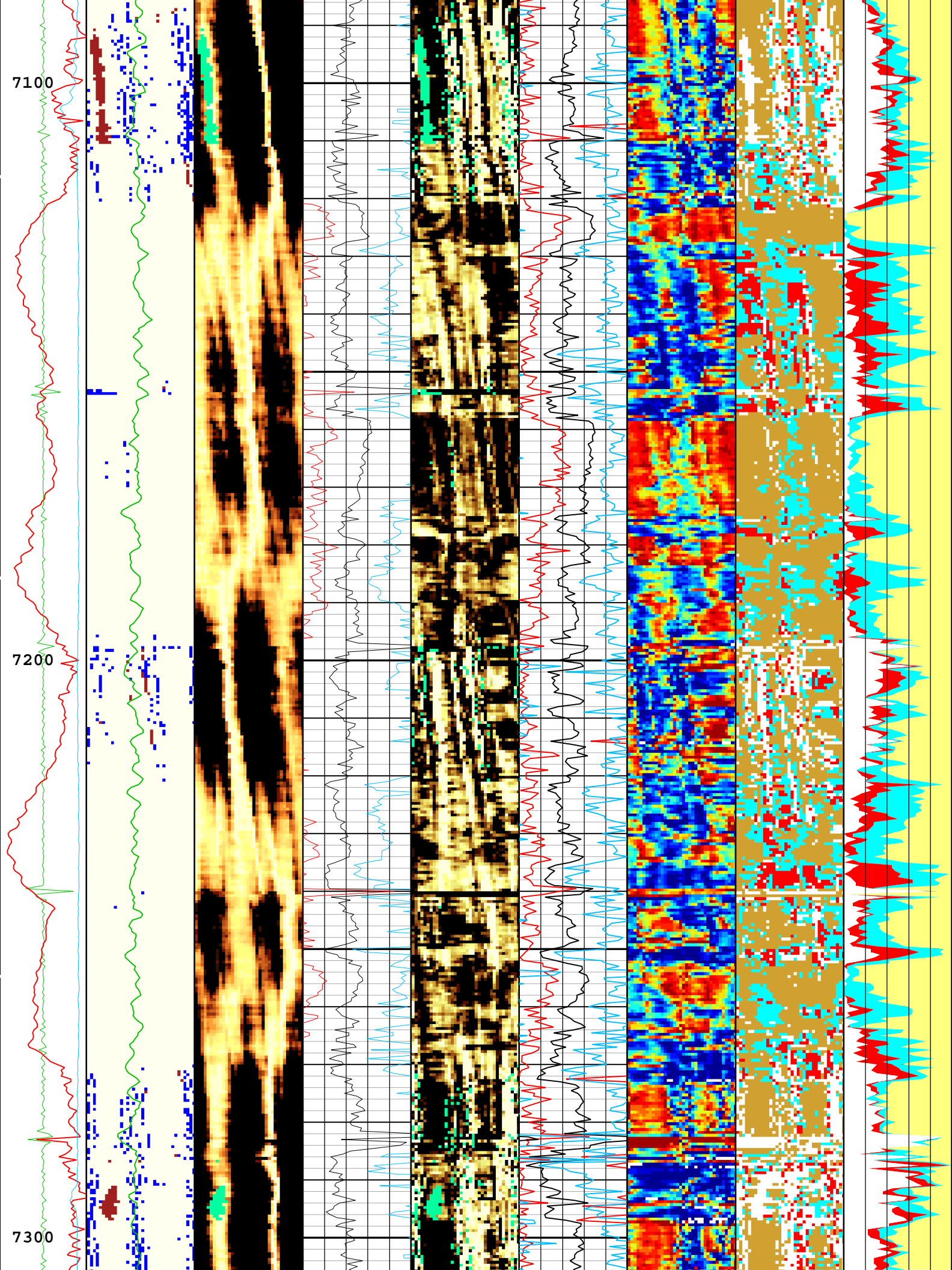


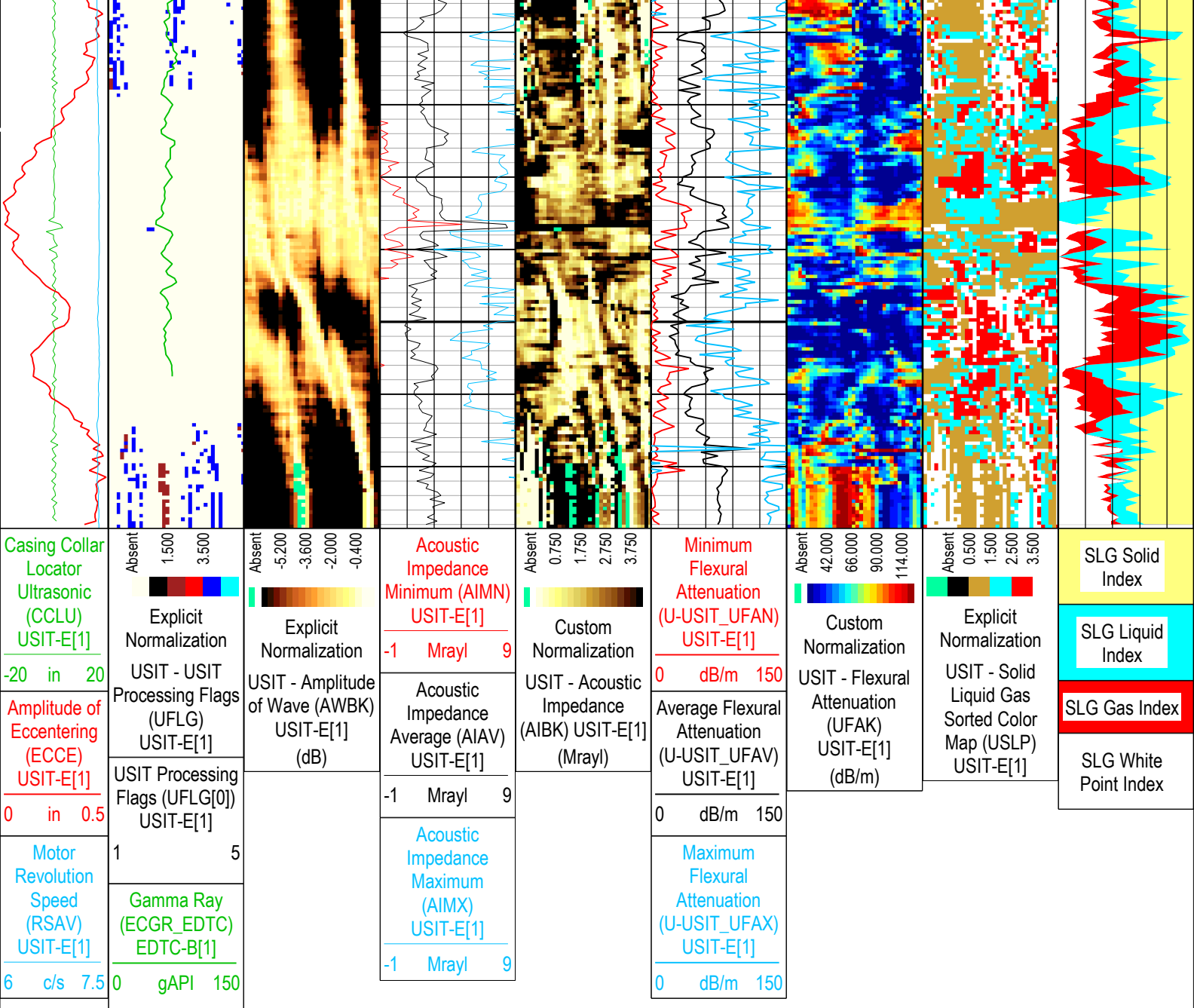












USIT Processing Flags (UFLG[0]) USIT-E[1]	
1 - UFLG 1 Value within [0.0 - 1.5] - :	UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10 ] - :	Loop Processing Error

TIME\_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG    Format: Log ( IBC SLG )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 22-Sep-2018 16:37:56

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	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	
CBLD	Casing Bottom (Logger)	WLSESSION	15058	ft

CDEN	Cement Density	USIT-E	12.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	8.4	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
GR_MULTIPLIER	Gamma Ray Multiplier	EDTC-B	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-10.55	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.17	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RCOD	Reference Calibrator Outer Diameter	USIT-E	4.5	in
RCSO	Reference Calibrator Standoff	USIT-E	0.842	in
RCTH	Reference Calibrator Thickness	USIT-E	0.216	in
SOCN	Standoff Distance	EDTC-B	0.125	in
SOCO	Standoff Correction Option	EDTC-B	No	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS_EDTC	Tool Position: Centered or Eccentered	EDTC-B	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.65	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-10.51	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
USI_RPLUS	Ultrasonic R+ Processing	USIT-E	No	
THDP	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	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

ONEDepth Zoned Parameters				
Parameter	Value	Start ( ft )	Stop ( ft )	
BS	13.5	58	2218	
BS	8.5	2218	7378.5	
All depth are actual.				

Tool Control Parameters				
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ONE: Parameters				
Parameter	Description	Tool	Value	Unit

AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	1.756	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MOTOR_PROTECT	Motor Protection	USIT-E	On	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
USSP	Ultrasonic Service	USIT-E	IBC	
U-USIT_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	71.88	us

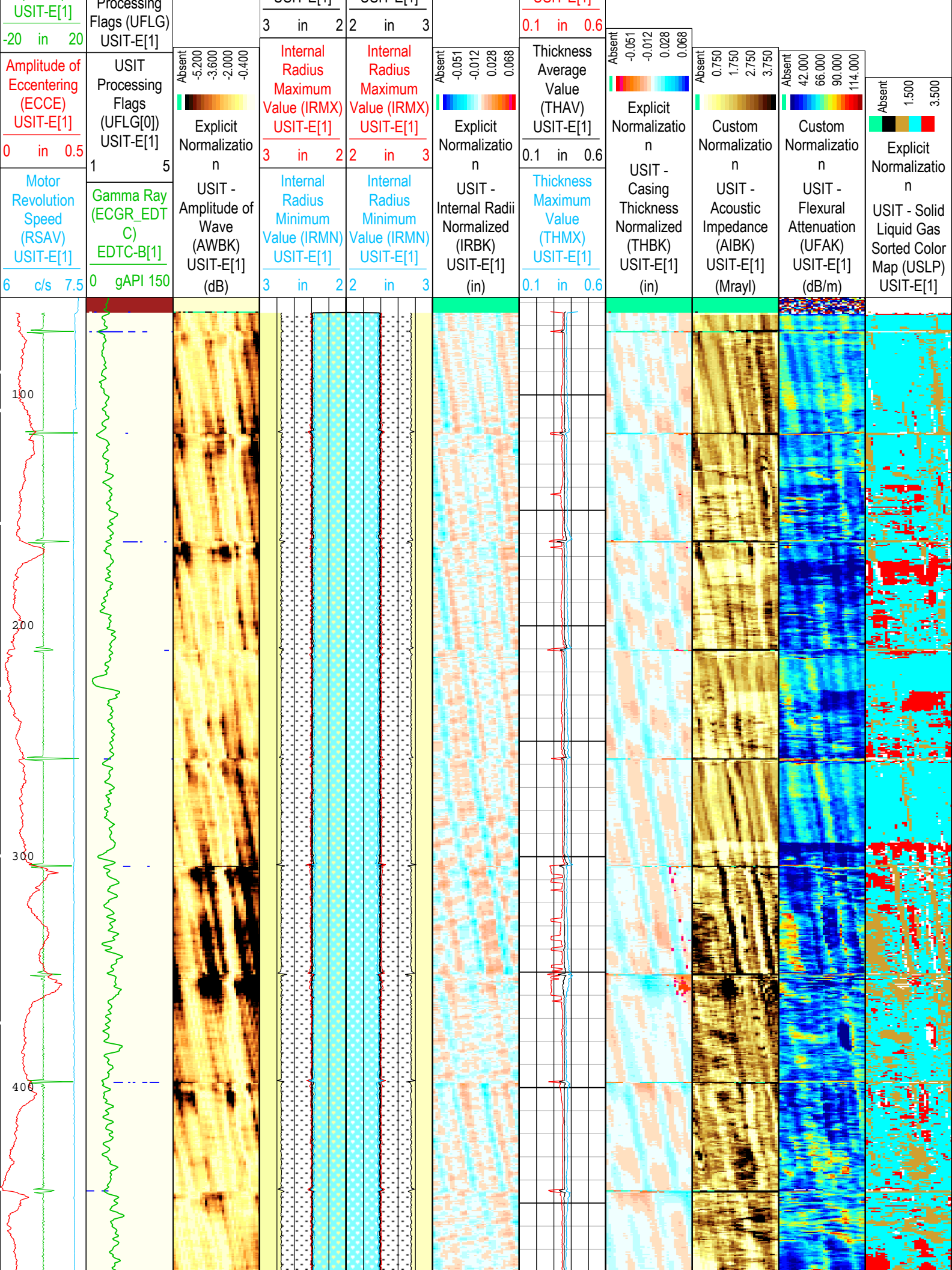
ONETime Zoned Parameters

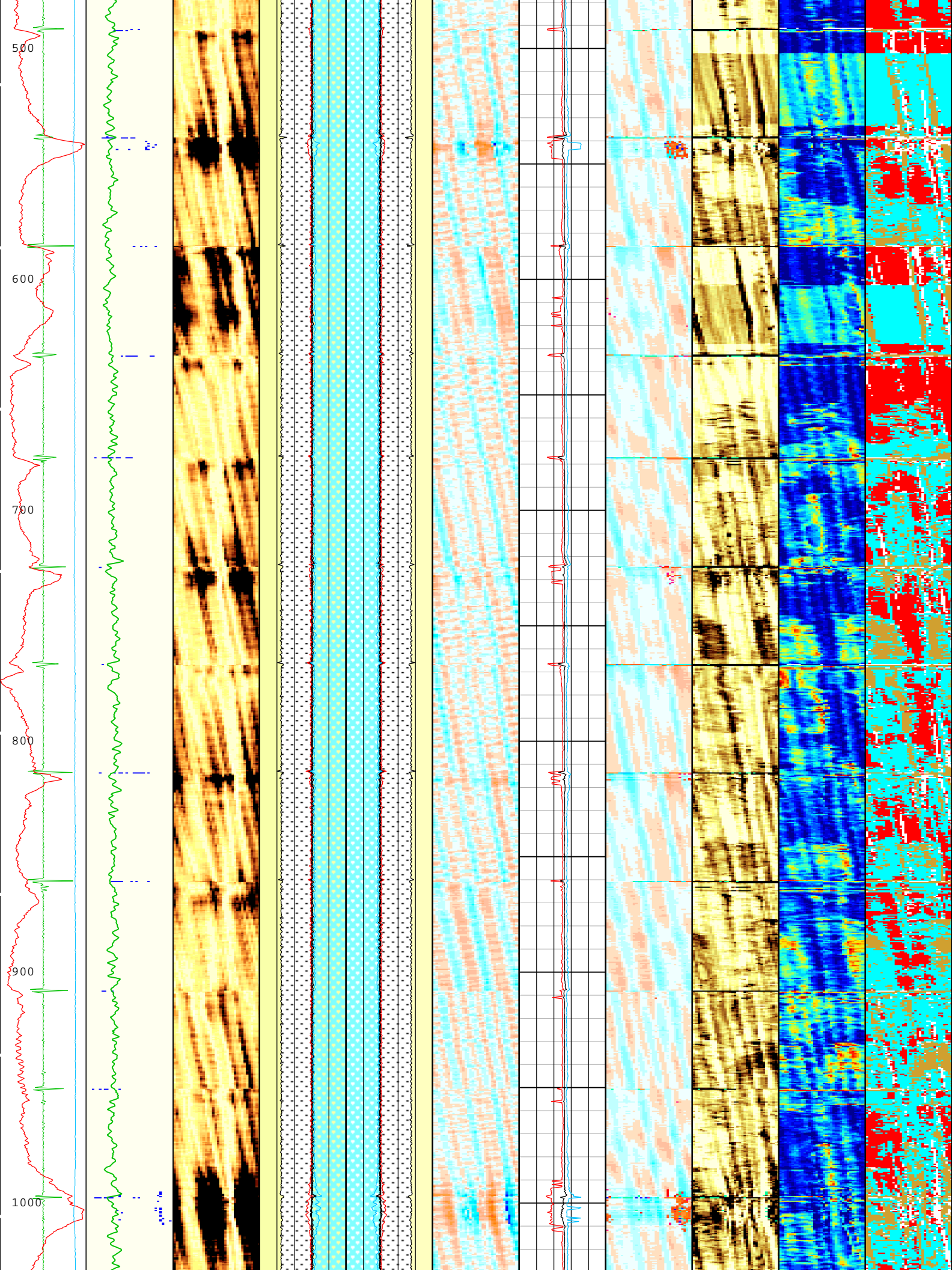
Pass Log[4]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	70	22-Sep-2018 11:05:49	22-Sep-2018 11:06:34	7379.34	7352.19
EMXV	90	22-Sep-2018 11:06:34	22-Sep-2018 11:29:21	7352.19	5778.09
EMXV	100	22-Sep-2018 11:29:21	22-Sep-2018 11:44:19	5778.09	4734.7
EMXV	110	22-Sep-2018 11:44:19	22-Sep-2018 11:47:03	4734.7	4545.87
U-USIT_UFWB	137	22-Sep-2018 11:05:49	22-Sep-2018 11:25:23	7379.34	6052.08
U-USIT_UFWB	129.41	22-Sep-2018 11:25:23	22-Sep-2018 11:47:03	6052.08	4545.87
U-USIT_UFWE	177	22-Sep-2018 11:05:49	22-Sep-2018 11:09:45	7379.34	7132.84
U-USIT_UFWE	175.45	22-Sep-2018 11:09:45	22-Sep-2018 11:25:50	7132.84	6021.18
U-USIT_UFWE	174.41	22-Sep-2018 11:25:50	22-Sep-2018 11:26:02	6021.18	6007.31
U-USIT_UFWE	181.73	22-Sep-2018 11:26:02	22-Sep-2018 11:26:55	6007.31	5946.22
U-USIT_UFWE	177.55	22-Sep-2018 11:26:55	22-Sep-2018 11:35:00	5946.22	5391.96
U-USIT_UFWE	182.78	22-Sep-2018 11:35:00	22-Sep-2018 11:47:03	5391.96	4545.87
U-USIT_UNWB	106	22-Sep-2018 11:05:49	22-Sep-2018 11:26:30	7379.34	5974.15
U-USIT_UNWB	103.25	22-Sep-2018 11:26:30	22-Sep-2018 11:47:03	5974.15	4545.87
U-USIT_UNWE	146	22-Sep-2018 11:05:49	22-Sep-2018 11:09:36	7379.34	7143.15
U-USIT_UNWE	139.87	22-Sep-2018 11:09:36	22-Sep-2018 11:26:58	7143.15	5943.07
U-USIT_UNWE	143.01	22-Sep-2018 11:26:58	22-Sep-2018 11:29:53	5943.07	5742.29
U-USIT_UNWE	140.92	22-Sep-2018 11:29:53	22-Sep-2018 11:35:48	5742.29	5336.84
U-USIT_UNWE	141.97	22-Sep-2018 11:35:48	22-Sep-2018 11:35:52	5336.84	5331.62
U-USIT_UNWE	148.24	22-Sep-2018 11:35:52	22-Sep-2018 11:37:10	5331.62	5242.1
U-USIT_UNWE	145.11	22-Sep-2018 11:37:10	22-Sep-2018 11:39:45	5242.1	5057.32

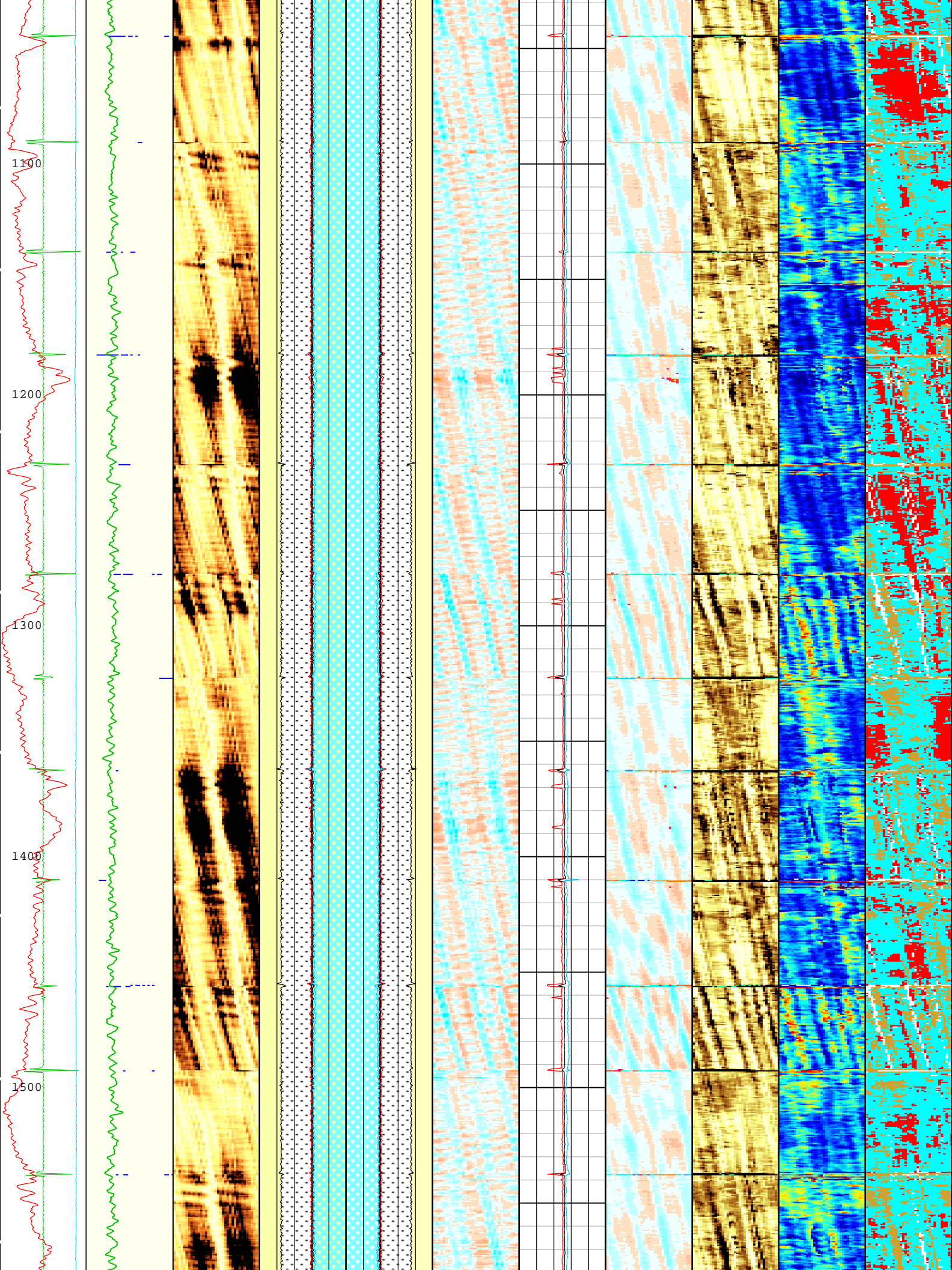


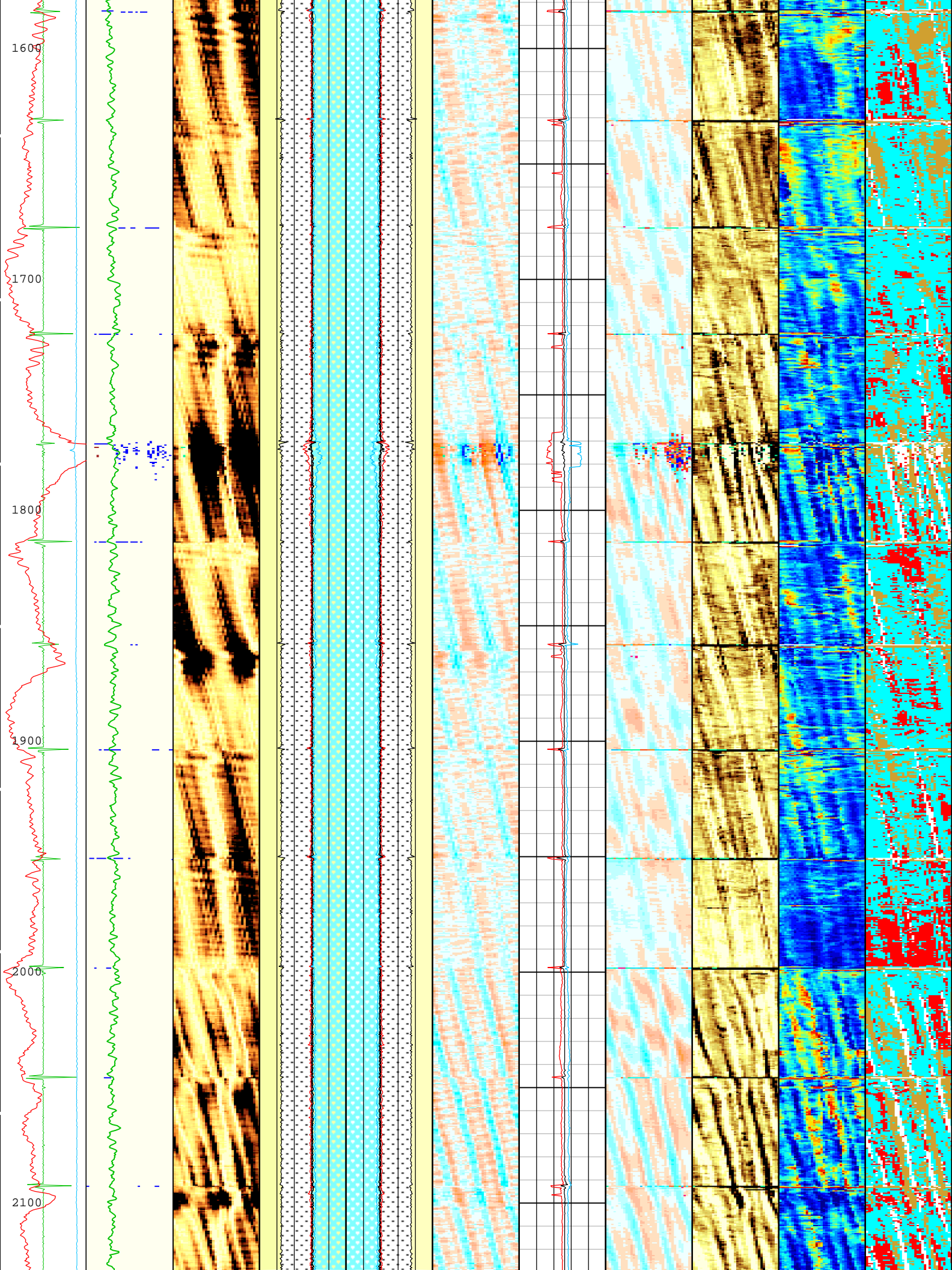
U-USIT_UNWE	140.92	22-Sep-2018 11:39:45	22-Sep-2018 11:50:00	5057.32	4545.87				
WINB	31.88	22-Sep-2018 11:05:49	22-Sep-2018 11:06:19	7379.34	7368.85				
WINB	27.37	22-Sep-2018 11:06:19	22-Sep-2018 11:06:47	7368.85	7337.79				
WINB	30.44	22-Sep-2018 11:06:47	22-Sep-2018 11:47:03	7337.79	4545.87				
Pass Log[5]:Up									
EMXV	110	22-Sep-2018 11:47:59	22-Sep-2018 12:21:33	4545.87	2234.03				
EMXV	90	22-Sep-2018 12:21:33	22-Sep-2018 13:00:00	2234.03	57.34				
U-USIT_UFWB	129.41	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34				
U-USIT_UFWE	182.78	22-Sep-2018 11:47:59	22-Sep-2018 11:57:35	4545.87	3926.73				
U-USIT_UFWE	178.59	22-Sep-2018 11:57:35	22-Sep-2018 11:57:40	3926.73	3920.11				
U-USIT_UFWE	177.55	22-Sep-2018 11:57:40	22-Sep-2018 13:00:00	3920.11	57.34				
U-USIT_UNWB	103.25	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34				
U-USIT_UNWE	140.92	22-Sep-2018 11:47:59	22-Sep-2018 11:50:00	4545.87	4454.64				
U-USIT_UNWE	149.29	22-Sep-2018 11:50:00	22-Sep-2018 11:57:29	4454.64	3933.38				
U-USIT_UNWE	141.97	22-Sep-2018 11:57:29	22-Sep-2018 13:00:00	3933.38	57.34				
WINB	30.44	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34				
All depth are at tool zero.									
Composite 1									
IBC SLG Composite									
Composite Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	4541.40 ft	7379.60 ft	22-Sep-2018 11:05:49 AM	22-Sep-2018 11:47:03 AM	ON	7.97 ft	Yes
ONE	Log[5]:Up	Up	57.28 ft	4576.89 ft	22-Sep-2018 11:47:59 AM	22-Sep-2018 1:00:00 PM	ON	7.44 ft	Yes
All depths are referenced to toolstring zero						Company:Crestone Peak Resources Operating LLC      Well:Davis 1N-9H-G266			
Log						Composite 1:S004			
Description: USI IBC SLG Composite    Format: Log ( IBC SLG Composite )    Index Scale: 2 in per 100 ft    Index Unit: ft    Index Type: Measured Depth						Creation Date: 22-Sep-2018 16:39:02			
TIME_1900 - Time Marked every 60.00 (s)						USIT Processing Flags (UFLG[0]) USIT-E[1]			
1 - UFLG 1 Value within [0.0 - 1.5] - :						UTIM Error			
2 - UFLG 2 Value within [1.5 - 2.5] - :						Pulse Origin Not Detected			
3 - UFLG 3 Value within [2.5 - 3.5] - :						WINLEN Error			
4 - UFLG 4    UFLG 5    UFLG 6 Value within [3.5 - 6.5] - :						Casing Thickness Error			
5 - UFLG 7    UFLG 8    UFLG 9 Value within [6.5 - 10 ] - :						Loop Processing Error			
<div><div>Absent</div><div>1.500</div><div>3.500</div><div></div></div> <div>Explicit Normalization</div> <div>USIT - USIT Processing</div>			External Radii Average (ERAV) USIT-E[1]	External Radii Average (ERAV) USIT-E[1]					
			3    in    2	2    in    3					
Casing Collar Locator Ultrasonic (CCLU)			Internal Radius Averaged Value (IRAV) USIT-F[1]	Internal Radius Averaged Value (IRAV) USIT-F[1]	Thickness Minimum Value (THMN) USIT-F[1]				



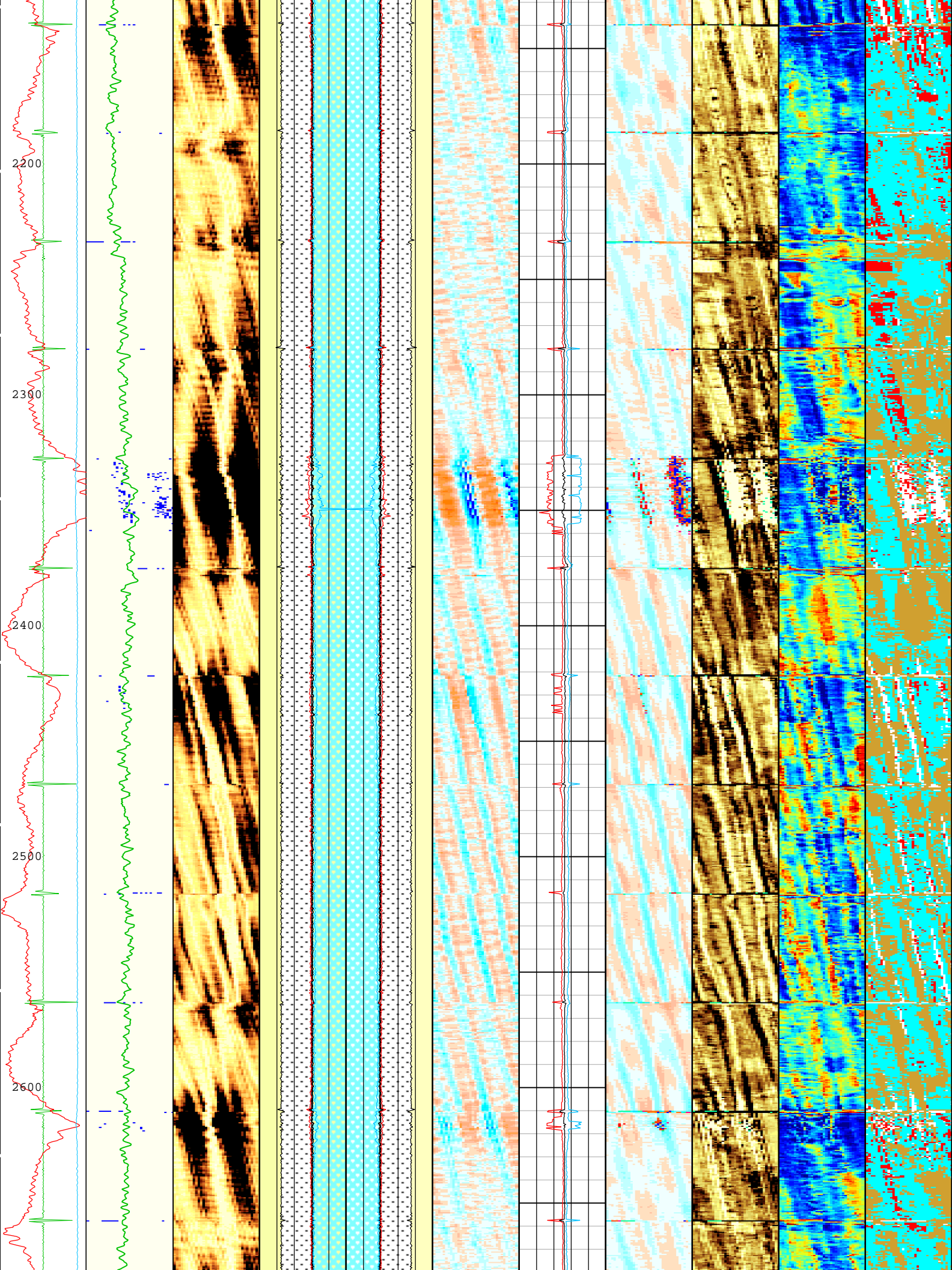


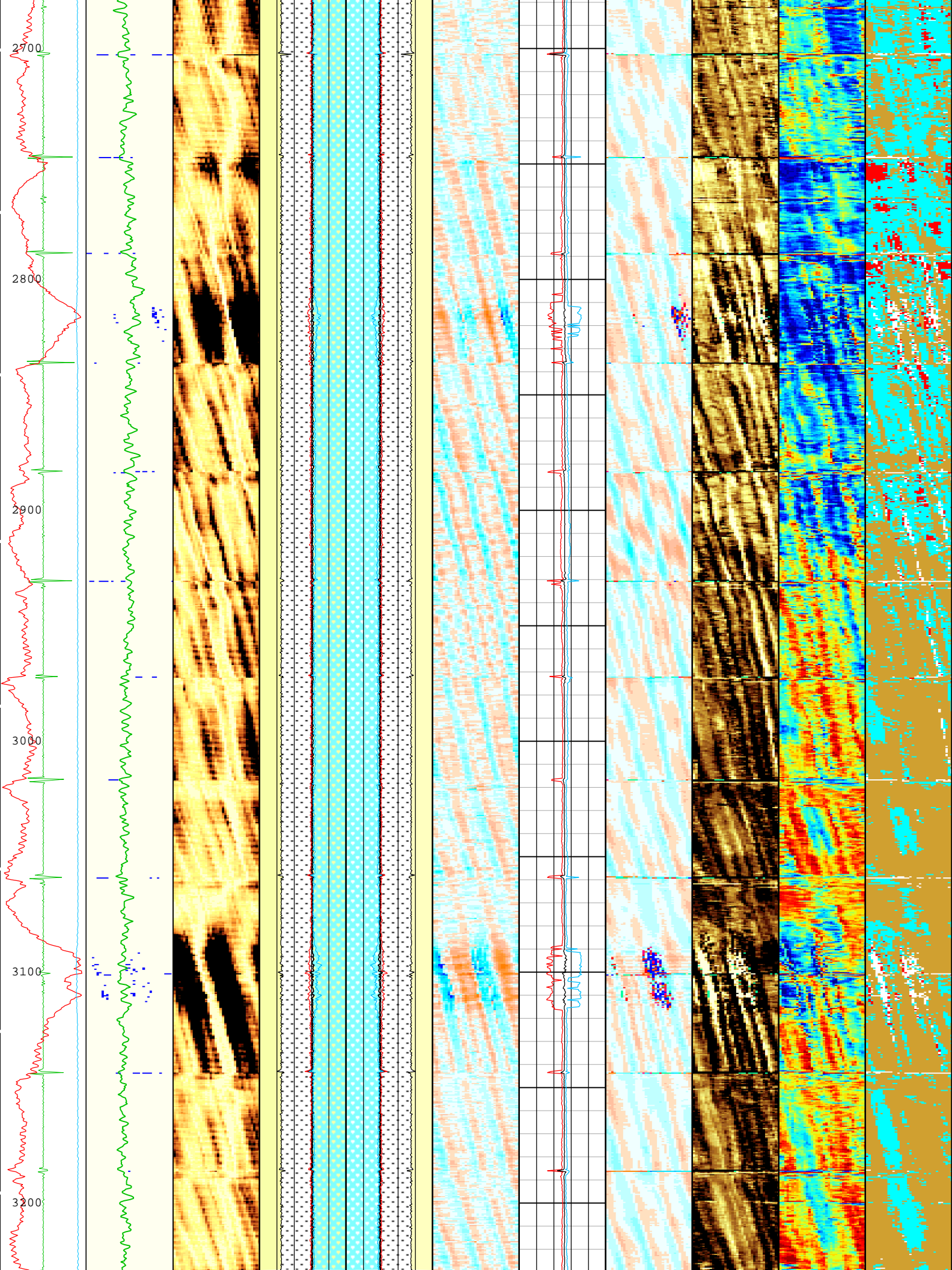




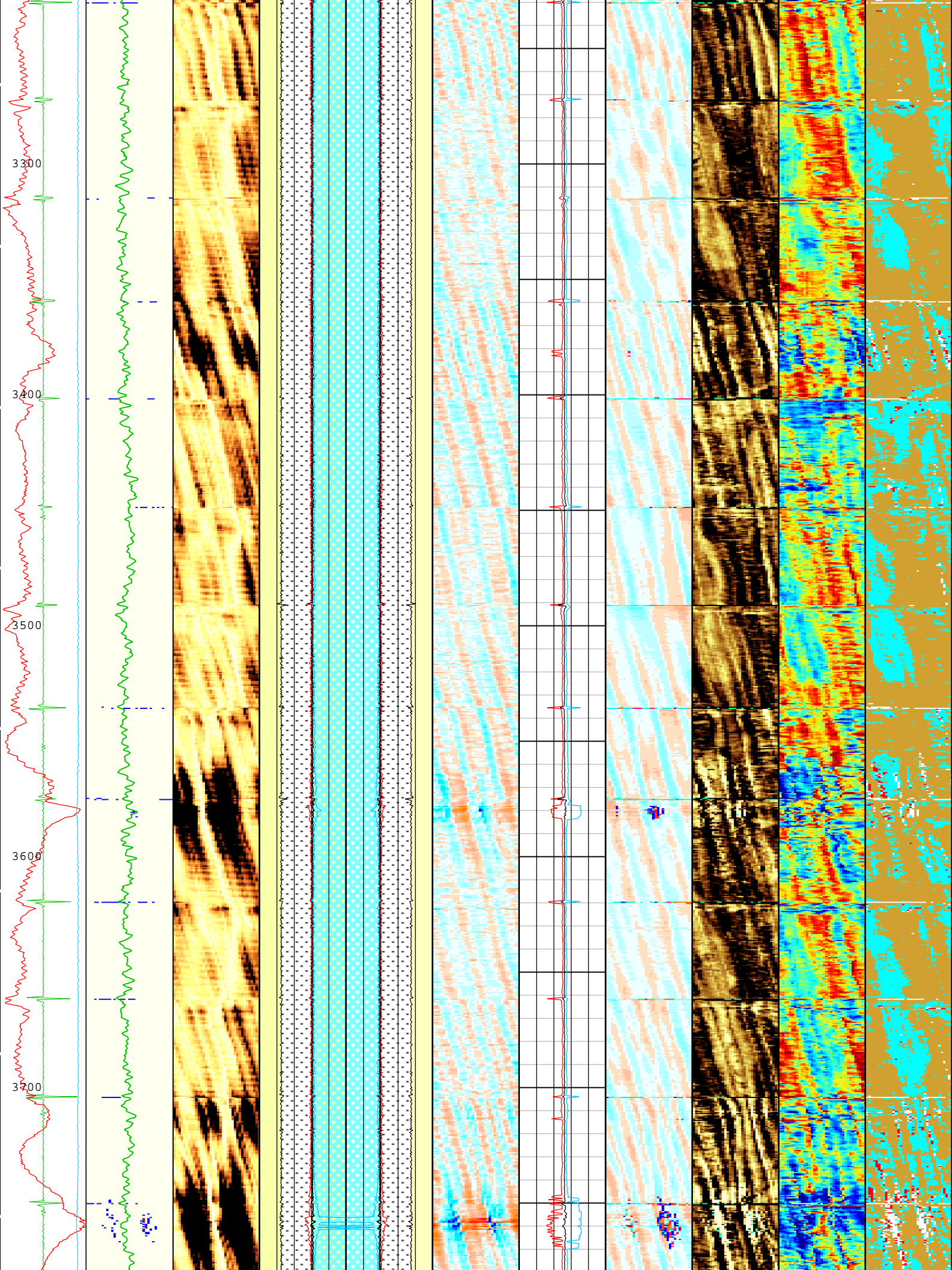


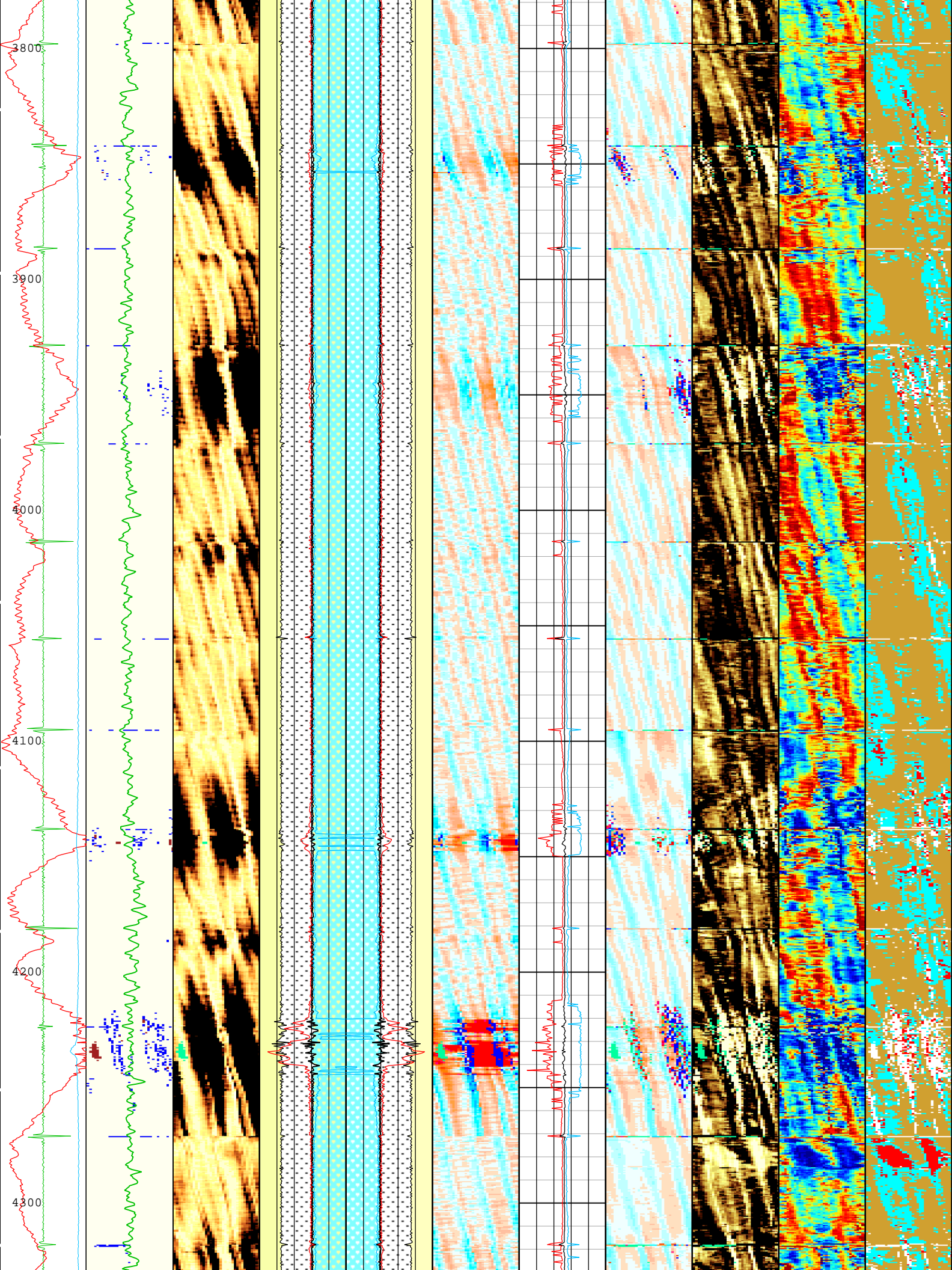




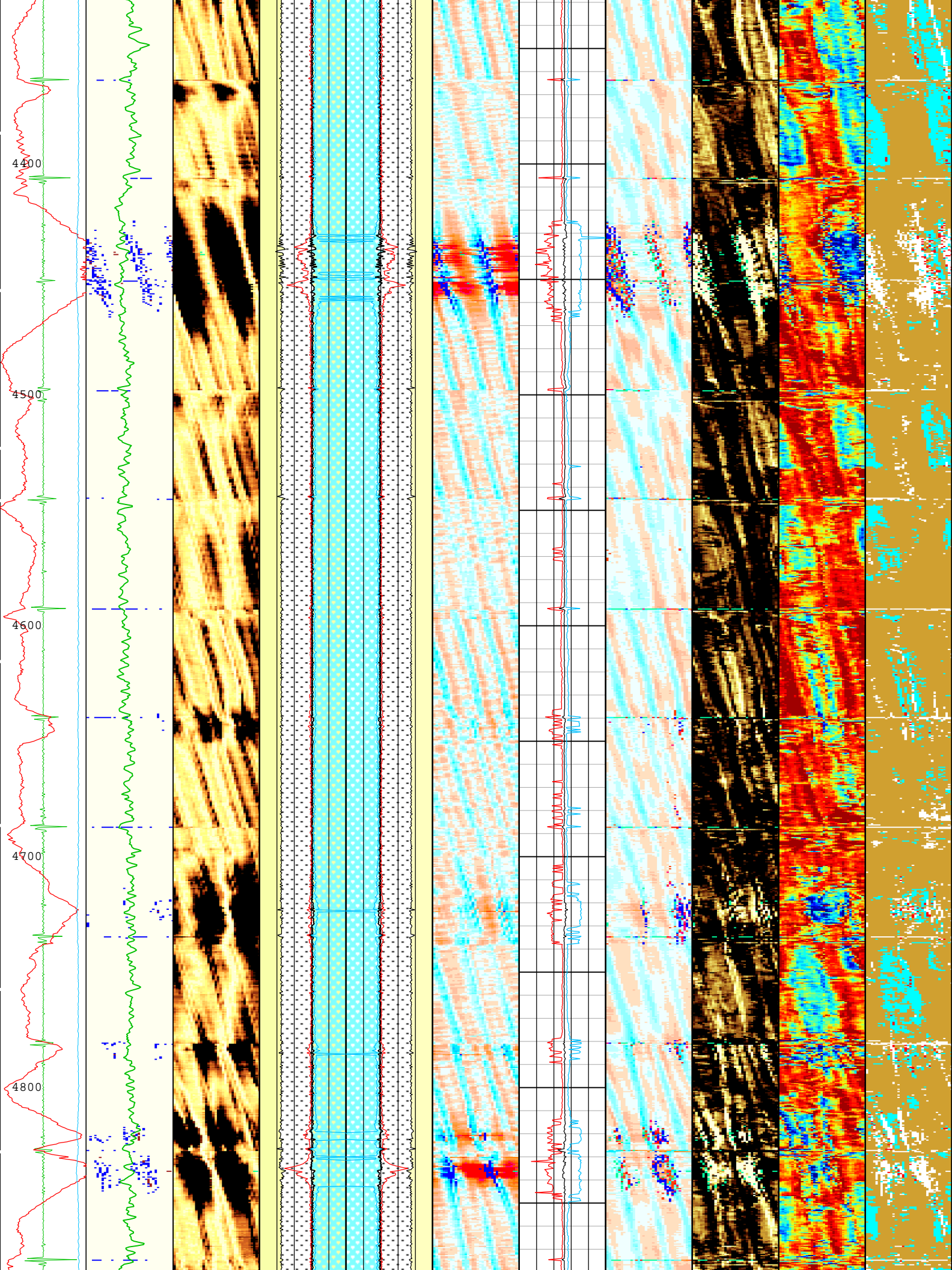




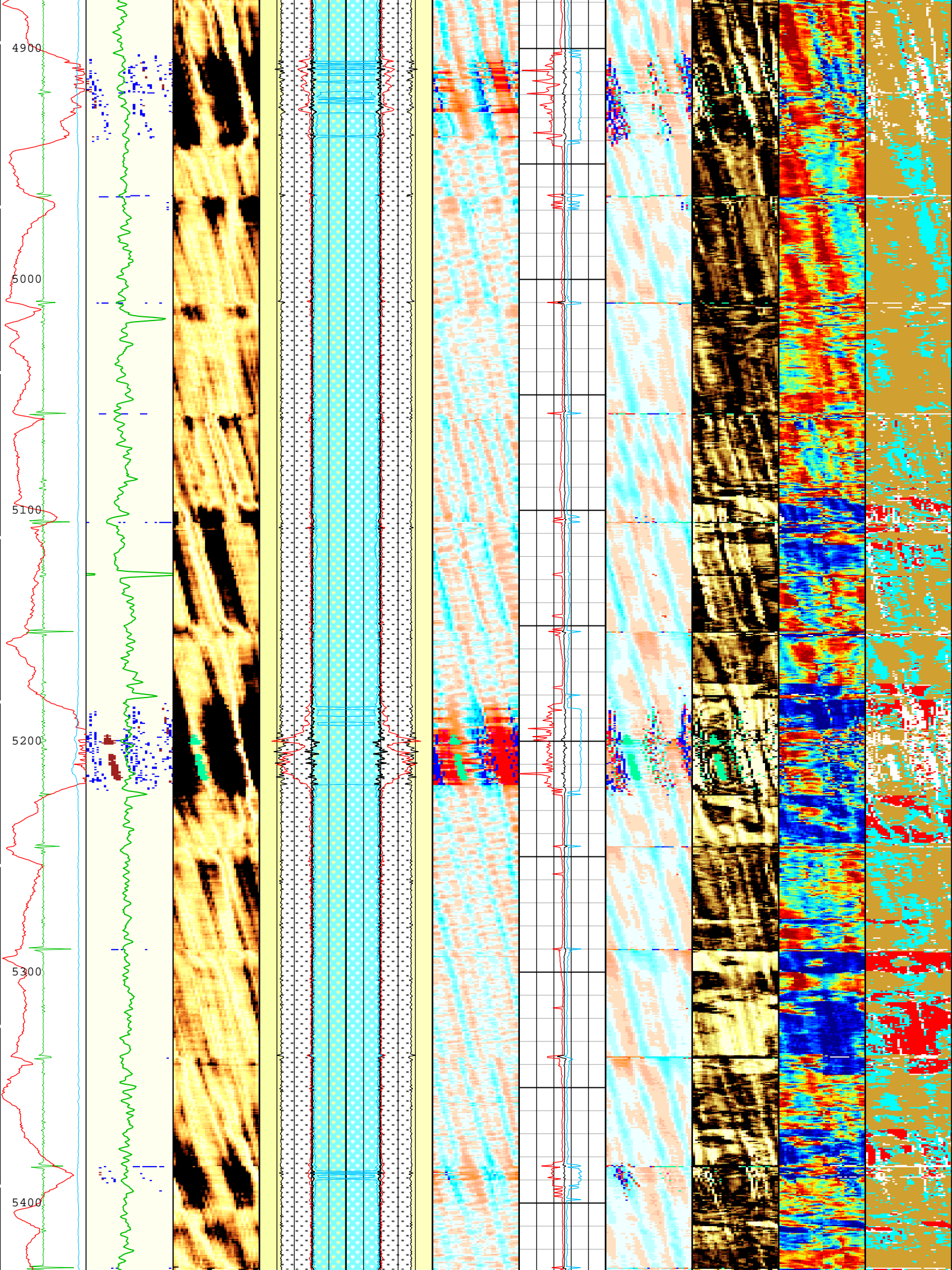


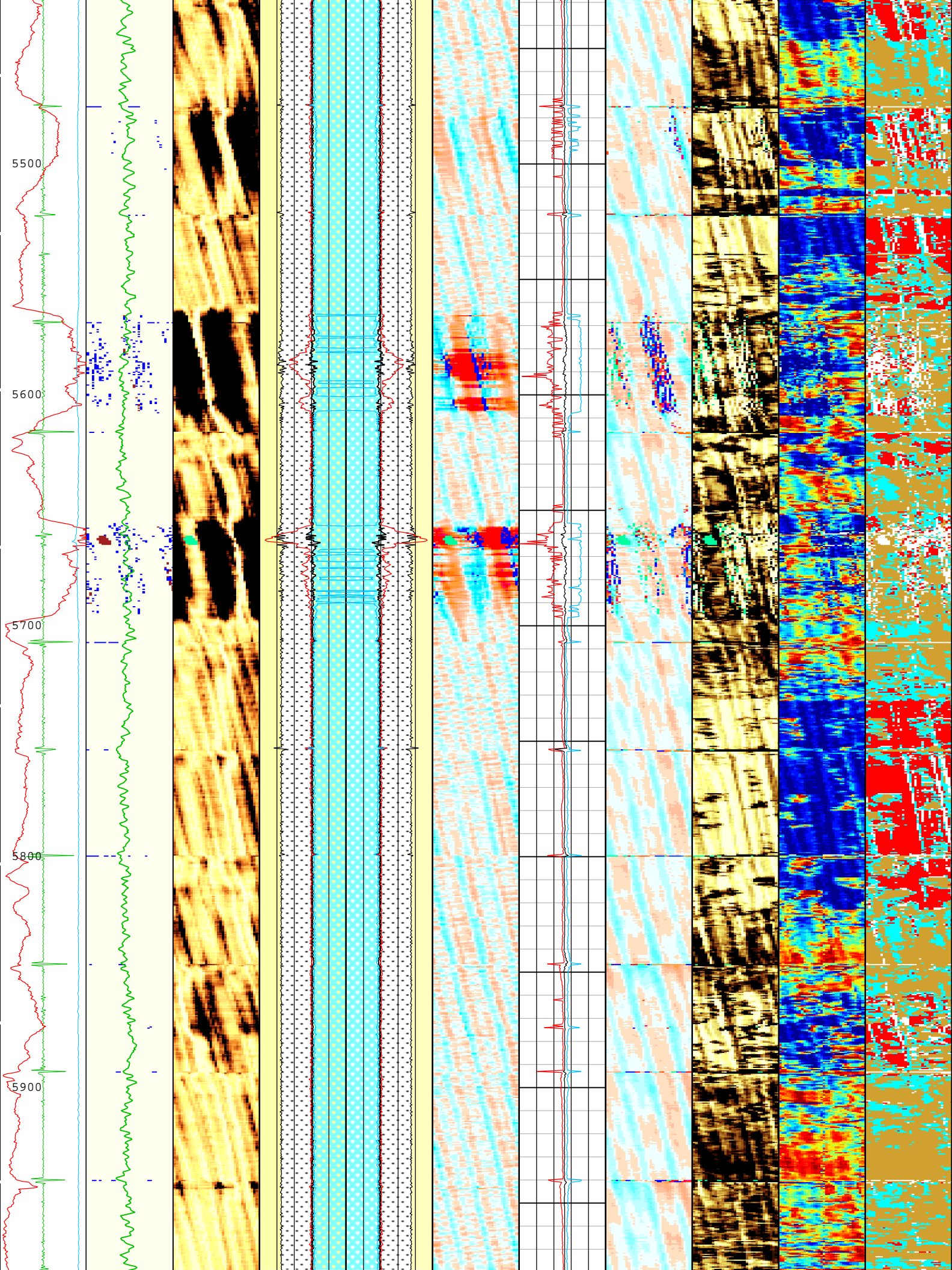




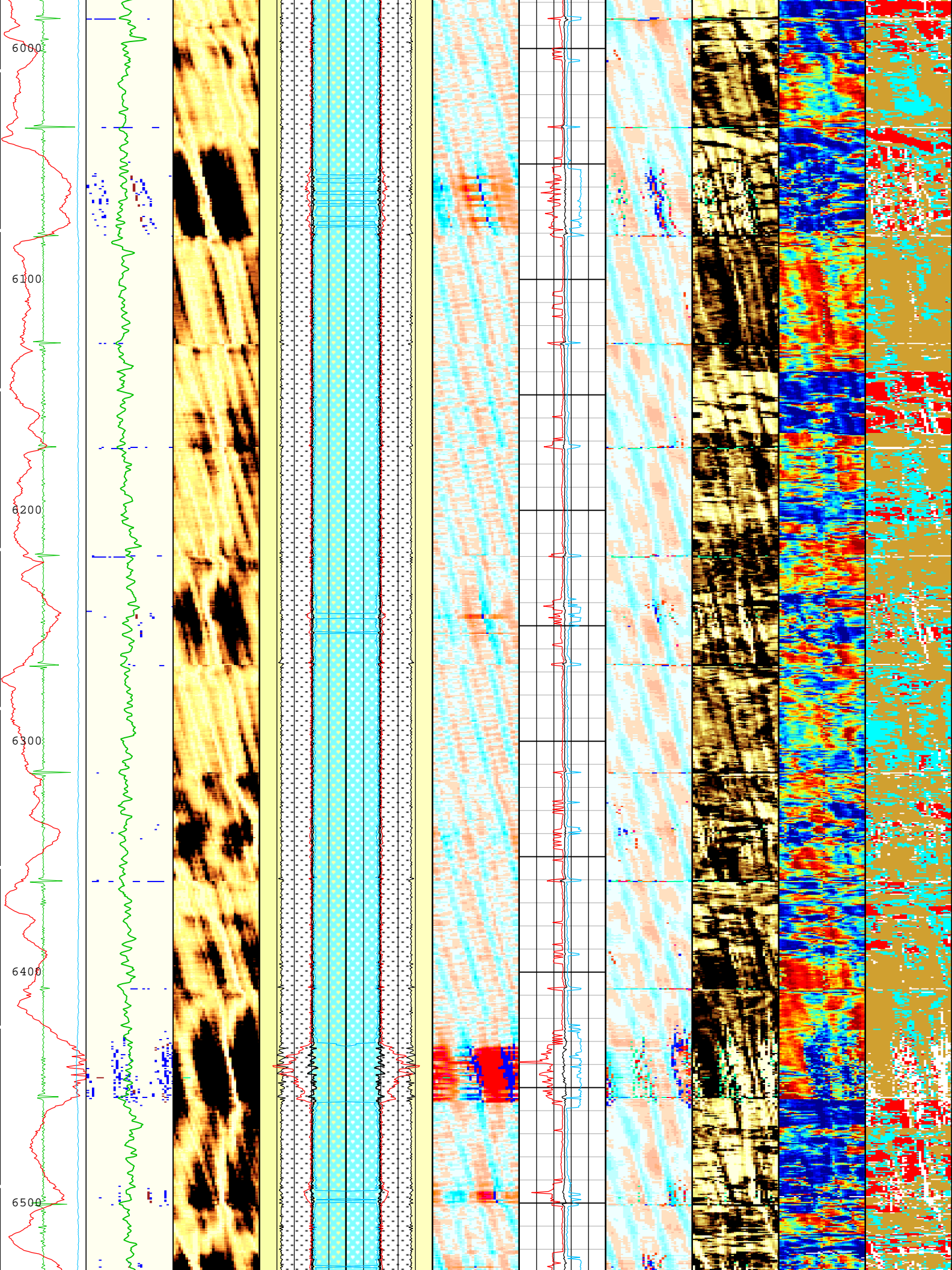


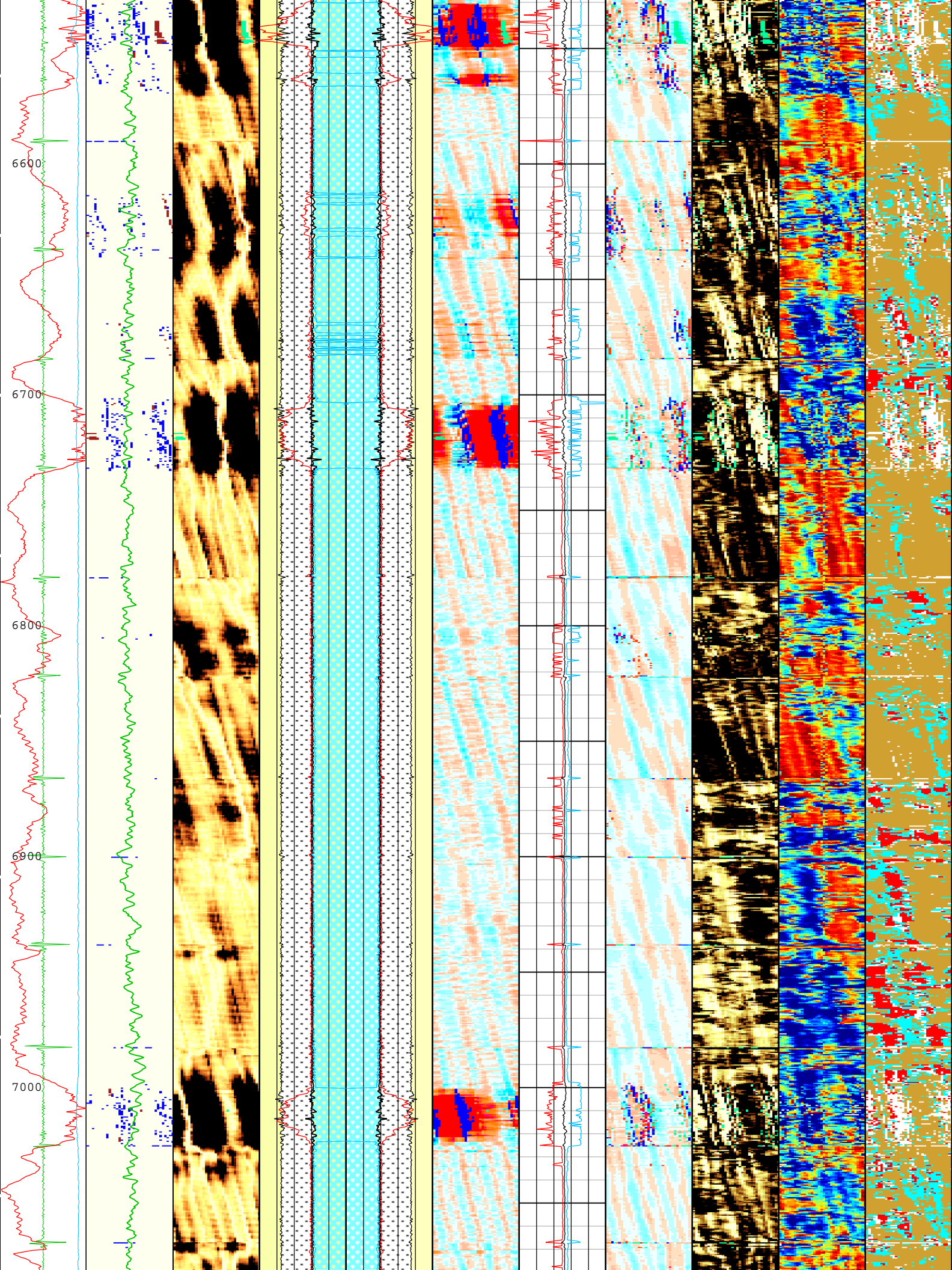




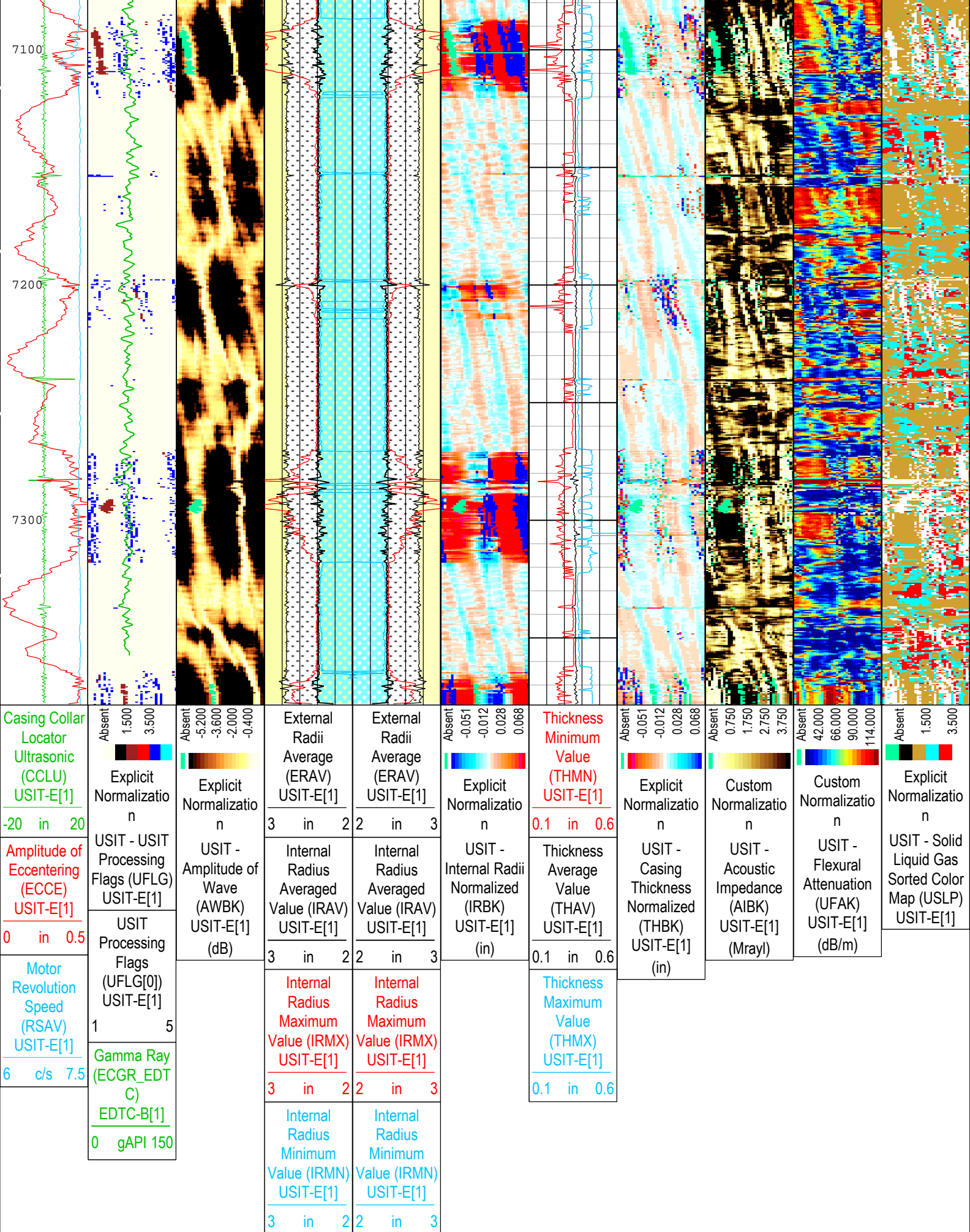
















USIT Processing Flags (UFLG[0]) USIT-E[1]

1 - UFLG 1 Value within [0.0 - 1.5] - :

UTIM Error



2 - UFLG 2 Value within [1.5 - 2.5] - :  Pulse Origin Not Detected  
3 - UFLG 3 Value within [2.5 - 3.5] - :  WINLEN Error  
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :  Casing Thickness Error  
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10 ] - :  Loop Processing Error

TIME\_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Composite    Format: Log ( IBC SLG Composite )    Index Scale: 2 in per 100 ft    Index Unit: ft    Index Type: Measured Depth  
Creation Date: 22-Sep-2018 16:39:02

## Channel Processing Parameters

### ONE: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	15058	ft
CDEN	Cement Density	USIT-E	12.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	8.4	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-10.55	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.17	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.65	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-10.51	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

### ONEDepth Zoned Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	13.5	58	2218
BS	8.5	2218	7378.5

All depth are actual.

## Tool Control Parameters

### ONE: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB

EMXV	EMEX Voltage	USIT-E	Time Zoned	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_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	71.88	us

## ONETime Zoned Parameters

### Pass Log[4]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	70	22-Sep-2018 11:05:49	22-Sep-2018 11:06:34	7379.34	7352.19
EMXV	90	22-Sep-2018 11:06:34	22-Sep-2018 11:29:21	7352.19	5778.09
EMXV	100	22-Sep-2018 11:29:21	22-Sep-2018 11:44:19	5778.09	4734.7
EMXV	110	22-Sep-2018 11:44:19	22-Sep-2018 11:47:03	4734.7	4545.87
U-USIT_UFWB	137	22-Sep-2018 11:05:49	22-Sep-2018 11:25:23	7379.34	6052.08
U-USIT_UFWB	129.41	22-Sep-2018 11:25:23	22-Sep-2018 11:47:03	6052.08	4545.87
U-USIT_UFWE	177	22-Sep-2018 11:05:49	22-Sep-2018 11:09:45	7379.34	7132.84
U-USIT_UFWE	175.45	22-Sep-2018 11:09:45	22-Sep-2018 11:25:50	7132.84	6021.18
U-USIT_UFWE	174.41	22-Sep-2018 11:25:50	22-Sep-2018 11:26:02	6021.18	6007.31
U-USIT_UFWE	181.73	22-Sep-2018 11:26:02	22-Sep-2018 11:26:55	6007.31	5946.22
U-USIT_UFWE	177.55	22-Sep-2018 11:26:55	22-Sep-2018 11:35:00	5946.22	5391.96
U-USIT_UFWE	182.78	22-Sep-2018 11:35:00	22-Sep-2018 11:47:03	5391.96	4545.87
U-USIT_UNWB	106	22-Sep-2018 11:05:49	22-Sep-2018 11:26:30	7379.34	5974.15
U-USIT_UNWB	103.25	22-Sep-2018 11:26:30	22-Sep-2018 11:47:03	5974.15	4545.87
U-USIT_UNWE	146	22-Sep-2018 11:05:49	22-Sep-2018 11:09:36	7379.34	7143.15
U-USIT_UNWE	139.87	22-Sep-2018 11:09:36	22-Sep-2018 11:26:58	7143.15	5943.07
U-USIT_UNWE	143.01	22-Sep-2018 11:26:58	22-Sep-2018 11:29:53	5943.07	5742.29
U-USIT_UNWE	140.92	22-Sep-2018 11:29:53	22-Sep-2018 11:35:48	5742.29	5336.84
U-USIT_UNWE	141.97	22-Sep-2018 11:35:48	22-Sep-2018 11:35:52	5336.84	5331.62
U-USIT_UNWE	148.24	22-Sep-2018 11:35:52	22-Sep-2018 11:37:10	5331.62	5242.1
U-USIT_UNWE	145.11	22-Sep-2018 11:37:10	22-Sep-2018 11:39:45	5242.1	5057.32
U-USIT_UNWE	140.92	22-Sep-2018 11:39:45	22-Sep-2018 11:47:03	5057.32	4545.87
WINB	31.88	22-Sep-2018 11:05:49	22-Sep-2018 11:06:19	7379.34	7368.85
WINB	27.37	22-Sep-2018 11:06:19	22-Sep-2018 11:06:47	7368.85	7337.79
WINB	30.44	22-Sep-2018 11:06:47	22-Sep-2018 11:47:03	7337.79	4545.87

### Pass Log[5]:Up

EMXV	110	22-Sep-2018 11:47:59	22-Sep-2018 12:21:33	4545.87	2234.03
EMXV	90	22-Sep-2018 12:21:33	22-Sep-2018 13:00:00	2234.03	57.34

U-USIT_UFWB	129.41	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34
U-USIT_UFWE	182.78	22-Sep-2018 11:47:59	22-Sep-2018 11:57:35	4545.87	3926.73
U-USIT_UFWE	178.59	22-Sep-2018 11:57:35	22-Sep-2018 11:57:40	3926.73	3920.11
U-USIT_UFWE	177.55	22-Sep-2018 11:57:40	22-Sep-2018 13:00:00	3920.11	57.34
U-USIT_UNWB	103.25	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34
U-USIT_UNWE	140.92	22-Sep-2018 11:47:59	22-Sep-2018 11:50:00	4545.87	4454.64
U-USIT_UNWE	149.29	22-Sep-2018 11:50:00	22-Sep-2018 11:57:29	4454.64	3933.38
U-USIT_UNWE	141.97	22-Sep-2018 11:57:29	22-Sep-2018 13:00:00	3933.38	57.34
WINB	30.44	22-Sep-2018 11:48:40	22-Sep-2018 13:00:00	4545.87	57.34

All depth are at tool zero.

Composite 1

IBC Goodwin Compressed

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	4541.40 ft	7379.60 ft	22-Sep-2018 11:05:49 AM	22-Sep-2018 11:47:03 AM	ON	7.97 ft	Yes
ONE	Log[5]:Up	Up	57.28 ft	4576.89 ft	22-Sep-2018 11:47:59 AM	22-Sep-2018 1:00:00 PM	ON	7.44 ft	Yes

All depths are referenced to toolstring zero

Log

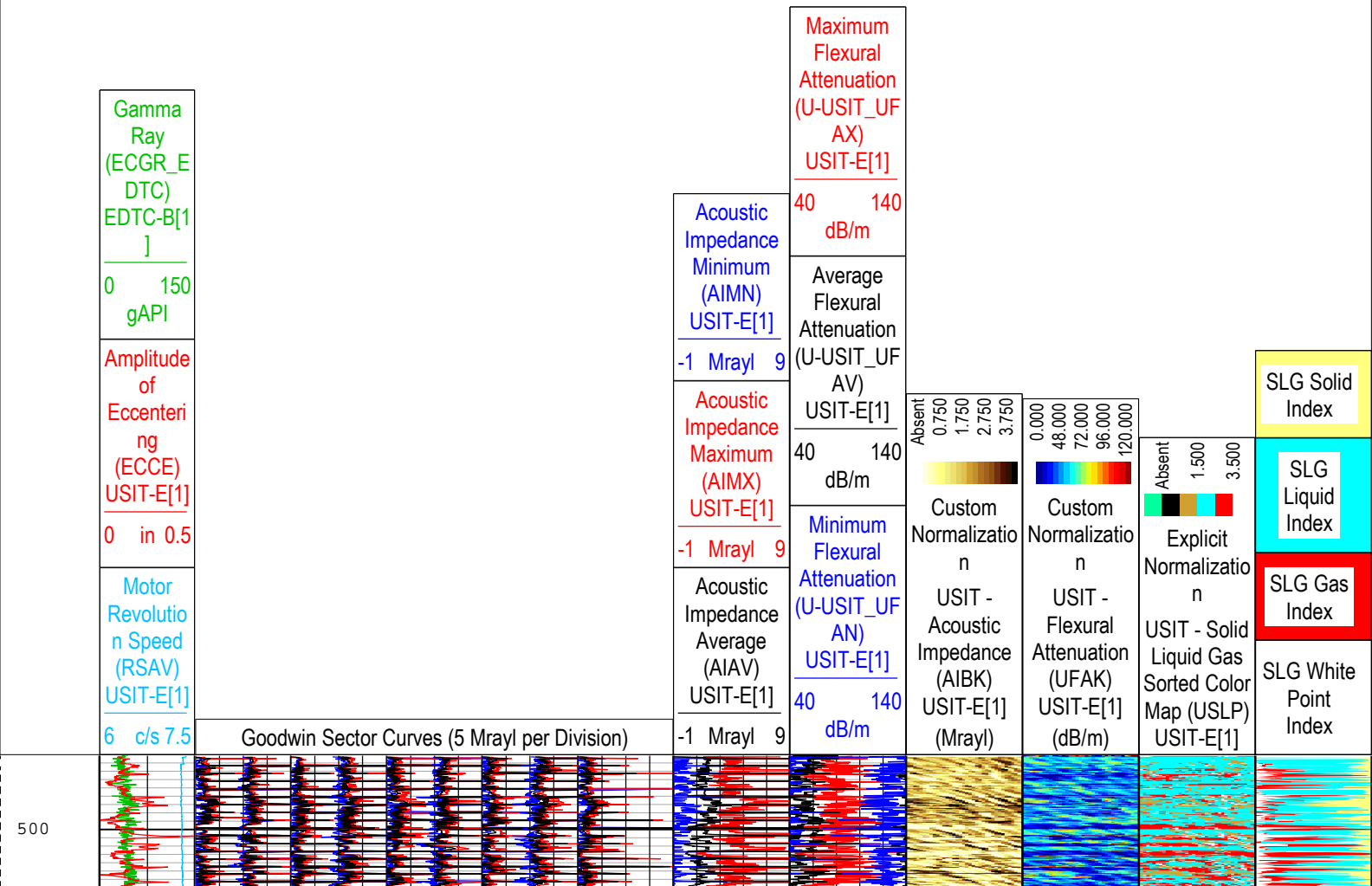
Company:Crestone Peak Resources Operating LLC

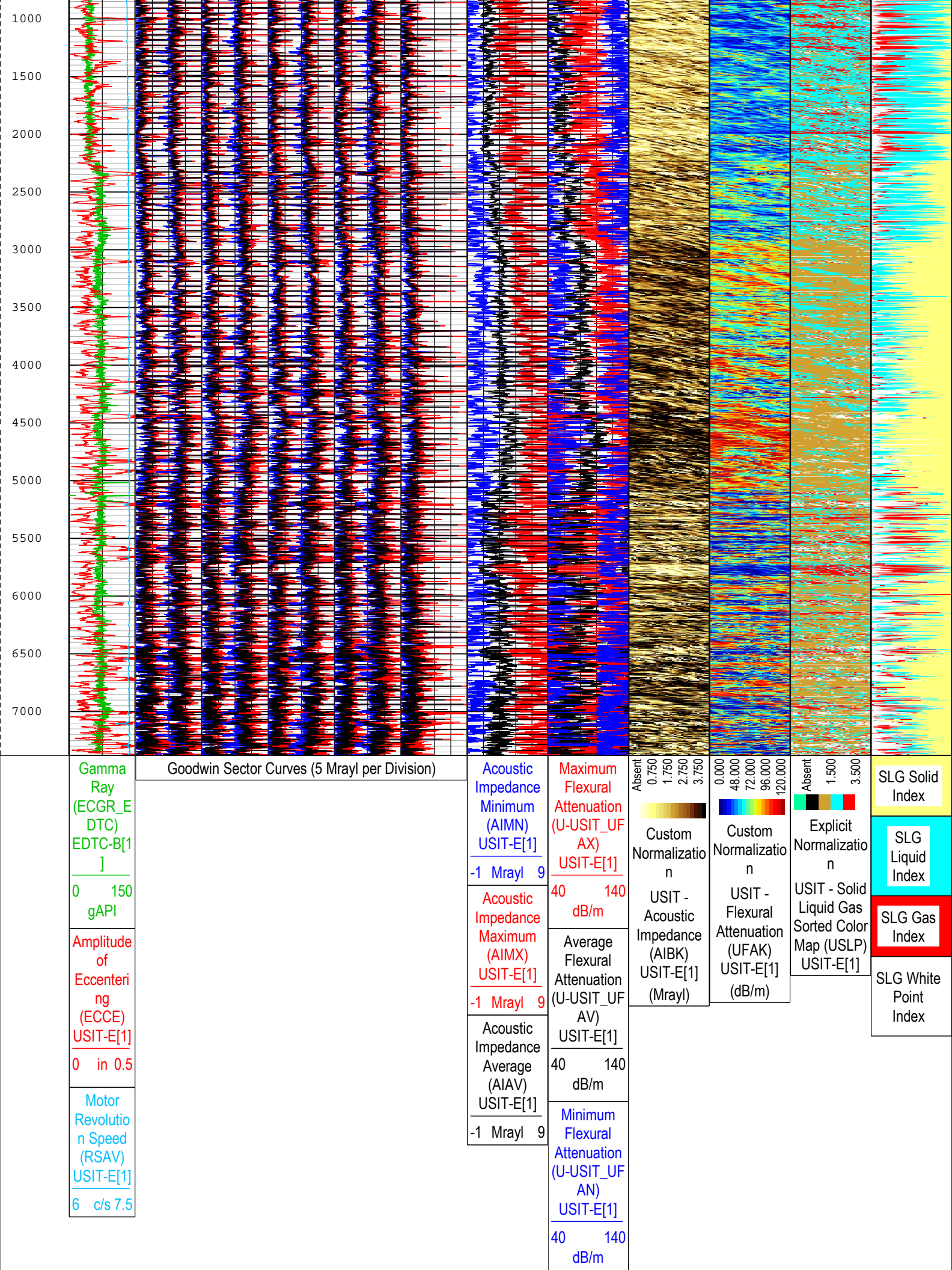
Well:Davis 1N-9H-G266

Composite 1:S004

Description: USI Goodwin   Format: Log ( IBC Goodwin )   Index Scale: 0.1 in per 100 ft   Index Unit: ft   Index Type: Measured Depth   Creation Date: 22-Sep-2018 16:39:46

TIME\_1900 - Time Marked every 60.00 (s)

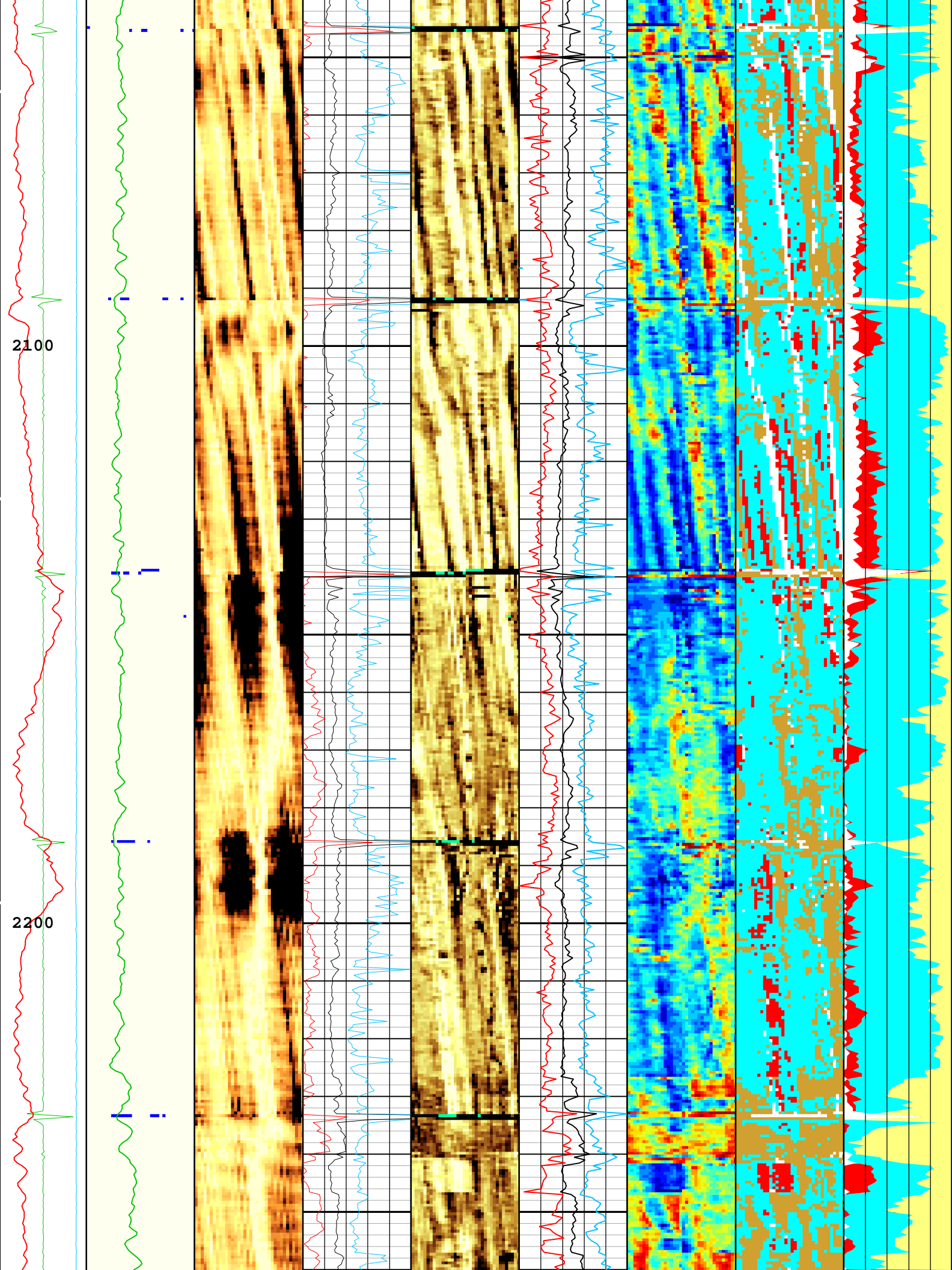


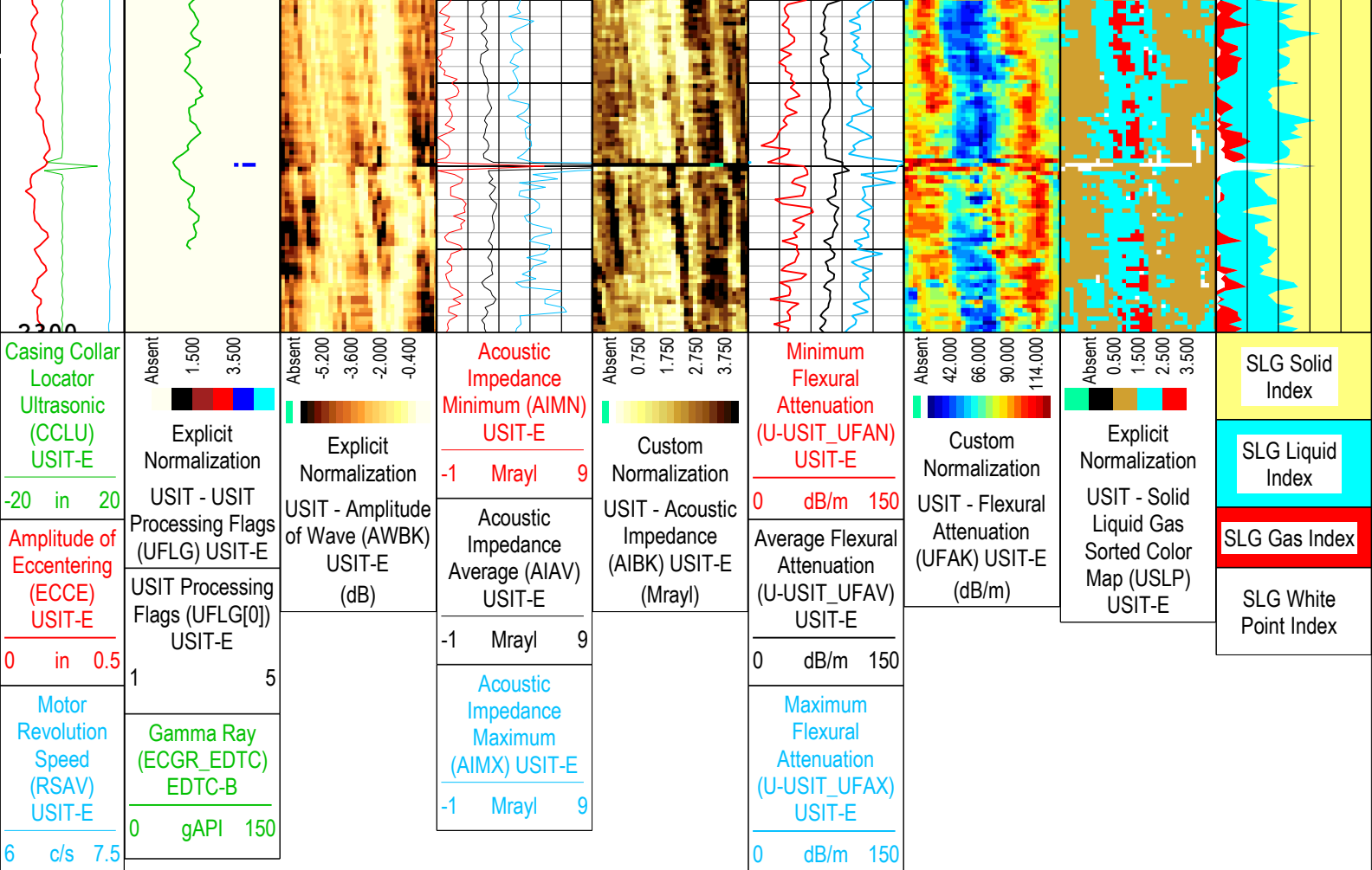












USIT Processing Flags (UFLG[0]) USIT-E

- 1 - UFLG 1 Value within [0.0 - 1.5] - :  UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - :  Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - :  WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :  Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :  Loop Processing Error

TIME\_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Format: Log ( IBC SLG ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Sep-2018 16:39:58

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	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	15058	ft
CDEN	Cement Density	USIT-E	12.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	8.4	lbm/gal
EDTC	EDTC Data	USIT-E	0	0

FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
GR_MULTIPLIER	Gamma Ray Multiplier	EDTC-B	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-10.55	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.17	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RCOD	Reference Calibrator Outer Diameter	USIT-E	4.5	in
RCSO	Reference Calibrator Standoff	USIT-E	0.842	in
RCTH	Reference Calibrator Thickness	USIT-E	0.216	in
SOCN	Standoff Distance	EDTC-B	0.125	in
SOCO	Standoff Correction Option	EDTC-B	No	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS_EDTC	Tool Position: Centered or Eccentered	EDTC-B	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.65	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-10.51	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
USI_RPLUS	Ultrasonic R+ Processing	USIT-E	No	
THDP	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	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

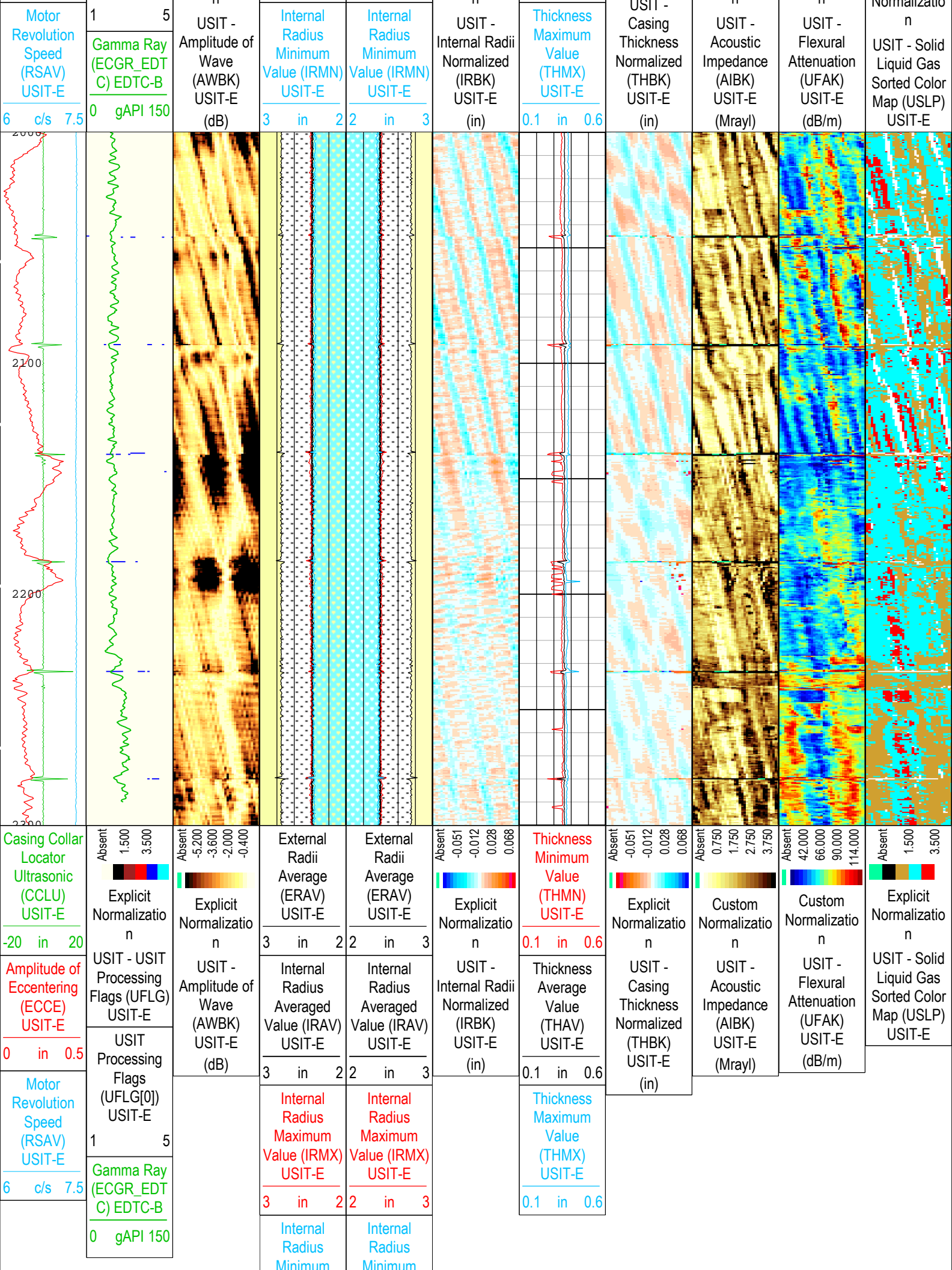
Depth Zone Parameters			
Parameter	Value	Start ( ft )	Stop ( ft )
BS	13.5	2000	2218
BS	8.5	2218	2300
All depth are actual.			






Tool Control Parameters	
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ONE: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	1.756	in
EMXV	EMEX Voltage	USIT-E	70	V
HRES	Horizontal Resolution	USIT-E	10 deg	
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us







USIT Processing Flags (UFLG[0]) USIT-E	
1 - UFLG 1 Value within [0.0 - 1.5] - :	 UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	 Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	 WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	 Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10 ] - :	 Loop Processing Error

TIME\_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Composite    Format: Log ( IBC SLG Composite )    Index Scale: 2 in per 100 ft    Index Unit: ft    Index Type: Measured Depth  
Creation Date: 22-Sep-2018 16:40:07

## Channel Processing Parameters

## ONE: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	15058	ft
CDEN	Cement Density	USIT-E	12.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	8.4	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-10.55	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.17	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.65	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-10.51	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	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	2000	2218
BS	8.5	2218	2300

All depth are actual.

## Tool Control Parameters

**ONE: Parameters**

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	70	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	137	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	177	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	106	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	146	us
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	31.88	us
WINE	Window End Time	USIT-E	71.88	us

XYZ

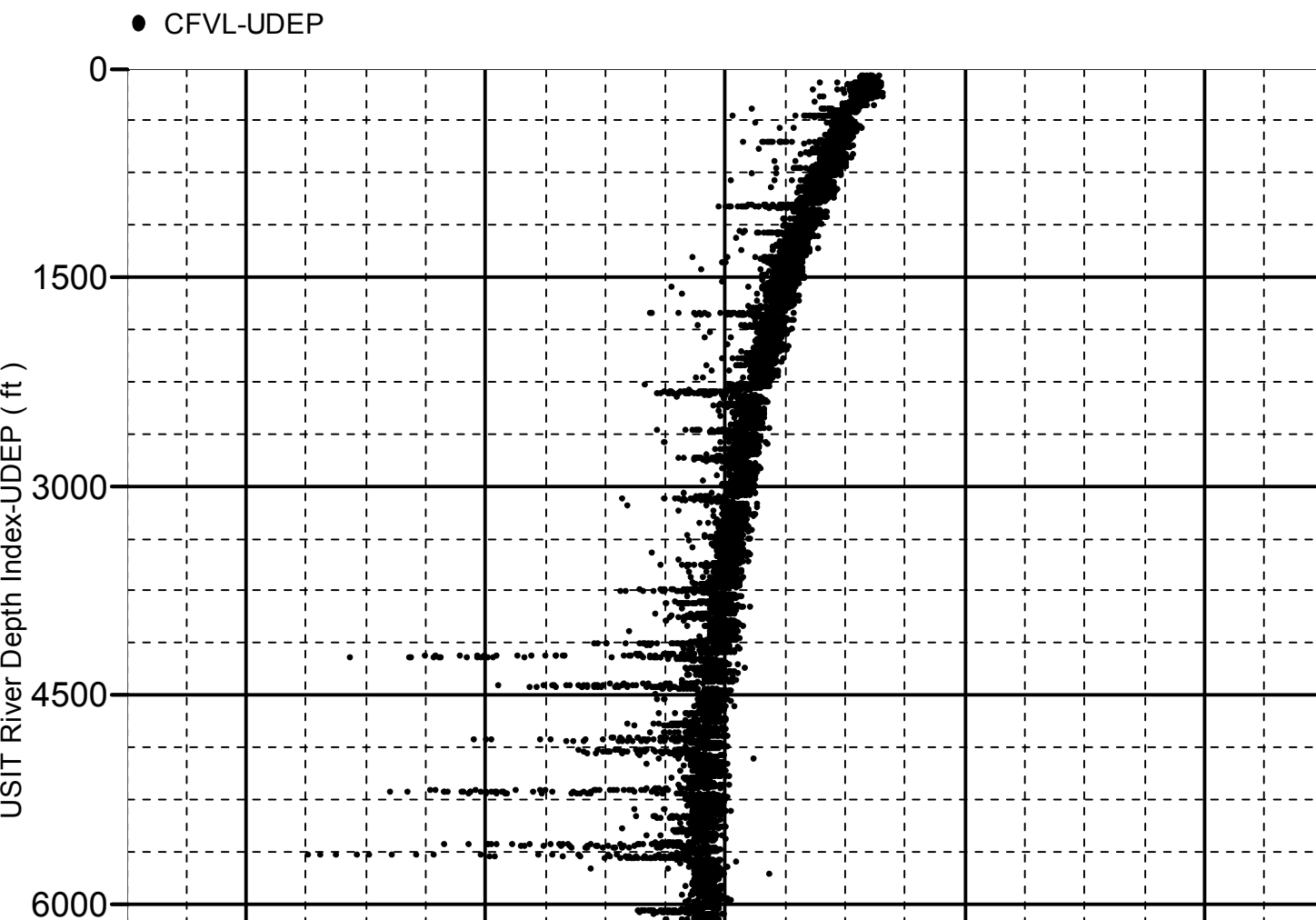
Company:Crestone Peak Resources Operating LLC Well:Davis 1N-9H-G266

Composite 1:S004

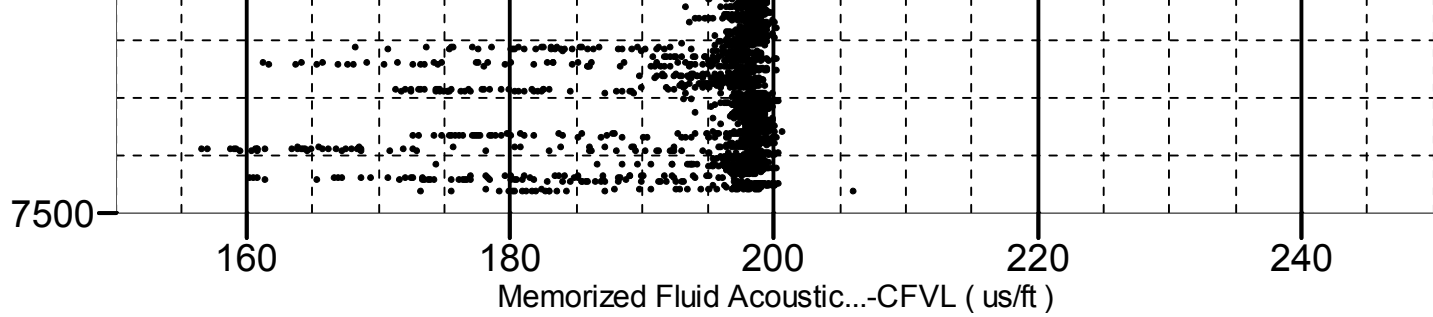
## Fluid Acoustic Slowness vs Depth

### 2D Cross Plot

Index Range: From 56.50 to 7378.50 ft







XYZ

Company:Crestone Peak Resources Operating LLC Well:Davis 1N-9H-G266

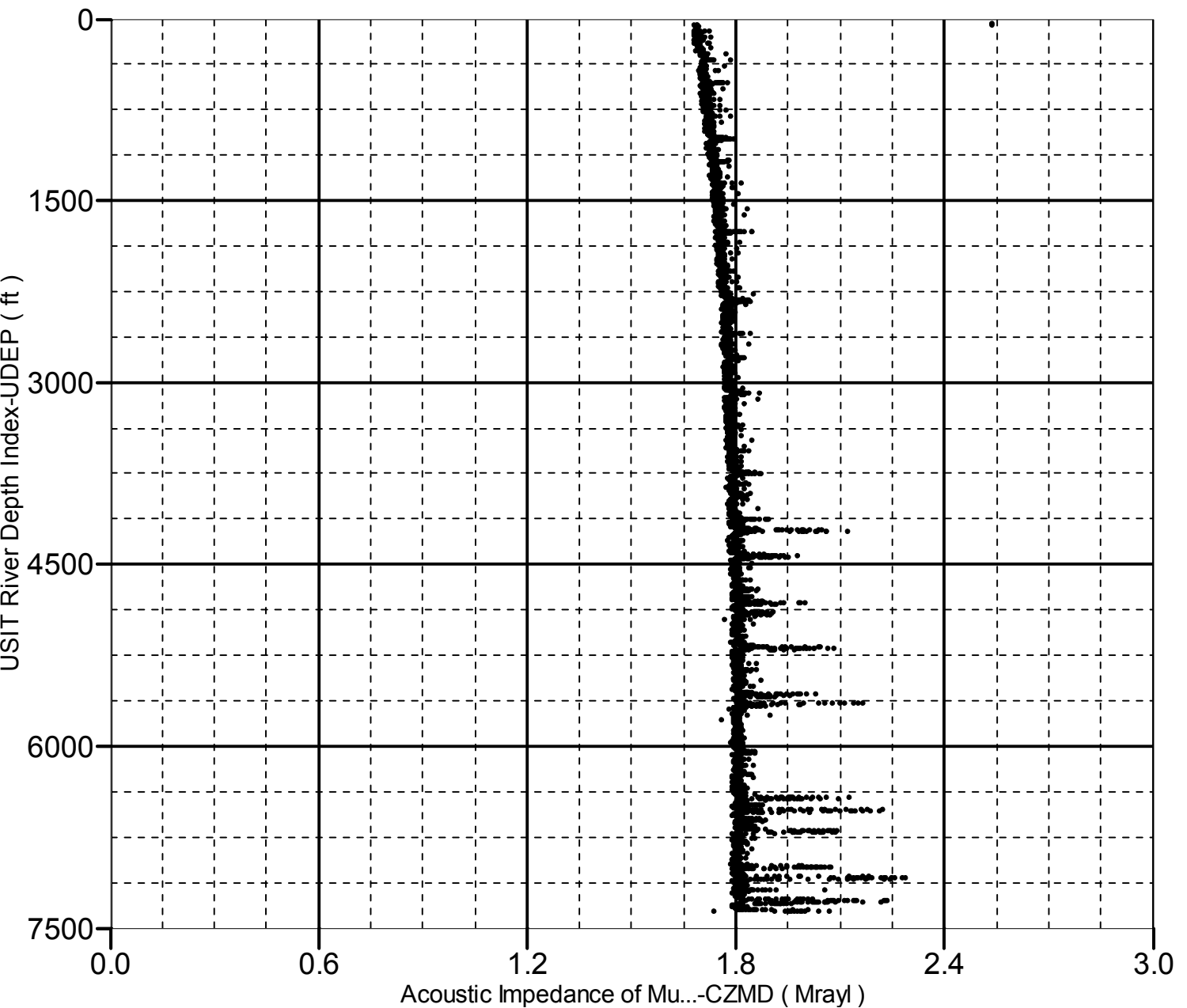
Composite 1:S004

## Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 56.50 to 7378.50 ft

● CZMD-UDEP



Company:	Crestone Peak Resources Operating LLC	Schlumberger
Well:	Davis 1N-9H-G266	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	
Isolation Scanner		
Cement Evaluation		
Gamma Ray - CCL Log		