Schlumberger

Company: Occidental Petroleum

Well: Bierig-UPRR 42-35

Field: Wattenberg

County: Weld State: Colorado

Isolation Scanner

Cement Bond Log

Gamma Ray - CCL

County: Weld
Field: Wattenberg
Location: SENE S35 T4N R66W
Well: Bierig-UPRR 42-35
Company: Occidental Petroleum

Location:
SENE S35 T4N R66W
1980' FNL & 780' FSL

Elev.: K.B. 4816.00 ft
G.L. 4806.00 ft
D.F. 4814.00 ft

Permanent Datum: Ground Level Elev.: 4806.00 f
Log Measured From: Kelly Bushing 10.00 ft above Perm.Datum
Drilling Measured From: Kelly Bushing

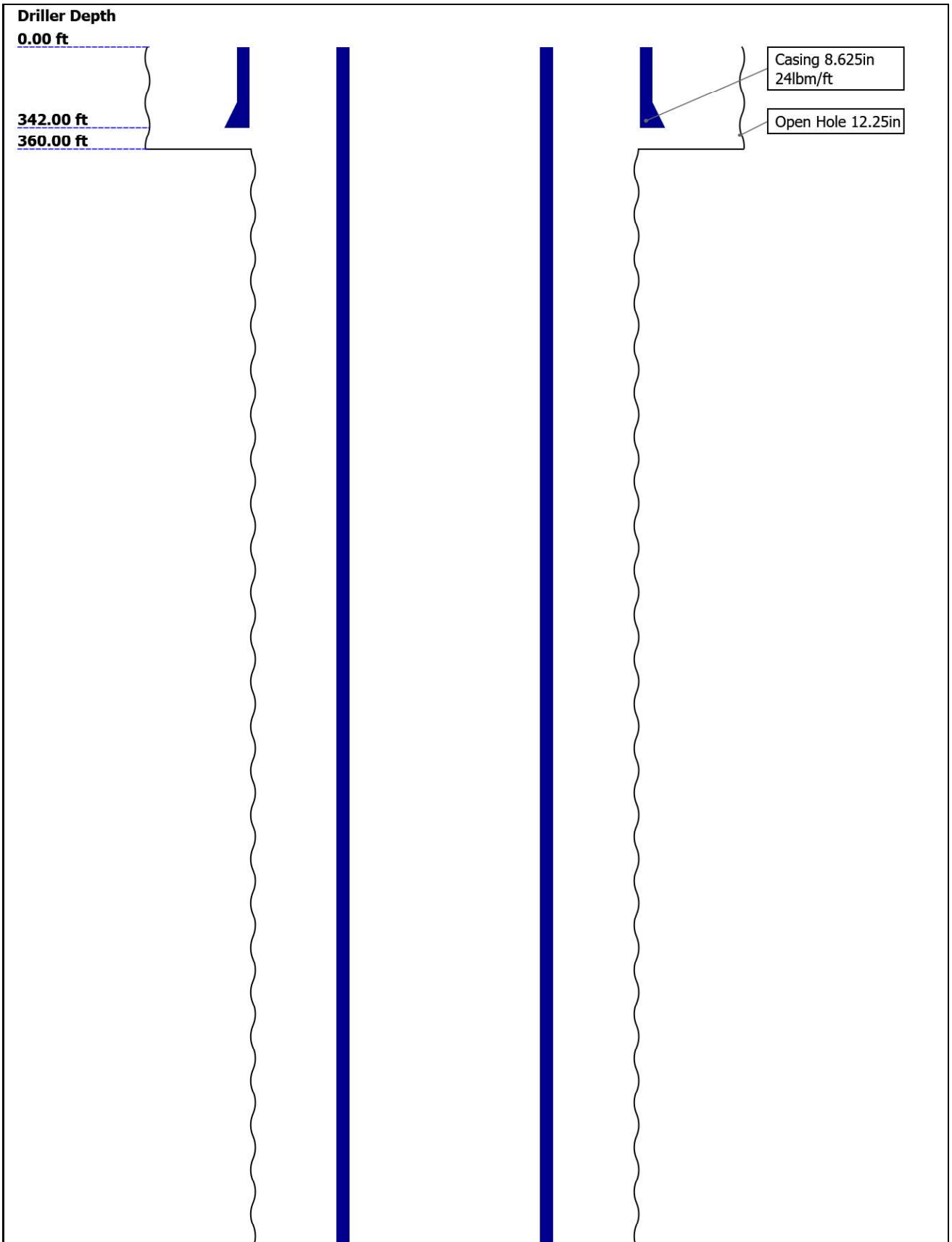
API Serial No.	Section:	Township:	Range:
05-123-12700	35	4N	66W

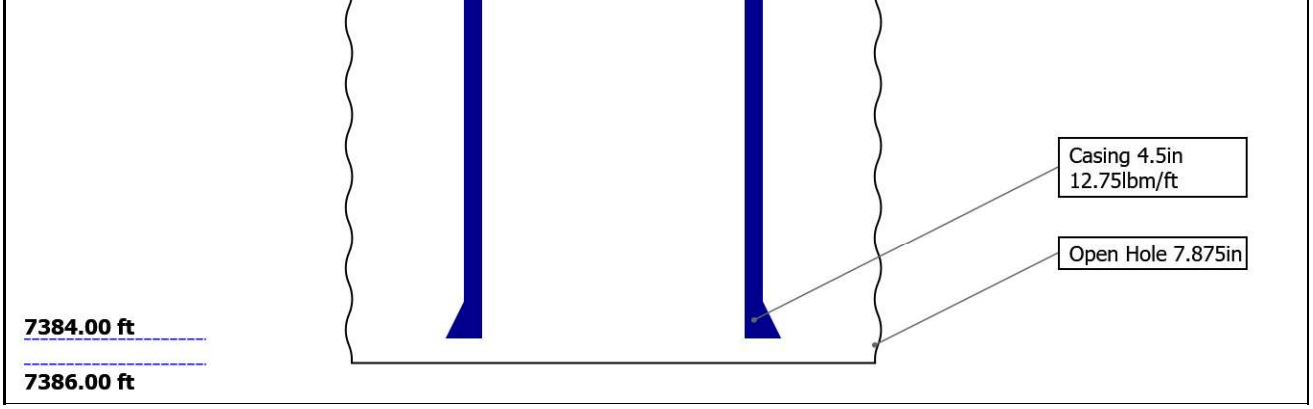
Logging Date		31-Mar-2022			
Run Number		One			
Depth Driller		7386.00 ft			
Schlumberger Depth		7386.00 ft			
Bottom Log Interval		6890.00 ft			
Top Log Interval		55.00 ft			
Casing Fluid Type		Water			
Salinity					
Density		9 lbm/gal			
Fluid Level		8.00 ft			
BIT/CASING/TUBING STRING					
Bit Size		7.88 in			
From		360.00 ft			
To		7386.00 ft			
Casing/Tubing Size		4.5 in			
Weight		12.75 lbm/ft			
Grade		N/A			
From		0.00 ft			
To		7384.00 ft			
Max Recorded Temperatures		220 degF			
Logger on Bottom	Time	31-Mar-2002	09:02:00		
Unit Number	Location:	9801	Ft. Morgan		
Recorded By		L. Engels			
Witnessed By		Nate Windholz			

Disclaimer

Contents

Well Sketch



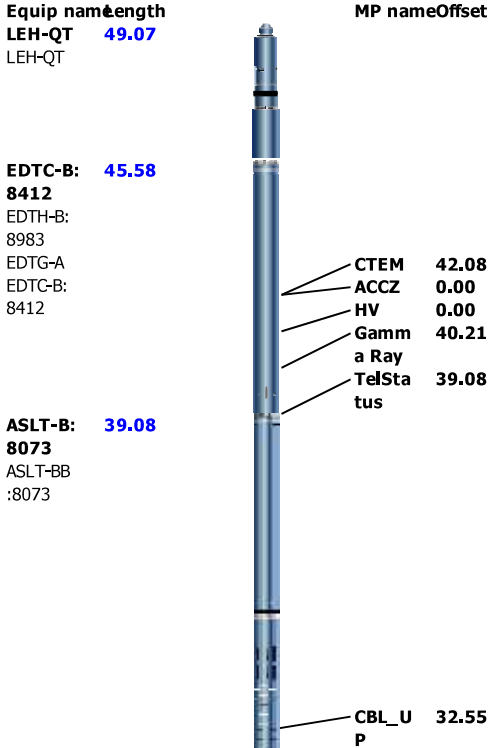


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	12.25	7.875				
Top Driller (ft)	0	360				
Top Logger (ft)	0	360				
Bottom Driller (ft)	360	7386				
Bottom Logger (ft)	360	7386				
Casing						
Size (in)	8.625	4.5				
Weight (lbm/ft)	24	12.75				
Inner Diameter (in)	8.097	3.947				
Grade	N/A	N/A				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	342	7384				
Bottom Logger (ft)	342	7384				

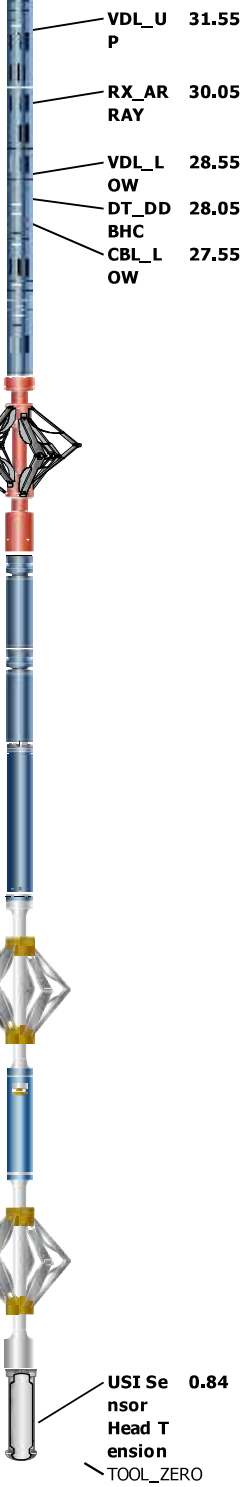
Remarks and Equipment Summary

One: Toolstring



One: Remarks

Main Pass logged in 10deg 6" resolution
Repeat Pass logged 10deg 1.5" resolution
Log recorded without surface induced pressure from TD to 500 ft, 500 psi from 500 ft
Tool was run as per tool sketch
All logging intervals as per client request
Log run for cement evaluation purposes



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	7-39PI-XXS		
Serial Number	Shop		
Length	28000.00 ft		
Conveyance Type	Wireline		
Rig Type			

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

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[4]:Up	6884.91	60.51

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 : 110.13m(361.32ft) to 112.10m(367.78ft)
MUD_N_FRP = 1.10
DFD = 1.08g/cm3(9.00lbm/gal)
CZMD median computed in free pipe normalization interval = 1.65 MRayl

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

One

Software Version

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

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	60.51 ft	6884.91 ft	31-Mar-2022 9:02:27 AM	31-Mar-2022 10:56:37 AM	OFF	5.73 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Occidental Petroleum Well:Bierig-UPRR 42-35

One: Log[4]:Up:S007

Description: USI IBC SLG Format: Log (IBC SLG CBL DCBL-VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Dat 31-Mar-2022 20:53:30

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] - :
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] - :

Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-20 in 20

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

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

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Gamma Ray (ECGR_EDTC) EDTC-B
0 gAPI 150

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Wave (AWBK) USIT-E
(dB)

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

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

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

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_UFAX) USIT-E
0 dB/m 150

Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E
(dB/m)

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

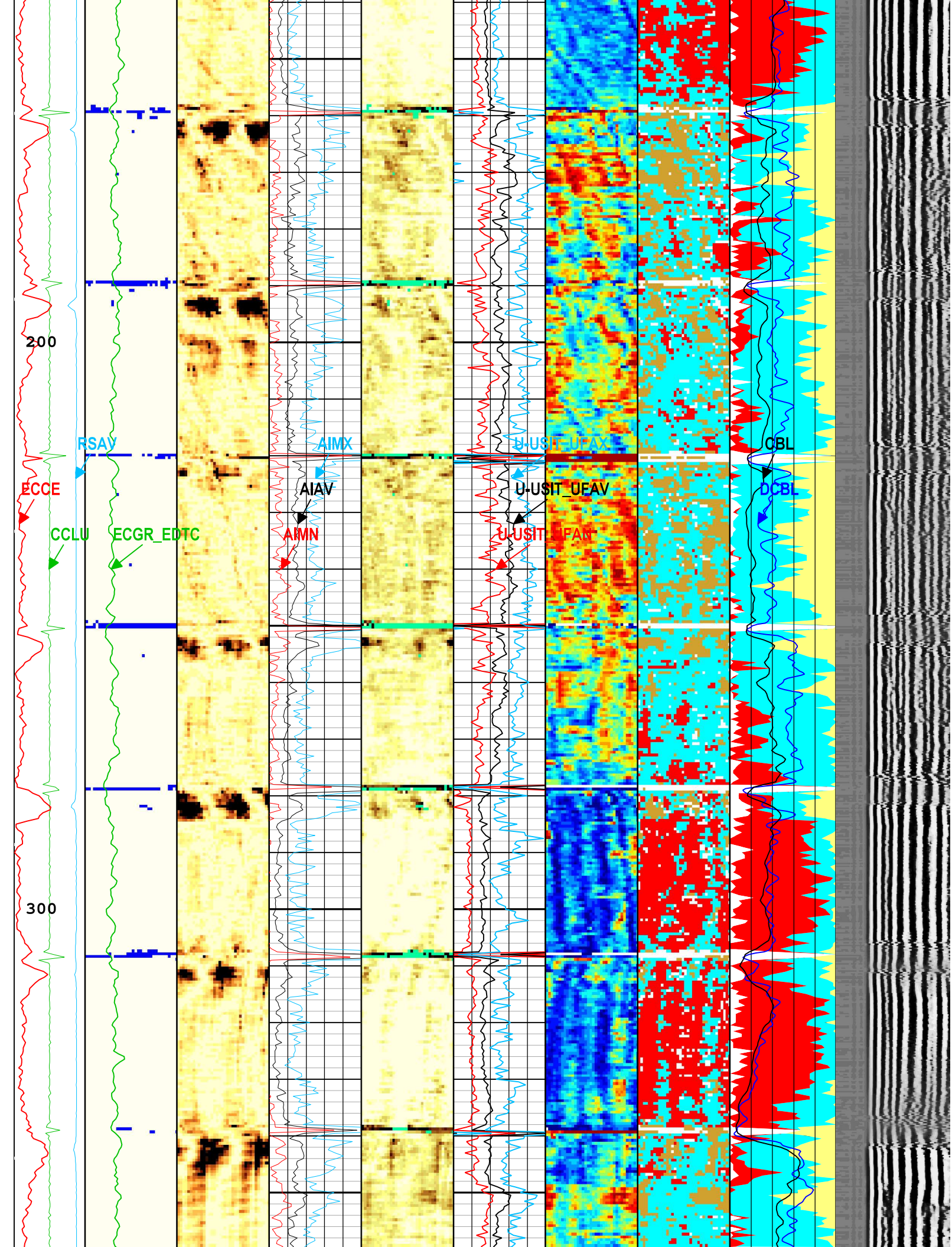
SLG Solid Index
SLG Liquid Index
SLG Gas Index
SLG White Point Index

Synthetic CBL from Discriminated Attenuation (DCBL) ASLT-B
0 mV 100

CBL Amplitude (CBL) ASLT-B
0 mV 100

Min Amplitude
VDL VariableDens (VDL) ASLT-B
200 us

100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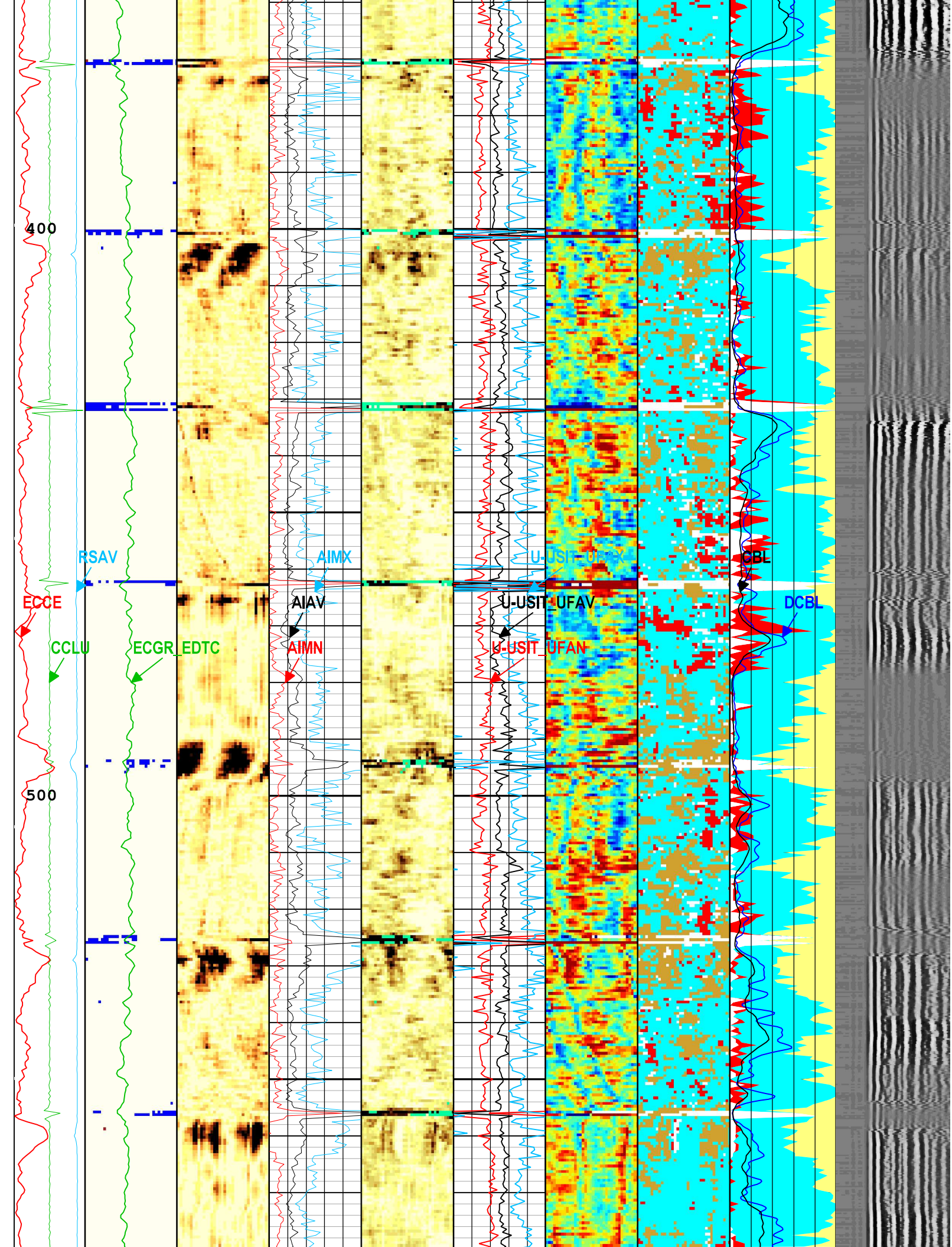
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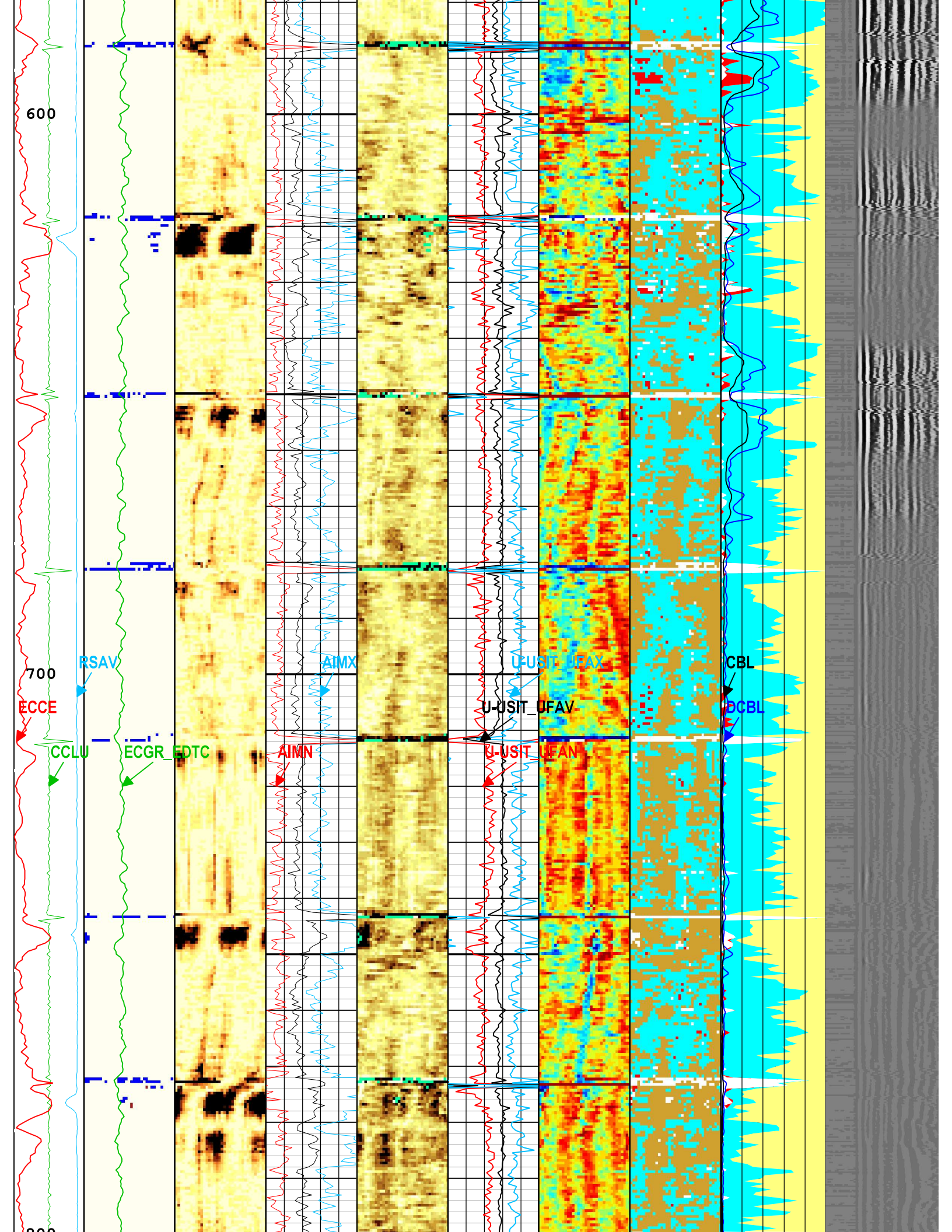
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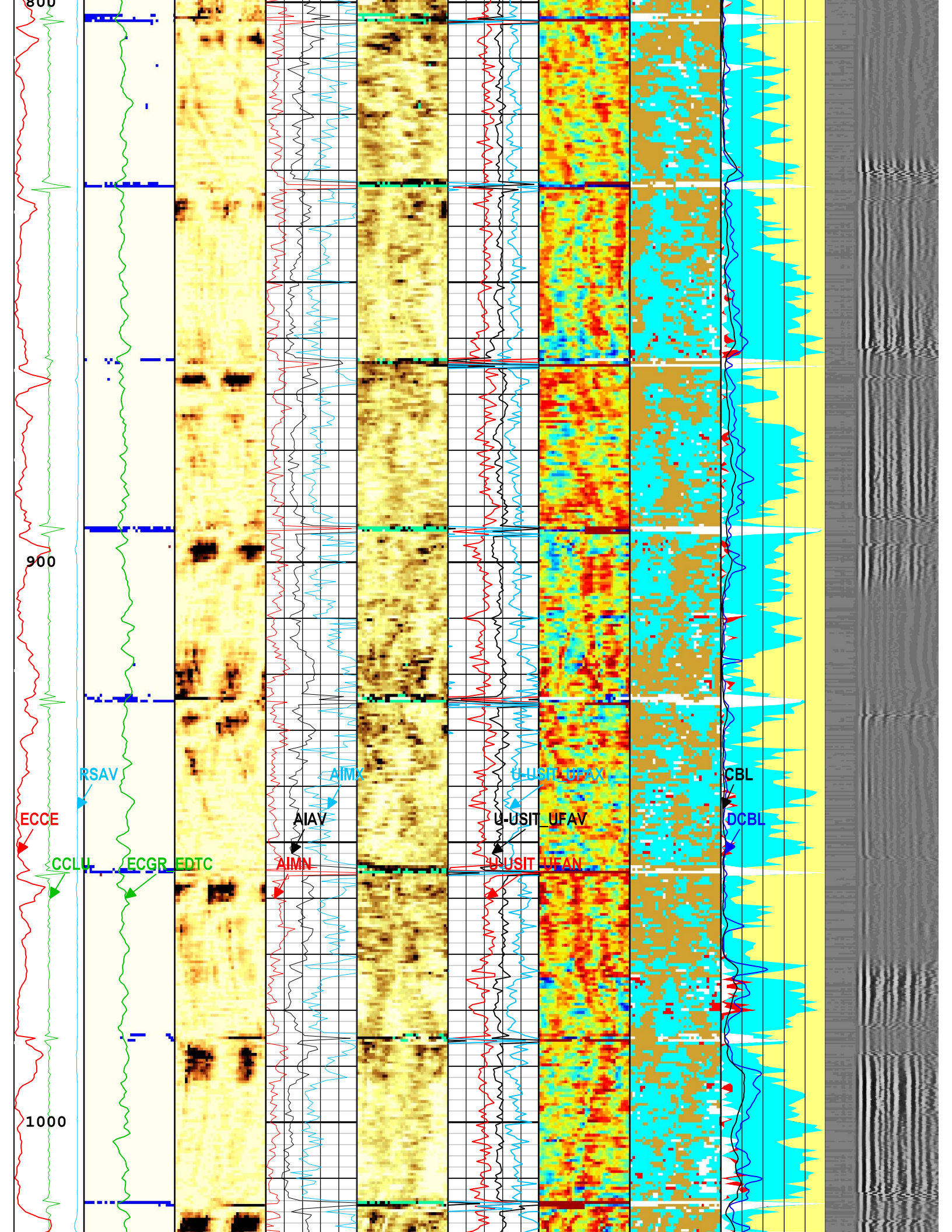
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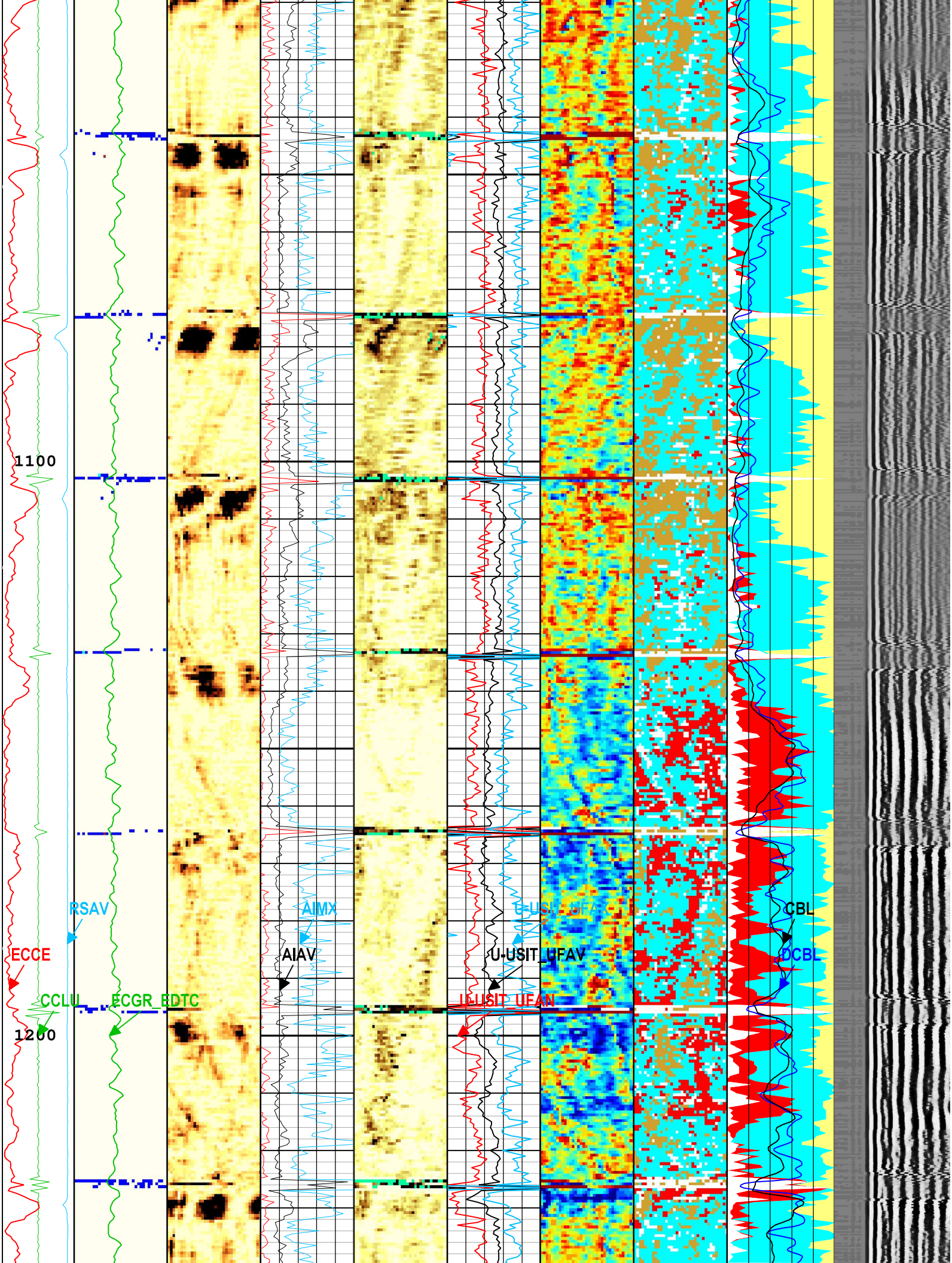
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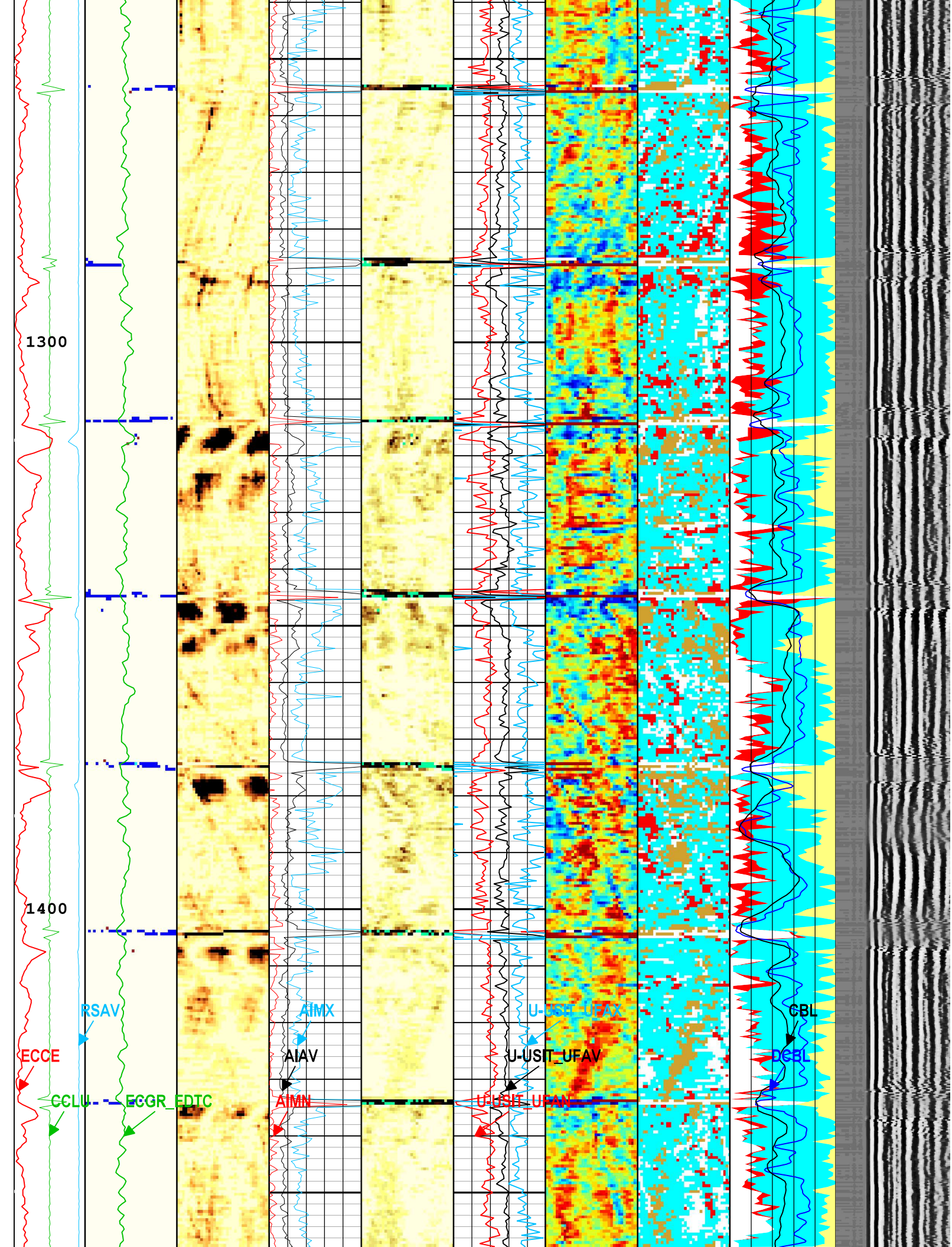
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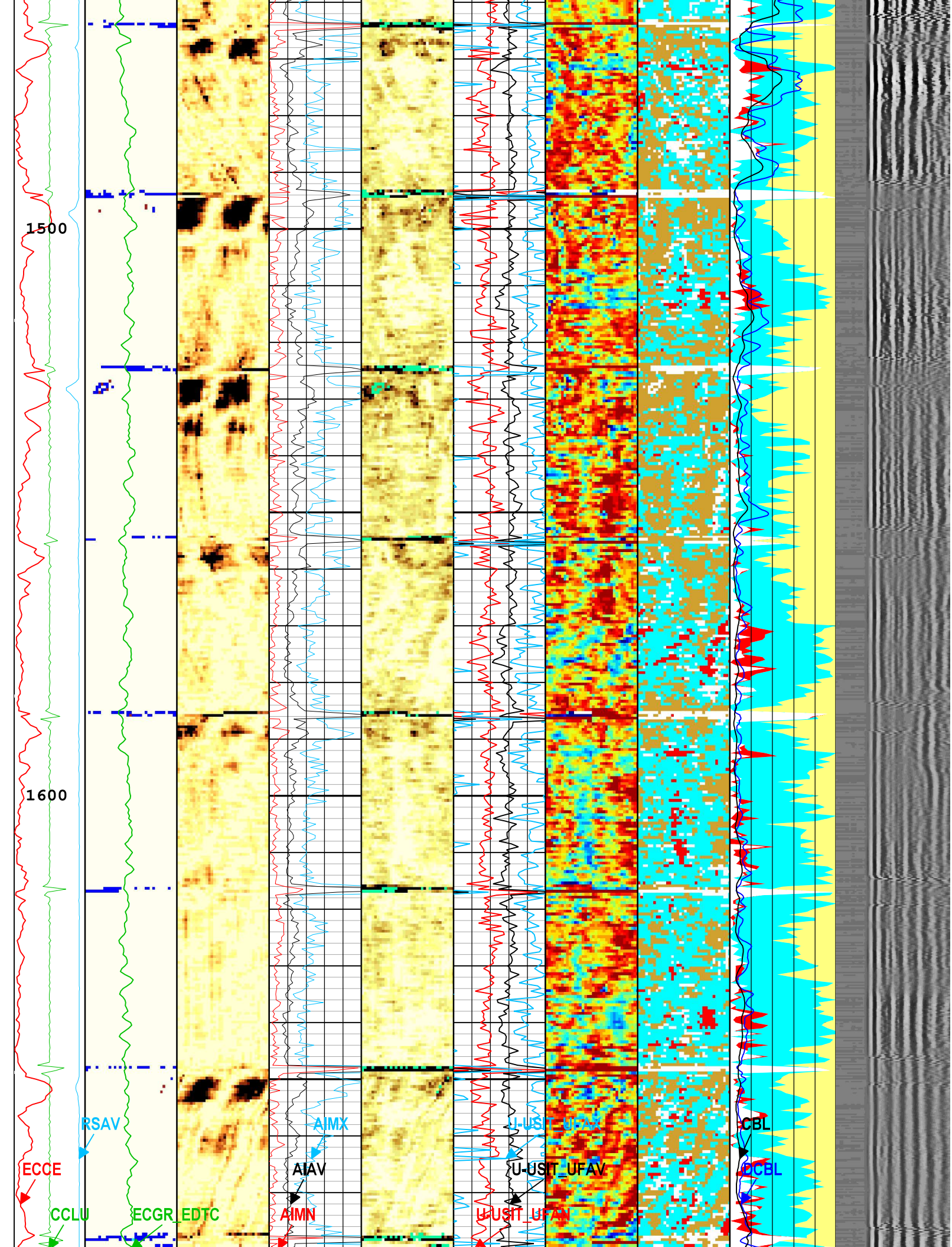
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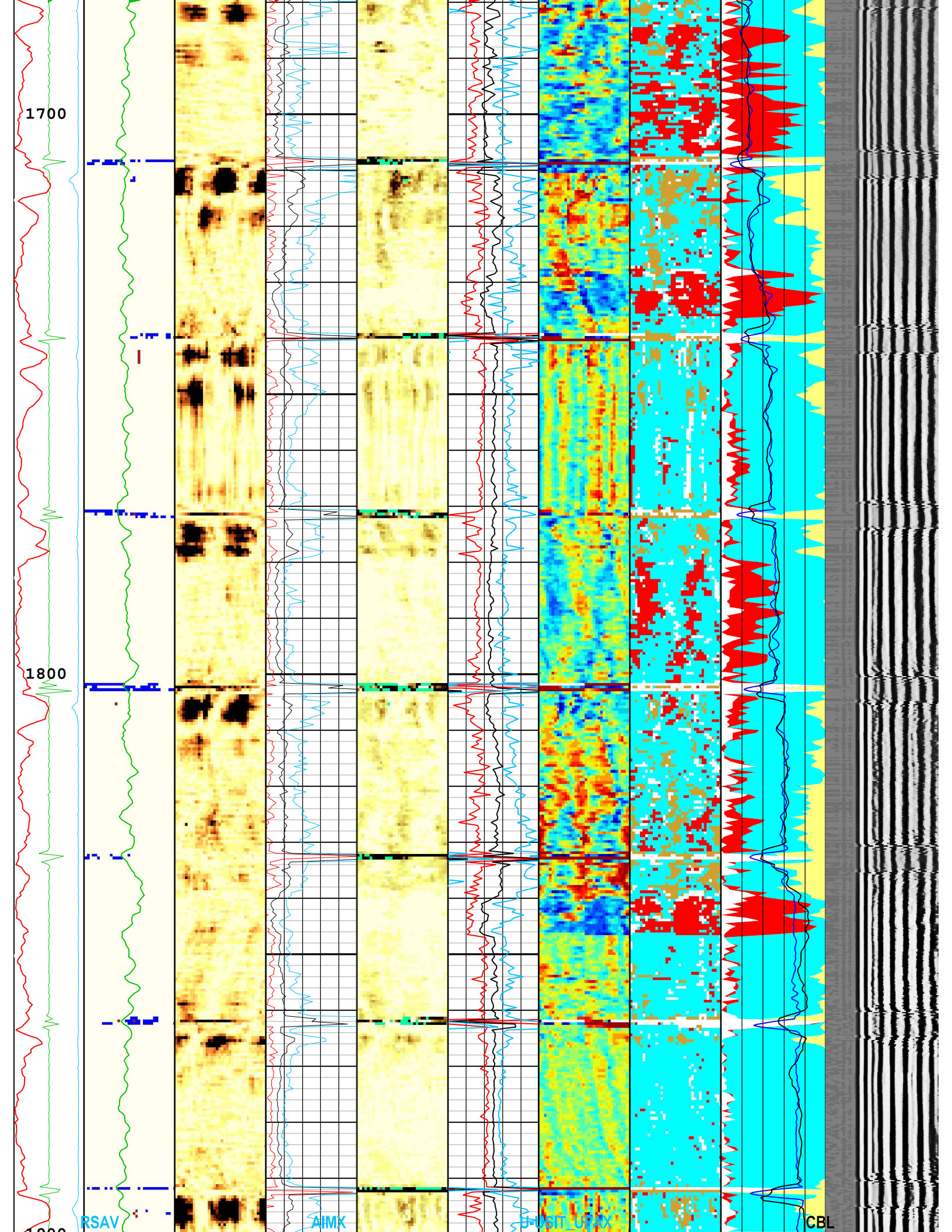
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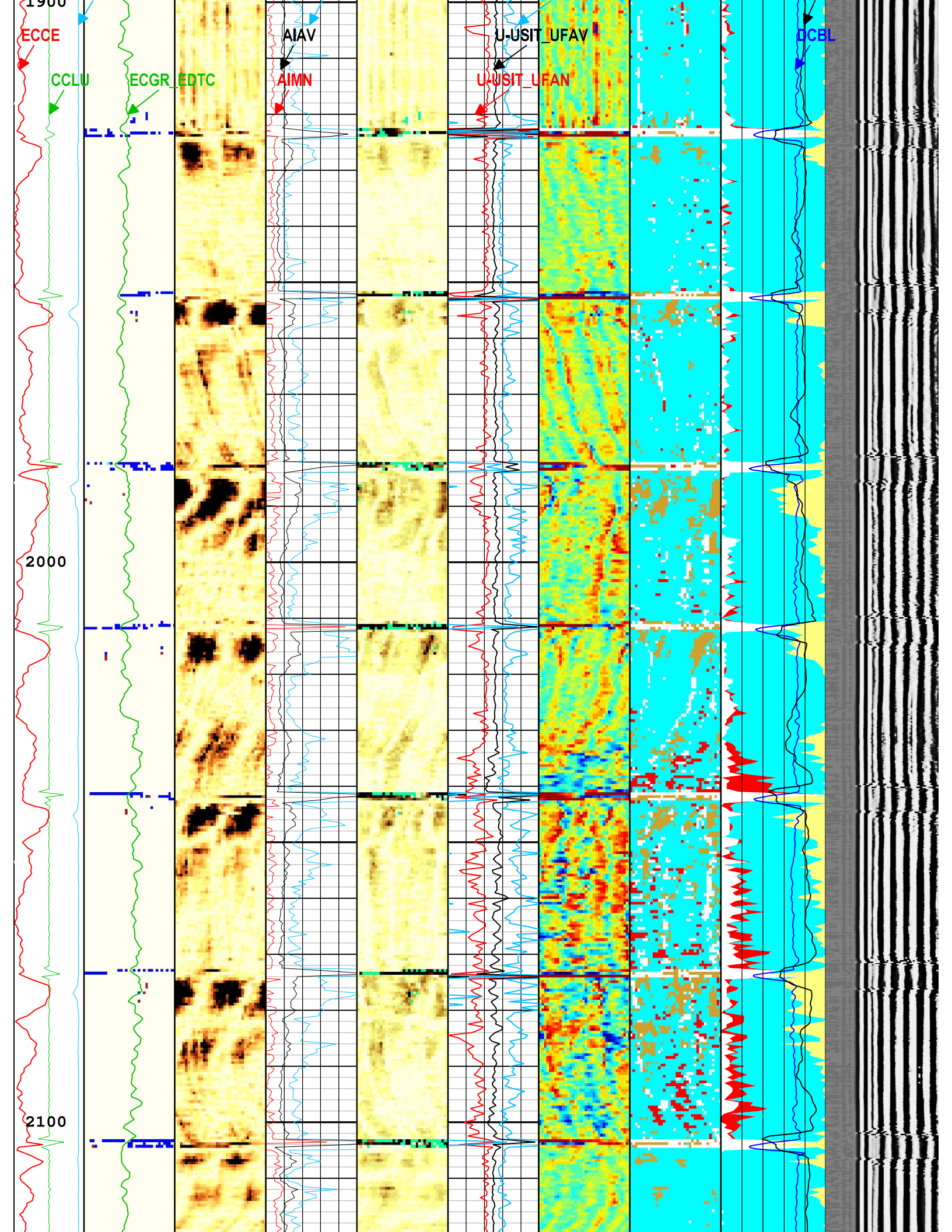
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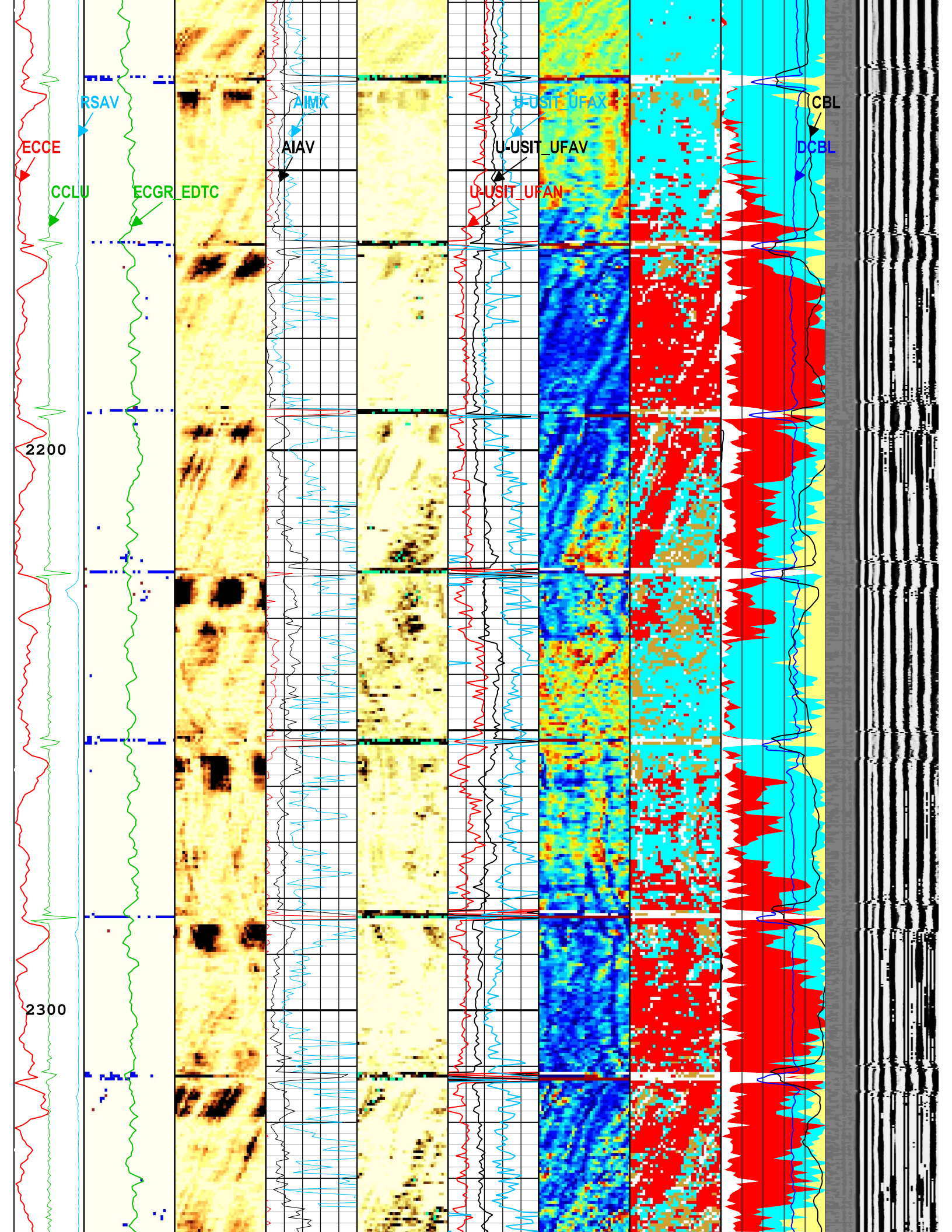
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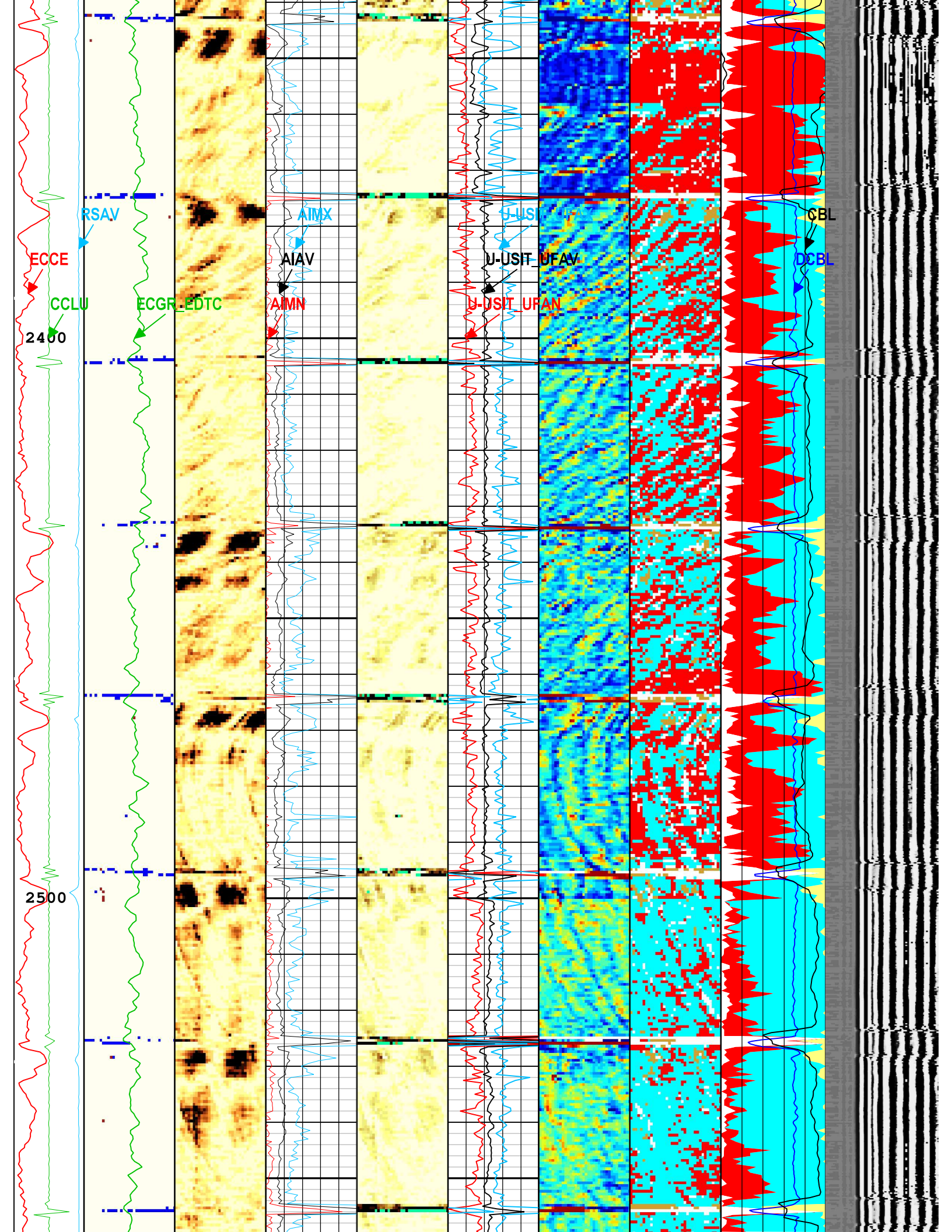
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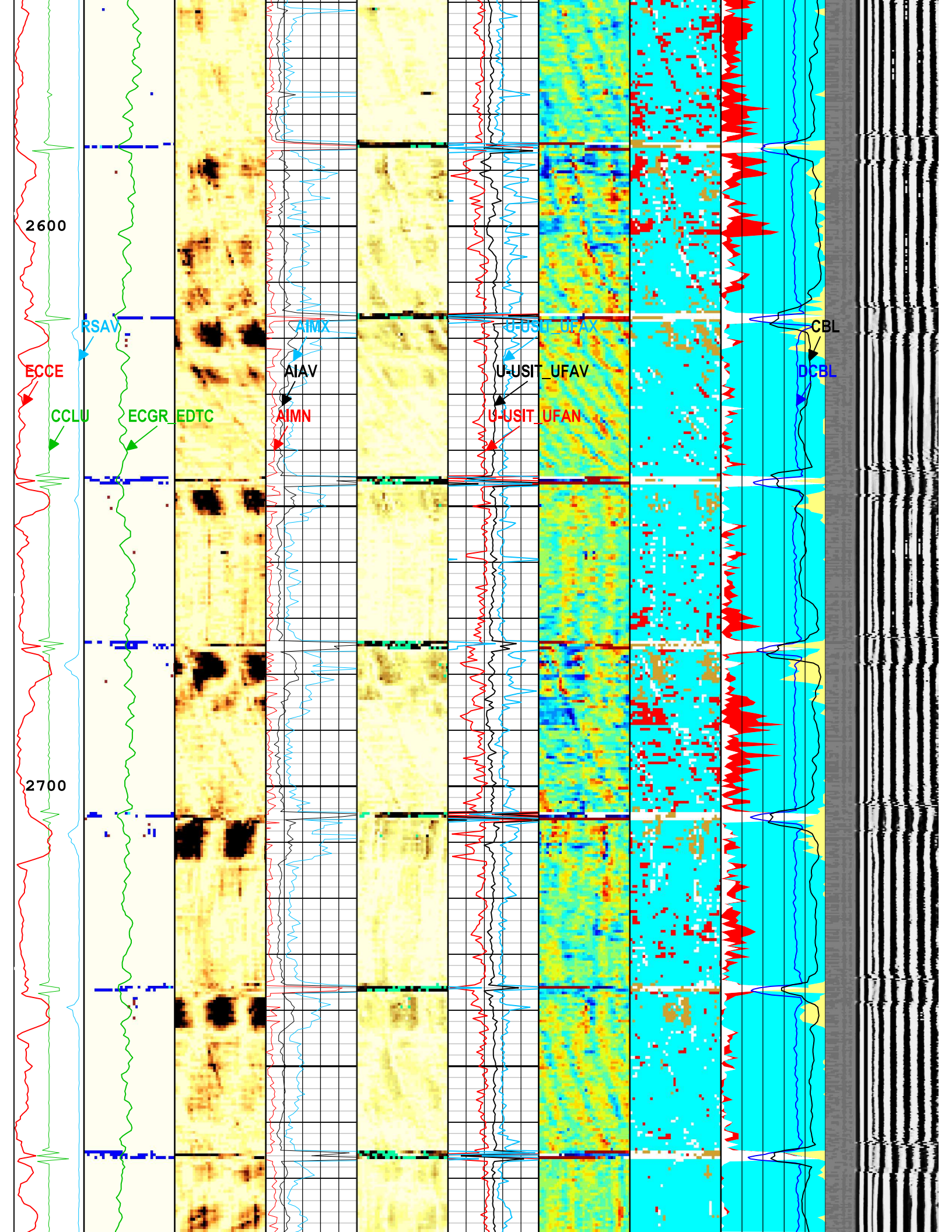
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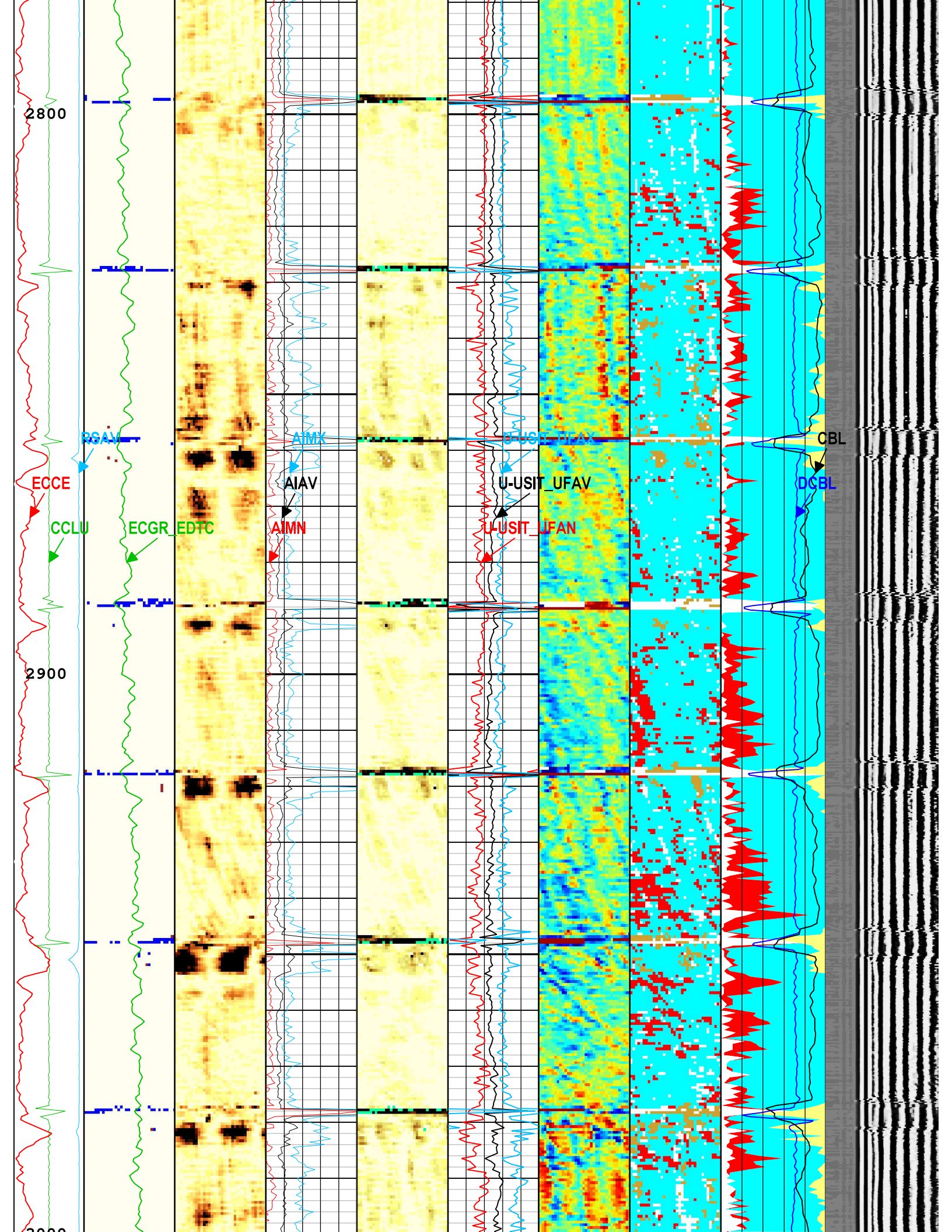
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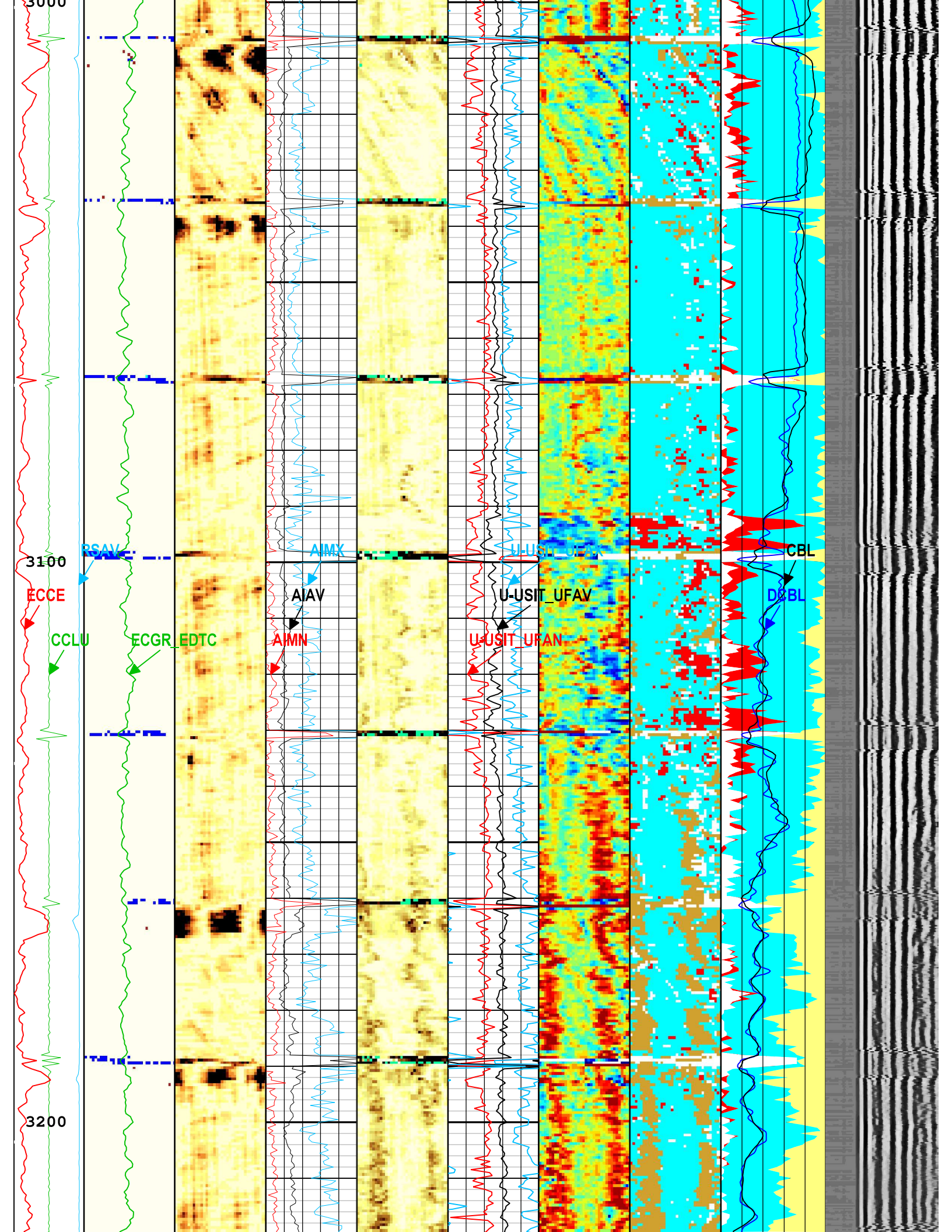
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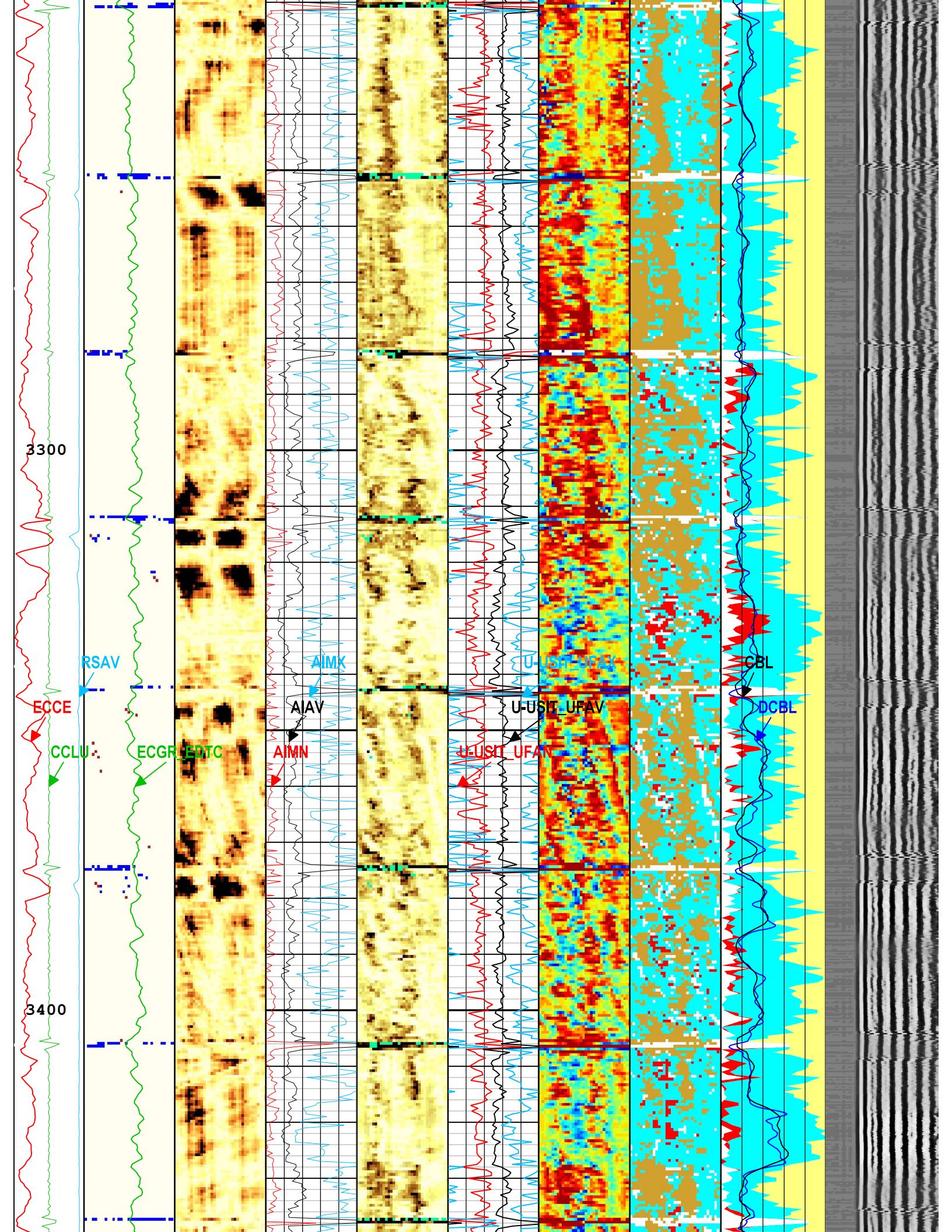
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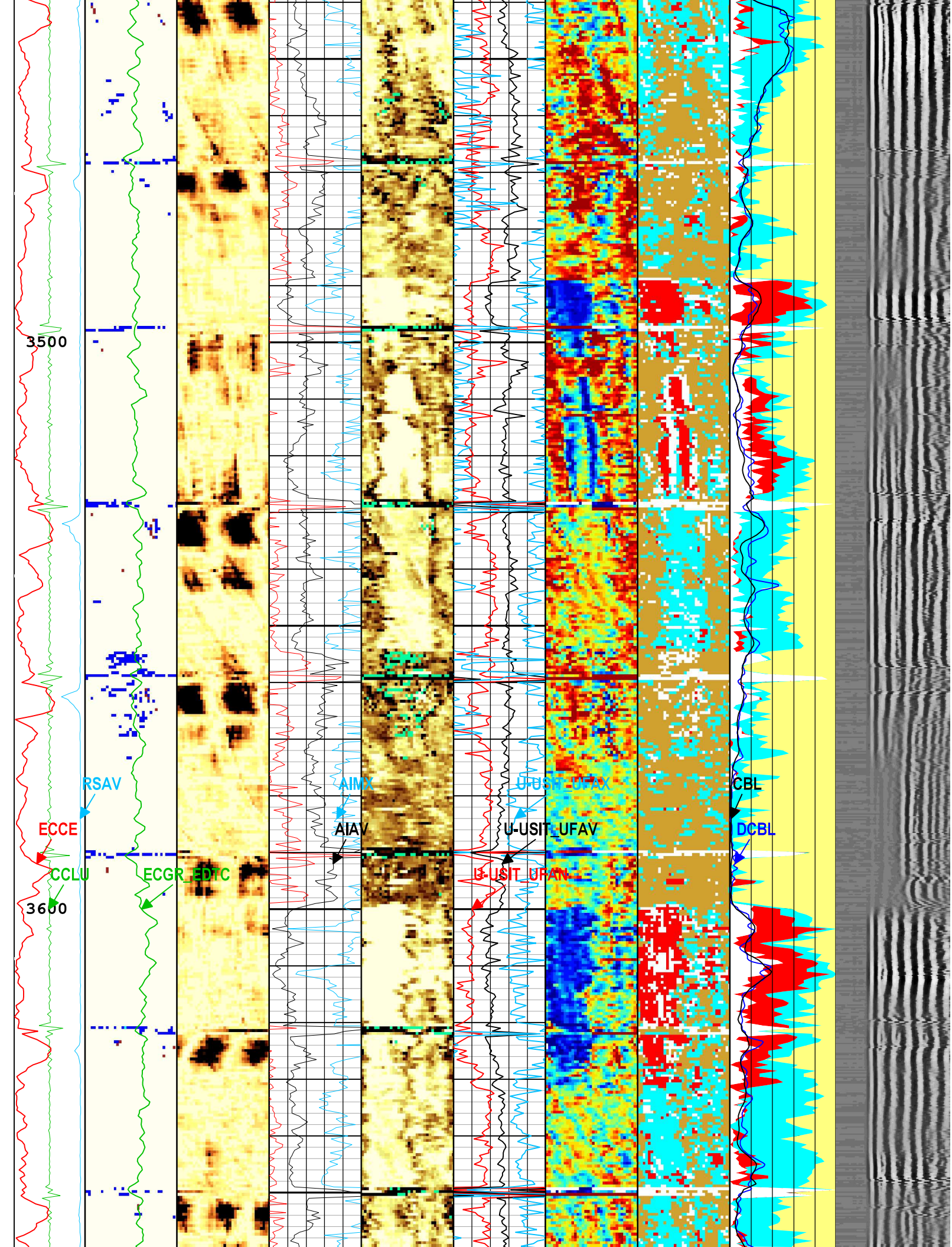
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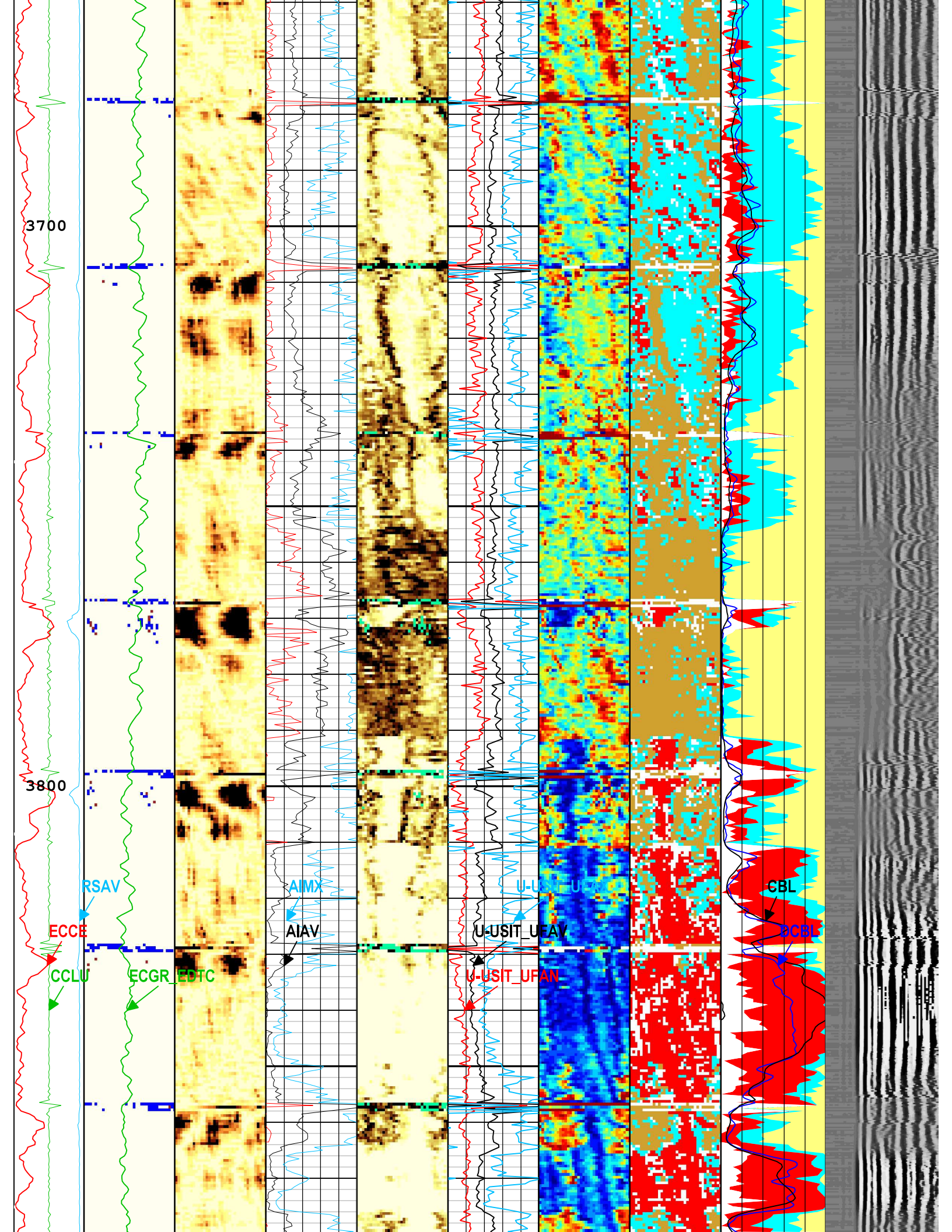
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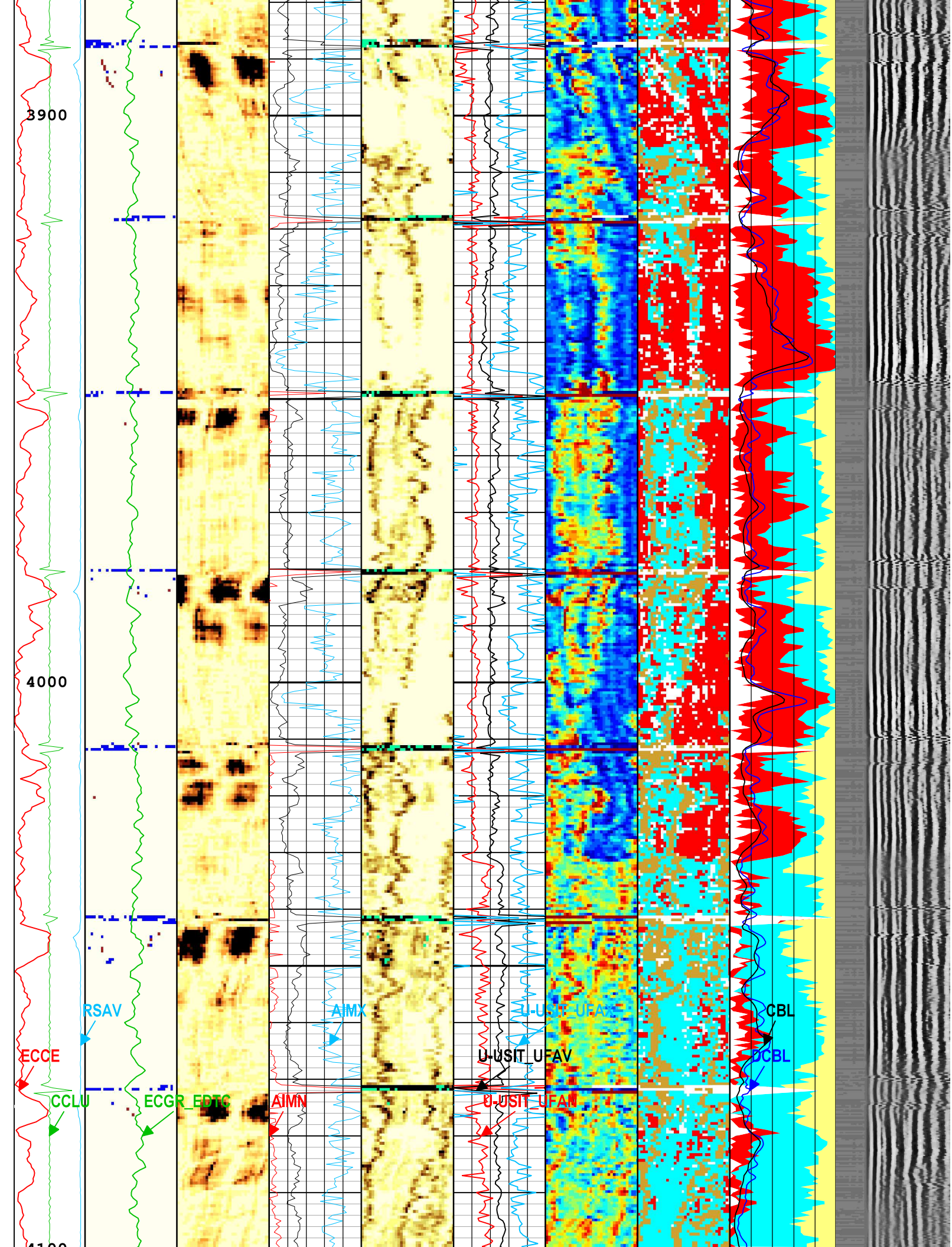
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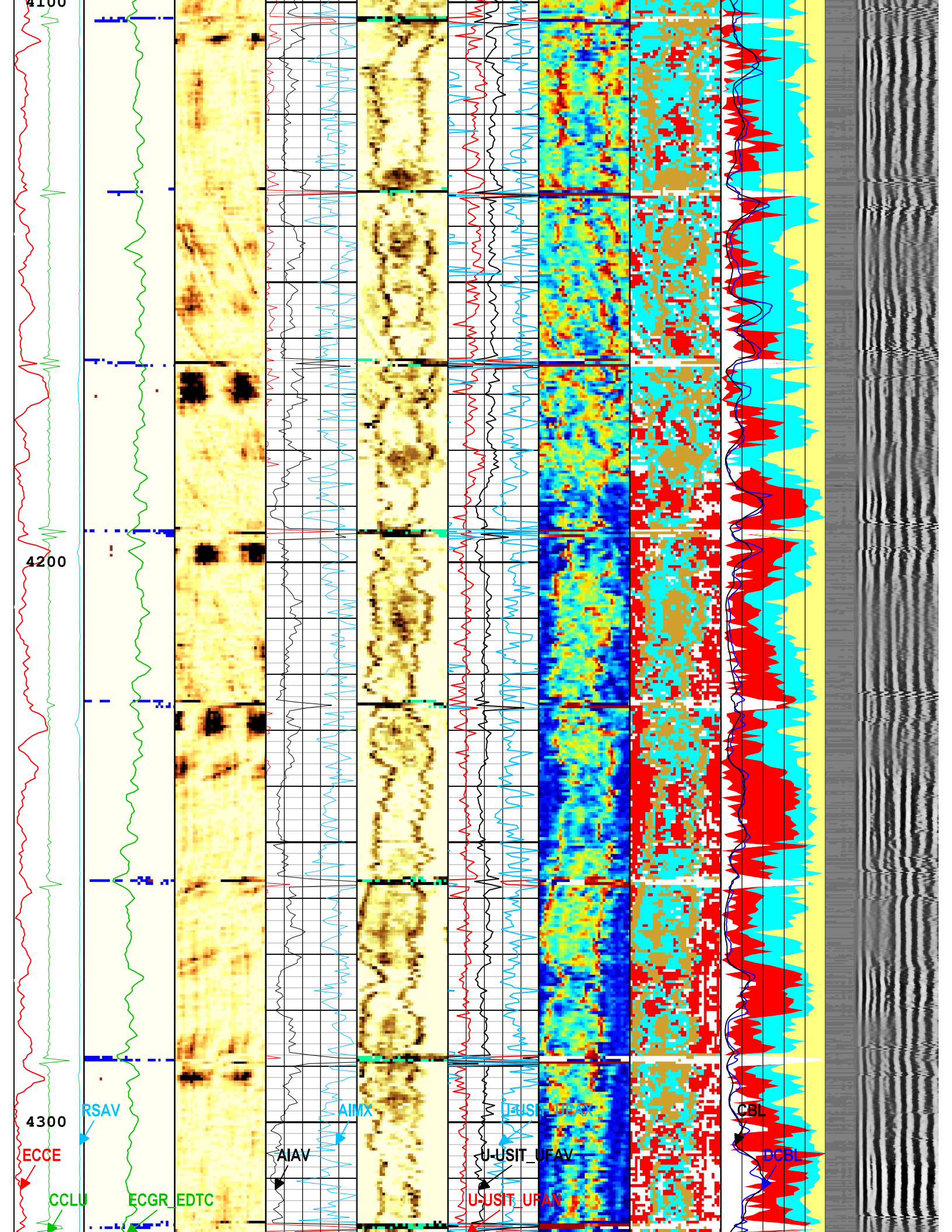
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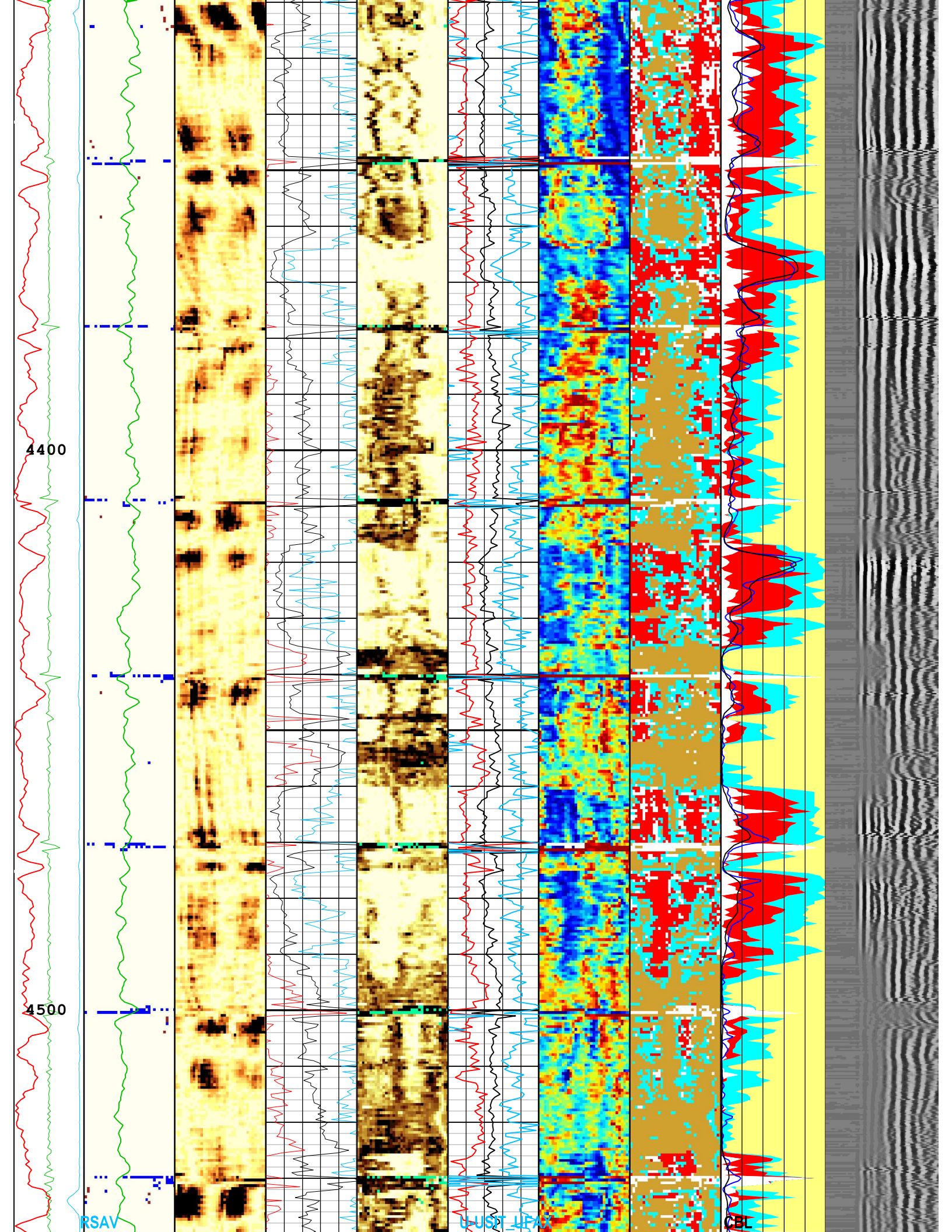
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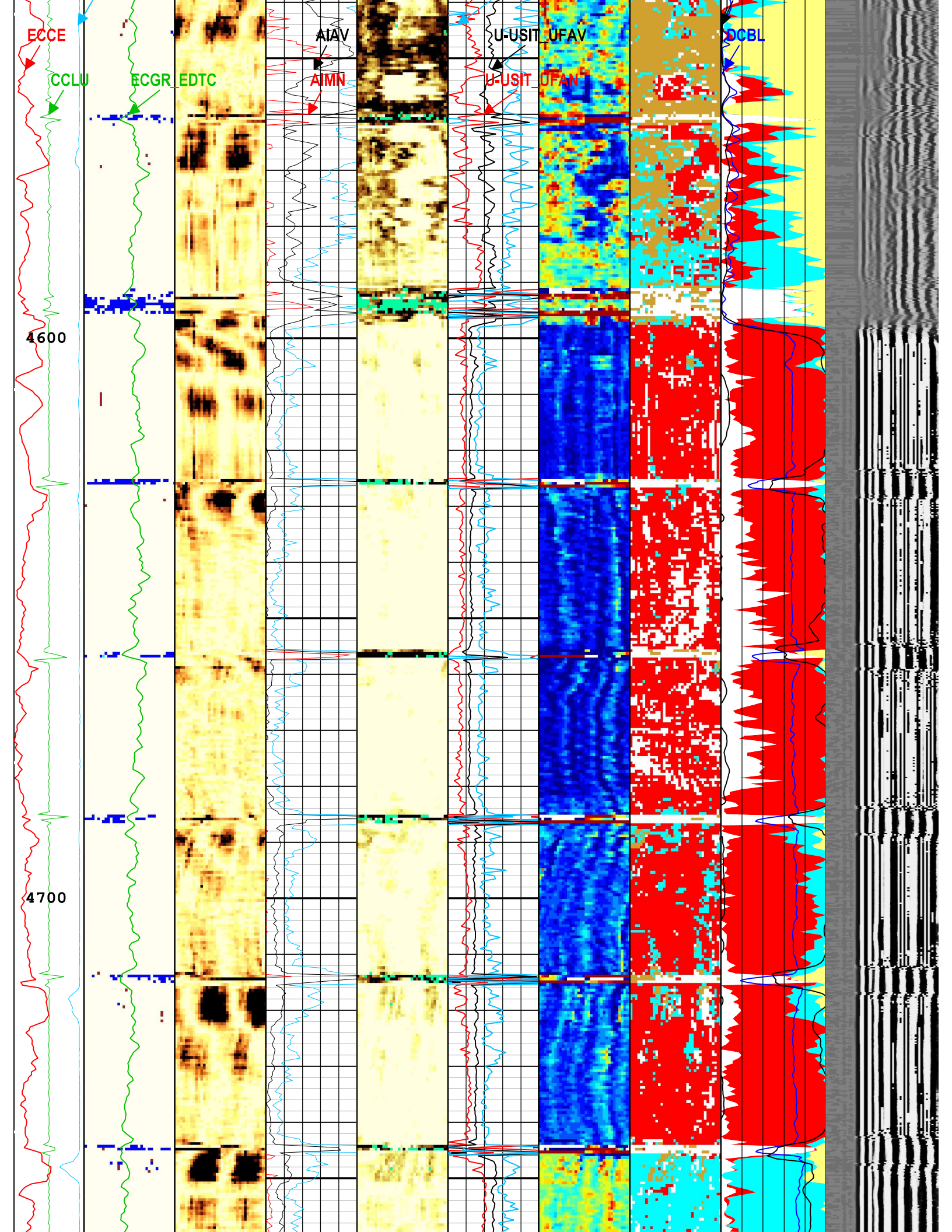
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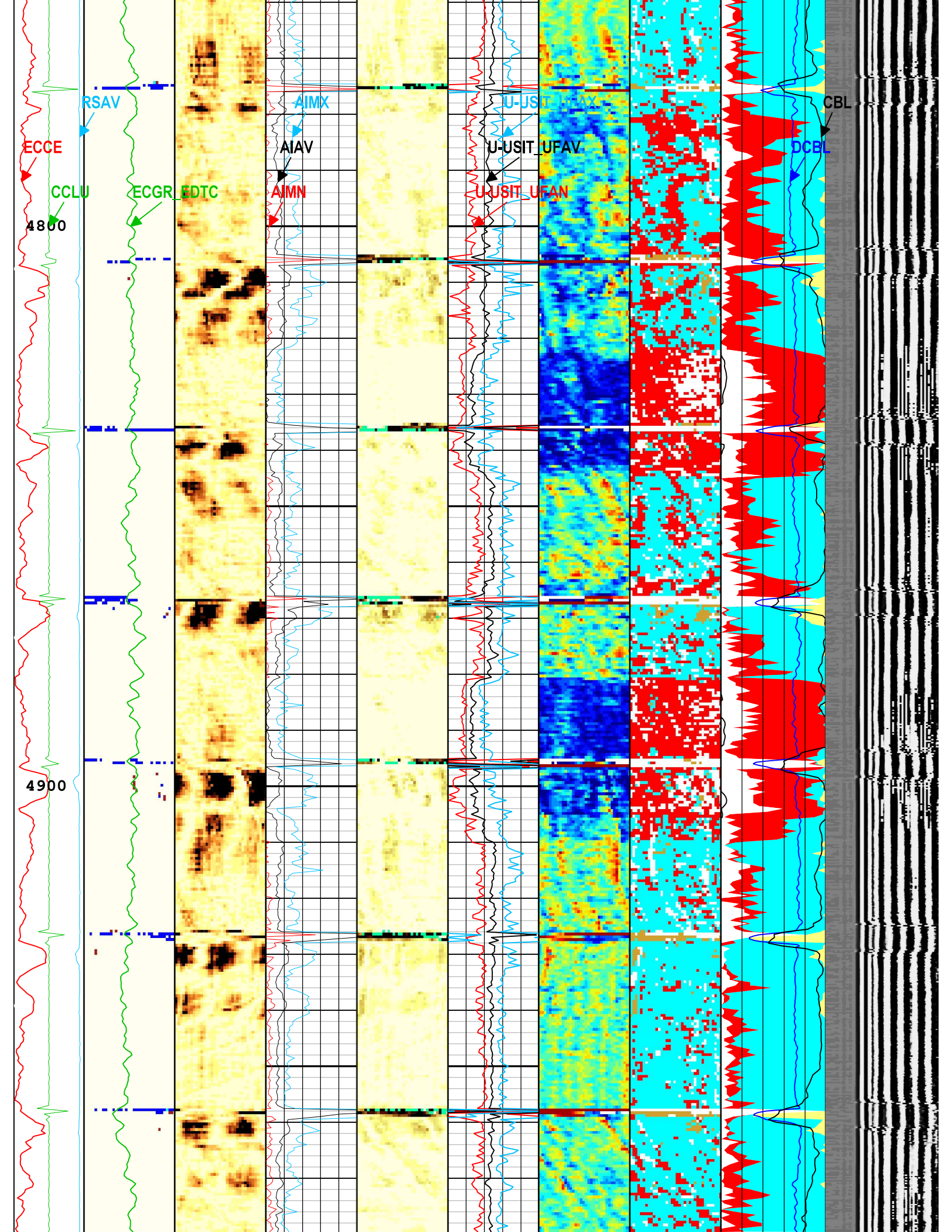
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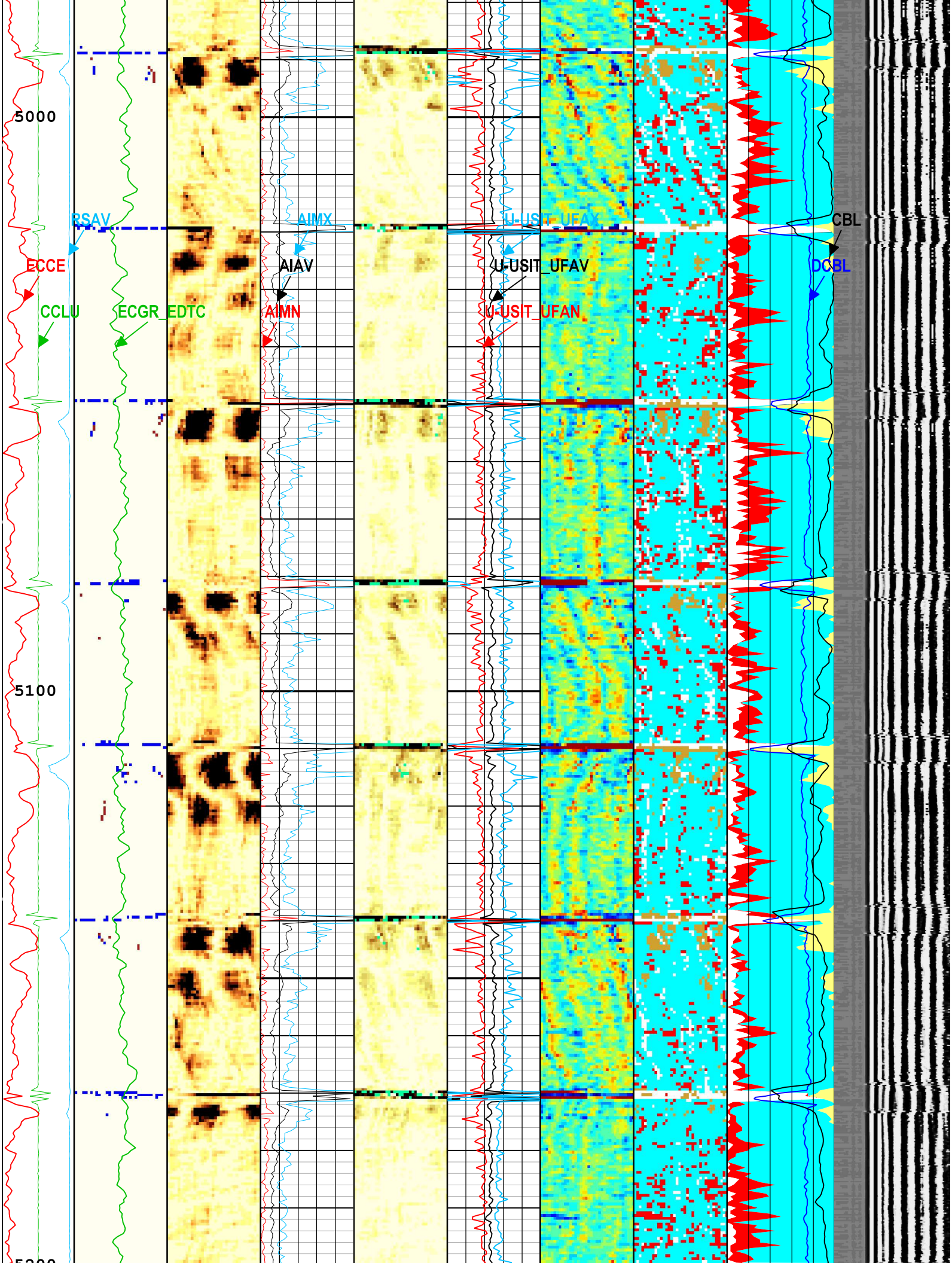
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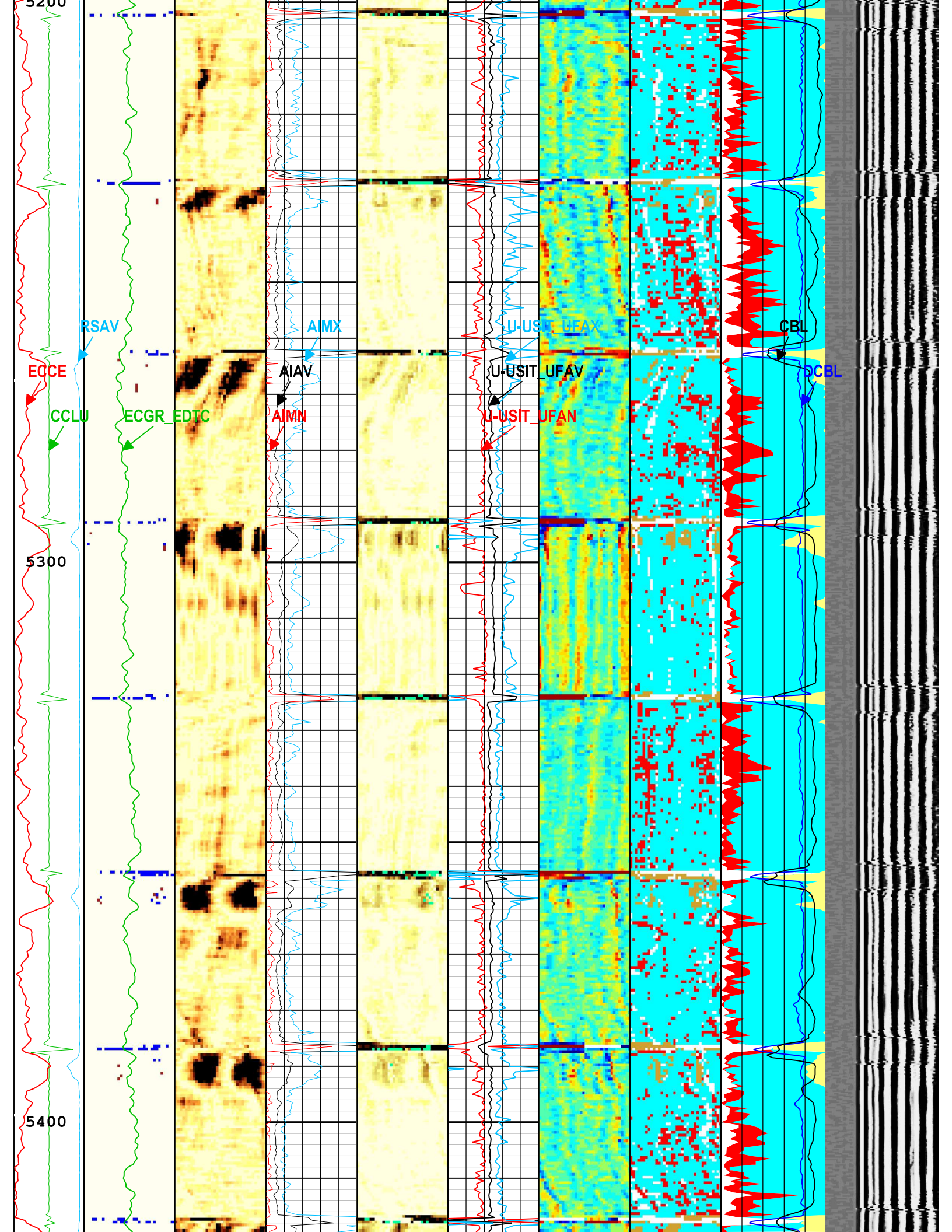
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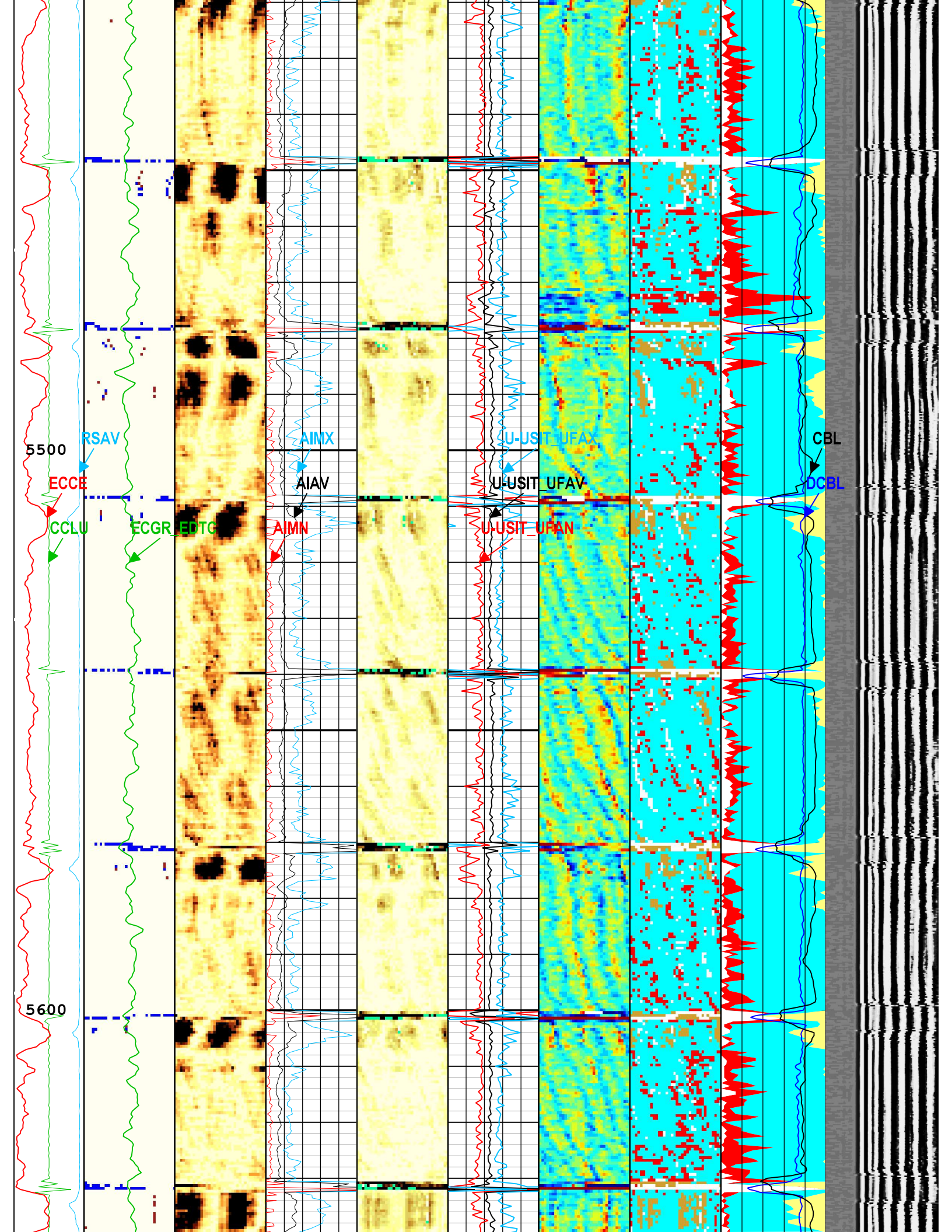
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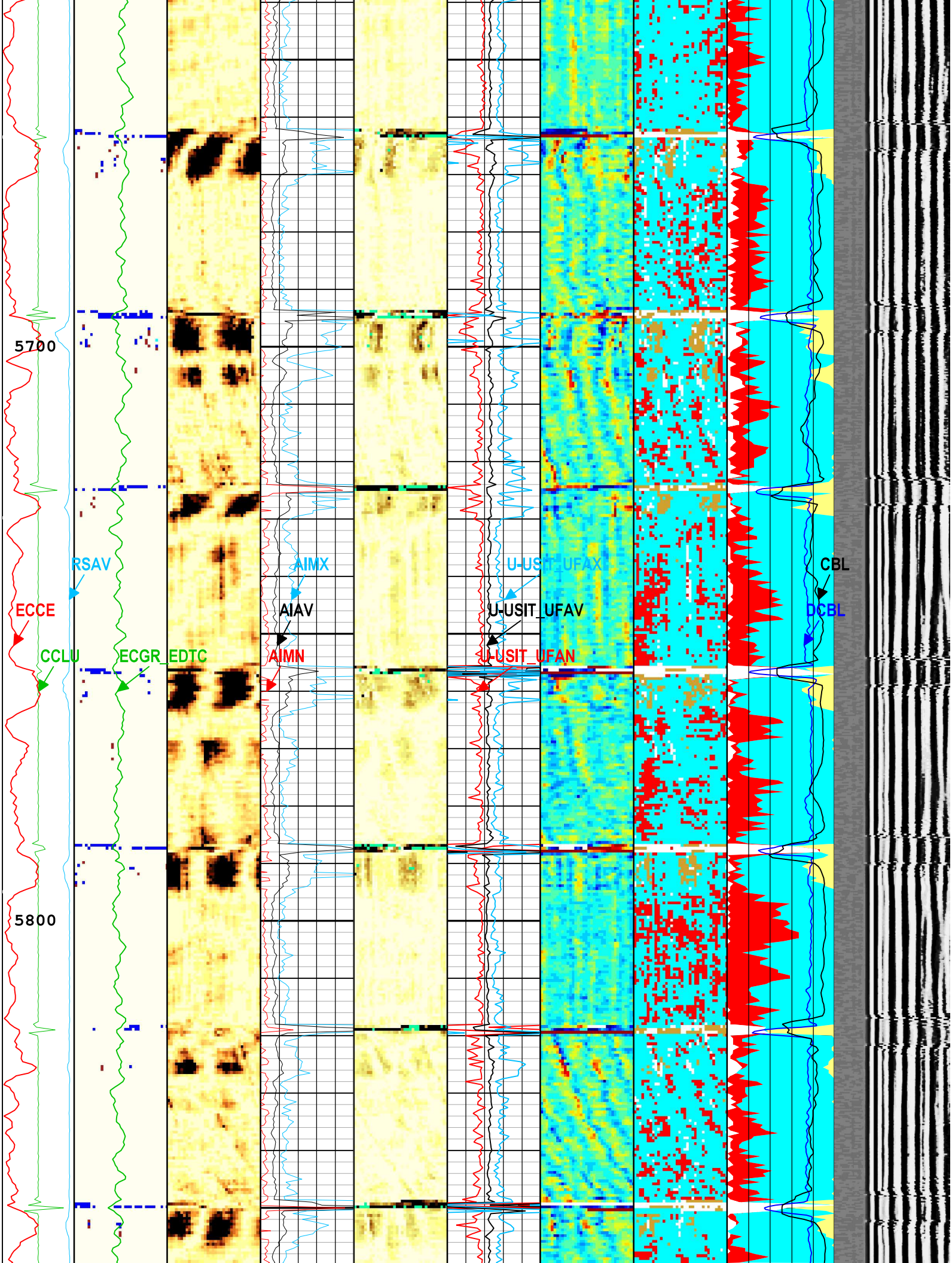
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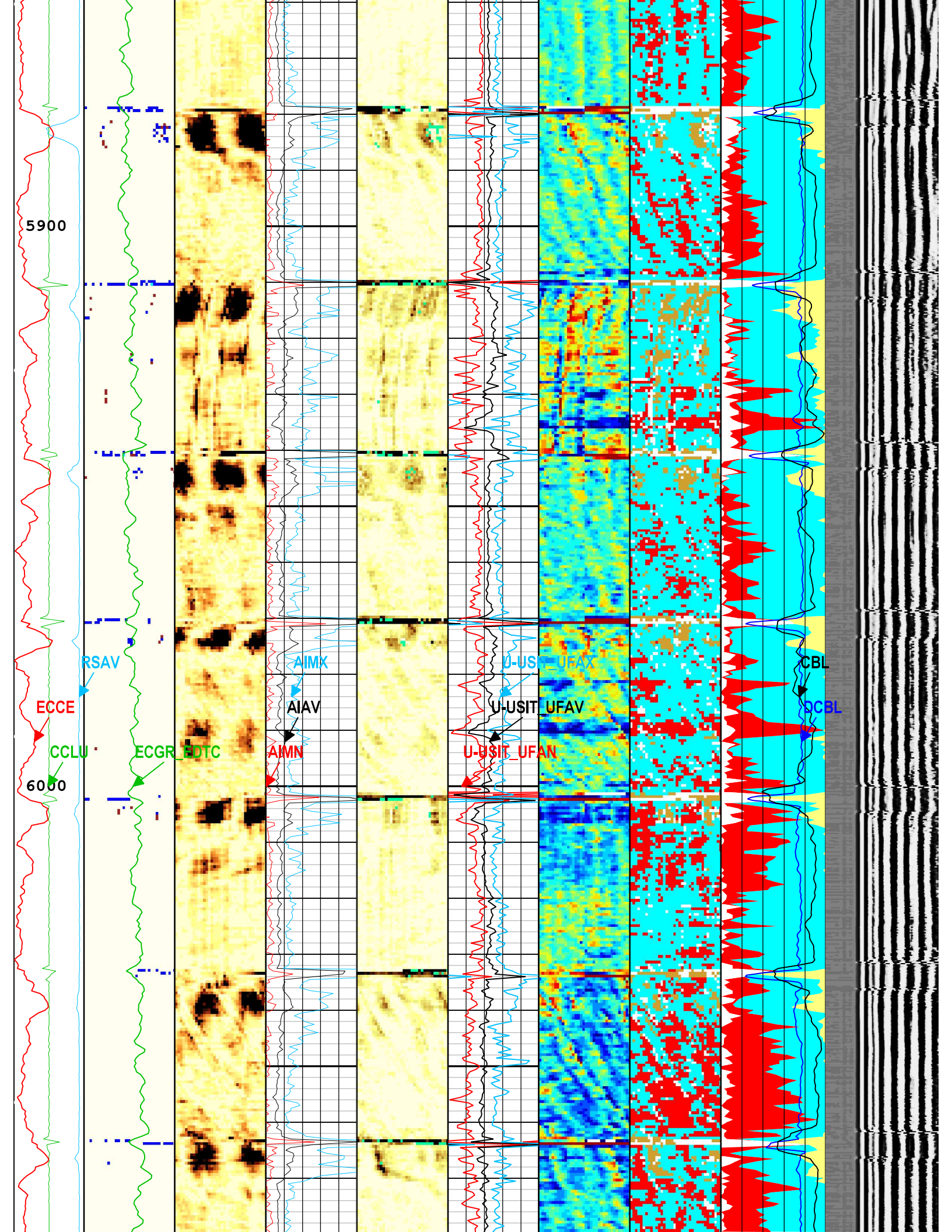
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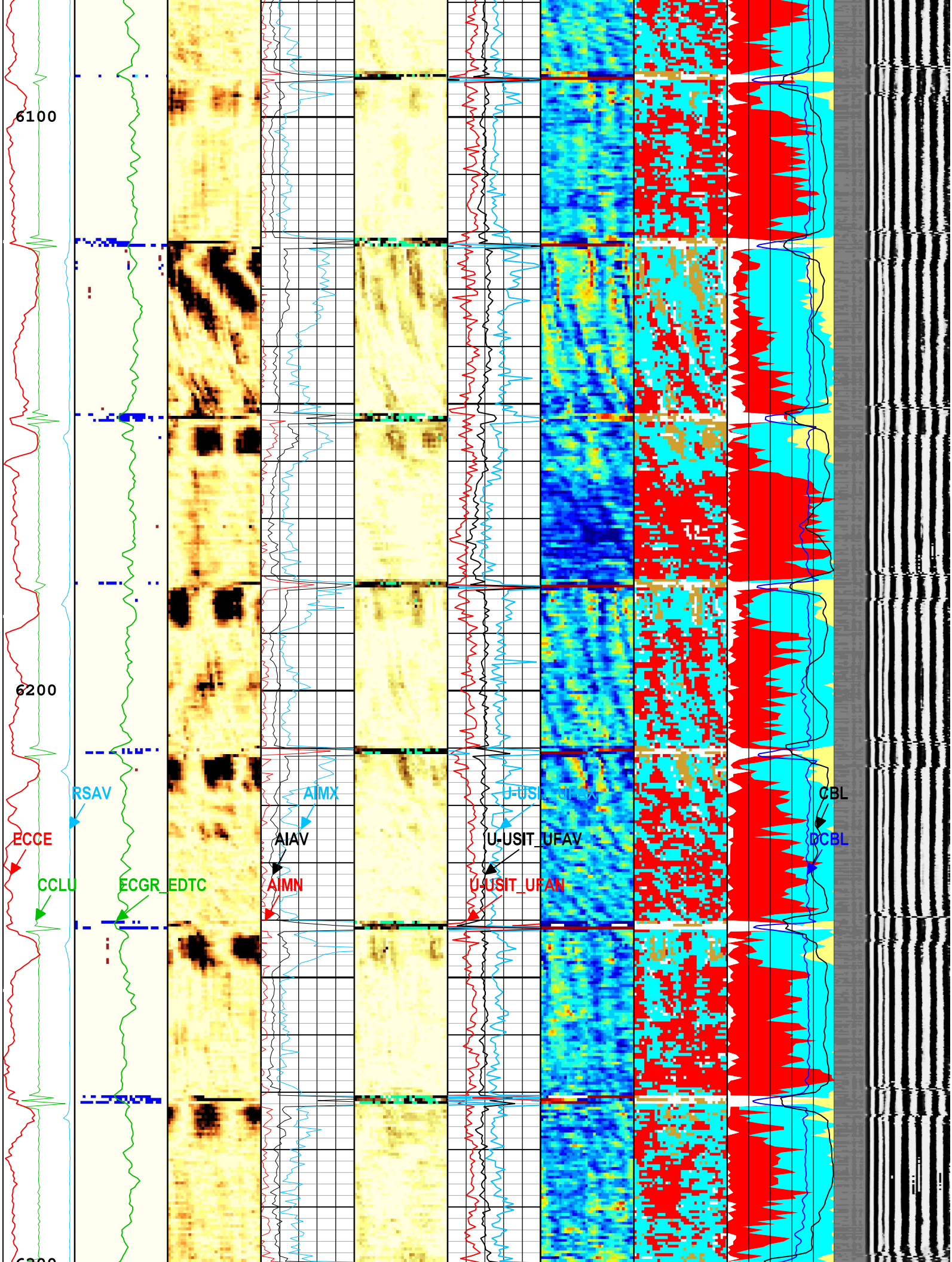
ECCE
CCLU
ECGR_EDTC
AIMX
AIAV
AIMN
U-USIT_UFAX
U-USIT_UFAV
U-USIT_UFAN
CBL
DCBL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6200
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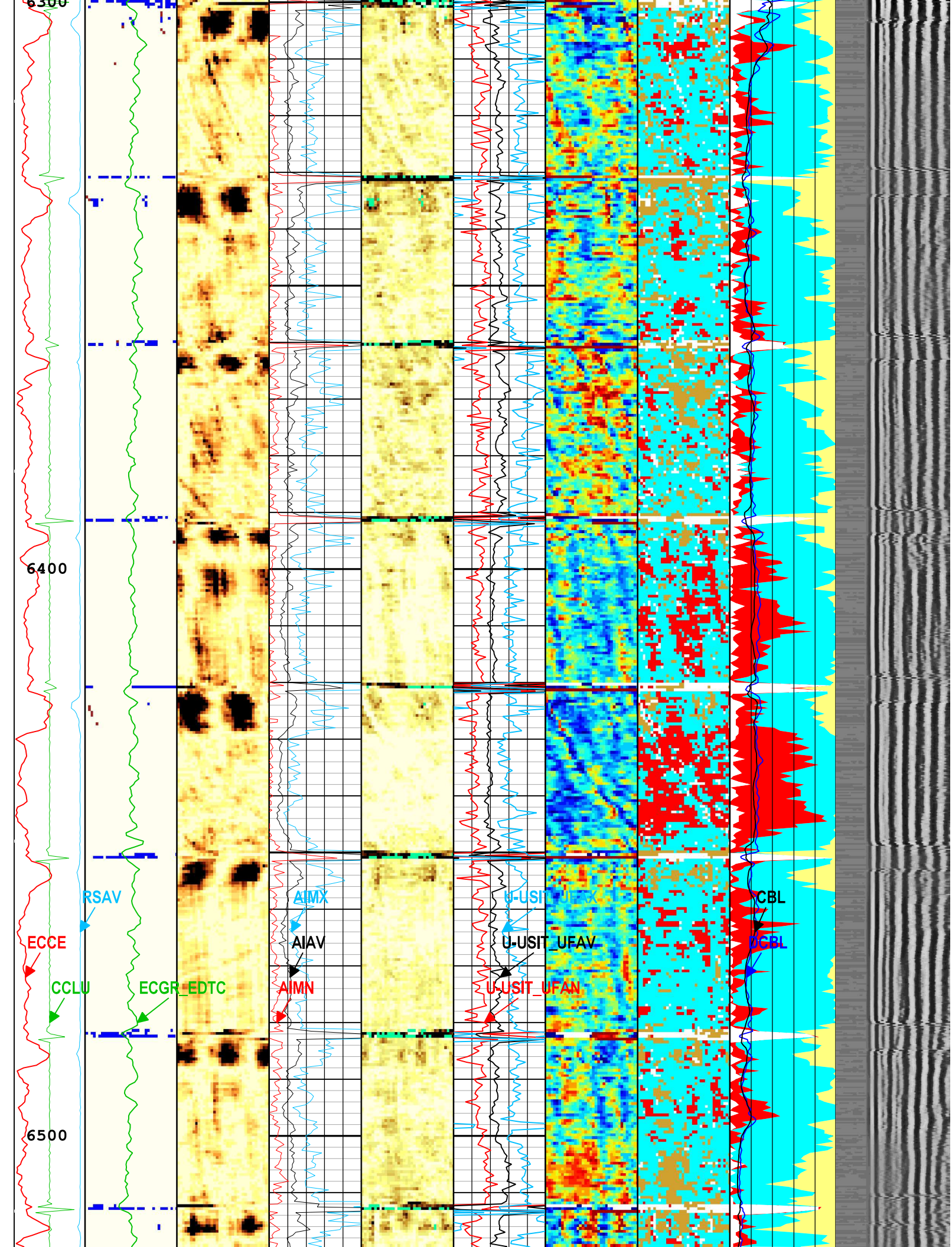
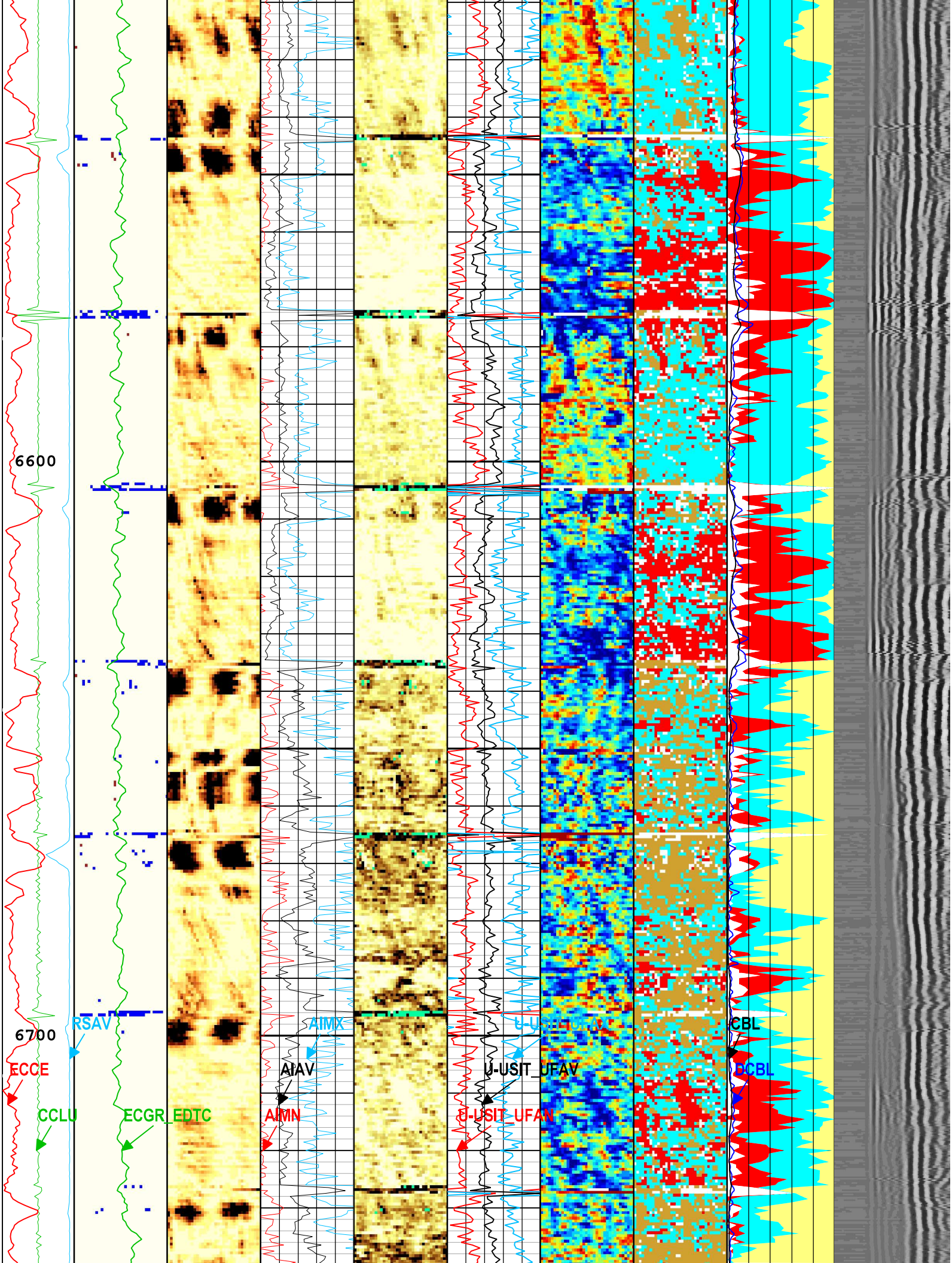
AIMX
AIAV
AIMN
U-USIT_UFAV
U-USIT_UFAN
CBL
DCBL


6300
6400
6500
RSAV
ECCE
CCLU
ECGR_EDTC
AIMX
AIAV
AIMN
U-USIT_UFAV
U-USIT_UFAN
CBL
DCBL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6700
RSAV
ECCE
CCLU
ECGR_EDTC
AIMX
AIAV
AIMN
U-USIT_UFAV
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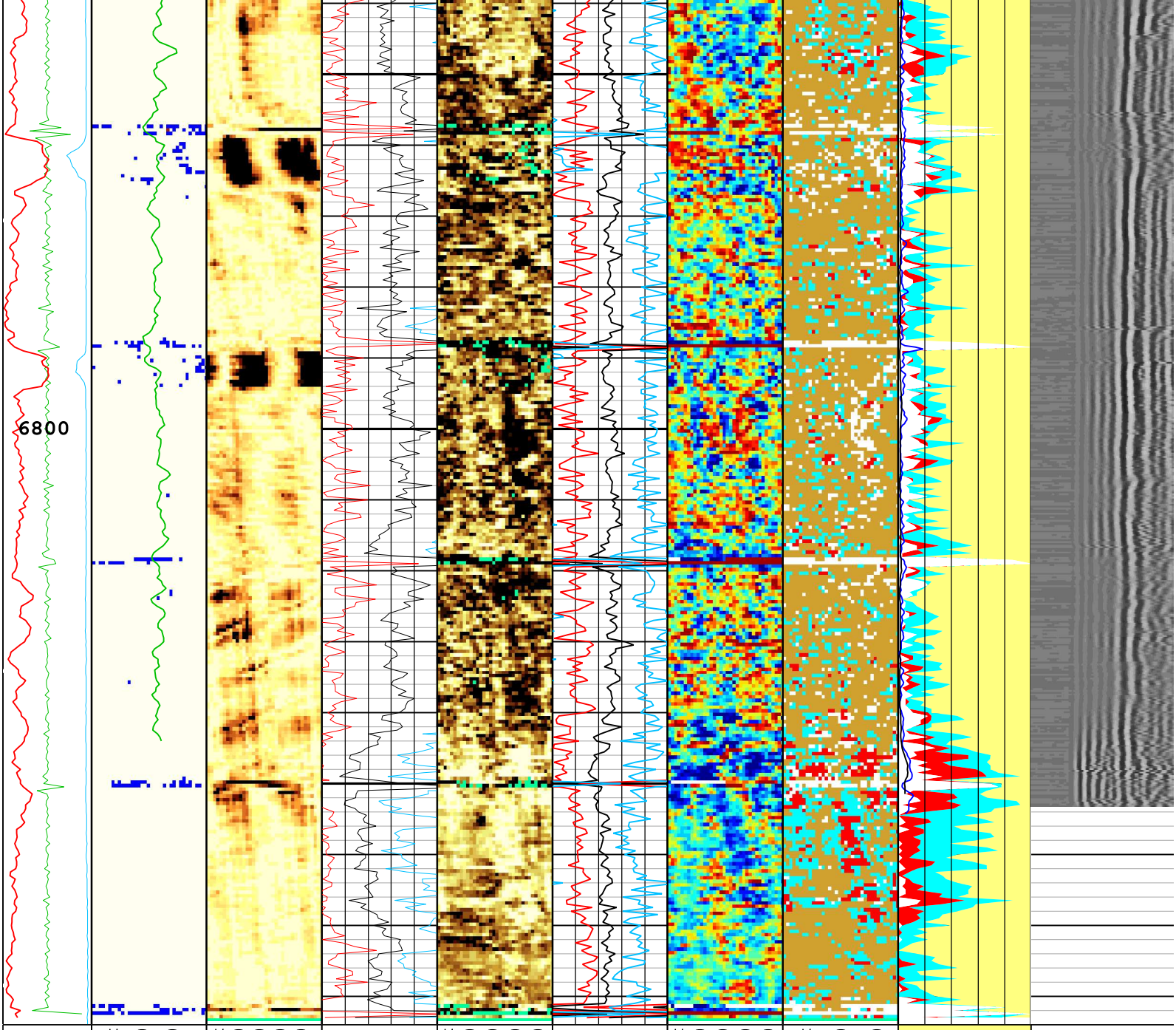
U-USIT_UFAN
CBL
BCBL



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-20 in 20

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

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

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Gamma Ray (ECGR_EDTC) EDTC-B
0 gAPI 150

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Wave (AWBK) USIT-E (dB)

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

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

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

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_UFAX) USIT-E
0 dB/m 150

Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)

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

SLG Solid Index

SLG Liquid Index

SLG Gas Index

SLG White Point Index

Synthetic CBL from Discriminated Attenuation (DCBL) ASLT-B
0 mV 100

CBL Amplitude (CBL) ASLT-B
0 mV 100

Min Amplitude
VDL VariableDens (VDL) ASLT-B
200 us

TIME_1900 - Time Marked every 60.00 (s)

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

Description: USI IBC SLG Format: Log (IBC SLG CBL DCBL-VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Dat
31-Mar-2022 20:53:30

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
CBAF_D	CBL Adjustment Factor	ASLT-B	1	
CBLO	Casing Bottom (Logger)	WLSESSION	7384	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	ASLT-B	80	mV
CDEN	Cement Density	USIT-E	0	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.276	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	10	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)	
GOBO_CURR	Good Bond in Arbitrary Cement	ASLT-B	2.05	mV
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-8.14	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	
MATT	Maximum Attenuation	ASLT-B	50.2	dB/m
MATT_CURR	Maximum Attenuation in Arbitrary Cement	ASLT-B	50.2	dB/m
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	17.03	us
MSA	Minimum Sonic Amplitude	ASLT-B	0.82	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	ASLT-B	0.82	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.1	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.1	
NFPI_L5_D	Near Free Pipe Sonic Amplitude for Lower Transmitter - Receiver 5 (depth domain)	ASLT-B	0	
NFPI_U1_D	Near Free Pipe Sonic Amplitude for Upper Transmitter - Receiver 1 (depth domain)	ASLT-B	0	
RUN_SNUM	Run Sequence Number	WSDRUN	1	
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	85	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.5	Mrayl

U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
ZMUD	Acoustic Impedance of Mud	Borehole	1.62	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	20.5	360
BS	7.875	360	6884

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	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	4010	ft/h
MODE	SSLT Firing Mode	ASLT-B	Attenuation	
UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VDM	SSLT VDL Display Mode	ASLT-B	R5	
VRES	Vertical Resolution	USIT-E	6.0 in	

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	40	31-Mar-2022 09:02:27	31-Mar-2022 09:15:39	6884.91	6079.01
EMXV	50	31-Mar-2022 09:15:39	31-Mar-2022 10:56:37	6079.01	60.51

All depth are at tool zero.

One

Repeat

Software Version

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

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	751.97 ft	1009.08 ft	31-Mar-2022 8:16:44 AM	31-Mar-2022 8:25:43 AM	OFF	1.74 ft	Yes

All depths are referenced to toolstring zero

Description: USI IBC SLG Format: Log (IBC SLG CBL DCBL-VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Dat
31-Mar-2022 20:53:43

TIME_1900 - Time Marked every 60.00 (s)

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-20 in 20

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

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

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Gamma Ray (ECGR_EDTC) EDTC-B
0 gAPI 150

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Wave (AWBK) USIT-E
(dB)

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

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

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

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_UFAX) USIT-E
0 dB/m 150

Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E
(dB/m)

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

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

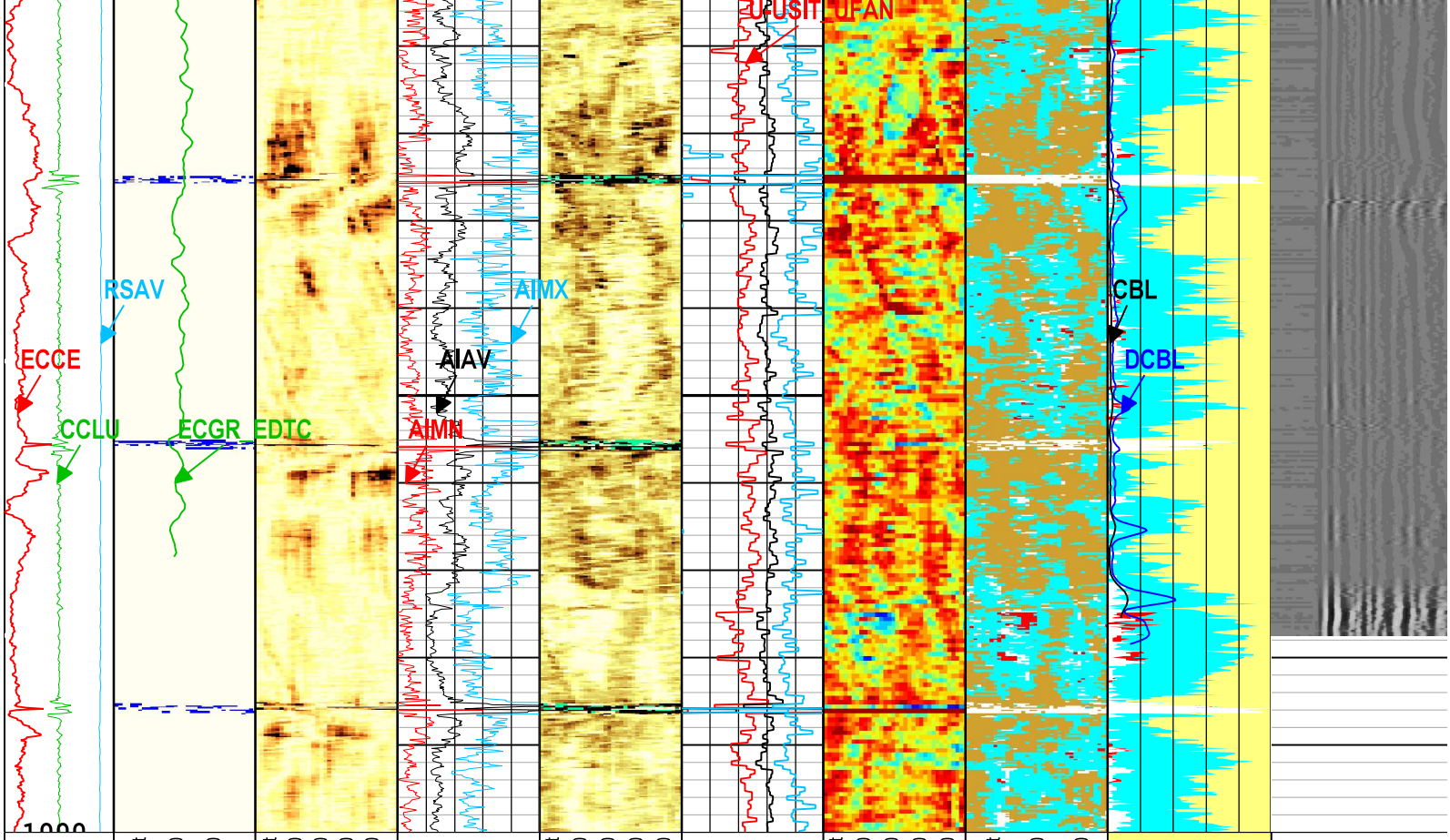
Synthetic CBL from Discriminated Attenuation (DCBL) ASLT-B
0 mV 100

CBL Amplitude (CBL) ASLT-B
0 mV 100

Min Amplitude
VDL VariableDens (VDL) ASLT-B
200 us

U-USIT_UFAX
U-USIT_UFAV

900



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-20 in 20

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

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

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

USIT Processing Flags (UFLG[0]) USIT-E
1 5

Gamma Ray (ECGR_EDTC) EDTC-B
0 gAPI 150

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Wave (AWBK) USIT-E
(dB)

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

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

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

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_UFAX) USIT-E
0 dB/m 150

Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E
(dB/m)

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

SLG Solid Index

SLG Liquid Index

SLG Gas Index

SLG White Point Index

Synthetic CBL from Discriminated Attenuation (DCBL) ASLT-B
0 mV 100

CBL Amplitude (CBL) ASLT-B
0 mV 100

Min Amplitude
VDL VariableDens (VDL) ASLT-B
200 us

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

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error
Casing Thickness Error
Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Format: Log (IBC SLG CBL DCBL-VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Dat
31-Mar-2022 20:53:43

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	7.875	in
CBAF_D	CBL Adjustment Factor	ASLT-B	1	
CBLO	Casing Bottom (Logger)	WLSESSION	7384	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	ASLT-B	80	mV
CDEN	Cement Density	USIT-E	0	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.276	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	10	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)	
GOBO_CURR	Good Bond in Arbitrary Cement	ASLT-B	2.05	mV
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	-8.14	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	
MATT	Maximum Attenuation	ASLT-B	50.2	dB/m
MATT_CURR	Maximum Attenuation in Arbitrary Cement	ASLT-B	50.2	dB/m
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	17.03	us
MSA	Minimum Sonic Amplitude	ASLT-B	0.82	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	ASLT-B	0.82	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.1	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.1	
NFPI_L5_D	Near Free Pipe Sonic Amplitude for Lower Transmitter - Receiver 5 (depth domain)	ASLT-B	0	
NFPI_U1_D	Near Free Pipe Sonic Amplitude for Upper Transmitter - Receiver 1 (depth domain)	ASLT-B	0	
RUN_SNUM	Run Sequence Number	WSDRUN	1	
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	85	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.5	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-5.7	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
ZMUD	Acoustic Impedance of Mud	Borehole	1.62	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	48	dB
EMXV	EMEX Voltage	USIT-E	40	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	DVR 1/4 and 1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2204.4	ft/h
MODE	SSLT Firing Mode	ASLT-B	Attenuation	
UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 1.5 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VDM	SSLT VDL Display Mode	ASLT-B	R5	
VRES	Vertical Resolution	USIT-E	1.5 in	

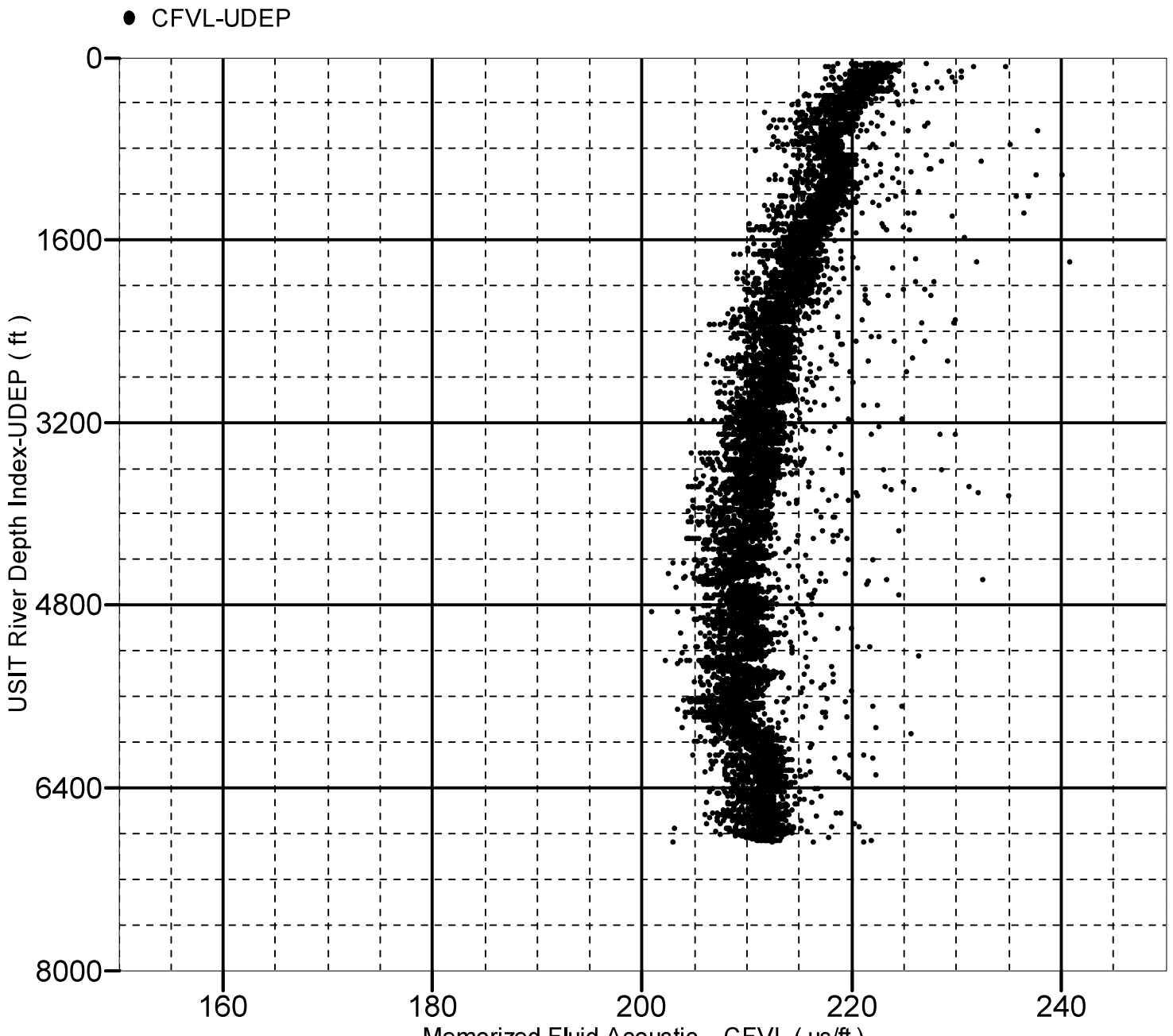
XYZ

Company:Occidental Petroleum Well:Bierig-UPRR 42-35
One: Log[4]:Up:S007

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 6884.00 to 59.50 ft



Memorized Fluid Acoustic...-CFVL (us/ft)

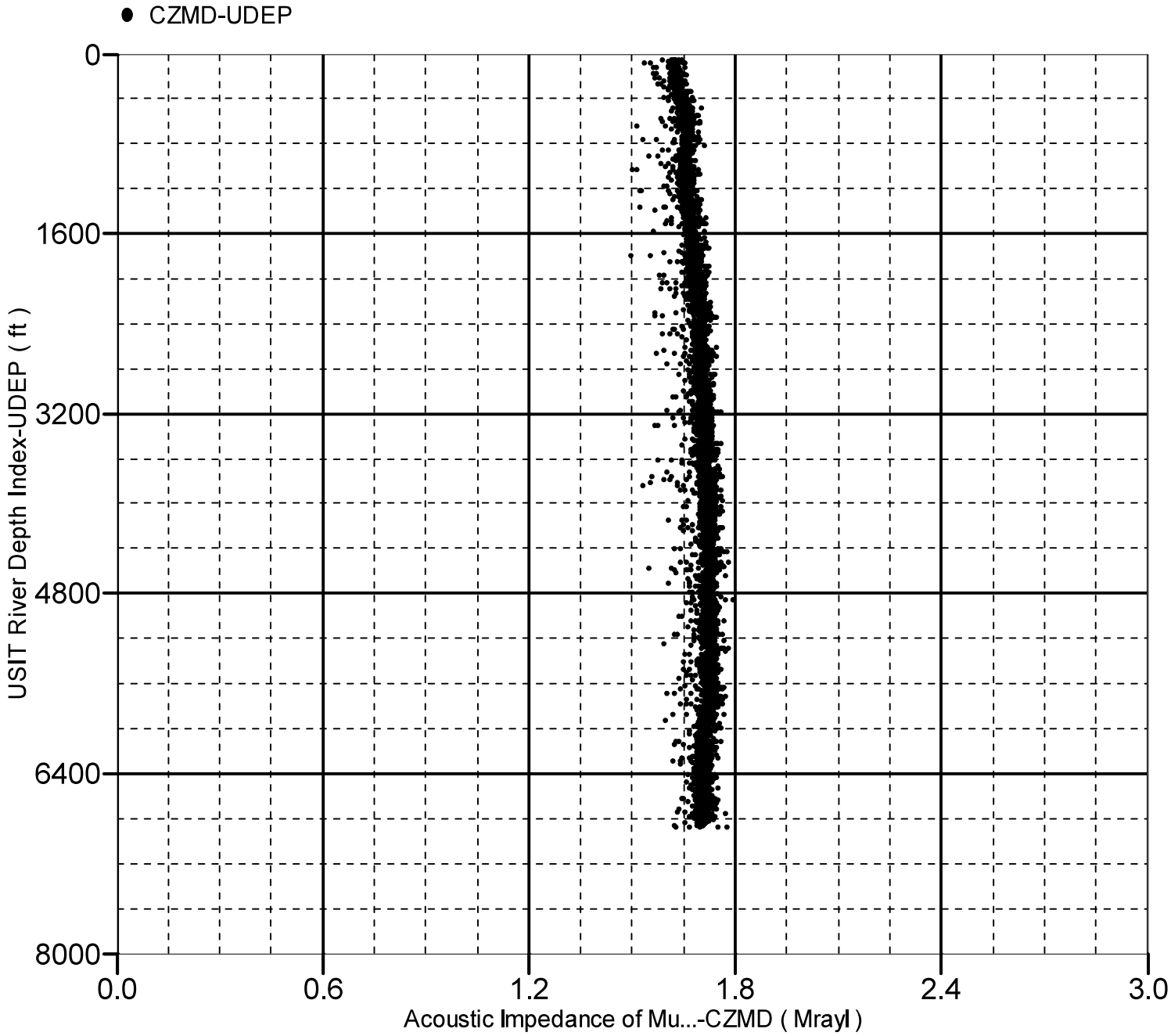
XYZ

Company:Occidental Petroleum Well:Bierig-UPRR 42-35
One: Log[4]:Up:S007

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6884.00 to 59.50 ft



Company:	Occidental Petroleum
Well:	Bierig-UPRR 42-35
Field:	Wattenberg
County:	Weld
State:	Colorado

Schlumberger

Isolation Scanner
Cement Bond Log
Gamma Ray - CCL