

Company: Occidental Petroleum Corporation

Well: VARRA 10-2

Field: WATTENBERG

County: Weld Country: USA

Isolation Scanner
Cement Evaluation
Gamma Ray - CCL Log

County: Weld
Field: WATTENBERG
Location: SESW
Well: VARRA 10-2
Company: Occidental Petroleum Corporation

Location:	Permanent Datum:	Ground Level	Elev.:	K.B.	4863.00 ft
	Log Measured From:	Kelly Bushing		G.L.	4846.00 ft
	Drilling Measured From:	Kelly Bushing		D.F.	4863.00 ft
API Serial No.	Max. Hole Deviation	Longitude:	Latitude:		
05-123-30097	0 deg	104° 58' 25.968" W	40° 9' 50.508" N		

Logging Date	24-May-2022
Run Number	ONE
Depth Driller	8196.00 ft
Schlumberger Depth	8196.00 ft
Bottom Log Interval	6980.00 ft
Top Log Interval	50.00 ft
Casing Fluid Type	Water
Salinity	
Density	8.5 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	7.88 in
From	731.00 ft
To	8196.00 ft
Casing/Tubing Size	4.5 in
Weight	11.6 lbm/ft
Grade	N/A
From	0.00 ft
To	8196.00 ft
Max Recorded Temperatures	
Logger on Bottom	25-May-2022
Time	11:00:00
Unit Number	OSLC-HA 9115
Location:	Fort Morgan
Recorded By	D. Hassan
Witnessed By	Socorro

Disclaimer

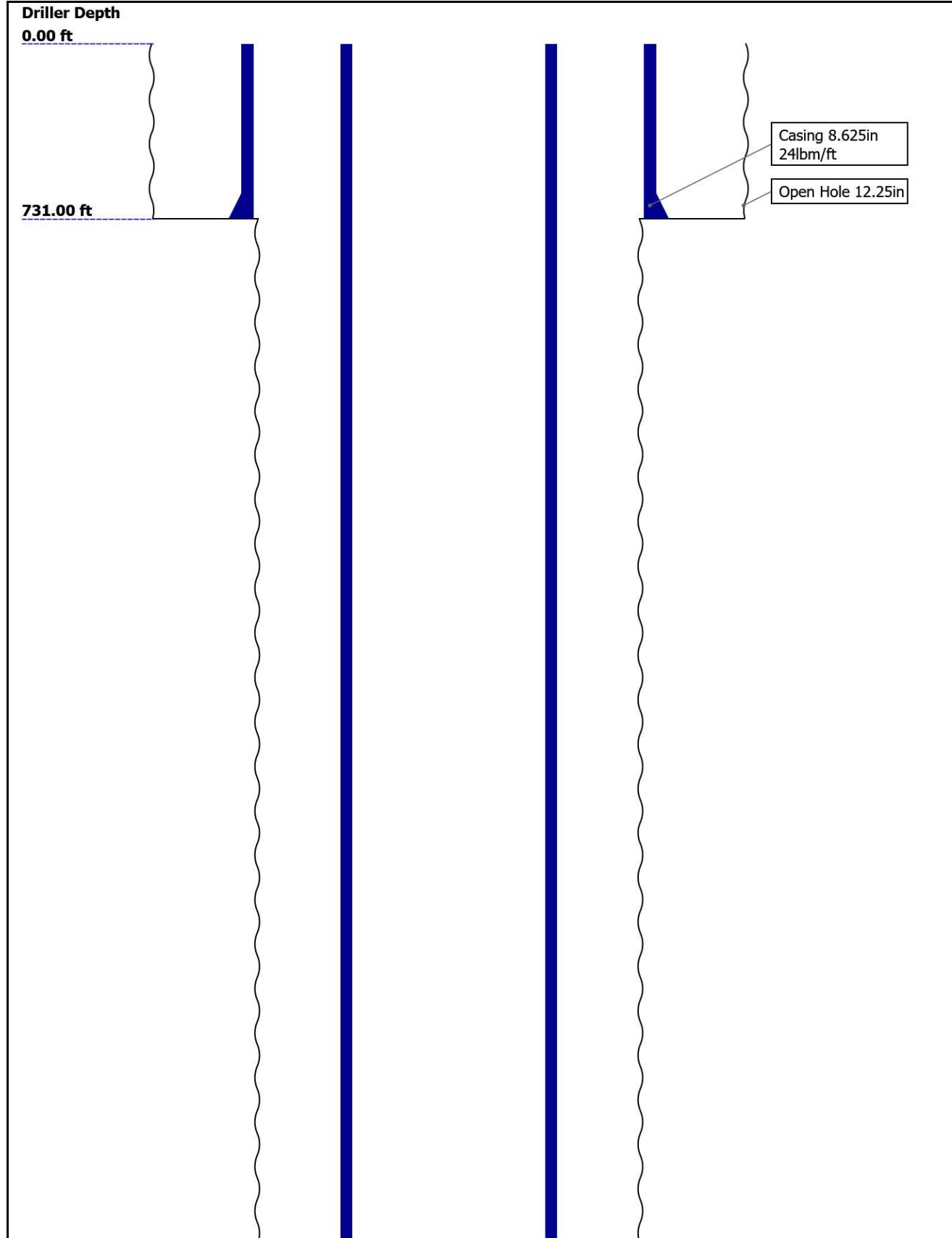
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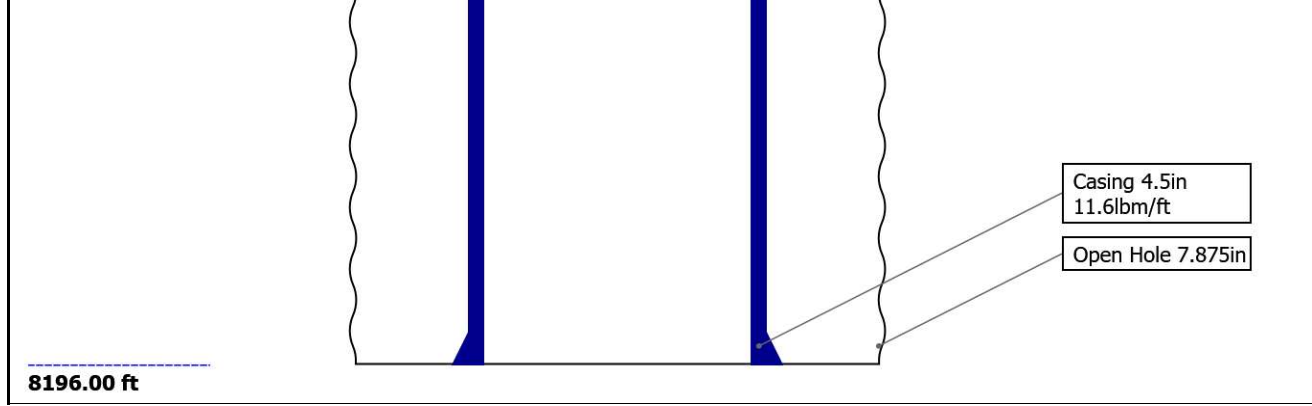
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit					
Bit Size (in)	12.25	7.875			
Top Driller (ft)	0	731			
Top Logger (ft)	0	731			
Bottom Driller (ft)	731	8196			
Bottom Logger (ft)	731	8196			
Casing					
Size (in)	8.625	4.5			
Weight (lbm/ft)	24	11.6			
Inner Diameter (in)	8.097	4			
Grade	N/A	N/A			
Top Driller (ft)	0	0			
Top Logger (ft)	0	0			
Bottom Driller (ft)	731	8196			
Bottom Logger (ft)	731	8196			

Remarks and Equipment Summary

ONE: Toolstring

ONE: Remarks

Equip name length
LEH-QT 49.07
LEH-QT

MP name Offset



EDTC-B 45.58
EDTH-B
EDTG-A
EDTC-B

ASLT-B: 39.08
8073
ASLT-BB
:8073

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

CBL_U 32.55
P

Tool was run as per tool sketch

All logging intervals as per client request

Thank you for choosing Schlumberger!

Log run for casing and cement evaluation.

Log was run under 1000 psi.

IBC-TX was run with IBCS-A

Crew Timothy Ludgate, John Price



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		

Logging Cable			
Type	7-46ZVI-XS		
Serial Number	1234		
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Work over rig		

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			

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 2	Log[4]:Down	997.56	6981.13

Fluid Velocity = "Automatic".
CFVL equals DFSL channel

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

Mud Impedance = "FreePipe Norm."
Free Pipe normalization zone is : 134.31m(440.66ft) to 138.91m(455.74ft)
MUD_N_FRP = 1.15
DFD = 1.02g/cm3(8.50lbm/gal)
CZMD median computed in free pipe normalization interval = 1.61 MRayl

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

Composite 1

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.217167 Wireline_NPD-ThruBit-2022.0_12.0.217960

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[5]:Up	Up	4738.25 ft	6994.28 ft	25-May-2022 9:26:25 AM	25-May-2022 10:07:19 AM	ON	13.15 ft	Yes
ONE	Log[7]:Up	Up	51.57 ft	5016.82 ft	25-May-2022 10:16:26 AM	25-May-2022 11:44:50 AM	ON	14.84 ft	Yes

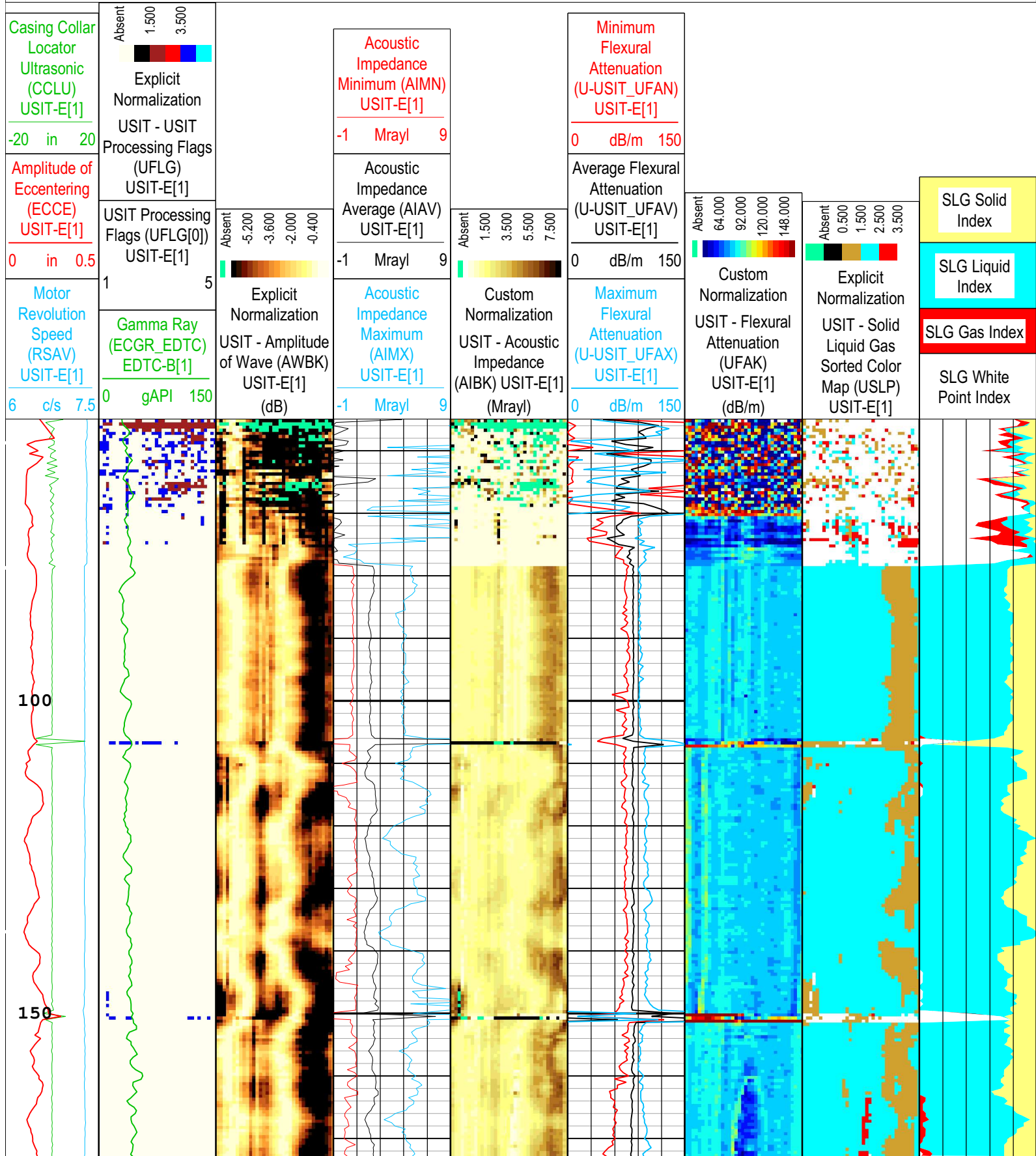
All depths are referenced to toolstring zero

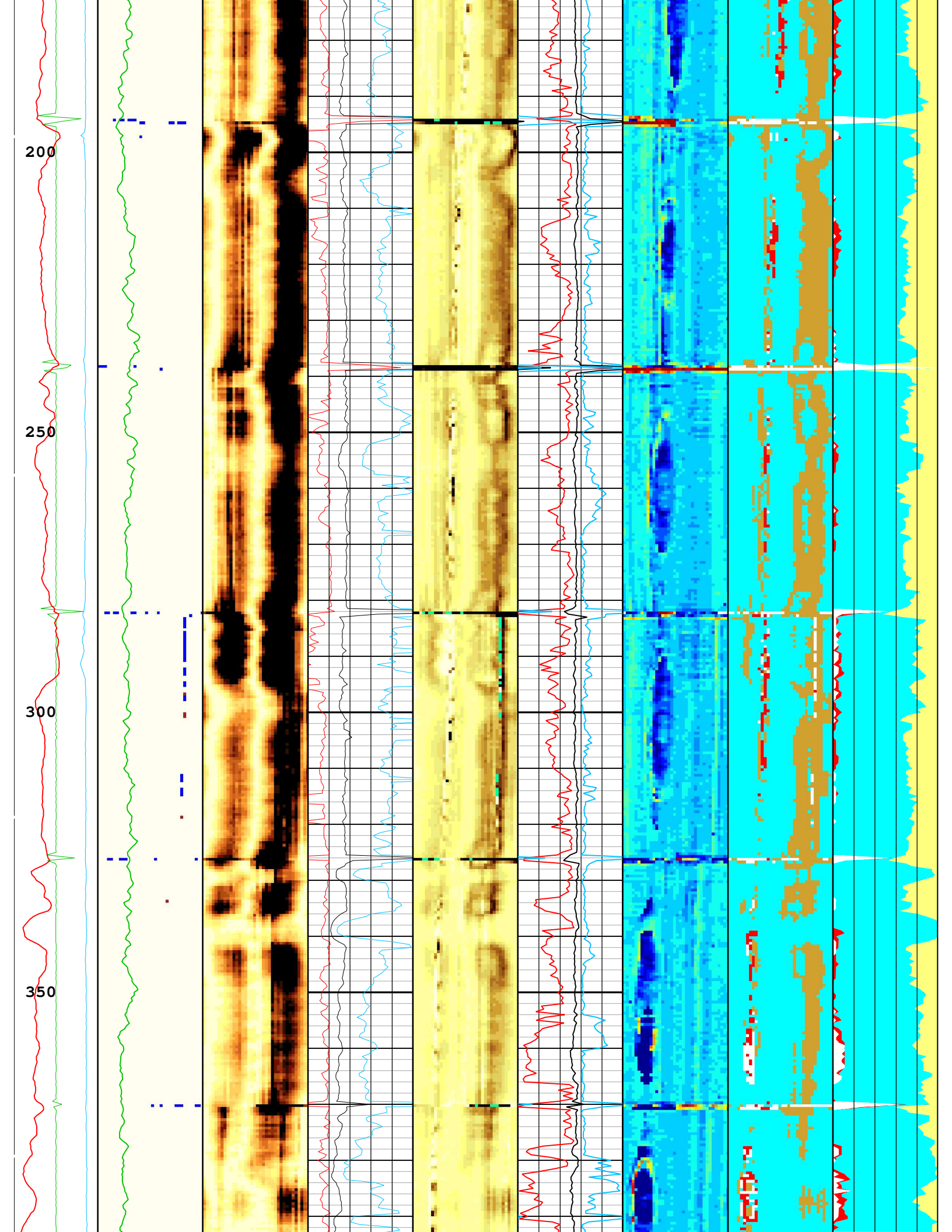
Log	Company:Occidental Petroleum Corporation	Well:VARRA 10-2
		Composite 1:S014

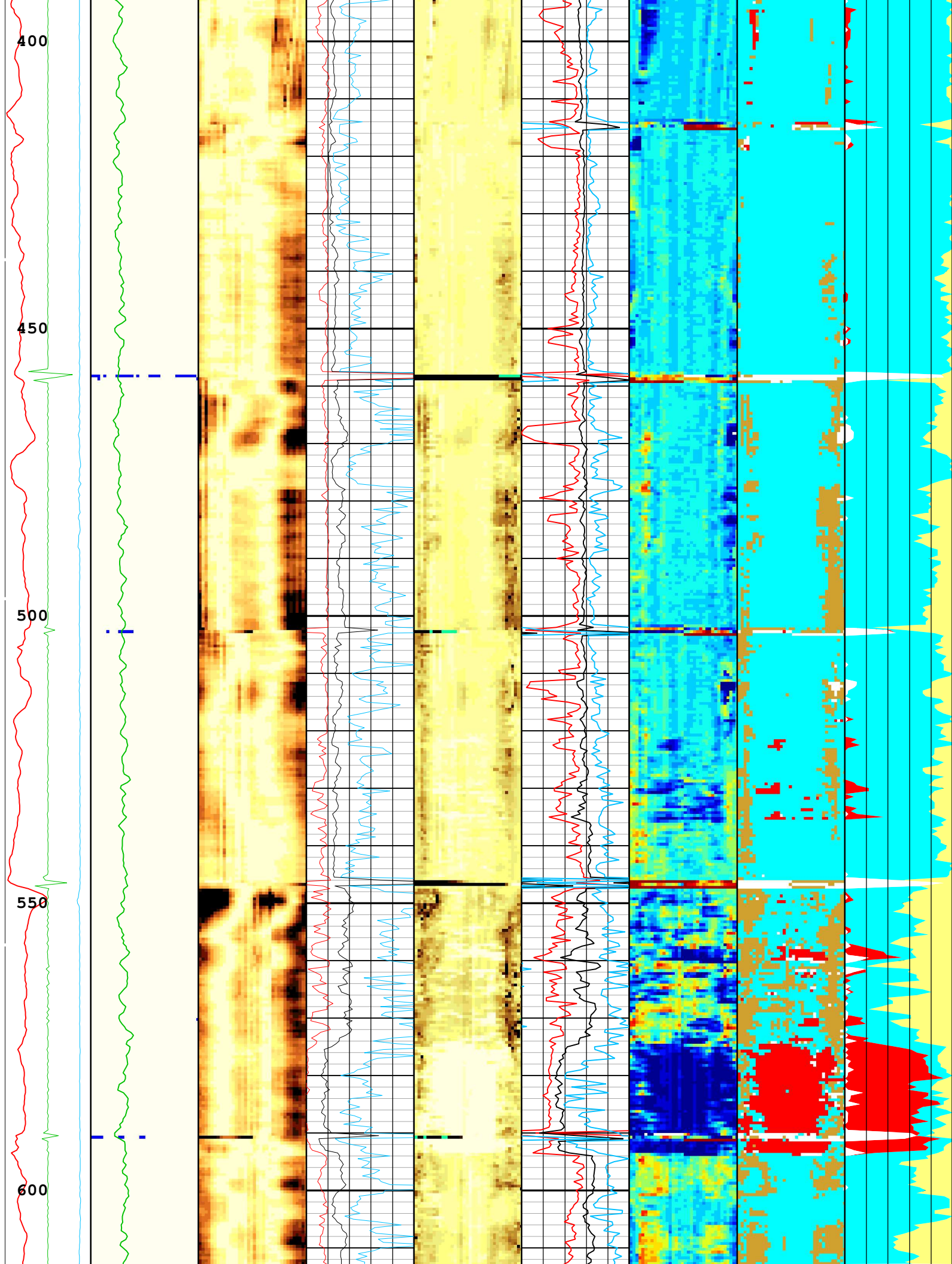
TIME_1900 - Time Marked every 60.00 (s)

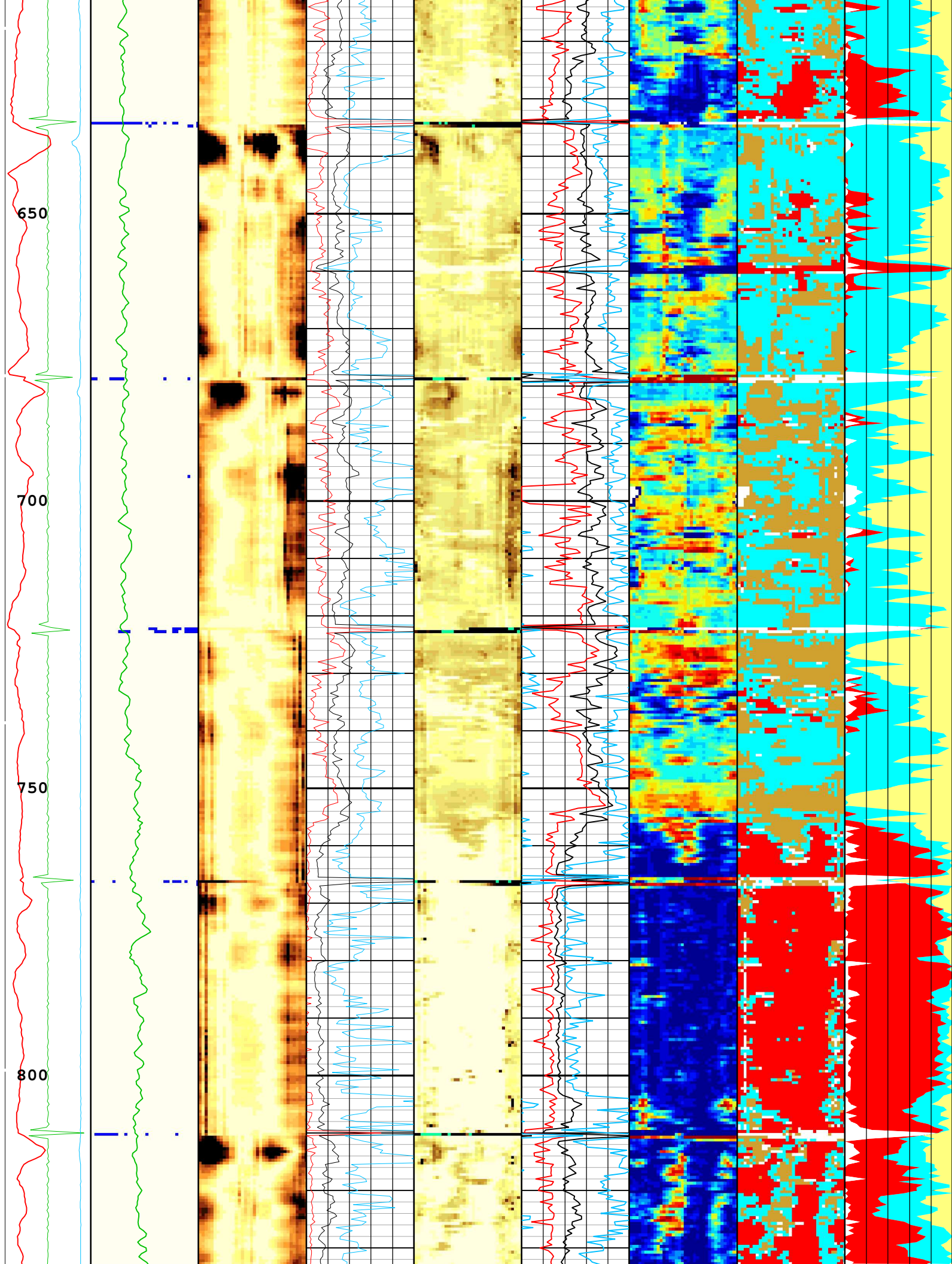
USIT Processing Flags (UFLG[0]) USIT-E[1]

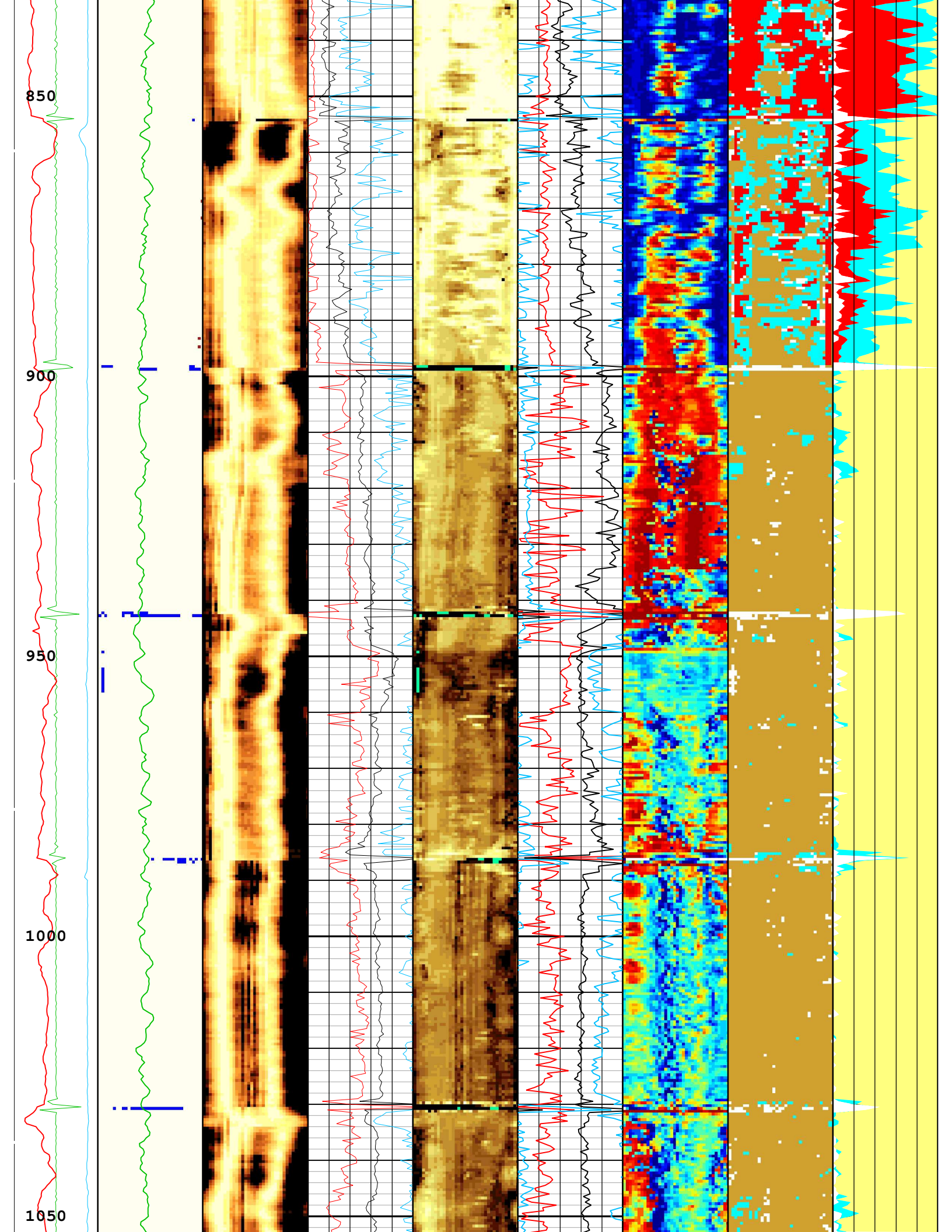
- 1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 -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

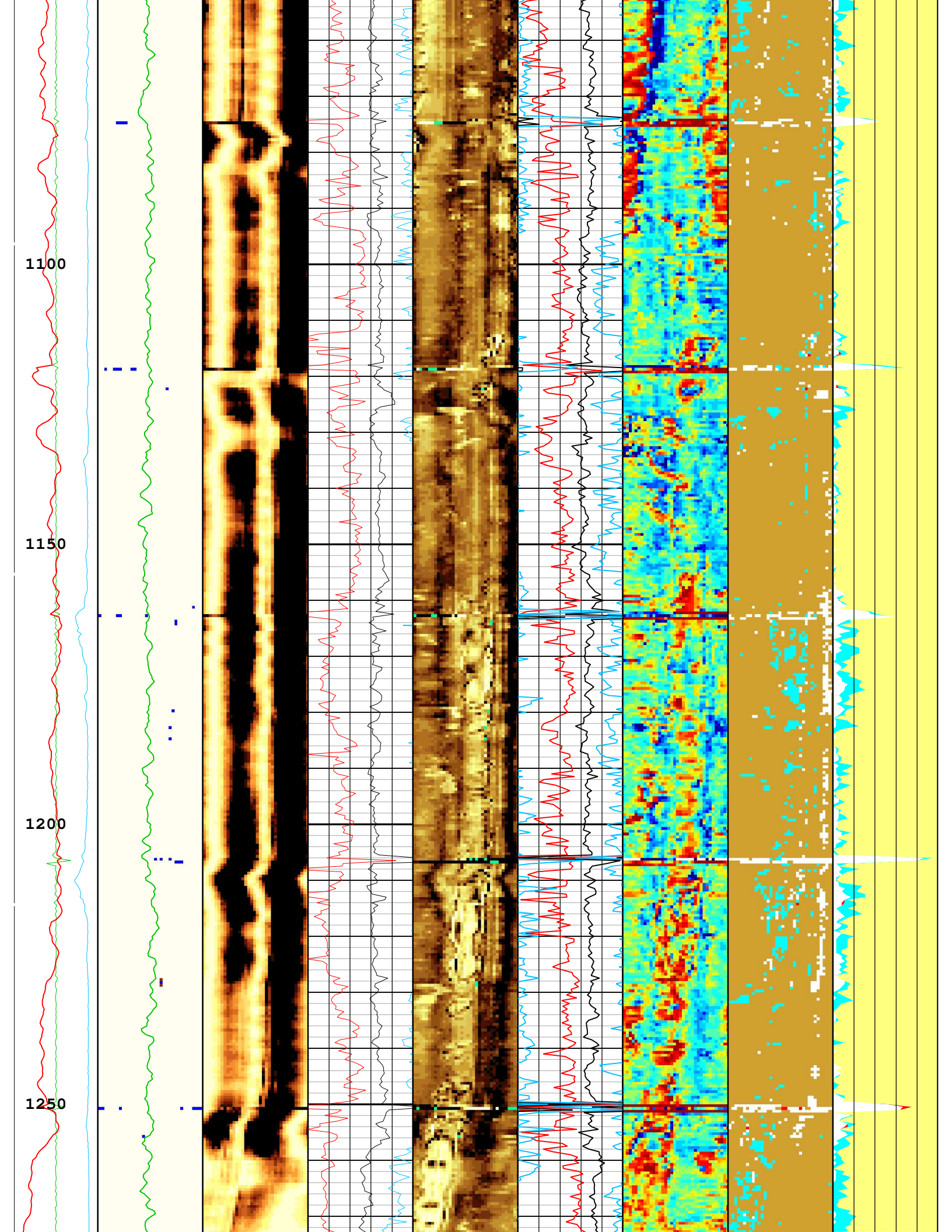


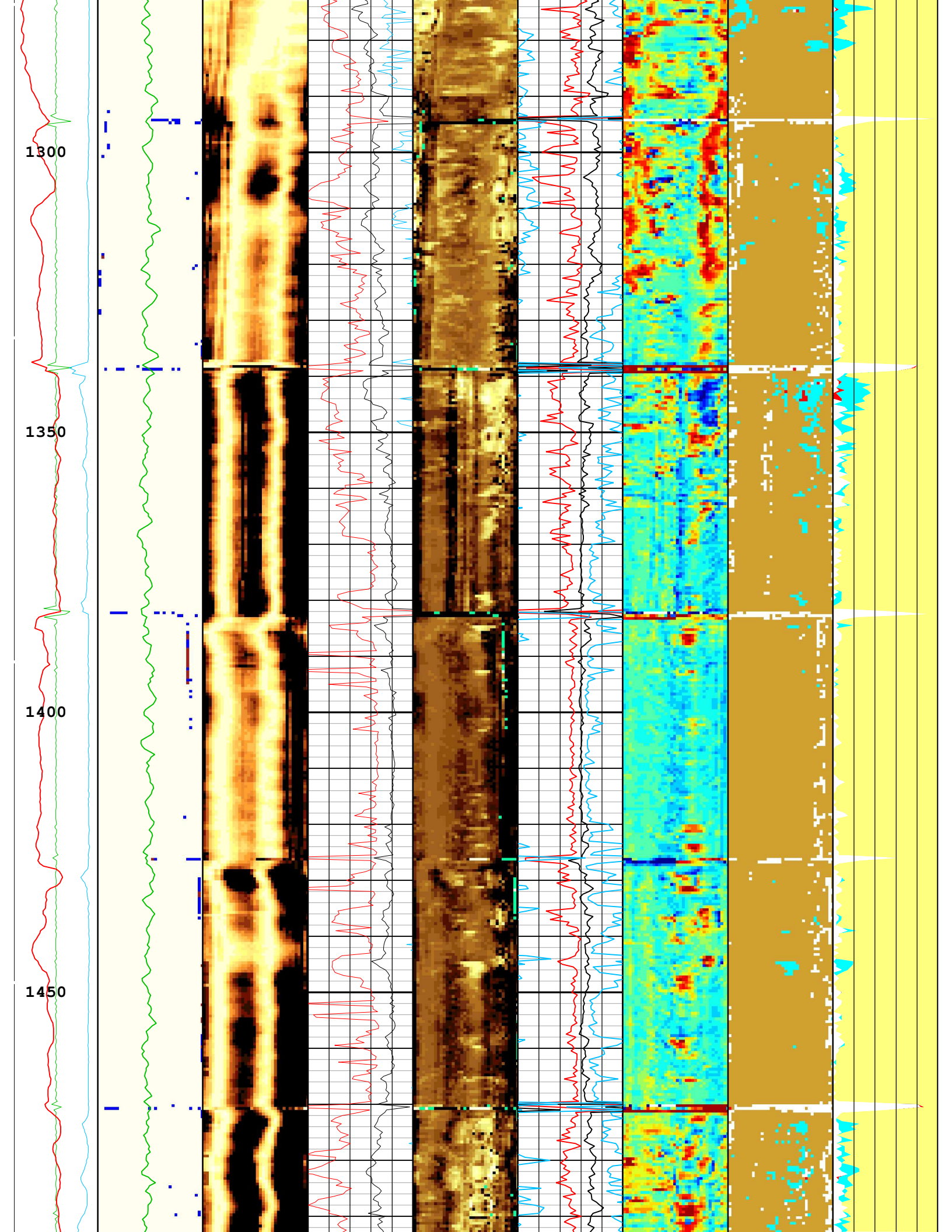


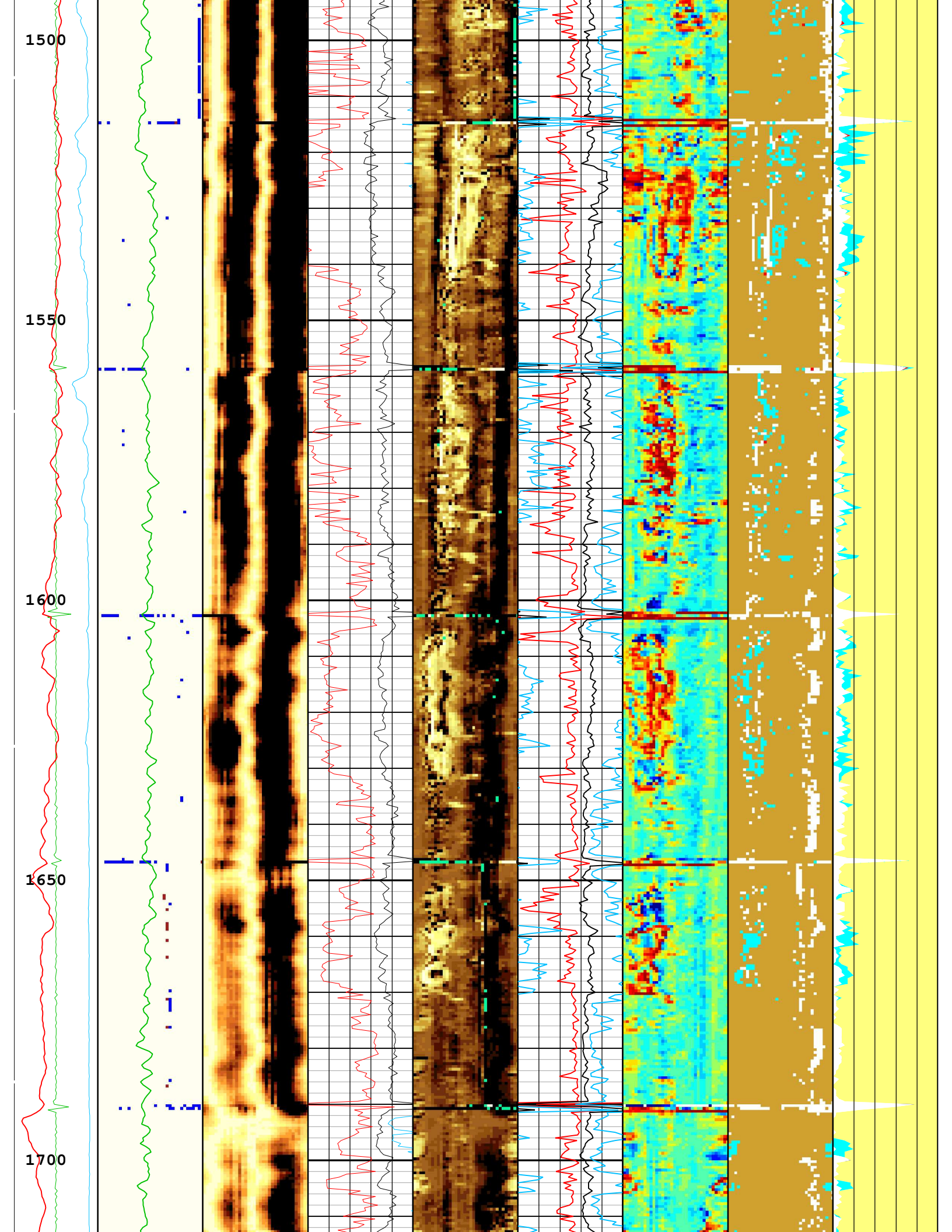


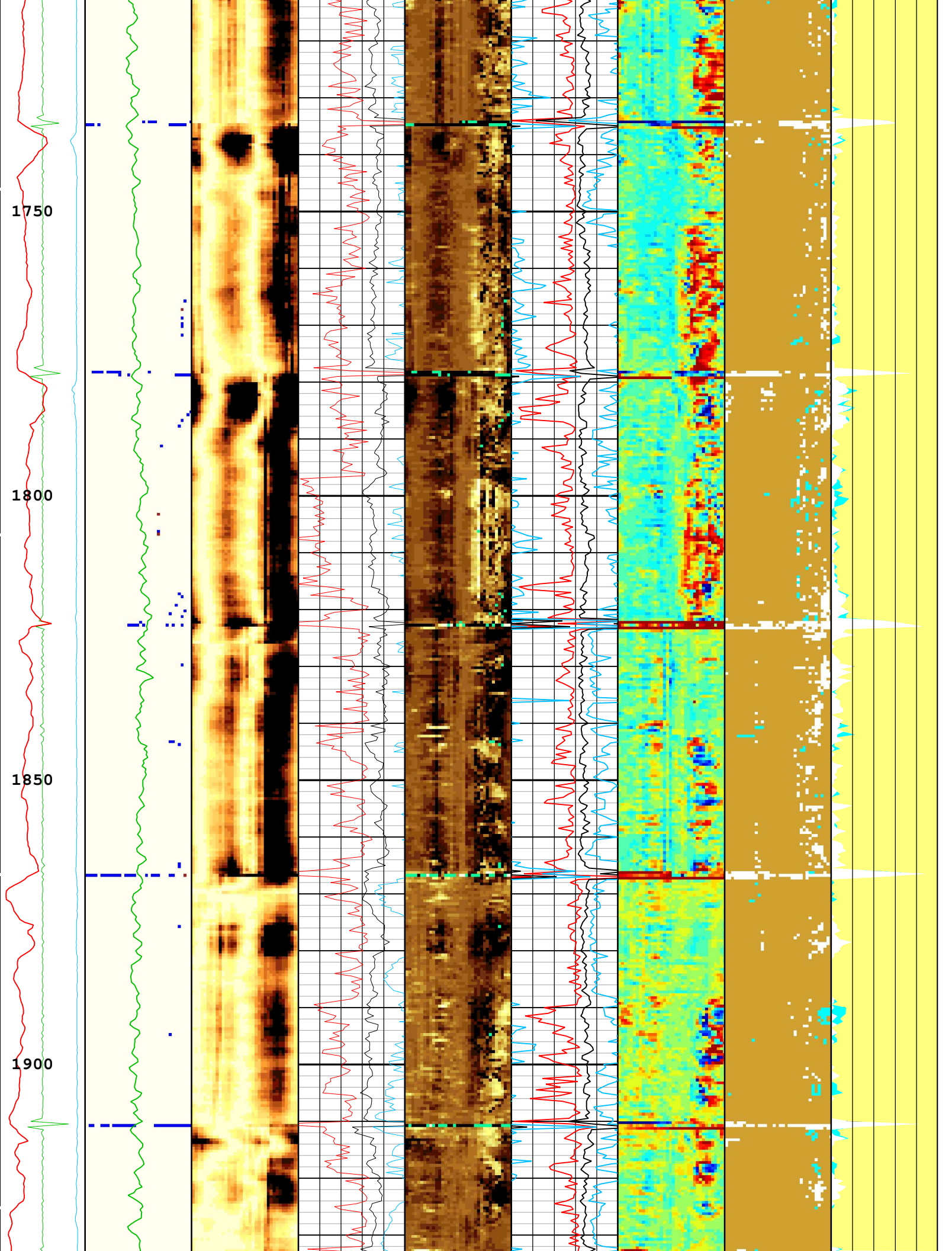


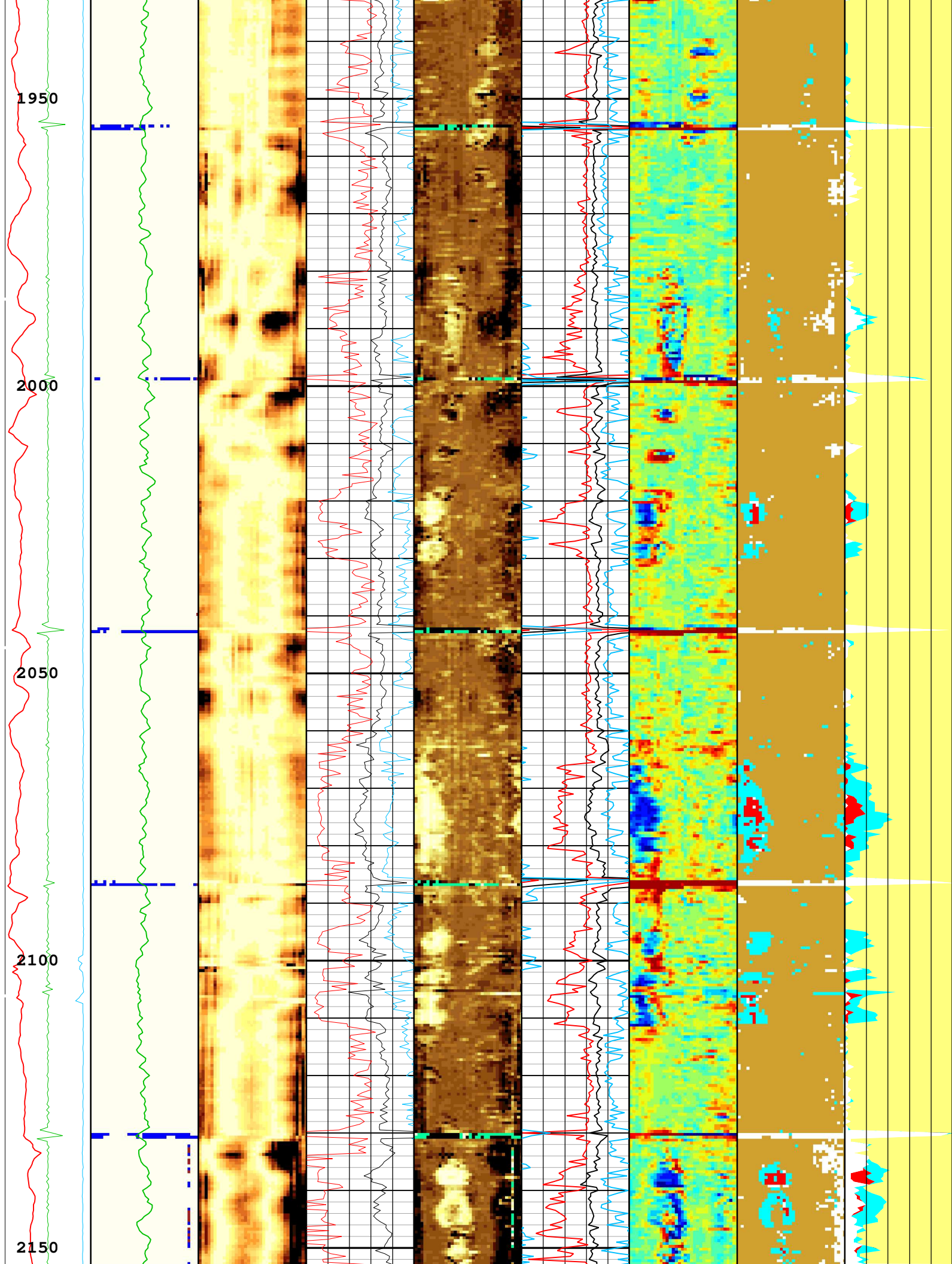


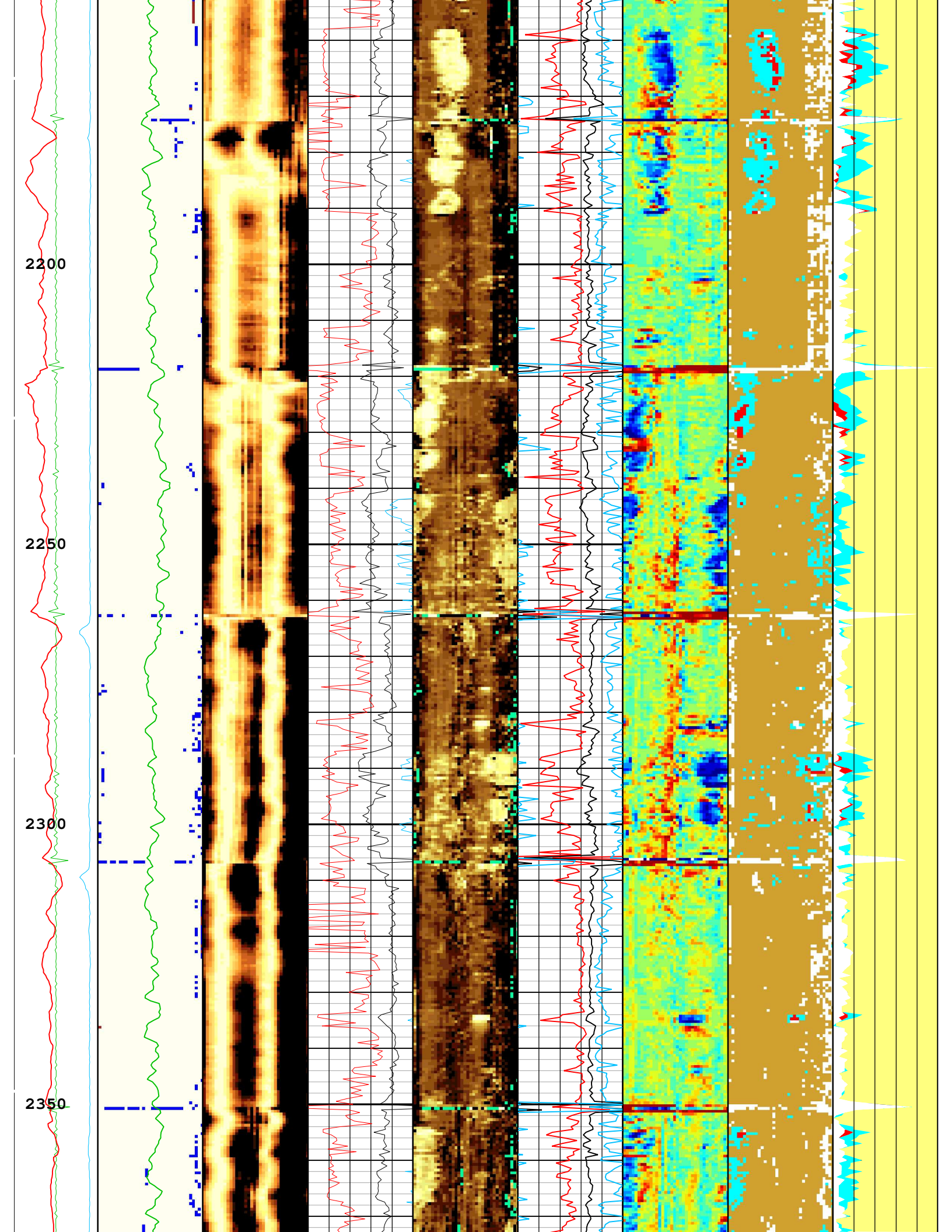










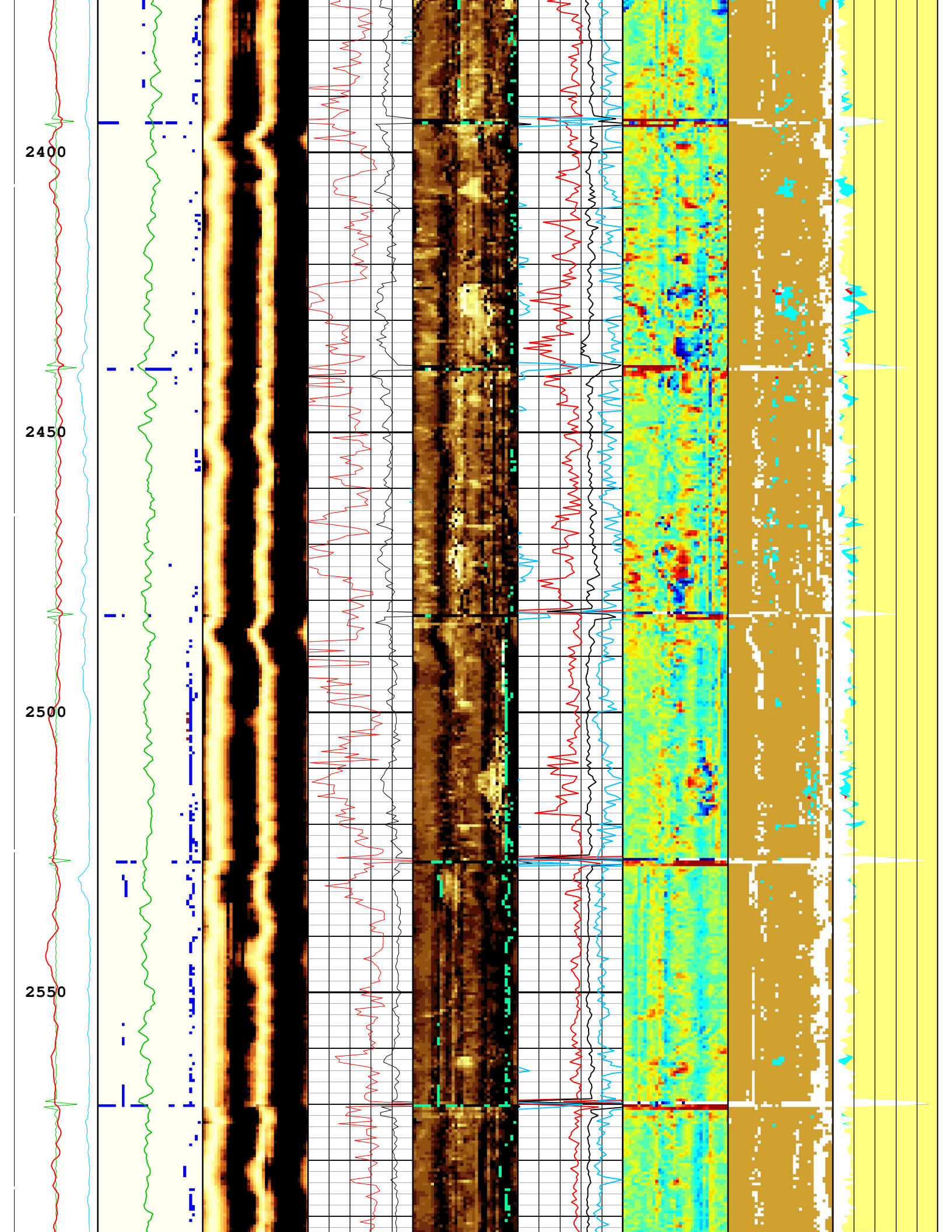


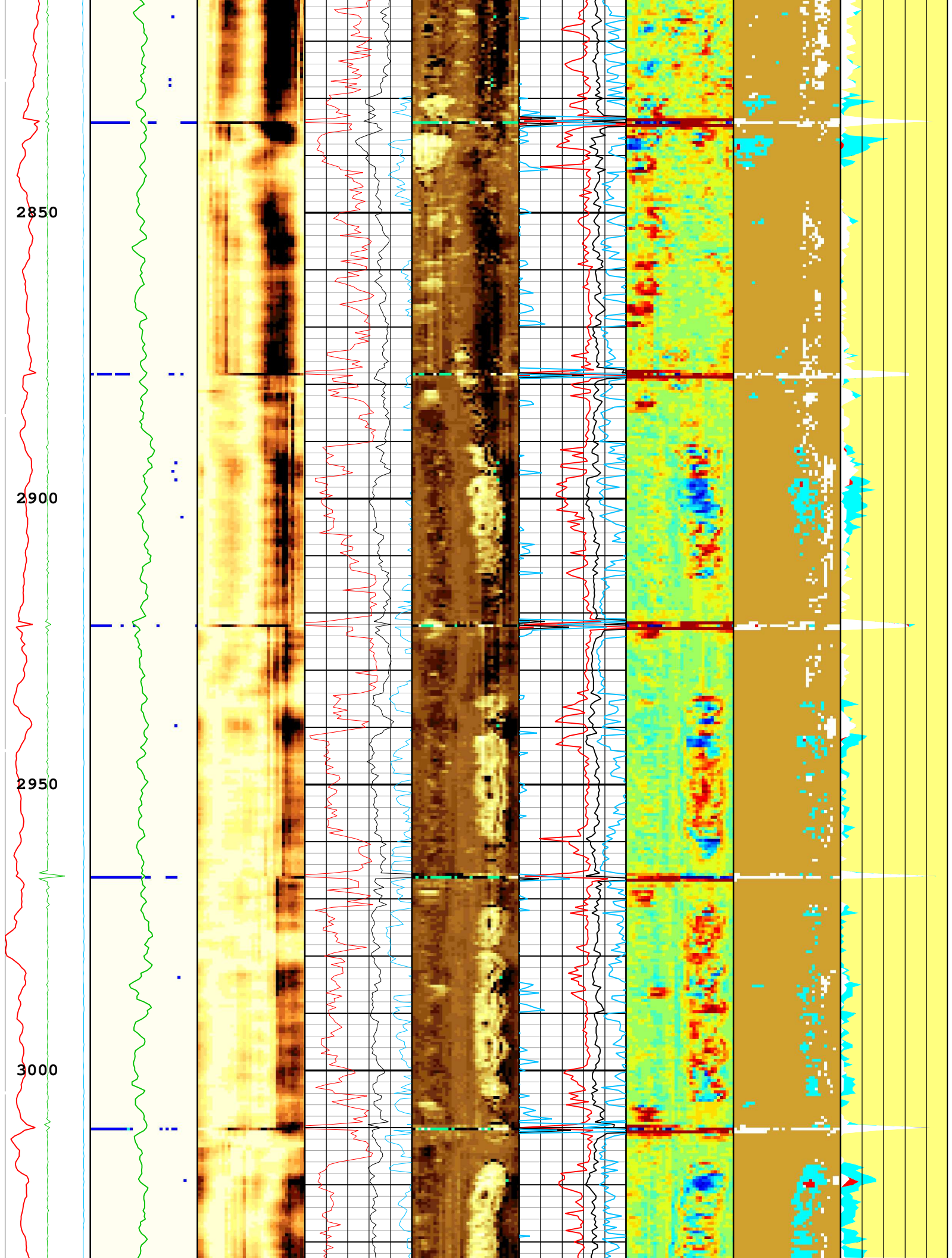
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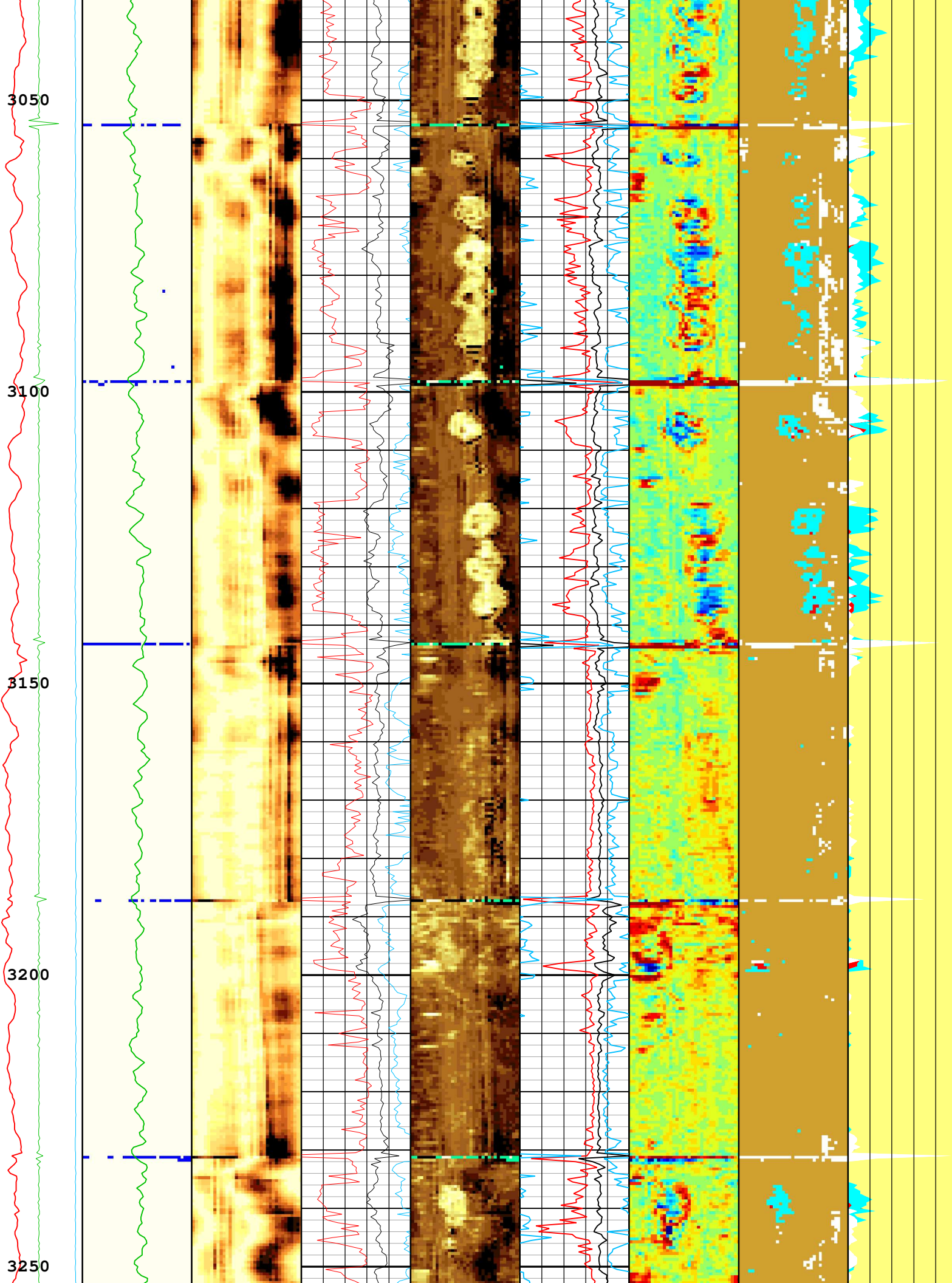
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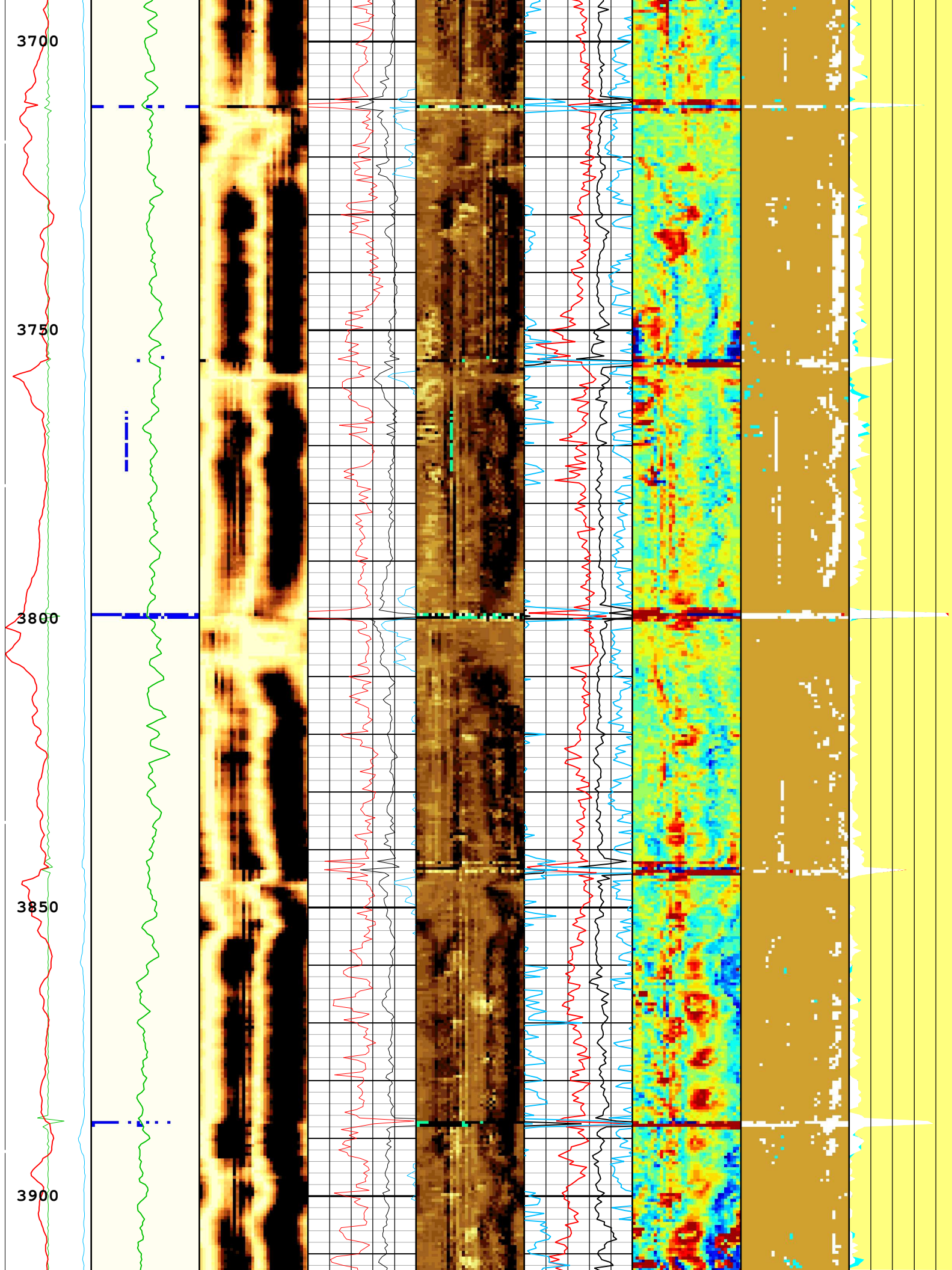
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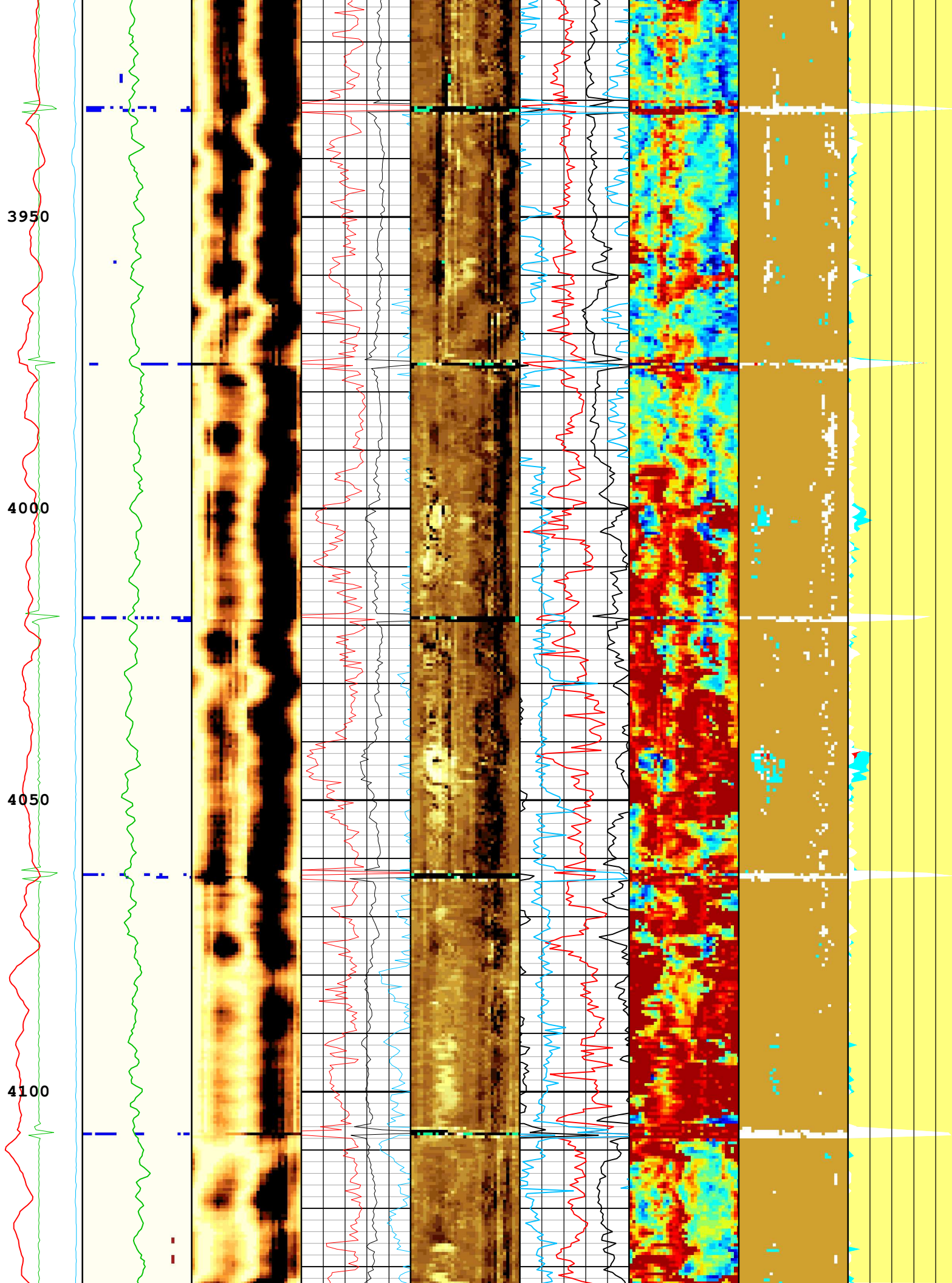
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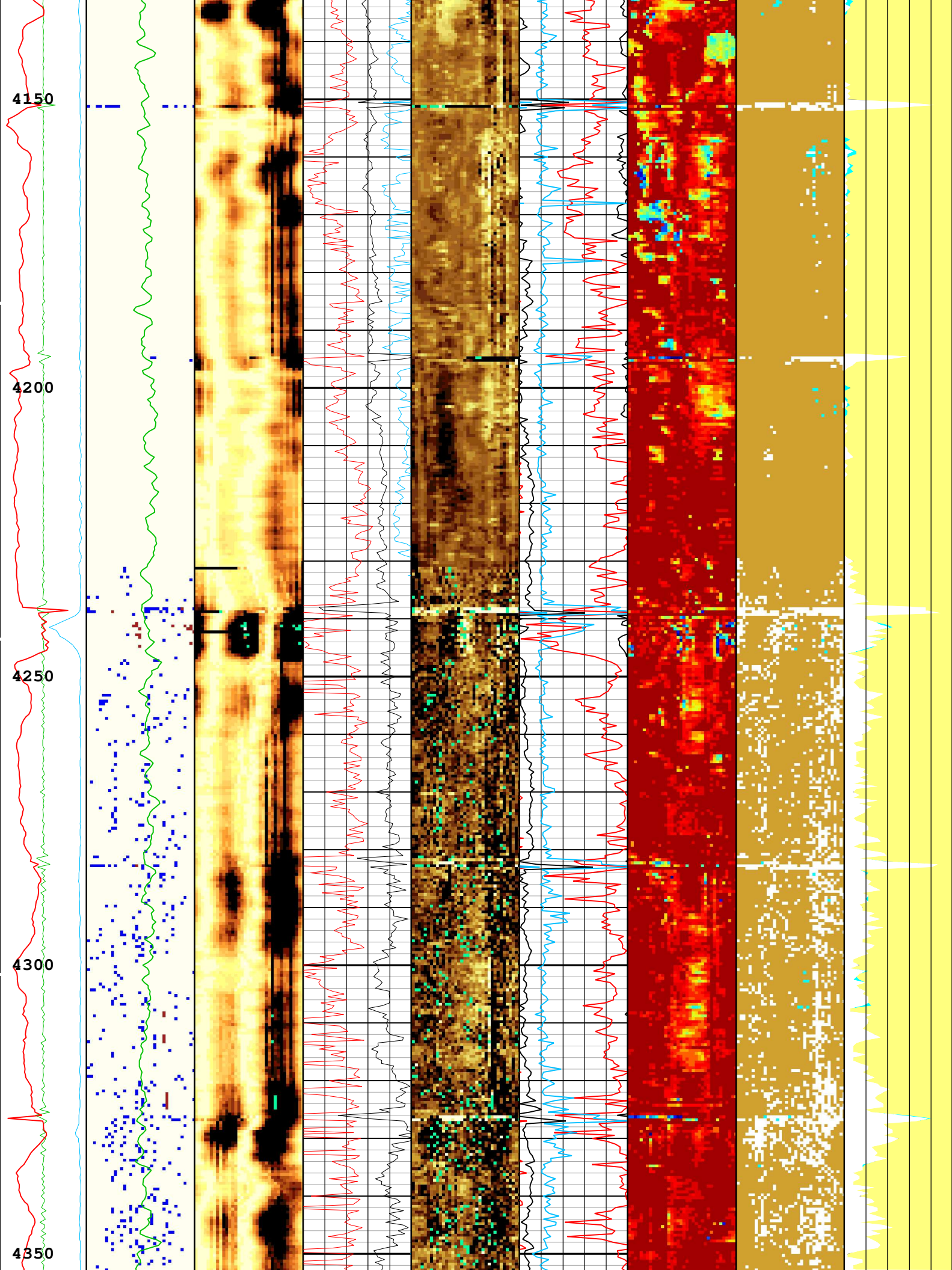


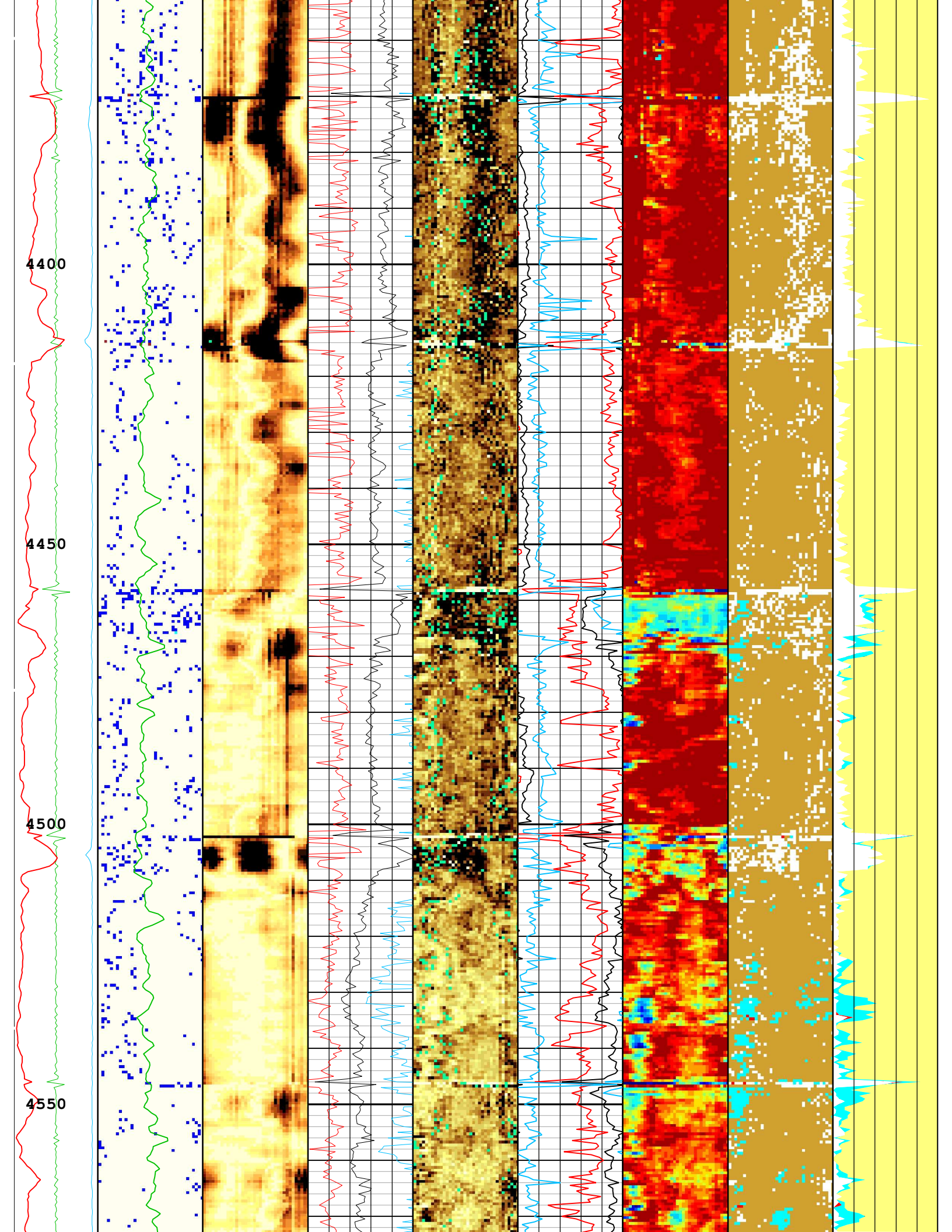


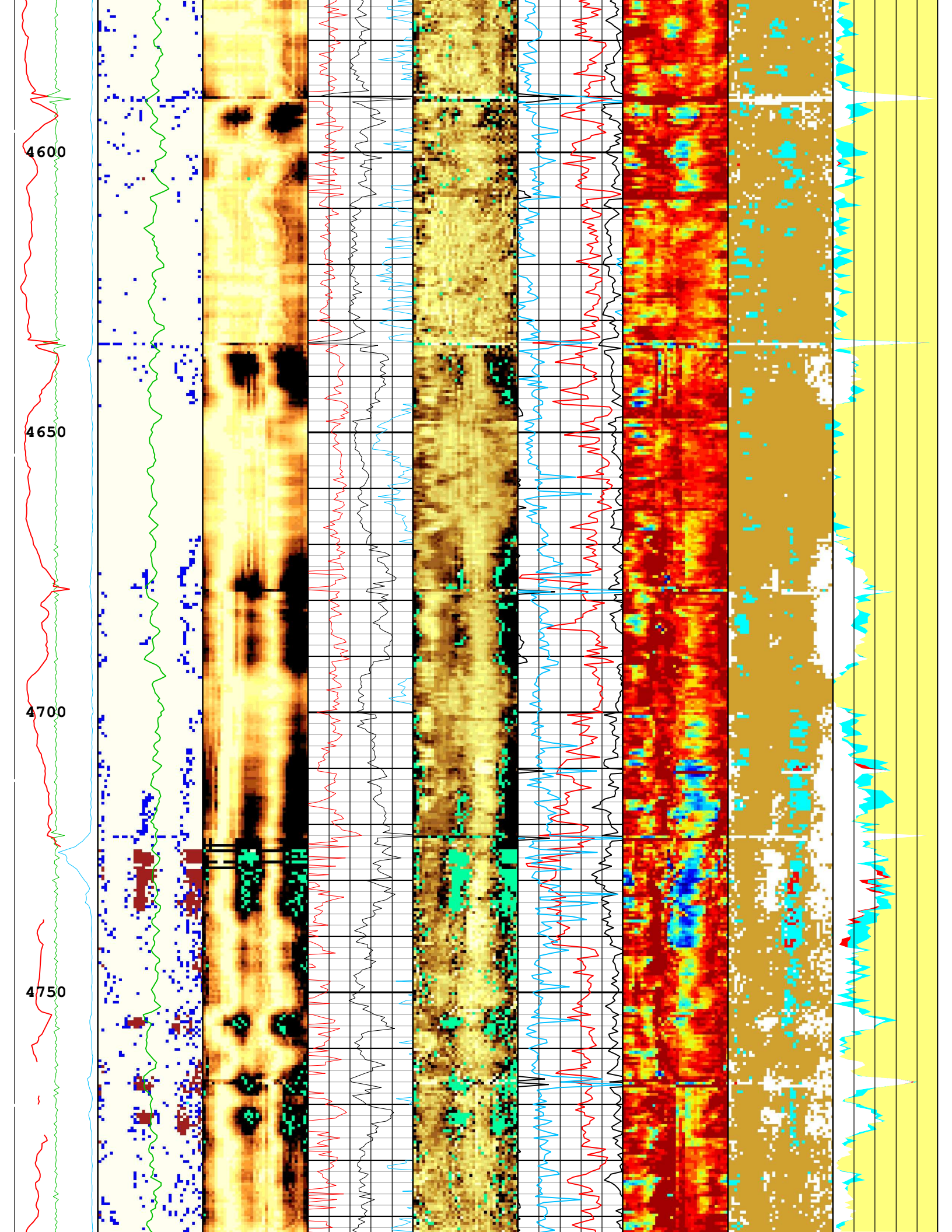


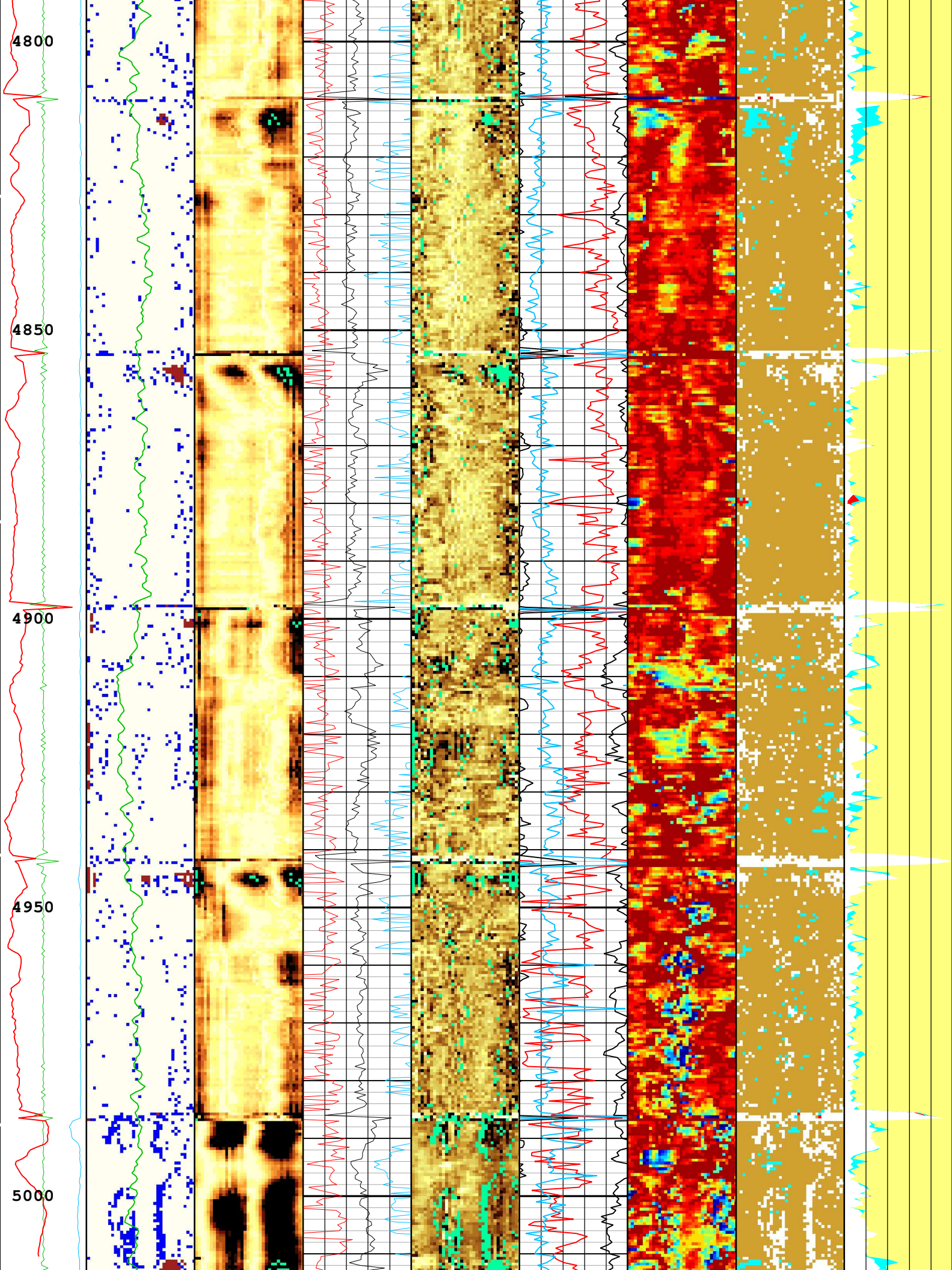


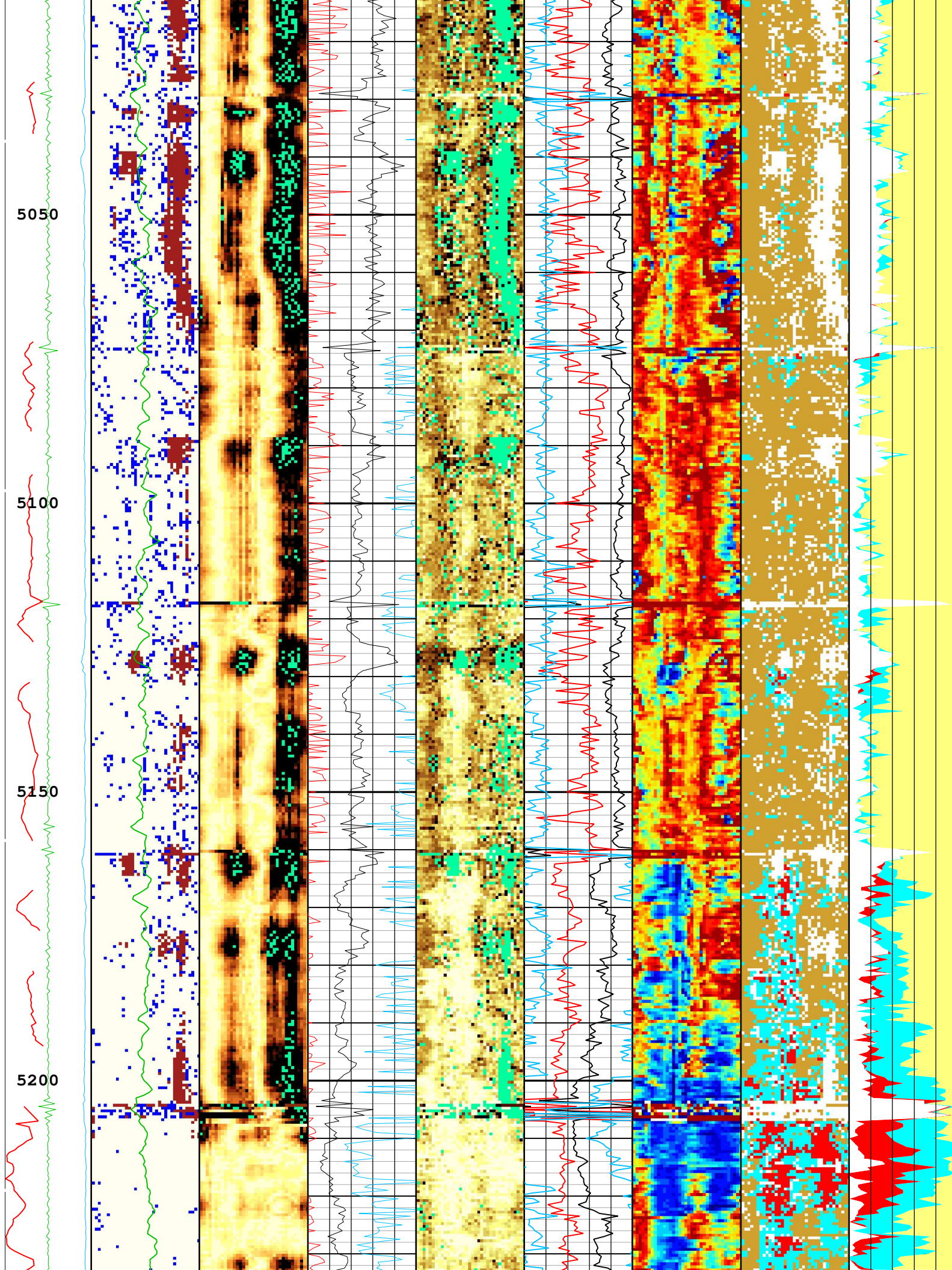


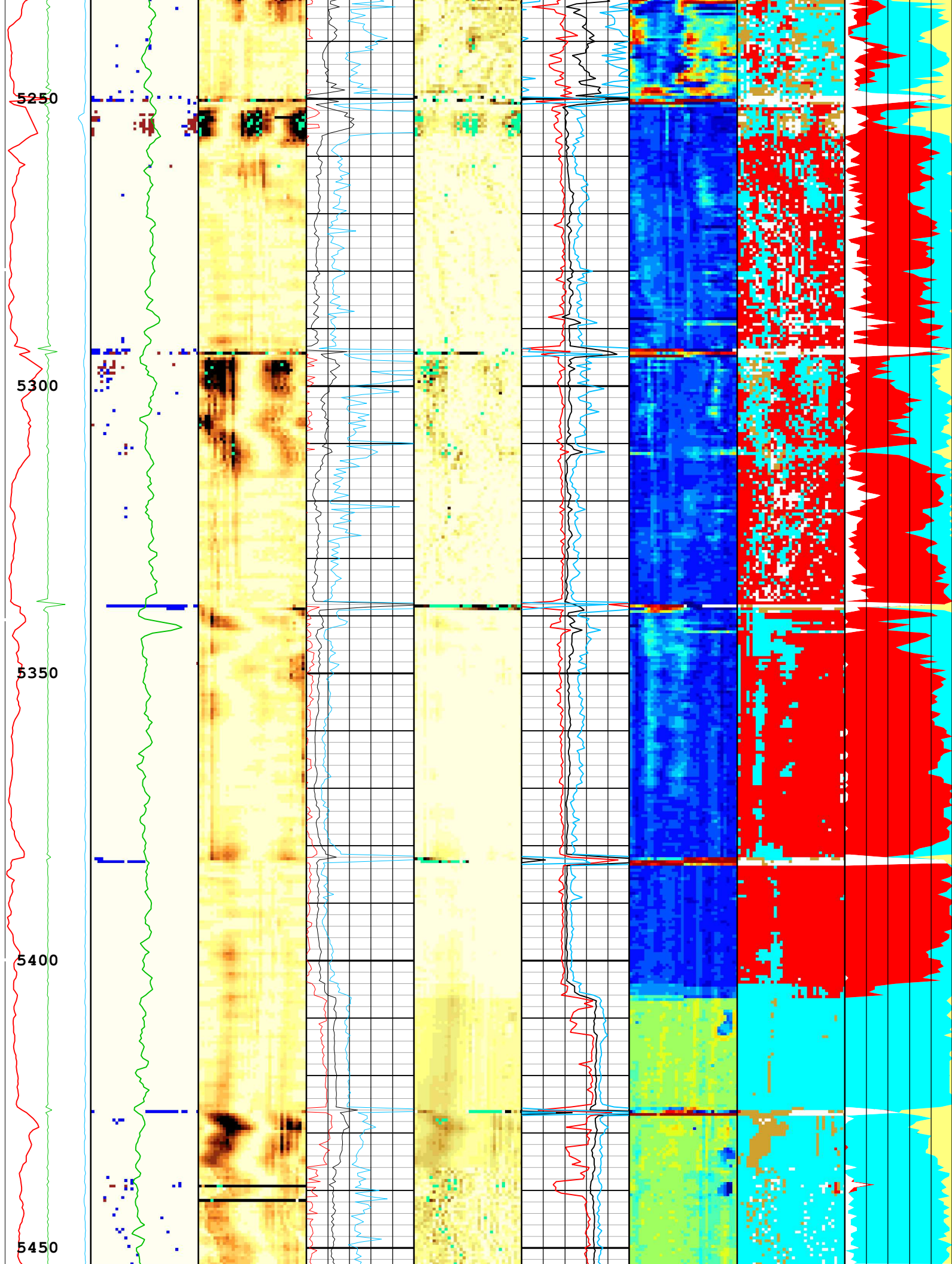


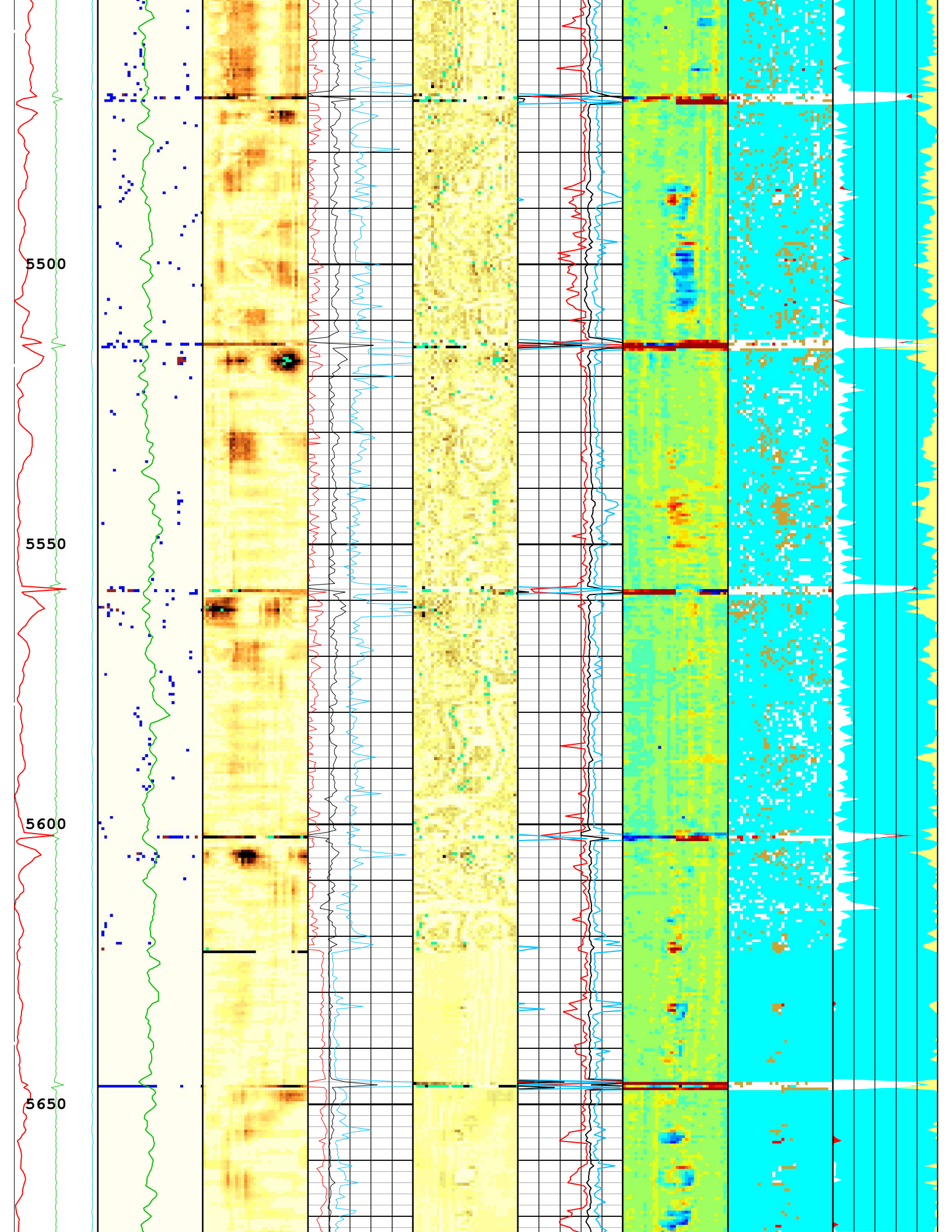


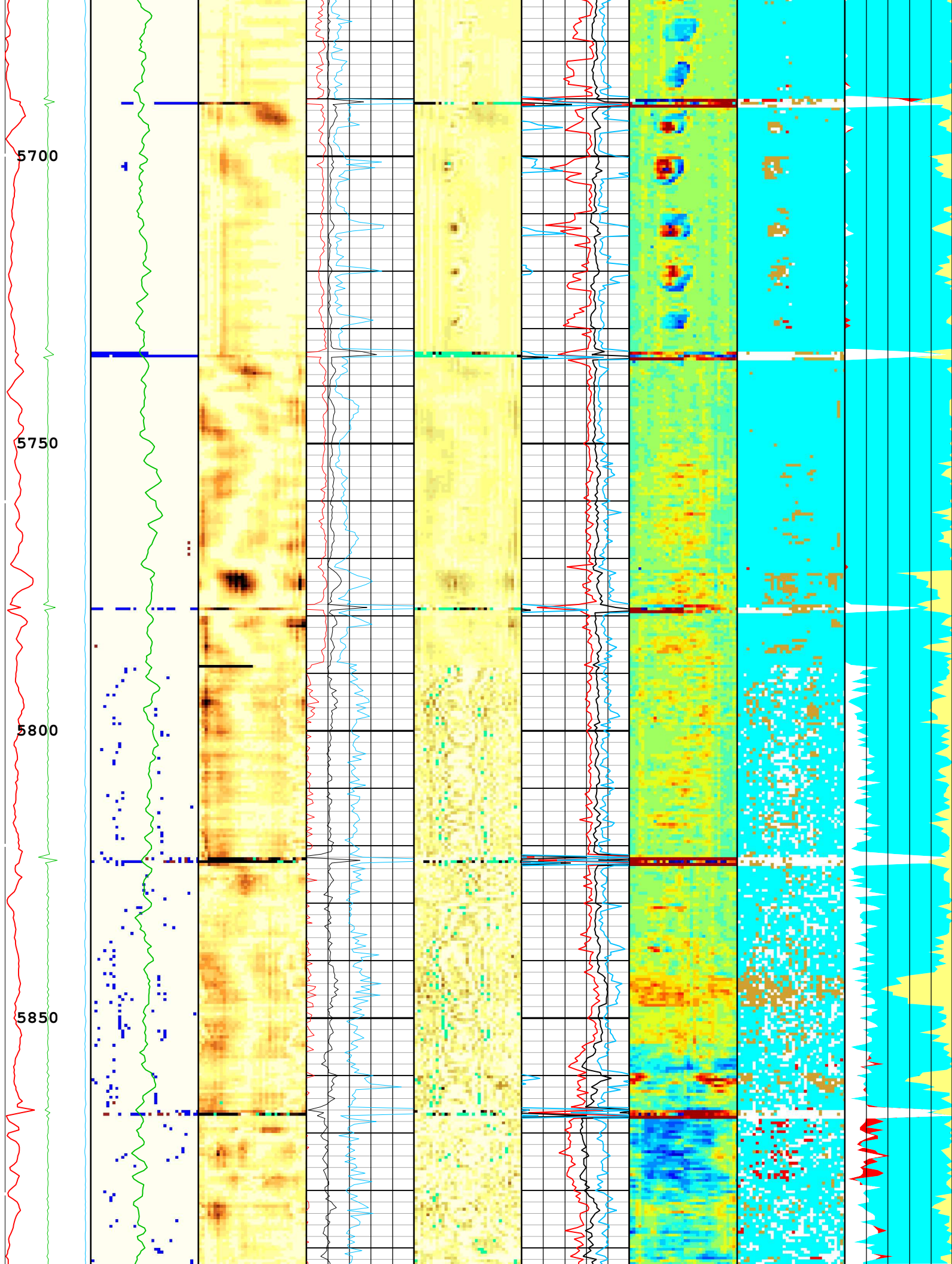


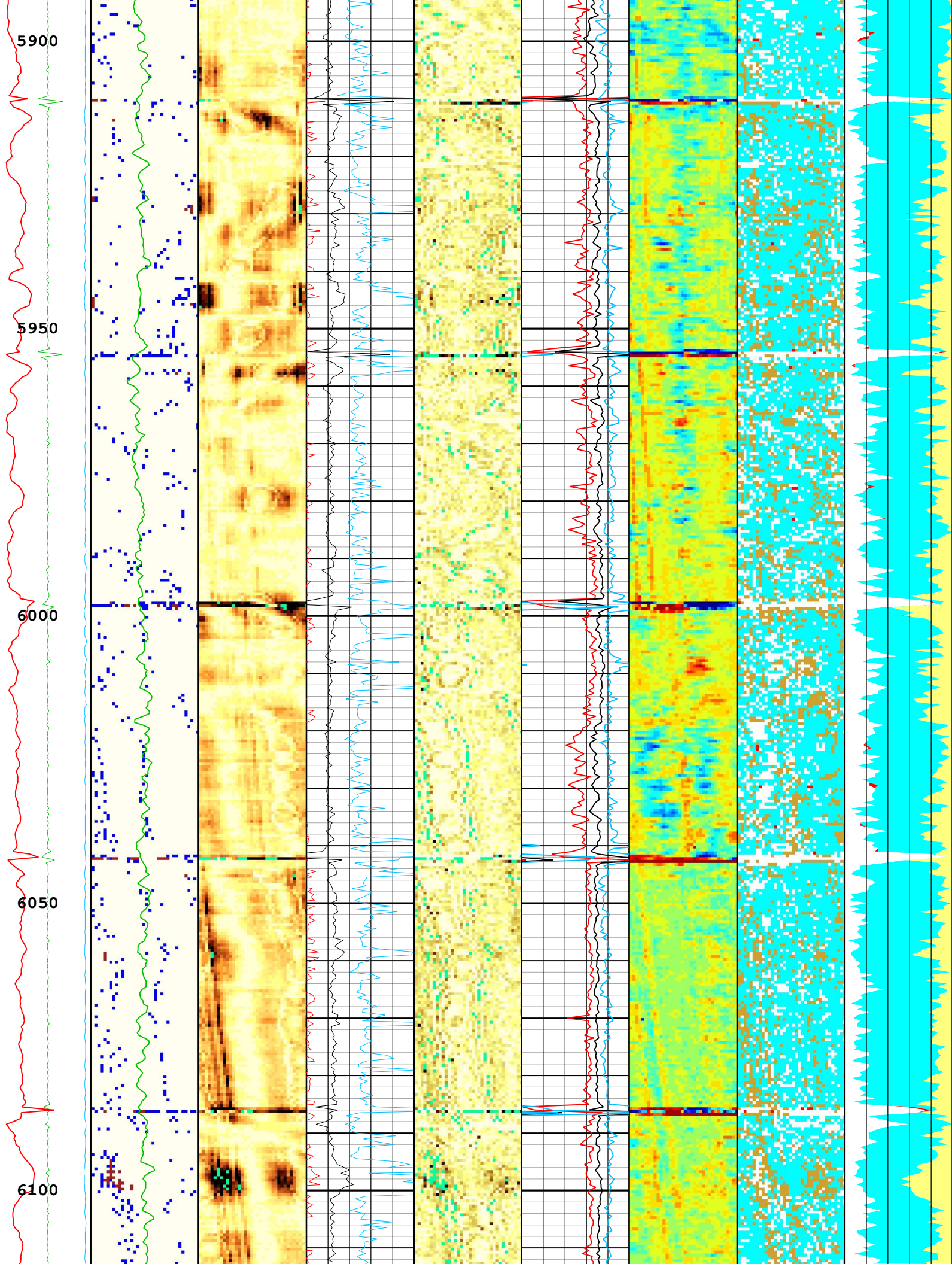


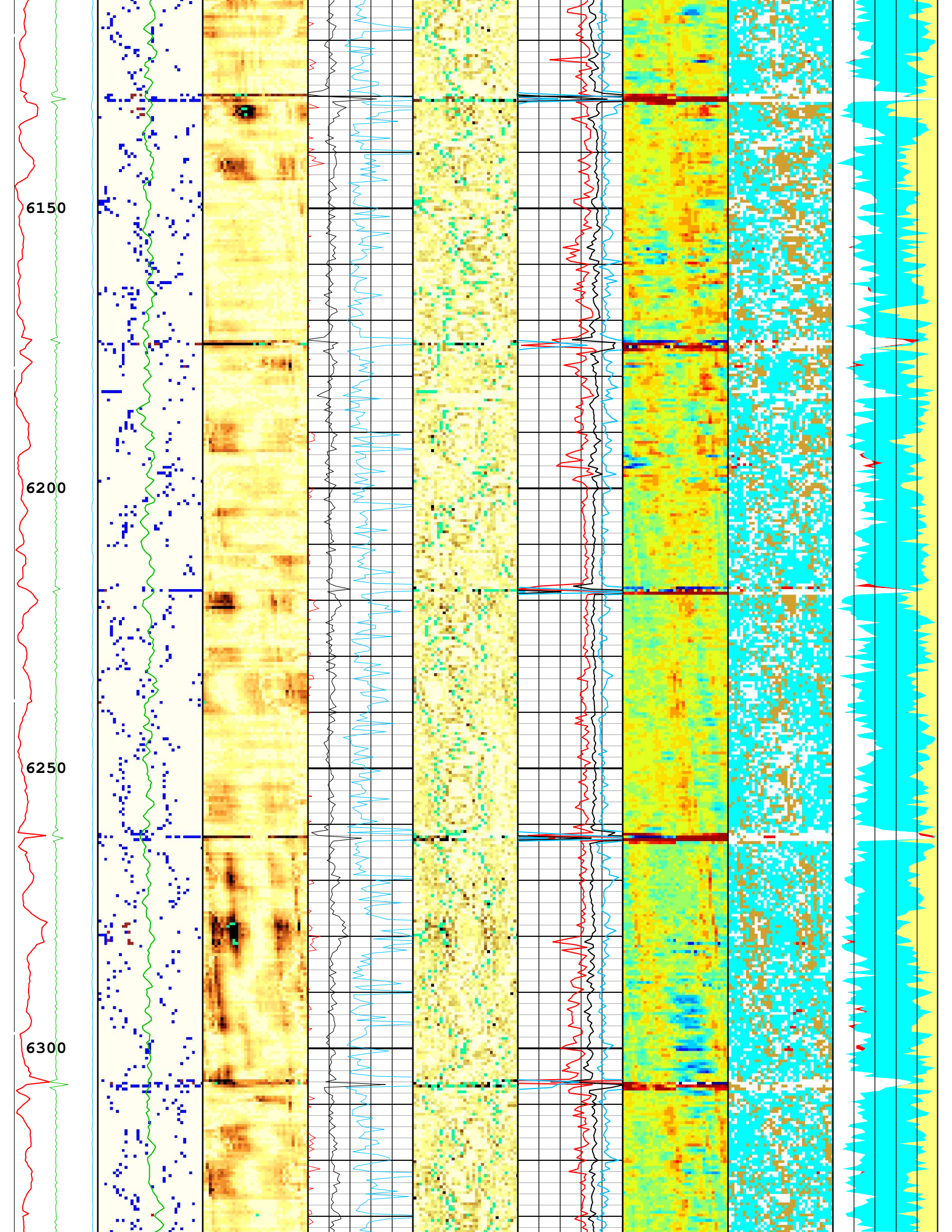


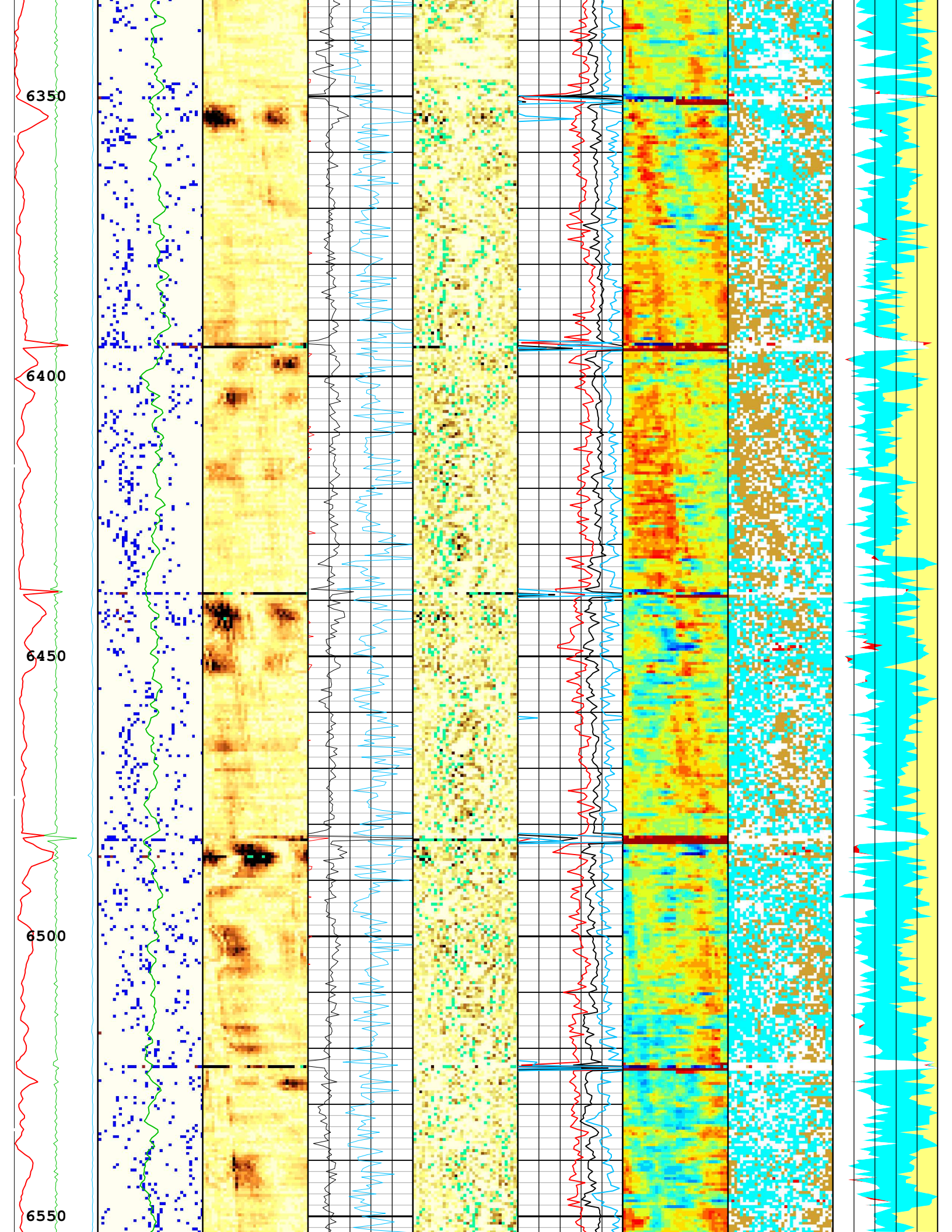


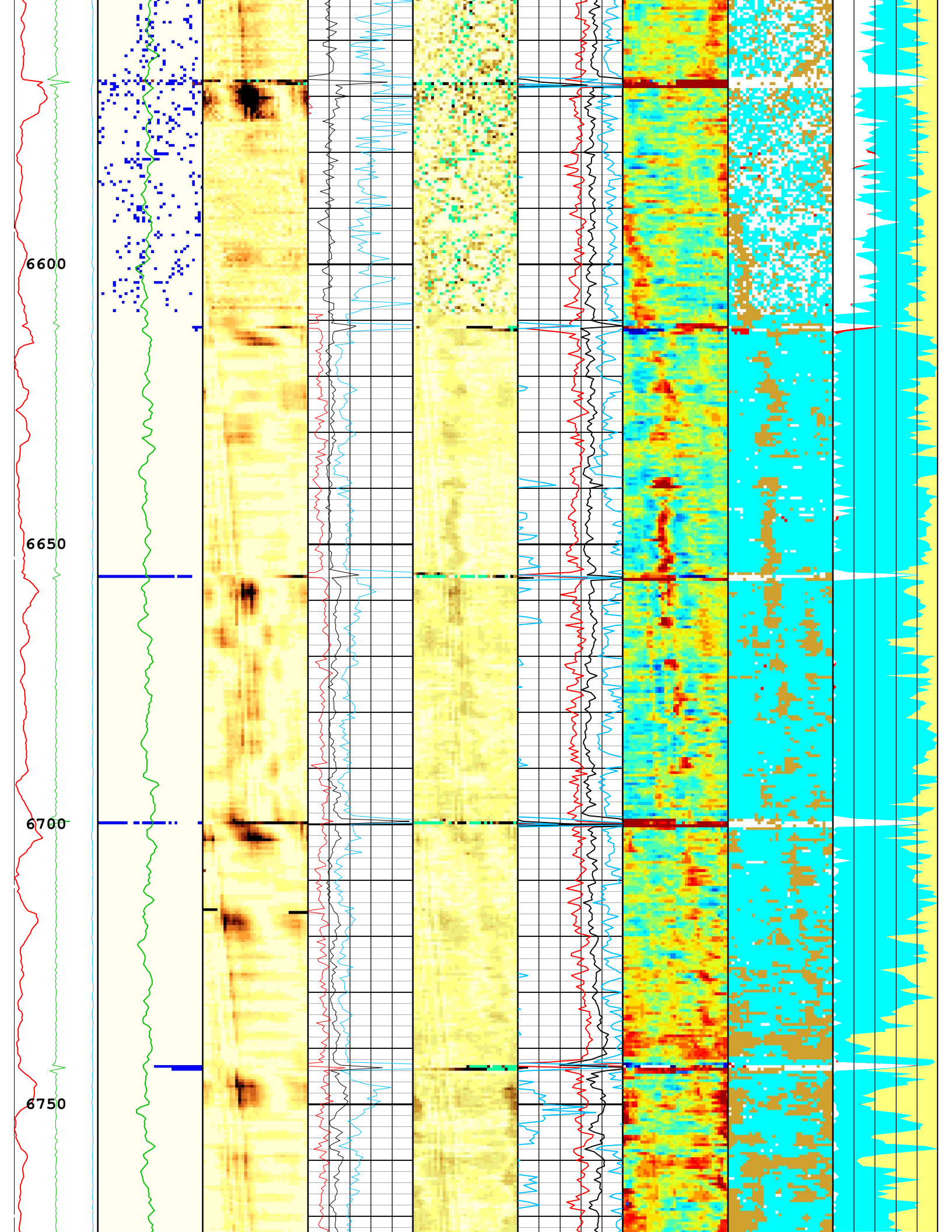


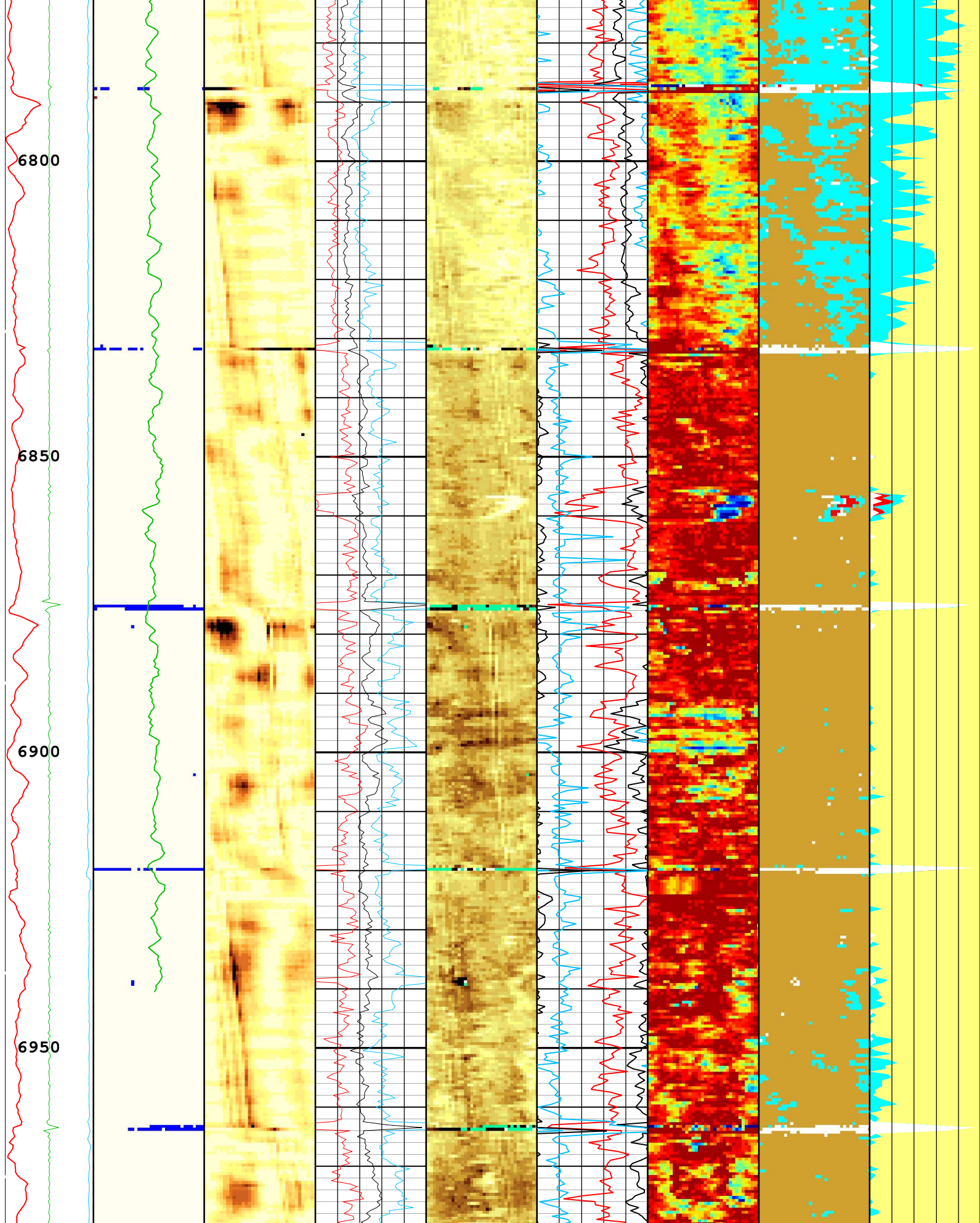












Casing Collar
Locator
Ultrasonic
(CCLUD)

Absent
1,500
3,500
Explicit

Absent
-5,200
-3,600
-2,000
-0,400

Acoustic
Impedance
Minimum (AIMN)
USIT-F11

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

Minimum
Flexural
Attenuation
(UJ-USIT UJFN)

Absent
64,000
92,000
120,000
148,000
Custom

Absent
0,500
1,500
2,500
3,500
Explicit

SLG Solid
Index

USIT-E[1] -20 in 20	Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E[1]	Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-E[1] (dB)	USIT-E[1] -1 Mrayl 9	Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)	USIT-E[1] 0 dB/m 150	Custom Normalization USIT - Flexural Attenuation (UFAK) USIT-E[1] (dB/m)	Explicit Normalization USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]	SLG Liquid Index
Amplitude of Eccentering (ECCE) USIT-E[1] 0 in 0.5	USIT Processing Flags (UFLG[0]) USIT-E[1]		Acoustic Impedance Average (AIAV) USIT-E[1] -1 Mrayl 9		Average Flexural Attenuation (U-USIT_UFAV) USIT-E[1] 0 dB/m 150			SLG Gas Index
Motor Revolution Speed (RSAV) USIT-E[1] 6 c/s 7.5	1 5 Gamma Ray (ECGR_EDTC) EDTC-B[1] 0 gAPI 150		Acoustic Impedance Maximum (AIMX) USIT-E[1] -1 Mrayl 9		Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E[1] 0 dB/m 150			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

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: 26-May-2022 19:47:34

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	8196	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	Depth Zoned	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	0.74	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
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	1.15	

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
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	80	%
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	USIT Flexural Attenuation Offset	USIT-E	-18	dB/m
UFSFILT	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	1.7	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	55	731
BS	7.875	731	6980
DFD	8.5	55	5204
DFD	9.2	5204	6980

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	18	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	

ONE Time Zoned Parameters

Pass Log[5]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	65	25-May-2022 09:26:25	25-May-2022 09:39:07	6980.84	6349.66
EMXV	100	25-May-2022 09:39:07	25-May-2022 10:07:19	6349.66	4987.67

Pass Log[7]:Up

EMXV	100	25-May-2022 10:17:11	25-May-2022 11:44:50	4987.68	51.84
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All depth are at tool zero.

Composite 1

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.217167 Wireline_NPD-ThruBit-2022.0_12.0.217960

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[5]:Up	Up	4738.25 ft	6994.28 ft	25-May-2022 9:26:25 AM	25-May-2022 10:07:19 AM	ON	13.15 ft	Yes
ONE	Log[7]:Up	Up	51.57 ft	5016.82 ft	25-May-2022 10:16:26 AM	25-May-2022 11:44:50 AM	ON	14.84 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Occidental Petroleum Corporation Well:VARRA 10-2
Composite 1:S014

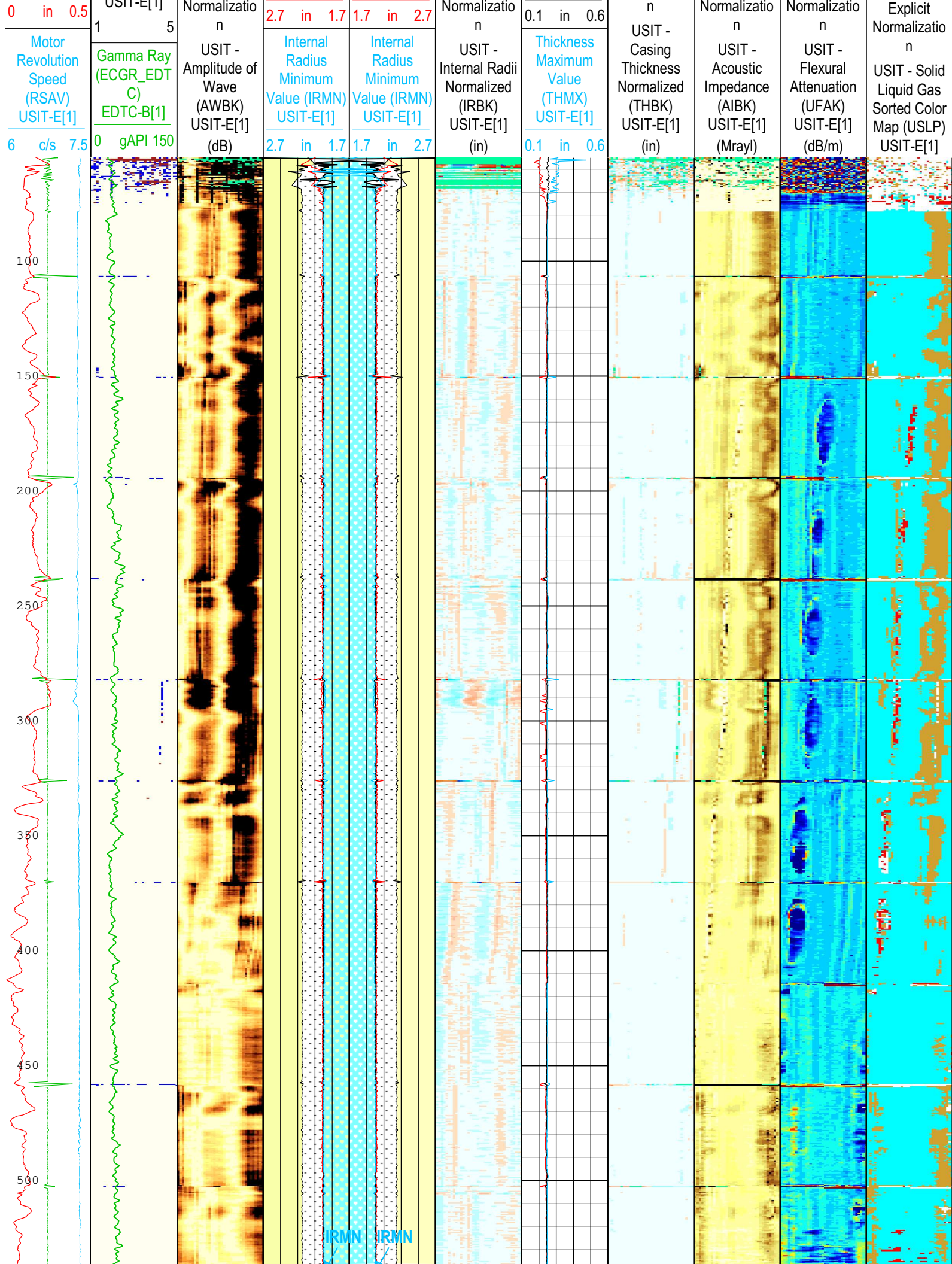
Description: USI IBC SLG Composite Format: Log (IBC SLG Composite 4.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2022 19:47:55

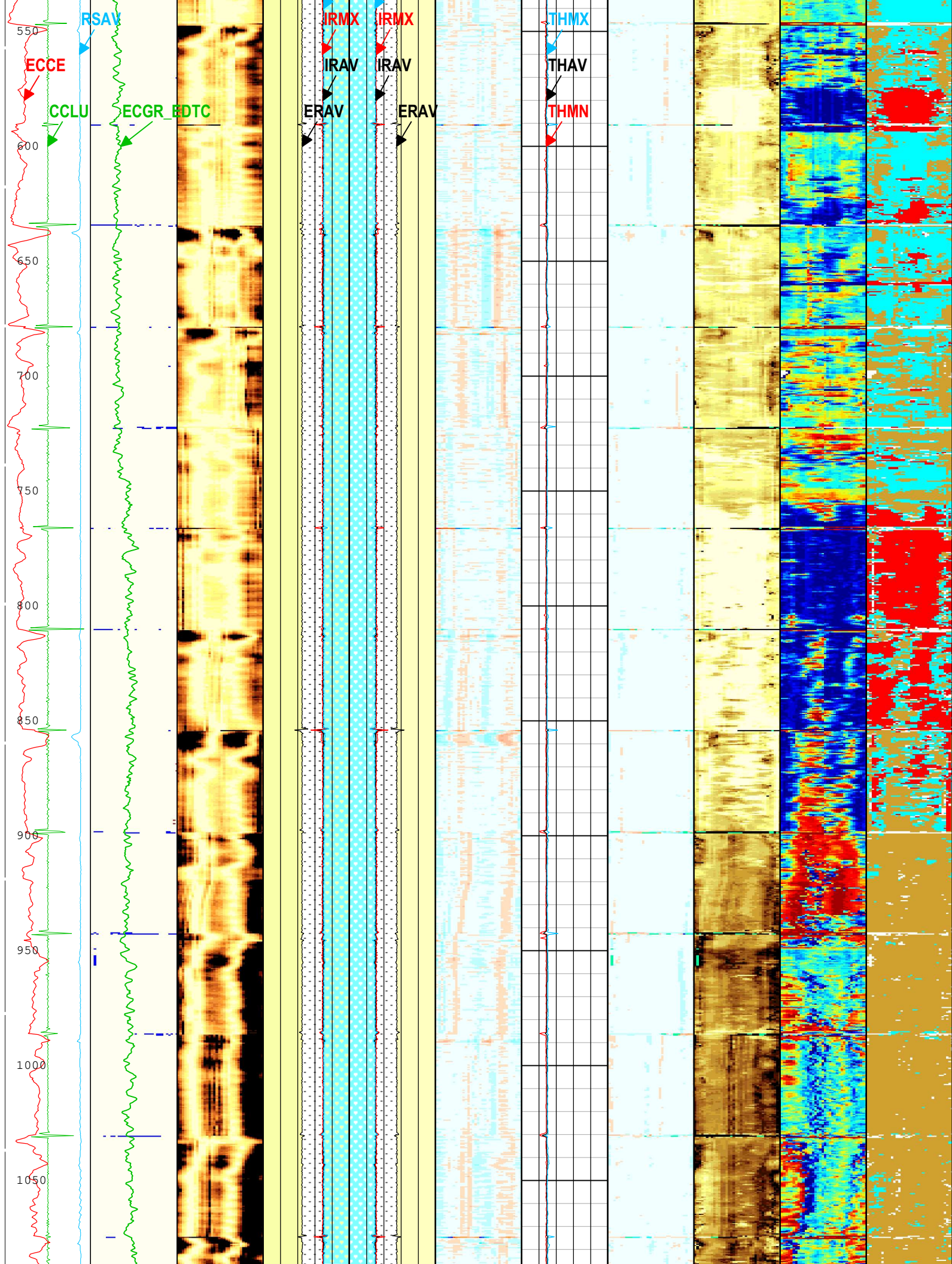
USIT Processing Flags (UFLG[0]) USIT-E[1]

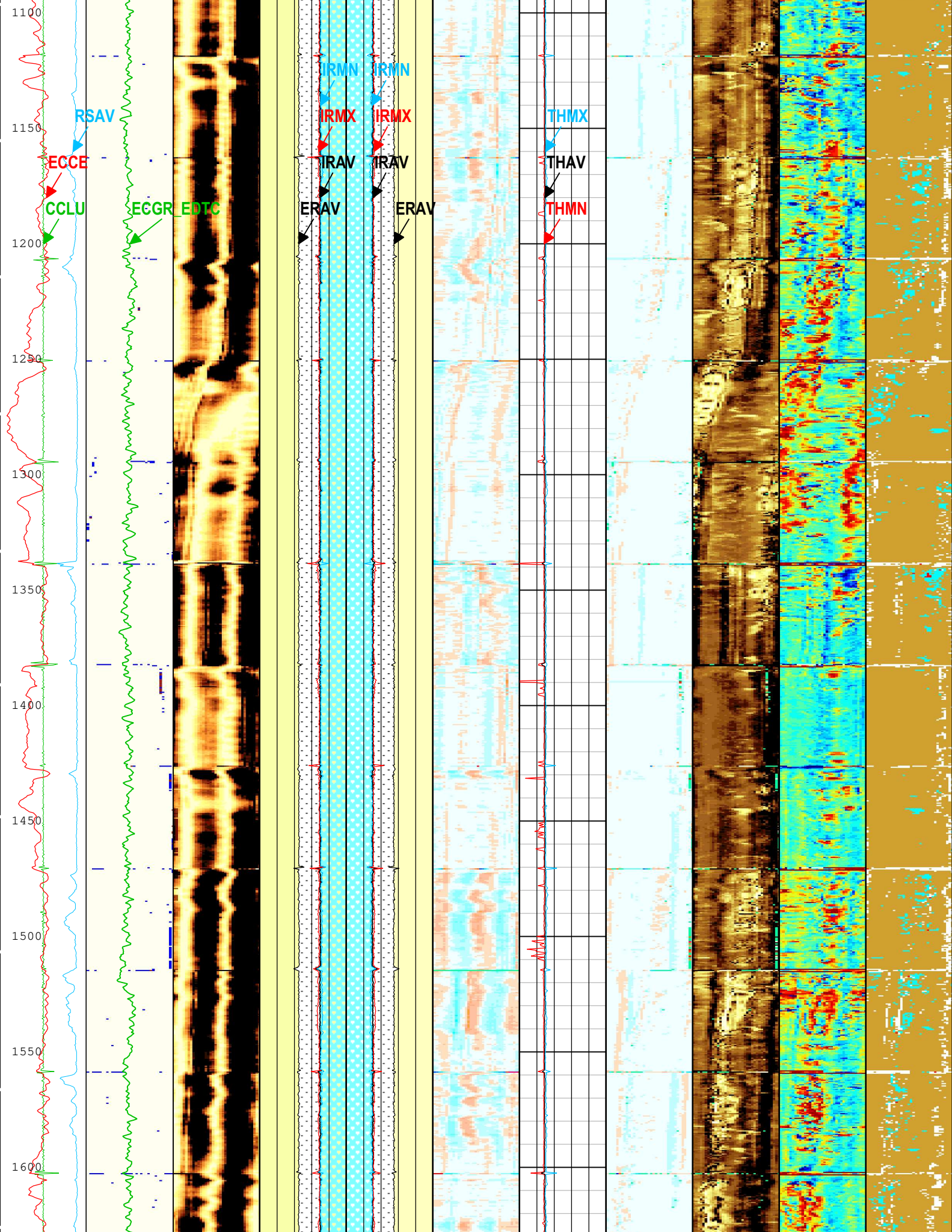
- 1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 -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

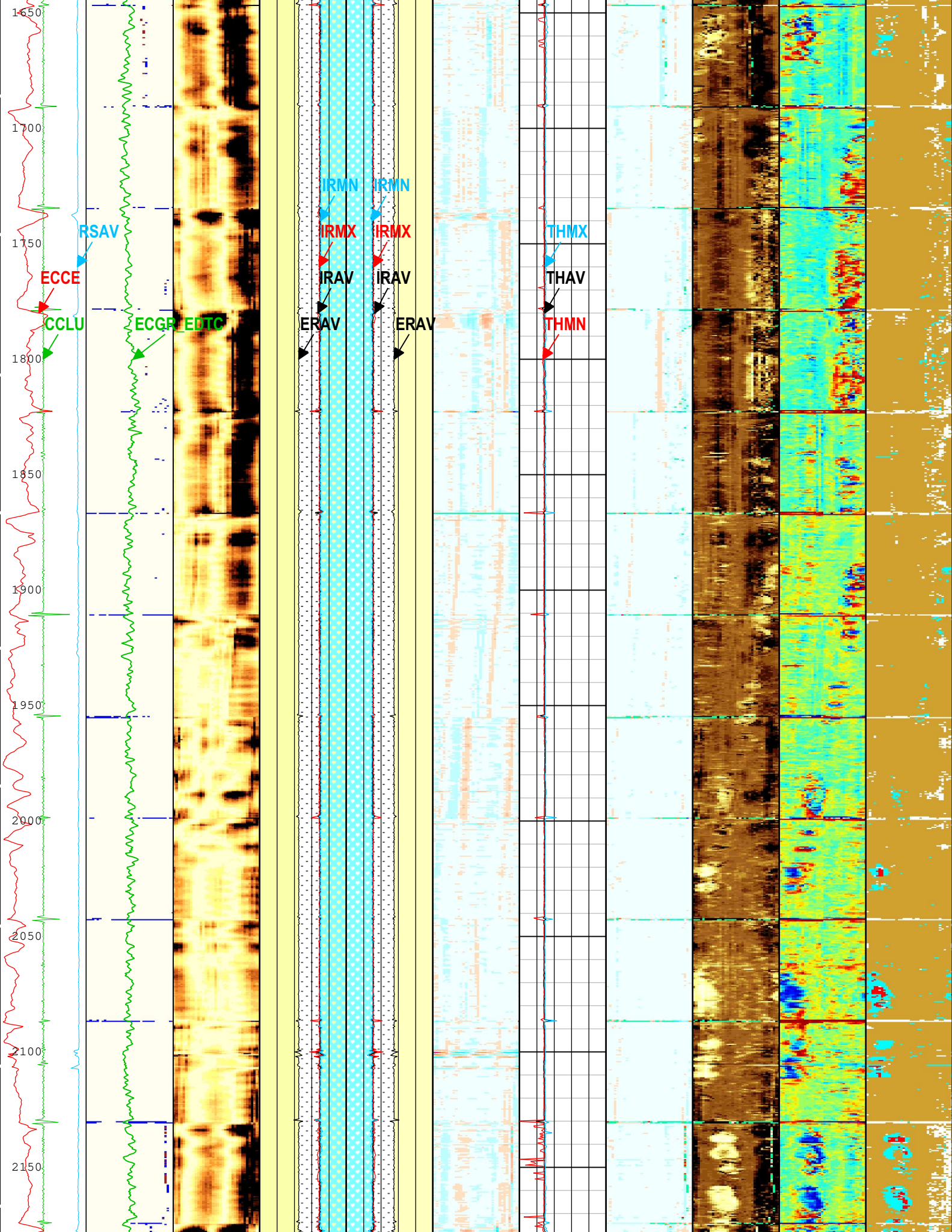
TIME_1900 - Time Marked every 60.00 (s)

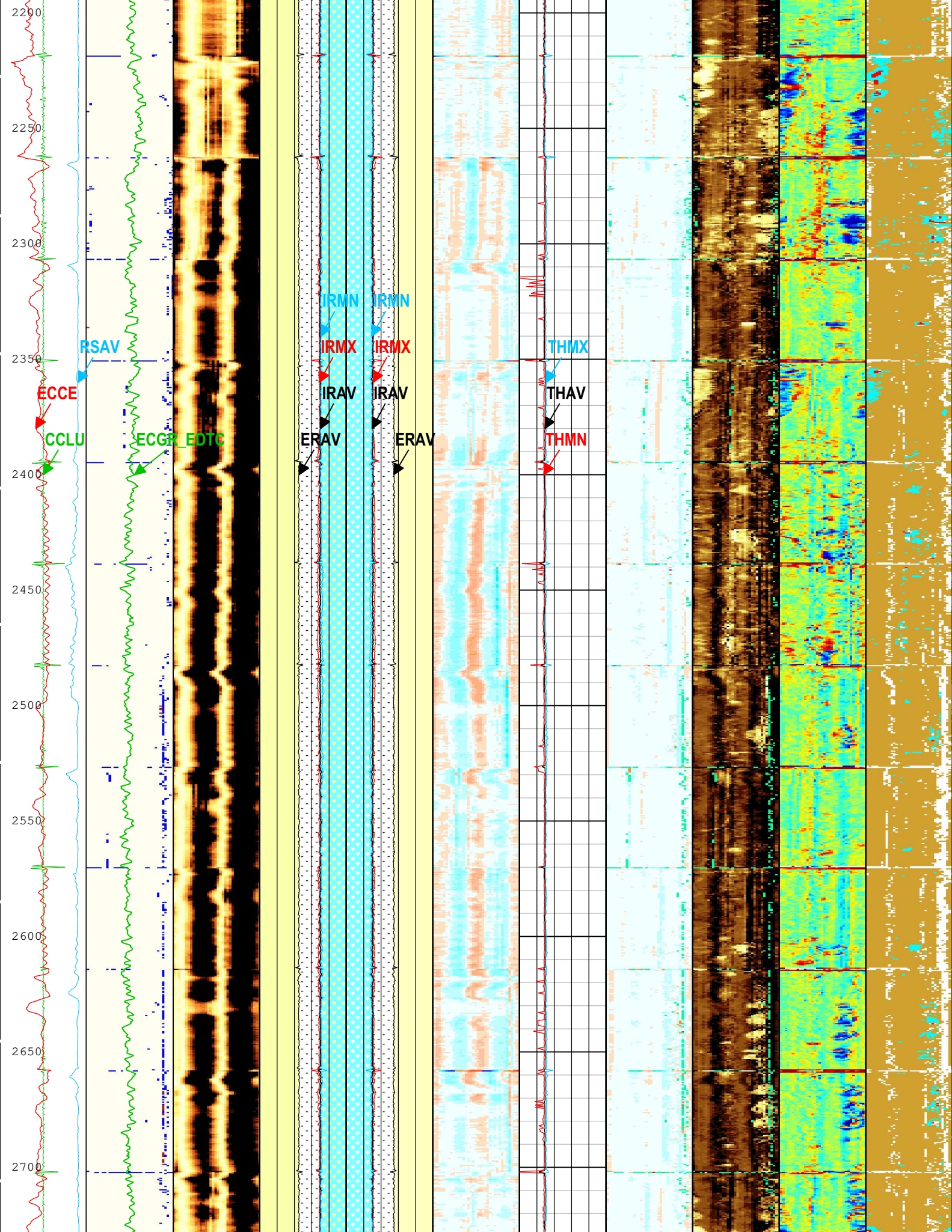
<p>Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]</p> <p>-20 in 20</p>	<p>Amplitude of Eccentering (ECCE) USIT-E[1]</p> <p>USIT Processing Flags (UFLG[0]) USIT-E[1]</p>	<p>External Radii Average (ERAV) USIT-E[1]</p> <p>2.7 in 1.7</p>	<p>External Radii Average (ERAV) USIT-E[1]</p> <p>1.7 in 2.7</p>	<p>Internal Radius Averaged Value (IRAV) USIT-E[1]</p> <p>2.7 in 1.7</p>	<p>Internal Radius Averaged Value (IRAV) USIT-E[1]</p> <p>1.7 in 2.7</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>
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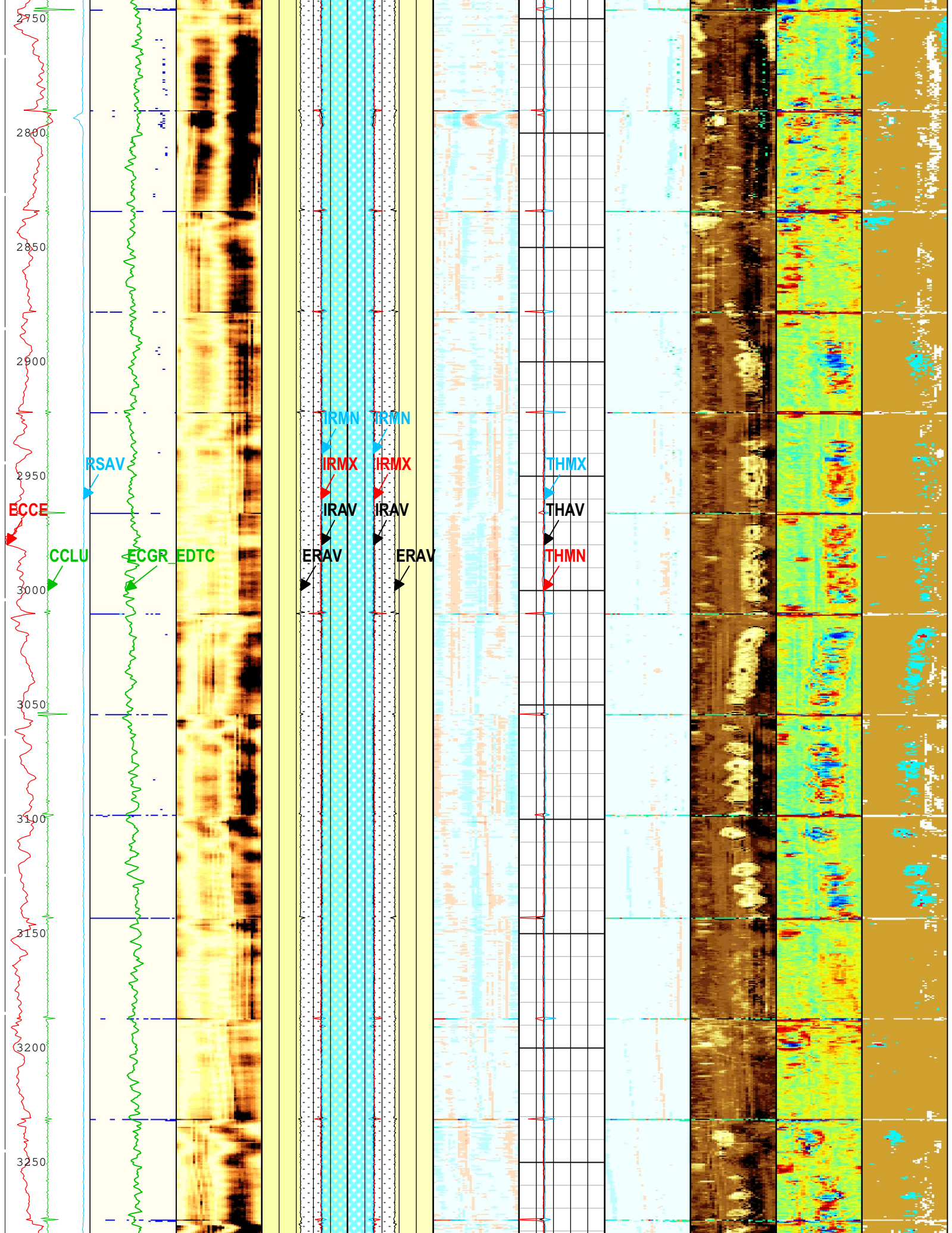


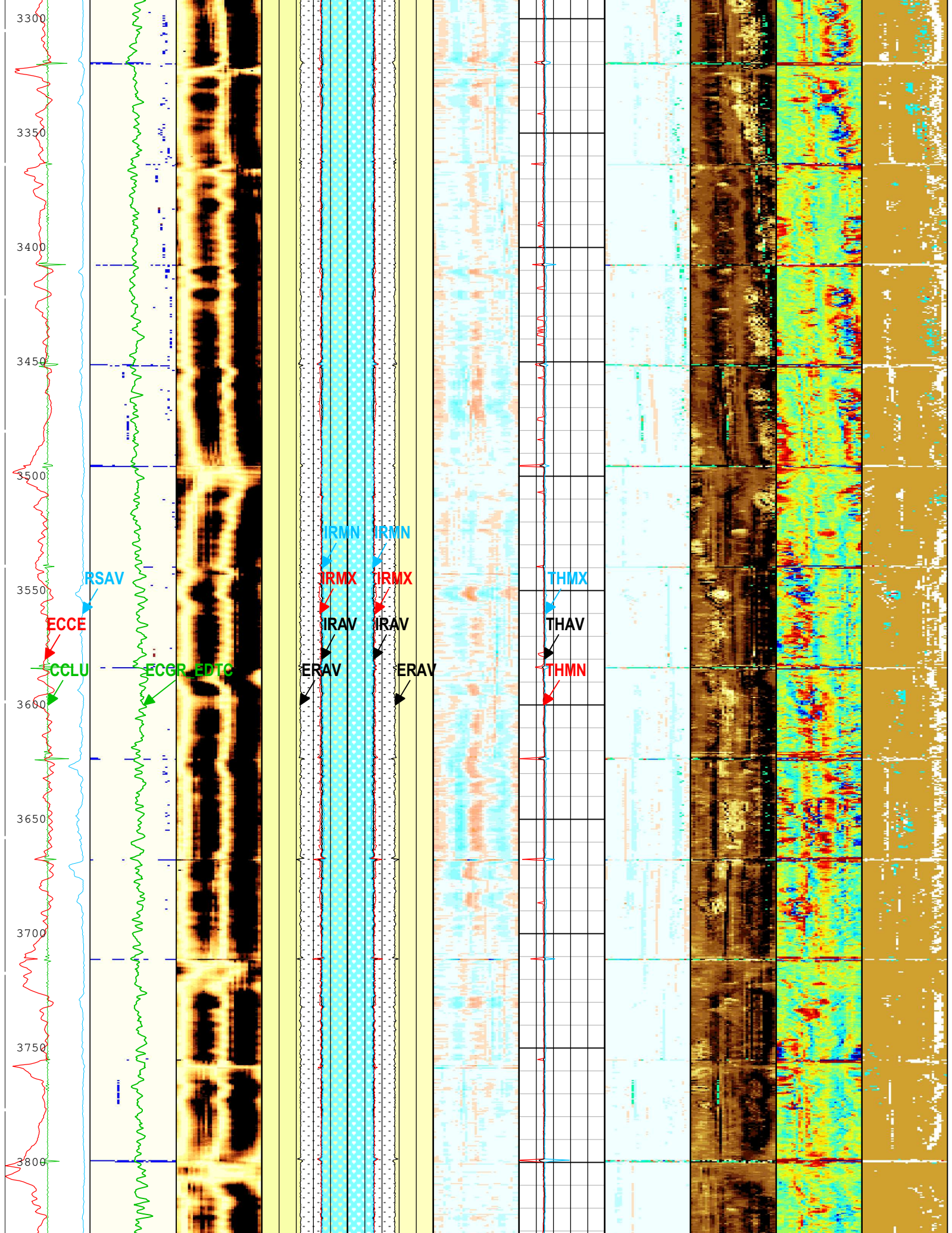


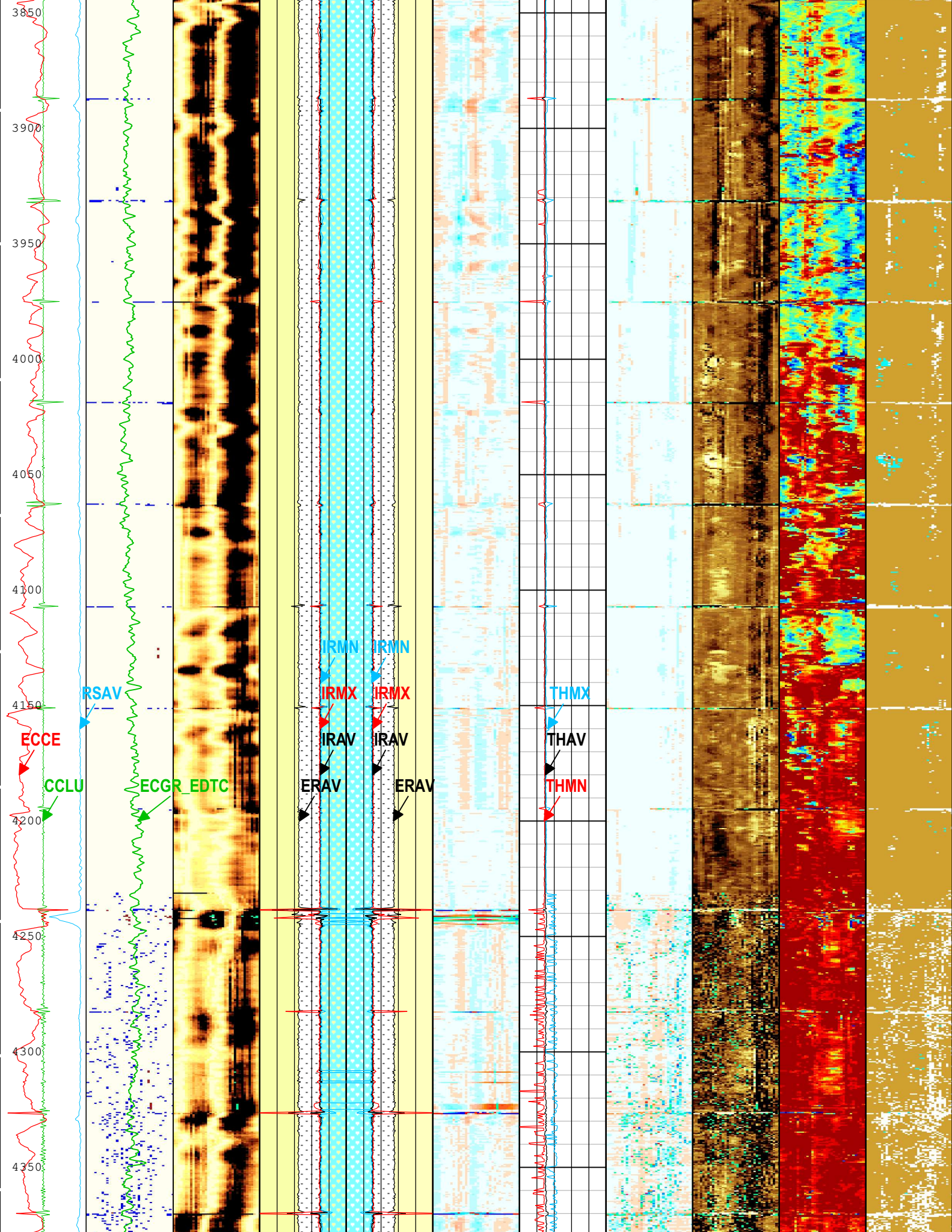


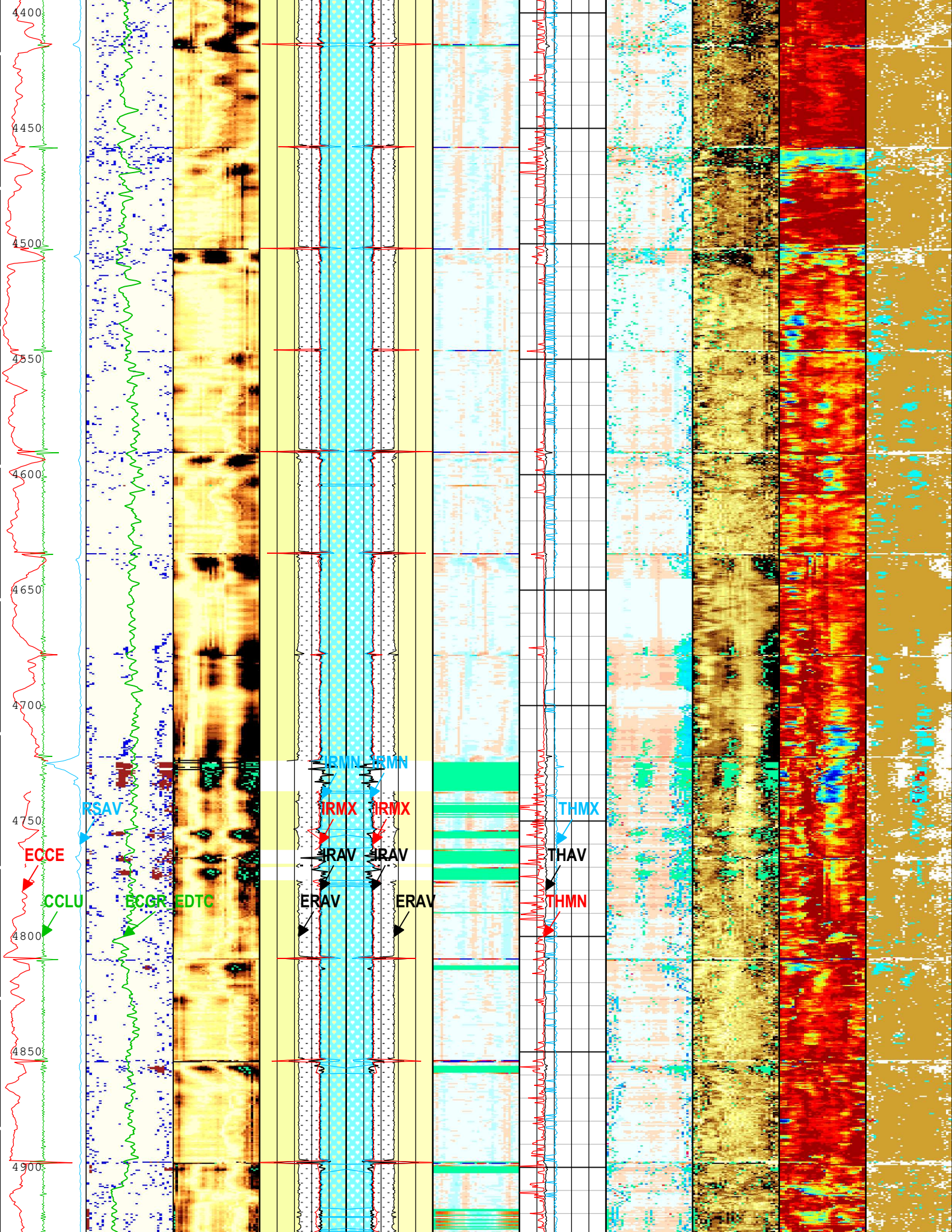


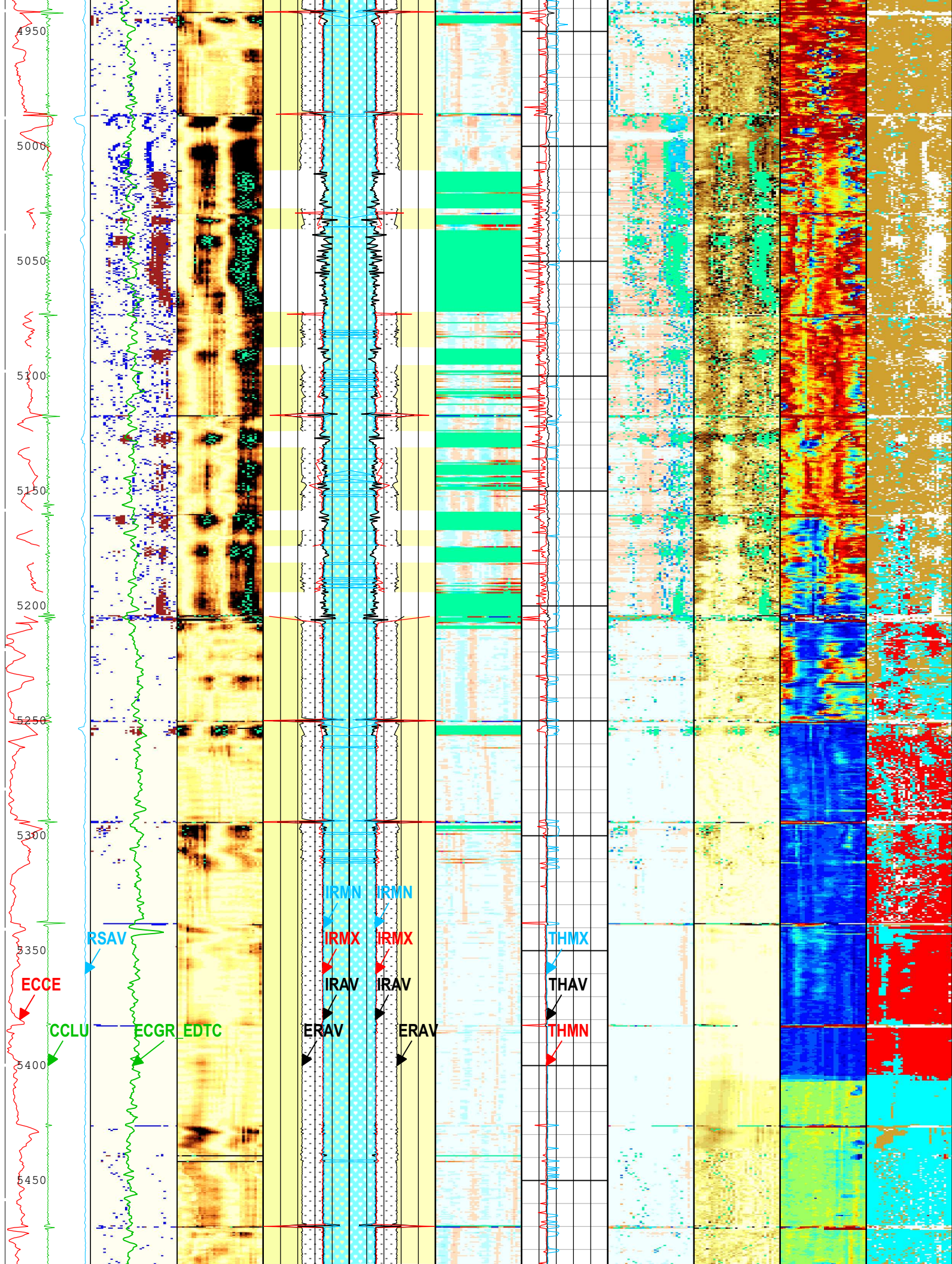


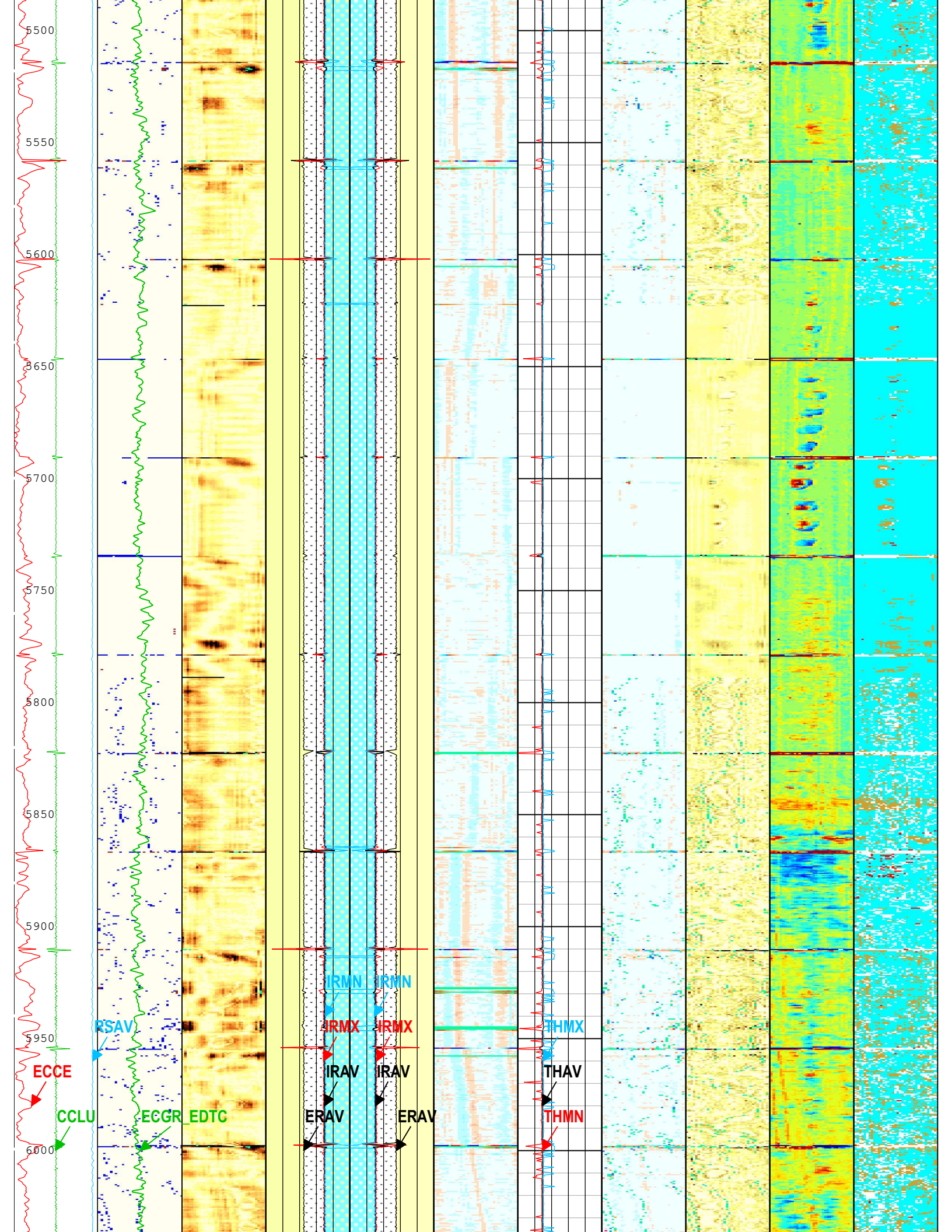


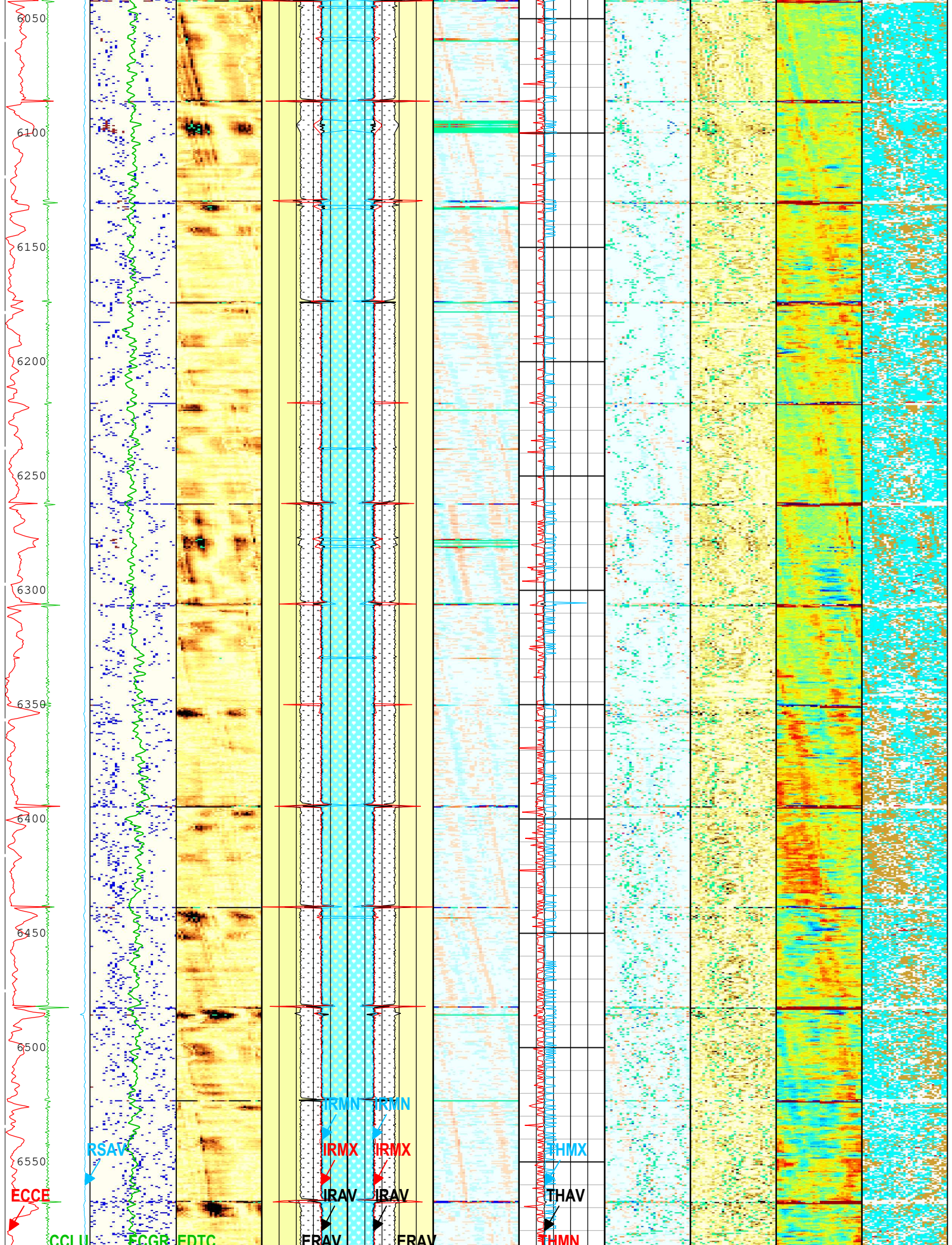


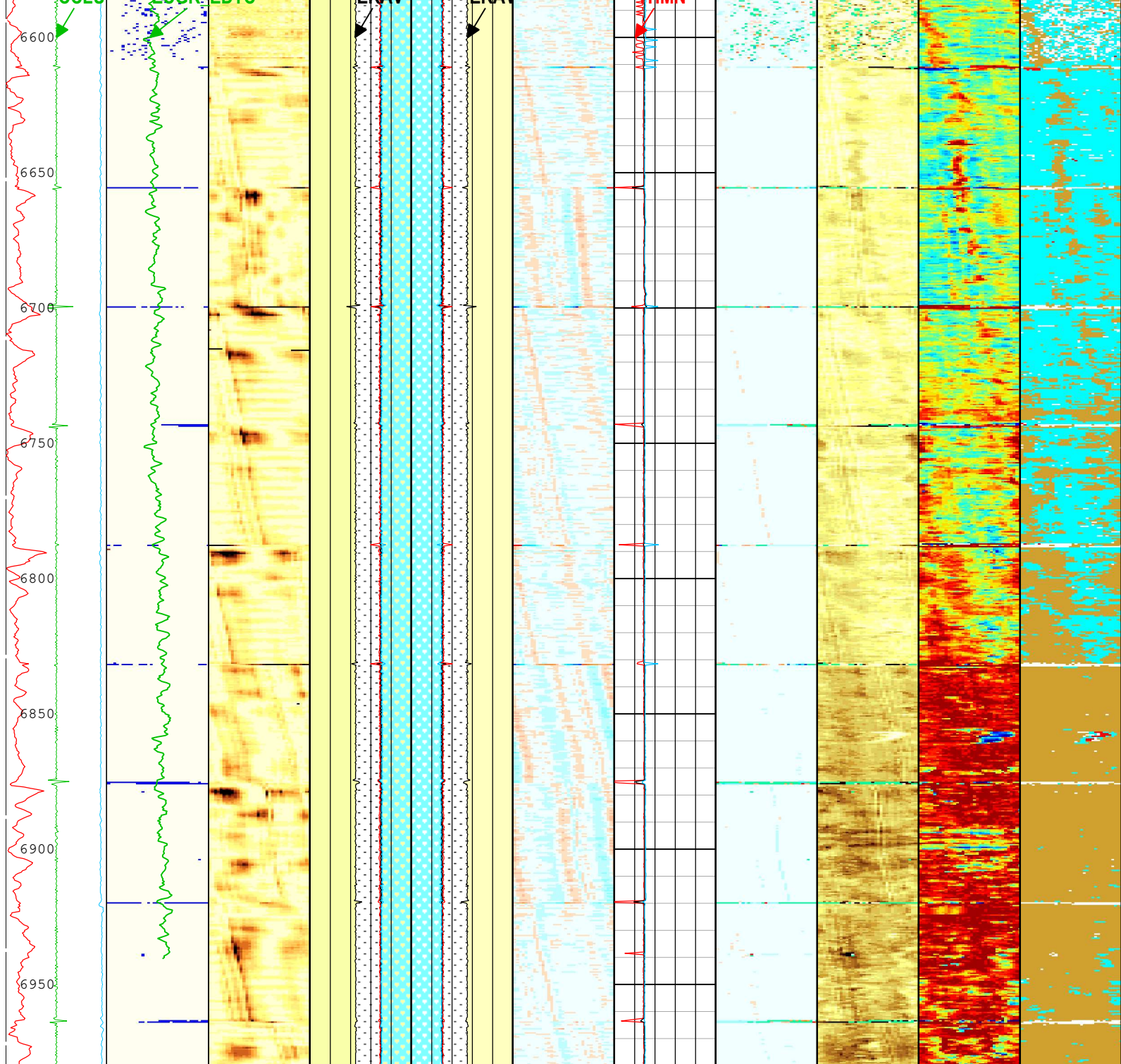












Casing Collar Locator Ultrasonic (CCLU) USIT-E[1] -20 in 20	Absent 1.500 3.500 Explicit Normalization	Absent -5.200 -3.600 -2.000 -0.400 Explicit Normalization	External Radii Average (ERAV) USIT-E[1] 2.7 in 1.7	External Radii Average (ERAV) USIT-E[1] 1.7 in 2.7	Absent -0.051 -0.012 0.028 0.068 Explicit Normalization	Thickness Minimum Value (THMN) USIT-E[1] 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
Amplitude of Eccentering (ECCE) USIT-E[1] 0 in 0.5	USIT - USIT Processing Flags (UFLG) USIT-E[1] USIT Processing Flags (UFLG[0]) USIT-E[1]	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]
Motor Revolution Speed (RSAV) USIT-E[1] 6 in 7.5	1 5 Gamma Ray (GCR) USIT-E[1]		Internal Radius Maximum Value (IRMX) USIT-E[1]	Internal Radius Maximum Value (IRMX) USIT-E[1]	Thickness Maximum Value (THMX) USIT-E[1]					

C/S 7.3 (ECGR_EDT
C)
EDTC-B[1]
0 gAPI 150

2.7 in 1.7	1.7 in 2.7
Internal Radius Minimum Value (IRMN) USIT-E[1]	Internal Radius Minimum Value (IRMN) USIT-E[1]
2.7 in 1.7	1.7 in 2.7

0.1 in 0.6

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

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: 23-May-2022 19:47:55

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	8196	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	Depth Zoned	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_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	0.74	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
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	1.15	
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	80	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.67	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-18	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	1.7	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	55	731
BS	7.875	731	6980
DFD	8.5	55	5204
DFD	9.2	5204	6980

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	18	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[5]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	65	25-May-2022 09:26:25	25-May-2022 09:39:07	6980.84	6349.66
EMXV	100	25-May-2022 09:39:07	25-May-2022 10:07:19	6349.66	4987.67

Pass Log[7]:Up

EMXV	100	25-May-2022 10:17:11	25-May-2022 11:44:50	4987.68	51.84
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All depth are at tool zero.

Composite 1

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.217167 Wireline_NPD-ThruBit-2022.0_12.0.217960

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[5]:Up	Up	4738.25 ft	6994.28 ft	25-May-2022 9:26:25 AM	25-May-2022 10:07:19 AM	ON	13.15 ft	Yes
ONE	Log[7]:Up	Up	51.57 ft	5016.82 ft	25-May-2022 10:16:26 AM	25-May-2022 11:44:50 AM	ON	14.84 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Occidental Petroleum Corporation Well:VARRA 10-2
Composite 1:S014

Description: USI Goodwin Format: Log (IBC Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 26-May-2022 19:48:13

TIME_1900 - Time Marked every 60.00 (s)

Minimum

Gamma Ray (ECGR_EDTC) EDTC-B[1]]
0 150 gAPI

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

Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 8

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

Minimum Flexural Attenuation (U-USIT_UFAN) USIT-E[1]

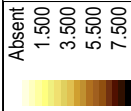
0 150 dB/m

Average Flexural Attenuation (U-USIT_UFAV) USIT-E[1]

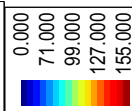
0 150 dB/m

Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E[1]

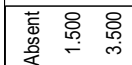
0 150 dB/m



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



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



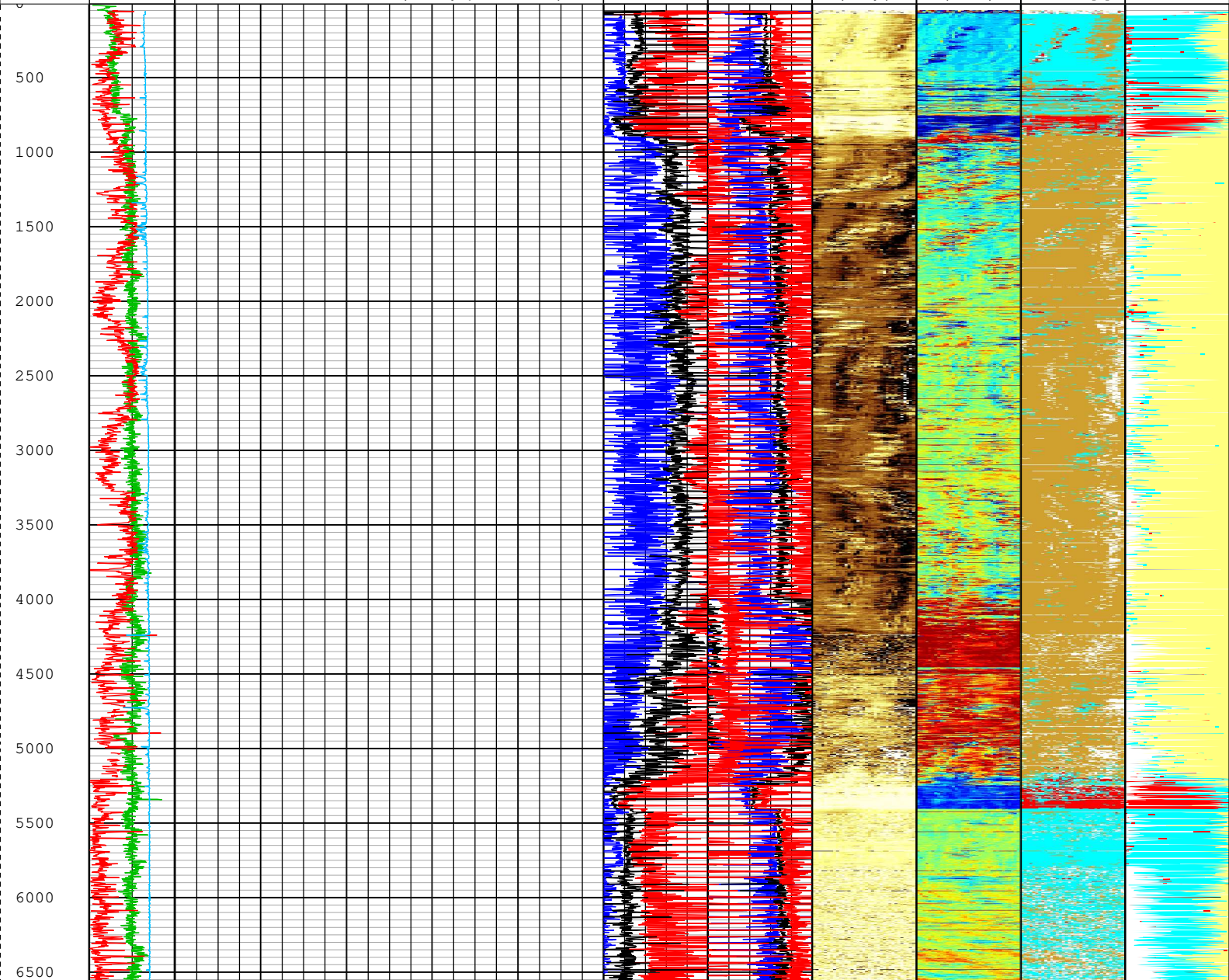
Explicit Normalization
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]

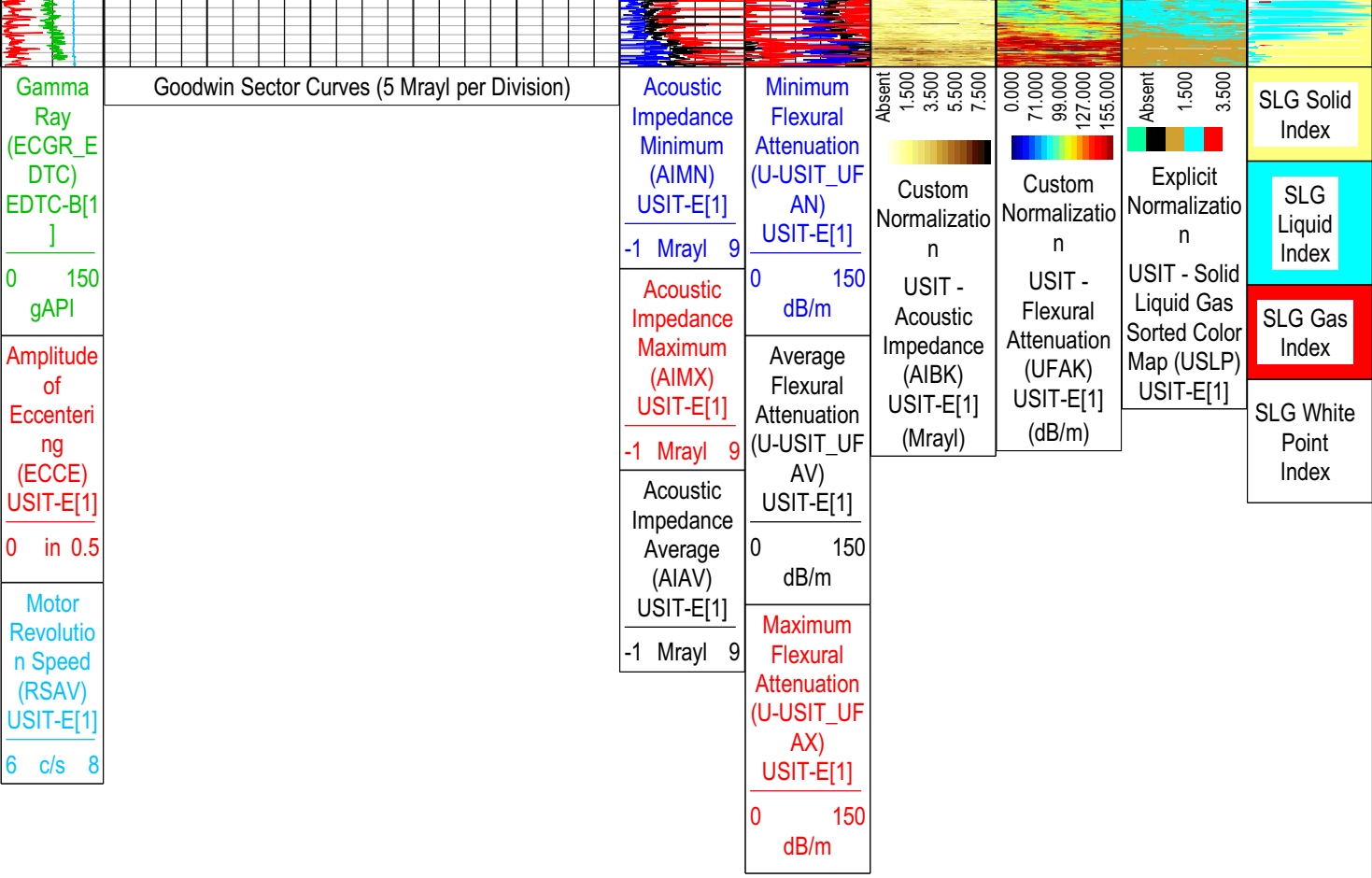
SLG Solid Index

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: 26-May-2022 19:48:13

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	8196	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	Depth Zoned	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_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	0.74	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
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	1.15	

IHDL	Minimum Search Thickness (percentage of nominal)	USIT-E	80	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.67	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-18	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	1.7	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	11.5	731
BS	7.875	731	6980
DFD	8.5	11.5	5204
DFD	9.2	5204	6980

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	18	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	

ONE Time Zoned Parameters

Pass Log[5]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	65	25-May-2022 09:26:25	25-May-2022 09:39:07	6980.84	6349.66
EMXV	100	25-May-2022 09:39:07	25-May-2022 10:07:19	6349.66	4987.67

Pass Log[7]:Up

EMXV	100	25-May-2022 10:17:11	25-May-2022 11:44:50	4987.68	51.84
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All depth are at tool zero.

ONE

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.217167
	Wireline_NPD-ThruBit-2022.0_12.0.217960

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
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ONE	Log[2]:Up	Up	777.57 ft	1004.93 ft	25-May-2022 8:43:38 AM	25-May-2022 8:48:02 AM	ON	2.86 ft	Yes
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All depths are referenced to toolstring zero

Log Company: Occidental Petroleum Corporation Well: VARRA 10-2
ONE: Log[2]:Up:S014

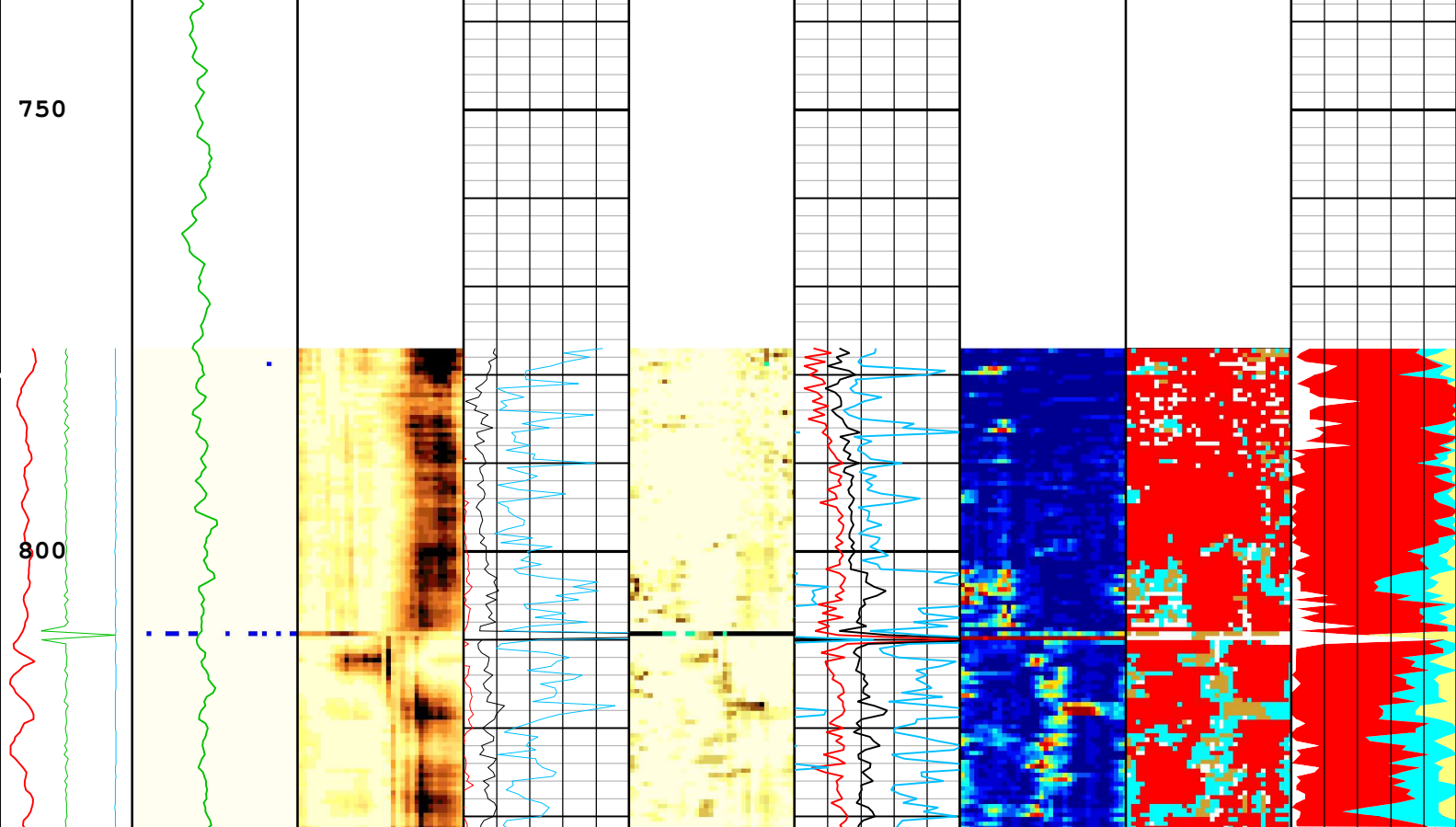
Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 26-May-2022 19:48:18

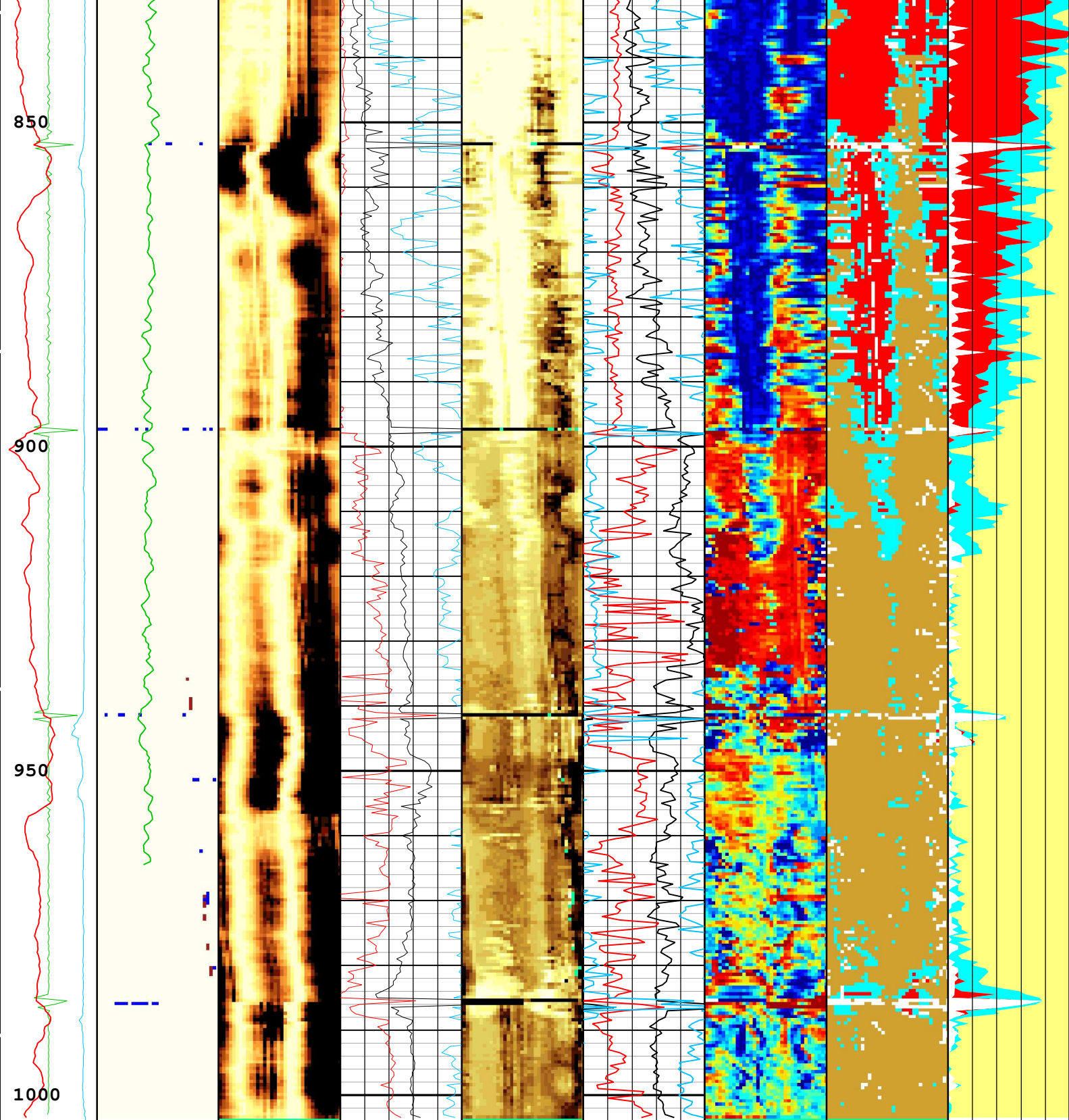
TIME_1900 - Time Marked every 60.00 (s)

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

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

Absent 1.500 3.500
 Explicit Normalization
 USIT - USIT Processing Flags (UFLG) USIT-E
 USIT Processing Flags (UFLG[0]) USIT-E
 1 5

Absent -5.200 -3.600 -2.000 -0.400
 Explicit Normalization
 USIT - Amplitude of Wave (AWBK) USIT-E (dB)
 -1 Mrayl 9
 Acoustic Impedance

Acoustic Impedance Minimum (AIMN) USIT-E
 -1 Mrayl 9
 Acoustic Impedance Average (AIAV) USIT-E
 -1 Mrayl 9
 Acoustic Impedance

Absent 1.500 3.500 5.500 7.500
 Custom Normalization
 USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)

Minimum Flexural Attenuation (U-USIT_UFAN) USIT-E
 0 dB/m 150
 Average Flexural Attenuation (U-USIT_UFAV) USIT-E
 0 dB/m 150
 Maximum Flexural Attenuation (U-USIT_UFAM) USIT-E

Absent 64.000 92.000 120.000 148.000
 Custom Normalization
 USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)

Absent 0.500 1.500 2.500 3.500
 Explicit Normalization
 USIT - Solid Liquid Gas Sorted Color Map (USLG) USIT-E

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

Revolution
Speed
(RSAV)
USIT-E
6 c/s 7.5

Gamma Ray
(ECGR_EDTC)
EDTC-B
0 gAPI 150

Maximum
(AIMX) USIT-E
-1 Mrayl 9

Flexural
Attenuation
(U-USIT_UFAX)
USIT-E
0 dB/m 150

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: 26-May-2022 19:48:18

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	7.875	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	8196	ft
CDEN	Cement Density	USIT-E	0	g/cm3
CDEN	Cement Density	EDTC-B	2	g/cm3
CMTY(U-USIT_CENT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.5	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	0.74	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
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	1.15	
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
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	80	%
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	USIT Flexural Attenuation Offset	USIT-E	-18	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	1.7	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

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	18	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	65	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	

ONE

Software Version

Acquisition System	Version
Maxwell 2022.0	12.0.215014.3100
Application Patch	Wireline_Hotfix-Mandatory-2022.0_12.0.217167 Wireline_NPD-ThruBit-2022.0_12.0.217960

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	777.57 ft	1004.93 ft	25-May-2022 8:43:38 AM	25-May-2022 8:48:02 AM	ON	2.86 ft	Yes

All depths are referenced to toolstring zero

Log

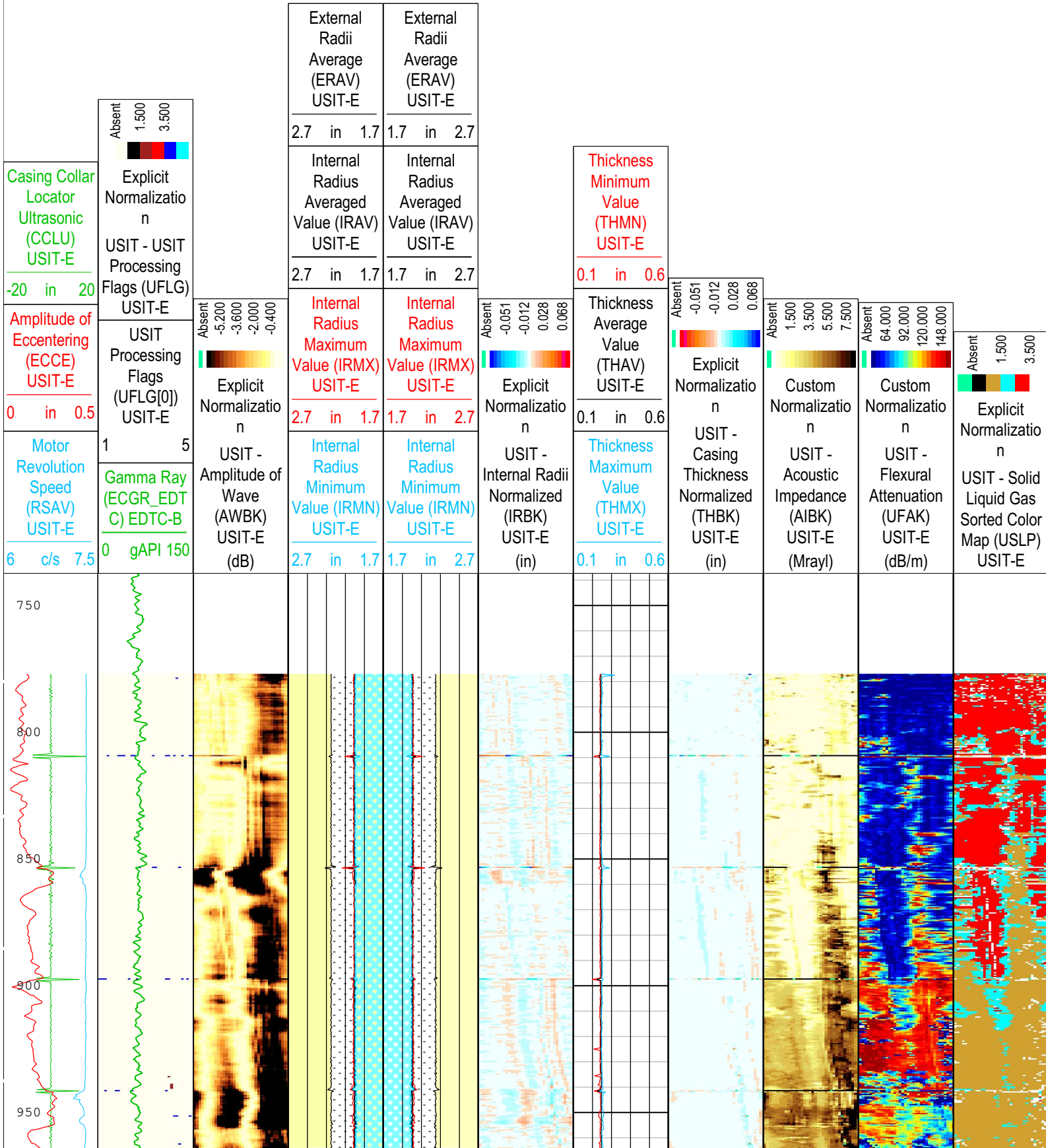
Company:Occidental Petroleum Corporation Well:VARRA 10-2

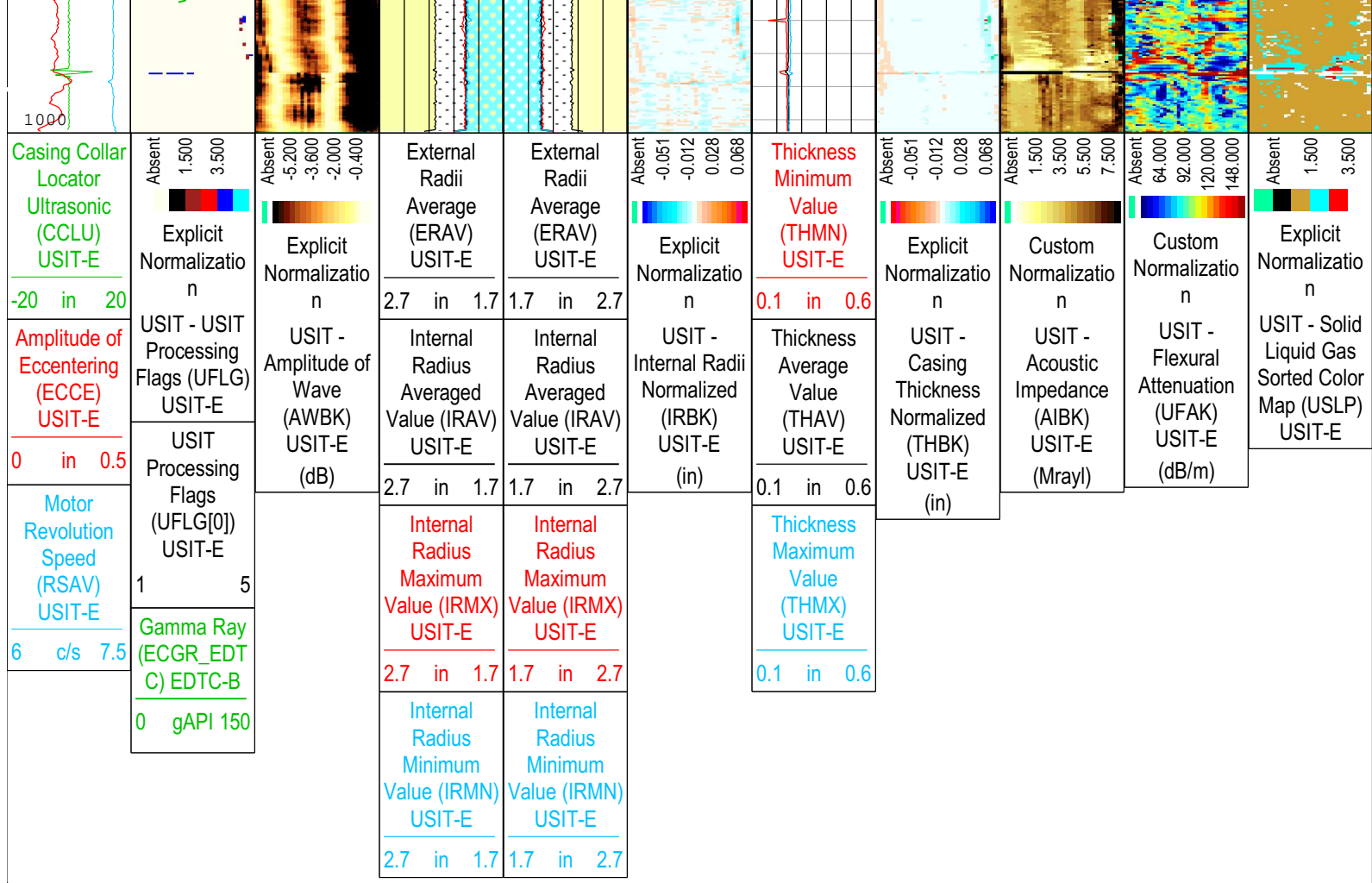
ONE: Log[2]:Up:S014

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)





TIME_1900 - Time Marked every 60.00 (s)

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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 Composite Format: Log (IBC SLG Composite 4.5IN) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
 Creation Date: 26-May-2022 19:48:23

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	7.875	in
CBLO	Casing Bottom (Logger)	WLSESSION	8196	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	8.5	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_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	0.74	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	IBC_FRP_OFFSET	
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	1.15	
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	80	%
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U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-18	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	1.7	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
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Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
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AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
EMXV	EMEX Voltage	USIT-E	65	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	

XYZ

Company:Occidental Petroleum Corporation Well:VARRA 10-2

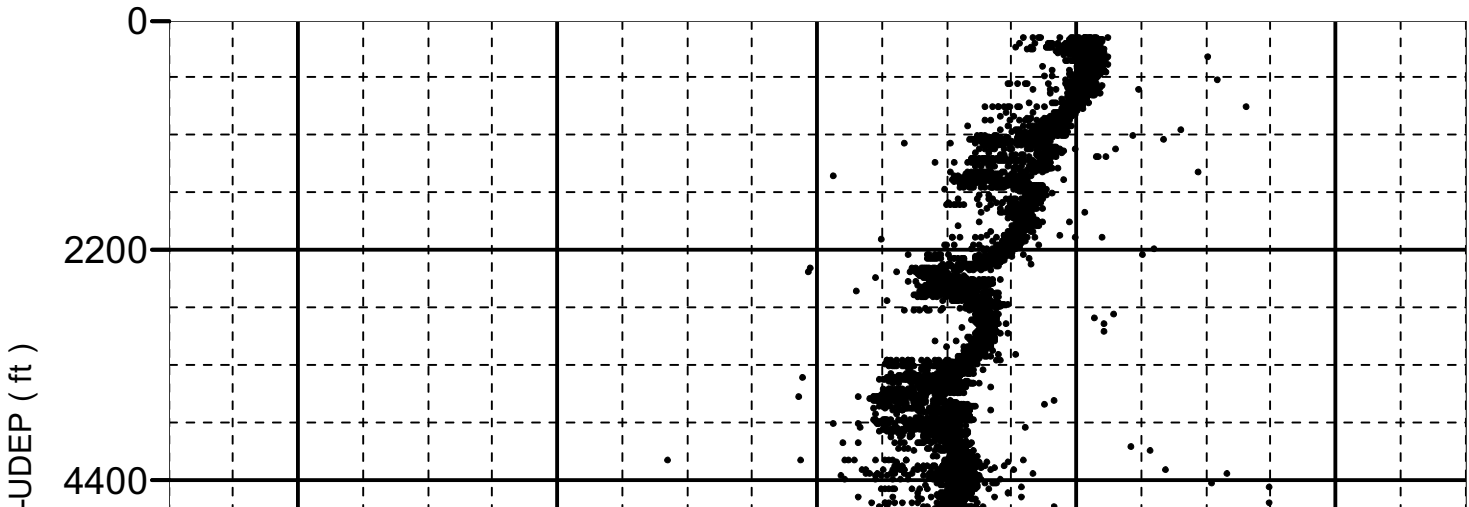
Composite 1:S014

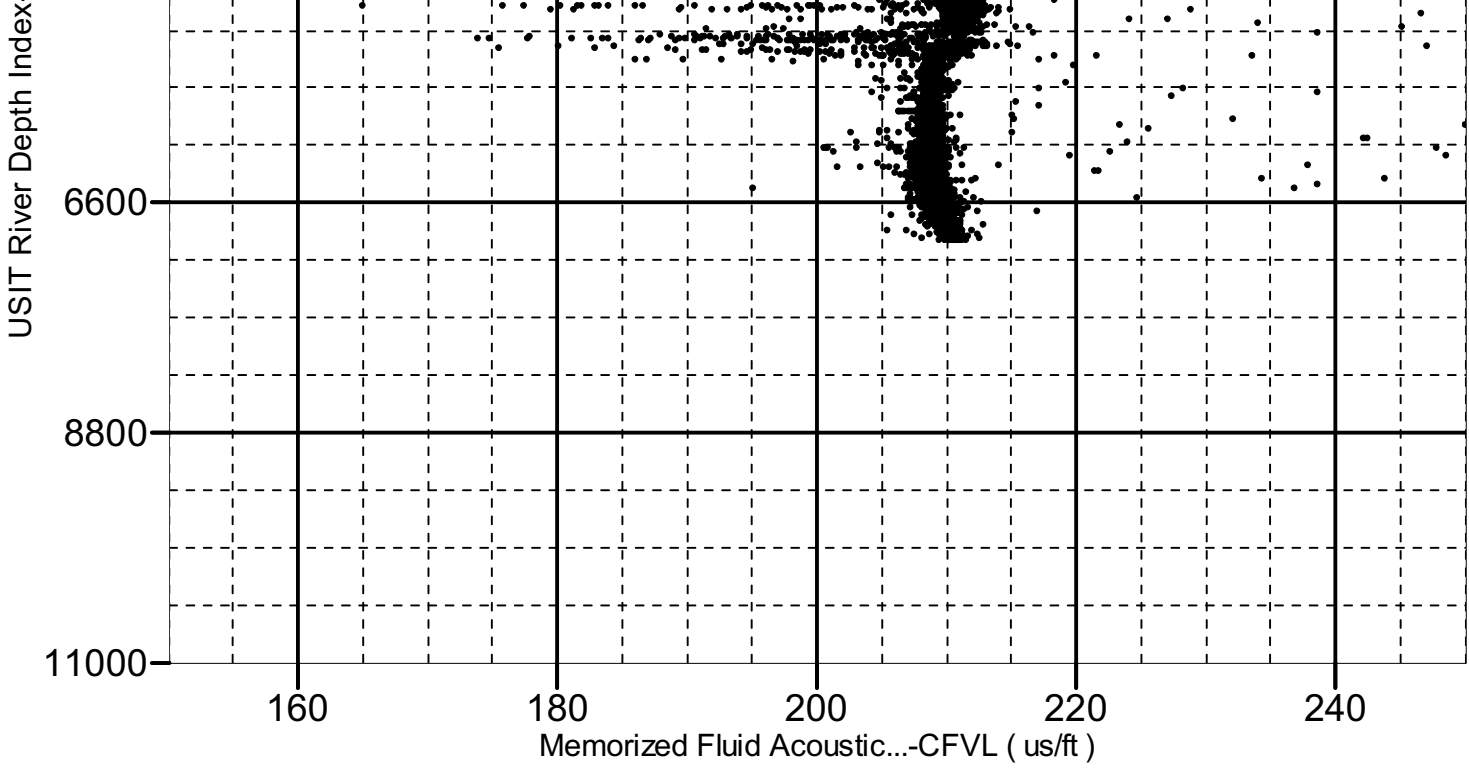
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 55.00 to 6980.00 ft

● CFVL-UDEP





XYZ

Company:Occidental Petroleum Corporation Well:VARRA 10-2

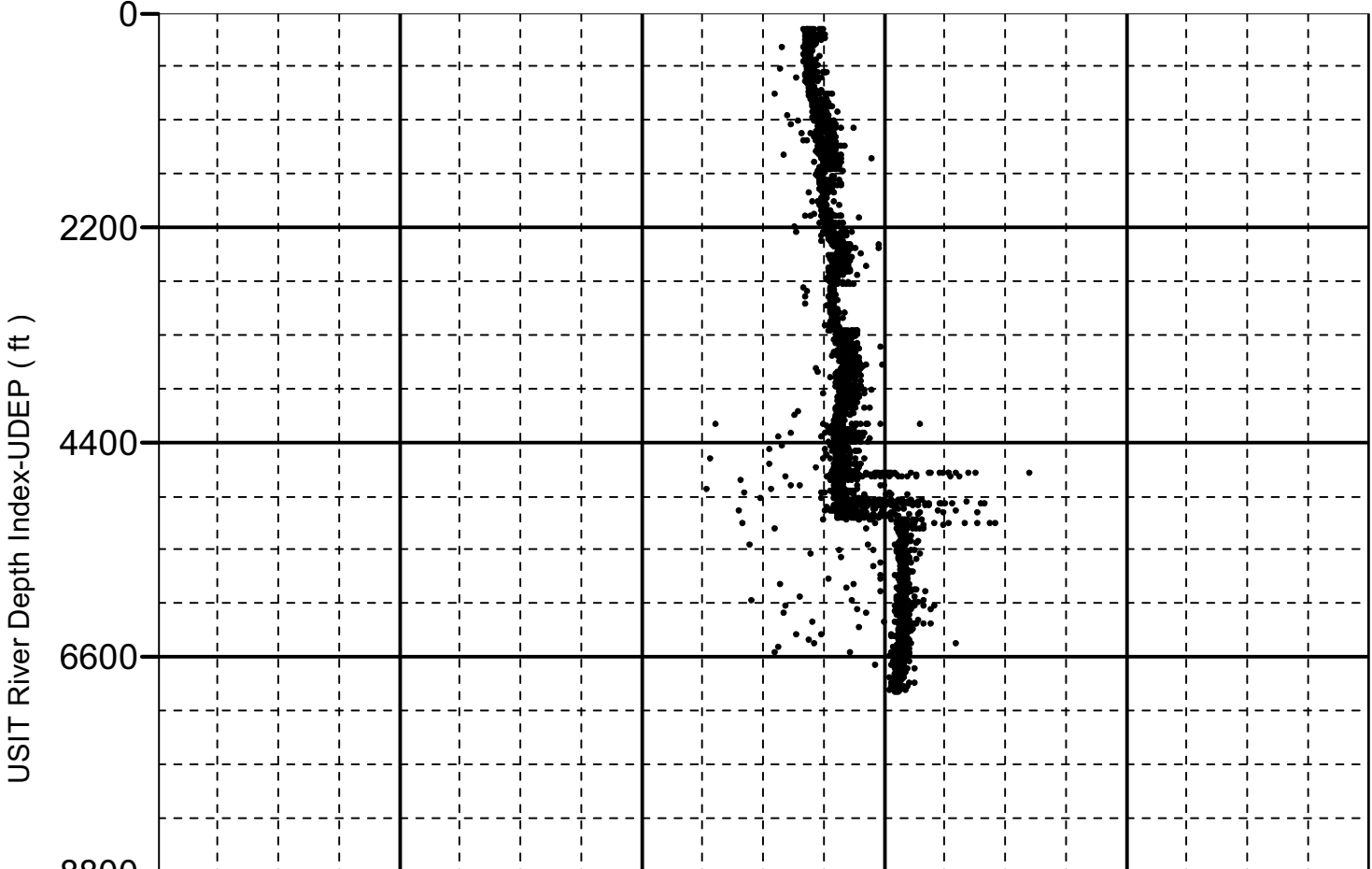
Composite 1:S014

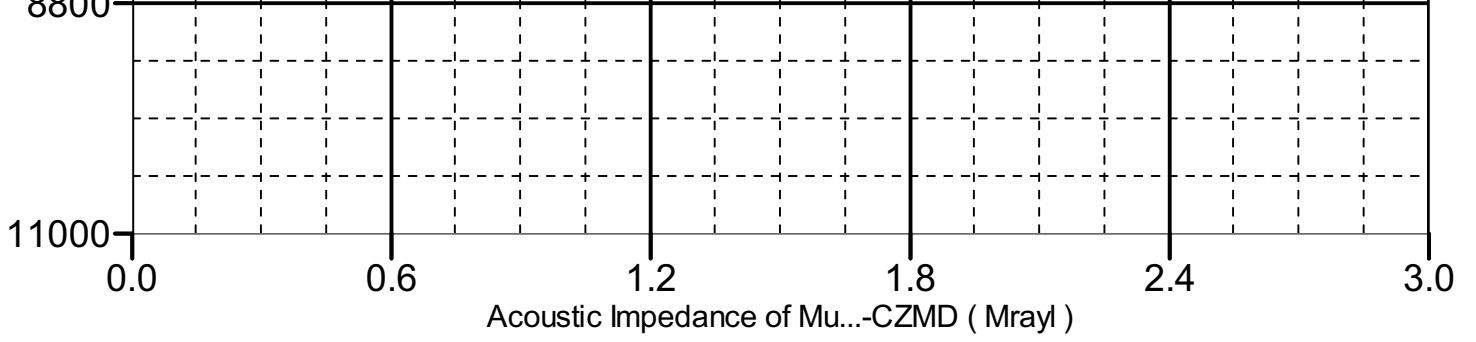
Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 55.00 to 6980.00 ft

● CZMD-UDEP





Company: Occidental Petroleum Corporation

Schlumberger

Well: VARRA 10-2

Field: WATTENBERG

County: Weld

Country: USA

Isolation Scanner

Cement Evaluation

