

Company: Occidental Petroleum Inc

Well: Warner 11-18

Field: Wattenberg

County: Weld State: Colorado

**Isolation Scanner
Cement Evaluation
Gamma Ray - CCL**

Location:	NESW Sec 9, T2N, R65W SHL: 2180' FSL X 1800' FWL	Elev.:	K.B. 5018.00 ft G.L. 5002.00 ft D.F. 5017.00 ft
Permanent Datum:	Ground Level	Elev.:	5002.00 f
Log Measured From:	Kelly Bushing	Elev.:	16.00 ft above Perm. Datum
Drilling Measured From:	Kelly Bushing		
API Serial No.	Section: 18	Township:	2N
05-123-21995-00		Range:	65W

Logging Date	25-Feb-2022
Run Number	One
Depth Driller	8052.00 ft
Schlumberger Depth	8052.00 ft
Bottom Log Interval	7000.00 ft
Top Log Interval	50.00 ft
Casing Fluid Type	Water
Salinity	
Density	9 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	7.88 in
From	944.00 ft
To	8052.00 ft
Casing/Tubing Size	4.5 in
Weight	11.6 lbm/ft
Grade	N80
From	0.00 ft
To	8026.00 ft
Max Recorded Temperatures	160 degF
Logger on Bottom	25-Feb-2022
Time	11:52:00
Unit Number	Location: 9115
Recorded By	Ruobing Wu
Witnessed By	Ray Bishop

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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9.4 Parameter Listing

10. Main Pass IBC Goodwin Compressed

10.1 Integration Summary

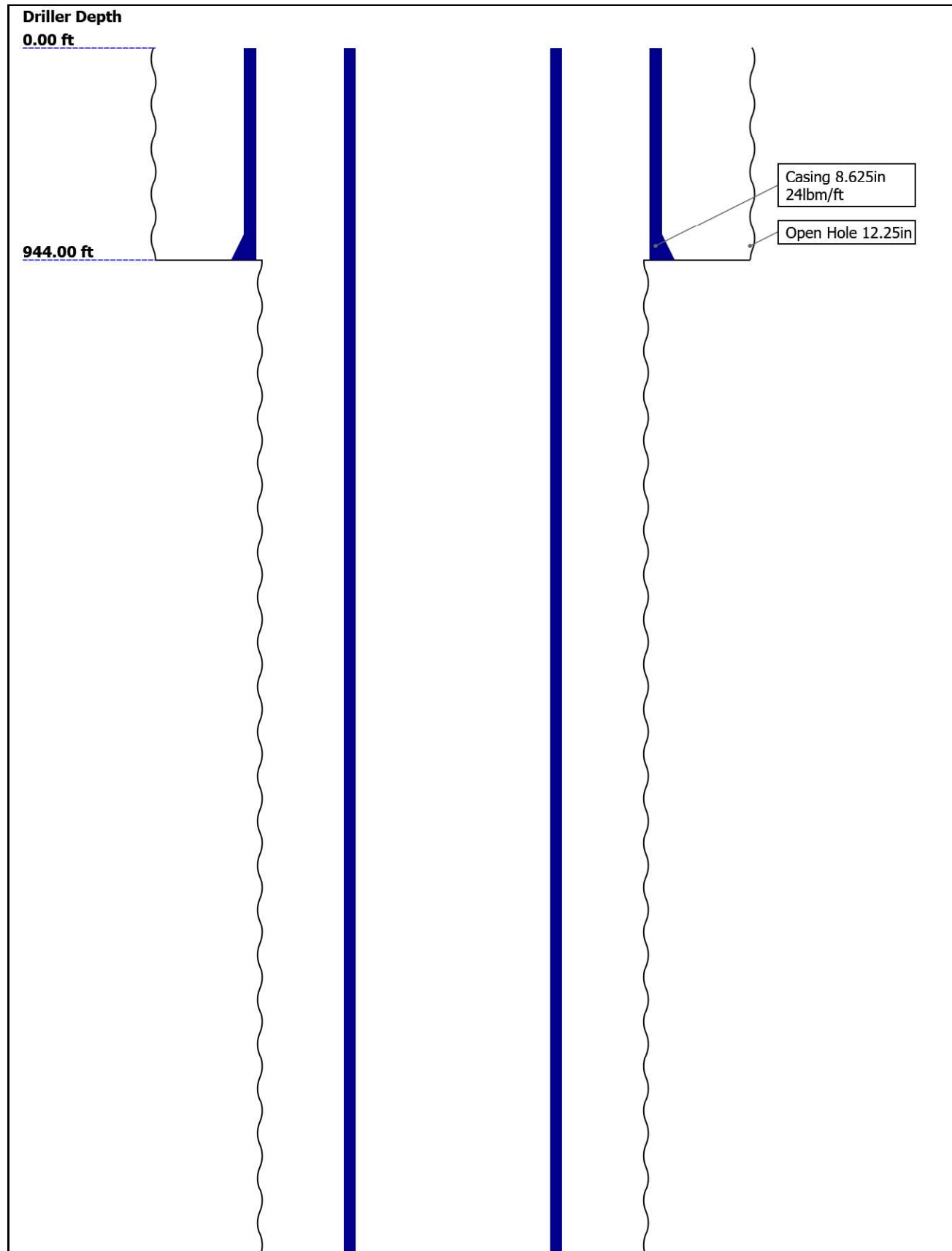
10.2 Composite Summary

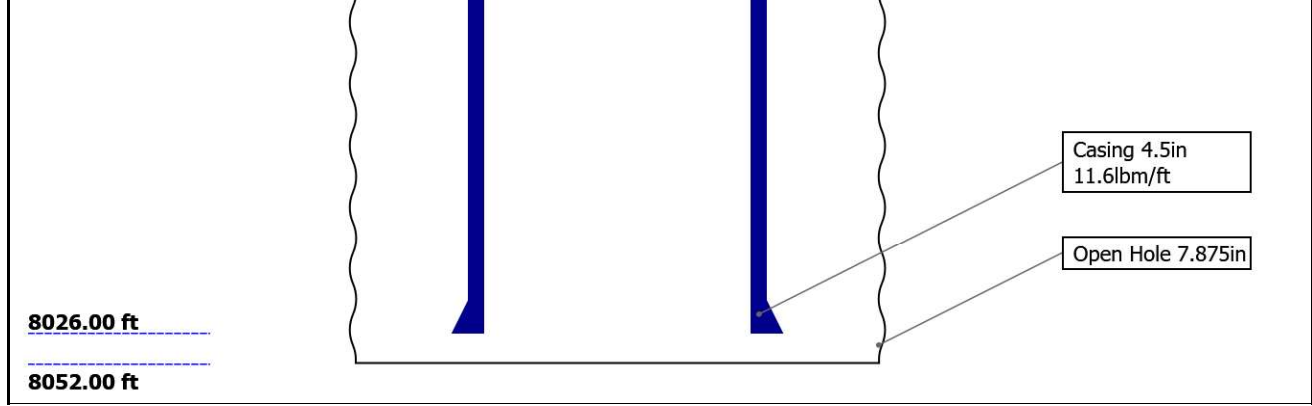
10.3 Log (IBC Goodwin)

11. One IBC SLG

11.1 Integration Summary

Well Sketch





Borehole Size/Casing/Tubing Record

Bit					
Bit Size (in)	12.25	7.875			
Top Driller (ft)	0	944			
Top Logger (ft)	0	944			
Bottom Driller (ft)	944	8052			
Bottom Logger (ft)	944	8052			
Casing					
Size (in)	8.625	4.5			
Weight (lbm/ft)	24	11.6			
Inner Diameter (in)	8.097	4			
Grade	N/A	N80			
Top Driller (ft)	0	0			
Top Logger (ft)	0	0			
Bottom Driller (ft)	944	8026			
Bottom Logger (ft)	944	8026			

Remarks and Equipment Summary

One: Toolstring

One: Remarks

Equip name length
LEH-QT 49.07
LEH-QT

MP name Offset



EDTC-B: 45.58
8412
EDTH-B
EDTG-A
EDTC-B:
8412

CTEM 42.08
ACCZ 0.00
HV 0.00
Gamma Ray 40.21
TelStar 39.08
tus

ASLT-B: 39.08
8073
ASLT-BB
:8073

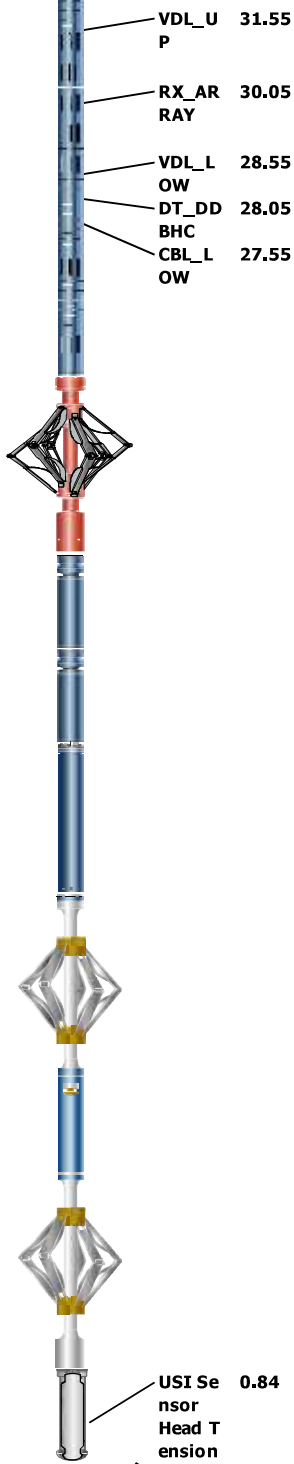
CBL_U 32.55
P

Log recorded in 10 Deg, 6 in Resolution; ASLT ran in attenuation mode

Log recorded without surface induced pressure from TD to 500ft, 500 psi from 500ft

Tool was run as per tool sketch

All logging intervals as per client request



CME-AF 24.43

AH-184 [2] 20.64

AH-184 [1] 18.64

USIT-E:9 00 16.64

ECH-MFA
:1969
USAC-A:
900
USIS-A:1
832
USSC-B
IBCS-A:8
15
FAR-SEN
SOR:4775
IBC-TX
NEAR-SE
NSOR:48
25
IBC-TX
USI-SEN
SOR:4495
IBC-TX
EMITTER
-SENSOR
:4776
IBC-TX

USI Se 0.84
nsor
Head T
ension
TOOL_ZERO

Lengths are in ft
Maximum Outer Diameter = 3.800 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

One

Depth Measuring Device

Type	IDW-JA
Serial Number	6611
Calibration Date	07-Jun-2021
Calibrator Serial Number	57
Calibration Cable Type	7-39PIXXS
Wheel Correction 1	-8
Wheel Correction 2	-8

Tension Device

Type	CMTD-B/A		
Serial Number			
Calibration Date	07-Feb-2022		
Calibrator Serial Number			
Number of Calibration Points	0		

Logging Cable			
Type	7-39PI-XXS		
Serial Number	1234		
Length	28000.00 ft		
Conveyance Type	Wireline		
Rig Type			

One:Depth Control Parameters		Depth Control Remarks	
Log Sequence	First Log In the Well	Schlumberger depth control procedures followed	
Rig Up Length At Surface		IDW used as primary depth control system	
Rig Up Length At Bottom		Z-Chart used as secondary depth control system	
Rig Up Length Correction			
Stretch Correction			
Tool Zero Check At Surface			

Main Pass

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.216515

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	217.58 ft	7009.18 ft	25-Feb-2022 11:52:44 AM	25-Feb-2022 1:59:09 PM	ON	6.34 ft	Yes
One	Log[10]:Up	Up	54.88 ft	907.28 ft	25-Feb-2022 3:10:33 PM	25-Feb-2022 3:27:16 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log Company: Occidental Petroleum Inc Well: Warner 11-18
Main Pass: S010

Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Feb-2022 17:53:59

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)

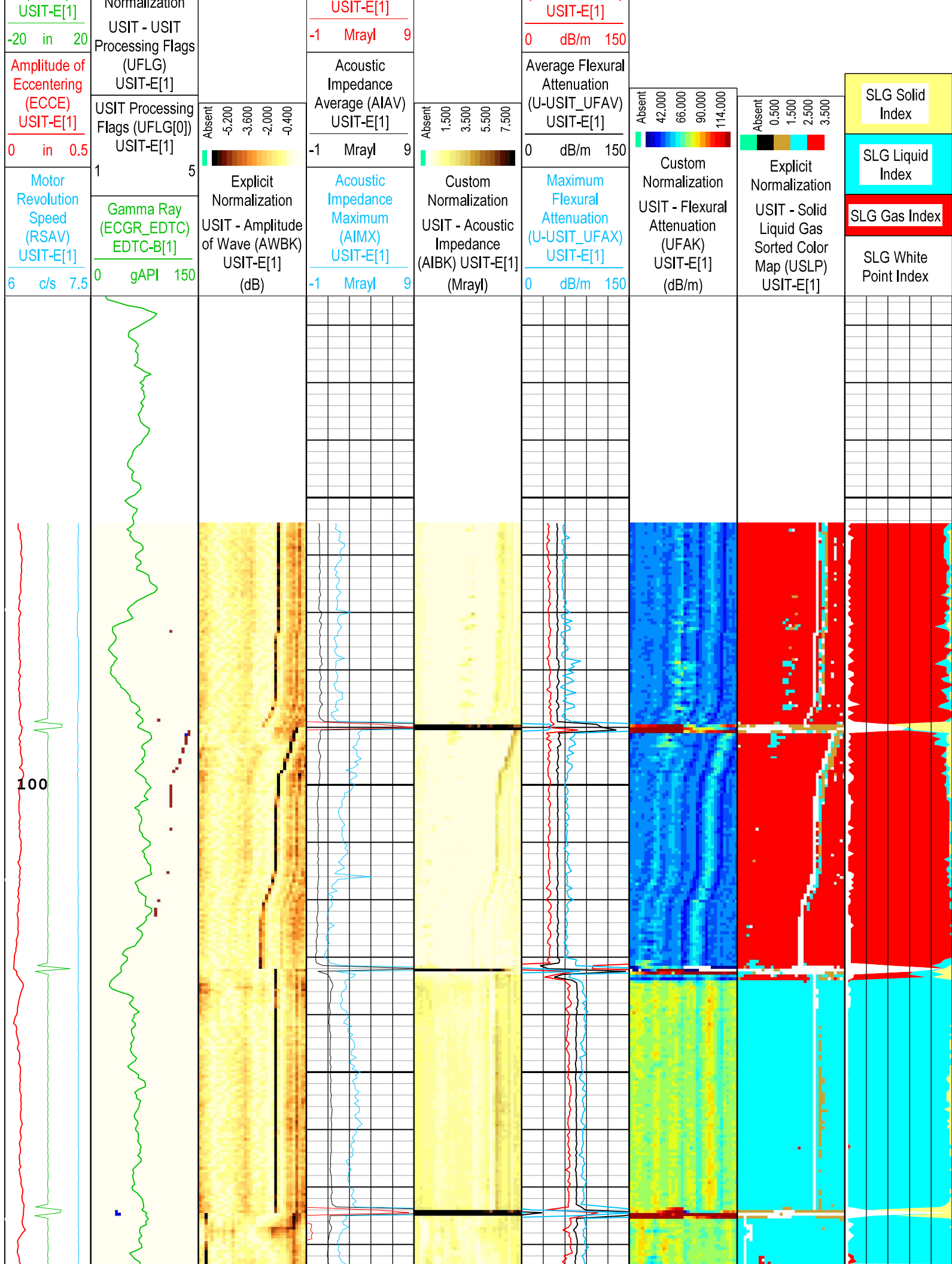
Casing Collar Locator Ultrasonic (CCLU)

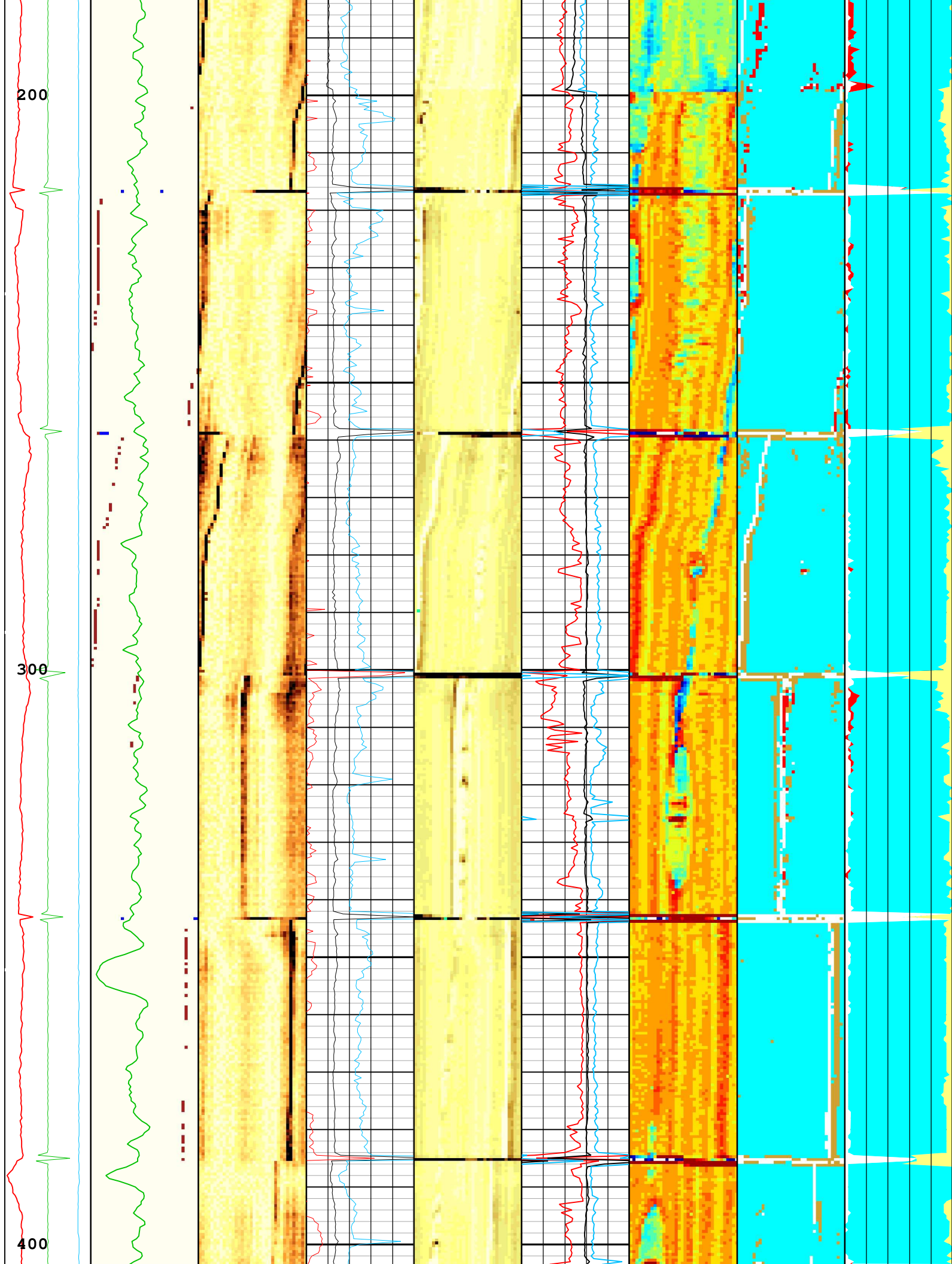
Absent 1.500 3.500

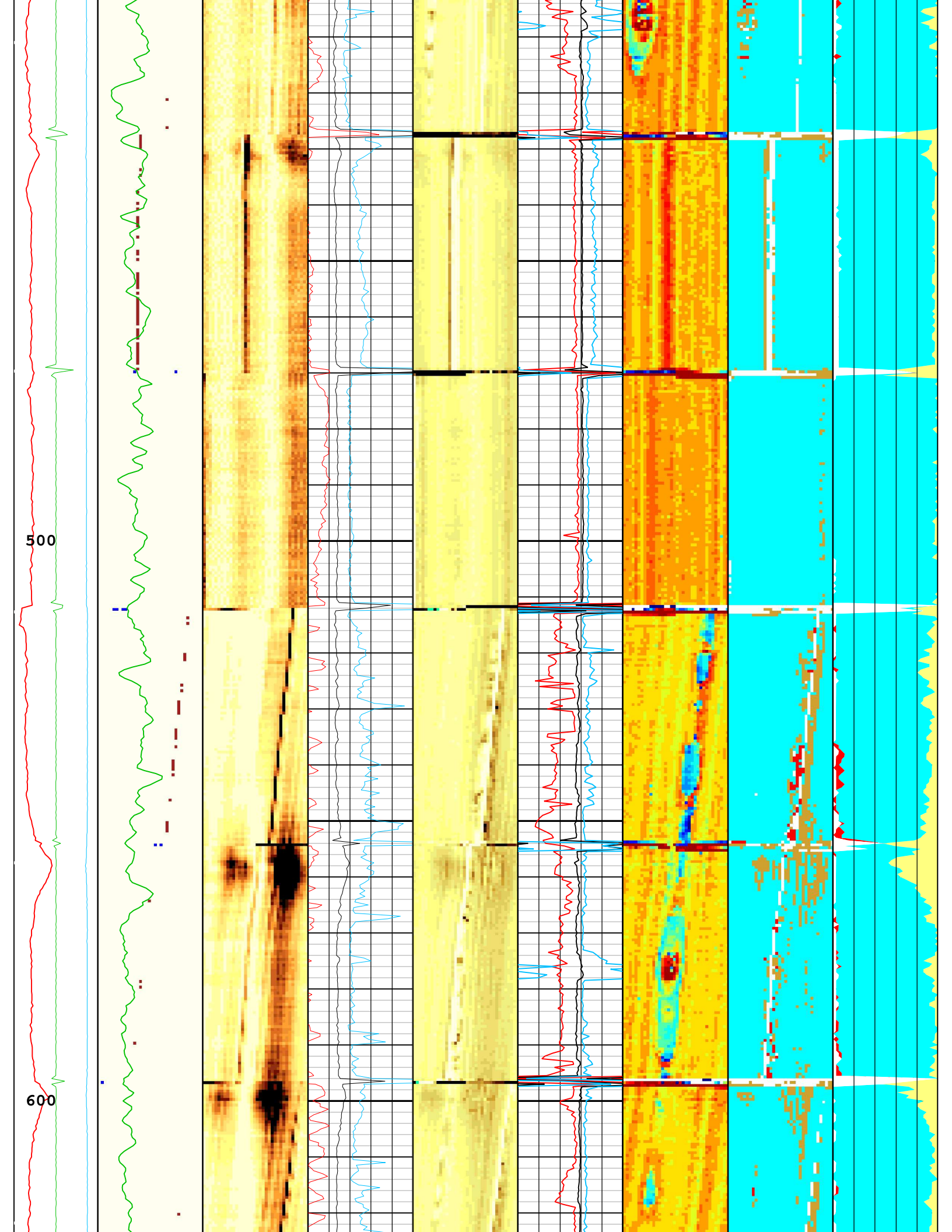
Explicit Normalization

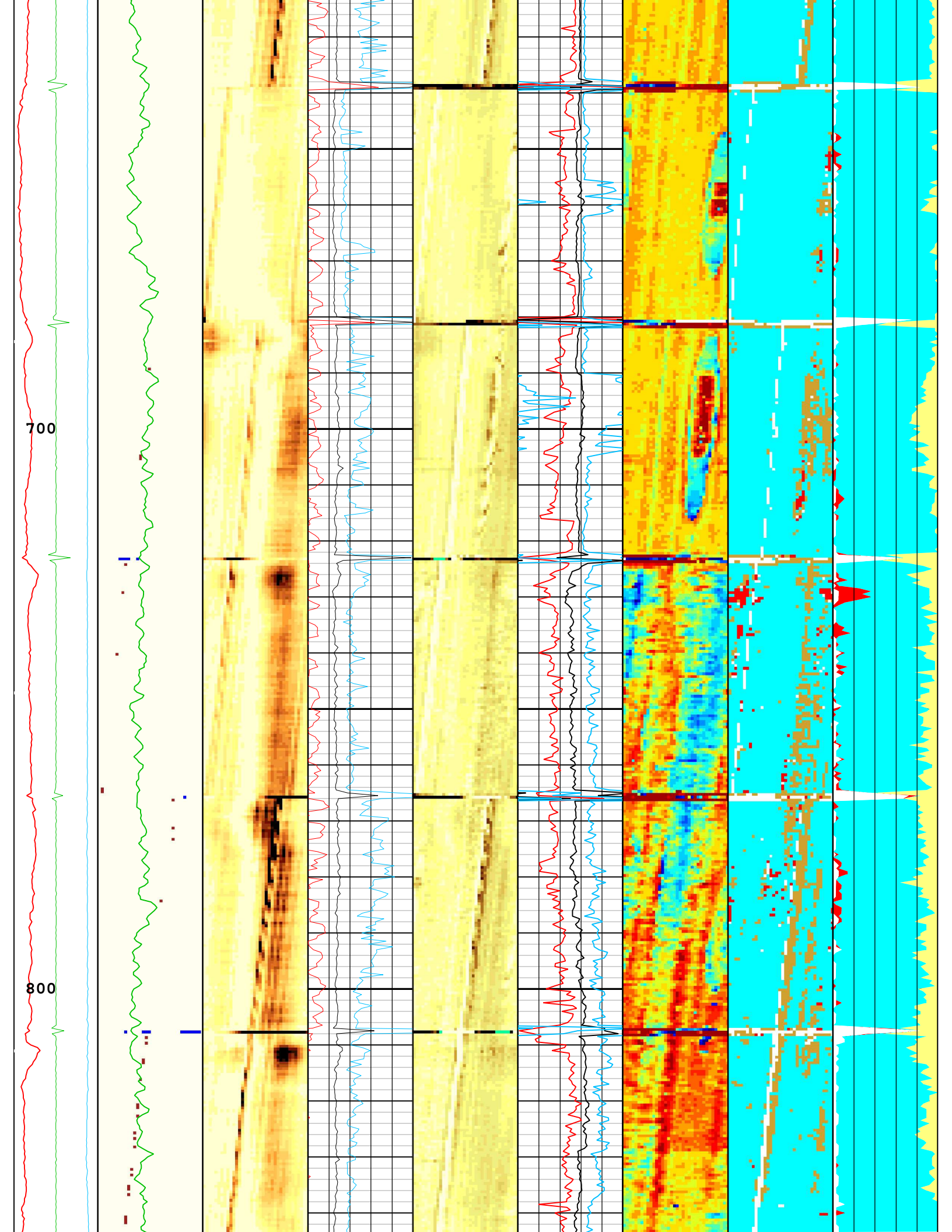
Acoustic Impedance Minimum (AIMN)

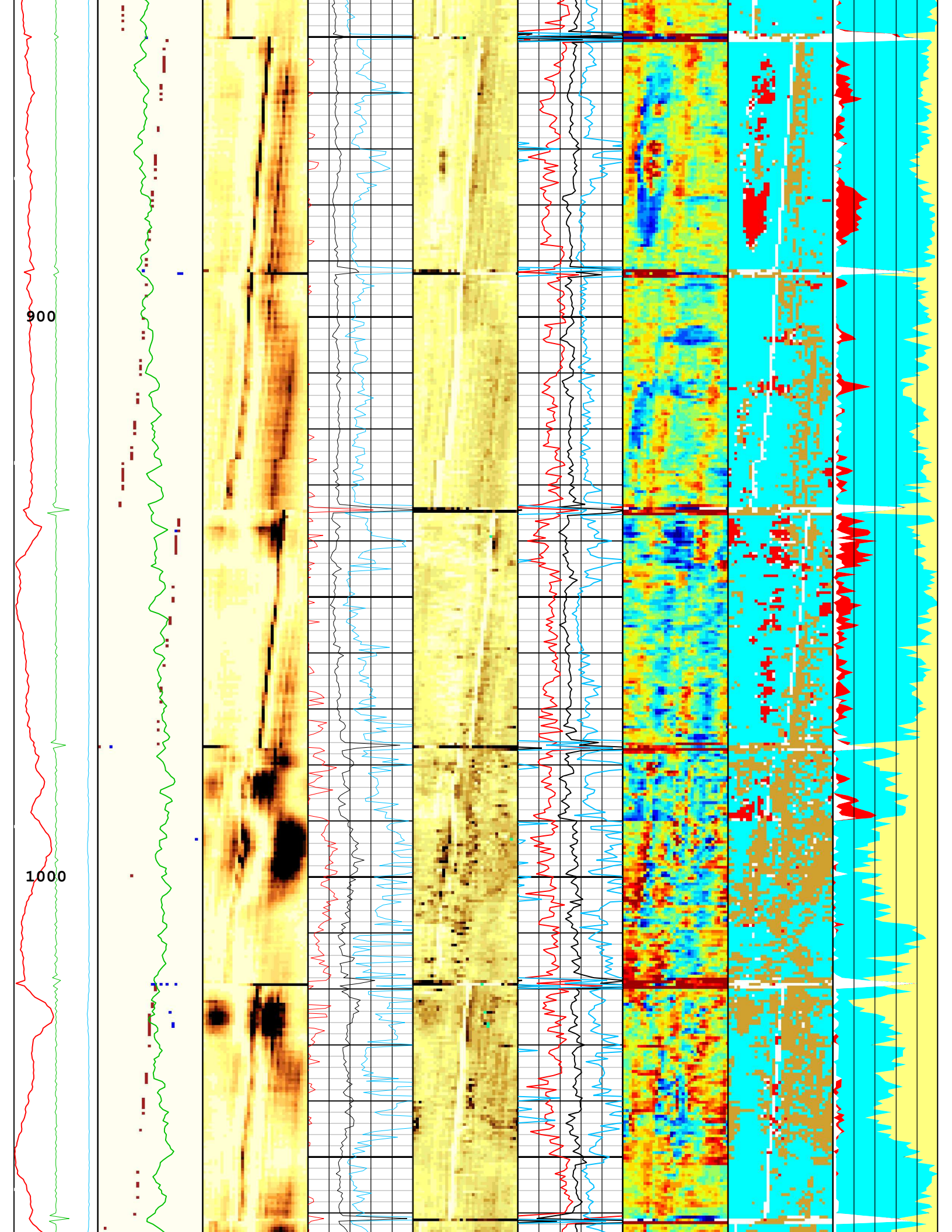
Minimum Flexural Attenuation (U-USIT_UFAN)

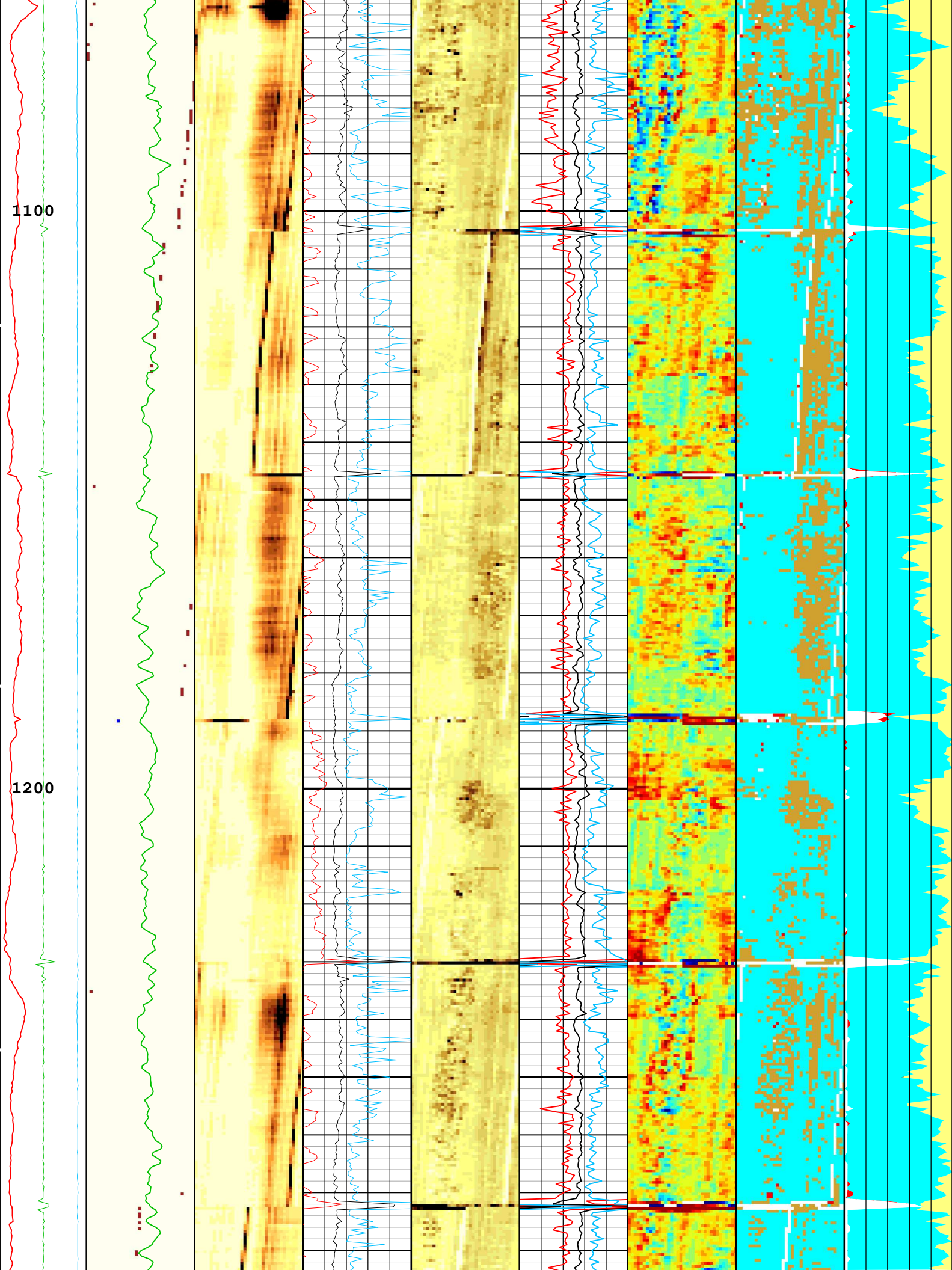


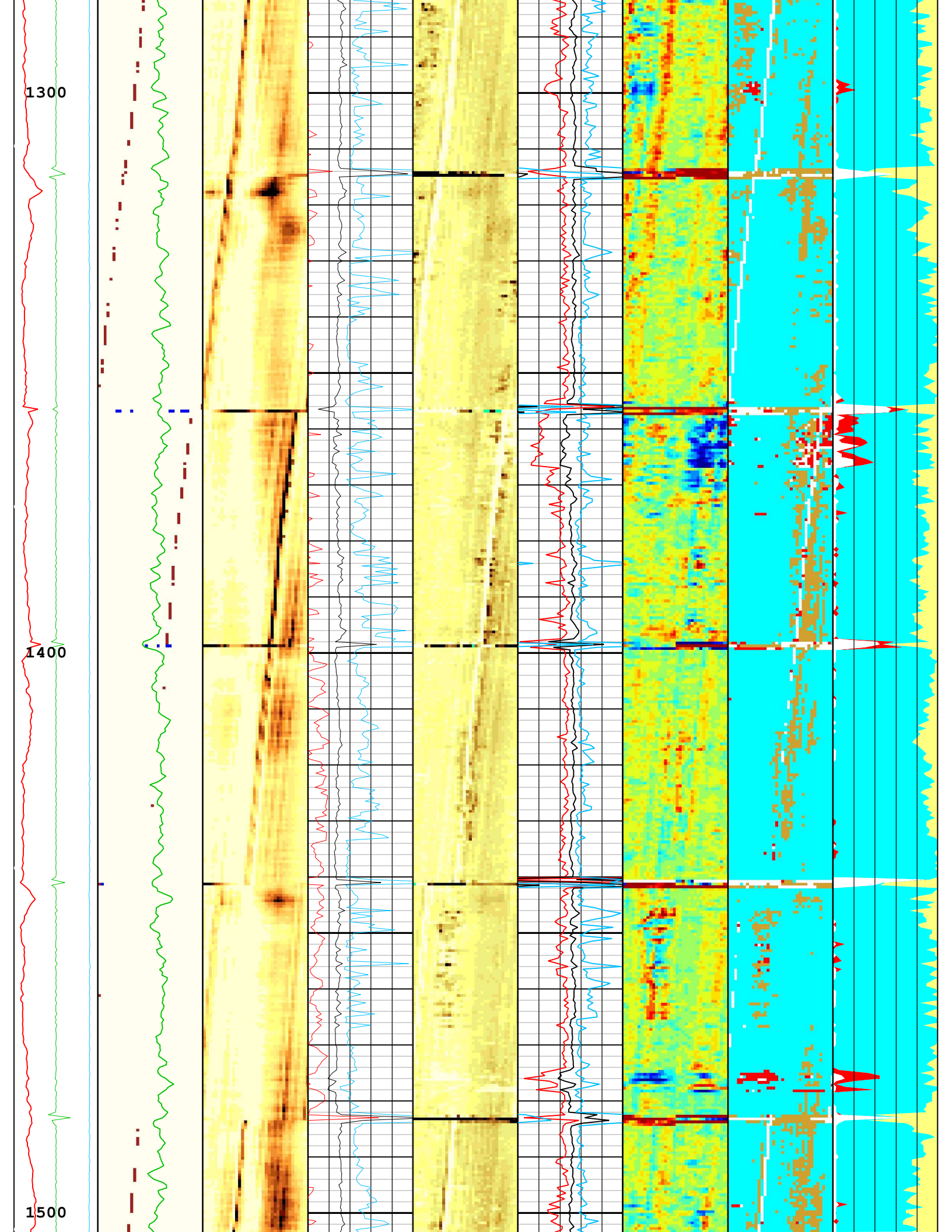


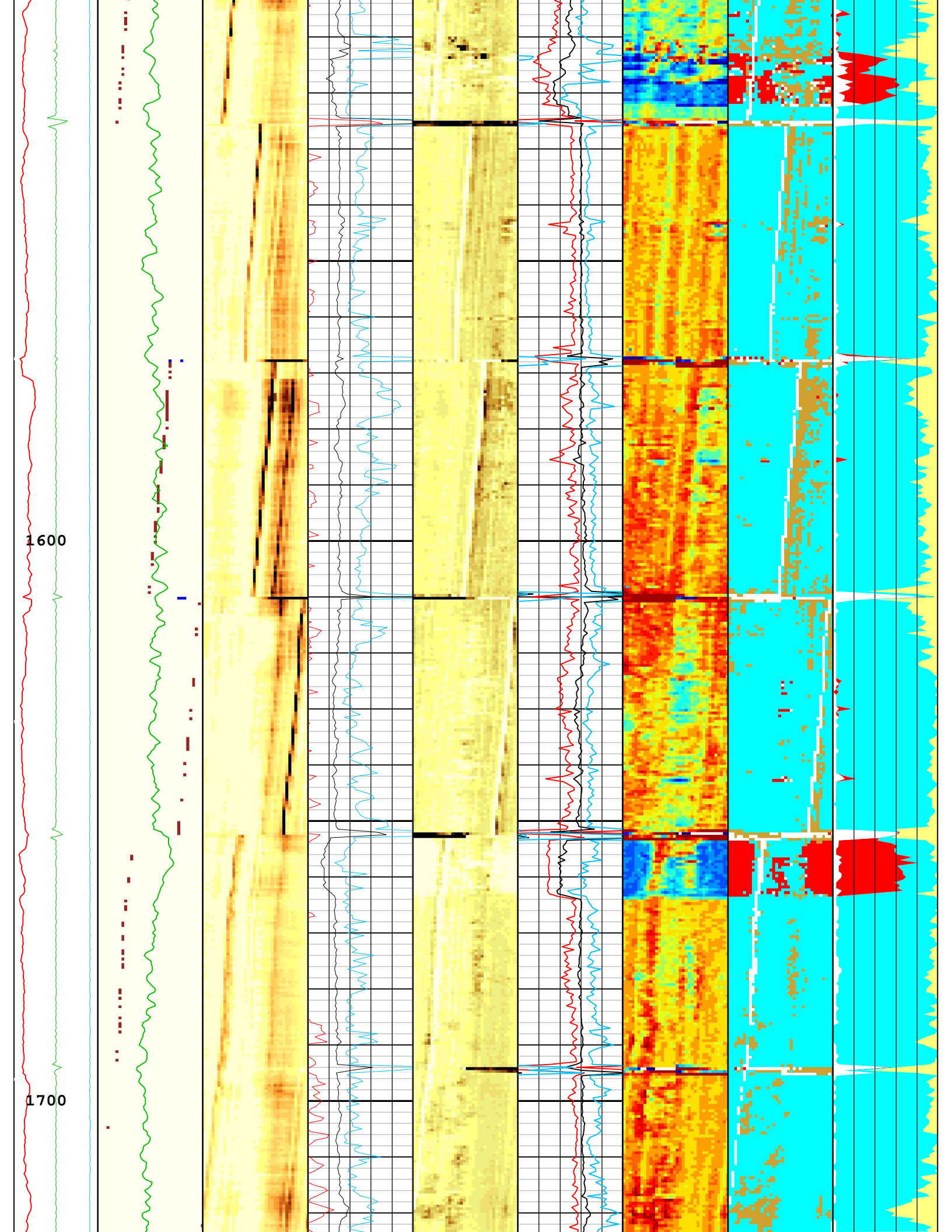


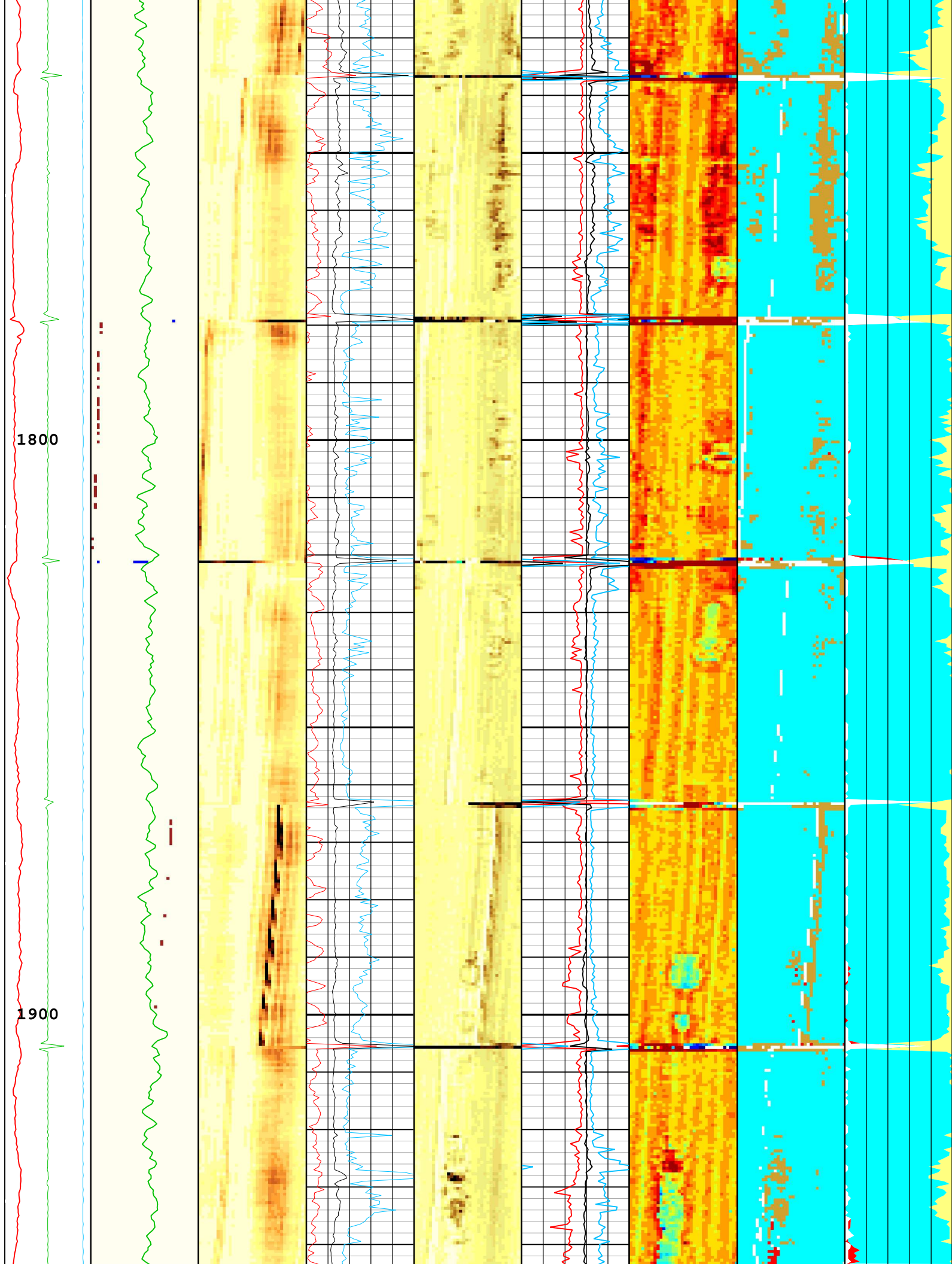


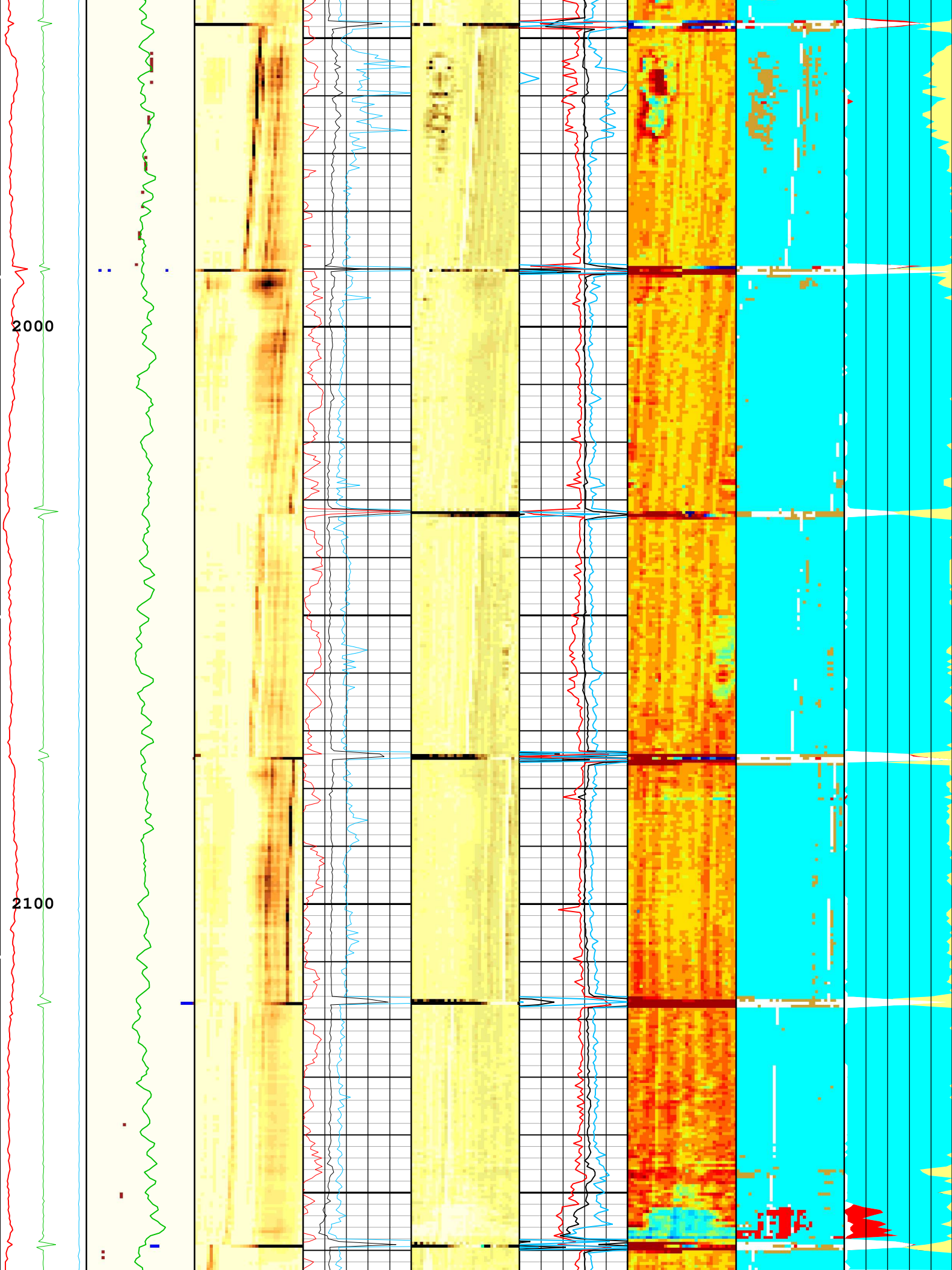


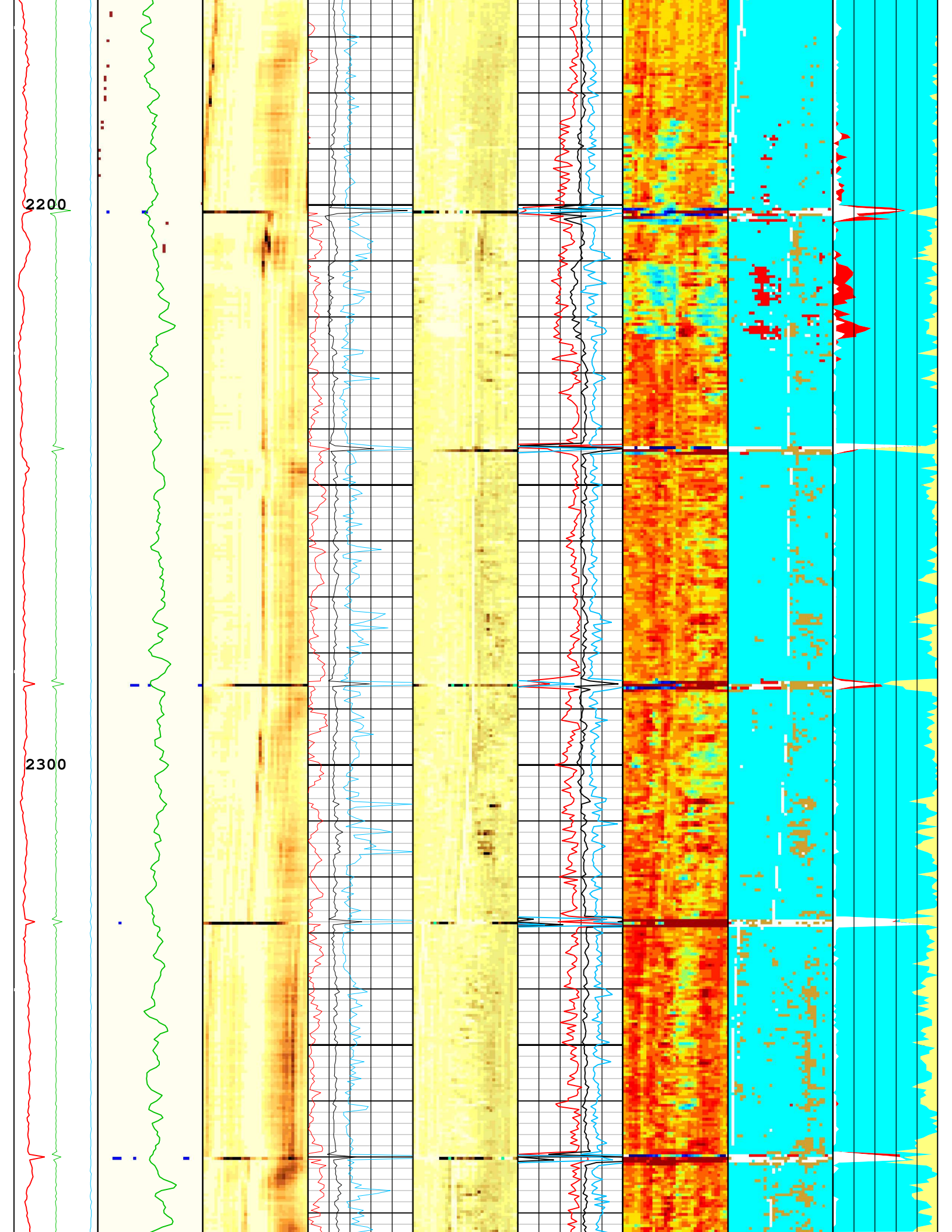


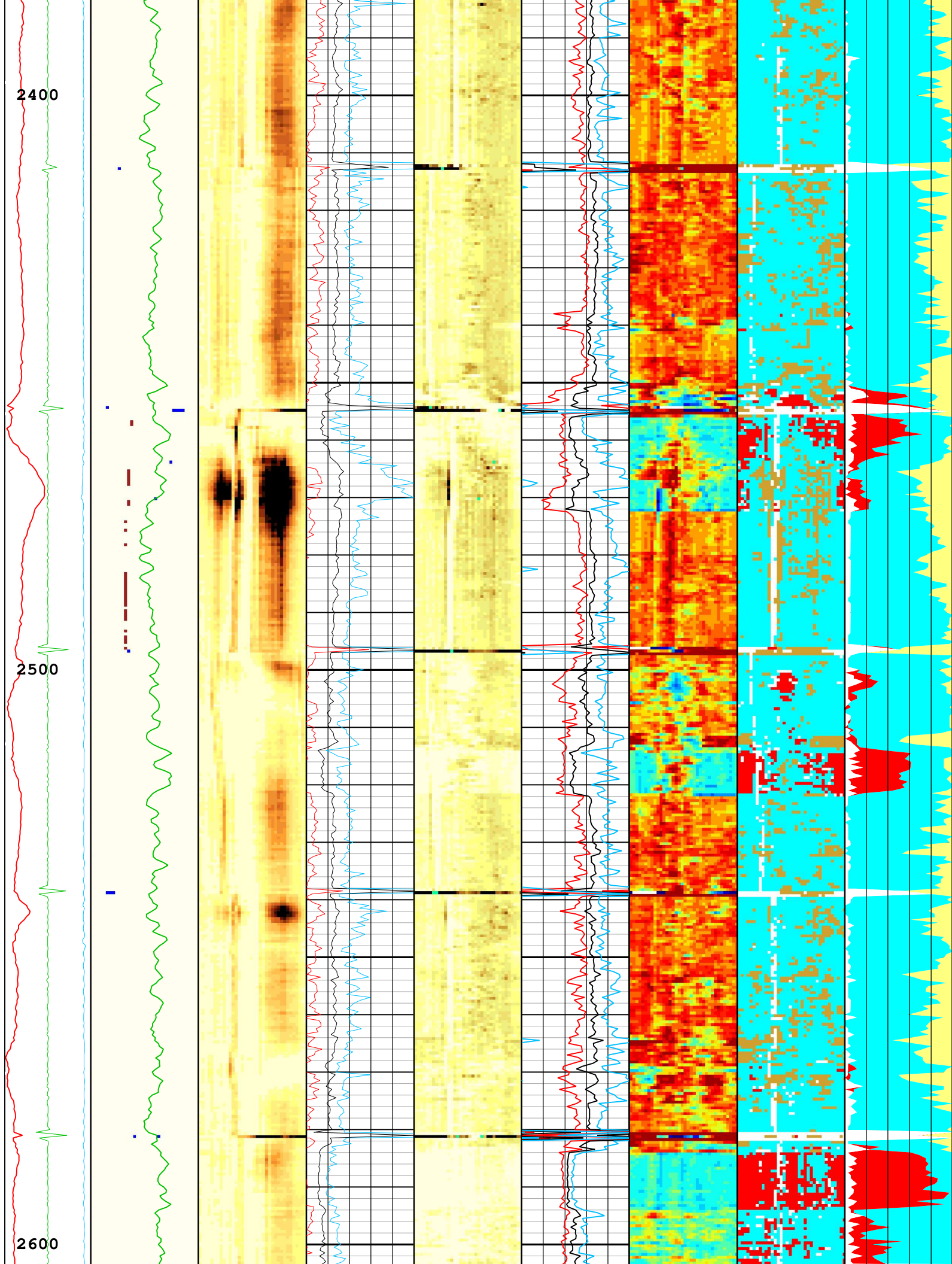


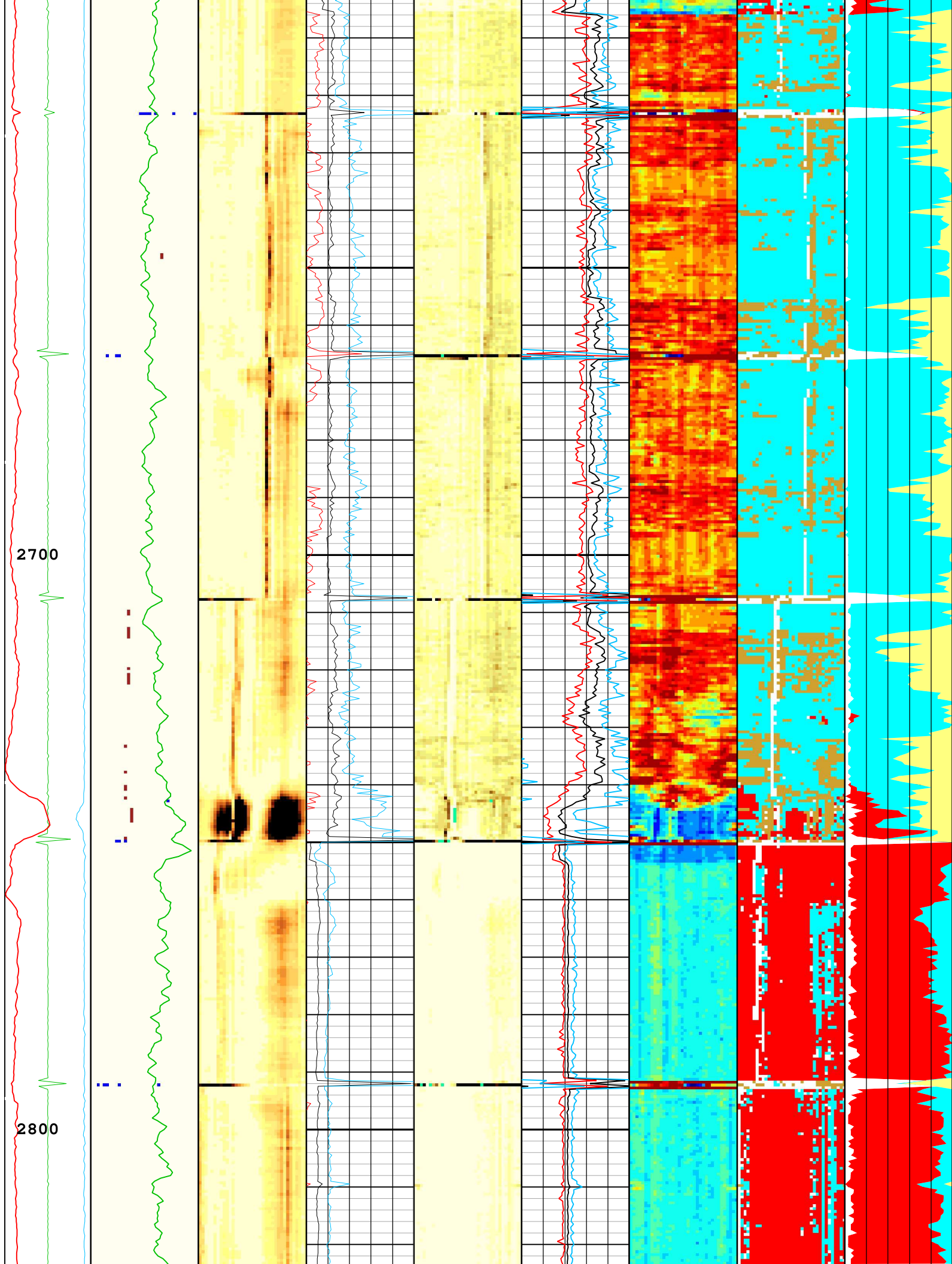


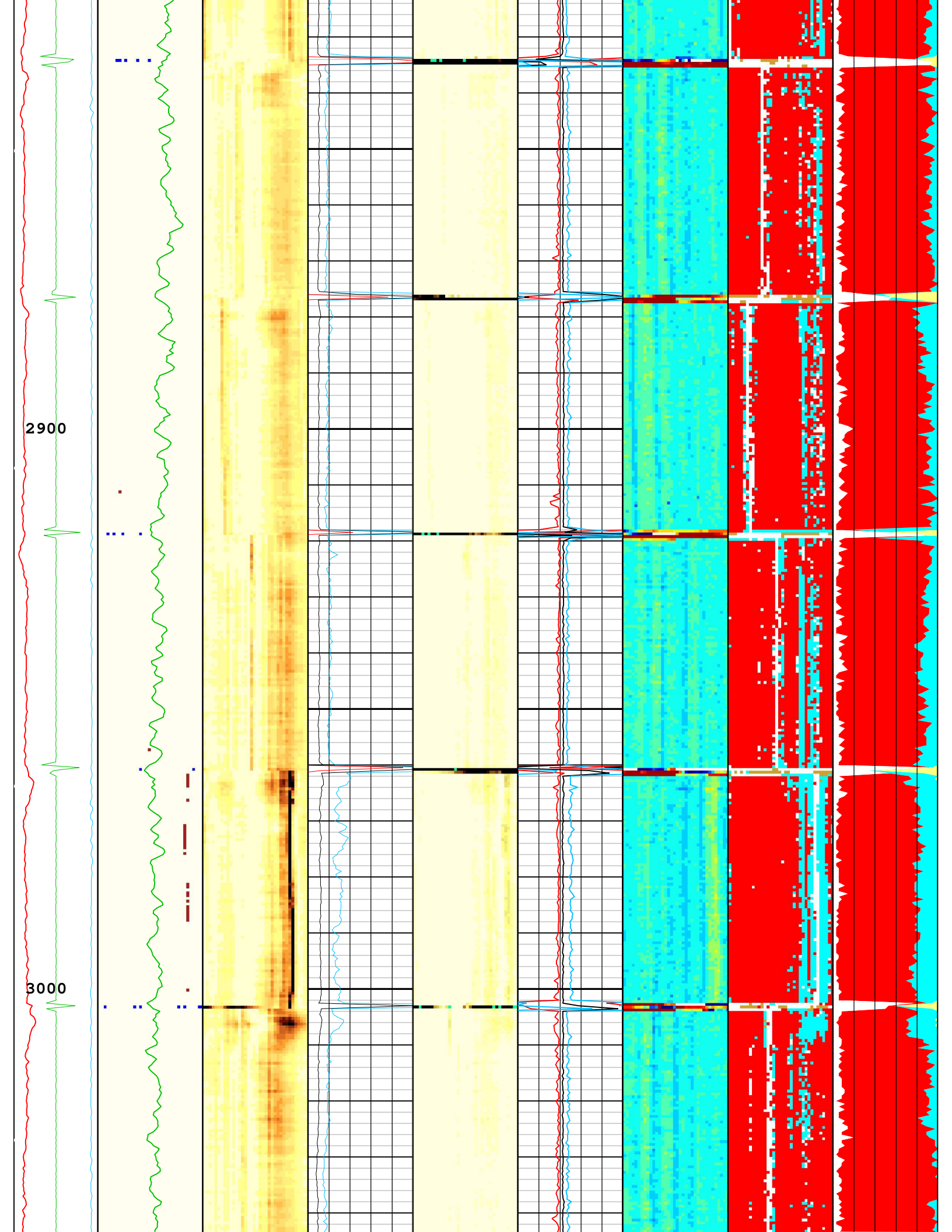


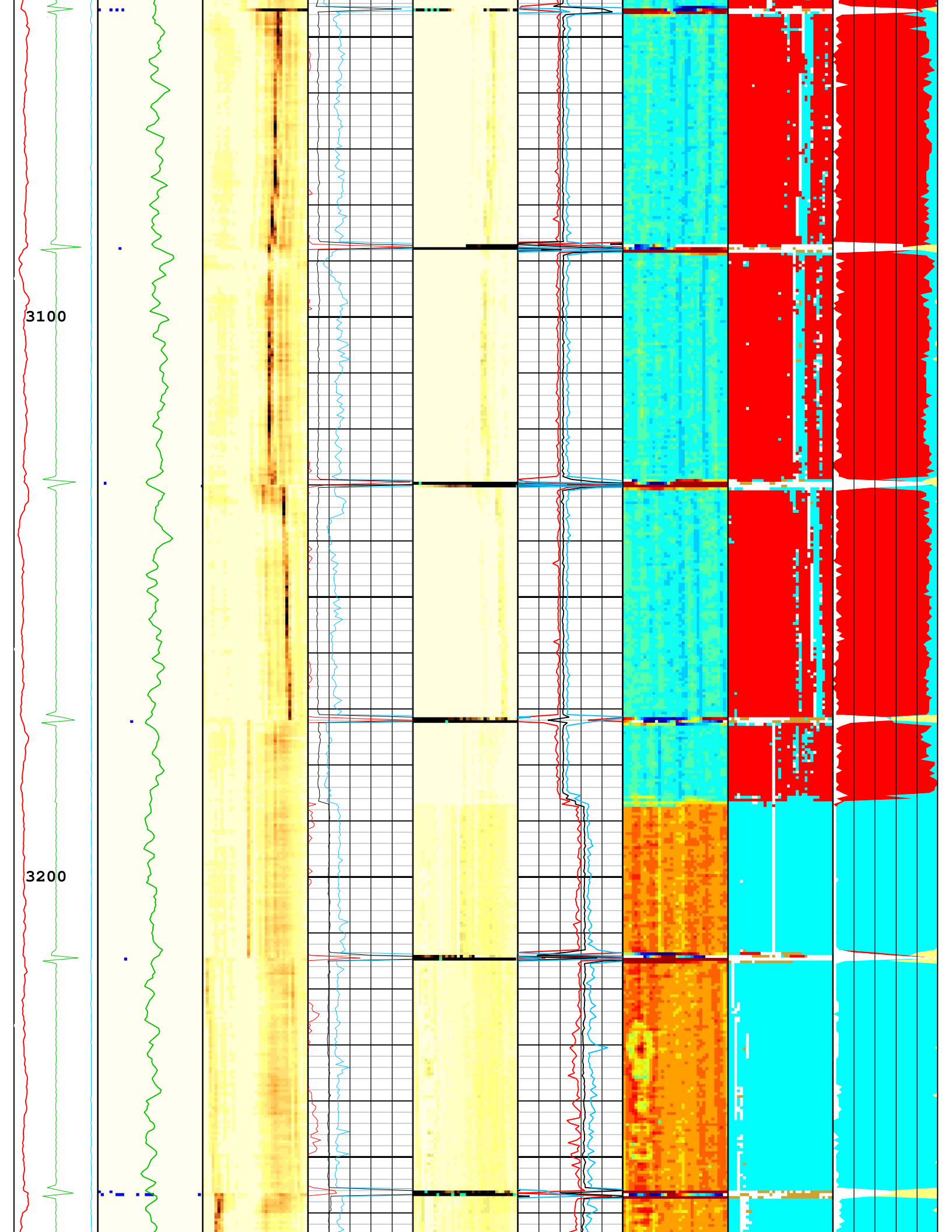


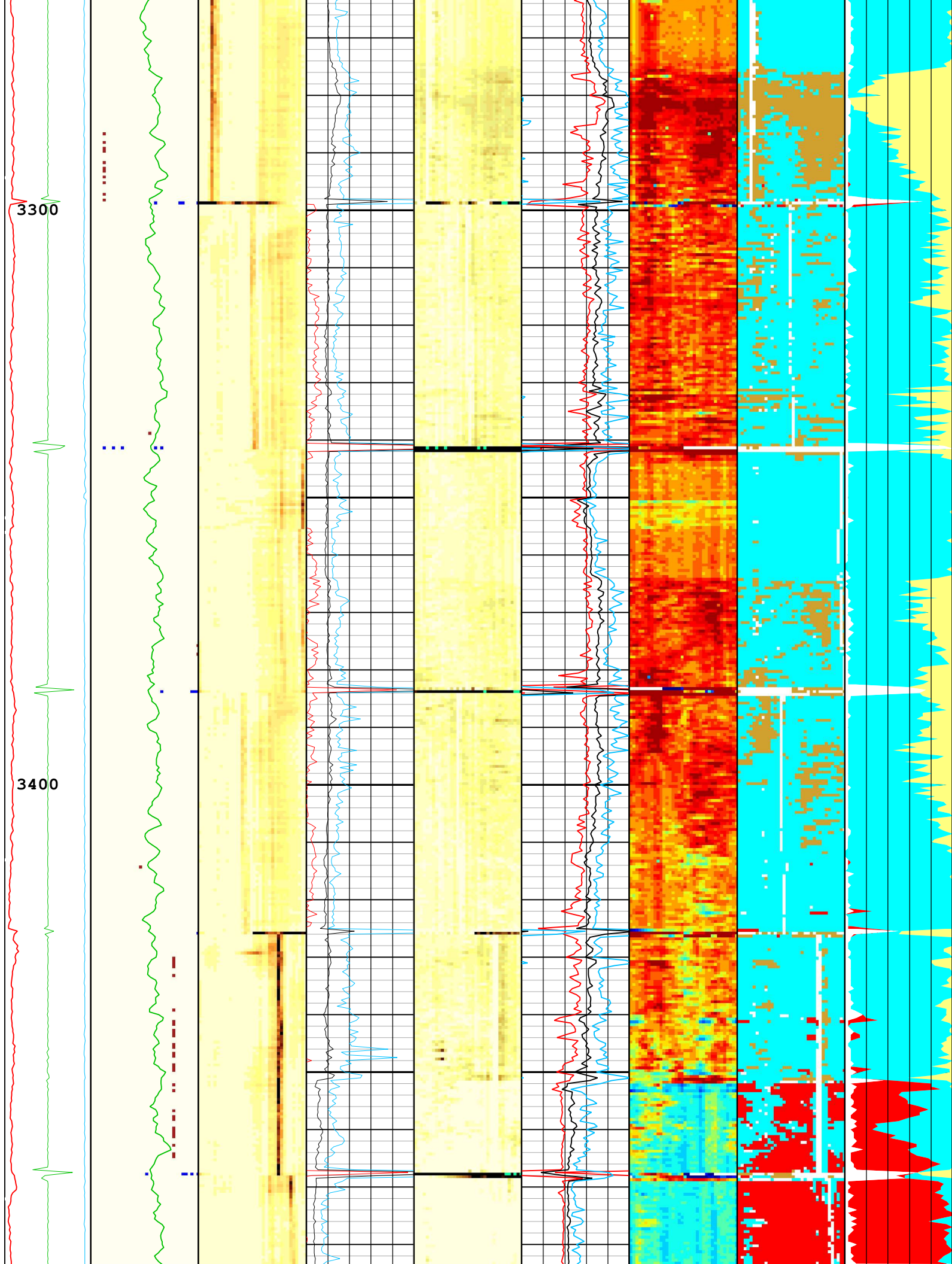


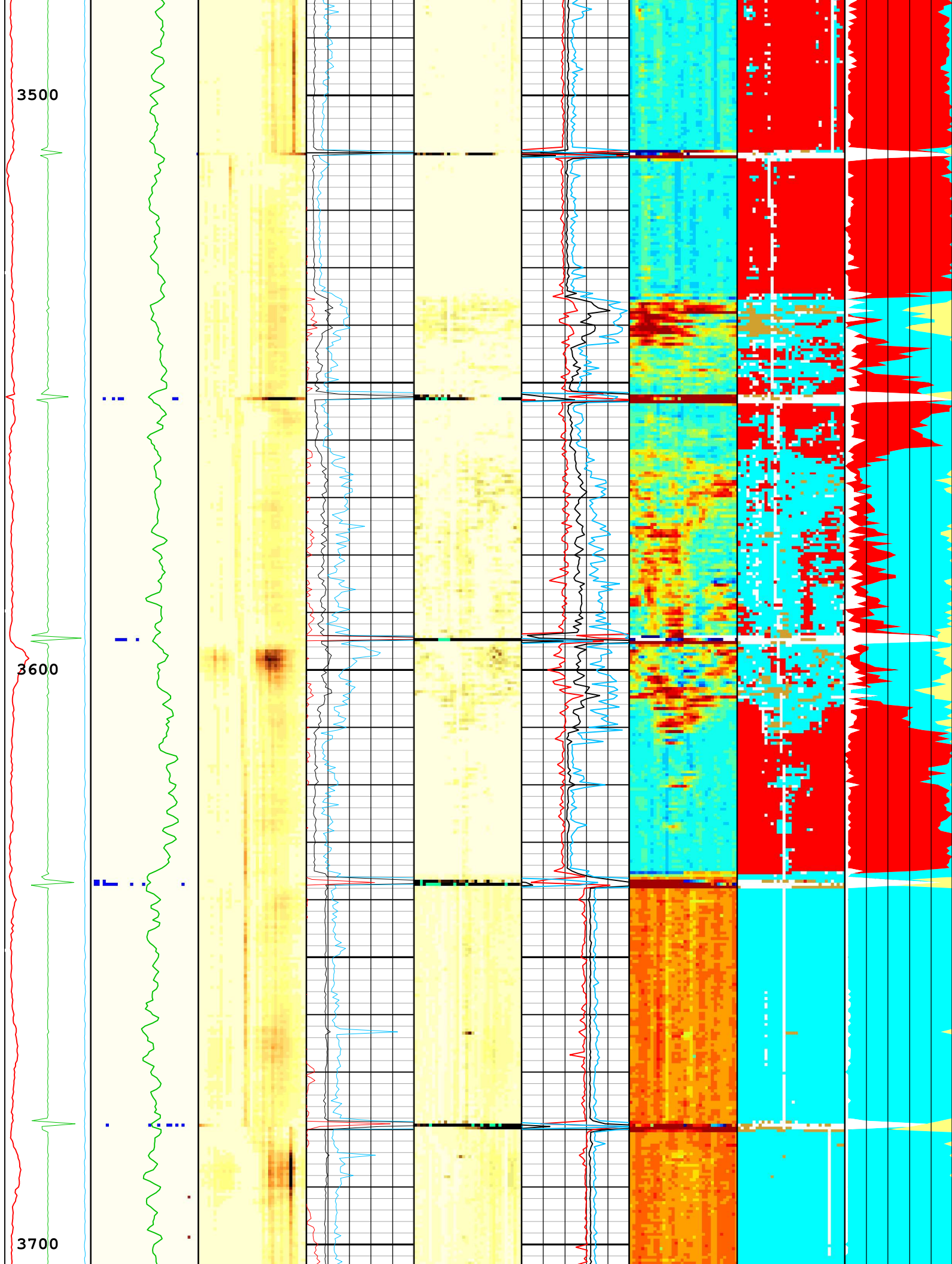


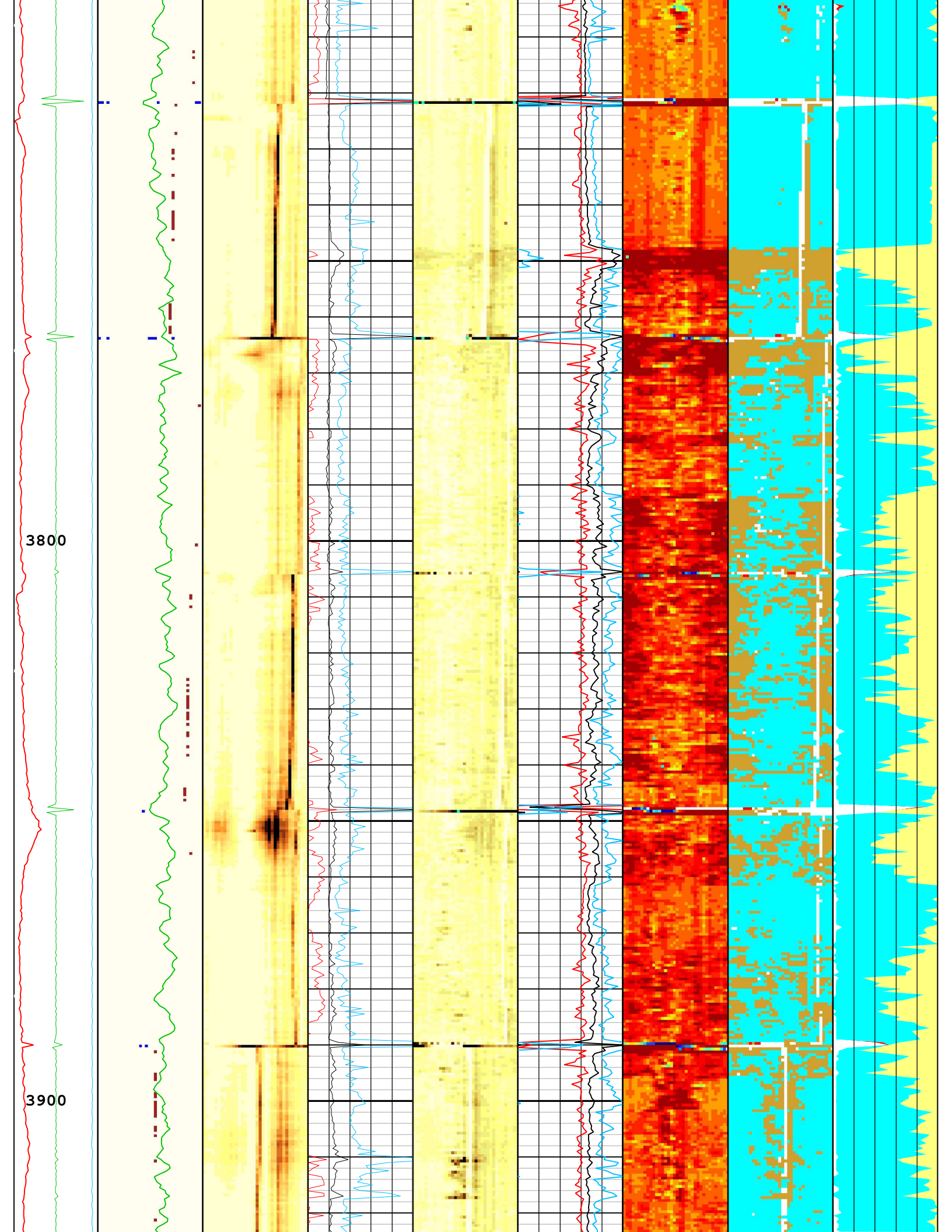


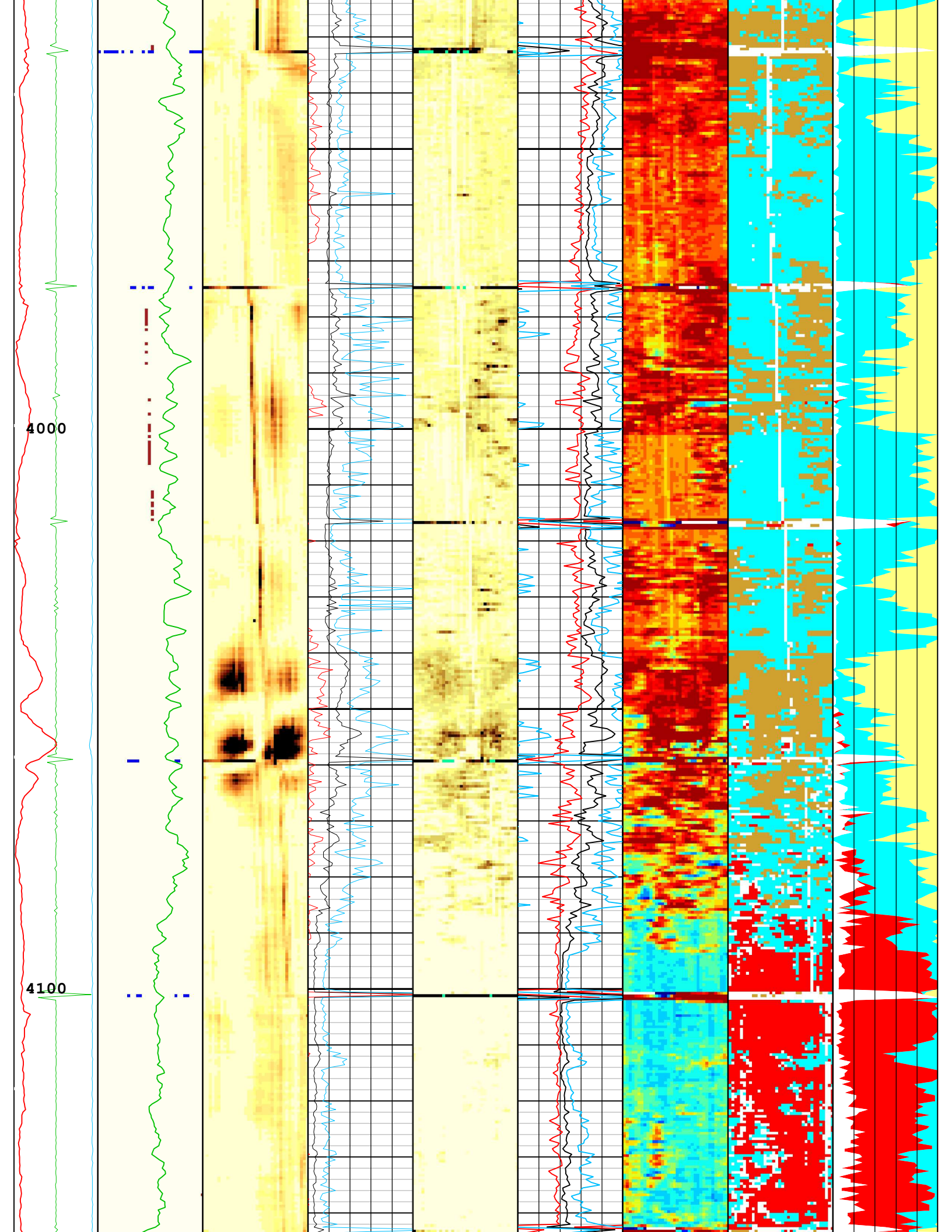


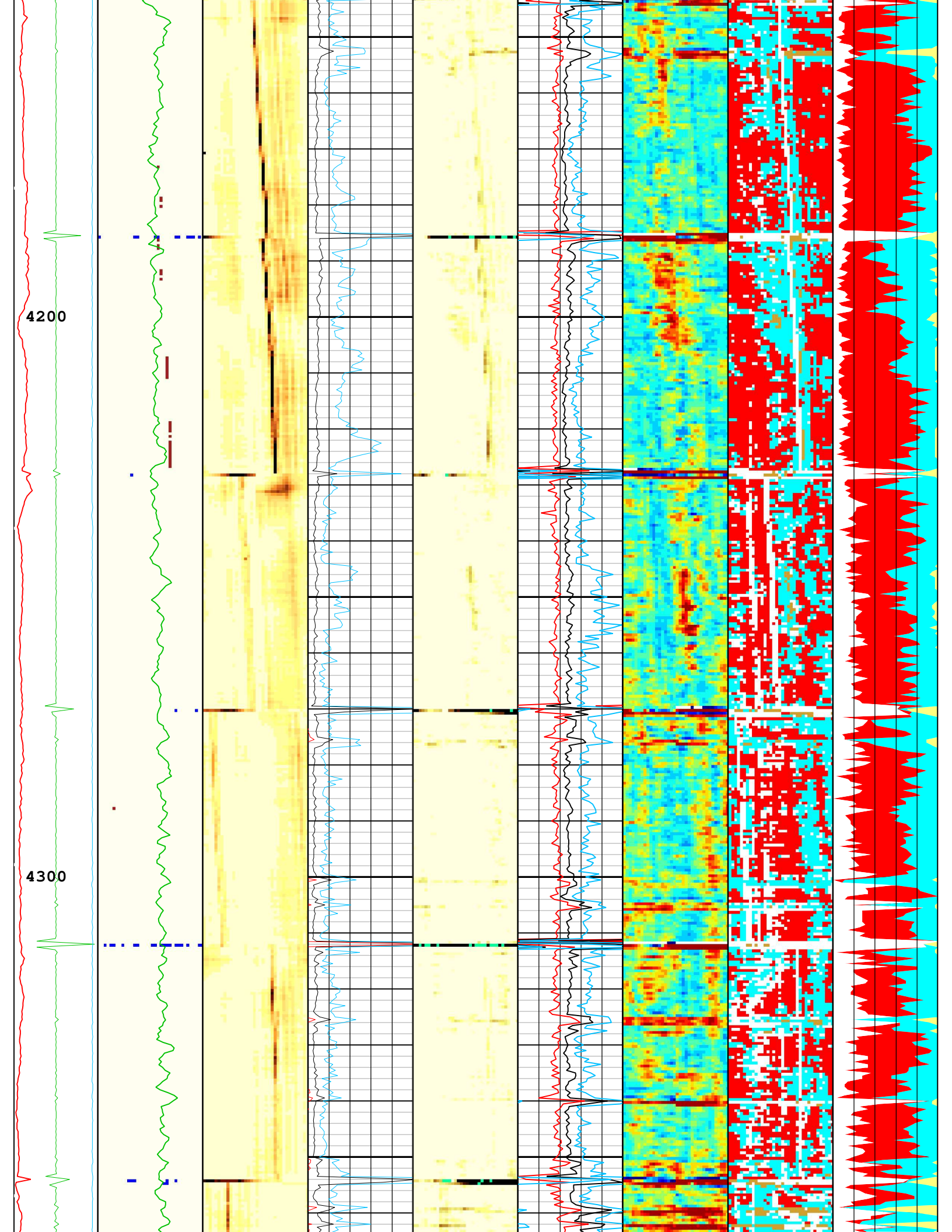


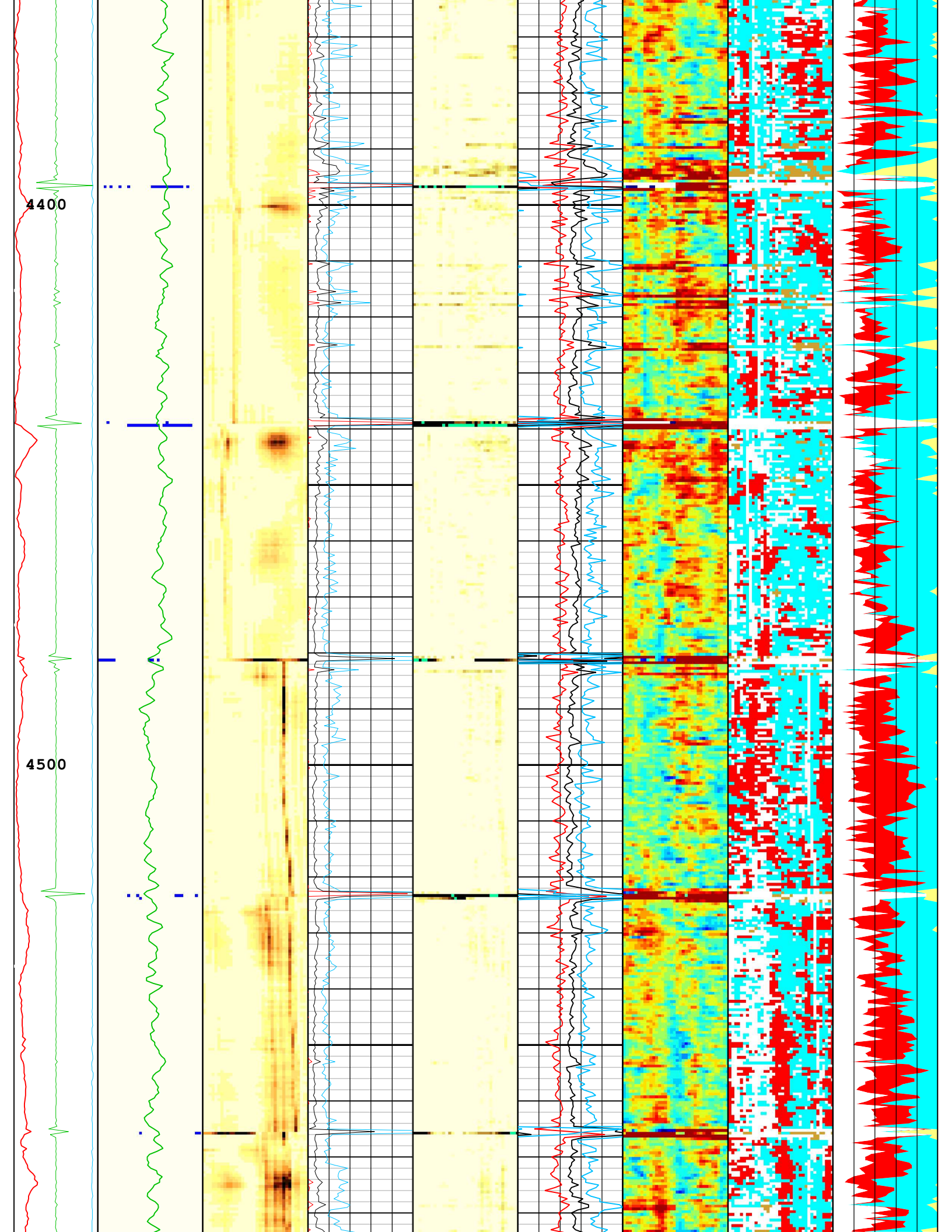


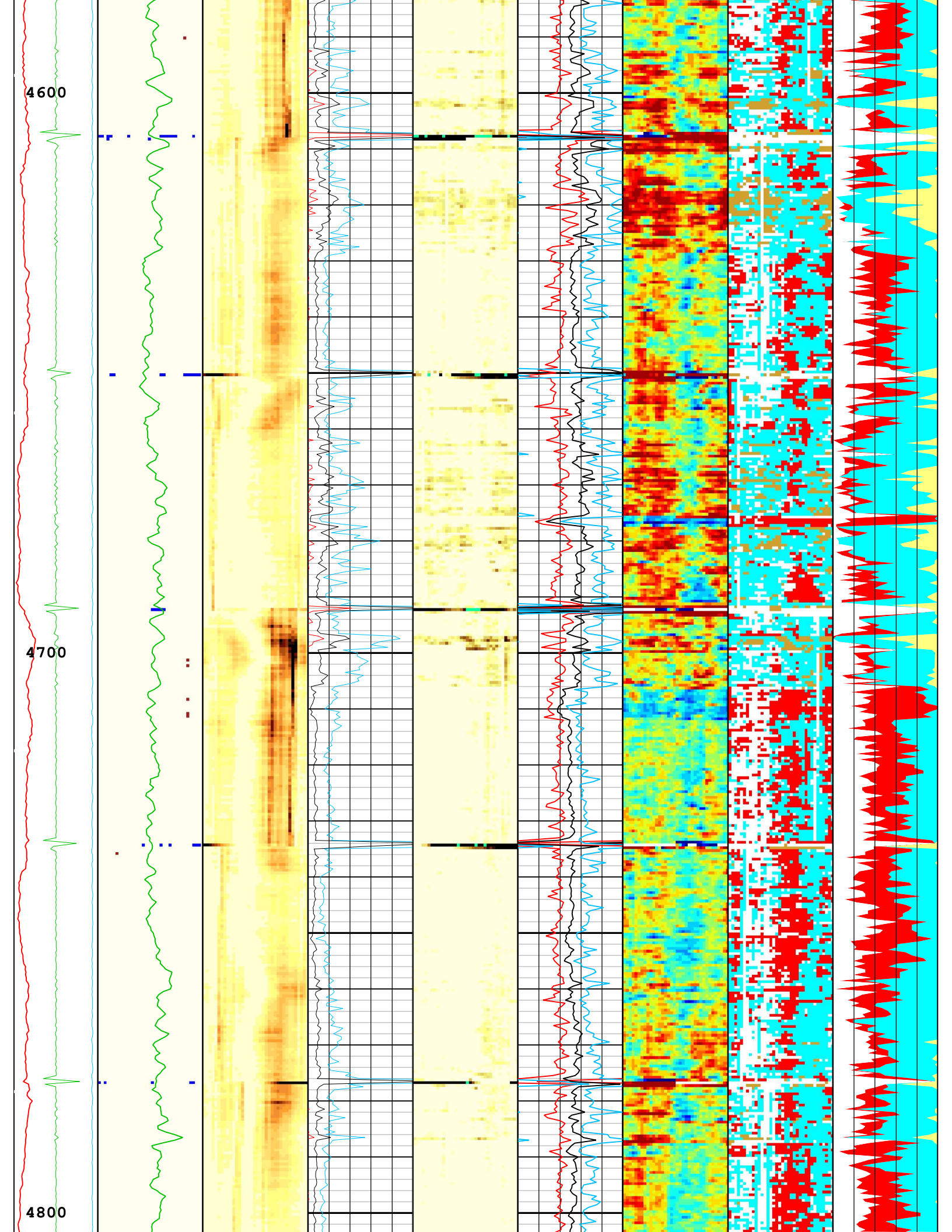


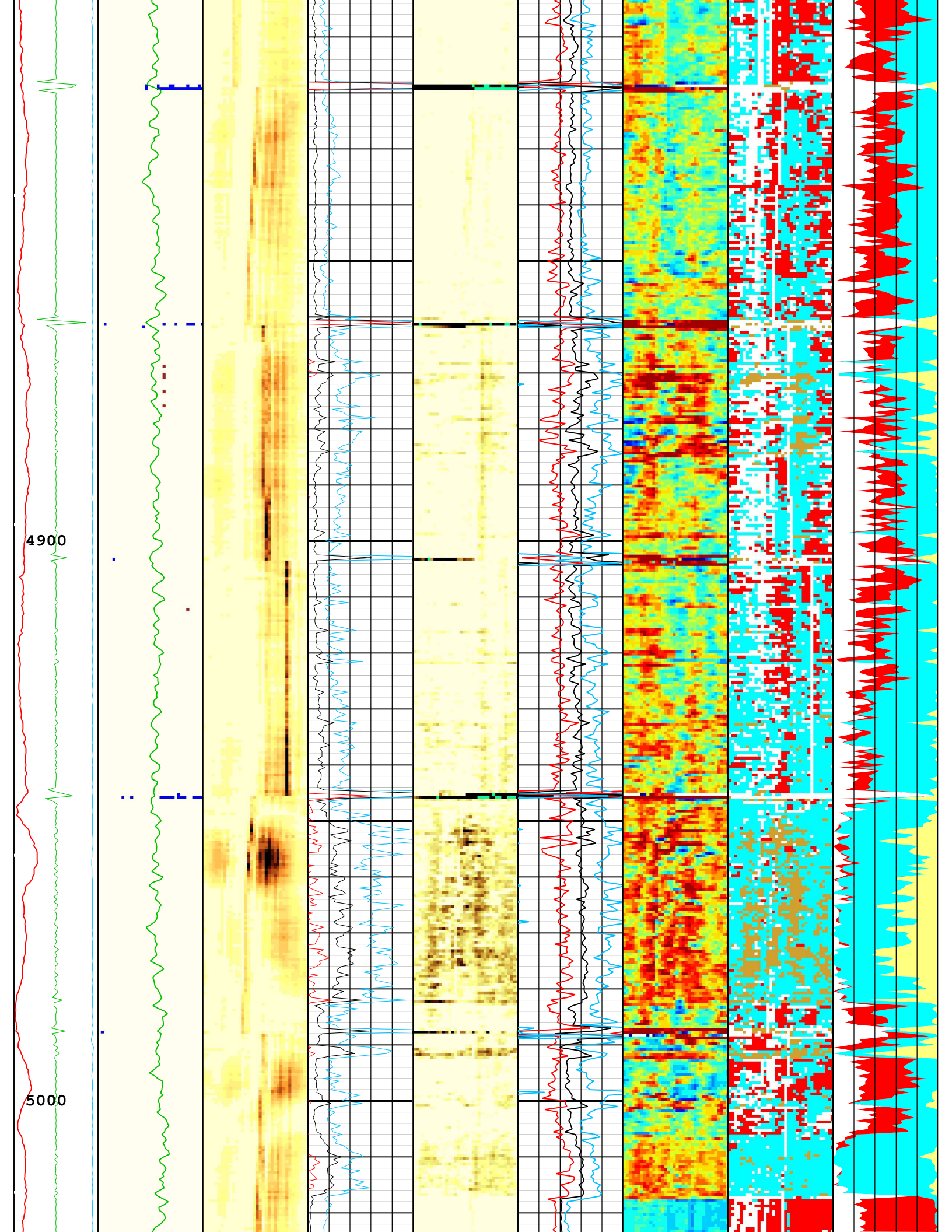


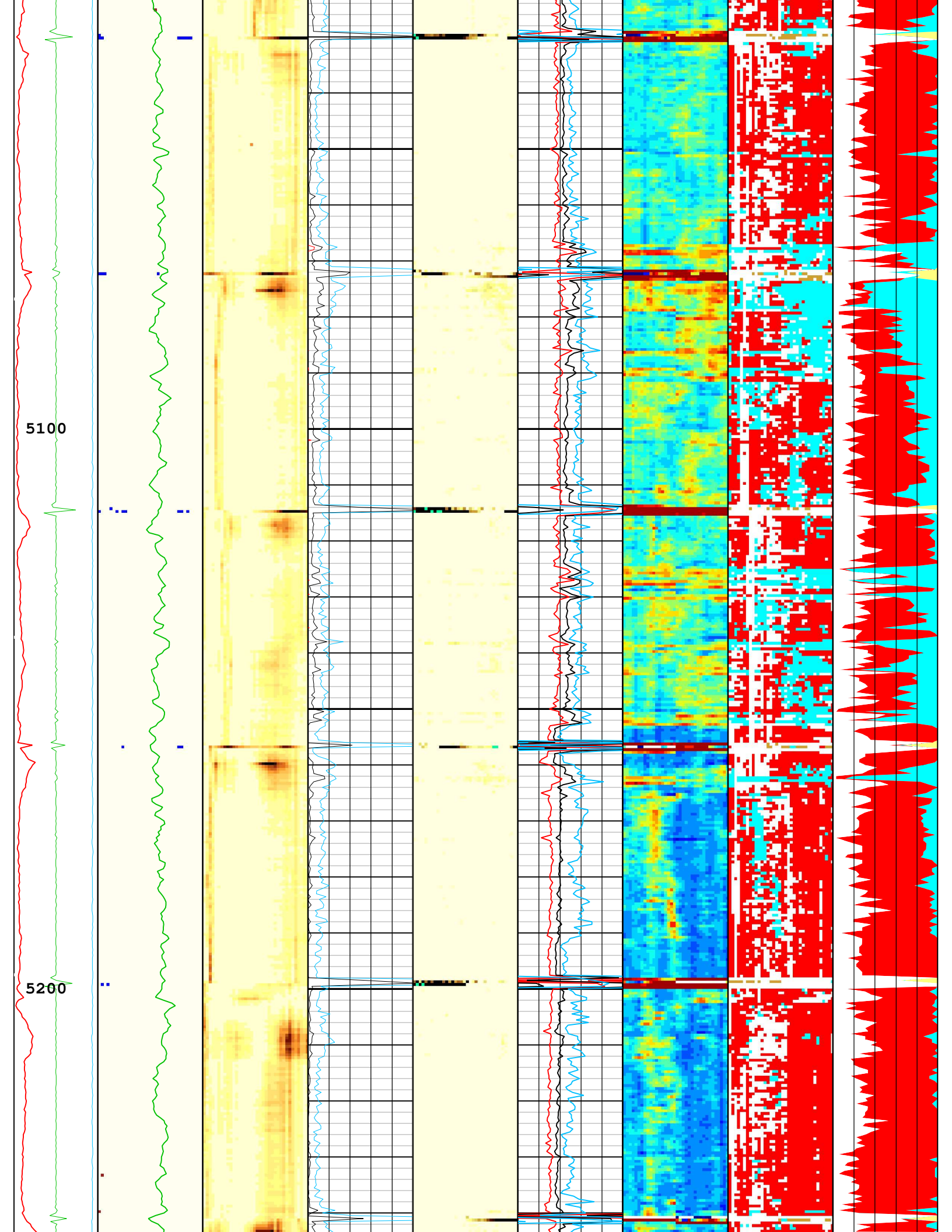


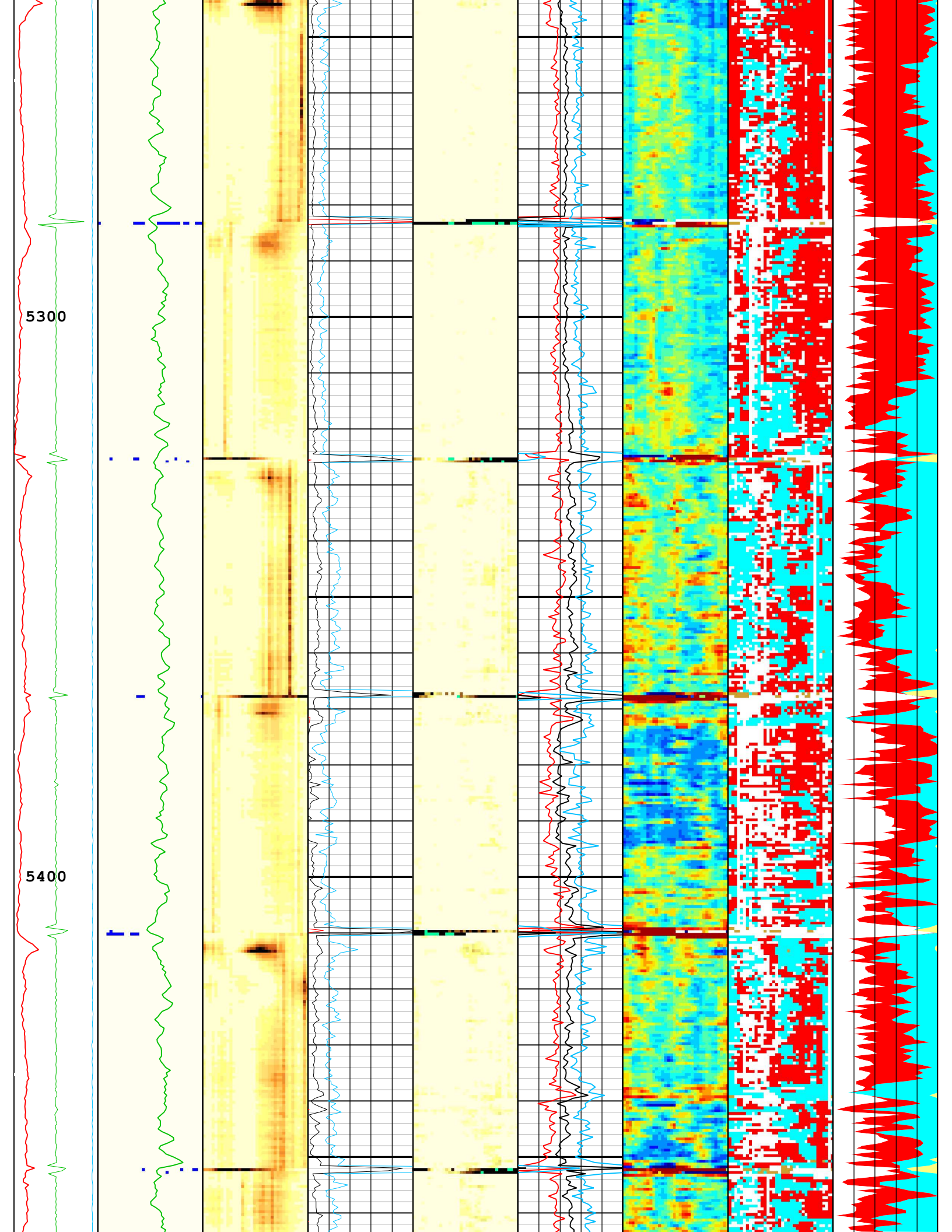


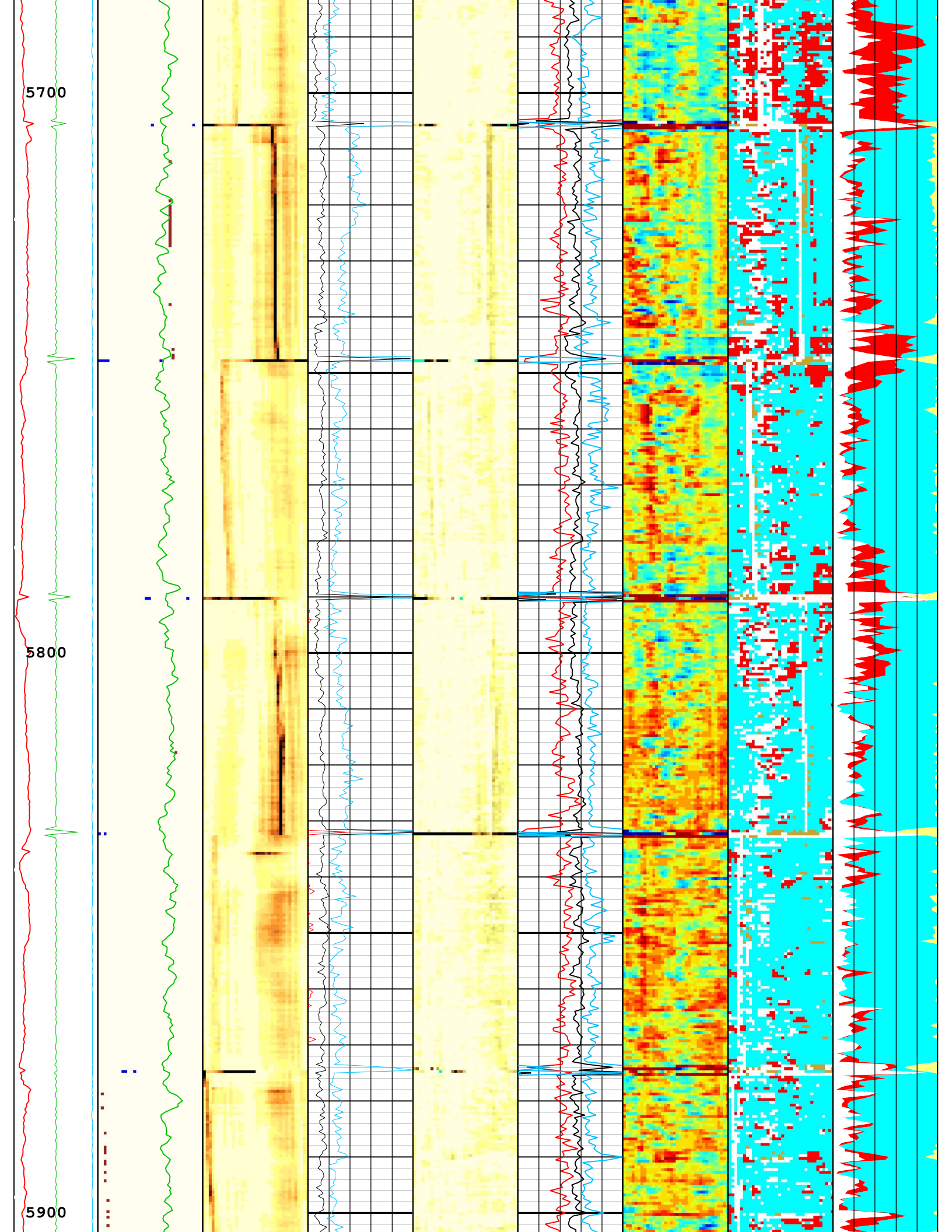


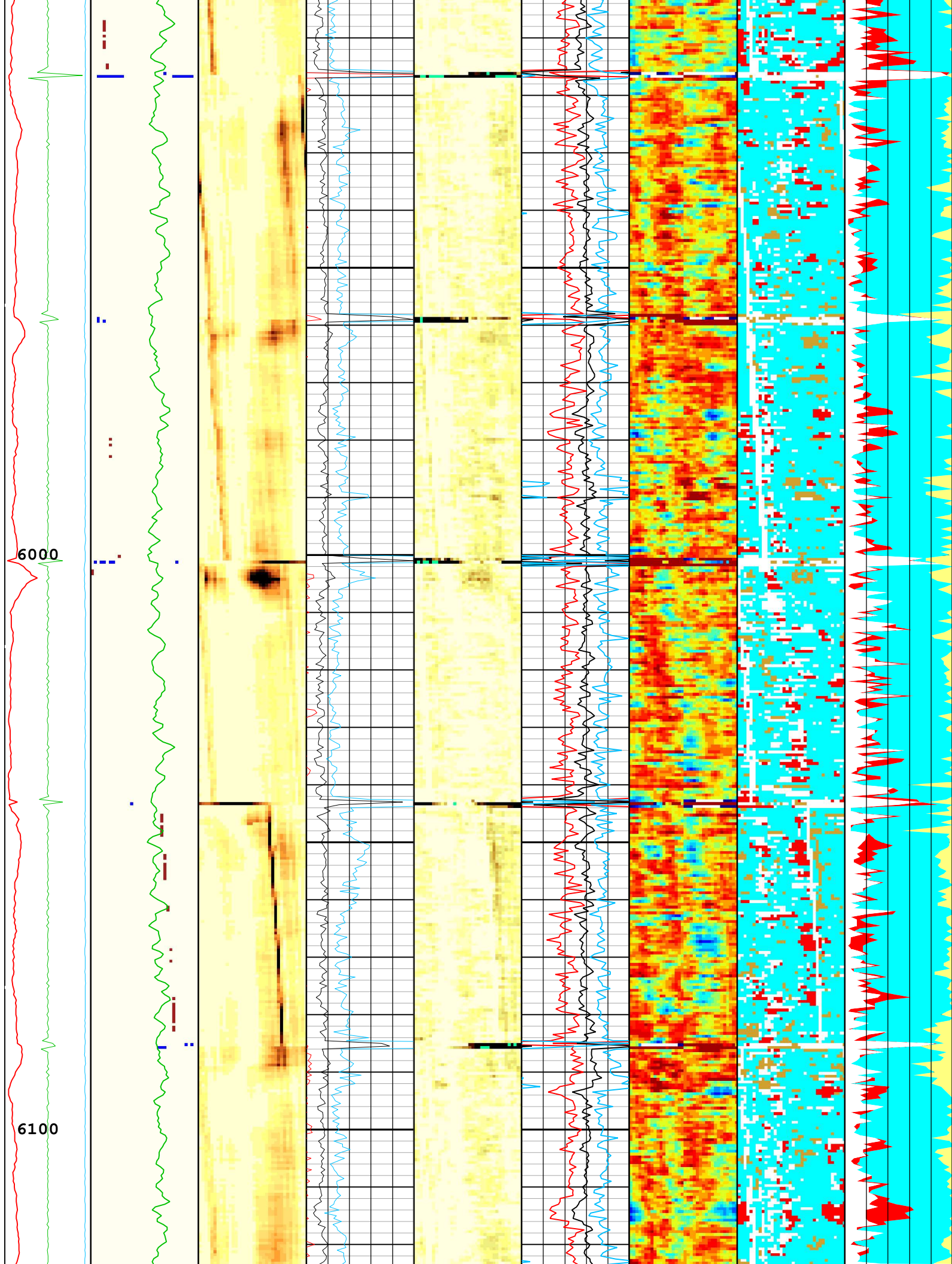


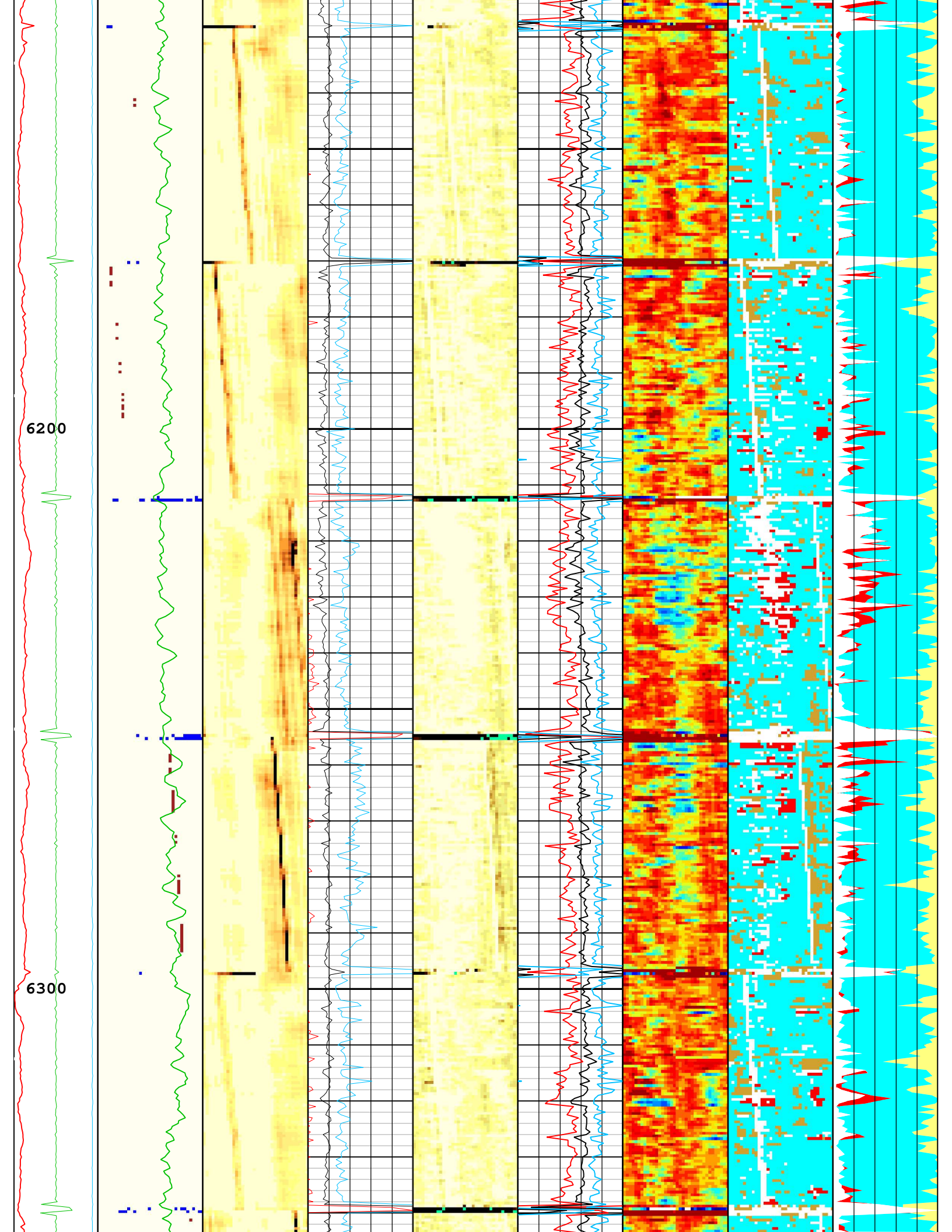


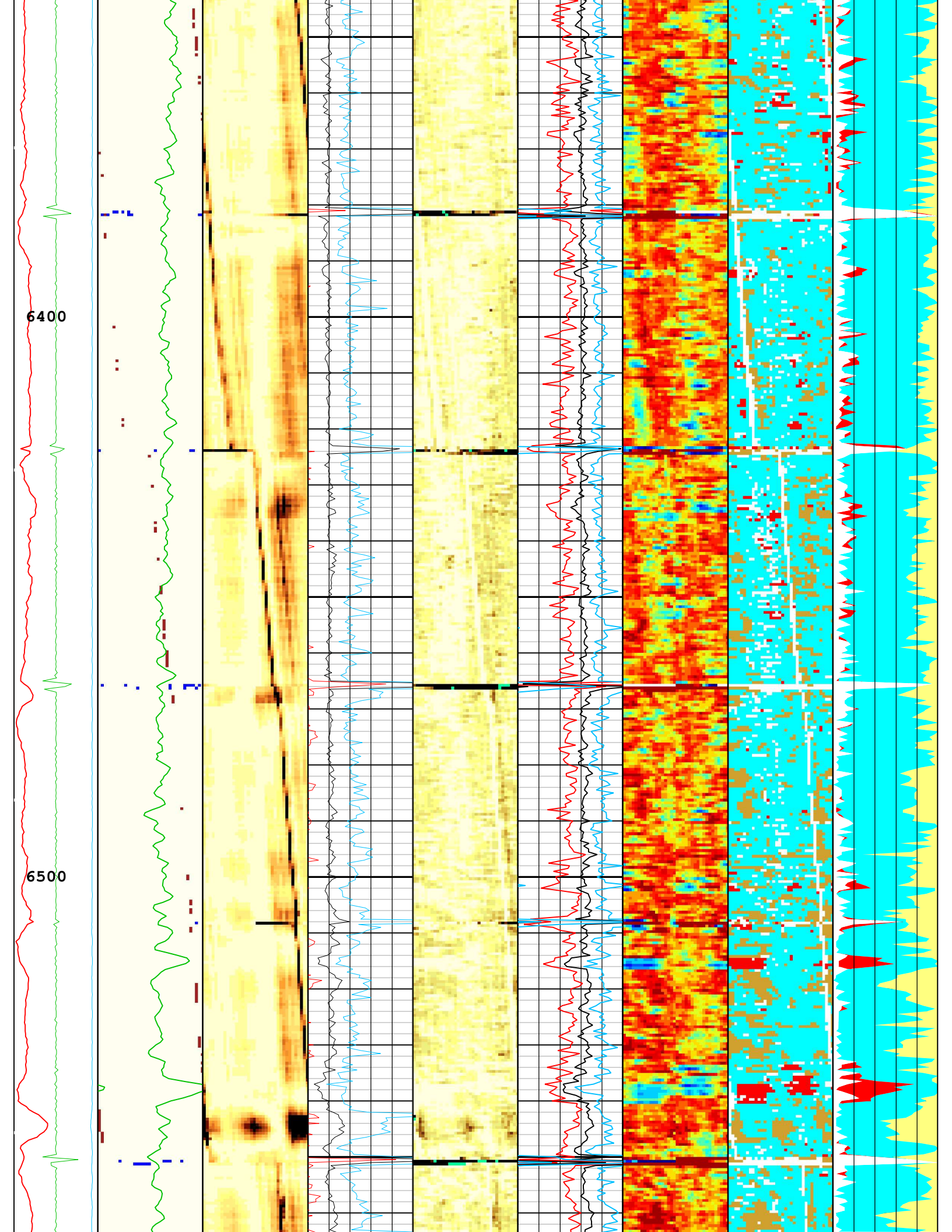


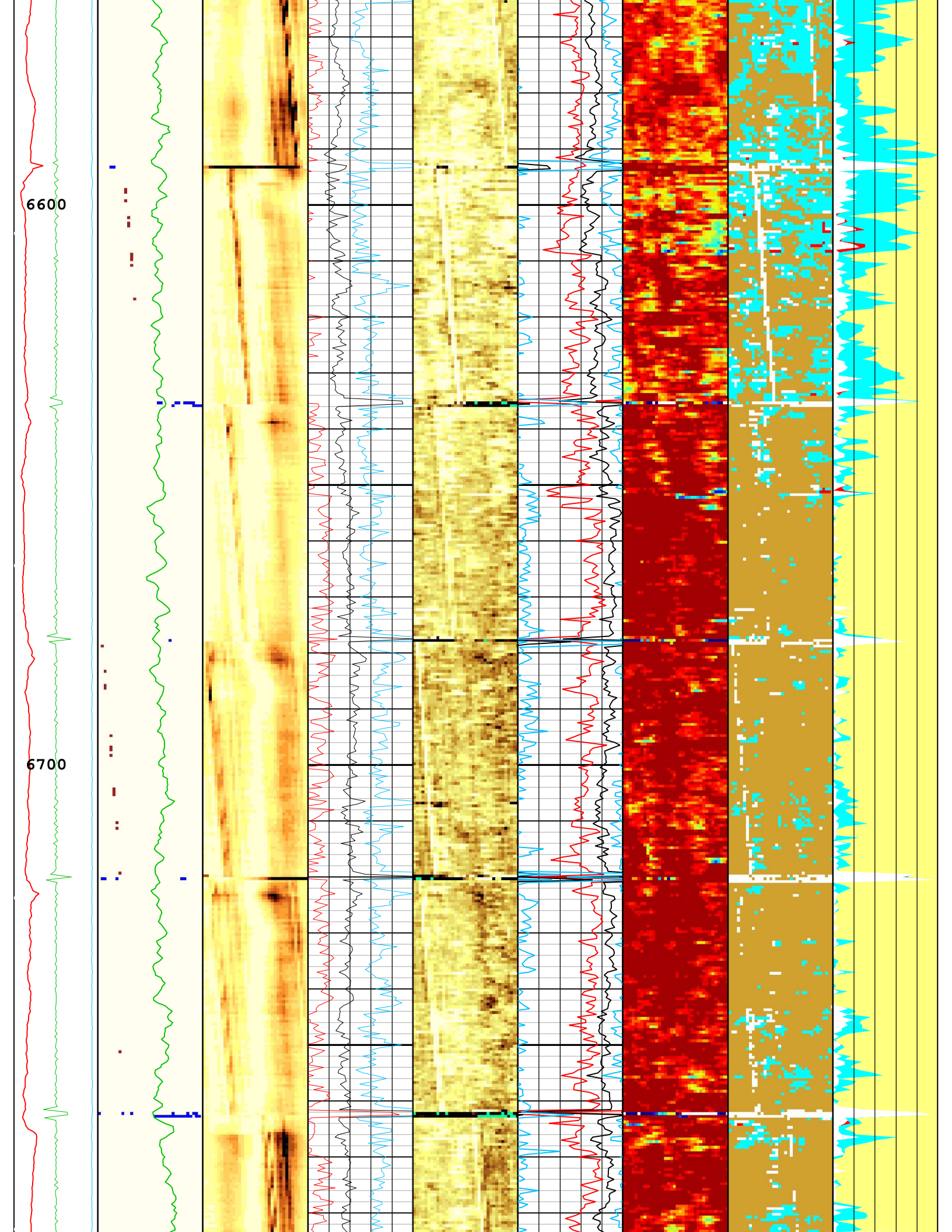








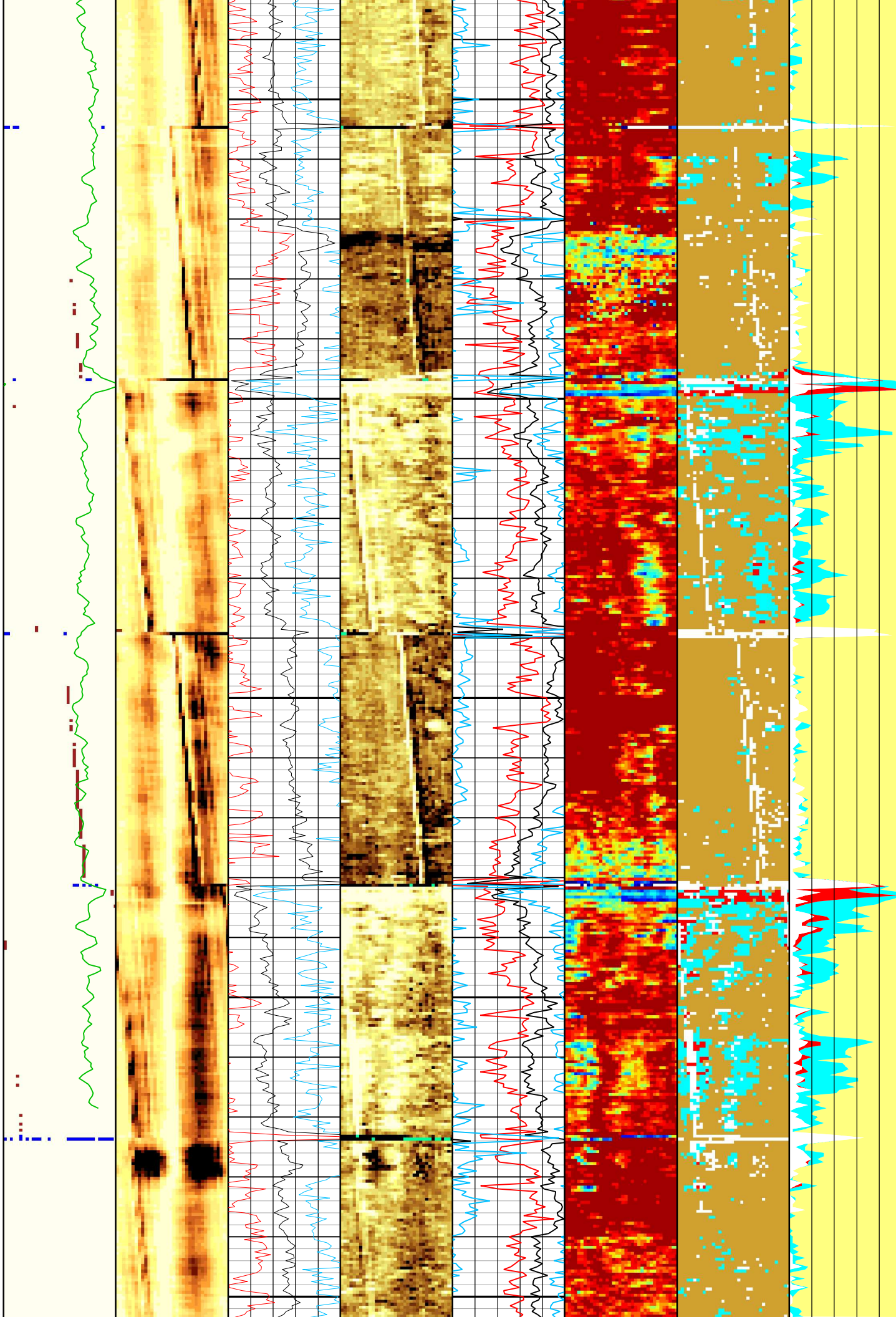


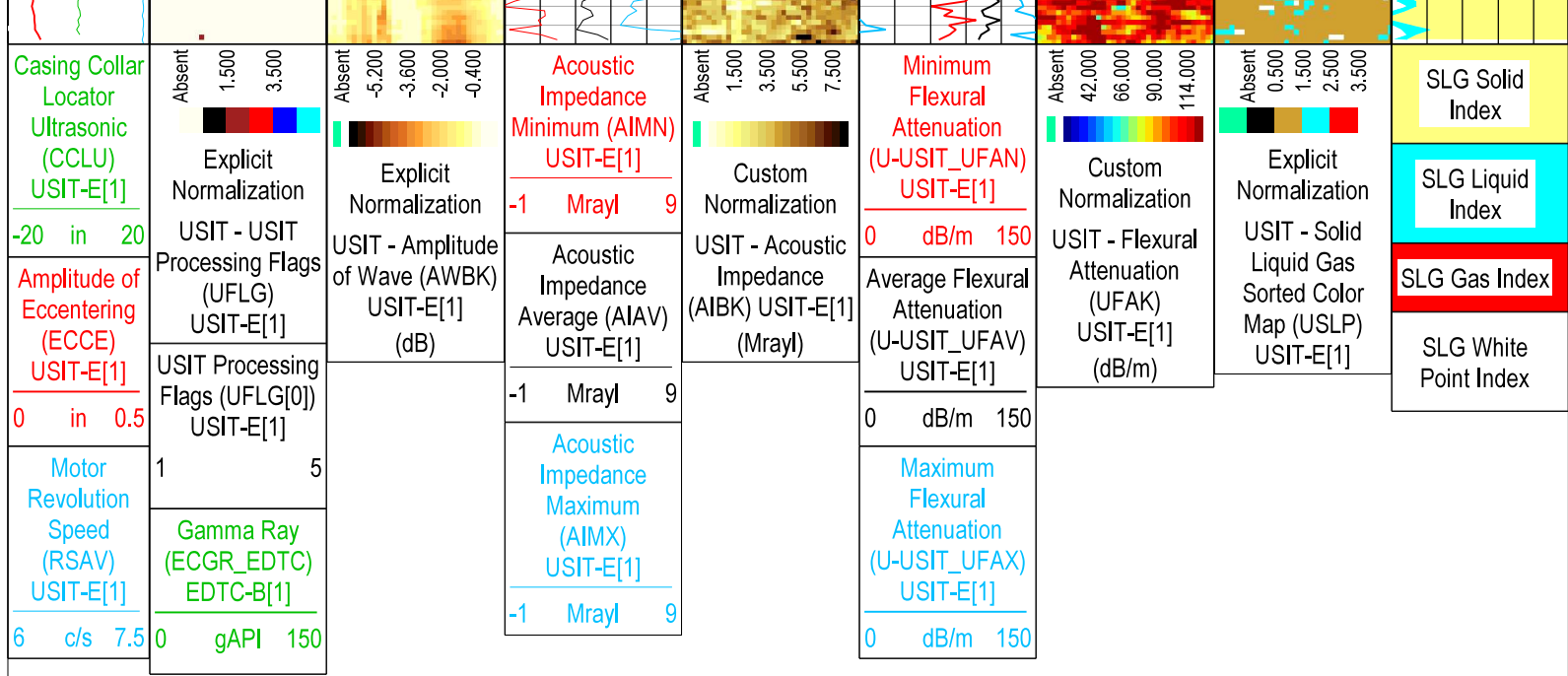


6800

6900

7000





TIME_1900 - Time Marked every 60.00 (s)

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

Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Feb-2022 17:53:59

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	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8026	ft
CDEN	Cement Density	USIT-E	13.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	9	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	-12.61	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.	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.25	
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
RPLUS_PROCESS	Ultrasonic R+ Processing	USIT-E	No	
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	1.62	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFLT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
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	1.61	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	12.25	15	944
BS	7,875	944	7008

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	
USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 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
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OneTime Zoned Parameters

Pass Log[6]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	40	25-Feb-2022 11:52:44	25-Feb-2022 11:59:39	7008.84	6625.59
EMXV	50	25-Feb-2022 11:59:39	25-Feb-2022 11:59:48	6625.59	6615.96
EMXV	60	25-Feb-2022 11:59:48	25-Feb-2022 12:00:03	6615.96	6601.65
EMXV	65	25-Feb-2022 12:00:03	25-Feb-2022 13:59:09	6601.65	512.69

Pass Log[10]:Up

EMXV	95	25-Feb-2022 15:11:31	25-Feb-2022 15:27:16	907.28	54.87
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All depth are at tool zero.

Main Pass

IBC SLG Composite

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	217.58 ft	7009.18 ft	25-Feb-2022 11:52:44 AM	25-Feb-2022 1:59:09 PM	ON	6.34 ft	Yes
One	Log[10]:Up	Up	54.88 ft	907.28 ft	25-Feb-2022 3:10:33 PM	25-Feb-2022 3:27:16 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log	Company: Occidental Petroleum Inc Well: Warner 11-18 Main Pass: S010
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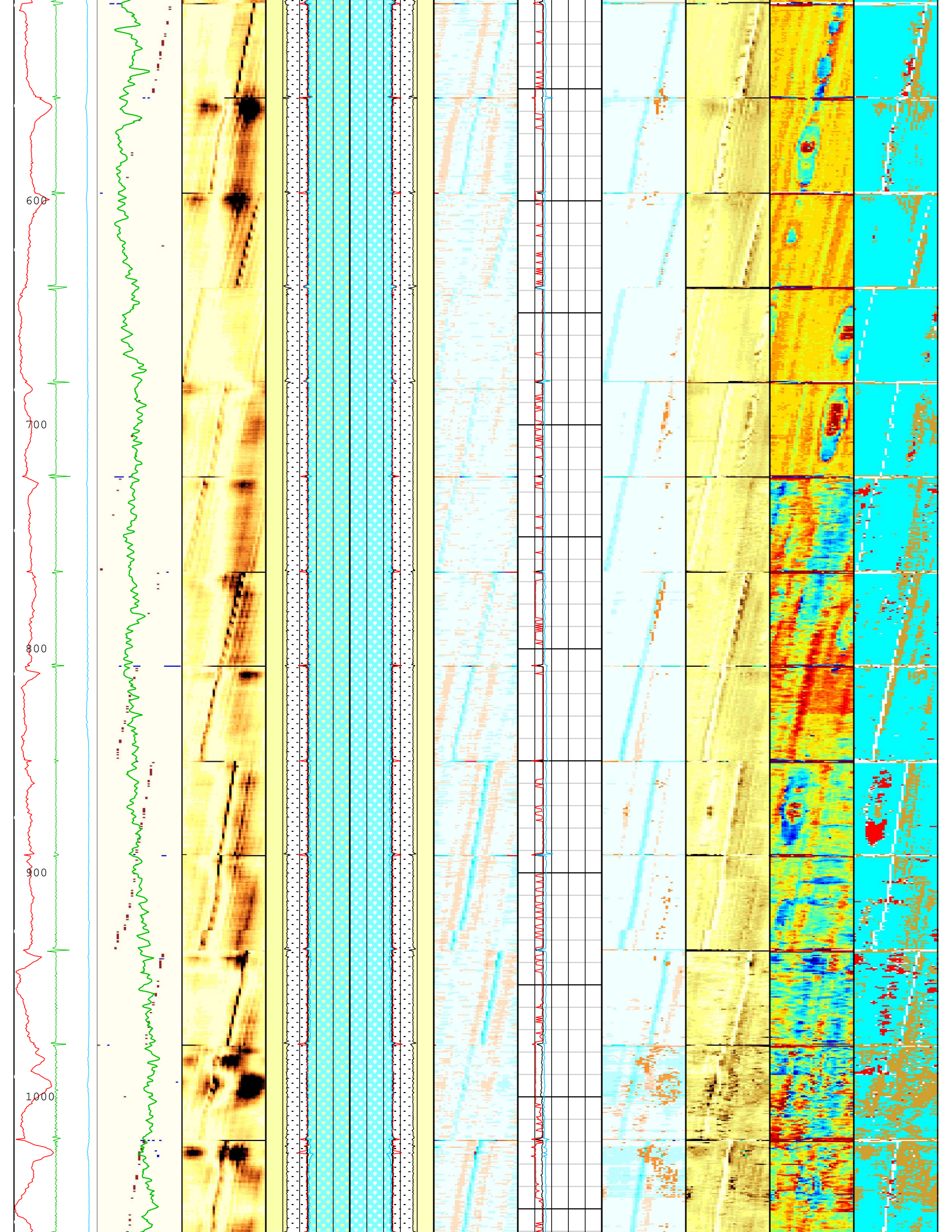
Description: USI IBC SLG Composite Format: Log (IBC SLG Composite 5.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 25-Feb-2022 17:54:16

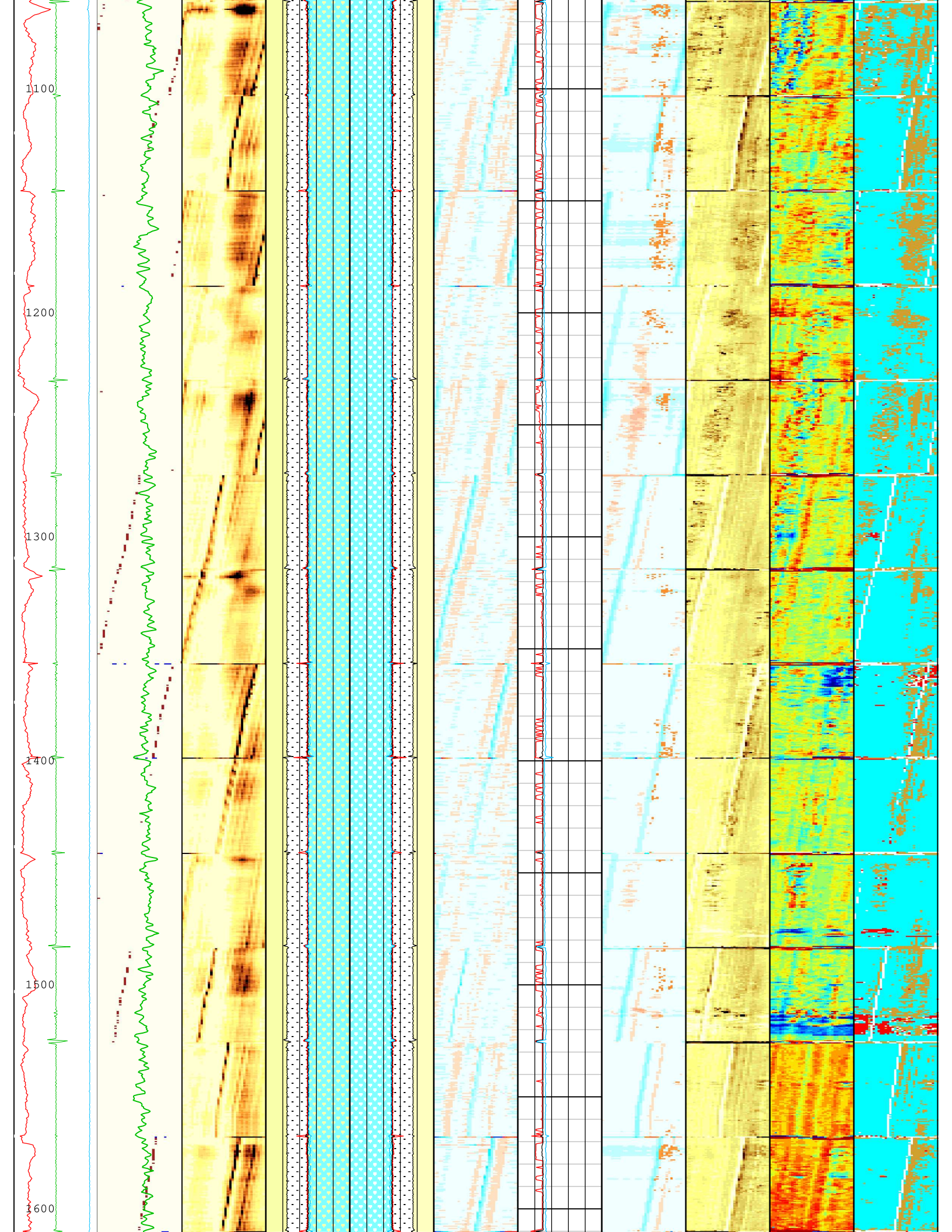
TIME_1900 - Time Marked every 60.00 (s)

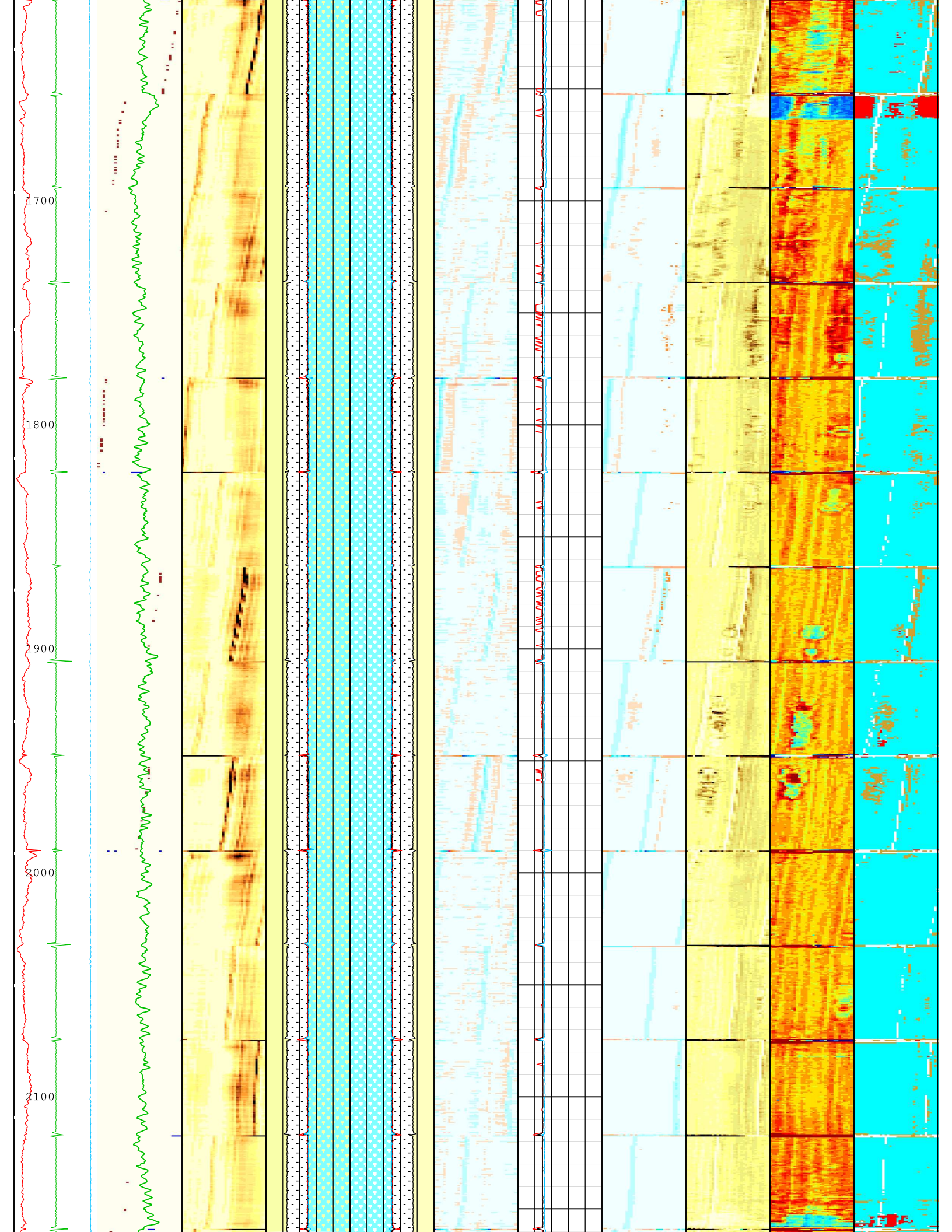
USIT Processing Flags (UFLG[0]) USIT-E[1]

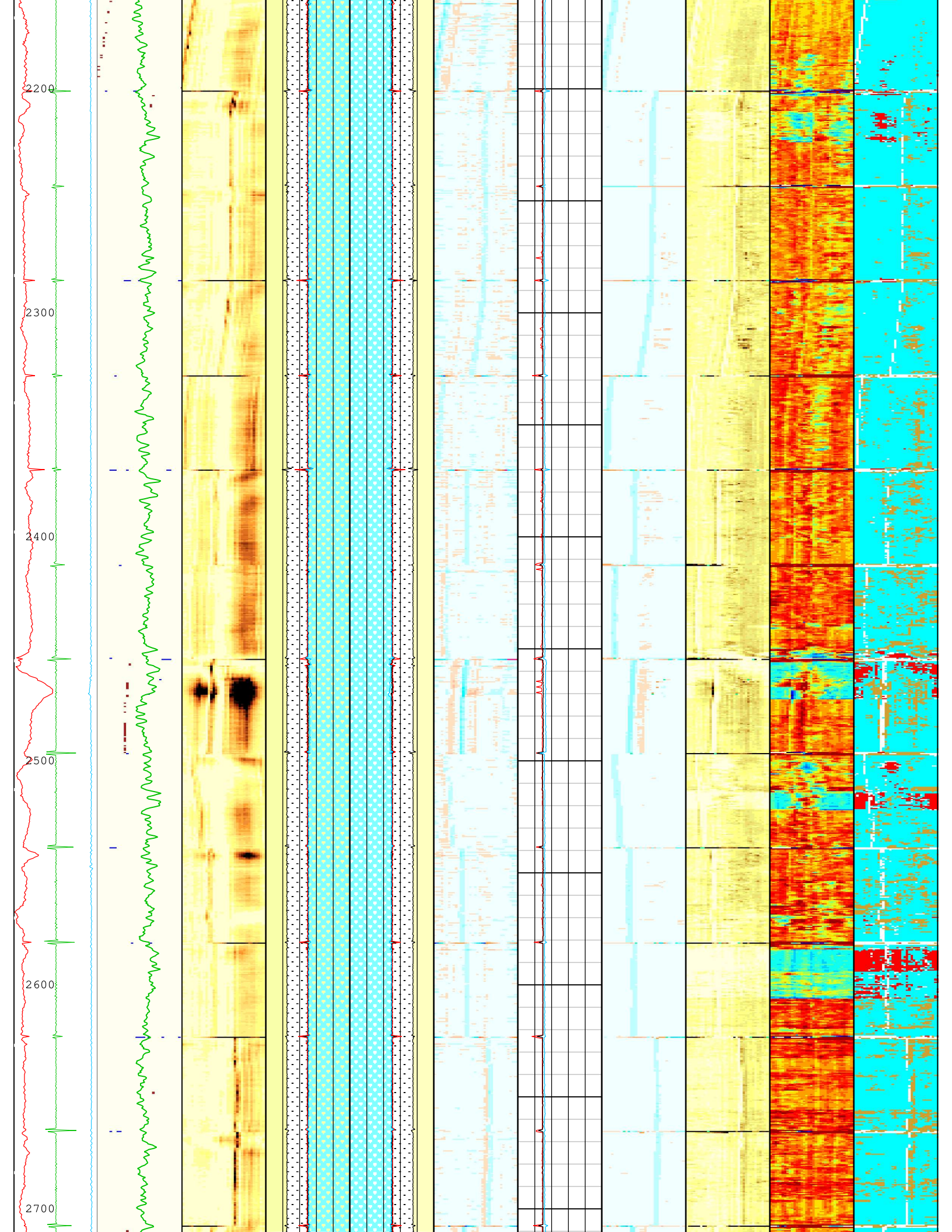
1 - UFLG 1 Value within [0.0 - 1.5] - :	■	UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	■	Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	■	WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	■	Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10]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

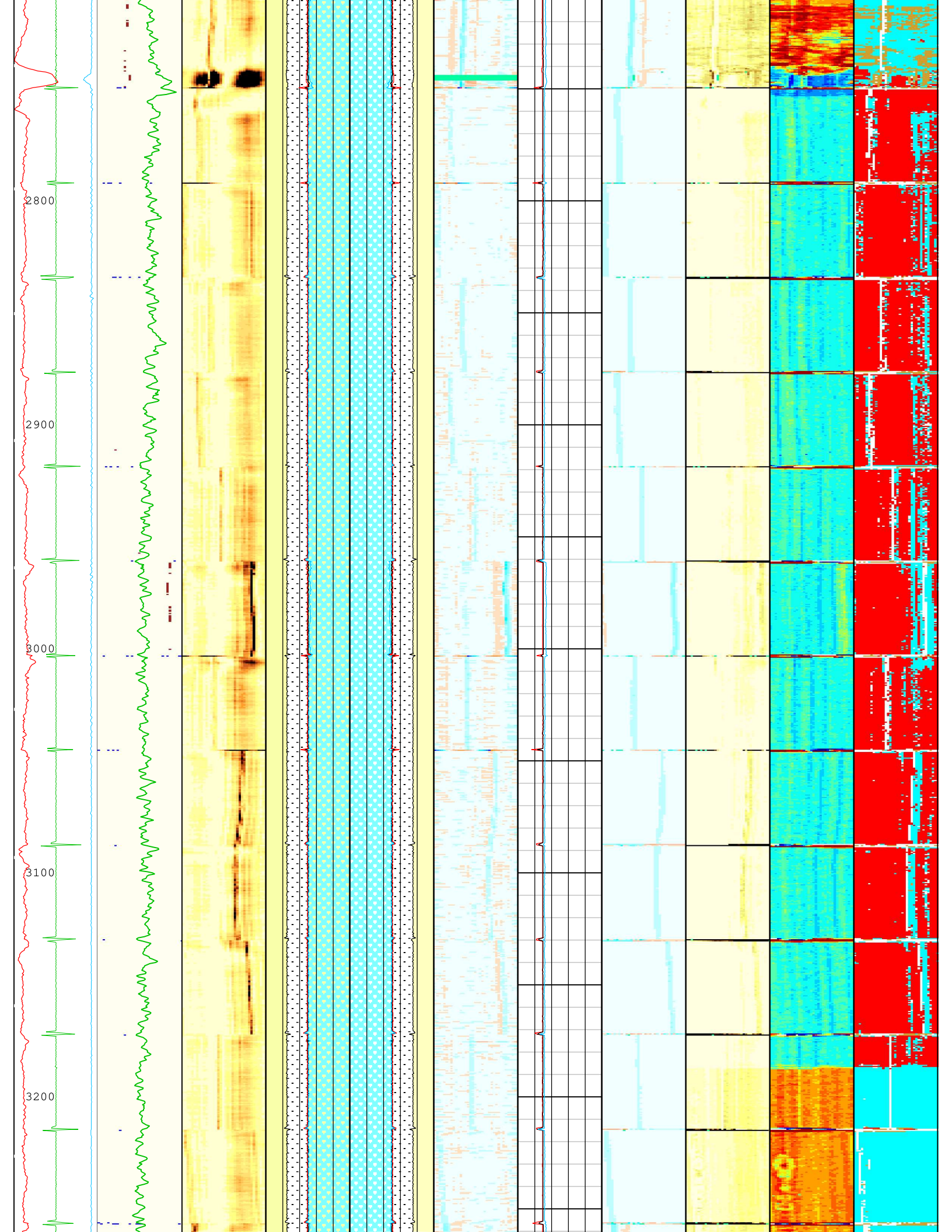
<p>Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]</p> <p>Amplitude of Eccentering (ECCE) USIT-E[1]</p>	<p>USIT Processing Flags (UFLG[0]) USIT-E[1]</p>	<p>External Radii Average (ERAV) USIT-E[1]</p> <p>2.5 in 1.5</p> <p>Internal Radius Averaged Value (IRAV) USIT-E[1]</p> <p>2.5 in 1.5</p> <p>Internal Radius Maximum Value (IRMX) USIT-E[1]</p> <p>2.5 in 1.5</p>	<p>External Radii Average (ERAV) USIT-E[1]</p> <p>1.5 in 2.5</p> <p>Internal Radius Averaged Value (IRAV) USIT-E[1]</p> <p>1.5 in 2.5</p> <p>Internal Radius Maximum Value (IRMX) USIT-E[1]</p> <p>1.5 in 2.5</p>	<p>Thickness Minimum Value (THMN) USIT-E[1]</p> <p>0.1 in 0.6</p> <p>Thickness Average Value (THAV) USIT-E[1]</p> <p>0.1 in 0.6</p>	<p>Explicit Normalization</p> <p>Custom Normalization</p> <p>Custom Normalization</p> <p>Explicit Normalization</p>
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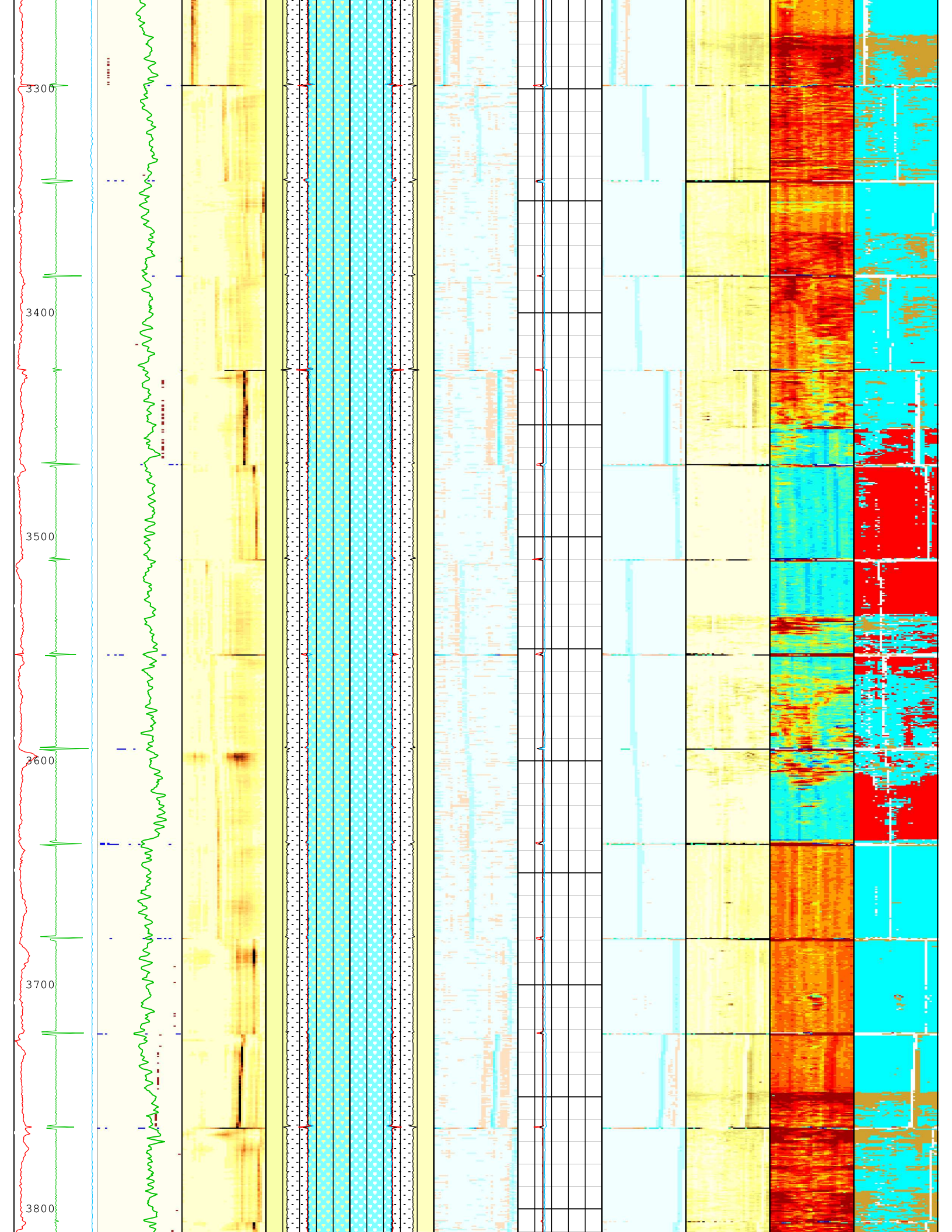


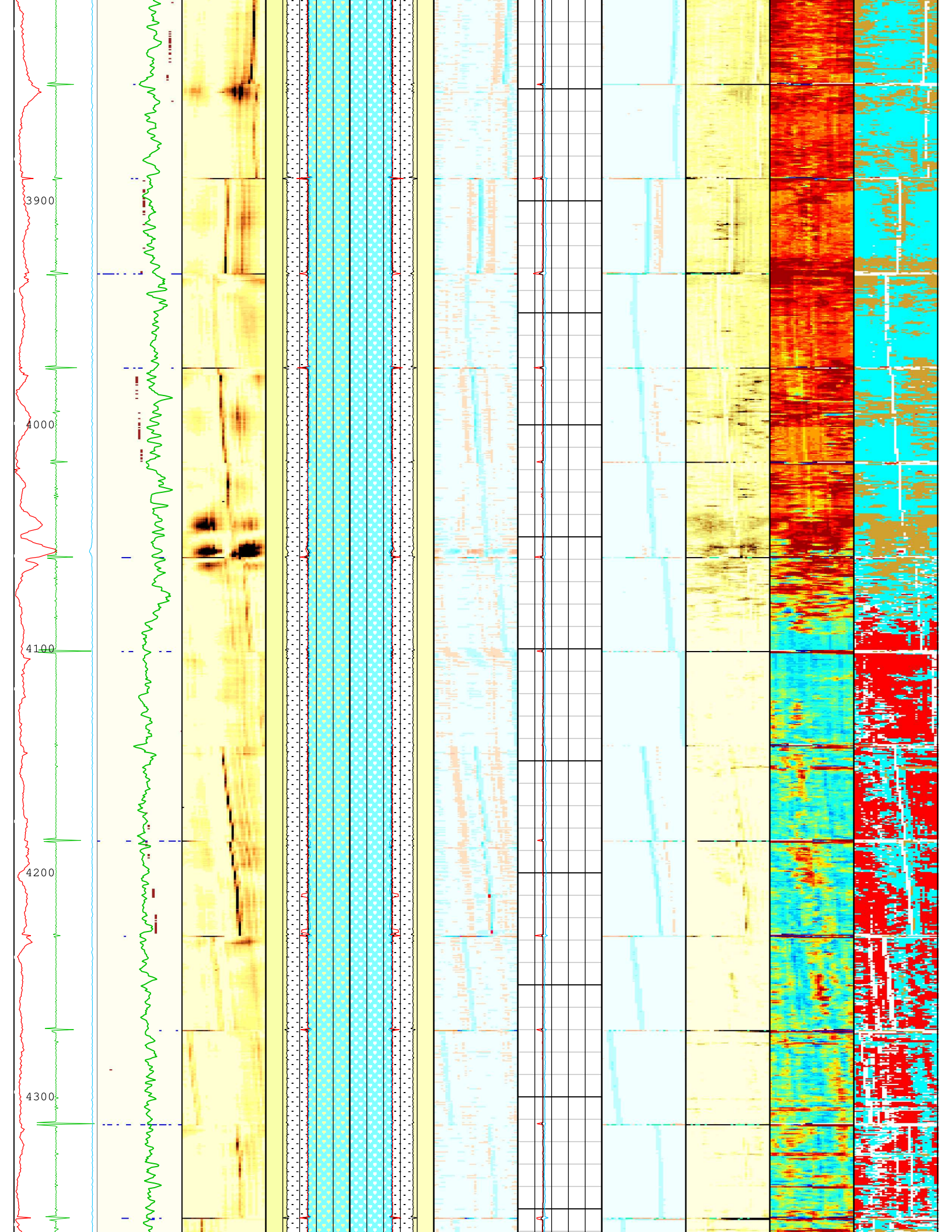


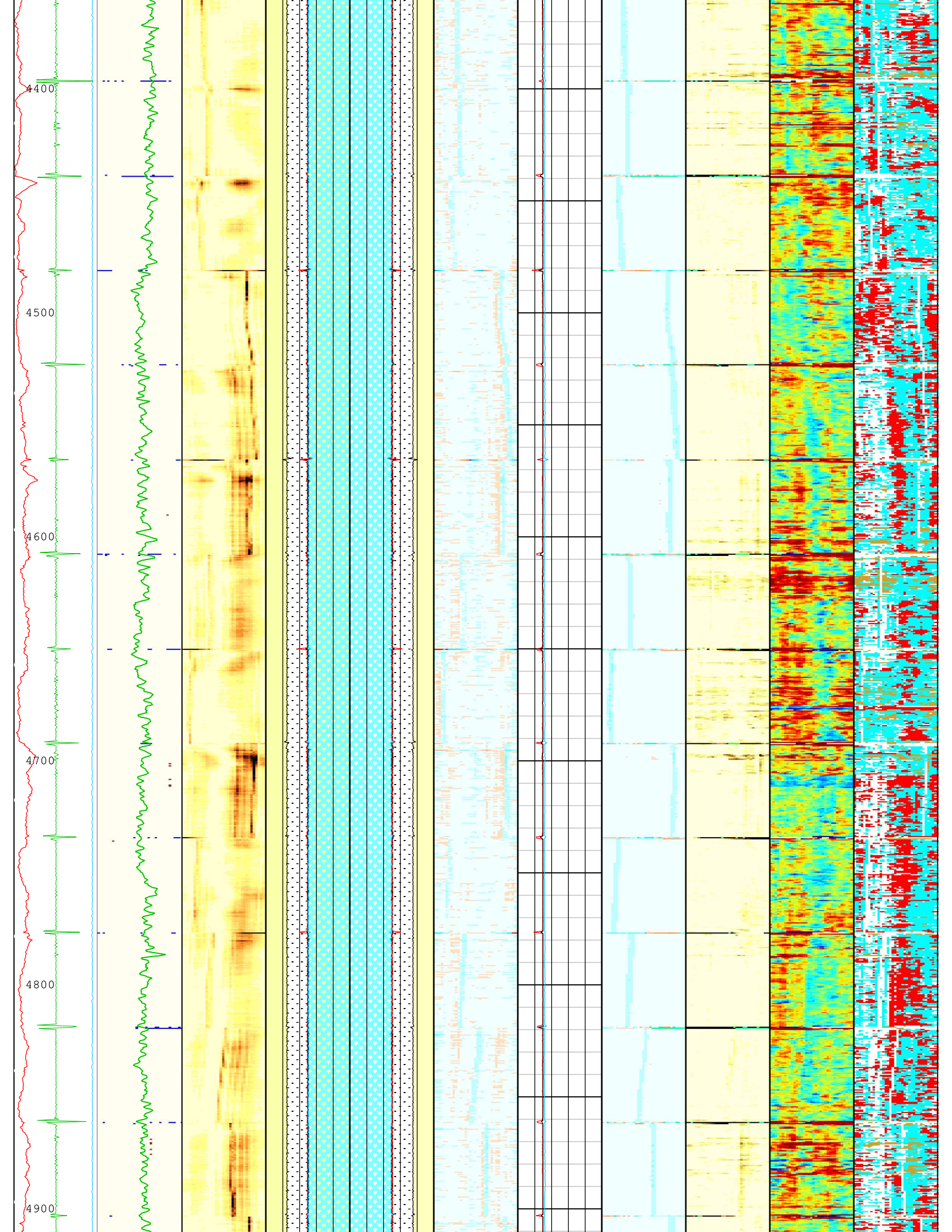


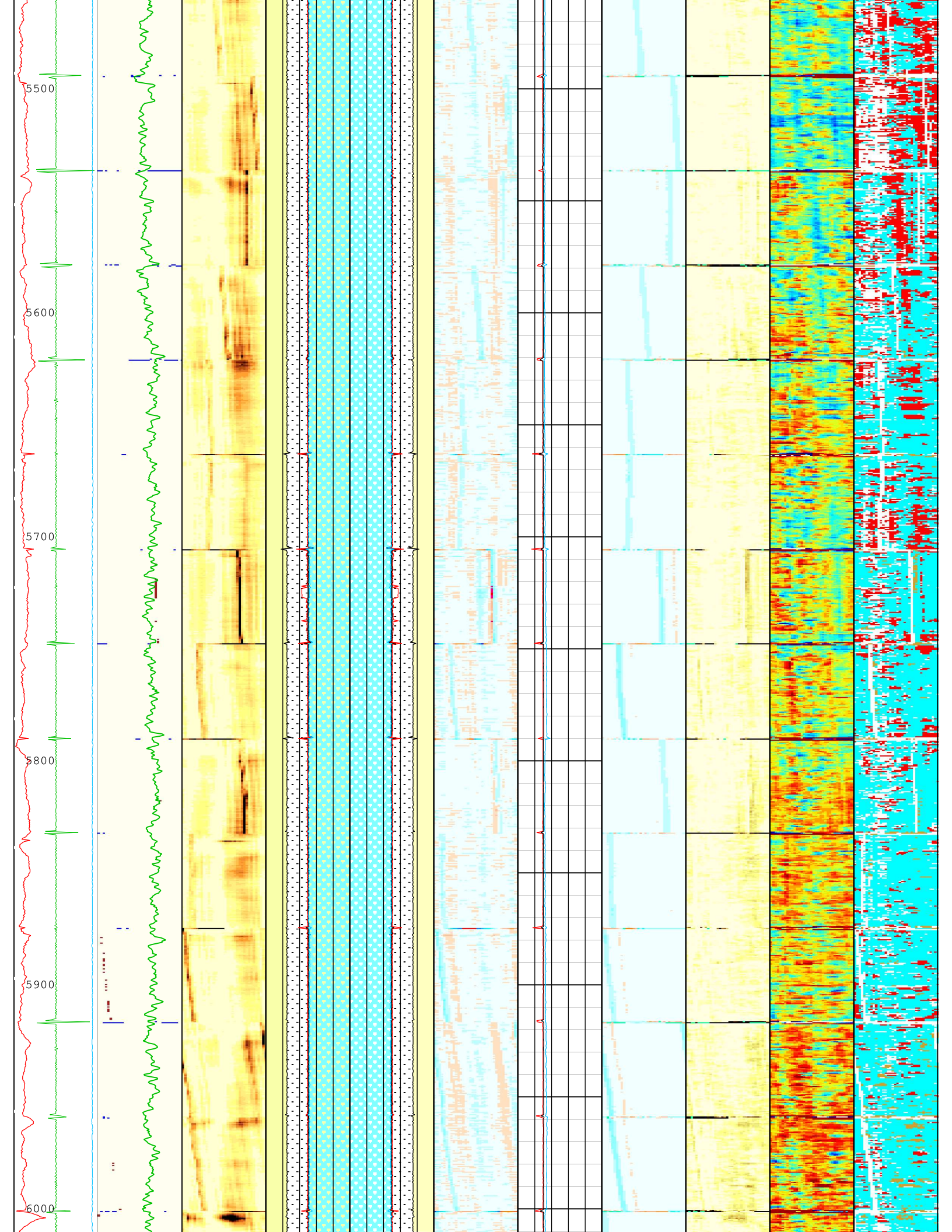


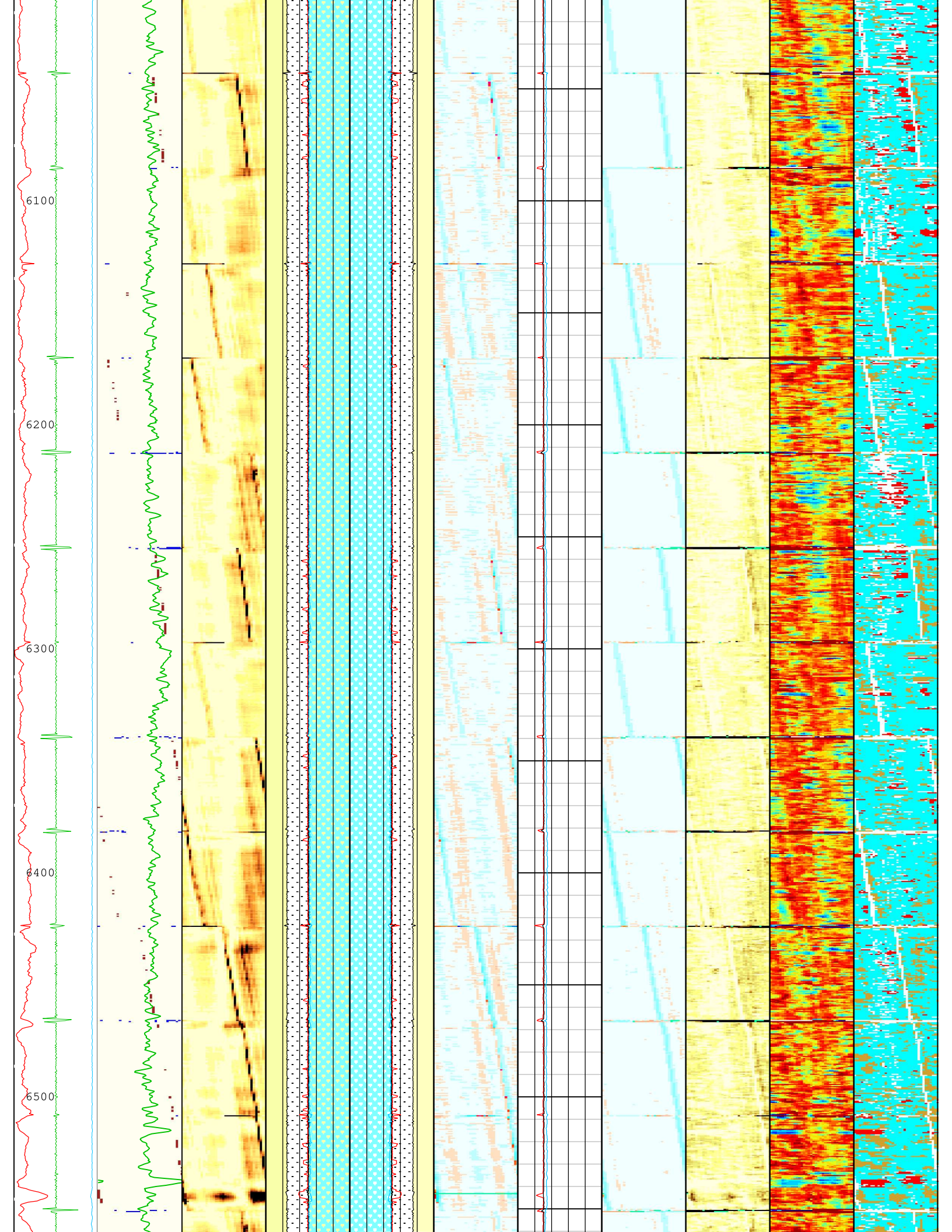


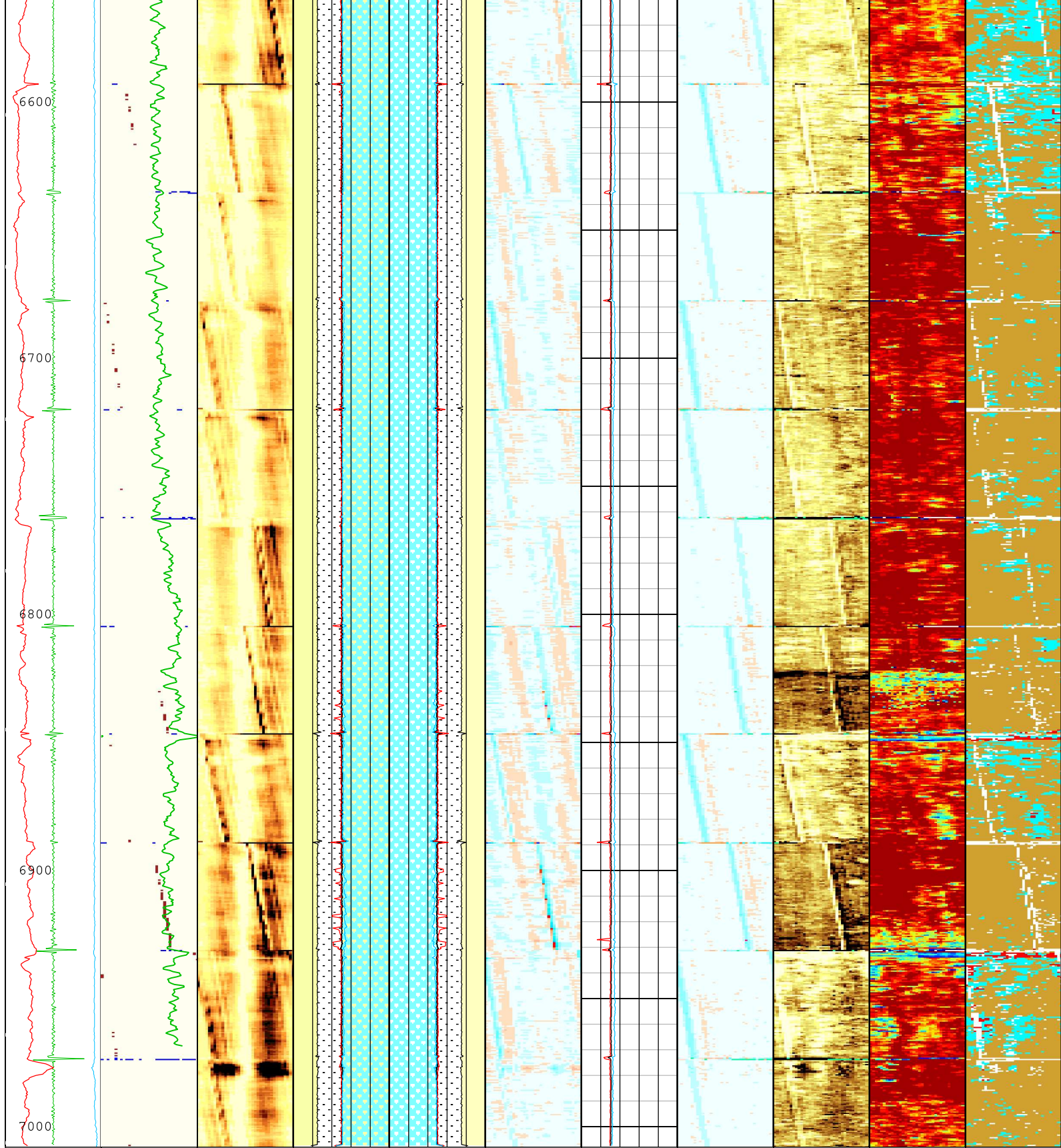












Casing Collar Locator Ultrasonic (CCLU) USIT-E[1] -20 in 20	Absent 1,500 3,500 Explicit Normalization	Absent -5,200 -3,600 -2,000 -0,400 Explicit Normalization	External Radii Average (ERAV) USIT-E[1] 2.5 in 1.5	External Radii Average (ERAV) USIT-E[1] 1.5 in 2.5	Absent -0,051 -0,012 0,028 0,068 Explicit Normalization	Thickness Minimum Value (THMN) USIT-E[1] 0.1 in 0.6 Thickness Average Value (THAV) USIT-E[1]	Absent -0,051 -0,012 0,028 0,068 Explicit Normalization	Absent 1,500 3,500 5,500 7,500 Custom Normalization	Absent 42,000 66,000 90,000 114,000 Custom Normalization	Absent 1,500 3,500 Explicit Normalization
Amplitude of Eccentering (ECCE) USIT-E[1] 0 in 0.5	USIT - USIT Processing Flags (UFLG) USIT-E[1] USIT Processing	USIT - Amplitude of Wave (AWB) USIT-E[1]	Internal Radius Averaged Value (IRAV) USIT-E[1]	Internal Radius Averaged Value (IRAV) USIT-E[1]	USIT - Internal Radii Normalized (IRBK) USIT-E[1]	Thickness Average Value (THAV) USIT-E[1]	USIT - Casing Thickness Normalized (THBK) USIT-E[1]	USIT - Acoustic Impedance (AIBK) USIT-E[1]	USIT - Flexural Attenuation (UFAK) USIT-E[1]	USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]

Motor Revolution Speed (RSAV) USIT-E[1] 6 c/s 7.5	Processing Flags (UFLG[0]) USIT-E[1] 1 5 Gamma Ray (ECGR_EDT C) EDTC-B[1] 0 gAPI 150	(dB)	Internal Radius Maximum Value (IRMX) USIT-E[1] 2.5 in 1.5	Internal Radius Maximum Value (IRMX) USIT-E[1] 1.5 in 2.5	(in)	Thickness Maximum Value (THMX) USIT-E[1] 0.1 in 0.6	(Mrayl)	(in)	(dB/m)
			Internal Radius Minimum Value (IRMN) USIT-E[1] 2.5 in 1.5	Internal Radius Minimum Value (IRMN) USIT-E[1] 1.5 in 2.5					

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 5.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
 Creation Date: 25-Feb-2022 17:54:16

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	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	8026	ft
CDEN	Cement Density	USIT-E	13.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	9	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	-12.61	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.	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.25	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.62	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	

ZMUD	Acoustic Impedance of Mud	Borehole	1.61	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	12.25	15	944
BS	7.875	944	7008

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	
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 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	

OneTime Zoned Parameters

Pass Log[6]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	40	25-Feb-2022 11:52:44	25-Feb-2022 11:59:39	7008.84	6625.59
EMXV	50	25-Feb-2022 11:59:39	25-Feb-2022 11:59:48	6625.59	6615.96
EMXV	60	25-Feb-2022 11:59:48	25-Feb-2022 12:00:03	6615.96	6601.65
EMXV	65	25-Feb-2022 12:00:03	25-Feb-2022 13:59:09	6601.65	512.69

Pass Log[10]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	95	25-Feb-2022 15:11:31	25-Feb-2022 15:27:16	907.28	54.87

All depth are at tool zero.

Main Pass

IBC Goodwin Compressed

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[6]:Up	Up	217.58 ft	7009.18 ft	25-Feb-2022 11:52:44 AM	25-Feb-2022 1:59:09 PM	ON	6.34 ft	Yes
One	Log[10]:Up	Up	54.88 ft	907.28 ft	25-Feb-2022 3:10:33 PM	25-Feb-2022 3:27:16 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Occidental Petroleum Inc Well:Warner 11-18

Main Pass:S010

Description: USI Goodwin Format: Log (IBC Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Feb-2022 17:54:30

TIME_1900 - Time Marked every 60.00 (s)

Maximum

Gamma Ray
(ECGR_E
DTC)
EDTC-B[1
J]
0 150
gAPI

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

Motor
Revoluti
on Speed
(RSAV)
USIT-E[1]
6 c/s 7.5

Goodwin Sector Curves (5 Mrayl per Division)

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

Acoustic
Impedance
Maximum
(AIMX)
USIT-E[1]
-1 Mrayl 9

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

Flexural
Attenuation
(U-USIT_UF
AX)
USIT-E[1]
0 150
dB/m

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

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

Absent
1,500
3,500
5,500
7,500

Custom
Normalizati
on

USIT -
Acoustic
Impedance
(AIBK)
USIT-E[1]
(Mrayl)

0,000
48,000
72,000
96,000
120,000

Custom
Normalizati
on

USIT -
Flexural
Attenuation
(UFAK)
USIT-E[1]
(dB/m)

Absent
1,500
3,500

Explicit
Normalizati
on

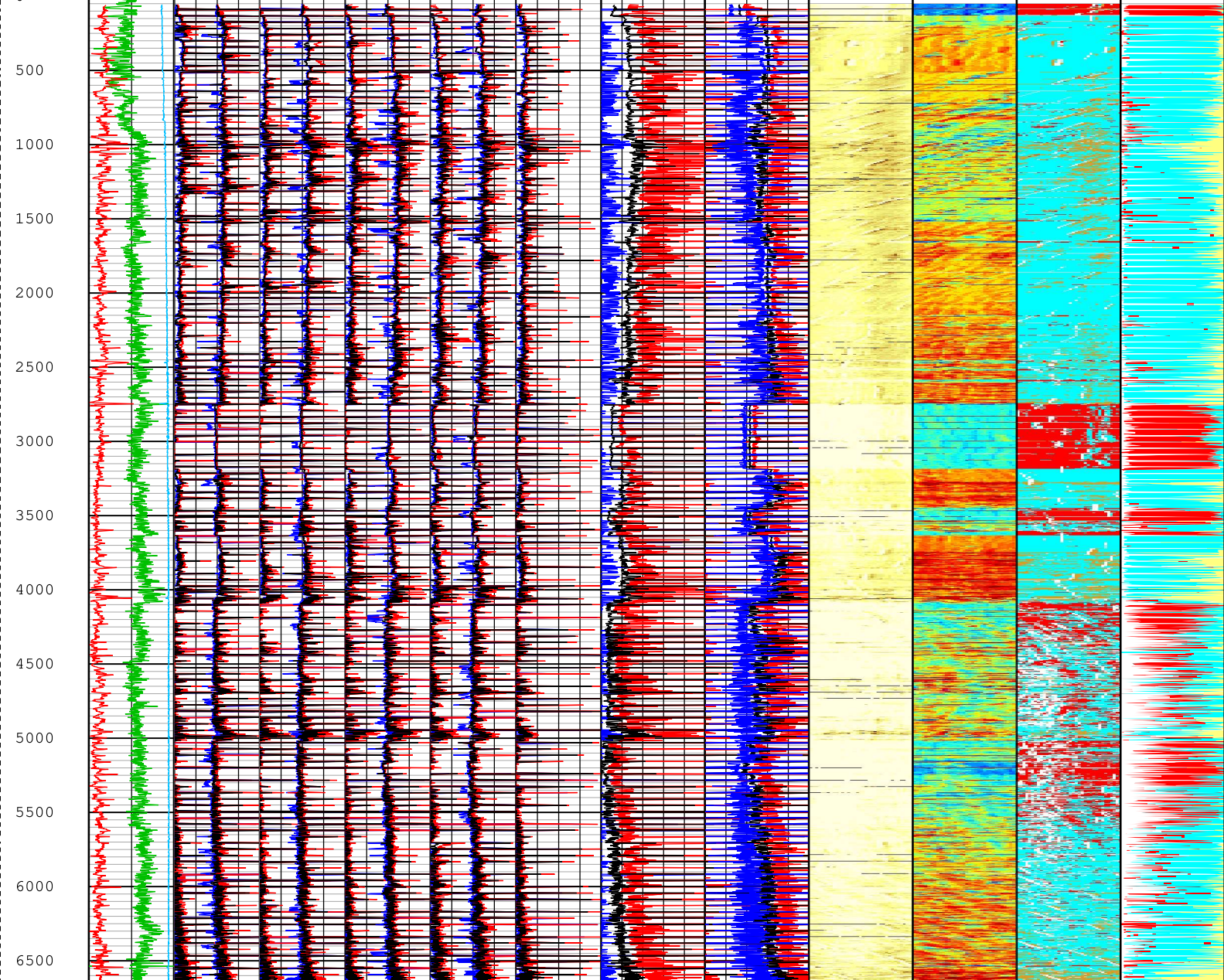
USIT - Solid
Liquid Gas
Sorted Color
Map (USLP)
USIT-E[1]

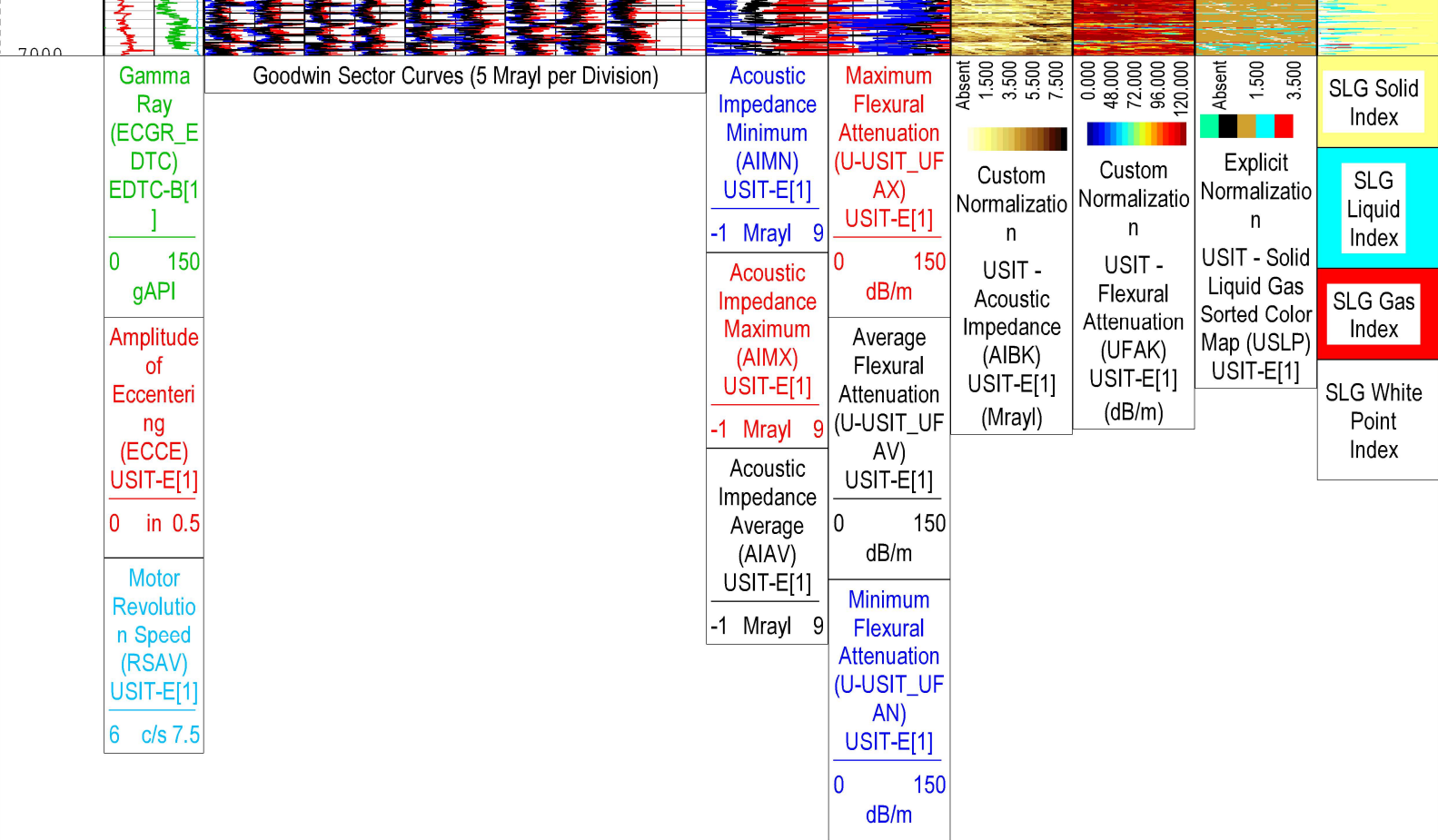
SLG Solid
Index

SLG
Liquid
Index

SLG Gas
Index

SLG White
Point
Index





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: 25-Feb-2022 17:54:30

One

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.216515

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	721.15 ft	1000.48 ft	25-Feb-2022 10:52:51 AM	25-Feb-2022 11:01:12 AM	ON	0.88 ft	Yes

All depths are referenced to toolstring zero

Log

Company: Occidental Petroleum Inc Well: Warner 11-18
One: Log[4]:Up:S010

Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Feb-2022 17:54:35

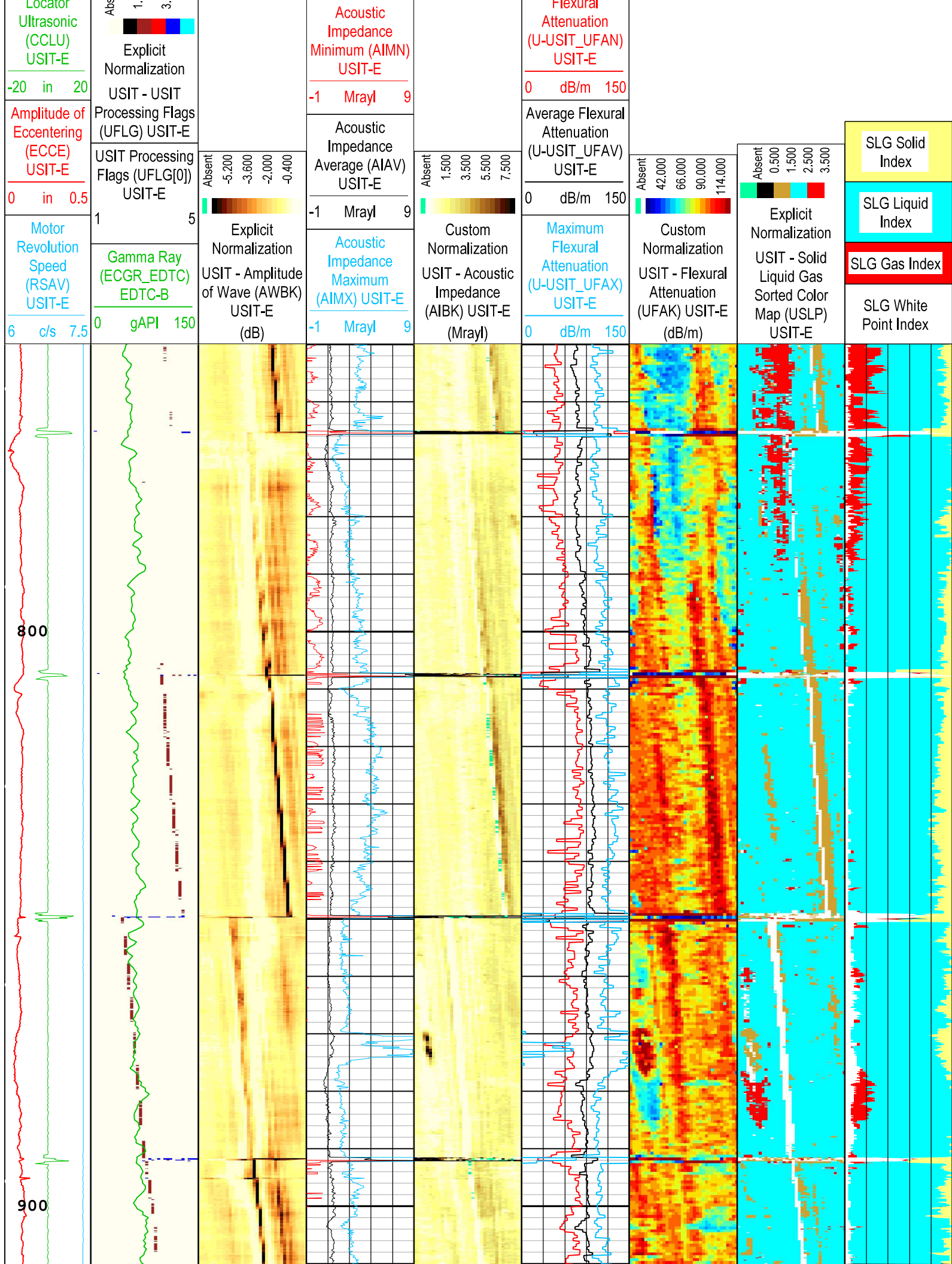
TIME_1900 - Time Marked every 60.00 (s)

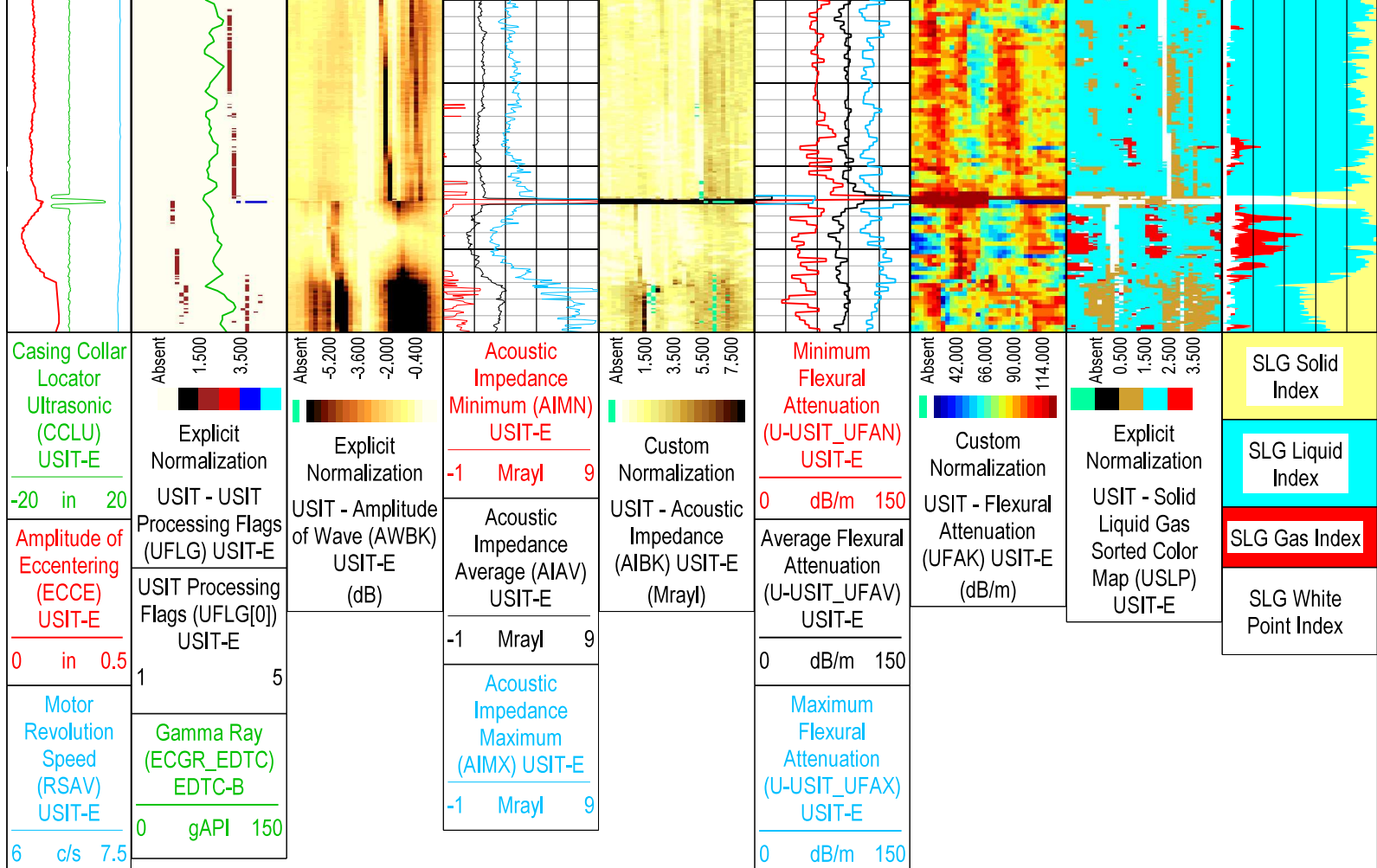
USIT Processing Flags (UFLG[0]) USIT-E

- 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 Location

Minimum Flexural





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: 25-Feb-2022 17:54:35

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	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8026	ft
CDEN	Cement Density	USIT-E	13.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	9	lbm/gal
FDI	Fluid Density	USIT-E	9	lbm/gal

FDI	FFM 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	-12.61	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.	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.25	
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
RPLUS_PROCESS	Ultrasonic R+ Processing	USIT-E	No	
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	1.62	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFLT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
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	1.61	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	12.25	750	944
BS	7.875	944	950

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	40	V
HRES	Horizontal Resolution	USIT-E	10 deg	
IBC_ACQTYPE	IBC Acquisition type	USIT-E	DVR 1/4 and 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	
USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 1.5 in	
USSP	Ultrasonic Service	USIT-E	IBC	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	1.5 in	

One

IBC SLG Composite

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	721.15 ft	1000.48 ft	25-Feb-2022 10:52:51 AM	25-Feb-2022 11:01:12 AM	ON	0.88 ft	Yes

All depths are referenced to toolstring zero

Log

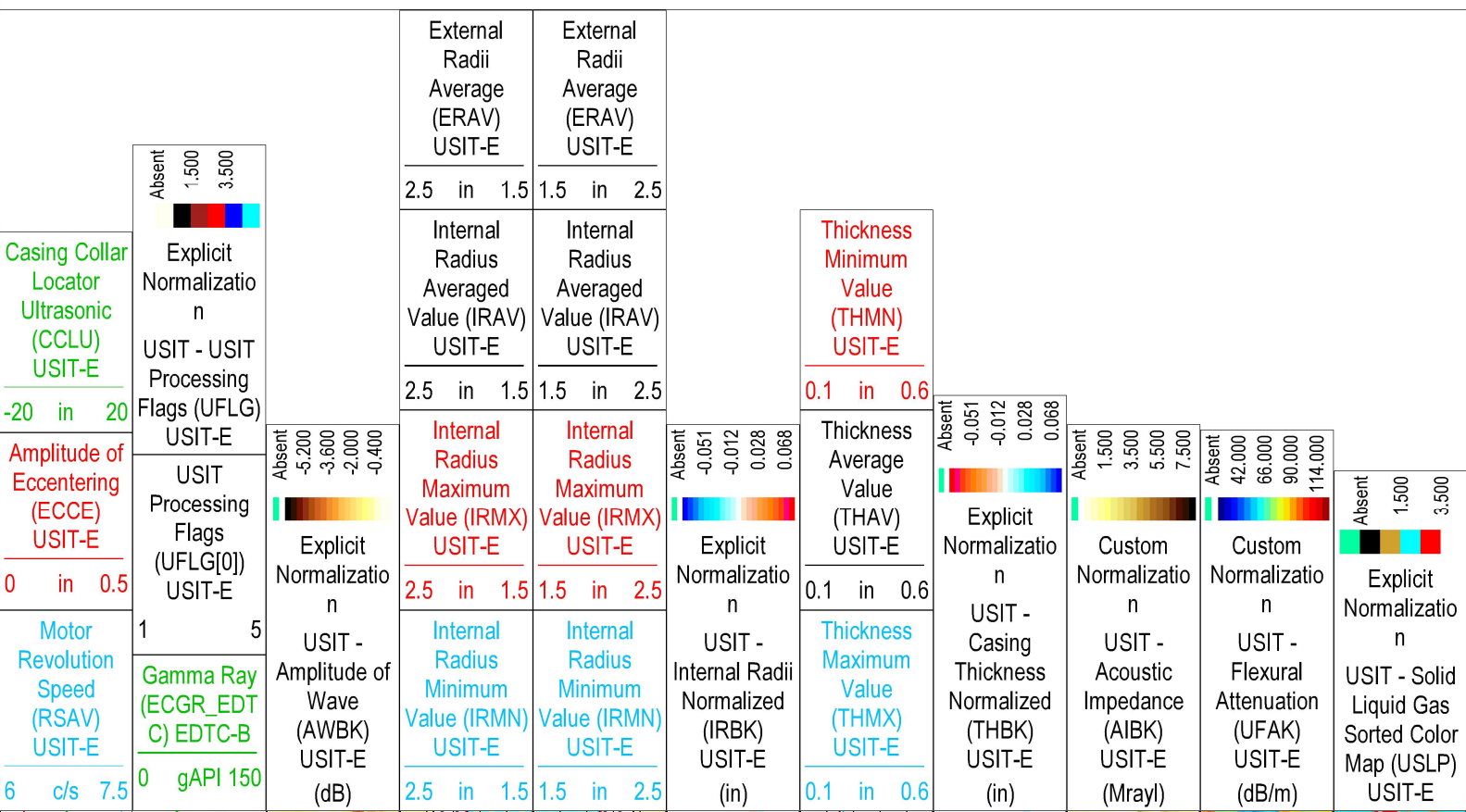
Company: Occidental Petroleum Inc Well: Warner 11-18
One: Log[4]:Up:S010

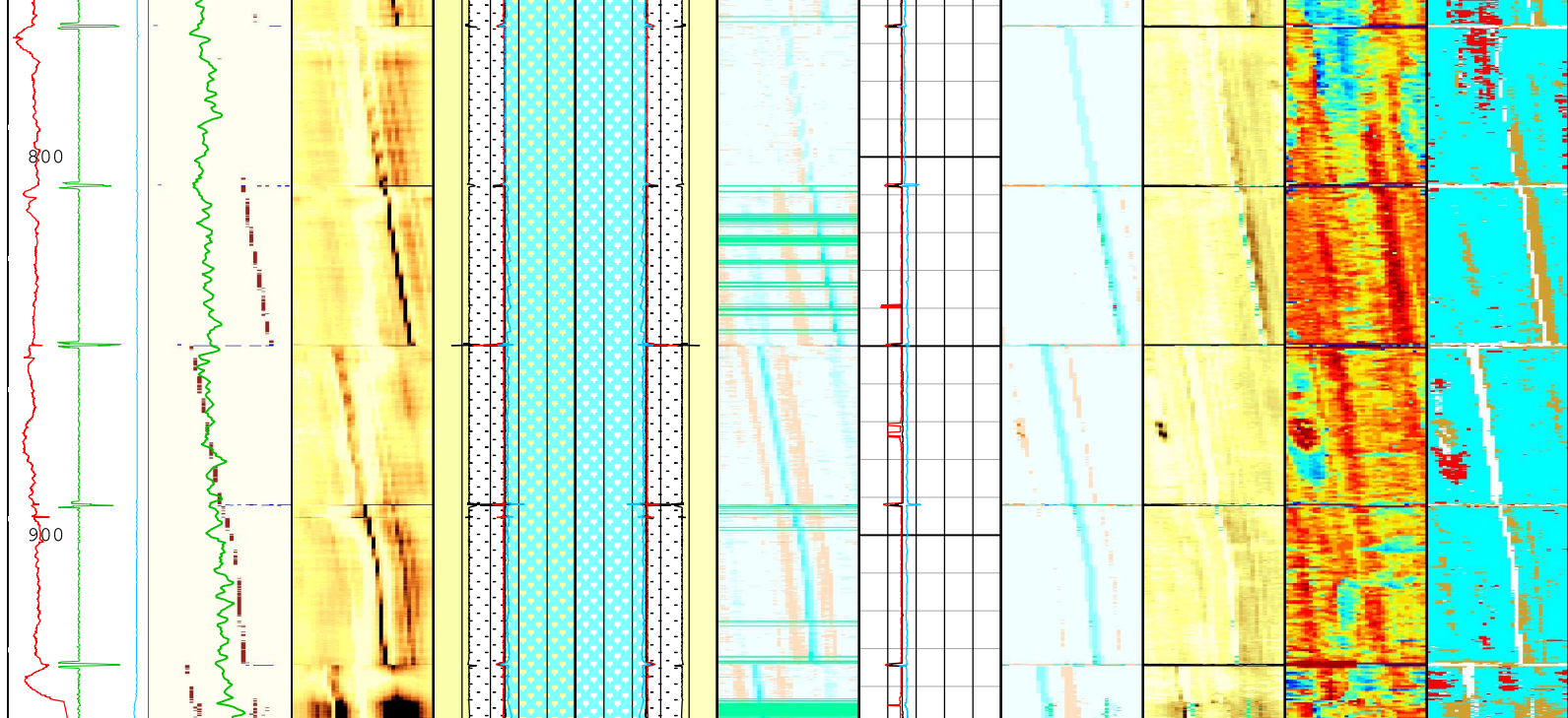
Description: USI IBC SLG Composite Format: Log (IBC SLG Composite 5.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 25-Feb-2022 17:54:40

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 Locator Ultrasonic (CCLU) USIT-E -20 in 20	Absent 1.500 3.500 Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E USIT Processing Flags (UFLG[0]) USIT-E 1 5 Gamma Ray (ECGR_EDTC) EDTC-B 0 gAPI 150	Absent -5.200 -3.600 -2.000 -0.400 Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E (dB)	External Radii Average (ERAV) USIT-E 2.5 in 1.5	External Radii Average (ERAV) USIT-E 1.5 in 2.5	Absent -0.051 -0.012 0.028 0.068 Explicit Normalization USIT - Internal Radii Normalized (IRBK) USIT-E (in)	Thickness Minimum Value (THMN) USIT-E 0.1 in 0.6	Absent -0.051 -0.012 0.028 0.068 Explicit Normalization USIT - Casing Thickness Normalized (THBK) USIT-E (in)	Absent 1.500 3.500 5.500 7.500 Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)	Absent 42.000 66.000 90.000 114.000 Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)	Absent 1.500 3.500 Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E
Amplitude of Eccentering (ECCE) USIT-E 0 in 0.5			Internal Radius Averaged Value (IRAV) USIT-E 2.5 in 1.5	Internal Radius Averaged Value (IRAV) USIT-E 1.5 in 2.5		Thickness Average Value (THAV) USIT-E 0.1 in 0.6				
Motor Revolution Speed (RSAV) USIT-E 6 c/s 7.5			Internal Radius Maximum Value (IRMX) USIT-E 2.5 in 1.5	Internal Radius Maximum Value (IRMX) USIT-E 1.5 in 2.5		Thickness Maximum Value (THMX) USIT-E 0.1 in 0.6				
			Internal Radius Minimum Value (IRMN) USIT-E 2.5 in 1.5	Internal Radius Minimum Value (IRMN) USIT-E 1.5 in 2.5						

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 5.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
 Creation Date: 25-Feb-2022 17:54:40

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
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Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	8026	ft
CDEN	Cement Density	USIT-E	13.5	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	9	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	-12.61	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.	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.08	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.25	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.62	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
ZMUD	Acoustic Impedance of Mud	Borehole	1.61	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	12.25	750	944
BS	7.875	944	950

All depth are actual.

Tool Control Parameters

One: Parameters

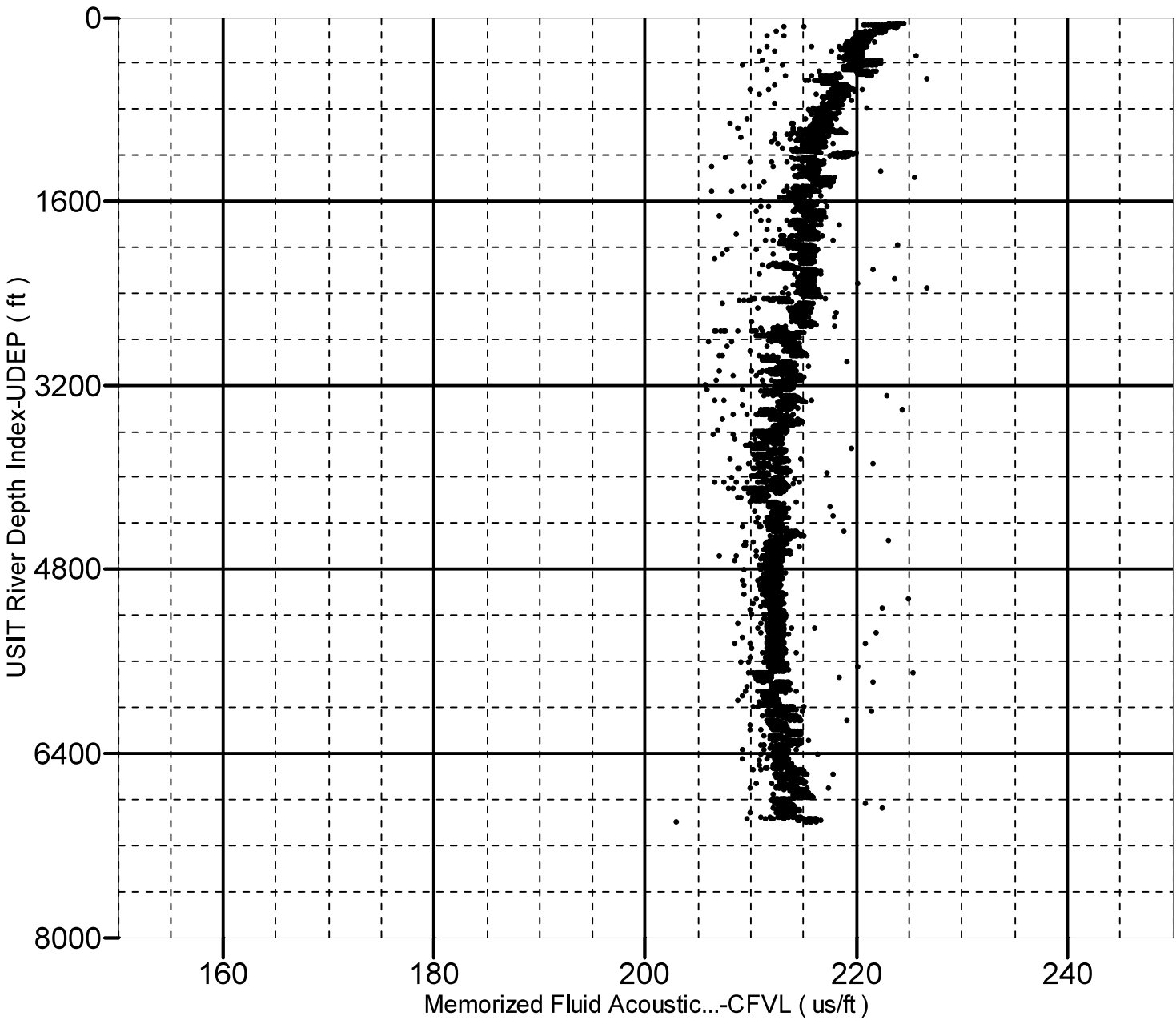
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	40	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	DVR 1/4 and 1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 1.5 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	1.5 in	

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 54.50 to 7008.00 ft

● CFVL-UDEP

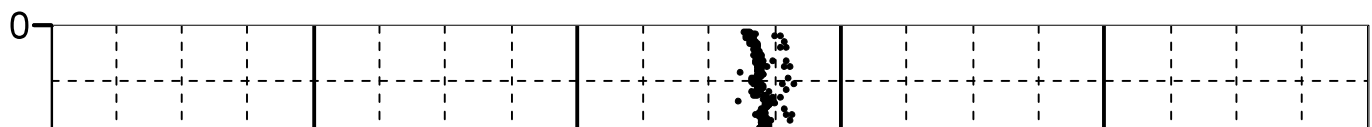


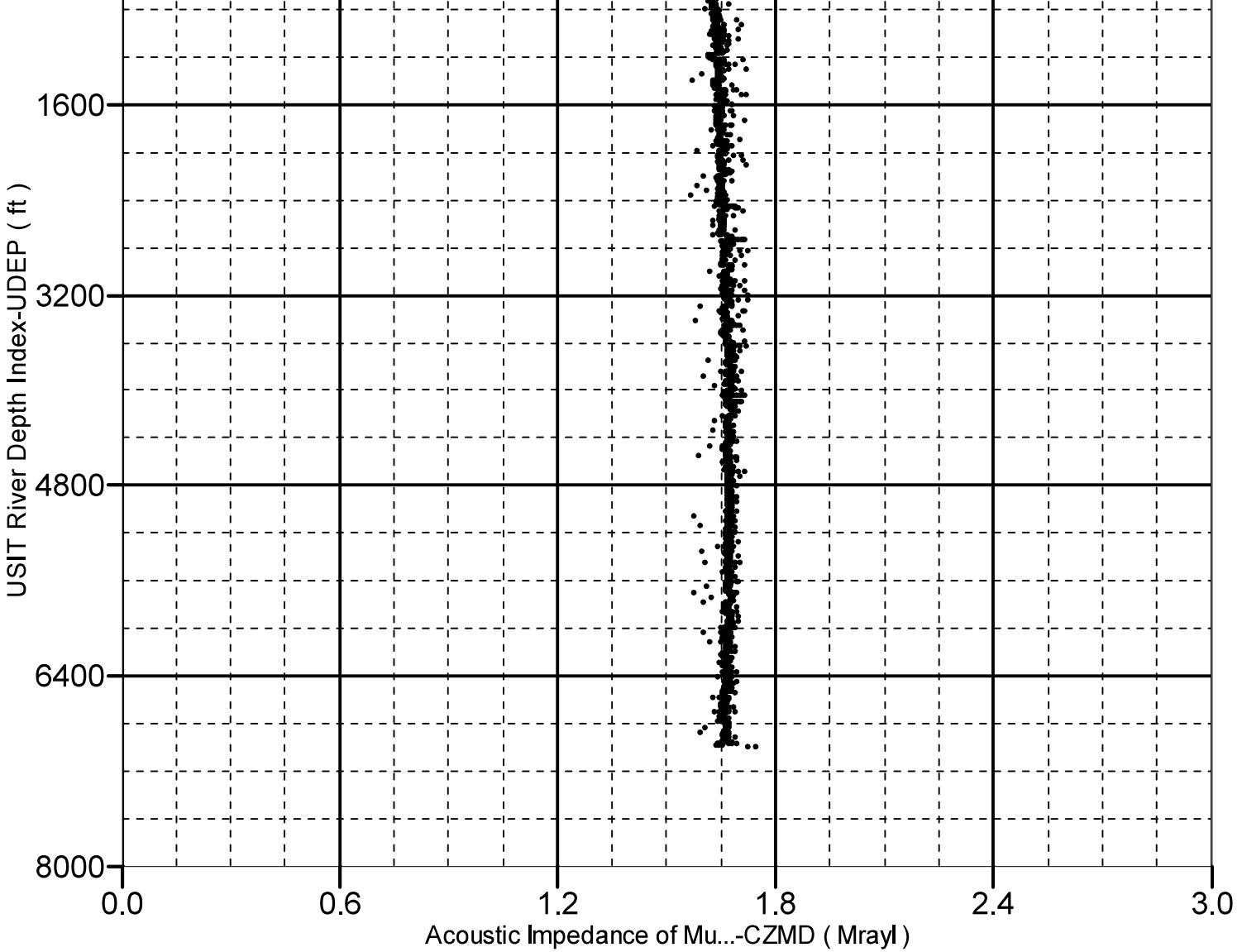
Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 54.50 to 7008.00 ft

● CZMD-UDEP





Company: Occidental Petroleum Inc

Schlumberger

Well: Warner 11-18

Field: Wattenberg

County: Weld

State: Colorado

Isolation Scanner

Cement Evaluation

Gamma Ray - CCL