

Company: Crestone Peak Resources Operating LLC

Well: Davis 1K-9H-G266

Field: Wattenberg

County: Weld State: Colorado

Isolation Scanner
Cement Evaluation
Gamma Ray - CCL Log

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

Location:		SWNE Sec. 9, T2N, R66W SHL: 1969' FNL & 1428' FEL Lat/Long: 40.154416, -104.777911	Elev.: K.B. 4940.00 ft G.L. 4917.00 ft D.F. 4940.00 ft
Permanent Datum:	Ground Level	Kelly Bushing	Elev.: 23.00 ft above Perm.Datum
Log Measured From:	Kelly Bushing		
Drilling Measured From:	Kelly Bushing		
API Serial No. 05-123-46517	Section: 9	Township: 2N	Range: 66W

Logging Date	21-Sep-2018
Run Number	ONE
Depth Driller	14765.00 ft
Schlumberger Depth	14765.00 ft
Bottom Log Interval	6522.00 ft
Top Log Interval	60.00 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	2124.00 ft
To	14765.00 ft
Casing/Tubing Size	5.5 in
Weight	20 lbm/ft
Grade	N/A
From	0.00 ft
To	14765.00 ft
Max Recorded Temperatures	191.25 degF
Logger on Bottom	21-Sep-2018 11:30:00
Unit Number	9108
Recorded By	M. FUENMAYOR
Witnessed By	DUANNE DUNN

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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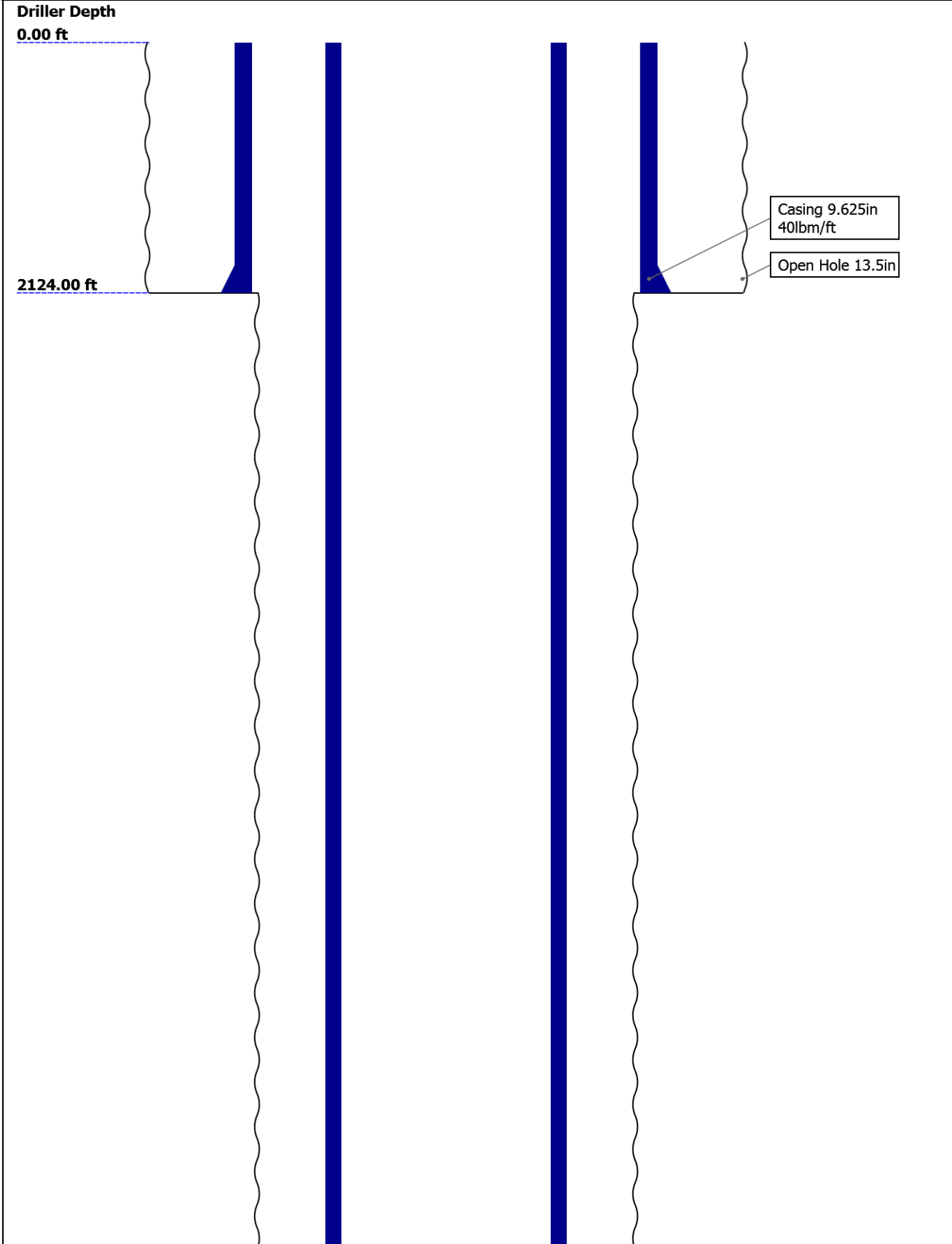
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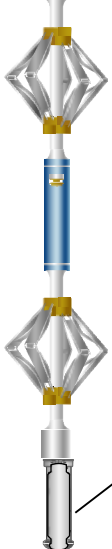
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Well Sketch



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>USI Sen 0.84 sor Head Te nsion</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)
Fluid Velocity			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance			
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
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	55.48 ft	6526.57 ft	21-Sep-2018 11:36:30 AM	21-Sep-2018 1:14:19 PM	ON	6.13 ft	Yes
All depths are referenced to toolstring zero									

Log	Company:Crestone Peak Resources Operating LLC Well:Davis 1K-9H-G266 ONE: Log[4]:Up:S005
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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: 21-Sep-2018 14:23:33

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

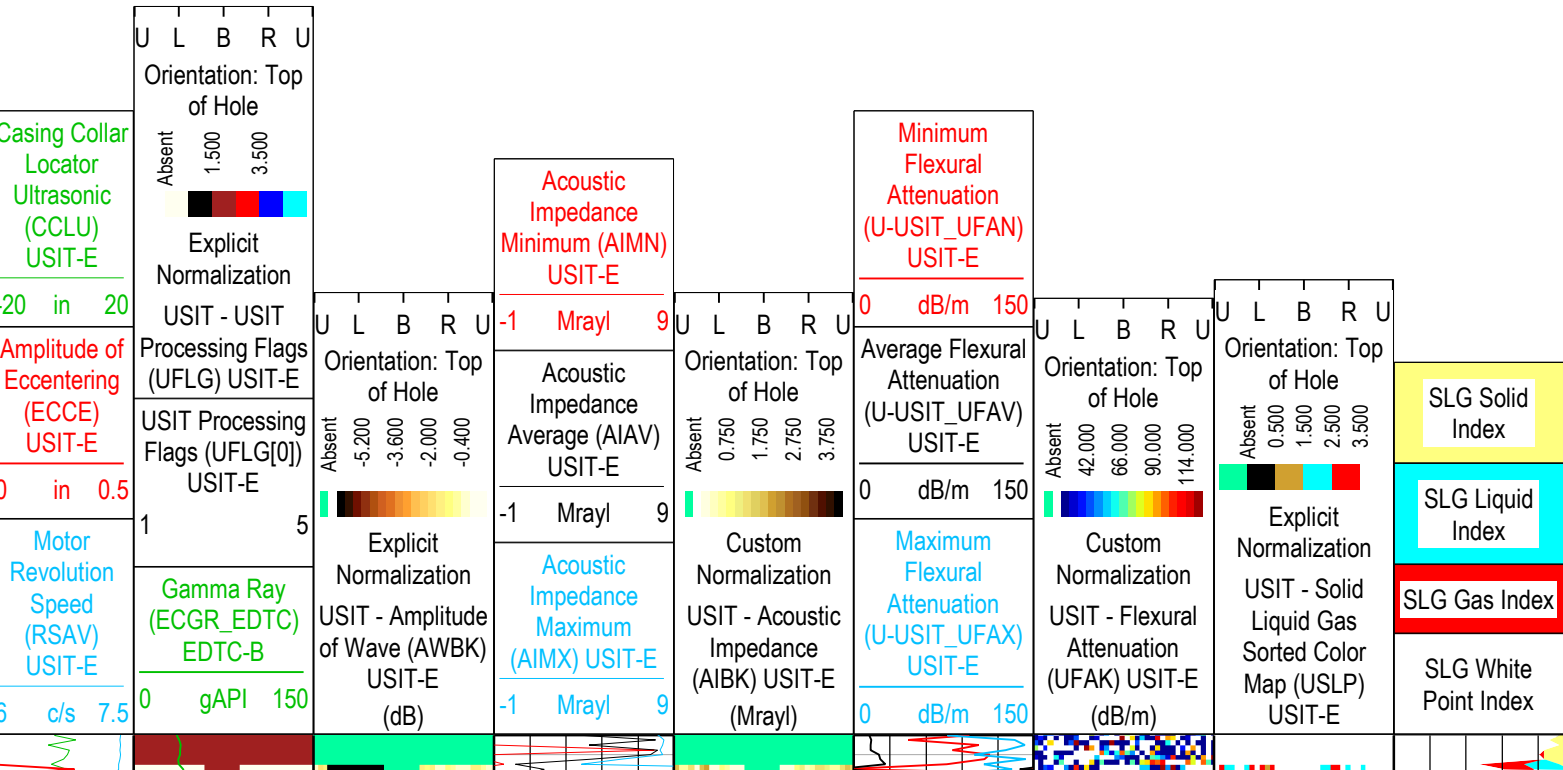
Pulse Origin Not Detected

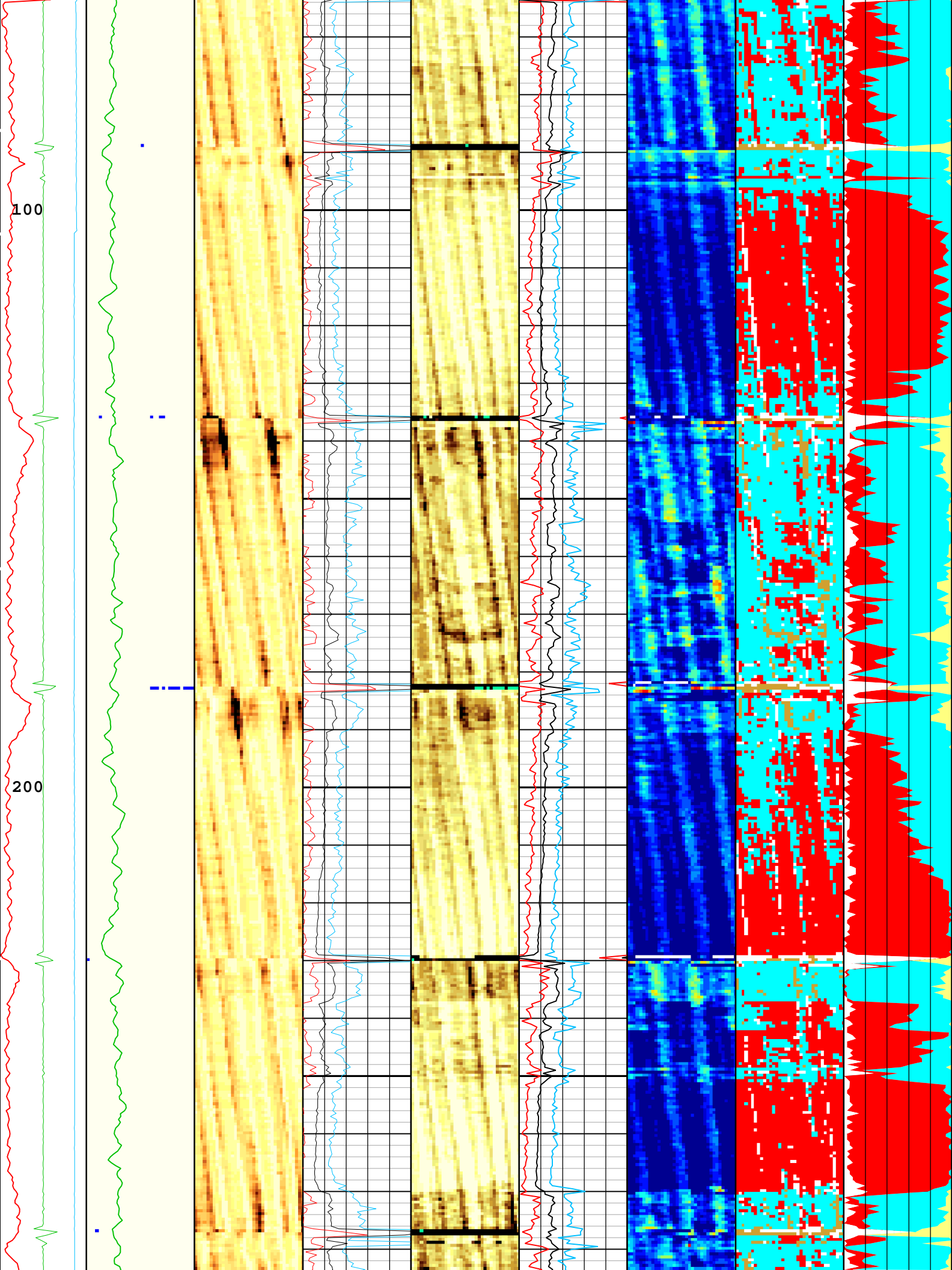
WINLEN Error

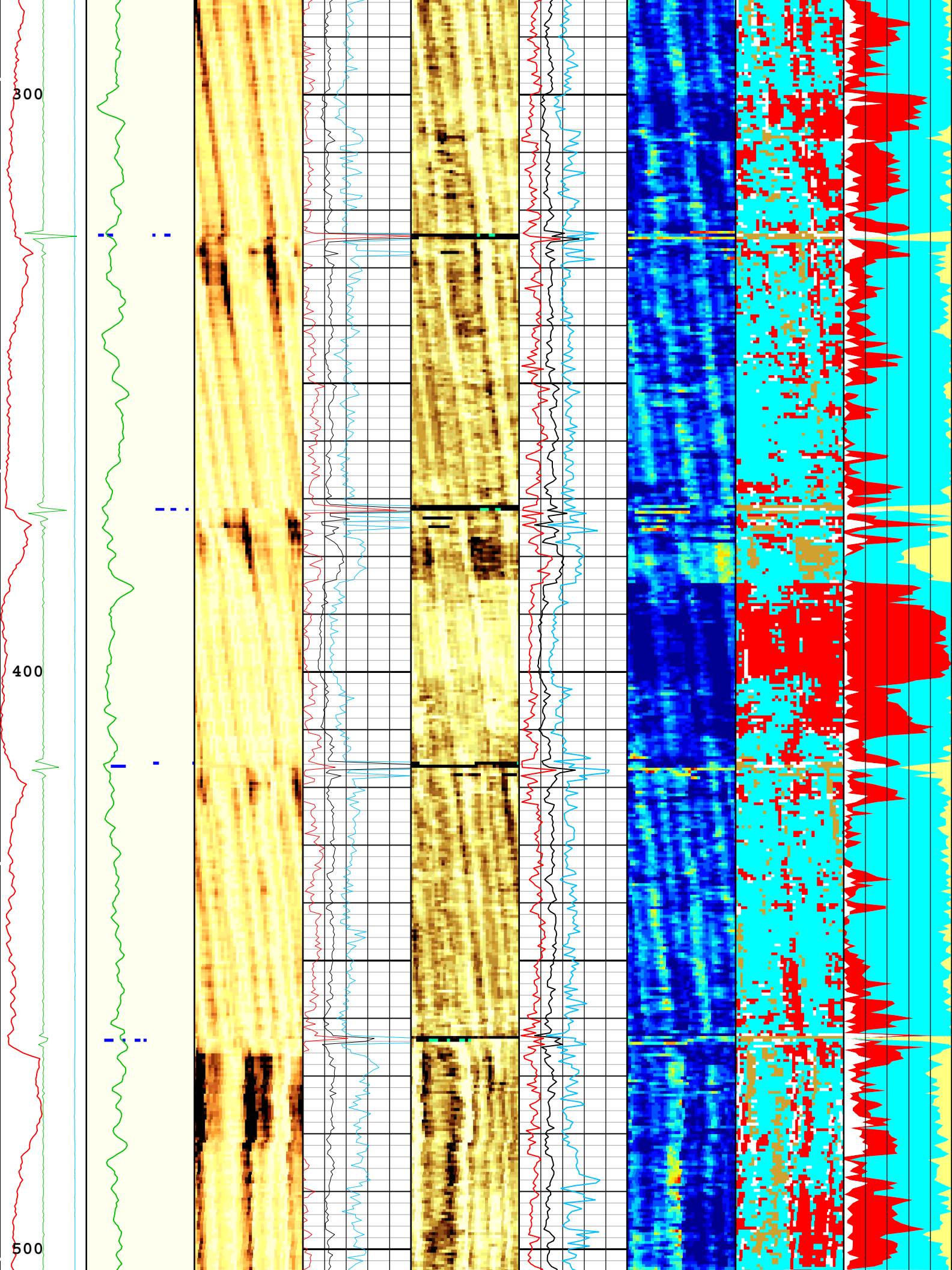
Casing Thickness Error

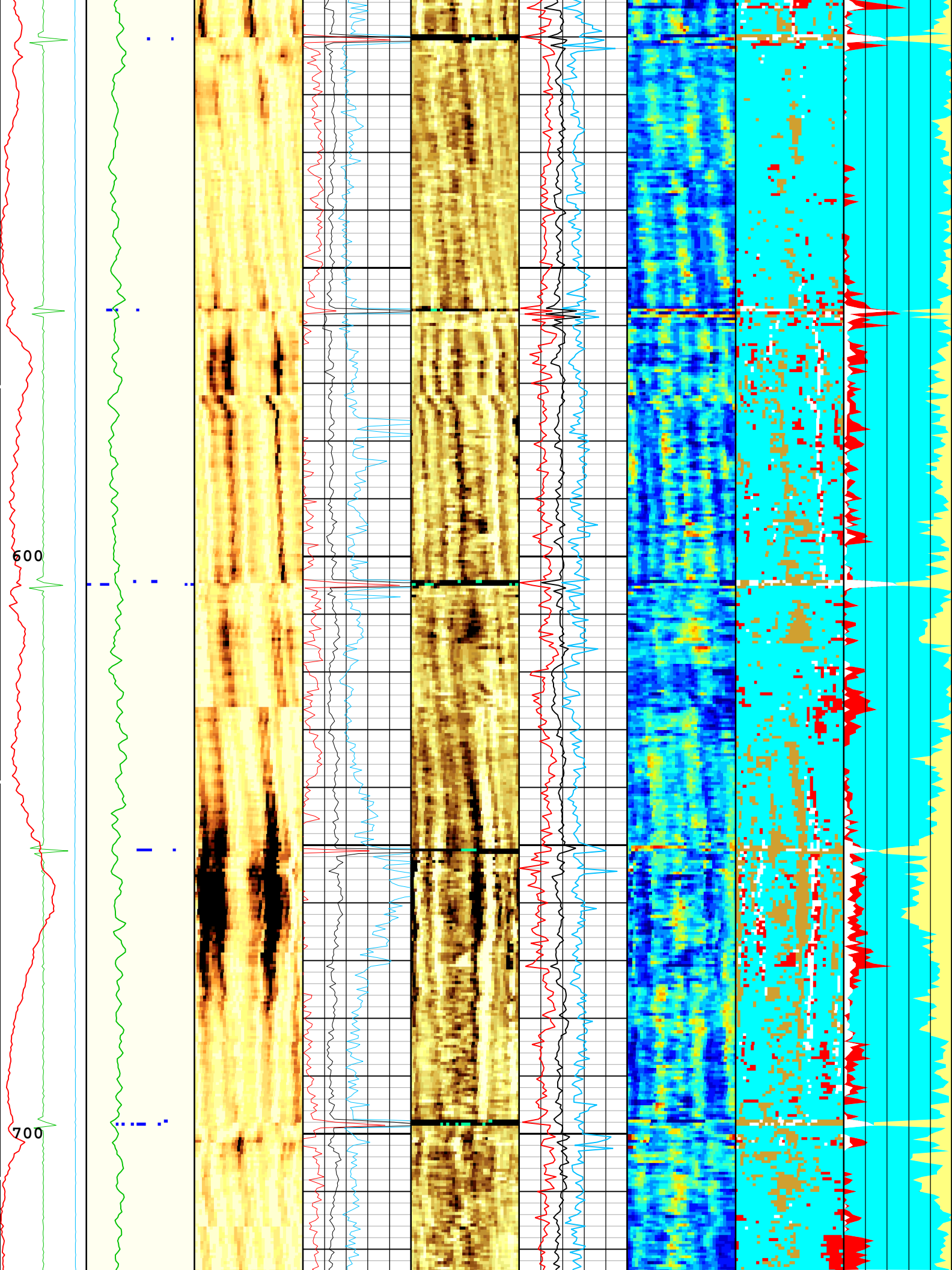
Loop Processing Error

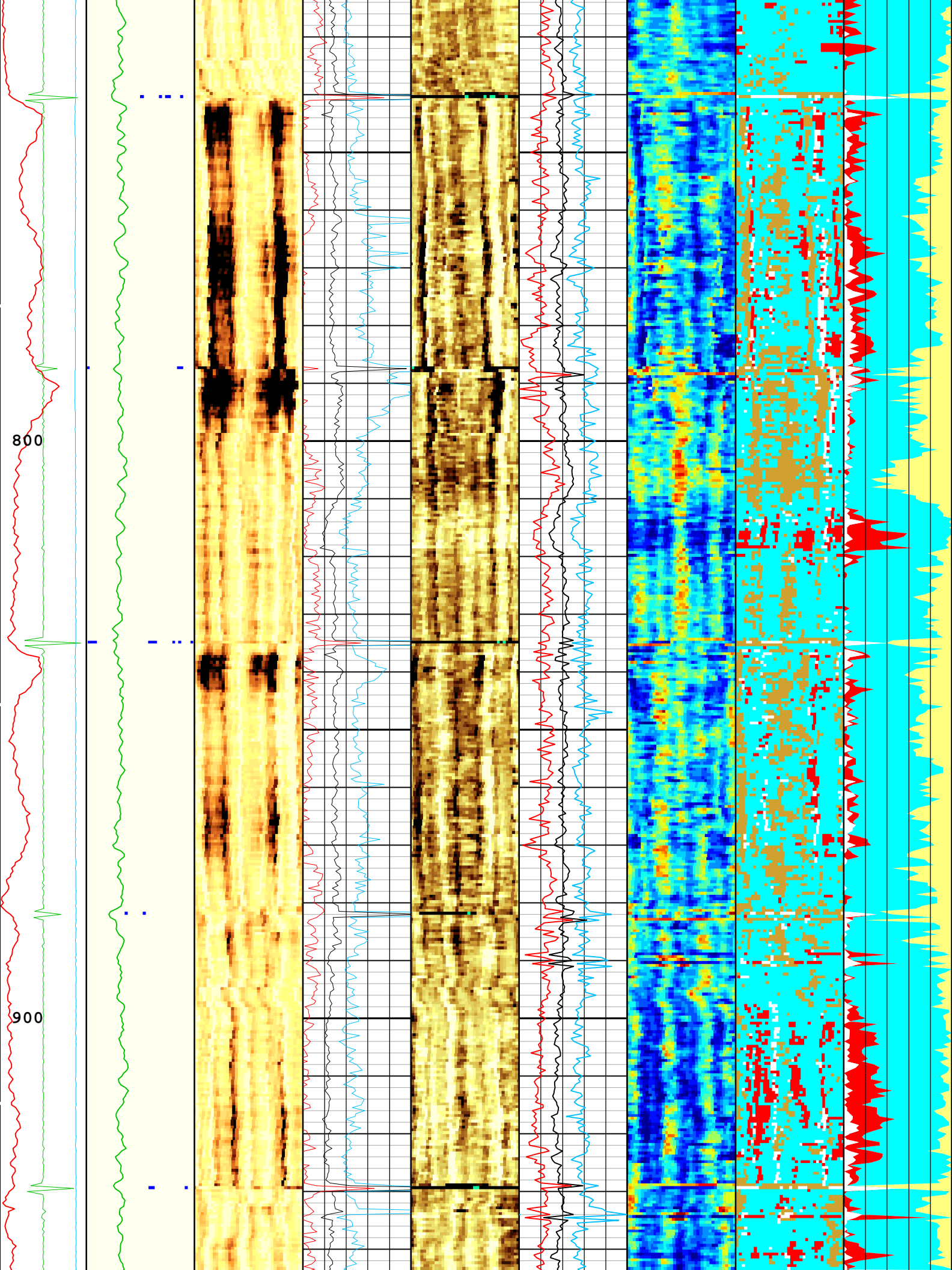
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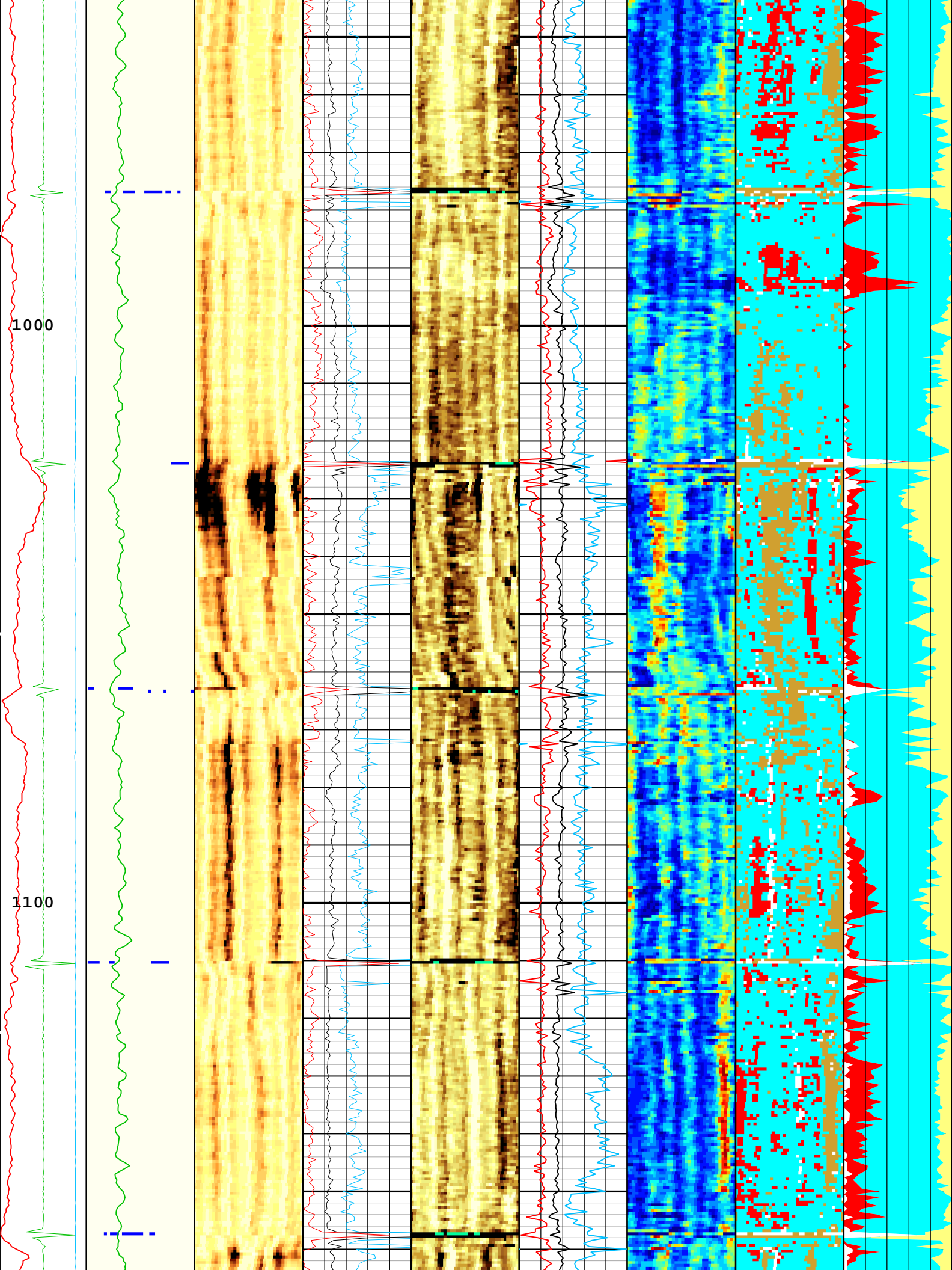


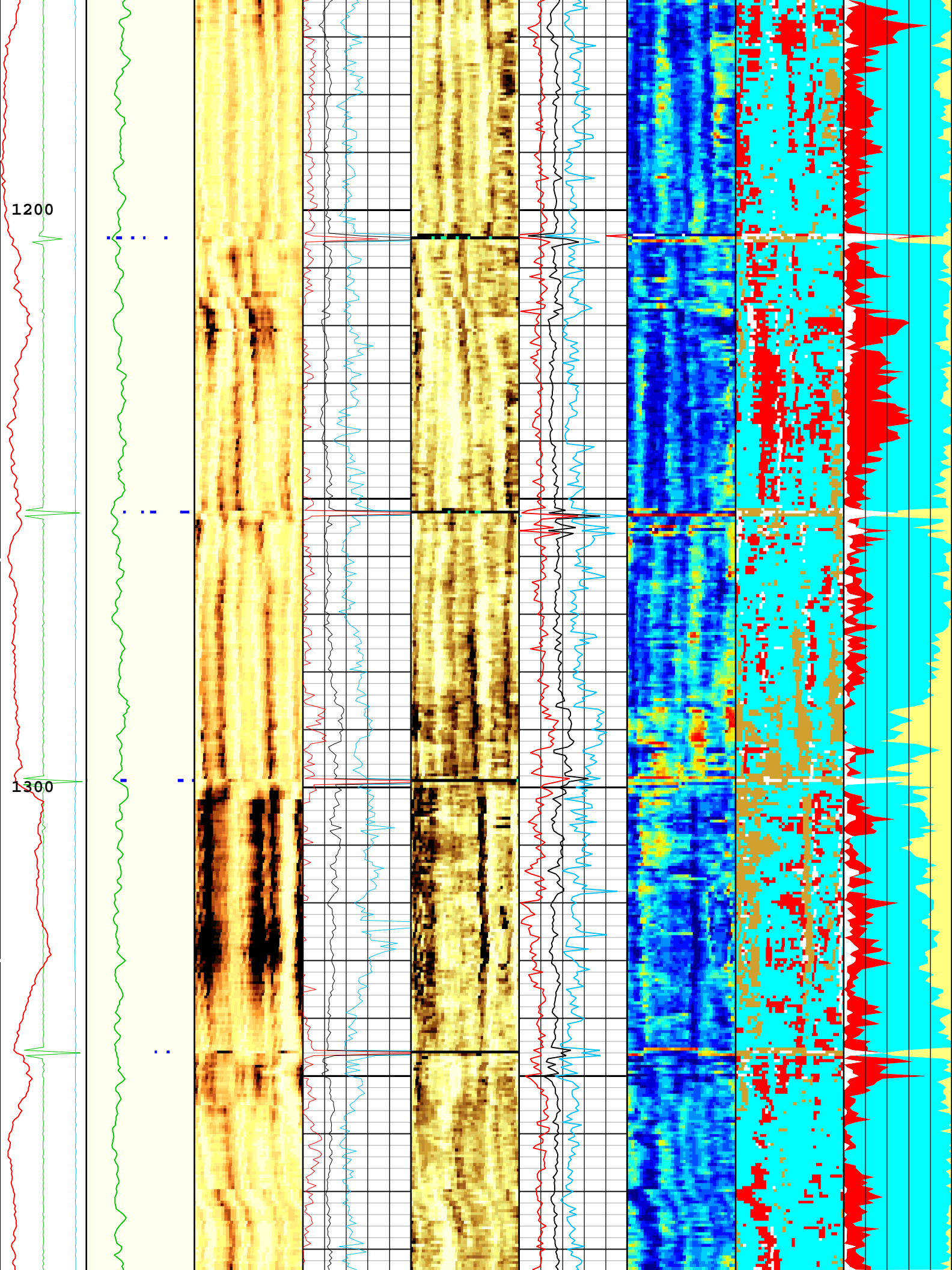


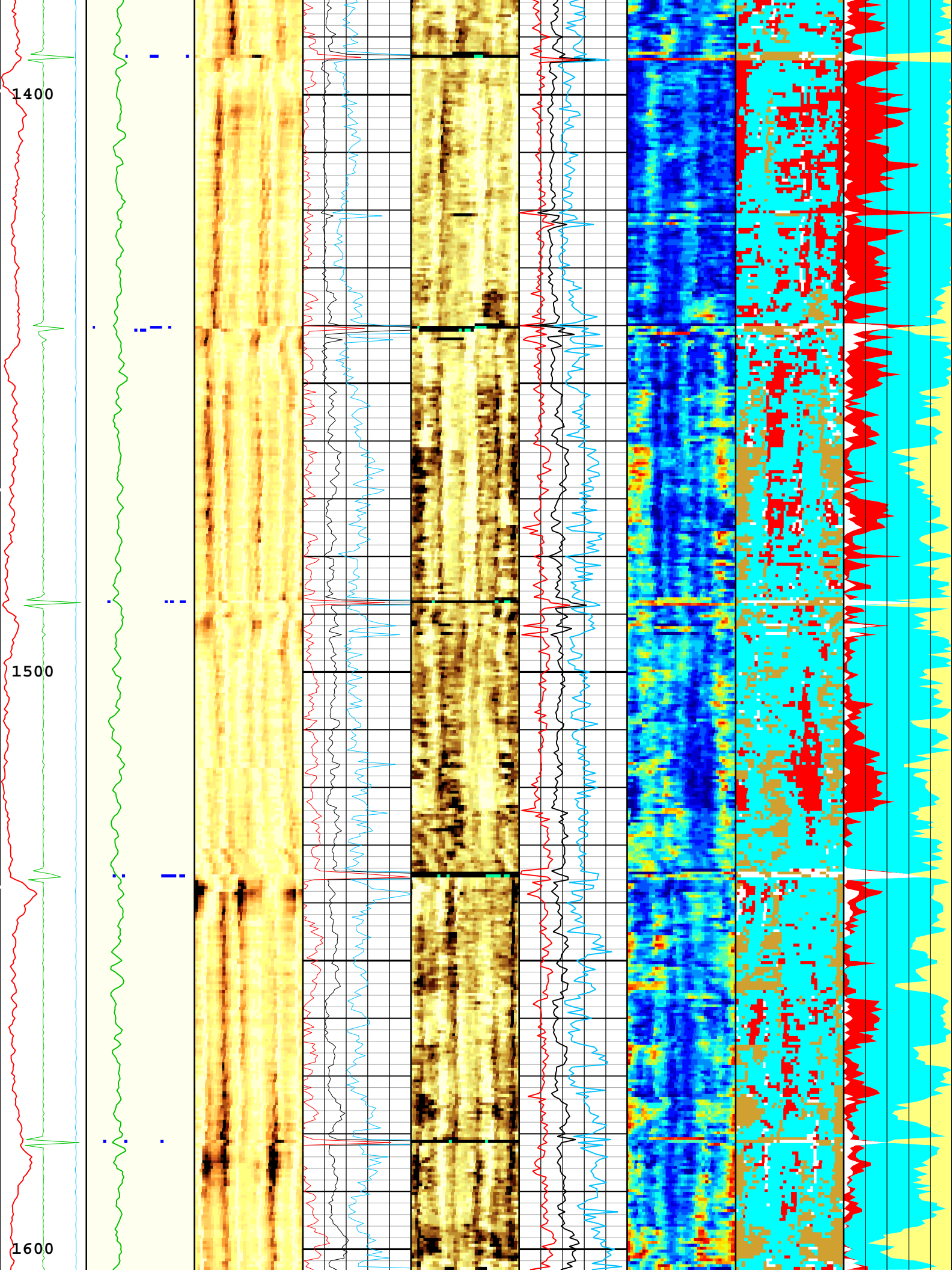


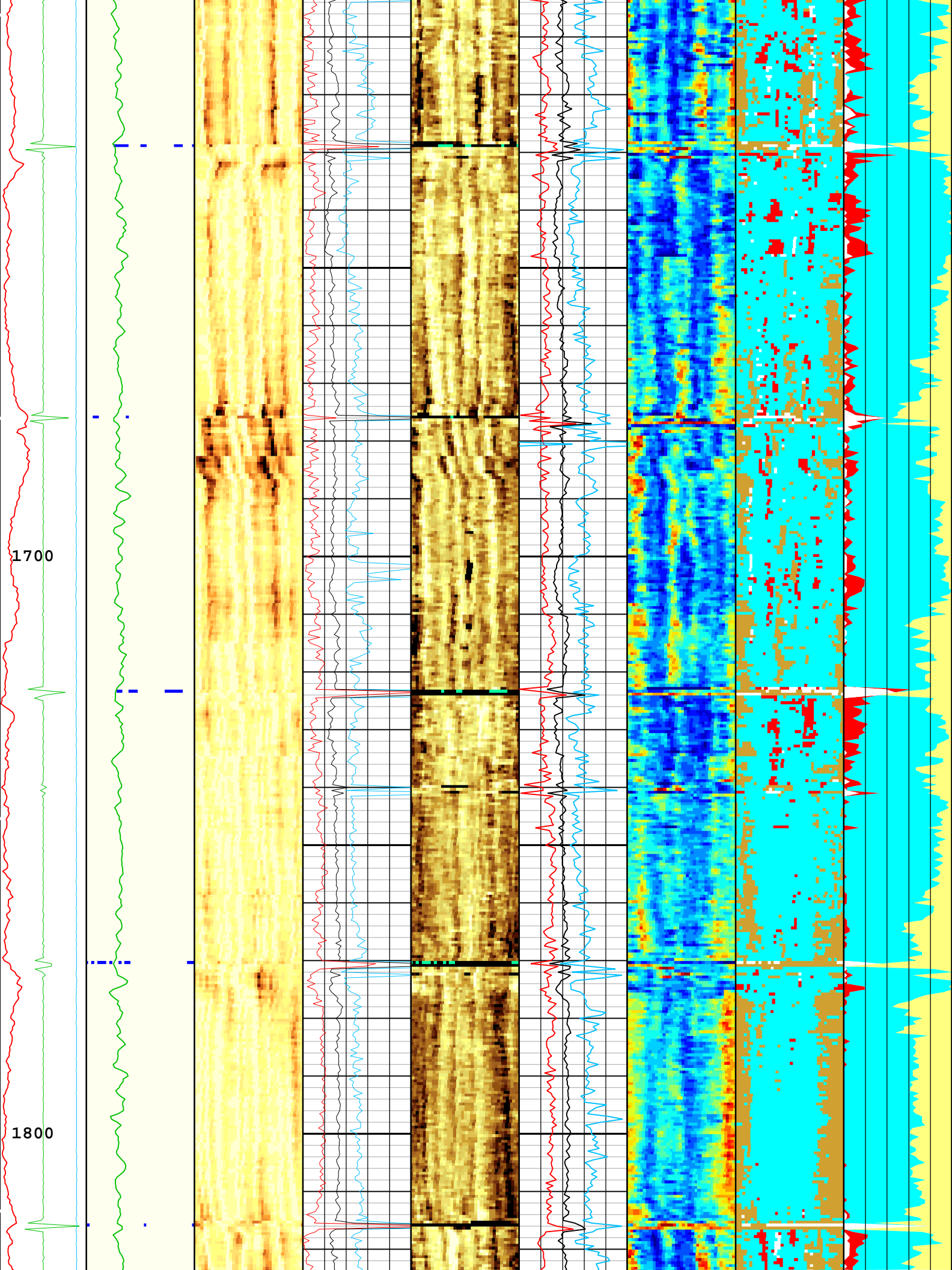


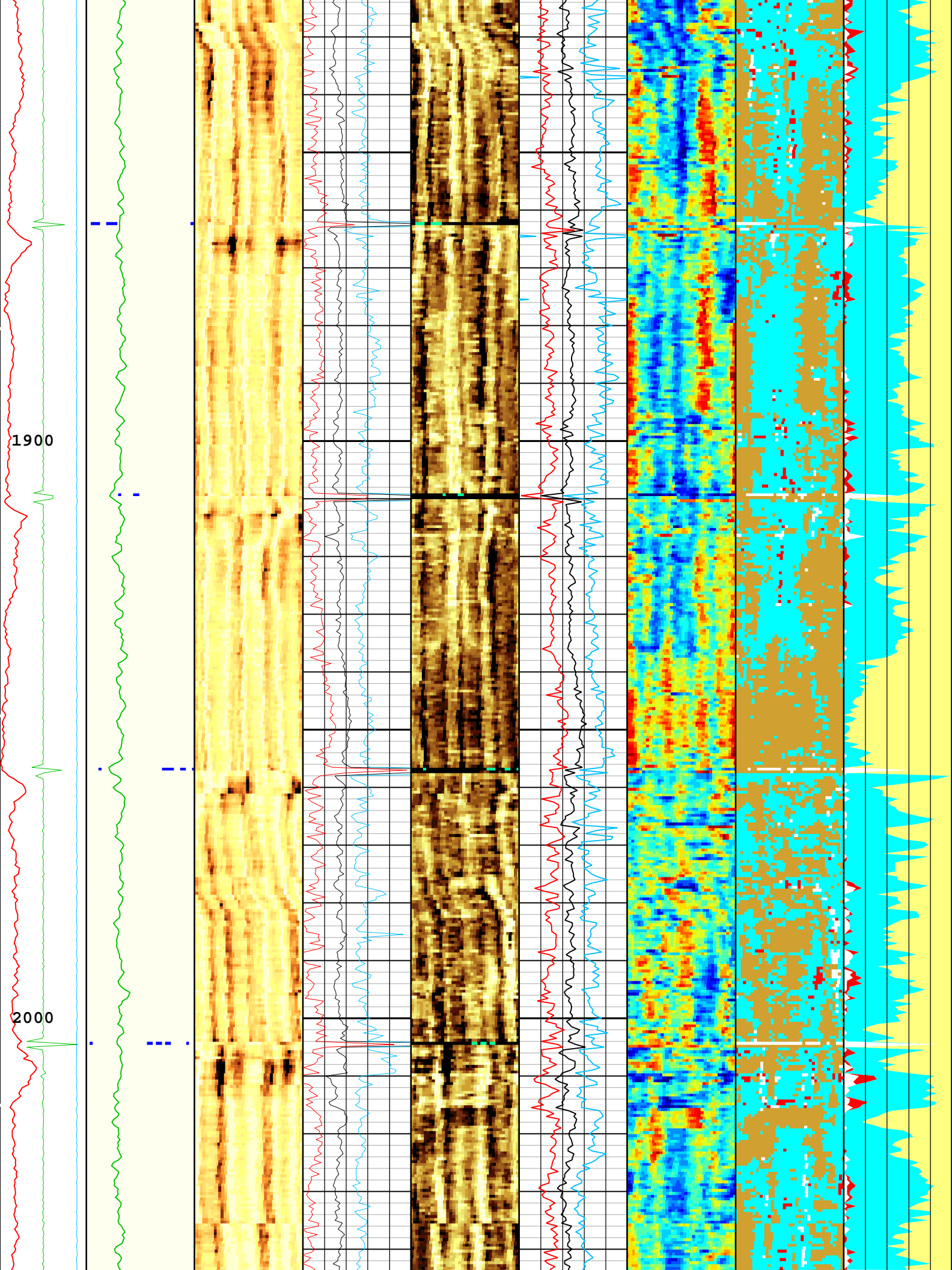


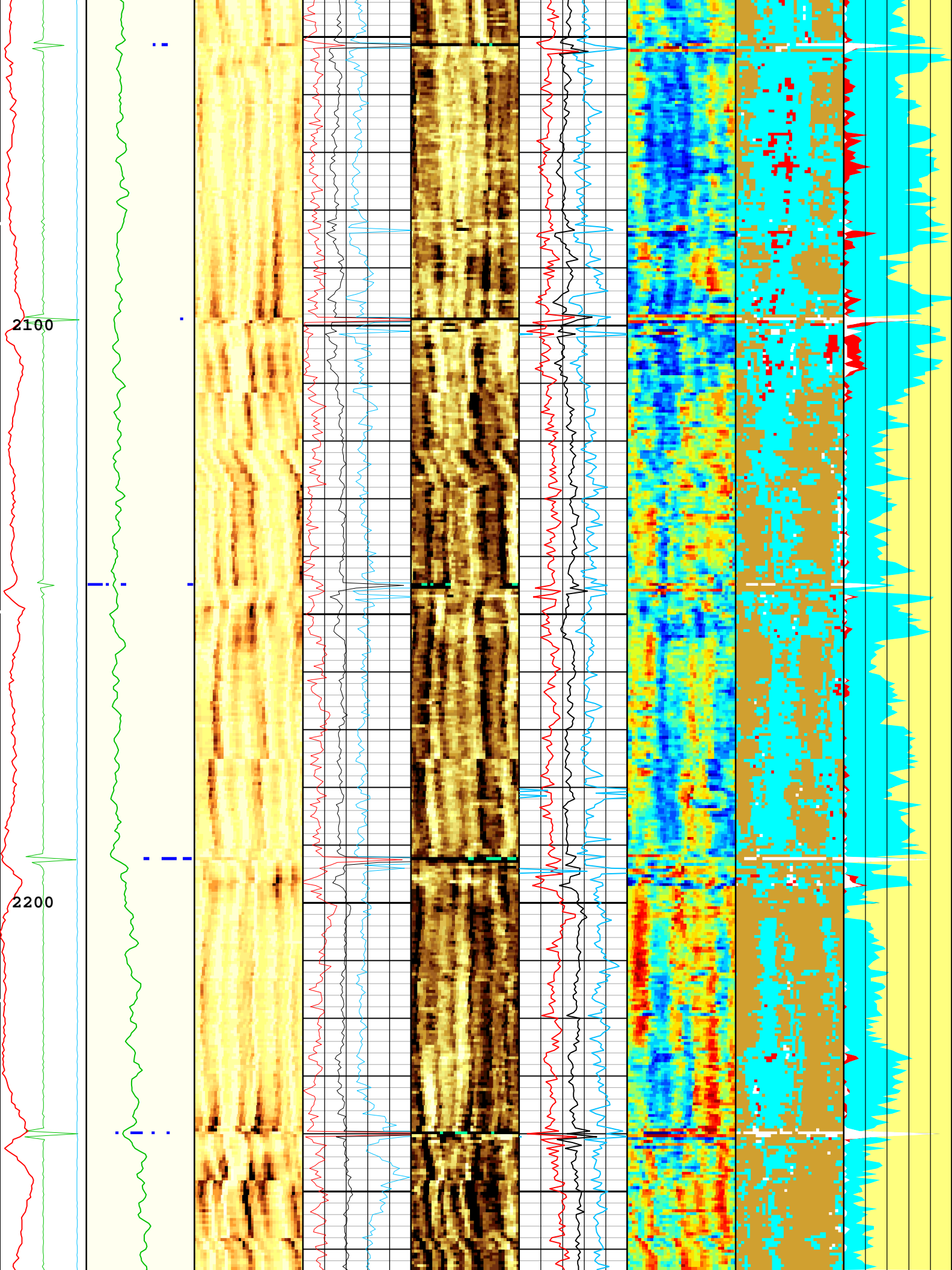


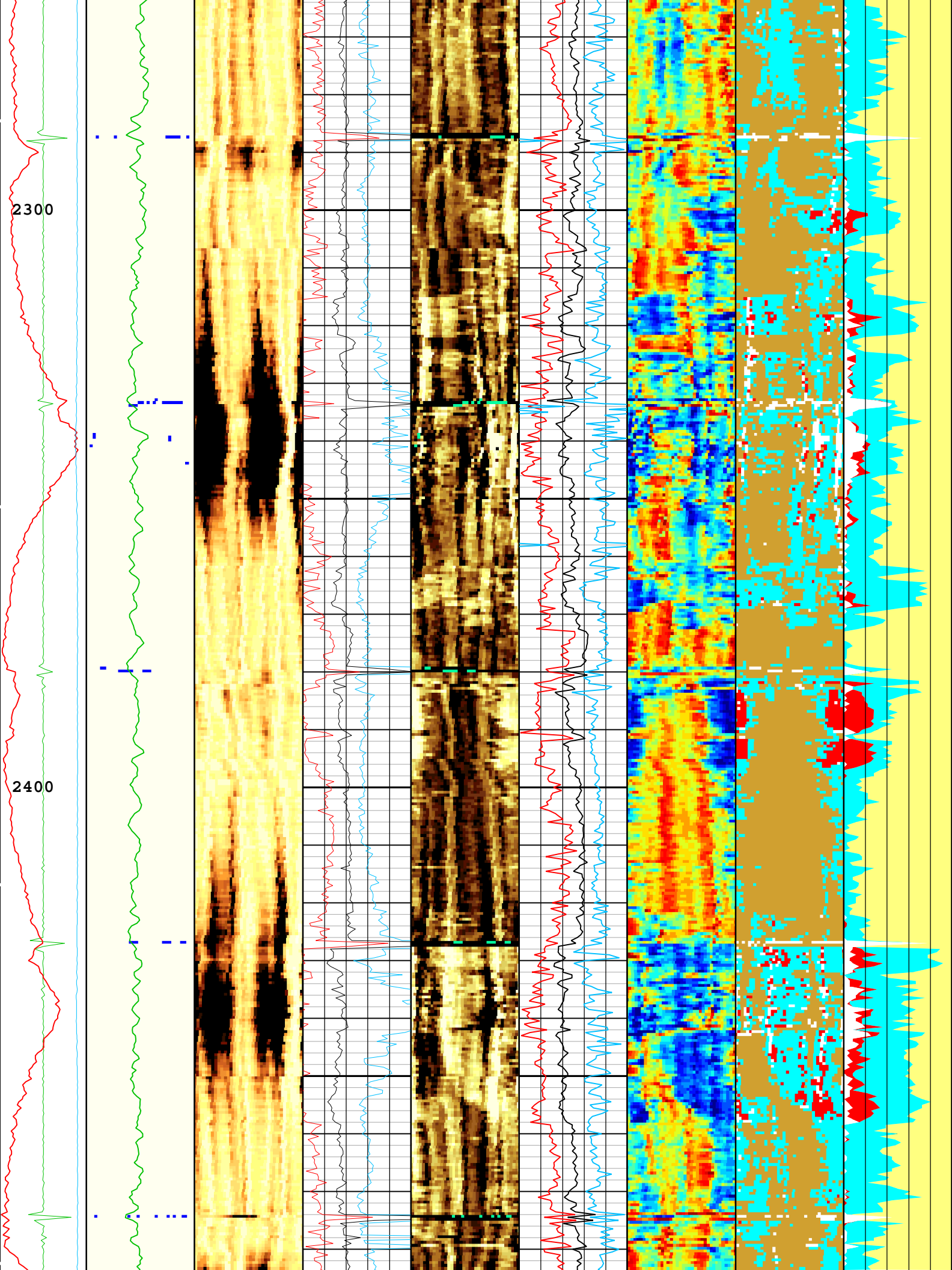


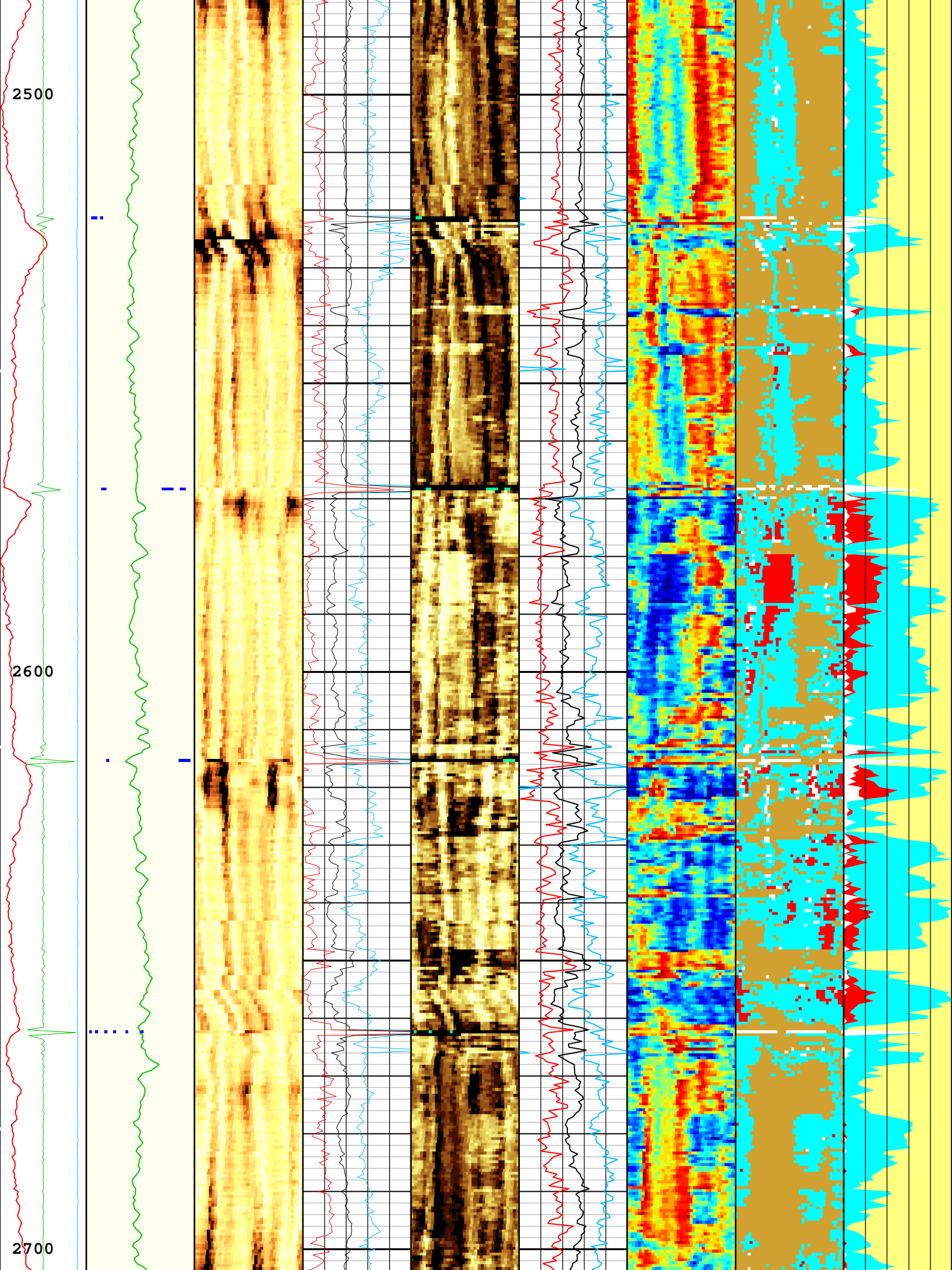


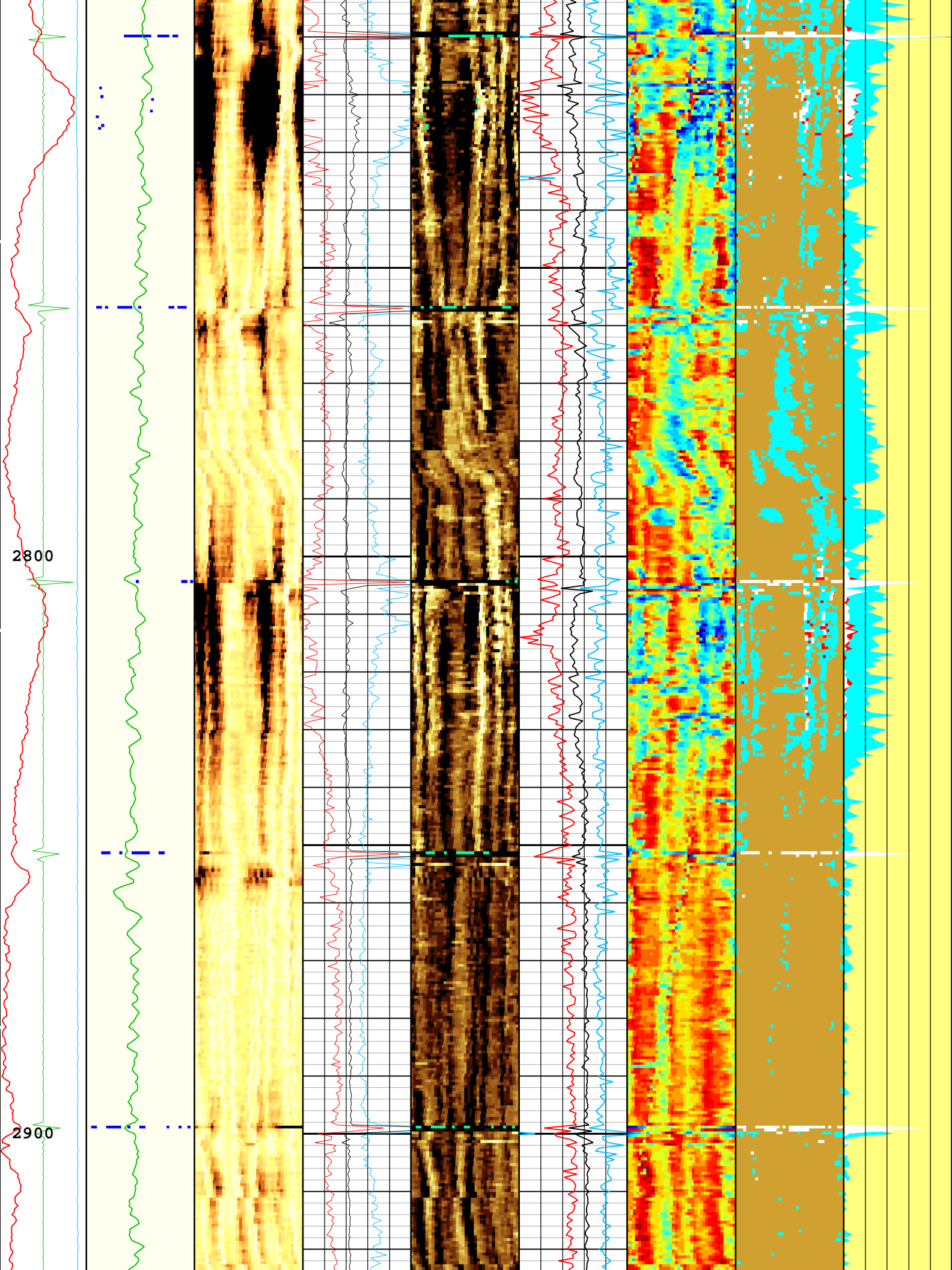


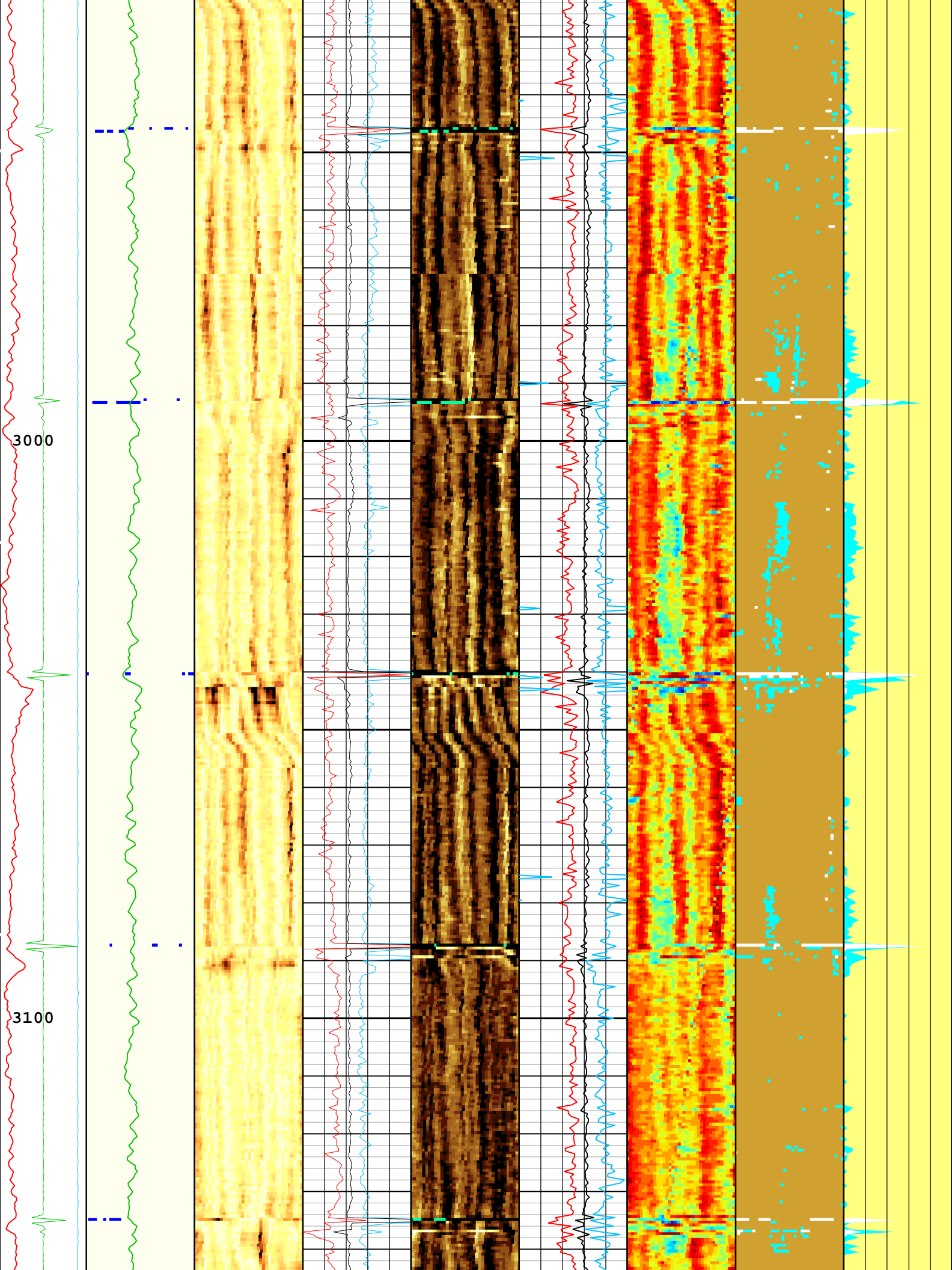


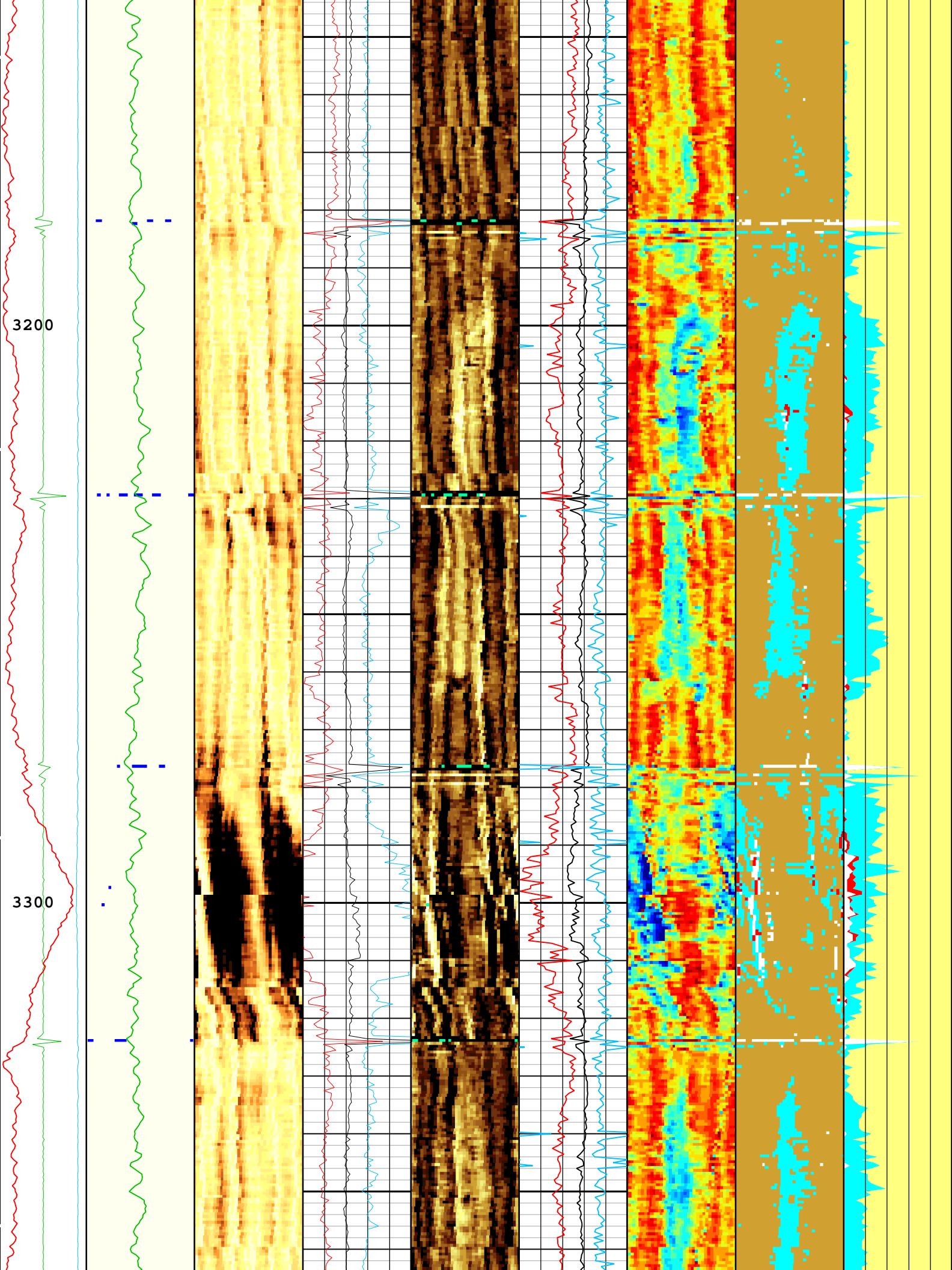


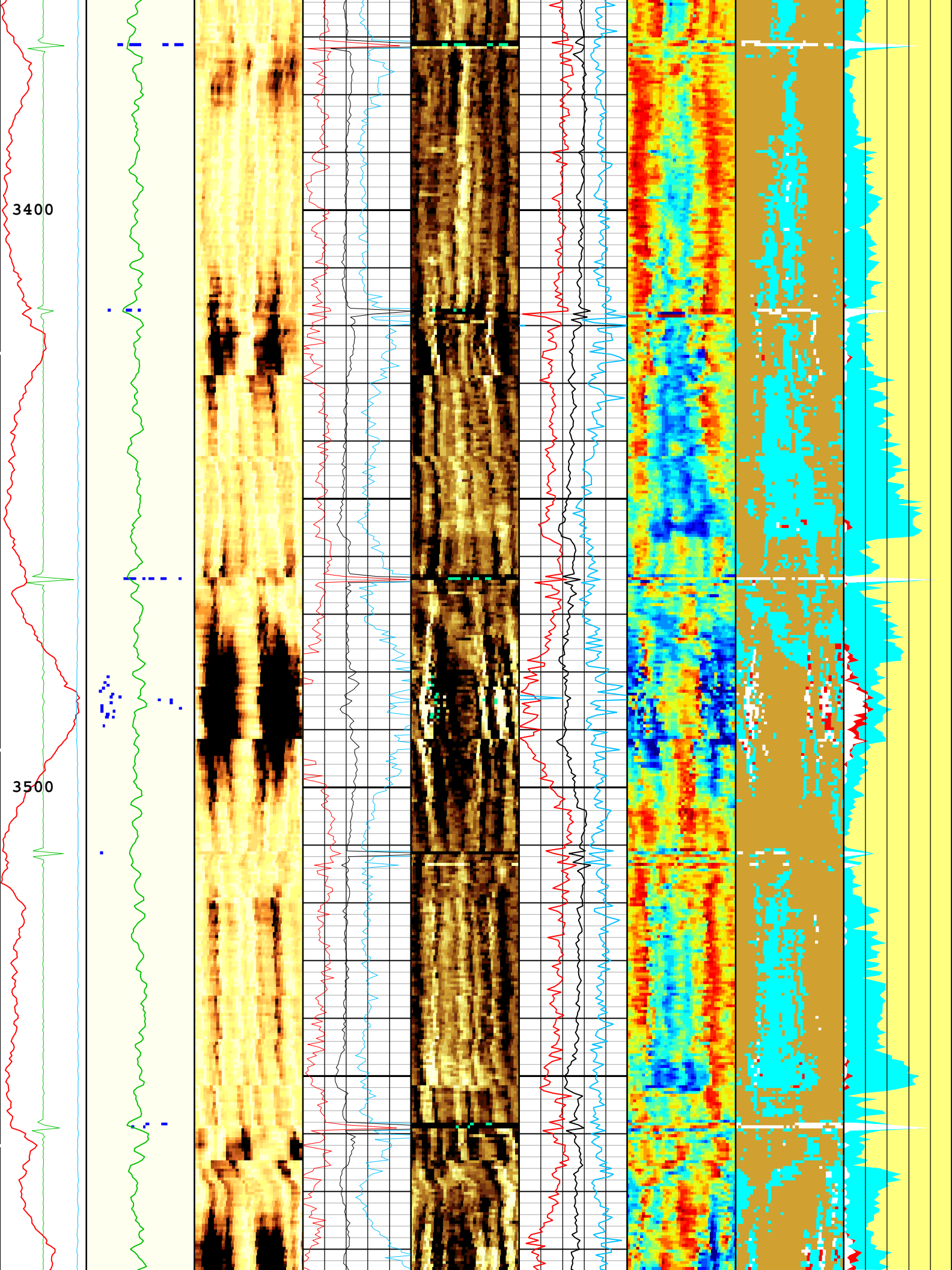


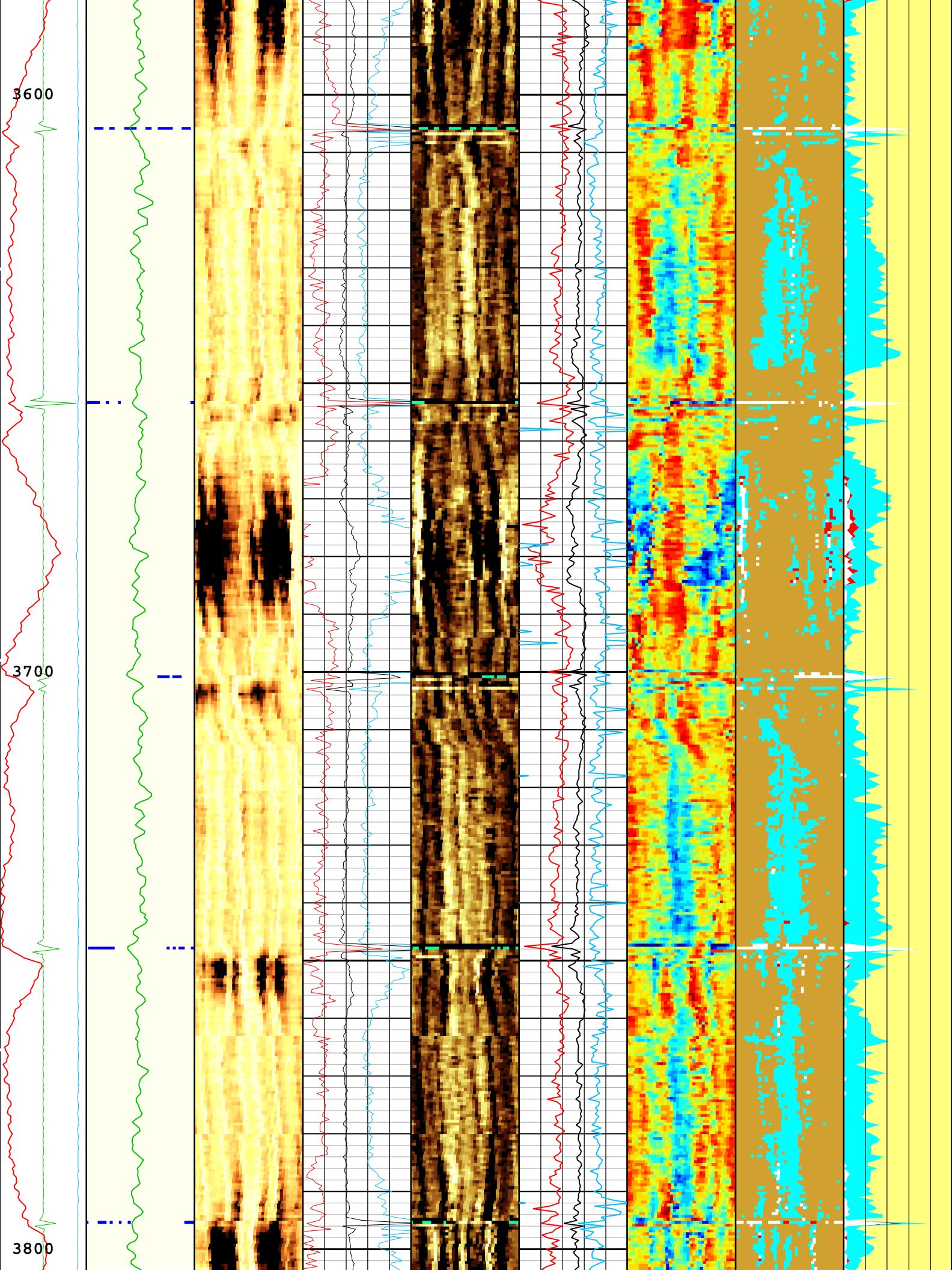


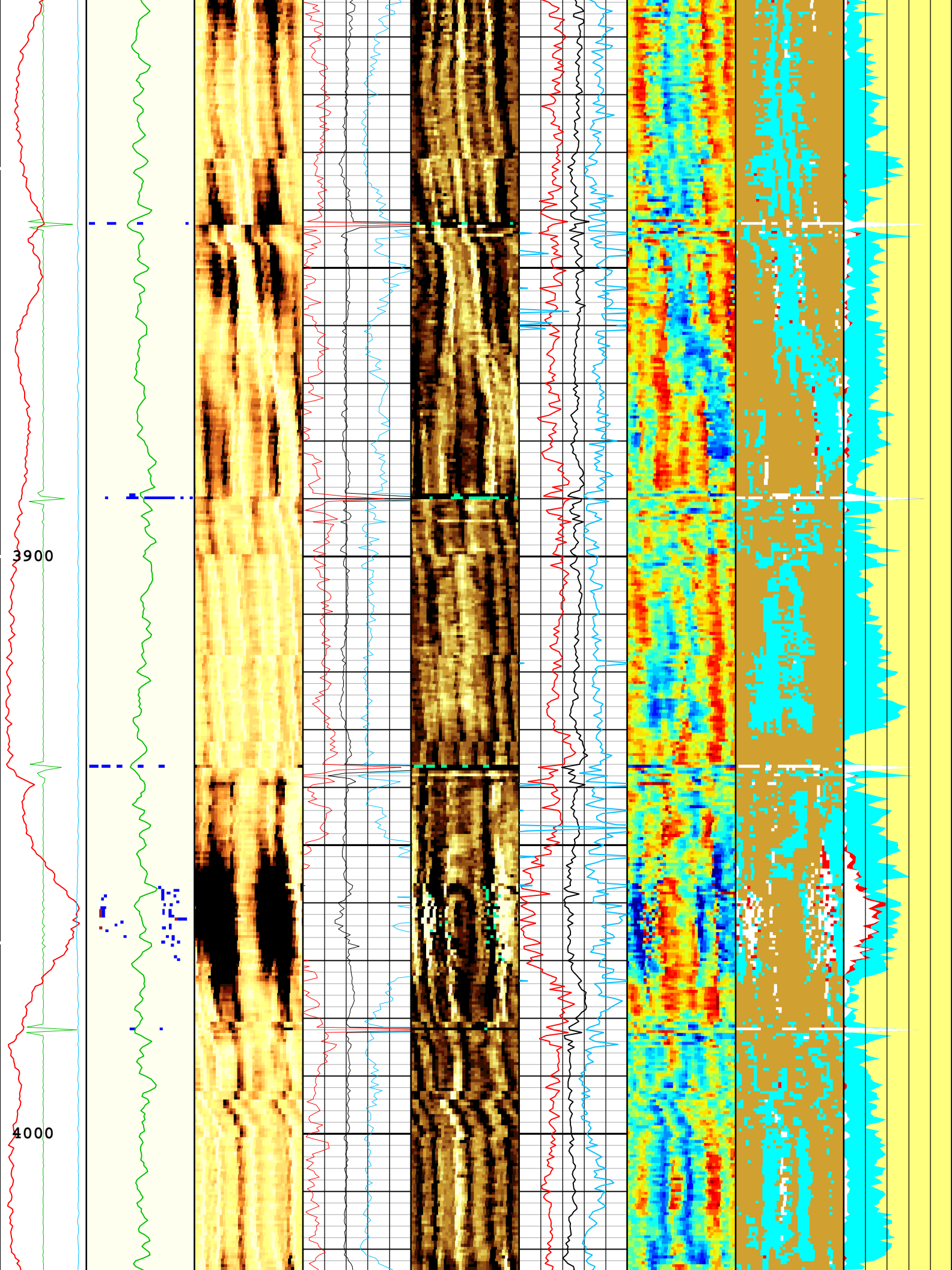


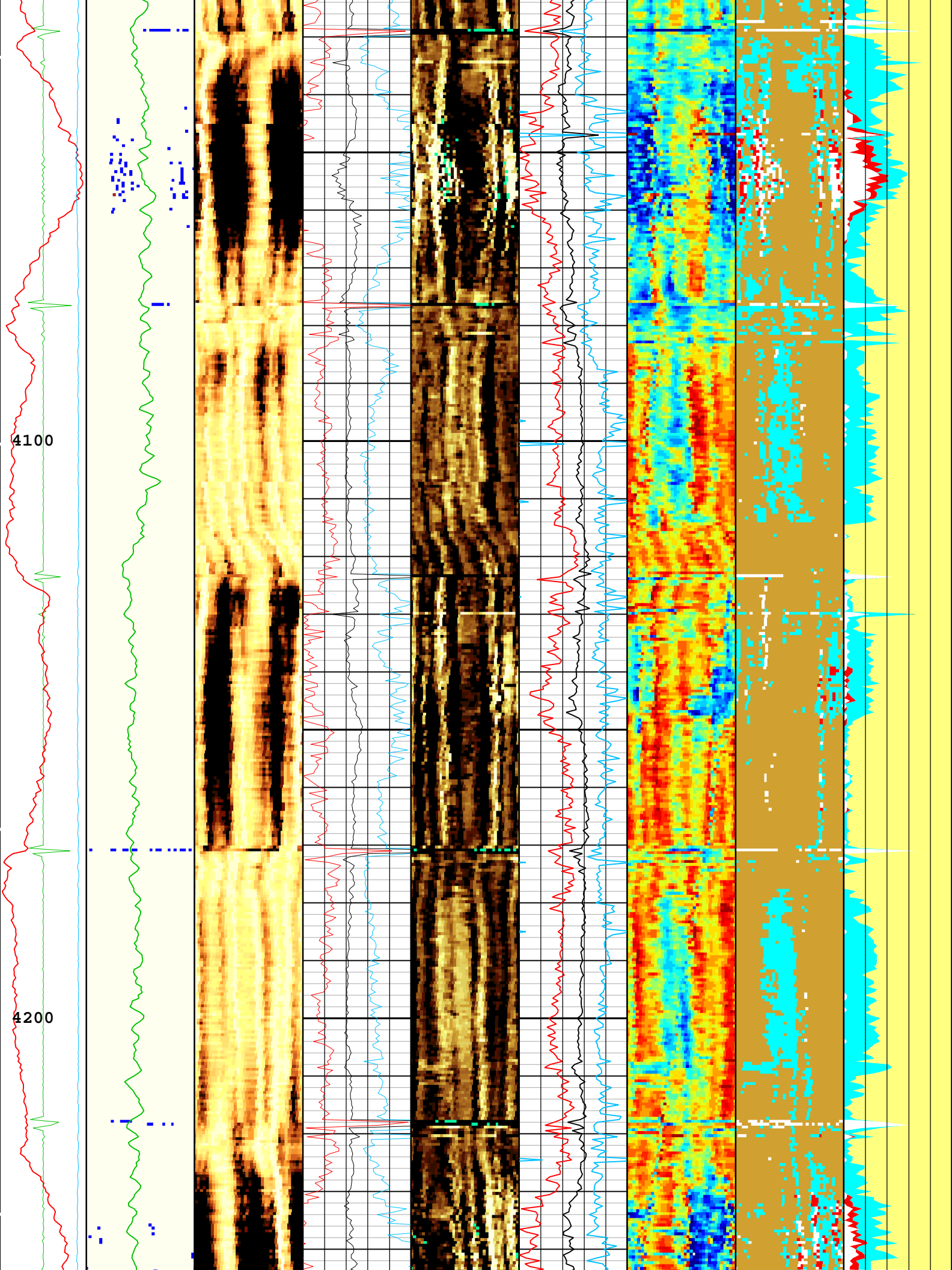


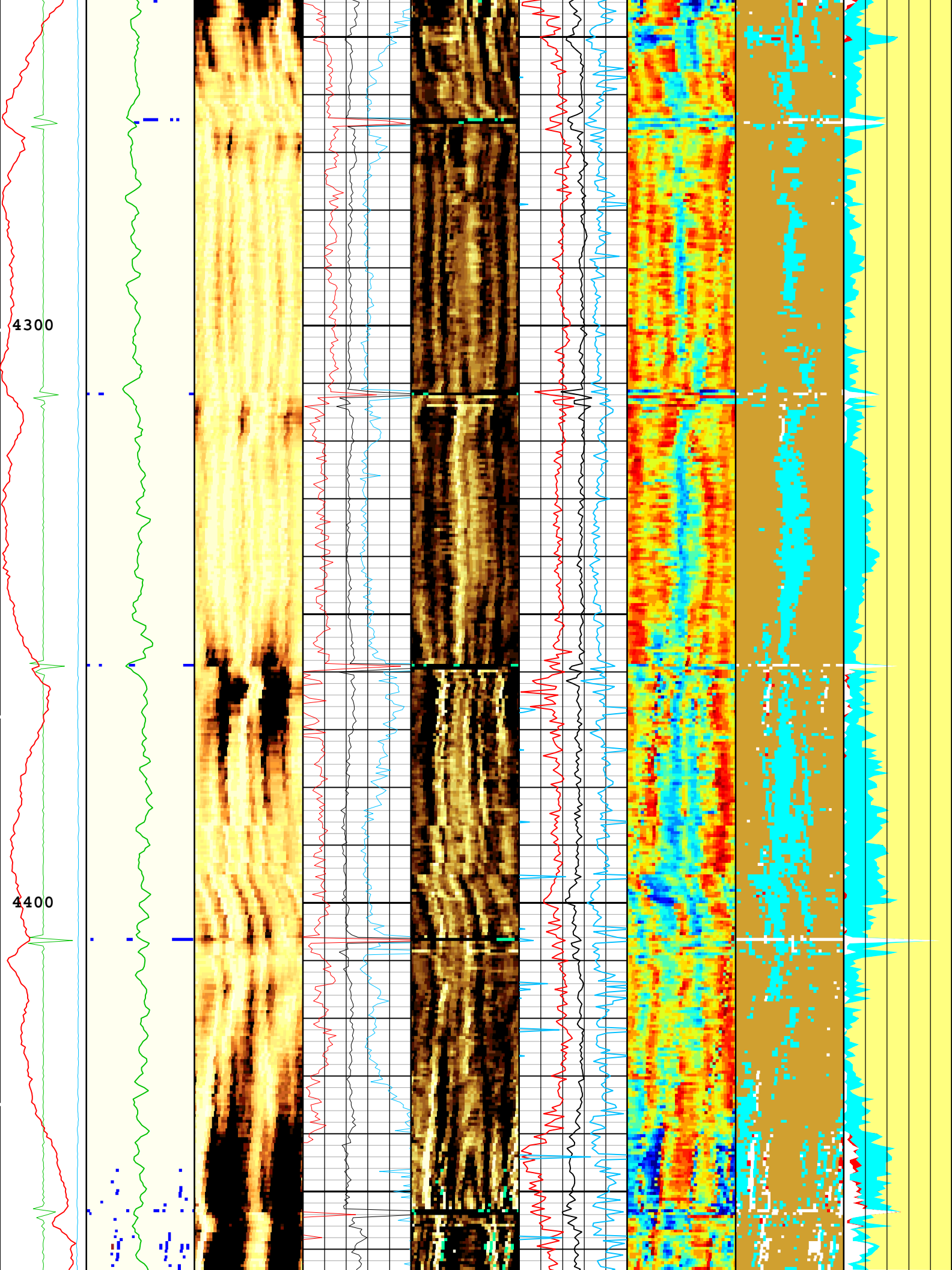


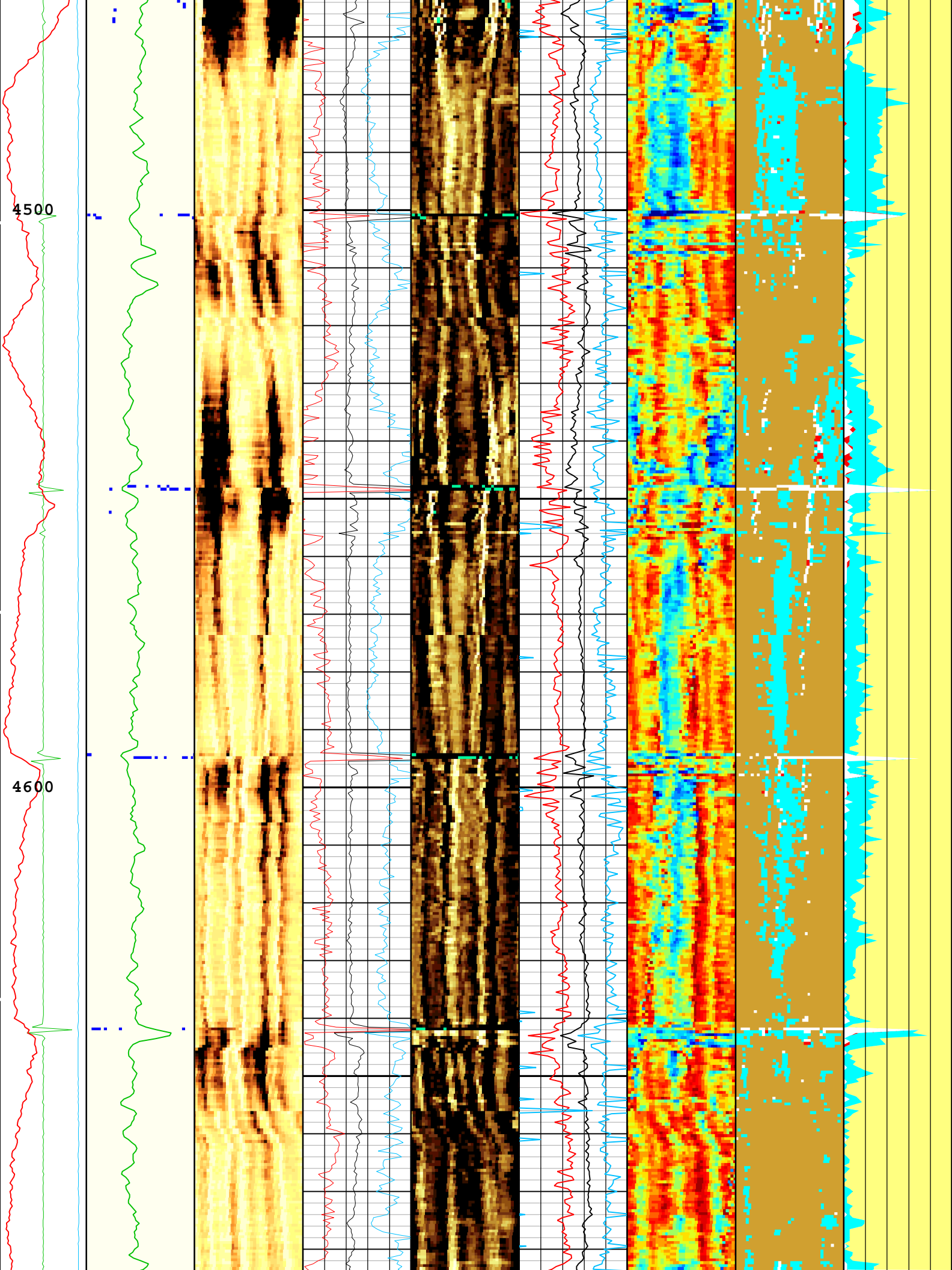


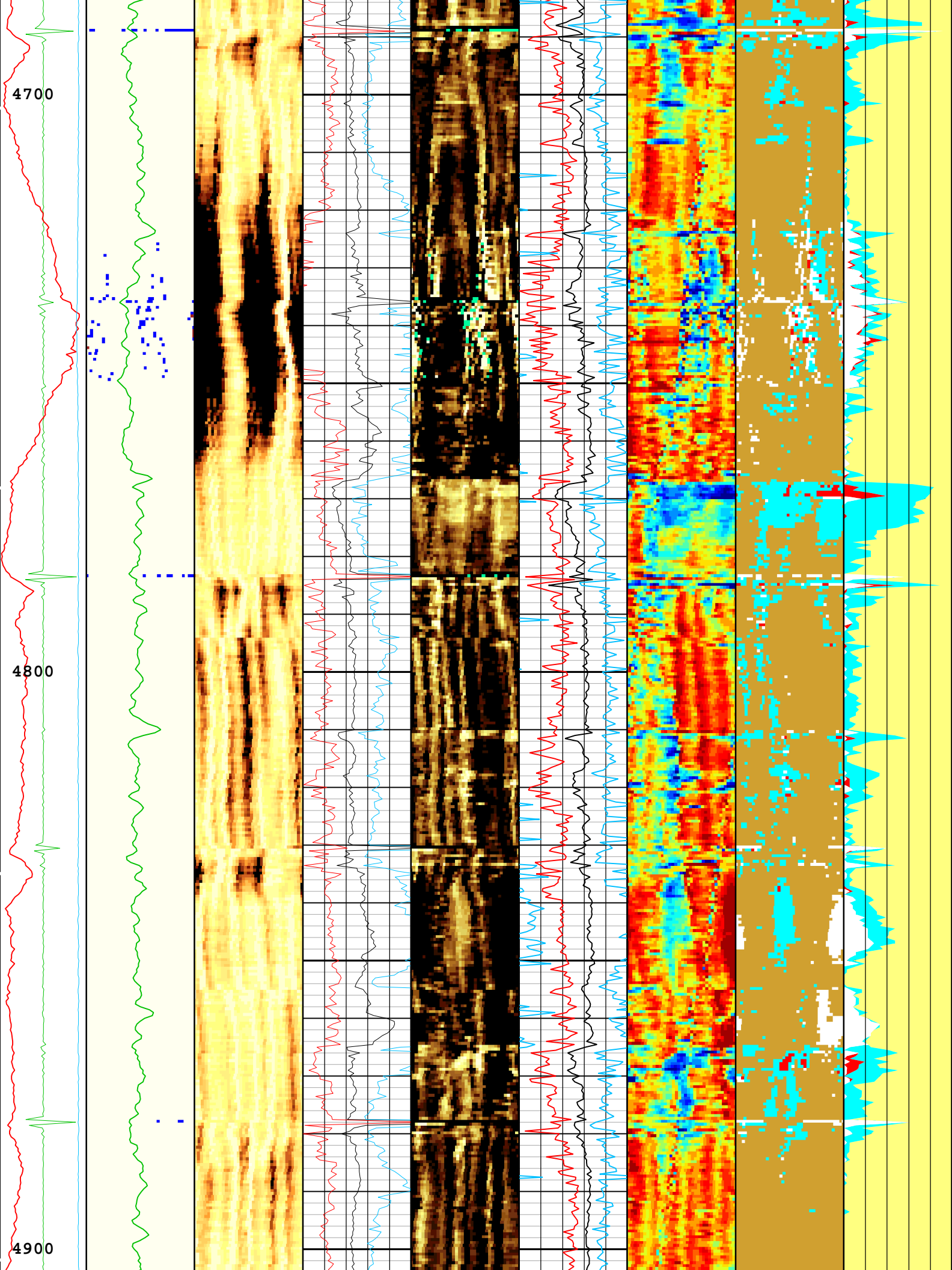


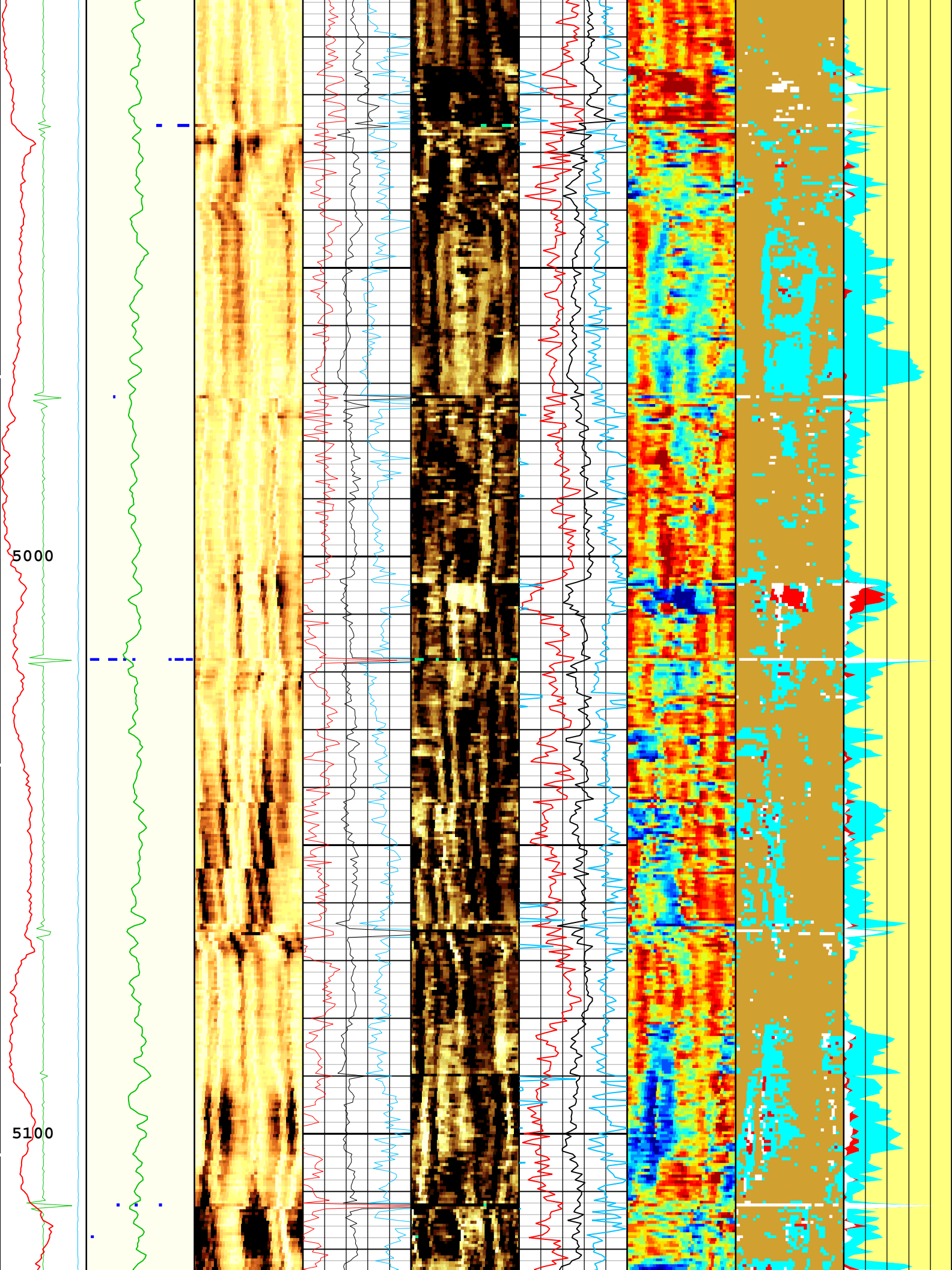


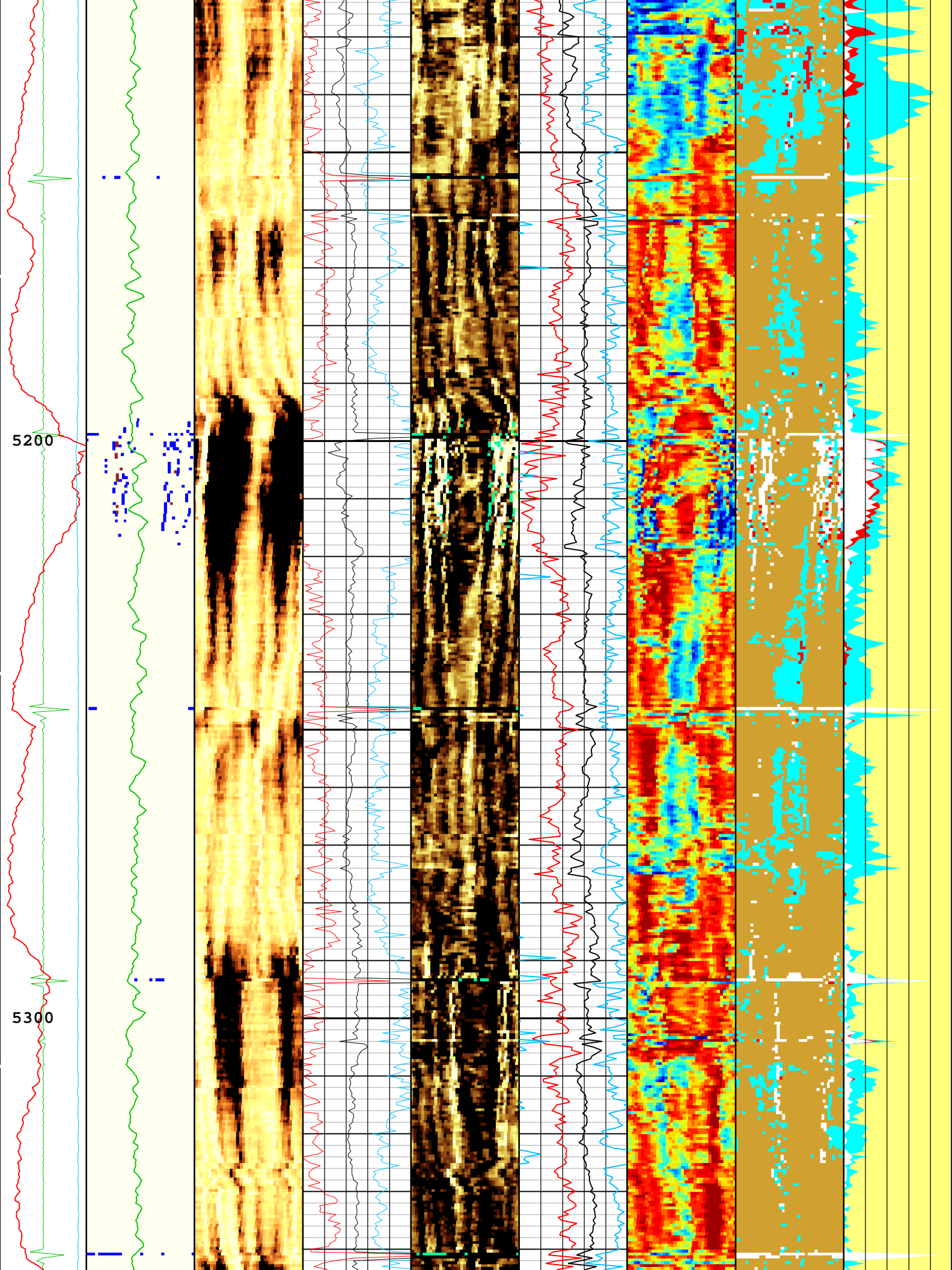


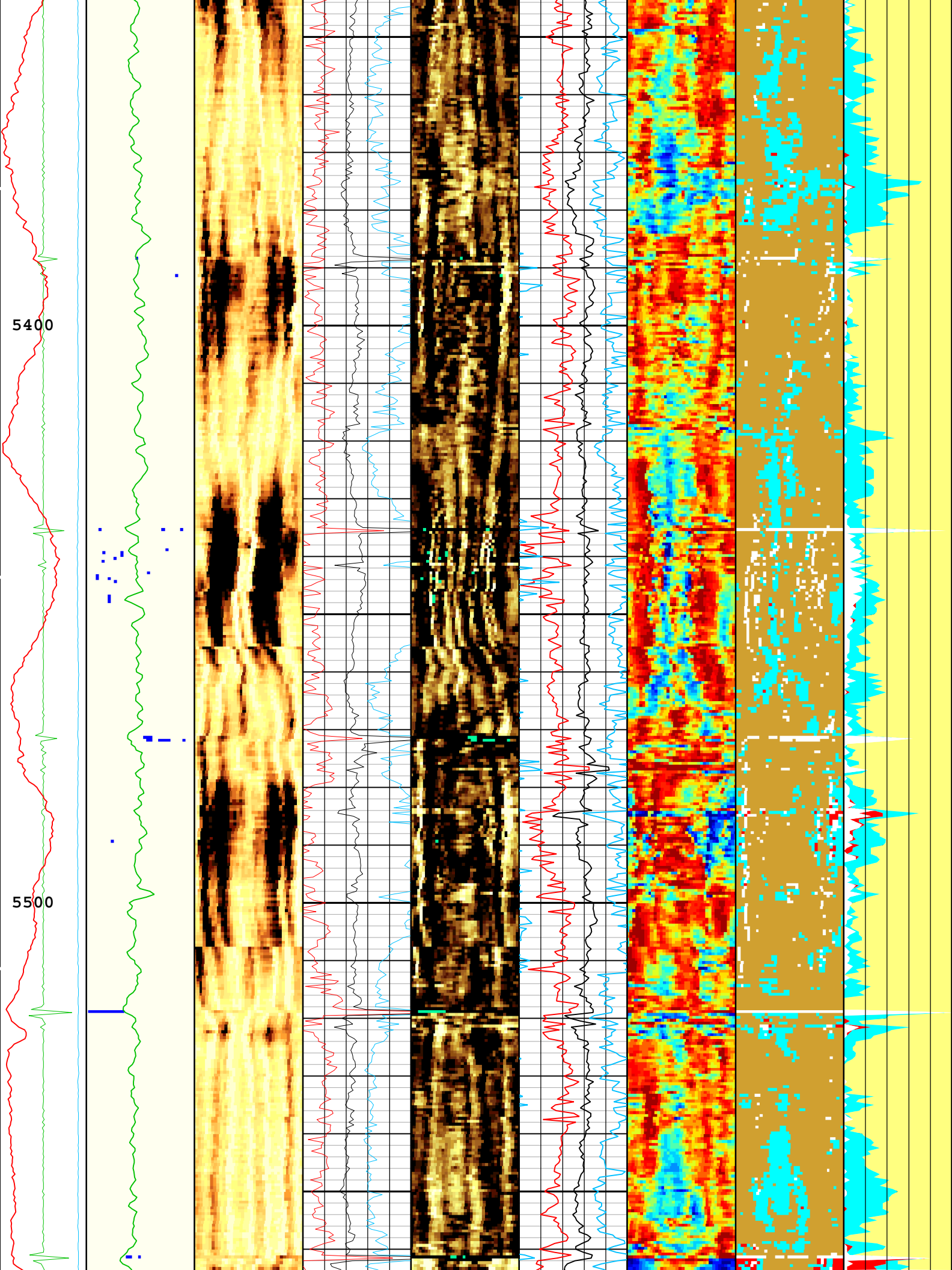


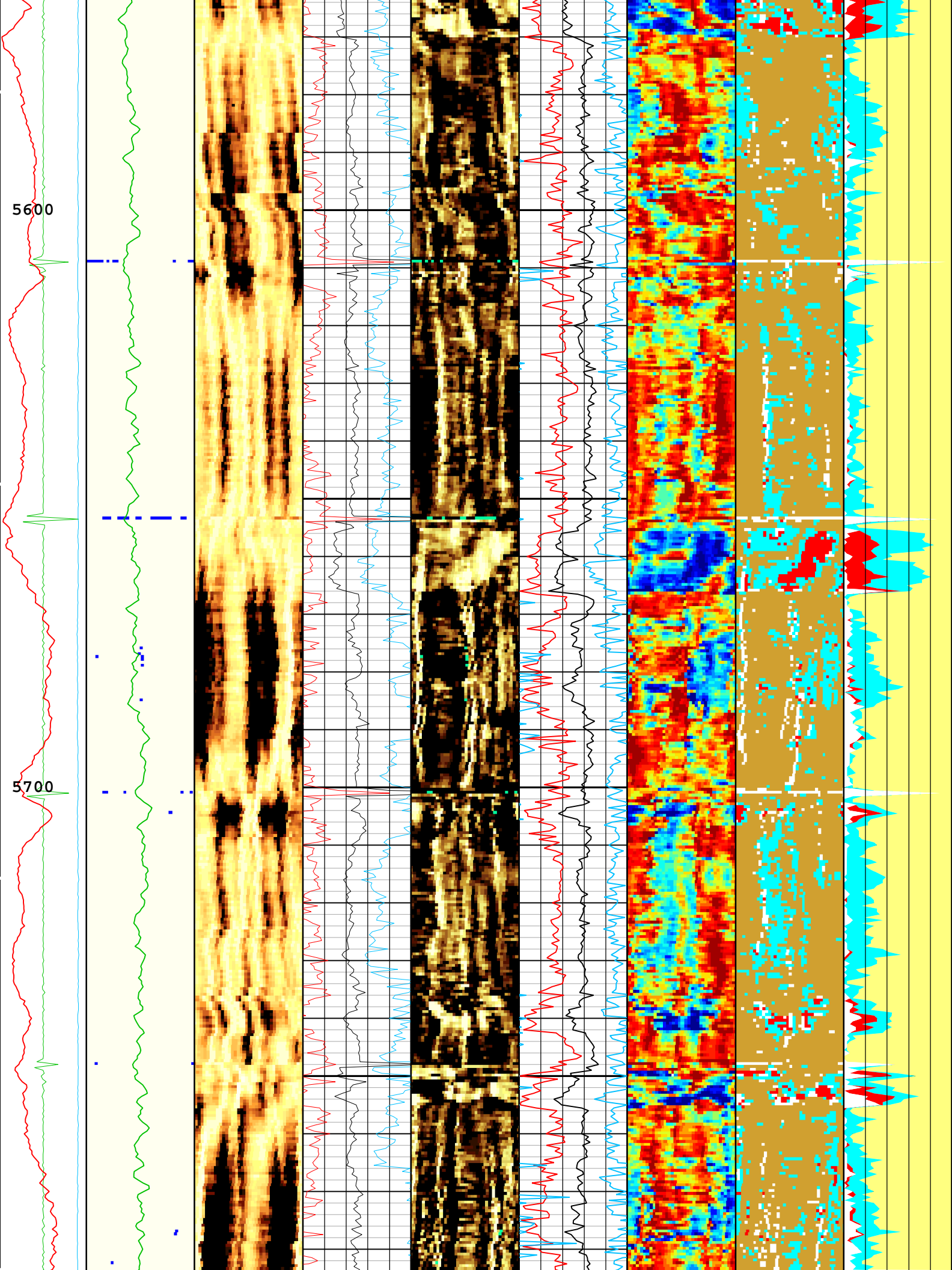


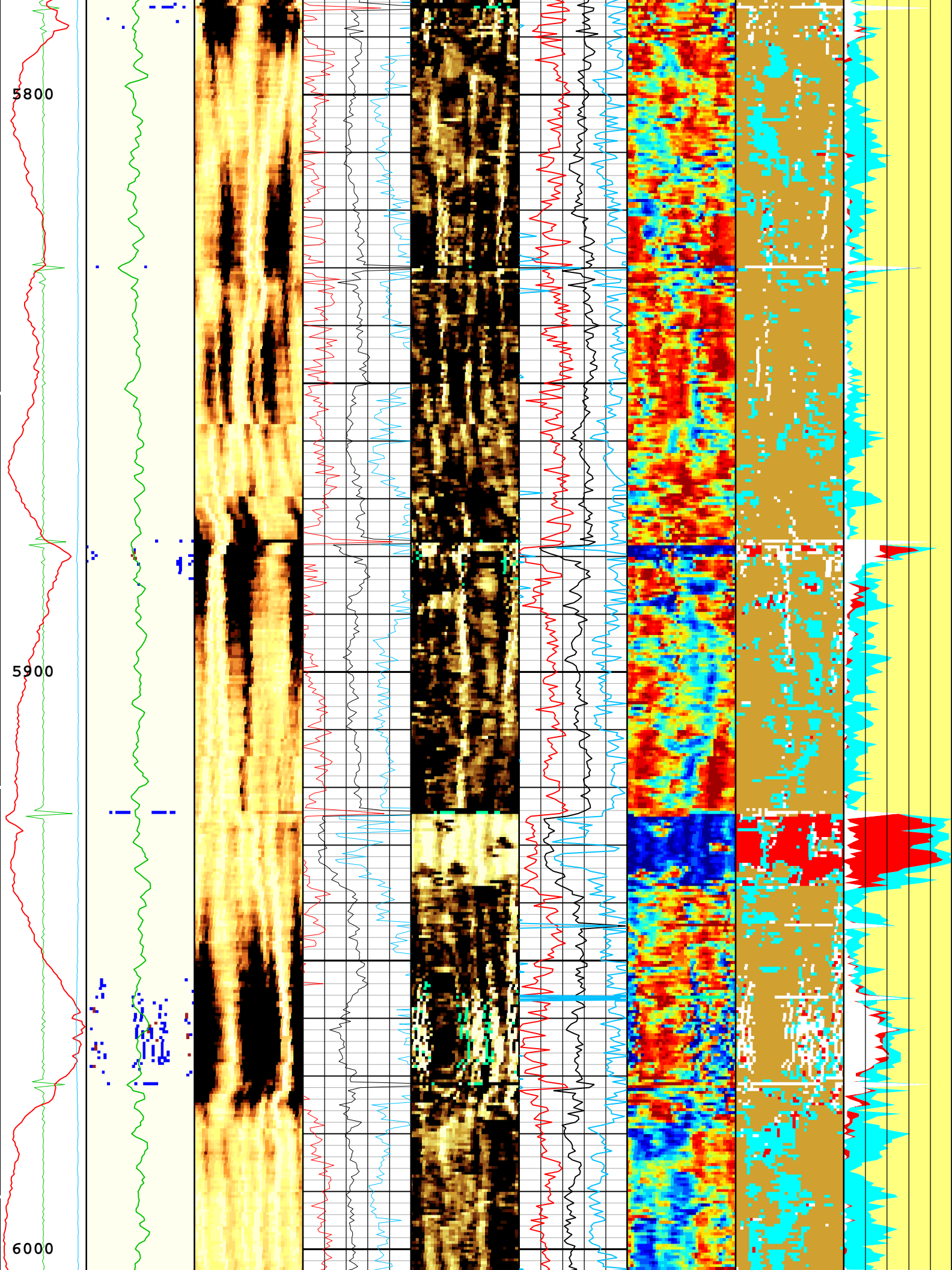


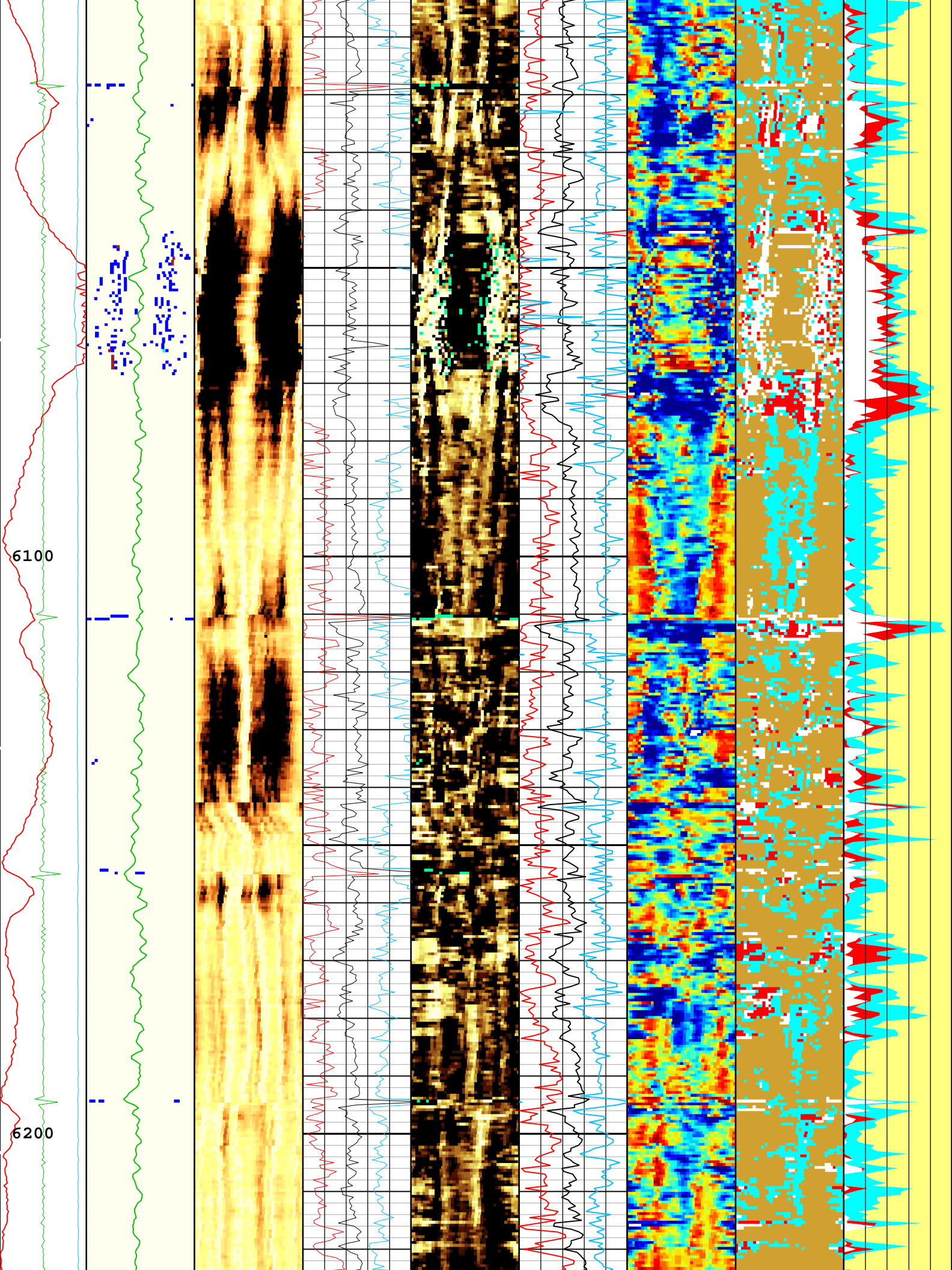


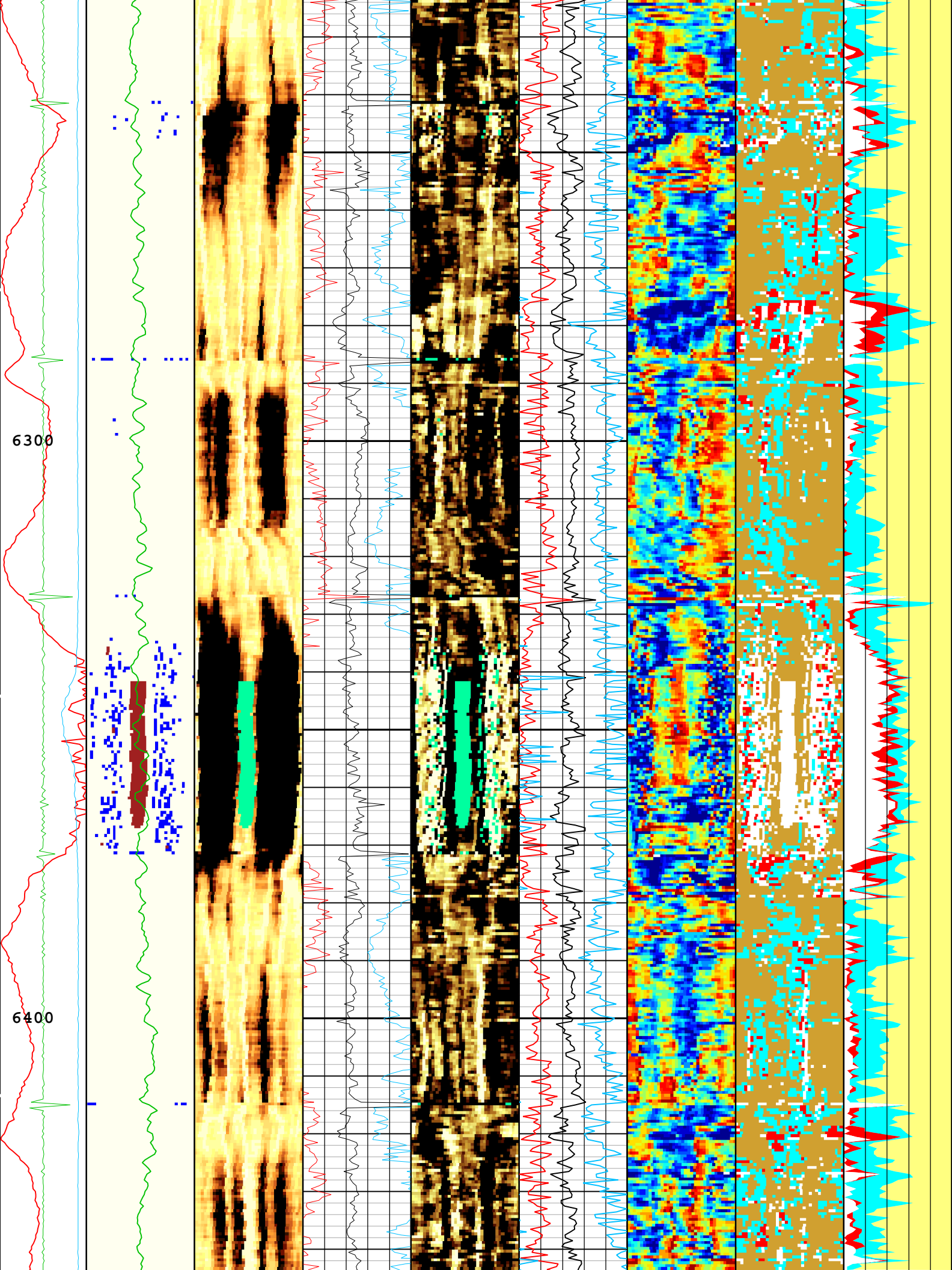


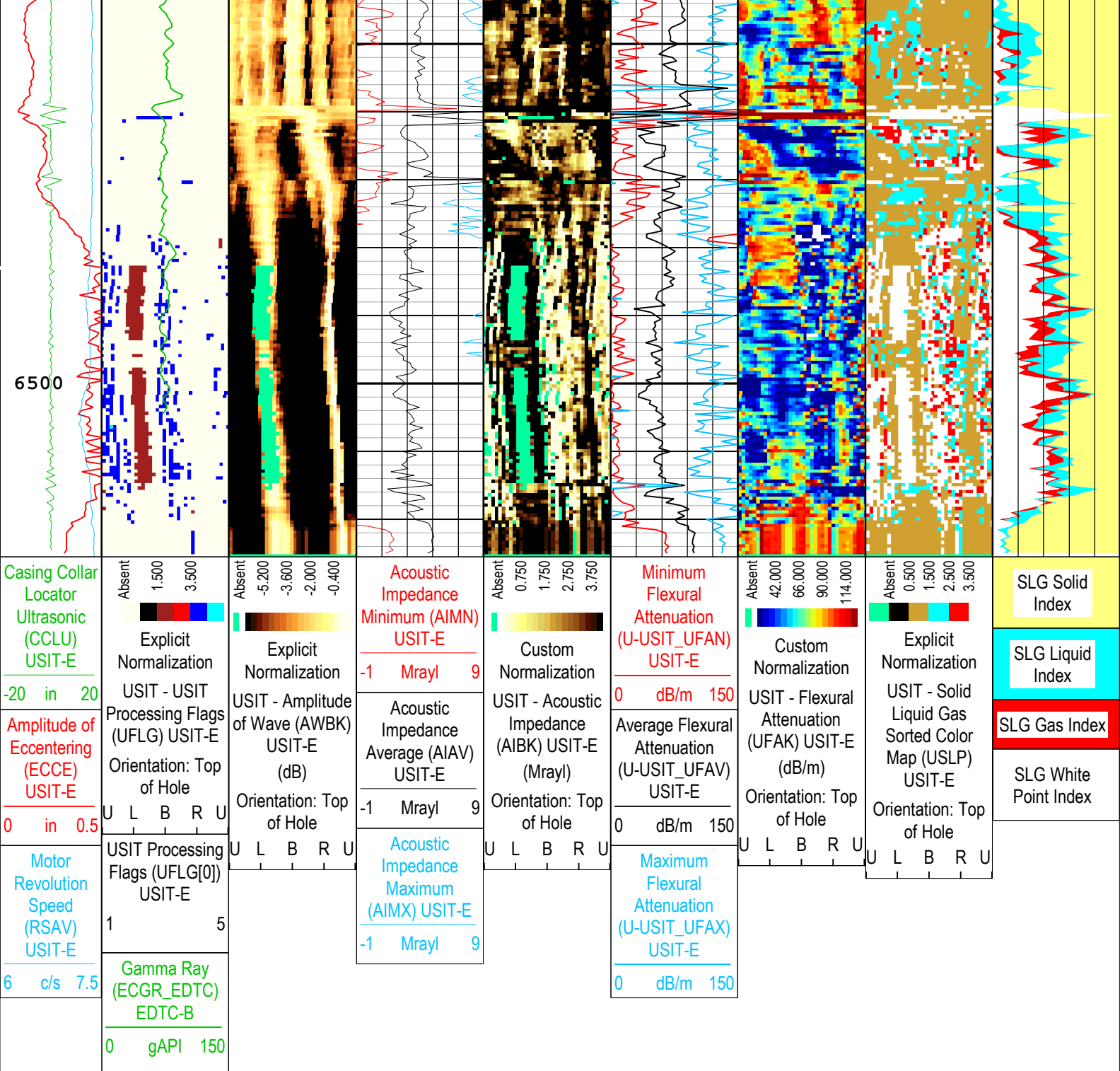












TIME_1900 - Time Marked every 60.00 (s)

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 |

Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Sep-2018 14:23:33

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
USIT-E	USIT-E	USIT-E	0	

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	14765	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	-2.37	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	RB	
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_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.04	
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	1.67	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	60	2124
BS	8.5	2124	6525.5

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	146	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	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	80	21-Sep-2018 11:36:30	21-Sep-2018 11:40:37	6526.57	6300.86
EMXV	90	21-Sep-2018 11:40:37	21-Sep-2018 11:54:16	6300.86	5357.92
EMXV	80	21-Sep-2018 11:54:16	21-Sep-2018 12:21:22	5357.92	3536.67
EMXV	70	21-Sep-2018 12:21:22	21-Sep-2018 12:32:03	3536.67	2809.06
EMXV	80	21-Sep-2018 12:32:03	21-Sep-2018 13:14:19	2809.06	55.48
WINB	31.88	21-Sep-2018 11:36:30	21-Sep-2018 11:40:01	6526.57	6342.5
WINB	26.6	21-Sep-2018 11:40:01	21-Sep-2018 11:40:18	6342.5	6322.63
WINB	29.67	21-Sep-2018 11:40:18	21-Sep-2018 13:14:19	6322.63	55.48
WINE	71.88	21-Sep-2018 11:36:30	21-Sep-2018 11:38:21	6526.57	6458.02
WINE	74.72	21-Sep-2018 11:38:21	21-Sep-2018 11:45:27	6458.02	5957.73
WINE	81.09	21-Sep-2018 11:45:27	21-Sep-2018 11:45:38	5957.73	5945.11
WINE	72.64	21-Sep-2018 11:45:38	21-Sep-2018 12:13:46	5945.11	4048.11
WINE	78.78	21-Sep-2018 12:13:46	21-Sep-2018 12:14:00	4048.11	4032.99
WINE	68.81	21-Sep-2018 12:14:00	21-Sep-2018 12:14:04	4032.99	4028.69
WINE	74.95	21-Sep-2018 12:14:04	21-Sep-2018 13:14:19	4028.69	55.48

All depth are at tool zero.

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	55.48 ft	6526.57 ft	21-Sep-2018 11:36:30 AM	21-Sep-2018 1:14:19 PM	ON	6.13 ft	Yes

All depths are referenced to toolstring zero

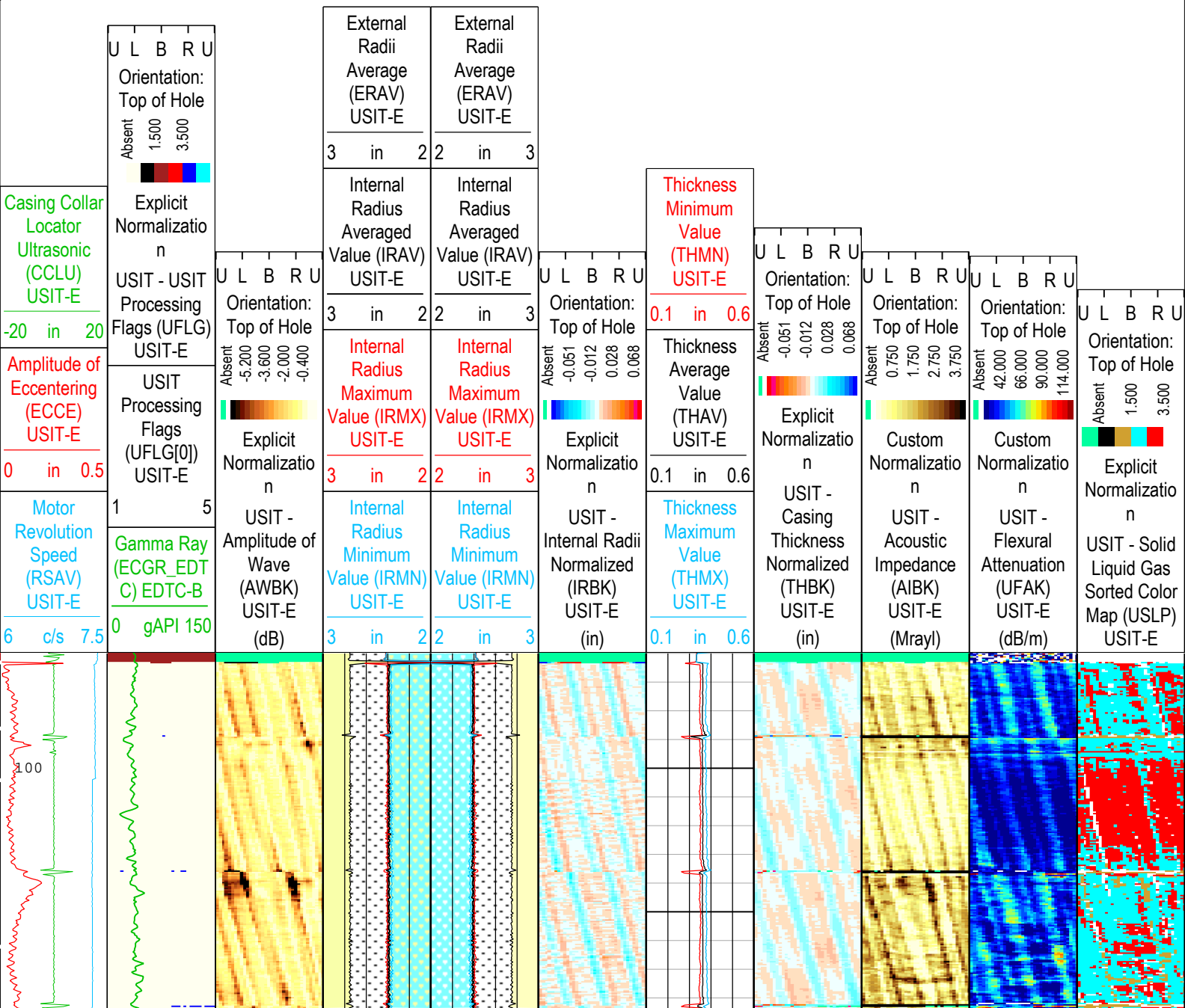
Log	Company:Crestone Peak Resources Operating LLC	Well:Davis 1K-9H-G266
		ONE: Log[4]:Up:S005

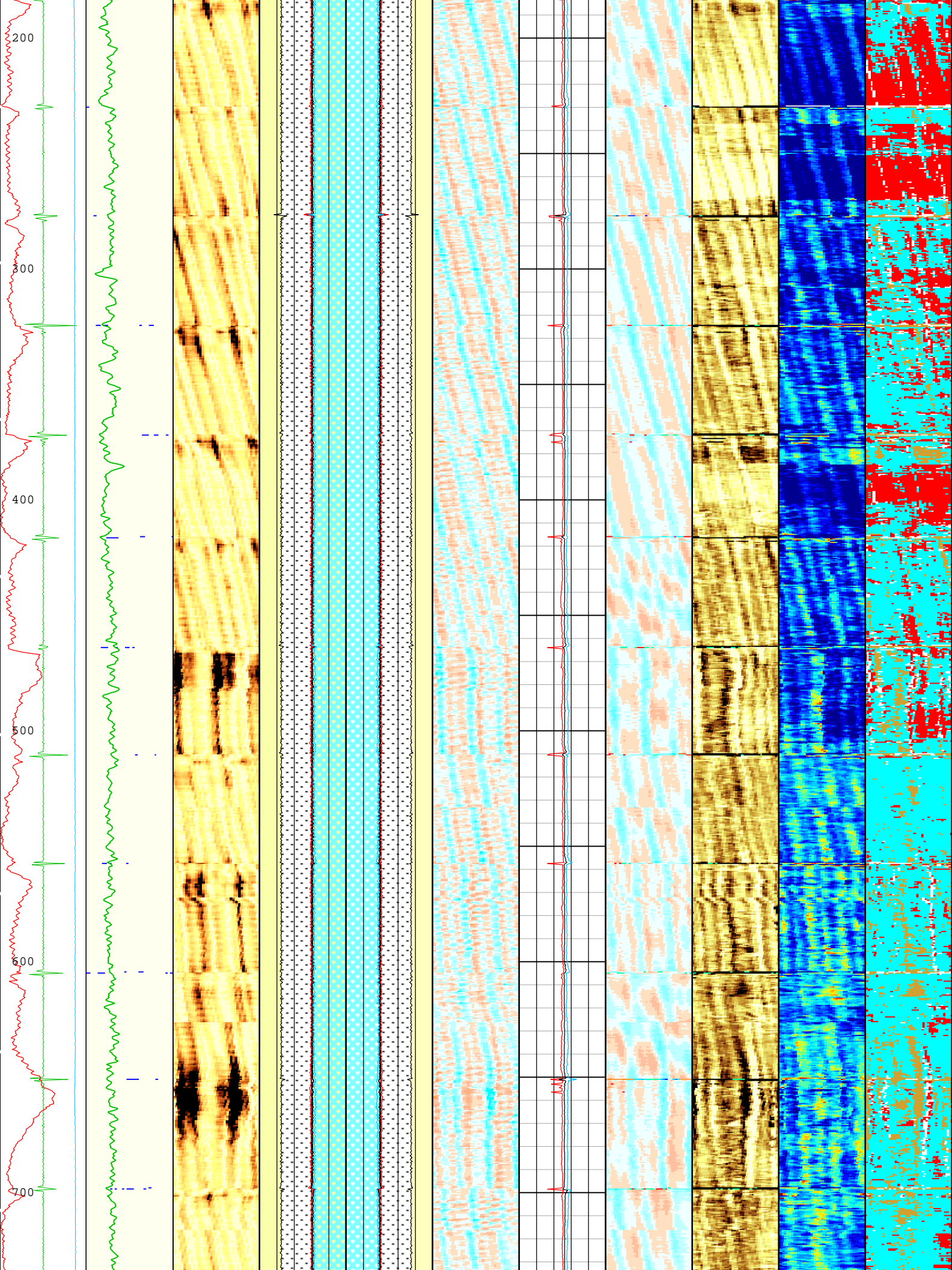
Description: USI IBC SLG Composite Format: Log (IBC SLG Composite) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 21-Sep-2018 14:23:43

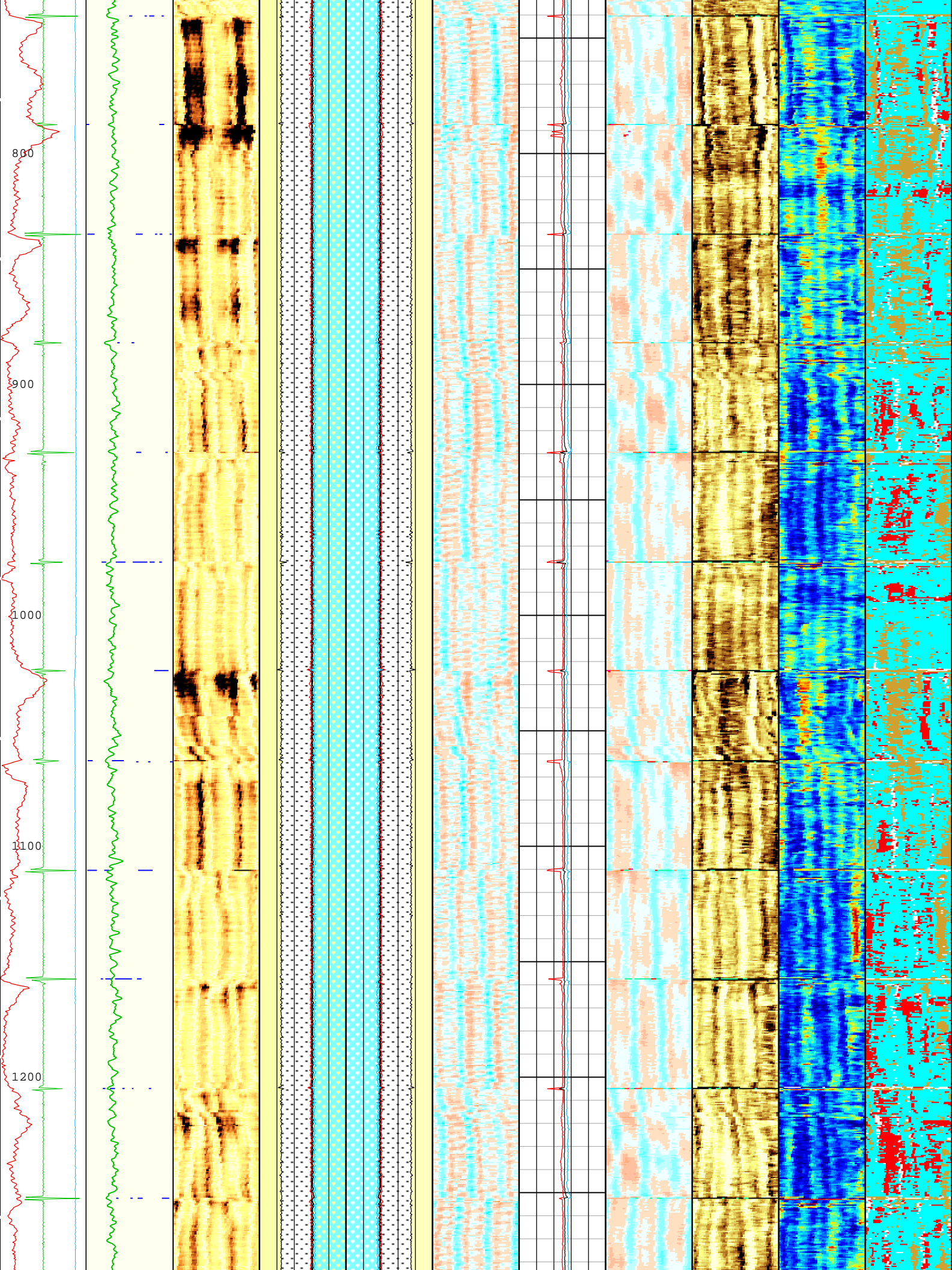
USIT Processing Flags (UFLG[0]) USIT-E

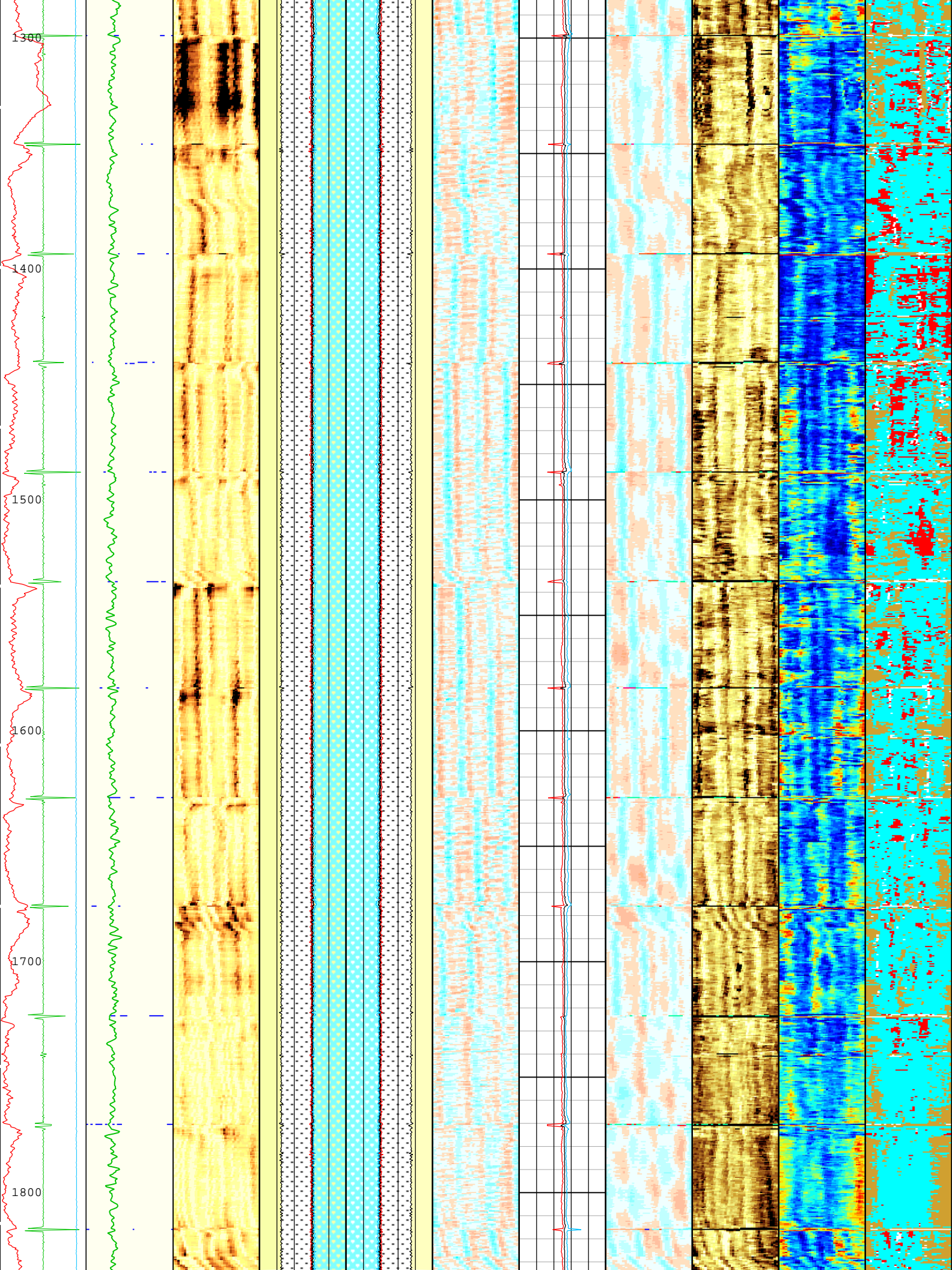
- 1 - UFLG 1 Value within [0.0 - 1.5] - :
- 2 - UFLG 2 Value within [1.5 - 2.5] - :
- 3 - UFLG 3 Value within [2.5 - 3.5] - :
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :
- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing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

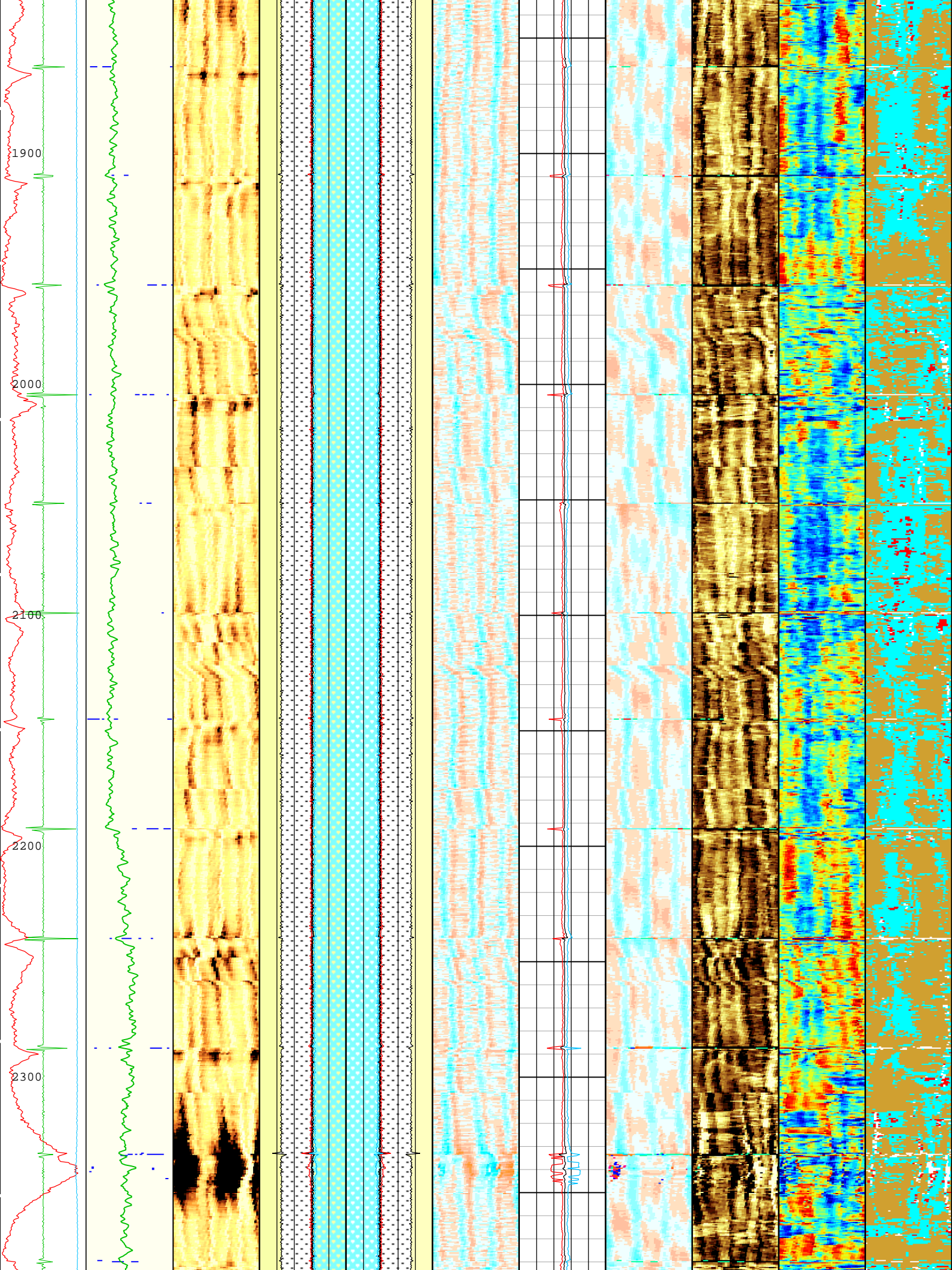
TIME_1900 - Time Marked every 60.00 (s)

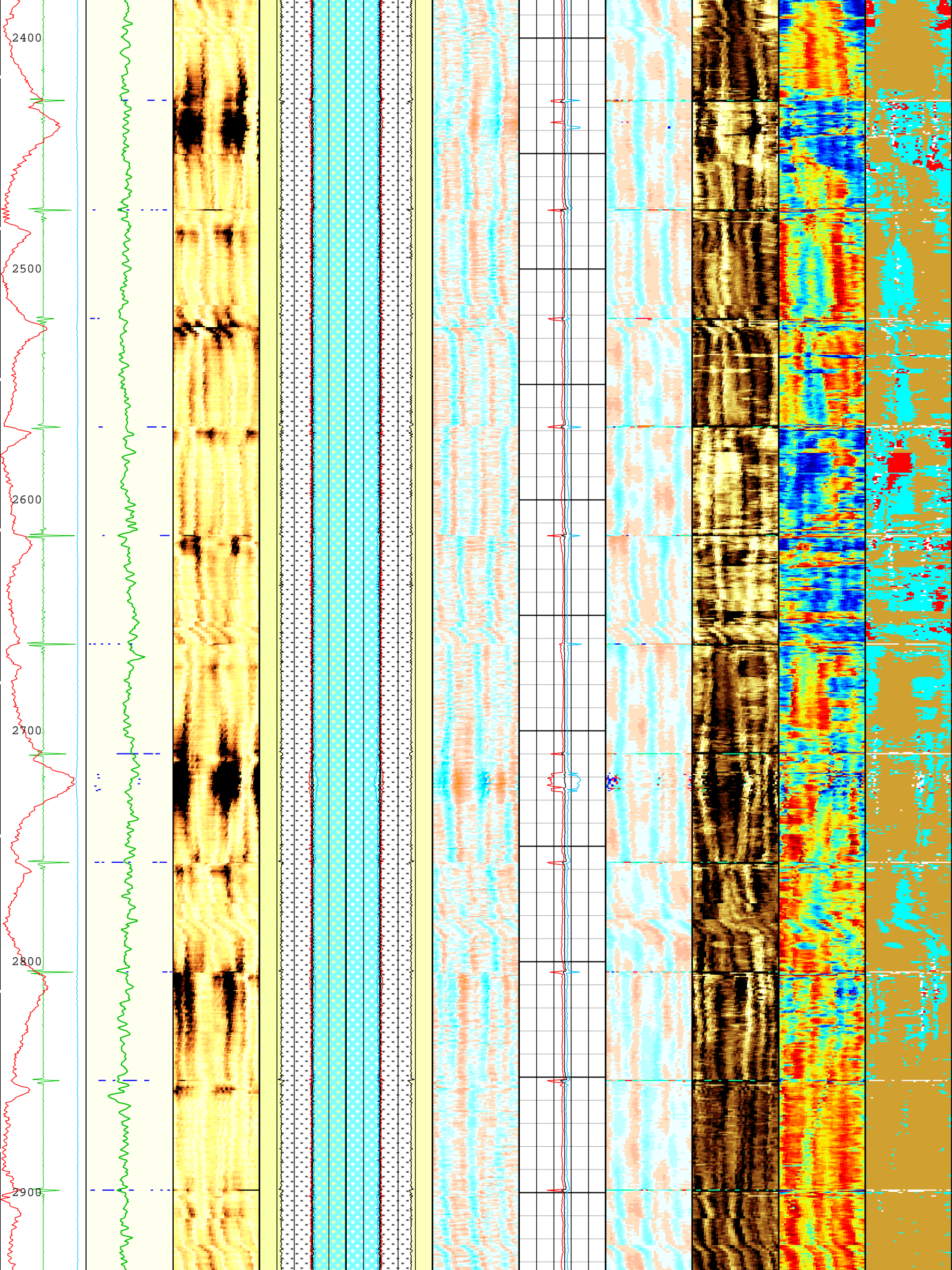


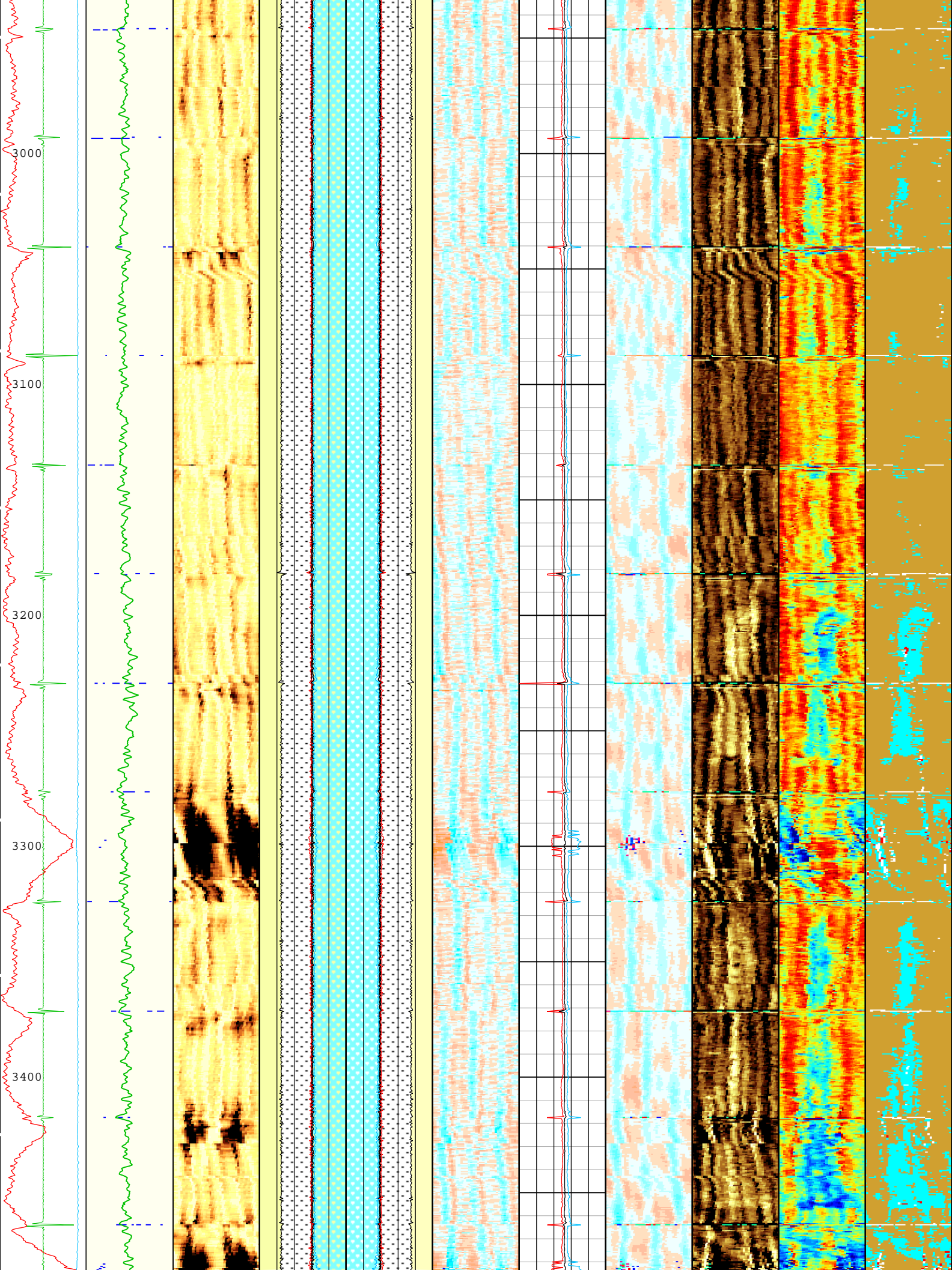


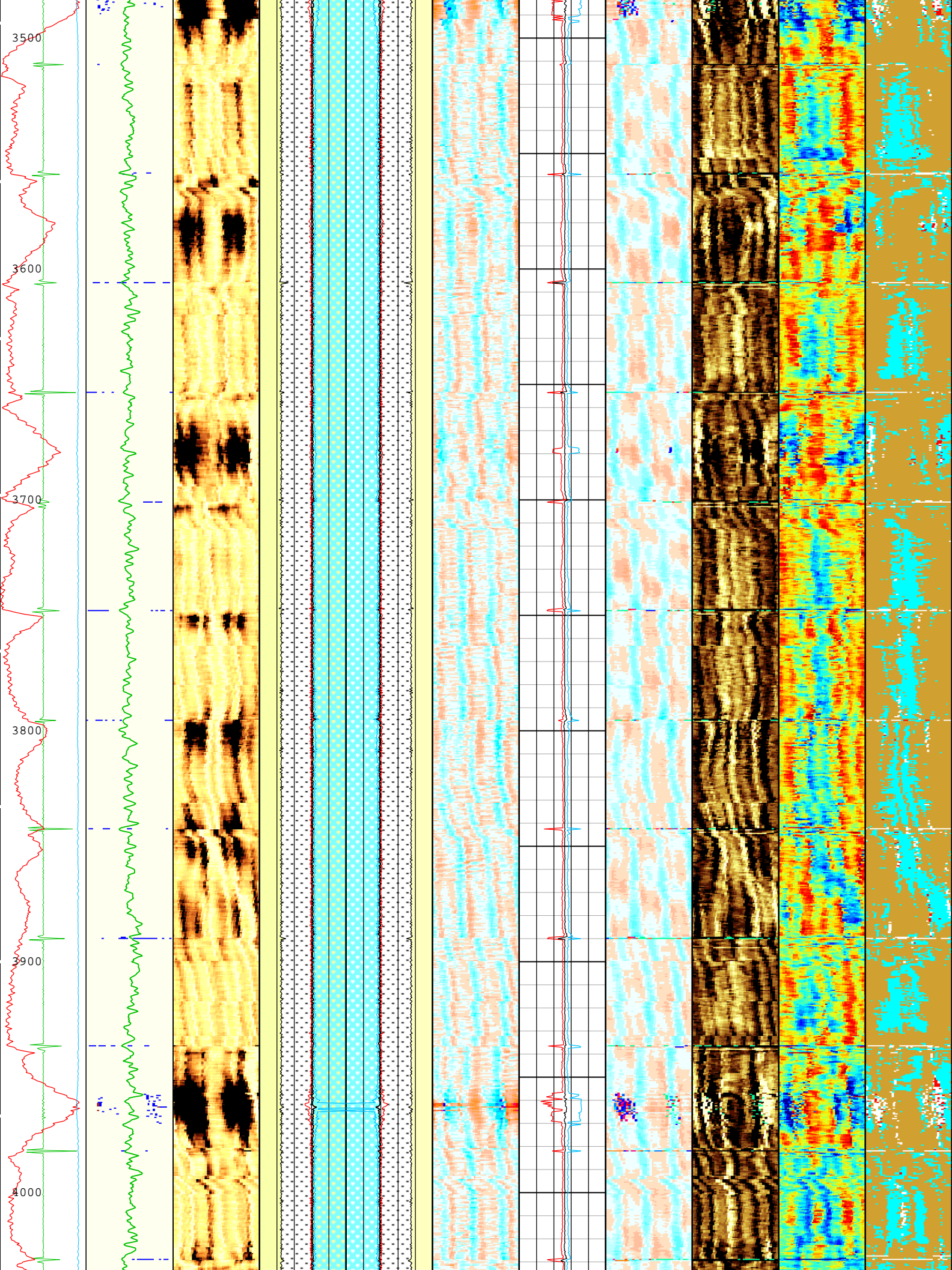


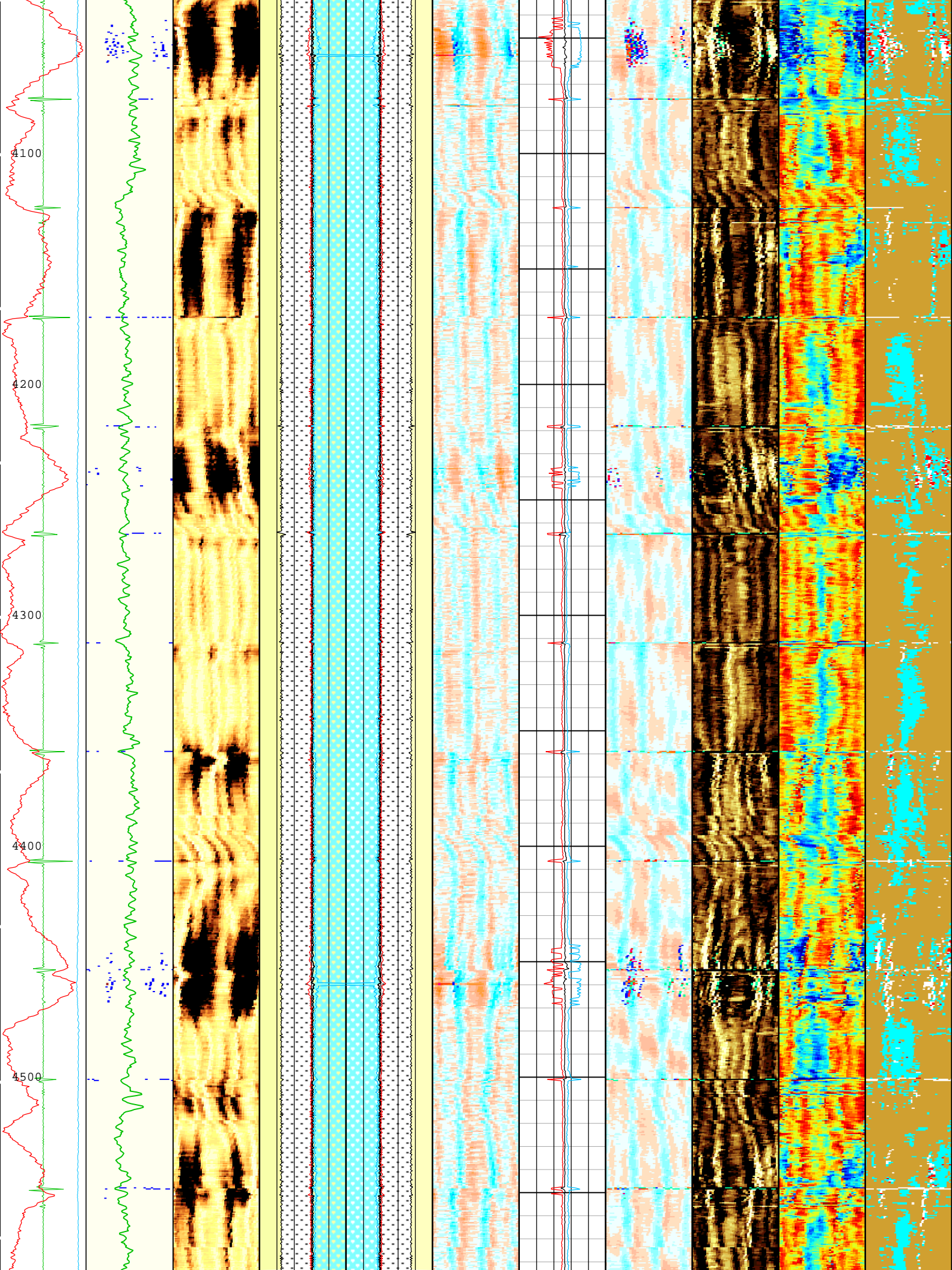


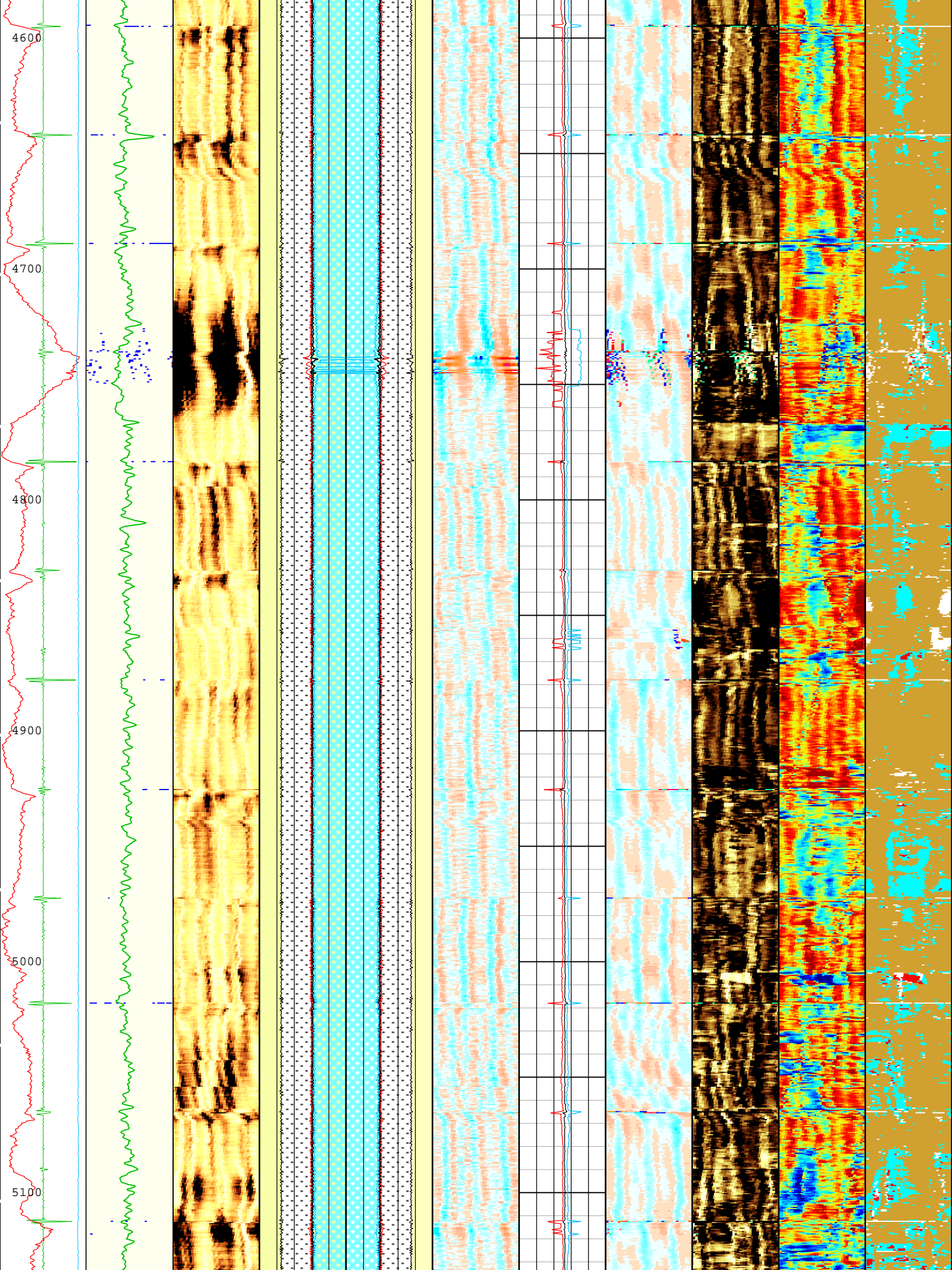


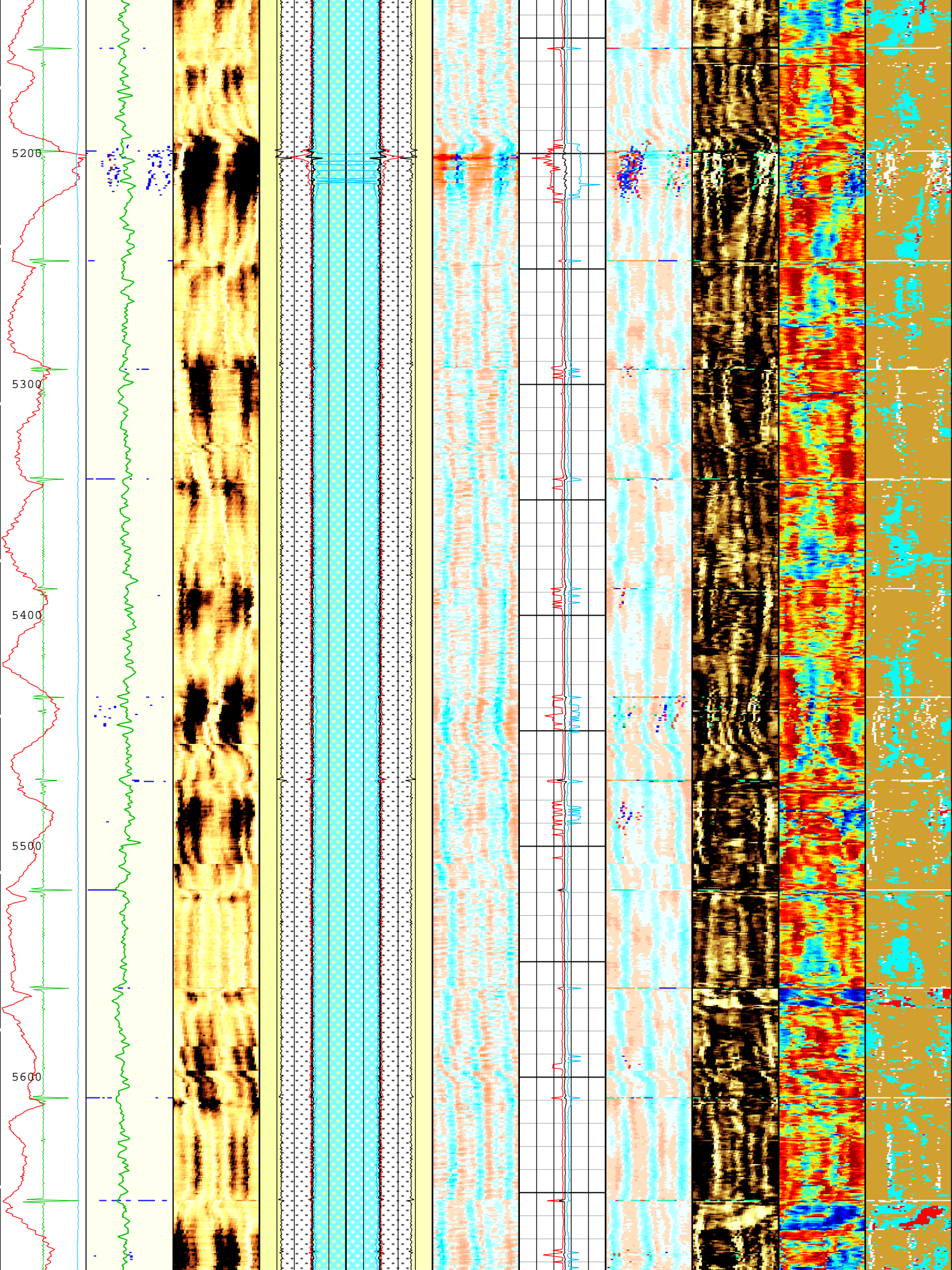


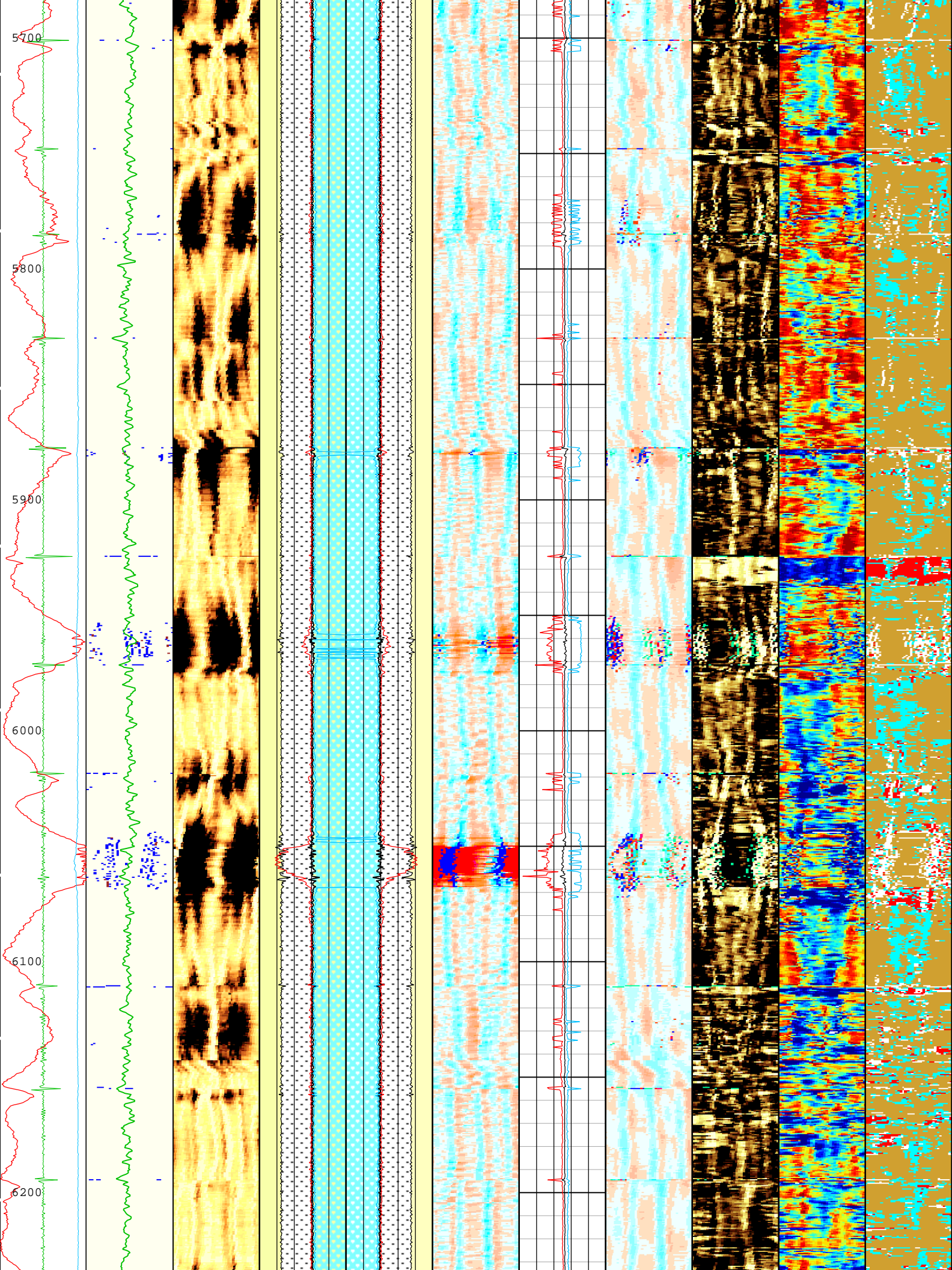


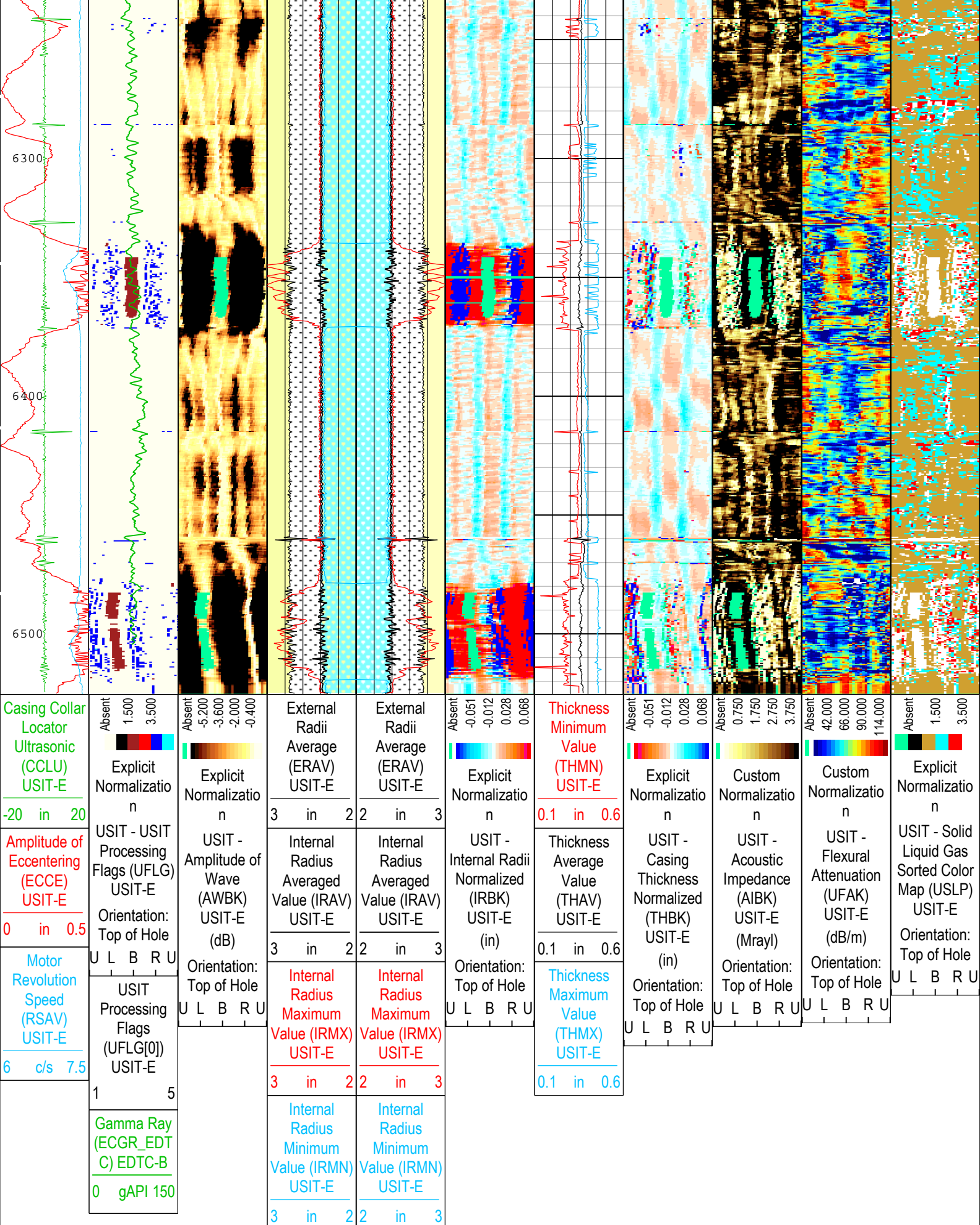












2 - UFLG 2 Value within [1.5 - 2.5] - :	<div></div> Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	<div></div> WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	<div></div> Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :	<div></div> Loop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

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: 21-Sep-2018 14:23:43

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	14765	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	-2.37	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	RB	
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_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.04	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.67	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	60	2124
BS	8.5	2124	6525.5

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	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	Time Zoned	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	80	21-Sep-2018 11:36:30	21-Sep-2018 11:40:37	6526.57	6300.86
EMXV	90	21-Sep-2018 11:40:37	21-Sep-2018 11:54:16	6300.86	5357.92
EMXV	80	21-Sep-2018 11:54:16	21-Sep-2018 12:21:22	5357.92	3536.67
EMXV	70	21-Sep-2018 12:21:22	21-Sep-2018 12:32:03	3536.67	2809.06
EMXV	80	21-Sep-2018 12:32:03	21-Sep-2018 13:14:19	2809.06	55.48
WINB	31.88	21-Sep-2018 11:36:30	21-Sep-2018 11:40:01	6526.57	6342.5
WINB	26.6	21-Sep-2018 11:40:01	21-Sep-2018 11:40:18	6342.5	6322.63
WINB	29.67	21-Sep-2018 11:40:18	21-Sep-2018 13:14:19	6322.63	55.48
WINE	71.88	21-Sep-2018 11:36:30	21-Sep-2018 11:38:21	6526.57	6458.02
WINE	74.72	21-Sep-2018 11:38:21	21-Sep-2018 11:45:27	6458.02	5957.73
WINE	81.09	21-Sep-2018 11:45:27	21-Sep-2018 11:45:38	5957.73	5945.11
WINE	72.64	21-Sep-2018 11:45:38	21-Sep-2018 12:13:46	5945.11	4048.11
WINE	78.78	21-Sep-2018 12:13:46	21-Sep-2018 12:14:00	4048.11	4032.99
WINE	68.81	21-Sep-2018 12:14:00	21-Sep-2018 12:14:04	4032.99	4028.69
WINE	74.95	21-Sep-2018 12:14:04	21-Sep-2018 13:14:19	4028.69	55.48

All depth are at tool zero.									
ONE									

IBC Goodwin Compressed									
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Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	55.48 ft	6526.57 ft	21-Sep-2018 11:36:30 AM	21-Sep-2018 1:14:19 PM	ON	6.13 ft	Yes

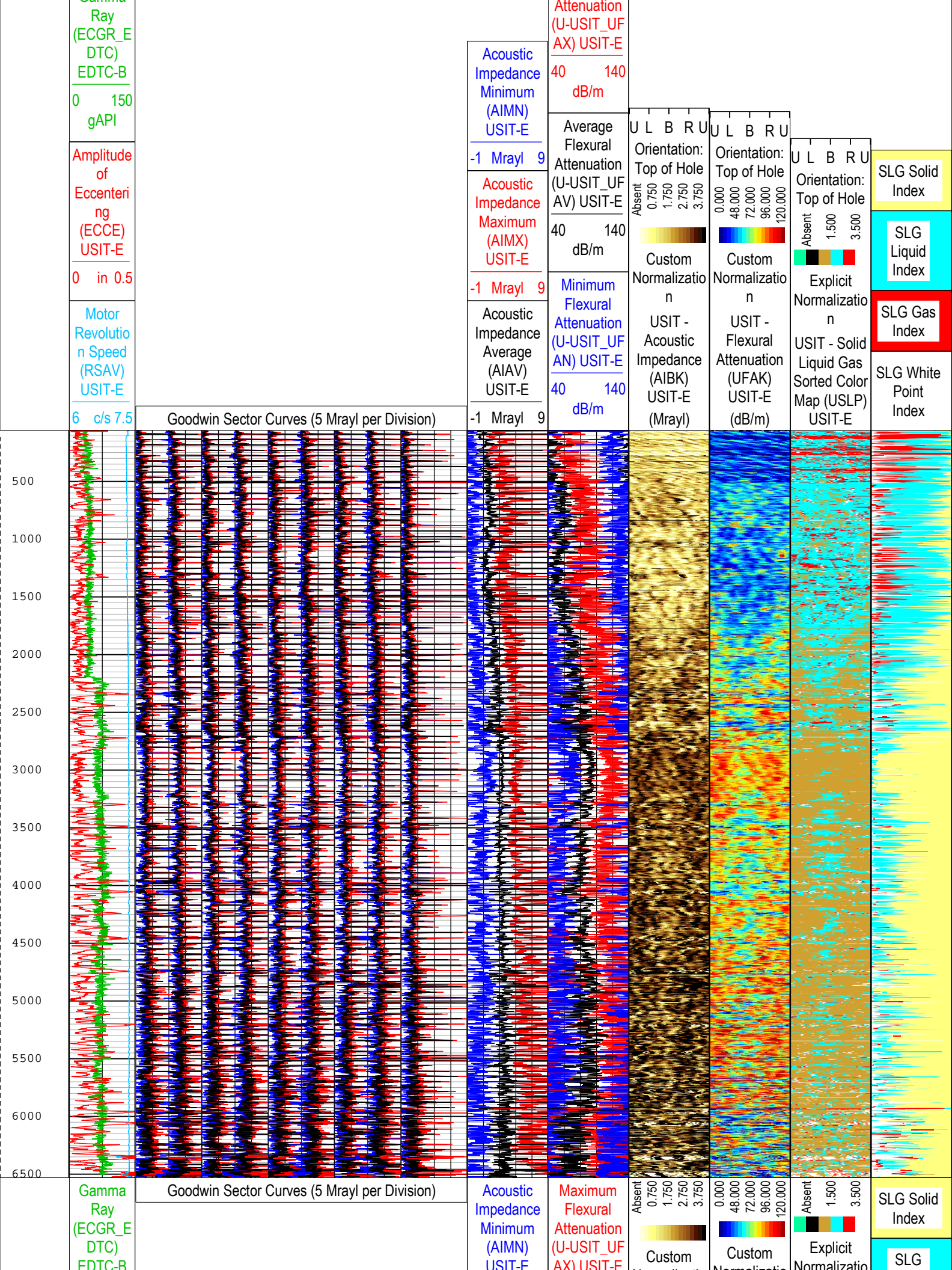
All depths are referenced to toolstring zero									
Log	Company:Crestone Peak Resources Operating LLC						Well:Davis 1K-9H-G266		
	ONE: Log[4]:Up:S005								

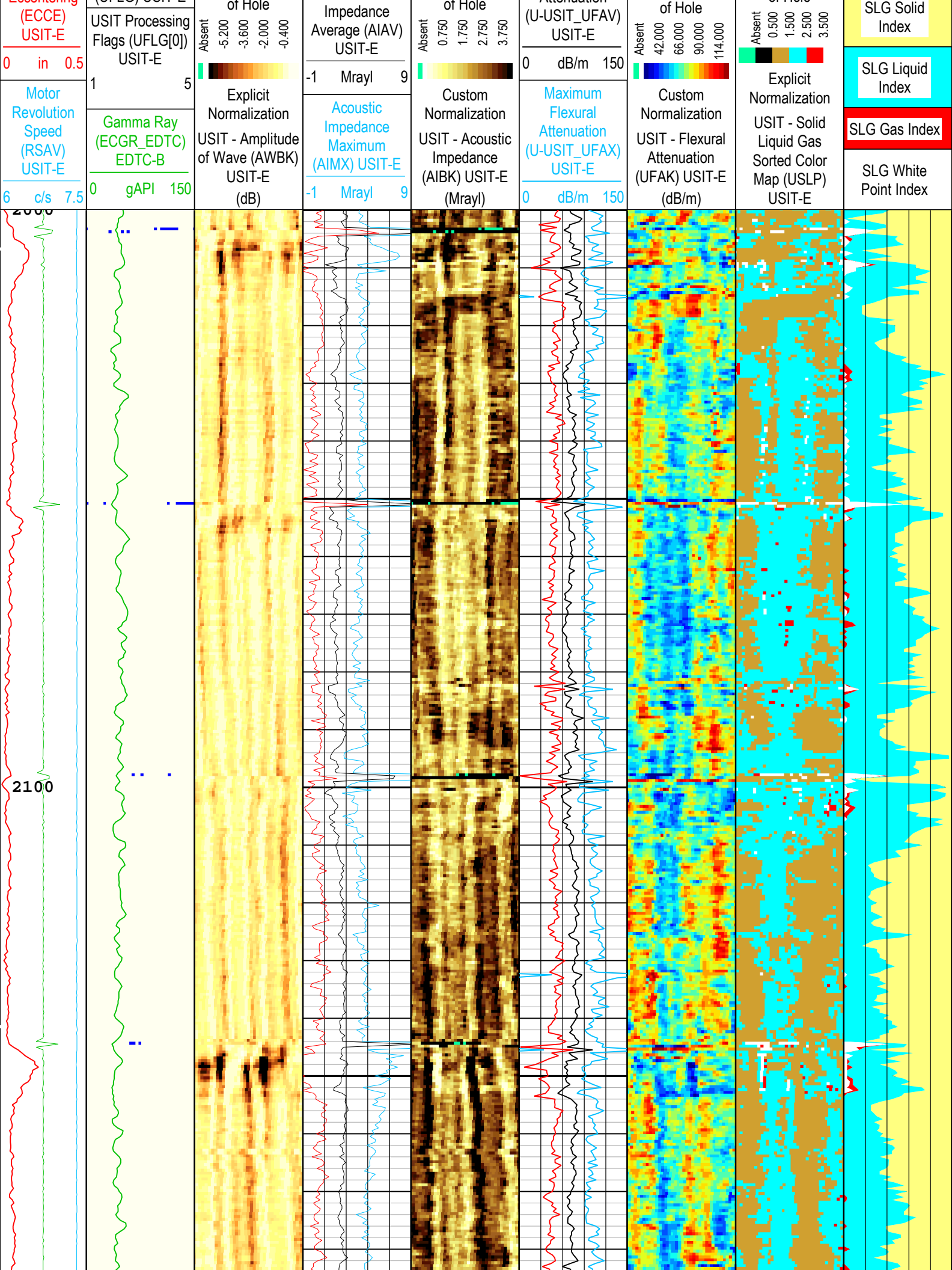
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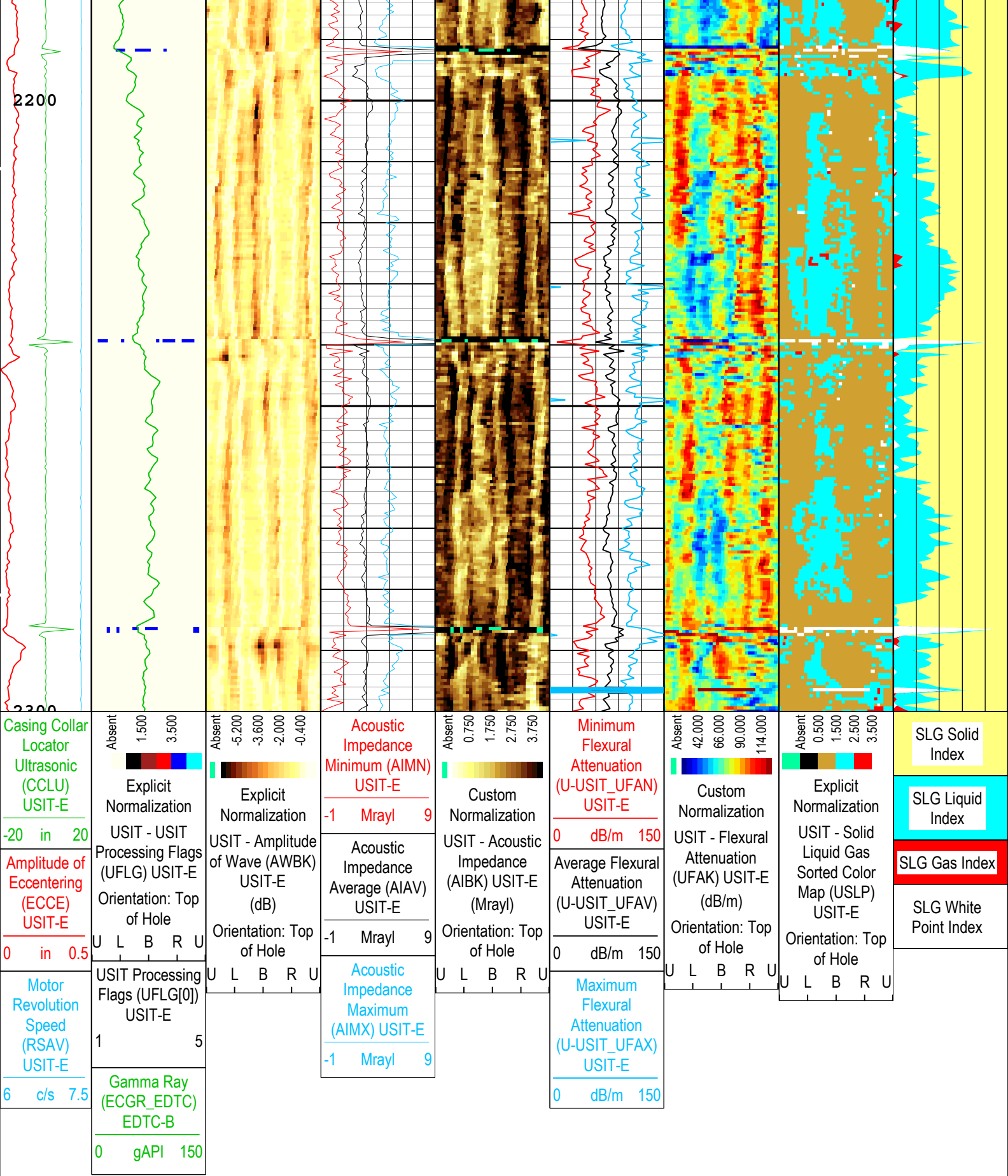
TIME_1900 - Time Marked every 60.00 (s)

Gamma

Maximum
Flexural
Stiffness







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

Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Sep-2018 14:23:57

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	14765	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	-2.37	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	RB	
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_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.04	
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	1.67	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

	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	2124
BS	8.5	2124	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
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
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	146	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)
WINE	71.88	21-Sep-2018 11:06:54	21-Sep-2018 11:07:41	2325.73	2302.83
WINE	72.14	21-Sep-2018 11:07:41	21-Sep-2018 11:07:45	2302.83	2297.99
WINE	75.09	21-Sep-2018 11:07:45	21-Sep-2018 11:12:49	2297.99	1990.38

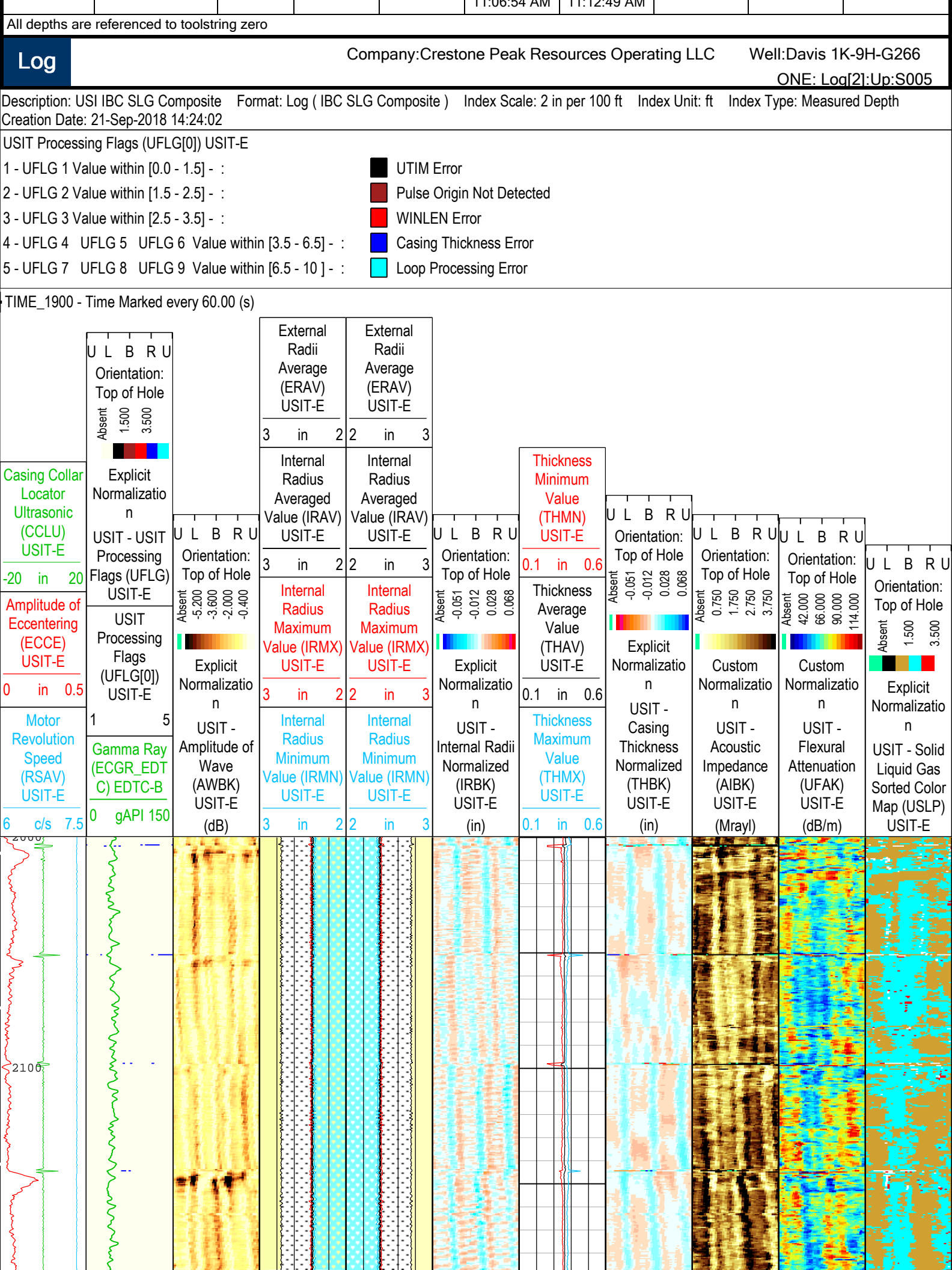
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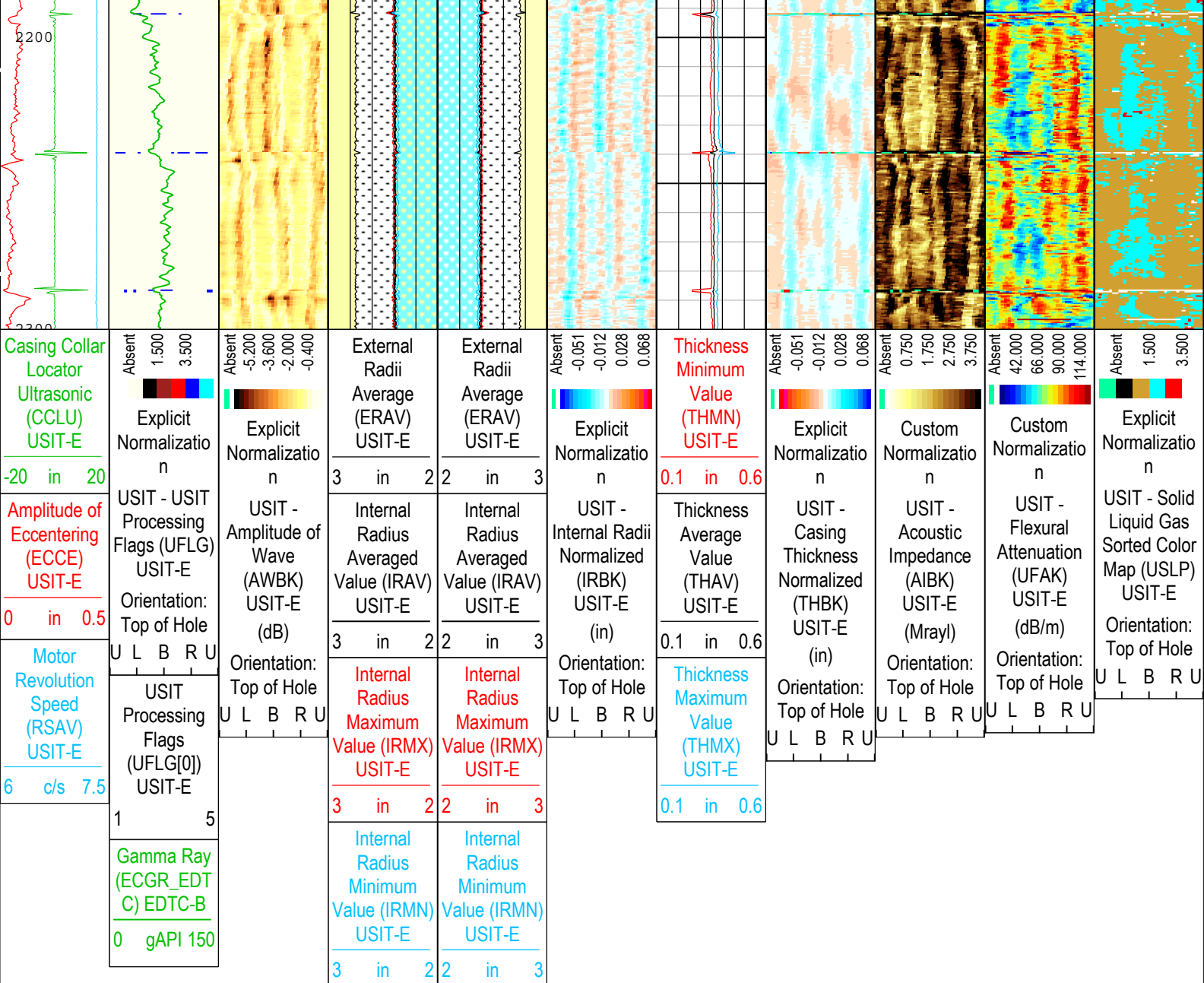
ONE

IBC SLG Composite

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	1990.38 ft	2325.73 ft	21-Sep-2018 11:06:54 AM	21-Sep-2018 11:12:49 AM	ON	2.13 ft	Yes





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 |

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: 21-Sep-2018 14:24:02

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	14765	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	

USIT-E	Cement Type	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	-2.37	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	RB	
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_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.04	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.67	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	2124
BS	8.5	2124	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	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	Time Zoned	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)

WINE	71.88	21-Sep-2018 11:06:54	21-Sep-2018 11:07:41	2325.73	2302.83
WINE	72.14	21-Sep-2018 11:07:41	21-Sep-2018 11:07:45	2302.83	2297.99
WINE	75.09	21-Sep-2018 11:07:45	21-Sep-2018 11:12:49	2297.99	1990.38

All depth are at tool zero.

XYZ

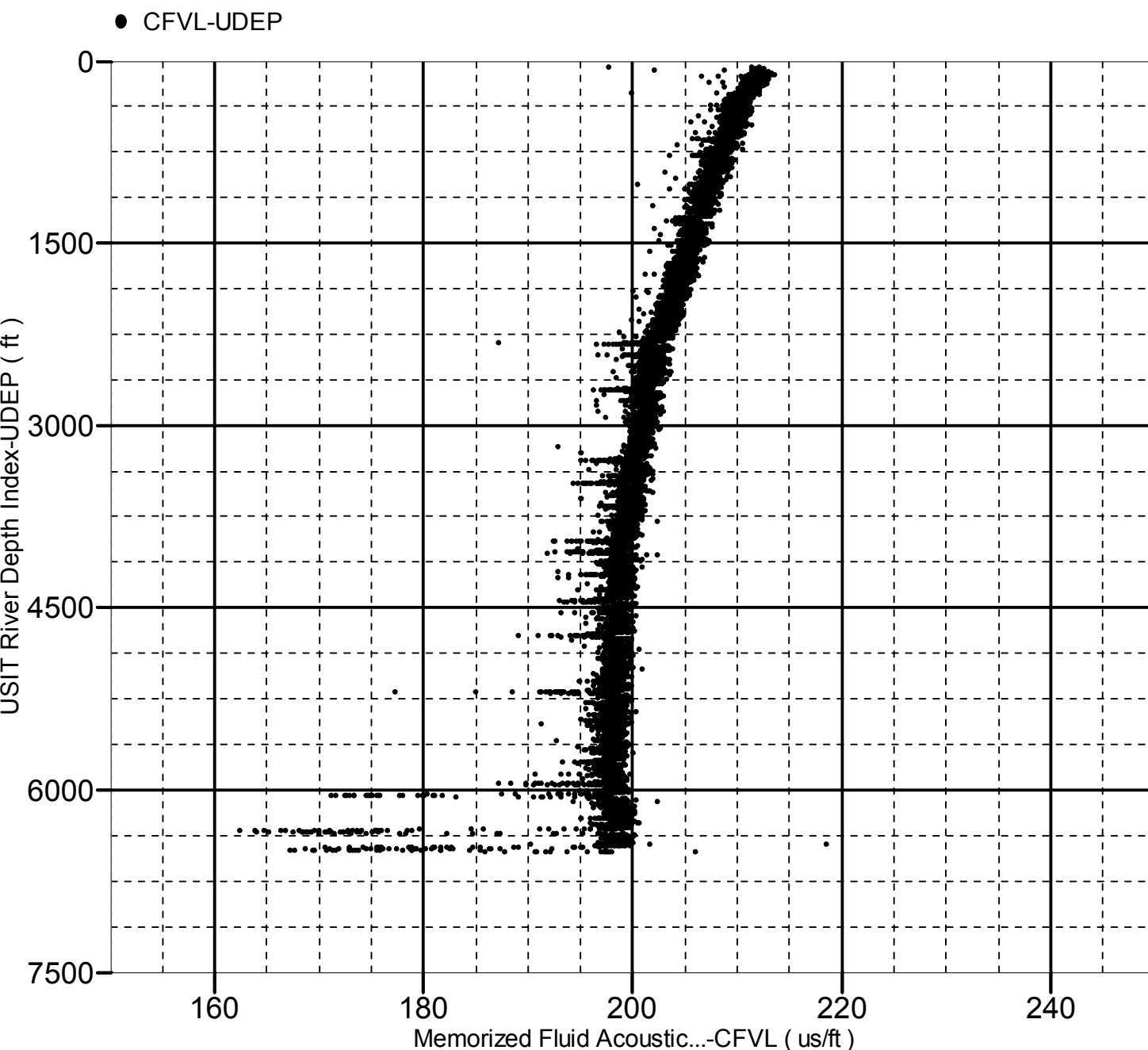
Company:Crestone Peak Resources Operating LLC Well:Davis 1K-9H-G266

ONE: Log[4]:Up:S005

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 6525.50 to 55.00 ft



XYZ

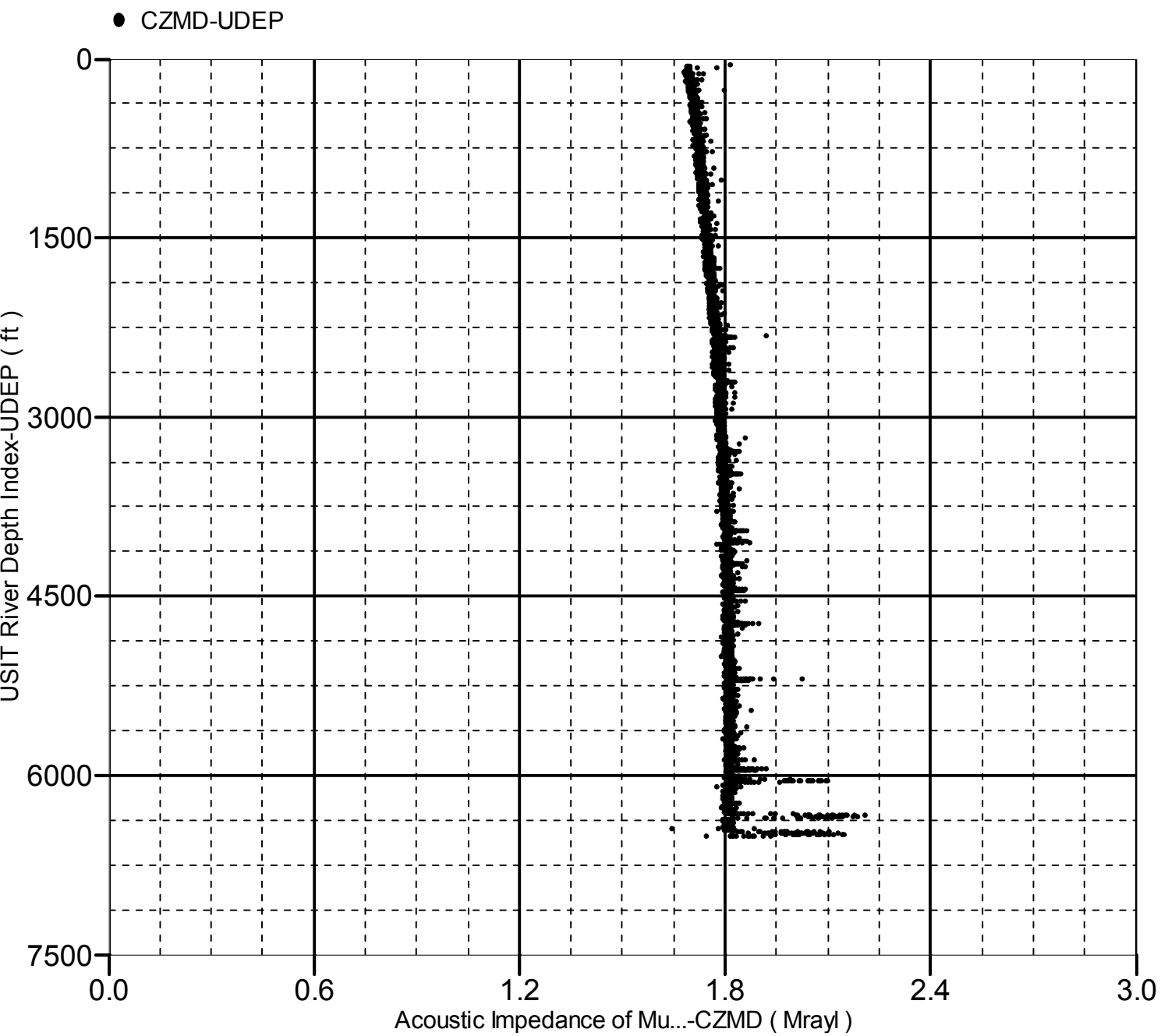
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ONE: Log[4]:Up:S005

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6525.50 to 55.00 ft



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