

Company: Crestone Peak Resources Operating LLC

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

Location:		SWSE Sec. 9, T2N, R66W		Elev.:	K.B.	4940.00 ft
		SHL: 1926' FSL & 1403' FEL			G.L.	4917.00 ft
		Lat/Long: 40.154535, -104.777822			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:		
05-123-46520	9	2N		66W		

Logging Date 20-Sep-2018

Run Number ONE

Depth Driller 14715.00 ft

Schlumberger Depth 14715.00 ft

Bottom Log Interval 6763.00 ft

Top Log Interval 61.00 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 2138.00 ft

To 14715.00 ft

Casing/Tubing Size 5.5 in

Weight 20 lbm/ft

Grade P110

From 0.00 ft

To 14705.00 ft

Max Recorded Temperatures 195.2 degF

Logger on Bottom 20-Sep-2018 08:37:00

Unit Number 9108

Location: A.BLOCHOWICZ

Recorded By Fort Morgan, CO

Witnessed By DUANE DUNN

Disclaimer

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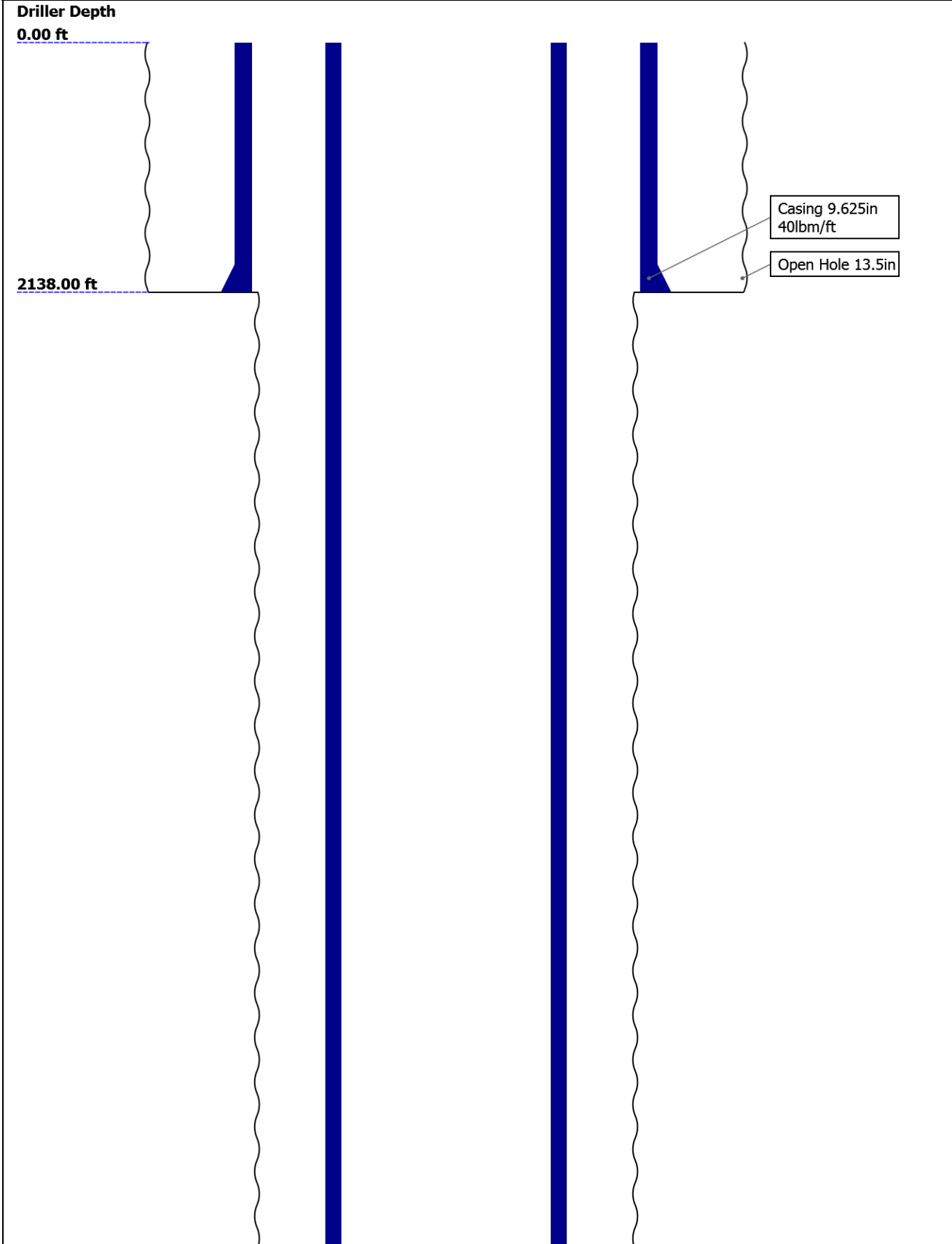
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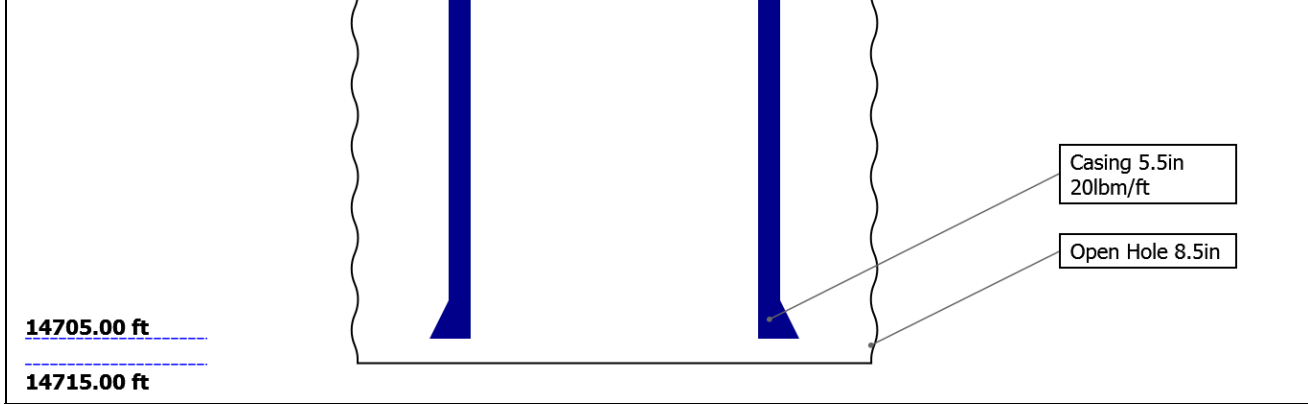
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Well Sketch



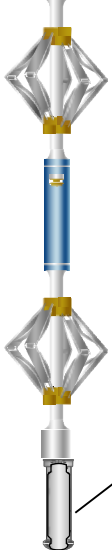


## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	13.5	8.5				
Top Driller ( ft )	0	2138				
Top Logger ( ft )	0	2138				
Bottom Driller ( ft )	2138	14715				
Bottom Logger ( ft )	2138	14715				
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 )	2138	14705				
Bottom Logger ( ft )	2138	14705				

## 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.		
EDTC-B:8	27.24			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						
7434						
EDTC-B:84						
73M						
AH-184[2]:5941	20.74					
AH-184[1]:5965	18.74					
USIT-E:17	16.74					
25						
ECH-MFA:						
1991						
USAC-A:1						
725						
USAC-A:10						

USIS-A:18 32 USSC-B:17 78 IBCS-A:76 3 FAR-SENS OR:4690 IBC-TX NEAR-SEN SOR:4722 IBC-TX USI-SENS OR:4687 IBC-TX EMITTER- SENSOR:4 684 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		IDW 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[4]:Up	6767.19	53.28

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 : 84.32m(276.65ft) to 92.58m(303.73ft)  
MUD\_N\_FRP = 1.19  
DFD = 1.01g/cm3(8.40lbm/gal)  
CZMD median computed in free pipe normalization interval = 1.66 MRayl

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
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ONE

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	53.28 ft	6767.19 ft	20-Sep-2018 8:37:26 AM	20-Sep-2018 10:16:37 AM	ON	5.15 ft	Yes

All depths are referenced to toolstring zero

Log	Company:Crestone Peak Resources Operating LLC      Well:Davis 1F-9H-G266 ONE: Log[4]:Up:S006
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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: 20-Sep-2018 11:48:48

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

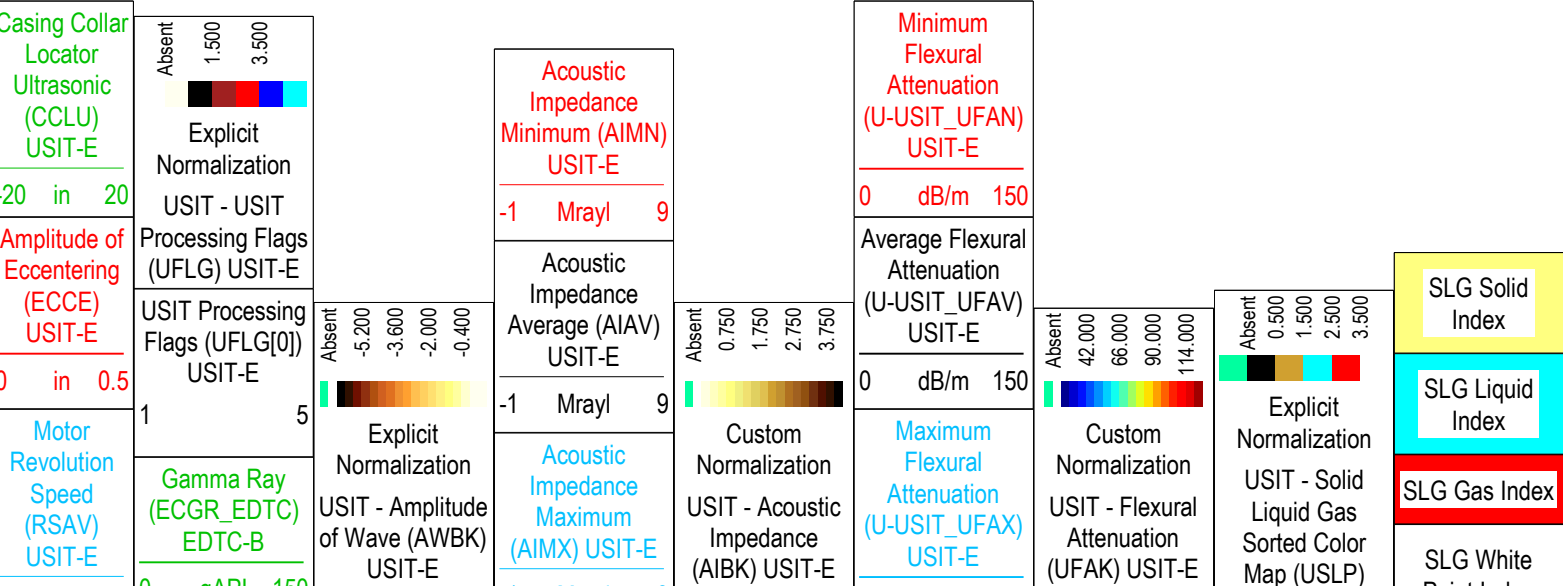
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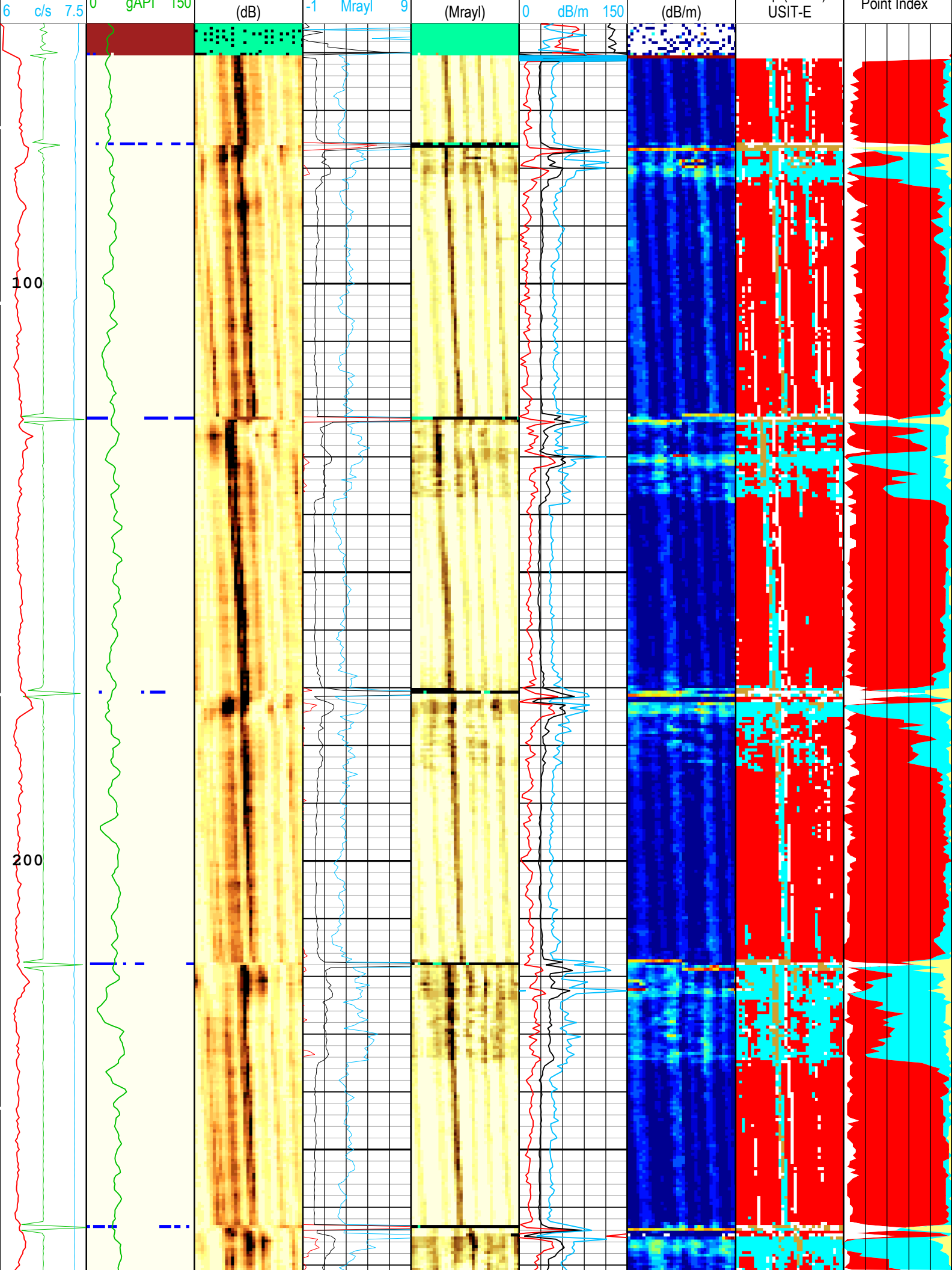
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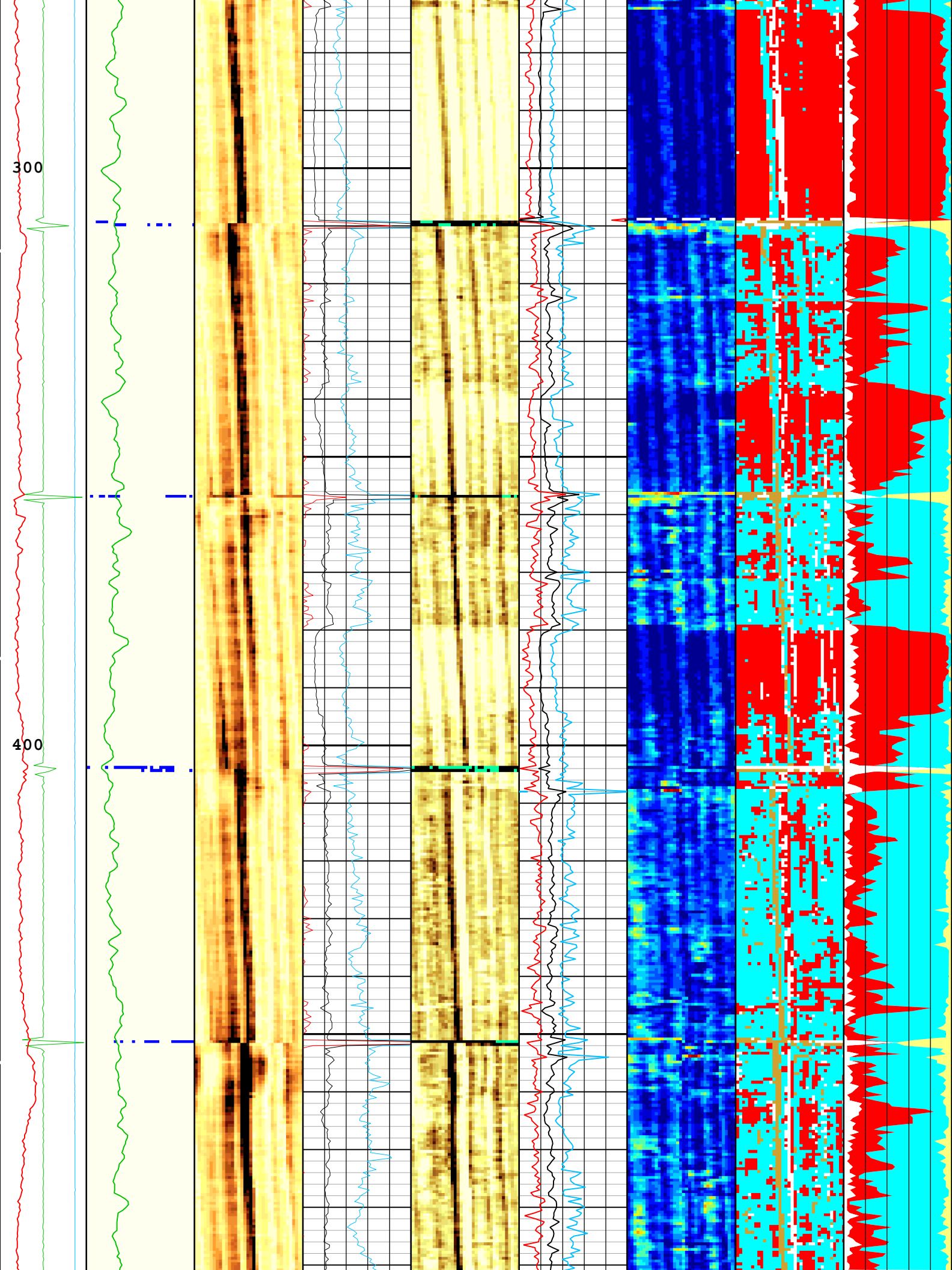
Casing Thickness Error

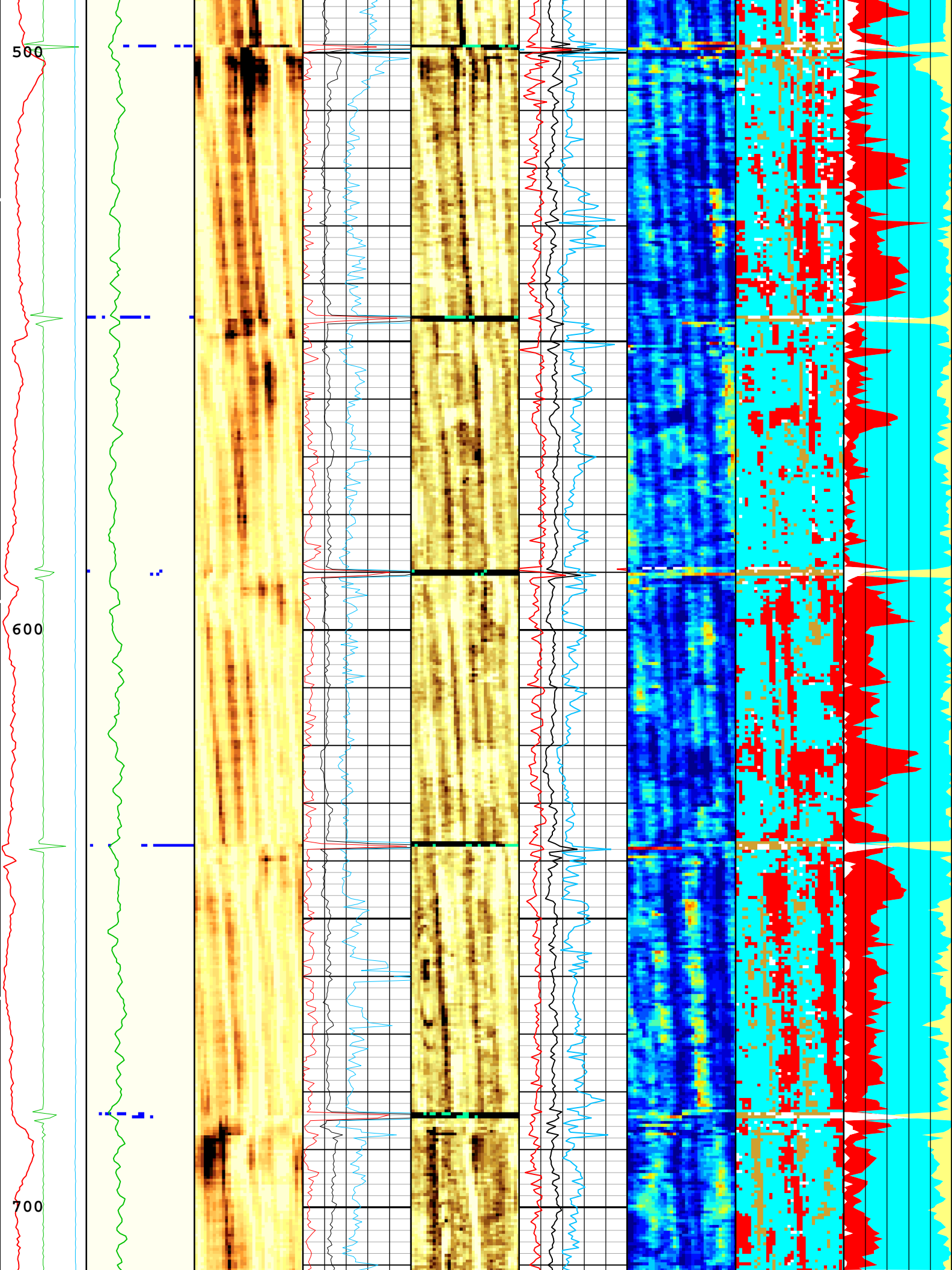
Loop Processing Error

TIME\_1900 - Time Marked every 60.00 (s)

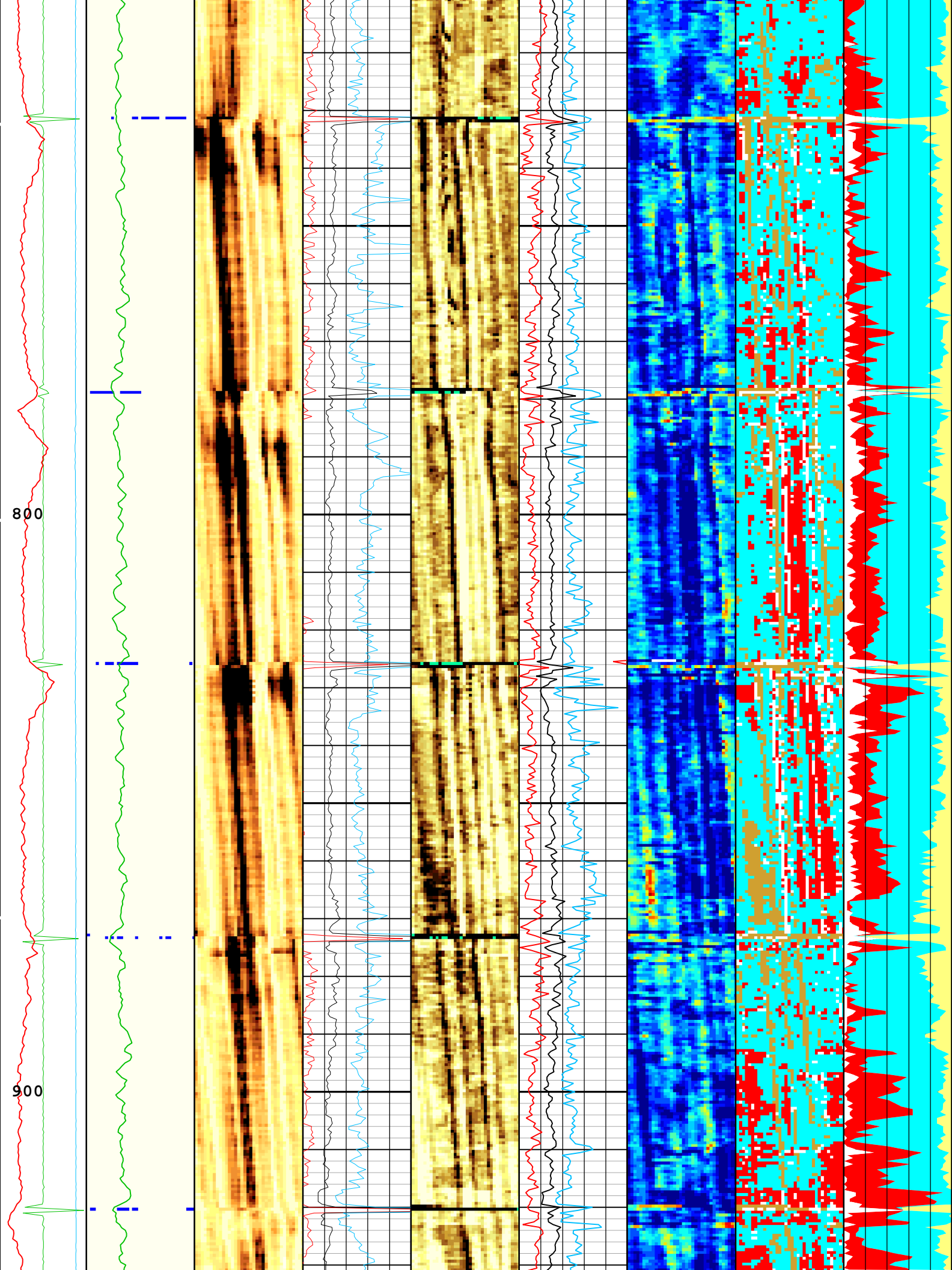


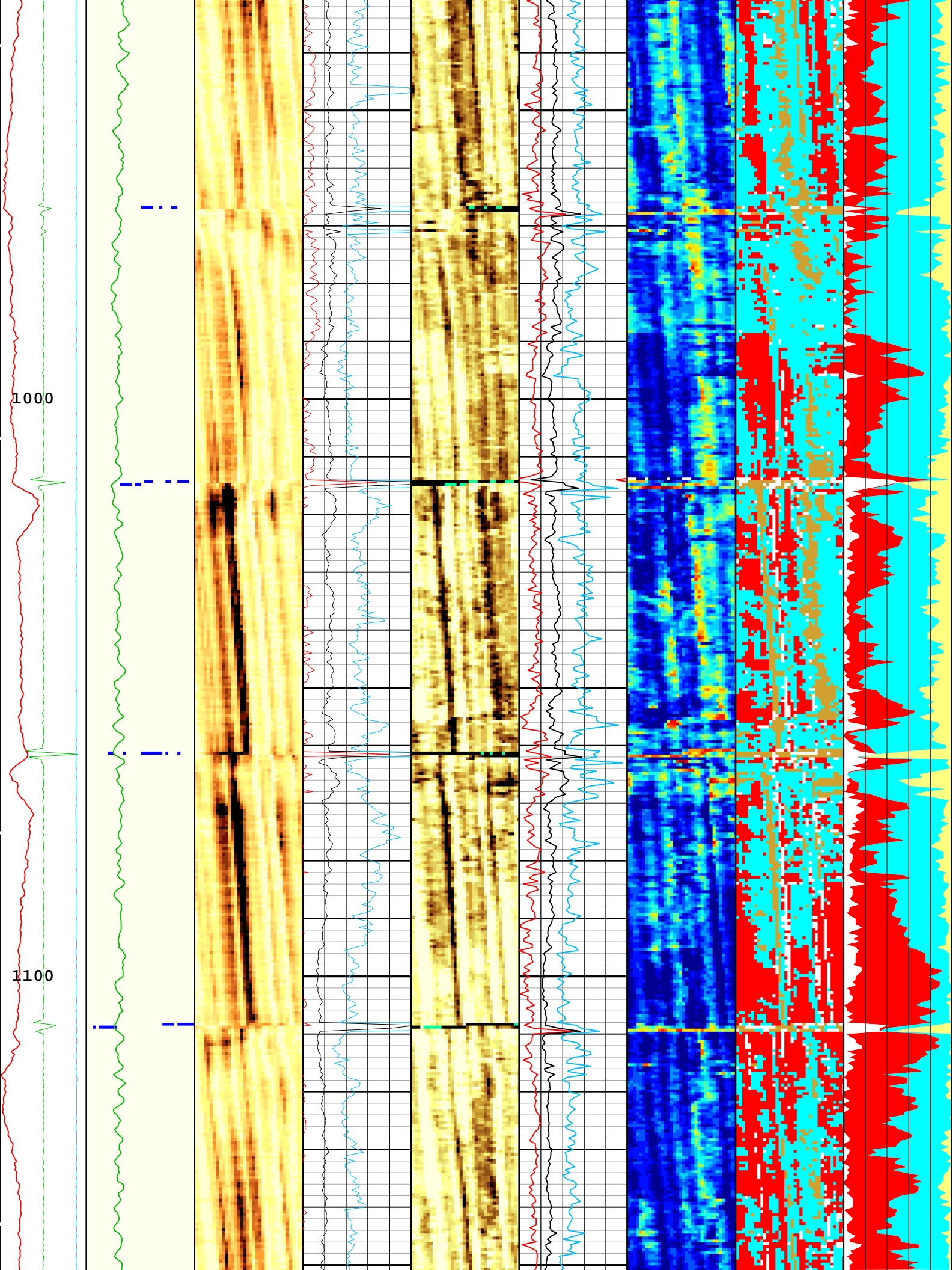


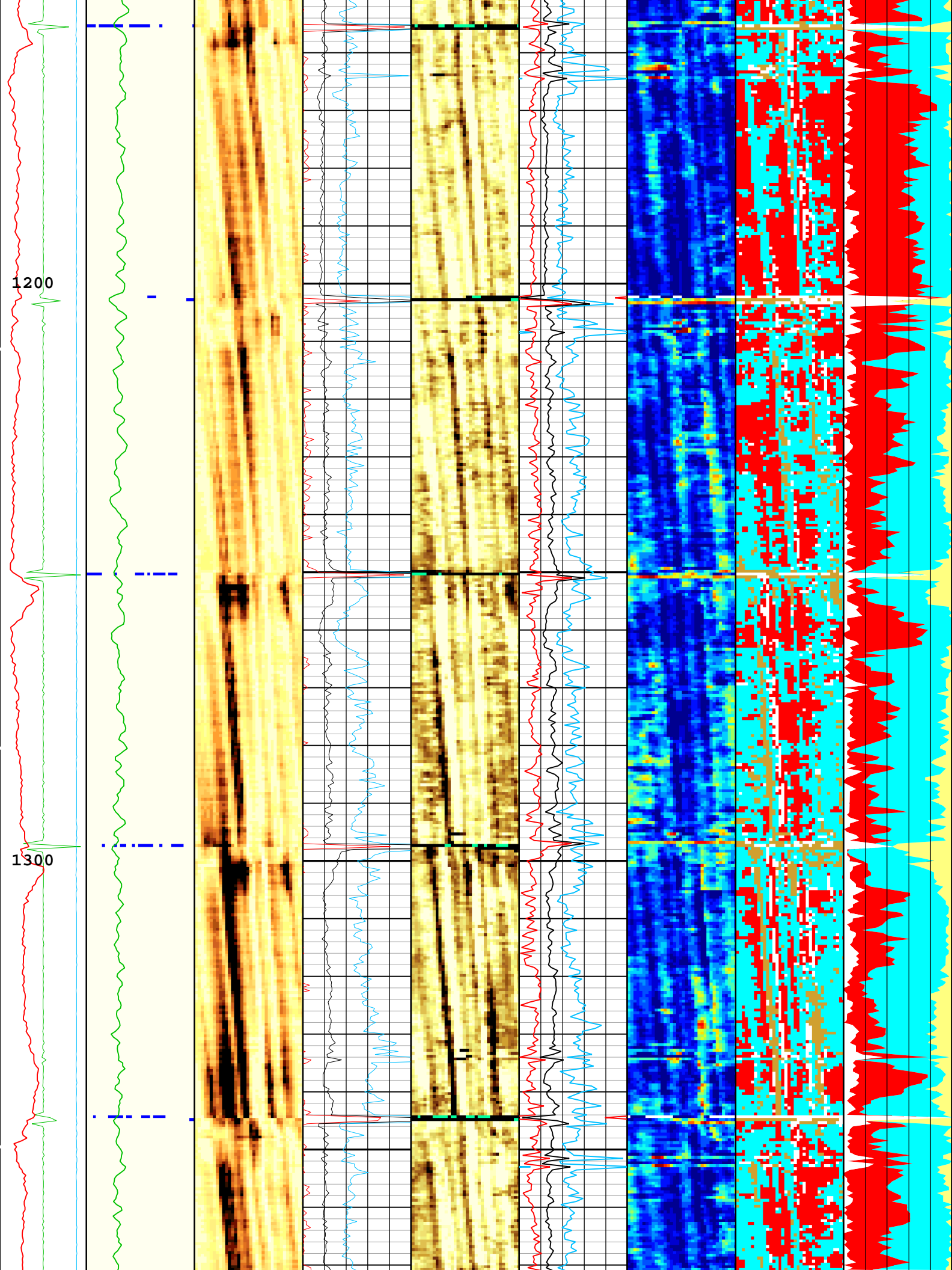


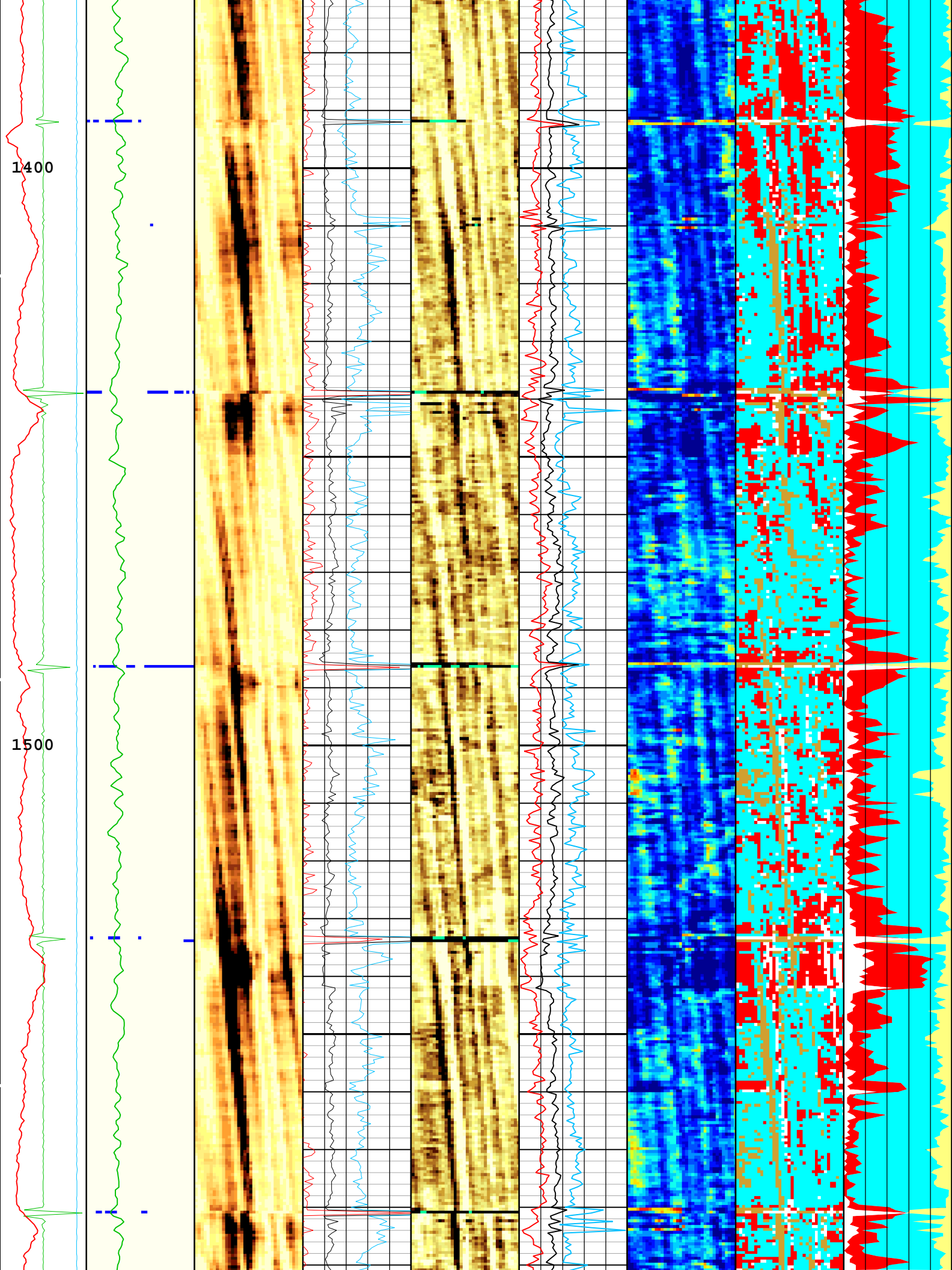




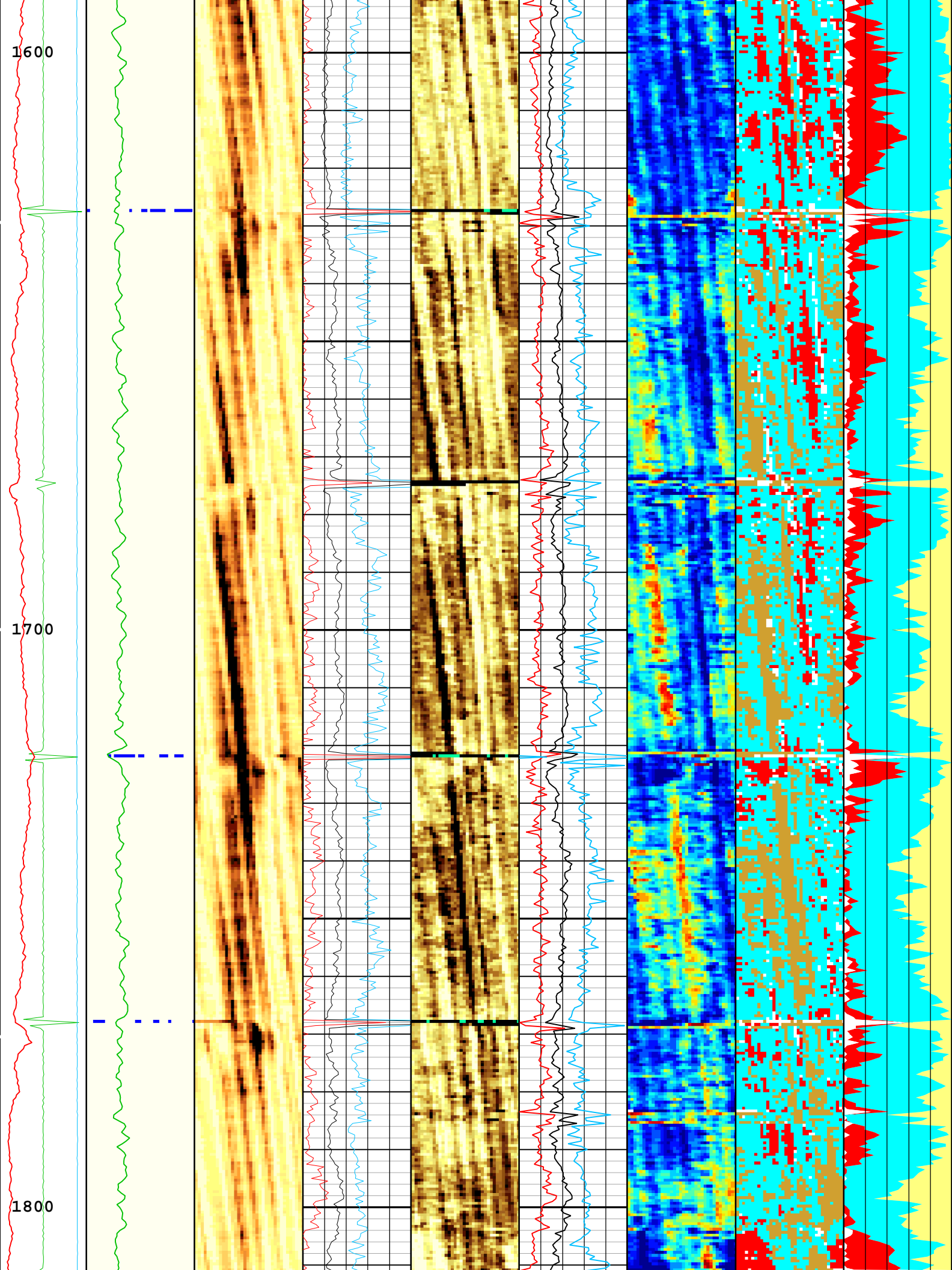


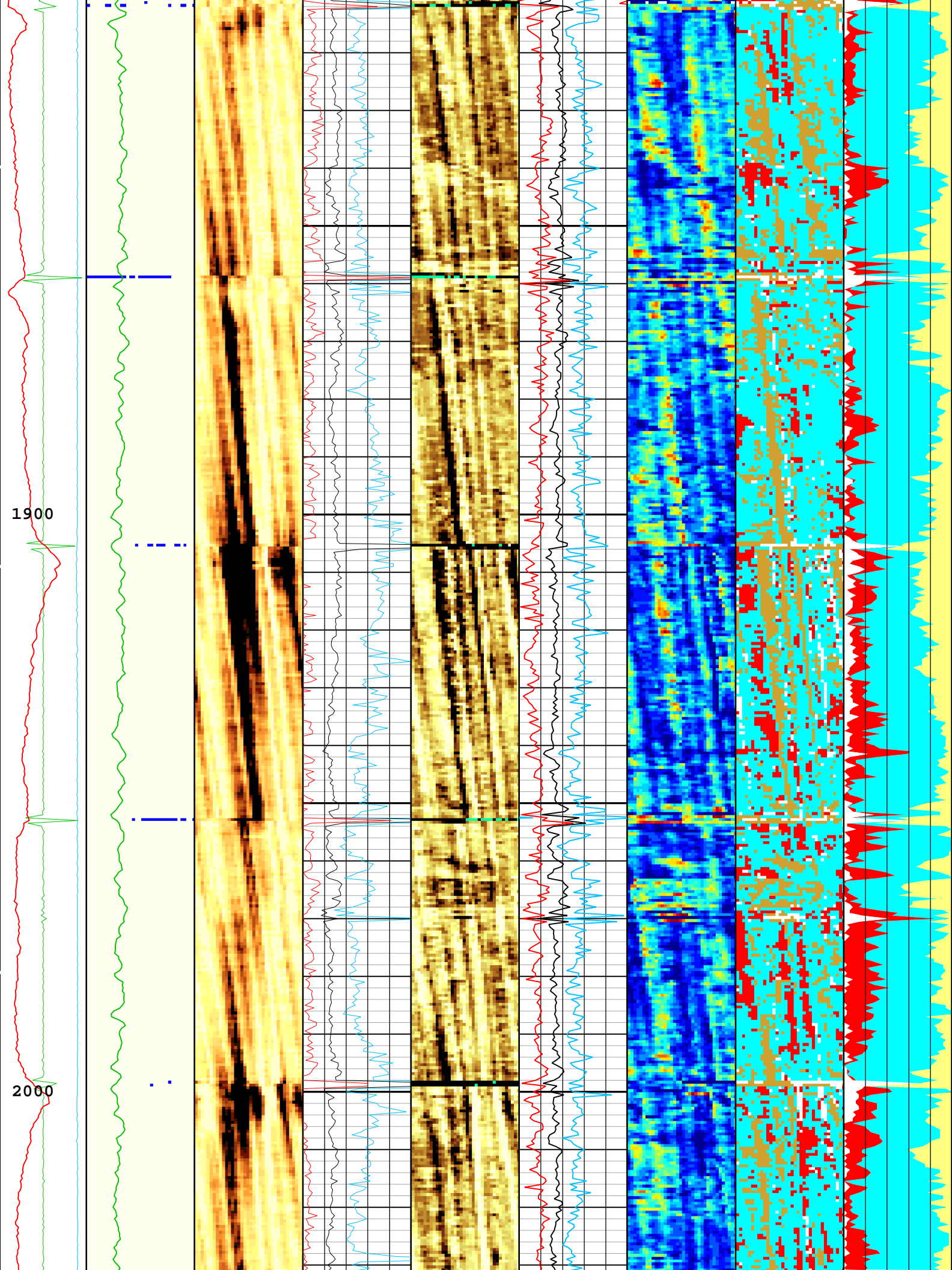


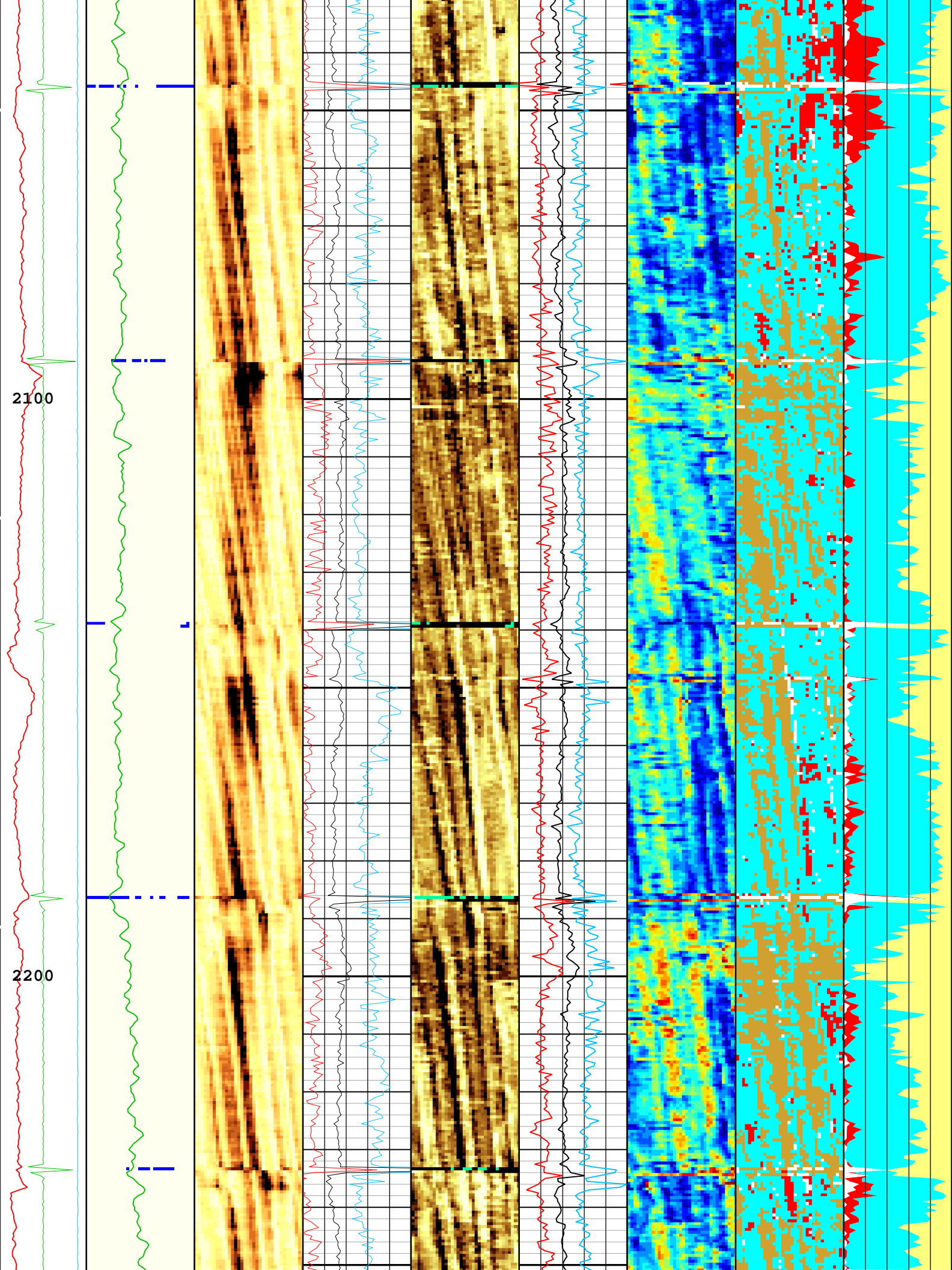


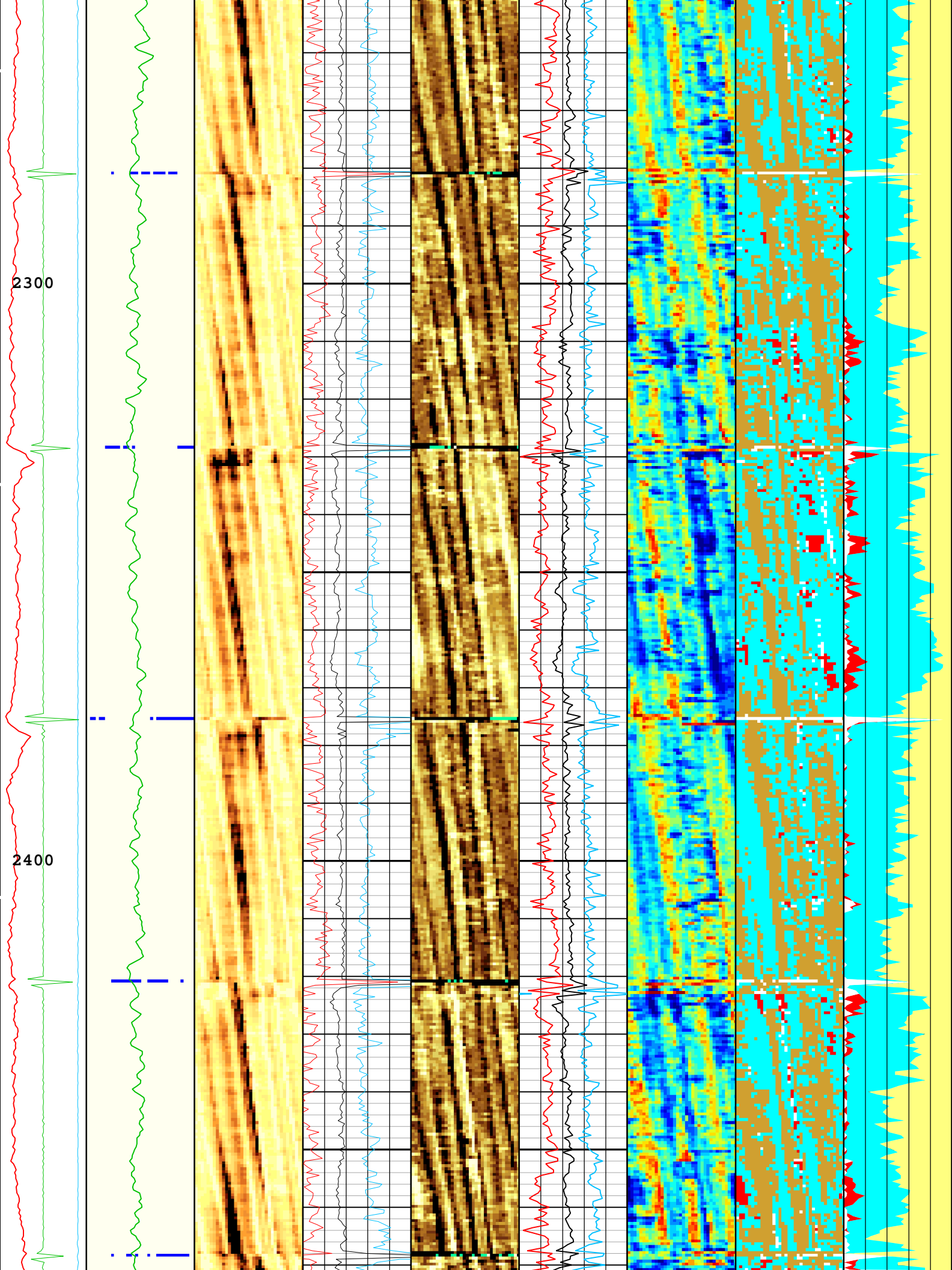




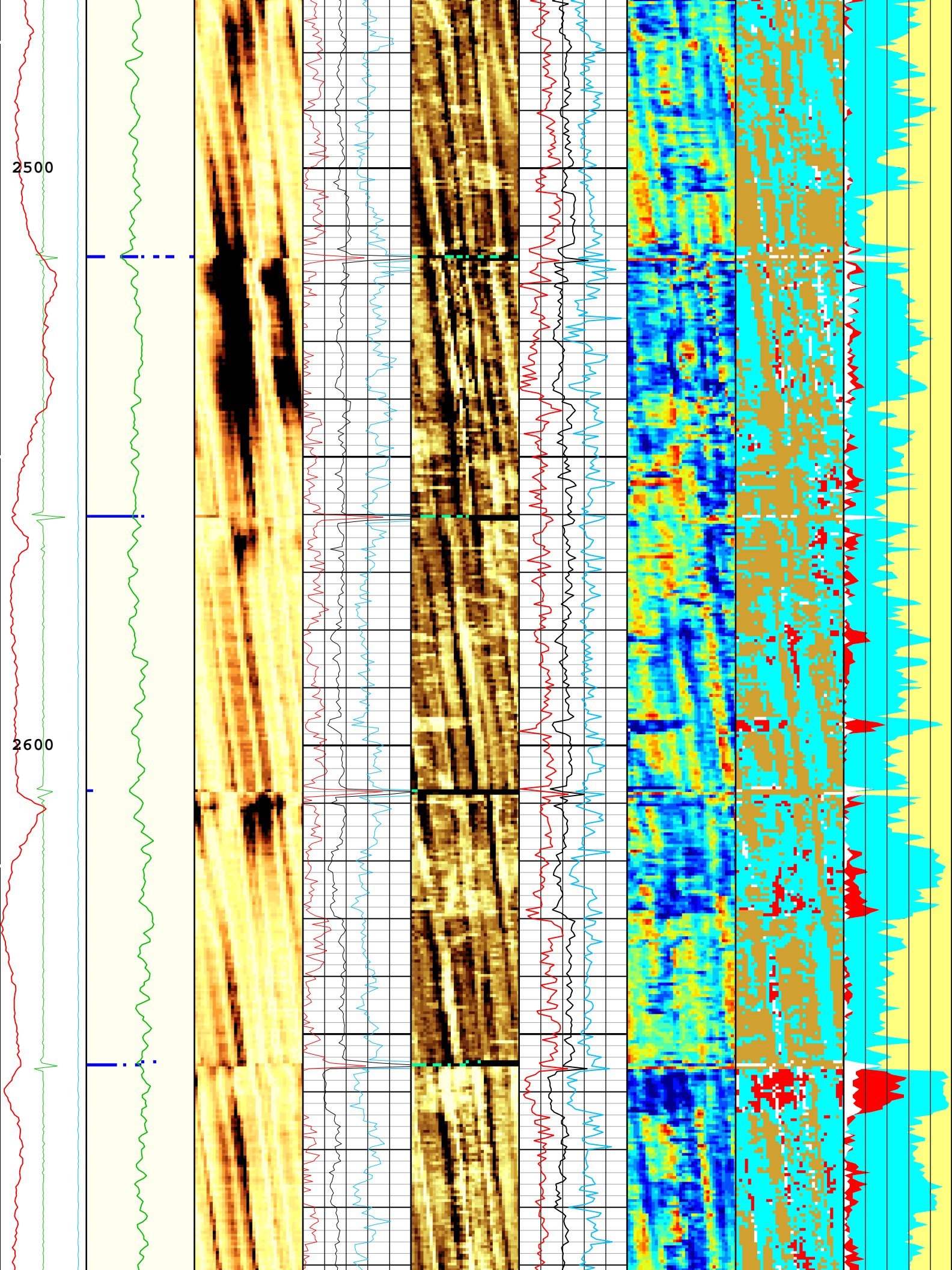


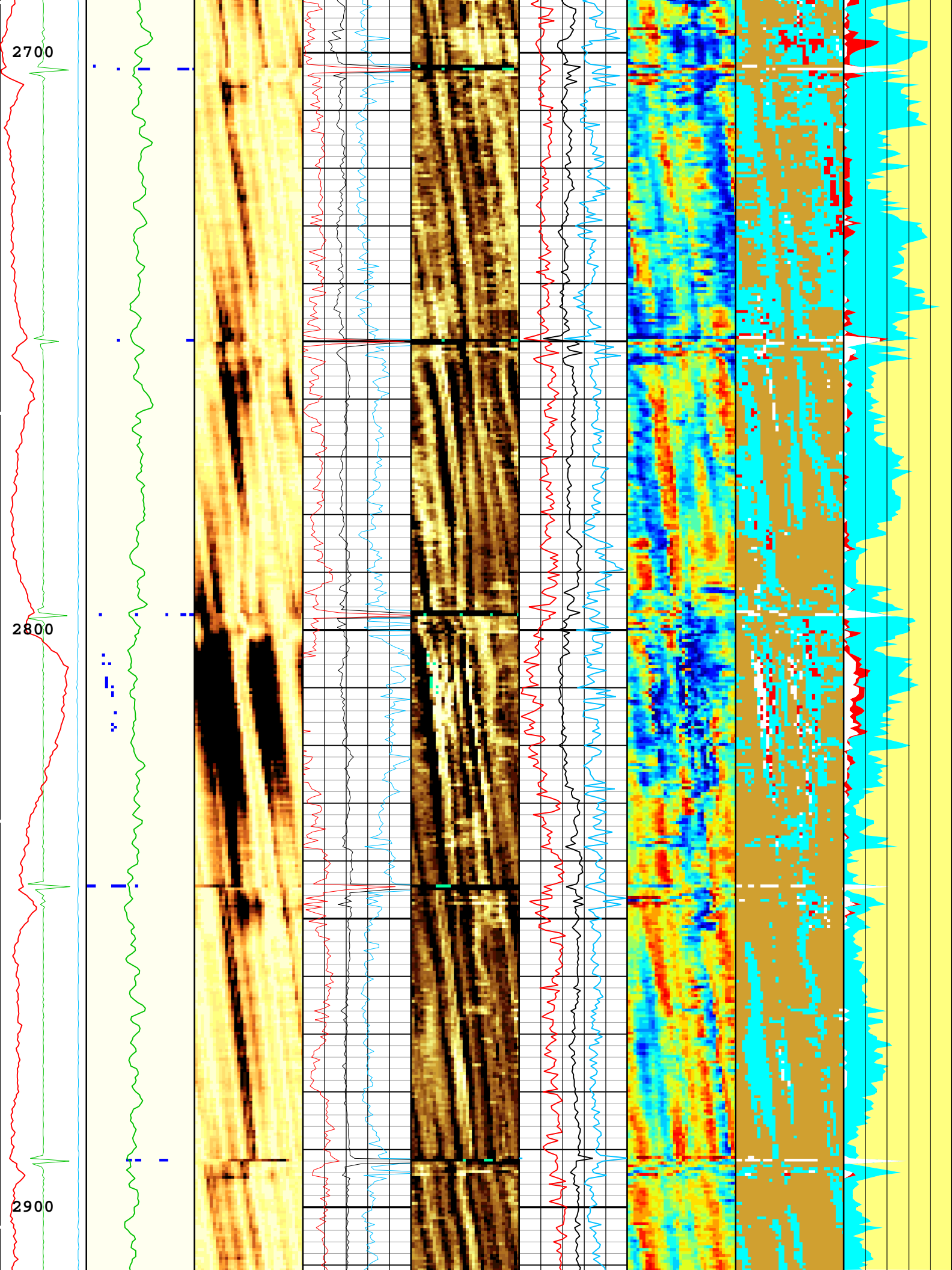


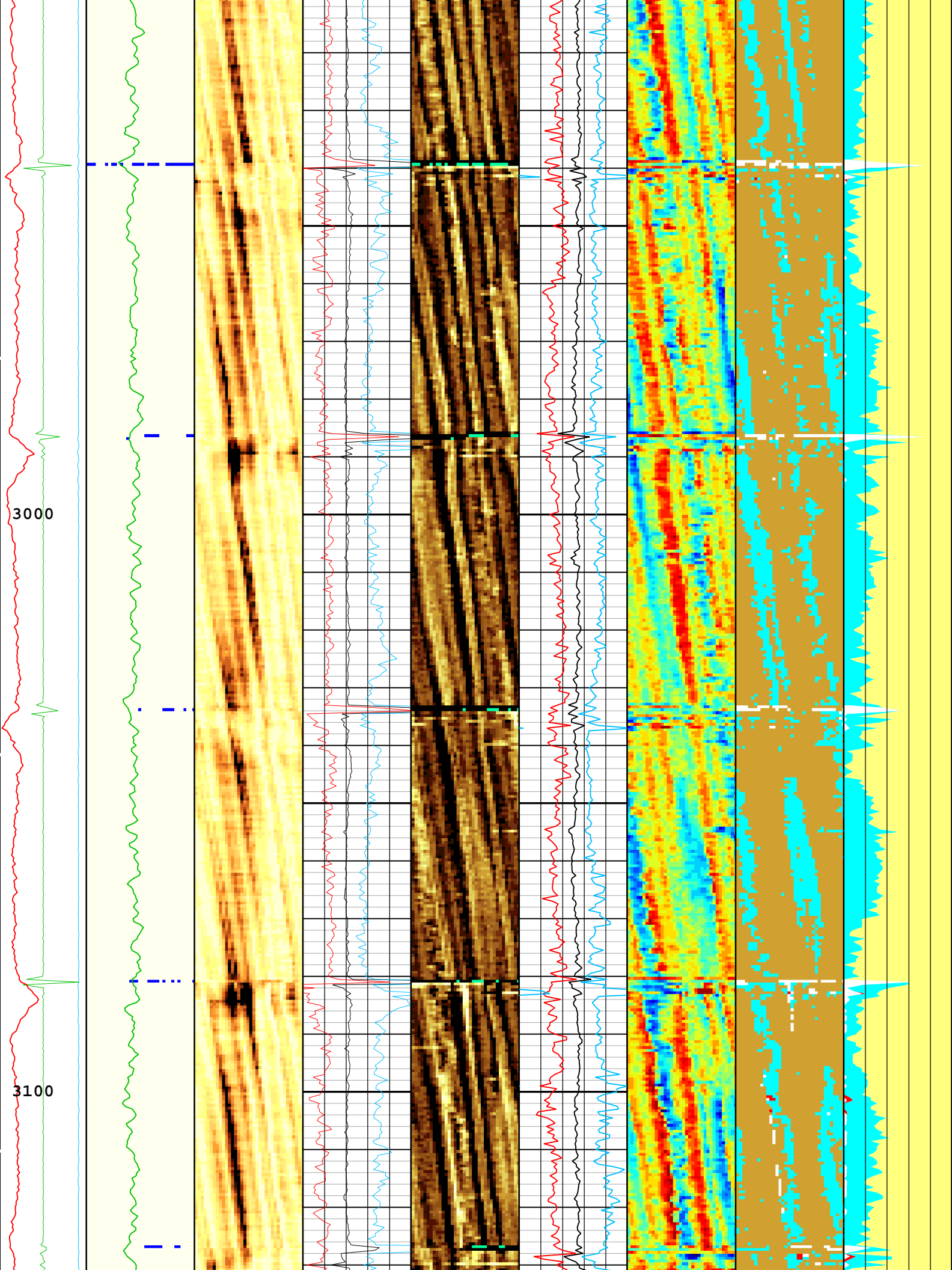


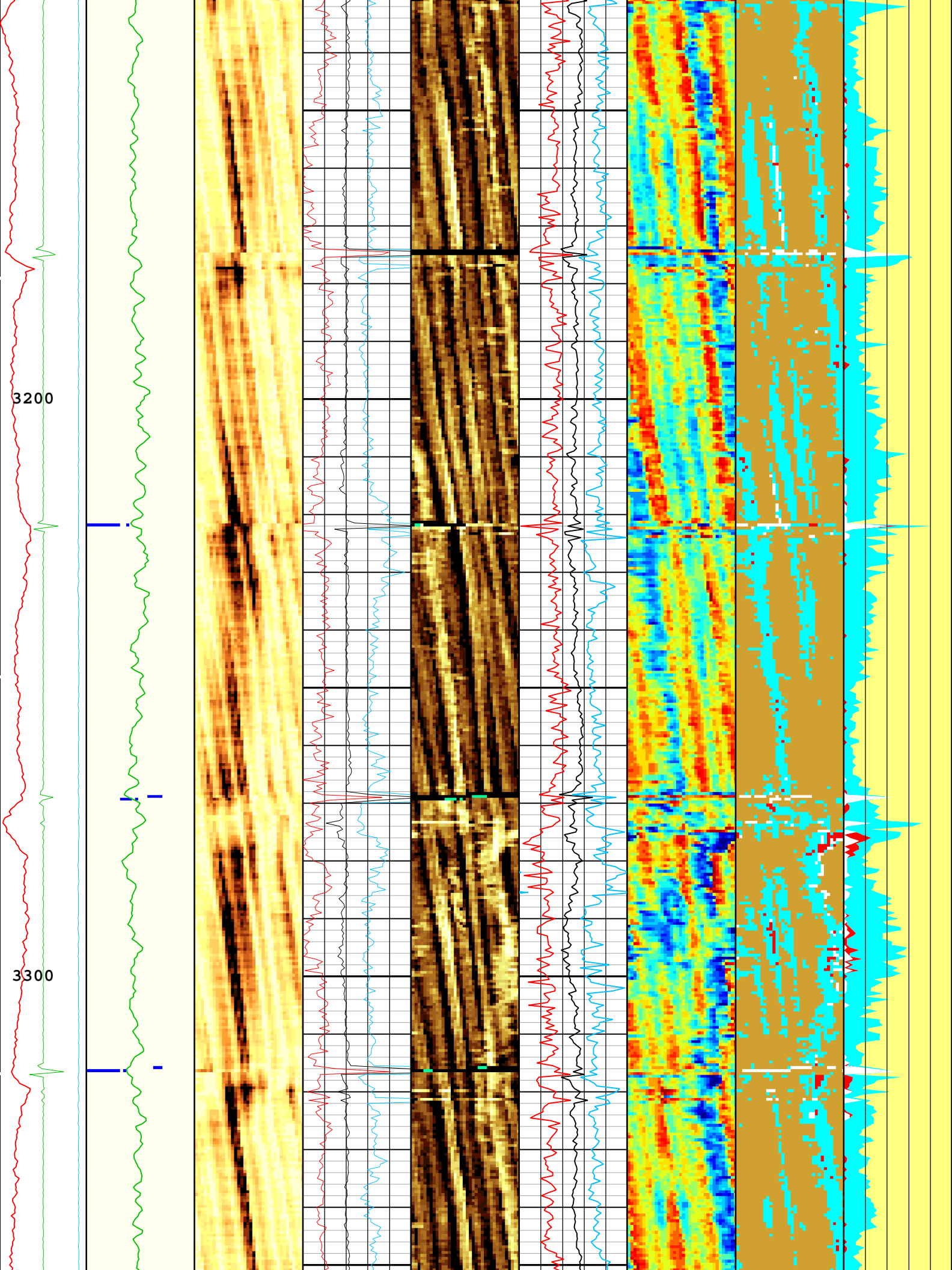




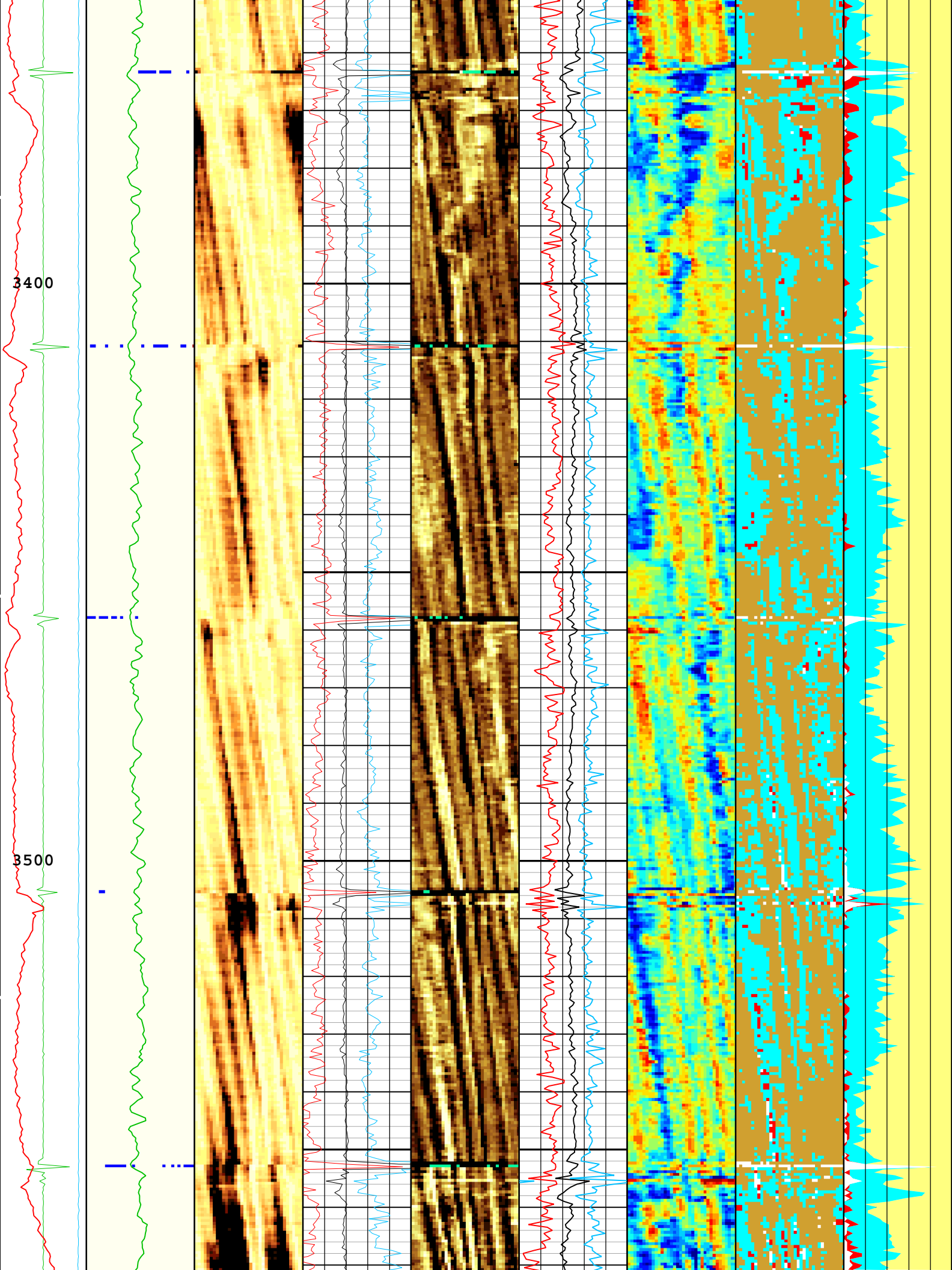


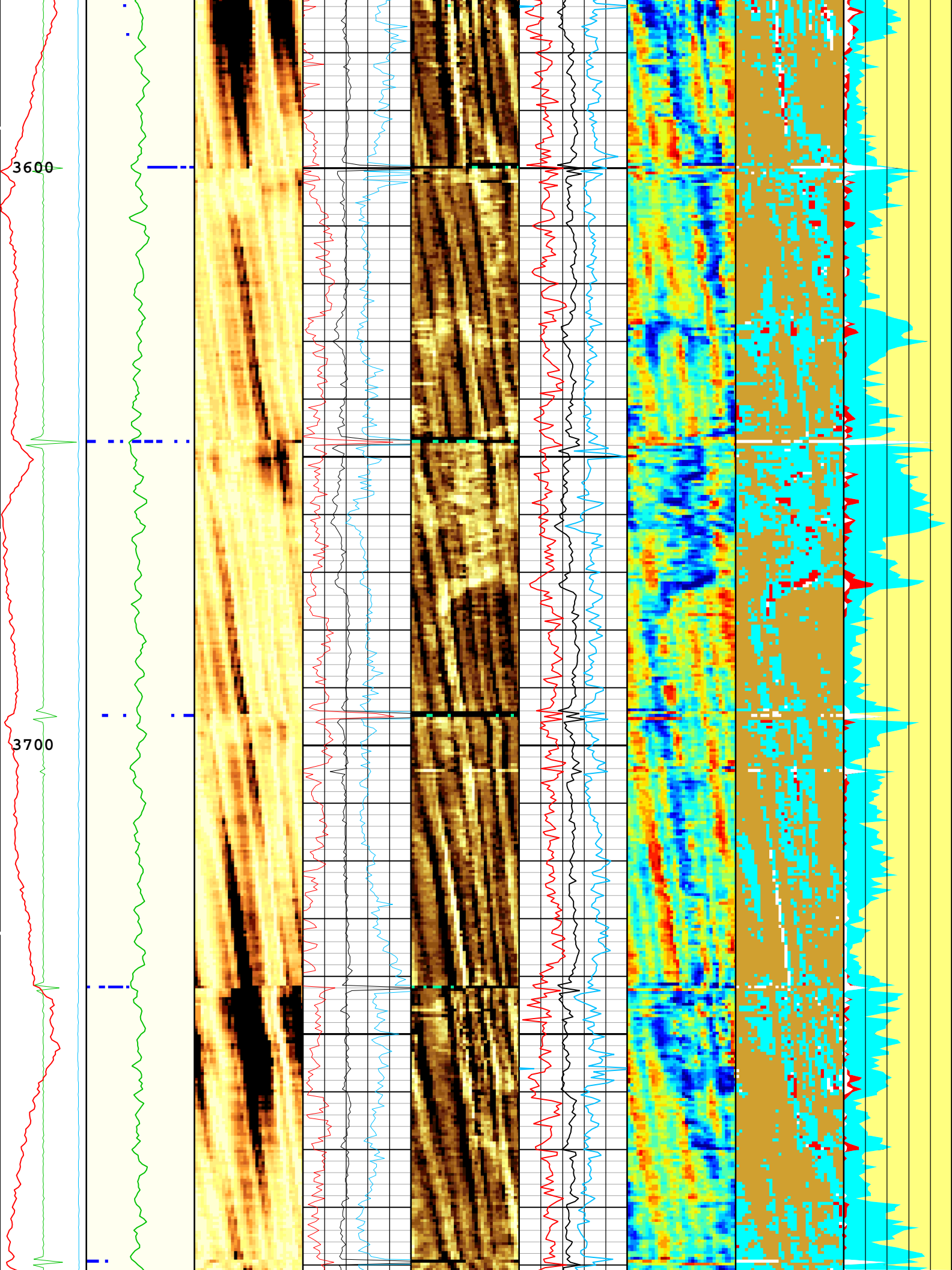


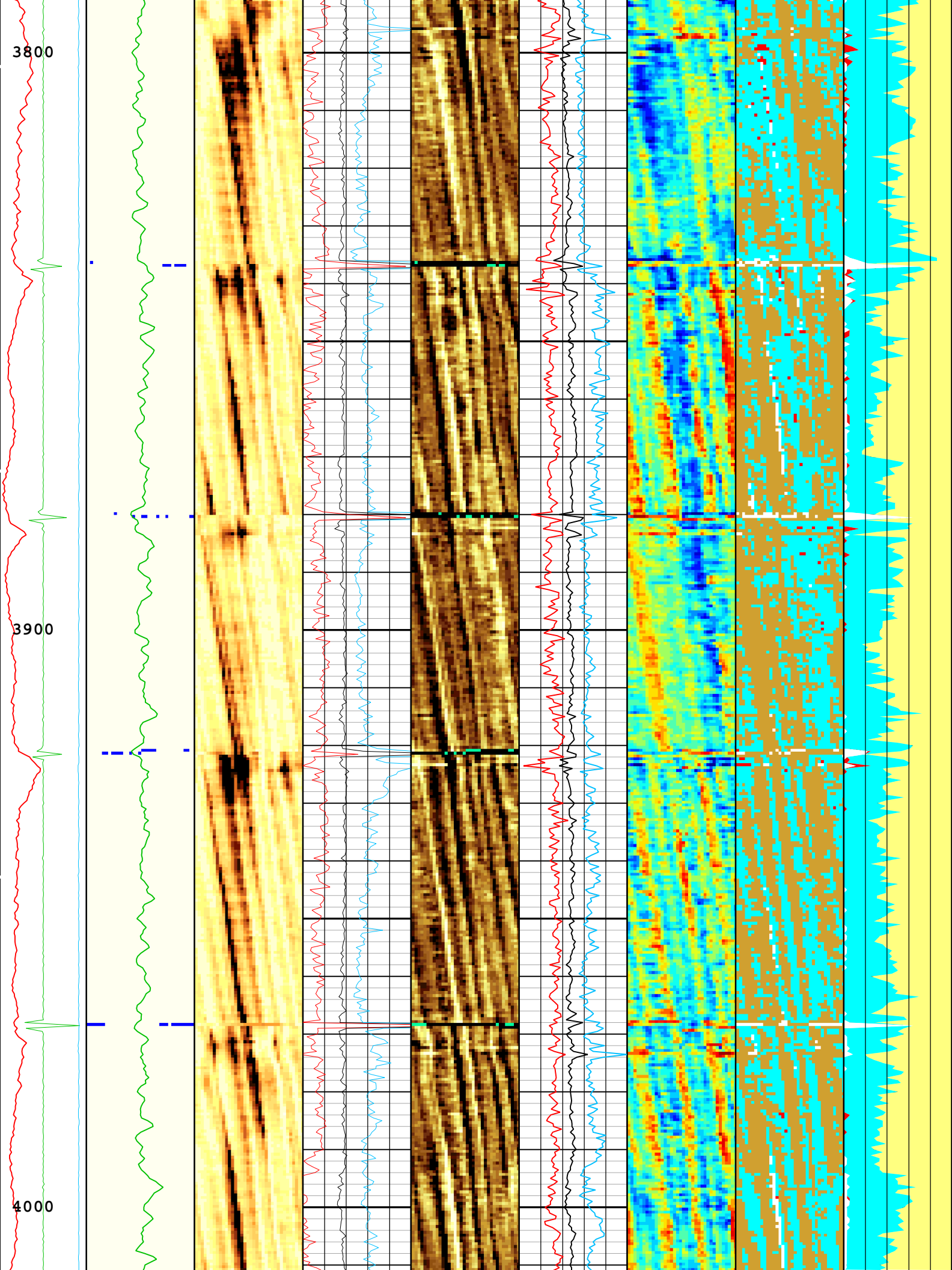


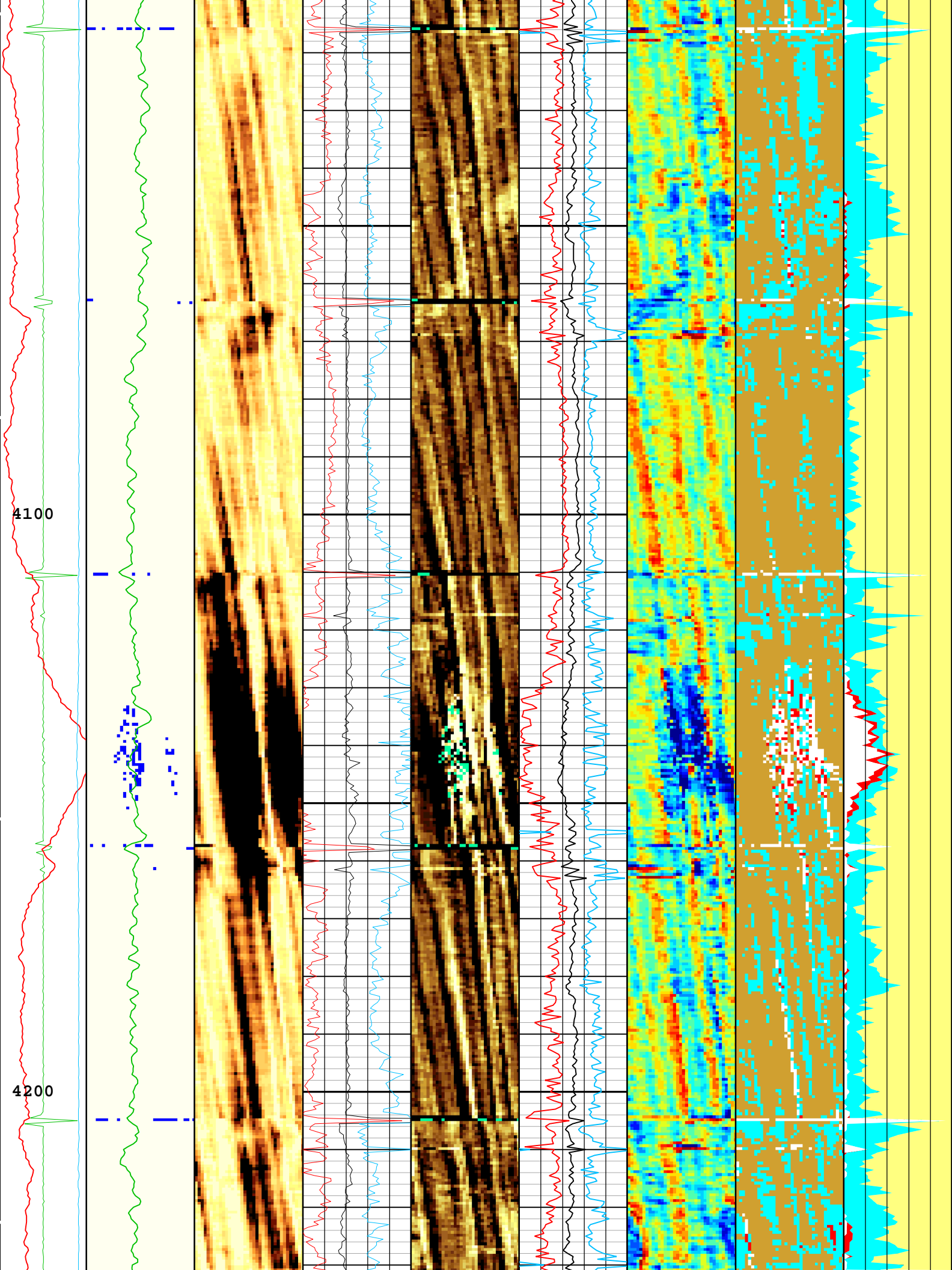




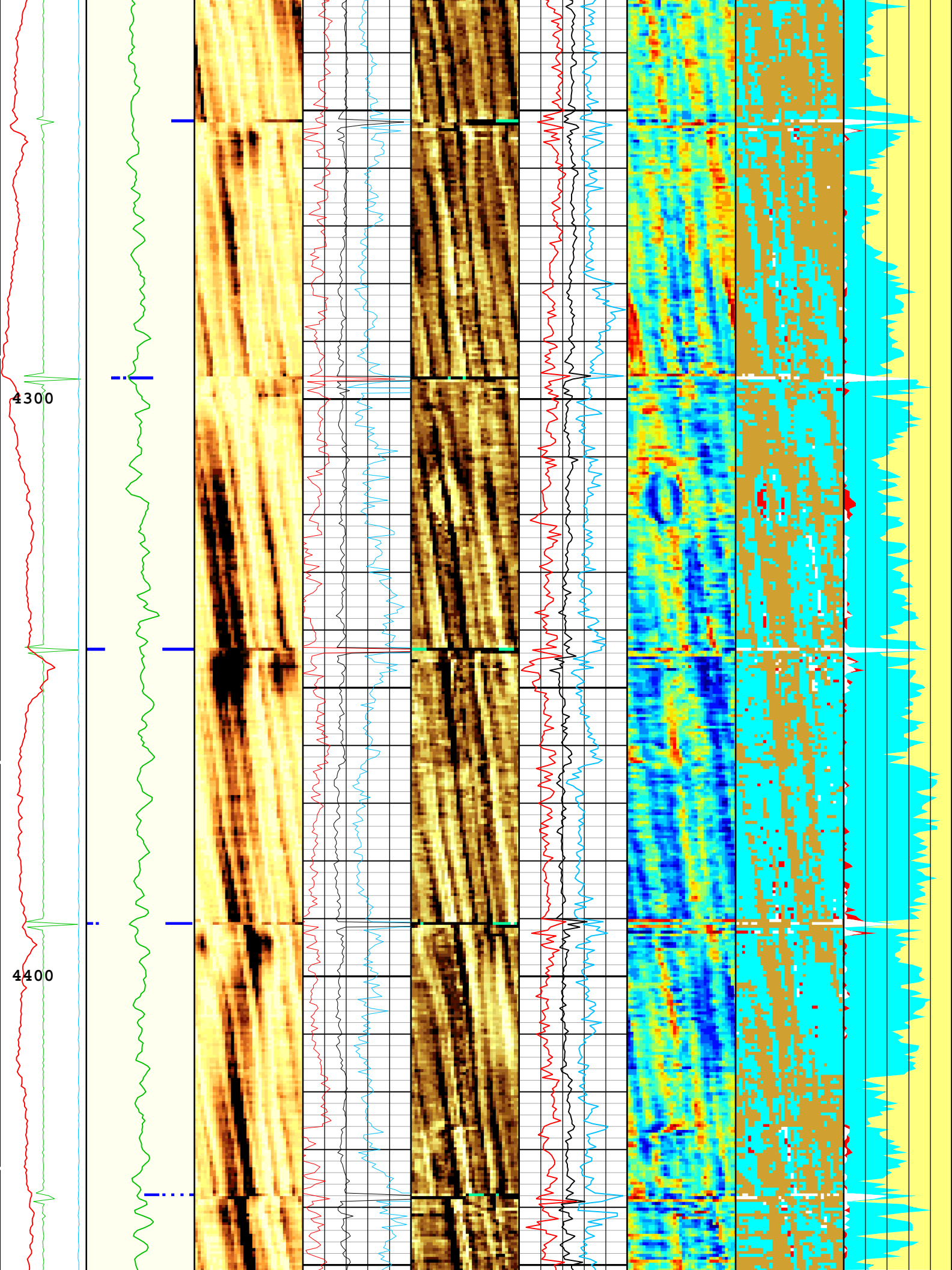


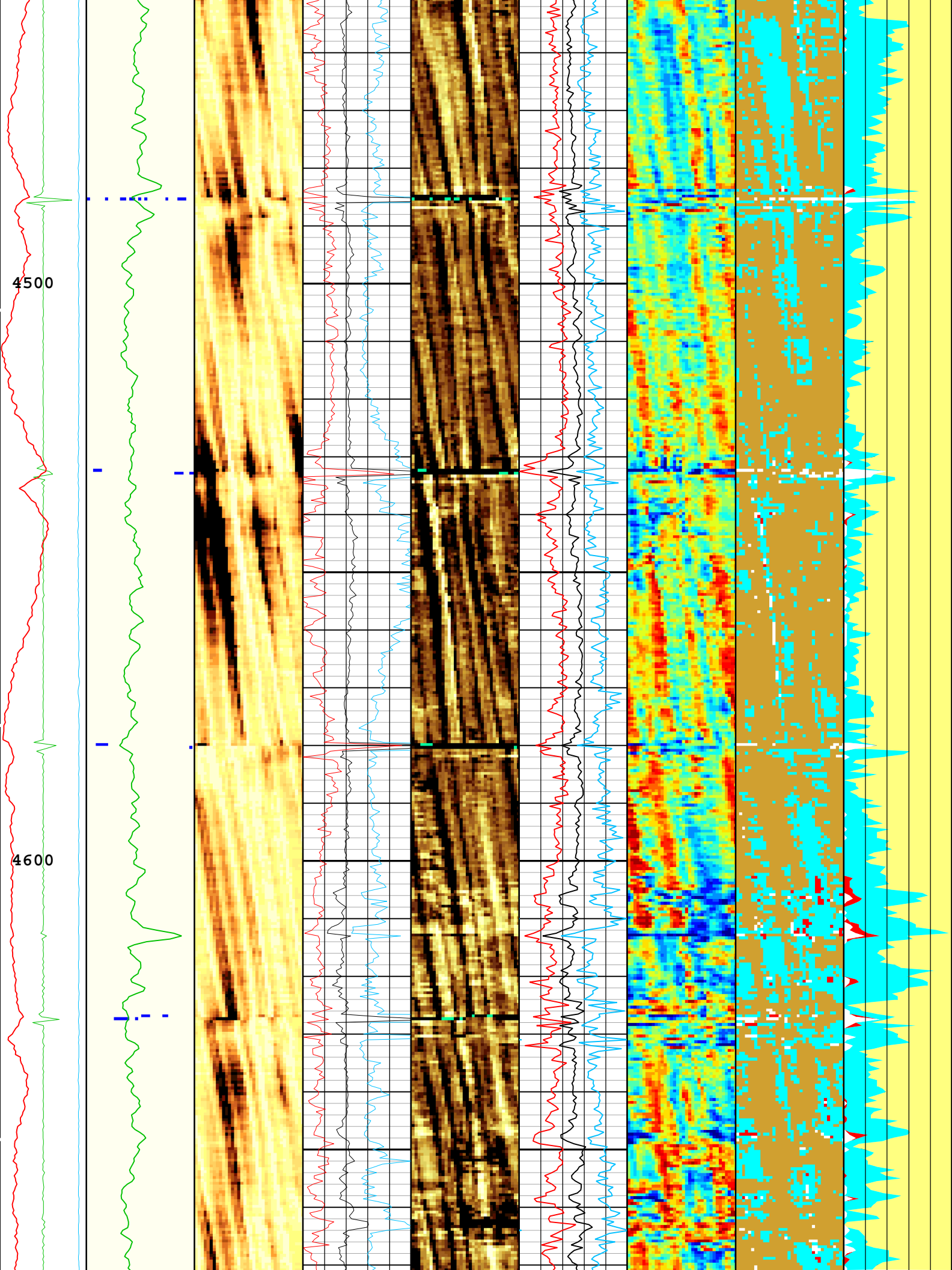


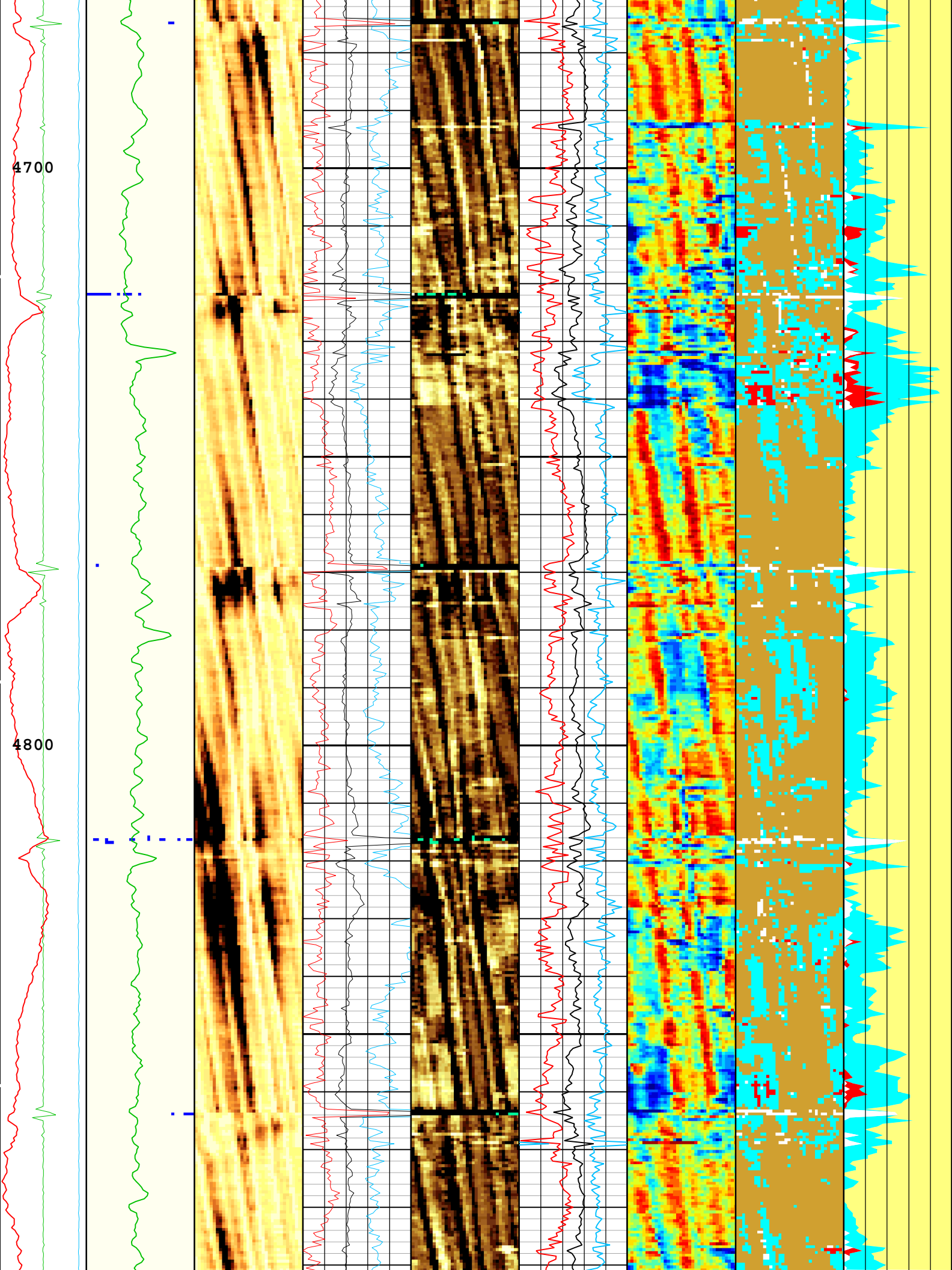


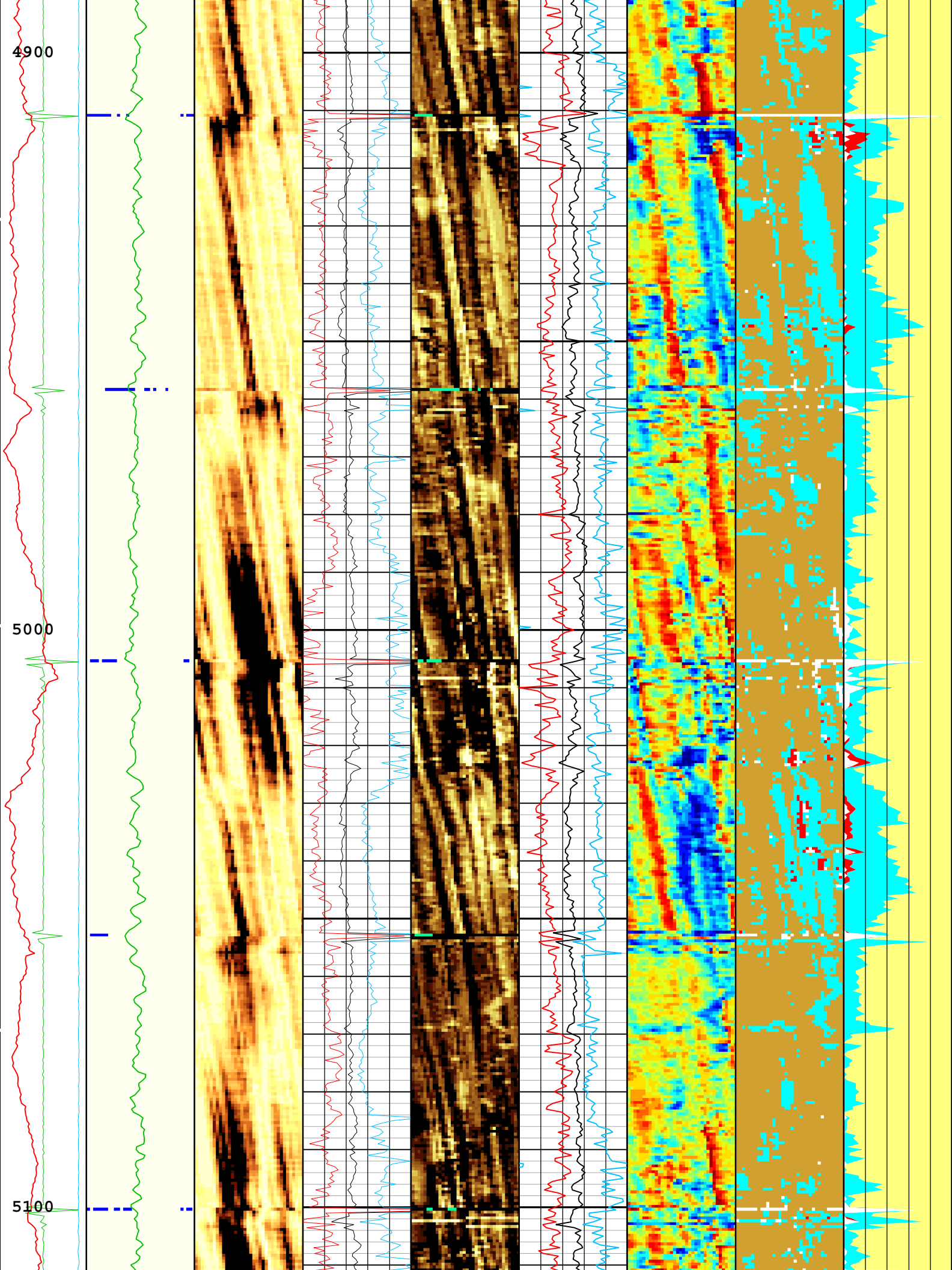




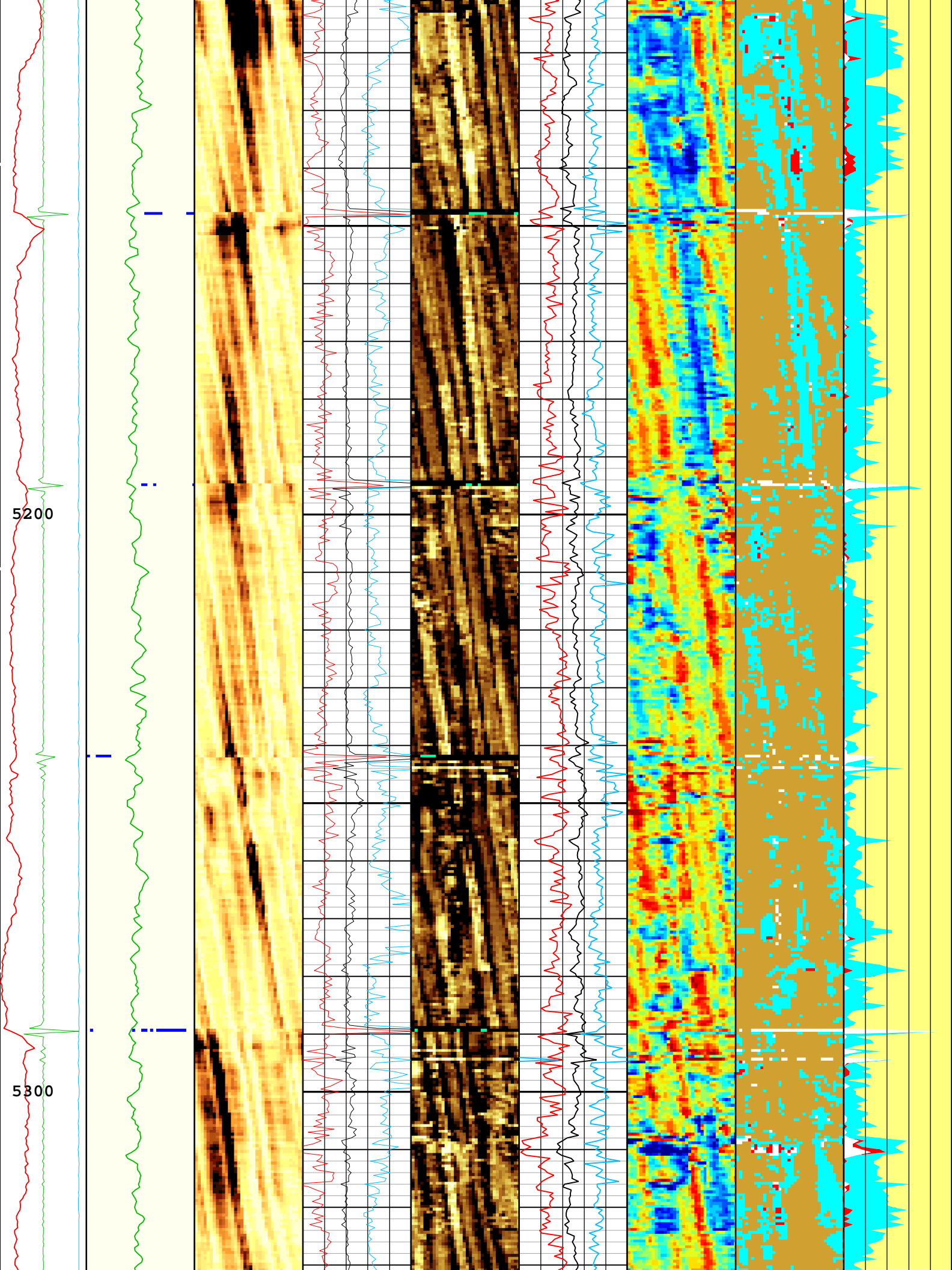


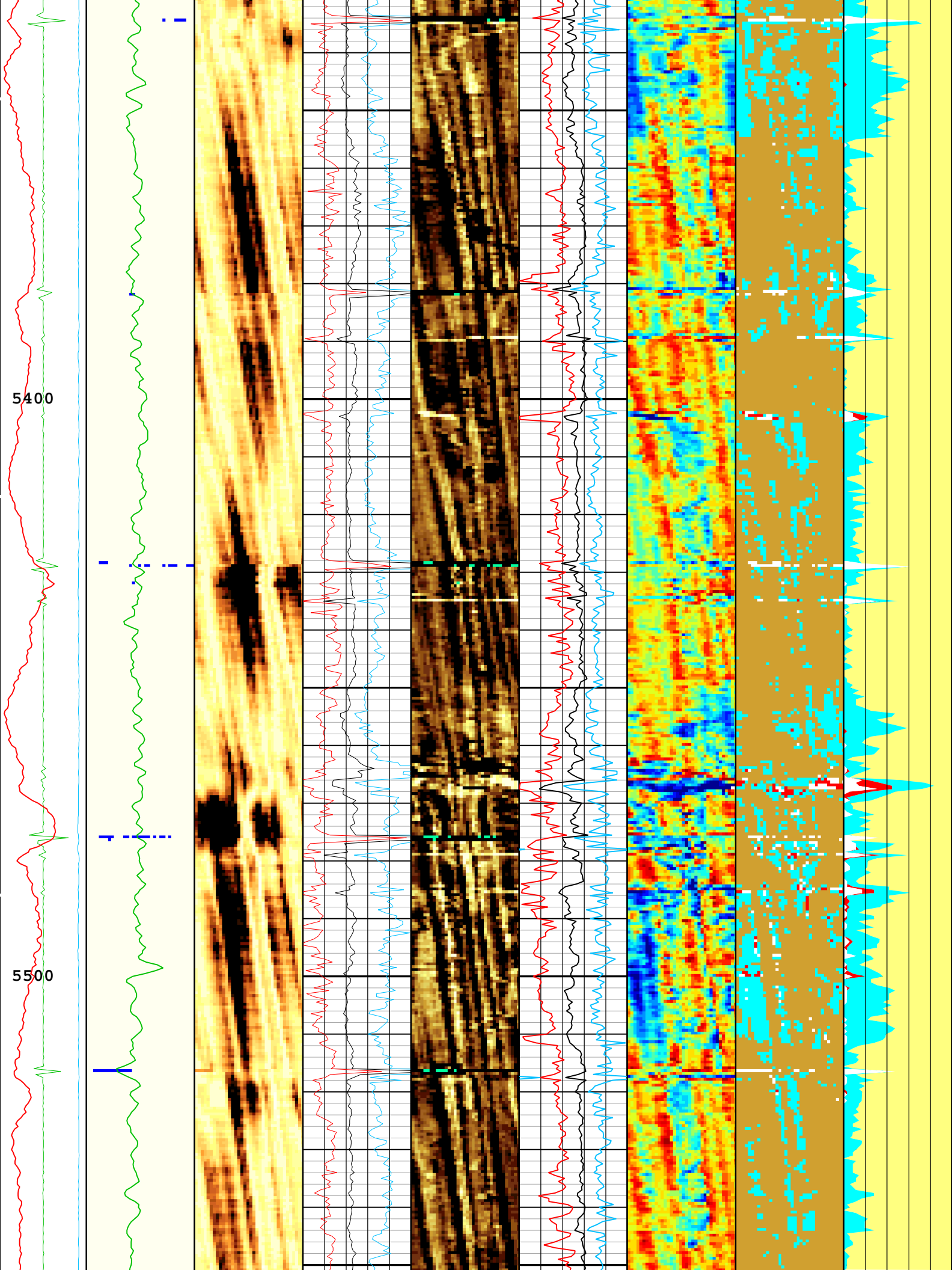


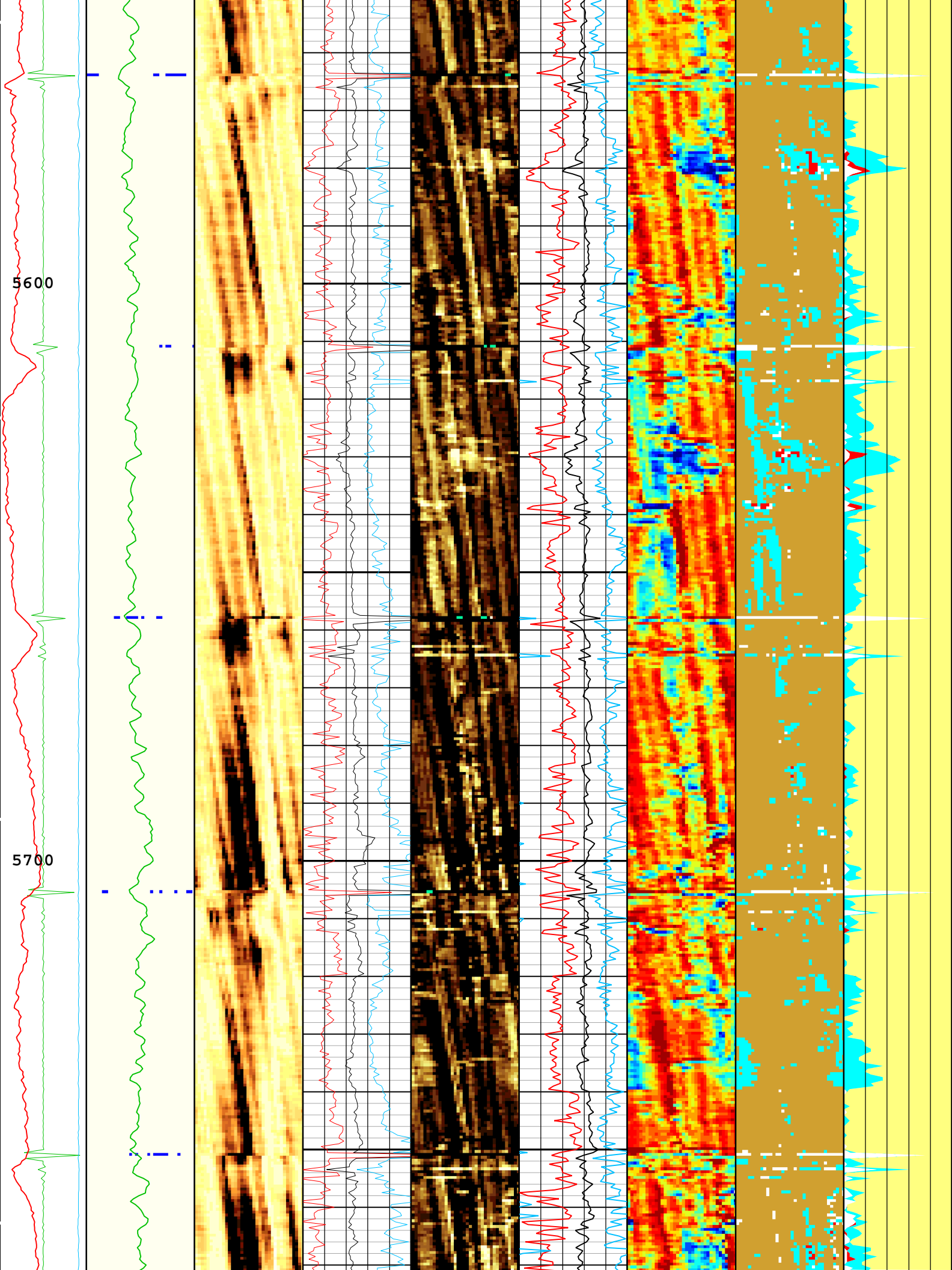


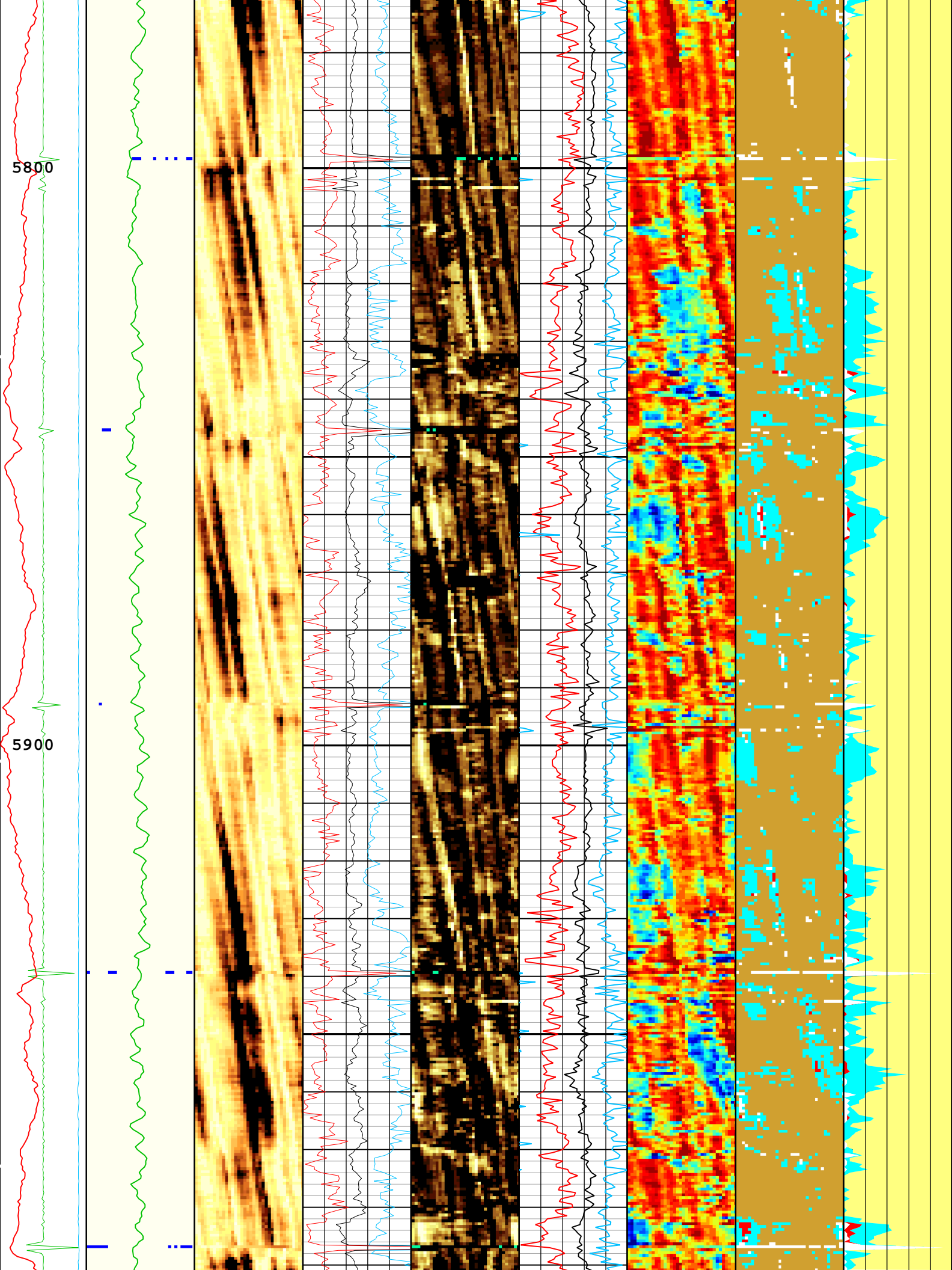




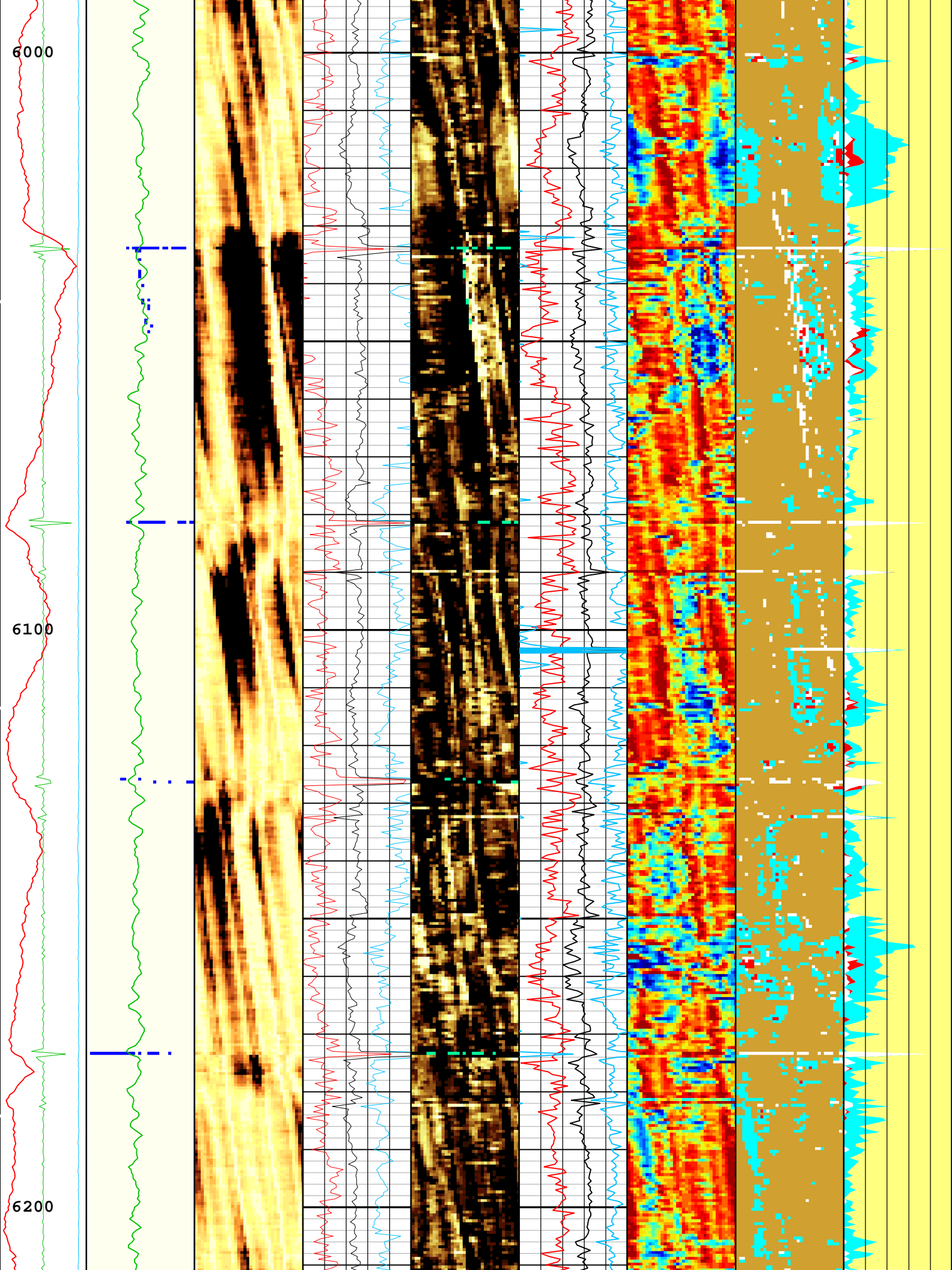


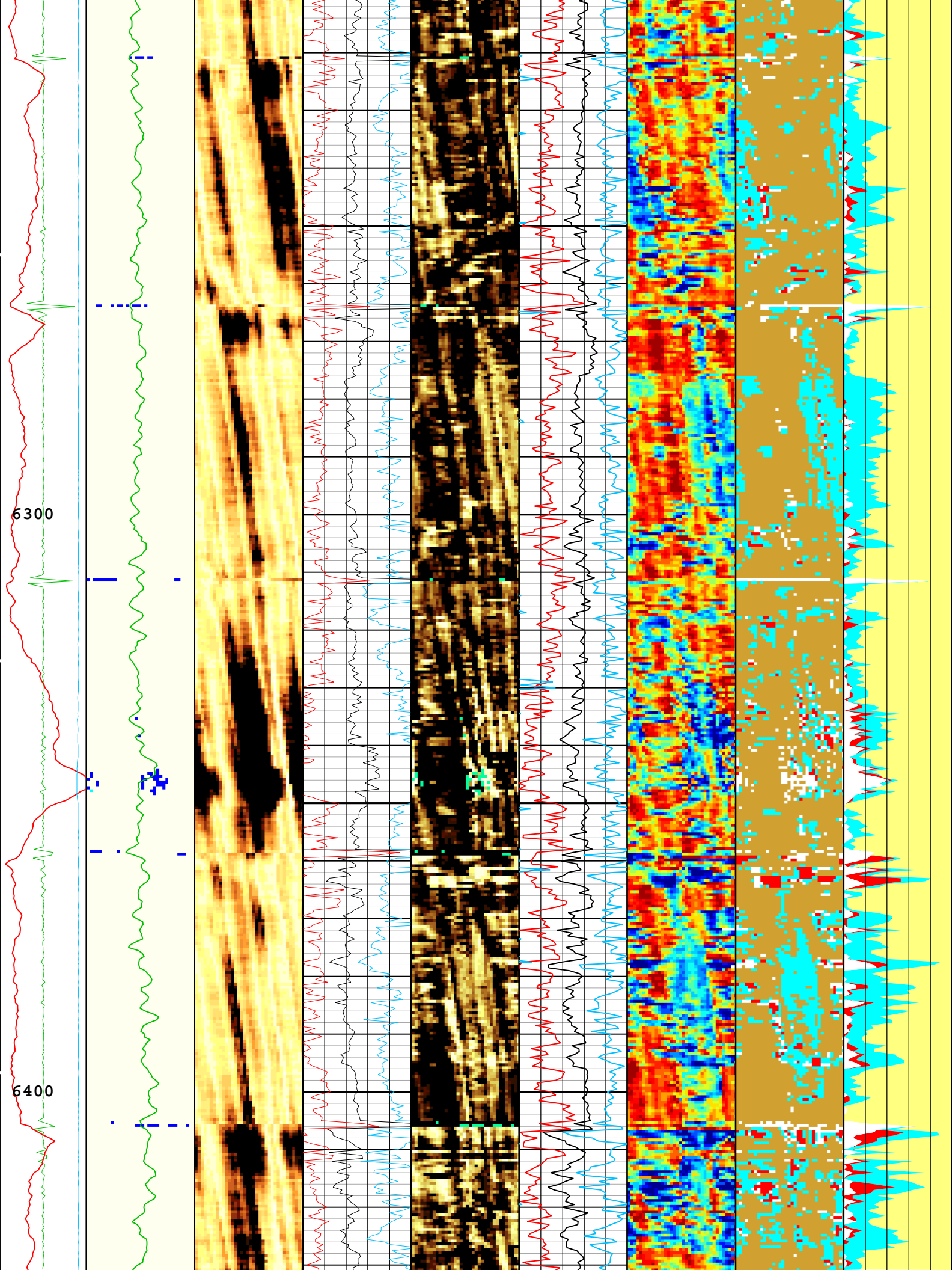


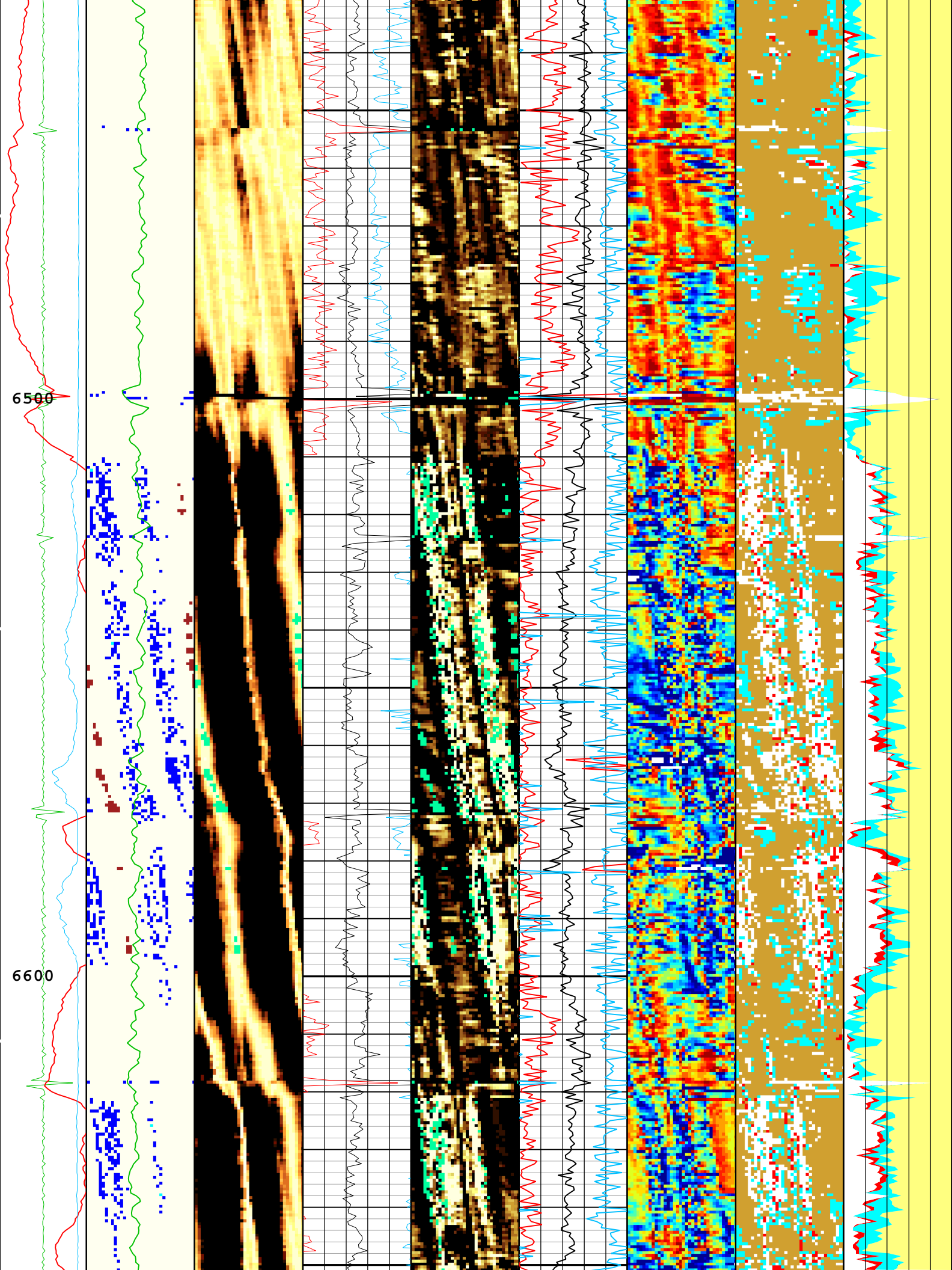


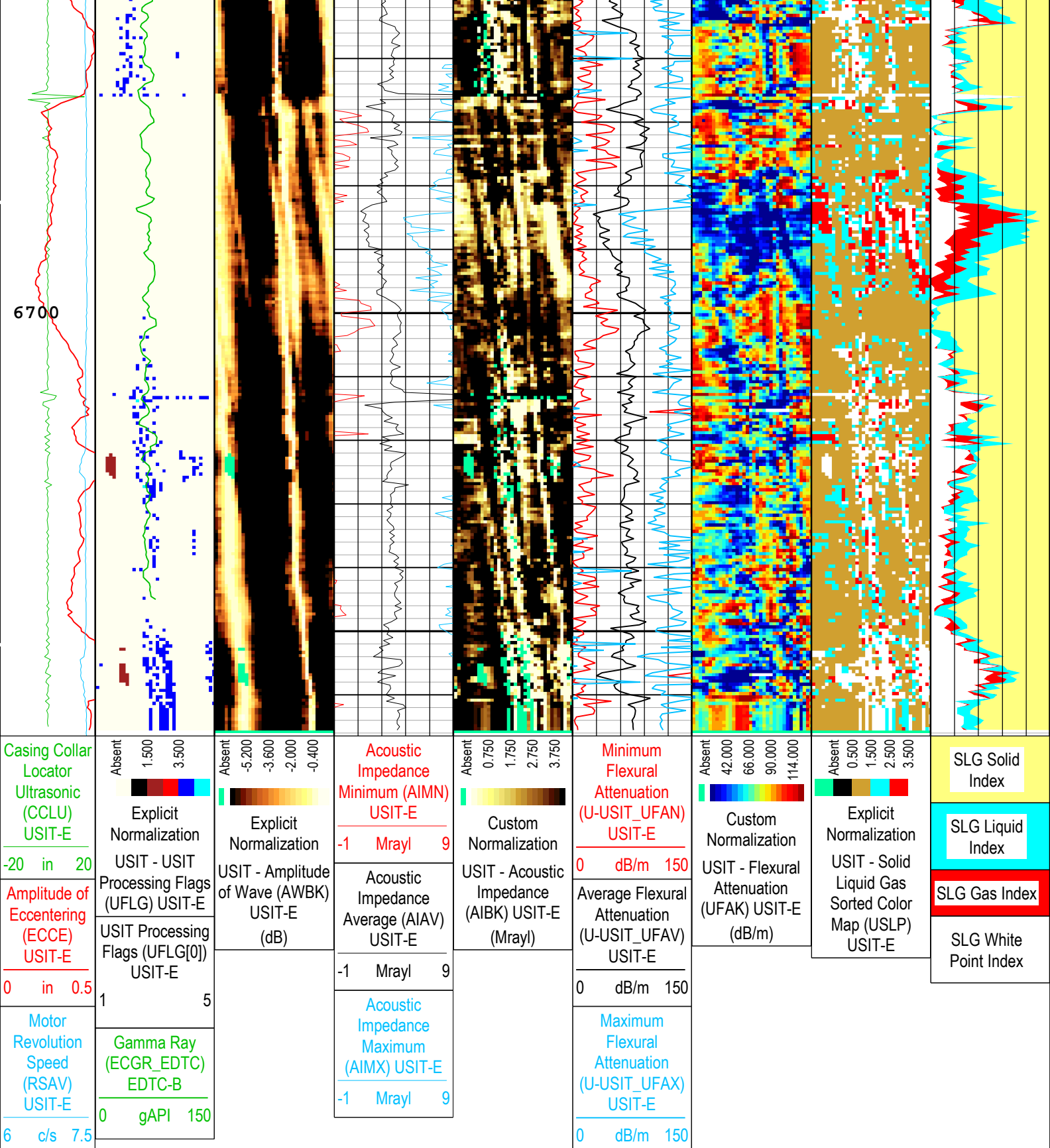












TIME\_1900 - Time Marked every 60.00 (s)

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

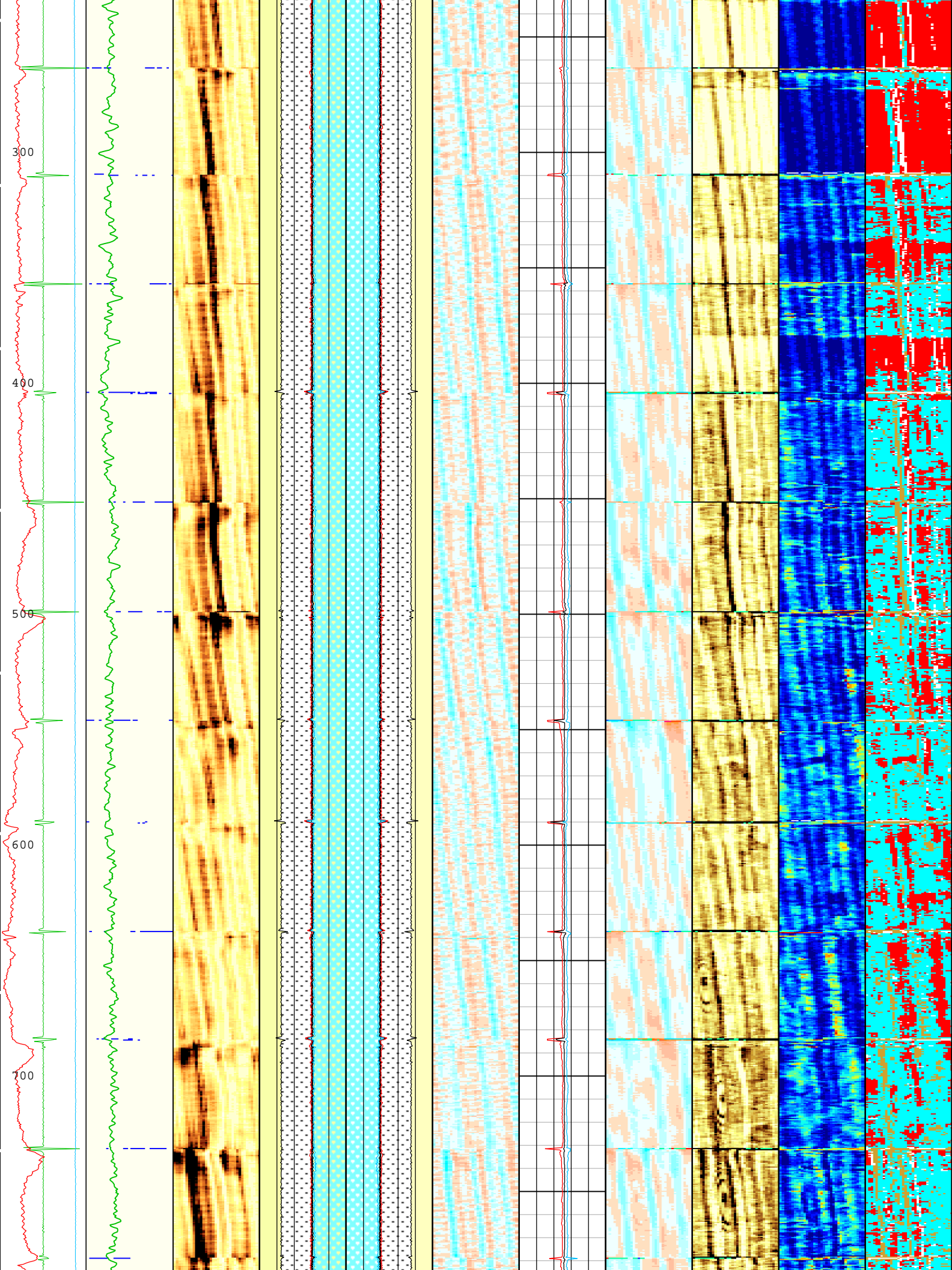
- 1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 -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

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
BAR(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	14705	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	-32.89	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	1.19	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.12	
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	-35.5	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	1.73	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl

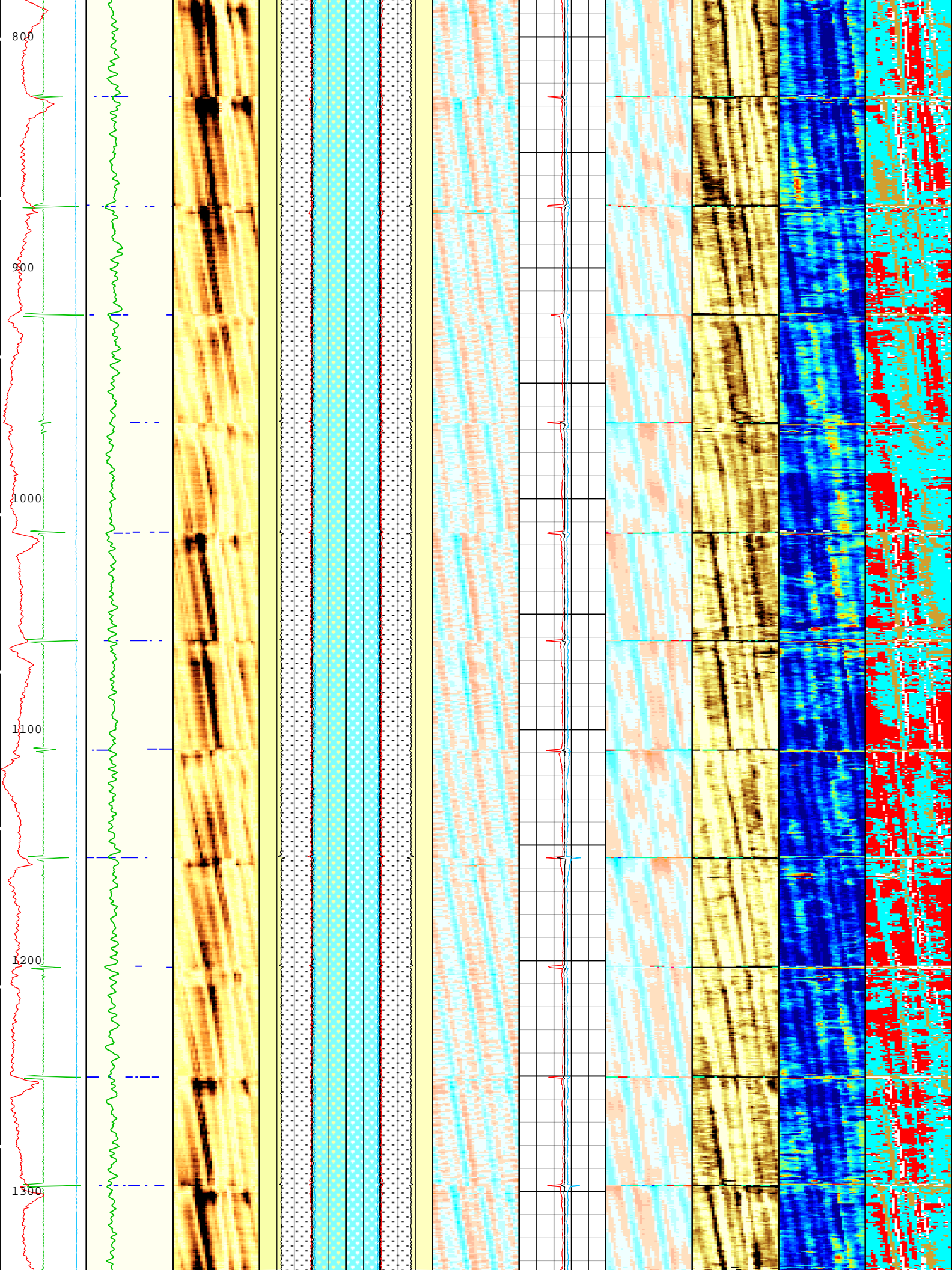


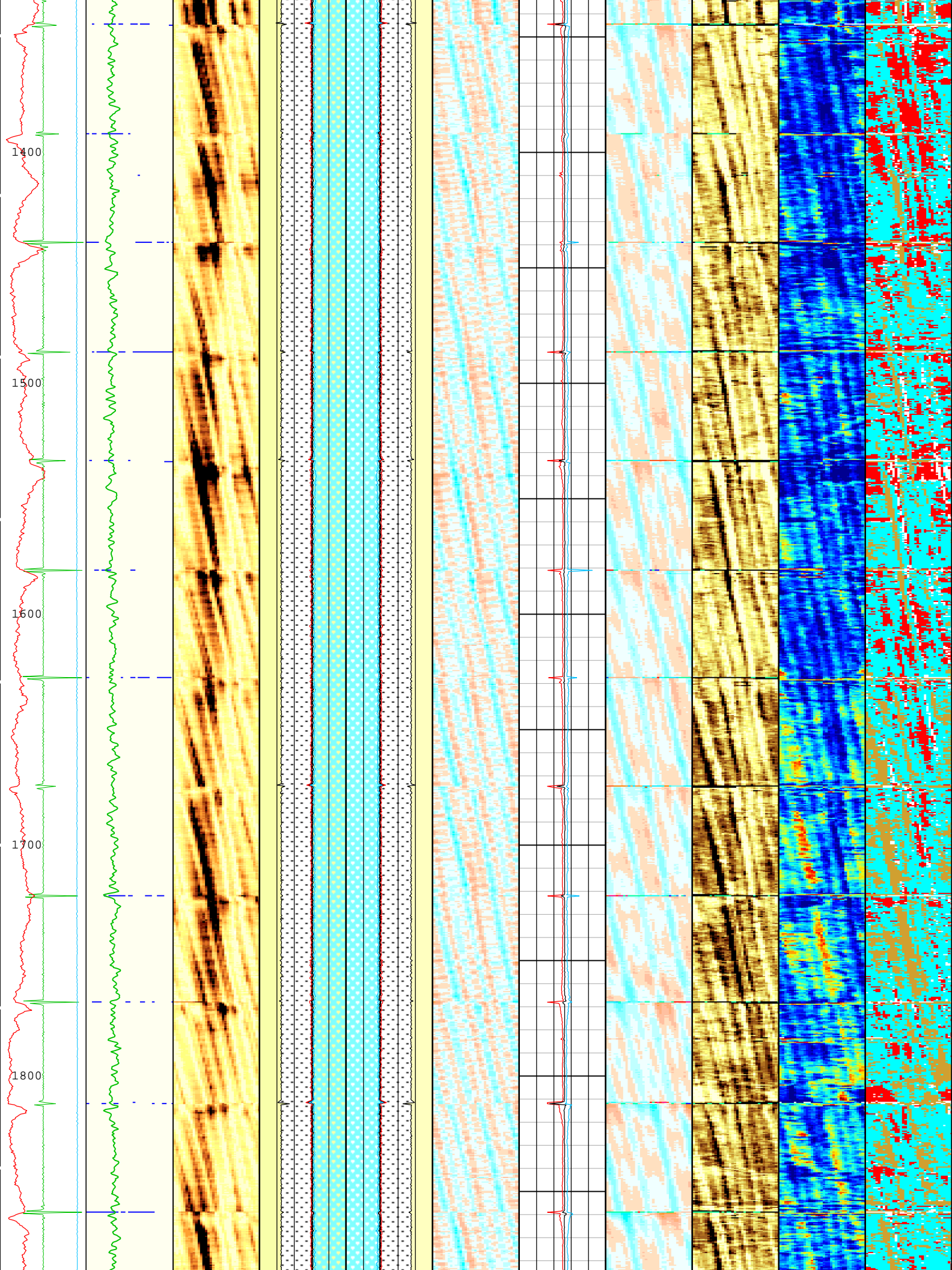
ZTGS	Acoustic Impedance Threshold for Gas				USIT-E		0.3		Mrayl	
Depth Zone Parameters										
Parameter		Value		Start ( ft )			Stop ( ft )			
BS		13.5		55			2138			
BS		8.5		2138			6766.5			
All depth are actual.										
Tool Control Parameters										
ONE: Parameters										
Parameter		Description			Tool		Value		Unit	
AGMN		Minimum Gain of Cartridge			USIT-E		-12		dB	
AGMX		Maximum Gain of Cartridge			USIT-E		48		dB	
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		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		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		31.88		us	
WINE		Window End Time			USIT-E		Time Zoned		us	
Time Zone Parameters										
Parameter		Value		Start Time		Stop Time		Start Depth ( ft )		Stop Depth ( ft )
EMXV		60		20-Sep-2018 08:37:26		20-Sep-2018 08:48:28		6767.19		6010.18
EMXV		70		20-Sep-2018 08:48:28		20-Sep-2018 10:16:37		6010.18		53.28
U-USIT_UNWE		146		20-Sep-2018 08:37:26		20-Sep-2018 09:18:13		6767.19		3926.71
U-USIT_UNWE		143.97		20-Sep-2018 09:18:13		20-Sep-2018 10:16:37		3926.71		53.28
WINE		76.04		20-Sep-2018 08:37:26		20-Sep-2018 08:47:07		6767.19		6104.72
WINE		75.31		20-Sep-2018 08:47:07		20-Sep-2018 10:16:37		6104.72		53.28
All depth are at tool zero.										
ONE										
IBC SLG Composite										
Pass Summary										
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data	

Casing Collar Locator Ultrasonic (CCLU) USIT-E		Amplitude of Eccentering (ECCE) USIT-E		Motor Revolution Speed (RSAV) USIT-E		Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E		Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E (dB)		External Radii Average (ERAV) USIT-E		Internal Radius Averaged Value (IRAV) USIT-E		Internal Radius Maximum Value (IRMX) USIT-E		Internal Radius Minimum Value (IRMN) USIT-E		Thickness Minimum Value (THMN) USIT-E		Thickness Average Value (THAV) USIT-E		Thickness Maximum Value (THMX) USIT-E		Explicit Normalization USIT - Casing Thickness Normalized (THBK) USIT-E (in)		Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)		Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)		Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E	
Absent 1.500 3.500		Absent -5.200 -3.600 -2.000 -0.400		1 5		USIT Processing Flags (UFLG[0]) USIT-E		USIT - Gamma Ray (ECGR_EDT C) EDTC-B		3 in 2		3 in 2		3 in 2		3 in 2		0.1 in 0.6		0.1 in 0.6		0.1 in 0.6		Absent -0.051 -0.012 0.028 0.068		Absent 0.750 1.750 2.750 3.750		Absent 42.000 66.000 90.000 114.000		Absent 1.500 3.500	
Casing Collar Locator Ultrasonic (CCLU) USIT-E		Amplitude of Eccentering (ECCE) USIT-E		Motor Revolution Speed (RSAV) USIT-E		Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E		Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E (dB)		External Radii Average (ERAV) USIT-E		Internal Radius Averaged Value (IRAV) USIT-E		Internal Radius Maximum Value (IRMX) USIT-E		Internal Radius Minimum Value (IRMN) USIT-E		Thickness Minimum Value (THMN) USIT-E		Thickness Average Value (THAV) USIT-E		Thickness Maximum Value (THMX) USIT-E		Explicit Normalization USIT - Casing Thickness Normalized (THBK) USIT-E (in)		Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)		Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)		Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E	
Casing Collar Locator Ultrasonic (CCLU) USIT-E		Amplitude of Eccentering (ECCE) USIT-E		Motor Revolution Speed (RSAV) USIT-E		Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E		Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E (dB)		External Radii Average (ERAV) USIT-E		Internal Radius Averaged Value (IRAV) USIT-E		Internal Radius Maximum Value (IRMX) USIT-E		Internal Radius Minimum Value (IRMN) USIT-E		Thickness Minimum Value (THMN) USIT-E		Thickness Average Value (THAV) USIT-E		Thickness Maximum Value (THMX) USIT-E		Explicit Normalization USIT - Casing Thickness Normalized (THBK) USIT-E (in)		Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)		Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)		Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E	

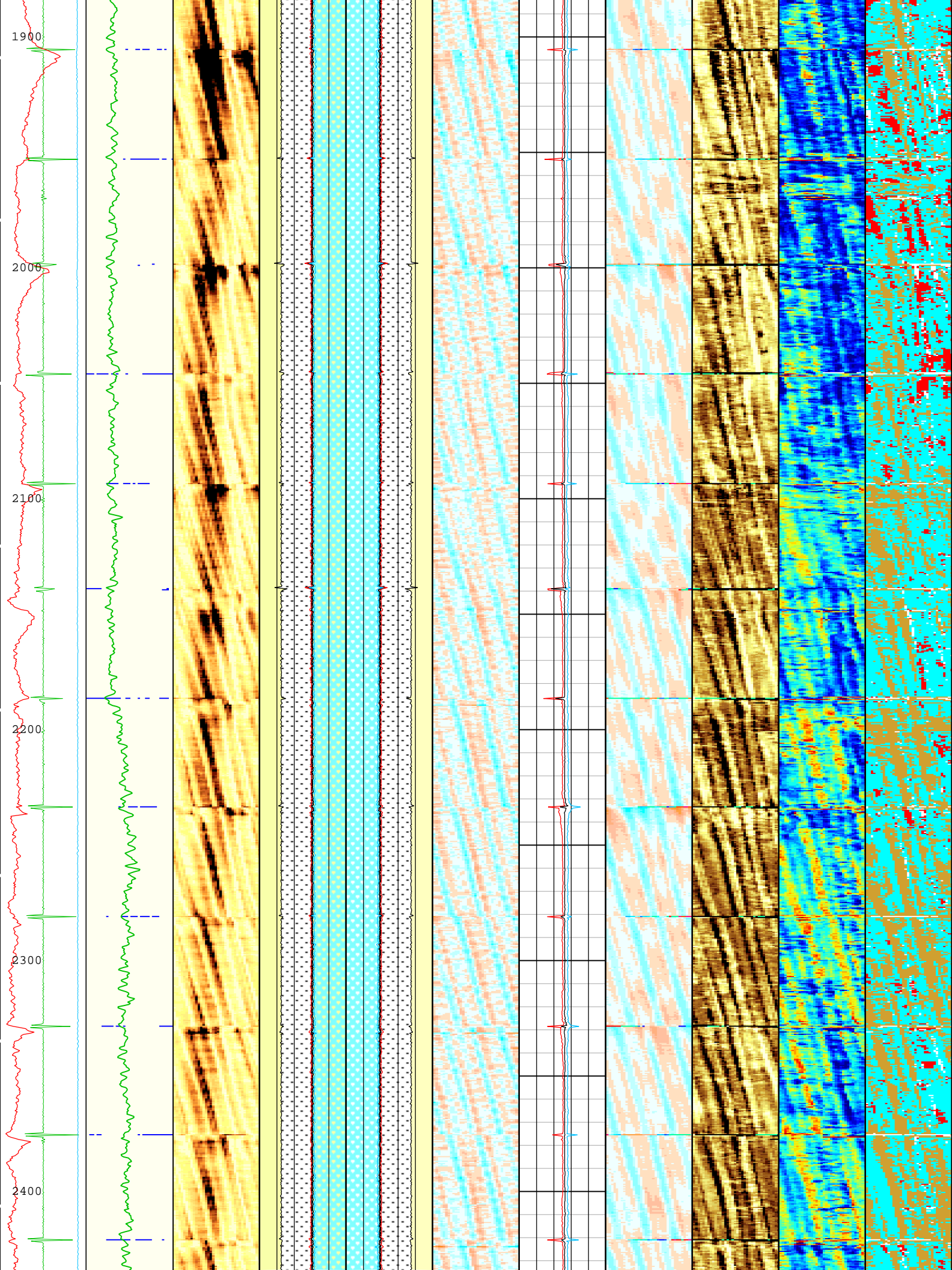


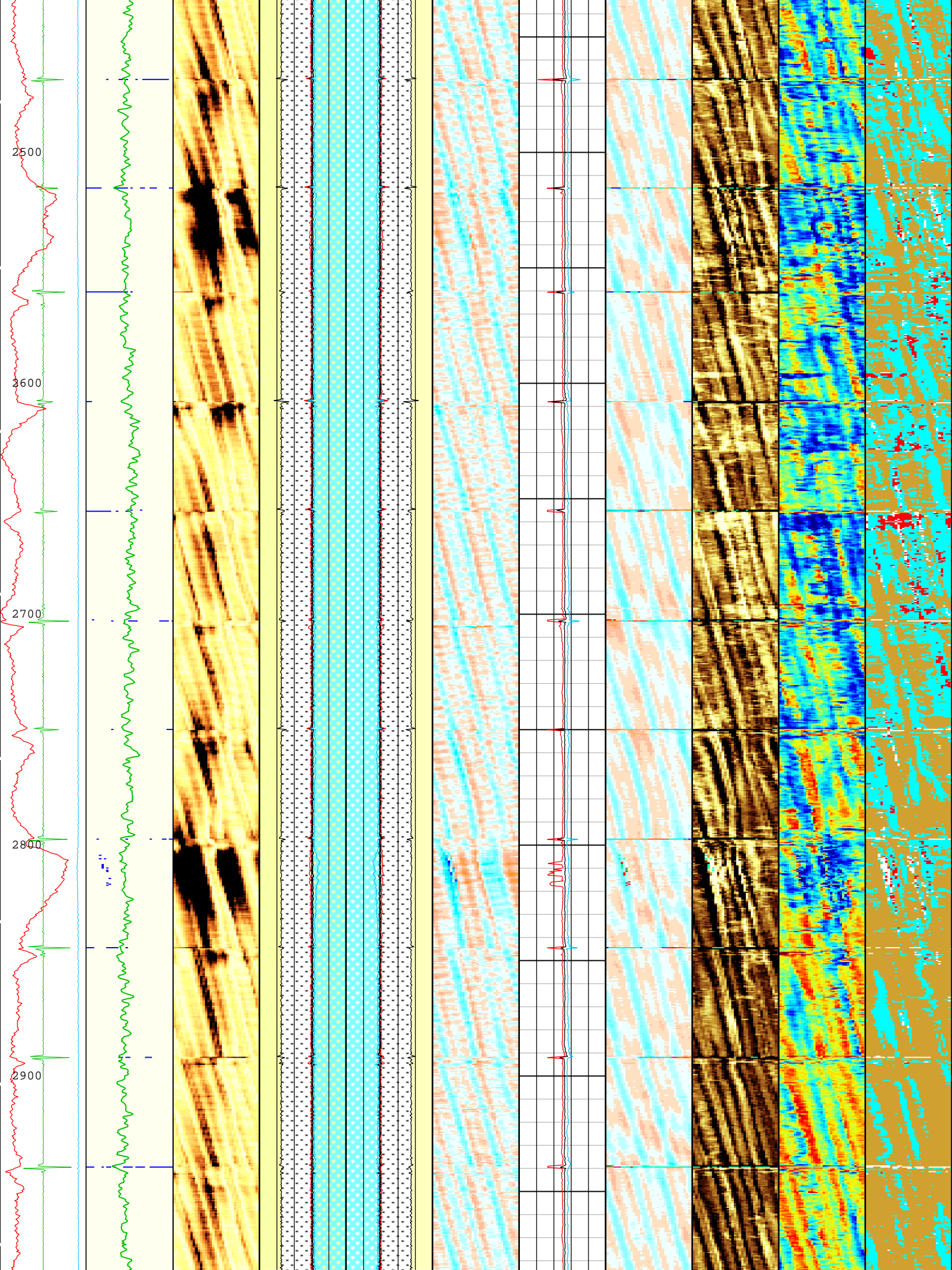




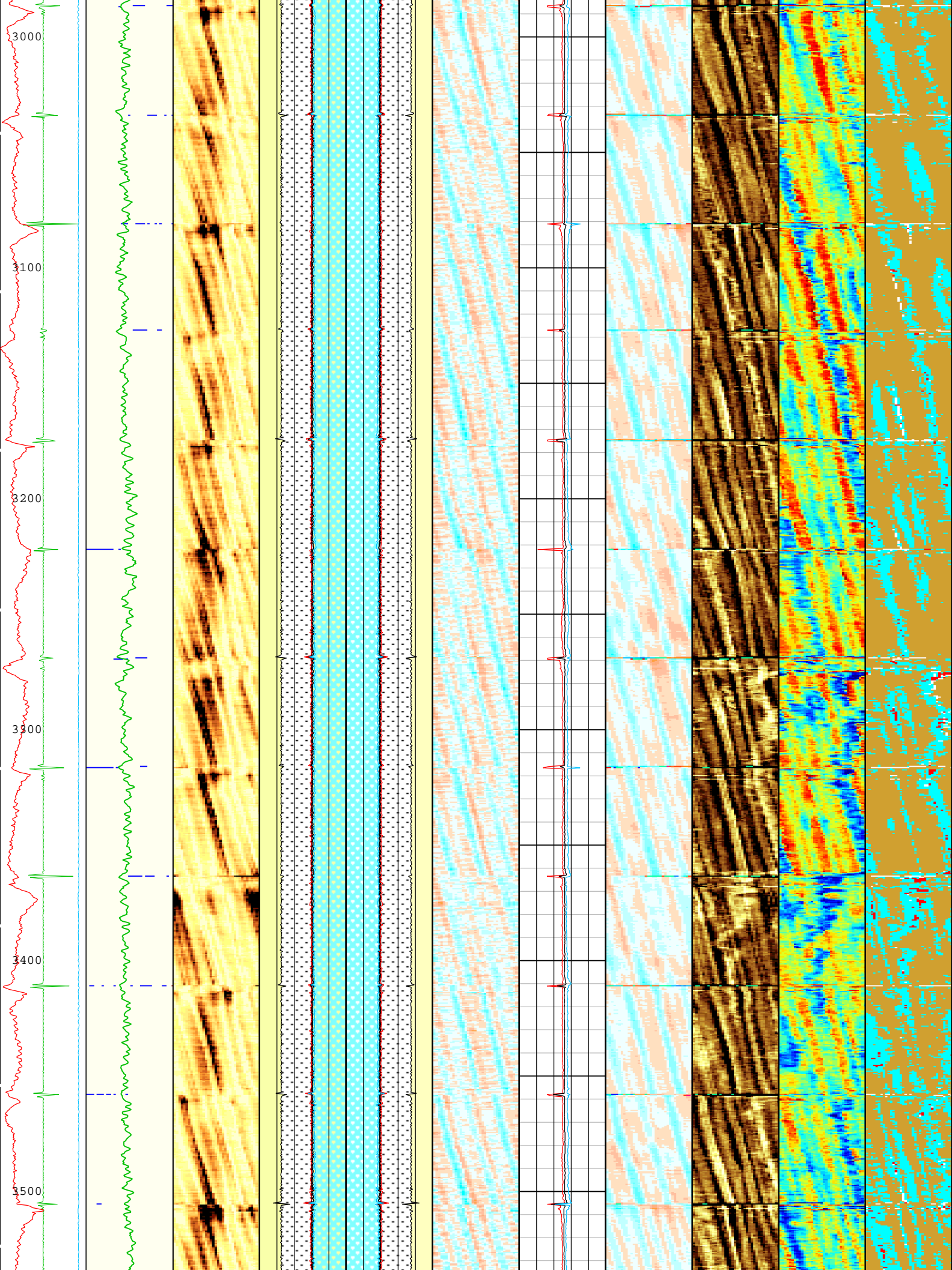




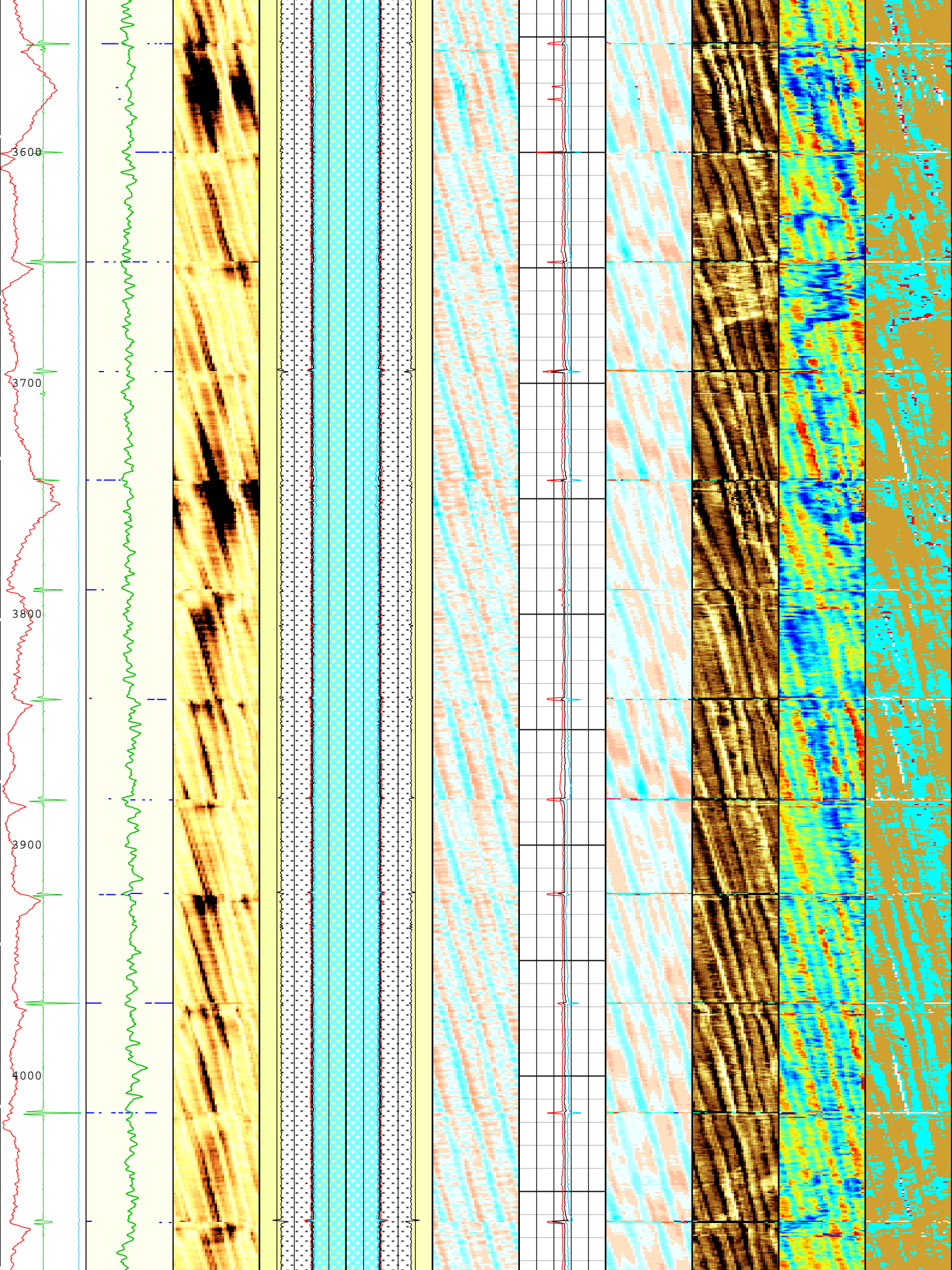


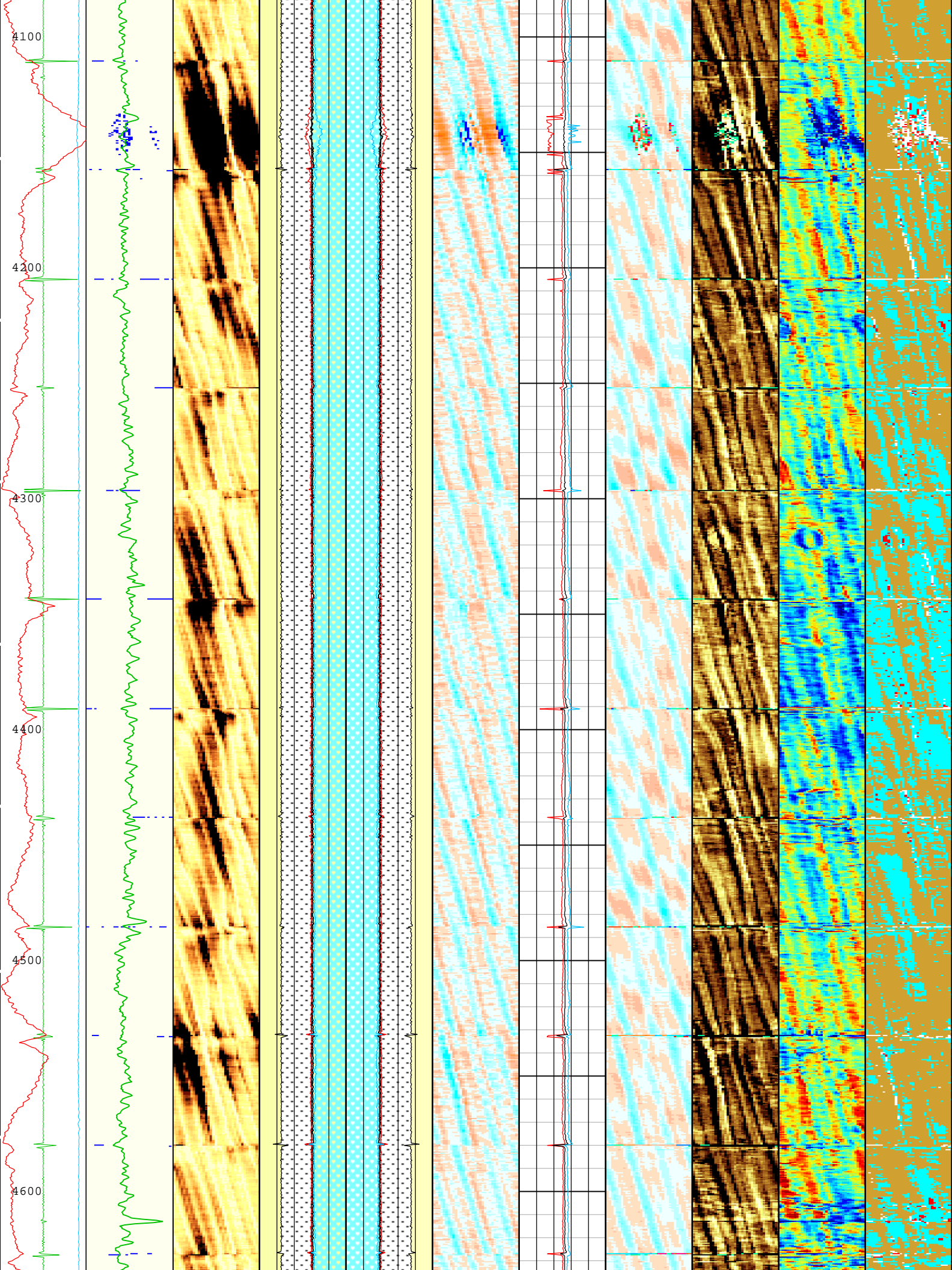




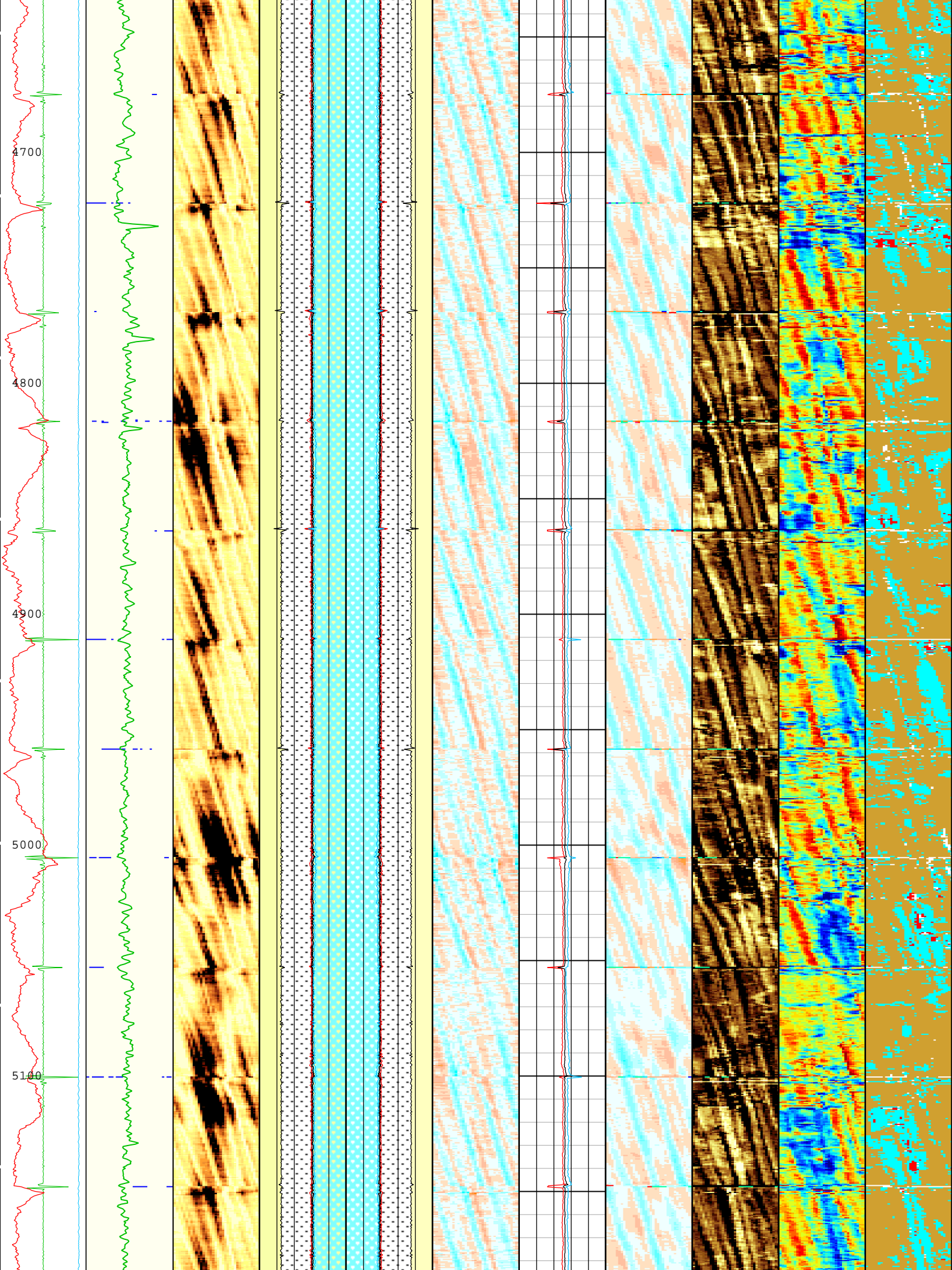


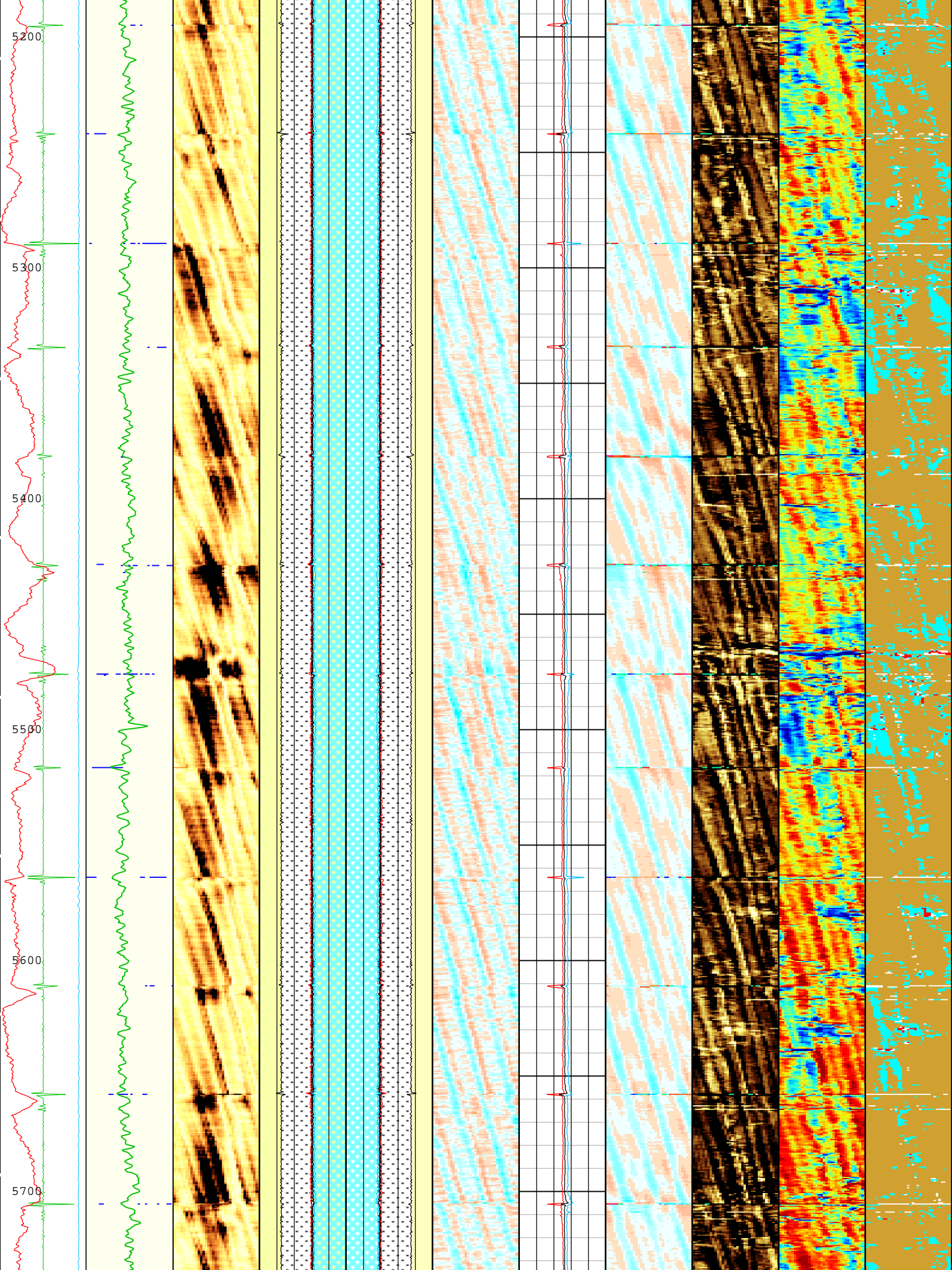




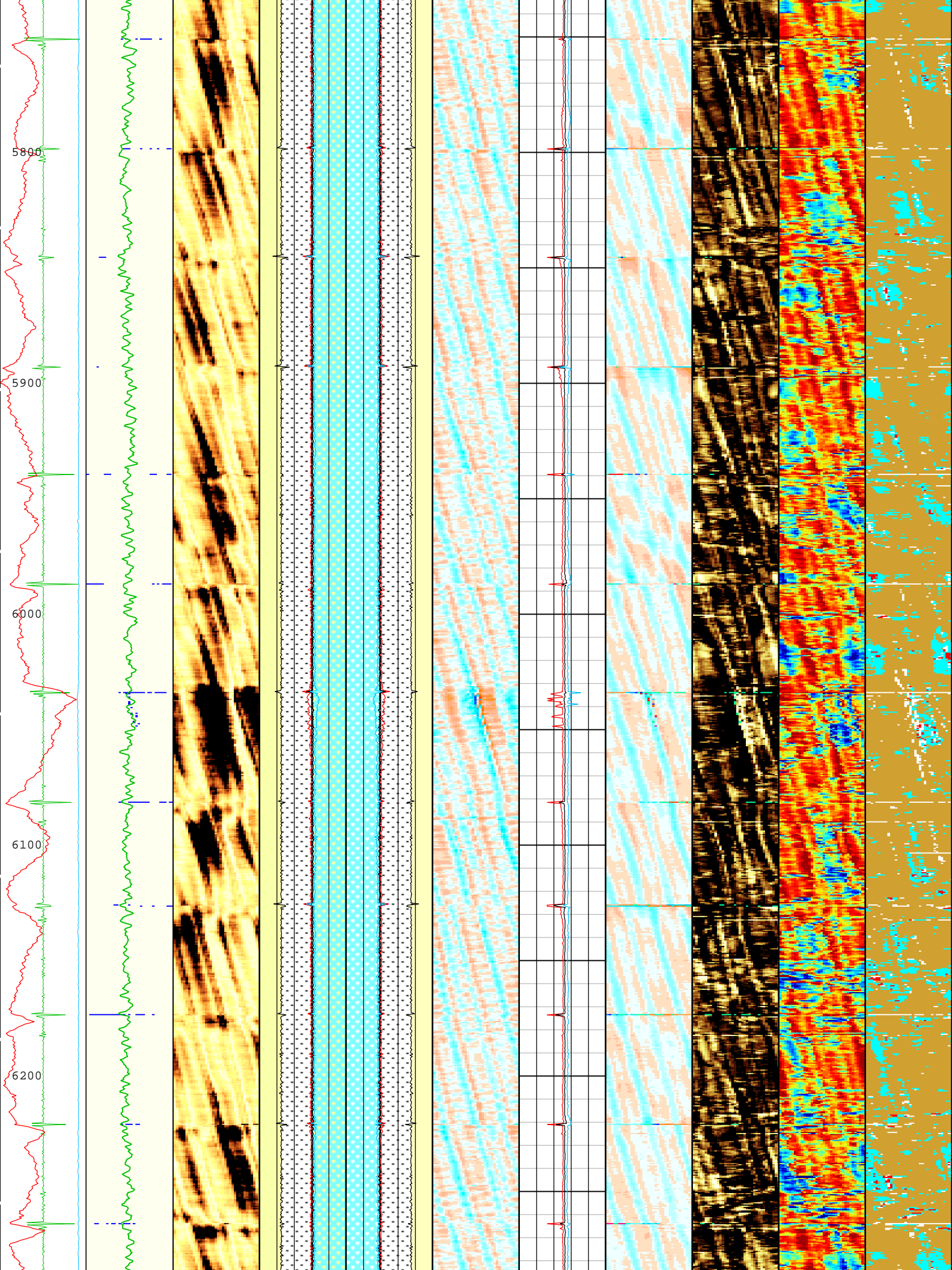




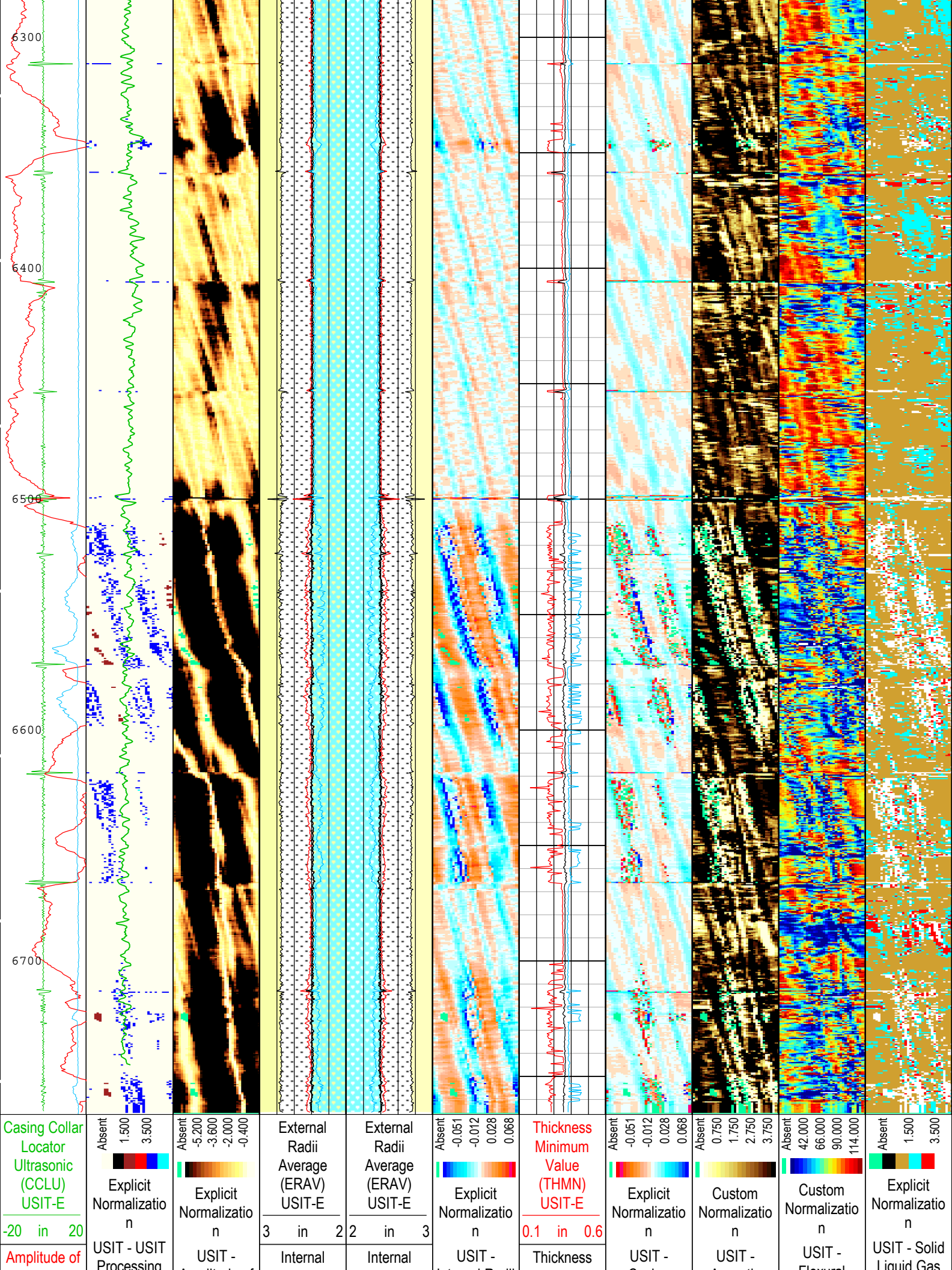












Centering (ECCE) USIT-E	Processing Flags (UFLG) USIT-E	Amplitude of Wave (AWBK) USIT-E (dB)	Radius Averaged Value (IRAV) USIT-E	Radius Averaged Value (IRAV) USIT-E	Internal Radii Normalized (IRBK) USIT-E (in)	Average Value (THAV) USIT-E	Casing Thickness Normalized (THBK) USIT-E (in)	Acoustic Impedance (AIBK) USIT-E (Mrayl)	Flexural Attenuation (UFAK) USIT-E (dB/m)	Liquid Gas Sorted Color Map (USLP) USIT-E
0 in 0.5	USIT Processing Flags (UFLG[0]) USIT-E		3 in 2	2 in 3		0.1 in 0.6				
Motor Revolution Speed (RSAV) USIT-E	1 5		Internal Radius Maximum Value (IRMX) USIT-E	Internal Radius Maximum Value (IRMX) USIT-E		Thickness Maximum Value (THMX) USIT-E				
6 c/s 7.5	Gamma Ray (ECGR_EDT C) EDTC-B		3 in 2	2 in 3		0.1 in 0.6				
	0 gAPI 150		Internal Radius Minimum Value (IRMN) USIT-E	Internal Radius Minimum Value (IRMN) USIT-E						
			3 in 2	2 in 3						

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

- 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

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: 20-Sep-2018 11:48:58

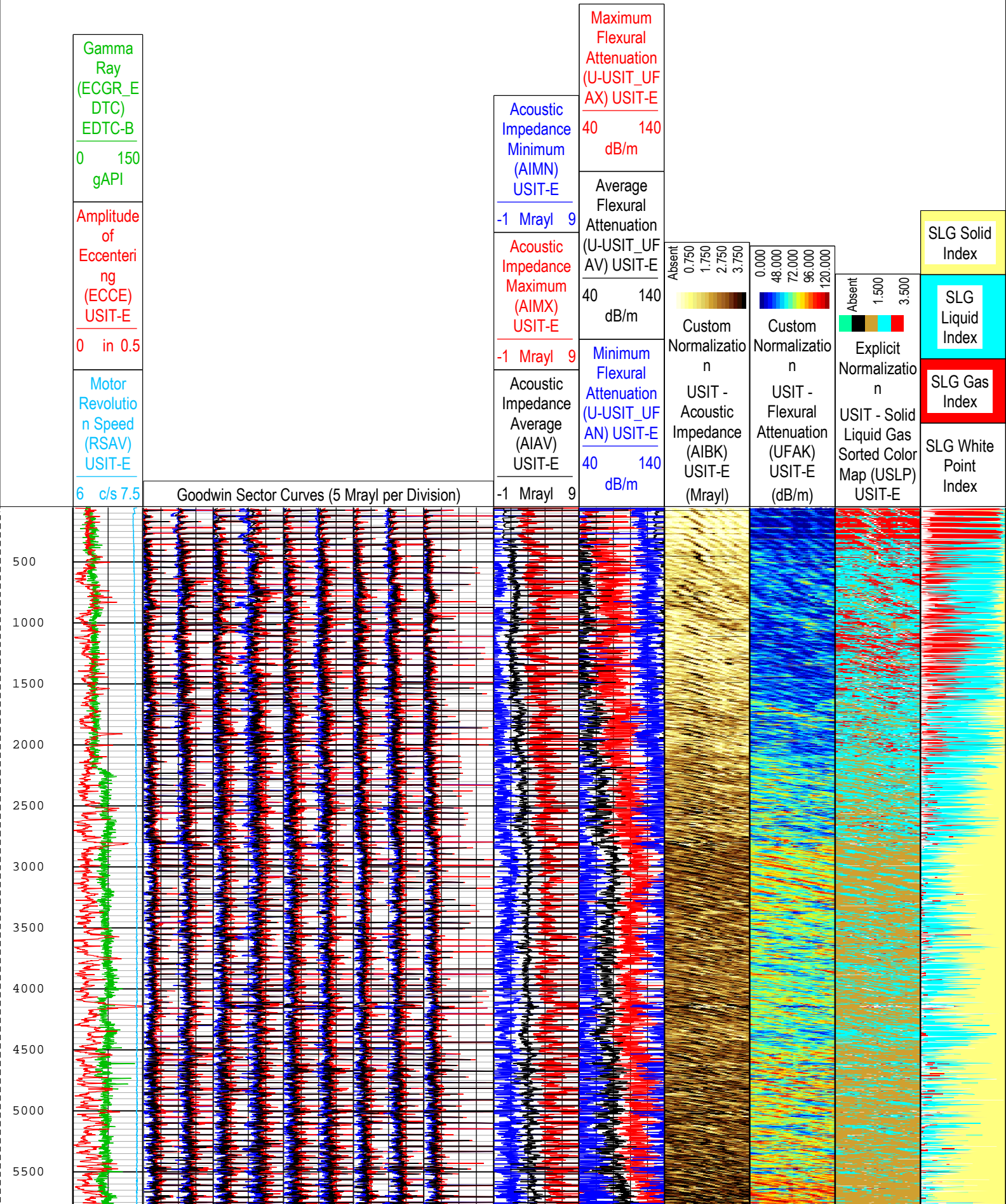
Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	14705	ft
CDEN	Cement Density	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	-32.89	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	1.19	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.12	

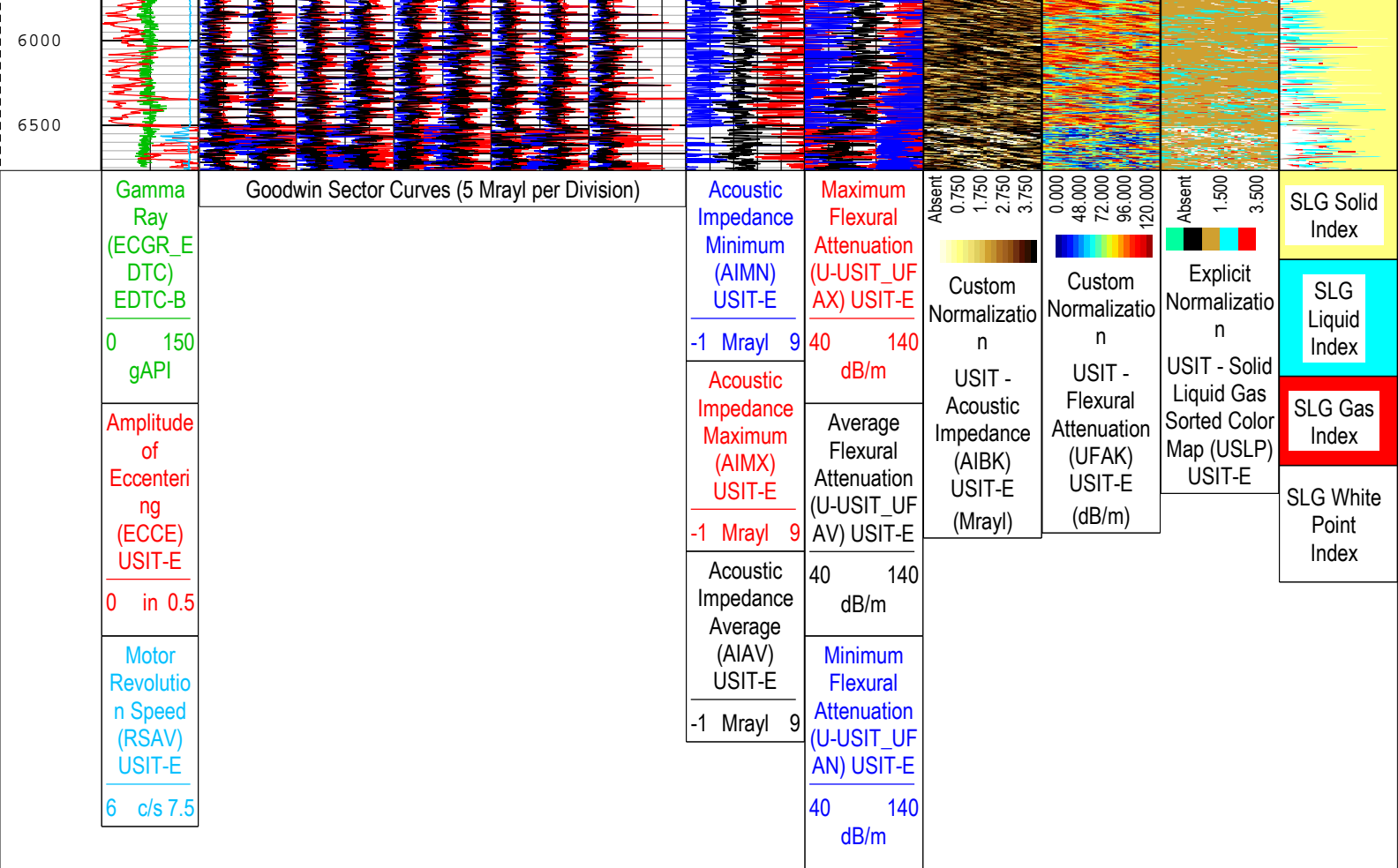




Description: USI Goodwin    Format: Log ( IBC Goodwin )    Index Scale: 0.1 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 20-Sep-2018 11:49:05

TIME\_1900 - Time Marked every 60.00 (s)





TIME\_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin    Format: Log ( IBC Goodwin )    Index Scale: 0.1 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 20-Sep-2018 11:49:05

ONE									
IBC SLG									
Software Version									
Acquisition System						Version			
Maxwell 2018 SP2						8.2.104493.3100			
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	1988.59 ft	2312.64 ft	20-Sep-2018 8:10:48 AM	20-Sep-2018 8:15:54 AM	ON	0.51 ft	Yes
All depths are referenced to toolstring zero									
Log	Company:Crestone Peak Resources Operating LLC						Well:Davis 1F-9H-G266 ONE: Log[2]:Up:S006		

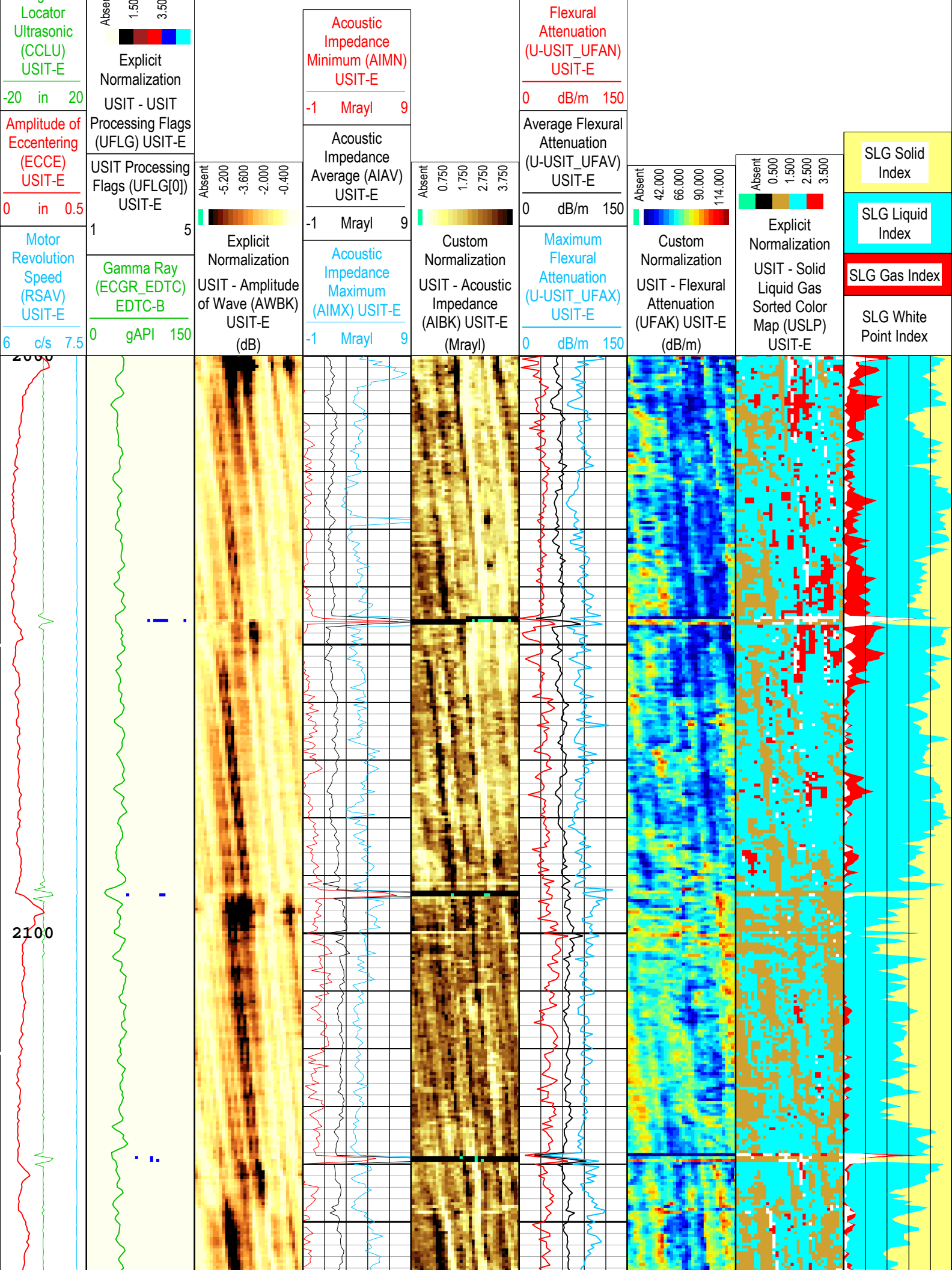
Description: USI IBC SLG    Format: Log ( IBC SLG )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 20-Sep-2018 11:49:10

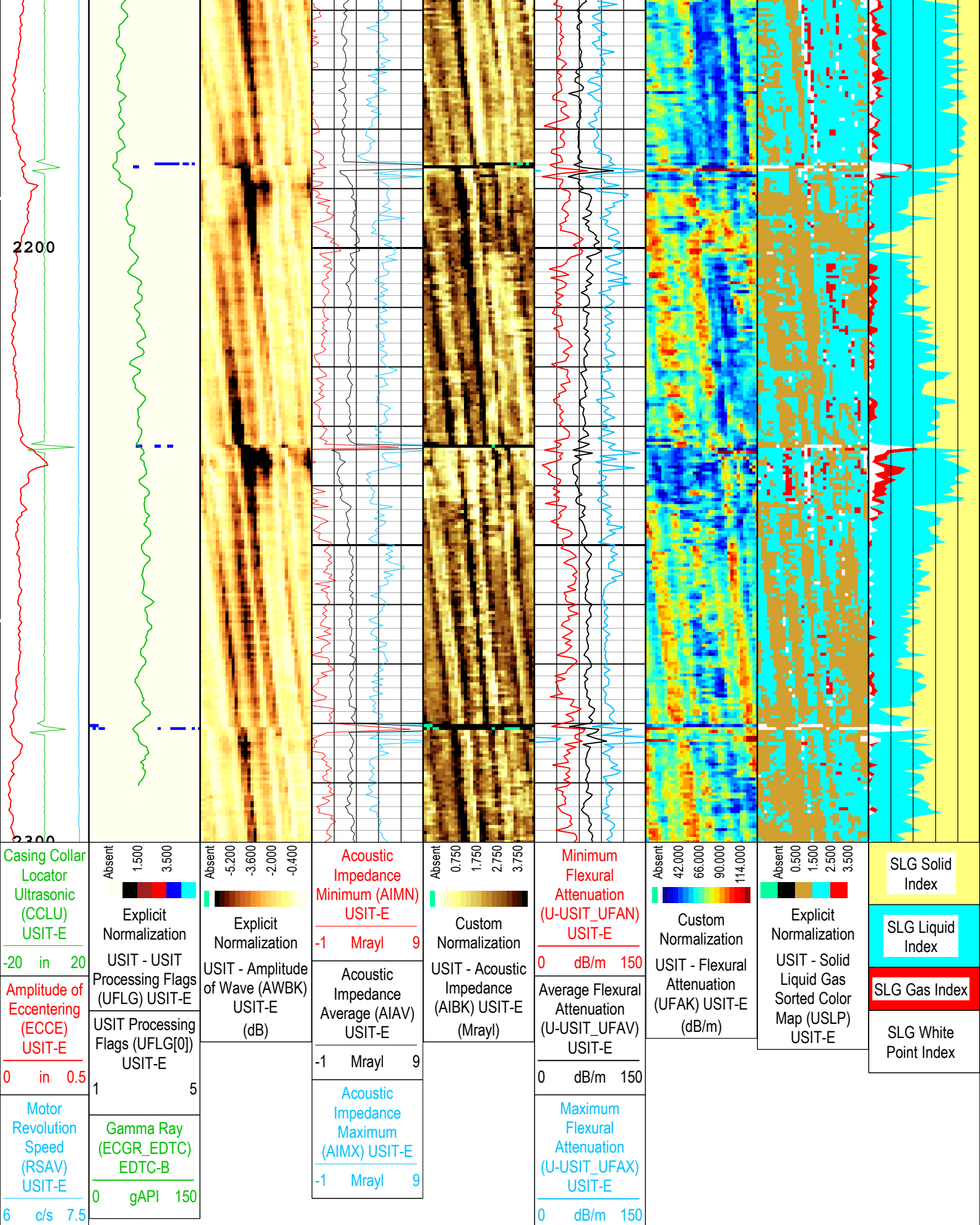
TIME\_1900 - Time Marked every 60.00 (s)

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					

Casing Collar	≡	≡	≡	Minimum	
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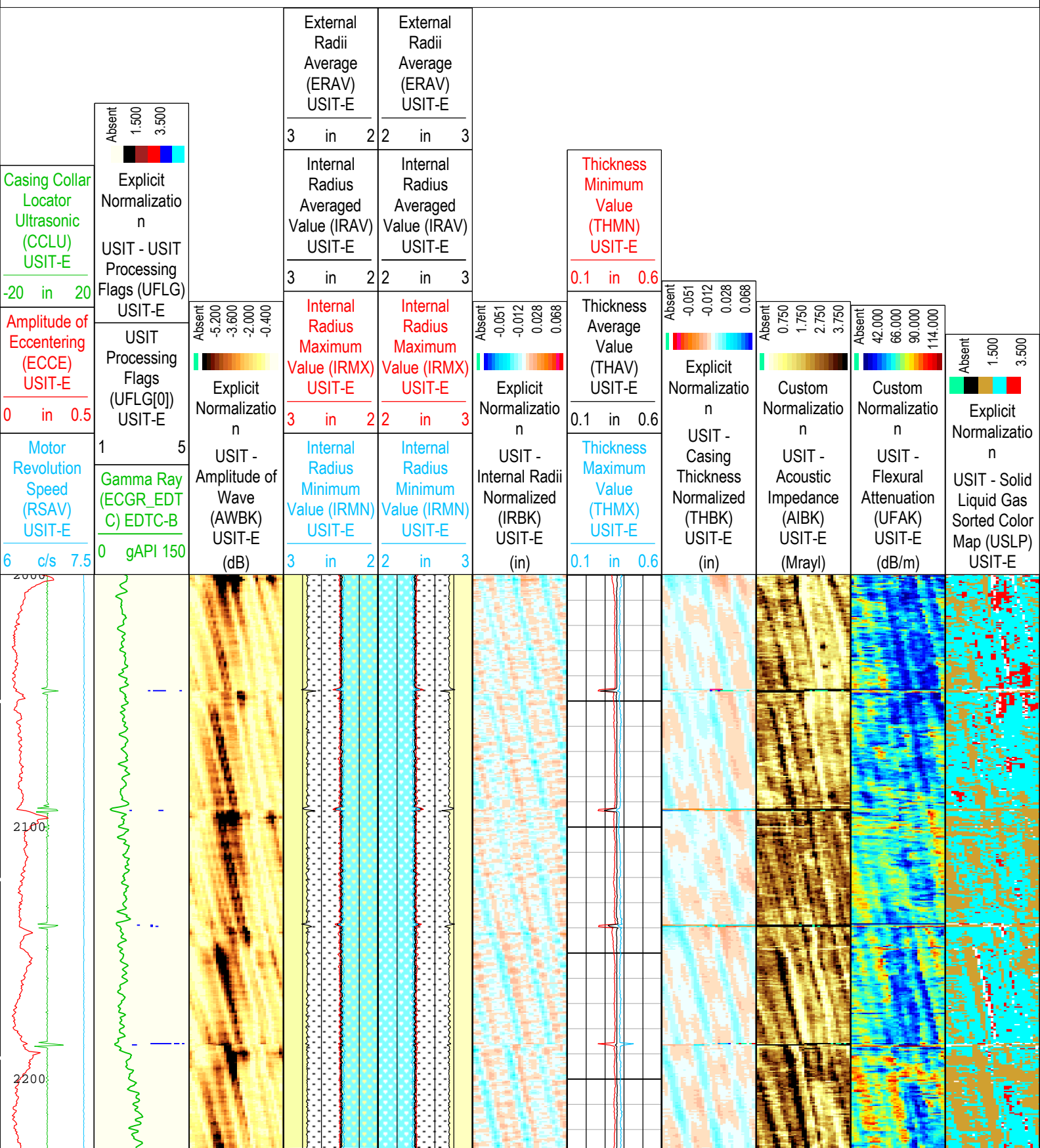
3 - UFLG 3 Value within [2.5 - 3.5] - : <div>WINLEN Error</div>				
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : <div>Casing Thickness Error</div>				
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10 ] - : <div>Loop Processing Error</div>				
TIME_1900 - Time Marked every 60.00 (s)				
Description: USI IBC SLG    Format: Log ( IBC SLG )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 20-Sep-2018 11:49:10				
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	14705	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	-32.89	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	1.19	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.12	
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	-35.5	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
USI_RPLUS	Ultrasonic R+ Processing	USIT-E	No	



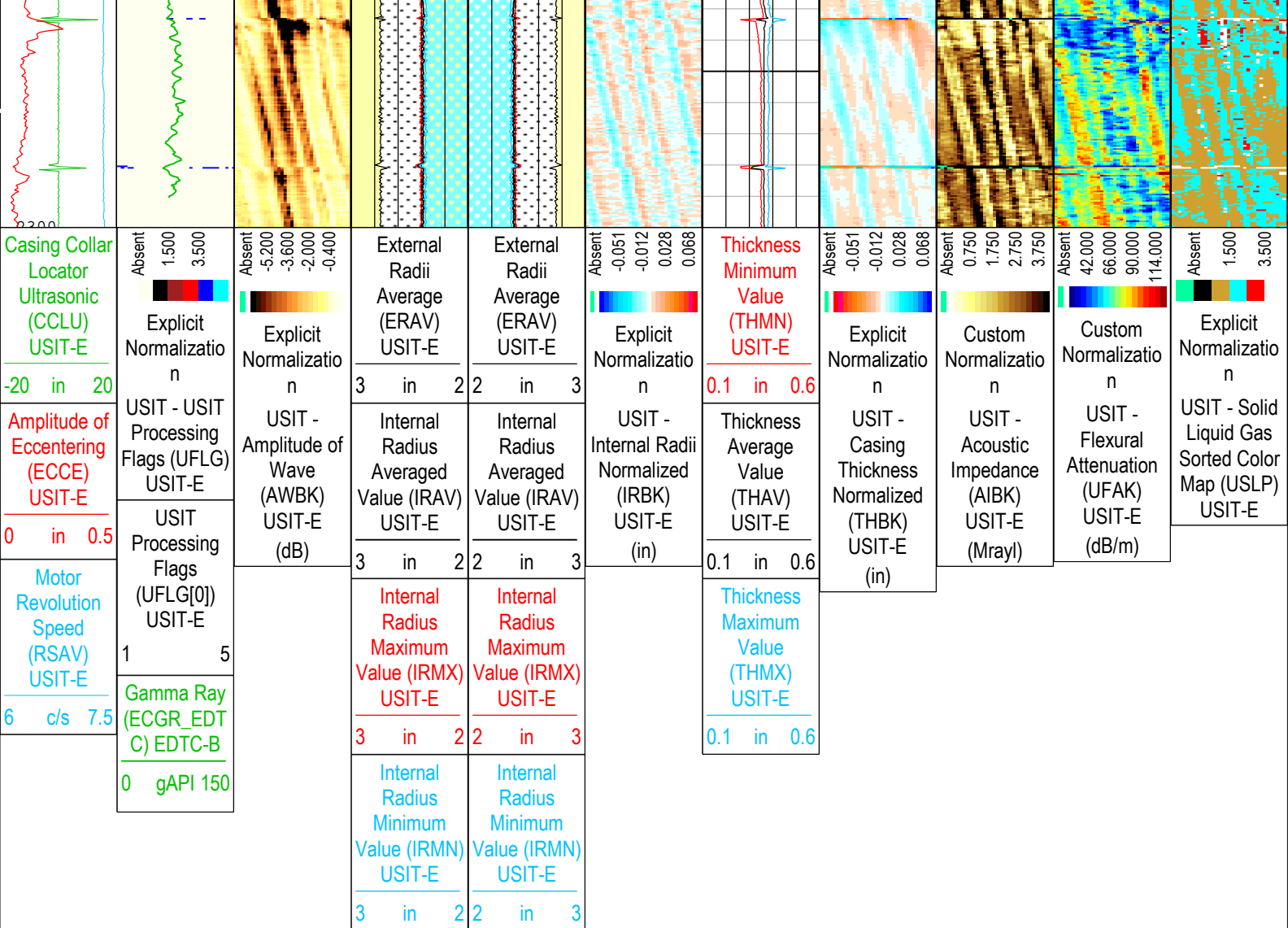
TIME\_1900 - Time Marked every 60.00 (s)

## 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











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: 20-Sep-2018 11:49:14

## 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	14705	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	-32.89	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	1.19	
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.12	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.65	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-35.5	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.73	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	2138	
BS	8.5	2138	2300	
All depth are actual.				

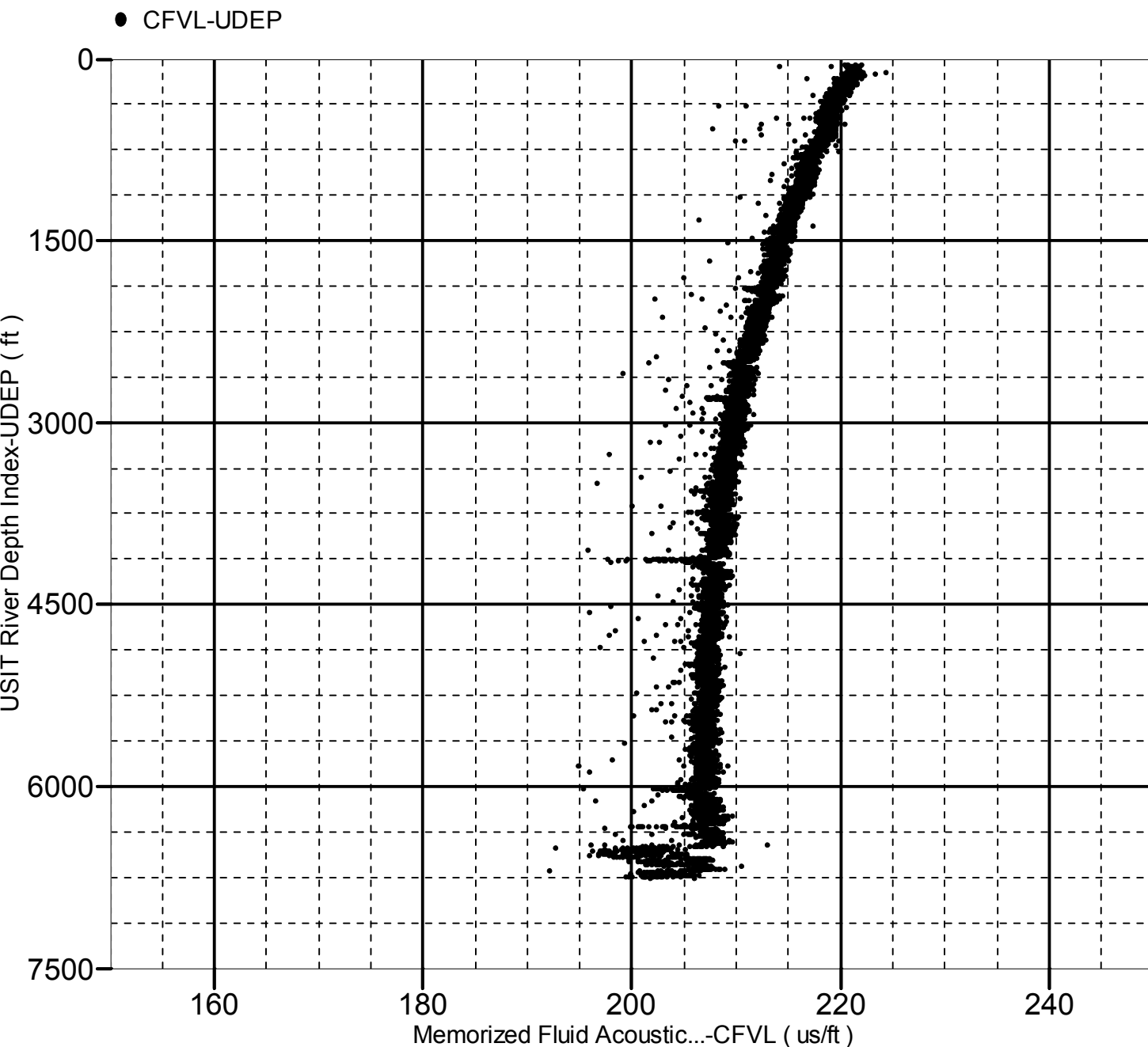
Tool Control Parameters	
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ONE: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	60	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
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	76.04	us

XYZ	Company:Crestone Peak Resources Operating LLC Well:Davis 1F-9H-G266 ONE: Log[4]:Up:S006
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# Fluid Acoustic Slow ness vs Depth 2D Cross Plot

Index Range: From 6766.50 to 52.50 ft



XYZ

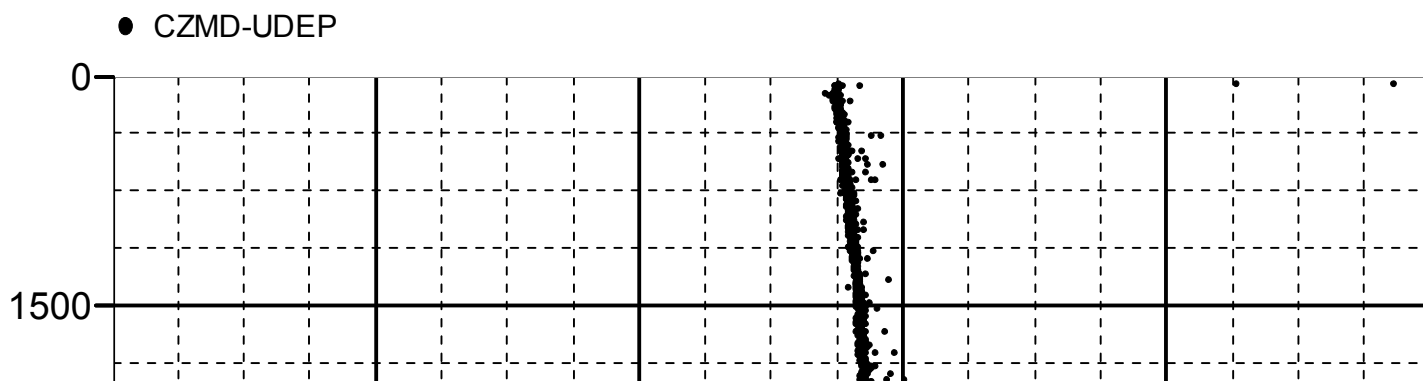
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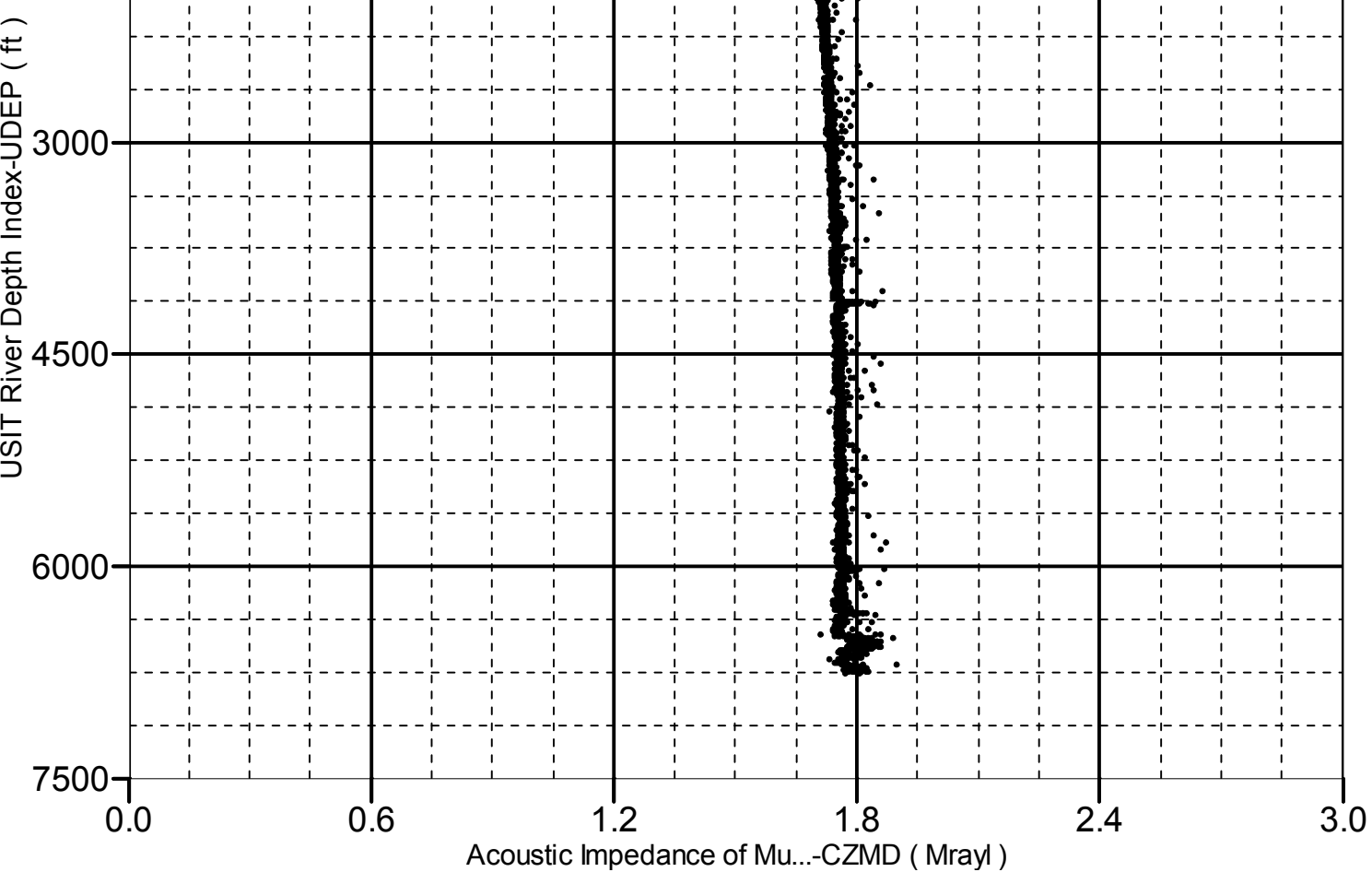
ONE: Log[4]:Up:S006

## Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6766.50 to 52.50 ft





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