Schlumberger

Company: Crestone Peak Resources Operating LLC

Well: Melbon Ranch 4G-17H-M265

Field: Wattenburg

County: Weld State: Colorado

Isolation Scanner

Cement Evaluation

Gamma Ray - CCL Log

County: Weld
Field: Wattenburg
Location: SWSW S17 T2N R65W
Well: Melbon Ranch 4G-17H-M265
Company: Crestone Peak Resources Operating LLC

Location:				
SWSW S17 T2N R65W		Elev.: K.B.	4979.00	ft
SHL: 1235 FSL & 219 FWL		G.L.	4956.00	ft
Lat/Long: 40.134742, -104.696636		D.F.	4978.00	ft
Permanent Datum:	Ground Level	Elev.:	4956.00	f
Log Measured From:	Kelly Bushing	23.00 ft	above Perm.Datum	
Drilling Measured From:	Kelly Bushing			

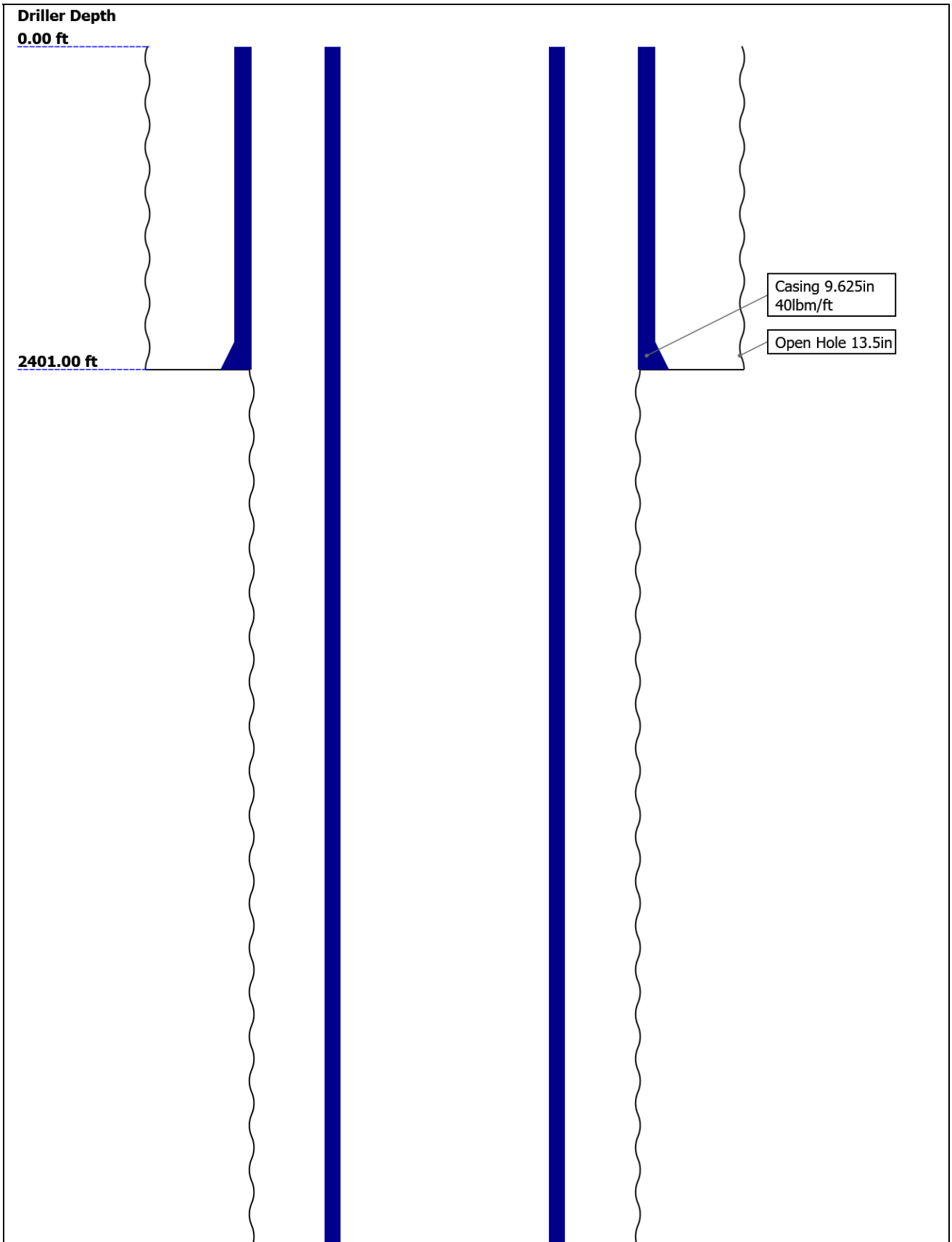
API Serial No.	Section:	Township:	Range:
05-123-47751	17	2N	65W

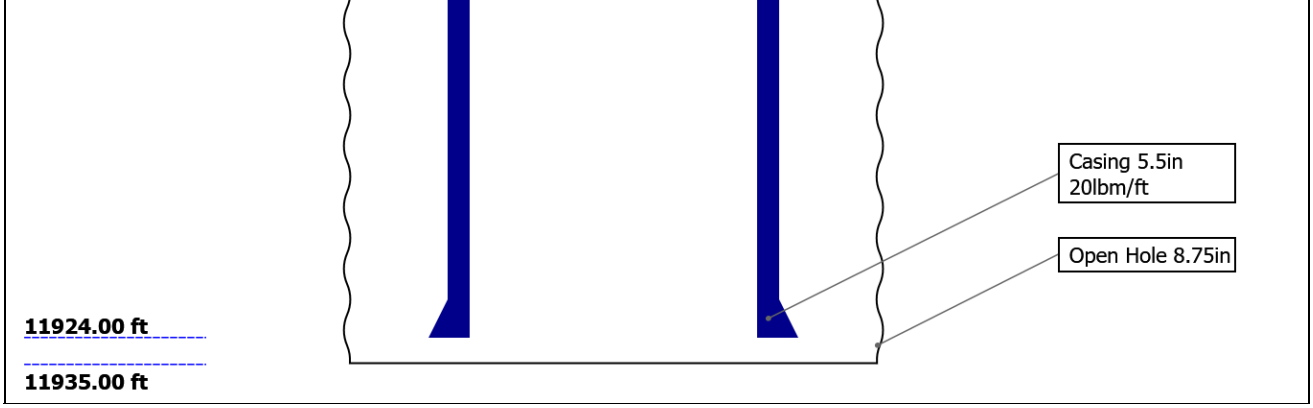
Logging Date	23-Nov-2018		
Run Number	One		
Depth Driller	11935.00 ft		
Schlumberger Depth	11935.00 ft		
Bottom Log Interval	6606.00 ft		
Top Log Interval	86.00 ft		
Casing Fluid Type	WBM		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	86.00 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.75 in		
From	2401.00 ft		
To	11935.00 ft		
Casing/Tubing Size	5.5 in		
Weight	20 lbm/ft		
Grade	N/A		
From	0.00 ft		
To	11924.00 ft		
Max Recorded Temperatures	144 degF	189	
Logger on Bottom Time	23-Nov-2018	08:36:00	
Unit Number Location:	9102	Fort Morgan	
Recorded By	C. Stiles/L. Lewis		
Witnessed By	Keith Kershisnik		

Disclaimer

Contents

Well Sketch





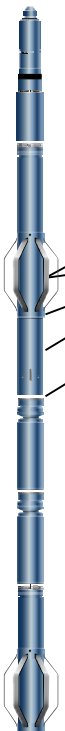
Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	13.5	8.75				
Top Driller (ft)	0	2401				
Top Logger (ft)	0	2401				
Bottom Driller (ft)	2401	11935				
Bottom Logger (ft)	2401	11935				
Casing						
Size (in)	9.625	5.5				
Weight (lbm/ft)	40	20				
Inner Diameter (in)	8.835	4.778				
Grade	N/A	N/A				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	2401	11924				
Bottom Logger (ft)	2401	11924				

Remarks and Equipment Summary

One: Toolstring

Equip name	Length
LEH-QT:2493 LEH-QT:2493	30.73
EDTC-B:8424 EDTH-B:8432 EDTG-A:77303 EDTC-B:8424	27.24
AH-184[2]	20.74
AH-184[1]	18.74
USIT-E:1725 ECH-MFA:1991 USAC-A:1725	16.74



MP name	Offset
CTEM	23.74
ACCZ	0.00
HV	0.00
Gamma Ray	21.87
TelStatus	20.74

One: Remarks

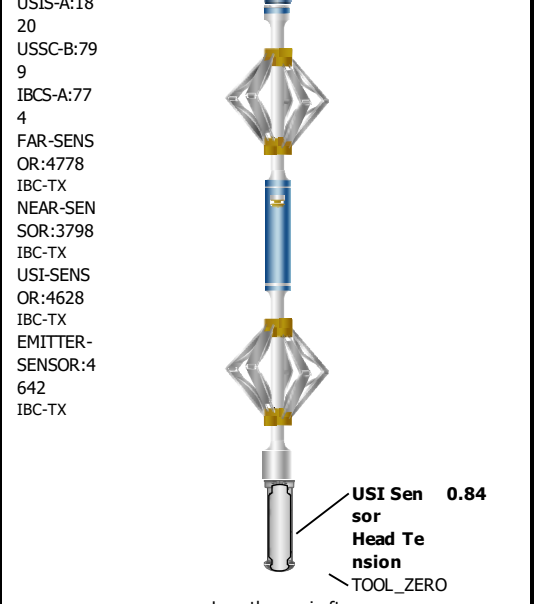
Toolstring ran as per tool sketch and client logging program.

Tool centralized with 5.25" Gemcos, inline centralizers w/ small hole and Houma kit.

Lead: 12.5 ppg
Tail: 13.5 ppg
Spacer: 12 ppg

High deviation (23 deg) near KOP affects local data quality.

Thank you for choosing Schlumberger!



Lengths are in ft
Maximum Outer Diameter = 6.250 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	5822		
Calibration Date	14-Oct-2018		
Calibrator Serial Number	57		
Calibration Cable Type	7-46A XS		
Wheel Correction 1	-2		
Wheel Correction 2	-2		
Tension Device			
Type	CMTD-B/A		
Serial Number	1106		
Calibration Date	19-Oct-2018		
Calibrator Serial Number	78135A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	69		
Calibration Peak Error	116		
Logging Cable			
Type	7-46A-XS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane		

One:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	All Schlumberger depth control procedures followed
Rig Up Length At Surface		IDW used as primary depth control method.
Rig Up Length At Bottom		Z-chart used as secondary method.
Rig Up Length Correction		

Stretch Correction	7.91 ft
Tool Zero Check At Surface	

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[3]:Up	6607.92	69.98

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 : 295.65m(969.98ft) to 299.46m(982.48ft)
MUD_N_FRP = 1.19
DFD = 1.01g/cm3(8.40lbm/gal)
CZMD median computed in free pipe normalization interval = 1.71 MRayl

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

One

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	69.98 ft	6607.92 ft	23-Nov-2018 8:37:32 AM	23-Nov-2018 10:11:42 AM	ON	7.91 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265

One: Log[3]:Up:S034

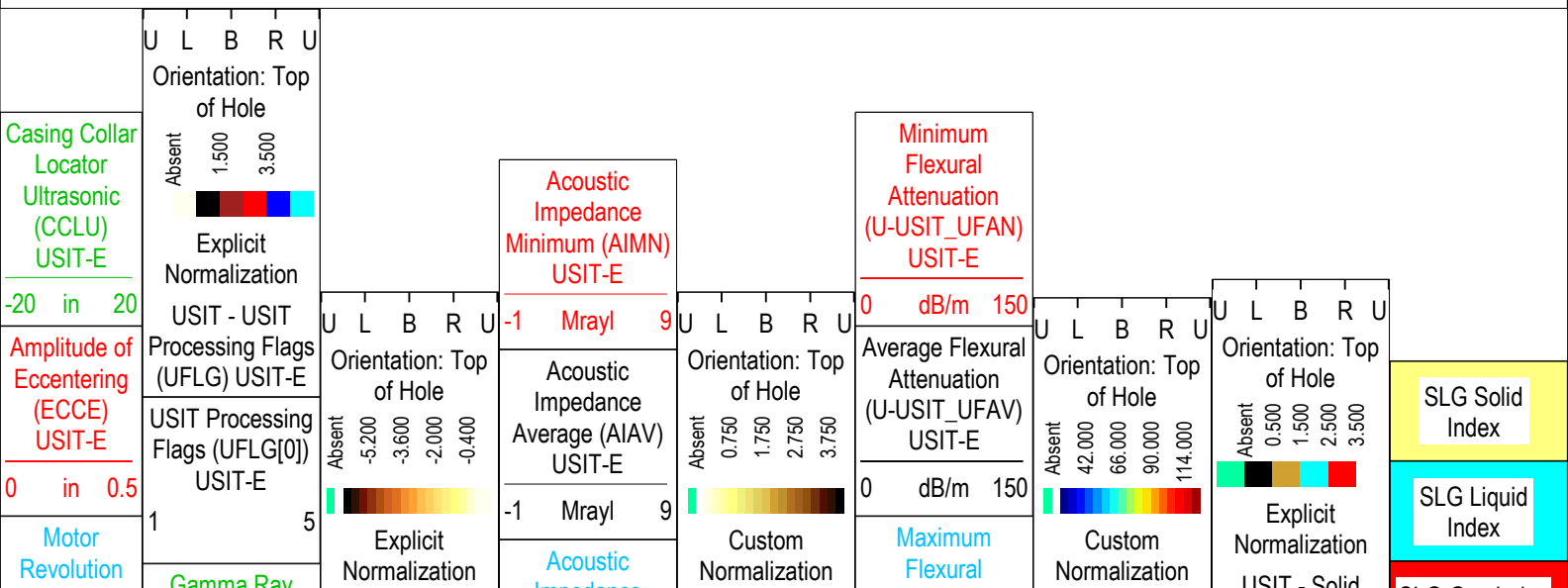
Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Nov-2018 20:52:10

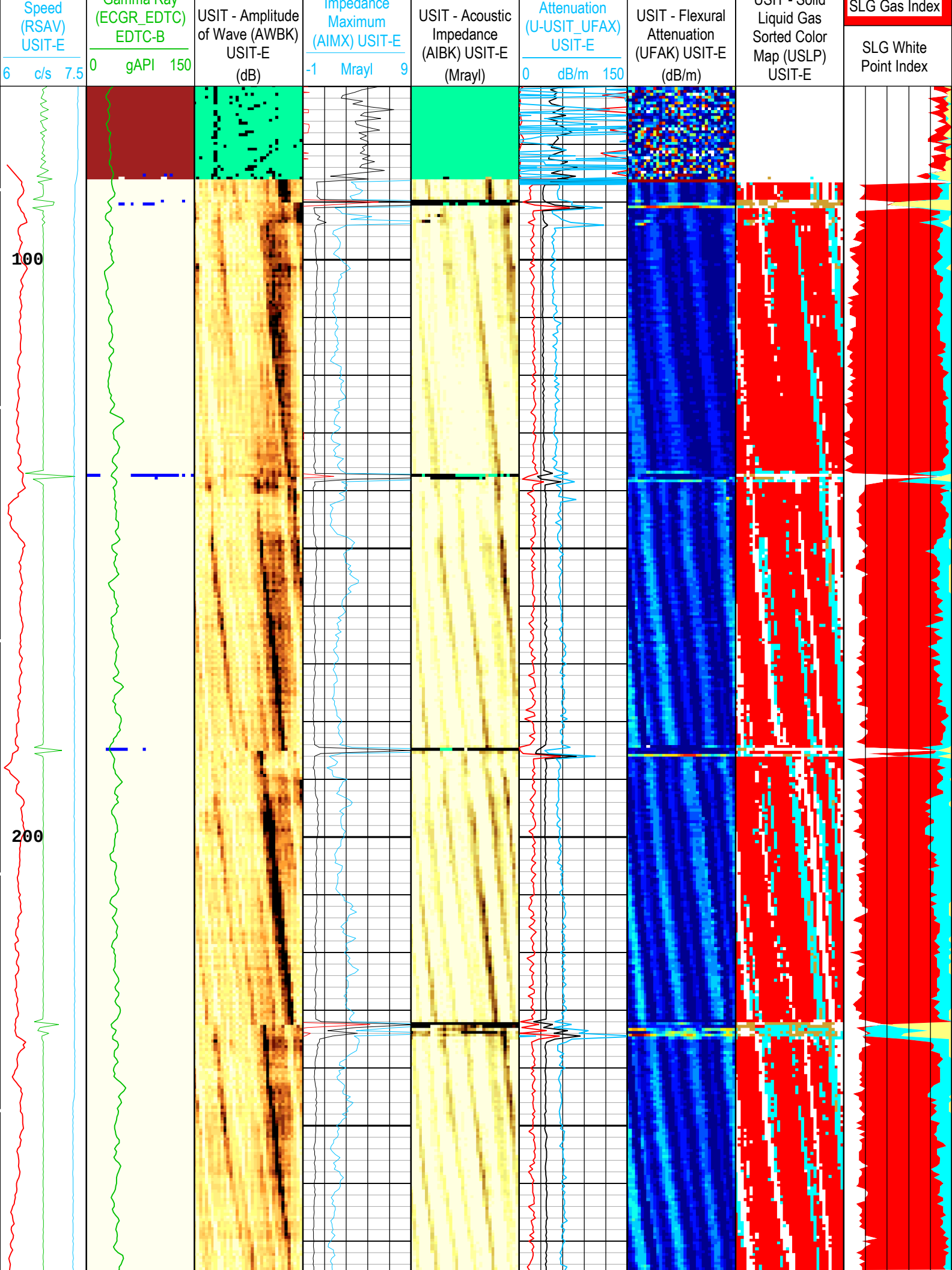
TIME_1900 - Time Marked every 60.00 (s)

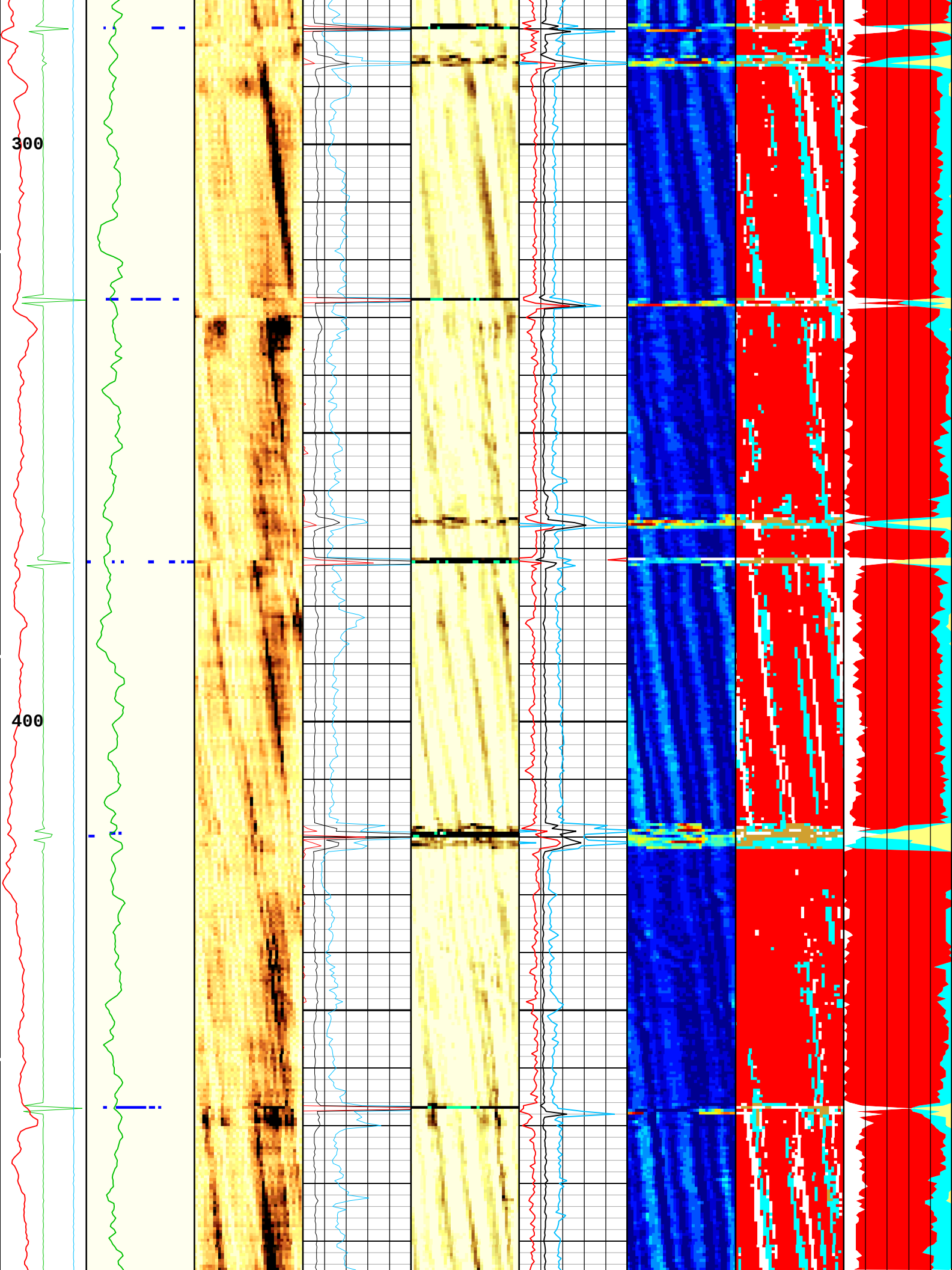
USIT Processing Flags (UFLG[0]) USIT-E

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




Speed (RSAV) USIT-E
6 c/s 7.5
Gamma Ray (ECGR_EDTC) EDTC-B
0 gAPI 150
USIT - Amplitude of Wave (AWBK) USIT-E (dB)
Impedance Maximum (AIMX) USIT-E
-1 Mrayl 9
USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)
Attenuation (U-USIT_UFAX) USIT-E
0 dB/m 150
USIT - Flexural Attenuation (UFAK) USIT-E (dB/m)
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E
SLG Gas Index
SLG White Point Index
100
200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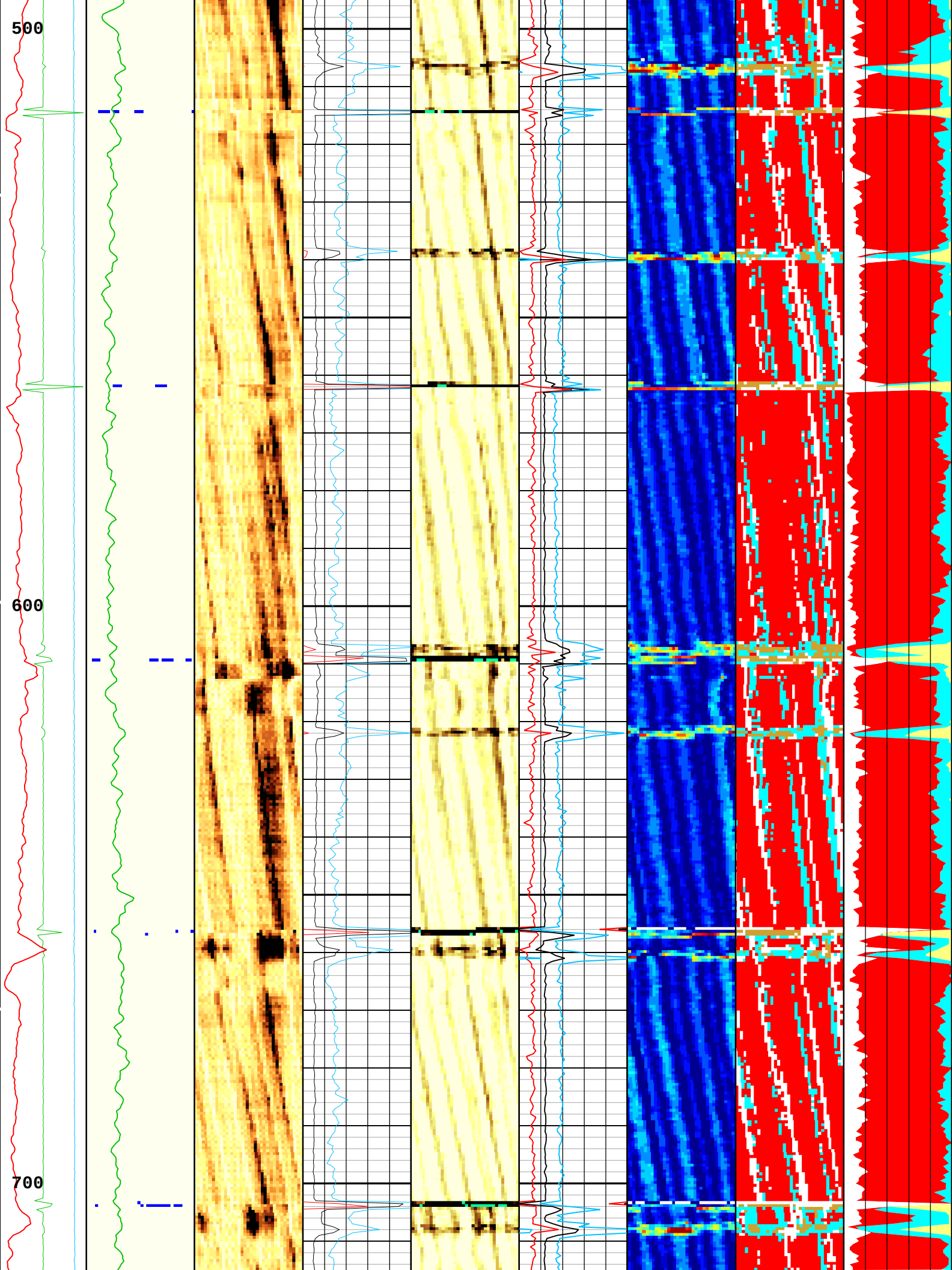
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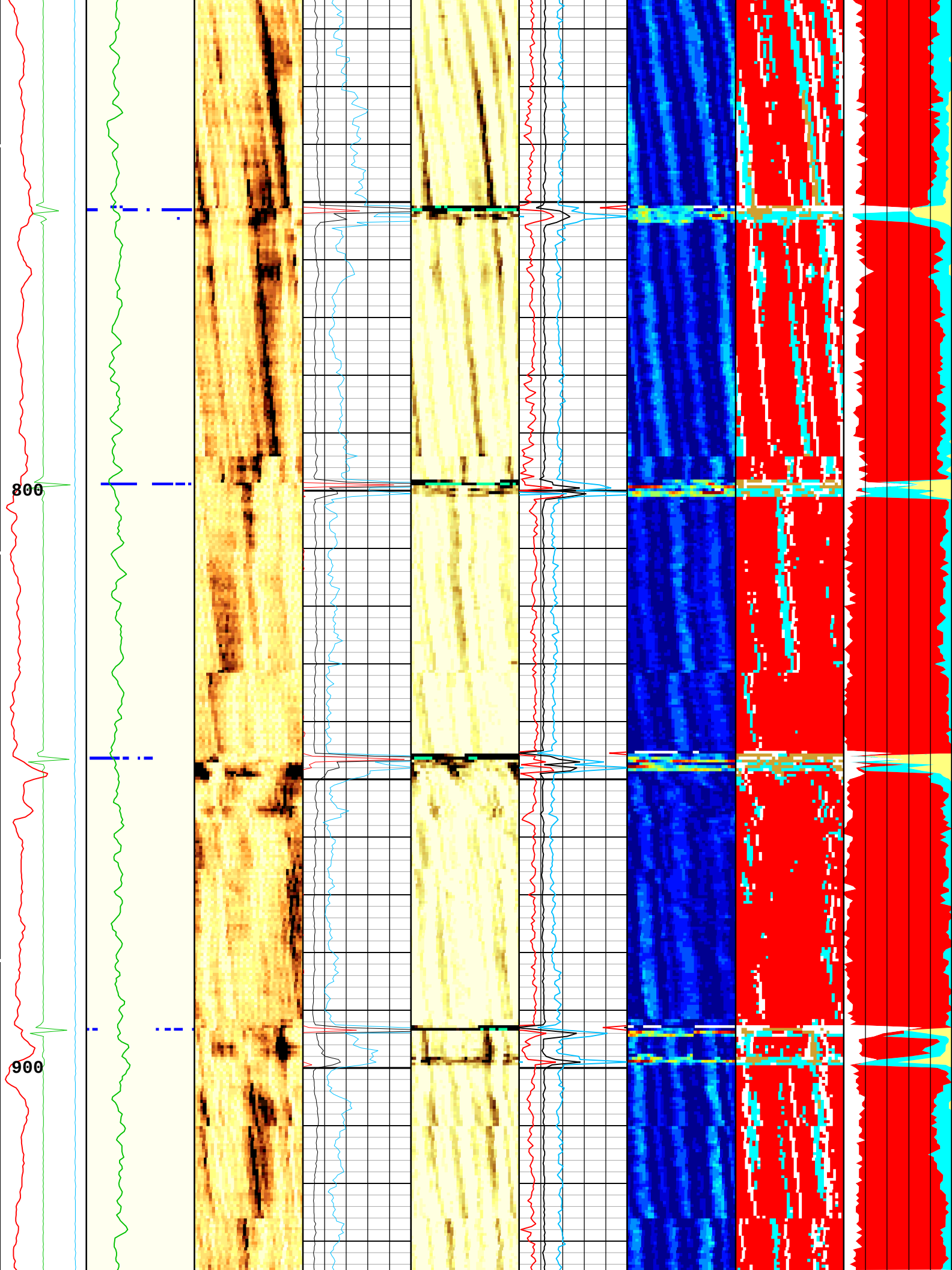
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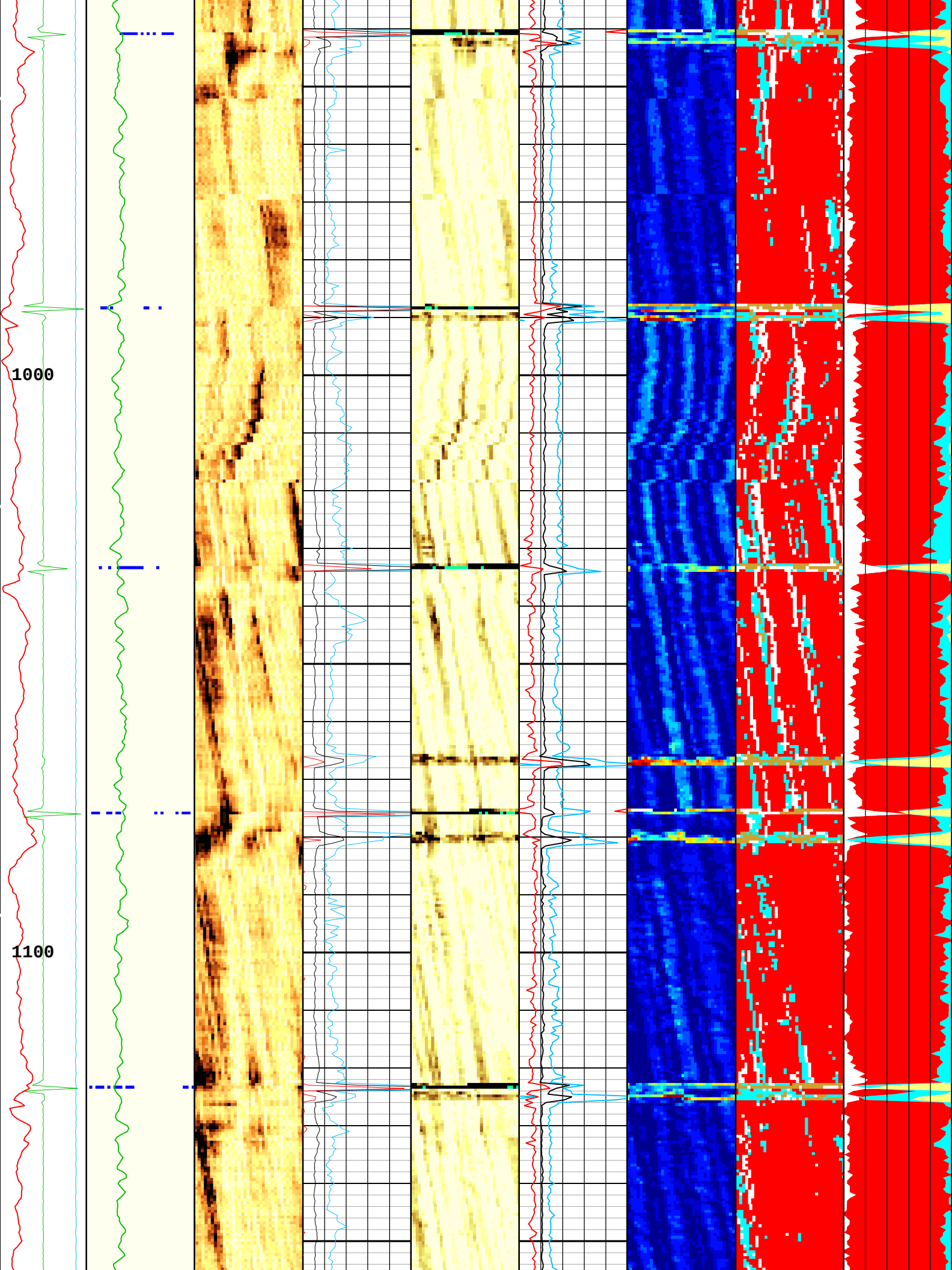
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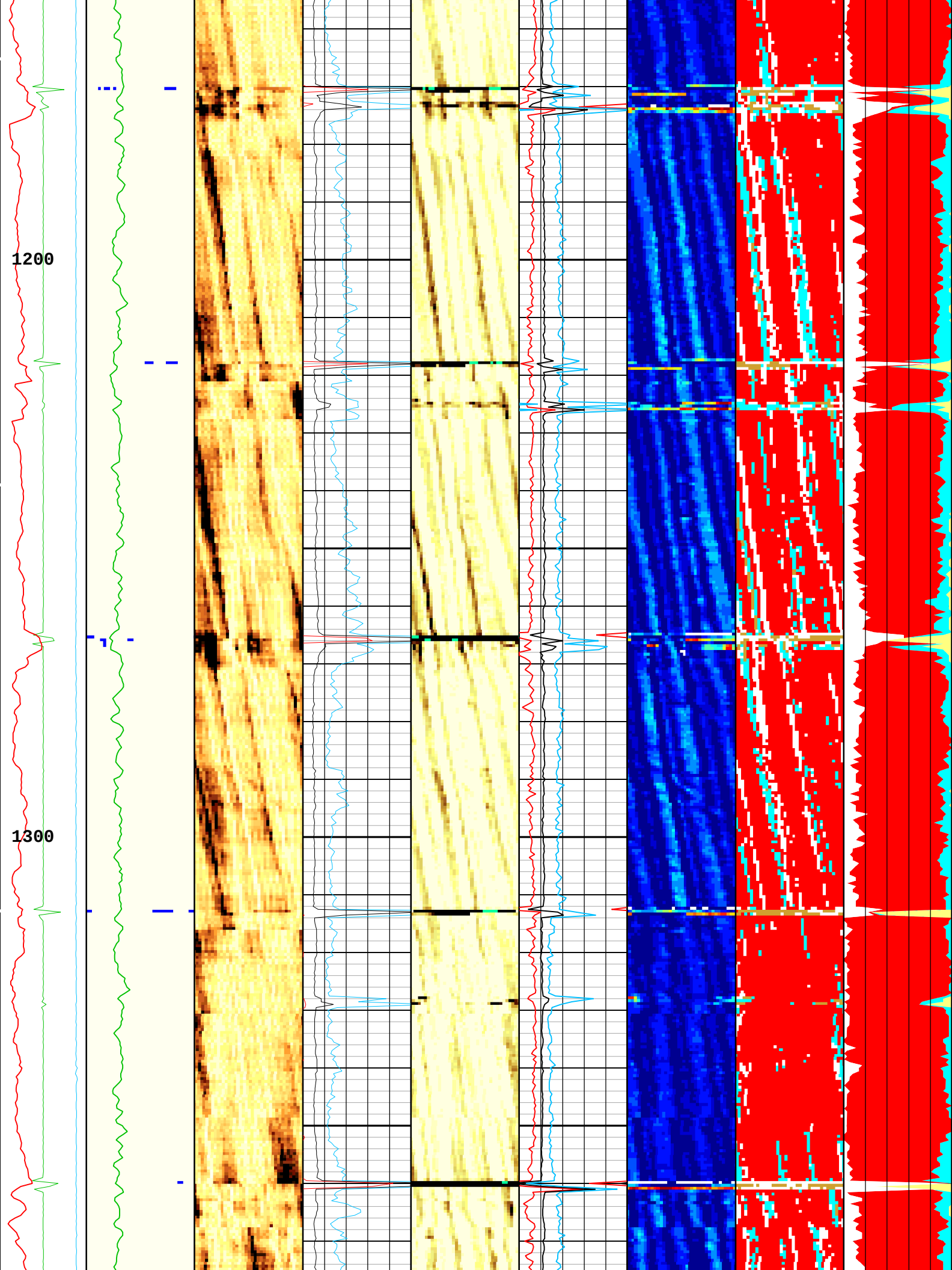
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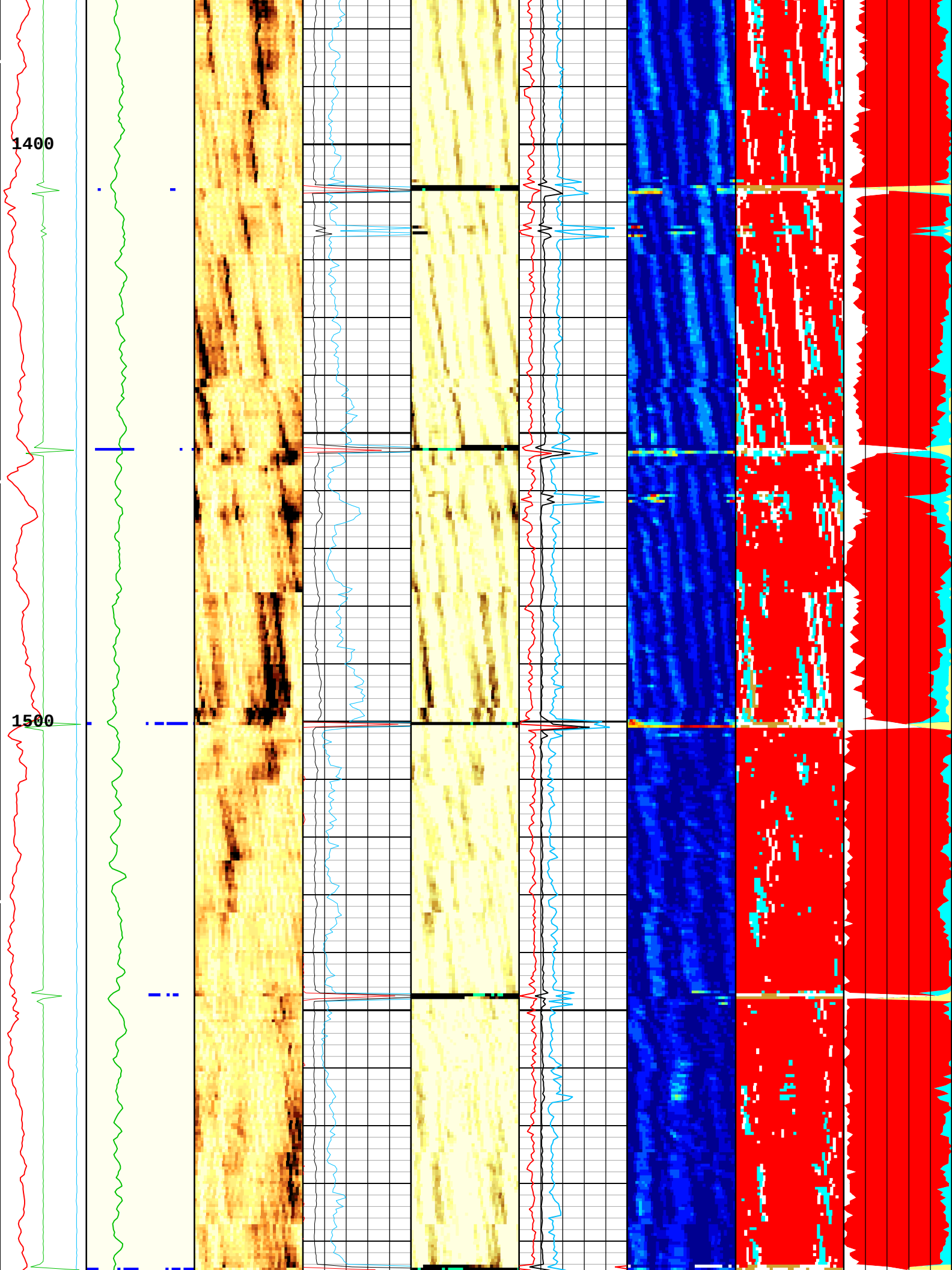
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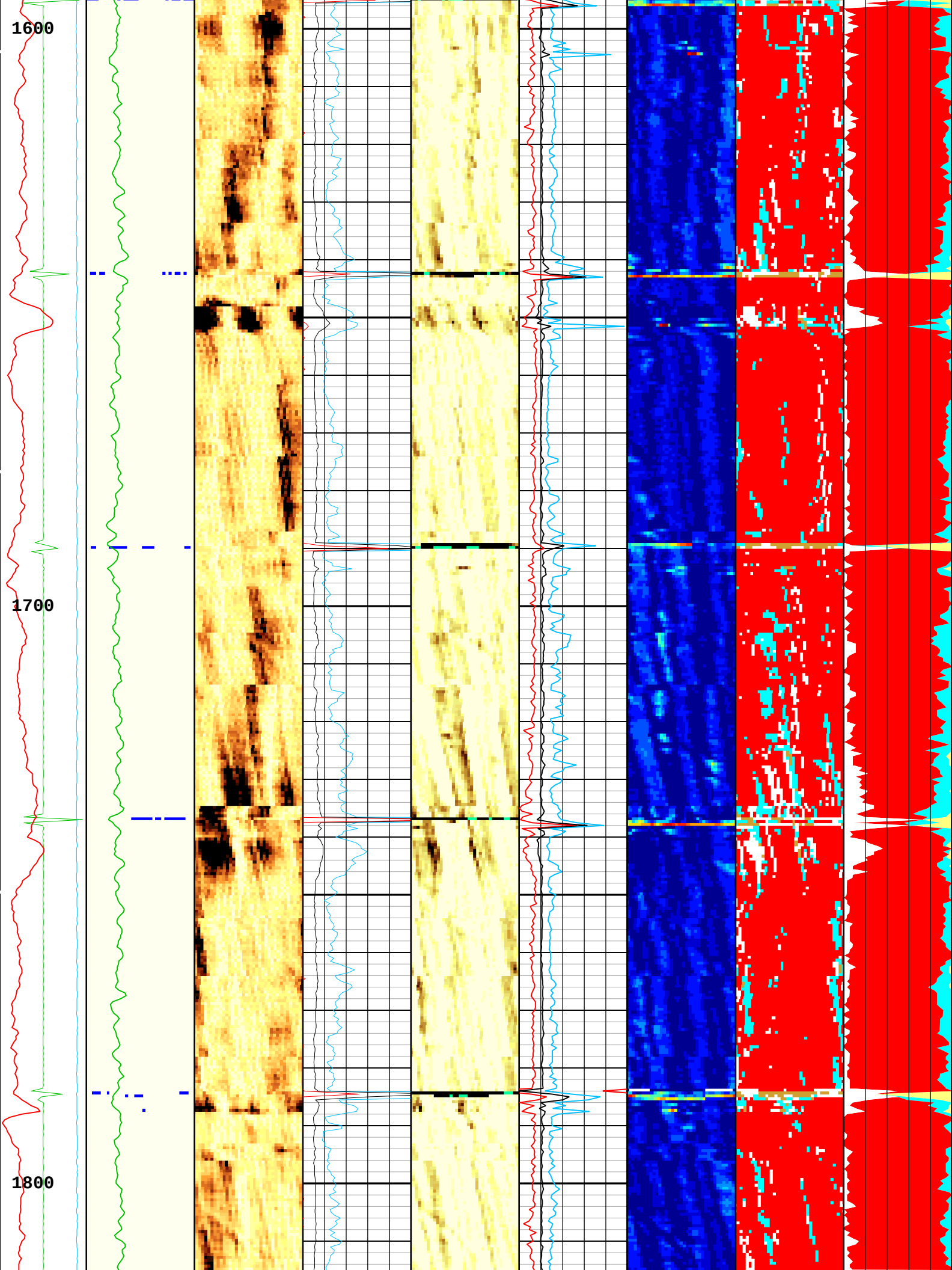
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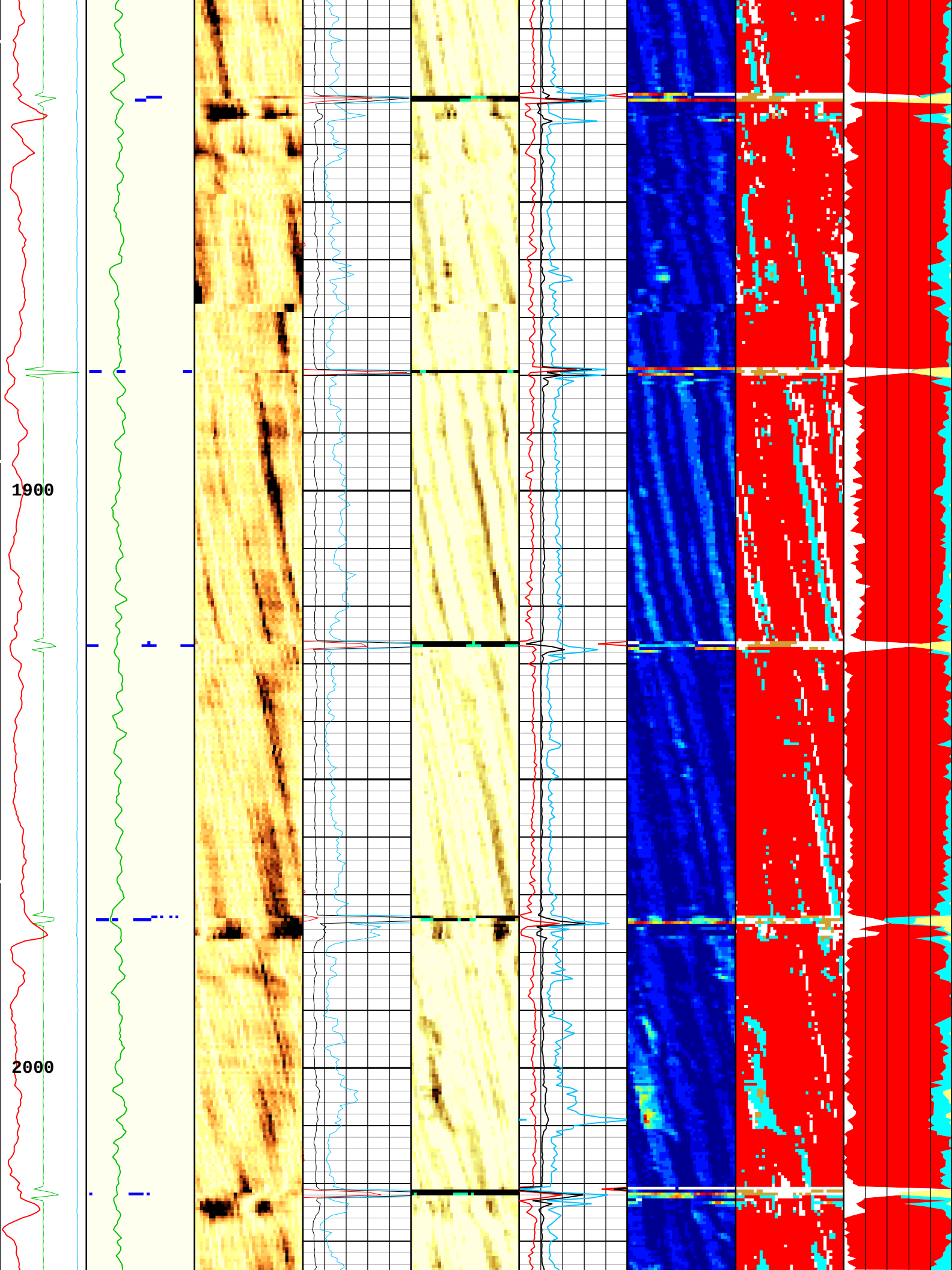
1800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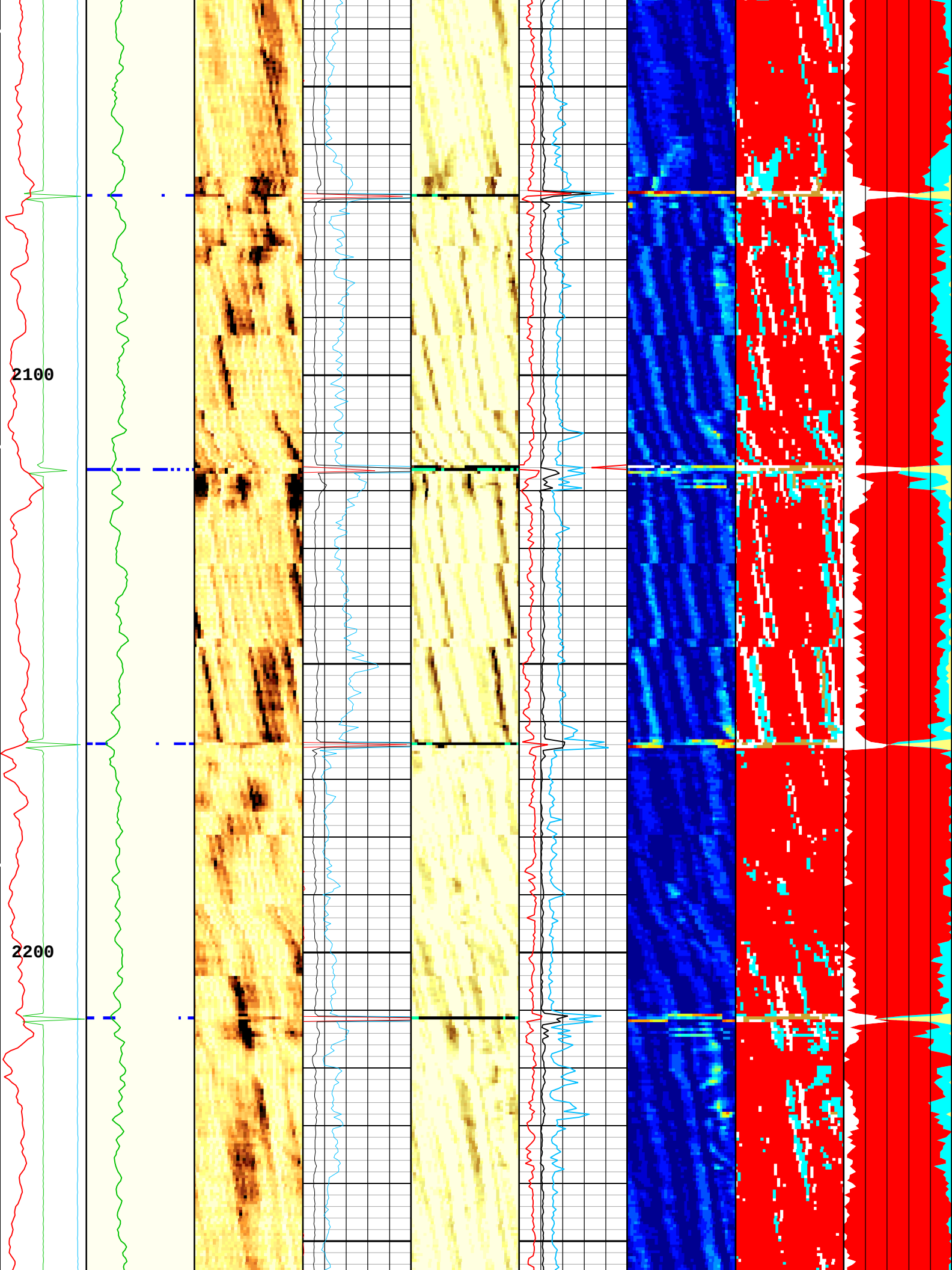
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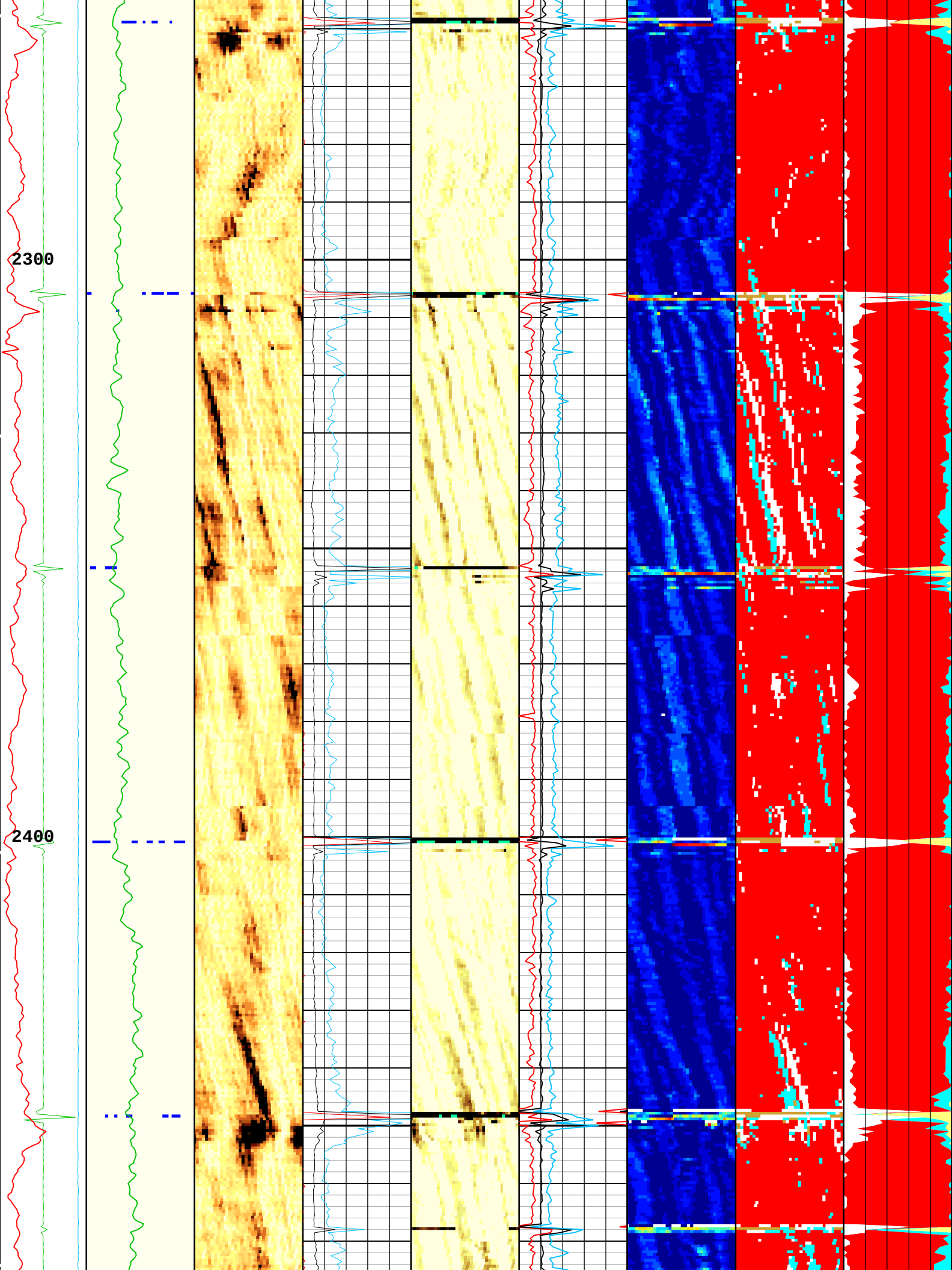
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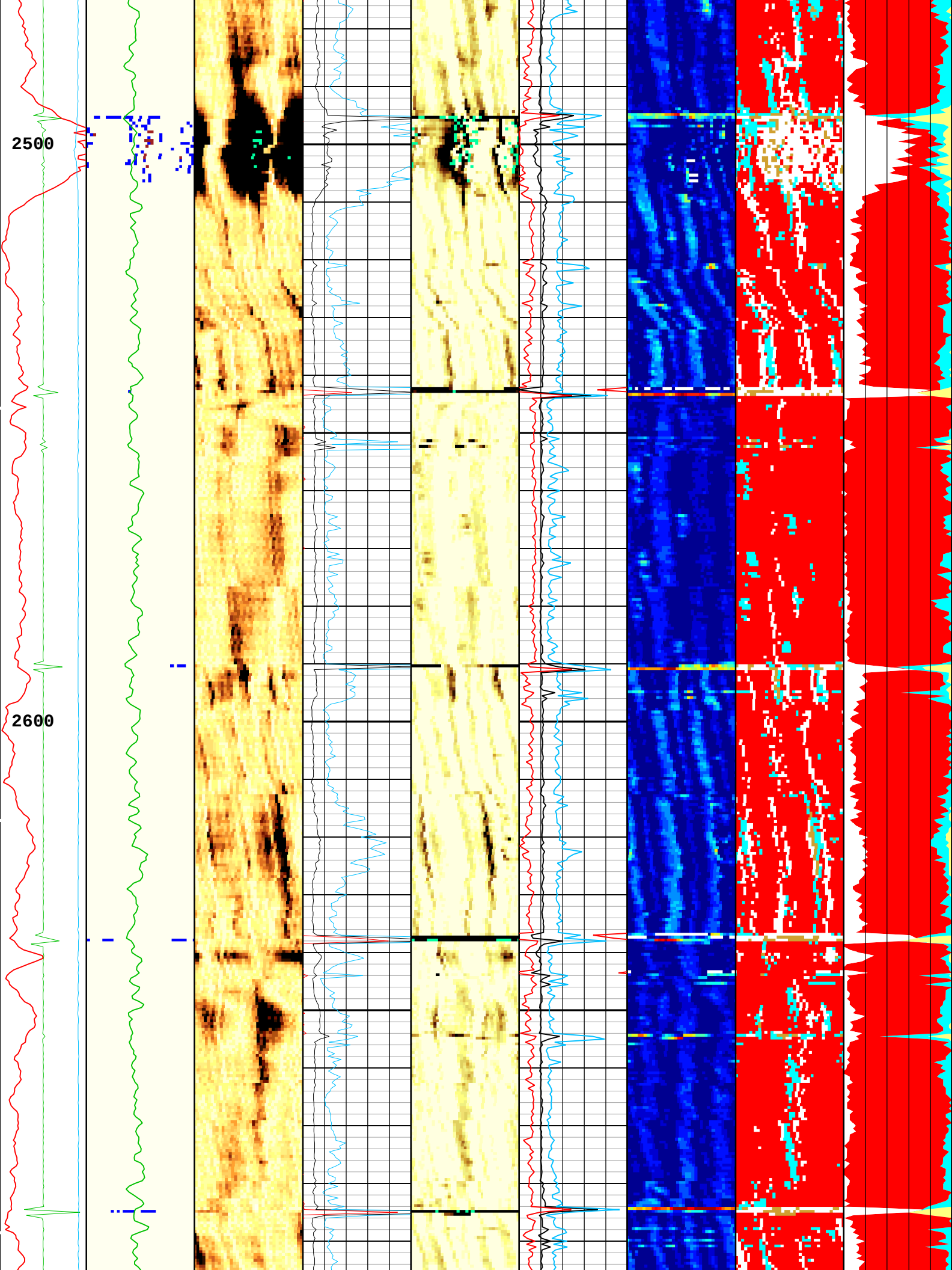
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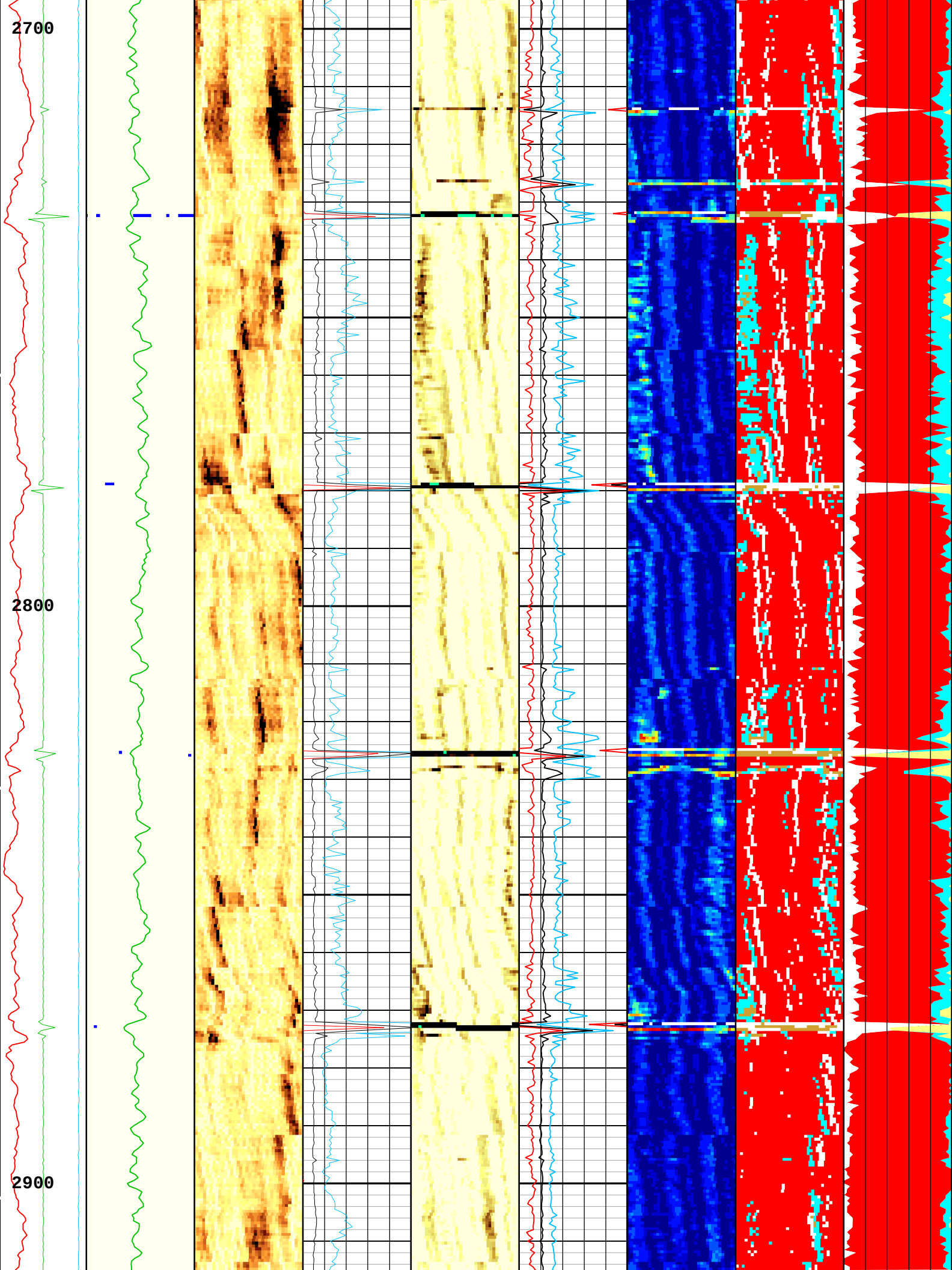
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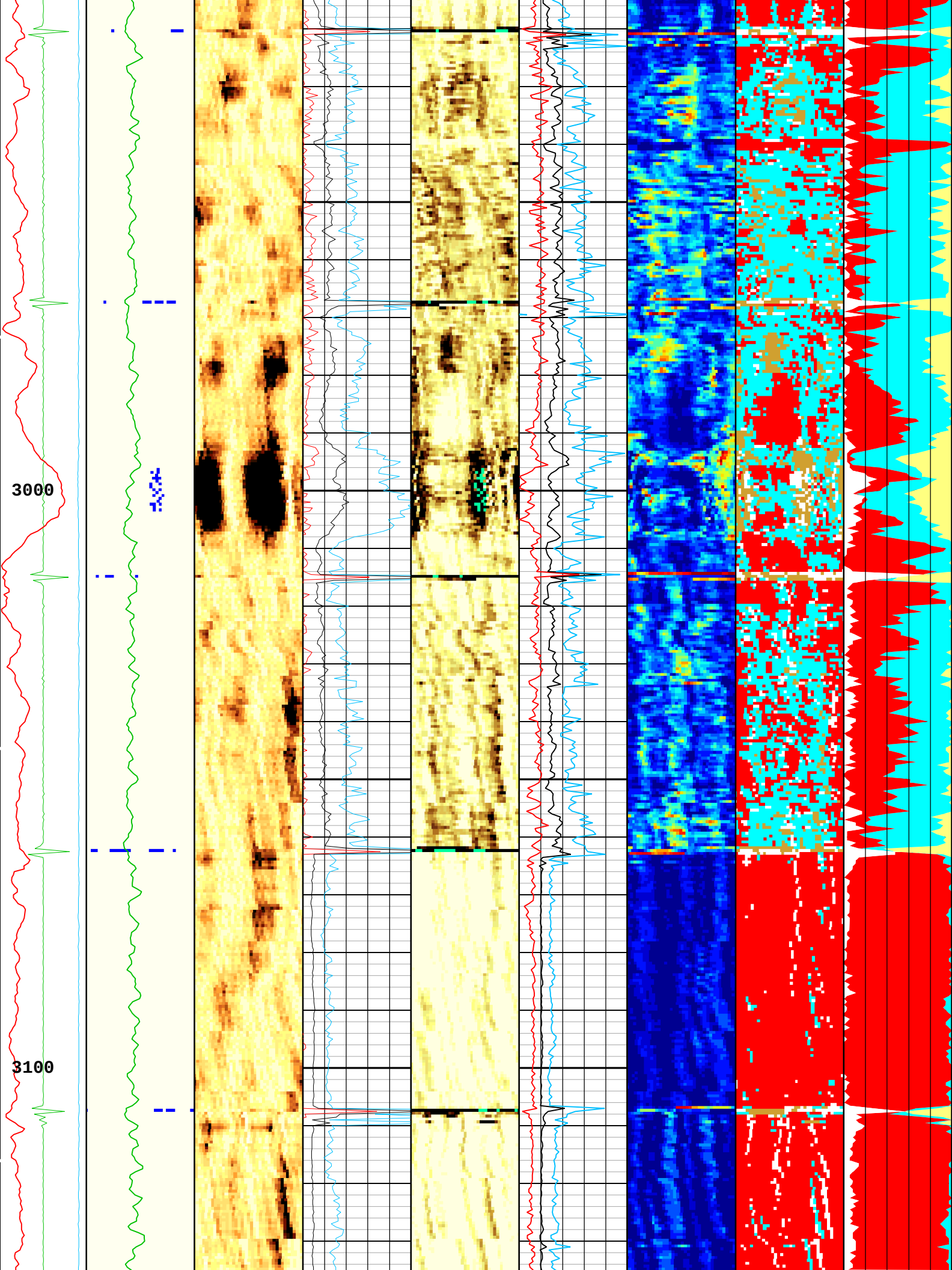
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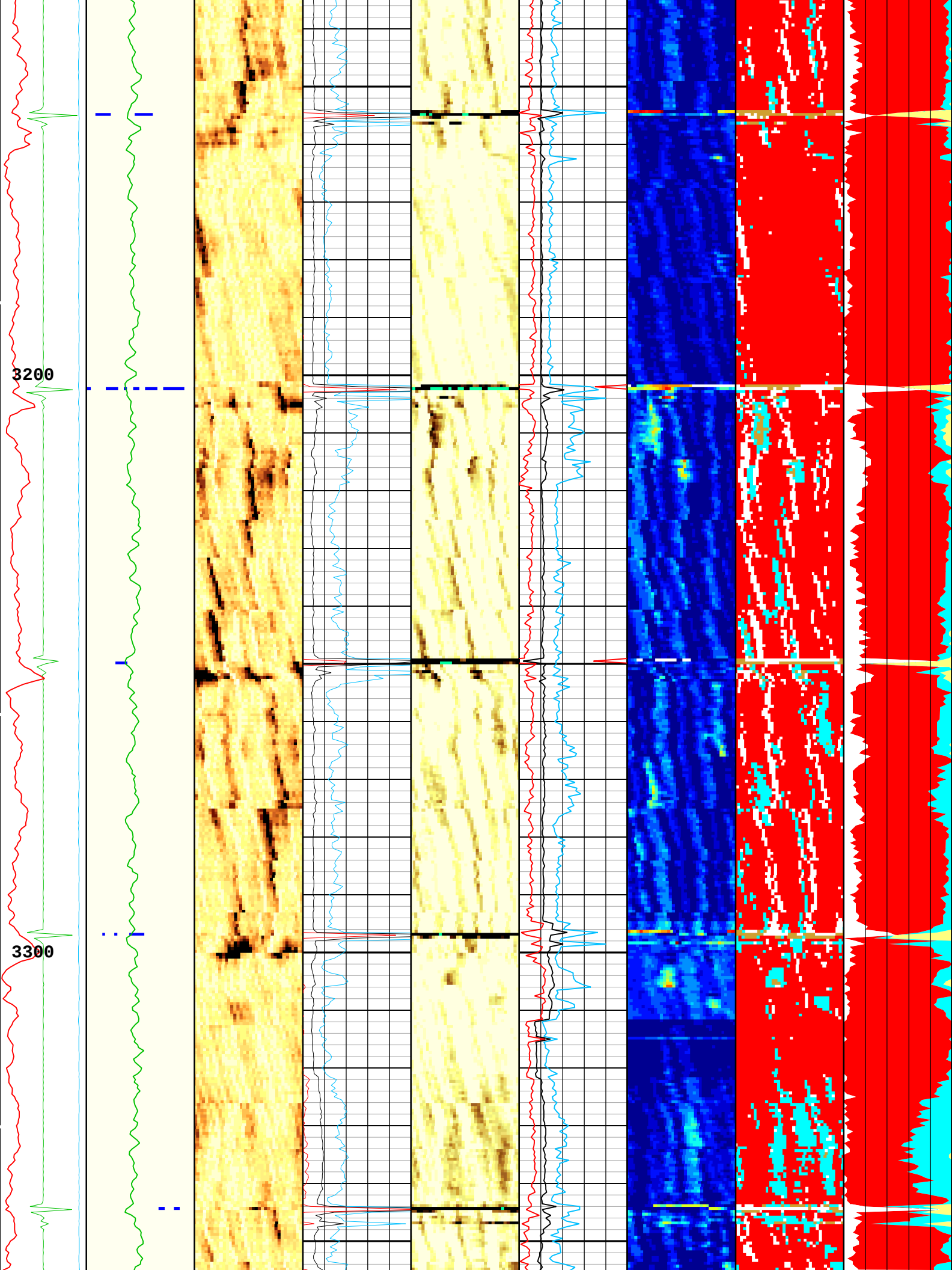
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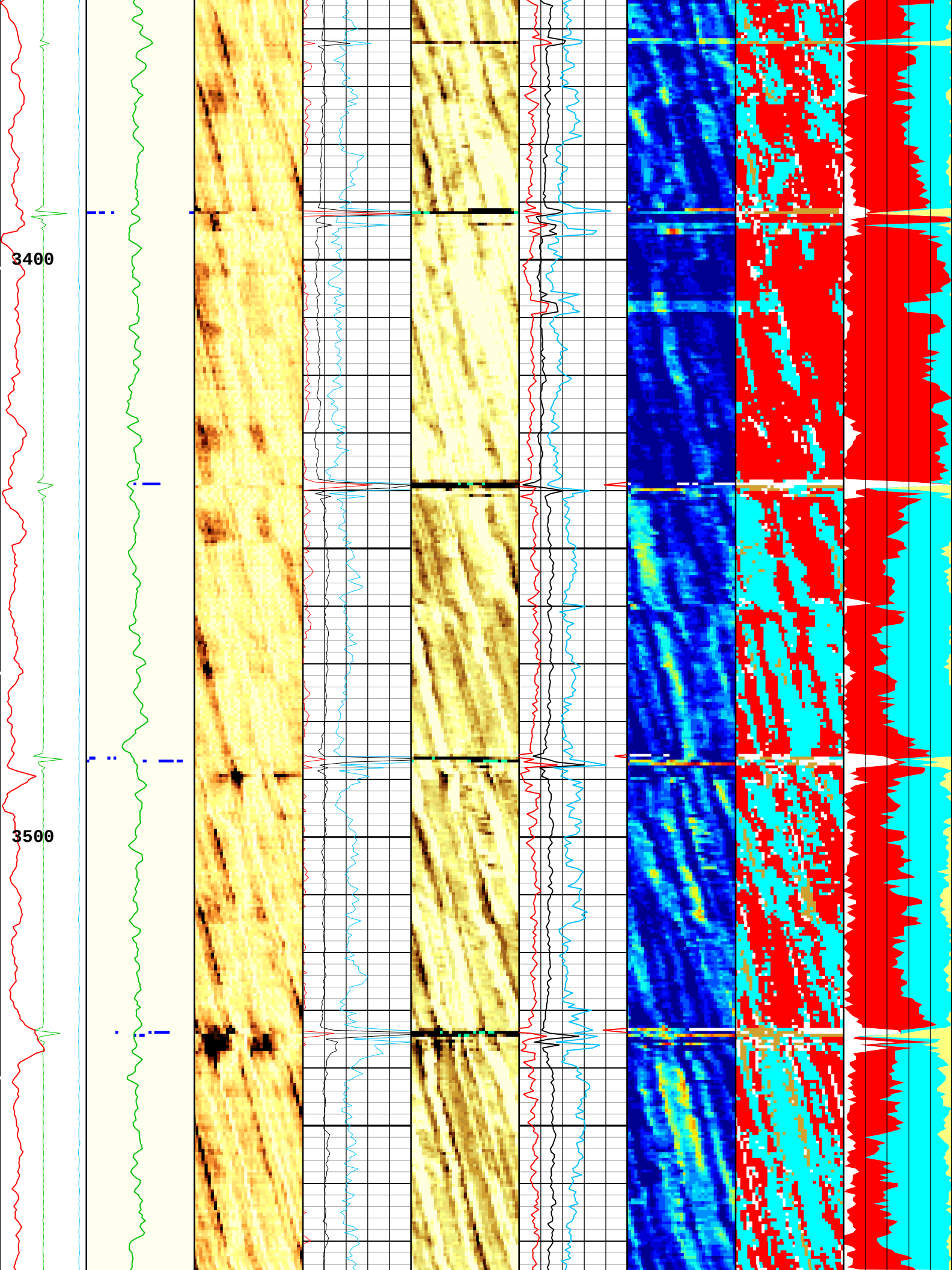
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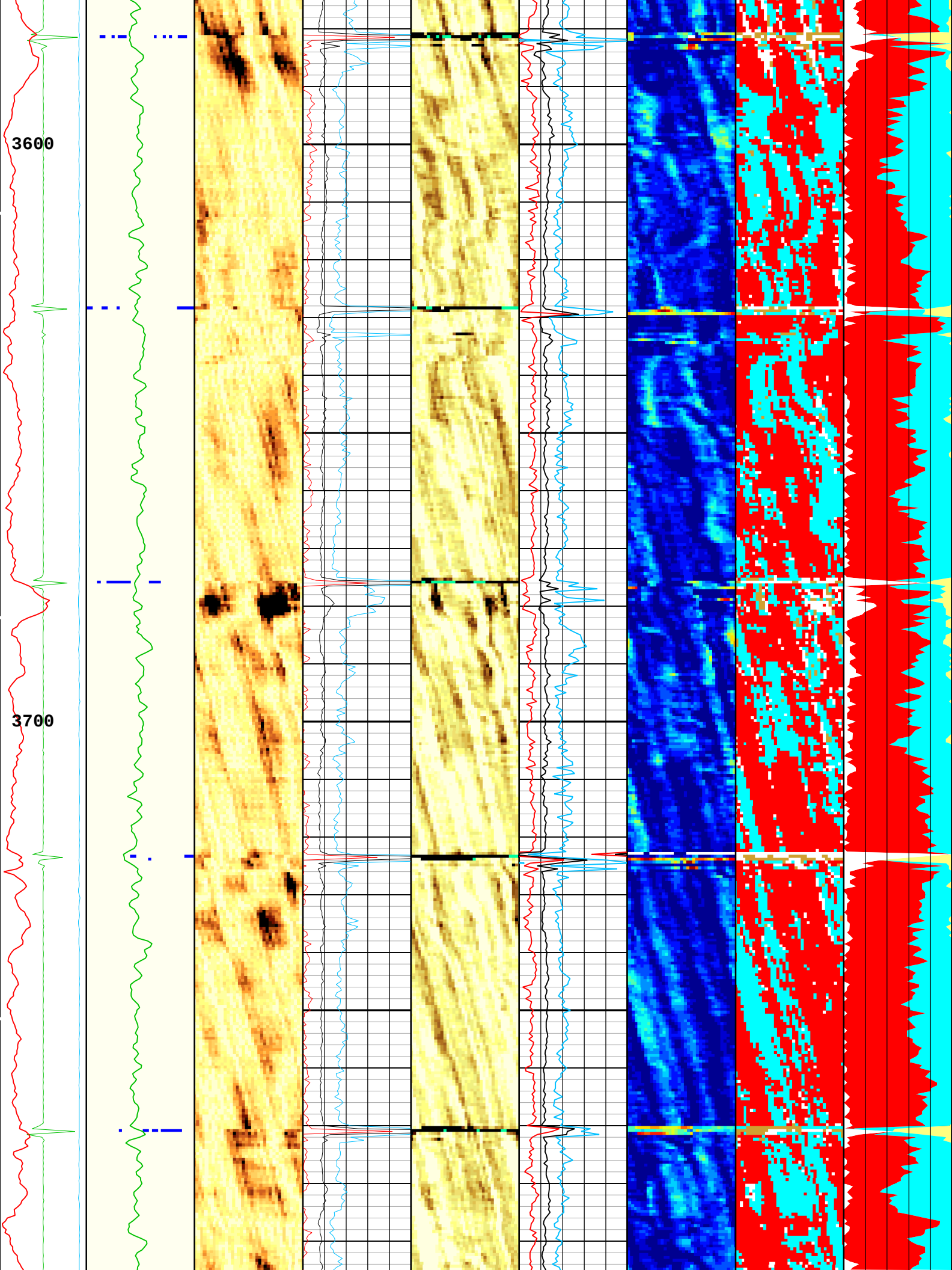
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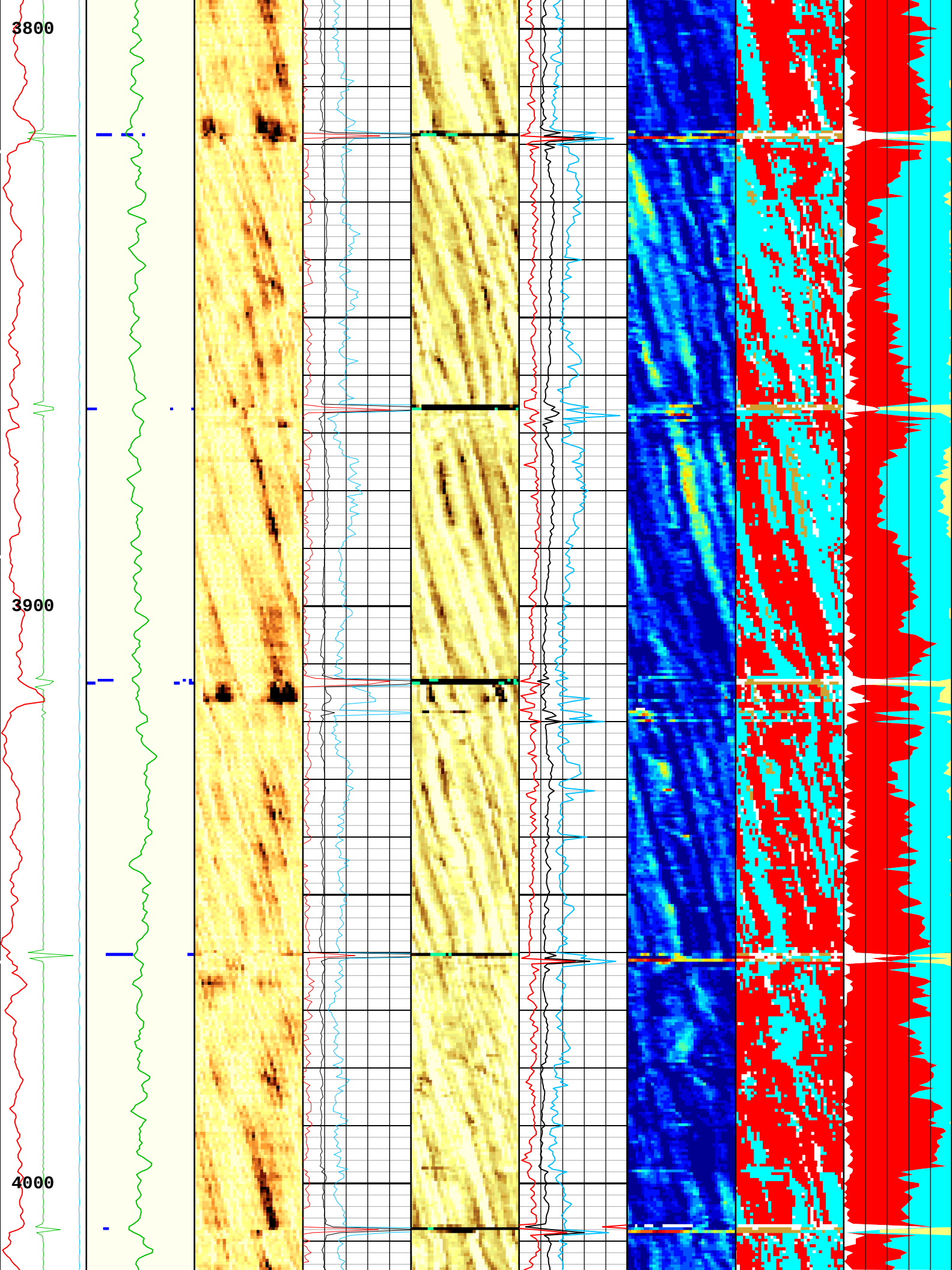
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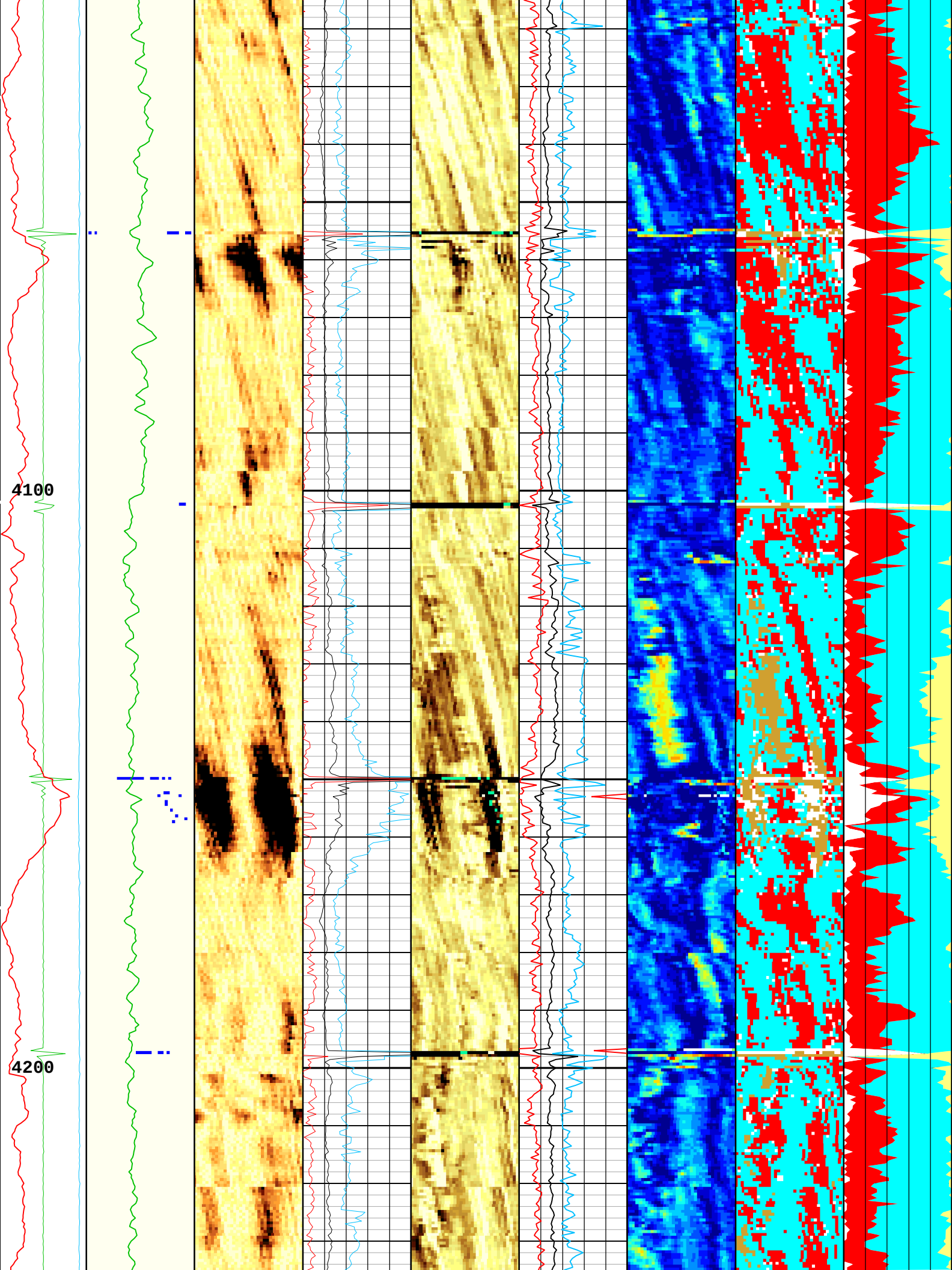
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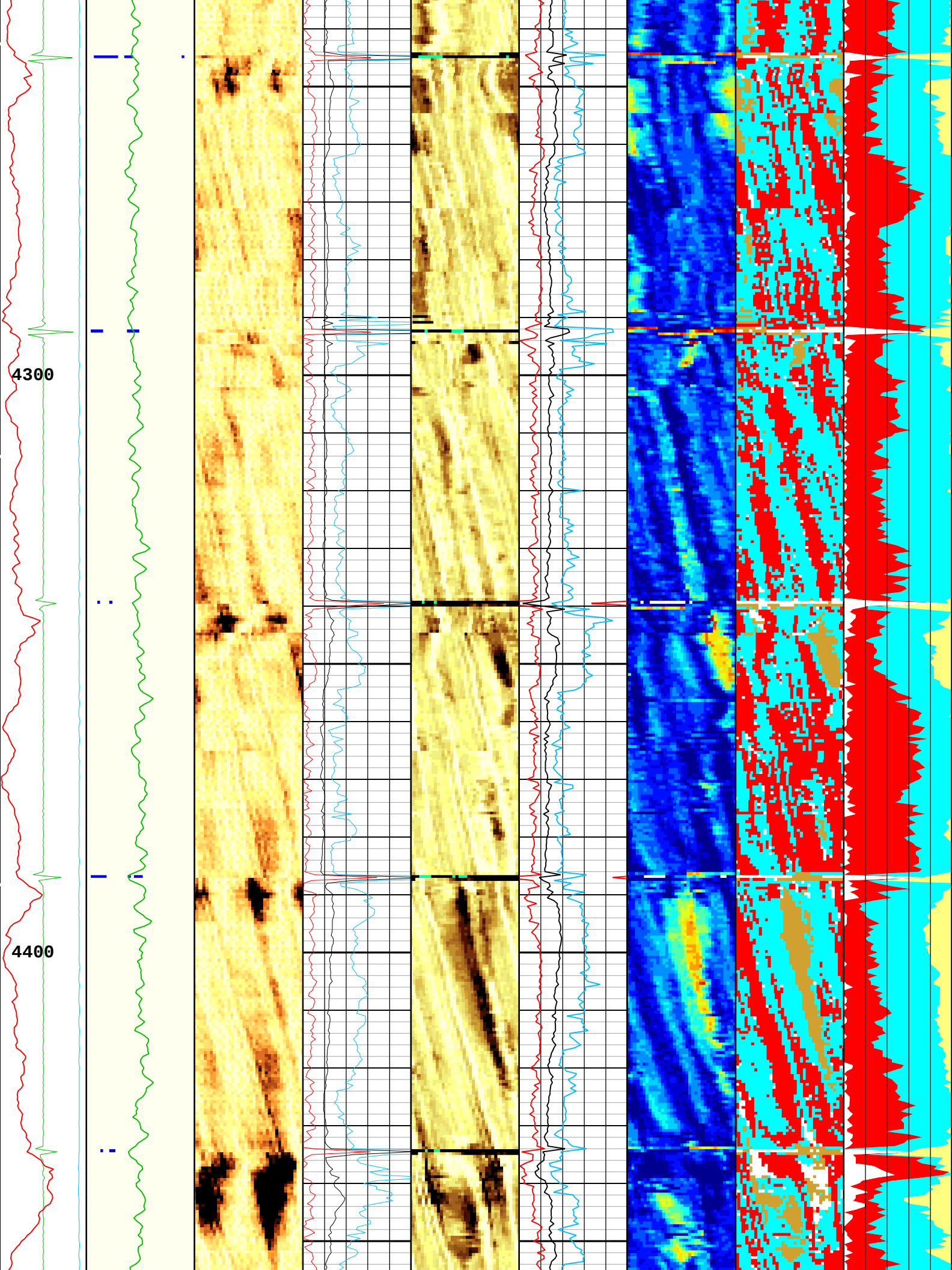
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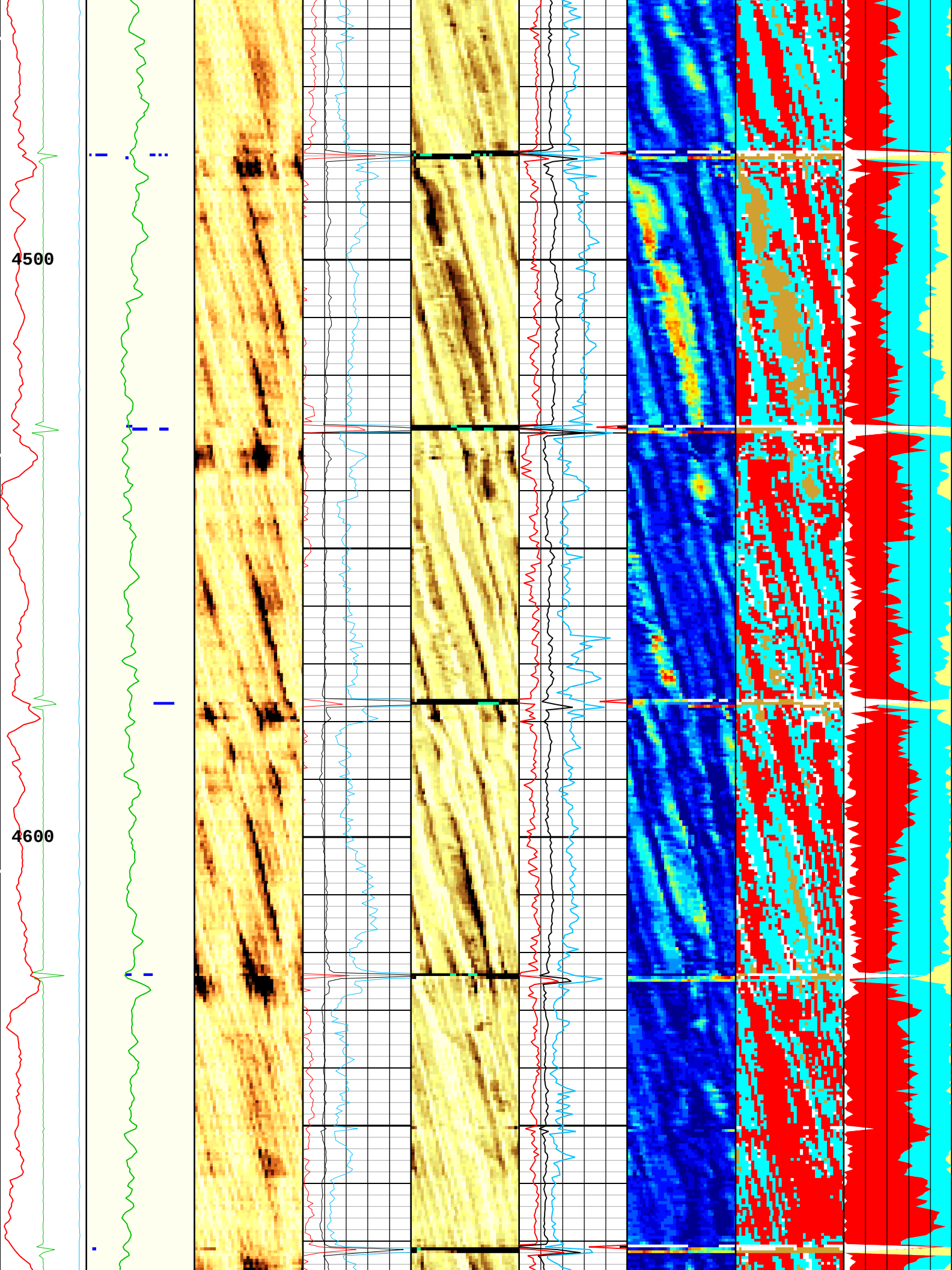
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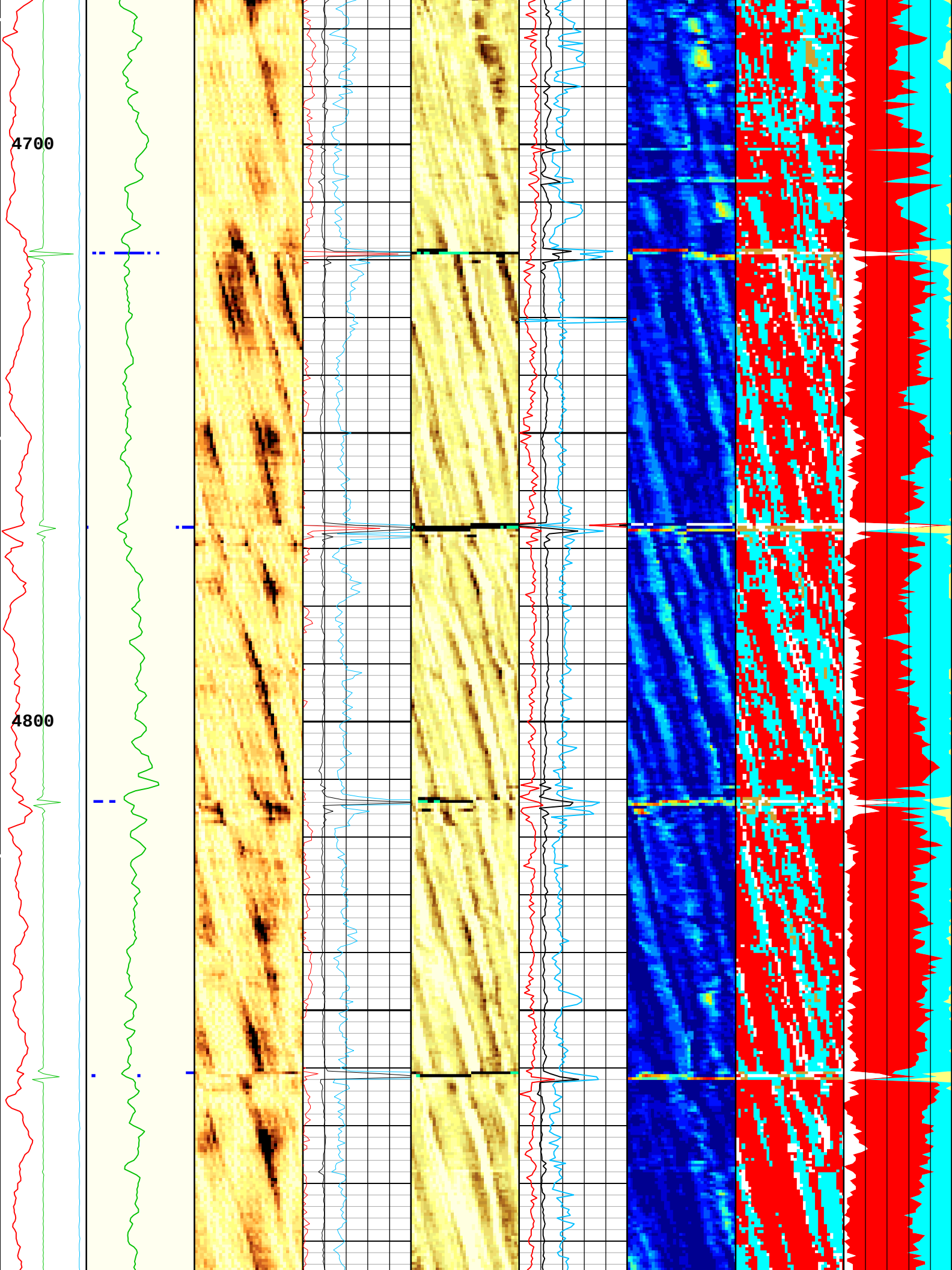
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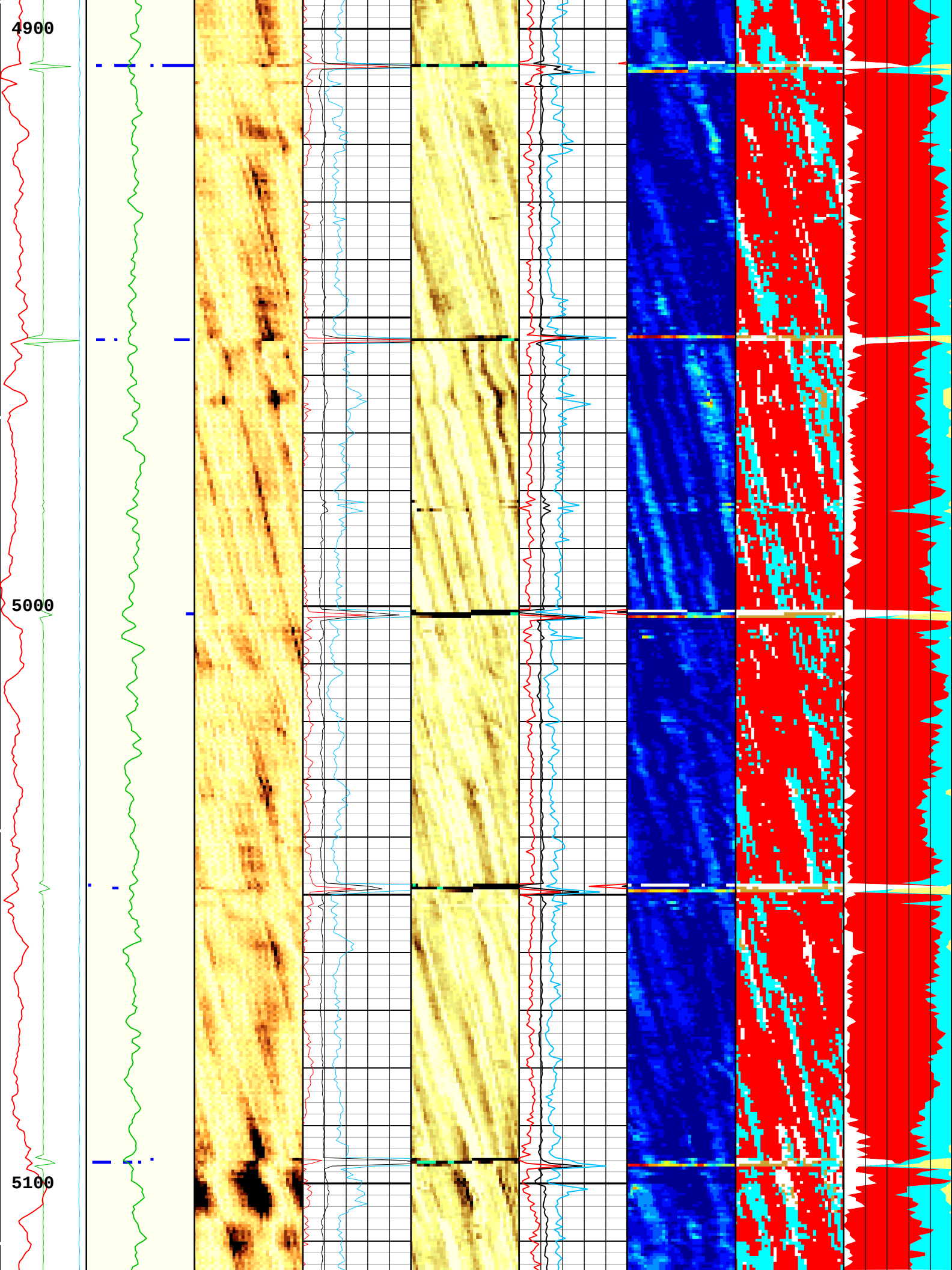
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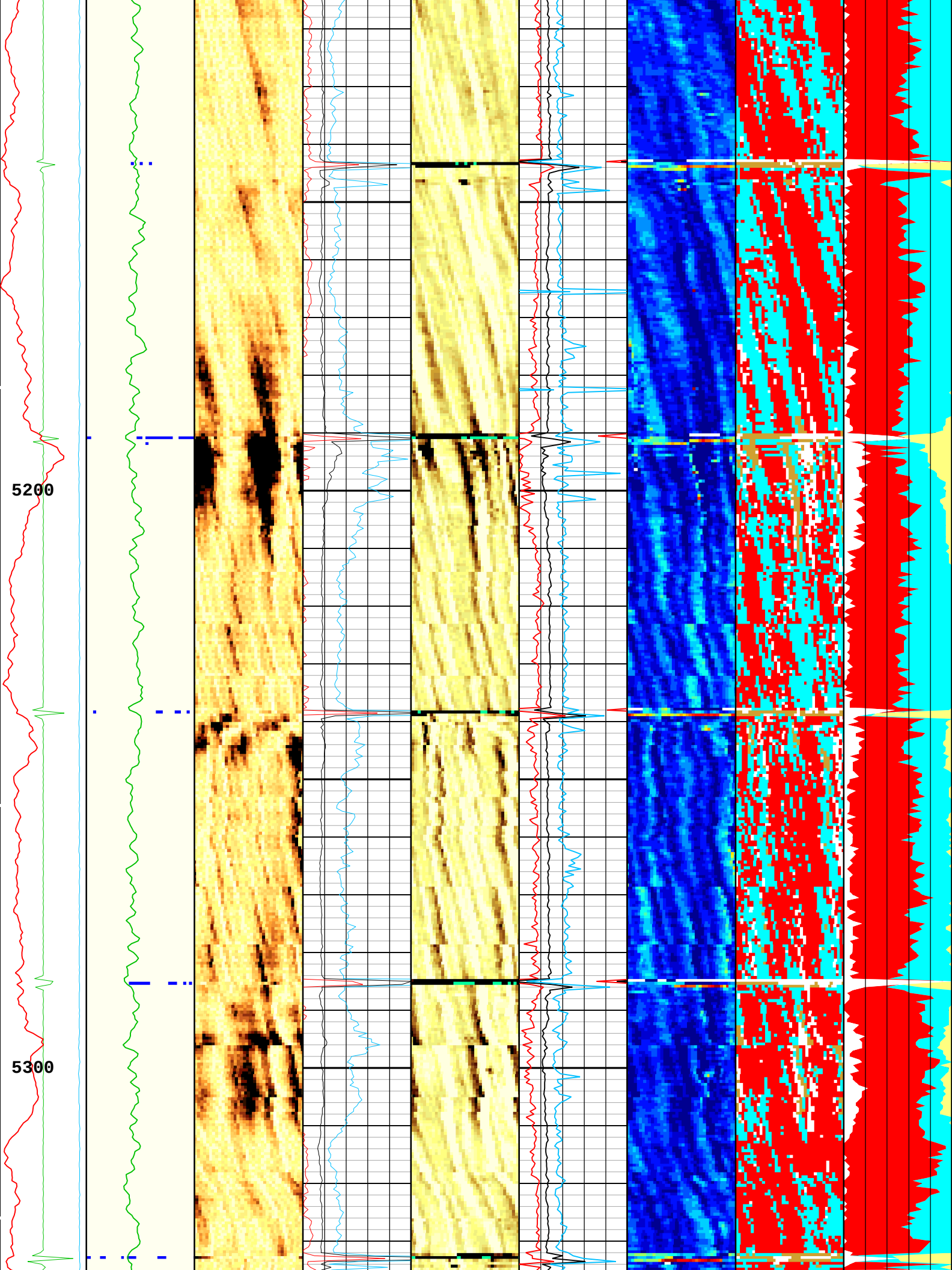
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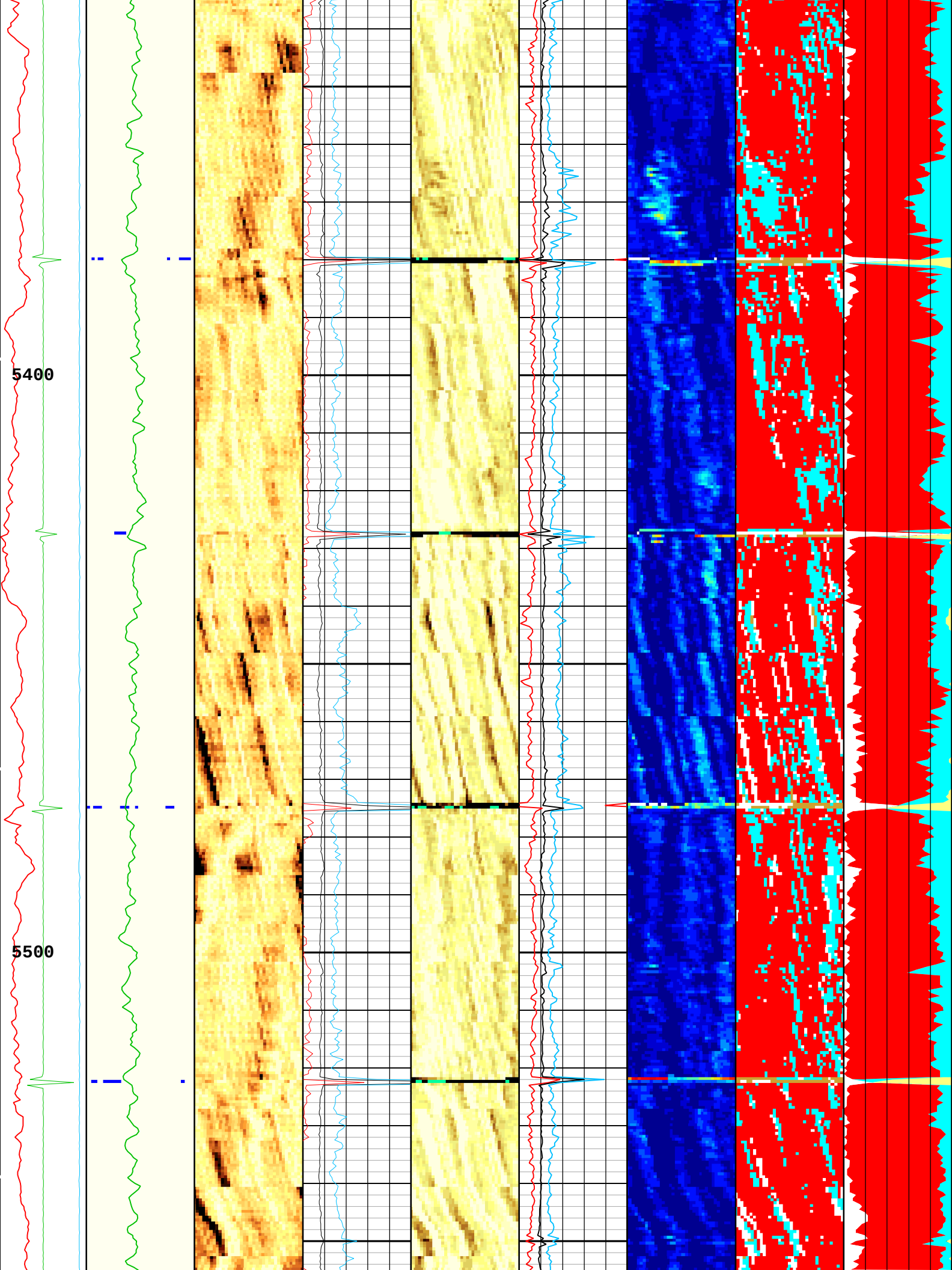
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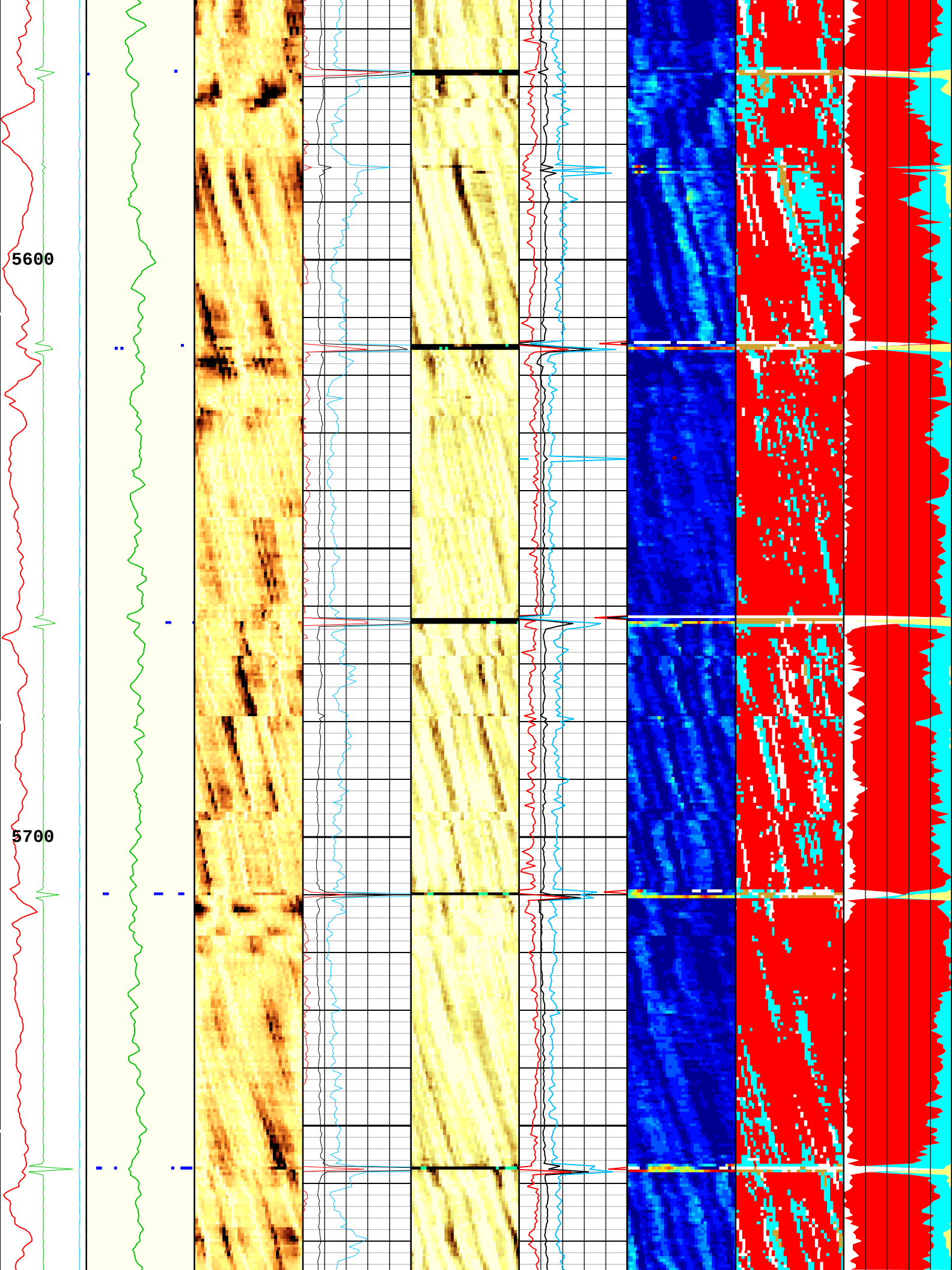
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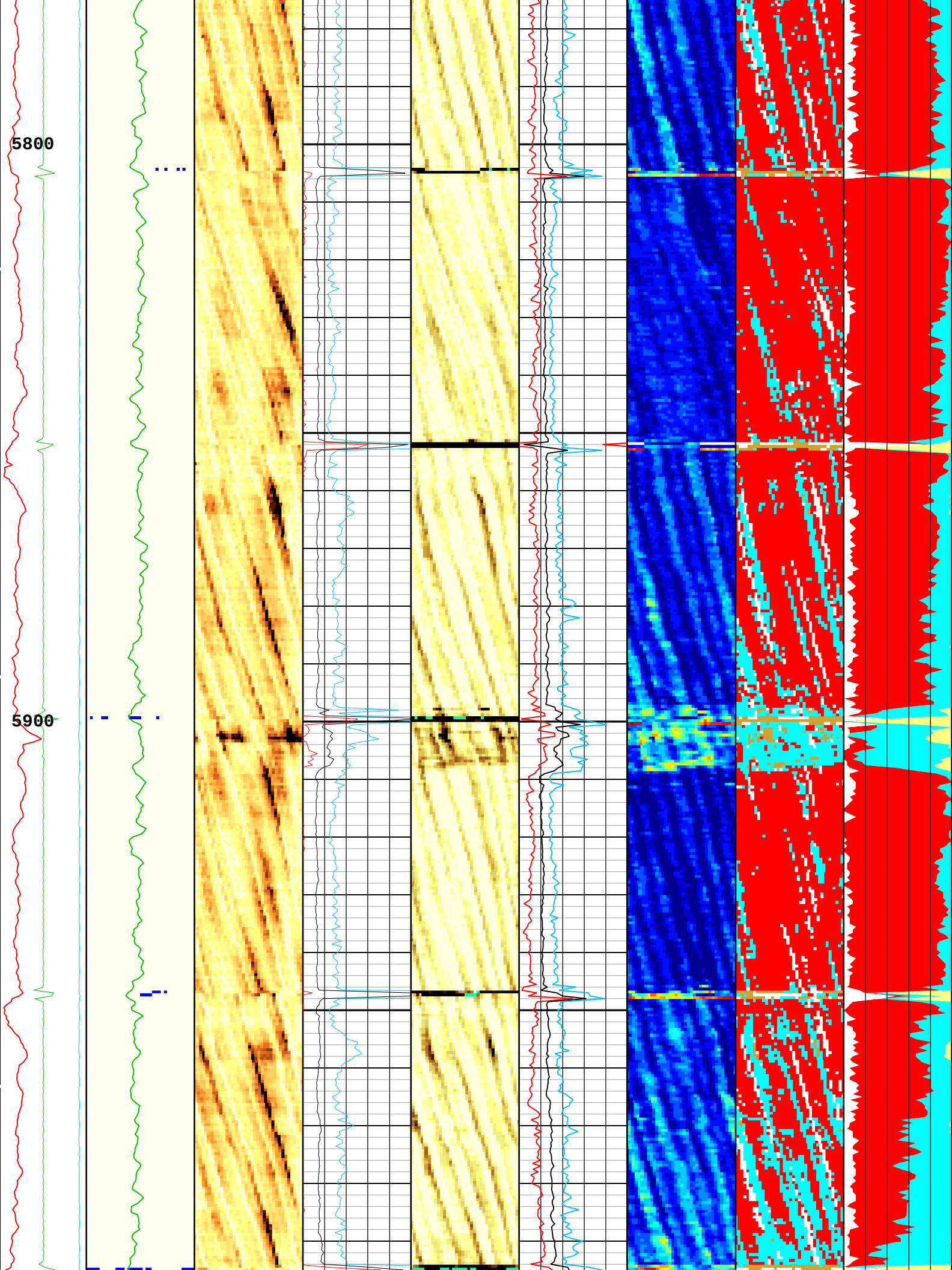
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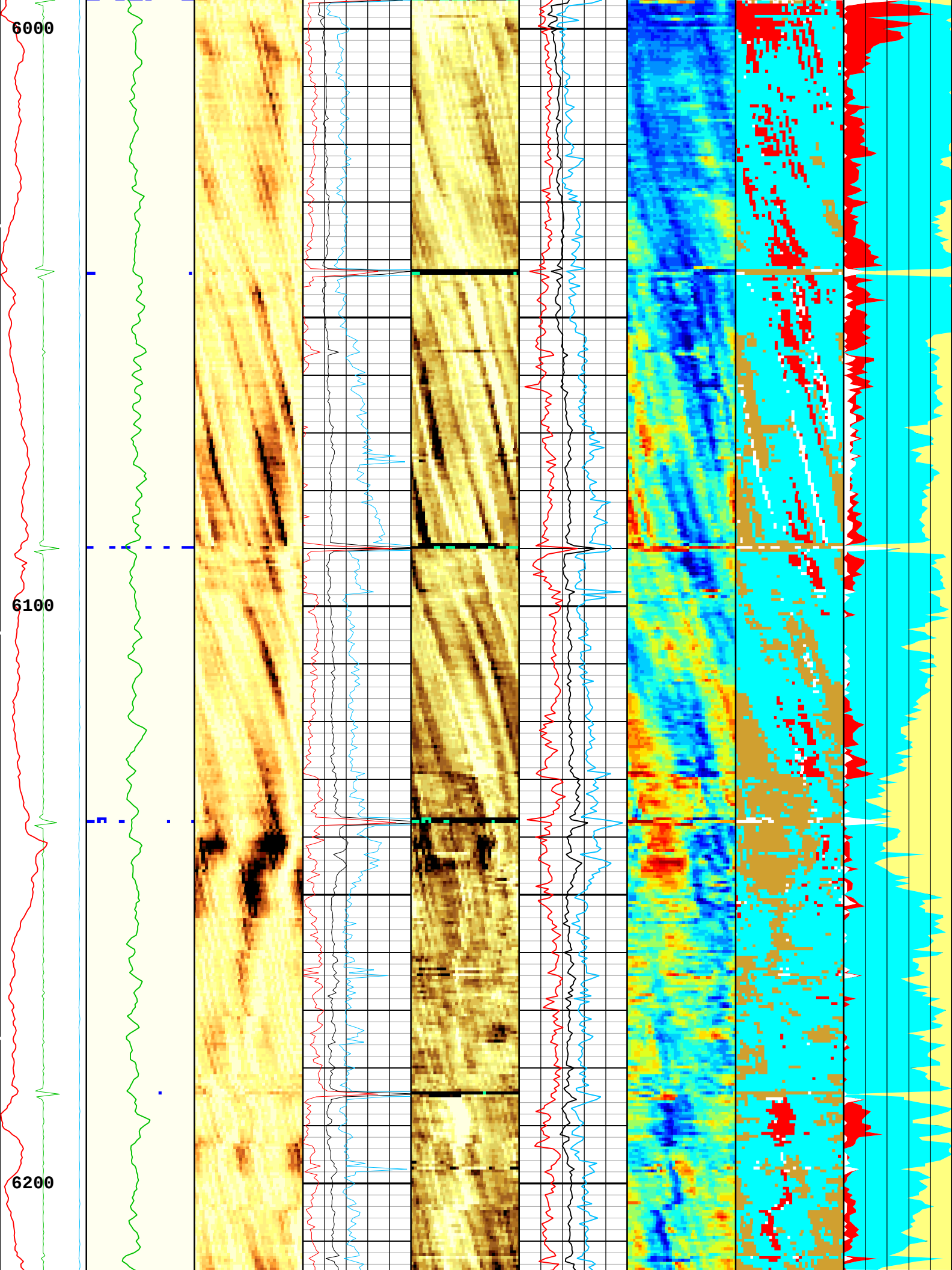
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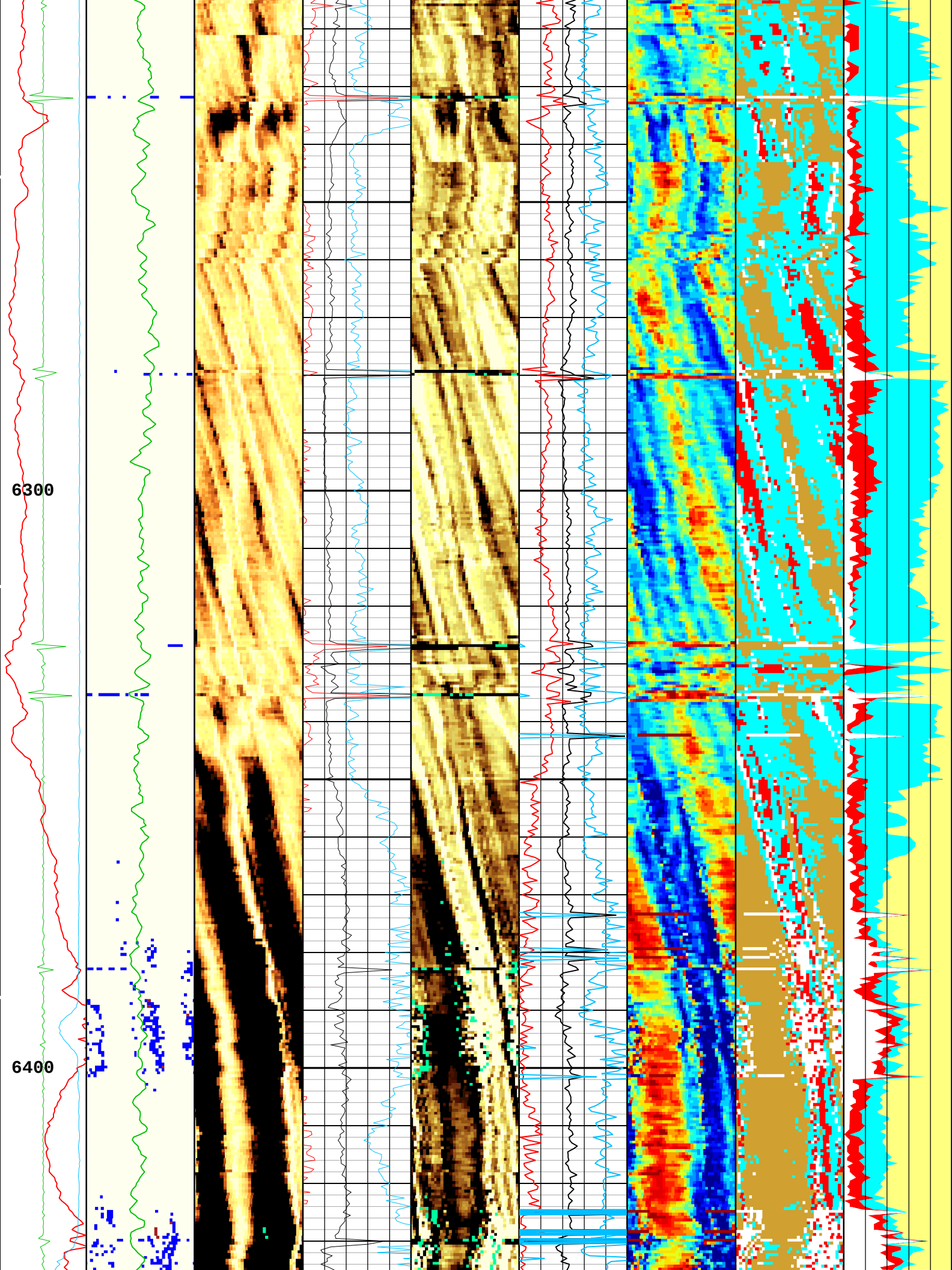
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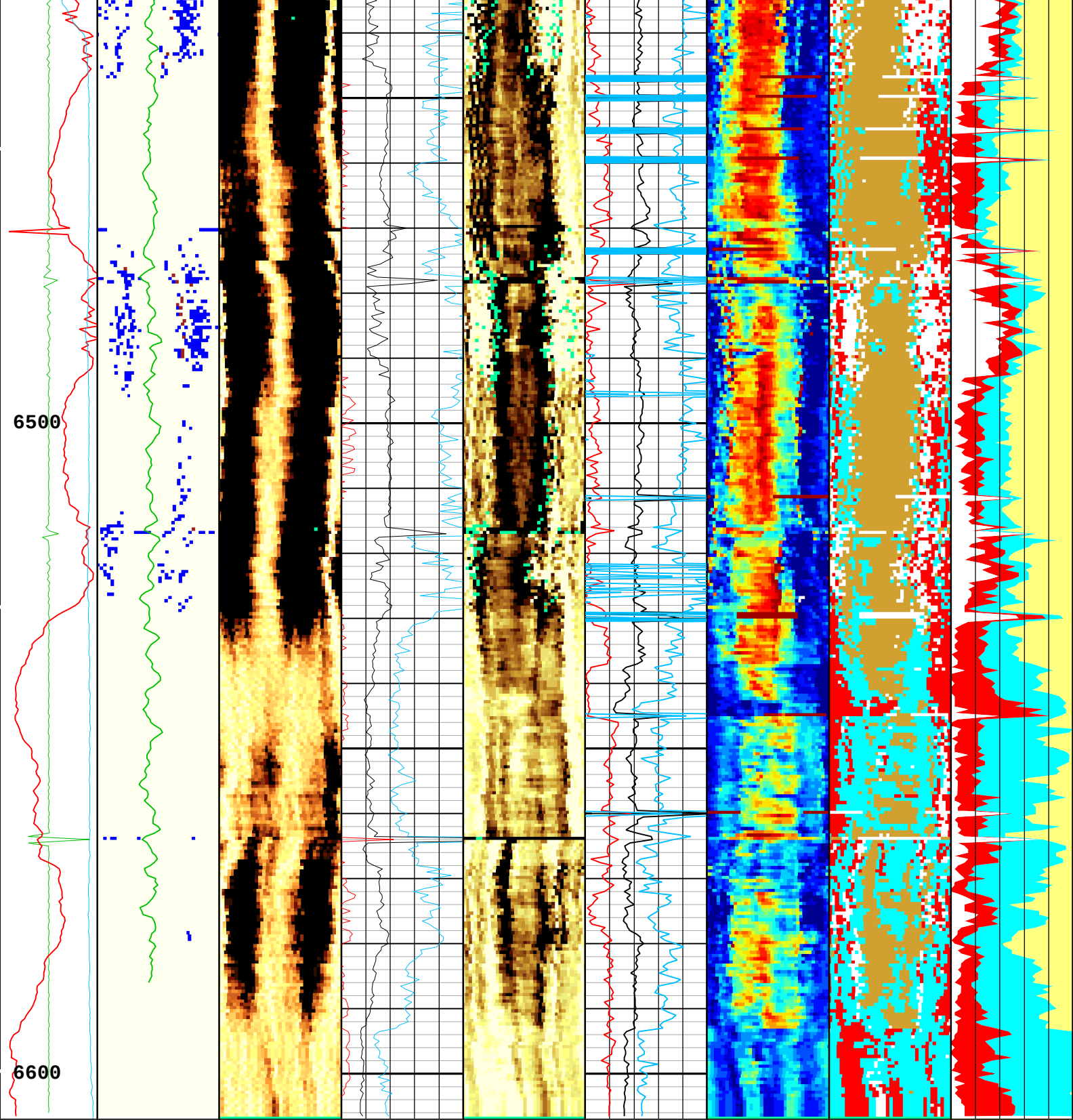


Casing Collar Locator Ultrasonic (CCLU) USIT-E

-20 in 20

Amplitude of Eccentering (ECCE) USIT-E

0 in 0.5

Motor Revolution

Absent 1.500 3.500

Explicit Normalization

USIT - USIT Processing Flags (UFLG) USIT-E

Orientation: Top of Hole

U L B R U

USIT Processing Flags (UFLG[0])

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - Amplitude of Wave (AWBK) USIT-E

(dB)

Orientation: Top of Hole

U L B R U

Acoustic Impedance Minimum (AIMN) USIT-E

-1 Mrayl 9

Acoustic Impedance Average (AIAV) USIT-E

-1 Mrayl 9

Acoustic Impedance

Absent 0.750 1.750 2.750 3.750

Custom Normalization

USIT - Acoustic Impedance (AIBK) USIT-E

(Mrayl)

Orientation: Top of Hole

U L B R U

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

Absent 42.000 66.000 90.000 114.000

Custom Normalization

USIT - Flexural Attenuation (UFAK) USIT-E

(dB/m)

Orientation: Top of Hole

U L B R U

Absent 0.500 1.500 2.500 3.500

Explicit Normalization

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

Orientation: Top of Hole

U L B R U

SLG Solid Index

SLG Liquid Index

SLG Gas Index

SLG White Point Index

Revolution Speed (RSAV) USIT-E

6 c/s 7.5

USIT-E

1 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] - :
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) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Nov-2018 20:52:10

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	11924	ft
CDEN	Cement Density	USIT-E	12	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	204	us/ft
FD	Fluid Density	USIT-E	10.7	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
GR_MULTIPLIER	Gamma Ray Multiplier	EDTC-B	1	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	4.08	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.19	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RCOD	Reference Calibrator Outer Diameter	USIT-E	4.5	in
RCSO	Reference Calibrator Standoff	USIT-E	0.842	in
RCTH	Reference Calibrator Thickness	USIT-E	0.216	in
SOCN	Standoff Distance	EDTC-B	0.125	in

SOCO	Standoff Correction Option	EDTC-B	No	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS_EDTC	Tool Position: Centered or Eccentered	EDTC-B	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.75	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	Time Zoned	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
USI_RPLUS	Ultrasonic R+ Processing	USIT-E	No	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	70	2401
BS	8.75	2401	6607

All depth are actual.

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
U-USIT_UFAO	10	23-Nov-2018 08:37:32	23-Nov-2018 08:47:04	6607.92	5958.49
U-USIT_UFAO	30	23-Nov-2018 08:47:04	23-Nov-2018 08:47:55	5958.49	5898.18
U-USIT_UFAO	17	23-Nov-2018 08:47:55	23-Nov-2018 08:52:40	5898.18	5562.42
U-USIT_UFAO	28	23-Nov-2018 08:52:40	23-Nov-2018 08:59:08	5562.42	5100.9
U-USIT_UFAO	17	23-Nov-2018 08:59:08	23-Nov-2018 09:24:29	5100.9	3295.72
U-USIT_UFAO	4	23-Nov-2018 09:24:29	23-Nov-2018 10:11:42	3295.72	69.98

All depth are at tool zero.

Tool Control Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	1.756	in
EMXV	EMEX Voltage	USIT-E	80	V
HRES	Horizontal Resolution	USIT-E	10 deg	
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MOTOR_PROTECT	Motor Protection	USIT-E	On	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us

USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
USSP	Ultrasonic Service	USIT-E	IBC	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
U-USIT_UFWB	136	23-Nov-2018 08:37:32	23-Nov-2018 08:38:25	6607.92	6569.88
U-USIT_UFWB	131.45	23-Nov-2018 08:38:25	23-Nov-2018 08:38:45	6569.88	6546.47
U-USIT_UFWB	114.08	23-Nov-2018 08:38:45	23-Nov-2018 08:40:53	6546.47	6396.1
U-USIT_UFWB	97.37	23-Nov-2018 08:40:53	23-Nov-2018 10:11:42	6396.1	69.98
U-USIT_UFWE	176	23-Nov-2018 08:37:32	23-Nov-2018 08:38:22	6607.92	6573.22
U-USIT_UFWE	180.1	23-Nov-2018 08:38:22	23-Nov-2018 08:38:43	6573.22	6548.81
U-USIT_UFWE	190.52	23-Nov-2018 08:38:43	23-Nov-2018 08:40:56	6548.81	6392.46
U-USIT_UFWE	200.94	23-Nov-2018 08:40:56	23-Nov-2018 08:41:19	6392.46	6365
U-USIT_UFWE	204.46	23-Nov-2018 08:41:19	23-Nov-2018 10:11:42	6365	69.98
U-USIT_UNWB	105	23-Nov-2018 08:37:32	23-Nov-2018 08:38:30	6607.92	6563.99
U-USIT_UNWB	89.75	23-Nov-2018 08:38:30	23-Nov-2018 08:42:10	6563.99	6304.34
U-USIT_UNWB	80.28	23-Nov-2018 08:42:10	23-Nov-2018 10:11:42	6304.34	69.98
U-USIT_UNWE	145	23-Nov-2018 08:37:32	23-Nov-2018 08:38:27	6607.92	6567.55
U-USIT_UNWE	167.93	23-Nov-2018 08:38:27	23-Nov-2018 08:42:08	6567.55	6306.24
U-USIT_UNWE	175.3	23-Nov-2018 08:42:08	23-Nov-2018 10:11:42	6306.24	69.98
WINB	31.37	23-Nov-2018 08:37:32	23-Nov-2018 08:39:18	6607.92	6506.56
WINB	26.48	23-Nov-2018 08:39:18	23-Nov-2018 08:39:47	6506.56	6472.11
WINB	17.8	23-Nov-2018 08:39:47	23-Nov-2018 08:40:08	6472.11	6448.12
WINB	21.07	23-Nov-2018 08:40:08	23-Nov-2018 10:11:42	6448.12	69.98
WINE	71.37	23-Nov-2018 08:37:32	23-Nov-2018 08:38:32	6607.92	6562.06
WINE	104.04	23-Nov-2018 08:38:32	23-Nov-2018 08:38:36	6562.06	6557.24
WINE	91.3	23-Nov-2018 08:38:36	23-Nov-2018 08:38:48	6557.24	6542.55
WINE	101.49	23-Nov-2018 08:38:48	23-Nov-2018 08:38:57	6542.55	6531.3
WINE	84.93	23-Nov-2018 08:38:57	23-Nov-2018 08:39:12	6531.3	6512.7
WINE	90.61	23-Nov-2018 08:39:12	23-Nov-2018 08:39:45	6512.7	6474.59
WINE	69.57	23-Nov-2018 08:39:45	23-Nov-2018 08:39:52	6474.59	6466.12
WINE	76.11	23-Nov-2018 08:39:52	23-Nov-2018 08:39:57	6466.12	6460.92
WINE	83.2	23-Nov-2018 08:39:57	23-Nov-2018 08:40:01	6460.92	6456.18
WINE	86.47	23-Nov-2018 08:40:01	23-Nov-2018 08:40:05	6456.18	6451.52
WINE	90.83	23-Nov-2018 08:40:05	23-Nov-2018 08:40:14	6451.52	6441.39
WINE	93.01	23-Nov-2018 08:40:14	23-Nov-2018 08:40:16	6441.39	6438.77
WINE	91.92	23-Nov-2018 08:40:16	23-Nov-2018 08:40:22	6438.77	6431.25
WINE	90.28	23-Nov-2018 08:40:22	23-Nov-2018 08:40:24	6431.25	6429.7
WINE	87.01	23-Nov-2018 08:40:24	23-Nov-2018 08:40:27	6429.7	6426.44
WINE	85.92	23-Nov-2018 08:40:27	23-Nov-2018 08:40:44	6426.44	6406.28

WINE	80.99	23-Nov-2018 08:40:44	23-Nov-2018 08:40:47	6406.28	6402.69	
WINE	76.2	23-Nov-2018 08:40:47	23-Nov-2018 08:41:04	6402.69	6382.56	
WINE	79.88	23-Nov-2018 08:41:04	23-Nov-2018 08:41:05	6382.56	6381.38	
WINE	80.25	23-Nov-2018 08:41:05	23-Nov-2018 08:41:10	6381.38	6374.9	
WINE	83.94	23-Nov-2018 08:41:10	23-Nov-2018 08:41:27	6374.9	6355.28	
WINE	86.89	23-Nov-2018 08:41:27	23-Nov-2018 08:41:37	6355.28	6343.88	
WINE	84.68	23-Nov-2018 08:41:37	23-Nov-2018 10:11:42	6343.88	69.98	

All depth are at tool zero.

One

IBC SLG Composite

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	69.98 ft	6607.92 ft	23-Nov-2018 8:37:32 AM	23-Nov-2018 10:11:42 AM	ON	7.91 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265

One: Log[3]:Up:S034

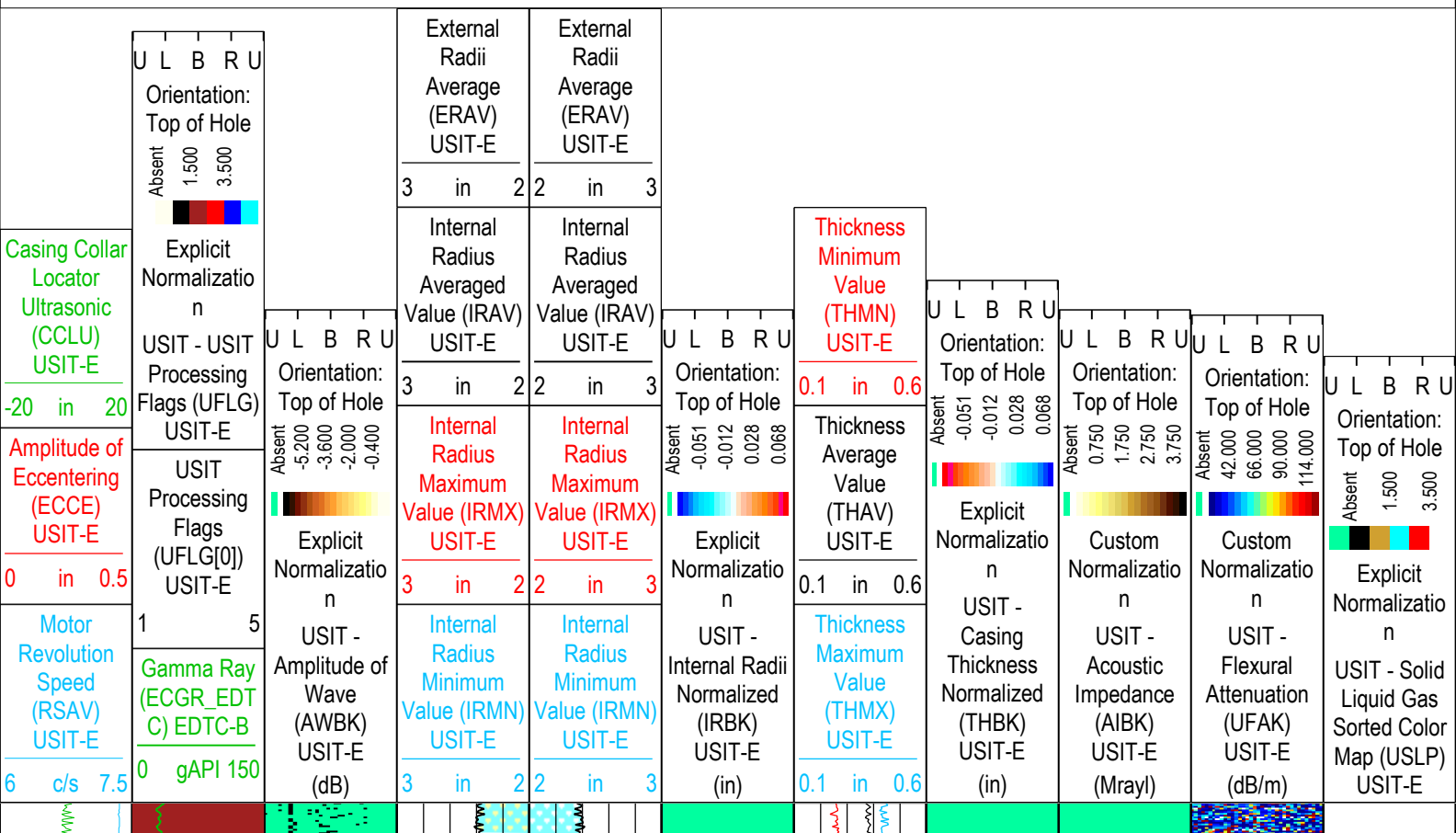
Description: USI IBC SLG Composite Format: Log (IBC SLG Composite) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 27-Nov-2018 20:52:35

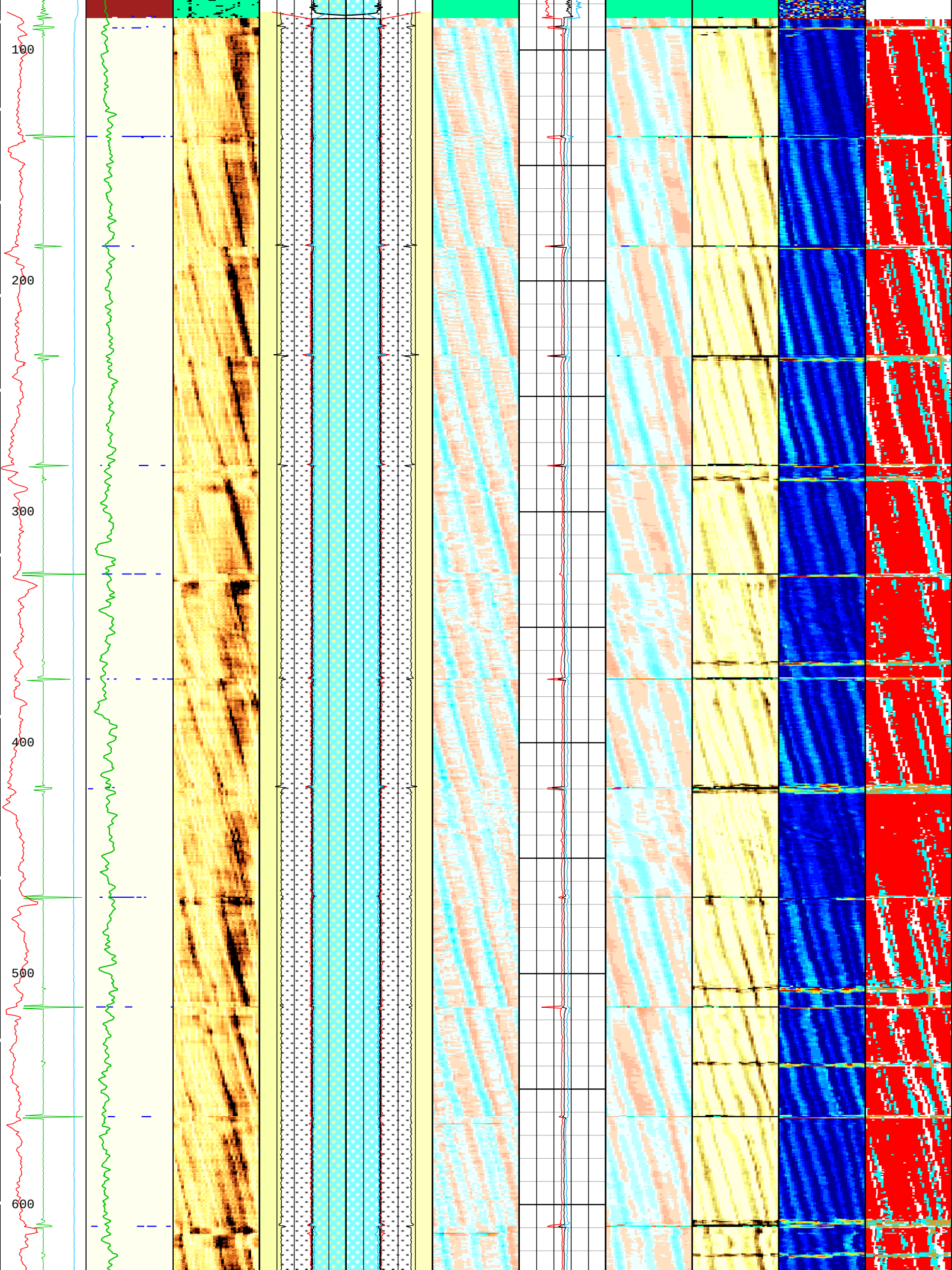
TIME_1900 - Time Marked every 60.00 (s)

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

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

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

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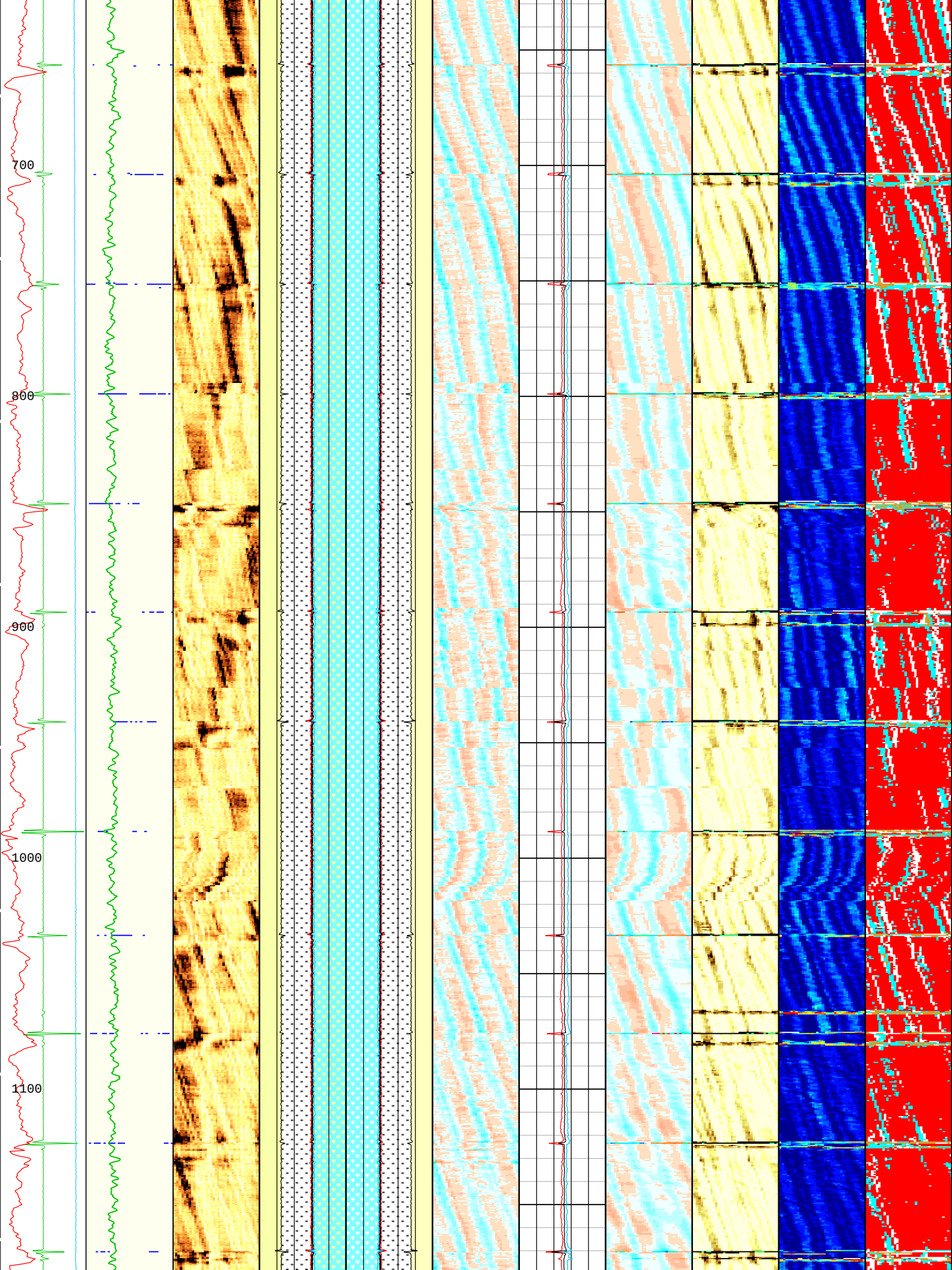
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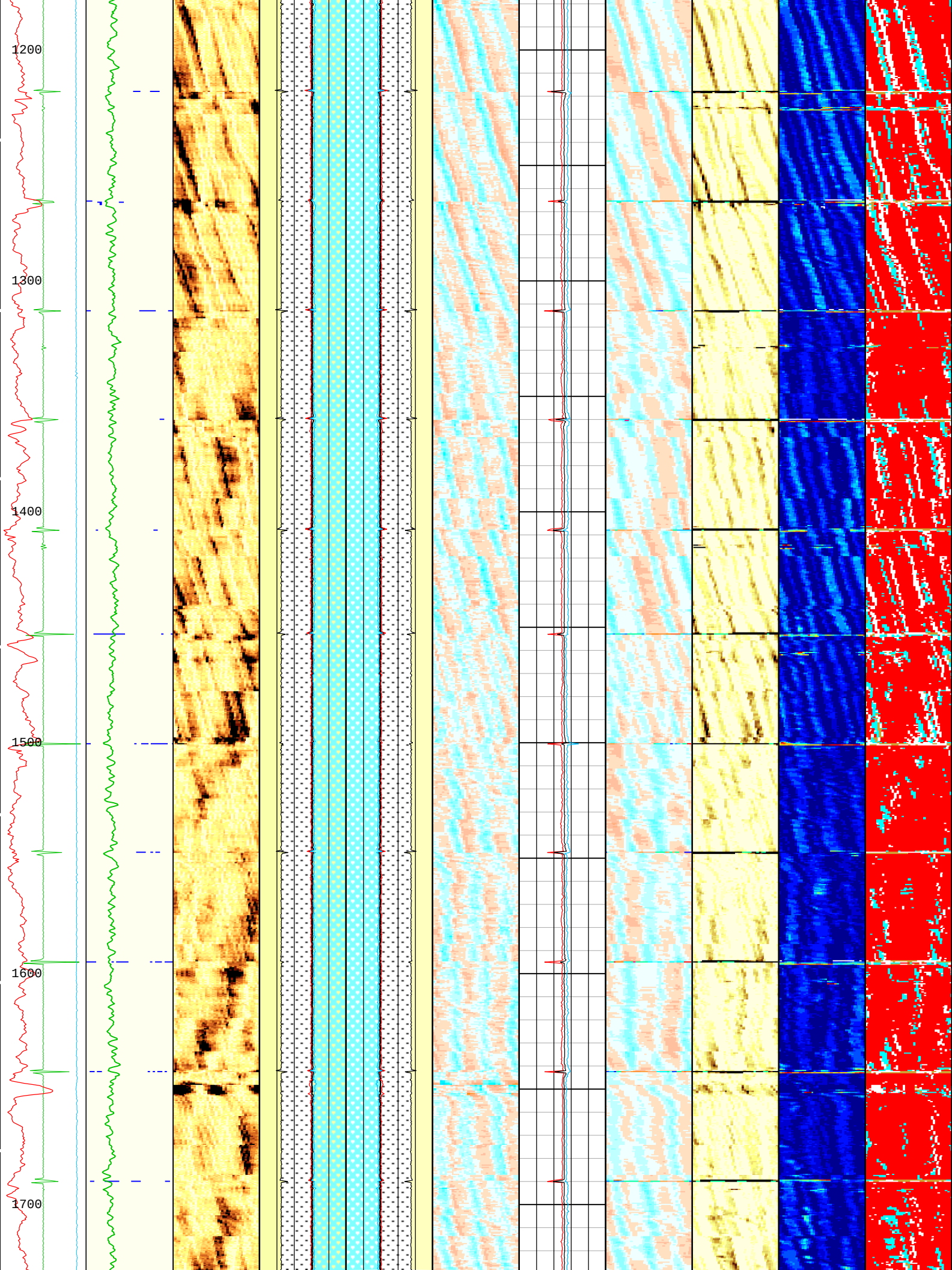
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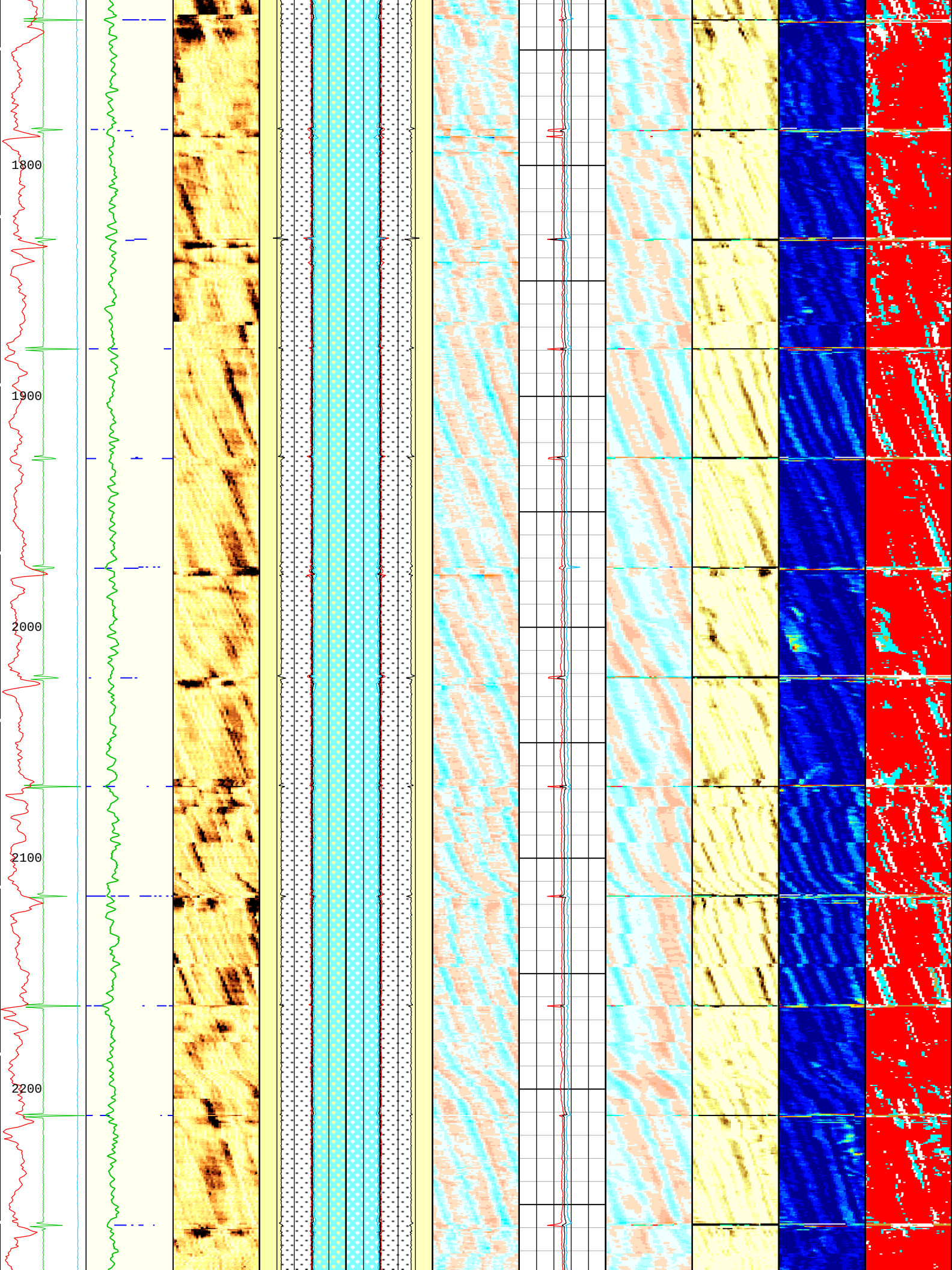
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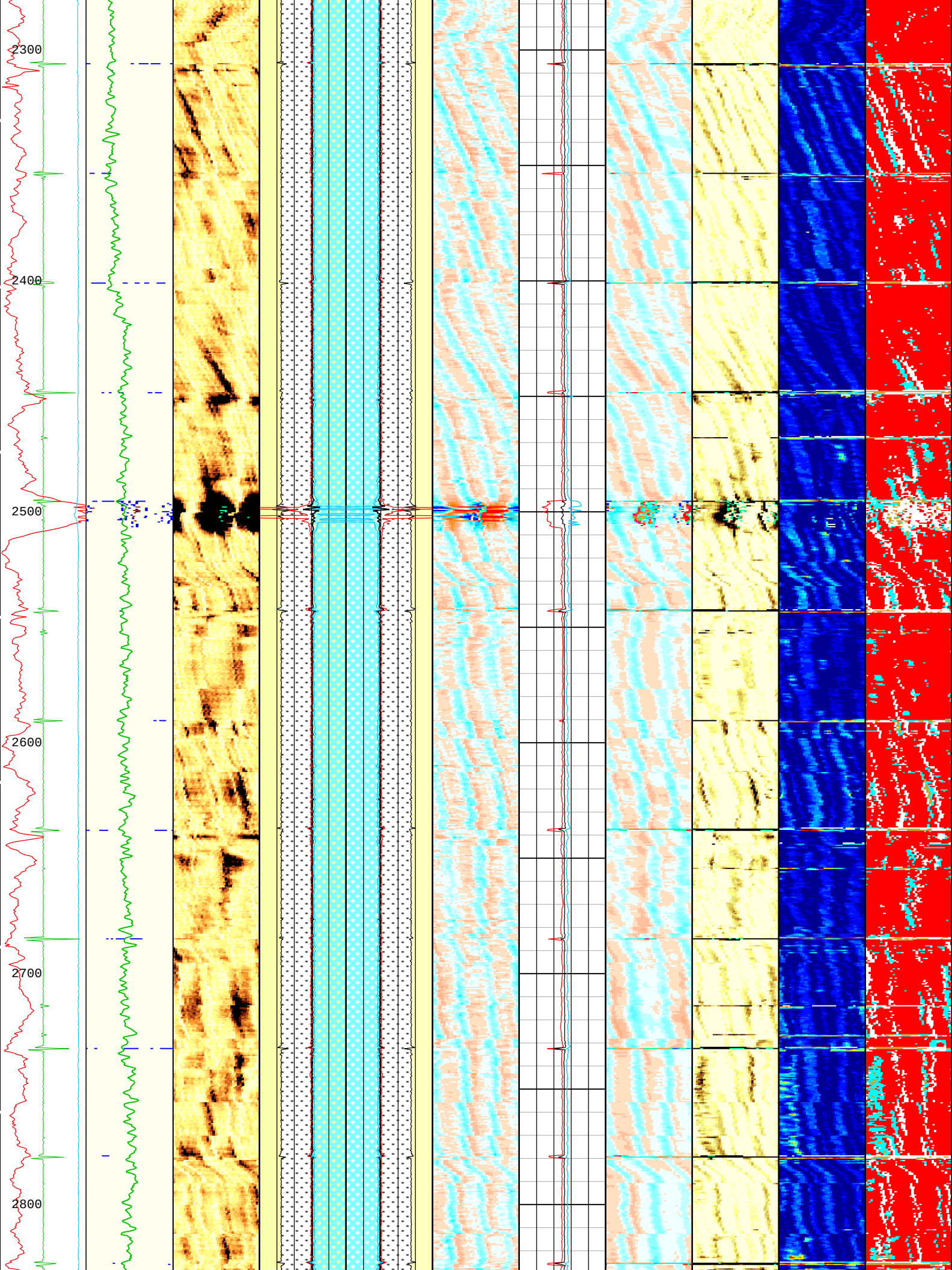
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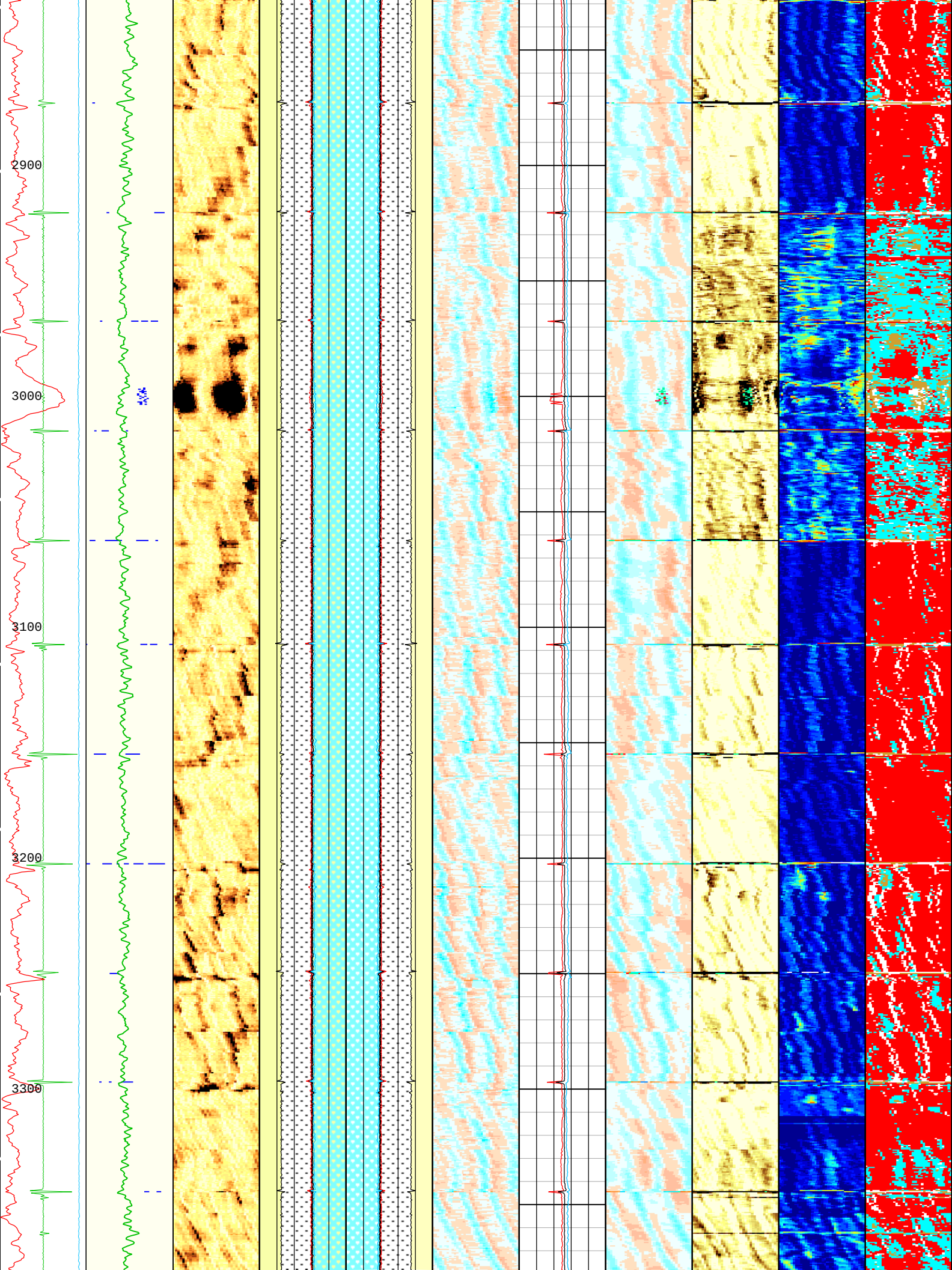
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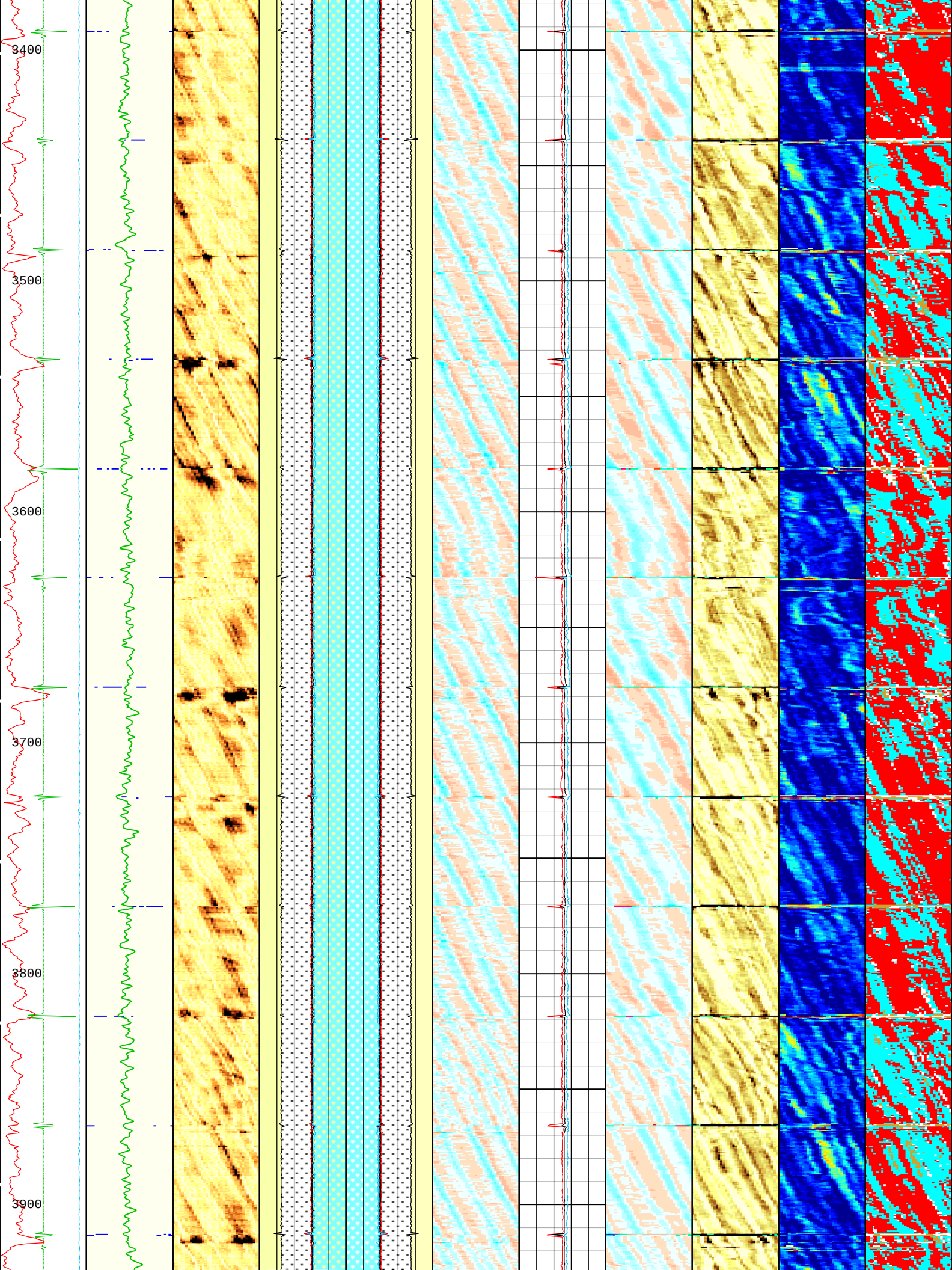
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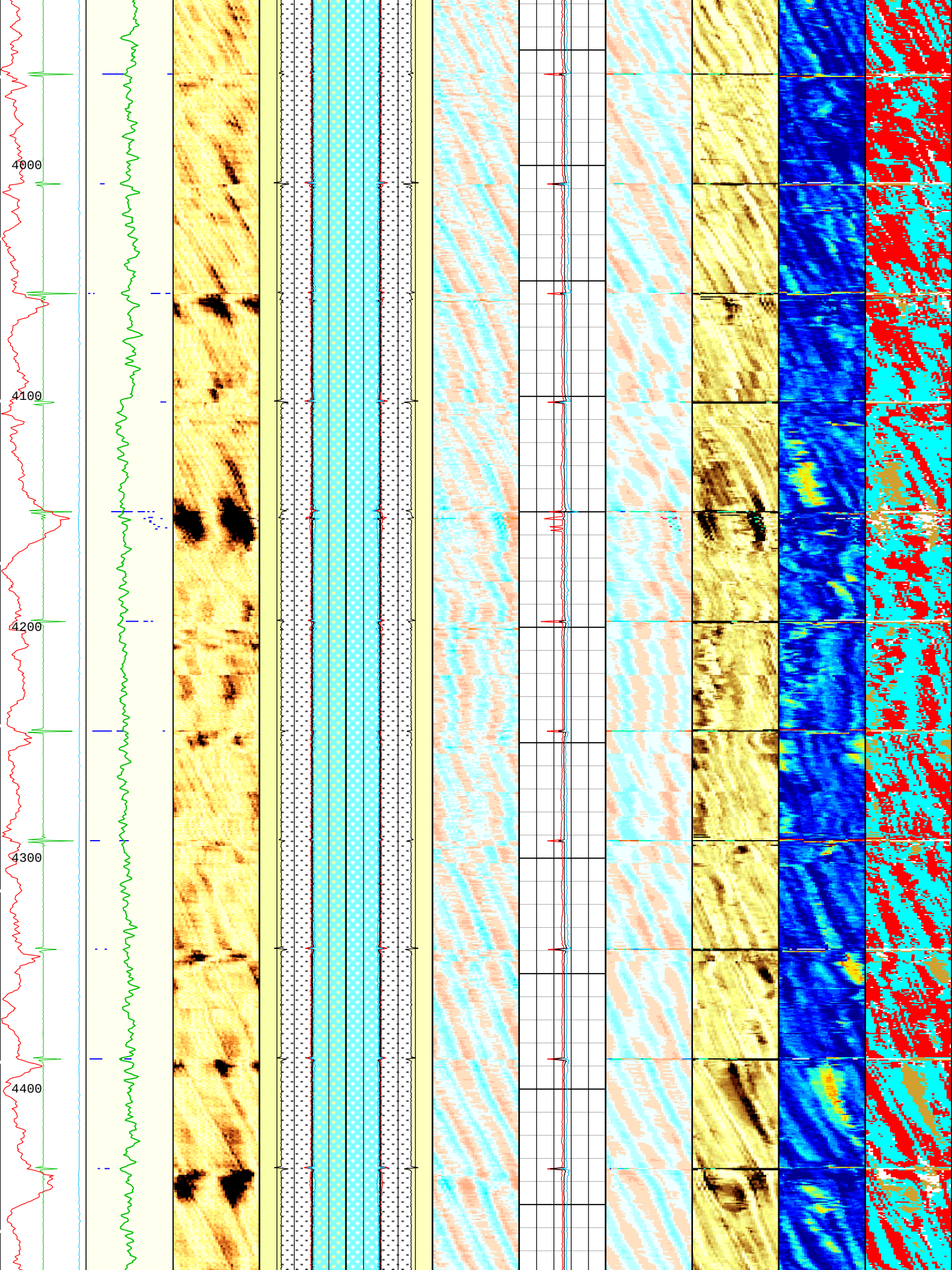
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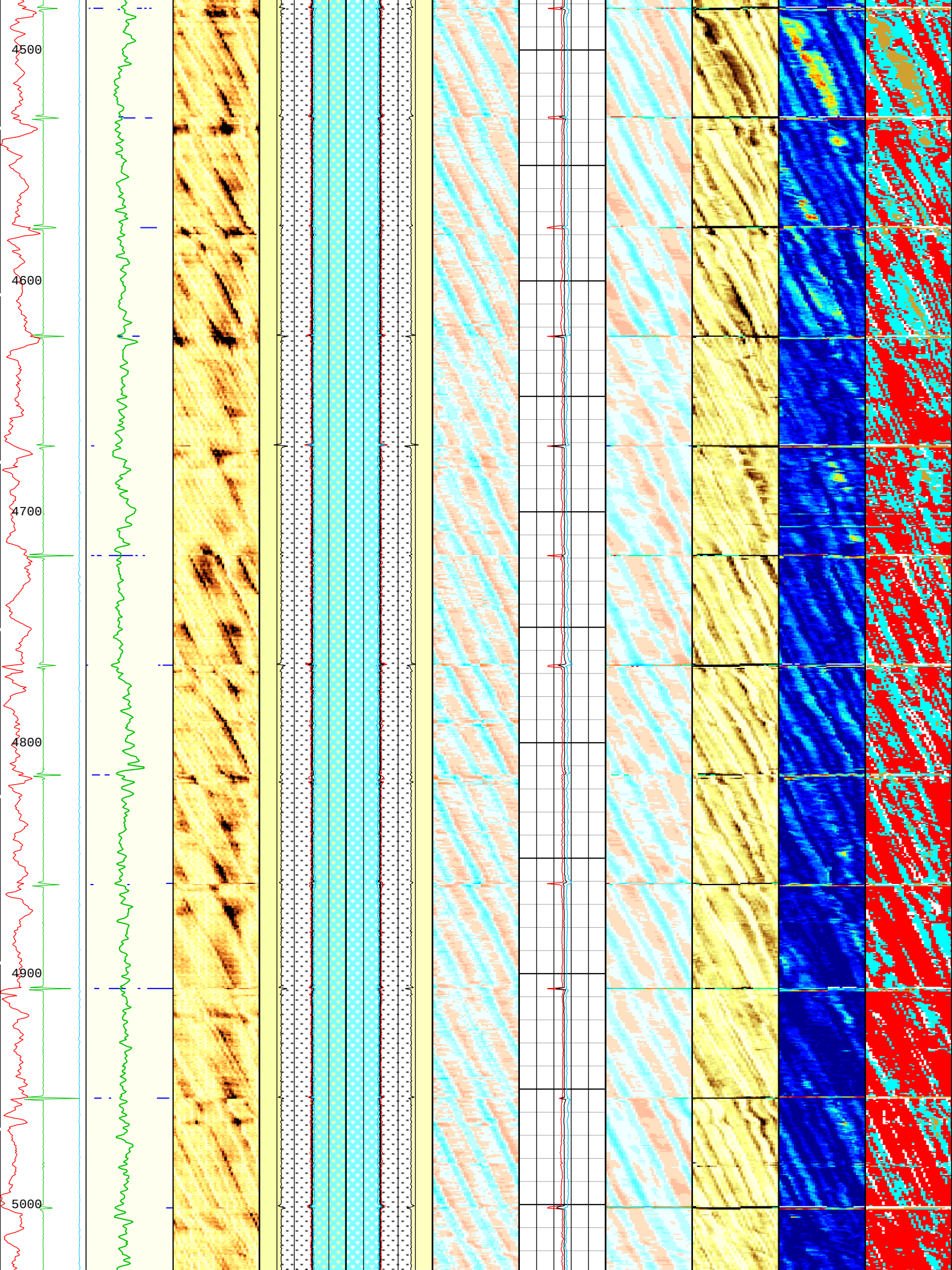
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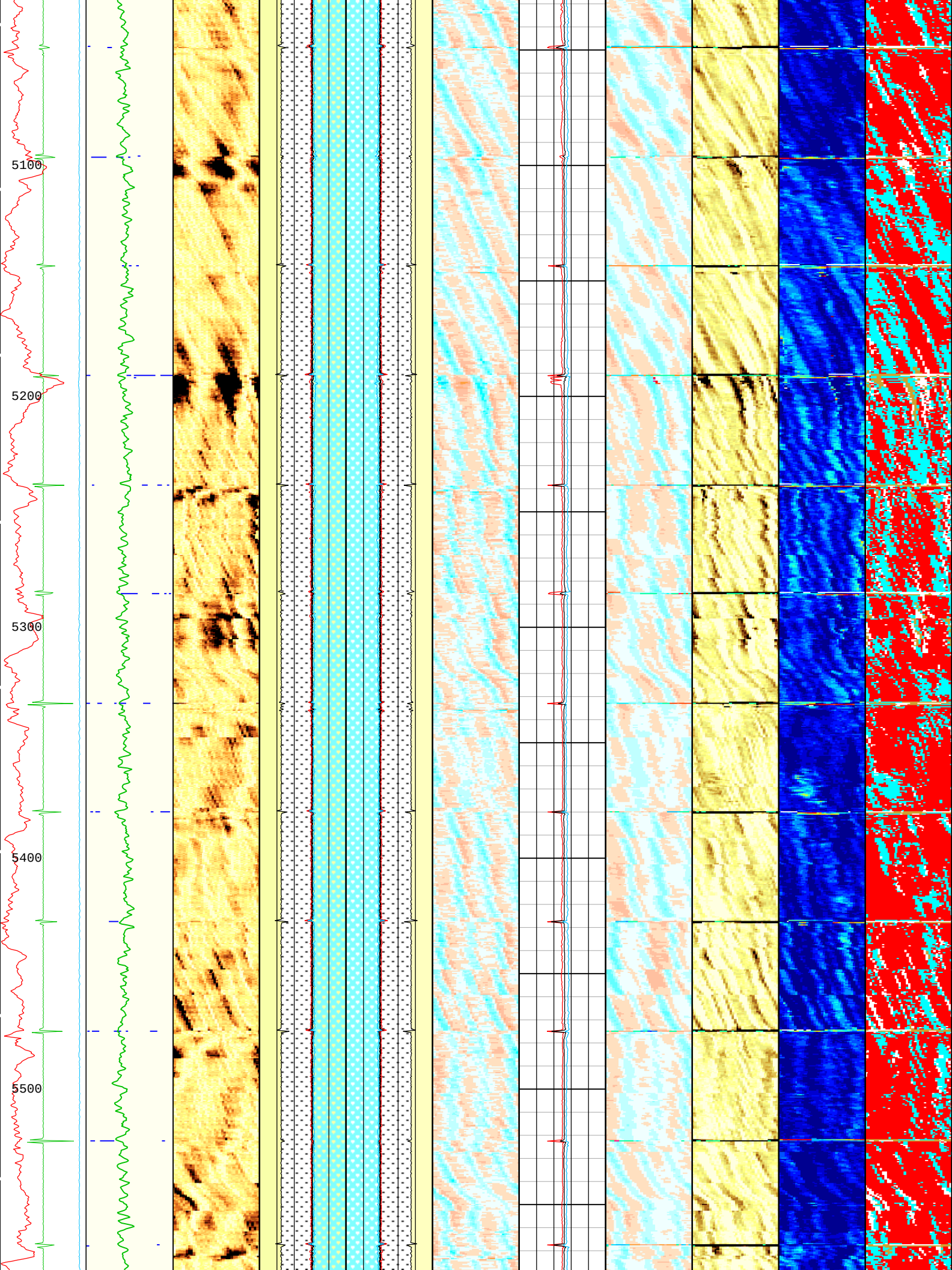
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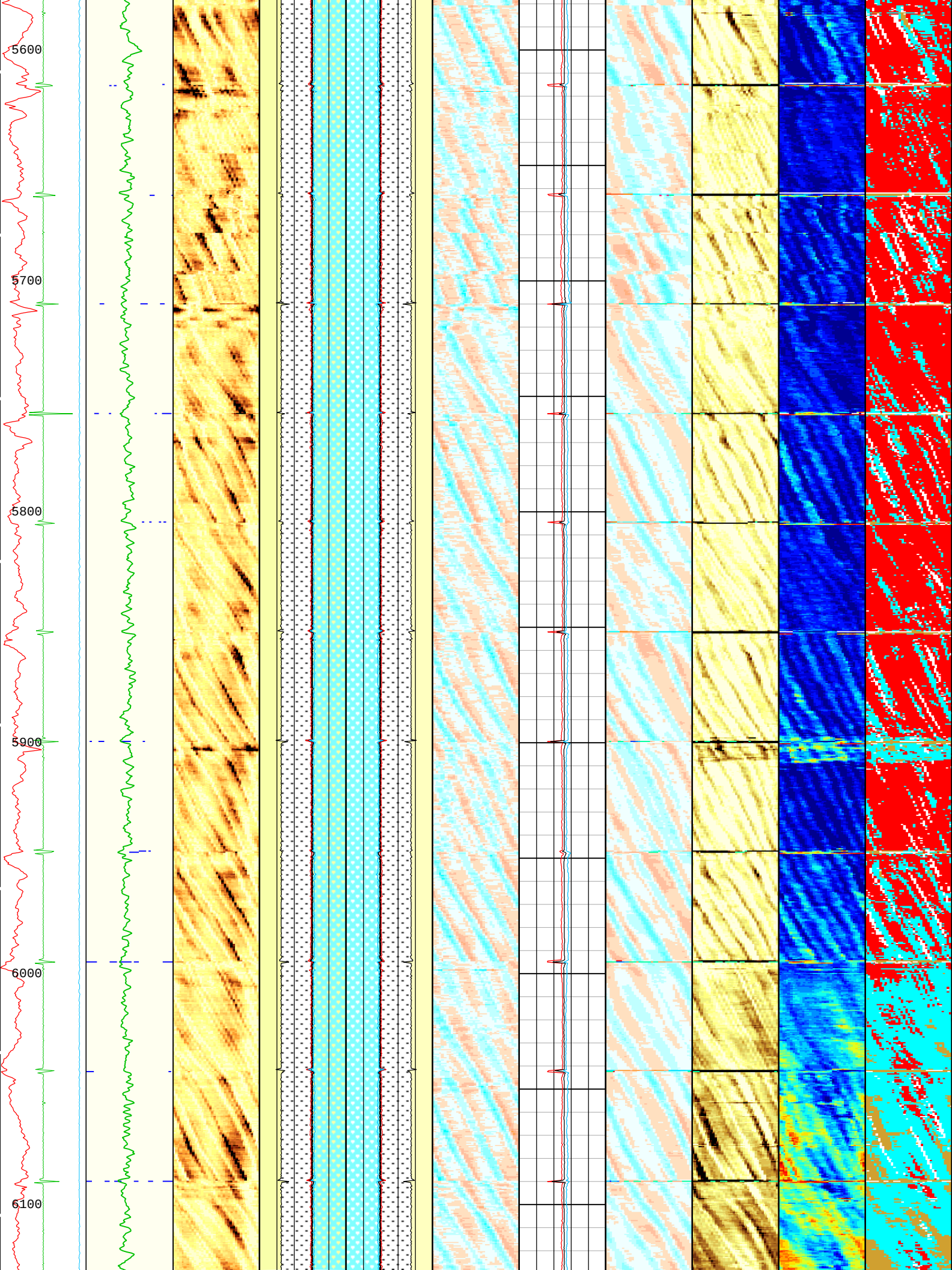
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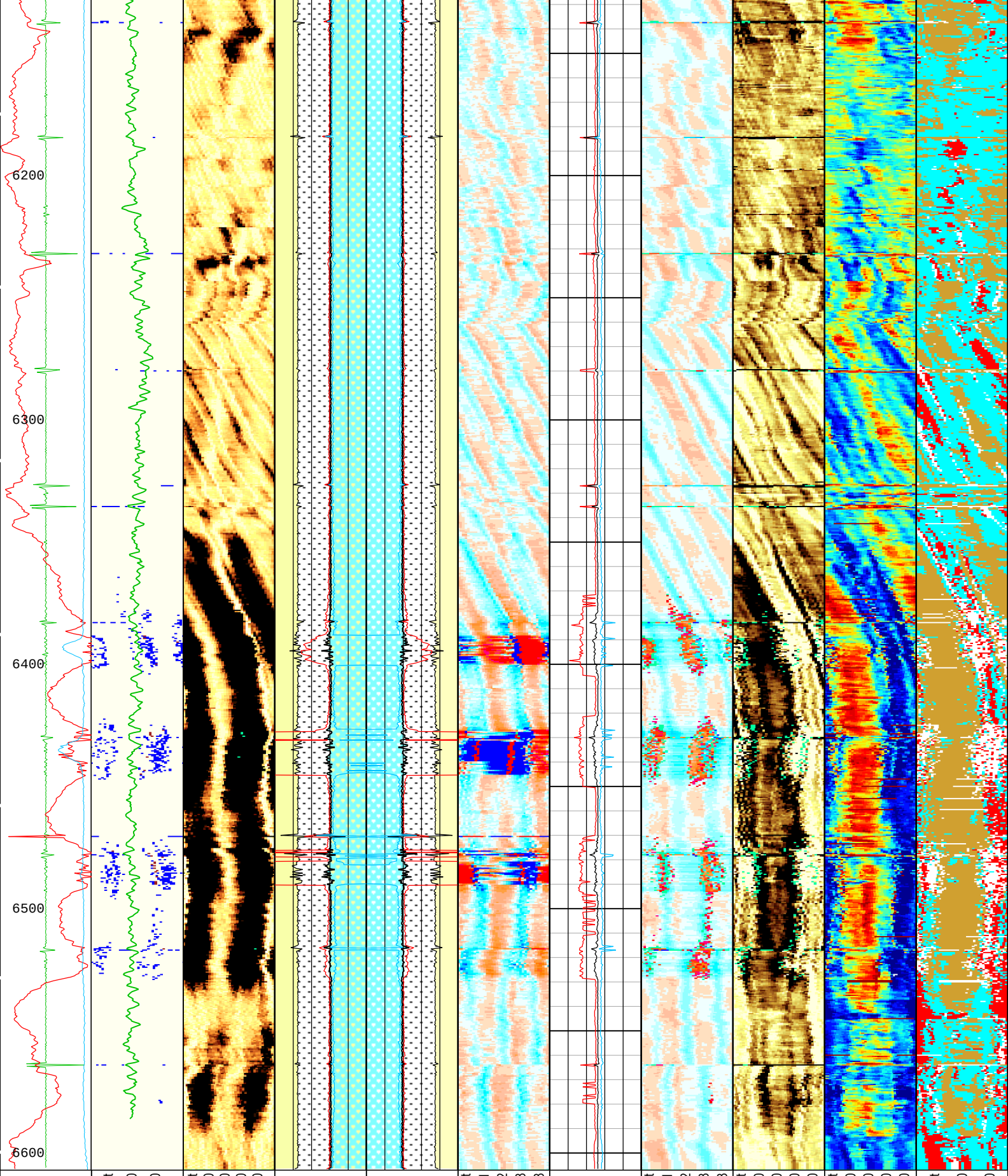
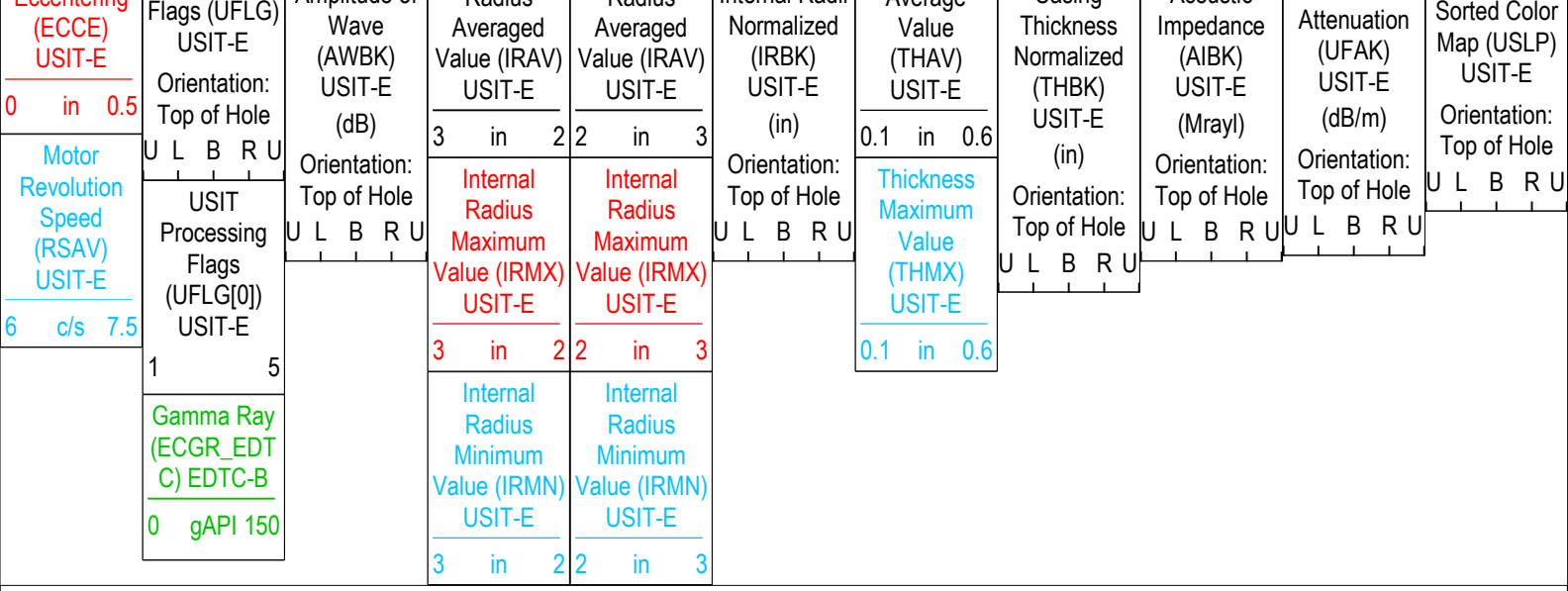


Casing Collar Locator Ultrasonic (CCLU) USIT-E		External Radii Average (ERAV) USIT-E	External Radii Average (ERAV) USIT-E		Thickness Minimum Value (THMN) USIT-E				
-20 in 20	Absent 1.500 3.500	Absent -5.200 -3.600 -2.000 -0.400	3 in 2	2 in 3	Absent -0.051 -0.012 0.028 0.068	0.1 in 0.6	Absent -0.051 -0.012 0.028 0.068	Absent 0.750 1.750 2.750 3.750	Absent 42.000 66.000 90.000 114.000	Absent 1.500 3.500
Amplitude of Eccentering	Explicit Normalization	Explicit Normalization	Internal Radius	Internal Radius	Explicit Normalization	Thickness Average	Explicit Normalization	Custom Normalization	Custom Normalization	Explicit Normalization
USIT - USIT Processing		USIT - Amplitude of			USIT - Internal Radii		USIT - Casing	USIT - Acoustic	USIT - Flexural	USIT - Solid Liquid Gas



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 Composite Format: Log (IBC SLG Composite) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 27-Nov-2018 20:52:35

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	11924	ft
CDEN	Cement Density	USIT-E	12	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	204	us/ft
FD	Fluid Density	USIT-E	10.7	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	4.08	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.19	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.75	Mrayl

U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	Time Zoned	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	70	2401
BS	8.75	2401	6607

All depth are actual.

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
U-USIT_UFAO	10	23-Nov-2018 08:37:32	23-Nov-2018 08:47:04	6607.92	5958.49
U-USIT_UFAO	30	23-Nov-2018 08:47:04	23-Nov-2018 08:47:55	5958.49	5898.18
U-USIT_UFAO	17	23-Nov-2018 08:47:55	23-Nov-2018 08:52:40	5898.18	5562.42
U-USIT_UFAO	28	23-Nov-2018 08:52:40	23-Nov-2018 08:59:08	5562.42	5100.9
U-USIT_UFAO	17	23-Nov-2018 08:59:08	23-Nov-2018 09:24:29	5100.9	3295.72
U-USIT_UFAO	4	23-Nov-2018 09:24:29	23-Nov-2018 10:11:42	3295.72	69.98

All depth are at tool zero.

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	80	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
U-USIT_UFWB	136	23-Nov-2018 08:37:32	23-Nov-2018 08:38:25	6607.92	6569.88
U-USIT_UFWB	131.45	23-Nov-2018 08:38:25	23-Nov-2018 08:38:45	6569.88	6546.47
U-USIT_UFWB	114.08	23-Nov-2018 08:38:45	23-Nov-2018 08:40:53	6546.47	6396.1
U-USIT_UFWB	97.37	23-Nov-2018 08:40:53	23-Nov-2018 10:11:42	6396.1	69.98
U-USIT_UFWE	176	23-Nov-2018 08:37:32	23-Nov-2018 08:38:22	6607.92	6573.22
U-USIT_UFWE	180.1	23-Nov-2018 08:38:22	23-Nov-2018 08:38:43	6573.22	6548.81

U-USIT_UFWE	190.52	23-Nov-2018 08:38:43	23-Nov-2018 08:40:56	6548.81	6392.46
U-USIT_UFWE	200.94	23-Nov-2018 08:40:56	23-Nov-2018 08:41:19	6392.46	6365
U-USIT_UFWE	204.46	23-Nov-2018 08:41:19	23-Nov-2018 10:11:42	6365	69.98
U-USIT_UNWB	105	23-Nov-2018 08:37:32	23-Nov-2018 08:38:30	6607.92	6563.99
U-USIT_UNWB	89.75	23-Nov-2018 08:38:30	23-Nov-2018 08:42:10	6563.99	6304.34
U-USIT_UNWB	80.28	23-Nov-2018 08:42:10	23-Nov-2018 10:11:42	6304.34	69.98
U-USIT_UNWE	145	23-Nov-2018 08:37:32	23-Nov-2018 08:38:27	6607.92	6567.55
U-USIT_UNWE	167.93	23-Nov-2018 08:38:27	23-Nov-2018 08:42:08	6567.55	6306.24
U-USIT_UNWE	175.3	23-Nov-2018 08:42:08	23-Nov-2018 10:11:42	6306.24	69.98
WINB	31.37	23-Nov-2018 08:37:32	23-Nov-2018 08:39:18	6607.92	6506.56
WINB	26.48	23-Nov-2018 08:39:18	23-Nov-2018 08:39:47	6506.56	6472.11
WINB	17.8	23-Nov-2018 08:39:47	23-Nov-2018 08:40:08	6472.11	6448.12
WINB	21.07	23-Nov-2018 08:40:08	23-Nov-2018 10:11:42	6448.12	69.98
WINE	71.37	23-Nov-2018 08:37:32	23-Nov-2018 08:38:32	6607.92	6562.06
WINE	104.04	23-Nov-2018 08:38:32	23-Nov-2018 08:38:36	6562.06	6557.24
WINE	91.3	23-Nov-2018 08:38:36	23-Nov-2018 08:38:48	6557.24	6542.55
WINE	101.49	23-Nov-2018 08:38:48	23-Nov-2018 08:38:57	6542.55	6531.3
WINE	84.93	23-Nov-2018 08:38:57	23-Nov-2018 08:39:12	6531.3	6512.7
WINE	90.61	23-Nov-2018 08:39:12	23-Nov-2018 08:39:45	6512.7	6474.59
WINE	69.57	23-Nov-2018 08:39:45	23-Nov-2018 08:39:52	6474.59	6466.12
WINE	76.11	23-Nov-2018 08:39:52	23-Nov-2018 08:39:57	6466.12	6460.92
WINE	83.2	23-Nov-2018 08:39:57	23-Nov-2018 08:40:01	6460.92	6456.18
WINE	86.47	23-Nov-2018 08:40:01	23-Nov-2018 08:40:05	6456.18	6451.52
WINE	90.83	23-Nov-2018 08:40:05	23-Nov-2018 08:40:14	6451.52	6441.39
WINE	93.01	23-Nov-2018 08:40:14	23-Nov-2018 08:40:16	6441.39	6438.77
WINE	91.92	23-Nov-2018 08:40:16	23-Nov-2018 08:40:22	6438.77	6431.25
WINE	90.28	23-Nov-2018 08:40:22	23-Nov-2018 08:40:24	6431.25	6429.7
WINE	87.01	23-Nov-2018 08:40:24	23-Nov-2018 08:40:27	6429.7	6426.44
WINE	85.92	23-Nov-2018 08:40:27	23-Nov-2018 08:40:44	6426.44	6406.28
WINE	80.99	23-Nov-2018 08:40:44	23-Nov-2018 08:40:47	6406.28	6402.69
WINE	76.2	23-Nov-2018 08:40:47	23-Nov-2018 08:41:04	6402.69	6382.56
WINE	79.88	23-Nov-2018 08:41:04	23-Nov-2018 08:41:05	6382.56	6381.38
WINE	80.25	23-Nov-2018 08:41:05	23-Nov-2018 08:41:10	6381.38	6374.9
WINE	83.94	23-Nov-2018 08:41:10	23-Nov-2018 08:41:27	6374.9	6355.28
WINE	86.89	23-Nov-2018 08:41:27	23-Nov-2018 08:41:37	6355.28	6343.88
WINE	84.68	23-Nov-2018 08:41:37	23-Nov-2018 10:11:42	6343.88	69.98

All depth are at tool zero.

One

IBC Goodwin Compressed

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	69.98 ft	6607.92 ft	23-Nov-2018 8:37:32 AM	23-Nov-2018 10:11:42 AM	ON	7.91 ft	Yes

All depths are referenced to toolstring zero

All depths are referenced to toolstring Zero

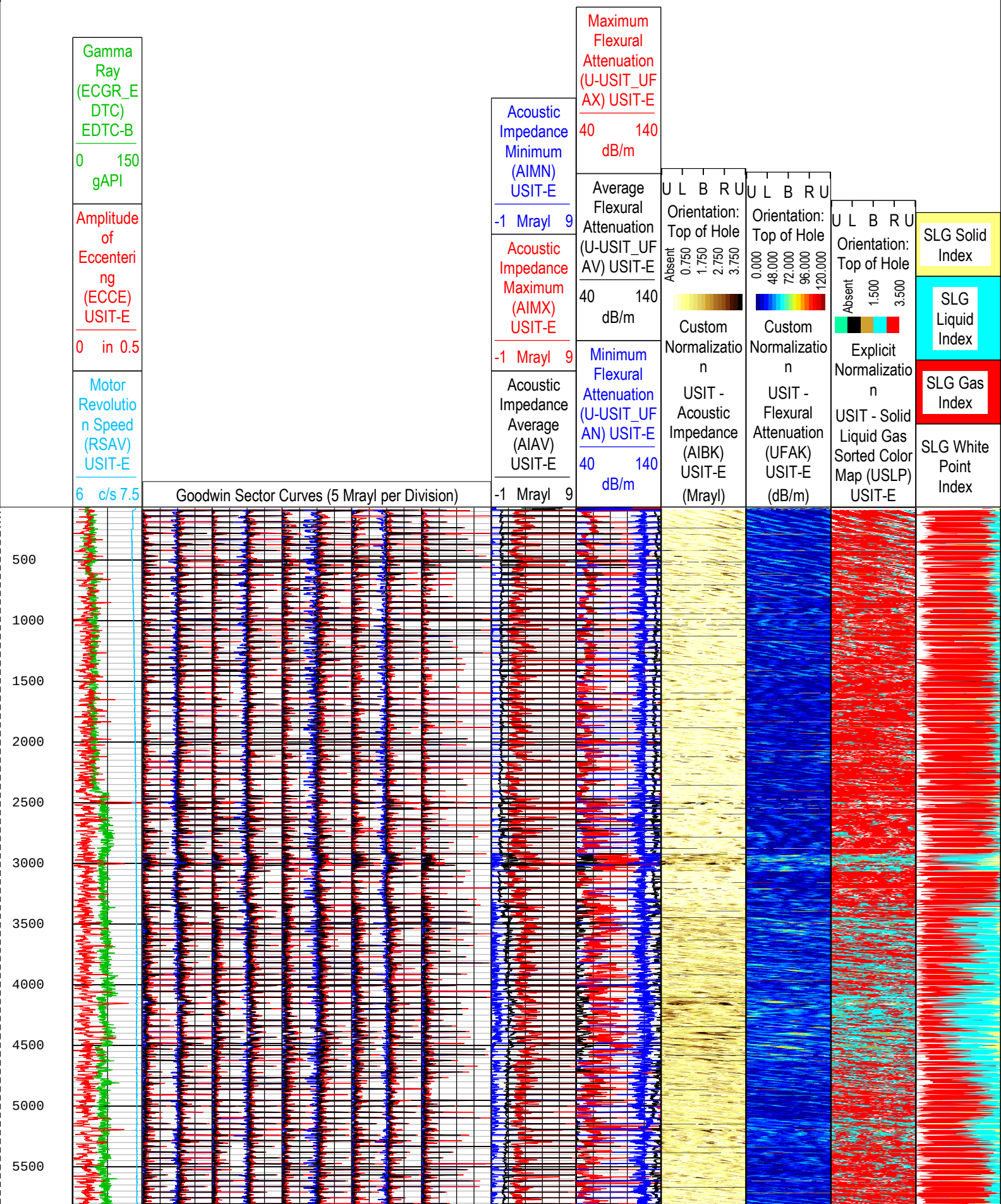
Log

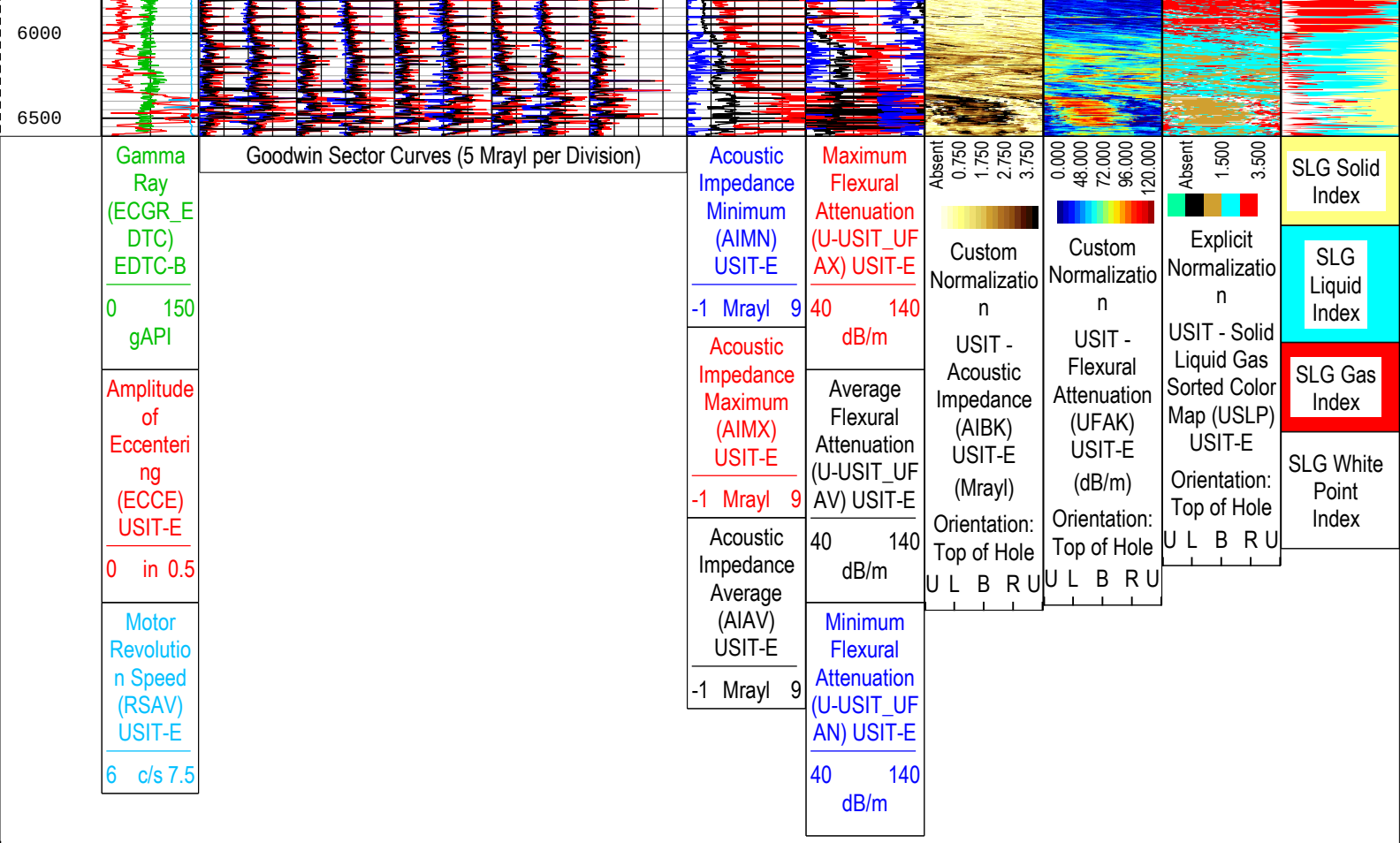
Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265

One: Log[3]:Up:S034

Description: USI Goodwin Format: Log (IBC Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Nov-2018 20:52:51

TIME_1900 - Time Marked every 60.00 (s)





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: 27-Nov-2018 20:52:51

One

IBC SLG

Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[1]:Up	Up	2134.95 ft	2720.96 ft	23-Nov-2018 8:11:51 AM	23-Nov-2018 8:23:04 AM	ON	3.40 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265

One: Log[1]:Up:S034

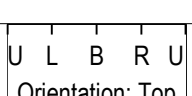
Description: USI IBC SLG Format: Log (IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Nov-2018 20:52:58

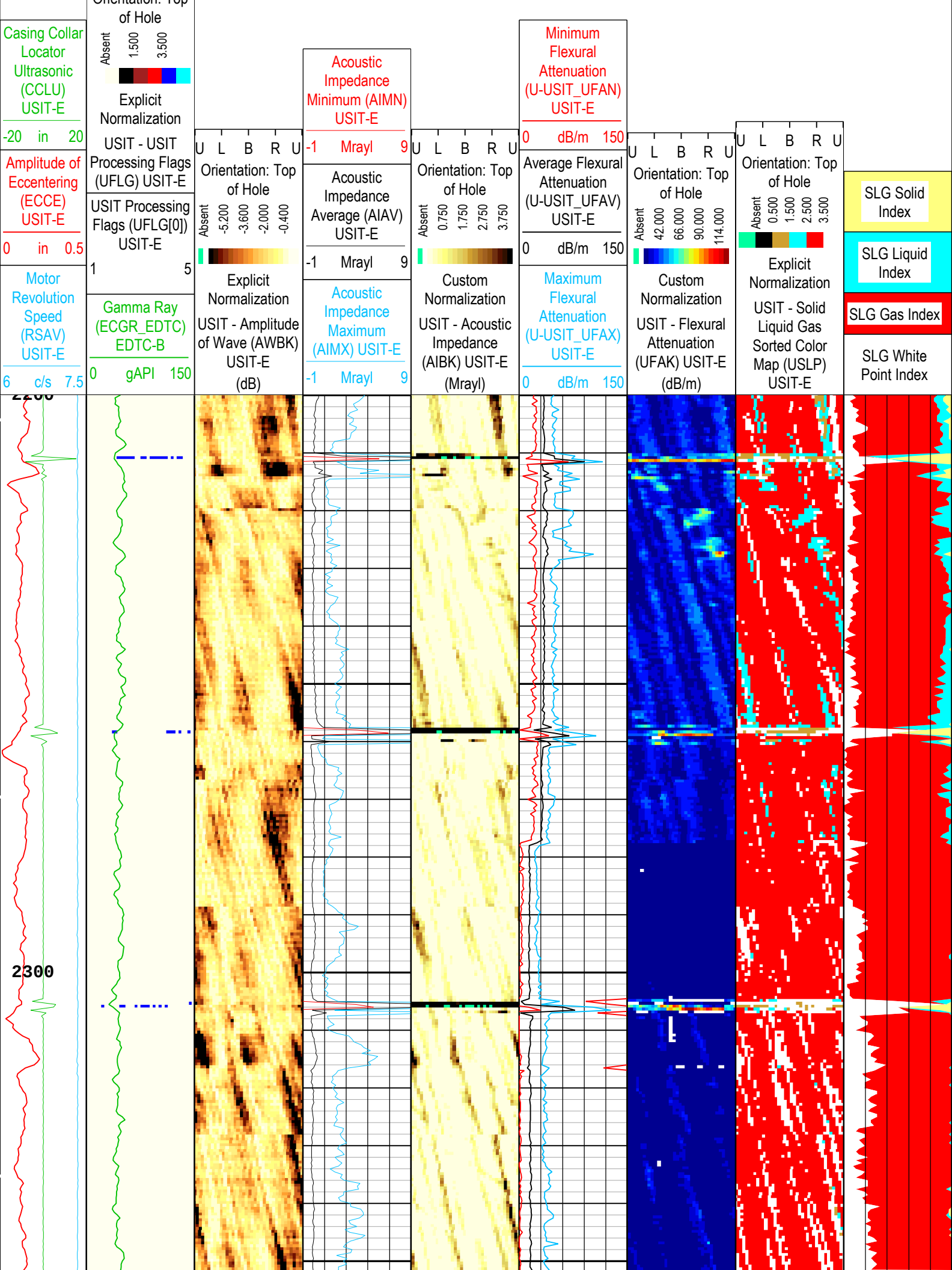
TIME_1900 - Time Marked every 60.00 (s)

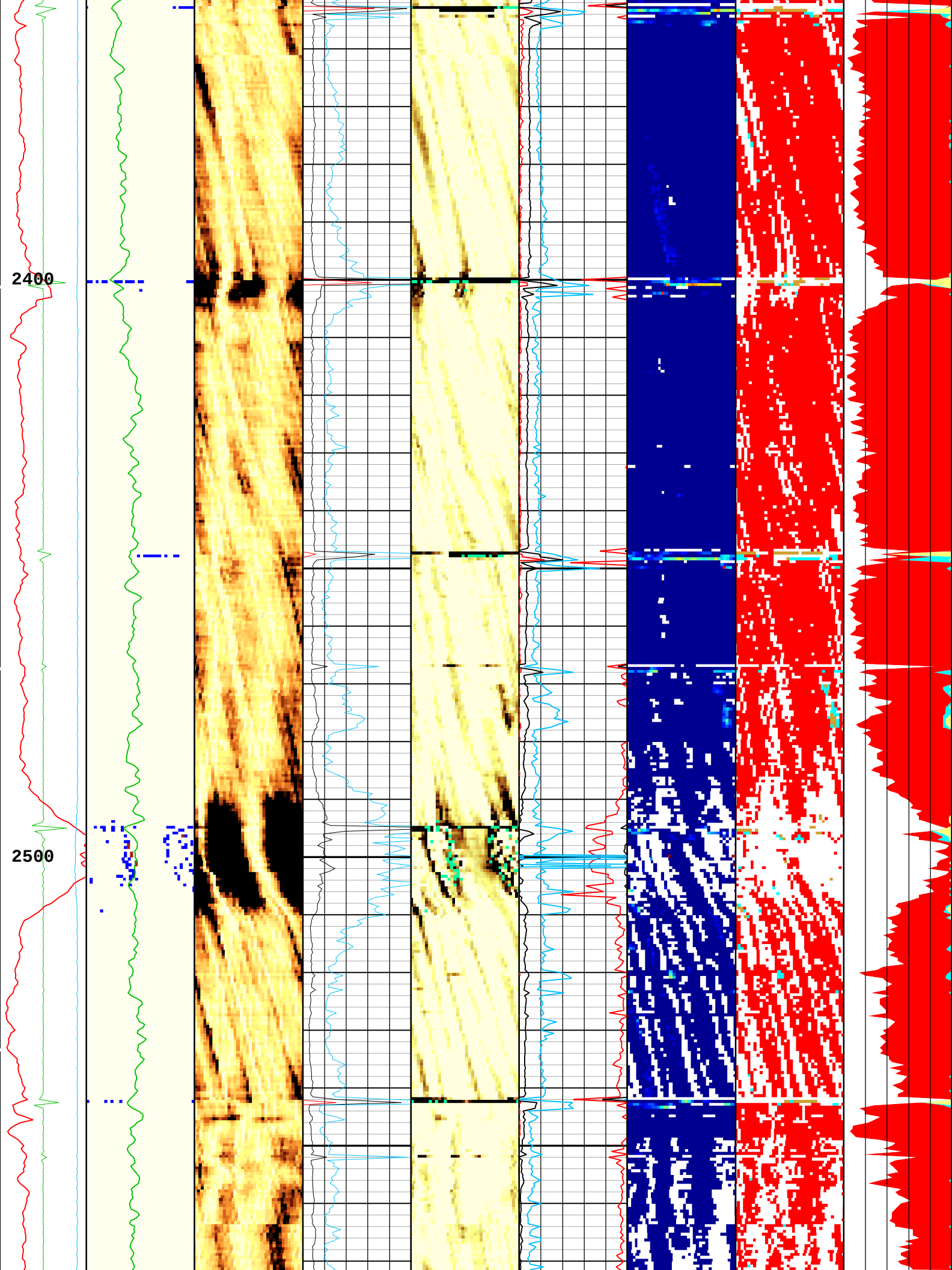
USIT Processing Flags (UFLG[0]) USIT-E

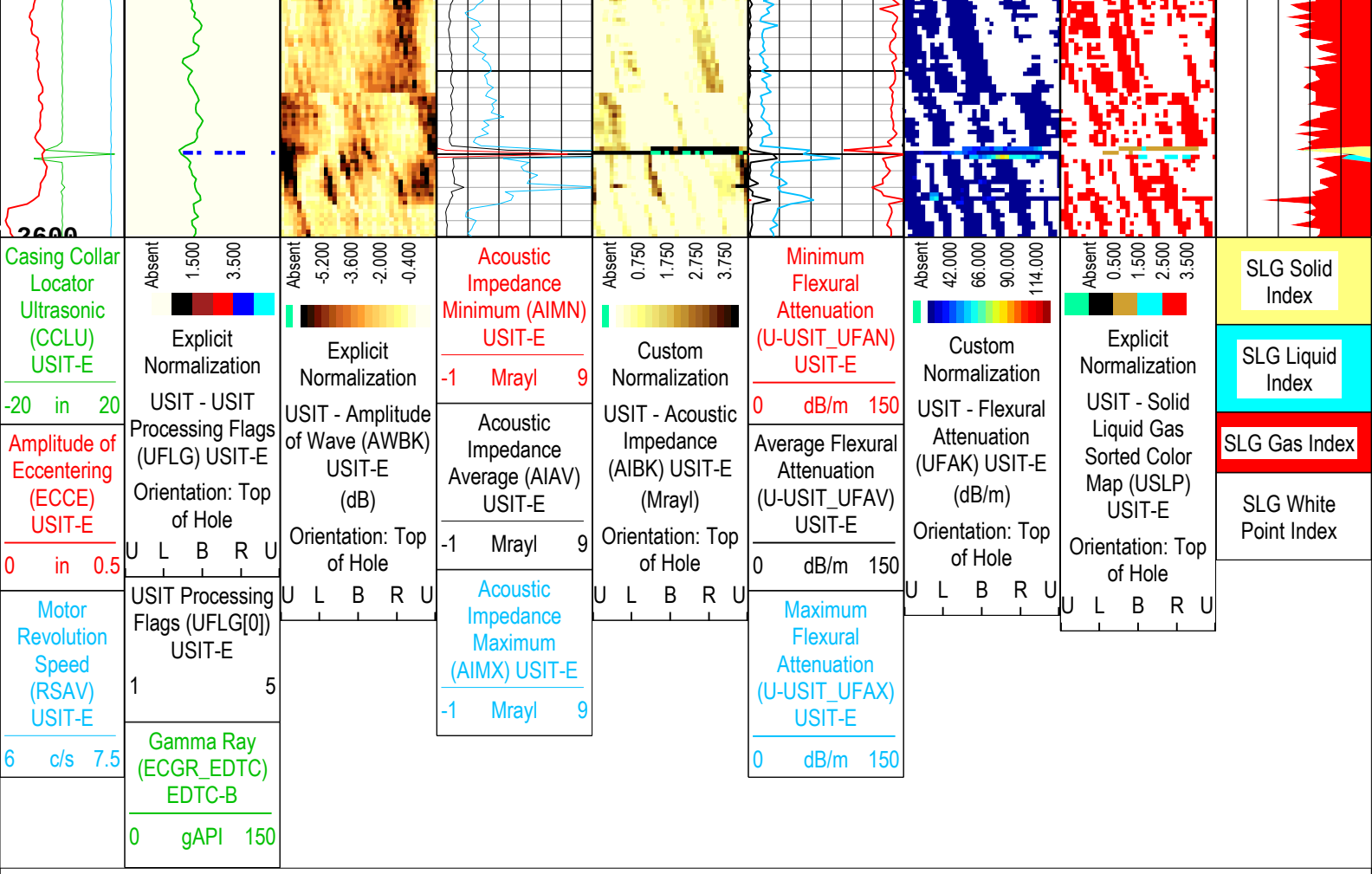
1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

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
Orientation: Top of Hole
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
U L B R U
Orientation: Top of Hole
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
U L B R U
Orientation: Top of Hole
Absent 0.750 1.750 2.750 3.750
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
U L B R U
Orientation: Top of Hole
Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E
(dB/m)
U L B R U
Orientation: Top of Hole
Absent 0.500 1.500 2.500 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
2300


2400
2500



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) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Nov-2018 20:52:58

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	11924	ft
CDEN	Cement Density	USIT-E	12	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	204	us/ft
FD	Fluid Density	USIT-E	10.7	lbm/gal
FDIL	FPM Data Interpolation Interval	USIT-E	0	ft

PDIF	PPM 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	4.08	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.19	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RCOD	Reference Calibrator Outer Diameter	USIT-E	4.5	in
RCSO	Reference Calibrator Standoff	USIT-E	0.842	in
RCTH	Reference Calibrator Thickness	USIT-E	0.216	in
SOCN	Standoff Distance	EDTC-B	0.125	in
SOCO	Standoff Correction Option	EDTC-B	No	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS_EDTC	Tool Position: Centered or Eccentered	EDTC-B	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.75	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	10	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
USI_RPLUS	Ultrasonic R+ Processing	USIT-E	No	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	2200	2401
BS	8.75	2401	2600

All depth are actual.

Tool Control Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	1.756	in
EMXV	EMEX Voltage	USIT-E	80	V
HRES	Horizontal Resolution	USIT-E	10 deg	
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us

ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MOTOR_PROTECT	Motor Protection	USIT-E	On	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
USSP	Ultrasonic Service	USIT-E	IBC	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
U-USIT_UFWB	136	23-Nov-2018 08:11:51	23-Nov-2018 08:14:13	2720.96	2706.86
U-USIT_UFWB	114.46	23-Nov-2018 08:14:13	23-Nov-2018 08:23:04	2706.86	2134.95
U-USIT_UFWE	176	23-Nov-2018 08:11:51	23-Nov-2018 08:14:15	2720.96	2705.65
U-USIT_UFWE	191.39	23-Nov-2018 08:14:15	23-Nov-2018 08:14:20	2705.65	2702.23
U-USIT_UFWE	197.93	23-Nov-2018 08:14:20	23-Nov-2018 08:14:23	2702.23	2699.25
U-USIT_UFWE	202.45	23-Nov-2018 08:14:23	23-Nov-2018 08:23:04	2699.25	2134.95
U-USIT_UNWB	105	23-Nov-2018 08:11:51	23-Nov-2018 08:14:11	2720.96	2708.53
U-USIT_UNWB	88.82	23-Nov-2018 08:14:11	23-Nov-2018 08:23:04	2708.53	2134.95
U-USIT_UNWE	145	23-Nov-2018 08:11:51	23-Nov-2018 08:14:10	2720.96	2709.43
U-USIT_UNWE	173.79	23-Nov-2018 08:14:10	23-Nov-2018 08:23:04	2709.43	2134.95
WINB	31.37	23-Nov-2018 08:11:51	23-Nov-2018 08:17:40	2720.96	2488.64
WINB	29.79	23-Nov-2018 08:17:40	23-Nov-2018 08:23:04	2488.64	2134.95
WINE	71.37	23-Nov-2018 08:11:51	23-Nov-2018 08:14:06	2720.96	2712.09
WINE	87.63	23-Nov-2018 08:14:06	23-Nov-2018 08:23:04	2712.09	2134.95

All depth are at tool zero.

One

IBC SLG Composite

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[1]:Up	Up	2134.95 ft	2720.96 ft	23-Nov-2018 8:11:51 AM	23-Nov-2018 8:23:04 AM	ON	3.40 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265

One: Log[1]:Up:S034

Description: USI IBC SLG Composite Format: Log (IBC SLG Composite) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 27-Nov-2018 20:53:04

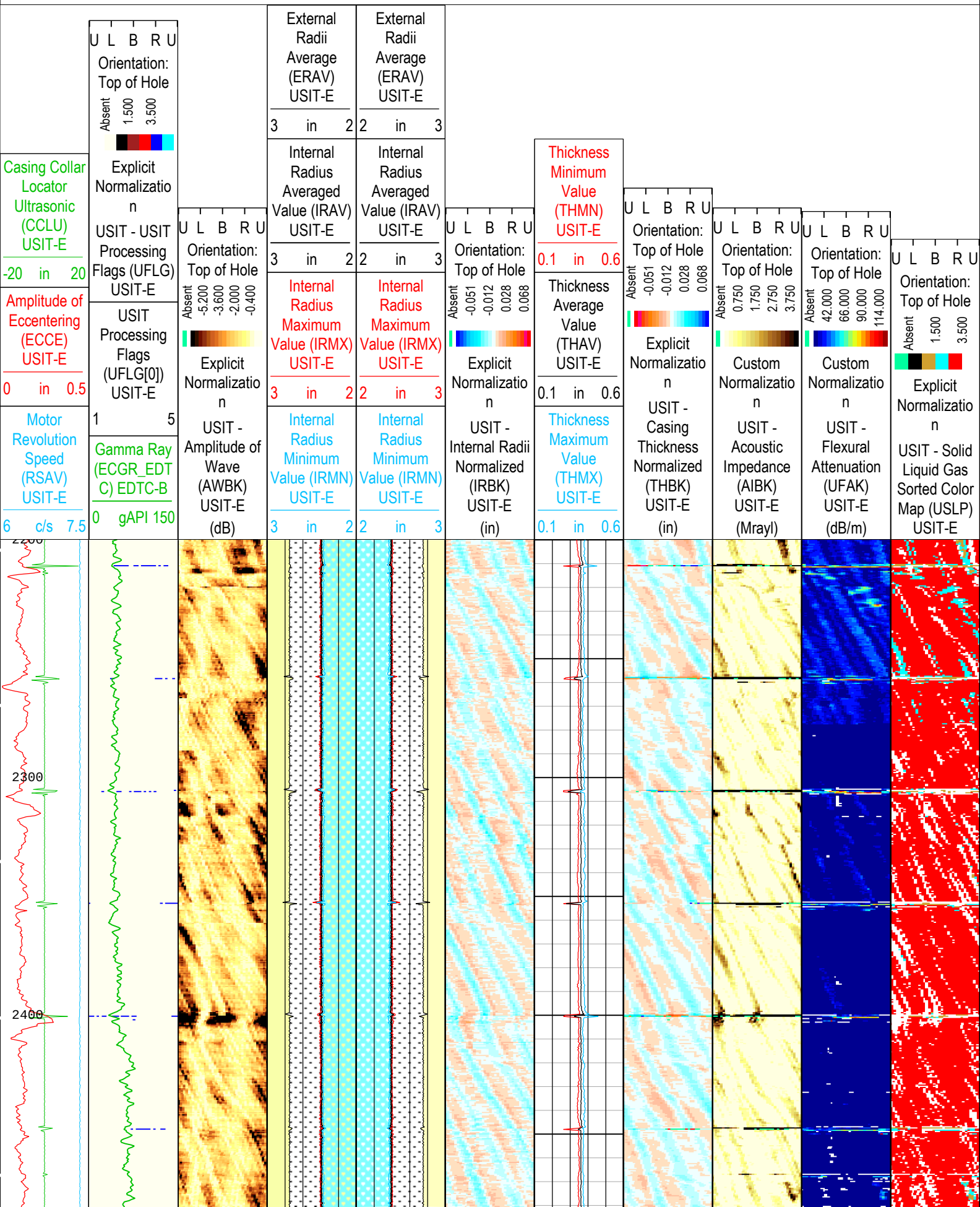
TIME_1900 - Time Marked every 60.00 (s)

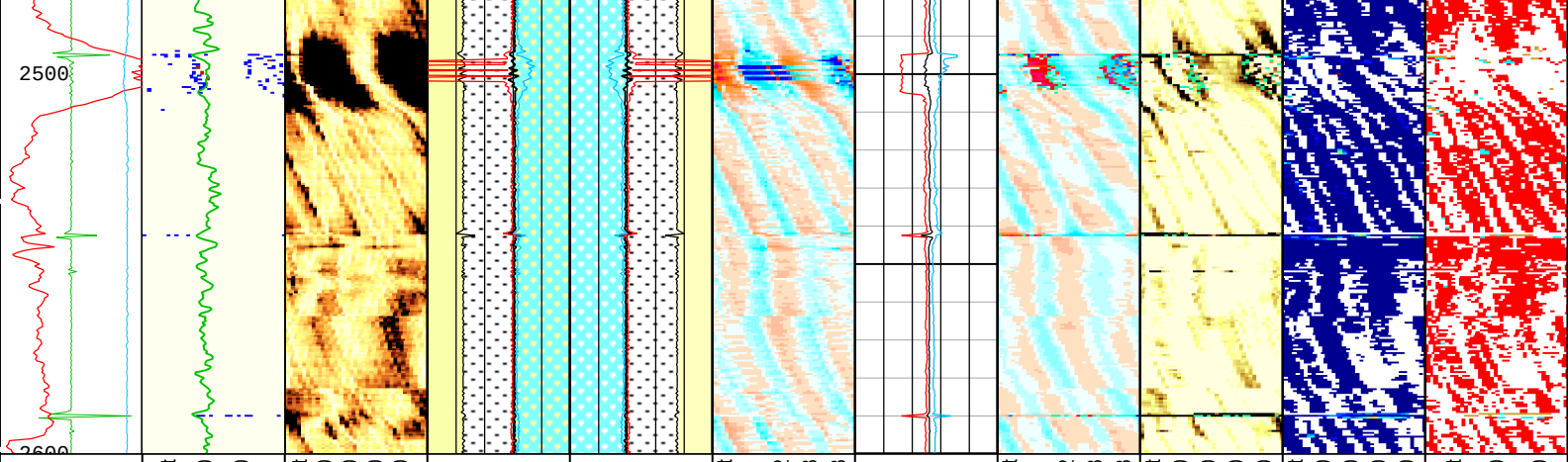
USIT Processing Flags (UFLG[0]) USIT-E

1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error

2 - UFLG 2 Value within [1.5 - 2.5] - :
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





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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

External Radii Average (ERAV) USIT-E
3 in 2

Internal Radius Averaged Value (IRAV) USIT-E
3 in 2

Internal Radius Maximum Value (IRMX) USIT-E
3 in 2

Internal Radius Minimum Value (IRMN) USIT-E
3 in 2

External Radii Average (ERAV) USIT-E
2 in 3

Internal Radius Averaged Value (IRAV) USIT-E
2 in 3

Internal Radius Maximum Value (IRMX) USIT-E
2 in 3

Internal Radius Minimum Value (IRMN) USIT-E
2 in 3

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Internal Radii Normalized (IRBK) USIT-E
(in)
Orientation: Top of Hole
U L B R U

Thickness Minimum Value (THMN) USIT-E
0.1 in 0.6

Thickness Average Value (THAV) USIT-E
0.1 in 0.6

Thickness Maximum Value (THMX) USIT-E
0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Casing Thickness Normalized (THBK) USIT-E
(in)
Orientation: Top of Hole
U L B R U

Absent 0.750 1.750 2.750 3.750
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E
(Mrayl)
Orientation: Top of Hole
U L B R U

Absent 42.000 66.000 90.000 114.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E
(dB/m)
Orientation: Top of Hole
U L B R U

Absent 1.500 3.500
Explicit Normalization
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E
Orientation: Top of Hole
U L B R U

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 Composite Format: Log (IBC SLG Composite) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 27-Nov-2018 20:53:04

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	11924	ft
CDEN	Cement Density	USIT-E	12	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal

CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	204	us/ft
FD	Fluid Density	USIT-E	10.7	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FRP_OFFSET	IBC Flexural Offset from Free Pipe	USIT-E	4.08	dB/m
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	FreePipe Norm.	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	RB	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.19	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.75	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	10	dB/m
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.75	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	2200	2401
BS	8.75	2401	2600

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	80	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

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

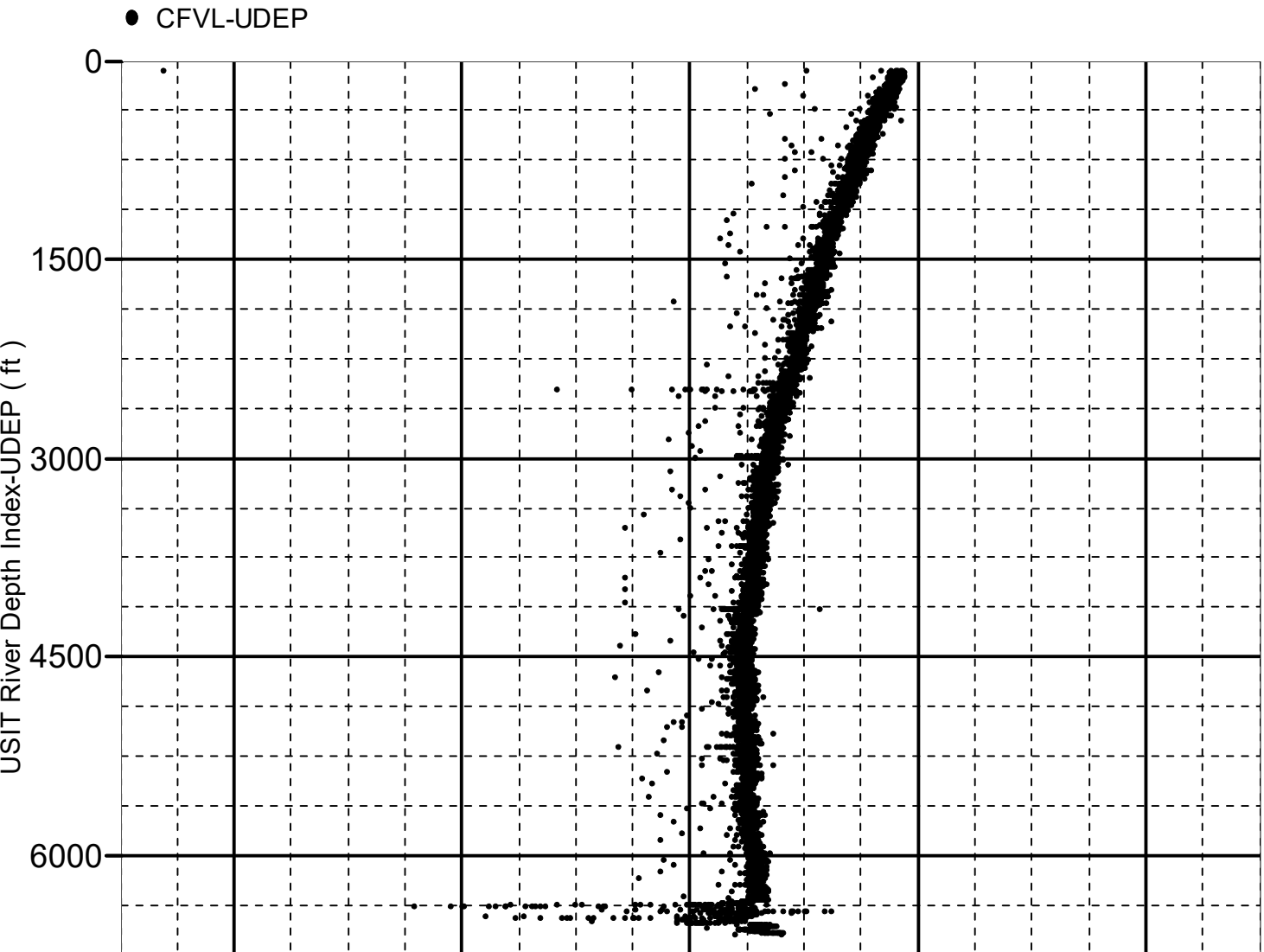
U-USIT_UFWB	136	23-Nov-2018 08:11:51	23-Nov-2018 08:14:13	2720.96	2706.86
U-USIT_UFWB	114.46	23-Nov-2018 08:14:13	23-Nov-2018 08:23:04	2706.86	2134.95
U-USIT_UFWE	176	23-Nov-2018 08:11:51	23-Nov-2018 08:14:15	2720.96	2705.65
U-USIT_UFWE	191.39	23-Nov-2018 08:14:15	23-Nov-2018 08:14:20	2705.65	2702.23
U-USIT_UFWE	197.93	23-Nov-2018 08:14:20	23-Nov-2018 08:14:23	2702.23	2699.25
U-USIT_UFWE	202.45	23-Nov-2018 08:14:23	23-Nov-2018 08:23:04	2699.25	2134.95
U-USIT_UNWB	105	23-Nov-2018 08:11:51	23-Nov-2018 08:14:11	2720.96	2708.53
U-USIT_UNWB	88.82	23-Nov-2018 08:14:11	23-Nov-2018 08:23:04	2708.53	2134.95
U-USIT_UNWE	145	23-Nov-2018 08:11:51	23-Nov-2018 08:14:10	2720.96	2709.43
U-USIT_UNWE	173.79	23-Nov-2018 08:14:10	23-Nov-2018 08:23:04	2709.43	2134.95
WINB	31.37	23-Nov-2018 08:11:51	23-Nov-2018 08:17:40	2720.96	2488.64
WINB	29.79	23-Nov-2018 08:17:40	23-Nov-2018 08:23:04	2488.64	2134.95
WINE	71.37	23-Nov-2018 08:11:51	23-Nov-2018 08:14:06	2720.96	2712.09
WINE	87.63	23-Nov-2018 08:14:06	23-Nov-2018 08:23:04	2712.09	2134.95

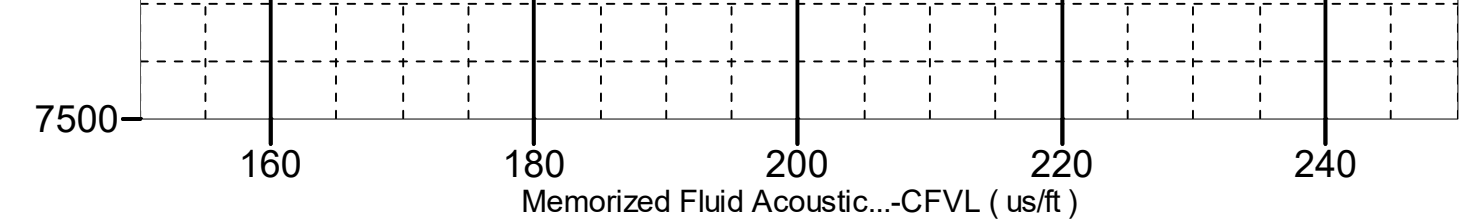
All depth are at tool zero.

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 6607.00 to 69.50 ft





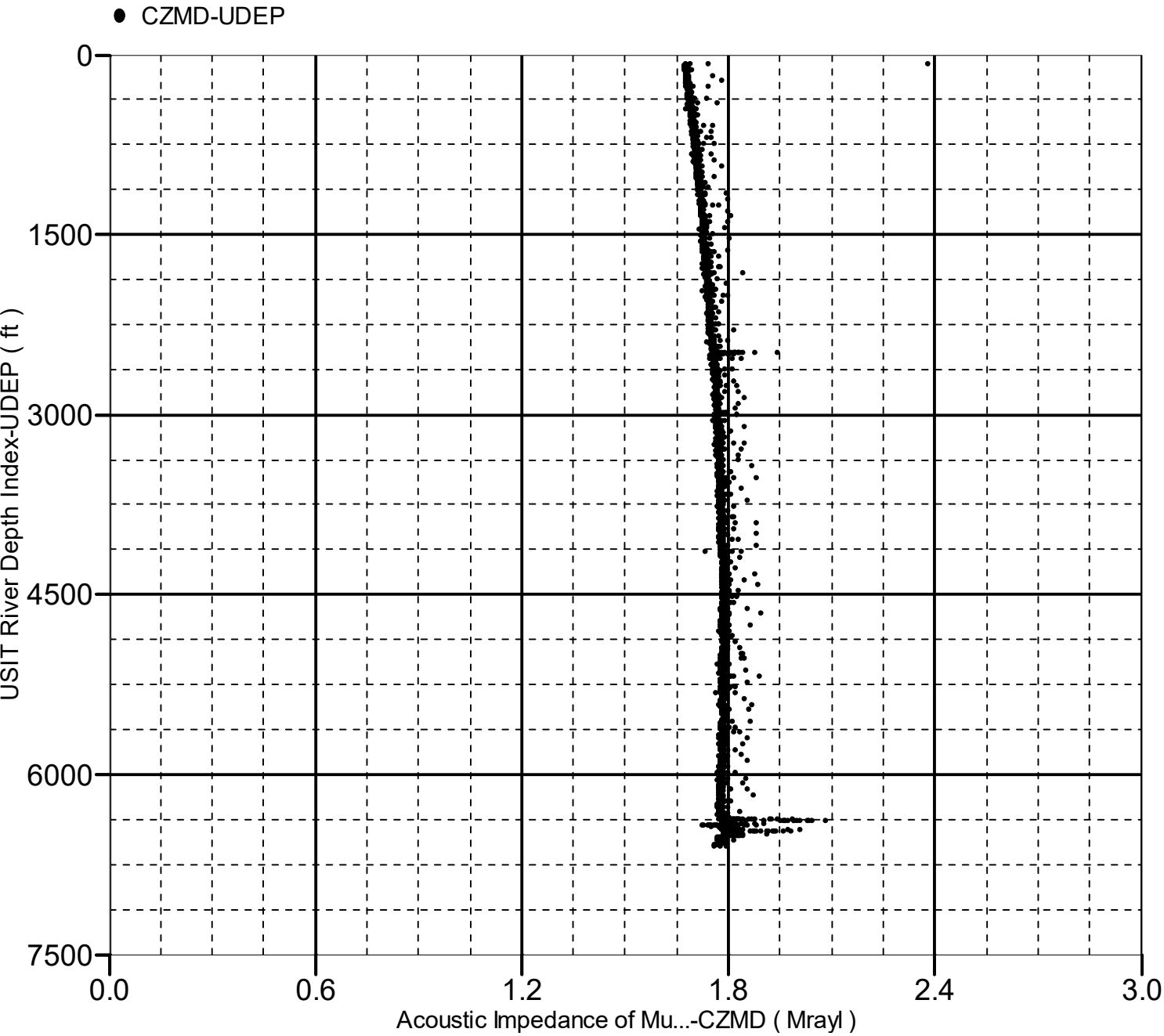
XYZ

Company:Crestone Peak Resources Operating LLC Well:Melbon Ranch 4G-17H-M265
One: Log[3]:Up:S034

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6607.00 to 69.50 ft



Company:	Crestone Peak Resources Operating LLC
Well:	Melbon Ranch 4G-17H-M265
Field:	Wattenburg
County:	Weld
State:	Colorado

Schlumberger

Isolation Scanner
Cement Evaluation

Gamma Ray - CCL Log