

Company: Occidental Petroleum Corporation

Well: Sherwood L Federal #30-29D

Field: Wattenberg

Country: Weld Country: United States

Isolation Scanner  
Cement Evaluation  
Gamma Ray - CCL Log

County: Weld  
Field: Wattenberg  
Location: NWNW  
Well: Sherwood L Federal #30-29D  
Company: Occidental Petroleum Corporation

Location:	NWNW	Elev.:	K.B. 4835.00 ft
	721 FNL 783FWL		G.L. 4820.00 ft
			D.F. 4835.00 ft
Permanent Datum:		Ground Level	Elev.: 4820.00 f
Log Measured From:		Kelly Bushing	15.00 ft
Drilling Measured From:		Kelly Bushing	above Perm.Datum
API Serial No.	05-123-31135	Max.Hole Deviation	0 deg
		Longitude:	104° 49' 38.172" W
		Latitude:	40° 12' 2.988" N

Logging Date	15-Nov-2022
Run Number	ONE
Depth Driller	8095.00 ft
Schlumberger Depth	8095.00 ft
Bottom Log Interval	7100.00 ft
Top Log Interval	55.00 ft
Casing Fluid Type	Water
Salinity	
Density	8.4 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	7.88 in
From	618.00 ft
To	8095.00 ft
Casing/Tubing Size	4.5 in
Weight	11.6 lbm/ft
Grade	N/A
From	0.00 ft
To	8083.00 ft
Max Recorded Temperatures	
Logger on Bottom	Time
Unit Number	Location:
Recorded By	
Witnessed By	

## Disclaimer

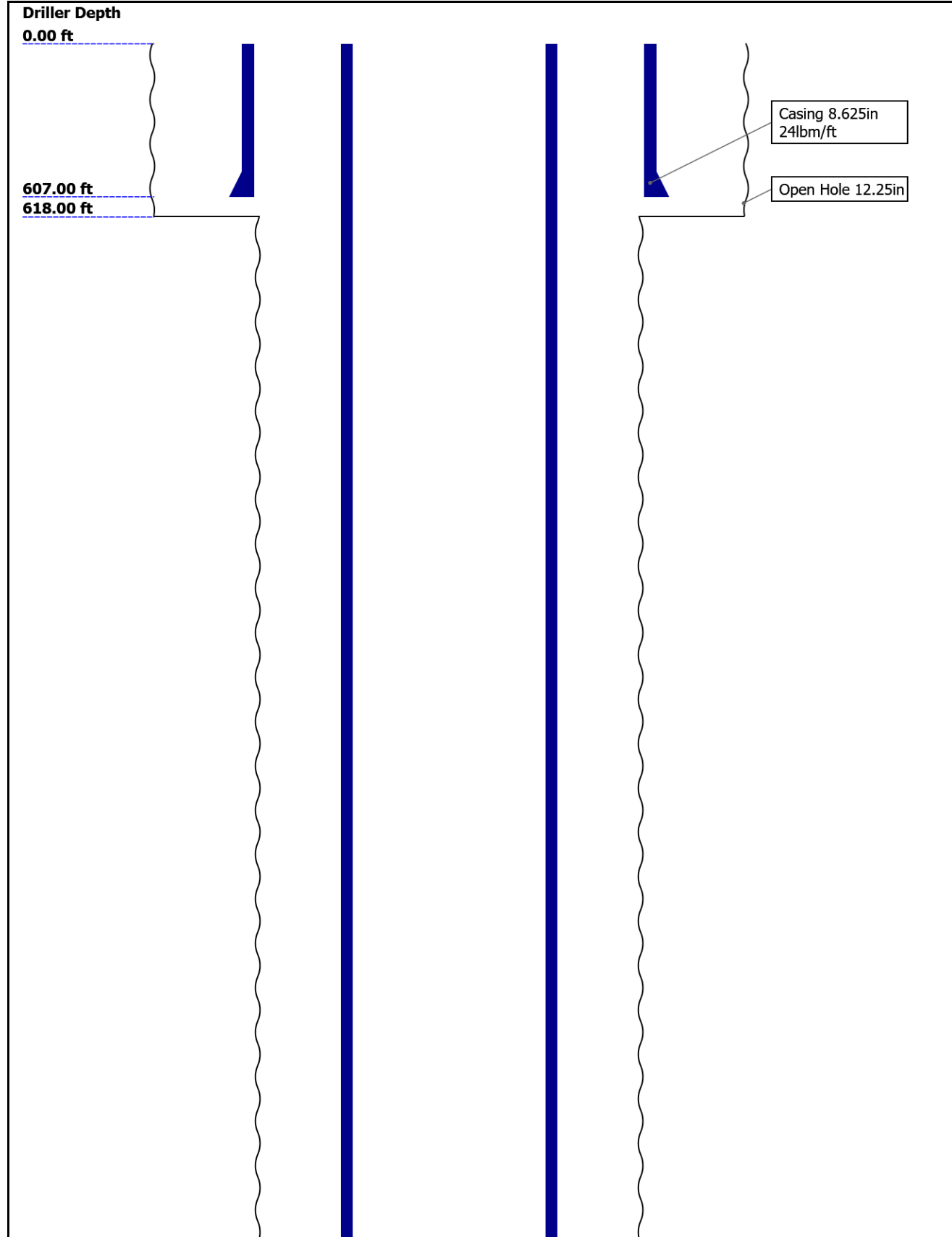
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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.

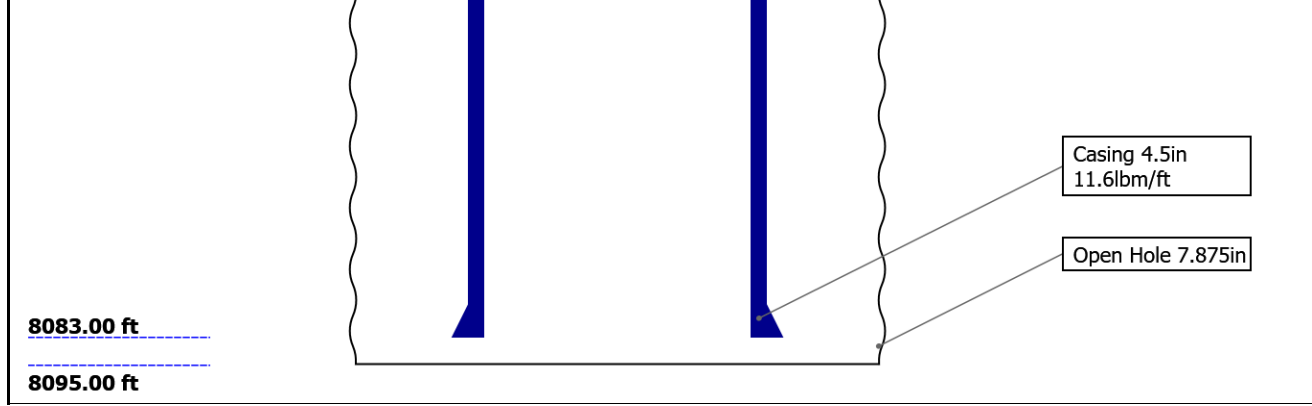
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## Well Sketch





## Borehole Size/Casing/Tubing Record

Bit					
Bit Size ( in )	12.25	7.875			
Top Driller ( ft )	0	618			
Top Logger ( ft )	0	618			
Bottom Driller ( ft )	618	8095			
Bottom Logger ( ft )	618	8095			
Casing					
Size ( in )	8.625	4.5			
Weight ( lbm/ft )	24	11.6			
Inner Diameter ( in )	8.097	4			
Grade	J55	N/A			
Top Driller ( ft )	0	0			
Top Logger ( ft )	0	0			
Bottom Driller ( ft )	607	8083			
Bottom Logger ( ft )	607	8083			

## Remarks and Equipment Summary

### ONE: Toolstring

### ONE: Remarks

Equip name length  
**LEH-QT 49.07**  
 LEH-QT

MP name Offset



**EDTC-B: 45.58**  
**8624**  
 EDTH-B:  
 8423  
 EDTG-A:  
 77384  
 EDTC-B:  
 8624

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

**ASLT-B: 39.08**  
**8101**  
 ASLT-BB  
 :8101

CBL\_U 32.55  
 P

Thank you for choosing Schlumberger

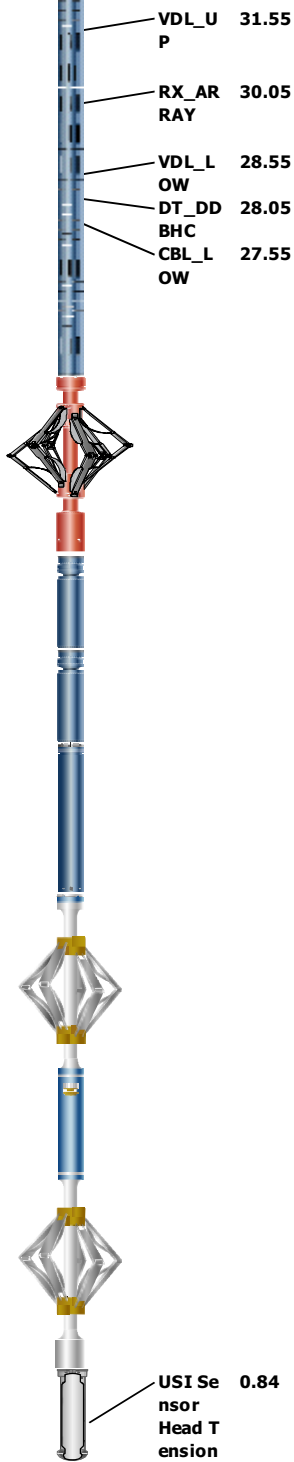
Log run for cement and casing evaluation

IBC-A sub was used with IBC-TX

Tool was run as per tool sketch

Log run under 500 psi

Crew: Derrick Hunter



CME-AF 24.43

AH-184 [2] 20.64

AH-184 [1] 18.64

USIT-E:9 16.64

- 00
- ECH-MFA
- :1818
- USAC-A:
- 900
- USIS-A:2
- 735
- USSC-B
- IBCS-A:8
- 15
- FAR-SEN
- SOR:4674
- IBC-TX
- NEAR-SE
- NSOR:47
- 76
- IBC-TX
- USI-SEN
- SOR:4605
- IBC-TX
- EMITTER
- SENSOR
- :4825
- 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-B
Serial Number	
Calibration Date	
Calibrator Serial Number	
Calibration Cable Type	
Wheel Correction 1	0
Wheel Correction 2	0

### Tension Device

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

<b>Logging Cable</b>			
Type	7-46NT-XS		
Serial Number	ahosp		
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Workover rig		

<b>ONE:Depth Control Parameters</b>		<b>Depth Control Remarks</b>	
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			

### USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 4	Log[2]:Down	4567.4	7101.19

**Fluid Velocity = "Automatic".**  
**CFVL equals DFSL channel**

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

**Mud Impedance = "Theoretical".**  
**CZMD uses theoretical results.**  
**MUD\_N\_THE=1.13**  
**DFD=1.01g/cm3(8.40lbm/gal)**

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

### Composite 1

### IBC SLG

### Software Version

<b>Acquisition System</b>		<b>Version</b>
Maxwell 2022.1		12.1.217729.3100
<b>Application Patch</b>		Wireline_Hotfix-Mandatory-2022.1_12.1.220972
		Wireline_NPD-ThruBit-2022.1_12.1.220135

### Composite Summary

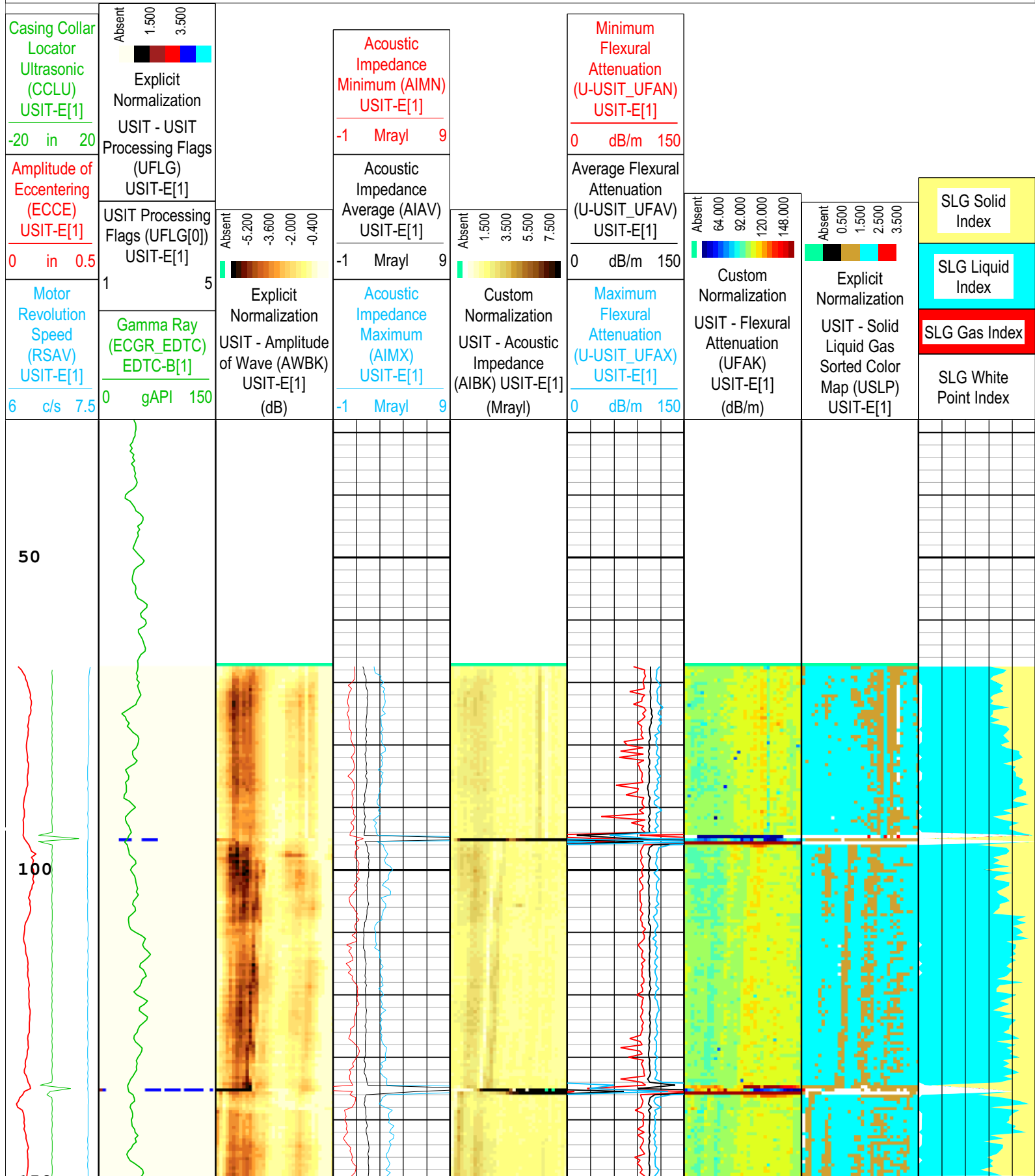
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	5436.73 ft	7107.90 ft	15-Nov-2022 10:06:56 PM	15-Nov-2022 10:34:39 PM	ON	9.90 ft	Yes
ONE	Log[4]:Up	Up	67.82 ft	6315.28 ft	15-Nov-2022 10:37:21 PM	16-Nov-2022 12:14:08 AM	ON	12.11 ft	Yes

All depths are referenced to toolstring zero

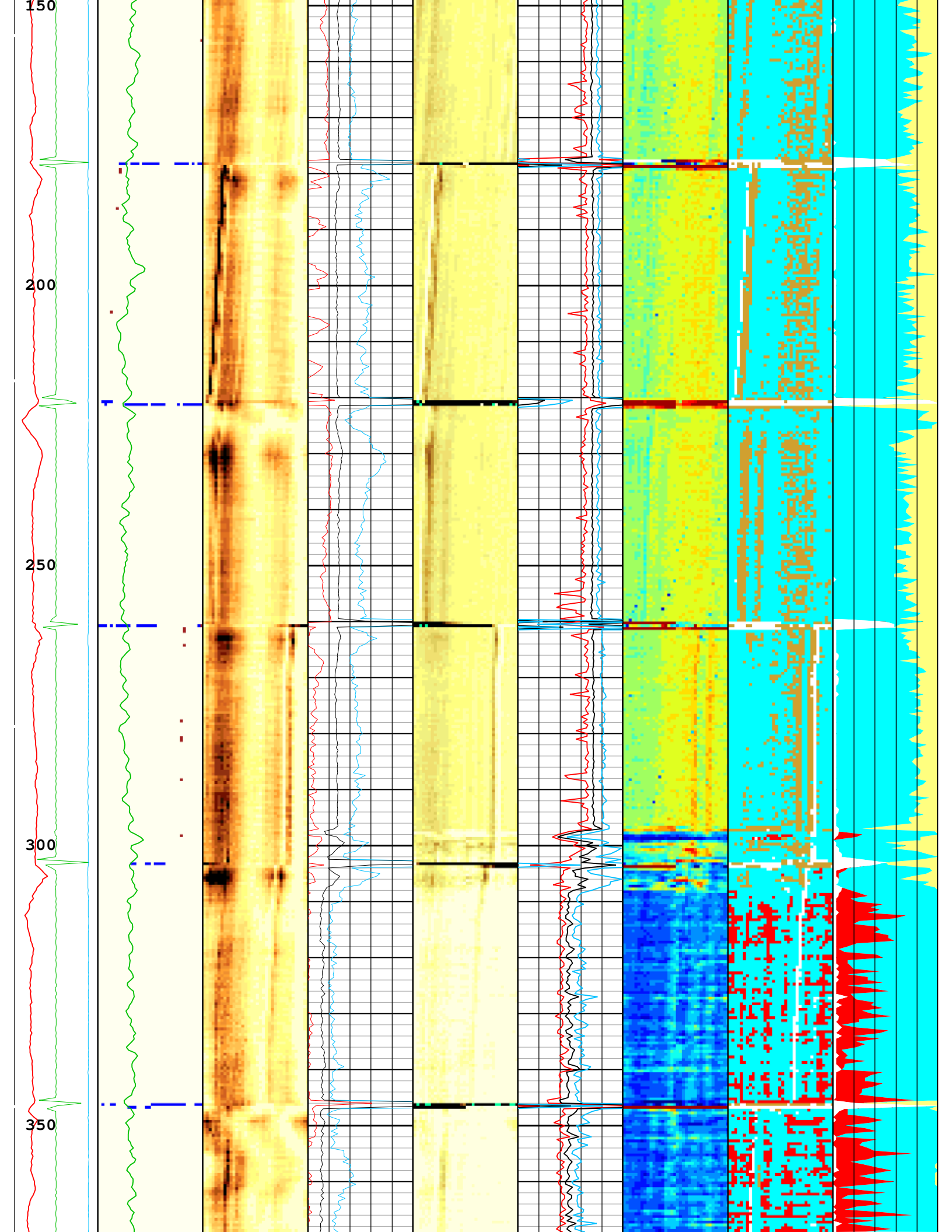
<b>Log</b>	Company:Occidental Petroleum Corporation	Well:Sherwood L Federal #30-29D
		Composite 1:S017

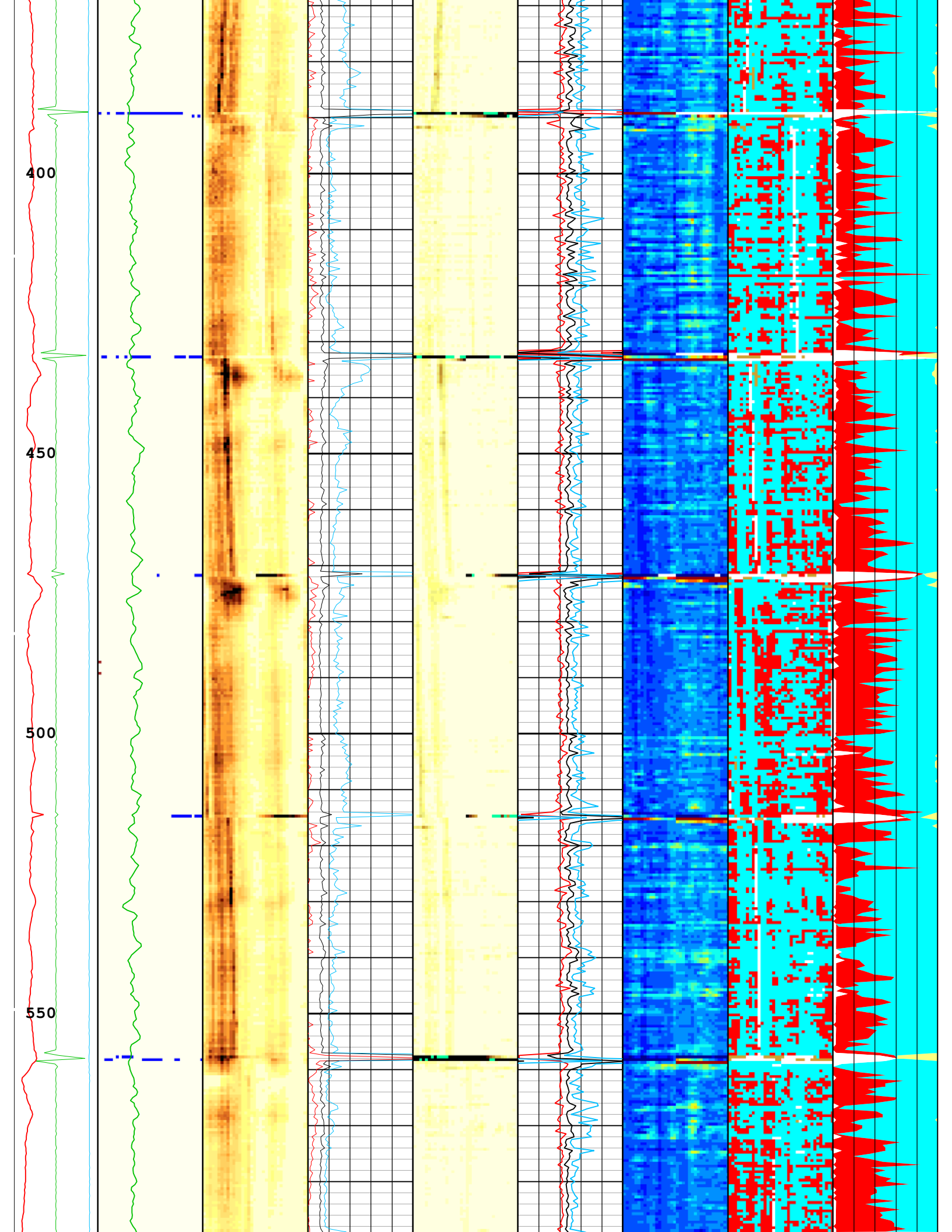
USIT Processing Flags (UFLG[0]) USIT-E[1]

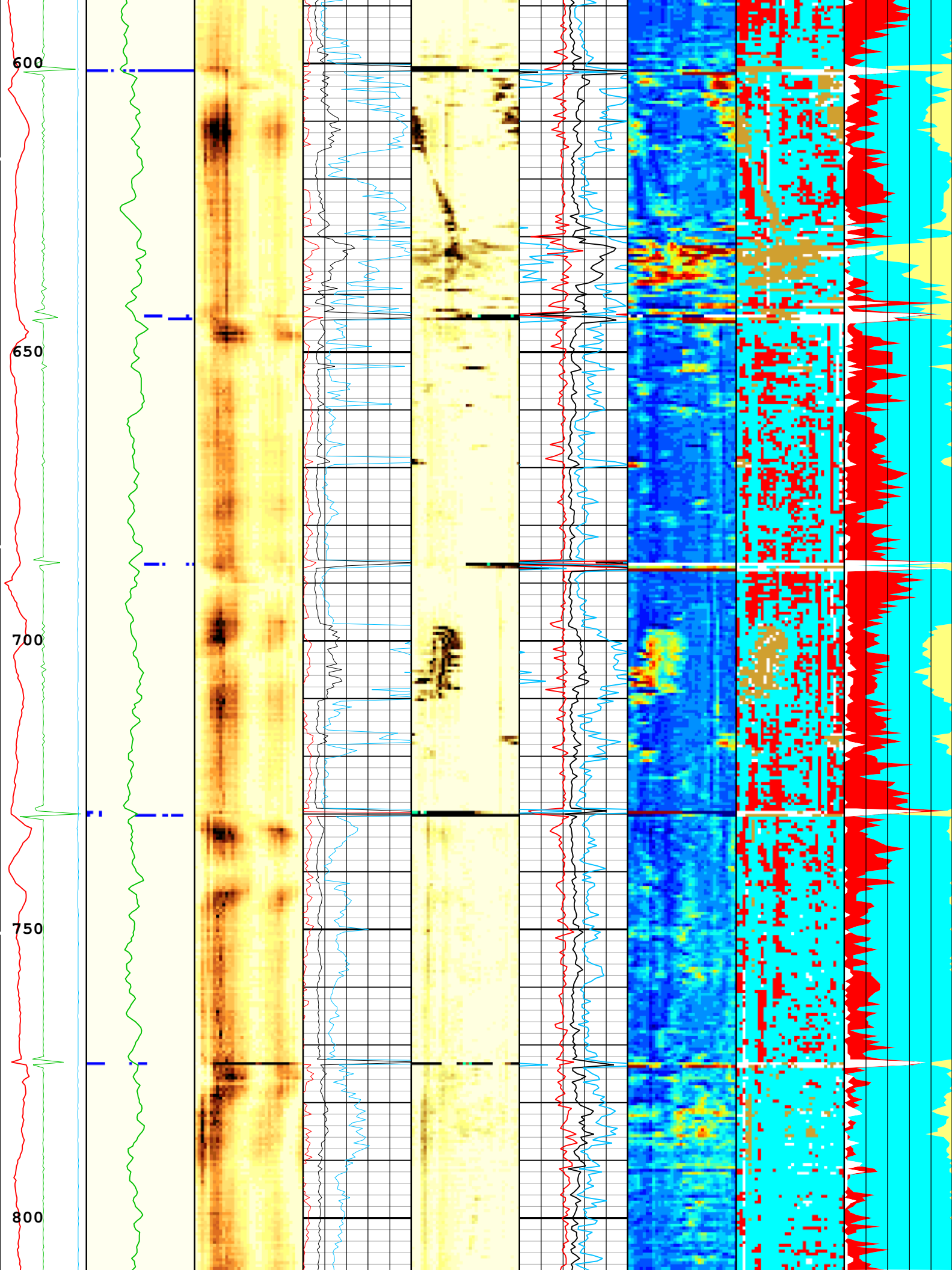
- 1 - UFLG 1 Value within [0.0 - 1.5] - :  UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - :  Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - :  WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :  Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5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

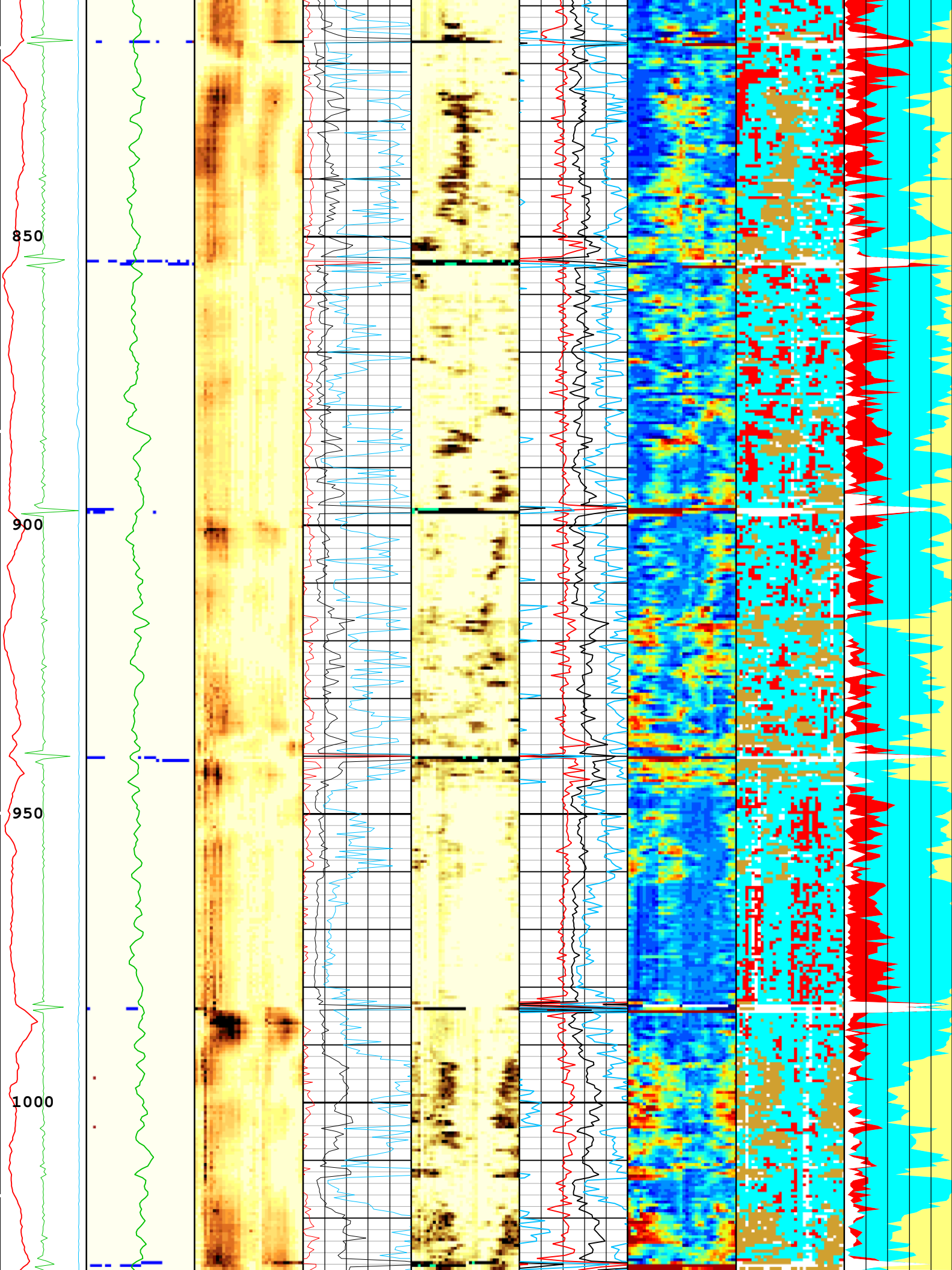


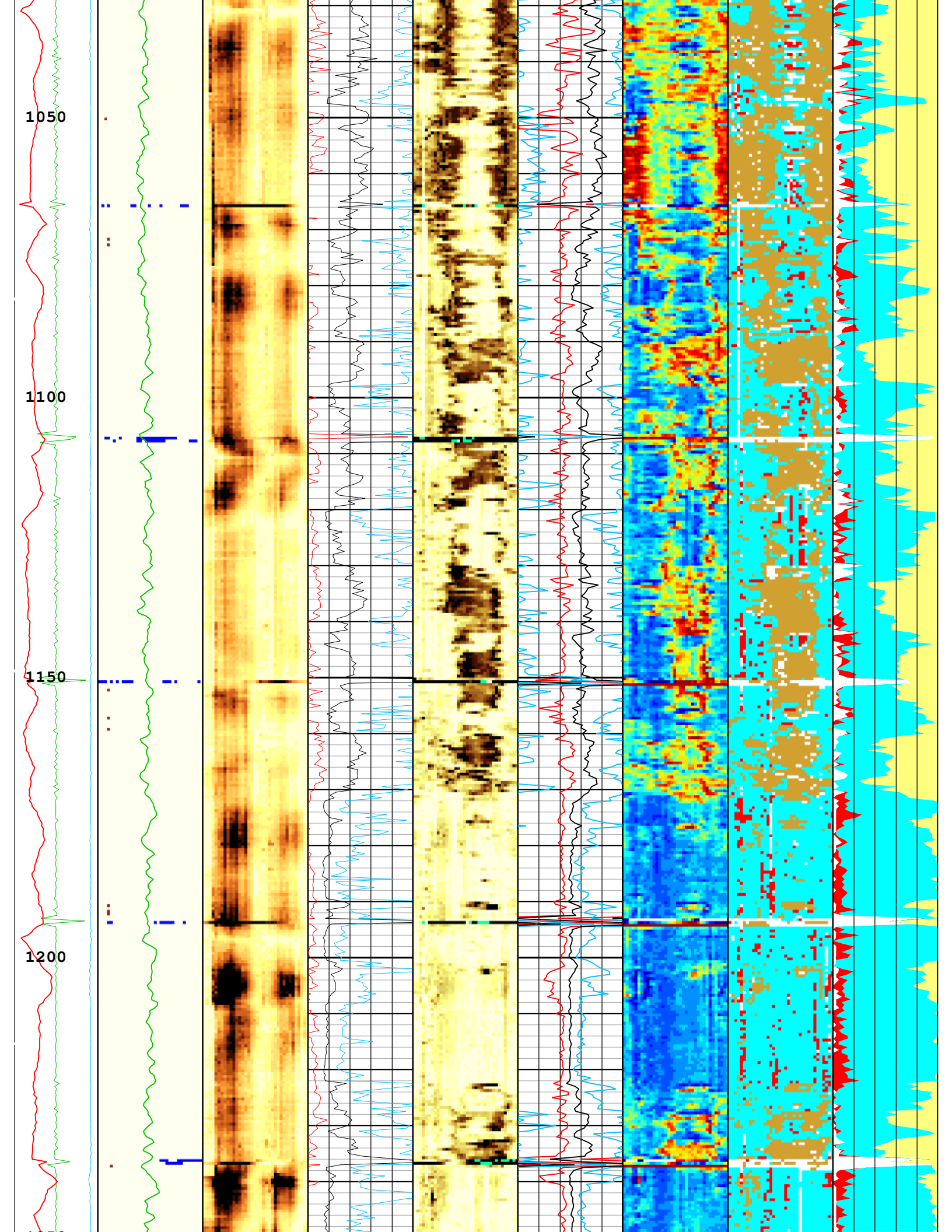
SLG Solid Index
SLG Liquid Index
SLG Gas Index
SLG White Point Index















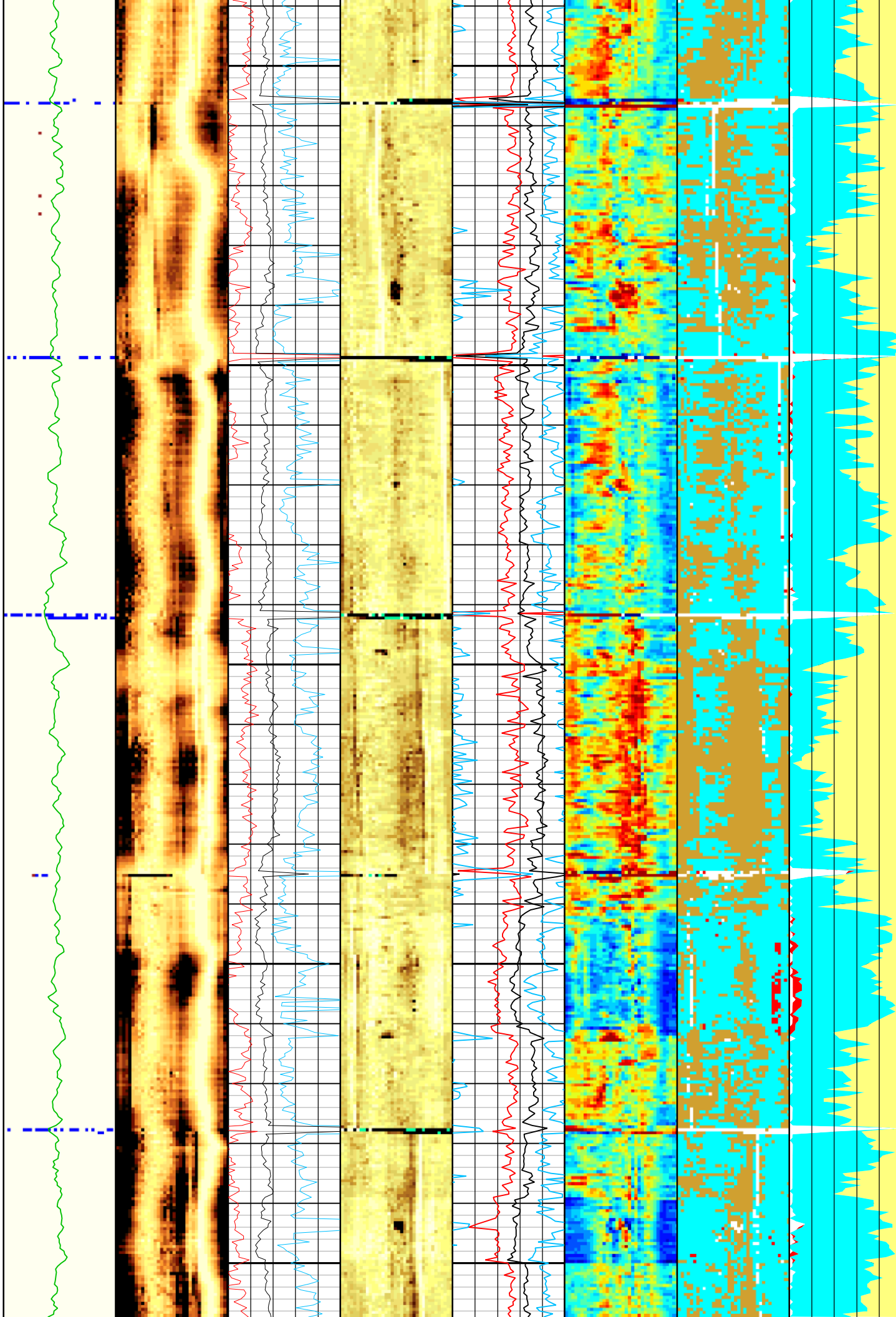
1700

1750

1800

1850

1900

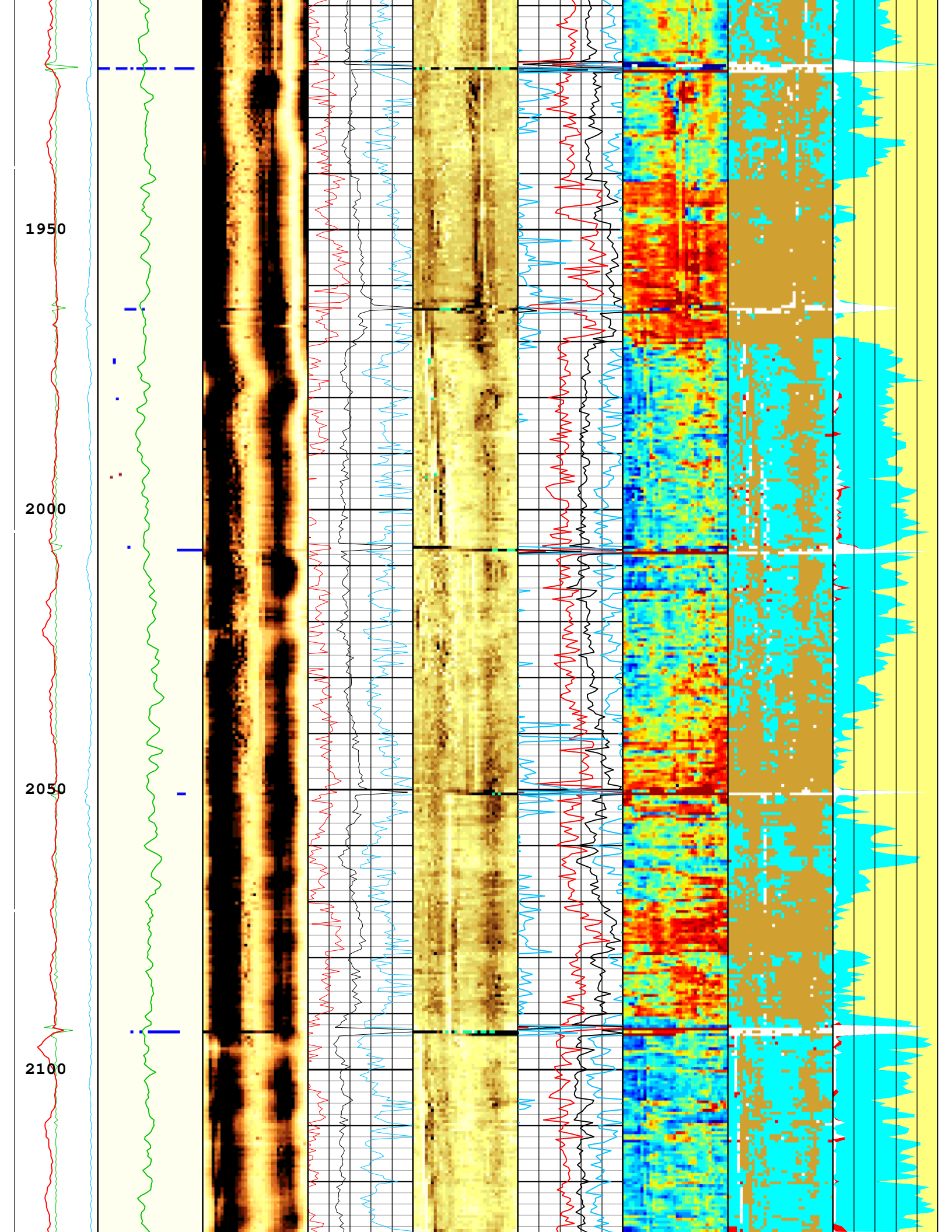


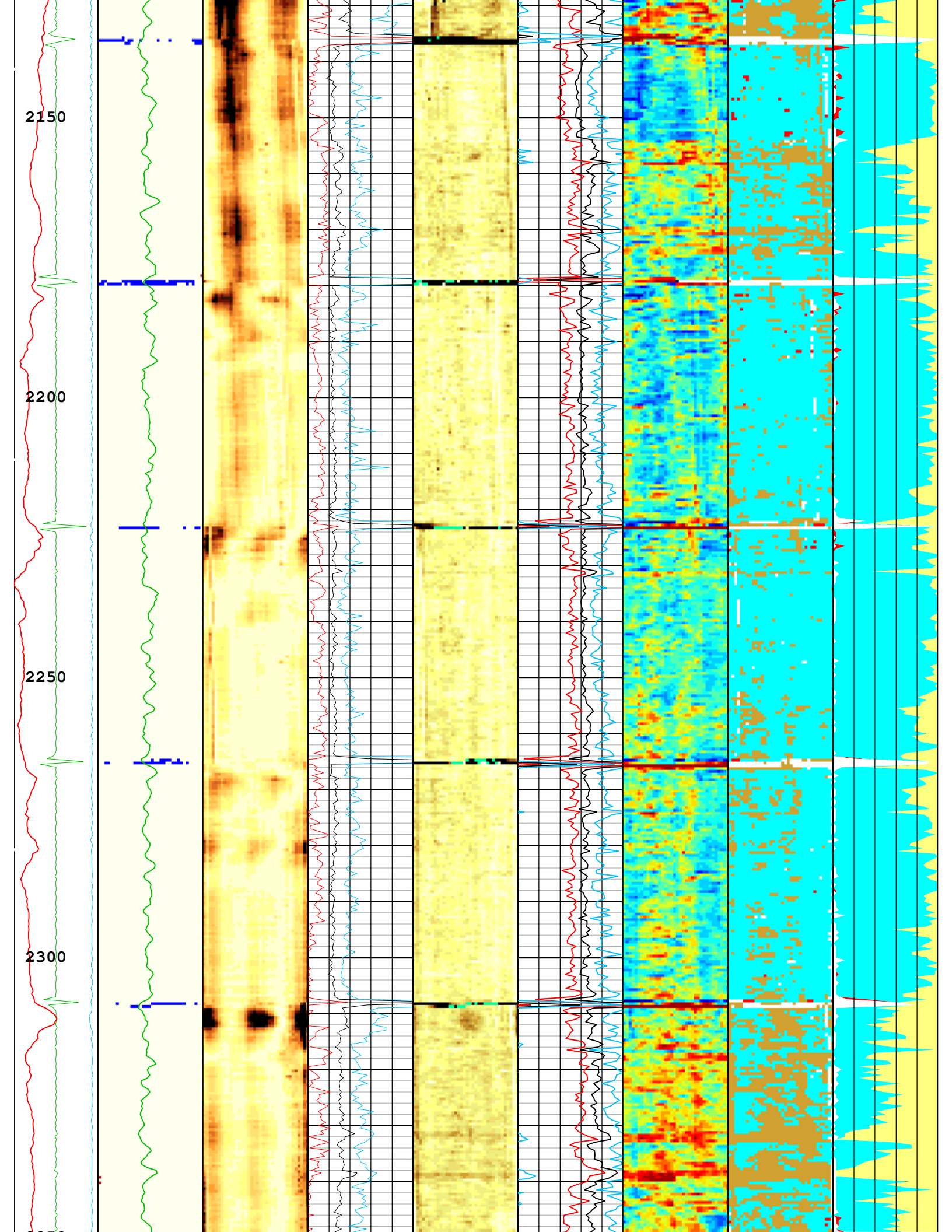
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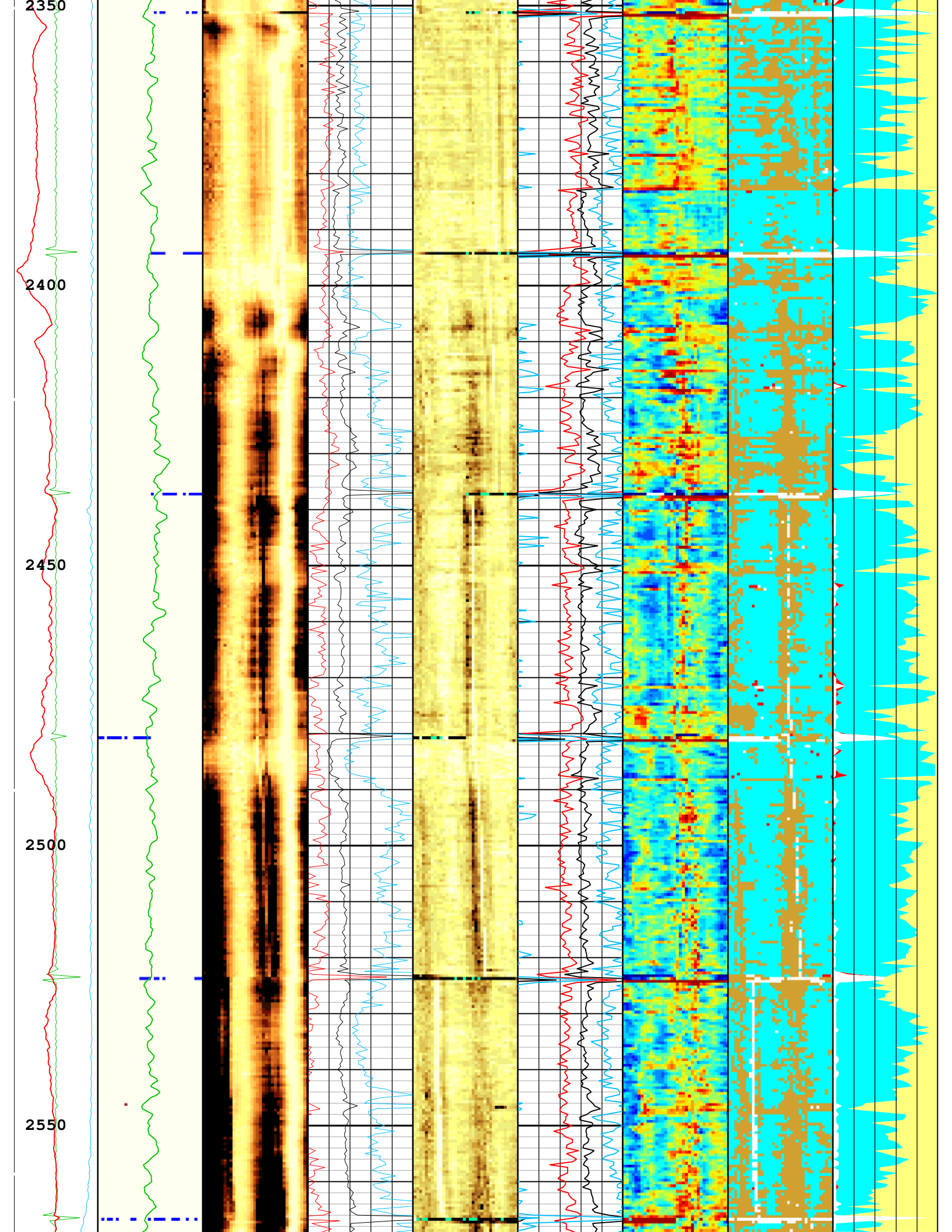
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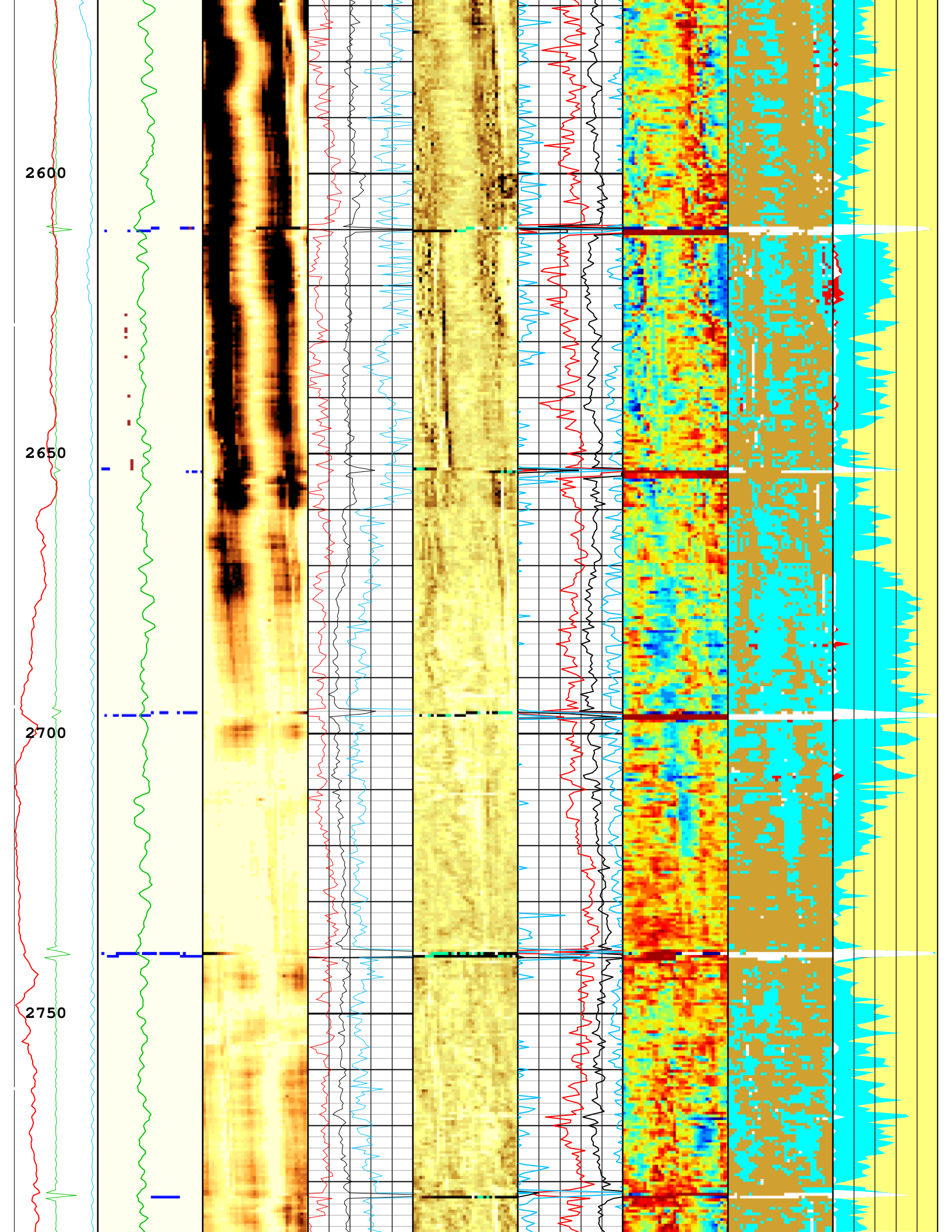
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2100









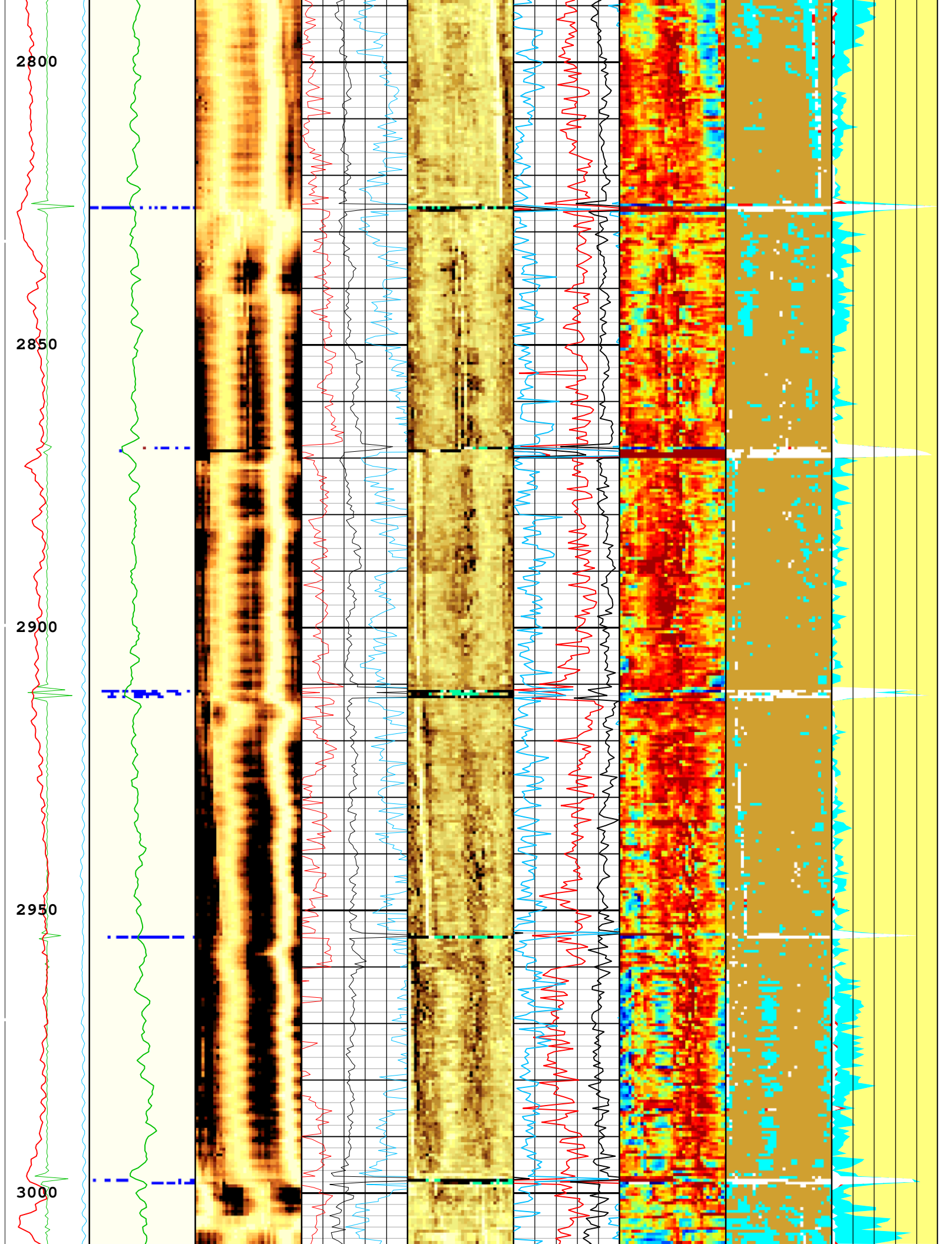
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2850

2900

2950

3000

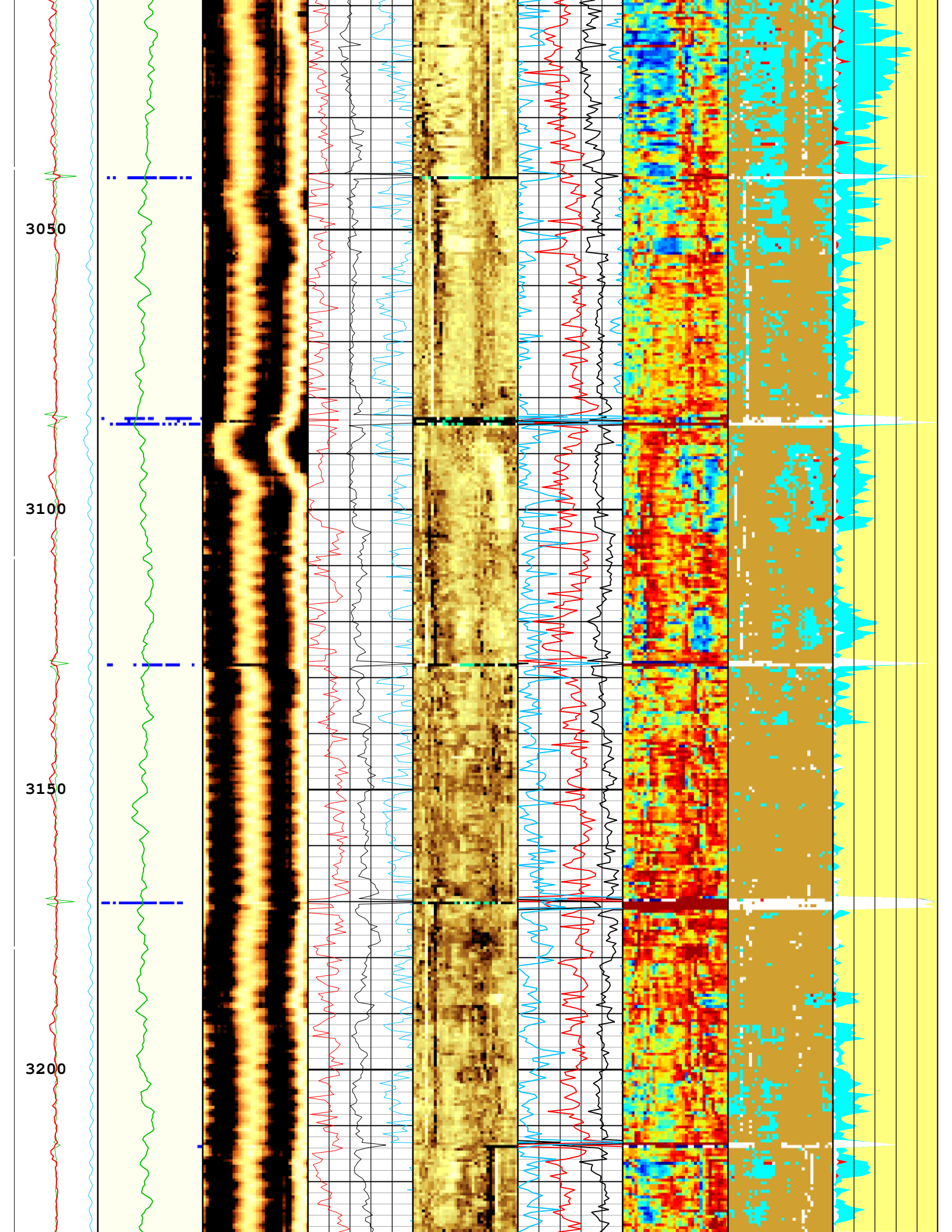


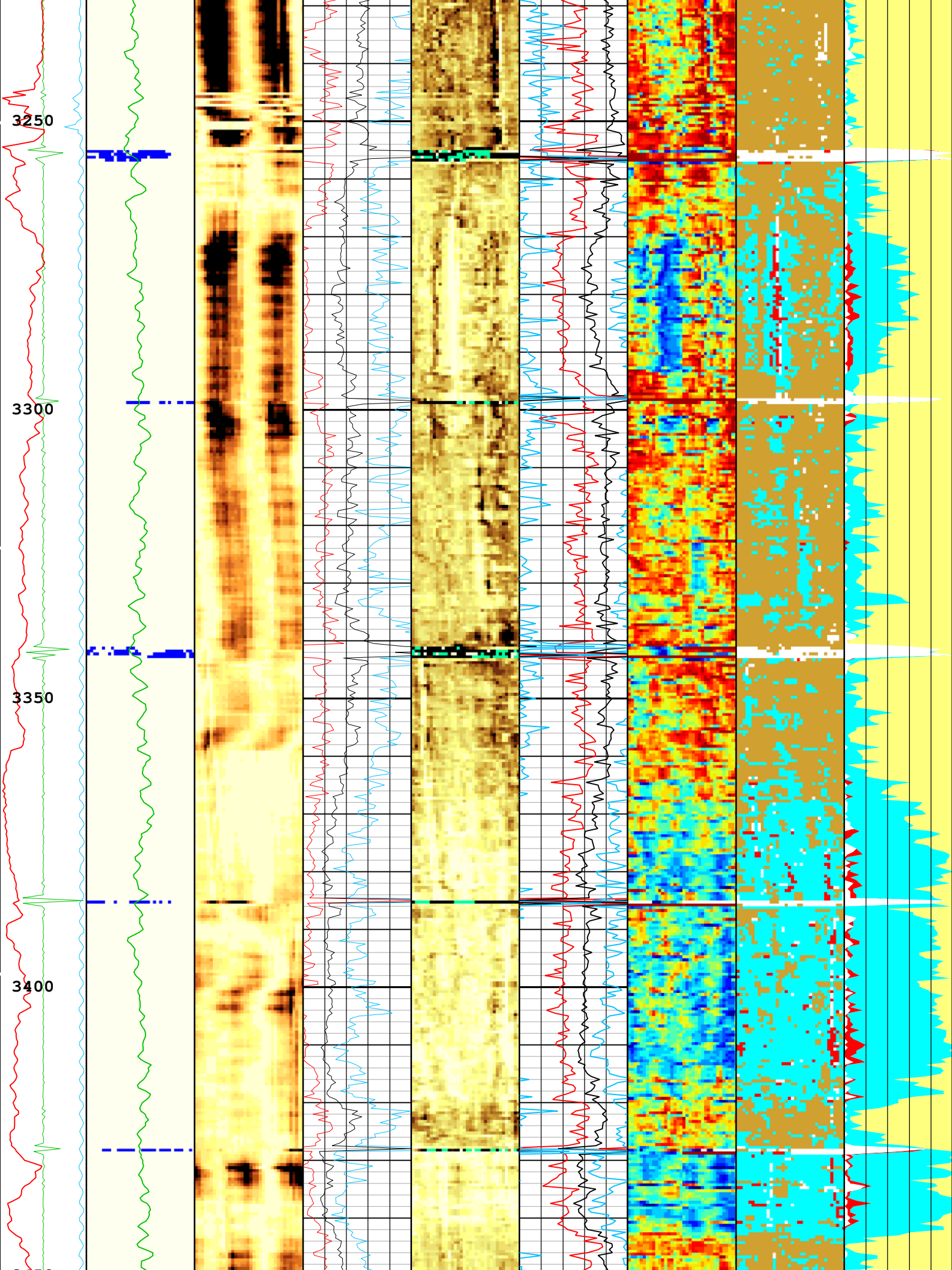
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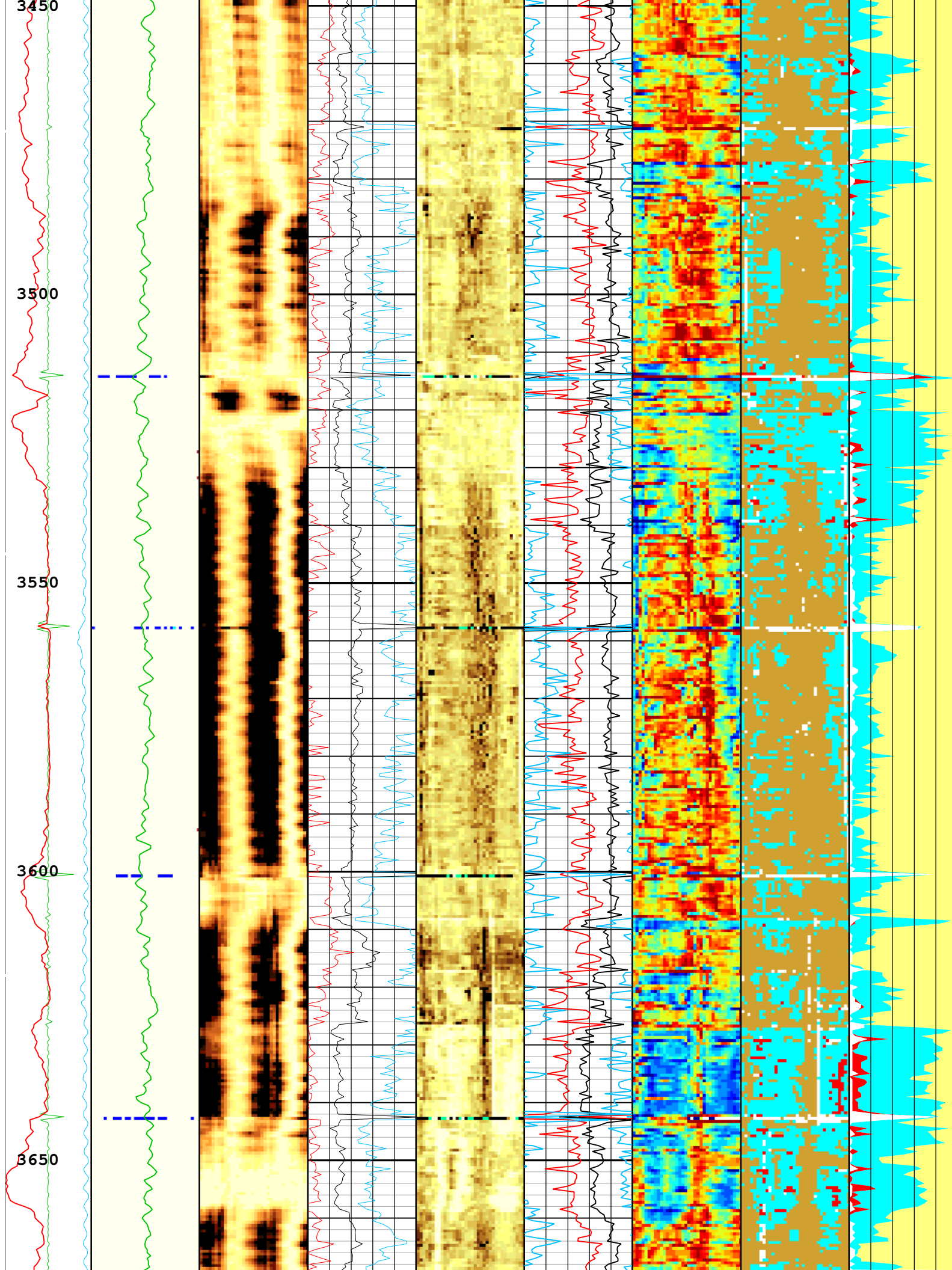
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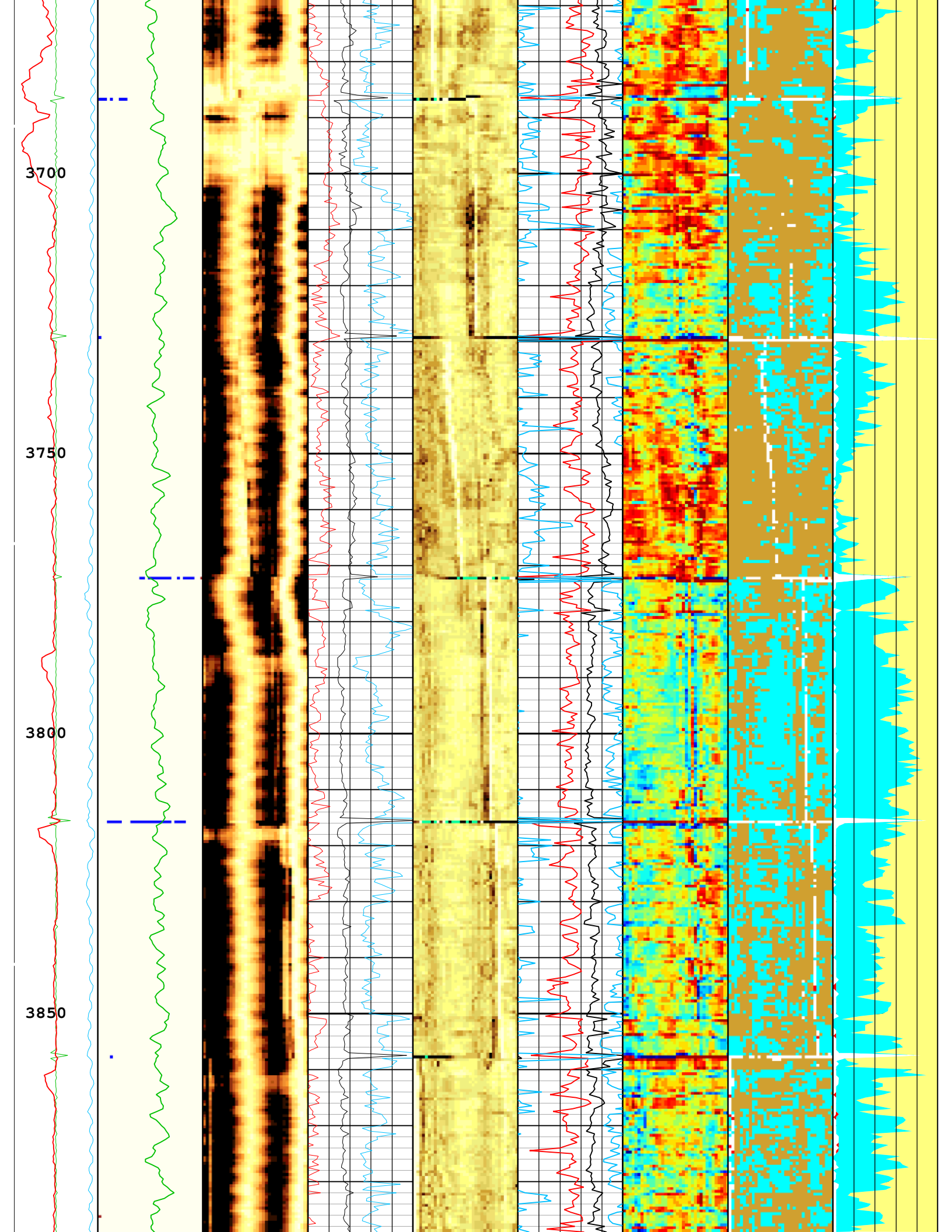
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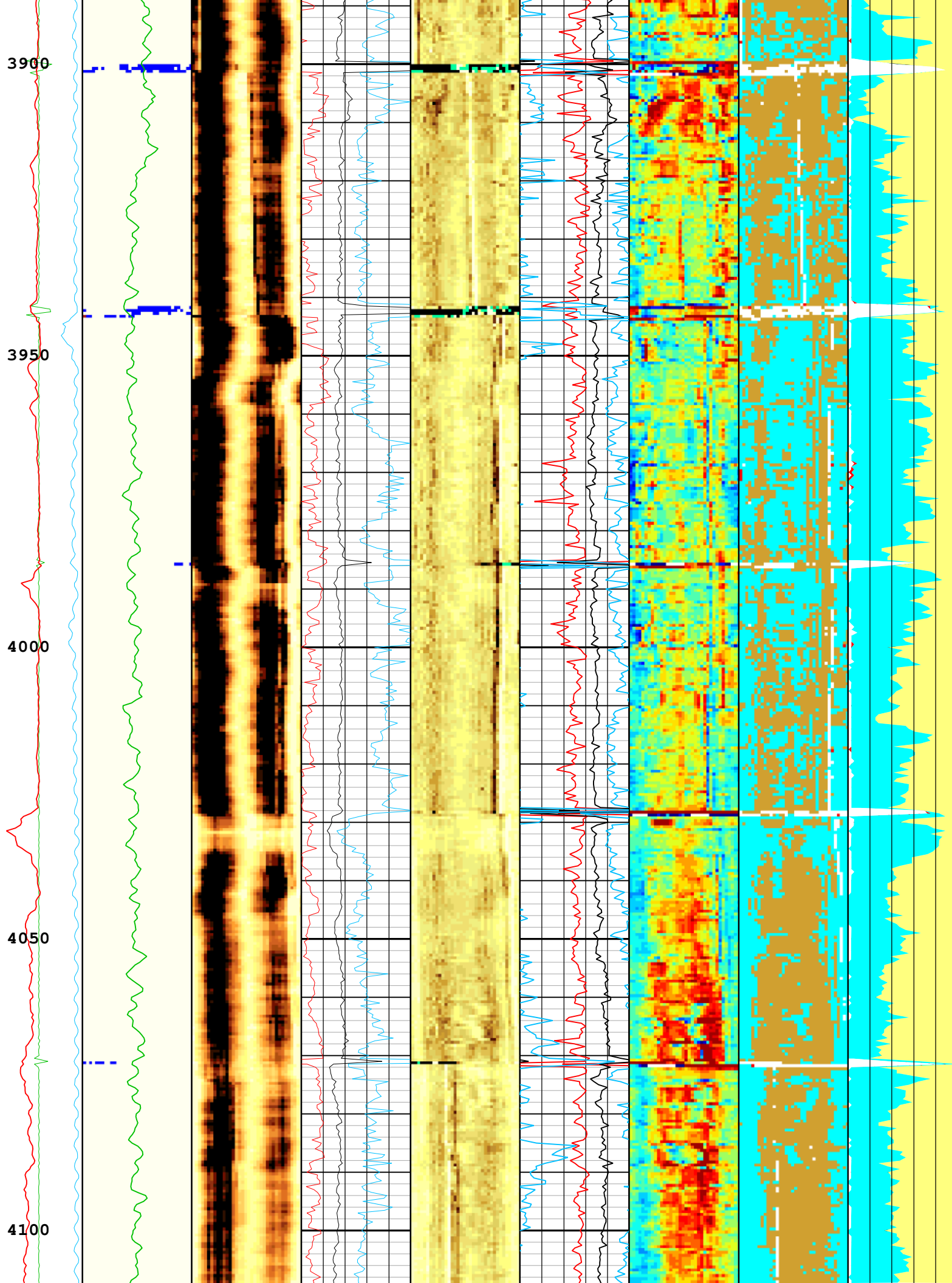
3200



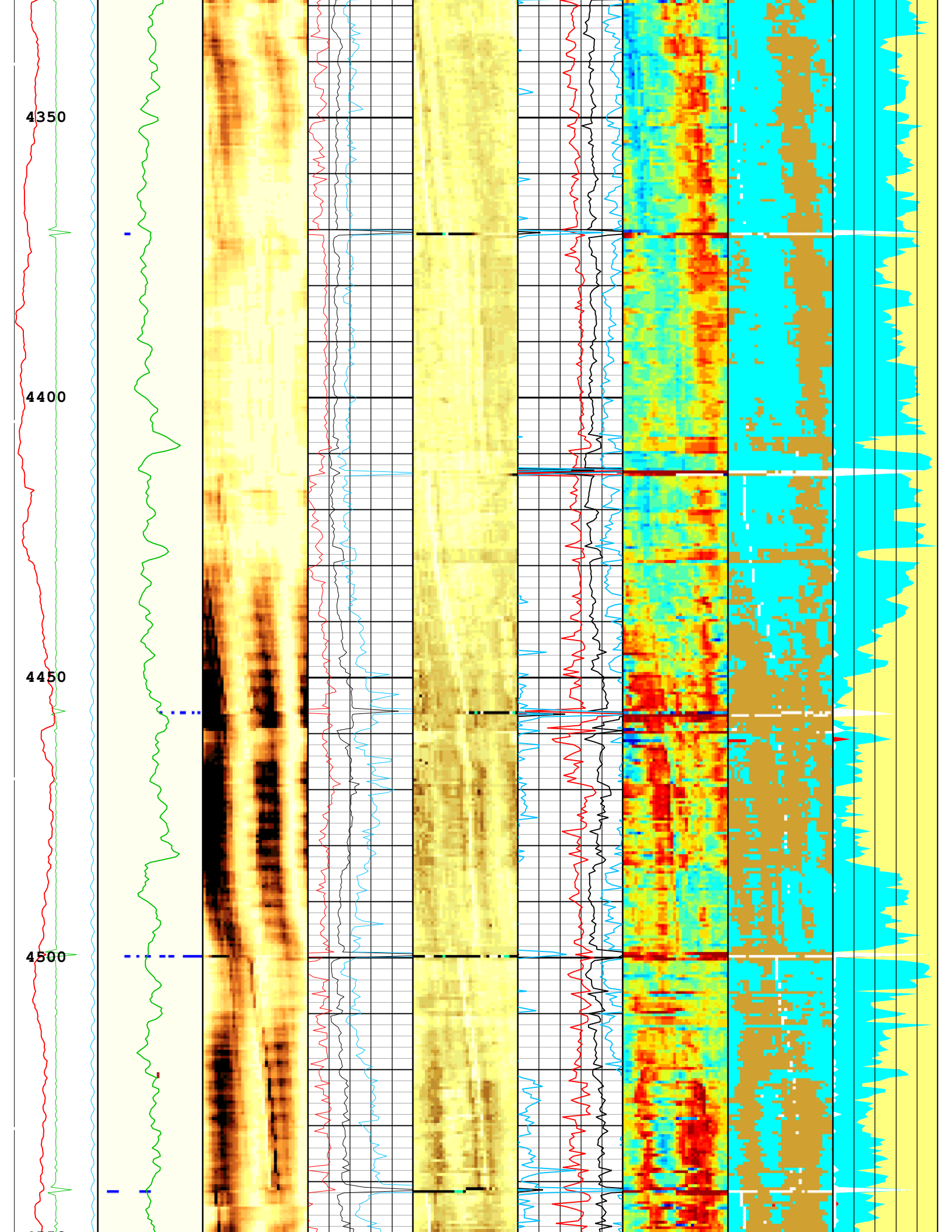


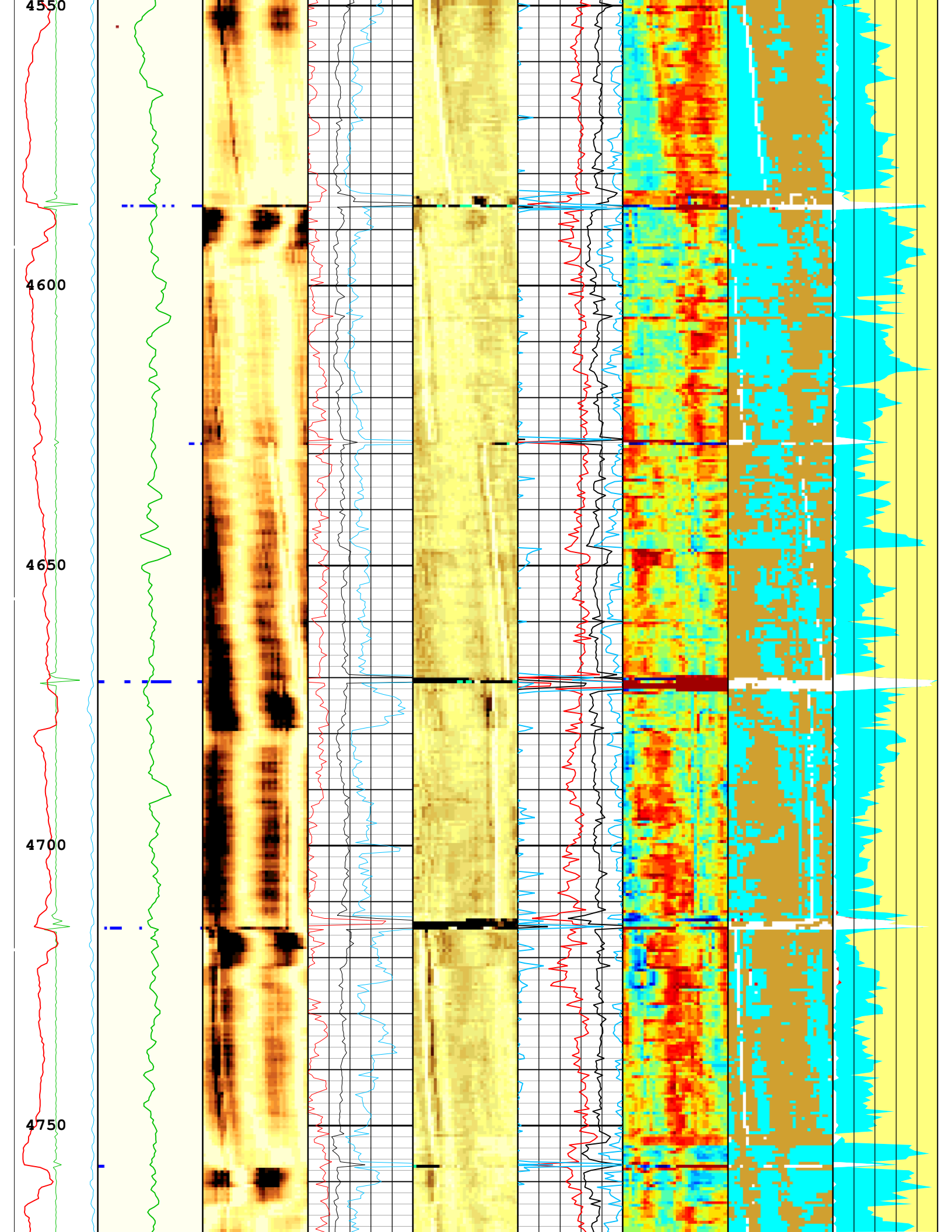


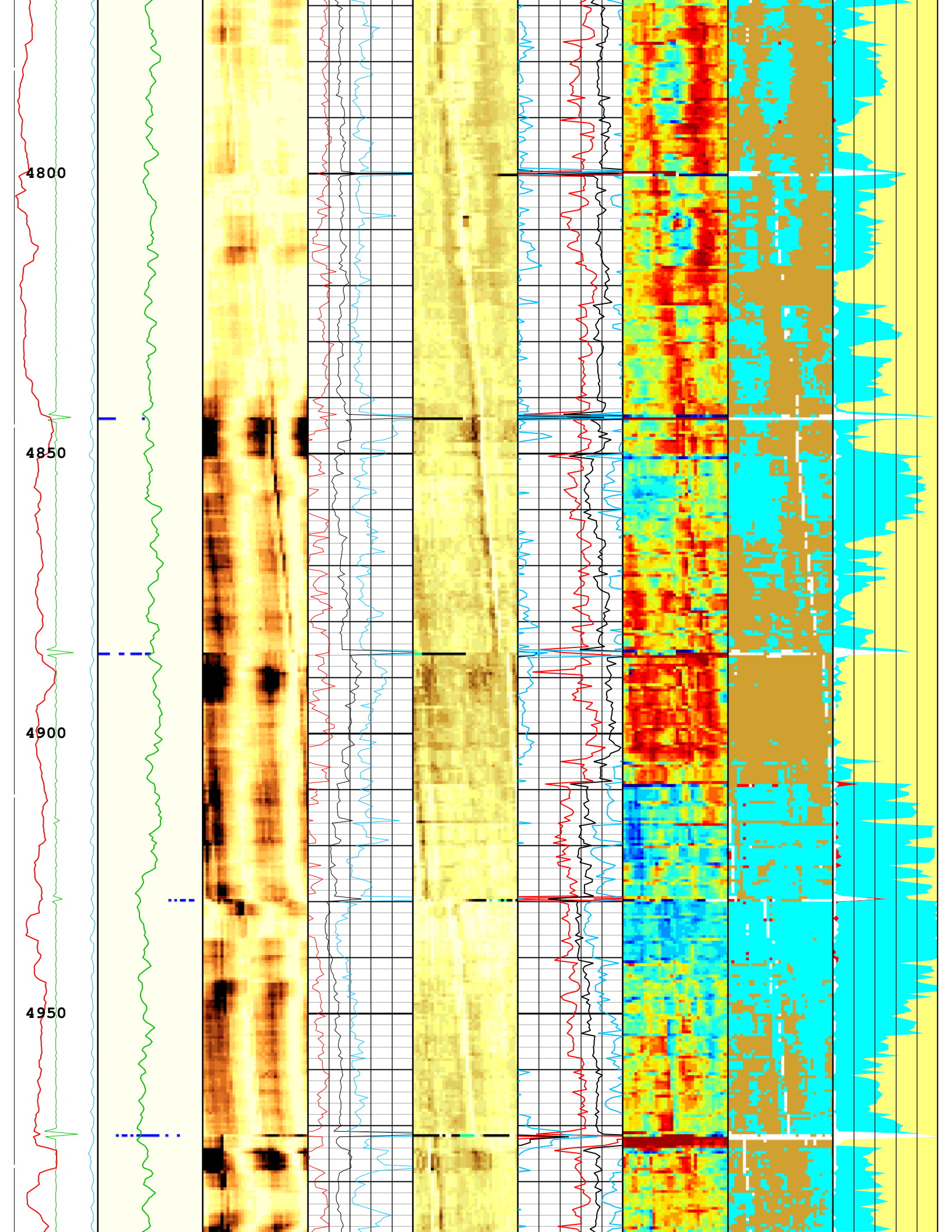


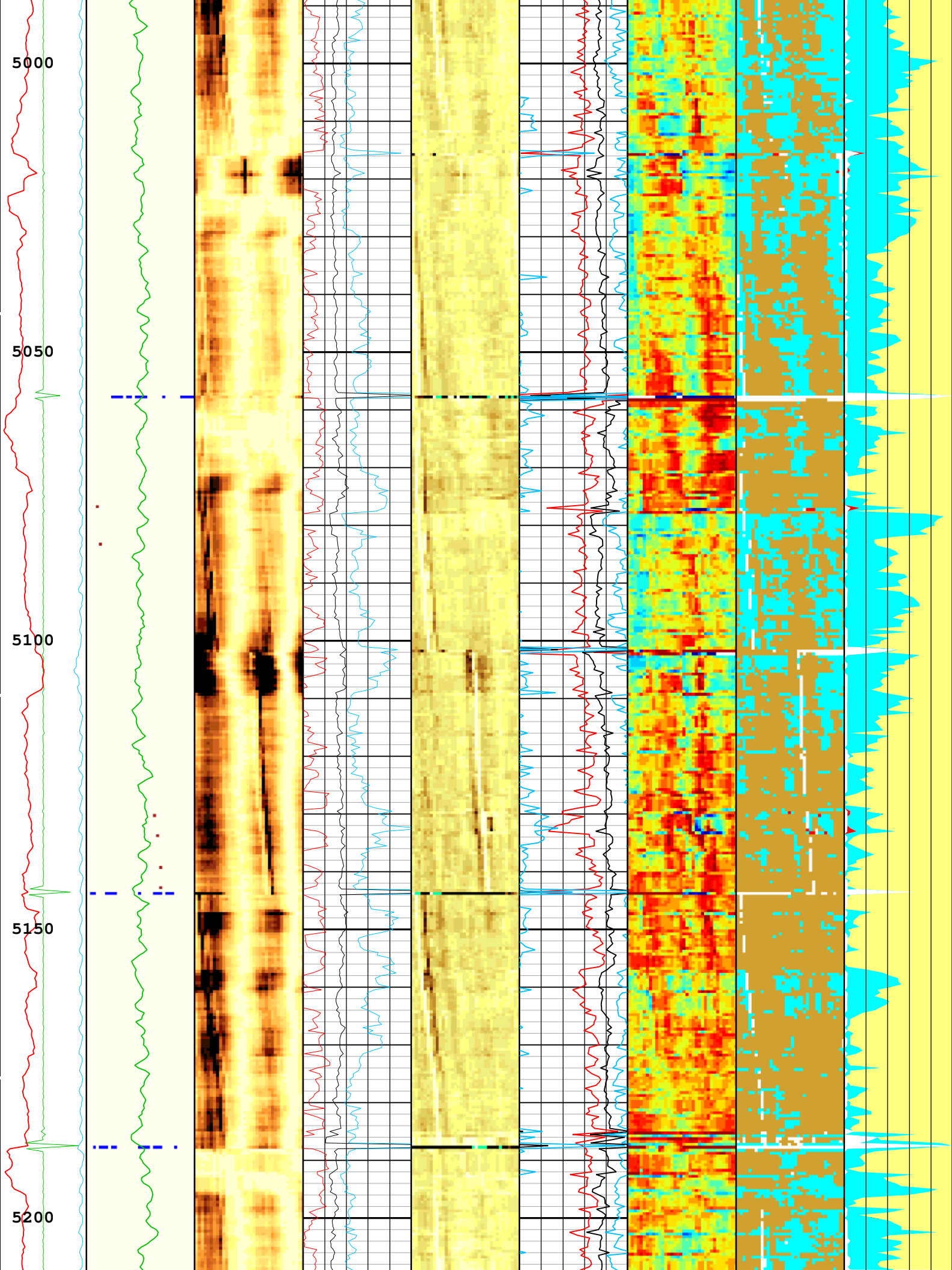


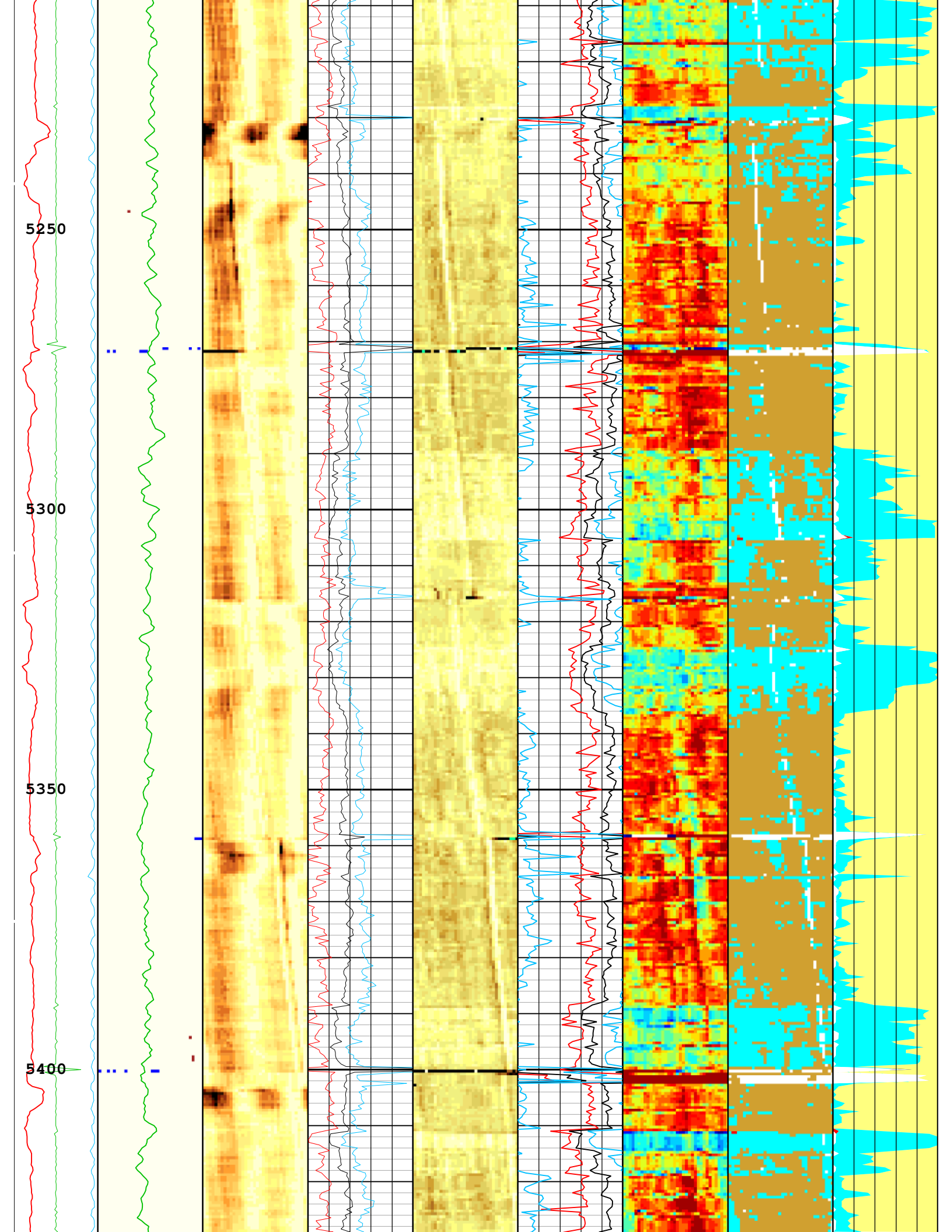


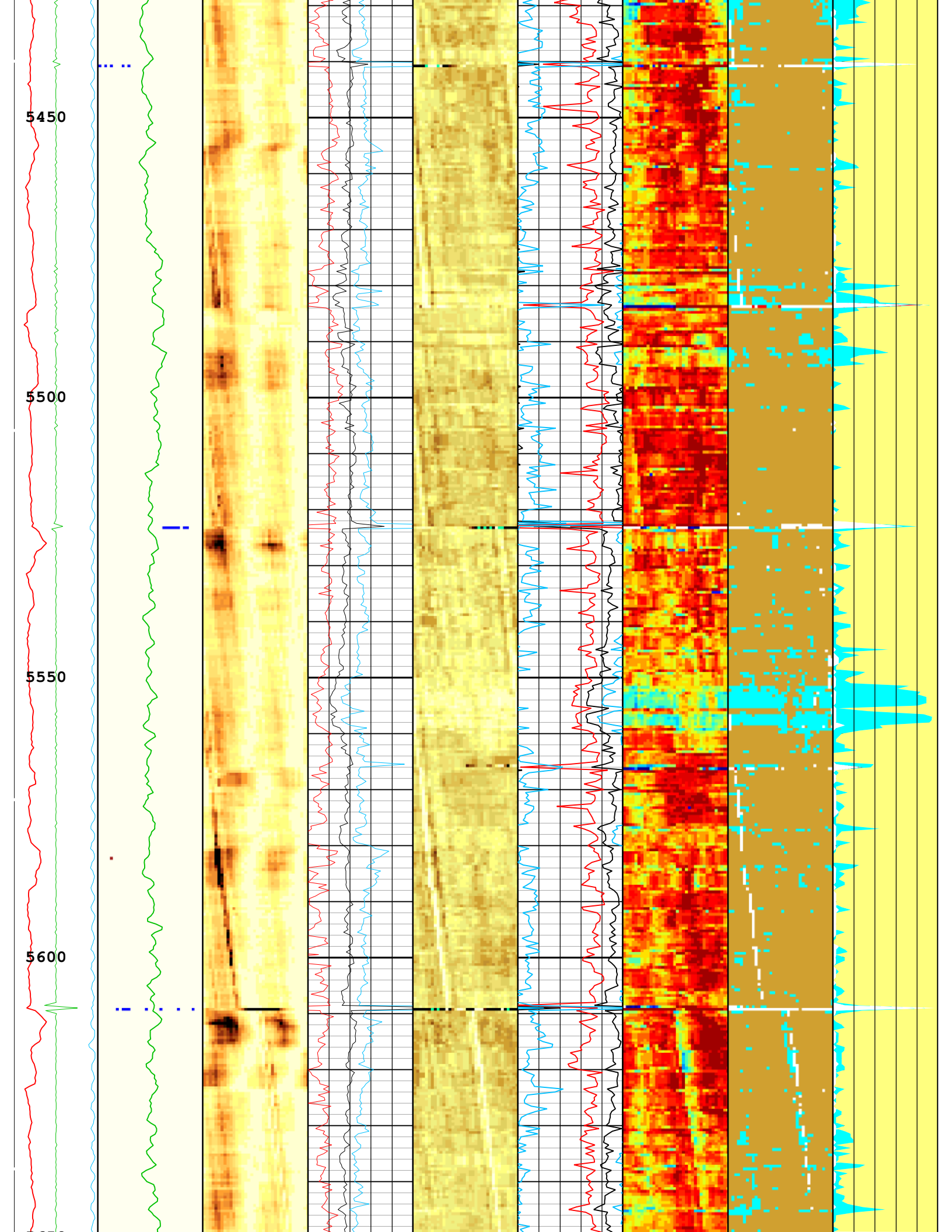


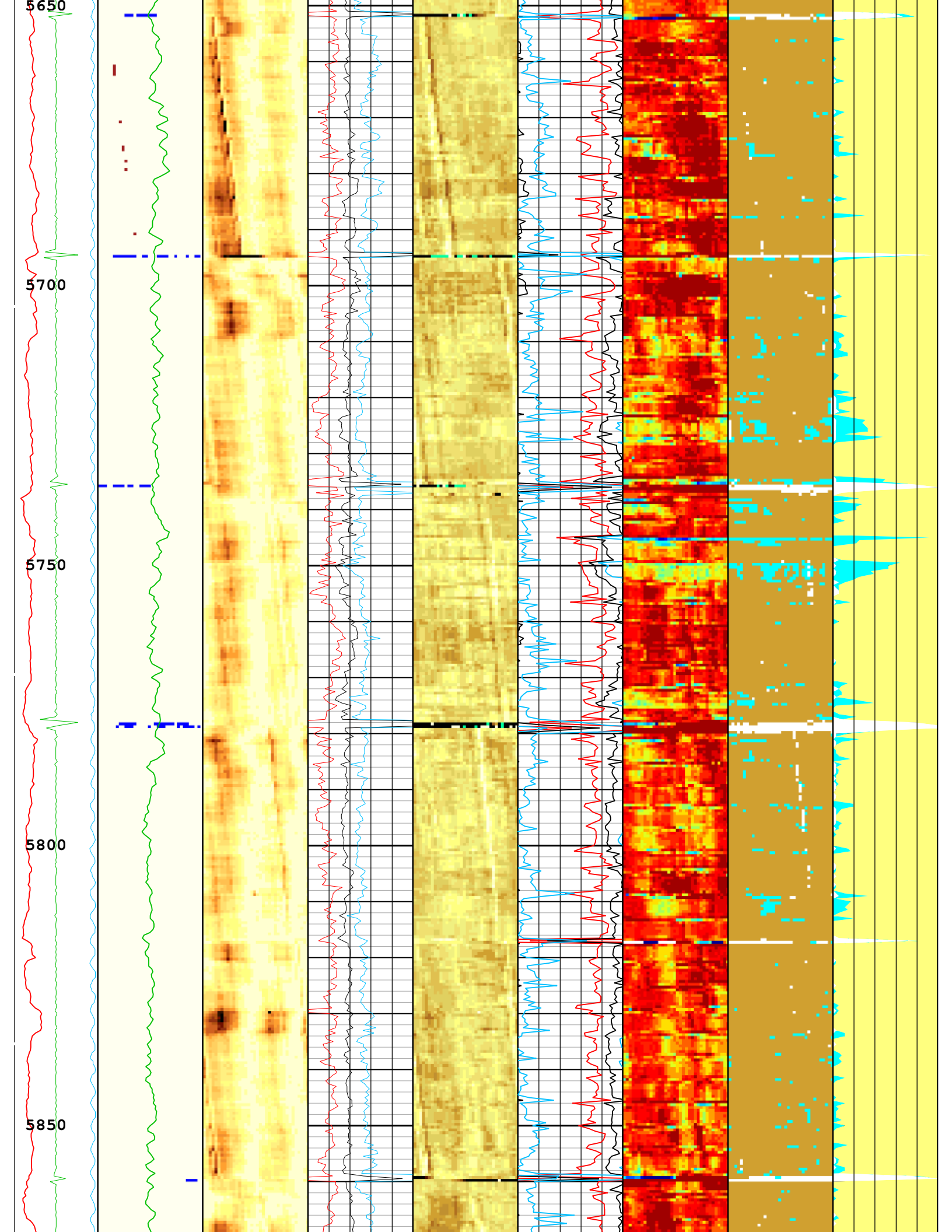


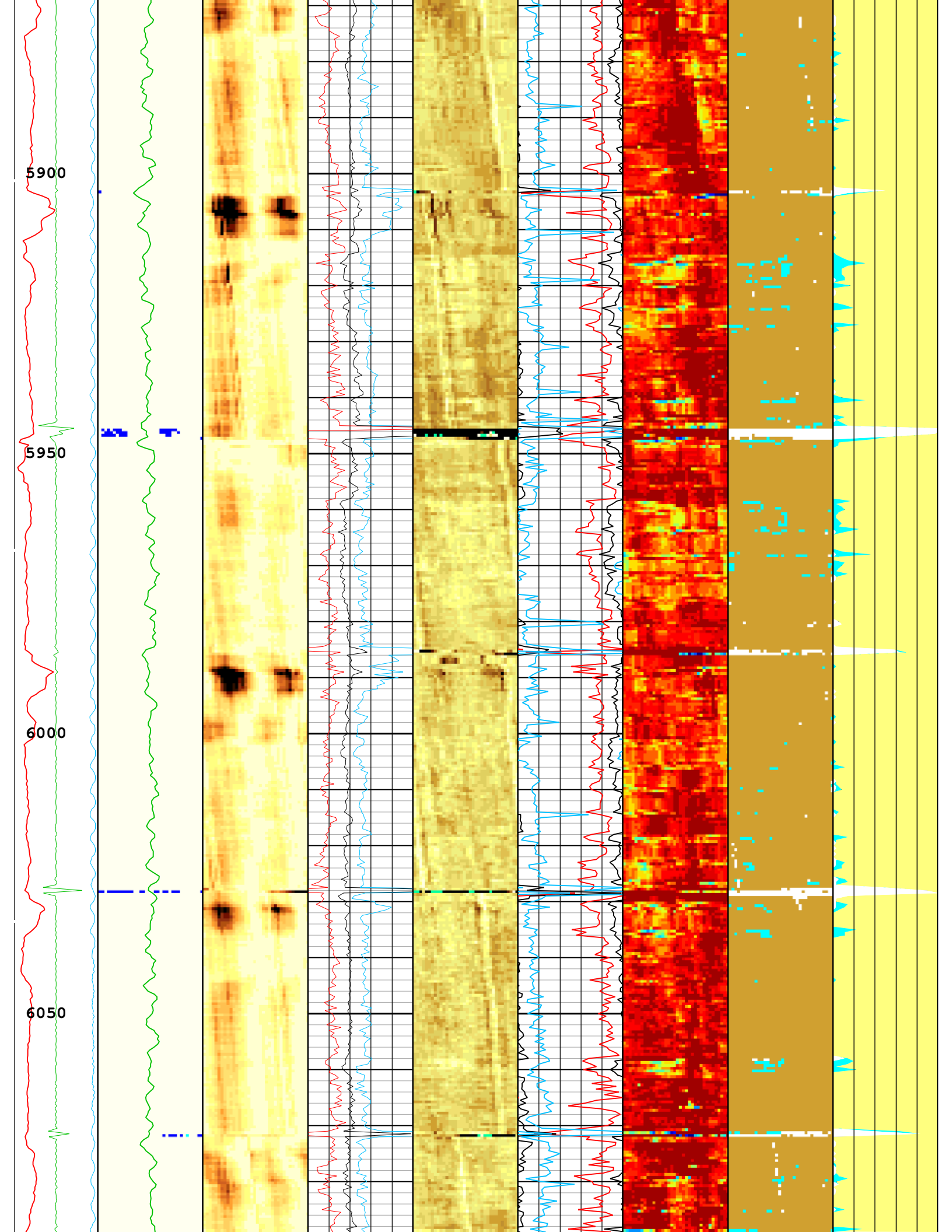


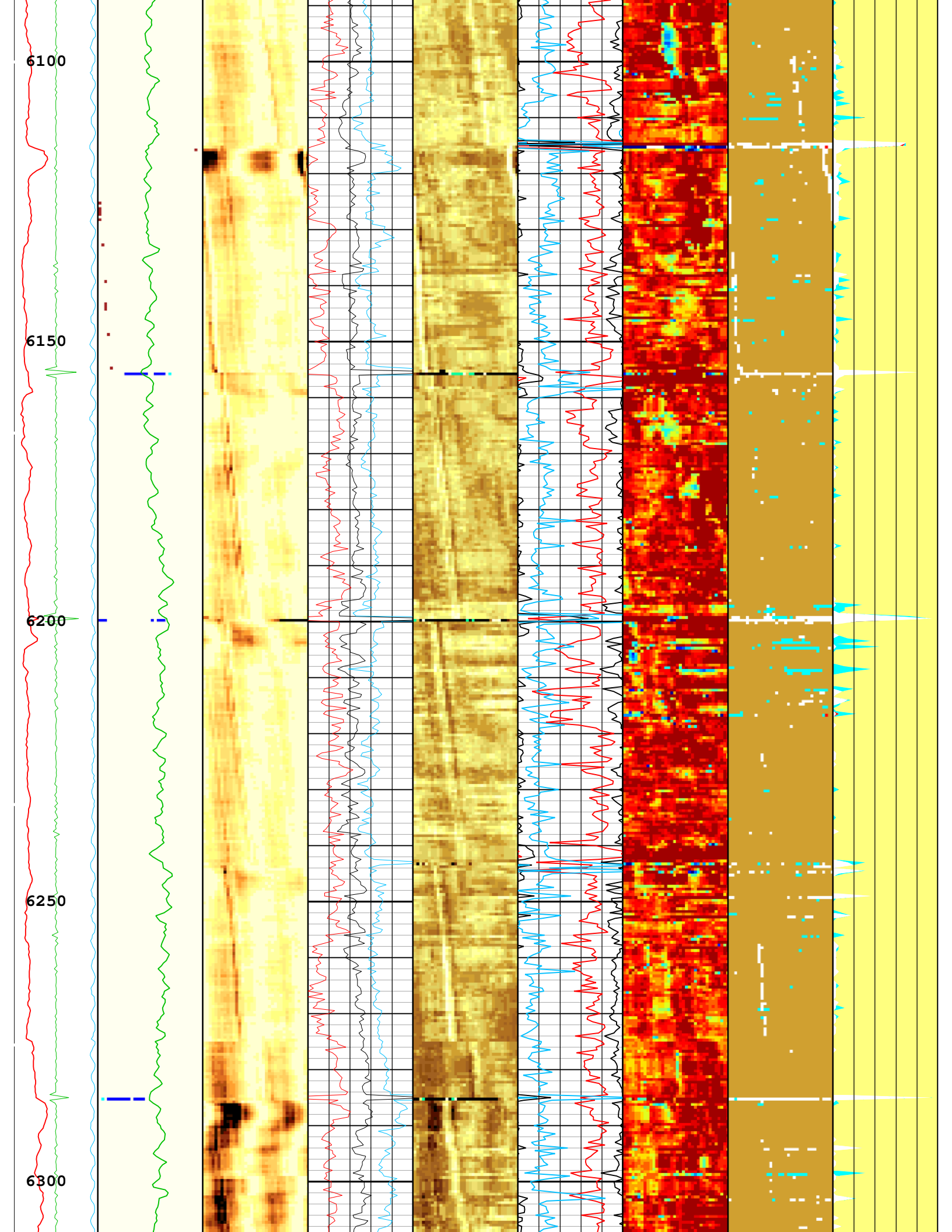










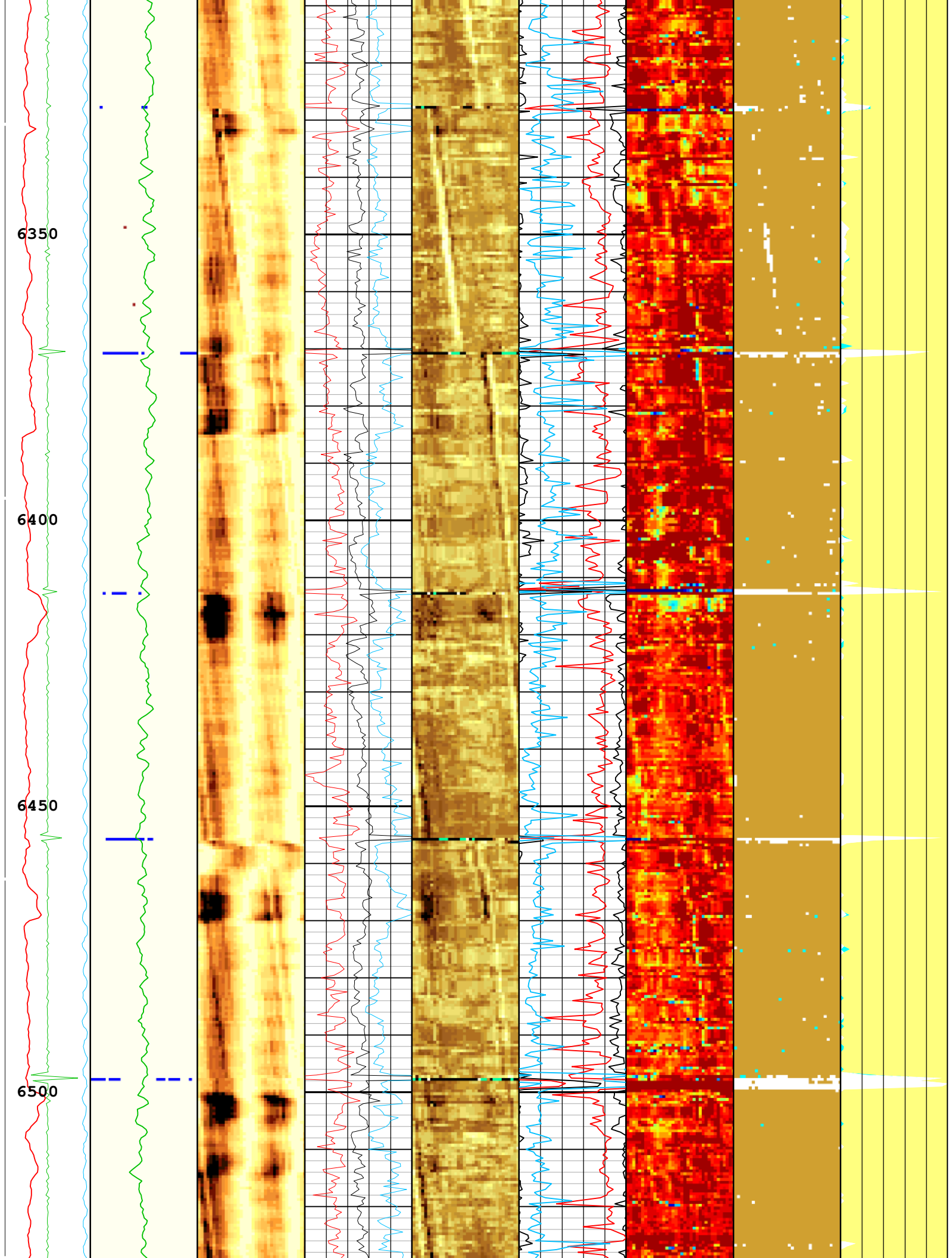


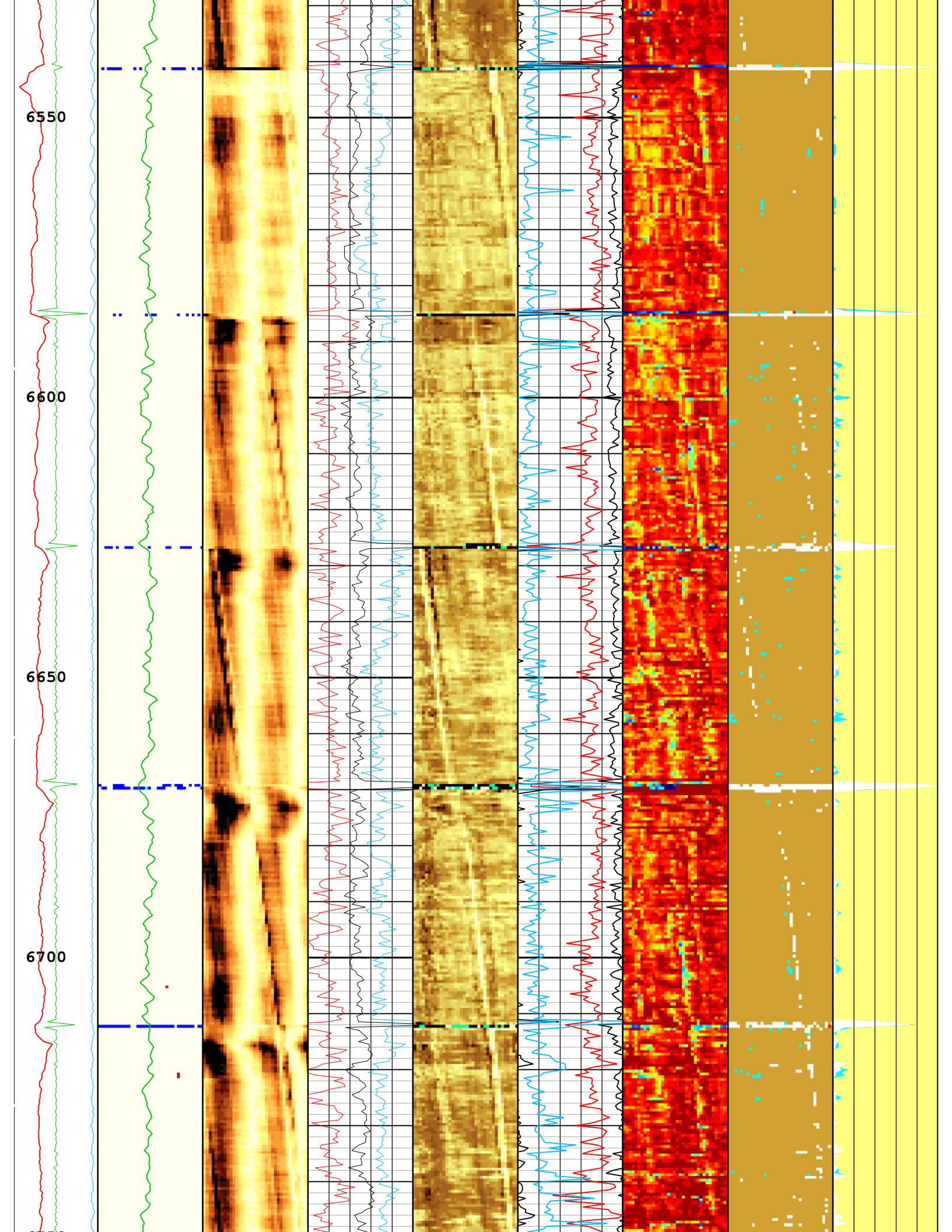
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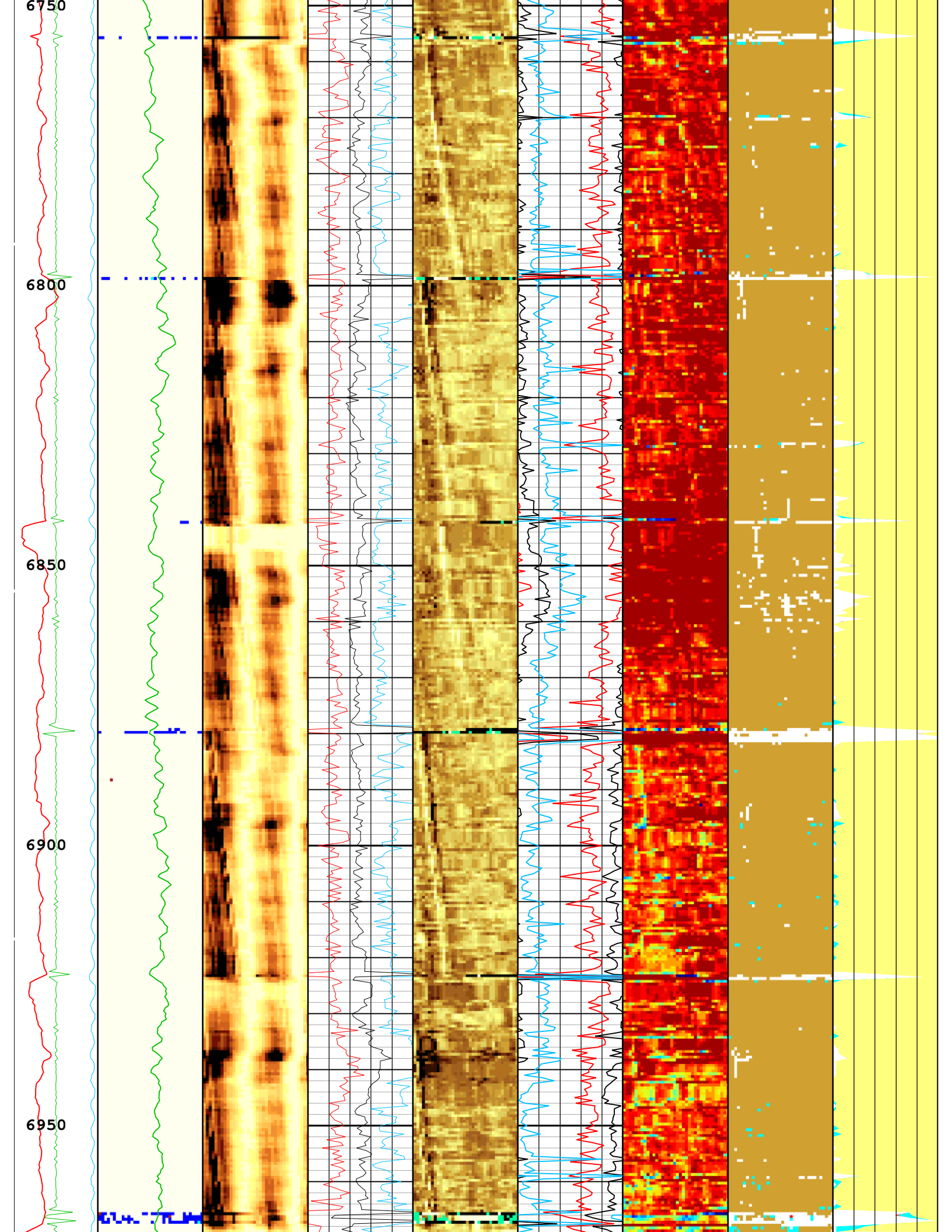
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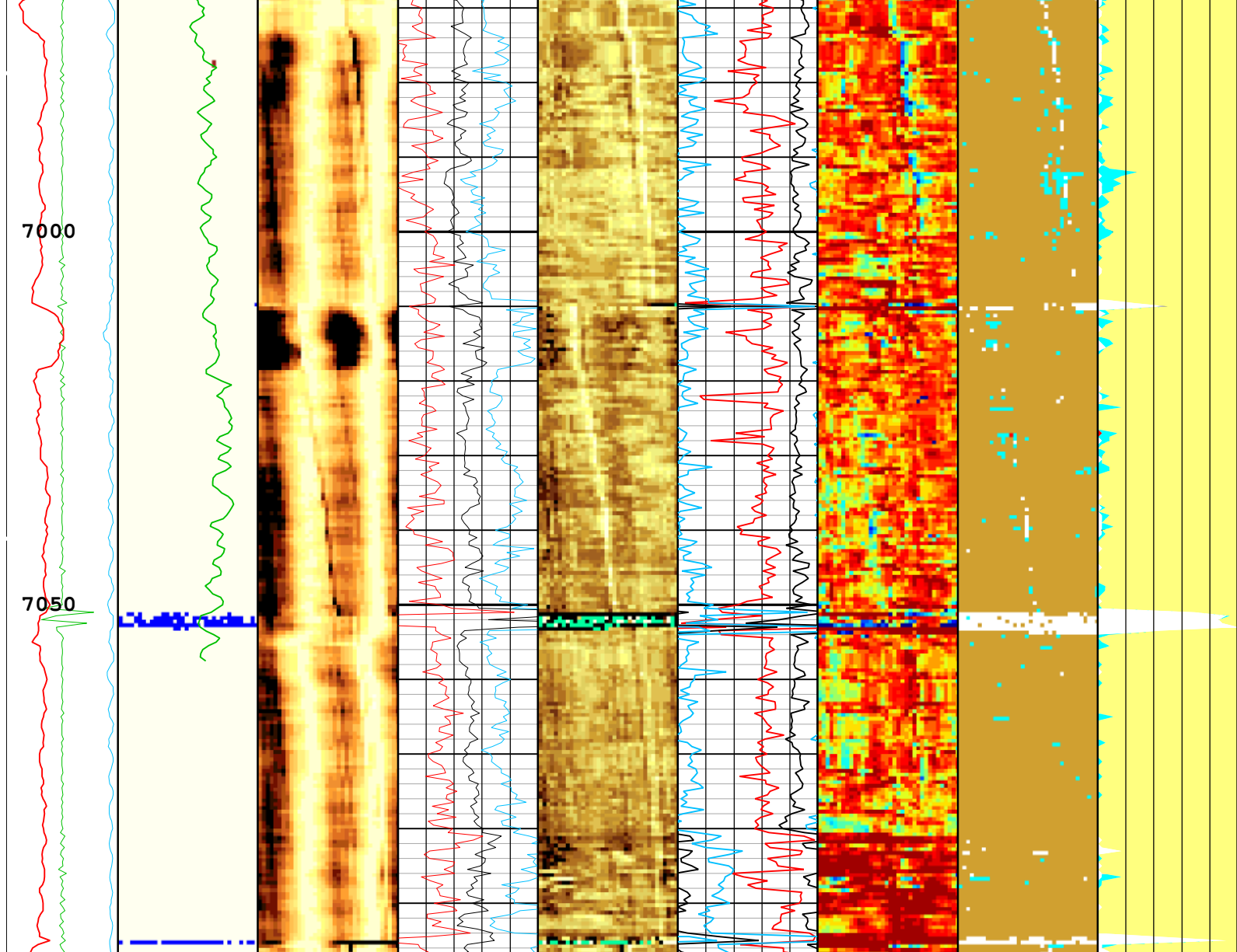
6450

6500









<b>Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]</b> -20 in 20	Absent 1.500 3.500 Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E[1]	Absent -5.200 -3.600 -2.000 -0.400 Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E[1] (dB)	<b>Acoustic Impedance Minimum (AIMN) USIT-E[1]</b> -1 Mrayl 9 Acoustic Impedance Average (AIAV) USIT-E[1] -1 Mrayl 9	Absent 1.500 3.500 5.500 7.500 Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)	<b>Minimum Flexural Attenuation (U-USIT_UFAN) USIT-E[1]</b> 0 dB/m 150 Average Flexural Attenuation (U-USIT_UFAV) USIT-E[1] 0 dB/m 150	Absent 64.000 92.000 120.000 148.000 Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E[1] (dB/m)	Absent 0.500 1.500 2.500 3.500 Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]	SLG Solid Index
<b>Amplitude of Eccentering (ECCE) USIT-E[1]</b> 0 in 0.5	USIT Processing Flags (UFLG[0]) USIT-E[1]							SLG Liquid Index
<b>Motor Revolution Speed (RSAV) USIT-E[1]</b> 6 c/s 7.5	1 5 <b>Gamma Ray (ECGR_EDTC) EDTC-B[1]</b> 0 gAPI 150		<b>Acoustic Impedance Maximum (AIMX) USIT-E[1]</b> -1 Mrayl 9		<b>Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E[1]</b> 0 dB/m 150			SLG Gas Index
								SLG White Point Index

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

## 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	8083	ft
CDEN	Cement Density	USIT-E	0	g/cm3
CDEN	Cement Density	EDTC-B	2	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	1.2	g/cm3
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	0	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	Theoretical	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.13	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.13	
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	125	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	85	%
TPOS_EDTC	Tool Position: Centered or Eccentered	EDTC-B	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.6	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-14	dB/m
UFSFLT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SLG - TIE Picking	
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	1.51	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

## ONE Depth Zoned Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	12.25	28	618
BS	7.875	618	7097

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	54	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	

## ONETime Zoned Parameters

### Pass Log[3]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	90	15-Nov-2022 22:06:56	15-Nov-2022 22:10:50	7097.84	6864.84
EMXV	100	15-Nov-2022 22:10:50	15-Nov-2022 22:34:39	6864.84	6275.64

### Pass Log[4]:Up

EMXV	100	15-Nov-2022 22:40:21	16-Nov-2022 00:14:08	6275.63	55.84
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All depth are at tool zero.

## Composite 1

## Software Version

Acquisition System	Version
Maxwell 2022.1	12.1.217729.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.1_12.1.220972 Wireline_NPD-ThruBit-2022.1_12.1.220135

## Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include
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									Parallel Data
ONE	Log[3]:Up	Up	5436.73 ft	7107.90 ft	15-Nov-2022 10:06:56 PM	15-Nov-2022 10:34:39 PM	ON	9.90 ft	Yes
ONE	Log[4]:Up	Up	67.82 ft	6315.28 ft	15-Nov-2022 10:37:21 PM	16-Nov-2022 12:14:08 AM	ON	12.11 ft	Yes

All depths are referenced to toolstring zero

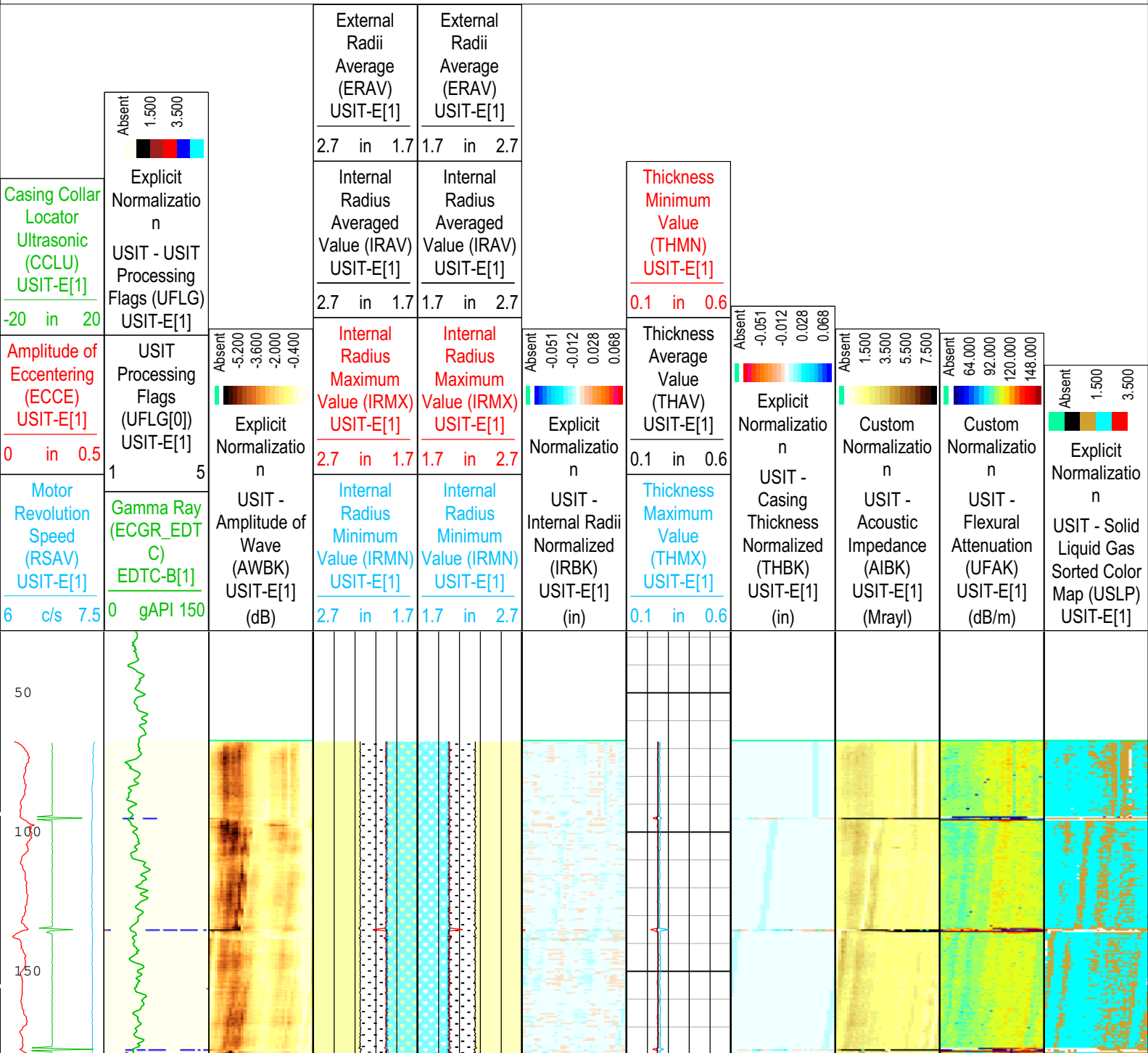
**Log** Company: Occidental Petroleum Corporation Well: Sherwood L Federal #30-29D Composite 1:S017

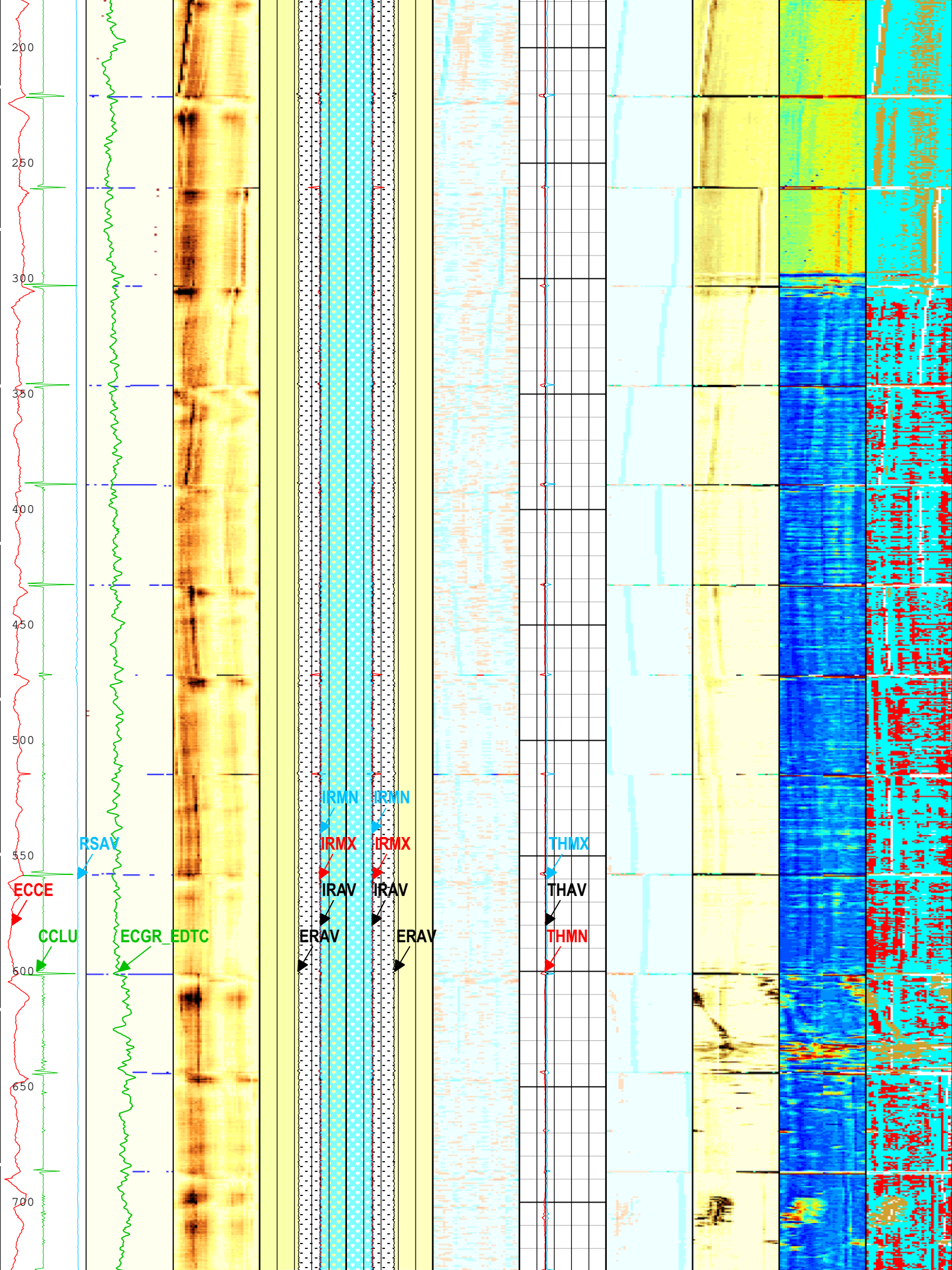
Description: USI IBC SLG Composite Format: Log ( IBC SLG Composite 4.5IN ) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth  
 Creation Date: 15-Nov-2022 20:49:35

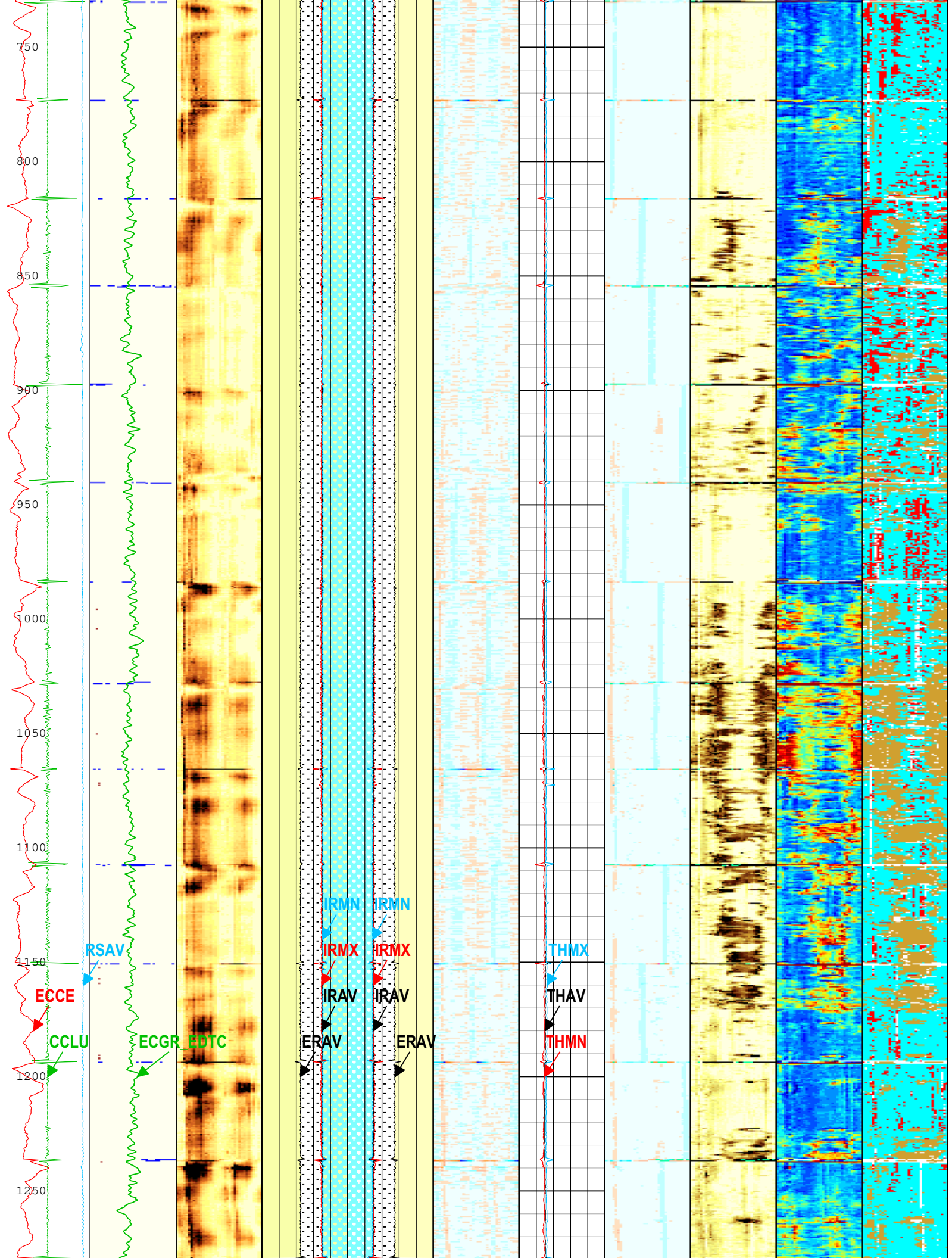
TIME\_1900 - Time Marked every 60.00 (s)

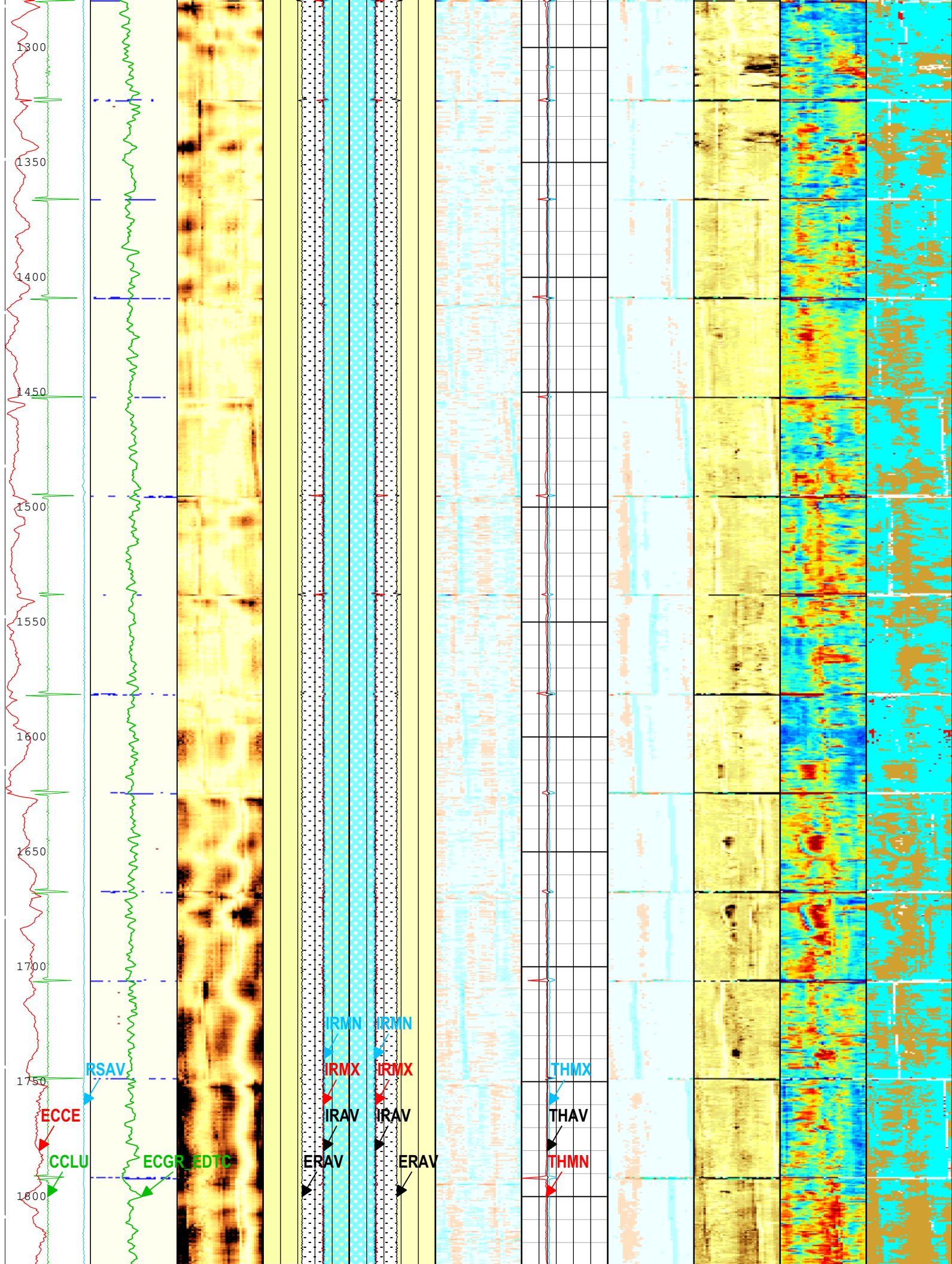
USIT Processing Flags (UFLG[0]) USIT-E[1]

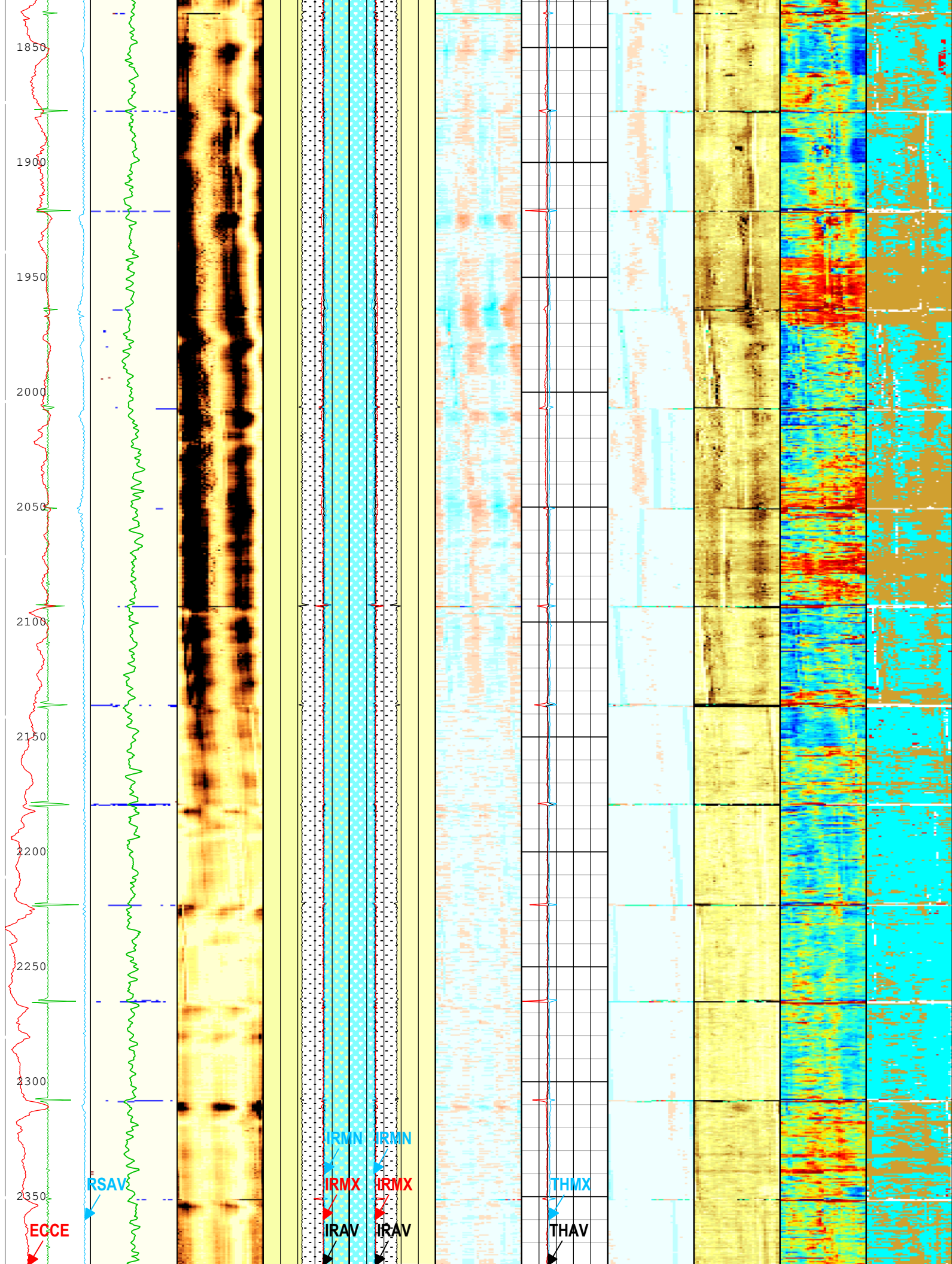
- 1 - UFLG 1 Value within [0.0 - 1.5] - :  UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - :  Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - :  WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :  Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5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

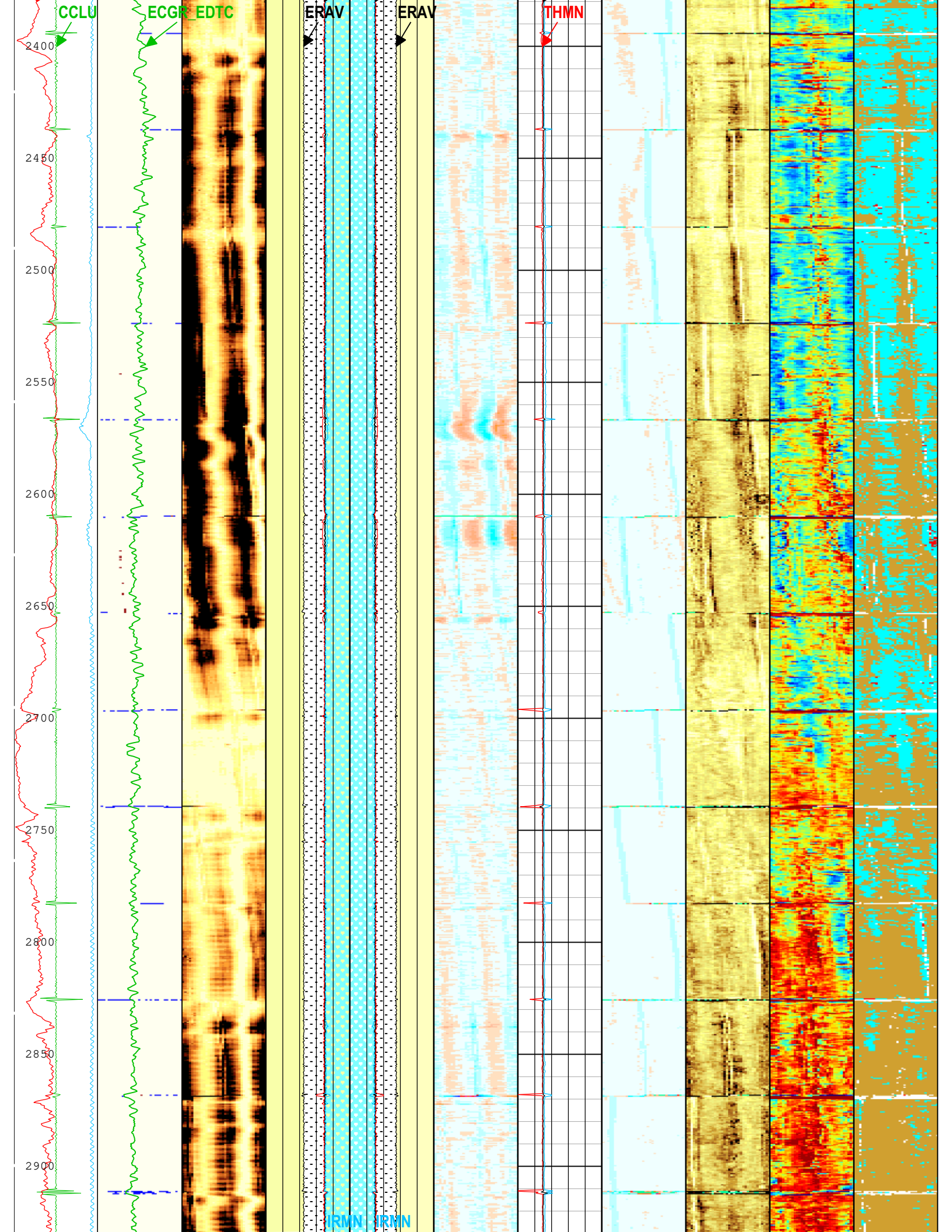


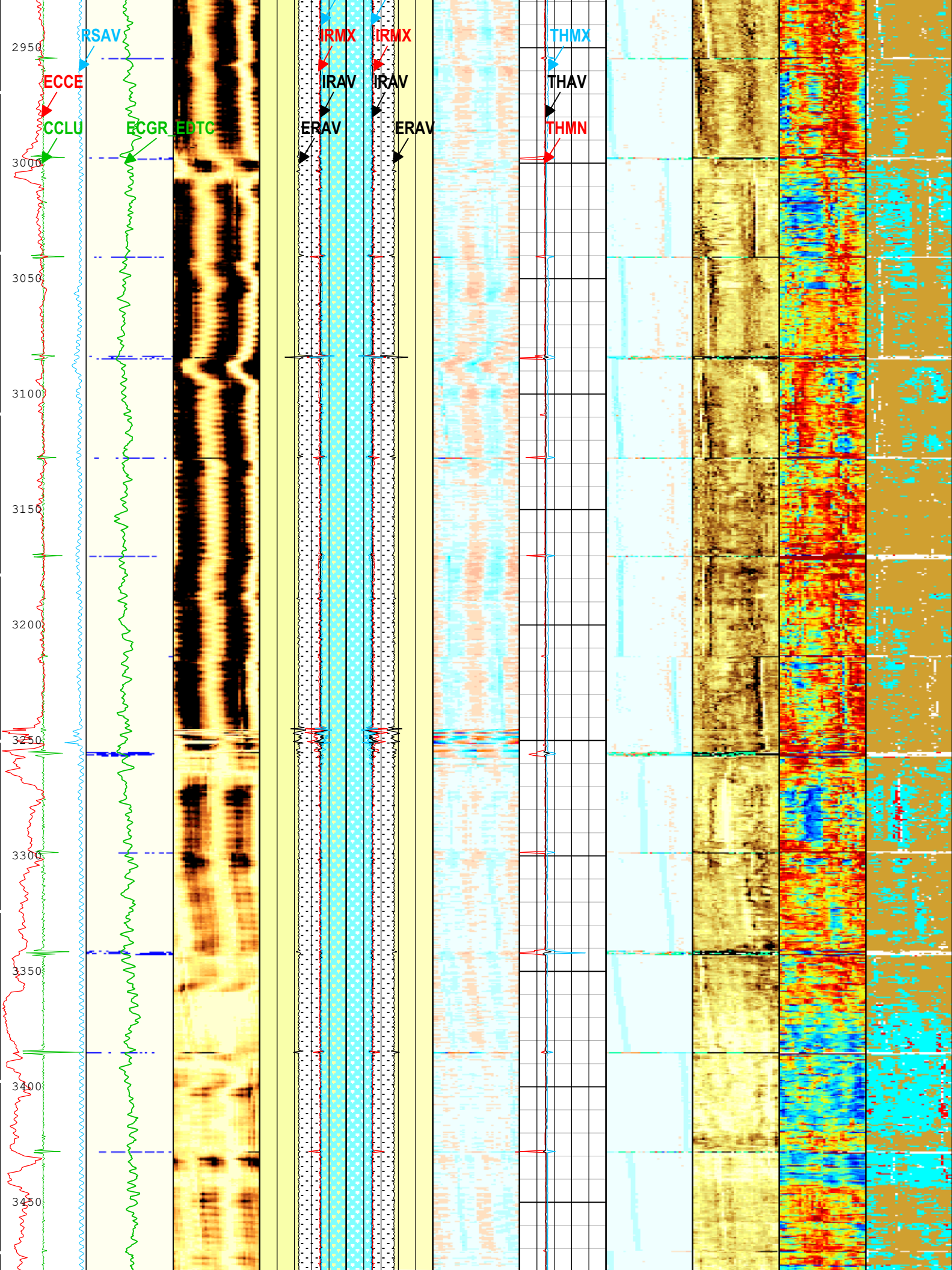


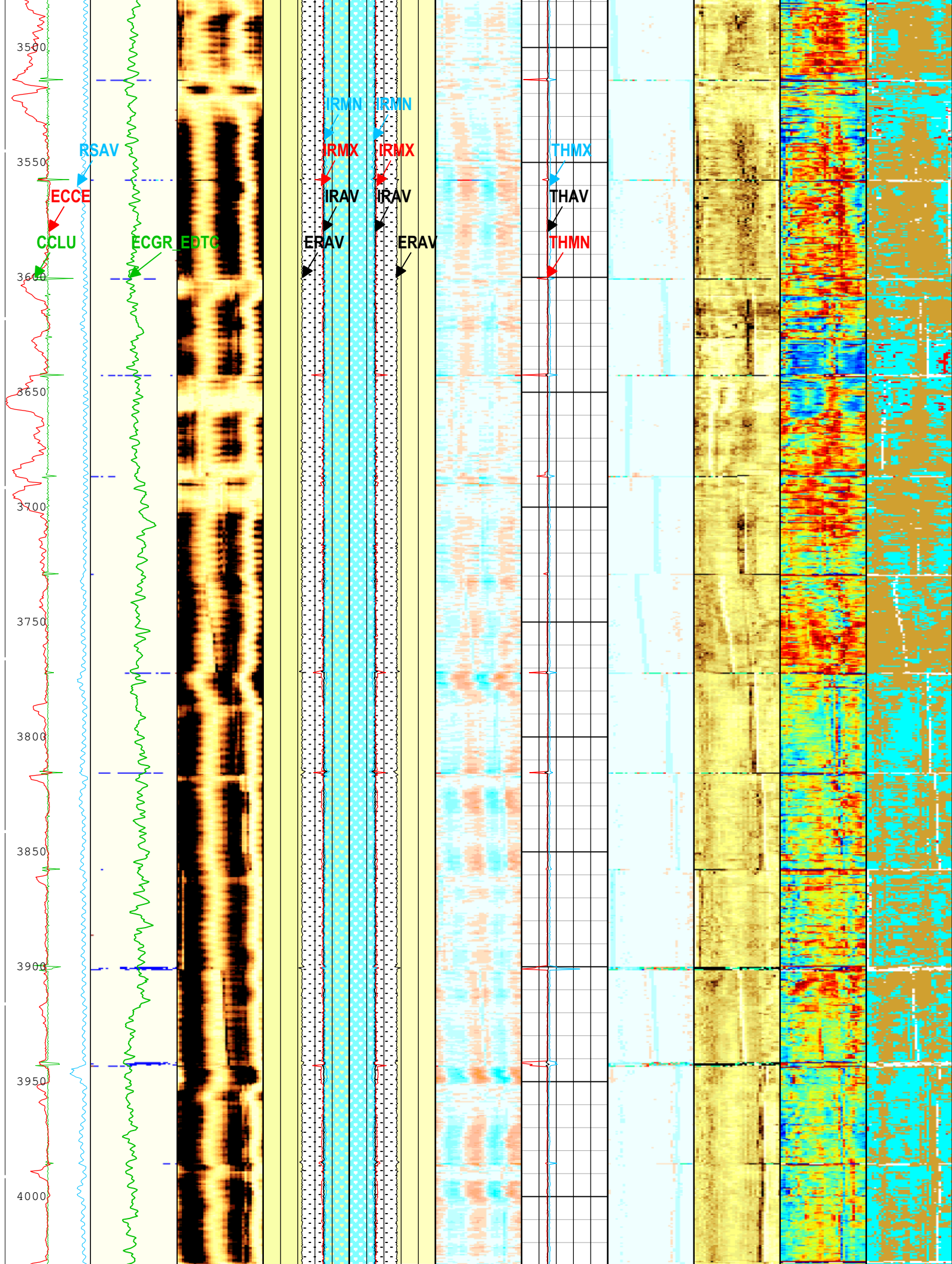


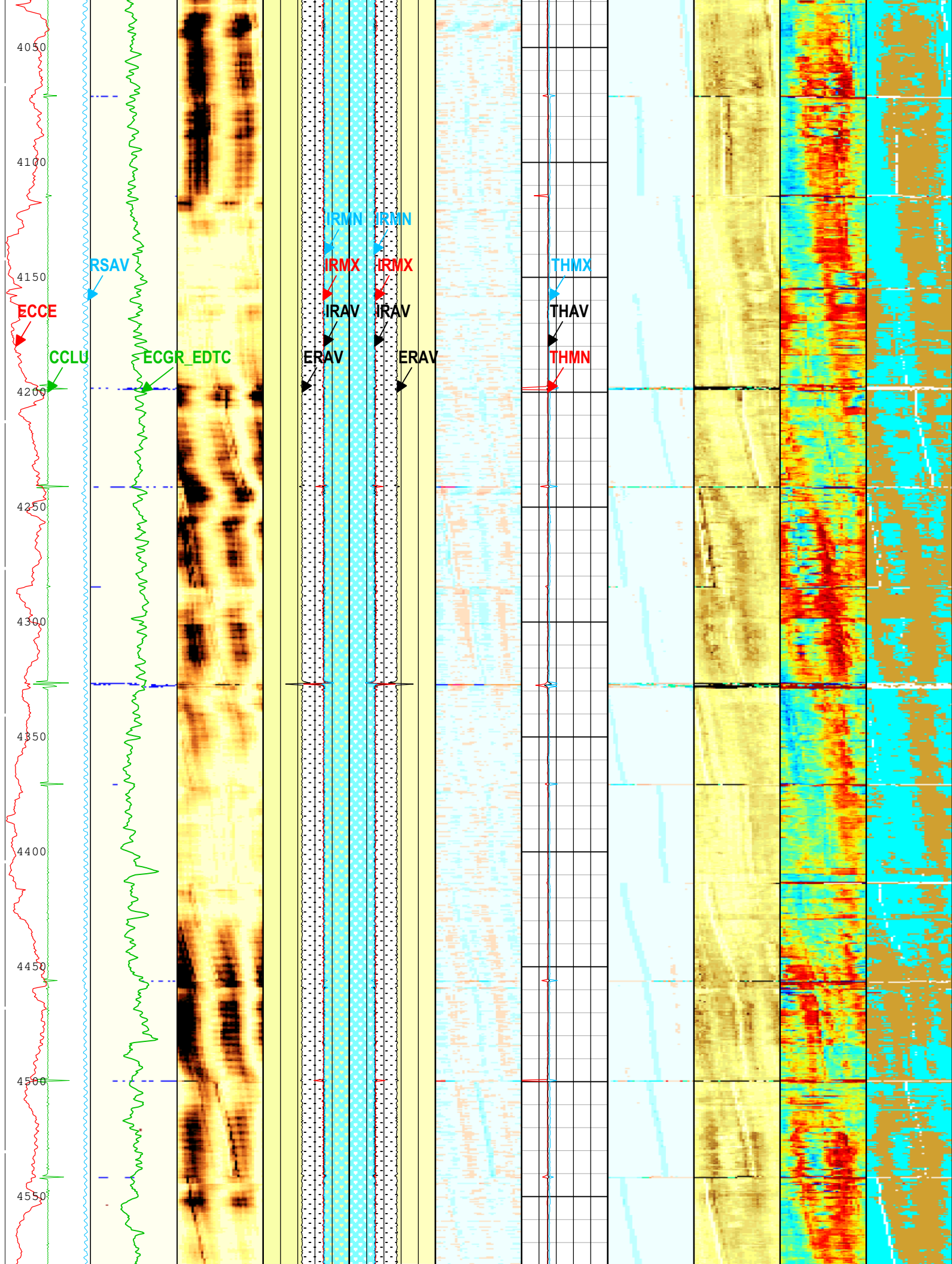


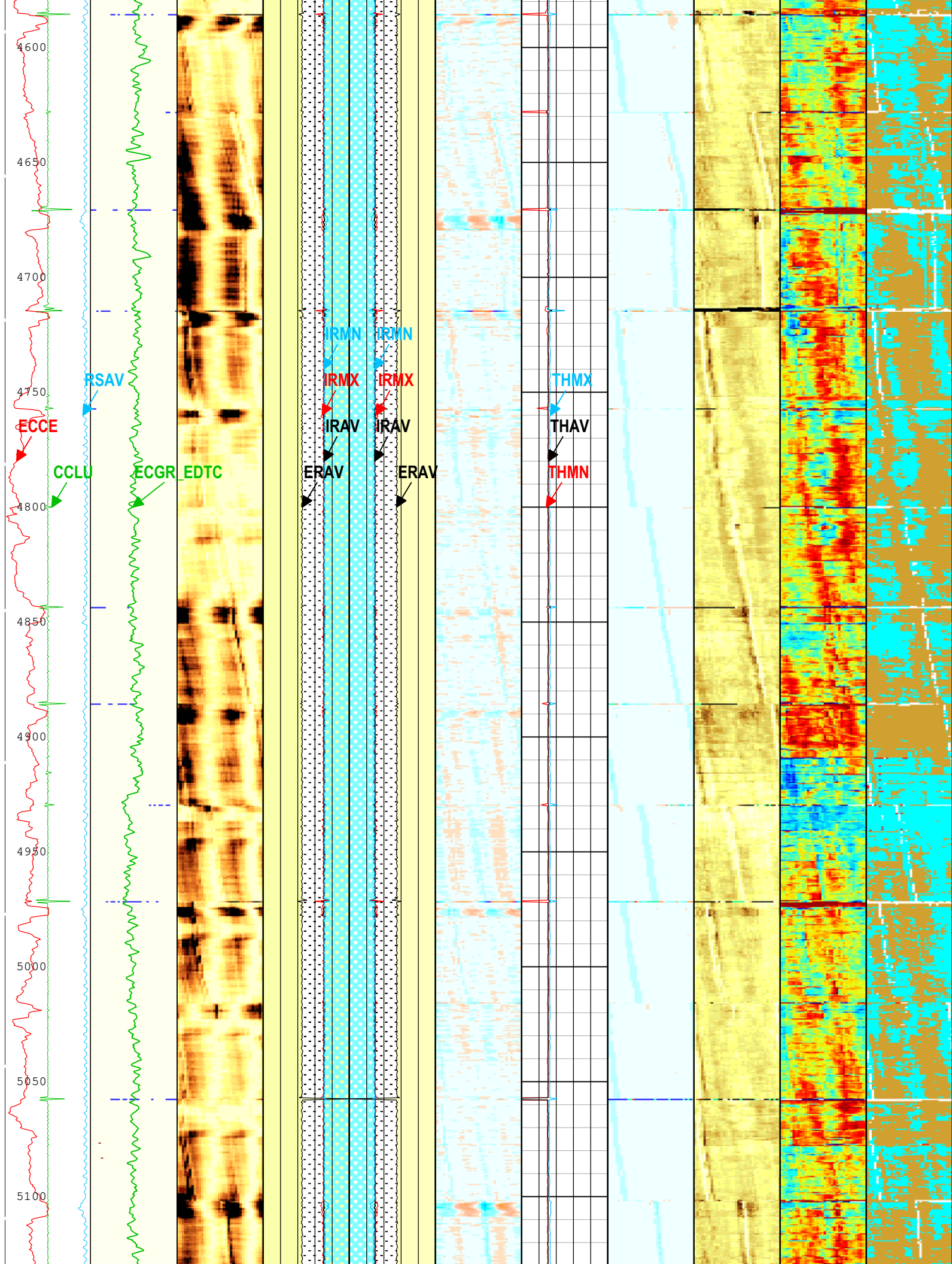


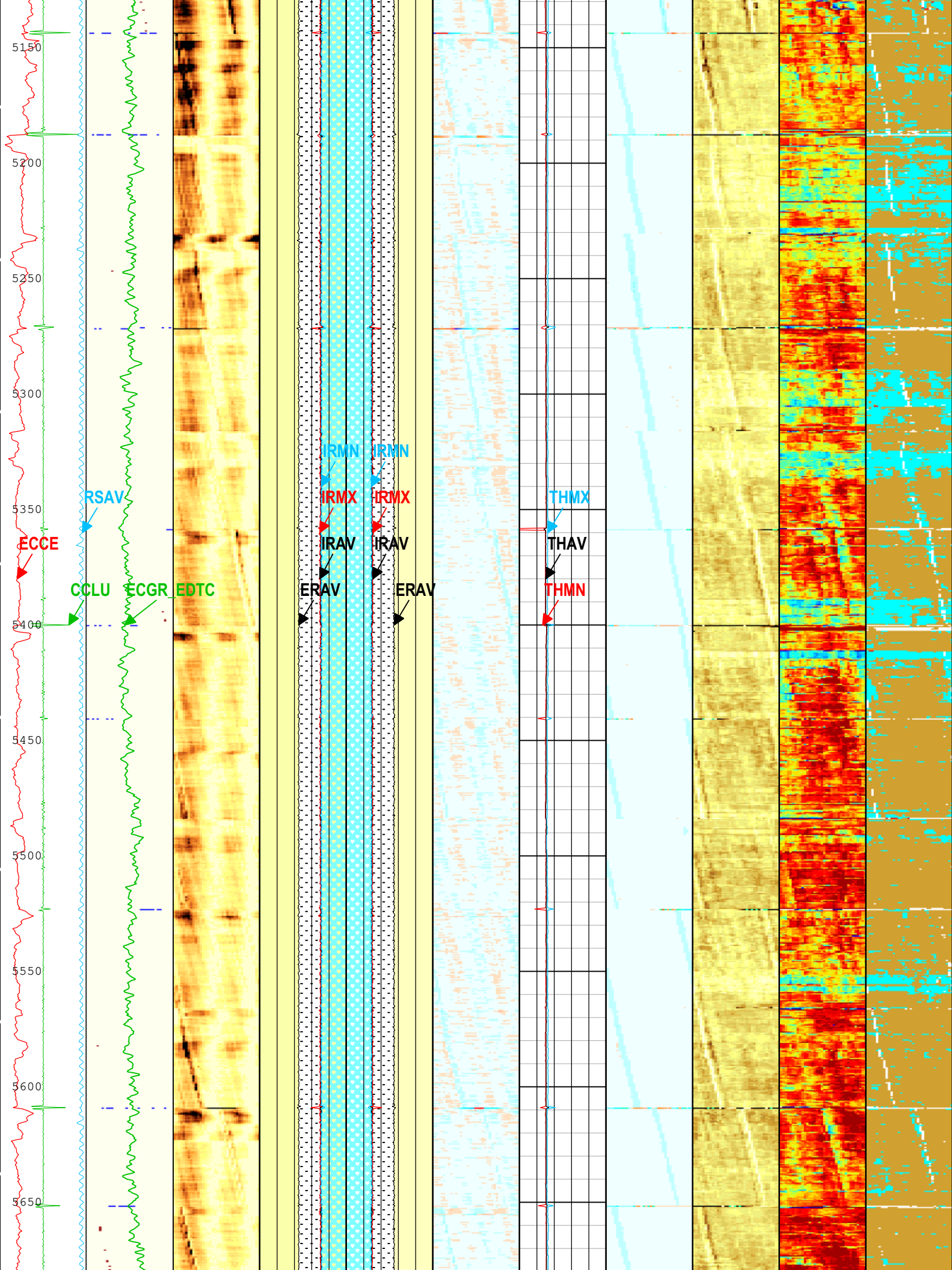


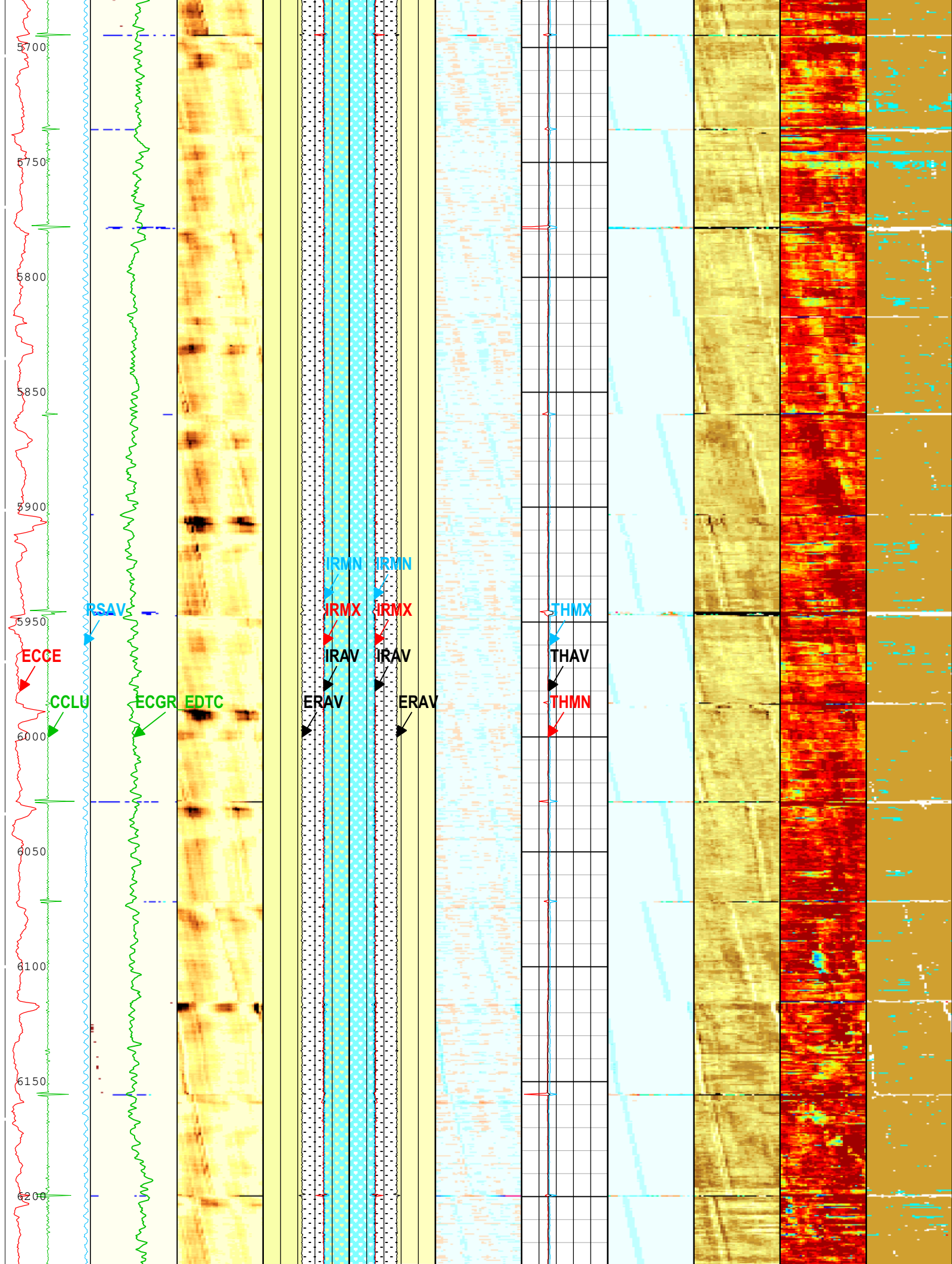


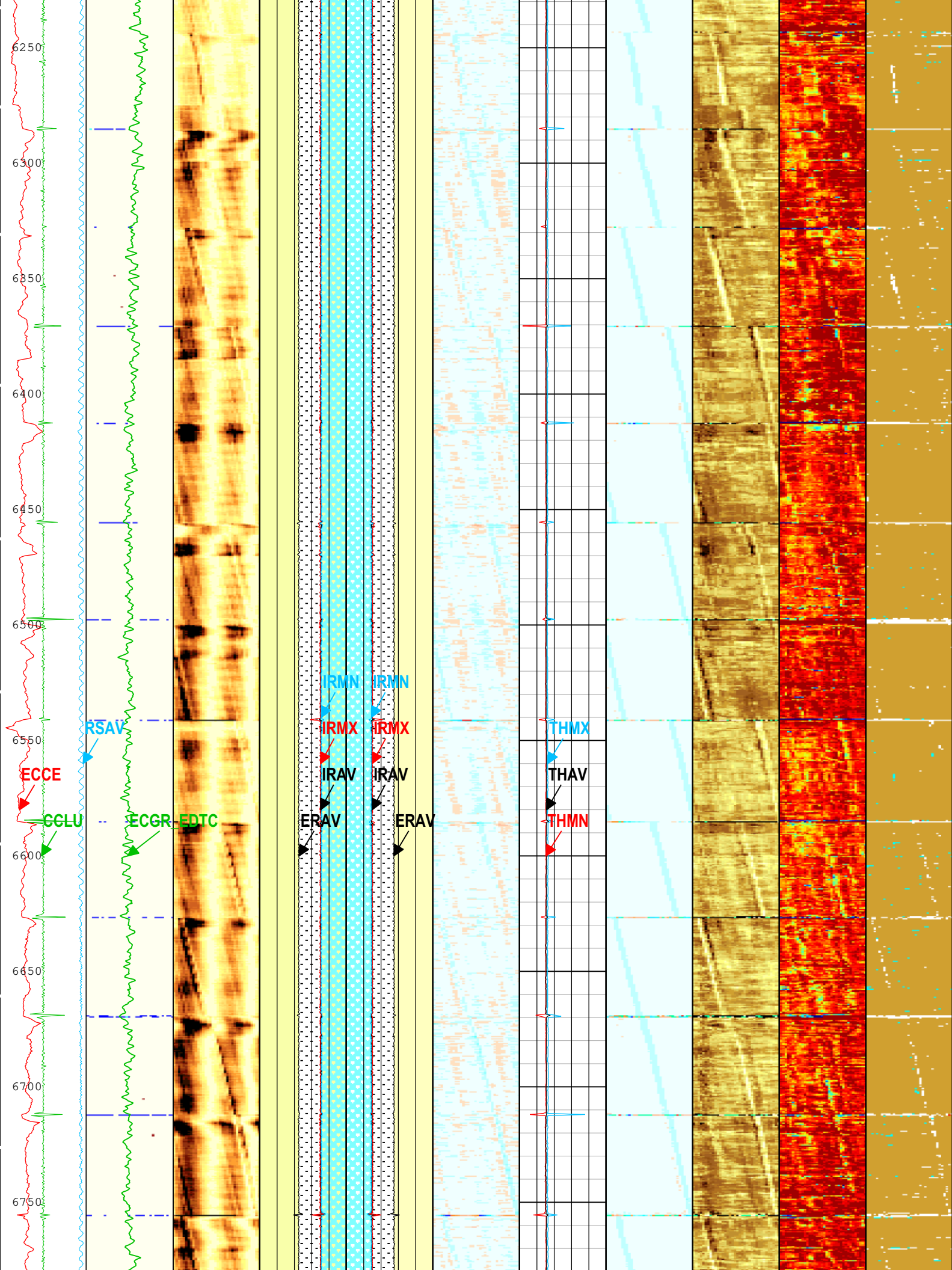


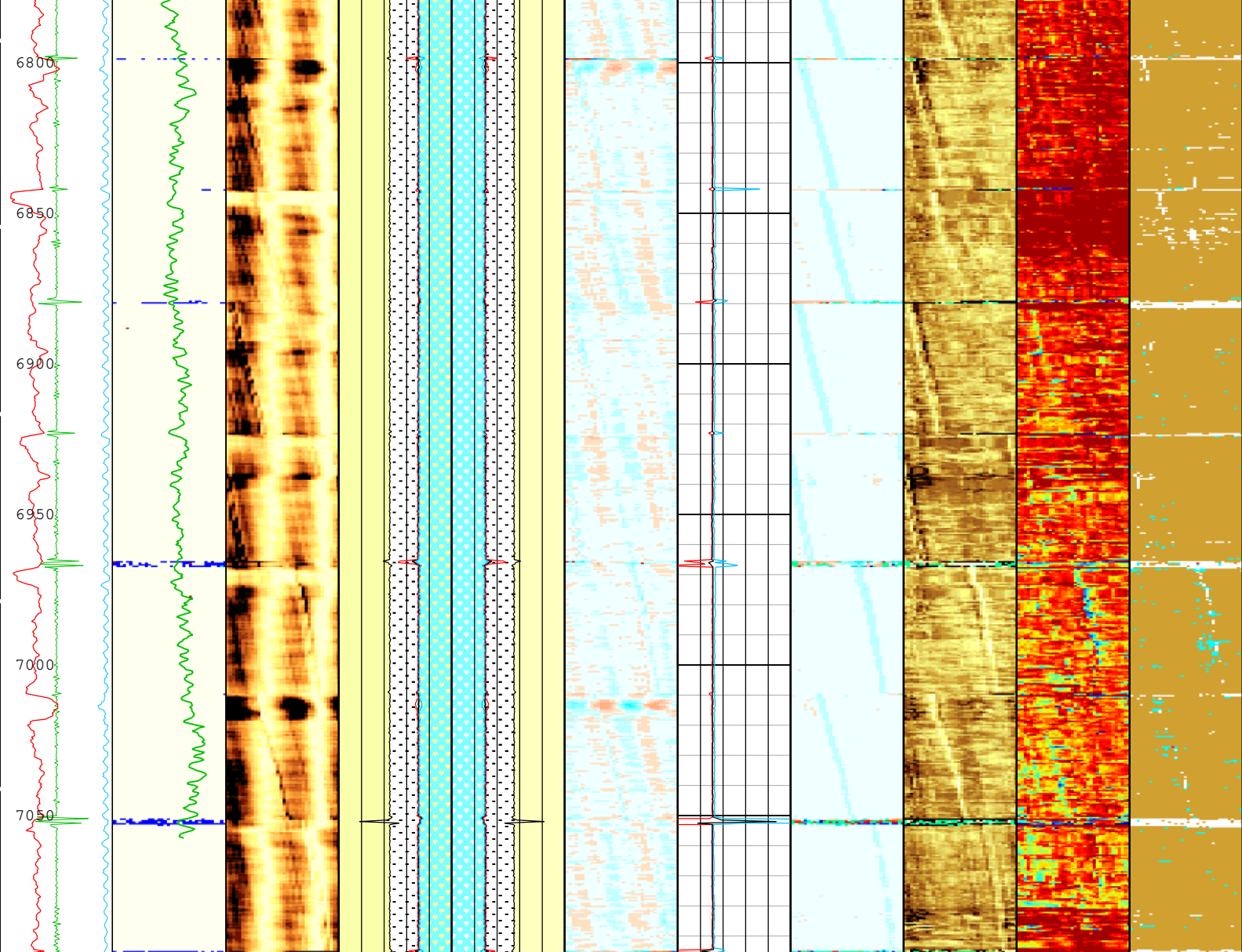












<b>Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]</b> -20 in 20	Absent 1,500 3,500 Explicit Normalization 	Absent -5,200 -3,600 -2,000 -0,400 Explicit Normalization 	External Radii Average (ERAV) USIT-E[1] 2.7 in 1.7	External Radii Average (ERAV) USIT-E[1] 1.7 in 2.7	Absent -0,051 -0,012 0,028 0,068 Explicit Normalization 	<b>Thickness Minimum Value (THMN) USIT-E[1]</b> 0.1 in 0.6	Absent -0,051 -0,012 0,028 0,068 Explicit Normalization 	Absent 1,500 3,500 5,500 7,500 Custom Normalization 	Absent 64,000 92,000 120,000 148,000 Custom Normalization 	Absent 1,500 3,500 Explicit Normalization 
<b>Amplitude of Eccentering (ECCE) USIT-E[1]</b> 0 in 0.5	USIT - USIT Processing Flags (UFLG) USIT-E[1] USIT Processing Flags (UFLG[0]) USIT-E[1] 1 5	USIT - Amplitude of Wave (AWBK) USIT-E[1] (dB)	Internal Radius Averaged Value (IRAV) USIT-E[1] 2.7 in 1.7	Internal Radius Averaged Value (IRAV) USIT-E[1] 1.7 in 2.7	USIT - Internal Radii Normalized (IRBK) USIT-E[1] (in)	Thickness Average Value (THAV) USIT-E[1] 0.1 in 0.6	USIT - Casing Thickness Normalized (THBK) USIT-E[1] (in)	USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)	USIT - Flexural Attenuation (UFAK) USIT-E[1] (dB/m)	USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]
<b>Motor Revolution Speed (RSAV) USIT-E[1]</b> 6 c/s 7.5	Gamma Ray (ECGR_EDT C) EDTC-B[1] 0 gAPI 150		<b>Internal Radius Maximum Value (IRMX) USIT-E[1]</b> 2.7 in 1.7	<b>Internal Radius Maximum Value (IRMX) USIT-E[1]</b> 1.7 in 2.7		<b>Thickness Maximum Value (THMX) USIT-E[1]</b> 0.1 in 0.6				
			<b>Internal Radius Minimum Value (IRMN) USIT-E[1]</b> 2.7 in 1.7	<b>Internal Radius Minimum Value (IRMN) USIT-E[1]</b> 1.7 in 2.7						

- 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 4.5IN ) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth  
 Creation Date: 15-Nov-2022 20:49:35

## 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	8083	ft
CDEN	Cement Density	USIT-E	0	g/cm3
CDEN	Cement Density	EDTC-B	2	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	1.2	g/cm3
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_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	Theoretical	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.13	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.13	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	125	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	85	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.6	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-14	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SLG - TIE Picking	
ZMUD	Acoustic Impedance of Mud	Borehole	1.51	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	28	618
BS	7.875	618	7097

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	54	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[3]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	90	15-Nov-2022 22:06:56	15-Nov-2022 22:10:50	7097.84	6864.84
EMXV	100	15-Nov-2022 22:10:50	15-Nov-2022 22:34:39	6864.84	6275.64

#### Pass Log[4]:Up

EMXV	100	15-Nov-2022 22:40:21	16-Nov-2022 00:14:08	6275.63	55.84
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All depth are at tool zero.

## Composite 1

### Software Version

Acquisition System	Version
Maxwell 2022.1	12.1.217729.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.1_12.1.220972
	Wireline_NPD-ThruBit-2022.1_12.1.220135

### Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	5436.73 ft	7107.90 ft	15-Nov-2022 10:06:56 PM	15-Nov-2022 10:34:39 PM	ON	9.90 ft	Yes
ONE	Log[4]:Up	Up	67.82 ft	6315.28 ft	15-Nov-2022 10:37:21 PM	16-Nov-2022 12:14:08 AM	ON	12.11 ft	Yes

All depths are referenced to toolstring zero

### Log

Company: Occidental Petroleum Corporation      Well: Sherwood L Federal #30-29D  
Composite 1:S017

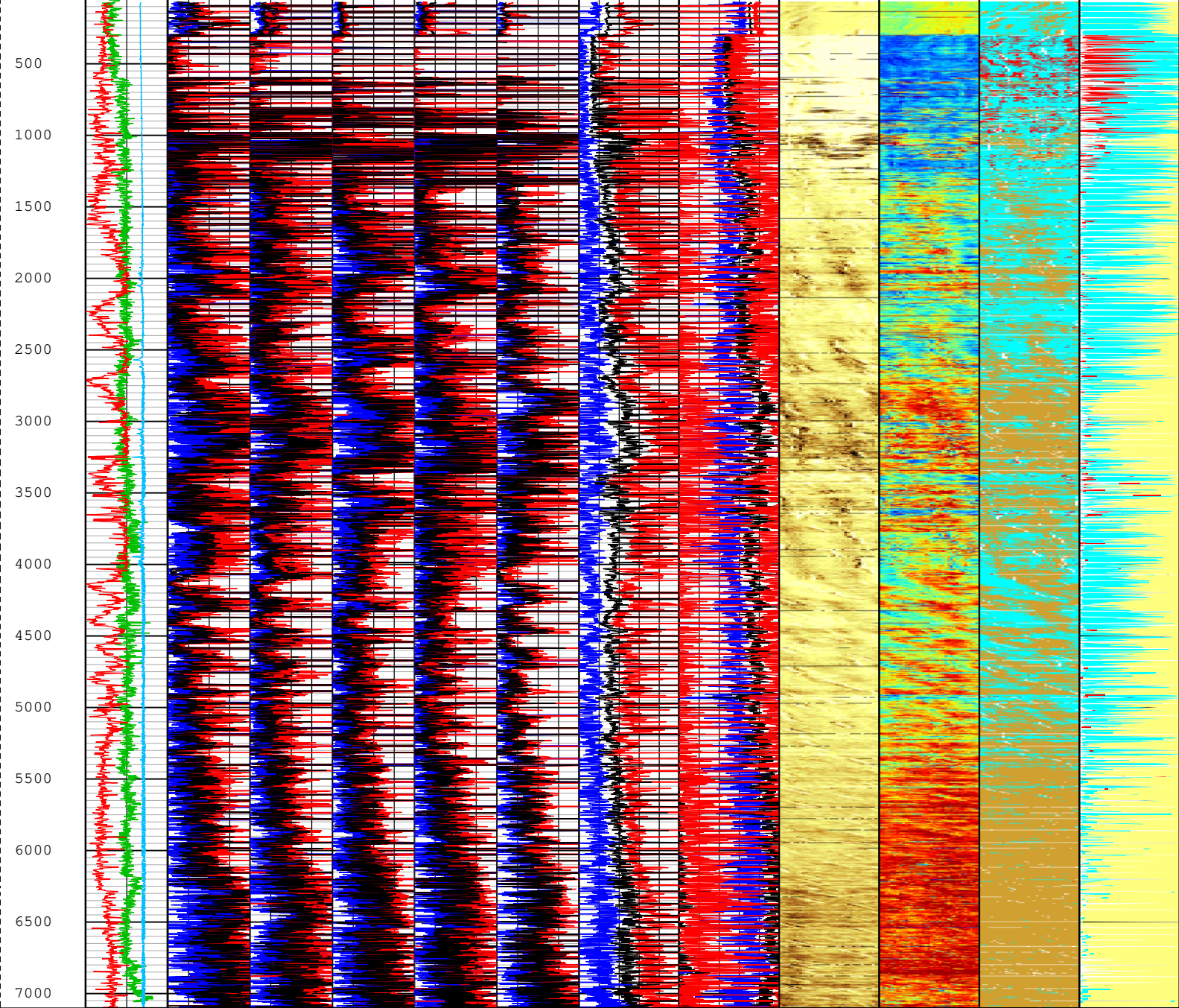
Description: USI Goodwin    Format: Log ( IBC Goodwin )    Index Scale: 0.1 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 15-Nov-2022 20:49:58

TIME\_1900 - Time Marked every 60.00 (s)

Gamma Ray  
(ECGR\_E  
DTC)  
EDTC-B[1  
]  
0    150  
API

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

Amplitude of Eccentricity (ECCE) USIT-E[1] 0 in 0.5	USIT-E[1] -1 Mrayl 9	Attenuation (U-USIT_UF AV) USIT-E[1] 0 150 dB/m	SLG Solid Index
Motor Revolution Speed (RSAV) USIT-E[1] 6 c/s 8	Acoustic Impedance Maximum (AIMX) USIT-E[1] -1 Mrayl 9	Maximum Flexural Attenuation (U-USIT_UF AX) USIT-E[1] 0 150 dB/m	SLG Liquid Index
	Acoustic Impedance Average (AIAV) USIT-E[1] -1 Mrayl 9	USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)	SLG Gas Index
		USIT - Flexural Attenuation (UFAK) USIT-E[1] (dB/m)	SLG White Point Index



Gamma Ray (ECGR_EDTC) EDTC-B[1] 0 150	Goodwin Sector Curves (5 Mrayl per Division)	Acoustic Impedance Minimum (AIMN) USIT-E[1] -1 Mrayl 9	Minimum Flexural Attenuation (U-USIT_UF AN) USIT-E[1] 0 150	SLG Solid Index
		Acoustic Impedance Average (AIAV) USIT-E[1]	USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)	SLG Liquid Index

gAPI  
 Amplitude of Eccentering (ECCE) USIT-E[1]  
 0 in 0.5  
 Motor Revolution Speed (RSAV) USIT-E[1]  
 6 c/s 8

Acoustic Impedance Maximum (AIMX) USIT-E[1]  
 -1 Mrayl 9  
 Acoustic Impedance Average (AIAV) USIT-E[1]  
 -1 Mrayl 9  
 Maximum Flexural Attenuation (U-USIT\_UFAX) USIT-E[1]  
 0 150 dB/m

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

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

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

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

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: 15-Nov-2022 20:49:58

## 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	8083	ft
CDEN	Cement Density	USIT-E	0	g/cm3
CDEN	Cement Density	EDTC-B	2	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	1.2	g/cm3
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_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	Theoretical	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_INV	IBC Inversion Mud Normalization Factor	USIT-E	1.13	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.13	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	125	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	85	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.6	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-14	dB/m
UFSFLT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SLG - TIE Picking	
ZMUD	Acoustic Impedance of Mud	Borehole	1.51	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl

ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl
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### ONEDepth Zoned Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	12.25	28	618
BS	7.875	618	7097

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	54	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[3]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	90	15-Nov-2022 22:06:56	15-Nov-2022 22:10:50	7097.84	6864.84
EMXV	100	15-Nov-2022 22:10:50	15-Nov-2022 22:34:39	6864.84	6275.64

#### Pass Log[4]:Up

EMXV	100	15-Nov-2022 22:40:21	16-Nov-2022 00:14:08	6275.63	55.84
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All depth are at tool zero.

XYZ

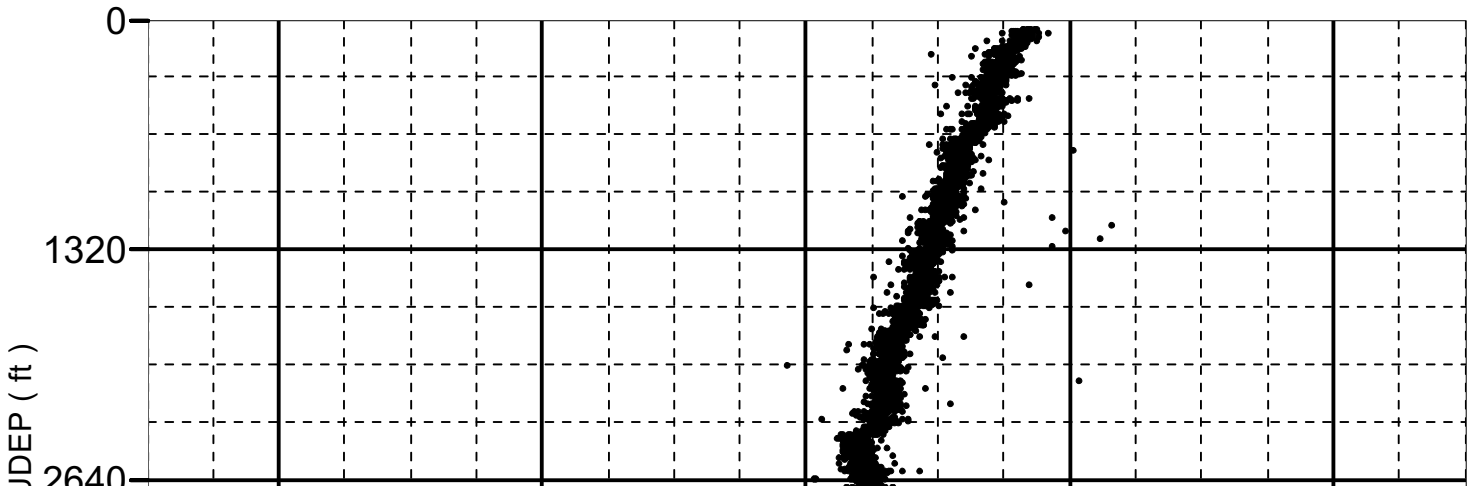
Company:Occidental Petroleum Corporation Well:Sherwood L Federal #30-29D  
Composite 1:S017

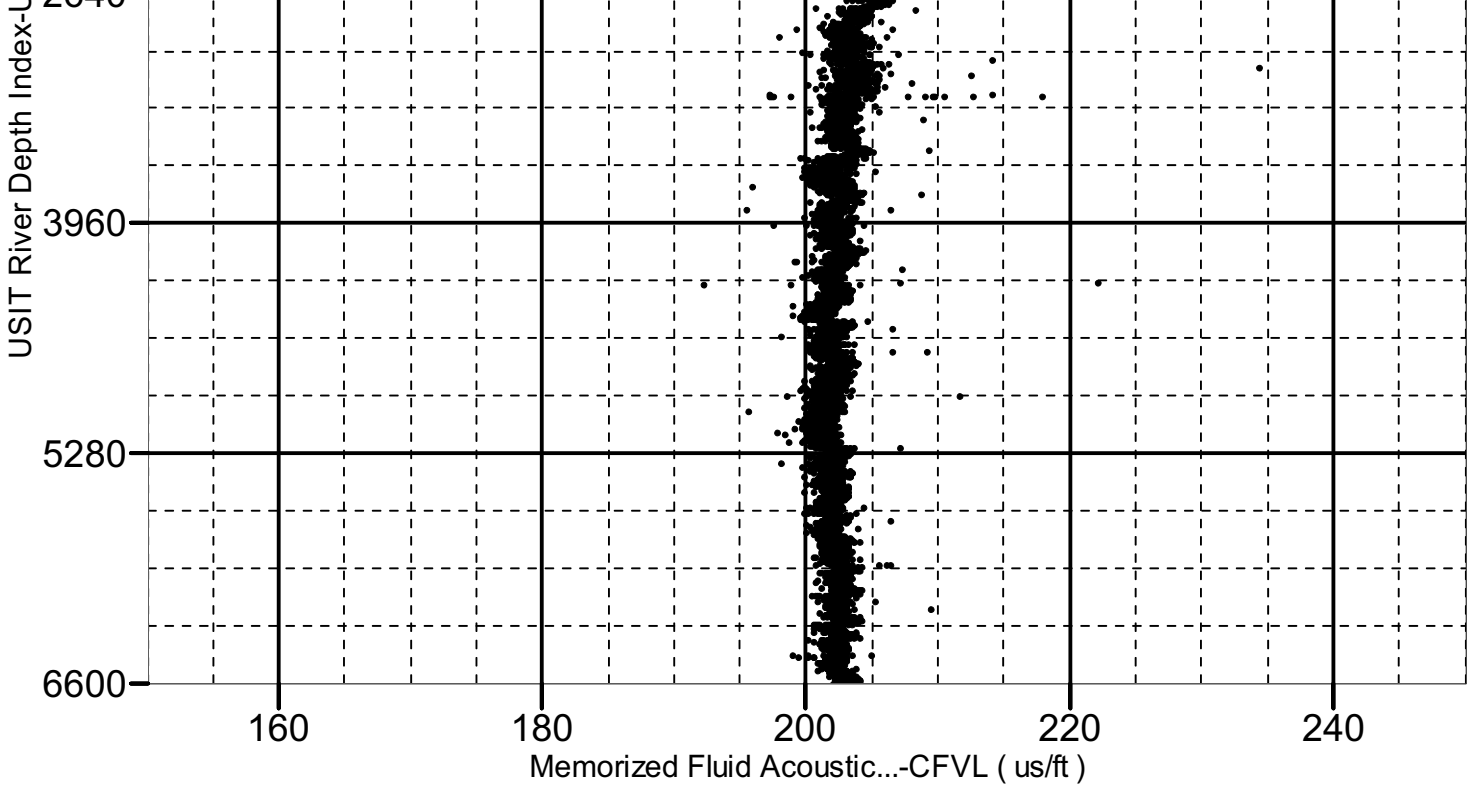
# Fluid Acoustic Slowness vs Depth

## 2D Cross Plot

Index Range: From 67.00 to 7097.00 ft

● CFVL-UDEP





XYZ

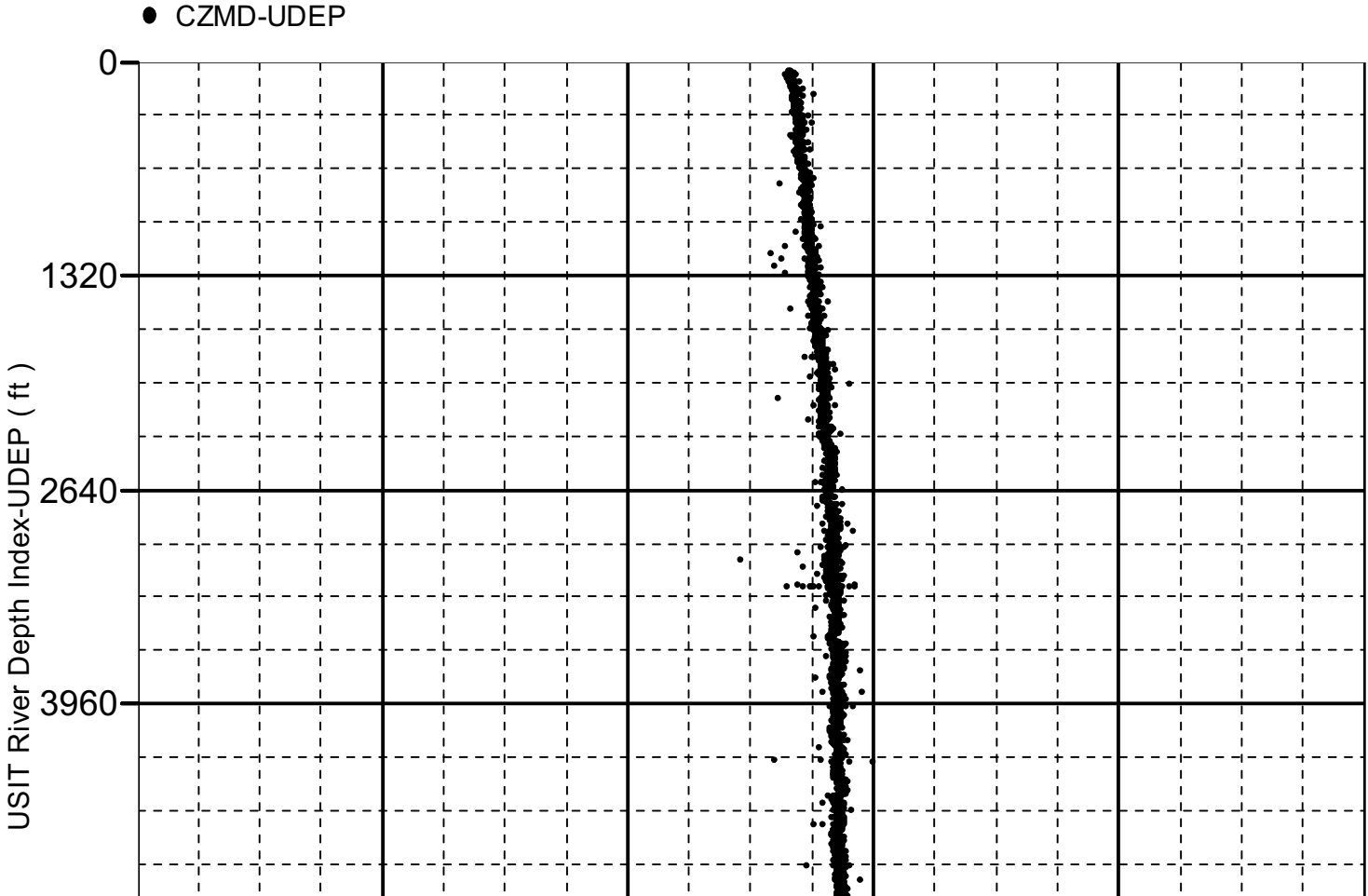
Company:Occidental Petroleum Corporation Well:Sherwood L Federal #30-29D

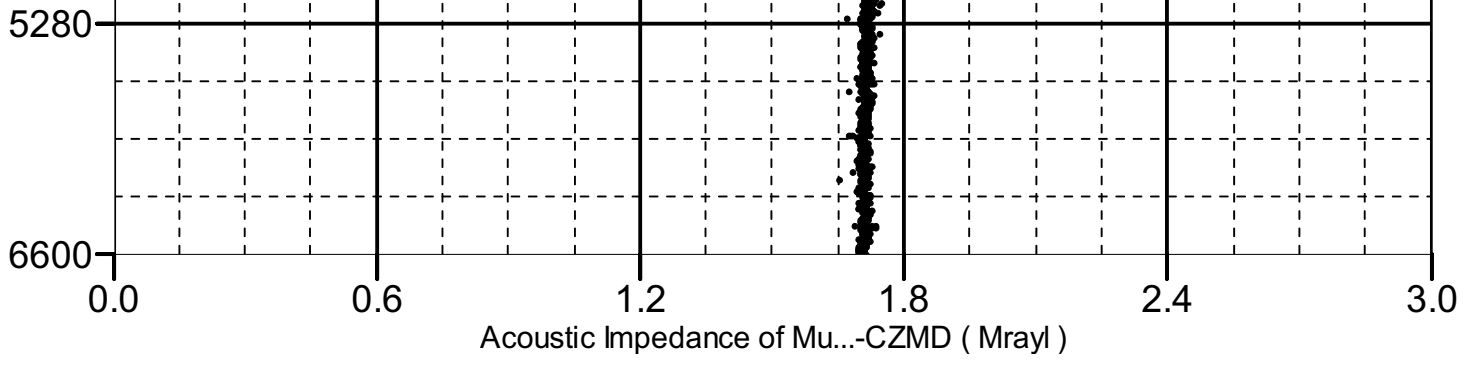
Composite 1:S017

# Acoustic Impedance of Mud vs Depth

## 2D Cross Plot

Index Range: From 67.00 to 7097.00 ft





Company: Occidental Petroleum Corporation

**Schlumberger**

Well: Sherwood L Federal #30-29D

Field: Wattenberg

County: Weld

Country: United States

Isolation Scanner

Cement Evaluation

Gamma Ray - CCL Log