Schlumberger

Company: Southern California Gas Company

Well: Porter 26A

Field: Aliso Canyon

County: Los Angeles State: California

Ultrasonic Imager

Gamma Ray - CCL

8-5/8" 36# casing

County:	Los Angeles
Field:	Aliso Canyon
Location:	
Well:	Porter 26A
Company:	Southern California Gas Company

Location:

Elev.:	K.B.	2517.00 ft	
	G.L.	2505.00 ft	
	D.F.		
Permanent Datum:	Ground Level	Elev.:	2505.00 f
Log Measured From:	Kelly Bushing	12.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section:	Township:	Range:
04-037-21362-01	28	3N	16W

Logging Date		10-Aug-2016	
Run Number		Two	
Depth Driller		7657.00 ft	
Schlumberger Depth		7670.00 ft	
Bottom Log Interval		7667.00 ft	
Top Log Interval		30.00 ft	
Casing Fluid Type		Brine with HEC Polymer	
Salinity			
Density		9 lbm/gal	
Fluid Level		8.00 ft	
BIT/CASING/TUBING STRING			
Bit Size		11.00 in	
From		807.00 ft	
To		7796.00 ft	
Casing/Tubing Size		8.625 in	
Weight		36 lbm/ft	
Grade		N80	
From		5842.00 ft	
To		7796.00 ft	
Max Recorded Temperatures			
Logger on Bottom	Time	10-Aug-2016 09:02:00	
Unit Number	Location:	3189 Ventura	
Recorded By		I. Kartawidjaja	
Witnessed By		Mr. Tom McMahon	

Disclaimer

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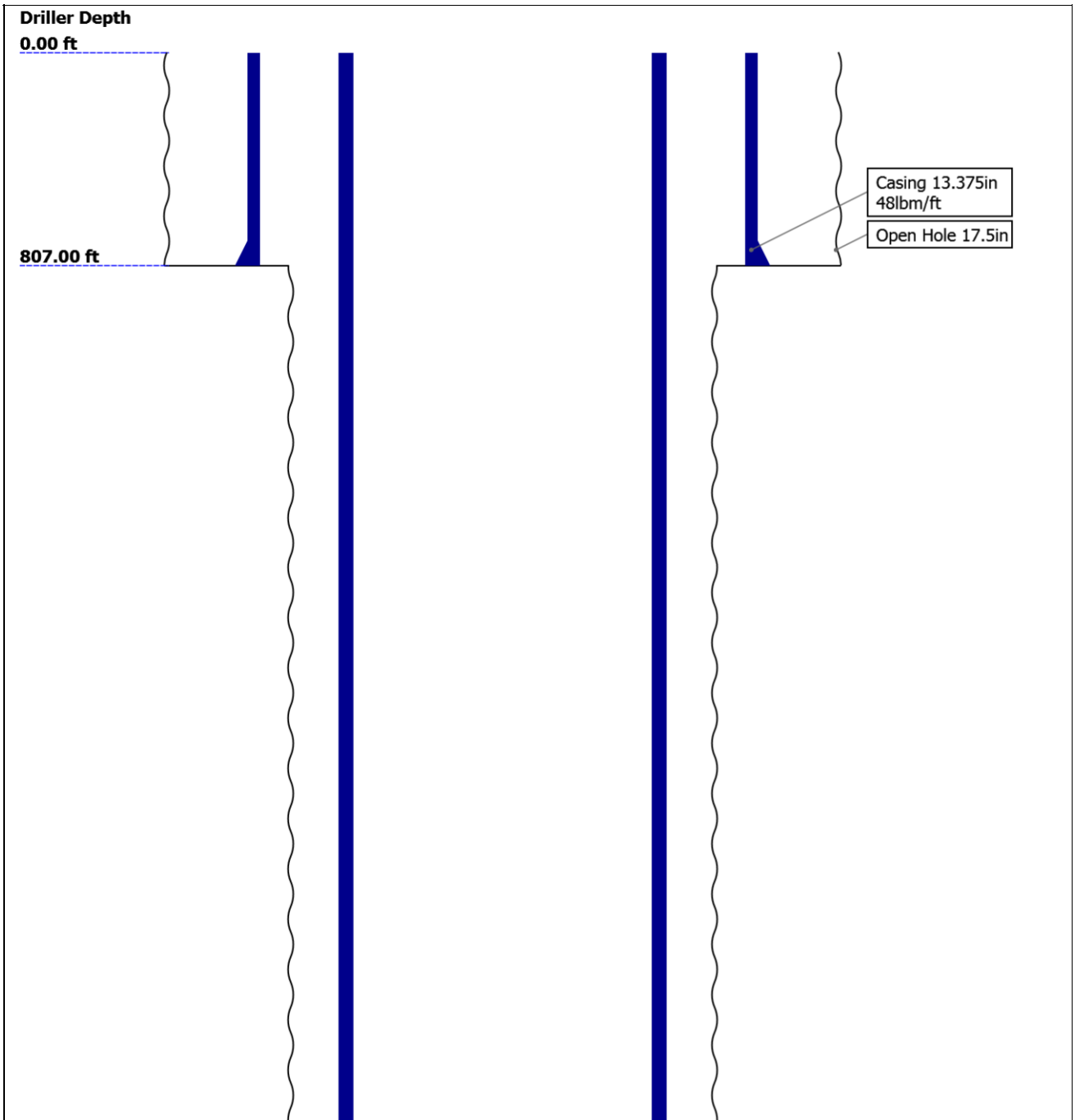
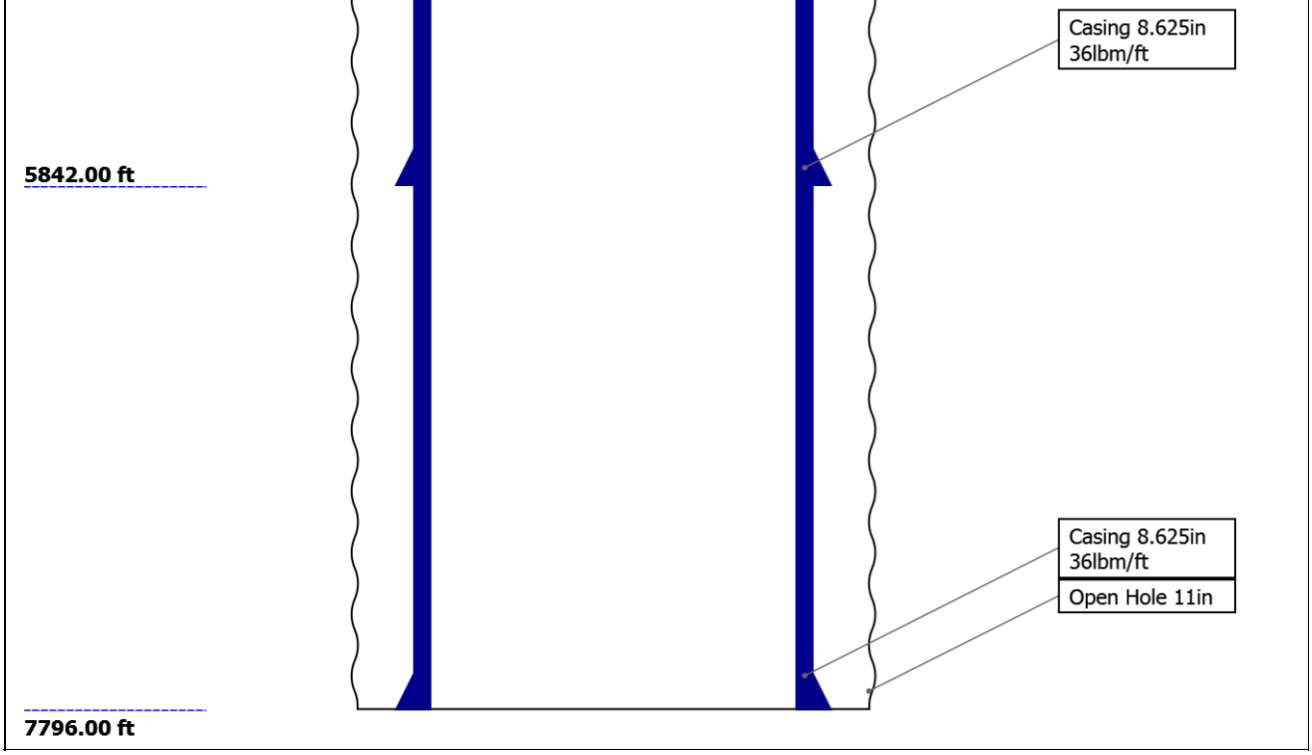
Well Sketch



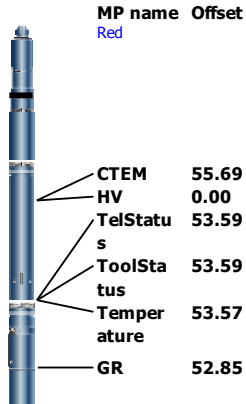


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	17.5	11				
Top Driller (ft)	0	807				
Top Logger (ft)	0	807				
Bottom Driller (ft)	807	7796				
Bottom Logger (ft)	807	7796				
Casing						
Size (in)	13.375	8.625	8.625			
Weight (lbm/ft)	48	36	36			
Inner Diameter (in)	12.715	7.825	7.825			
Grade	H40	K55	N80			
Top Driller (ft)	0	0	5842			
Top Logger (ft)	0	0	5842			
Bottom Driller (ft)	807	5842	7796			
Bottom Logger (ft)	807	5842	7796			

Remarks and Equipment Summary

Run 1: Toolstring



Run 1: Remarks

Toolstring ran as per toolsketch. Two centralizers on USIS and two CME-Y used to centralize ultrasonic tool.

Depth correlated to SLB USIT log dated 14-Jan-2002 tied in to GR peak at 7530 ft

USIT logged at 10 deg 1.5 inch, speed 3000 fph. Repeat at 10 deg 0.6 inch at 1200 fph

Anomalies repeated at very hi-res

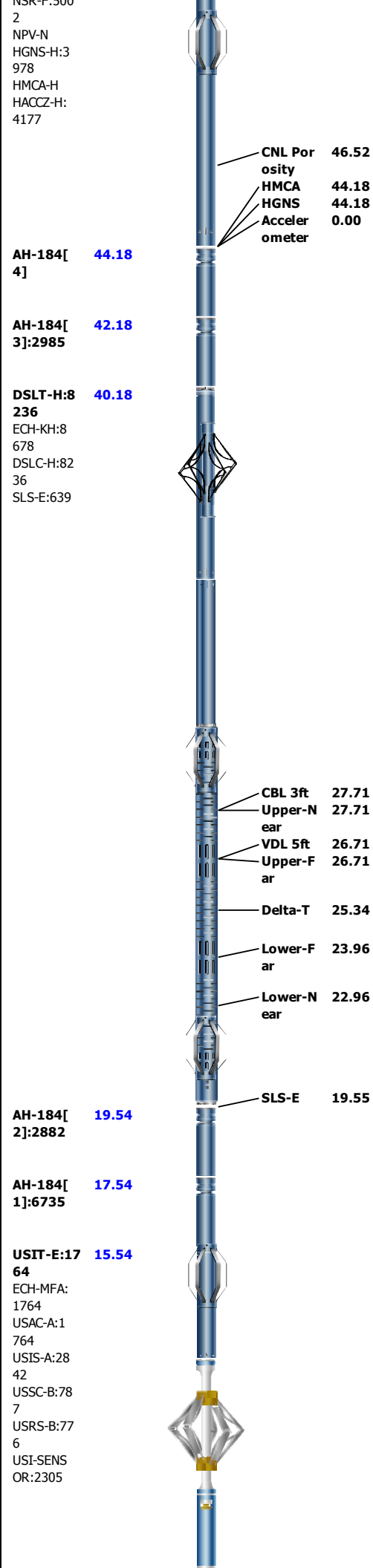
Cemented w/ 1315 CF (1st stage) + 1000 CF through Stage Collar @2968'

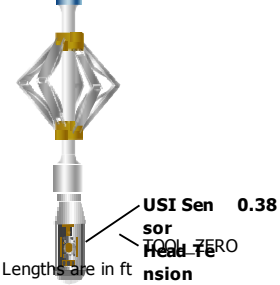
Logs recorded with 0 psi surface pressure

Bridge plug set at 7357 ft tubing depth.

Tagged top of sand ~7670 ft.

Thank you for choosing Schlumberger!





Lengths are in ft
Maximum Outer Diameter = 6.500 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Job Event Summary

Event	Time	Duration	Interval	Remark
Log[1]:Down	Aug-10-2016 08:10	01:56:51	105.03 - 7648.65 ft	Fluid Properties Measurement
Log[2]:Up	Aug-10-2016 09:09	00:07:52	7660.31 - 7441.07 ft	Repeat Pass
Log[3]:Up	Aug-10-2016 09:18	00:01:55	7502.05 - 7465.62 ft	Hi-Res Repeat
Log[6]:Up	Aug-10-2016 09:30	00:12:25	7667.54 - 7108.83 ft	Main Pass #1
Log[7]:Up	Aug-10-2016 09:52	02:20:03	7252.83 - 28.78 ft	Main Pass #2
Log[8]:Up	Aug-10-2016 13:02	00:07:34	7517.31 - 7369.86 ft	Hi-Res Repeat
Log[9]:Up	Aug-10-2016 13:14	00:07:59	6861.66 - 6701.79 ft	Hi-Res Repeat
Log[10]:Up	Aug-10-2016 13:34	00:04:11	5124.61 - 5041.26 ft	Hi-Res Repeat
Log[13]:Up	Aug-10-2016 13:48	00:02:18	4294.57 - 4248.94 ft	Hi-Res Repeat
Log[14]:Up	Aug-10-2016 13:59	00:02:43	3007.95 - 2954.88 ft	Hi-Res Repeat
Log[15]:Up	Aug-10-2016 14:08	00:04:15	2136.19 - 2050.92 ft	Hi-Res Repeat
Log[16]:Up	Aug-10-2016 14:25	00:06:47	149.42 - 27.65 ft	Hi-Res Repeat
Log[1]:Up	Aug-10-2016 15:02	00:04:19	65.77 - 20.12 ft	Surface Repeat

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[6]:Up	7667.54	7108.82

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 : 23.87m(78.32ft) to 28.00m(91.86ft)
MUD_N_FRP = 1.13
DFD = 1.08g/cm3(9.00lbm/gal)
CZMD median computed in free pipe normalization interval = 1.89 MRayl

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

Composite 1

Main Pass 5 in = 100 ft

Software Version

Acquisition System	Version
Maxwell 2016 SP1	6.1.58882.3100
Application Patch	Wireline_Hotfix-Perfo-2016SP1_6.1.63773

Computation	Description	Version
CEVAL	Sonic Cement Evaluation Computation Ensemble provides common Parameters and Channels	6.1.58882.3100
Cementation	Cementation Computation Application	6.1.58882.3100

SoftwareVersion_Tool	SoftwareVersion_Run Version	SoftwareVersion_Build Version
WAFE-SEC	Synergy SV451EC version 9.10	Synergy SV451EC version 9.10
WAFE-FEC	Synergy SV451EC version 9.10	Synergy SV451EC version 9.10
WAFE-TMDI	Synergy SV451EC version 46.19	Synergy SV451EC version 46.19

Tool Elements	Description	Software Version	Firmware Version

HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	6.1.58882.3100	2.0
SLS-E	Sonic Logging Sonde E supports 3'-5'BHC DT and CBL/VDL	6.1.58882.3100	4.0
USI-SENSOR	USIT Transducer Element	6.1.58882.3100	DSP: v1.82

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[6]:Up	Up	7108.83 ft	7667.54 ft	10-Aug-2016 9:30:29 AM	10-Aug-2016 9:42:55 AM	ON	0.00 ft	Yes
Run 1	Log[7]:Up	Up	28.78 ft	7252.83 ft	10-Aug-2016 9:52:07 AM	10-Aug-2016 12:12:11 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

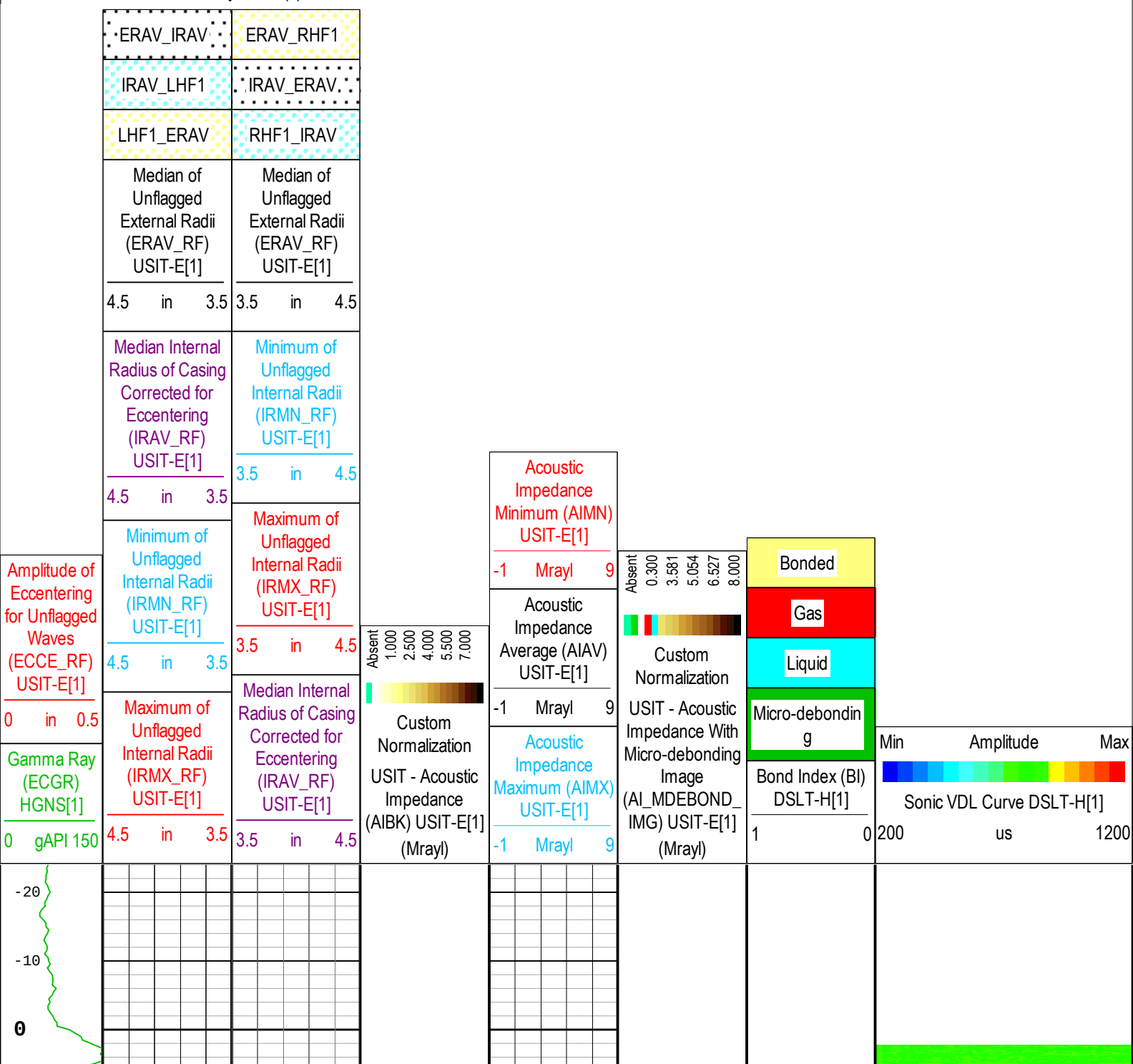
Log

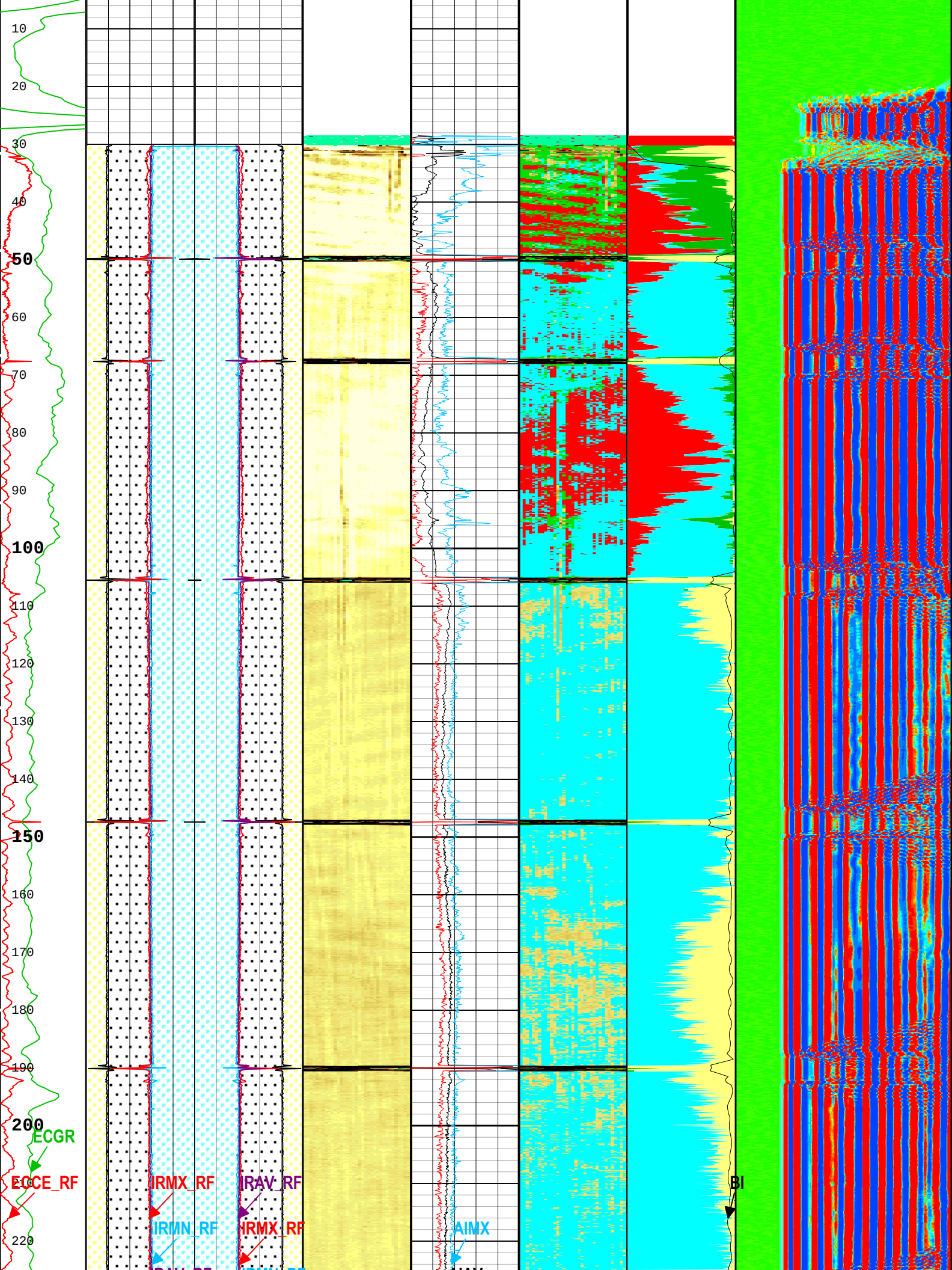
Company:Southern California Gas Company Well:Porter 26A

Composite 1:S003

Description: USI VDL Cement Format: Log (LBV1_USI-VDL (DSLT) Cement 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:14:53

TIME_1900 - Time Marked every 60.00 (s)

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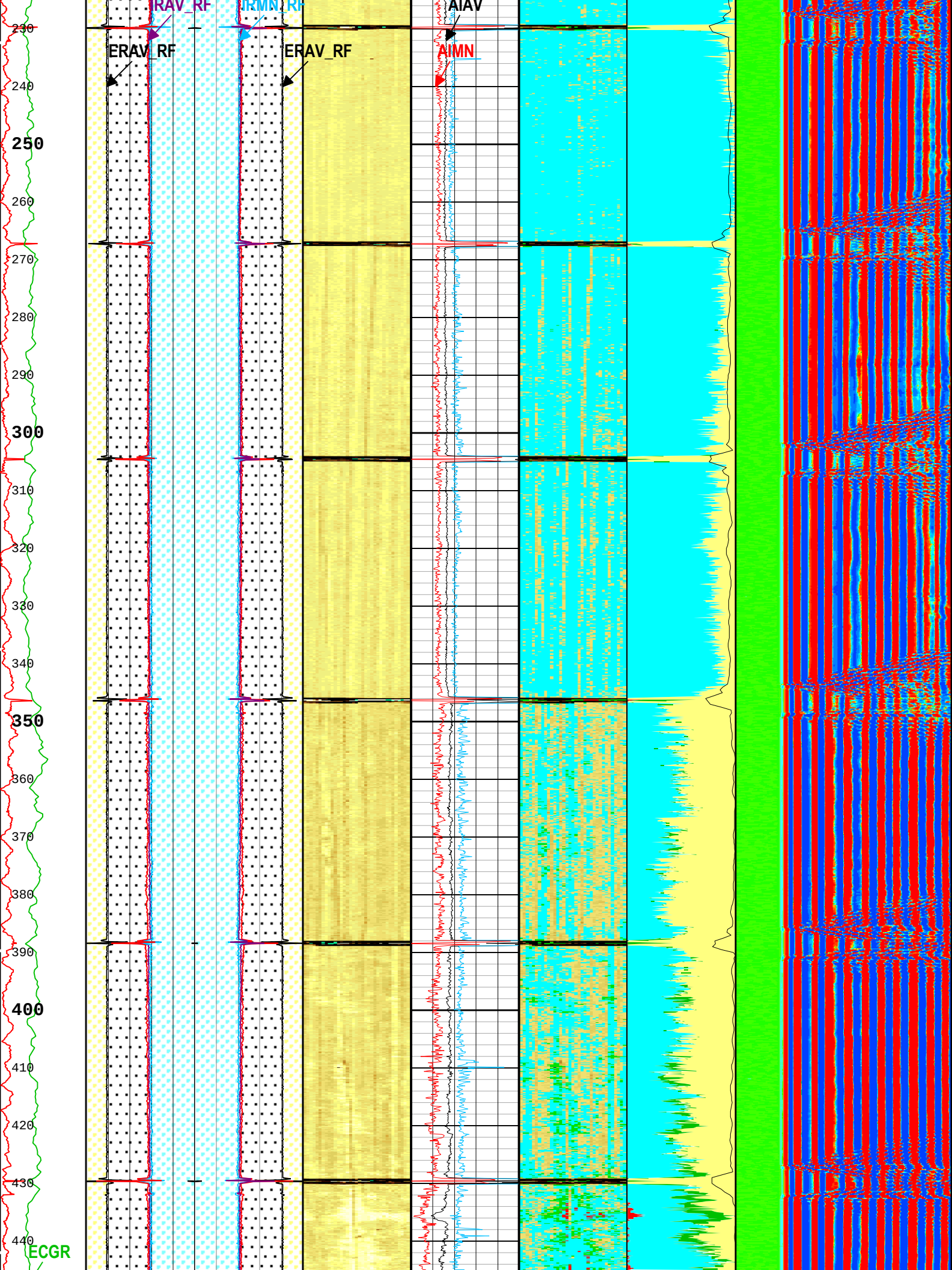
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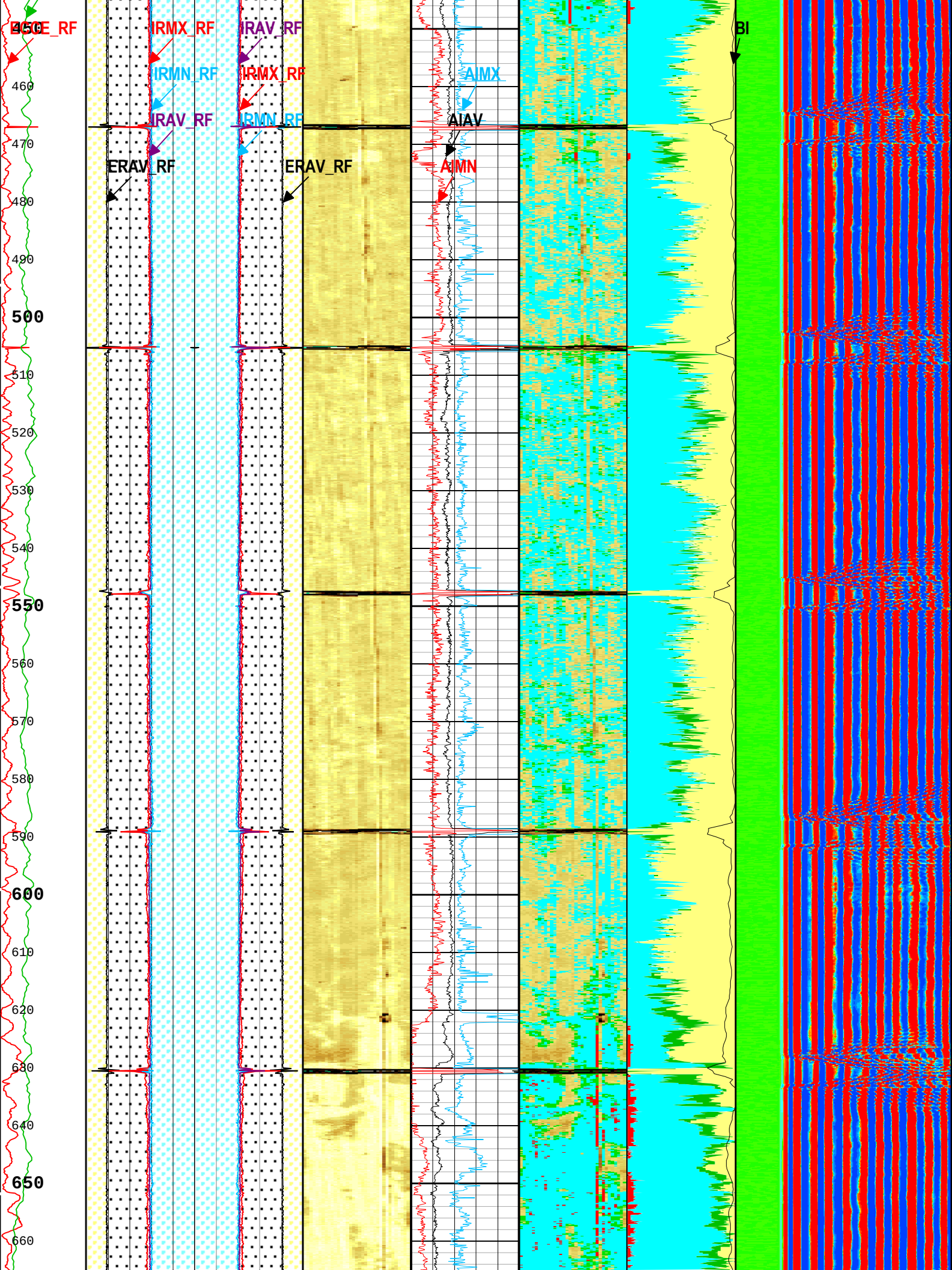
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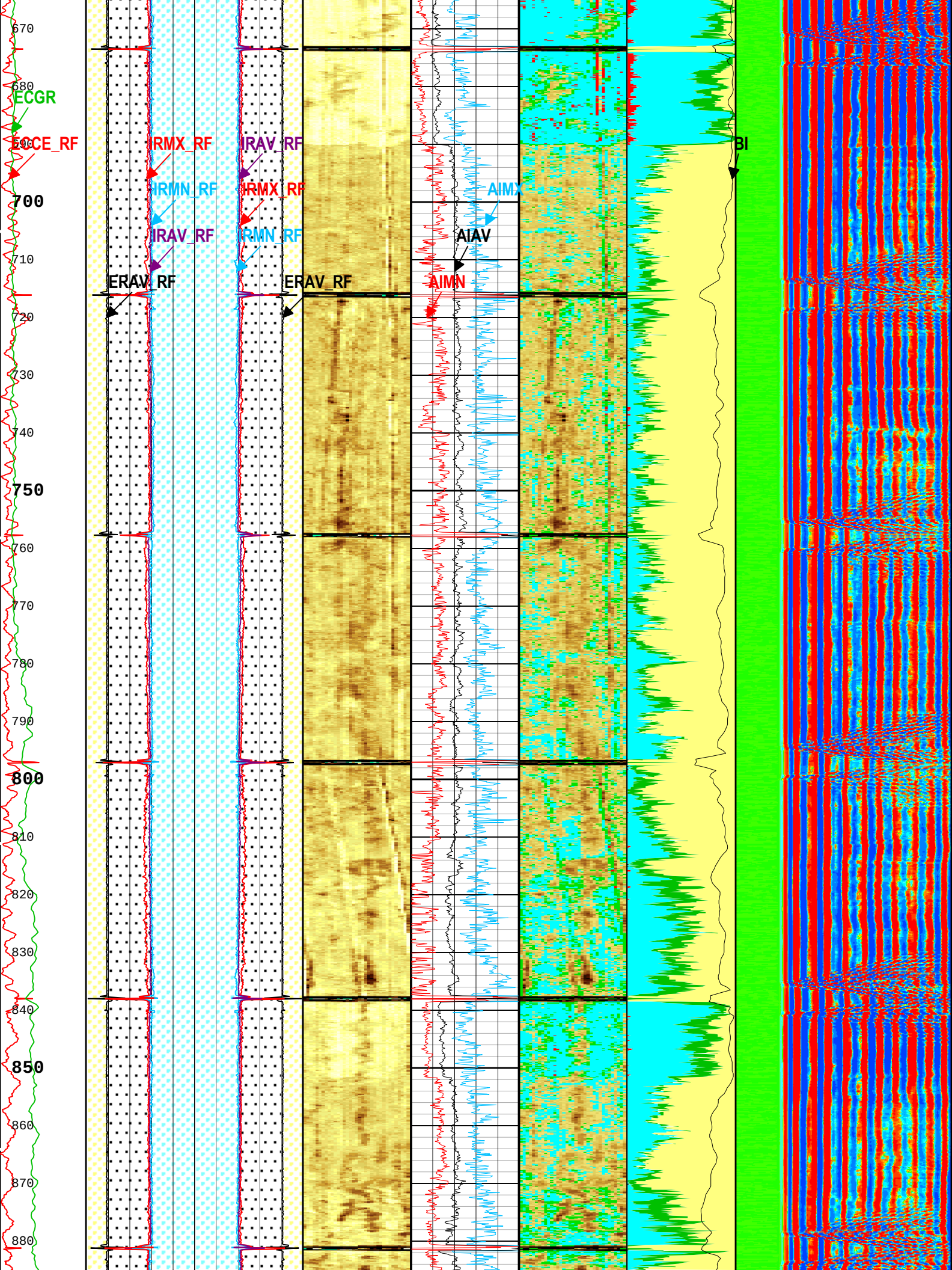
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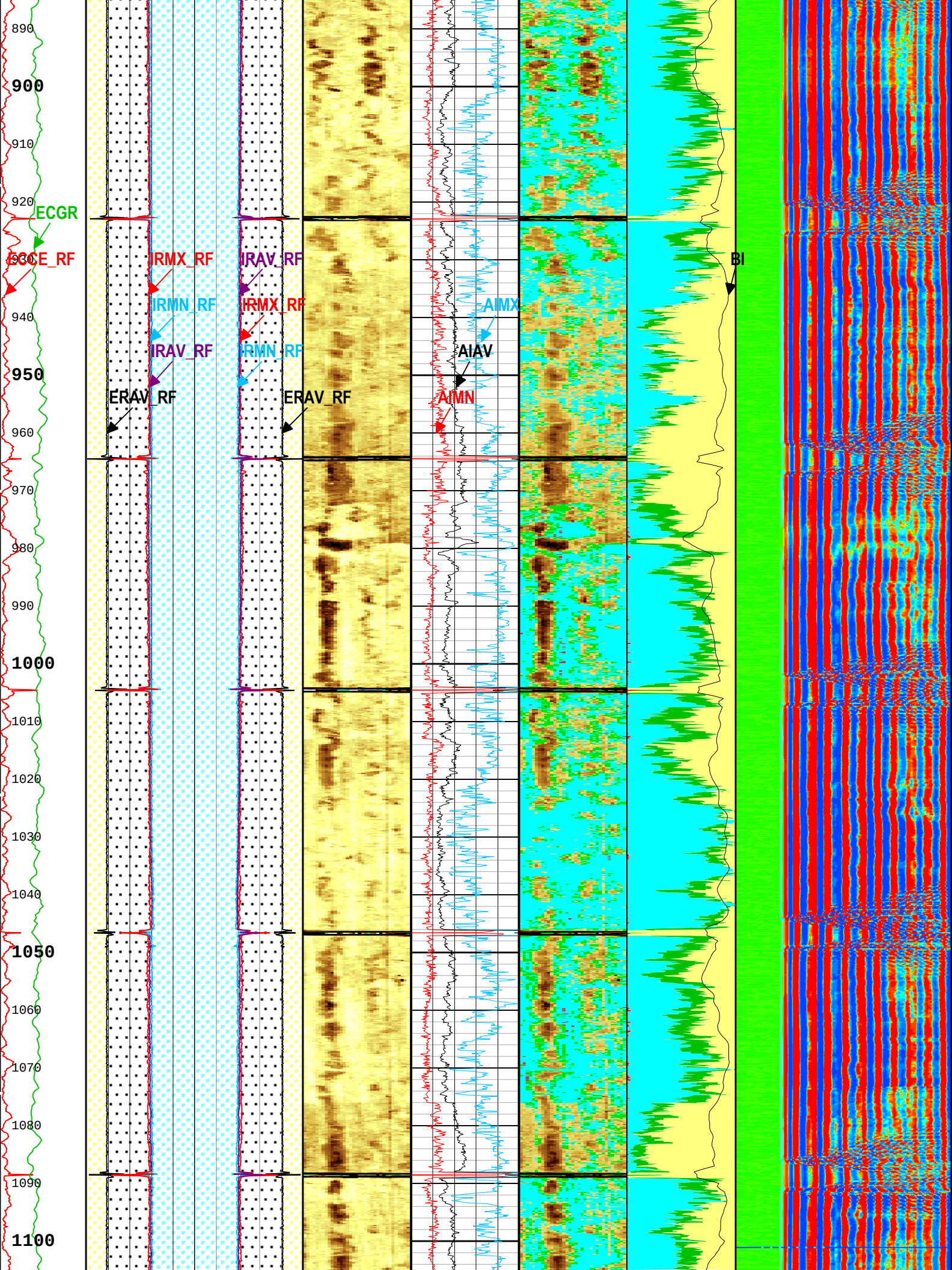
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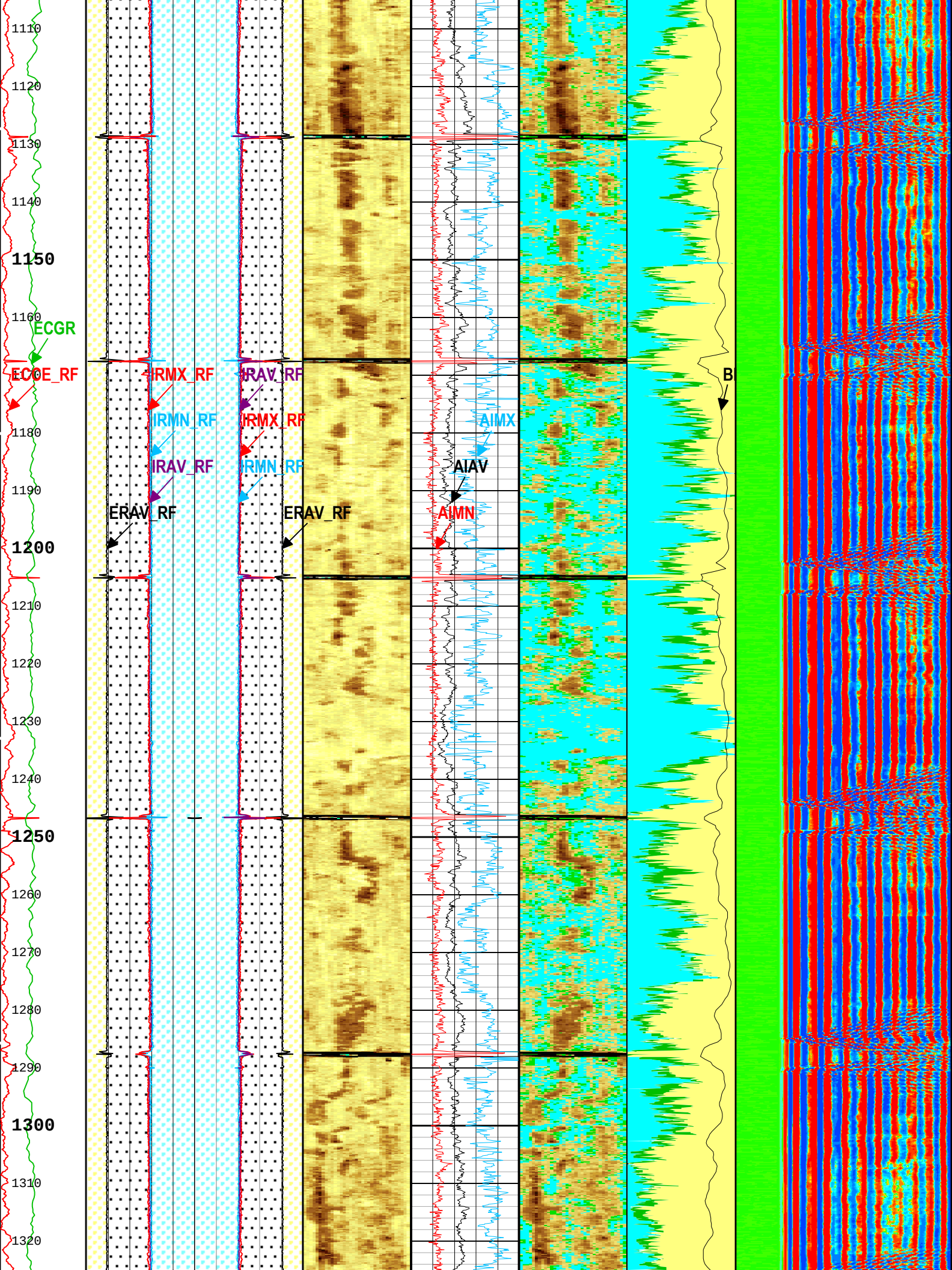
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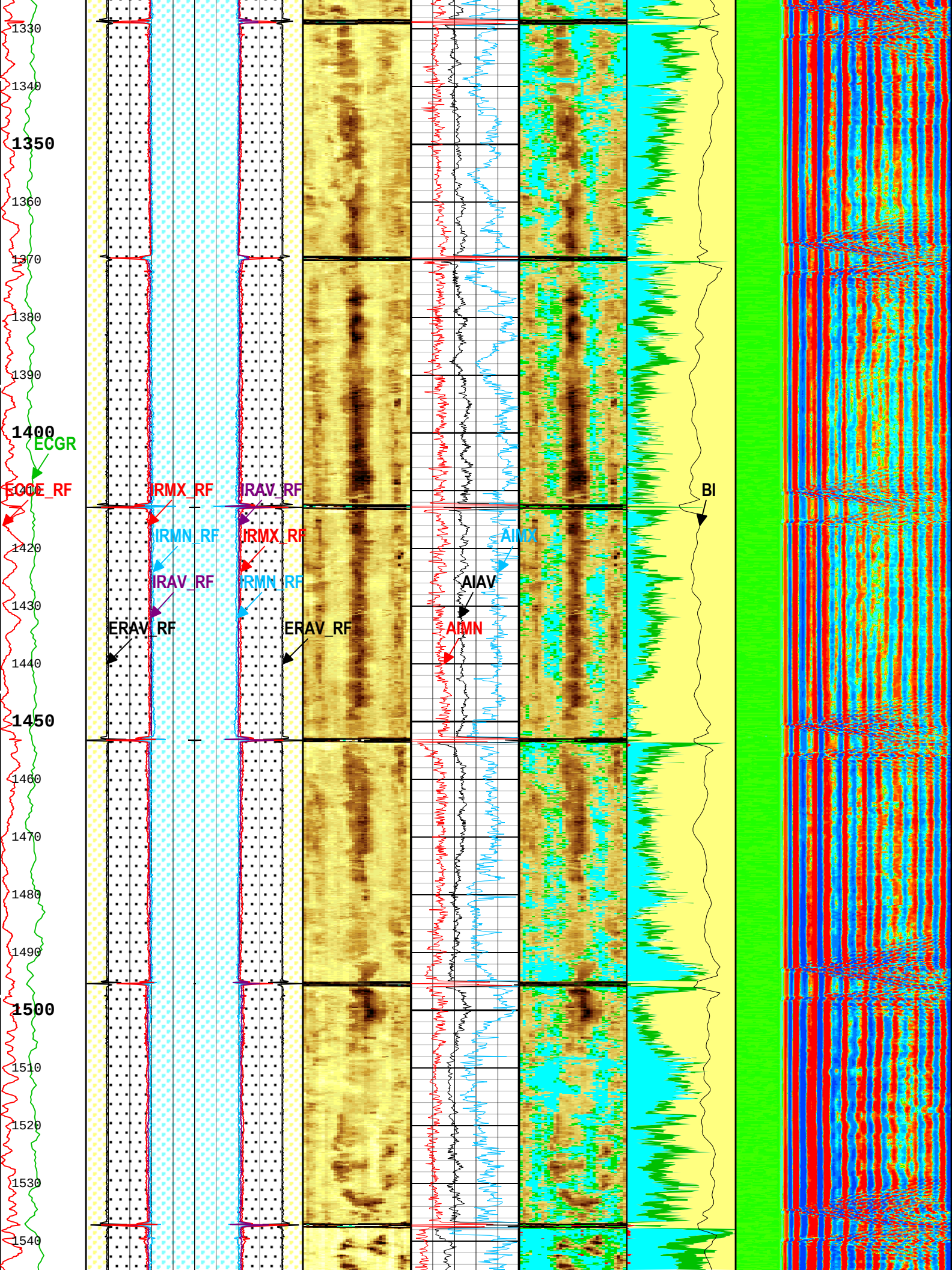
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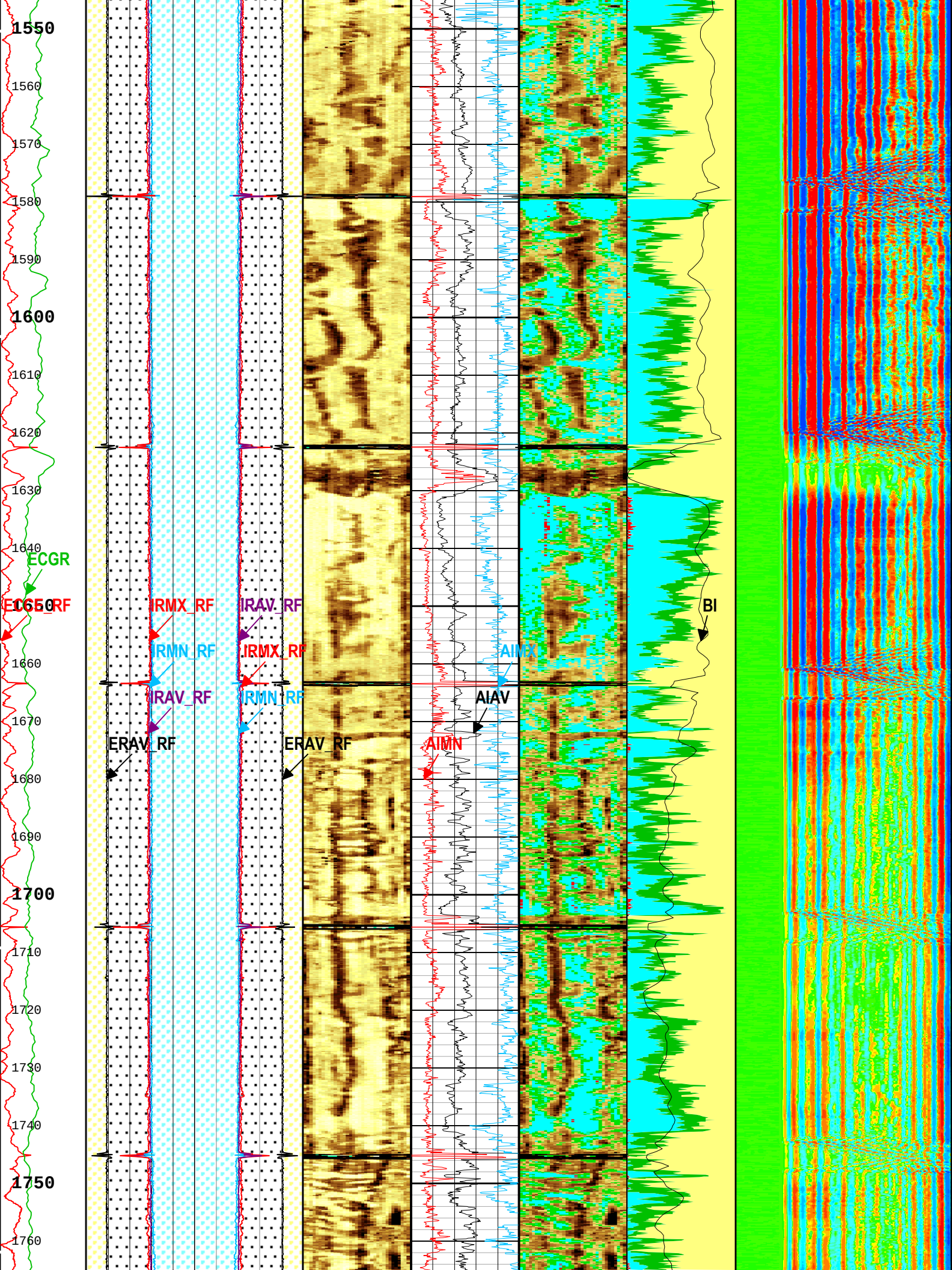
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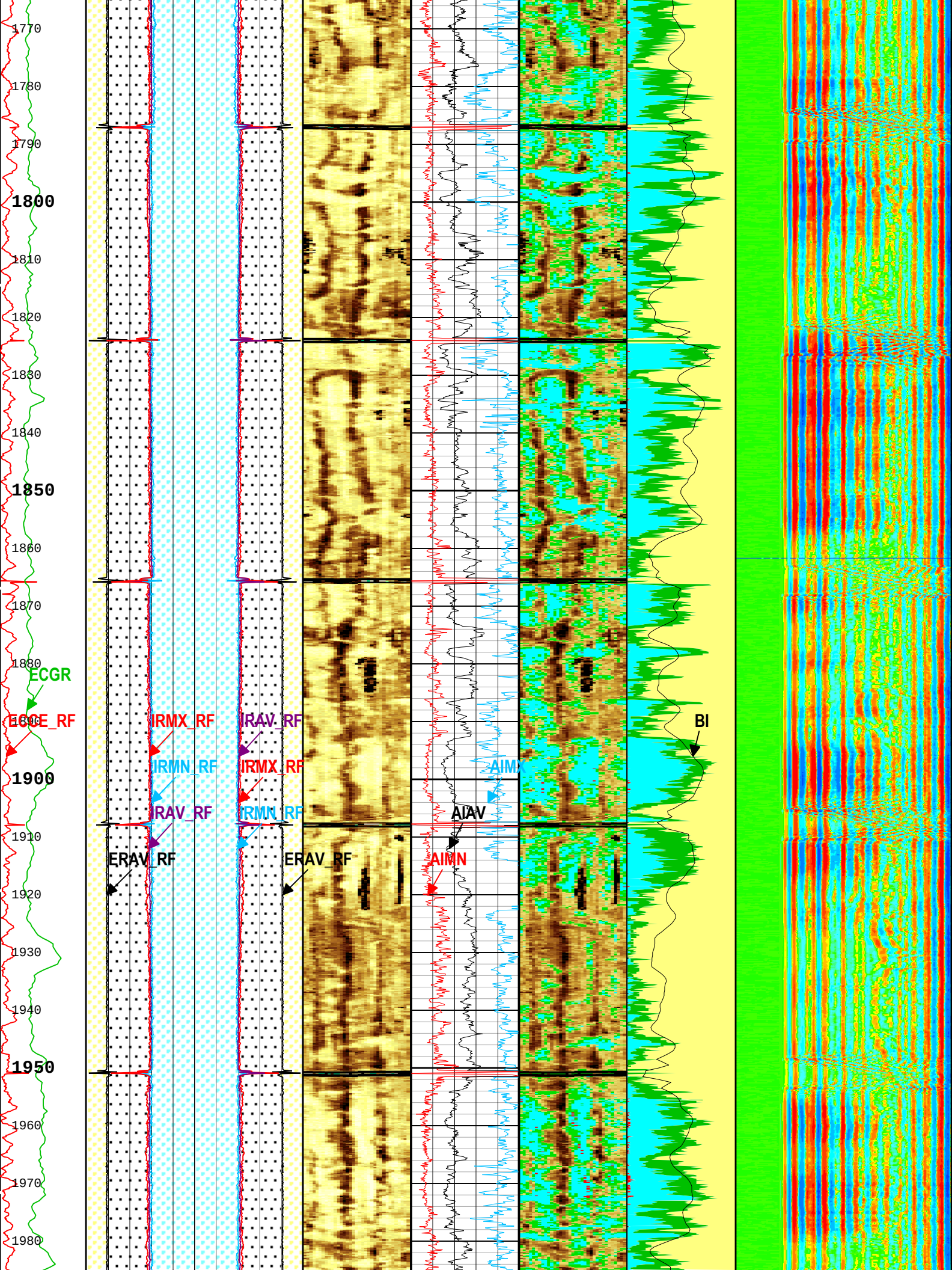
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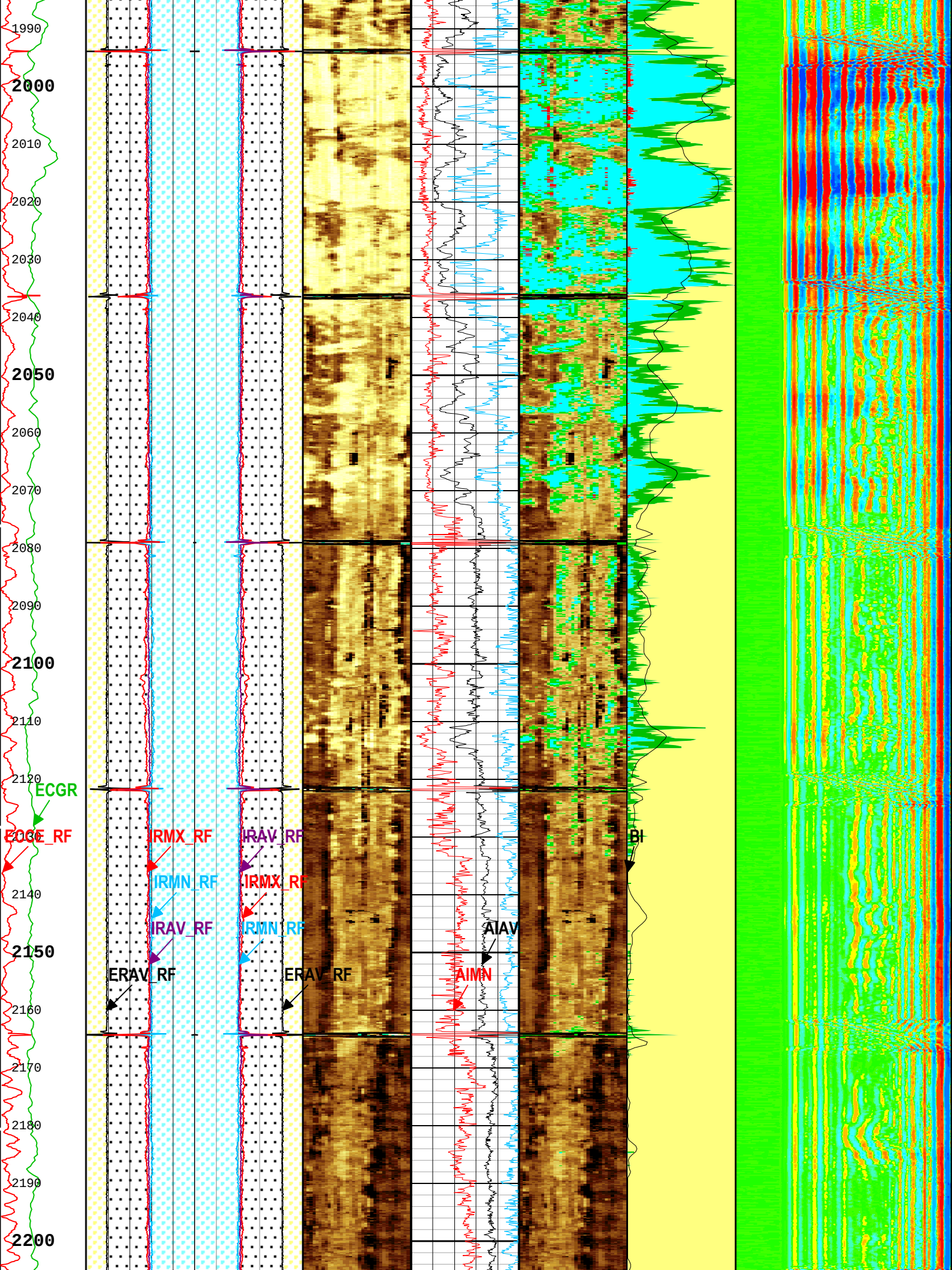
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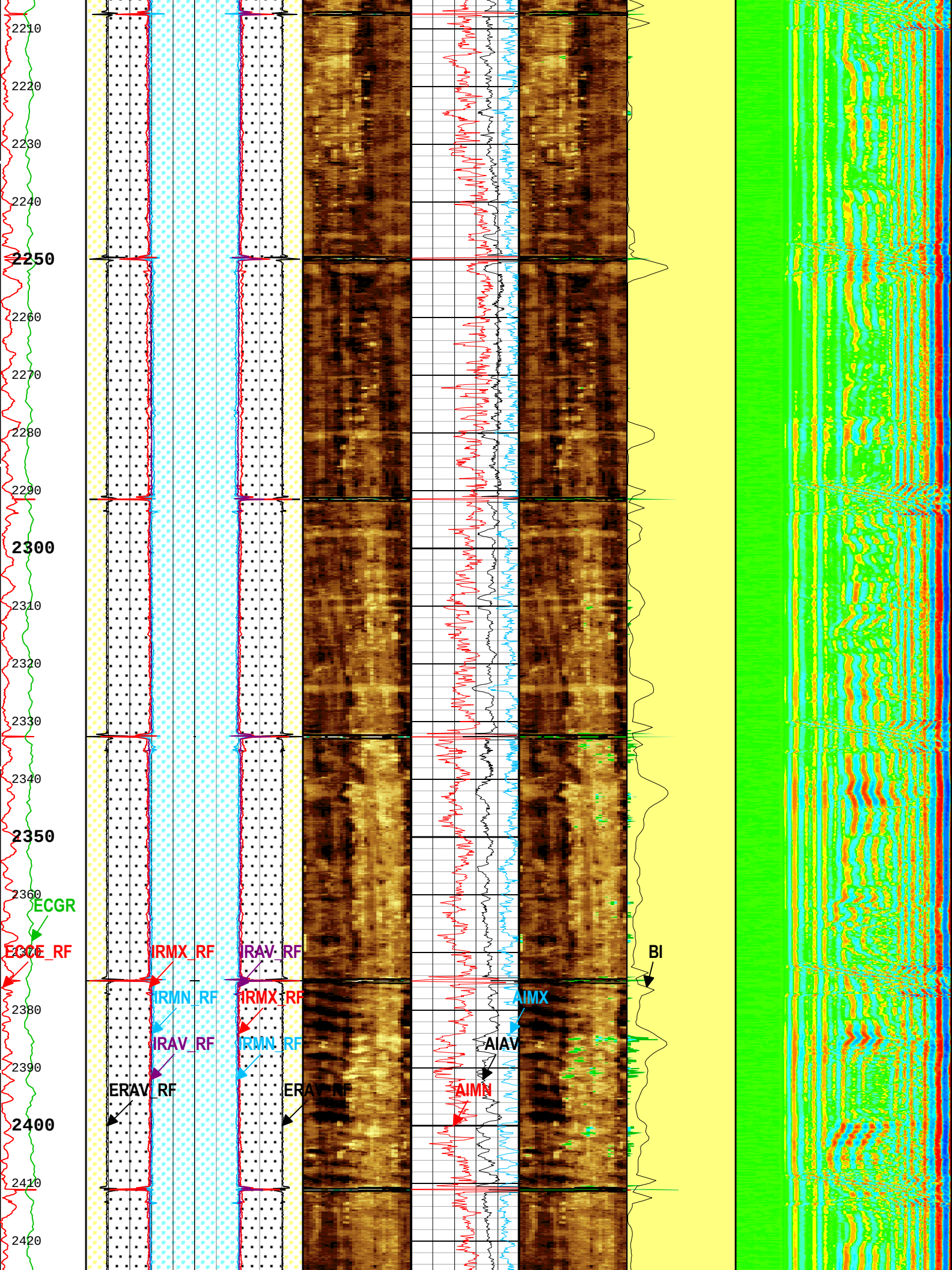
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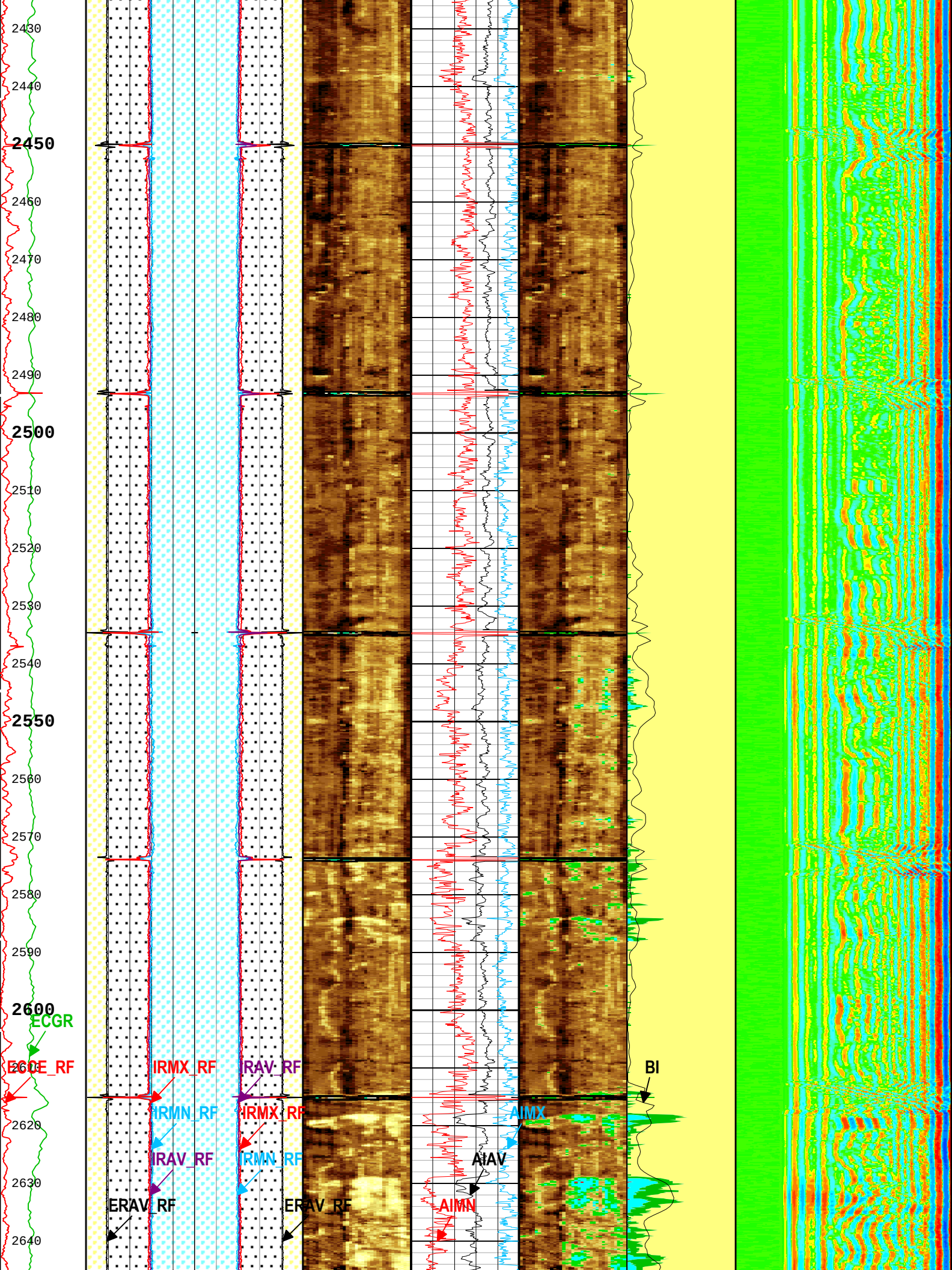
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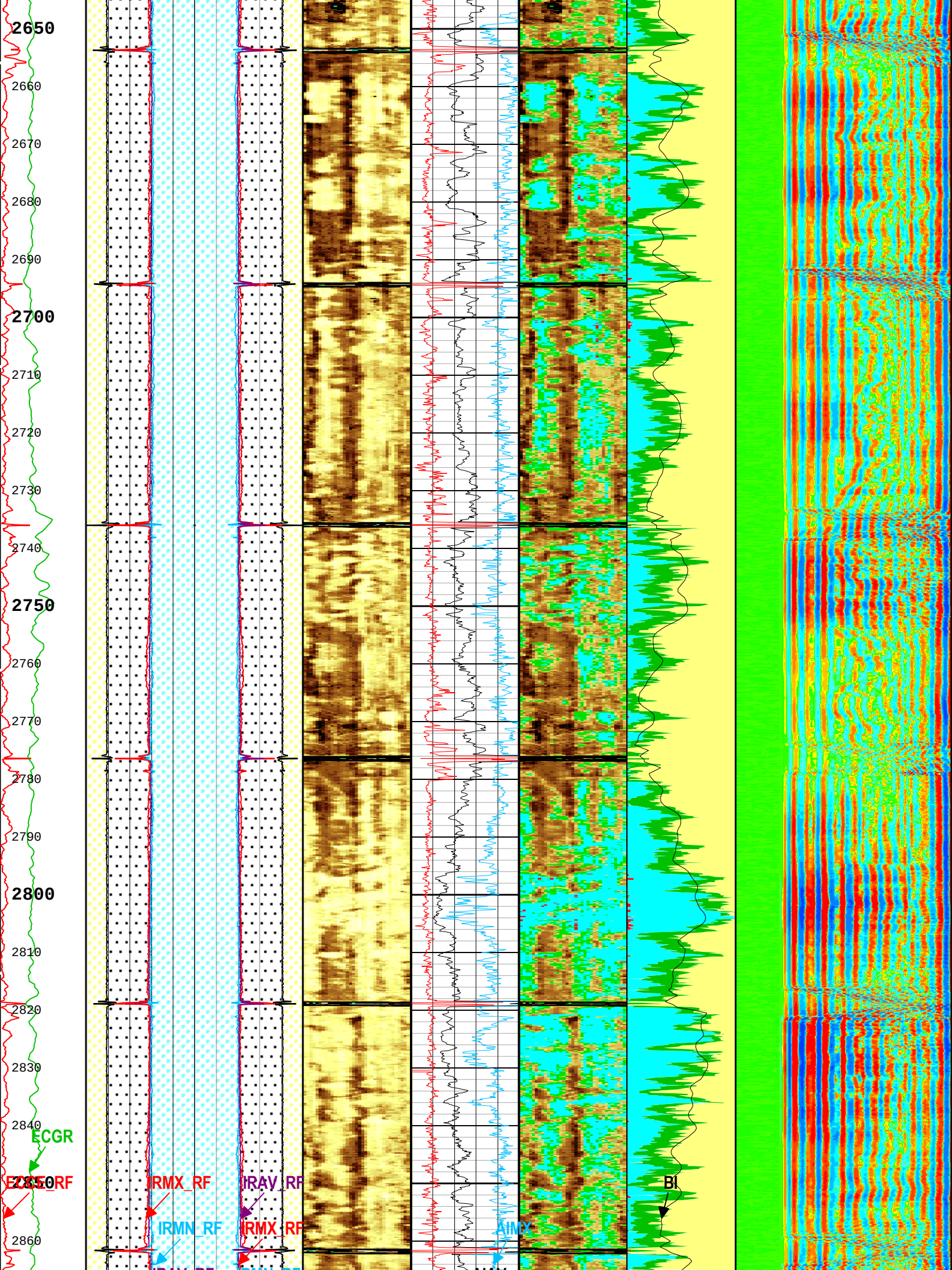
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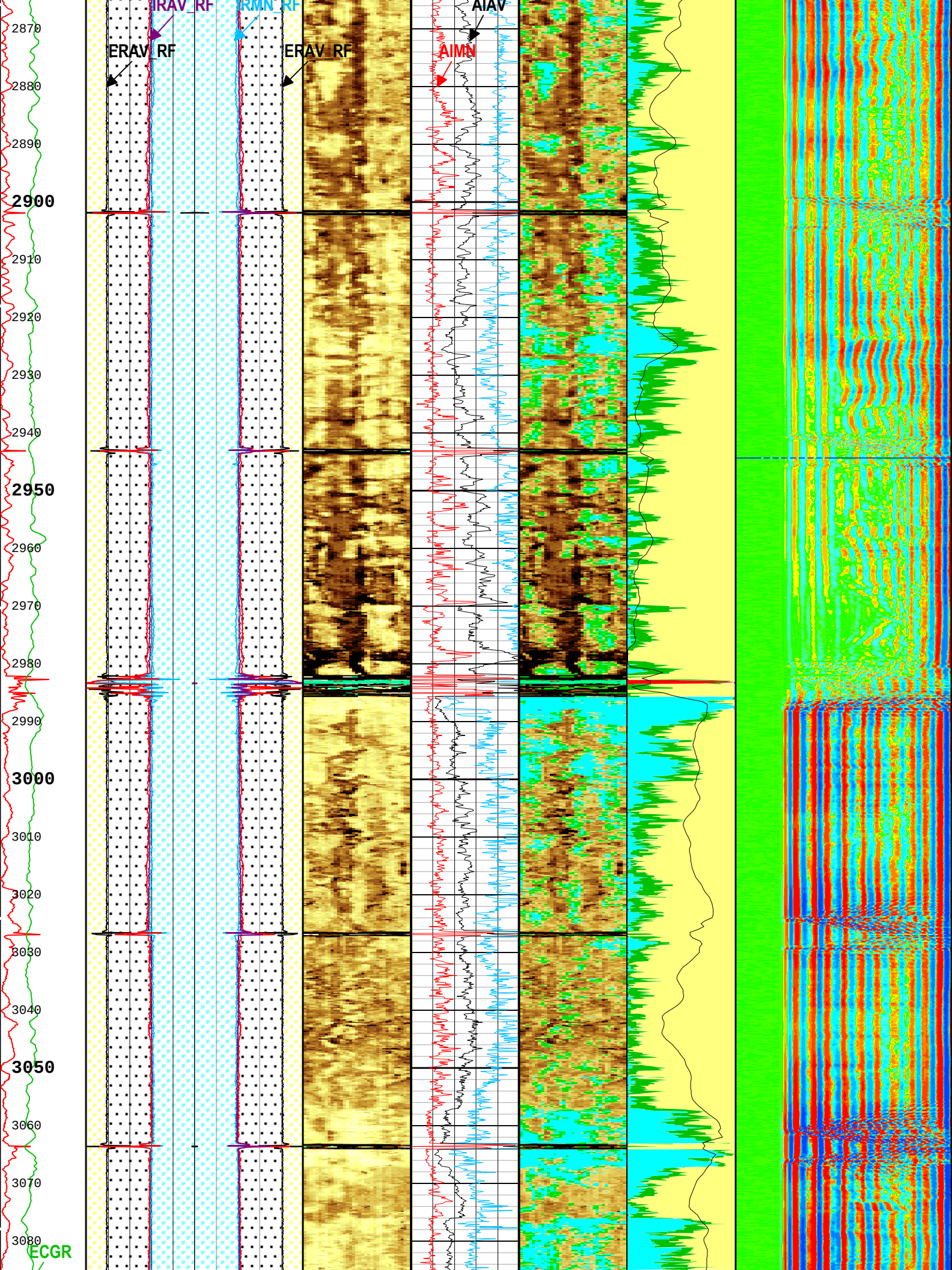
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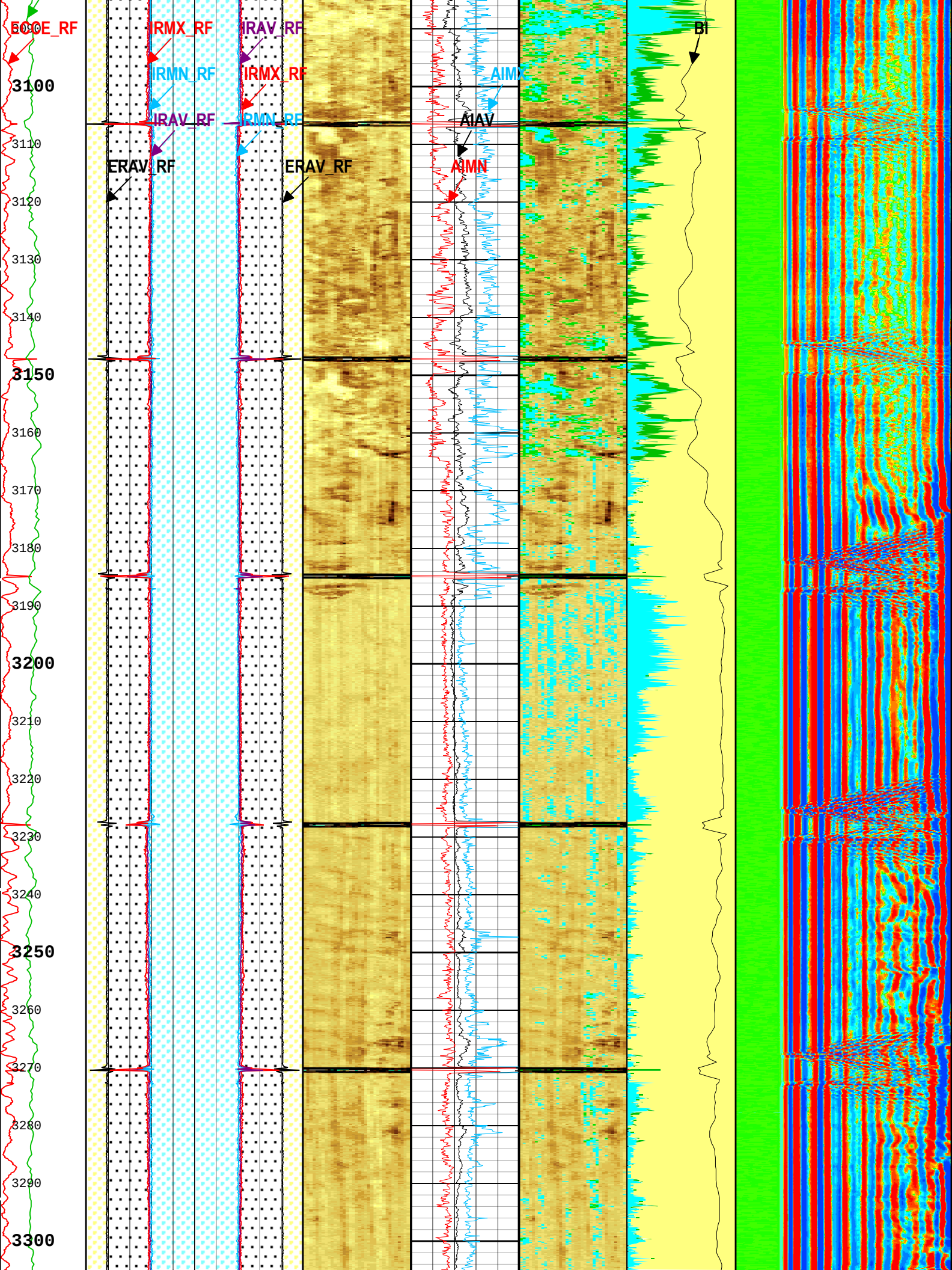
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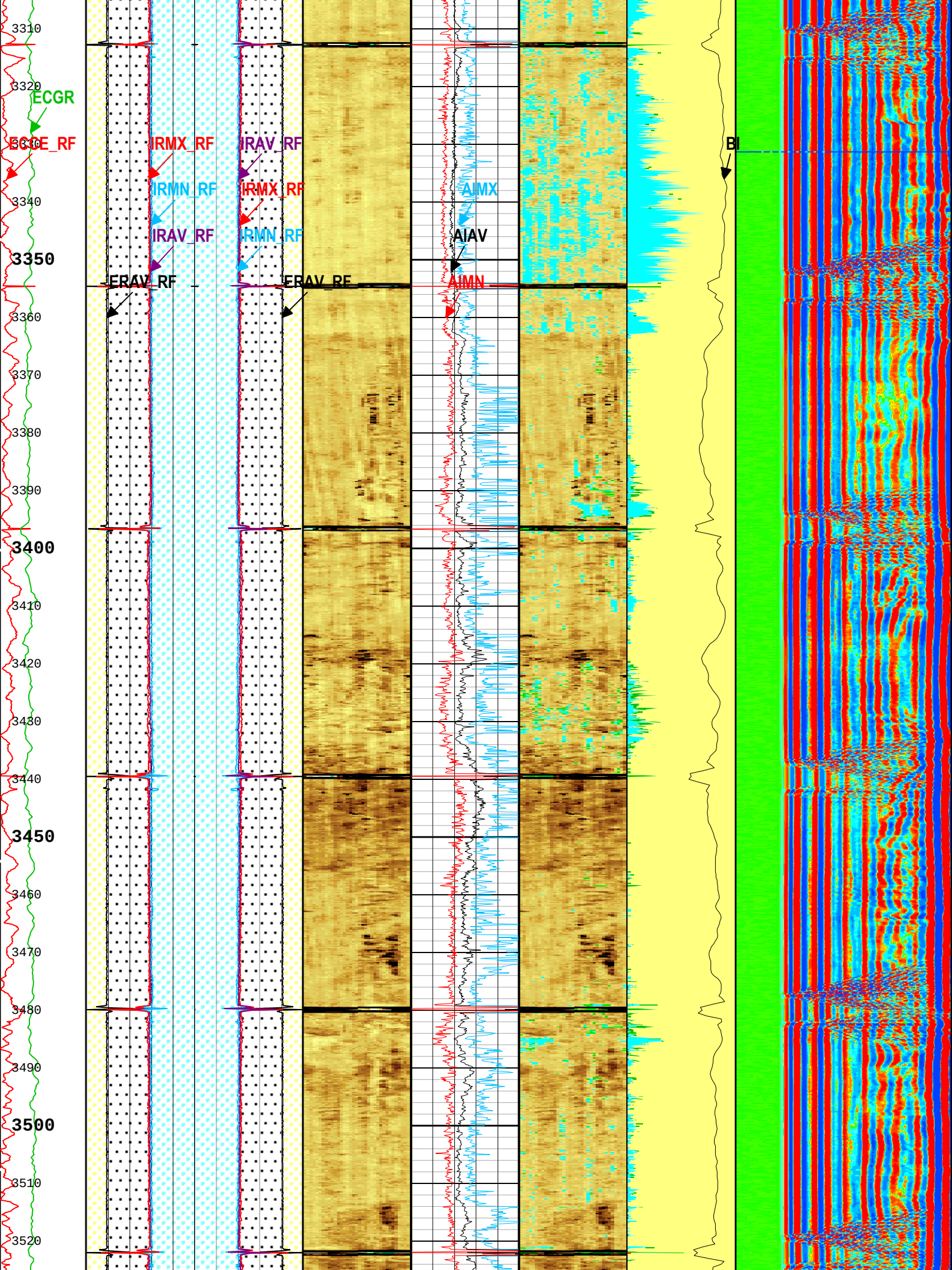
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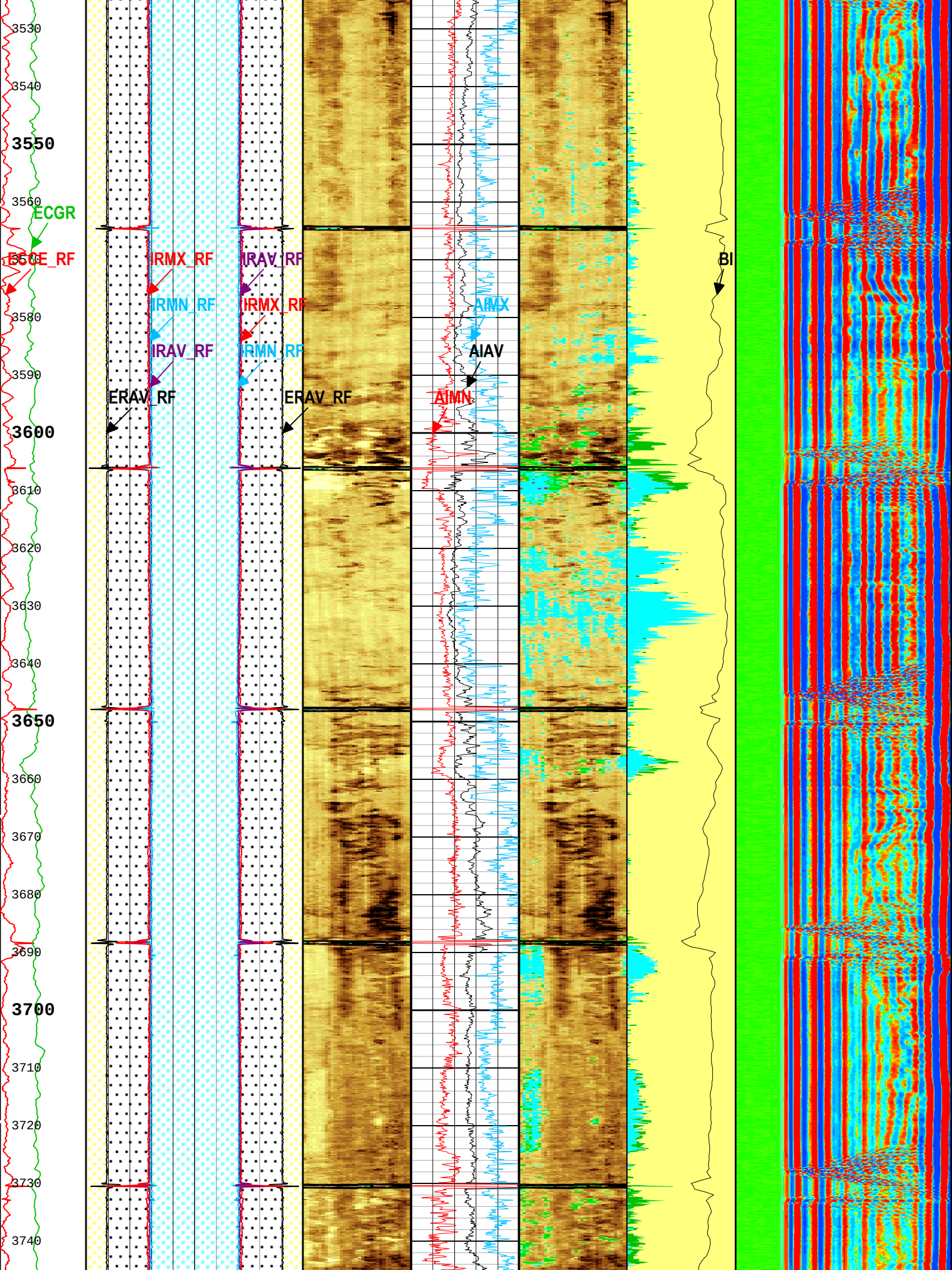
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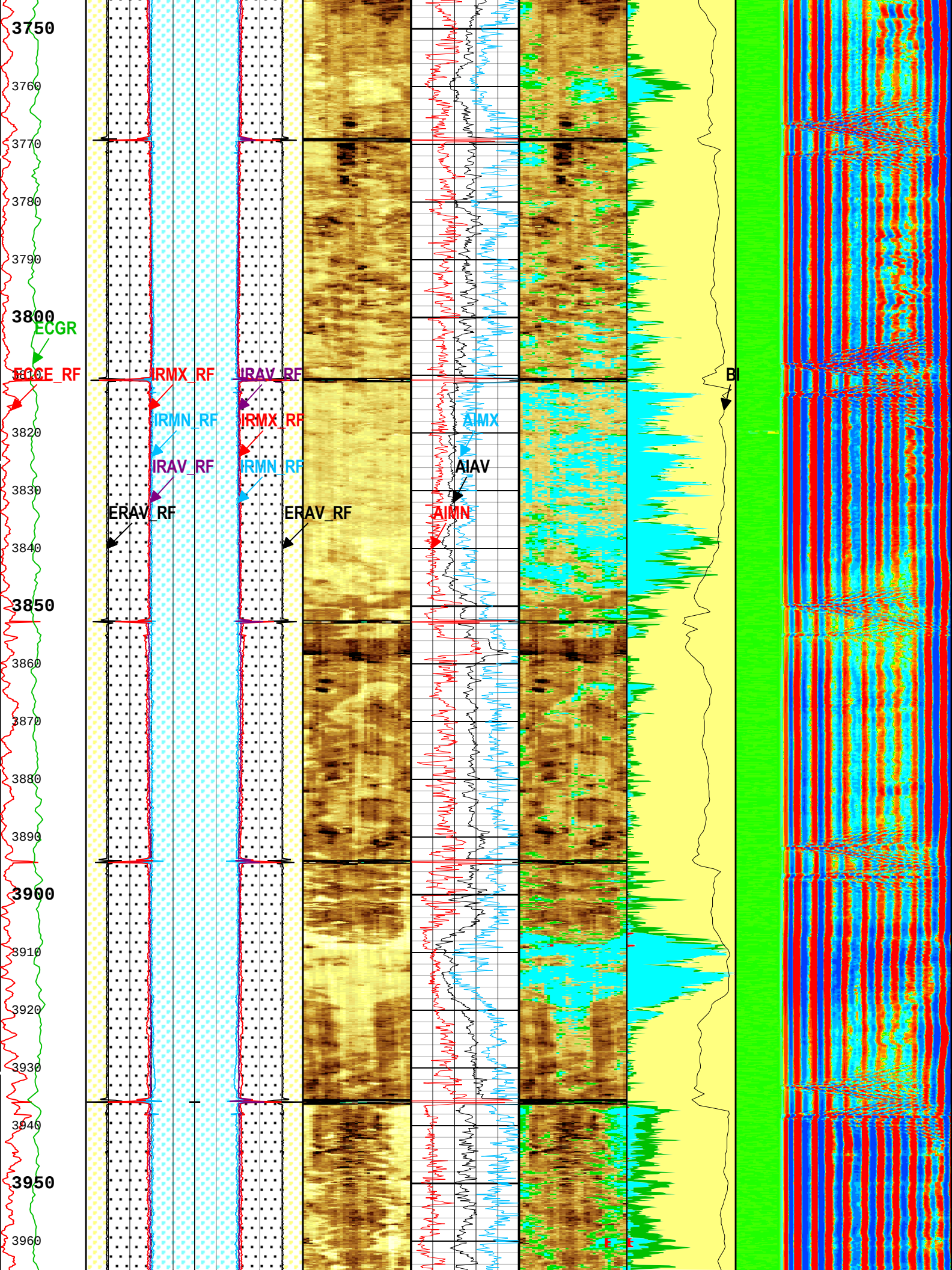
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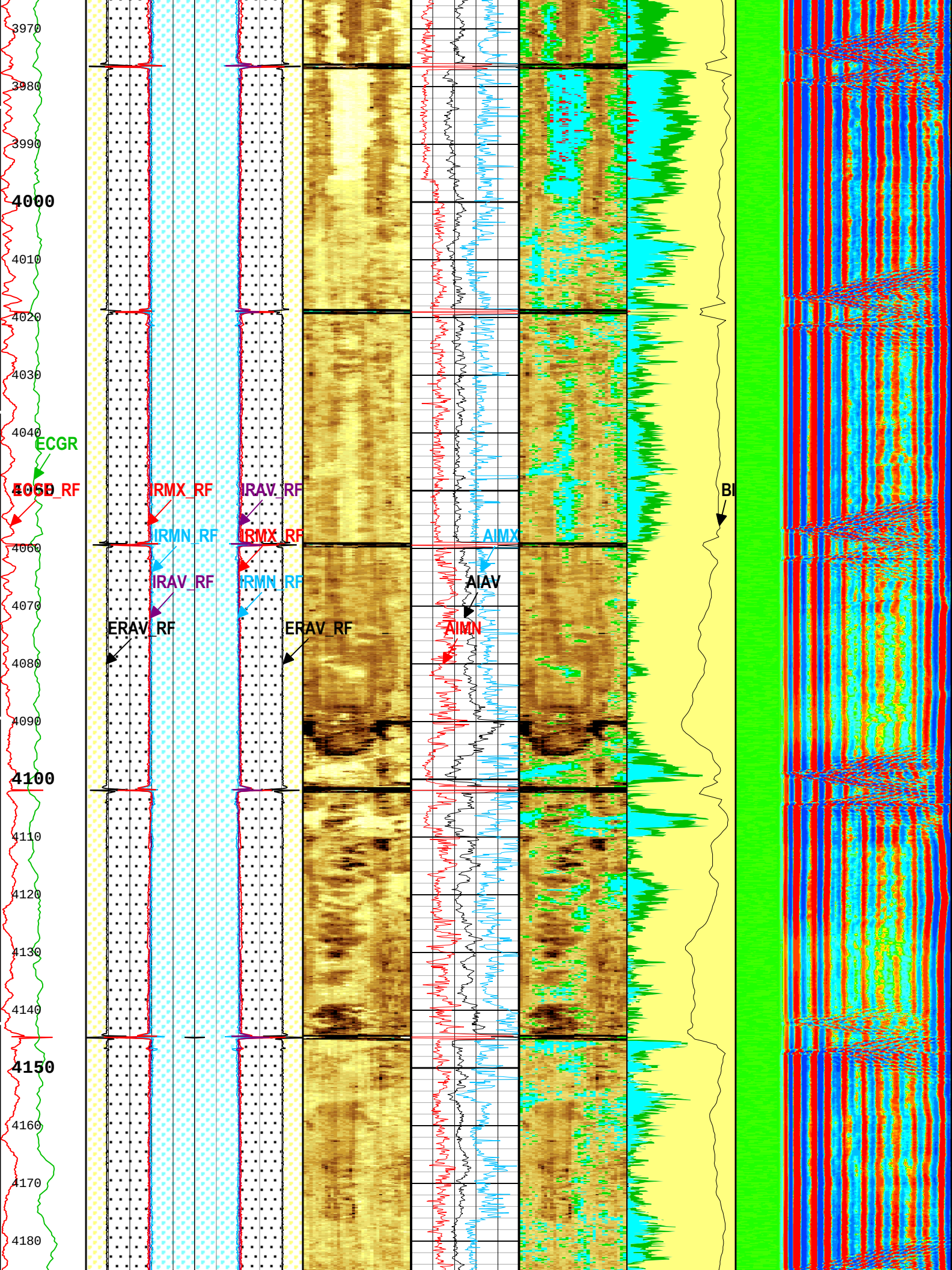
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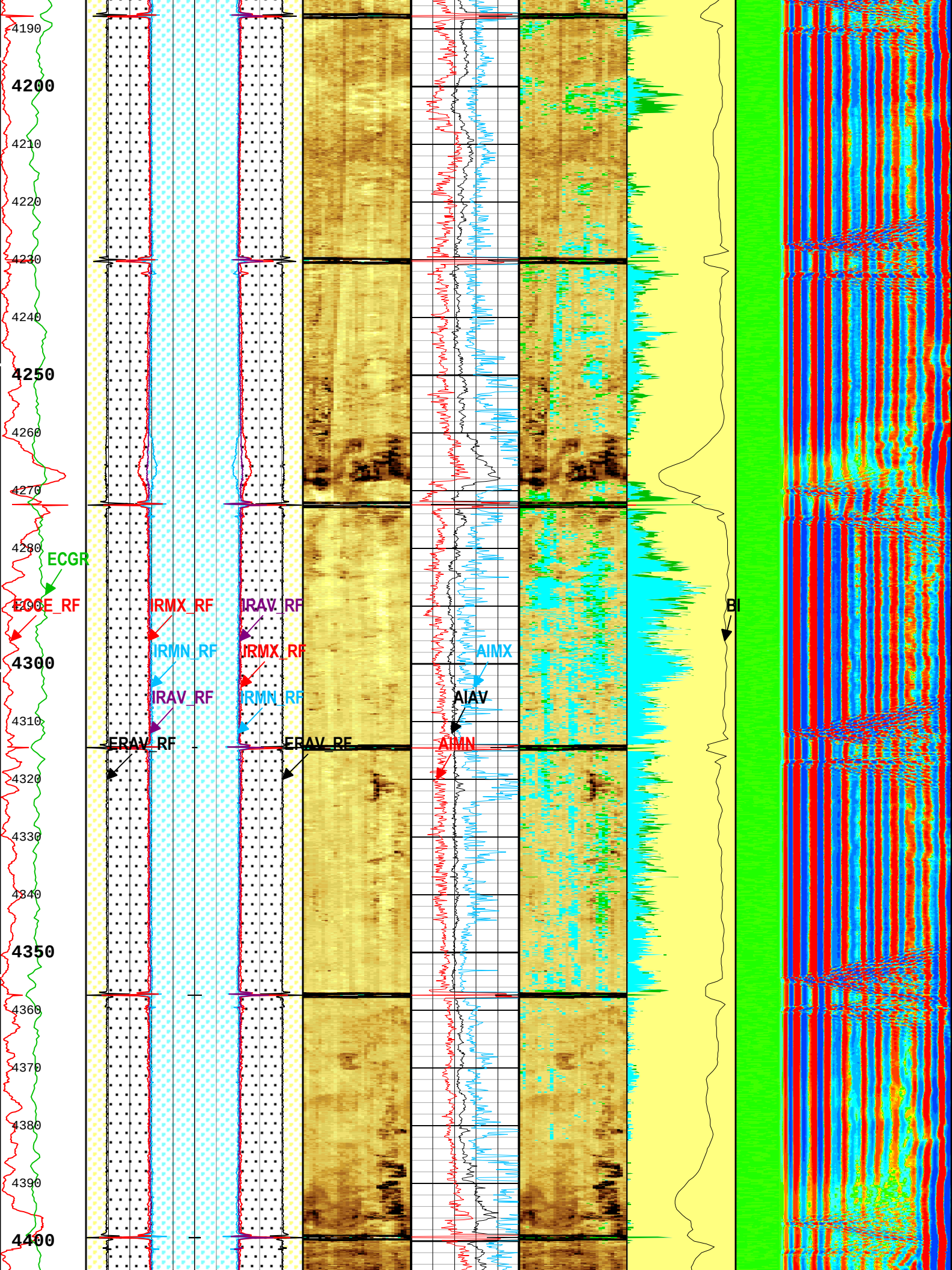
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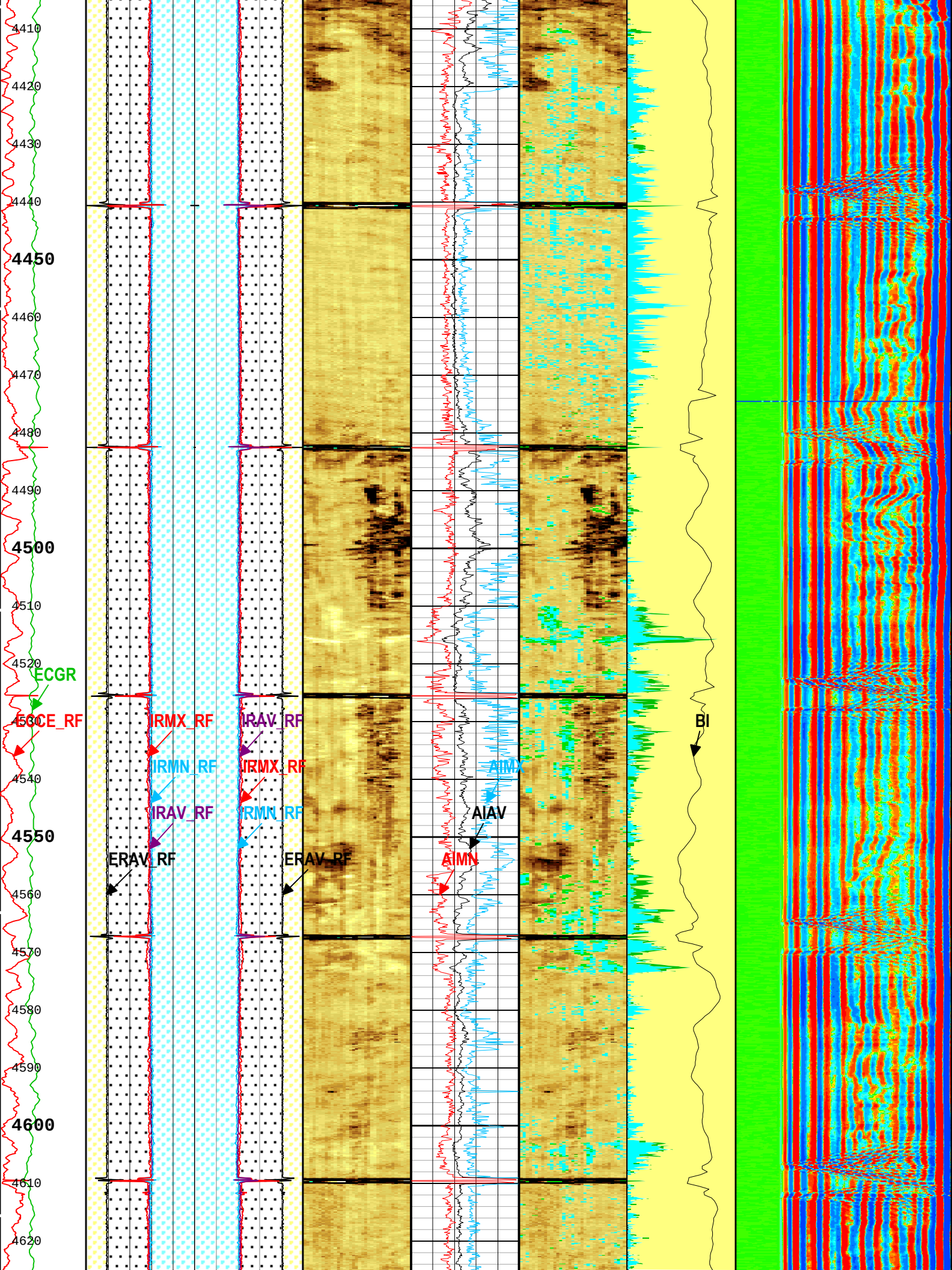
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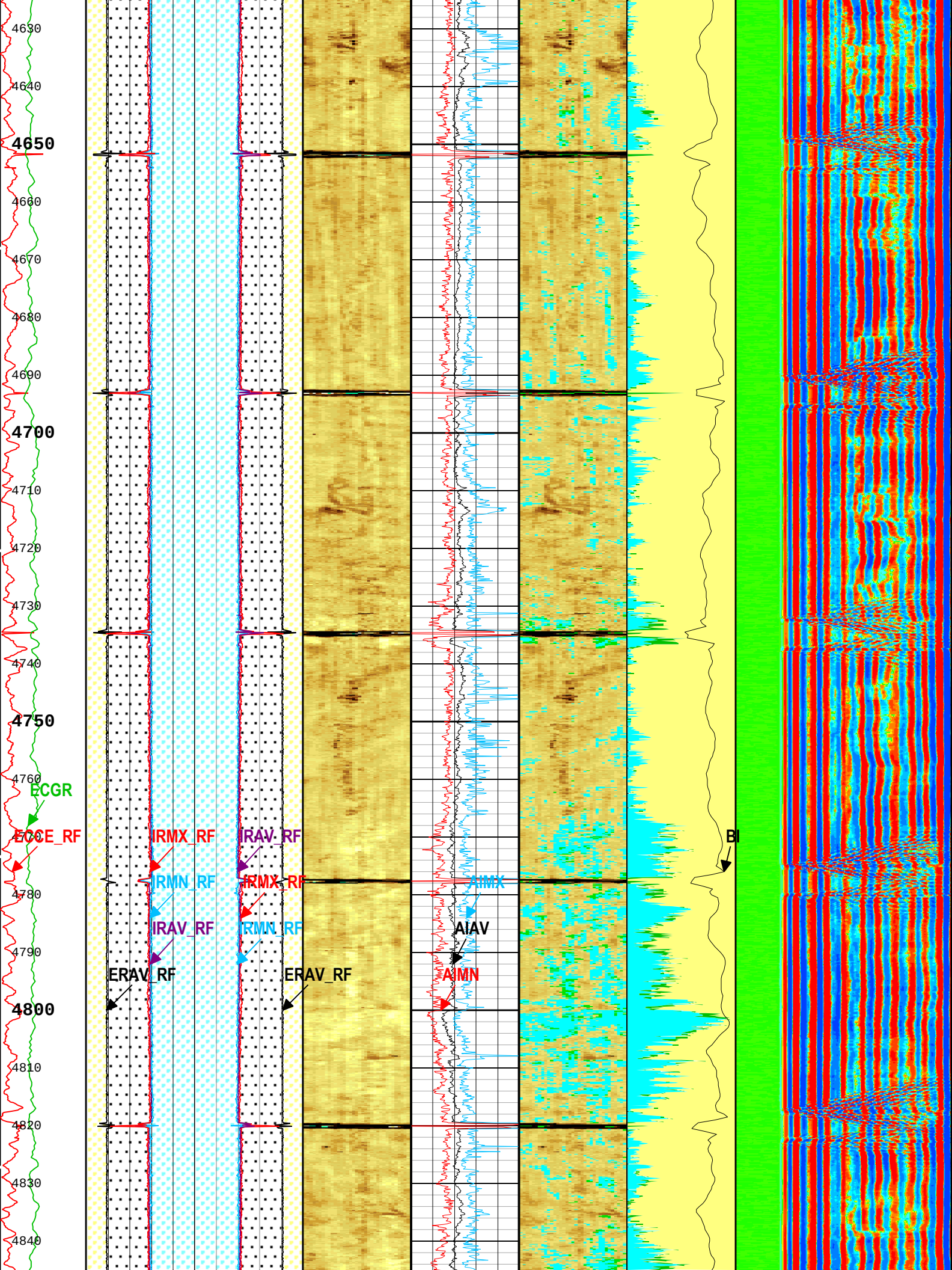
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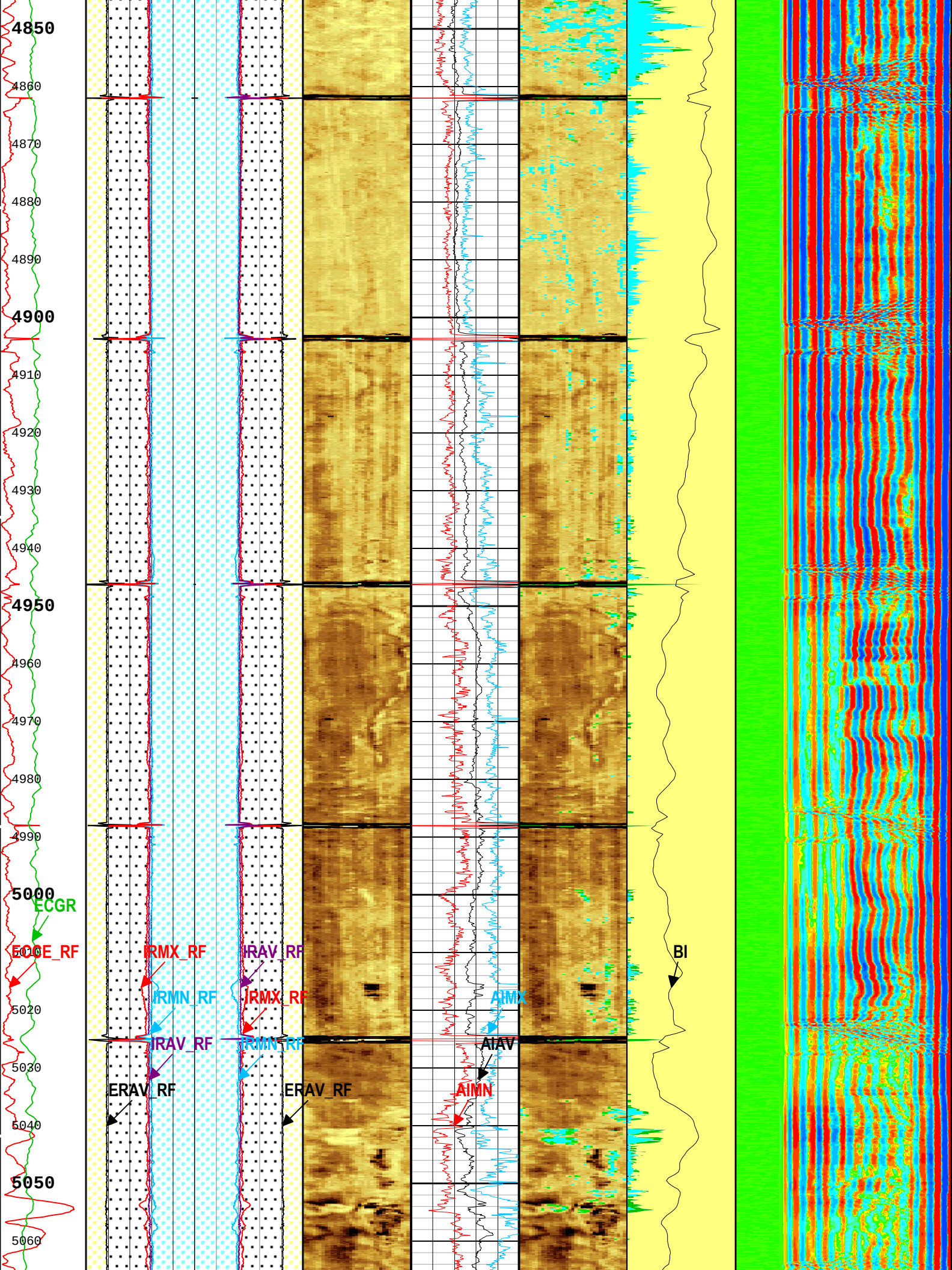
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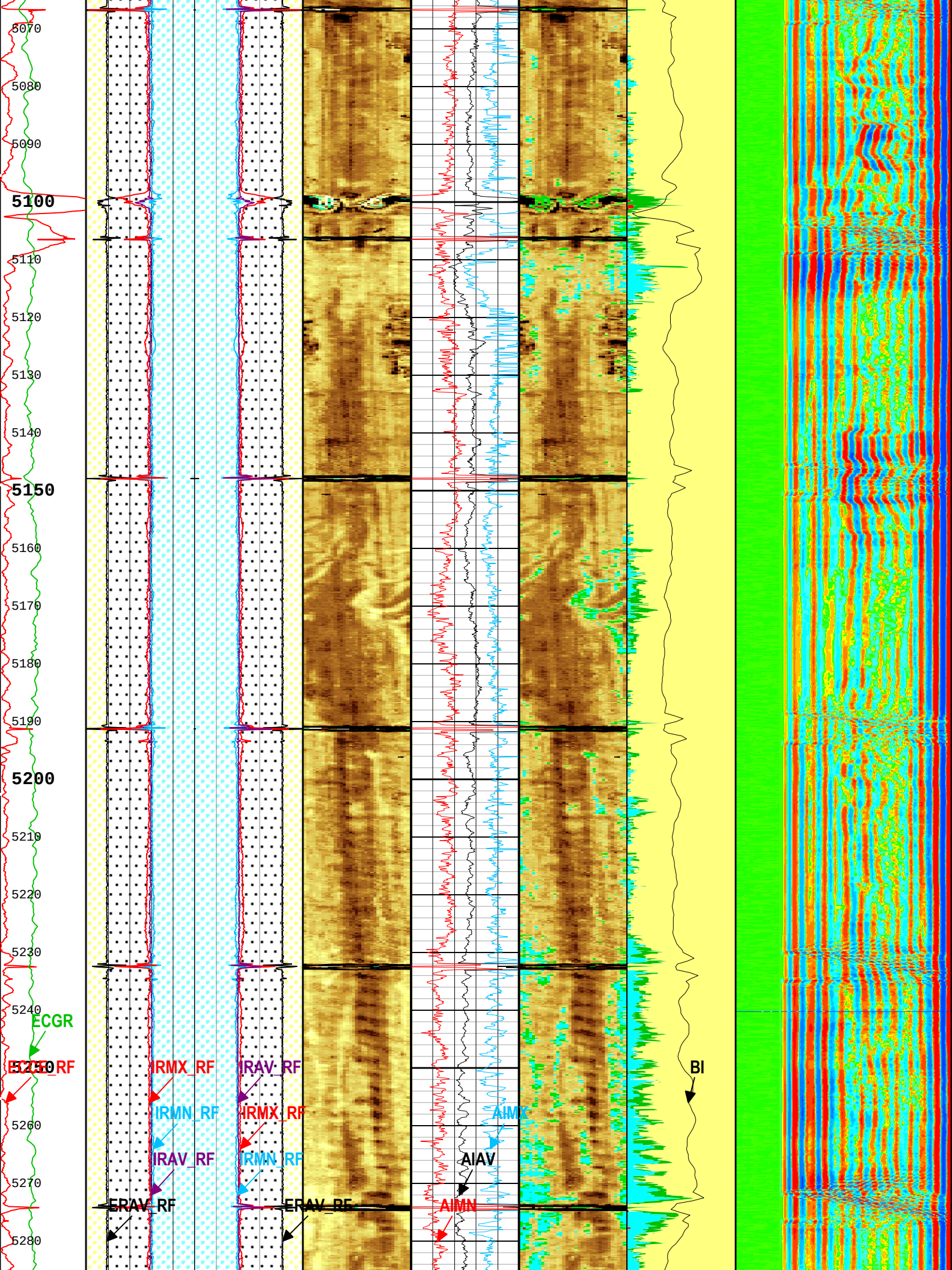
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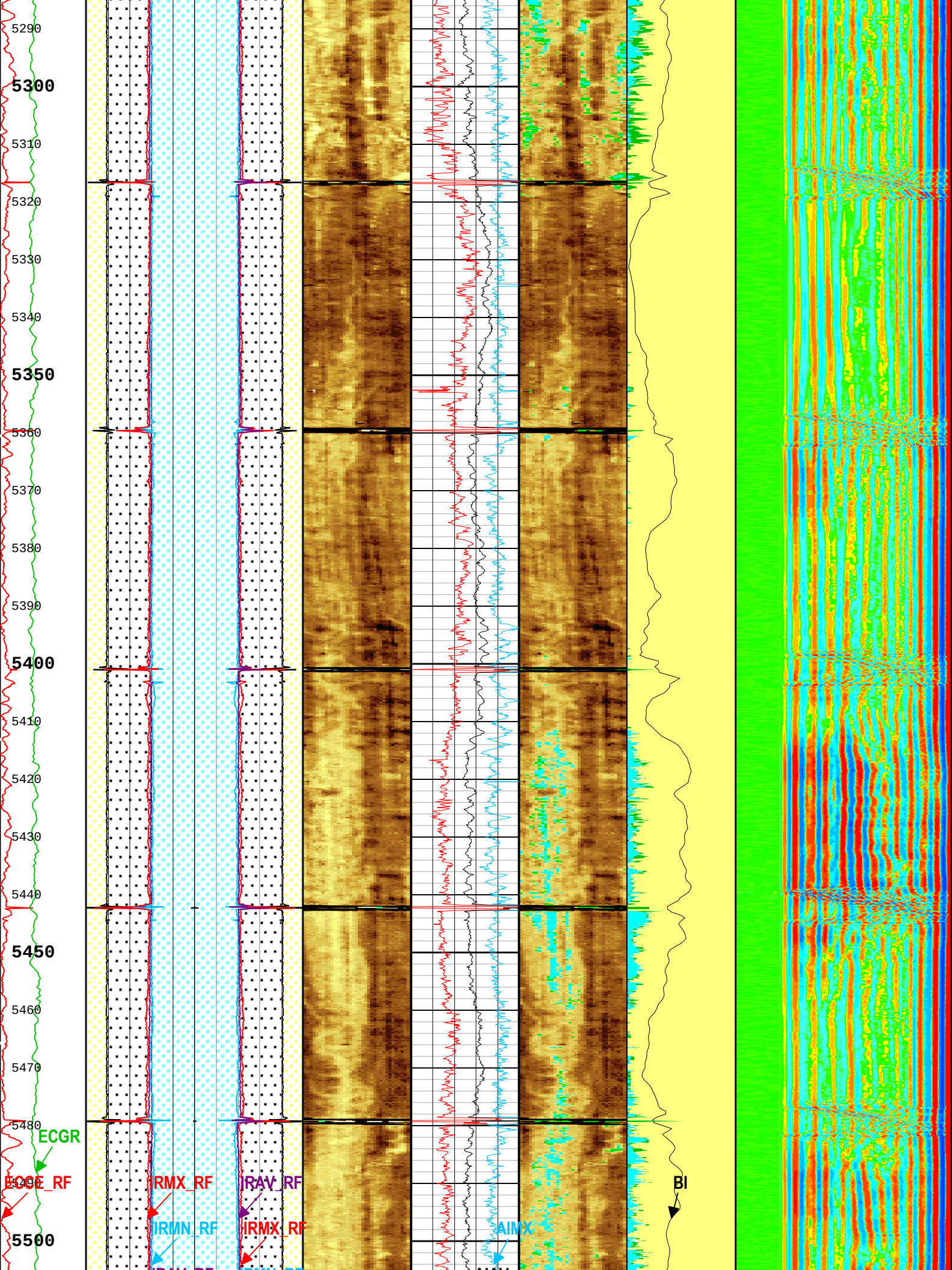
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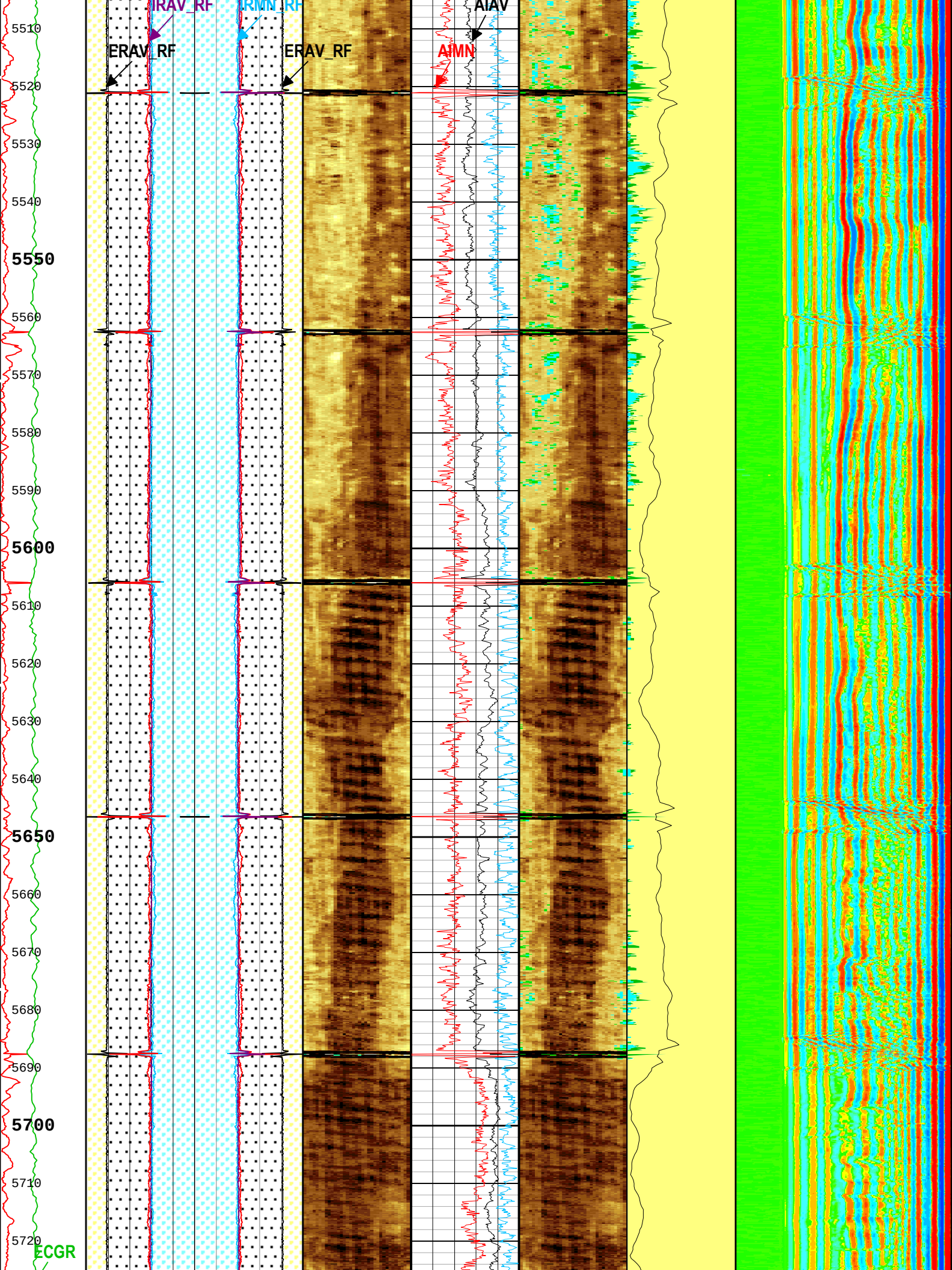
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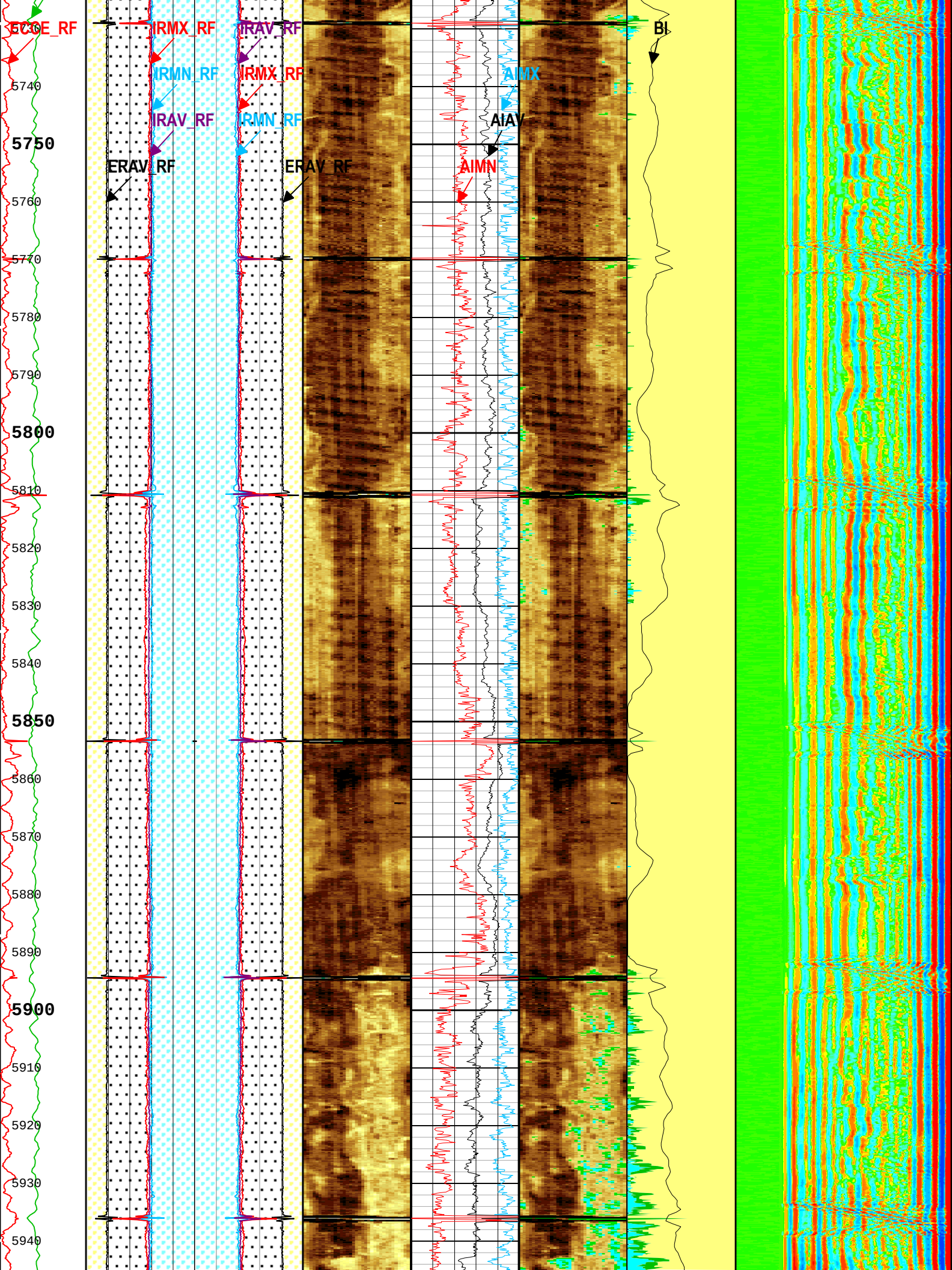
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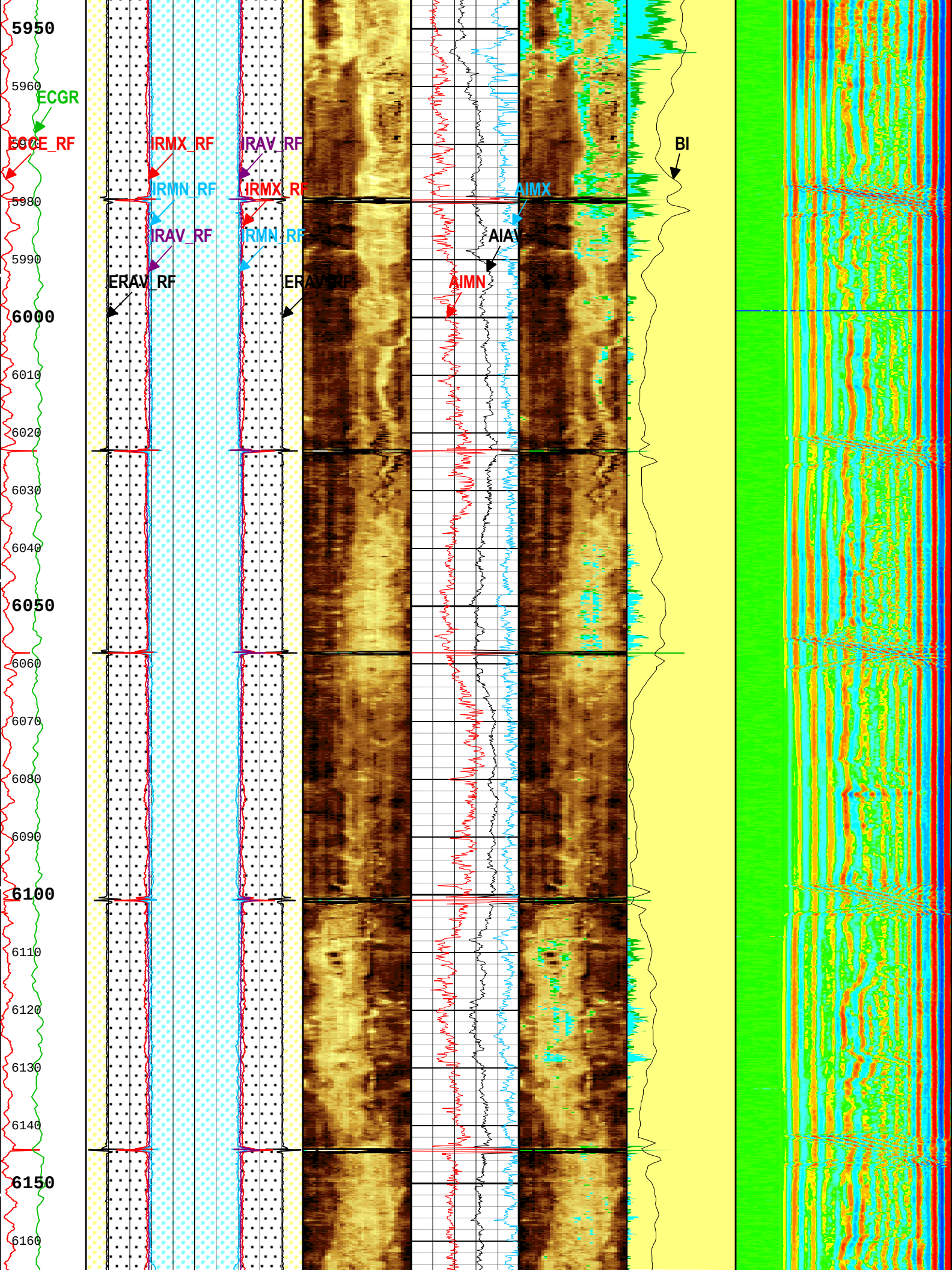
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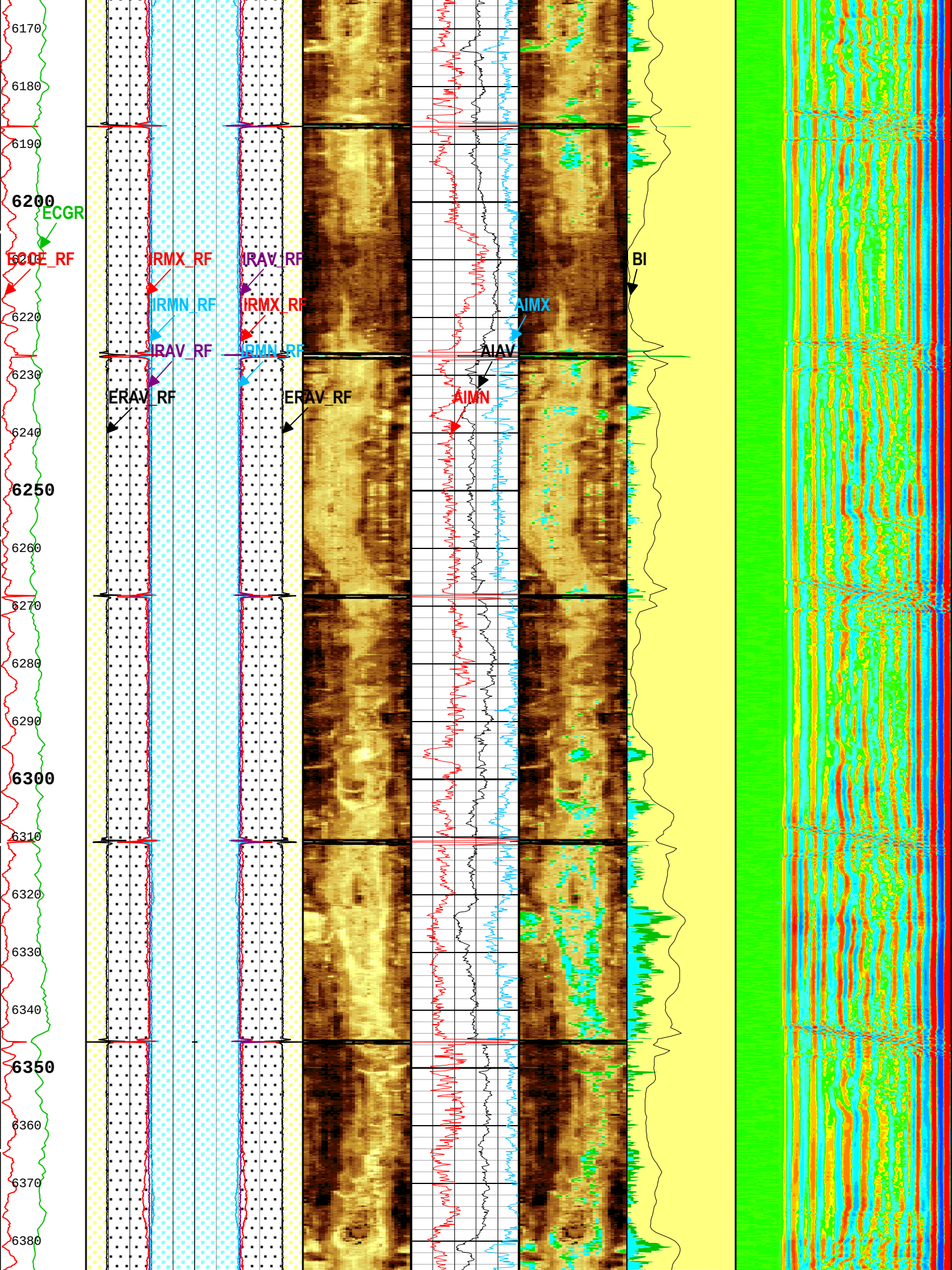
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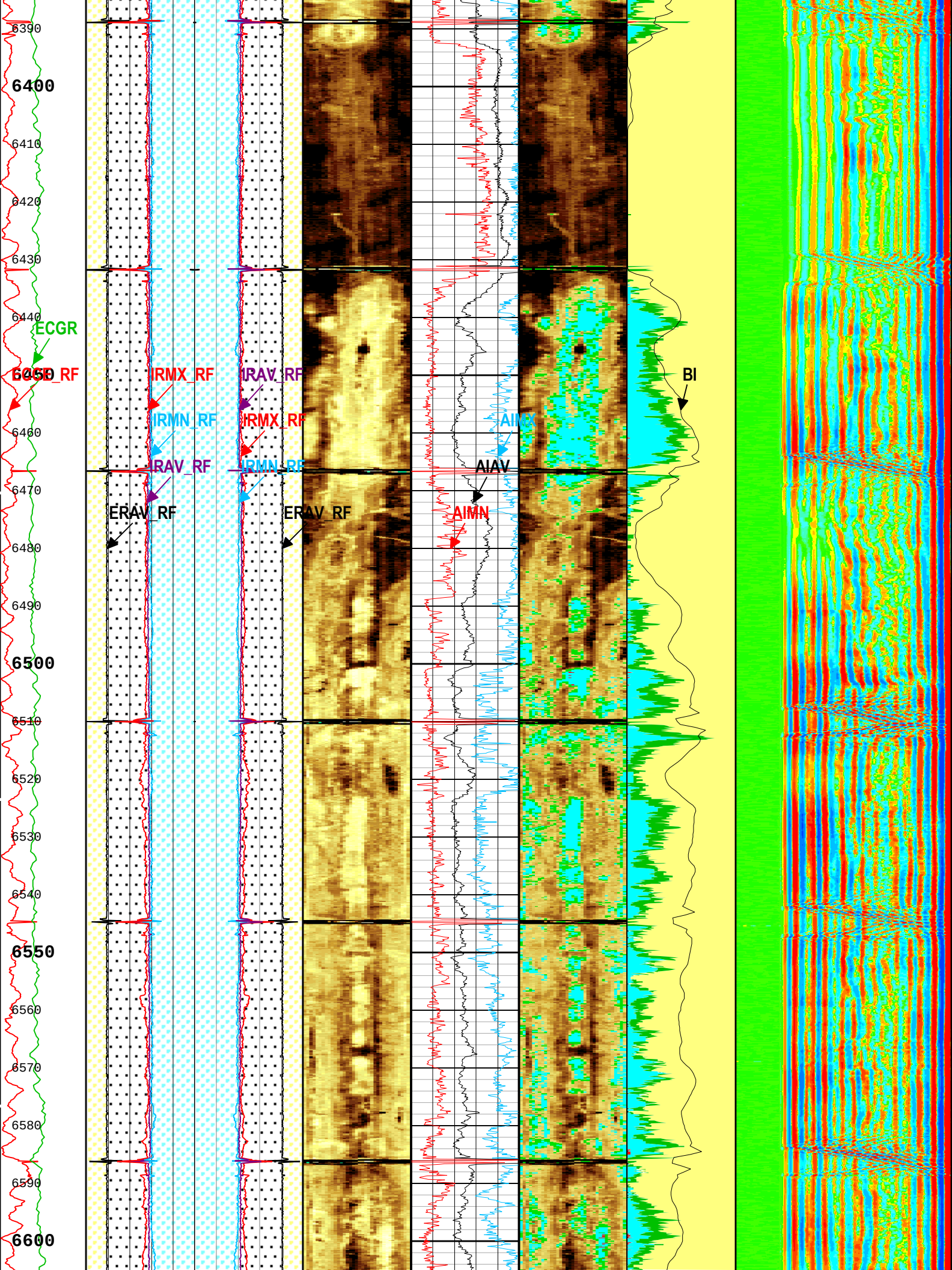
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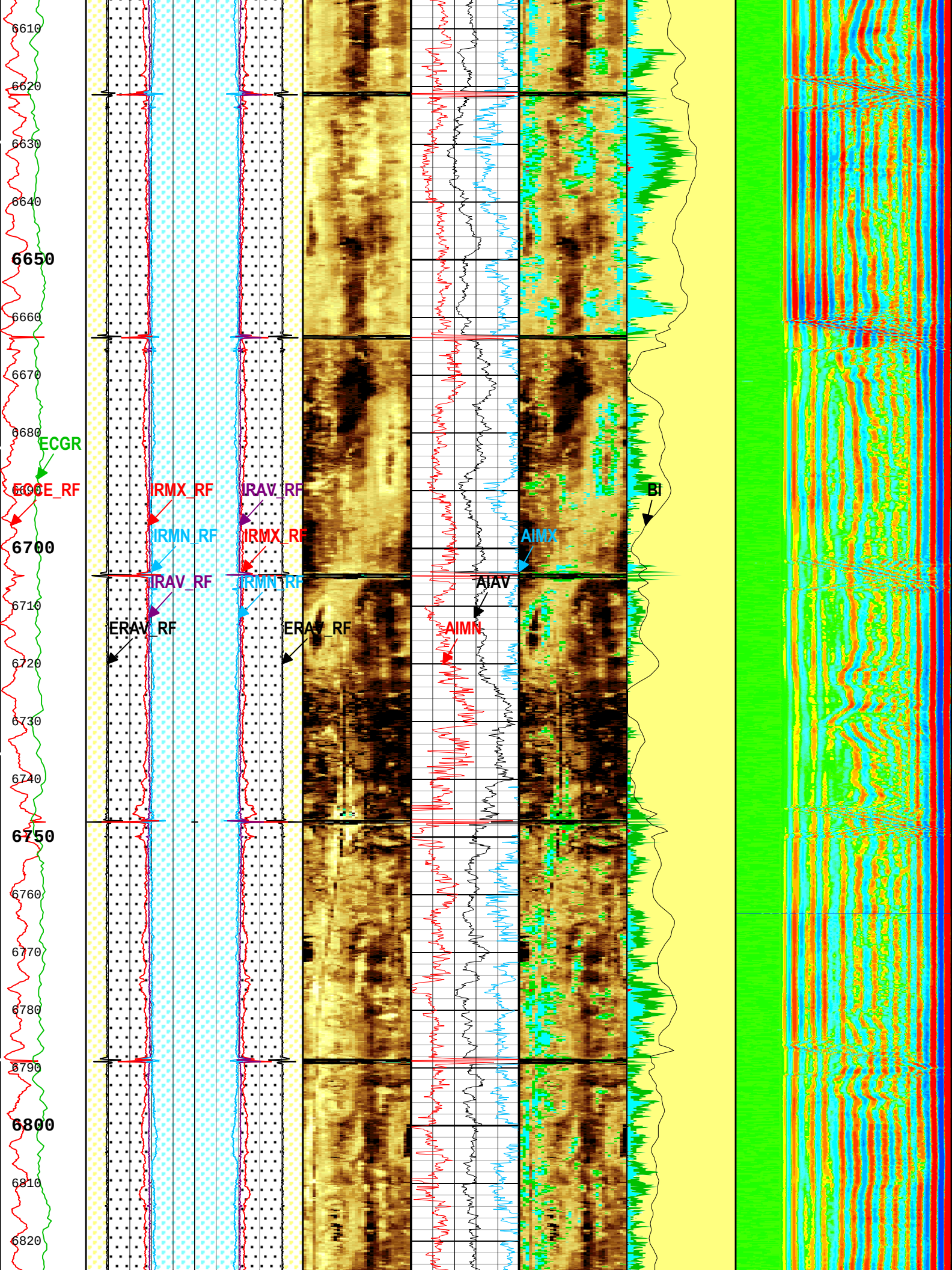
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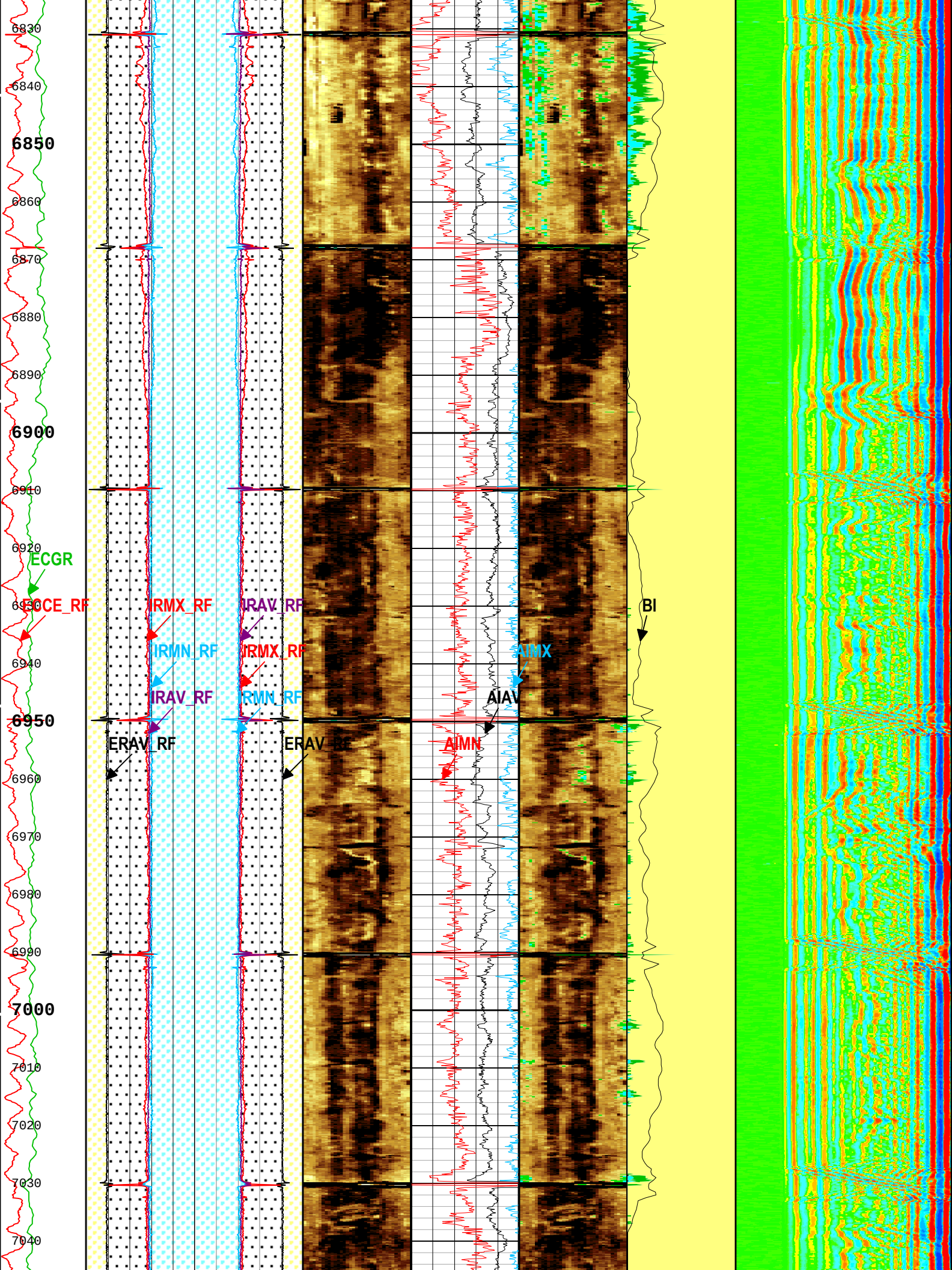
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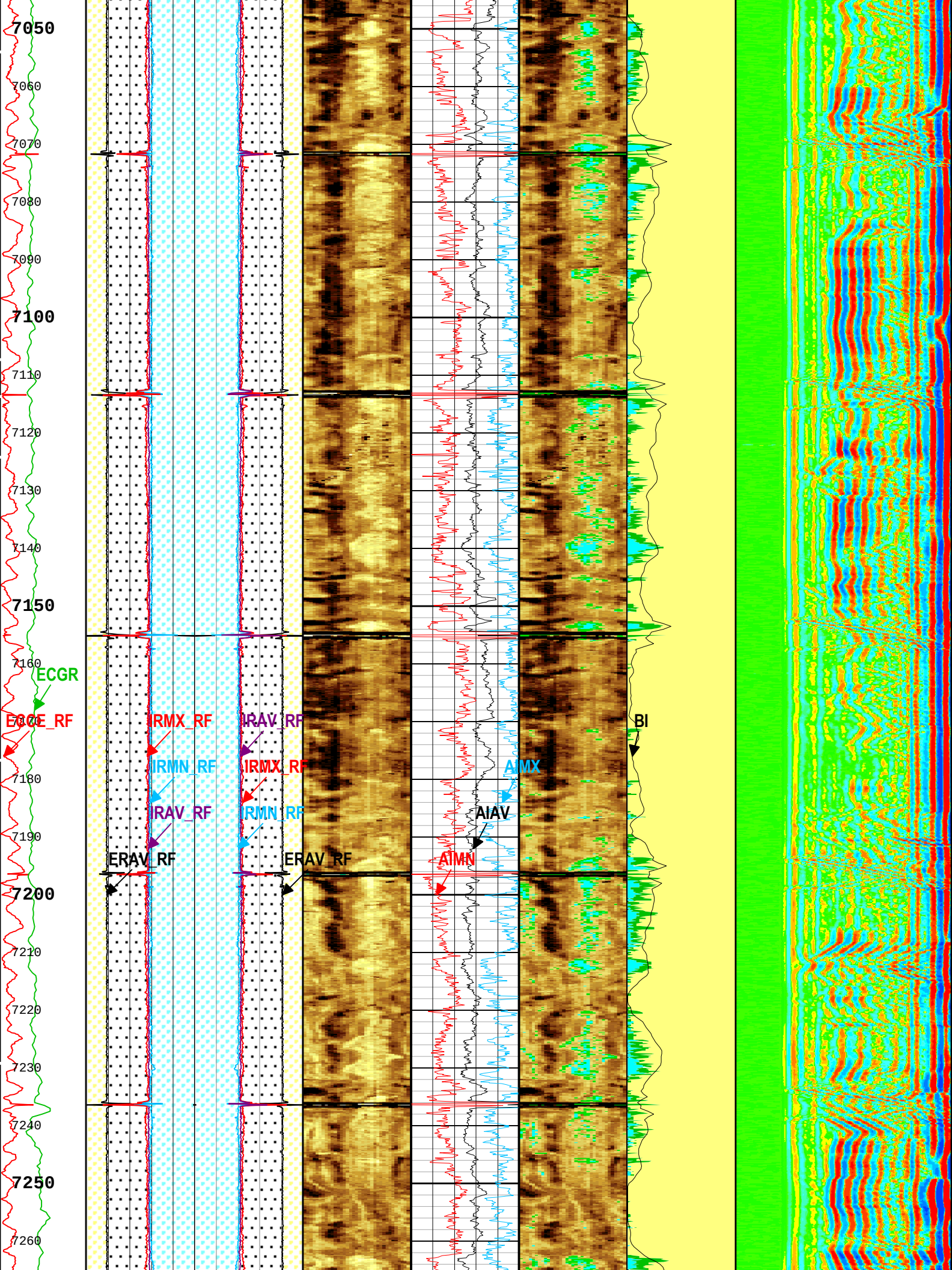
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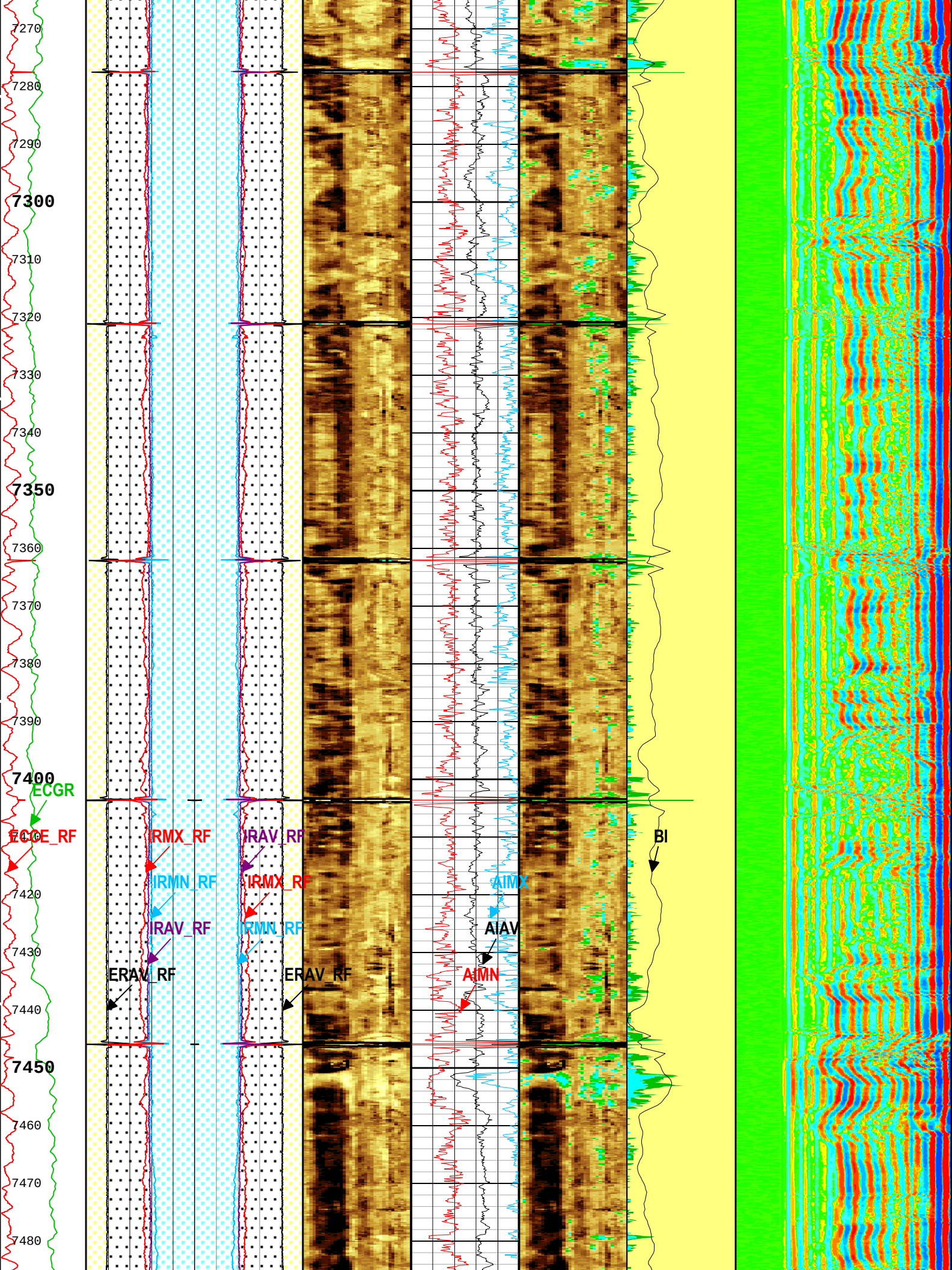
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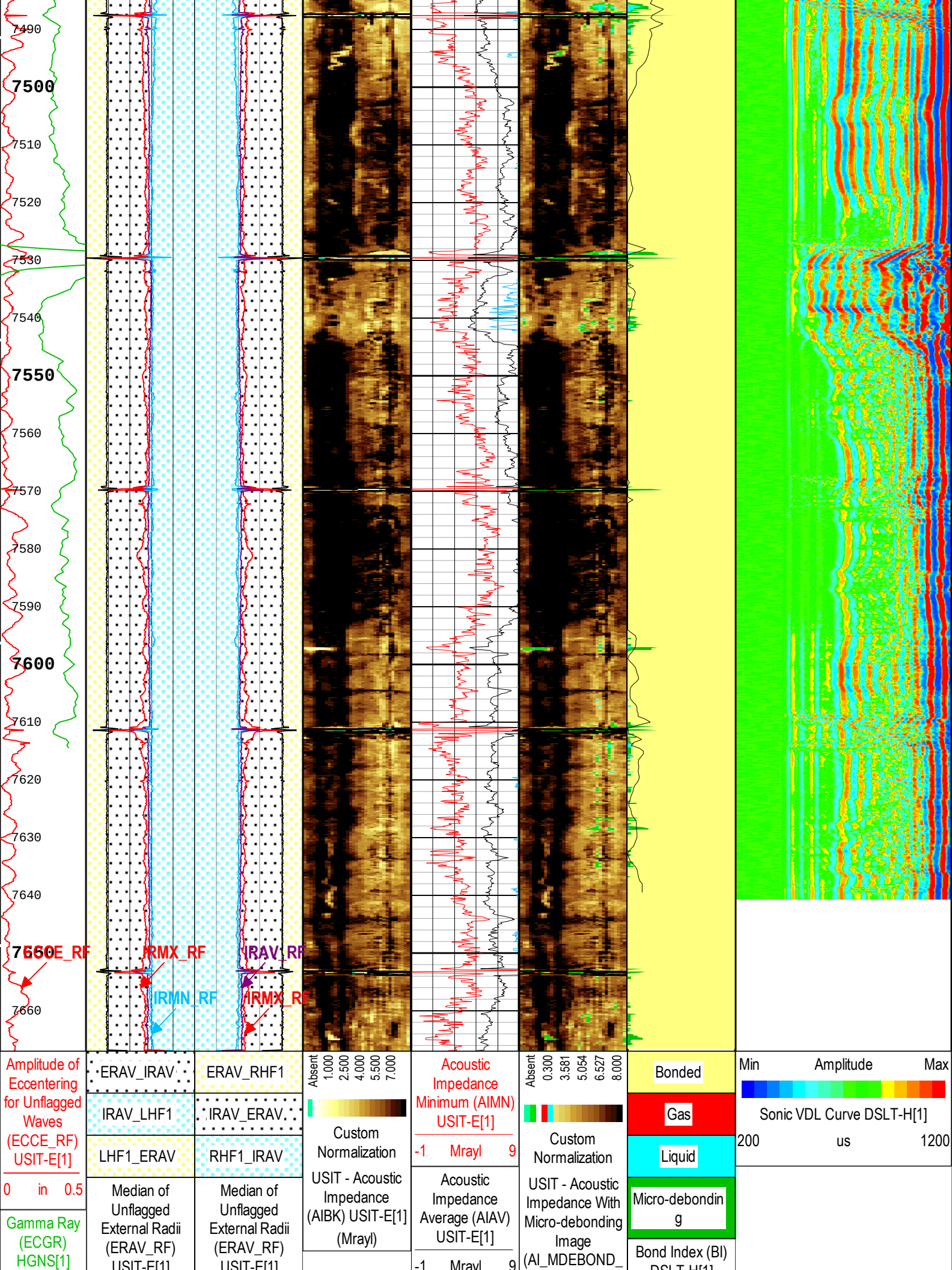
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Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
0 in 0.5
Gamma Ray (ECGR) HGNS[1]
ERAV_IRAV
IRAV_LHF1
LHF1_ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
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IRAV_ERAV
RHF1_IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
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Acoustic Impedance Minimum (AIMN) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-E[1]
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Custom Normalization
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Bonded
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Micro-debonding
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Sonic VDL Curve DSLT-H[1]
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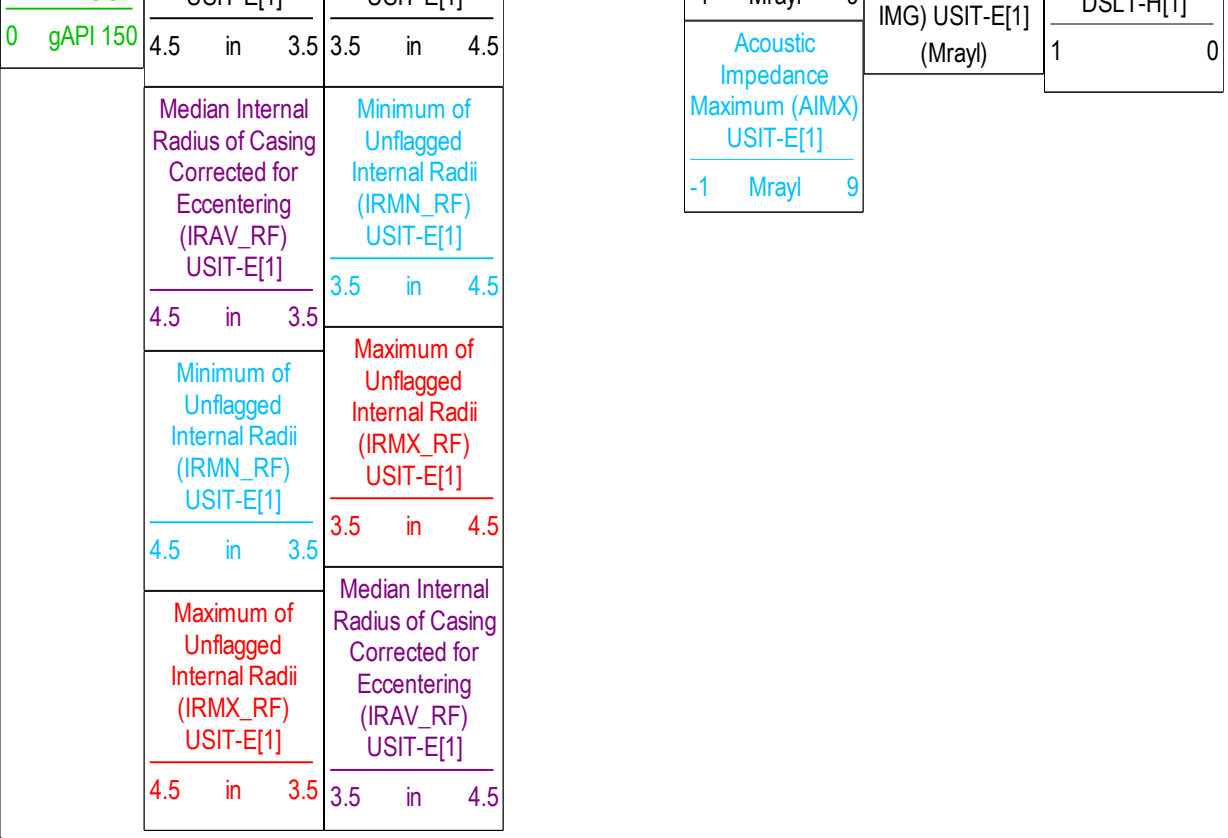


Description: USI VDL Cement Format: Log (LBV1_USI-VDL (DSLT) Cement 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:14:53

Channel Processing Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
AMSG	Auxiliary Minimum Sliding Gate	DSLT-H	140	us
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BILI	Bond Index Level for Zone Isolation	DSLT-H	0.8	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CBLG	CBL Gate Width	DSLT-H	45	us
CBLO	Casing Bottom (Logger)	WLSESSION	7796	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLT-H	55	mV
CDEN	Cement Density	HGNS-H	2	g/cm3
CMCF	CBL Cement Type Compensation Factor	DSLT-H	0.6	
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.4	in
DETE	Delta-T Detection	DSLT-H	E1	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FCF	CBL Fluid Compensation Factor	DSLT-H	0.94	
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GOBO_CURR	Good Bond in Arbitrary Cement	DSLT-H	5.06	mV
GR_MULTIPLIER	Gamma Ray Multiplier	HGNS-H	1	

HEMA	Hematite Presence Flag	Borehole	No	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H	120	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	DSLT-H	9.26	dB/ft
MCI	Minimum Cemented Interval for Isolation	DSLT-H	Depth Zoned	ft
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	24.96	us
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H	100	
MSA	Minimum Sonic Amplitude	DSLT-H	1.67	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLT-H	2.78	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.13	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
NMSG	Near Minimum Sliding Gate	DSLT-H	310	us
NMXG	Near Maximum Sliding Gate	DSLT-H	950	us
NUMP	Number of Detection Passes	DSLT-H	2	
OPLEV	USIT Remove Flagged Data Level	USIT-E	OPT2	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SDNV	Number of Vertical Samples used for Micro-debonding Computation	USIT-E	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro-debonding	USIT-E	0.5	Mrayl
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro-debonding	USIT-E	0.3	Mrayl
SFAF	Sonic Formation Attenuation Factor	DSLT-H	3.25	dB/ft
SGAD	Sliding Gate Status	DSLT-H	Off	
SGCL	Sliding Gate Closing Delta-T	DSLT-H	130	us/ft
SGCW	Sliding Gate Closing Width	DSLT-H	25	us
SGDT	Sliding Gate Delta-T	DSLT-H	57	us/ft
SGW	Sliding Gate Width	DSLT-H	110	us
SLEV	Signal Level for AGC	DSLT-H	5000	mV
SOCN	Standoff Distance	HGNS-H	0.125	in
SOCO	Standoff Correction Option	HGNS-H	No	
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	60	%
HISC	Tool Position: Centered or Eccentered	HGNS-H	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0.1	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
VDLG	VDL Manual Gain	DSLT-H	5	
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZCMT	Acoustic Impedance of Cement	DSLT-H	5.5	Mrayl
ZCMT_NEAT	Acoustic Impedance of Cement in Neat Cement	DSLT-H	6.8	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl

ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Run 1Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	17.5	0	807
BS	11	807	7667
MCI	21.68	0	807
MCI	12.98	807	7667

All depth are actual.

Tool Control Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDEL	Digitizing Delay	DSLT-H	0	us
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	2.874	in
MODE	DSLT Acquisition Mode	DSLT-H	CBL	
RATE	DSLT Firing Rate	DSLT-H	15 Hz	
DTFS	DSLT Telemetry Frame Size	DSLT-H	536	
DWCO	Digitizer Word Count	DSLT-H	250	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MOTOR_PROTECT	Motor Protection	USIT-E	On	
SDTH	Switch Down Threshold	DSLT-H	20000	
SGAI	Selectable Acquisition Gain	DSLT-H	x1	
SUTH	Switch Up Threshold	DSLT-H	1000	
TMUC	Type of Mud	USIT-E	BRI	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	No	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 1.5 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	7650	ft
USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	45	us
WINE	Window End Time	USIT-E	125	us
WMOD	Waveform Firing Mode	DSLT-H	Full	

Run 1Time Zoned Parameters

Pass Log[6]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	125	10-Aug-2016 09:30:29	10-Aug-2016 09:35:27	7667.38	7414.7
EMXV	100	10-Aug-2016 09:35:27	10-Aug-2016 09:42:55	7414.7	7113.68

Pass Log[7]:Up

EMXV	100	10-Aug-2016 09:52:07	10-Aug-2016 12:07:44	7113.68	140.99
EMXV	125	10-Aug-2016 12:07:44	10-Aug-2016 12:12:11	140.99	28.88

All depth are at tool zero.

Composite 1

Main Pass 5 IN = 100 FT

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[6]:Up	Up	7108.83 ft	7667.54 ft	10-Aug-2016 9:30:29 AM	10-Aug-2016 9:42:55 AM	ON	0.00 ft	Yes
Run 1	Log[7]:Up	Up	28.78 ft	7252.83 ft	10-Aug-2016 9:52:07 AM	10-Aug-2016 12:12:11 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A

Composite 1:S003

Description: USI Composite Format: Log (LBV1_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth

Creation Date: 10-Aug-2016 16:15:08

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

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

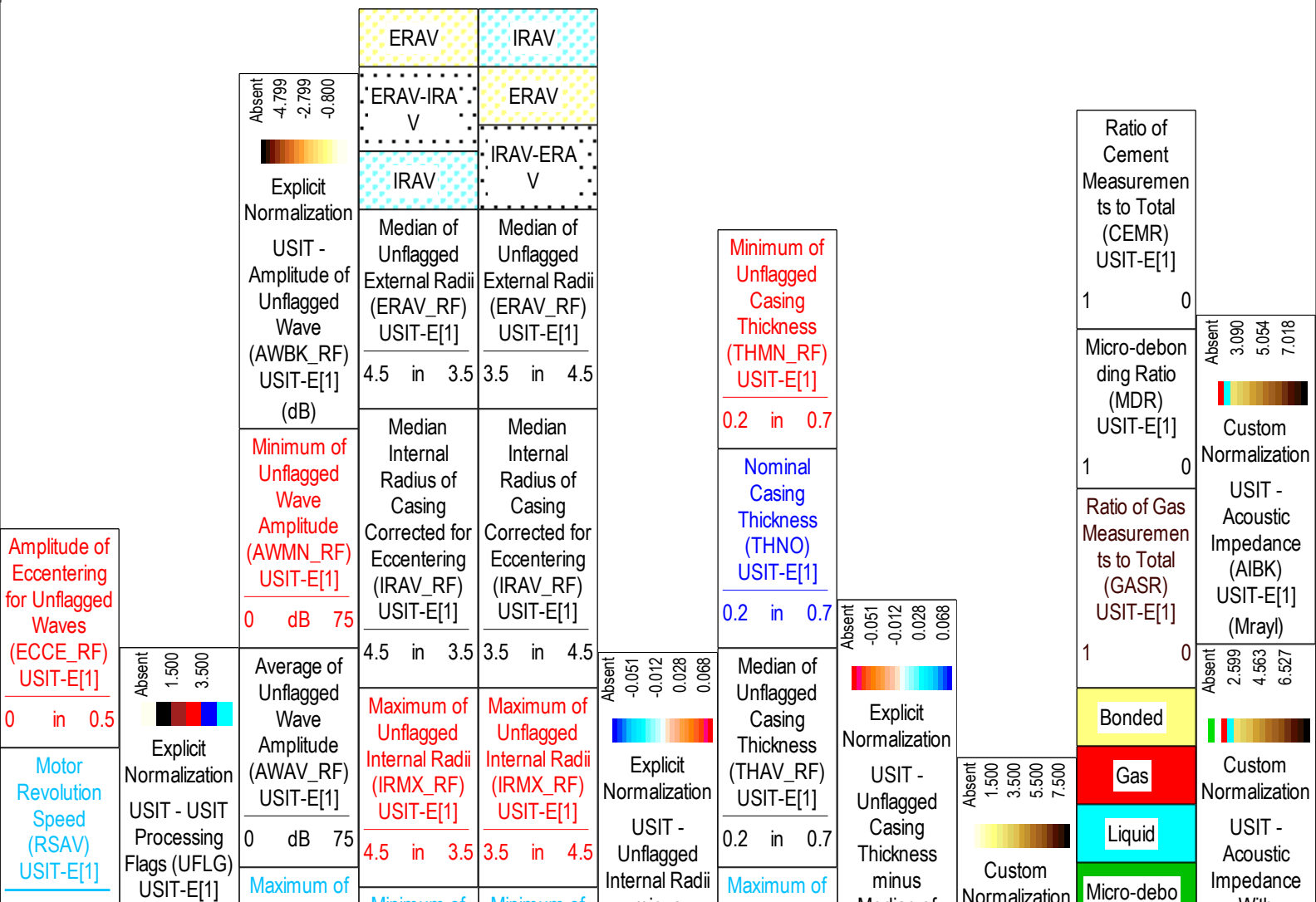
Pulse Origin Not Detected

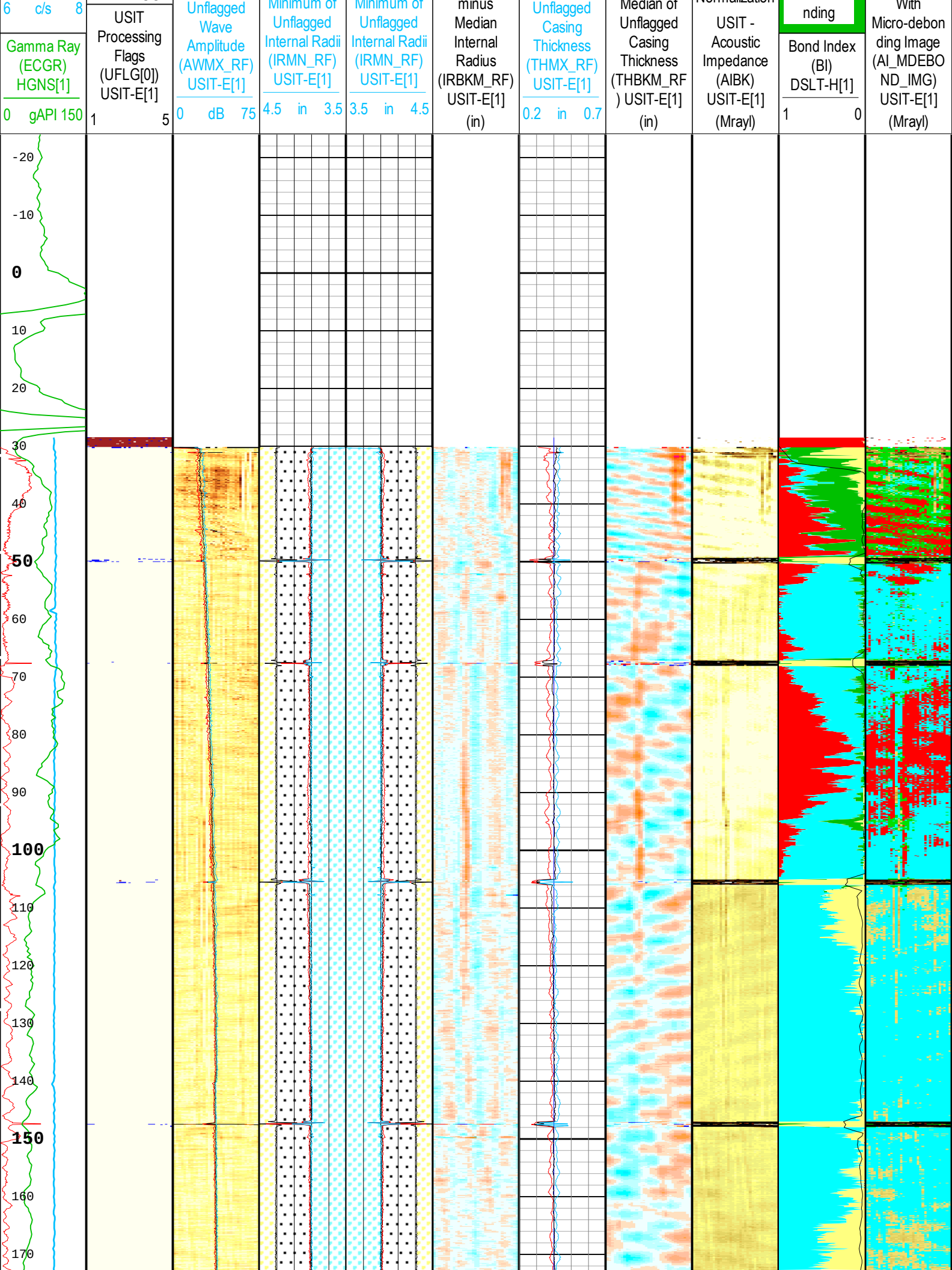
WINLEN Error

Casing Thickness Error

Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)




6 c/s 8
Gamma Ray (ECGR) HGNS[1]
0 gAPI 150
USIT Processing Flags (UFLG[0]) USIT-E[1]
1 5
Unflagged Wave Amplitude (AWMX_RF) USIT-E[1]
0 dB 75
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
3.5 in 4.5
minus Median Internal Radius (IRBKM_RF) USIT-E[1]
(in)
Unflagged Casing Thickness (THMX_RF) USIT-E[1]
0.2 in 0.7
Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1]
(in)
USIT - Acoustic Impedance (AIBK) USIT-E[1]
(Mrayl)
nding
Bond Index (BI) DSLT-H[1]
1 0
With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1]
(Mrayl)
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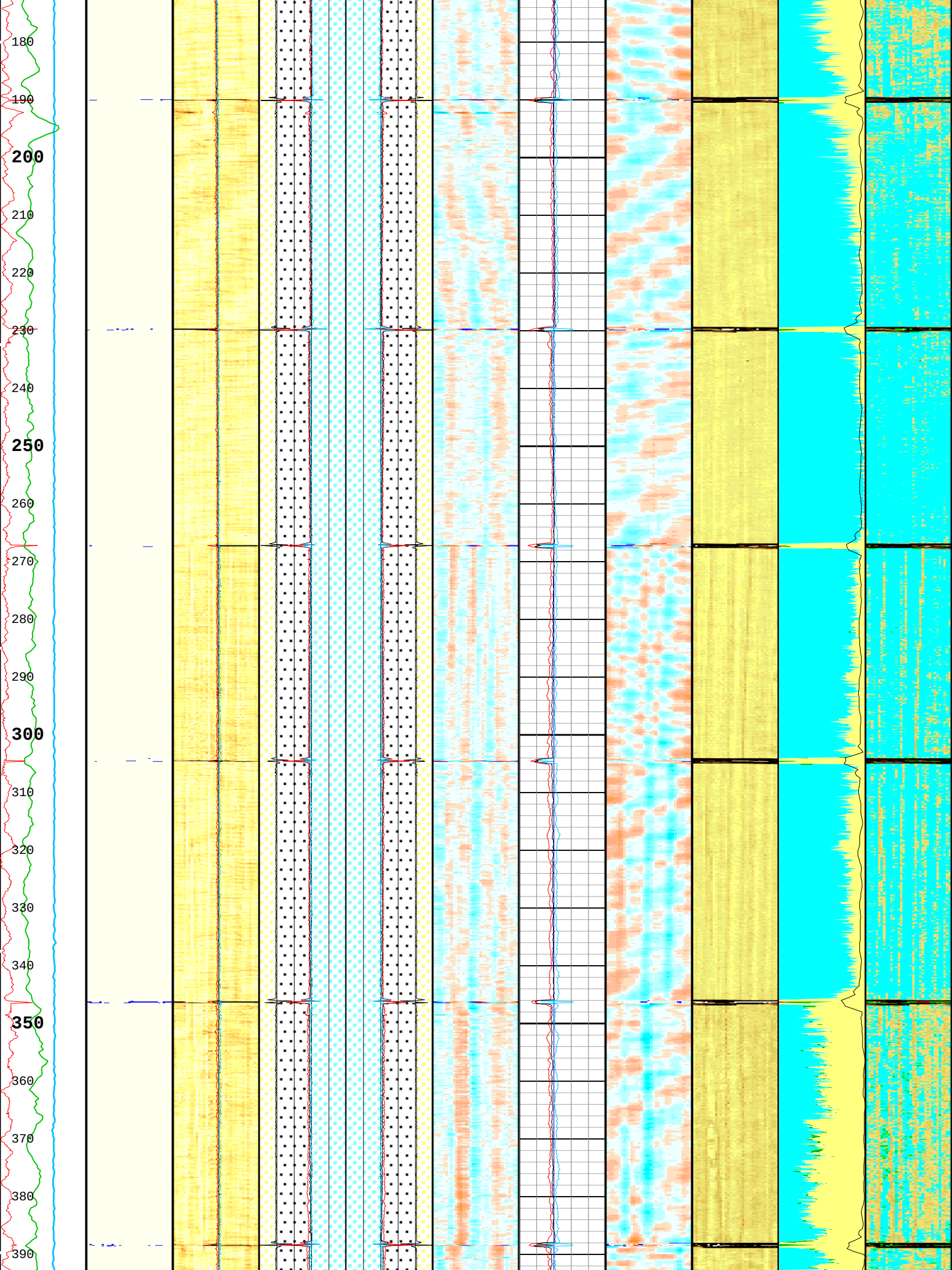
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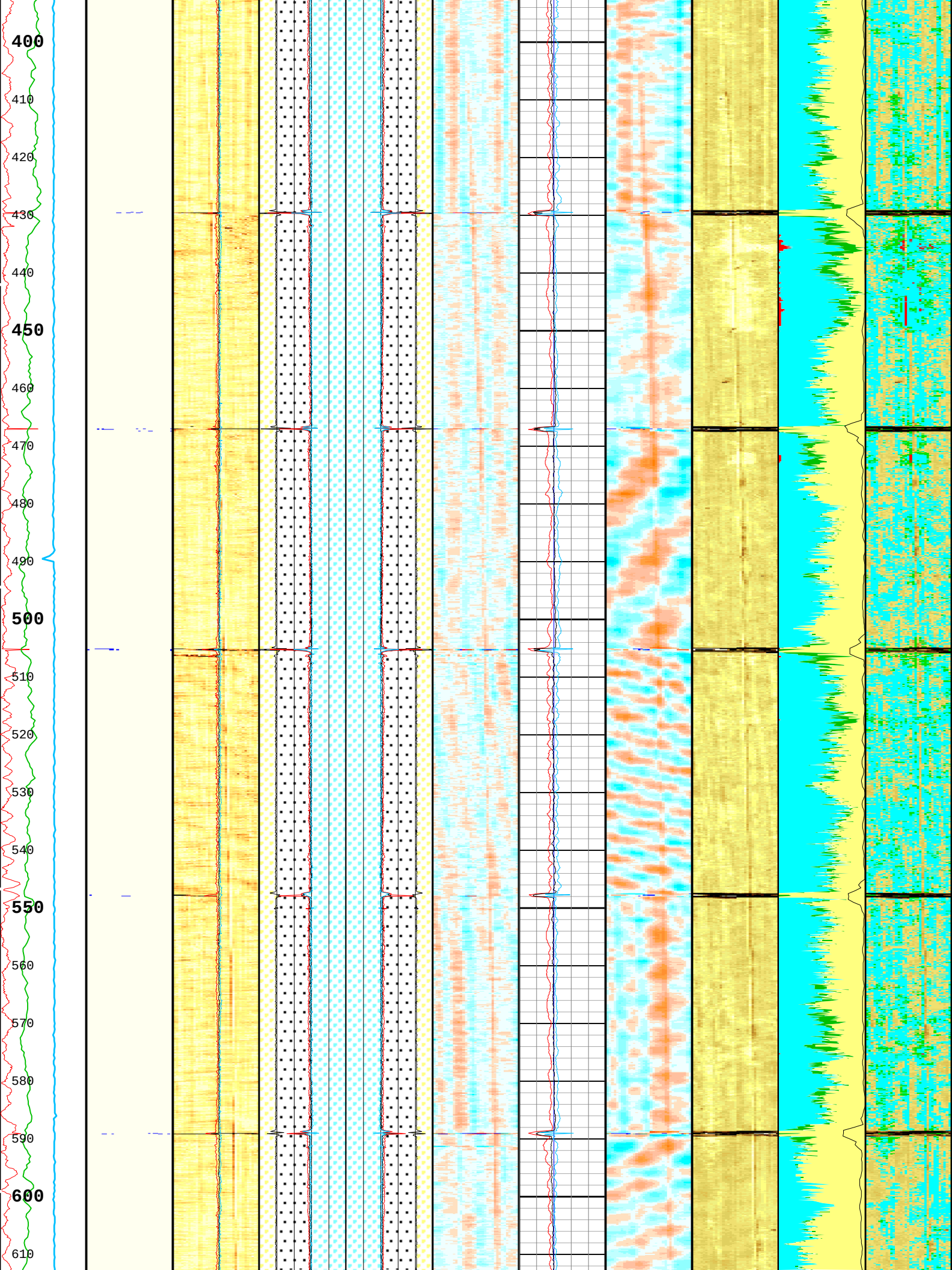
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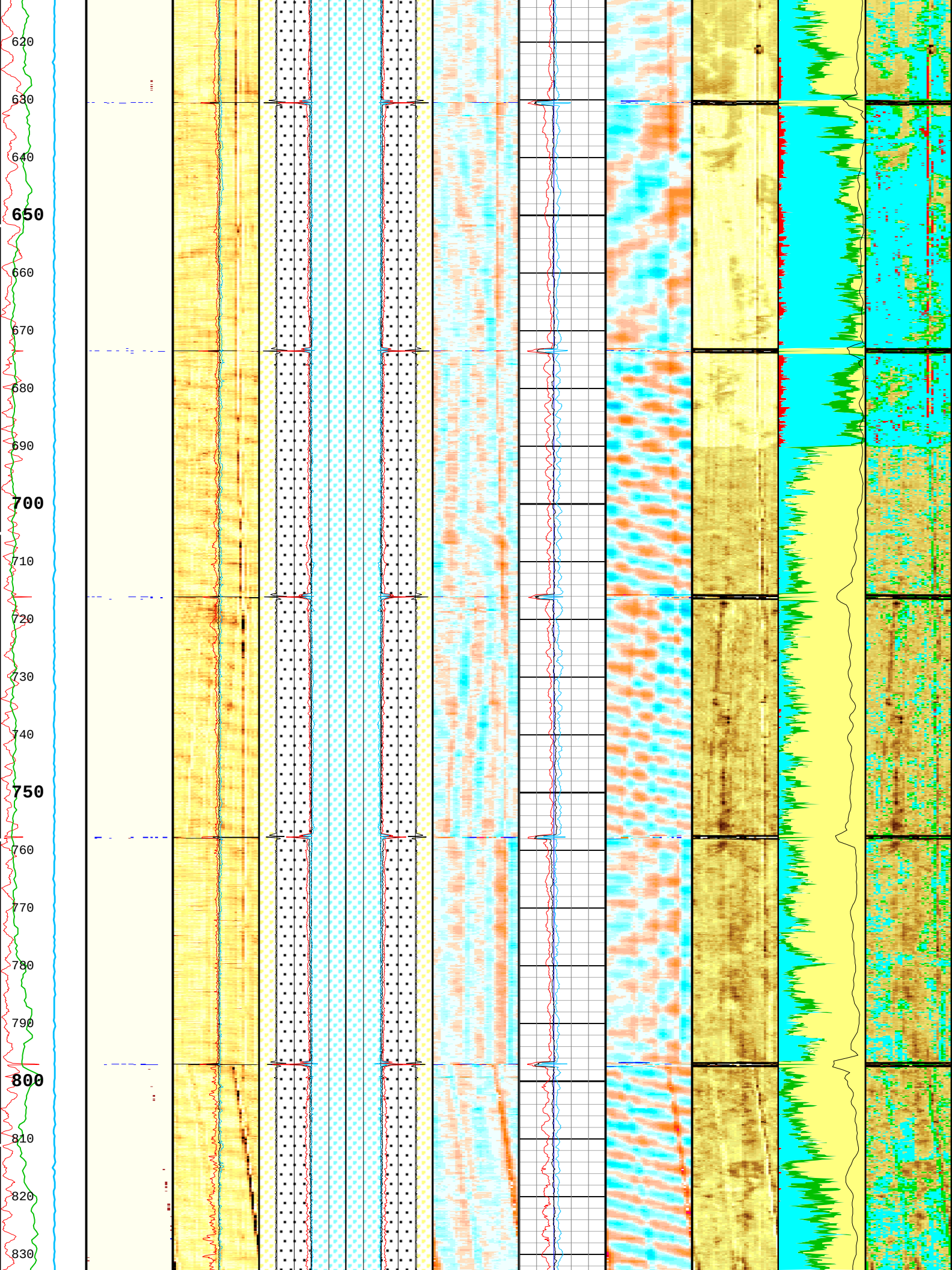
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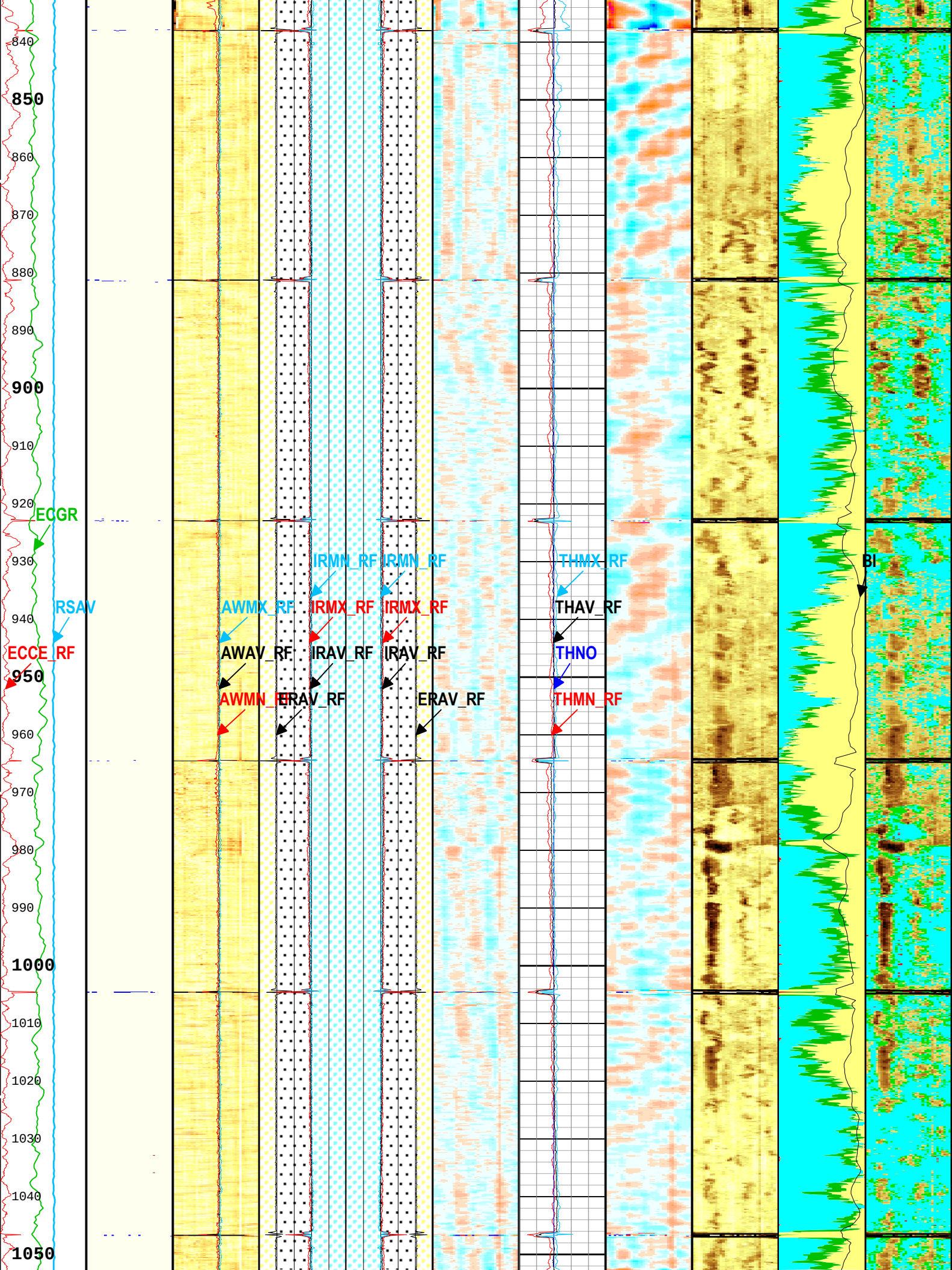
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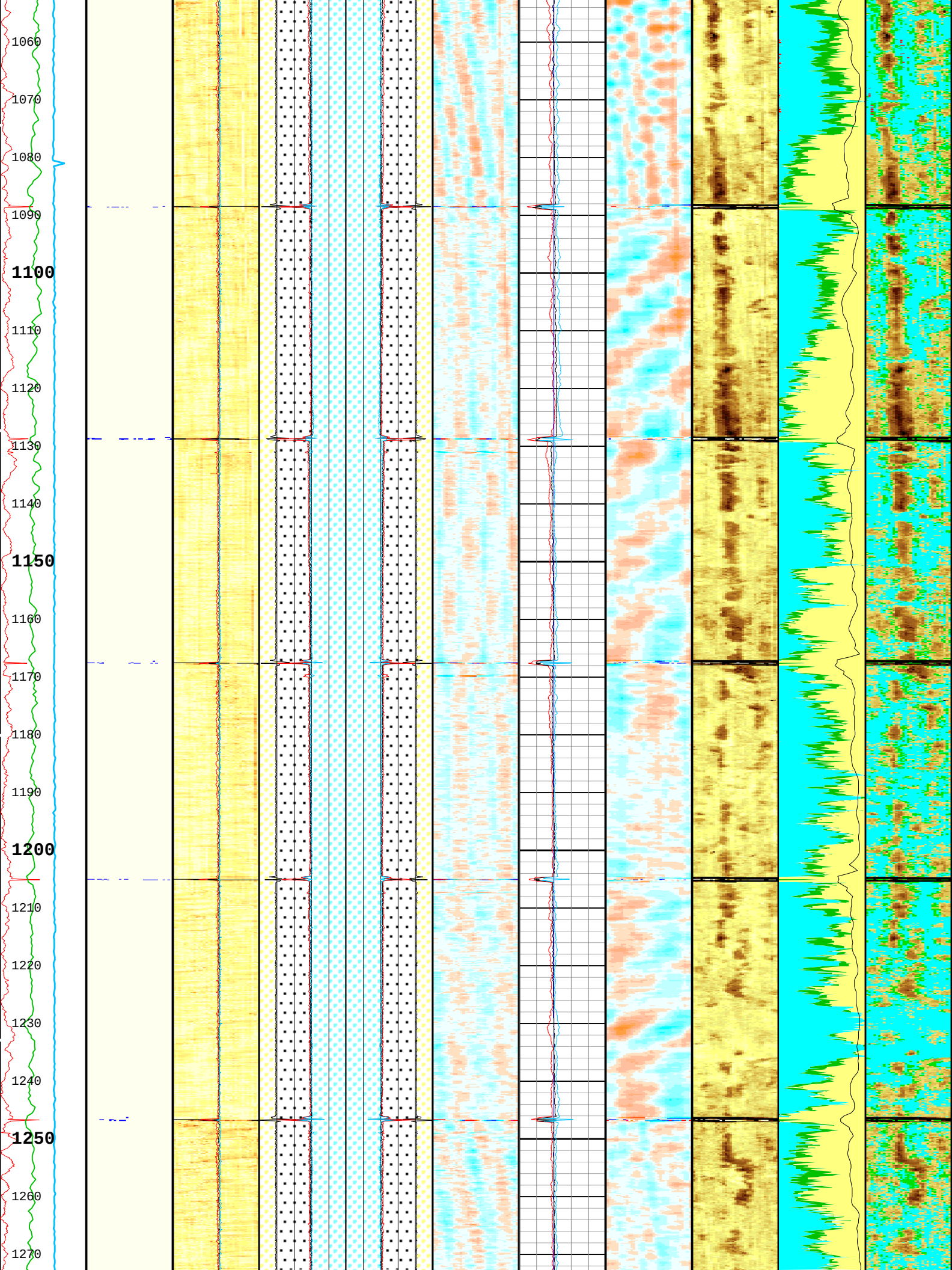
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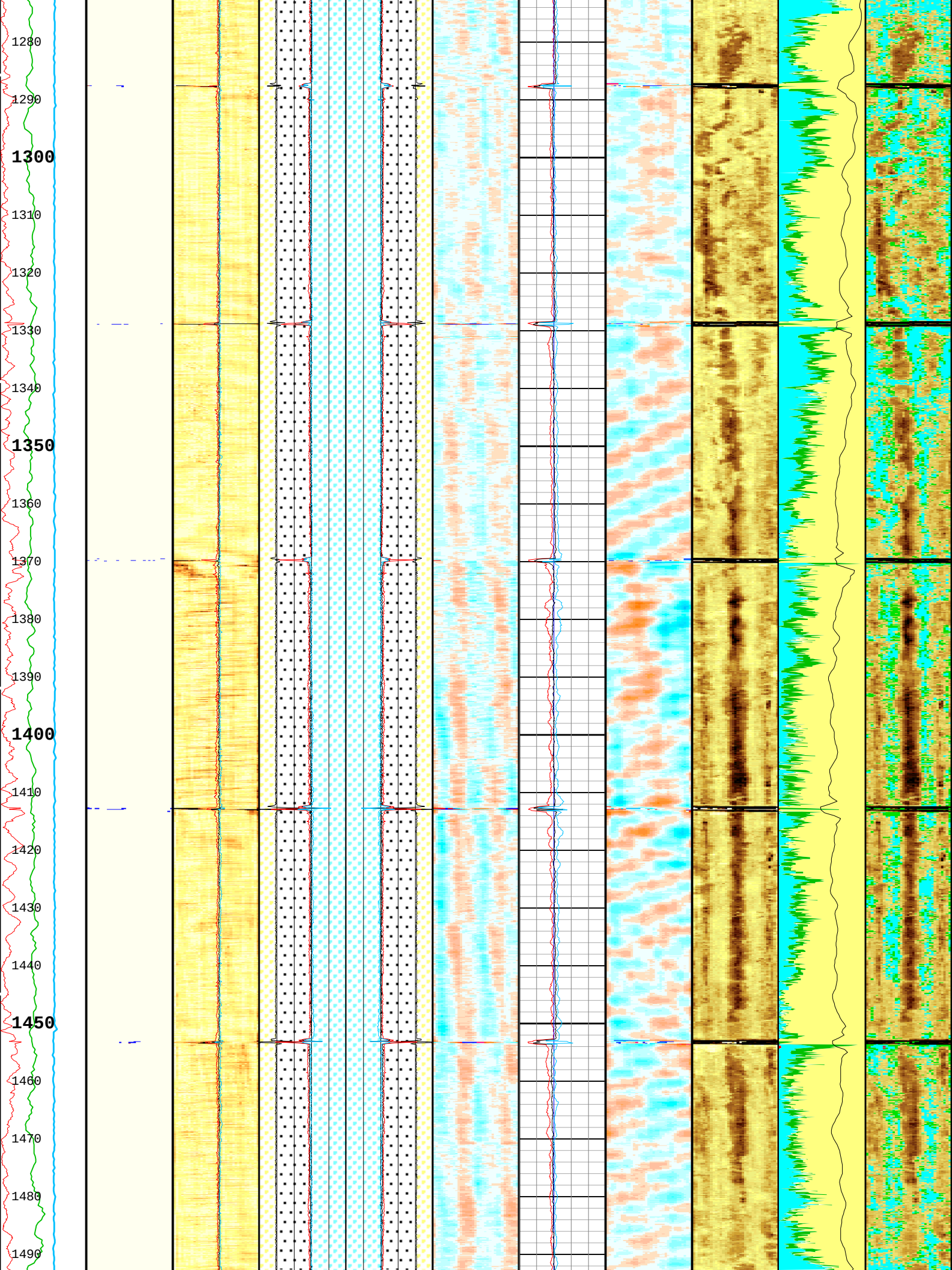
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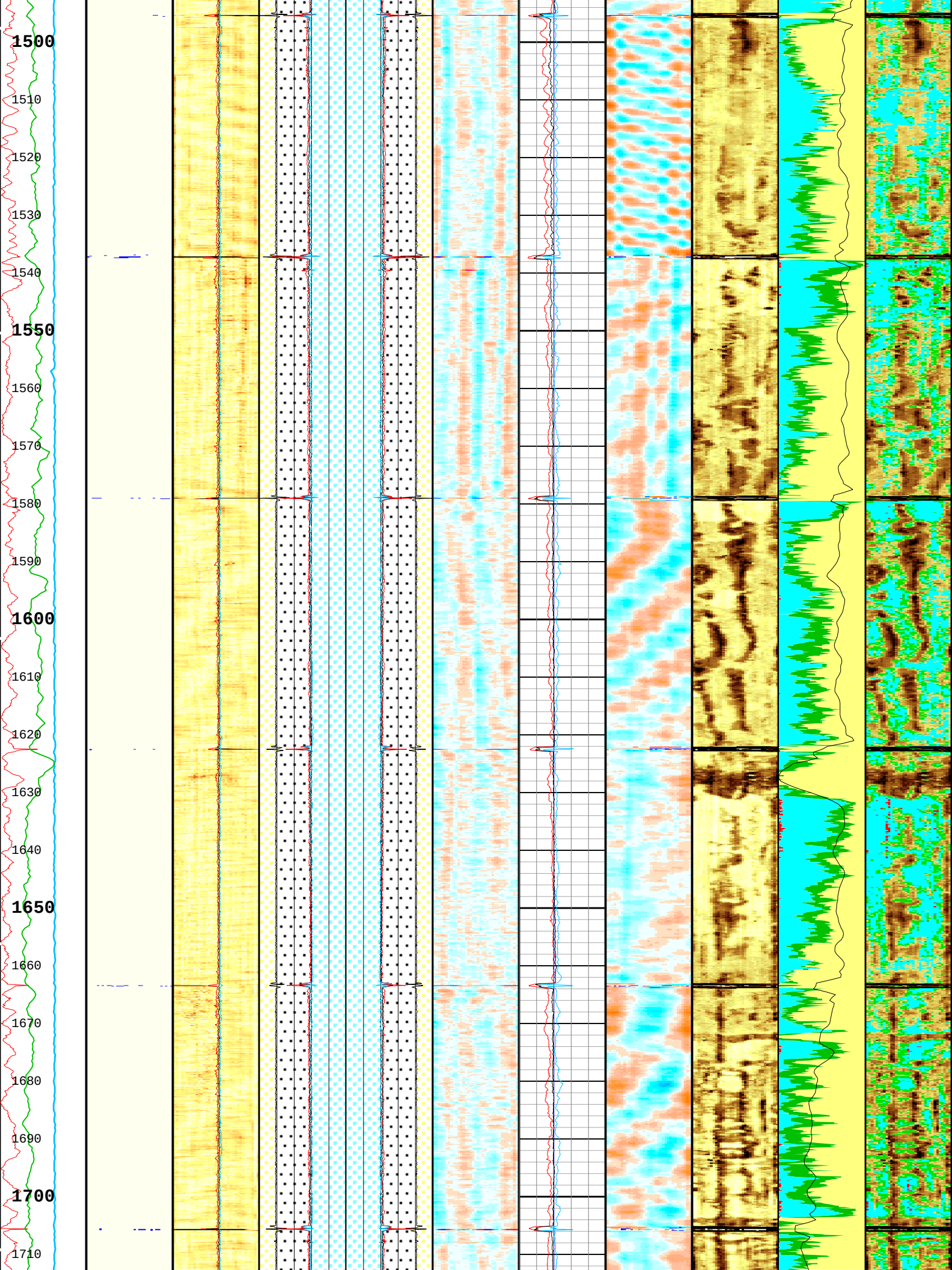
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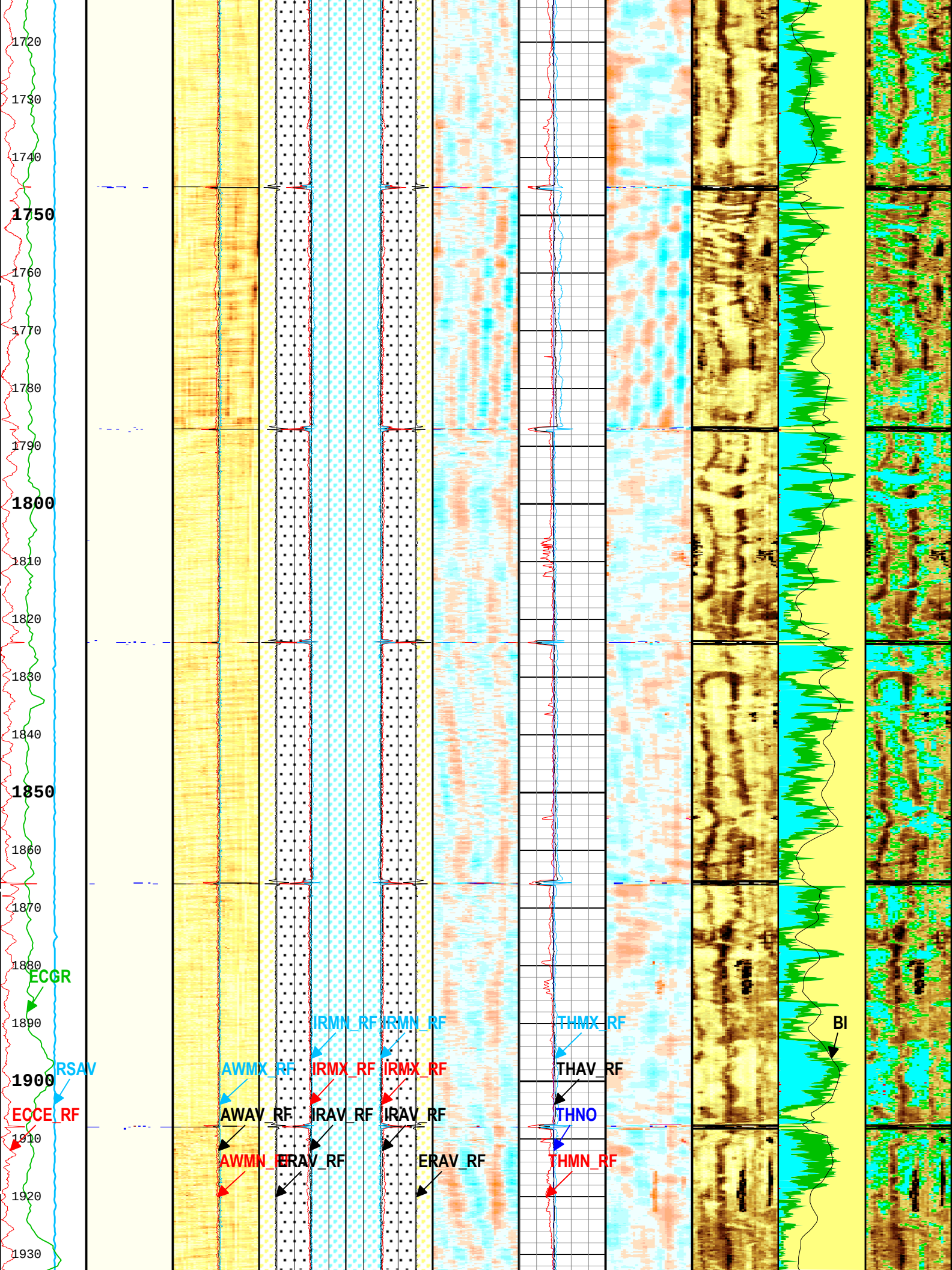
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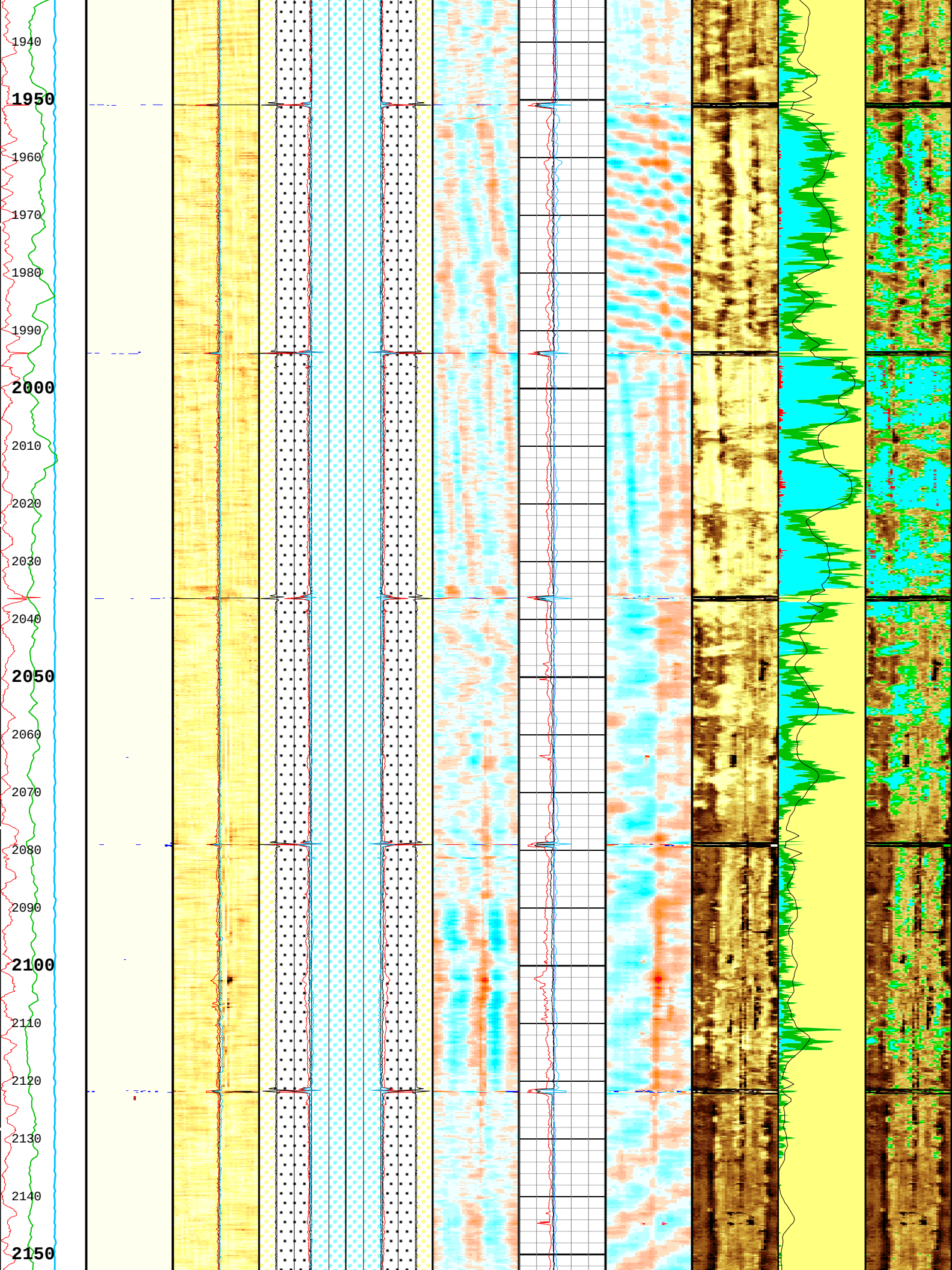
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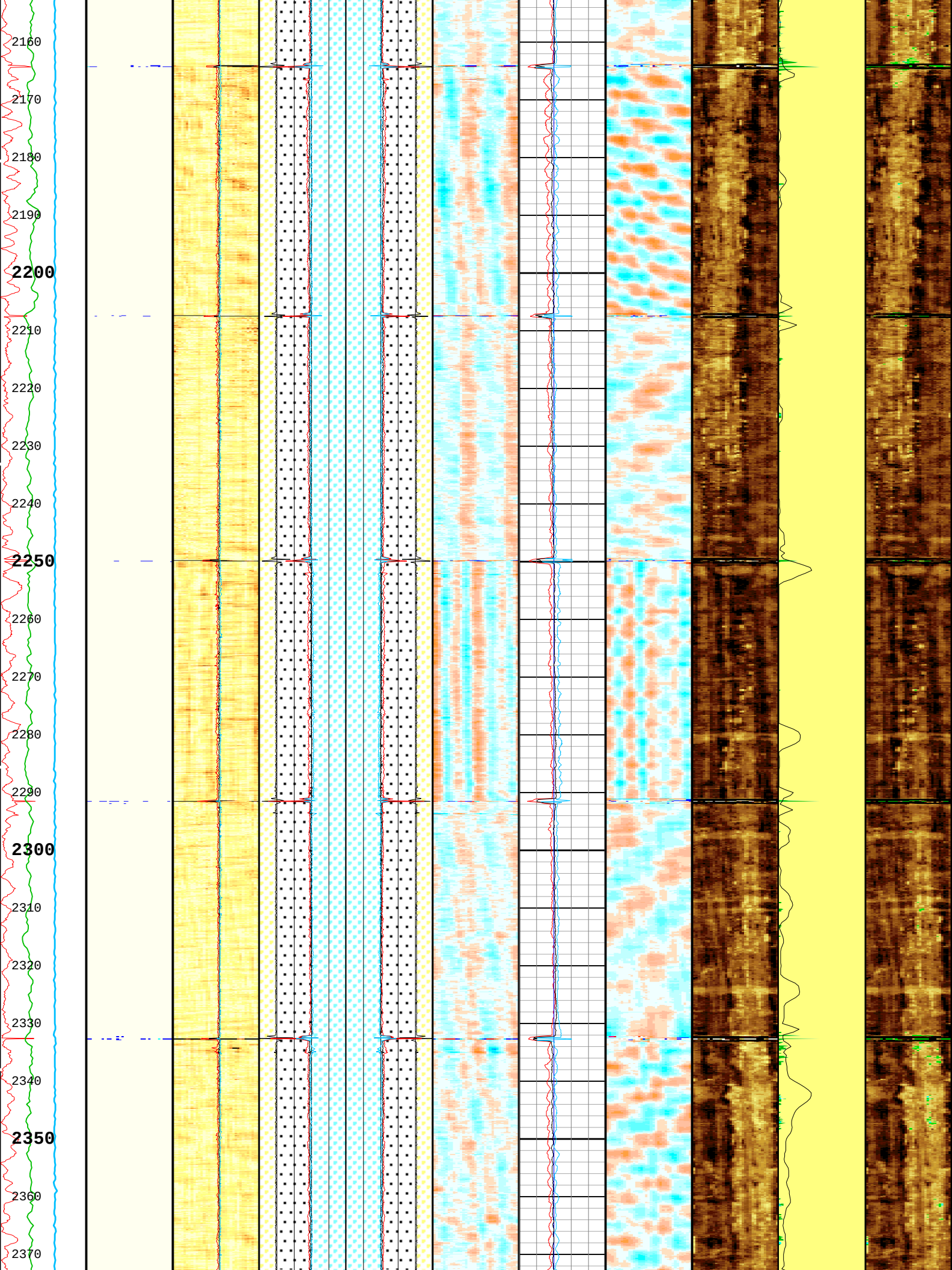
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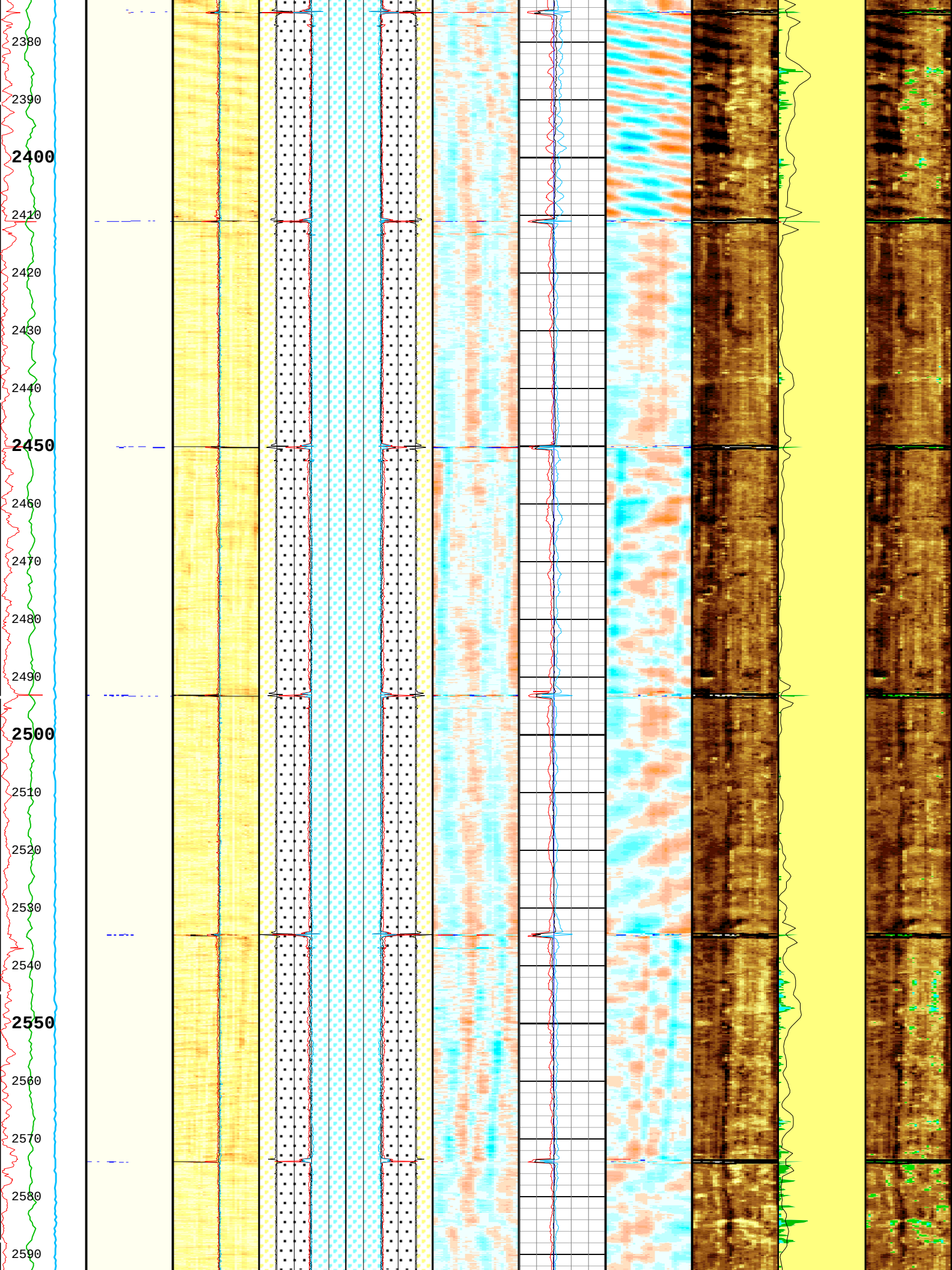
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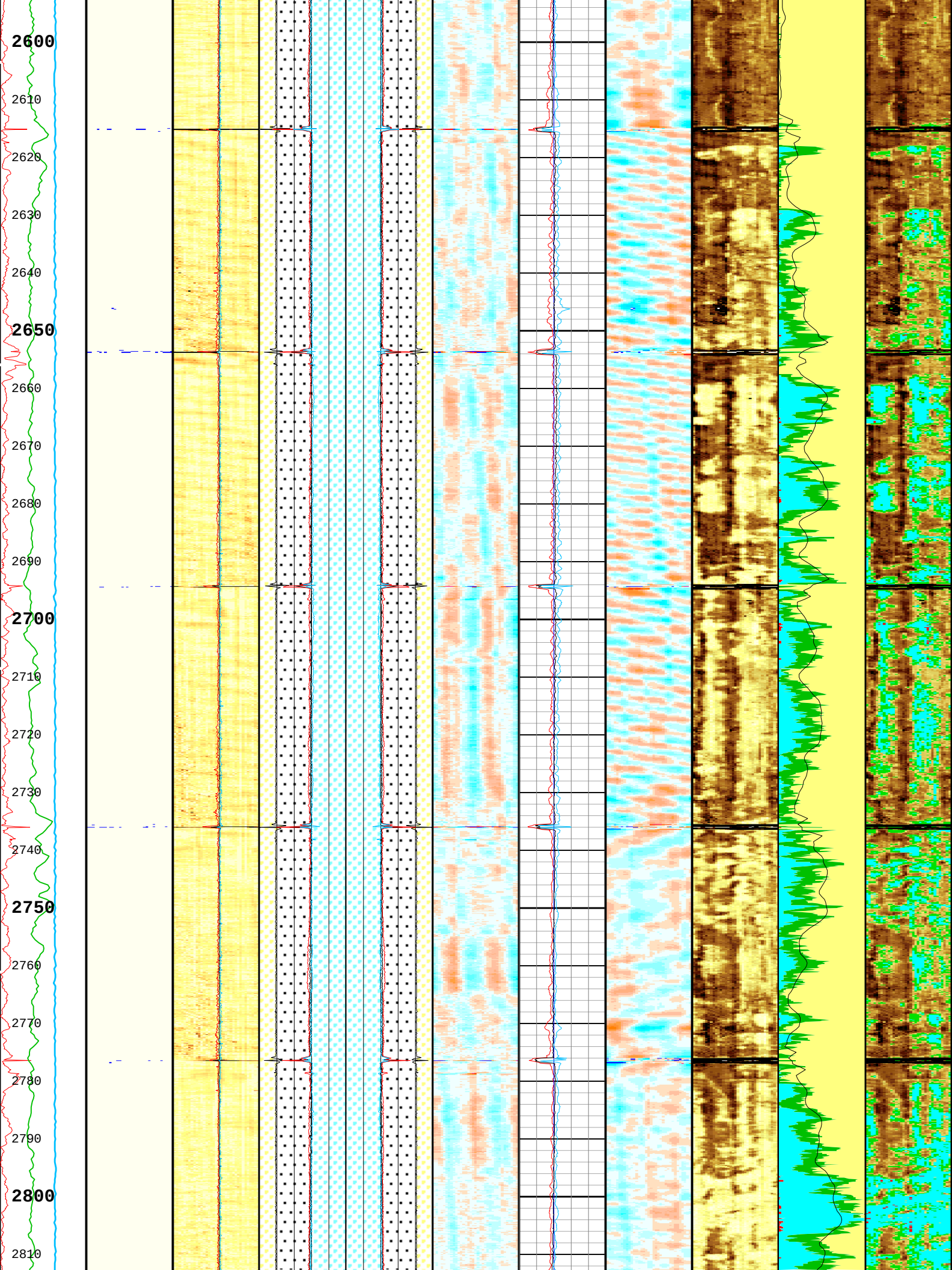
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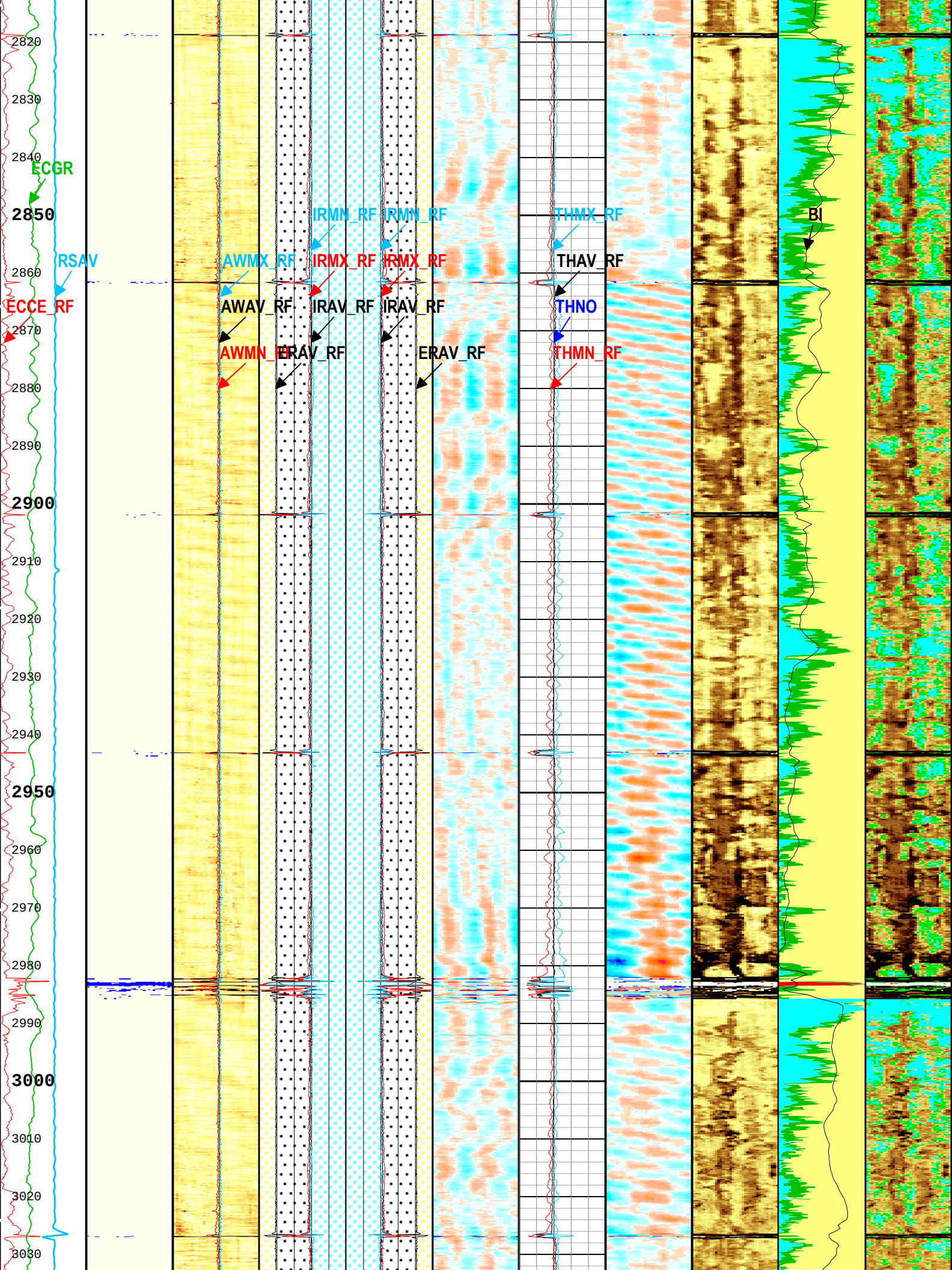
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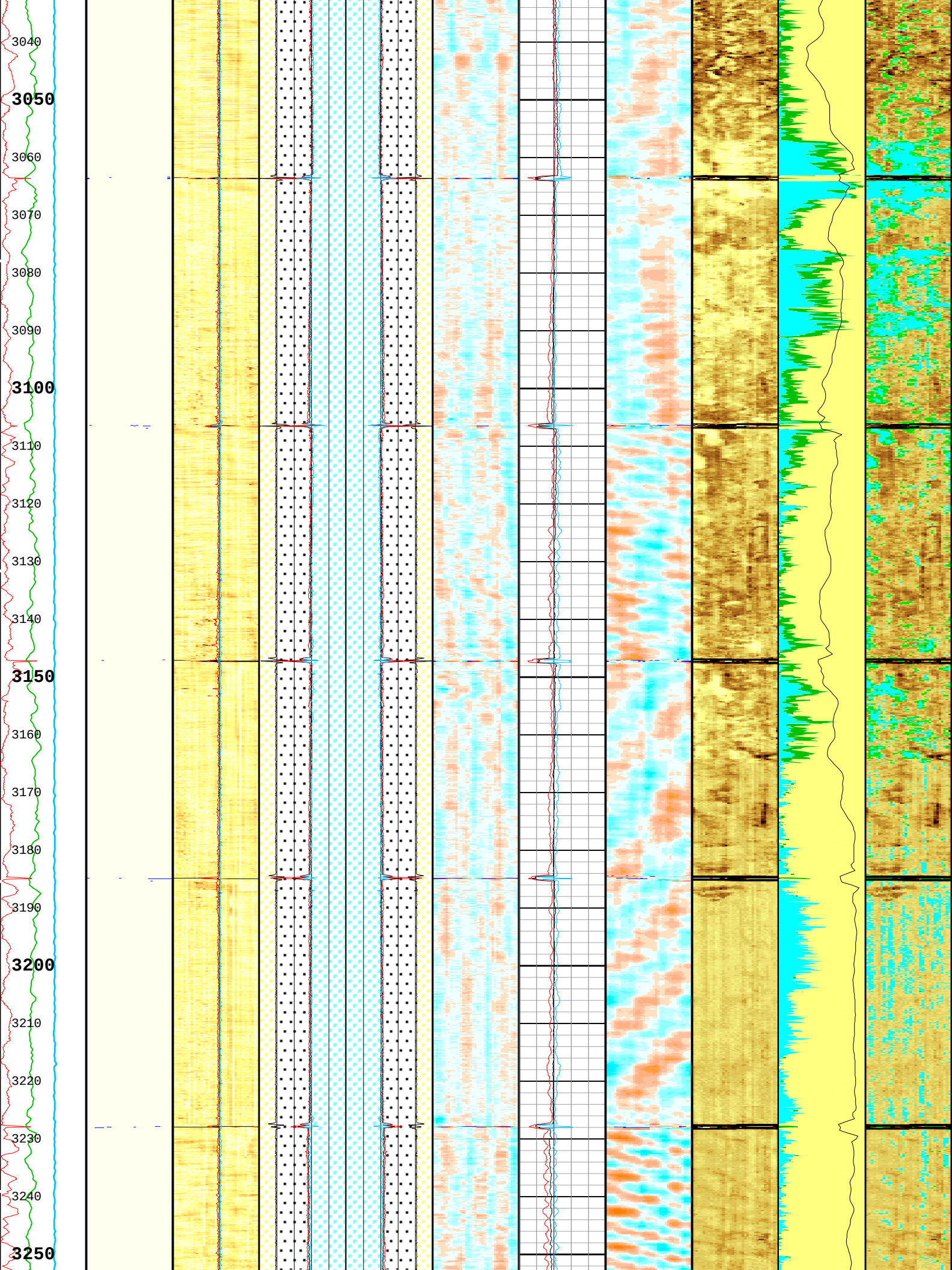
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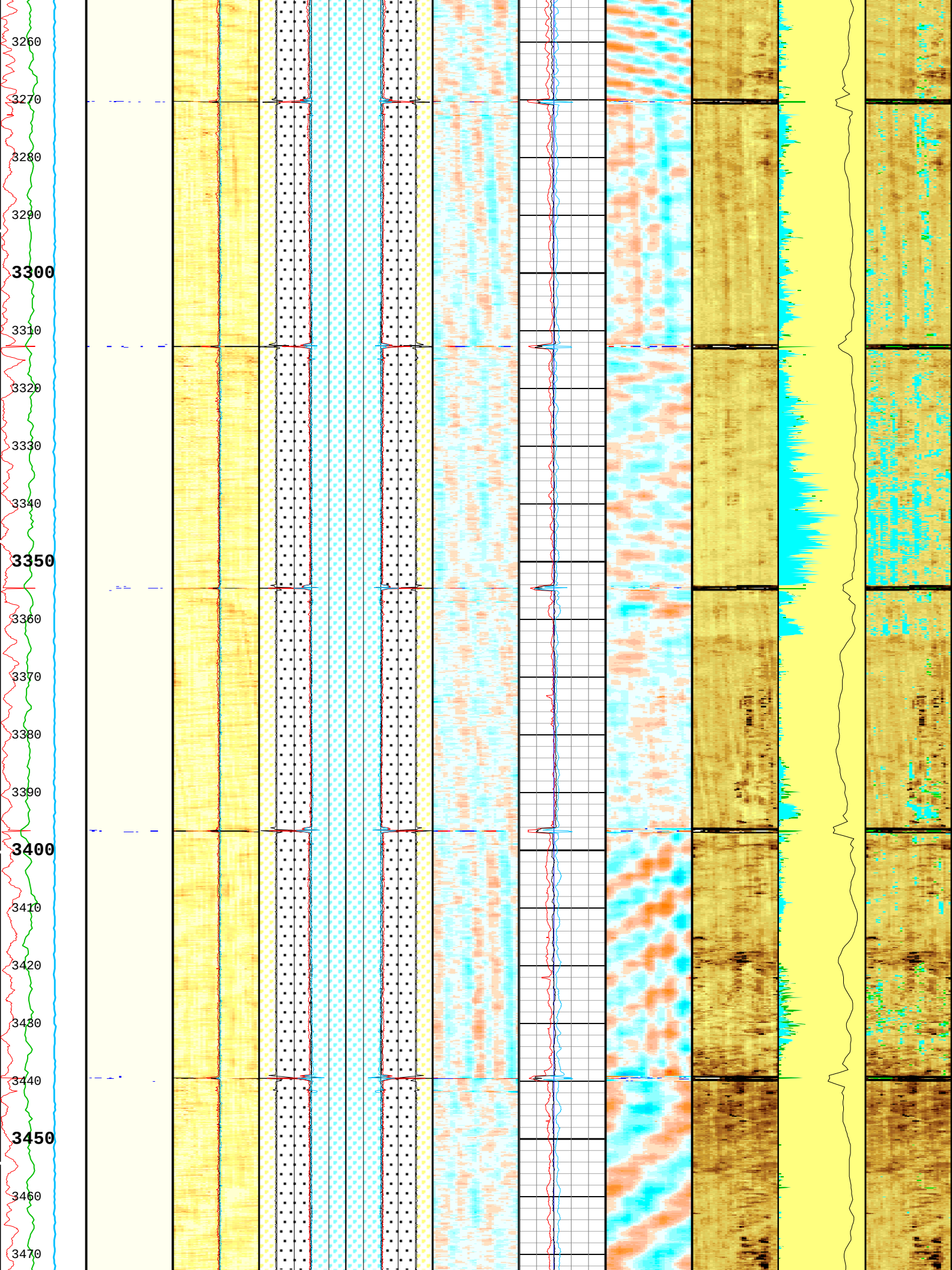
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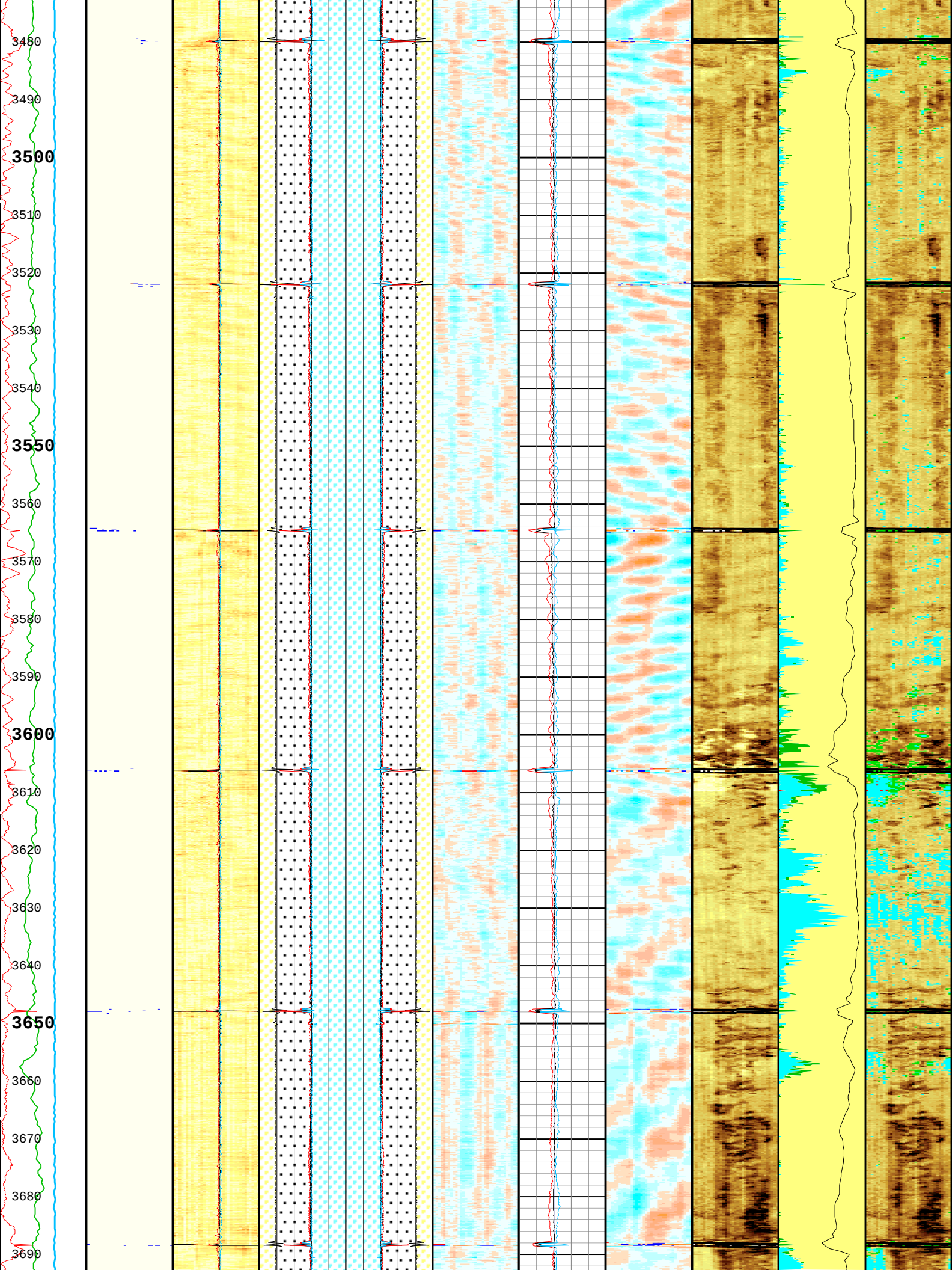
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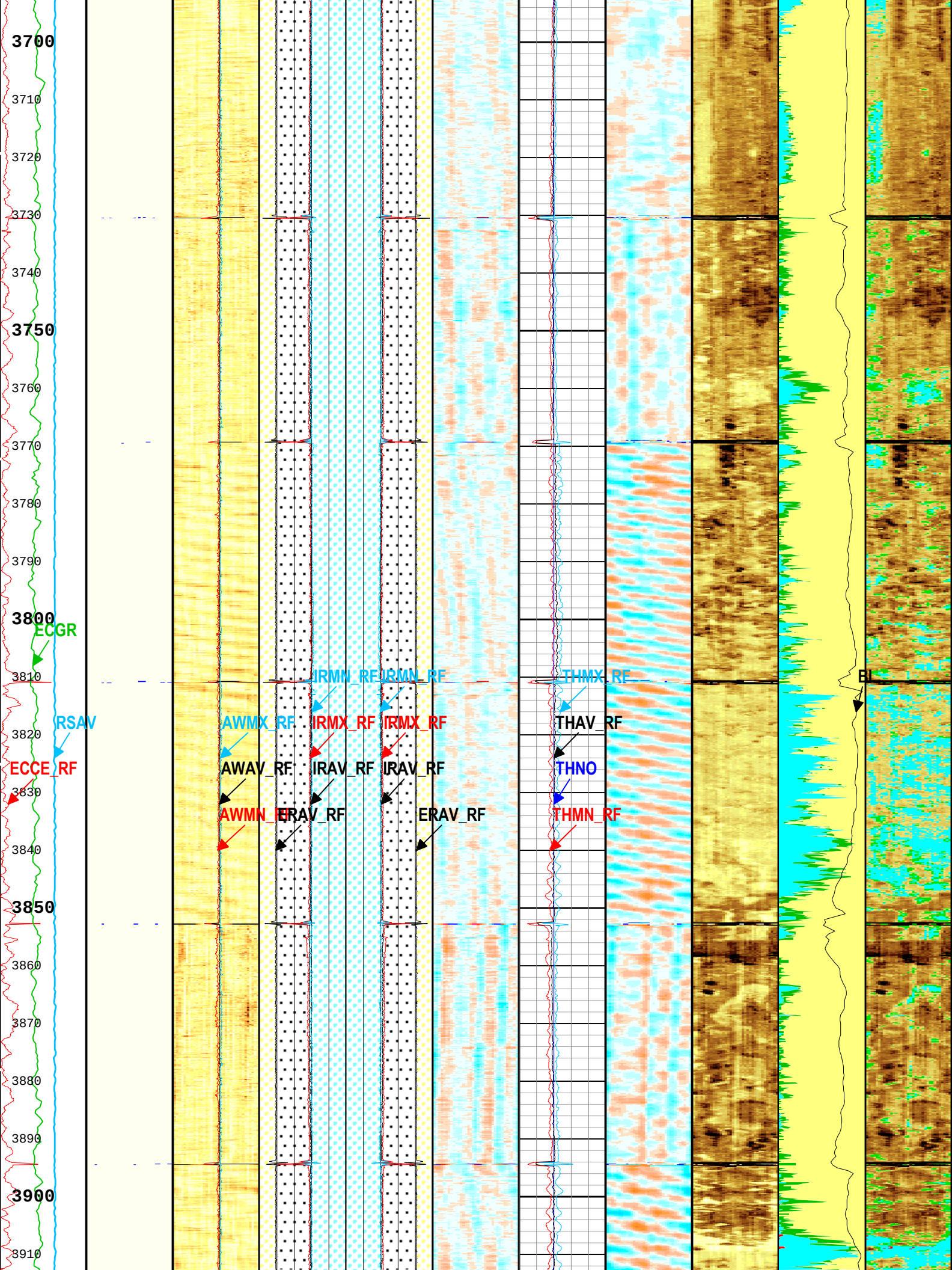
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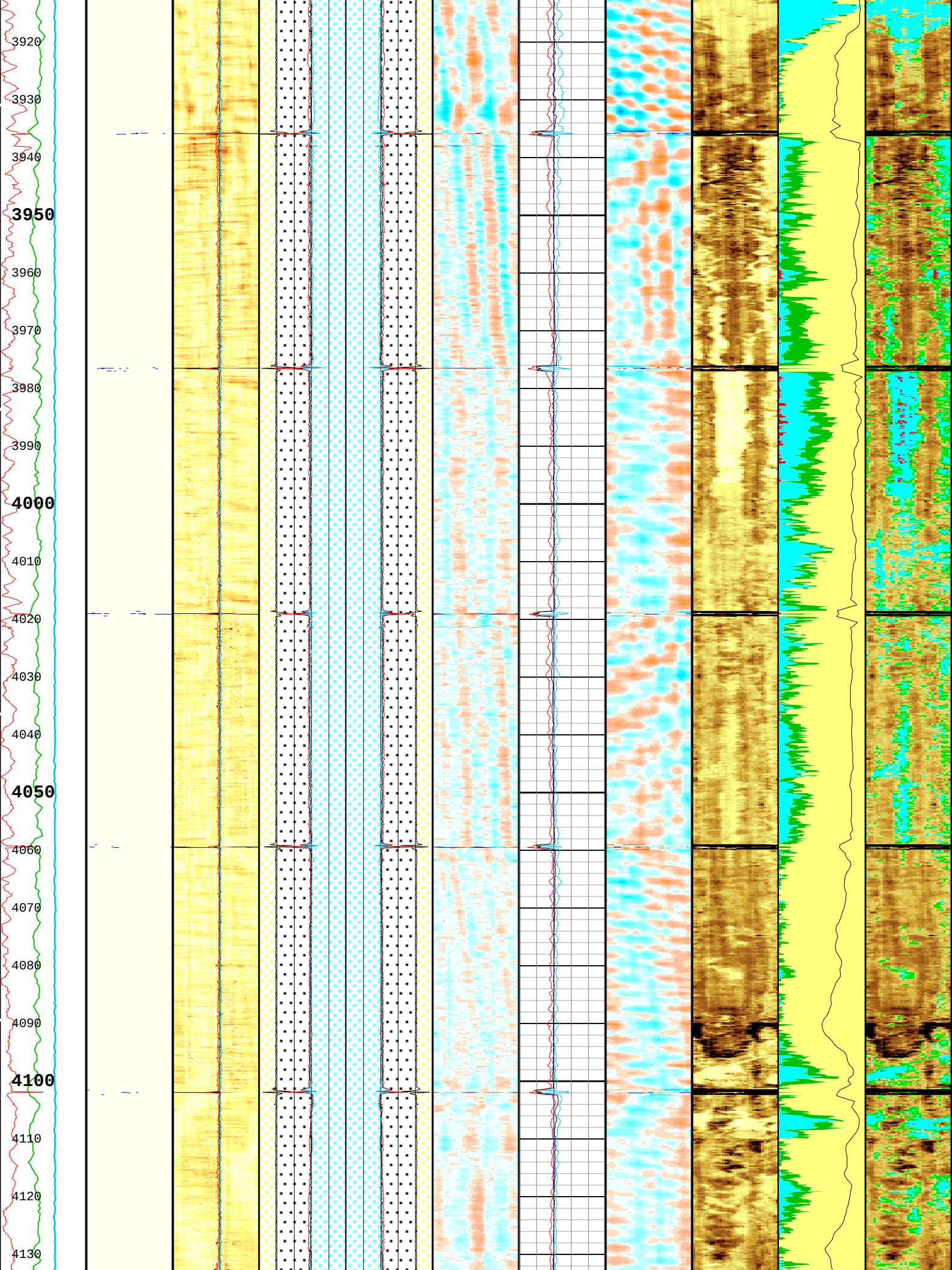
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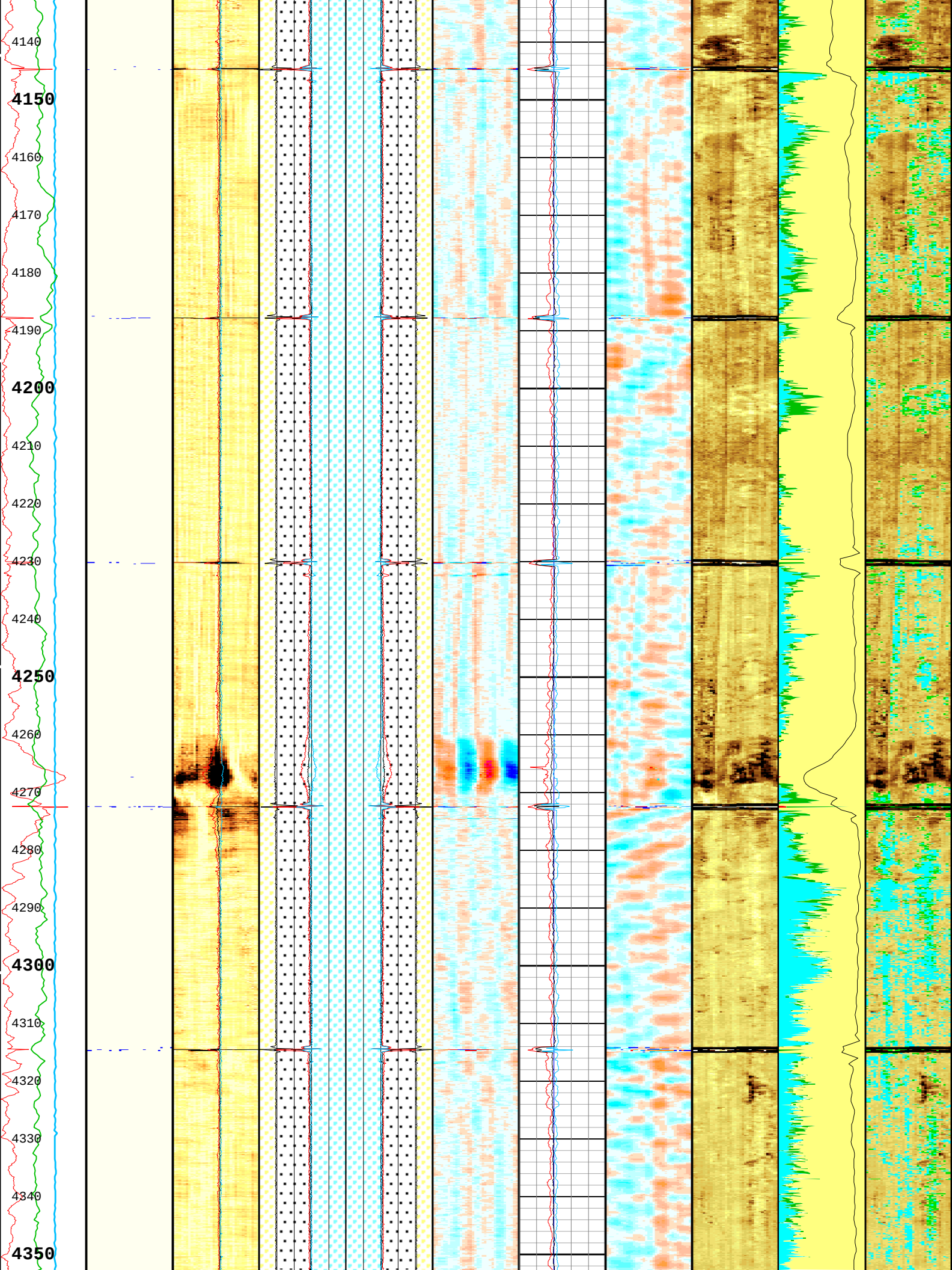
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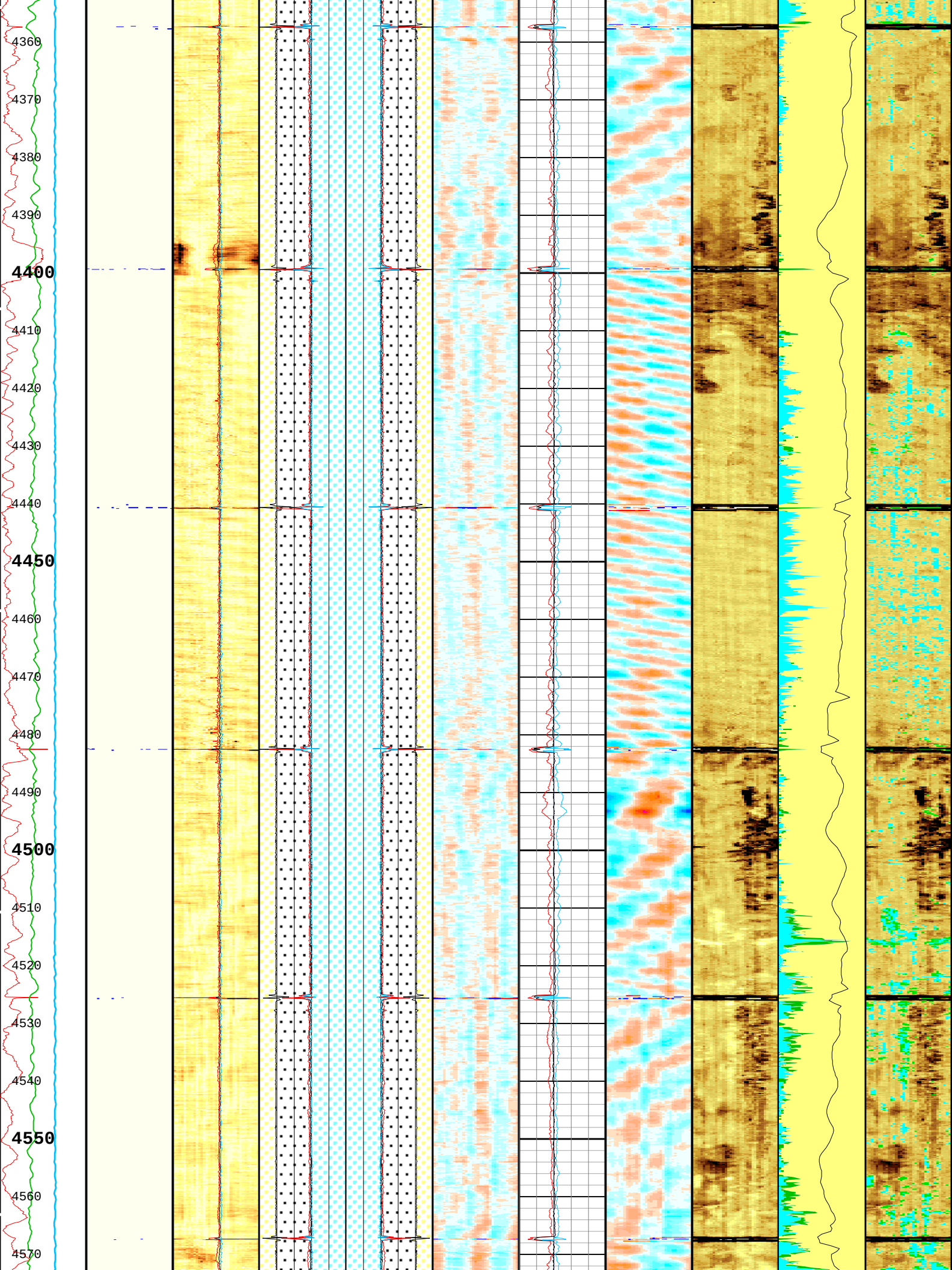
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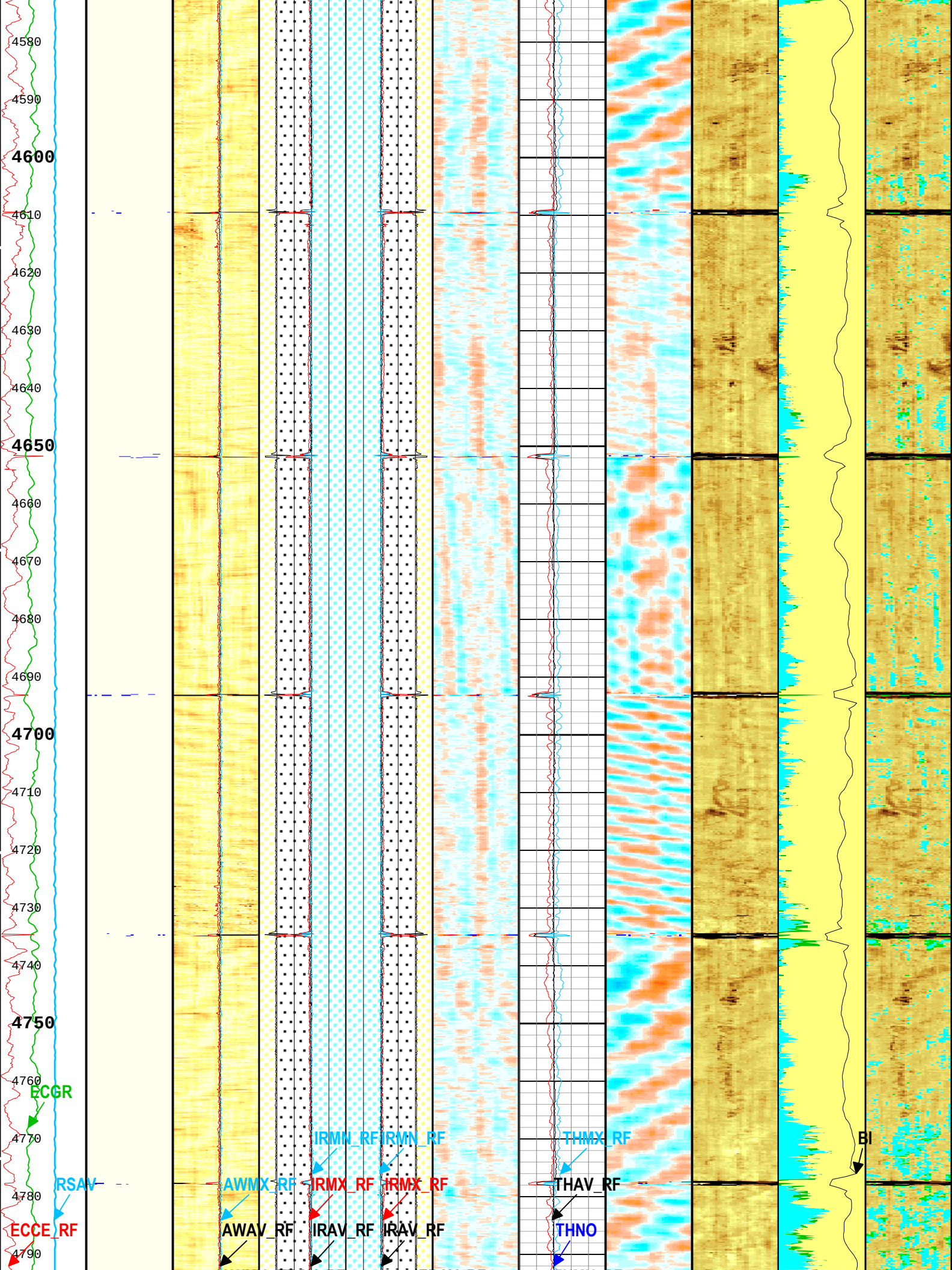
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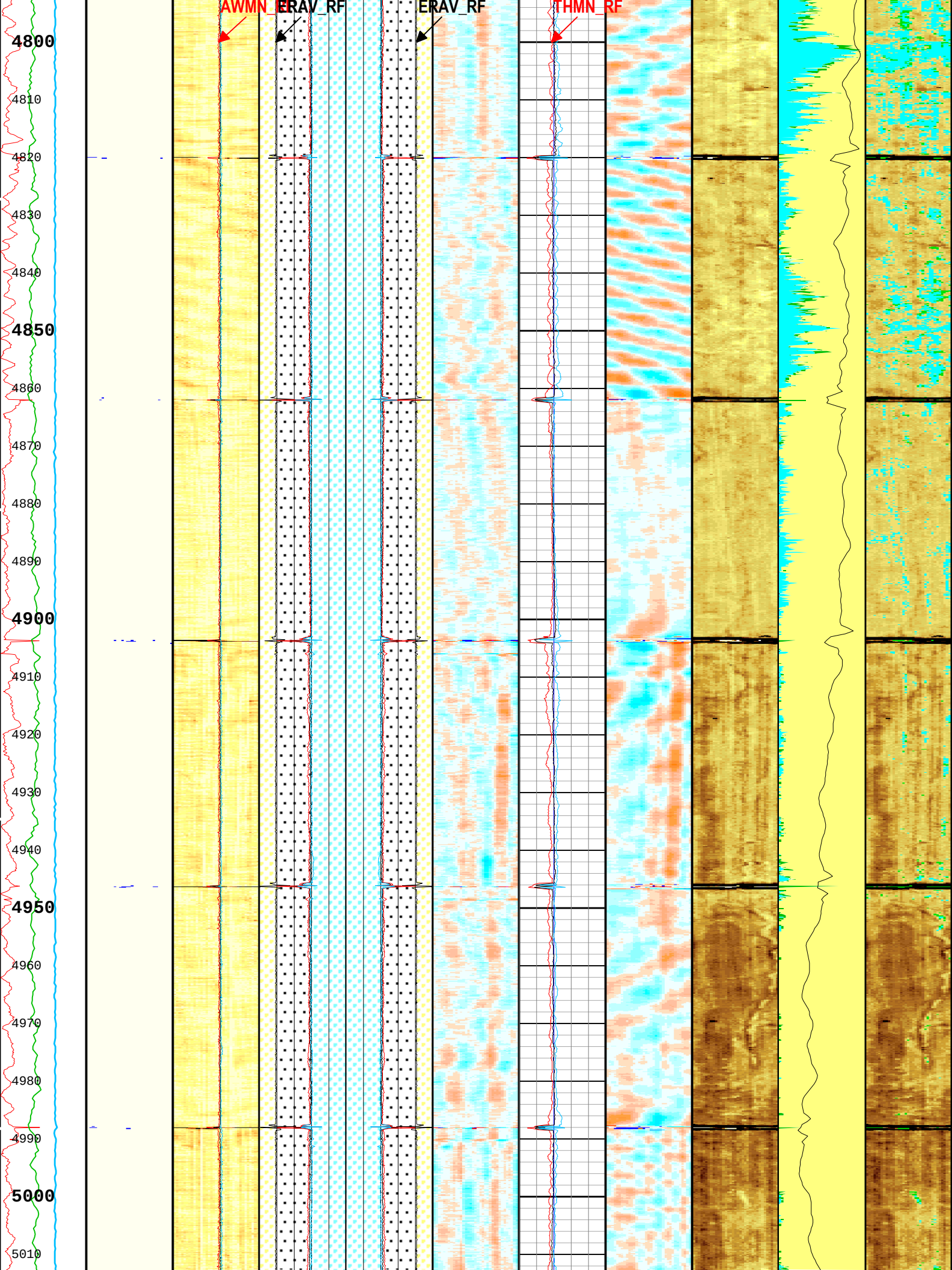
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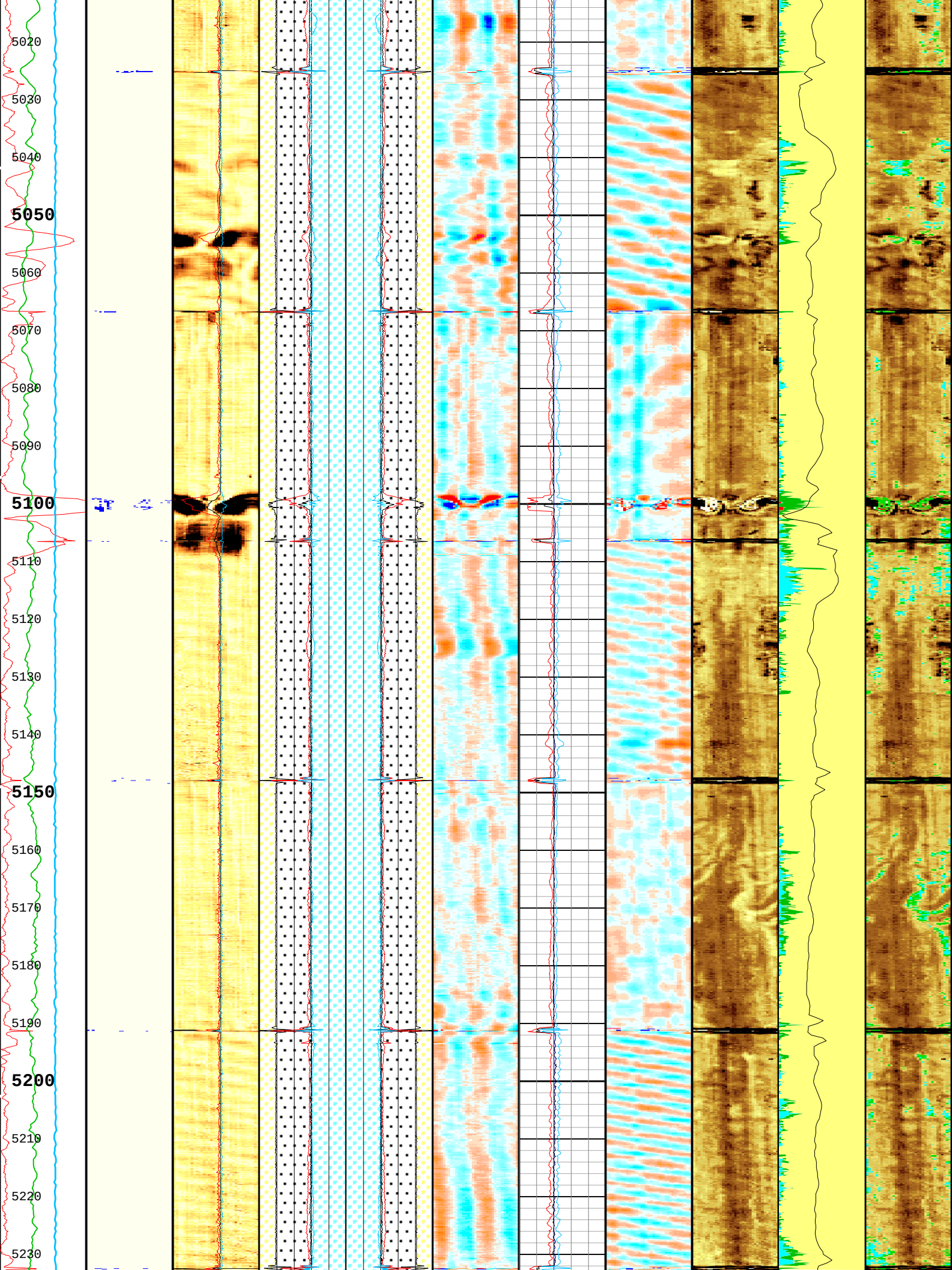
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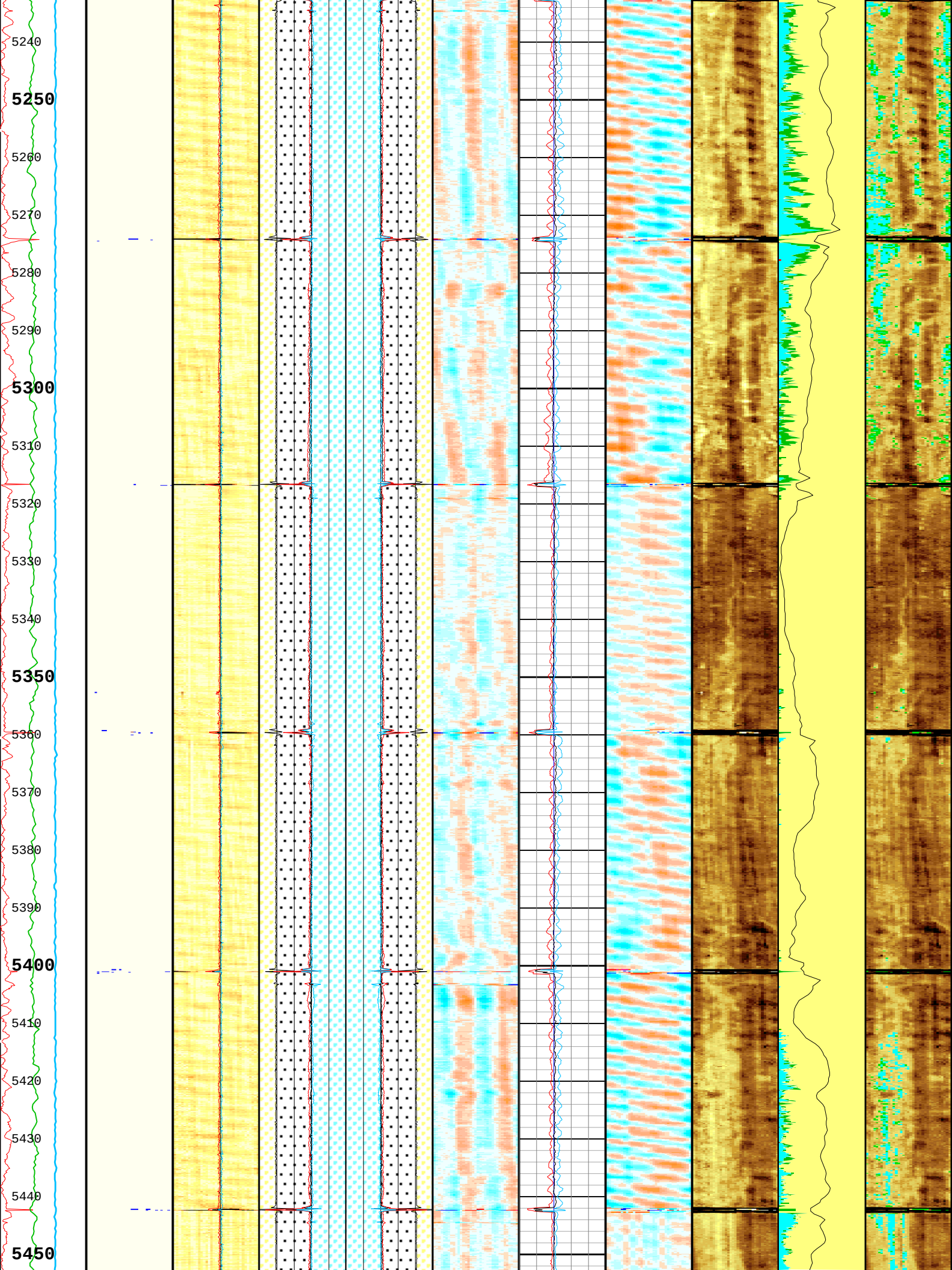
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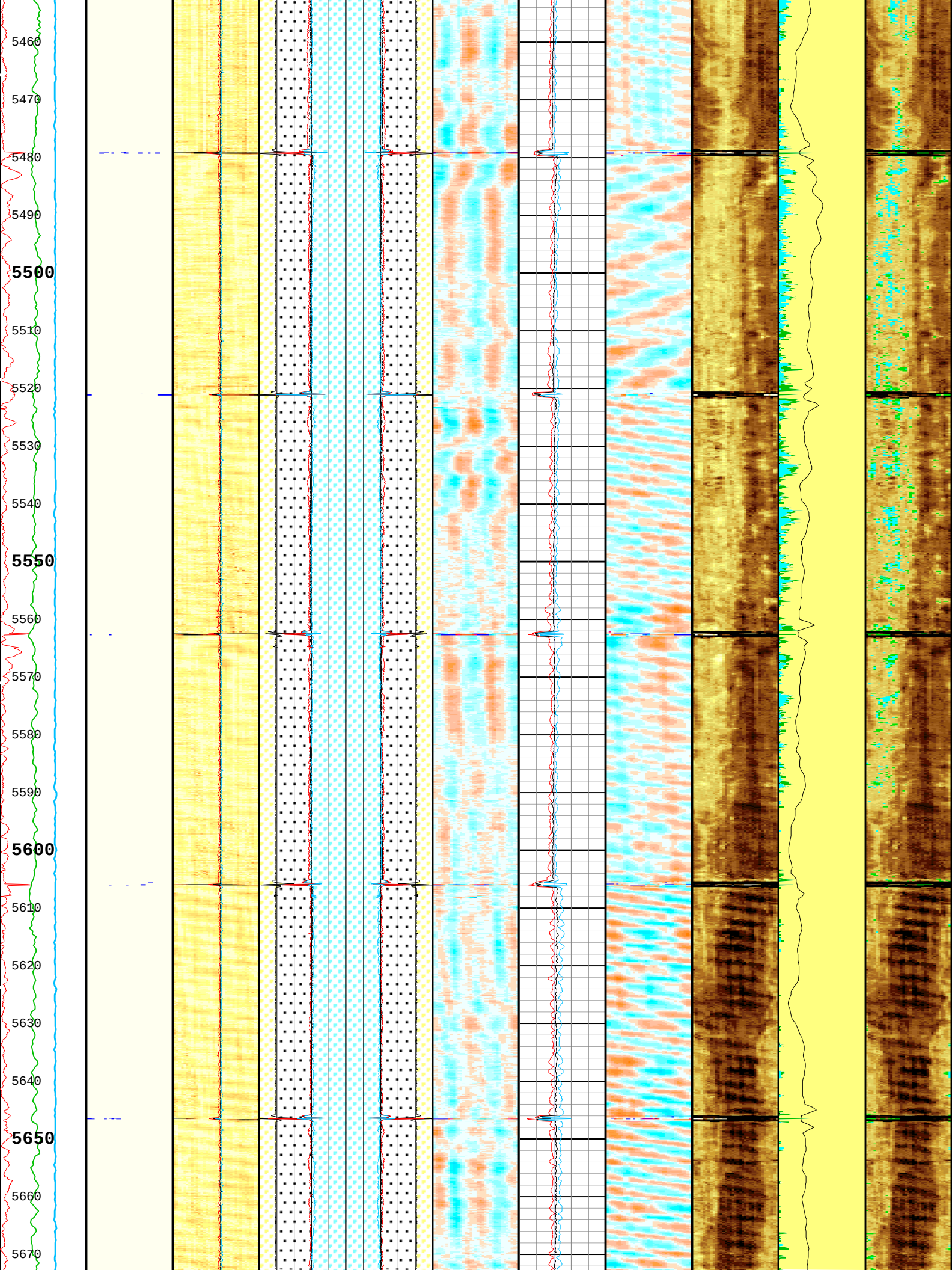
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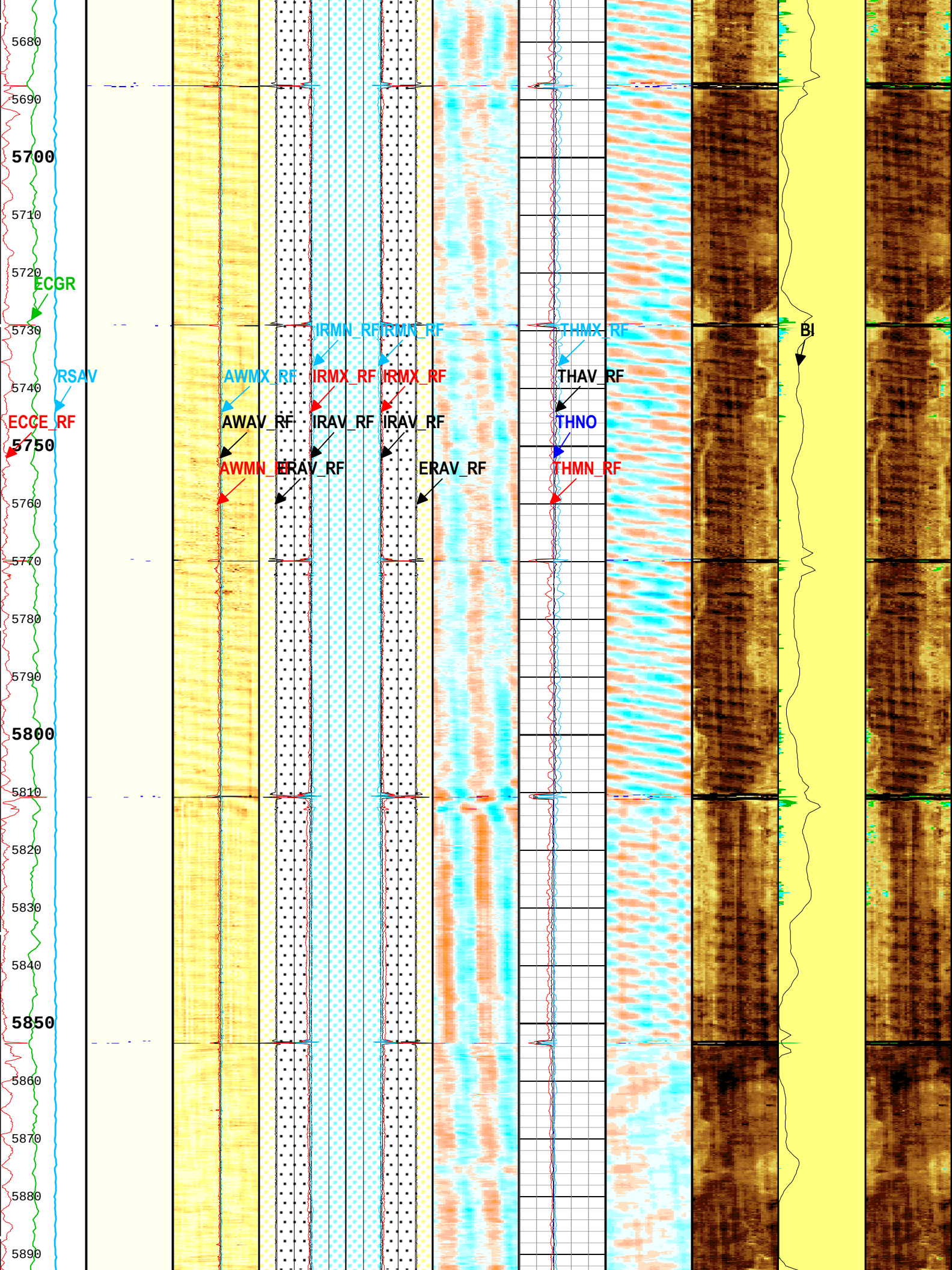
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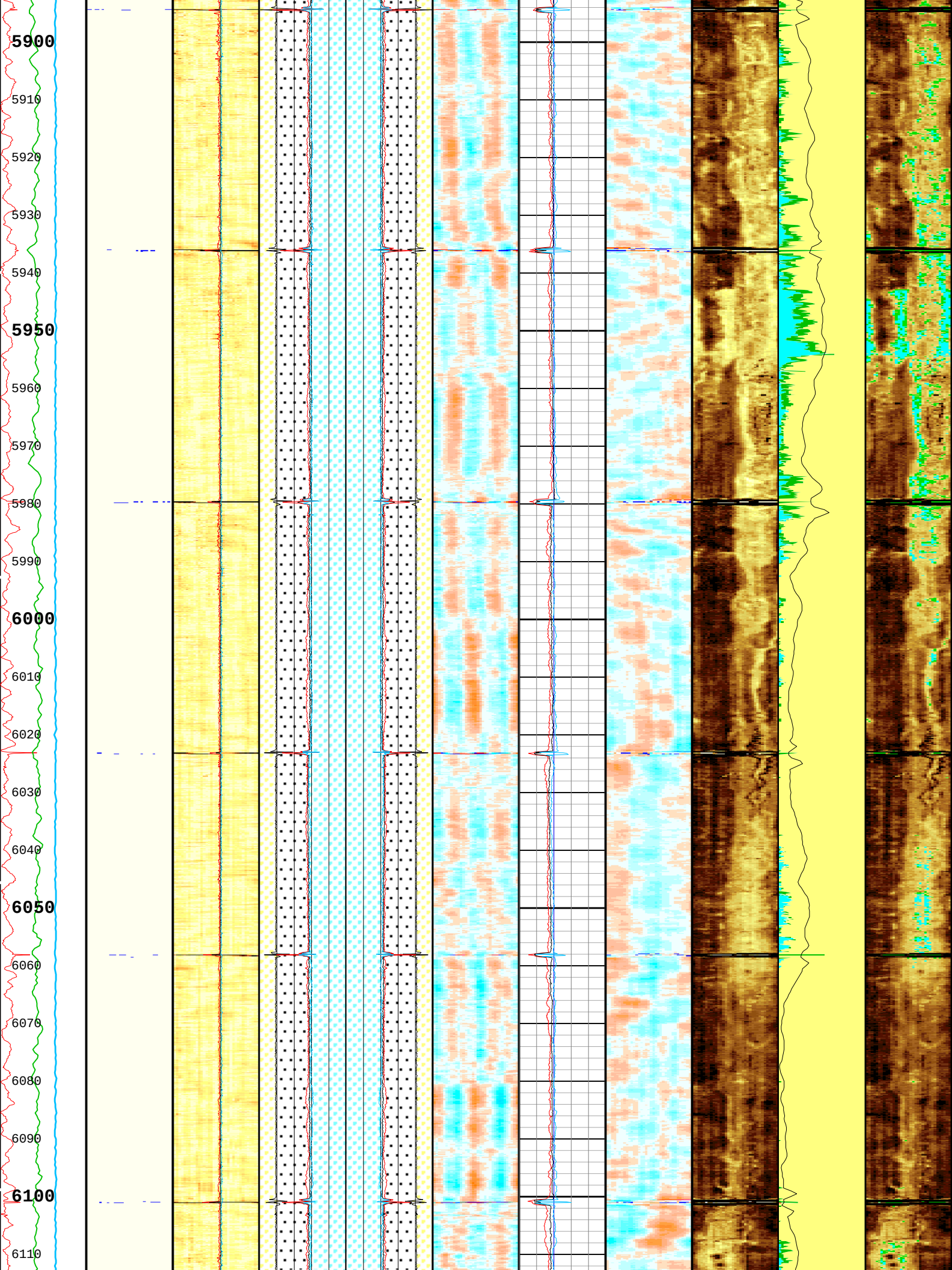
THMN_RF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6000
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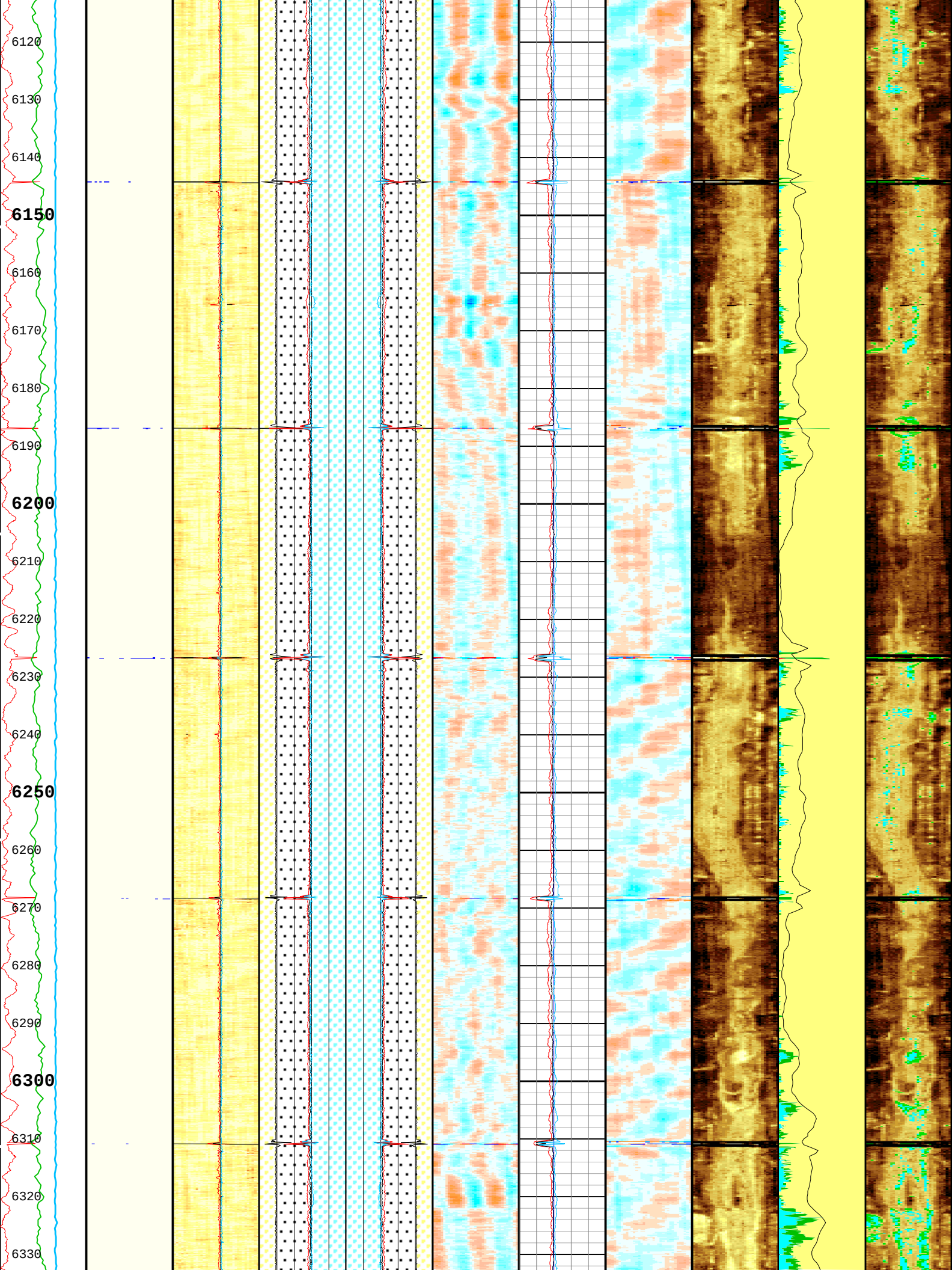
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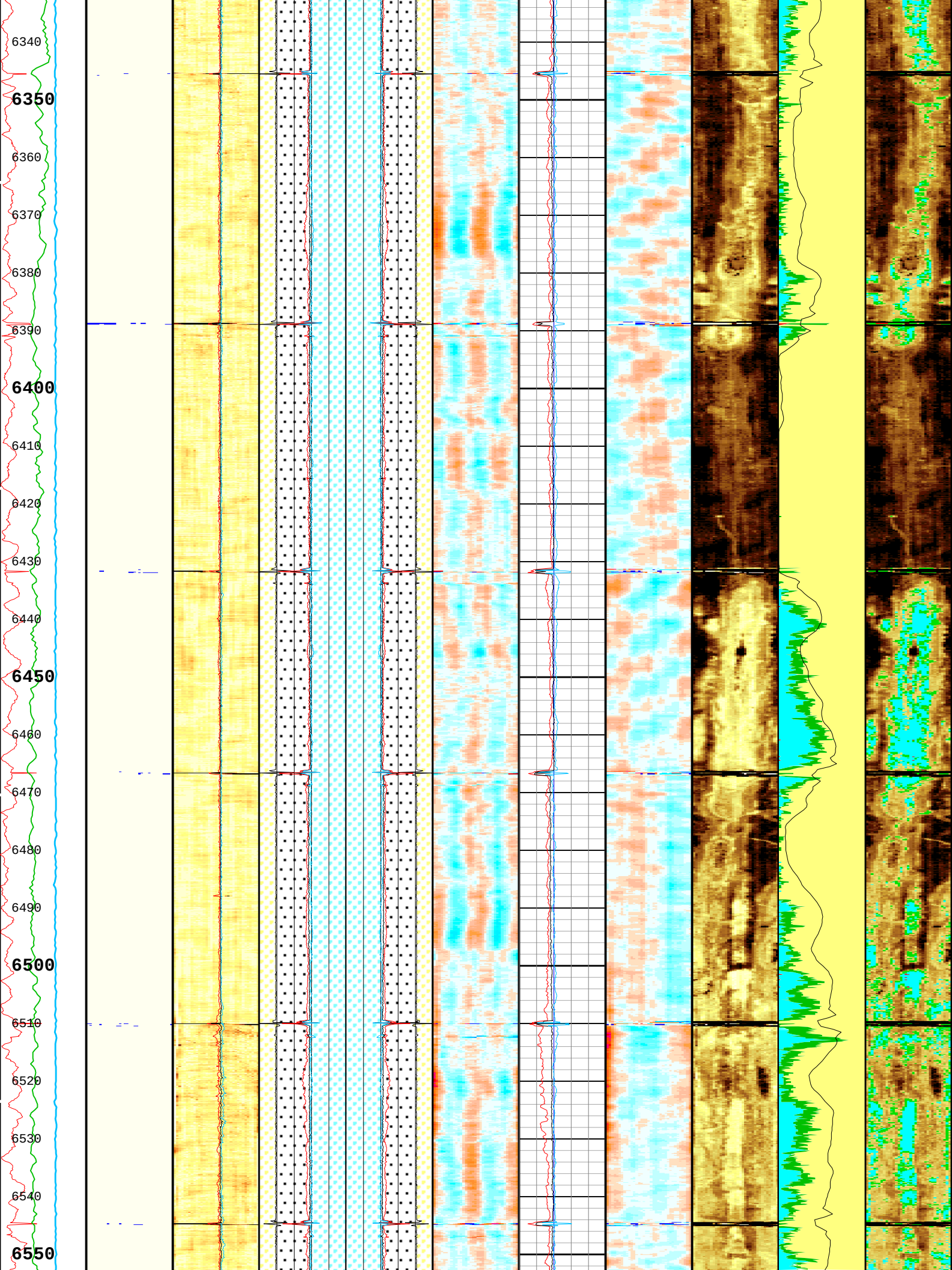
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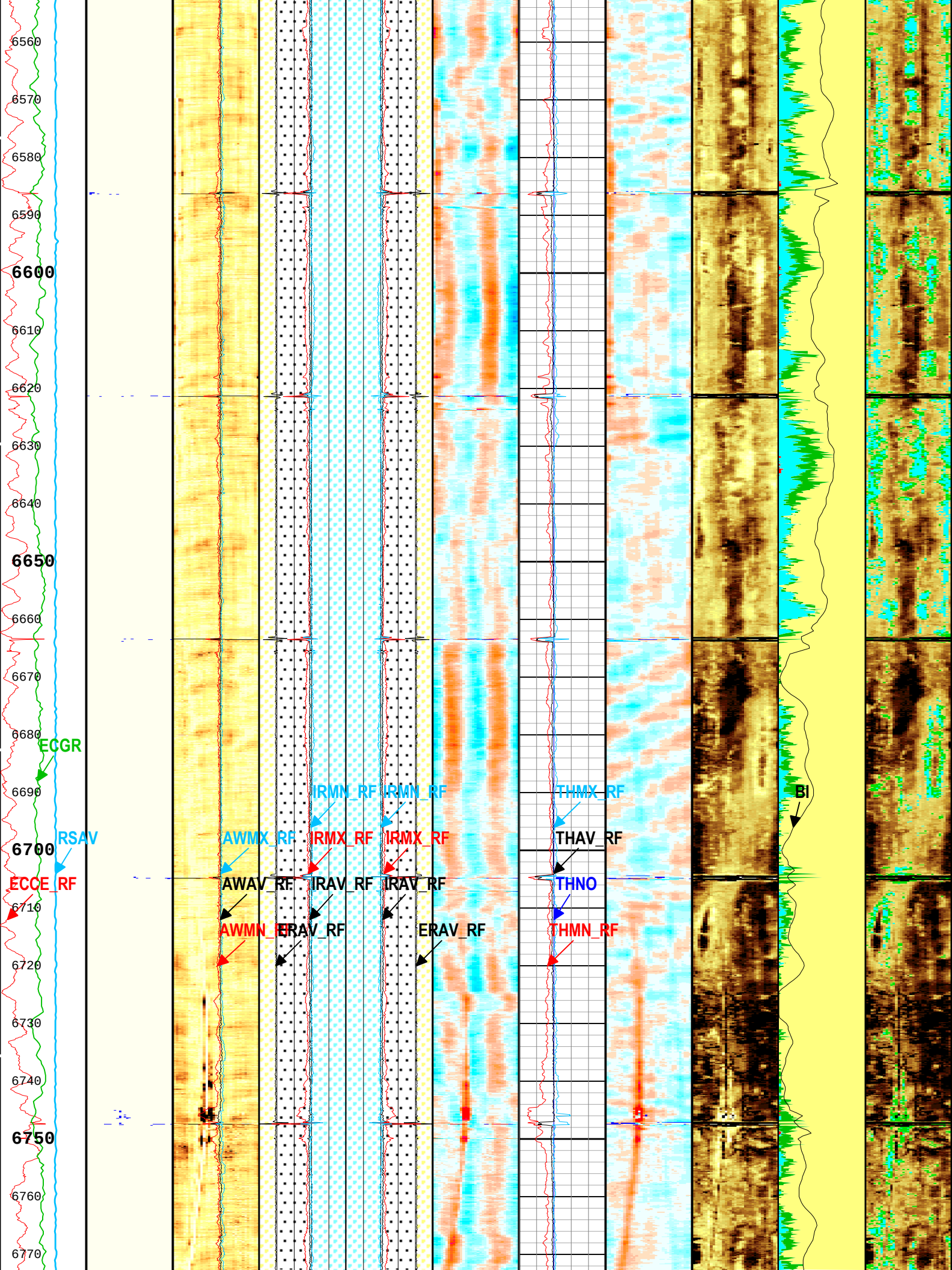
6550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6590
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6690
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6710
6720
6730
6740
6750
6760
6770
ECGR
RSAV
ECCE_RF
IRMN_RF
IRMN_RF
AWMX_RF
IRMX_RF
IRMX_RF
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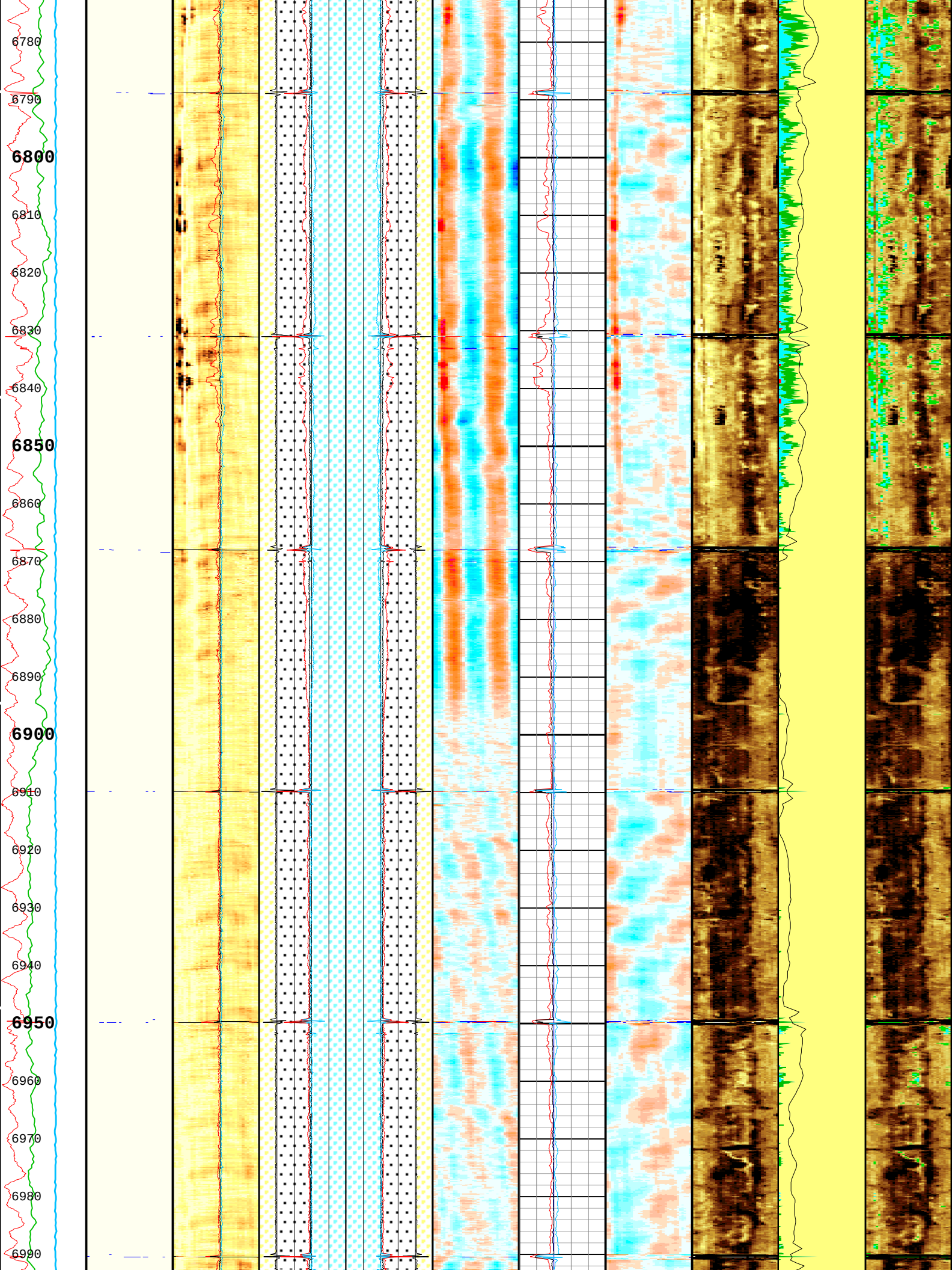
THAV_RF
THNO
THMN_RF
BI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6980
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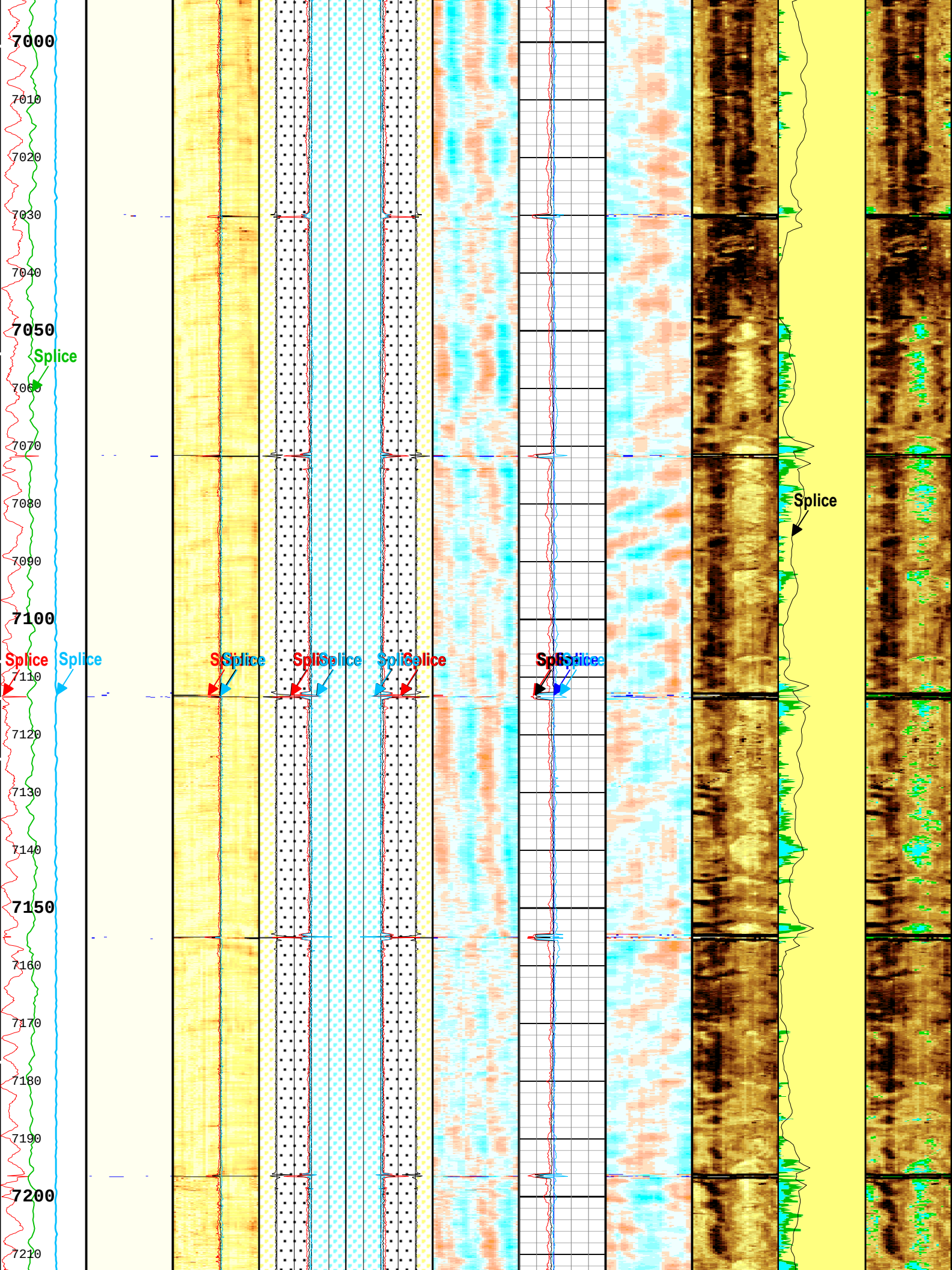
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7060
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7080
7090
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Splice
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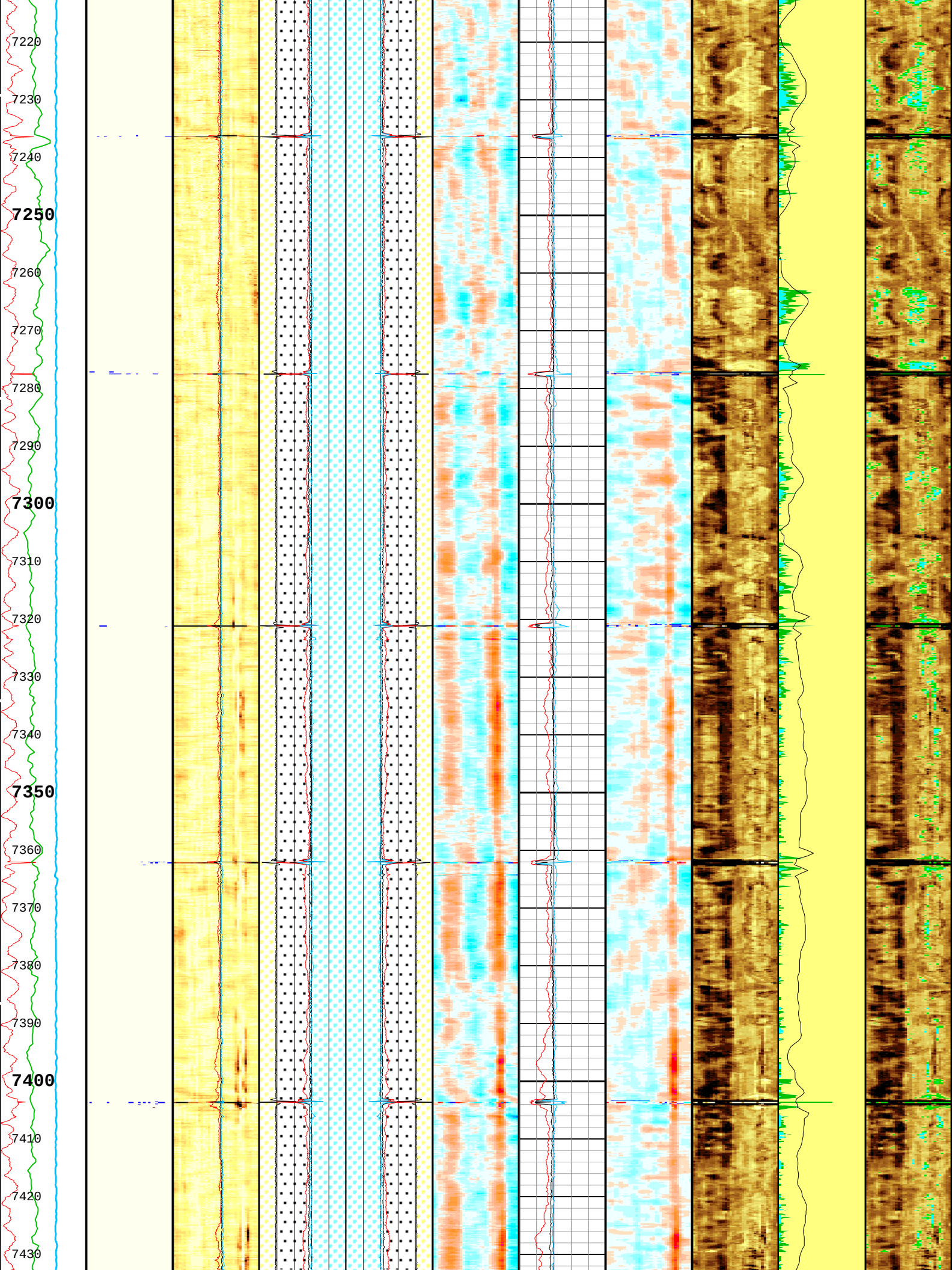
7170
7180
7190
7200
7210
Splice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7230
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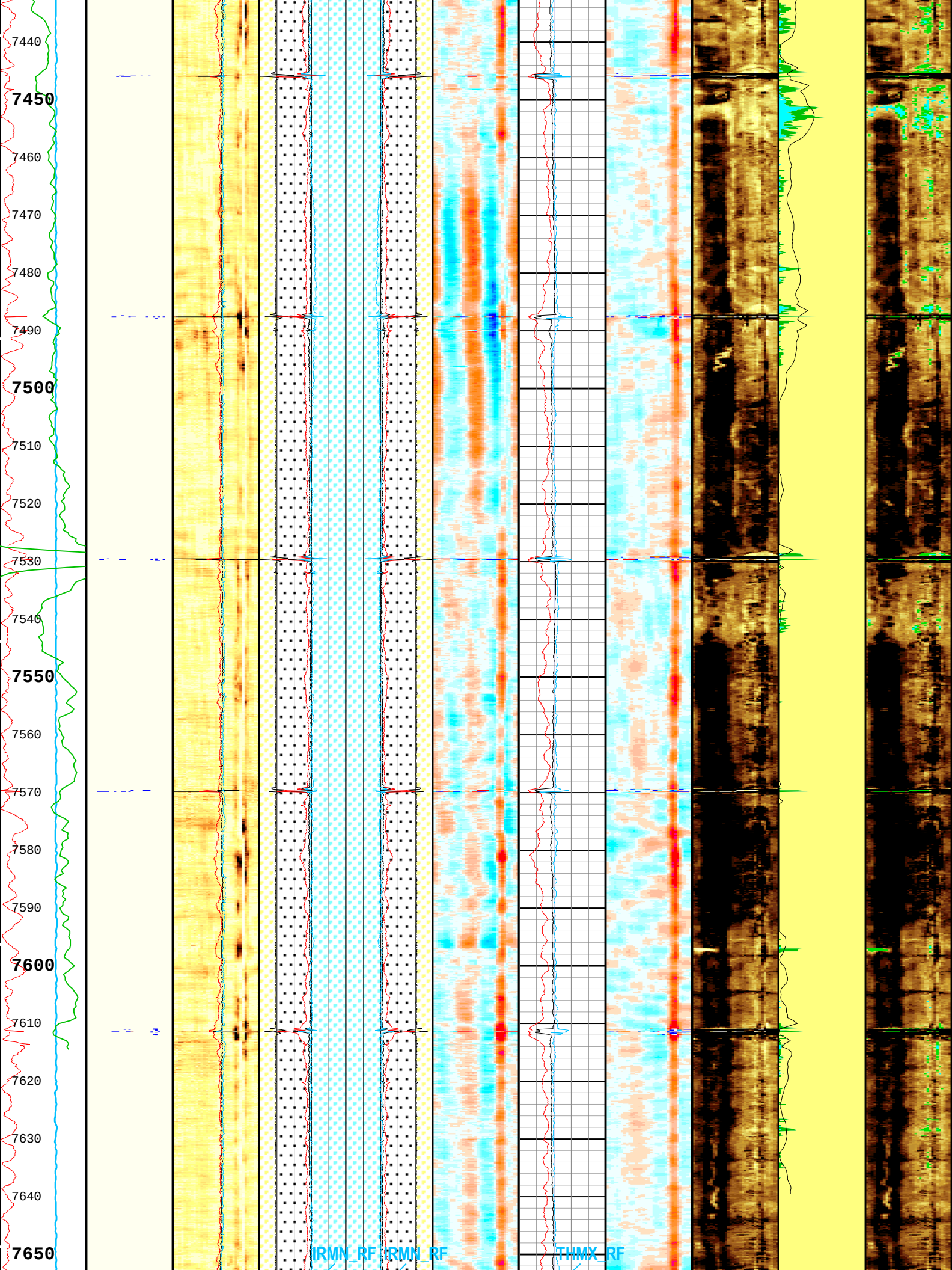
7410
7420
7430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7490
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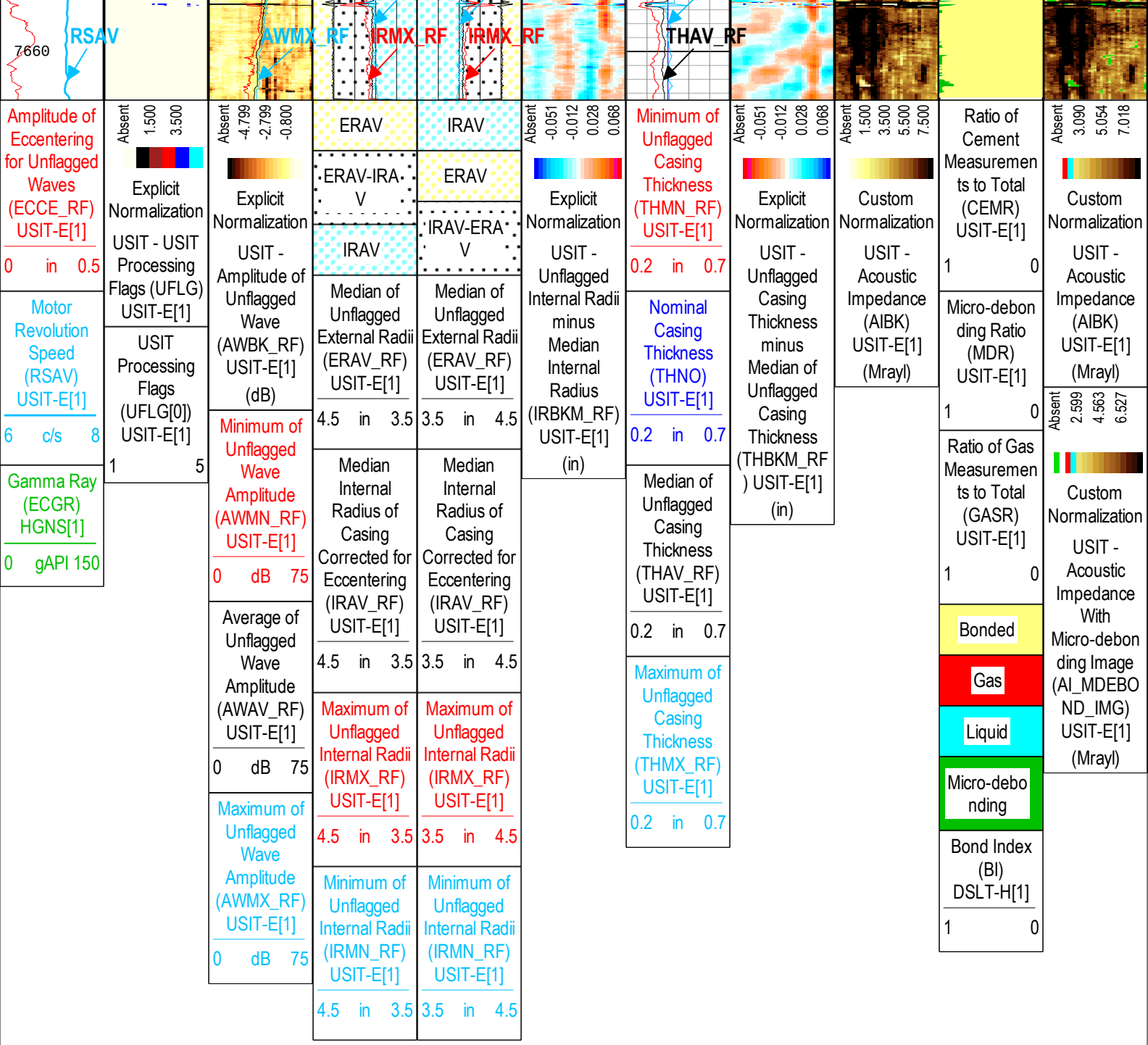
IRMN_RF
RMN_RF
THMX_RF



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] - :
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 Composite Format: Log (LBV1_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:15:08

Composite 1

Cement Log 2 IN = 100 FT

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[6]:Up	Up	7108.83 ft	7667.54 ft	10-Aug-2016	10-Aug-2016	ON	0.00 ft	Yes

					9:30:29 AM	9:42:55 AM			
Run 1	Log[7]:Up	Up	28.78 ft	7252.83 ft	10-Aug-2016 9:52:07 AM	10-Aug-2016 12:12:11 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

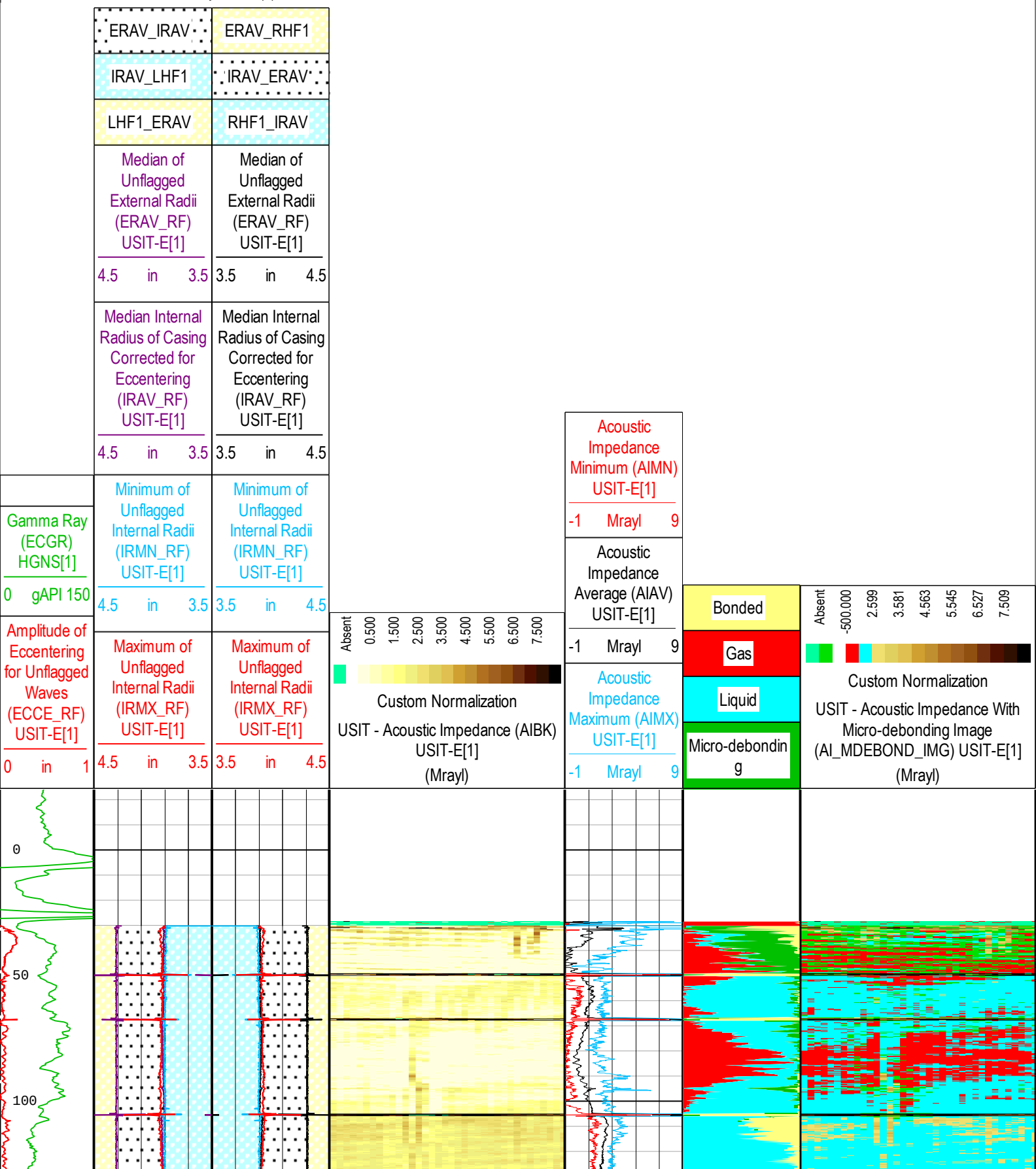
Log

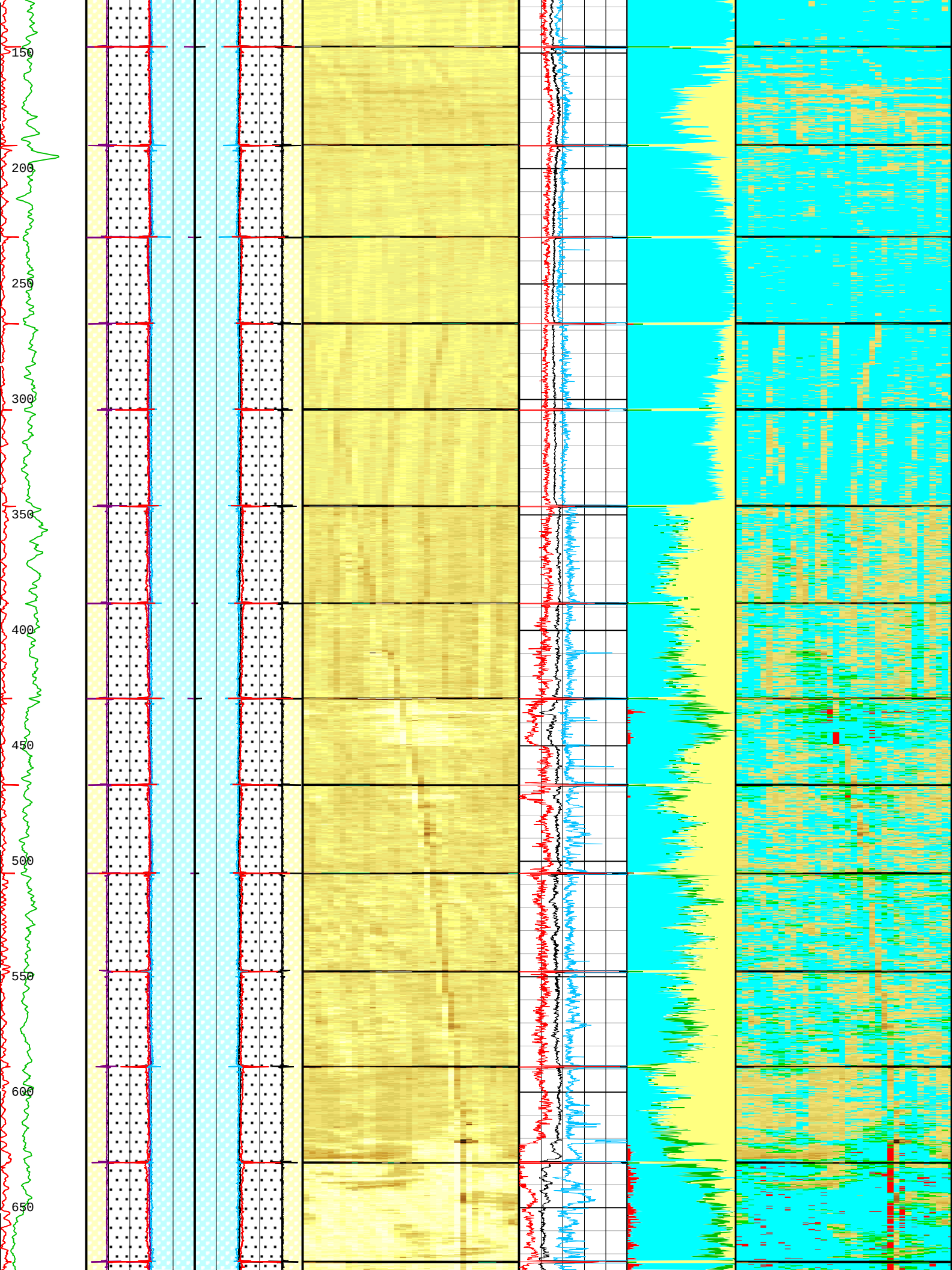
Company:Southern California Gas Company Well:Porter 26A

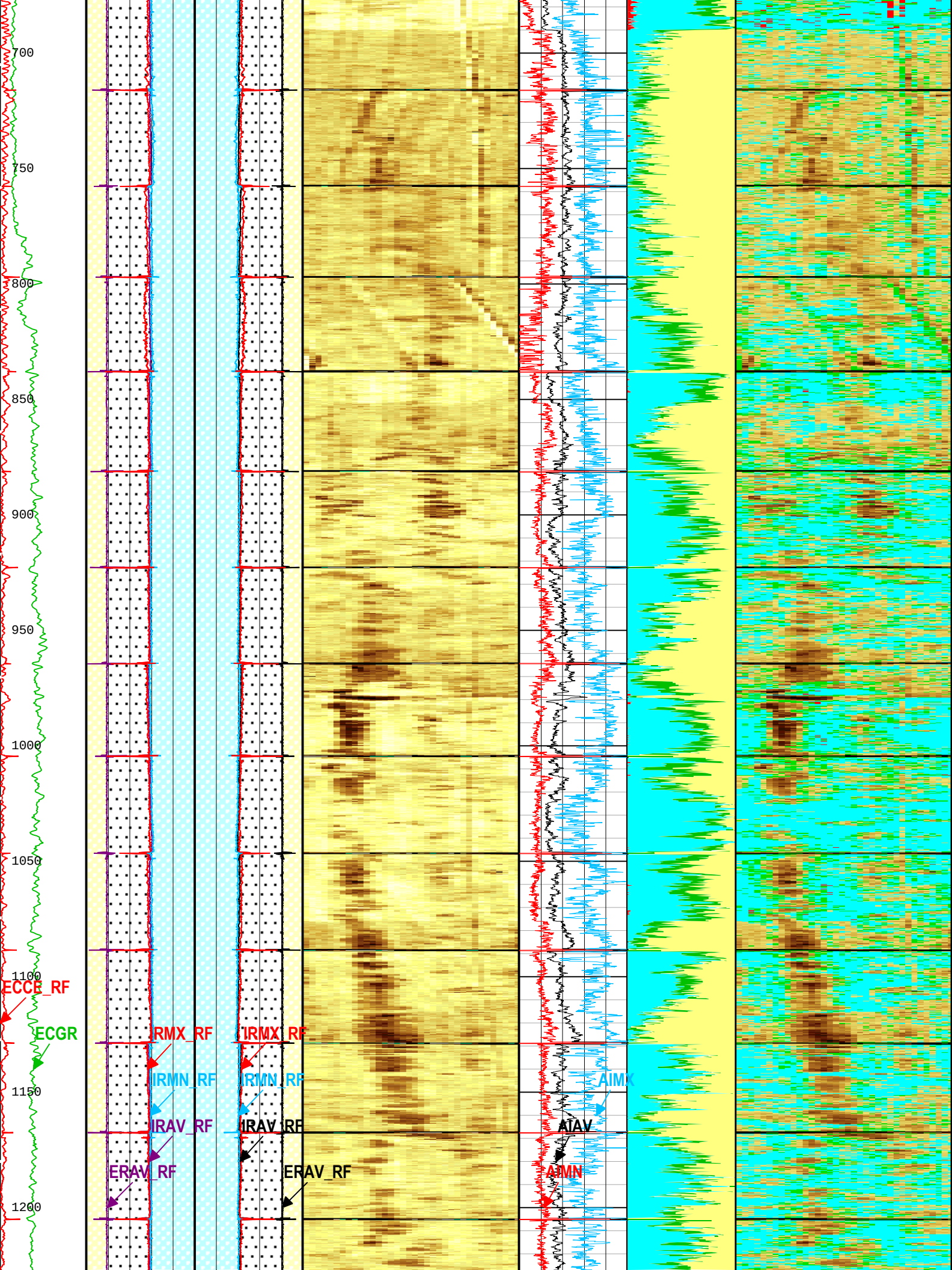
Composite 1:S003

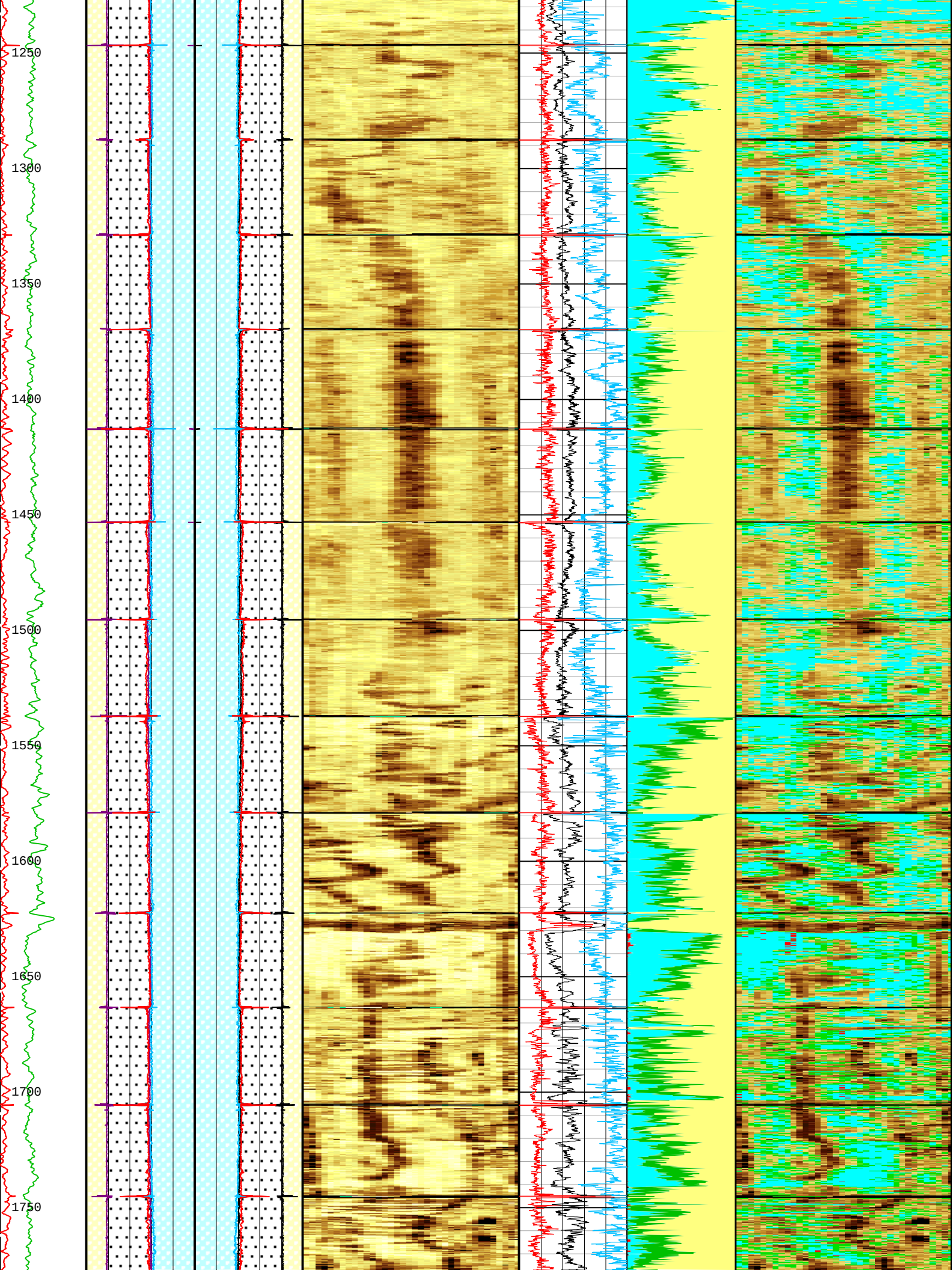
Description: USI Cement Format: Log (LBV1_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:15:29

TIME_1900 - Time Marked every 60.00 (s)




150
200
250
300
350
400
450
500
550
600
650


700
750
800
850
900
950
1000
1050
1100
1150
1200
ECCE_RF
ECGR
IRMX_RF
IRMX_RF
IRMN_RF
IRMN_RF
IRAV_RF
IRAV_RF
ERAV_RF
ERAV_RF
AIMX
AIAV
AIMN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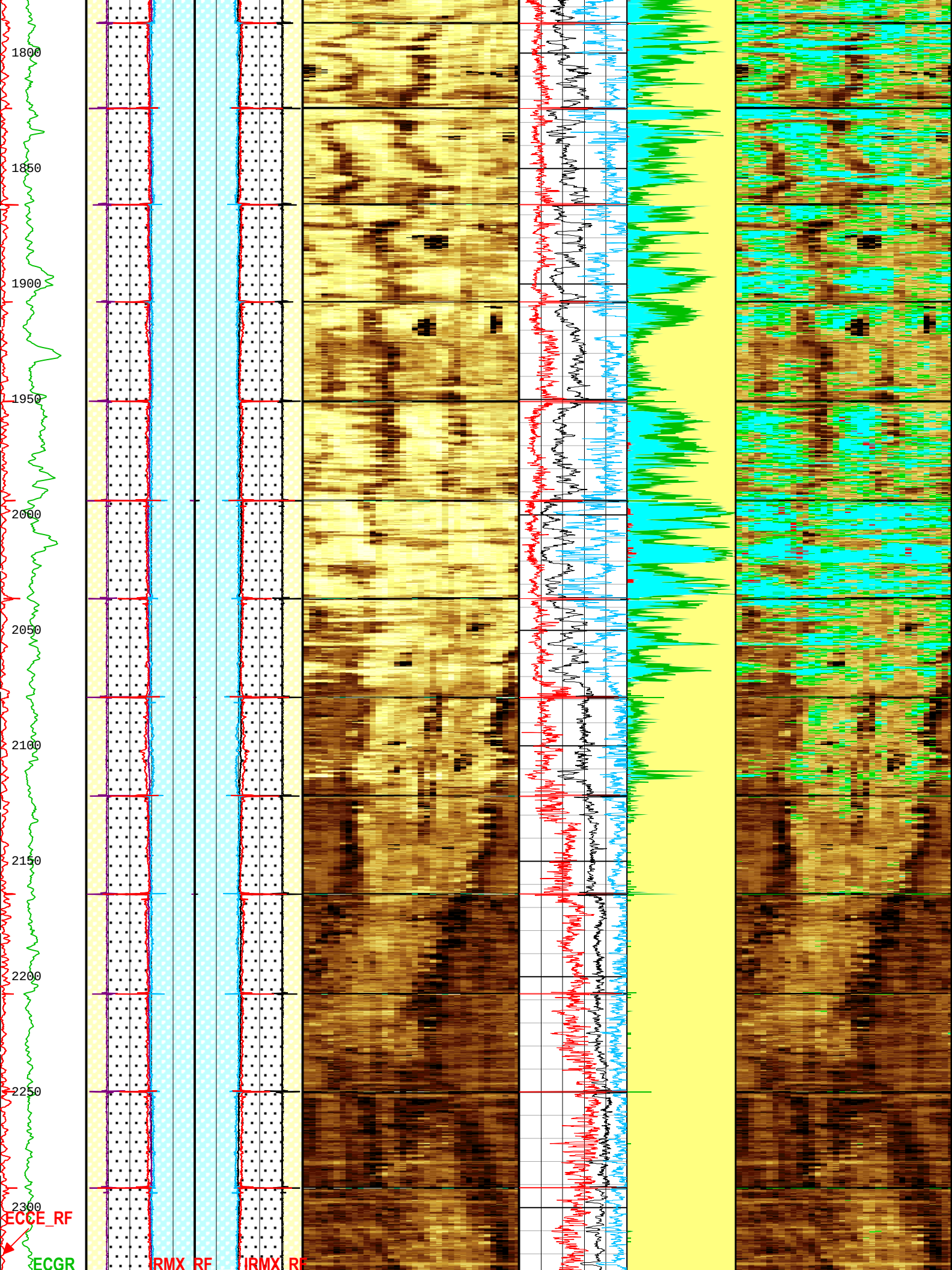
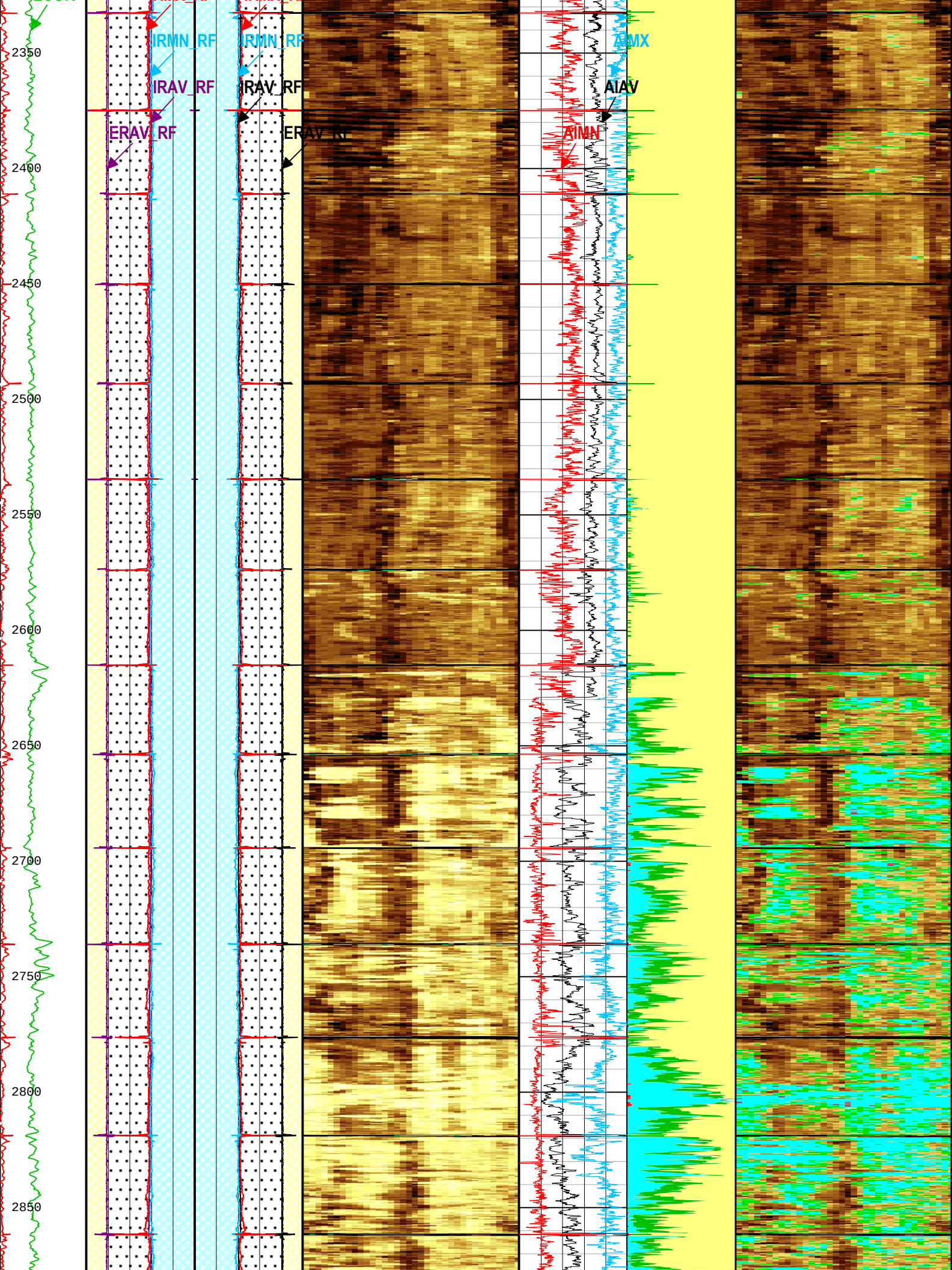
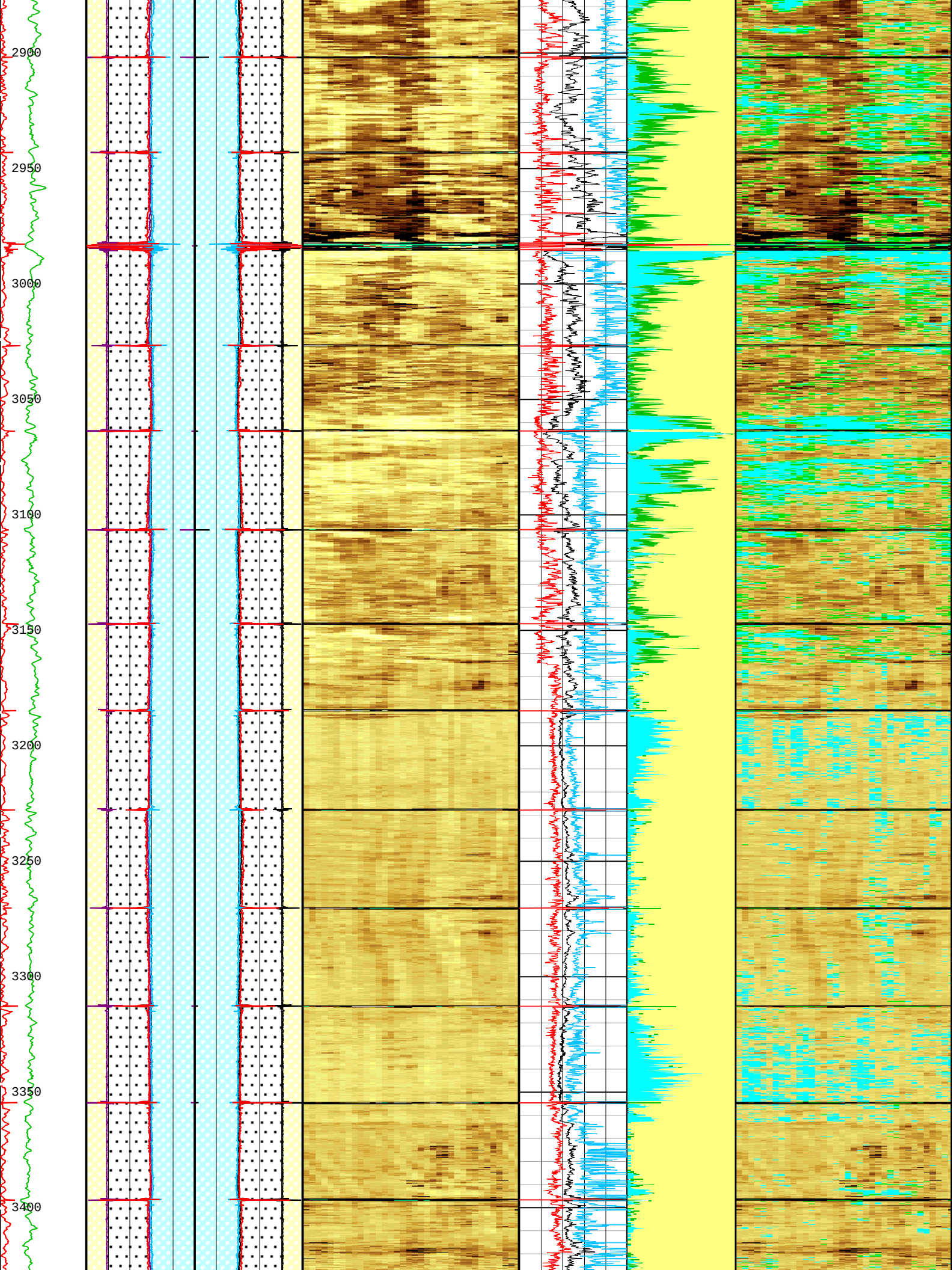
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750


1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
ECCE_RF
ECGR
RMX_RF
IRMX_RF


IRMN_RF
IRMN_RF
AIMX
IRAV_RF
IRAV_RF
AIAV
ERAV_RF
ERAV_RF
AIMN
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850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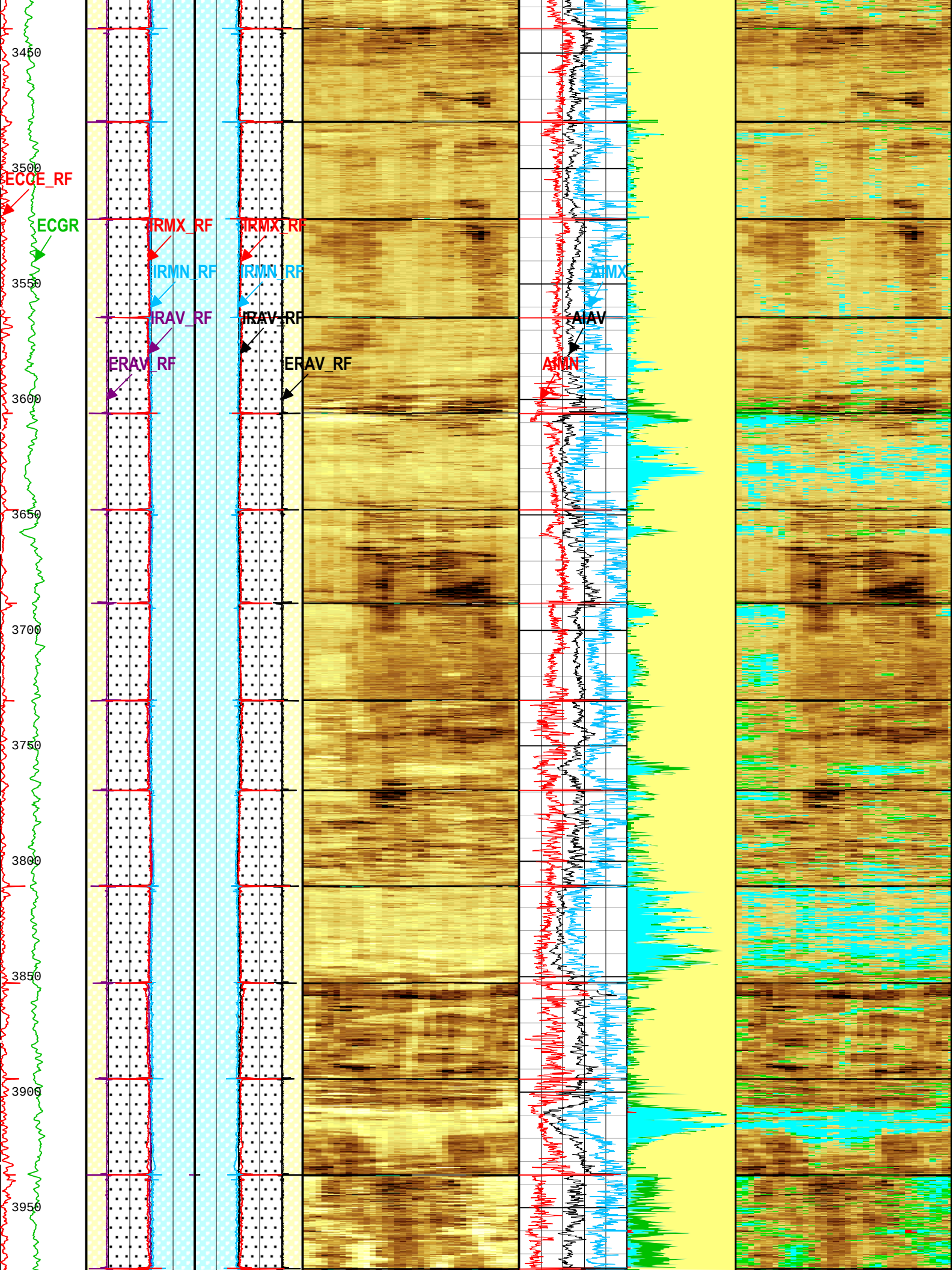
2950
3000
3050
3100
3150
3200
3250
3300
3350
3400


3450
3500
3550
3600
3650
3700
3750
3800
3850
3900
3950
ECCE_RF
ECGR
IRMX_RF
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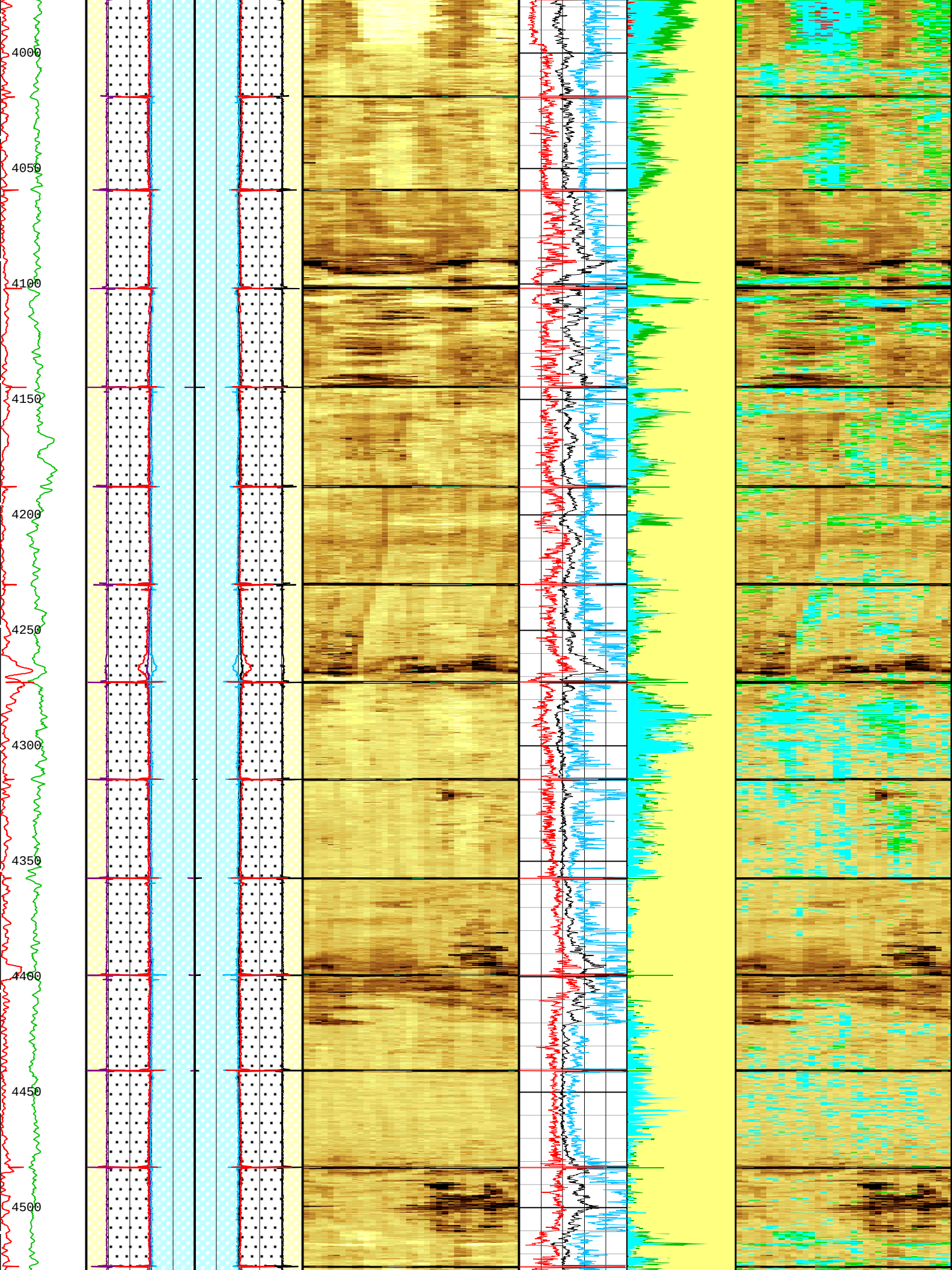
ERAV_RF
AIMX
AIAV
AIMN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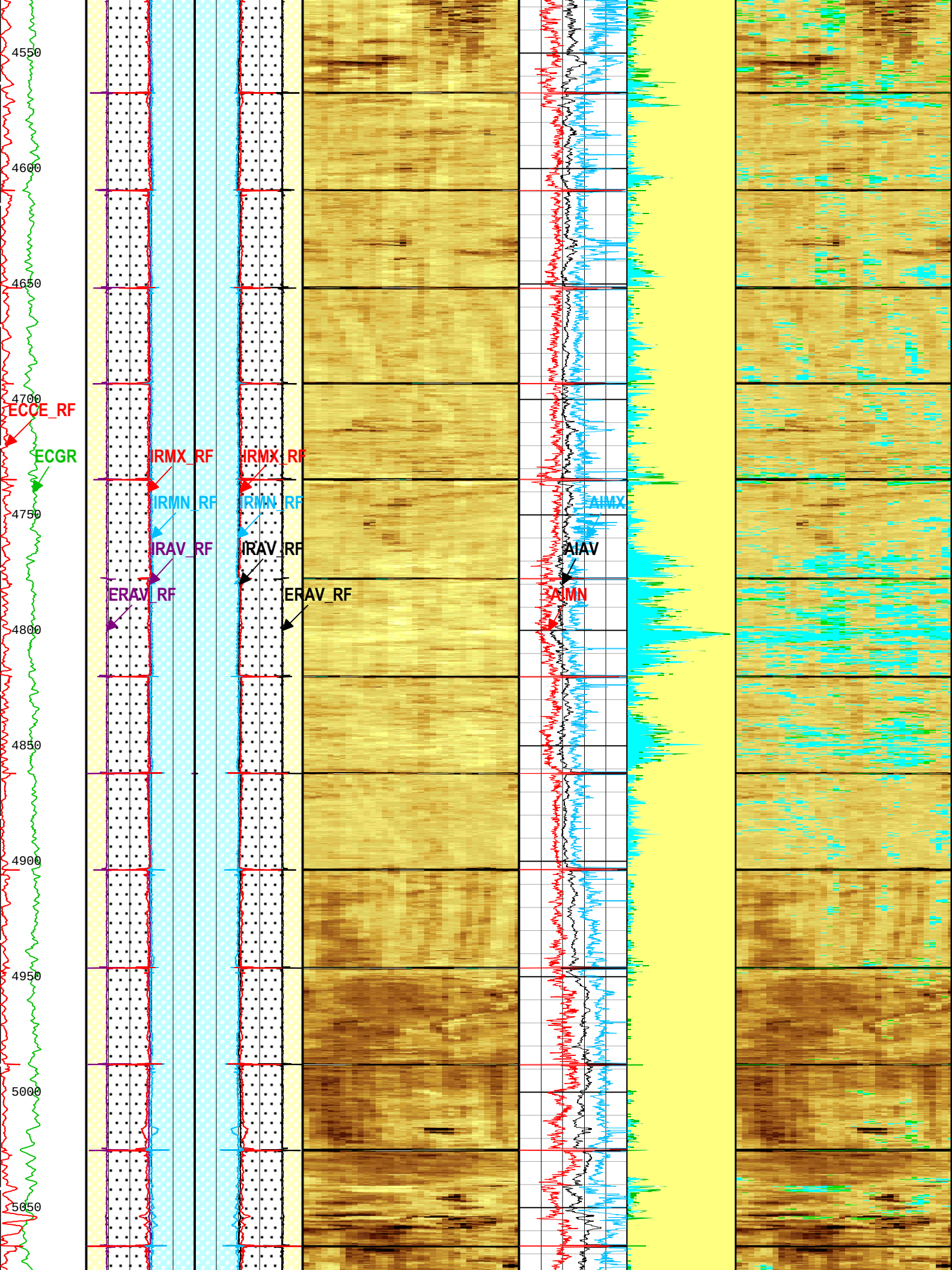
4050
4100
4150
4200
4250
4300
4350
4400
4450
4500


4550
4600
4650
4700
4750
4800
4850
4900
4950
5000
5050
ECCE_RF
ECGR
IRMX_RF
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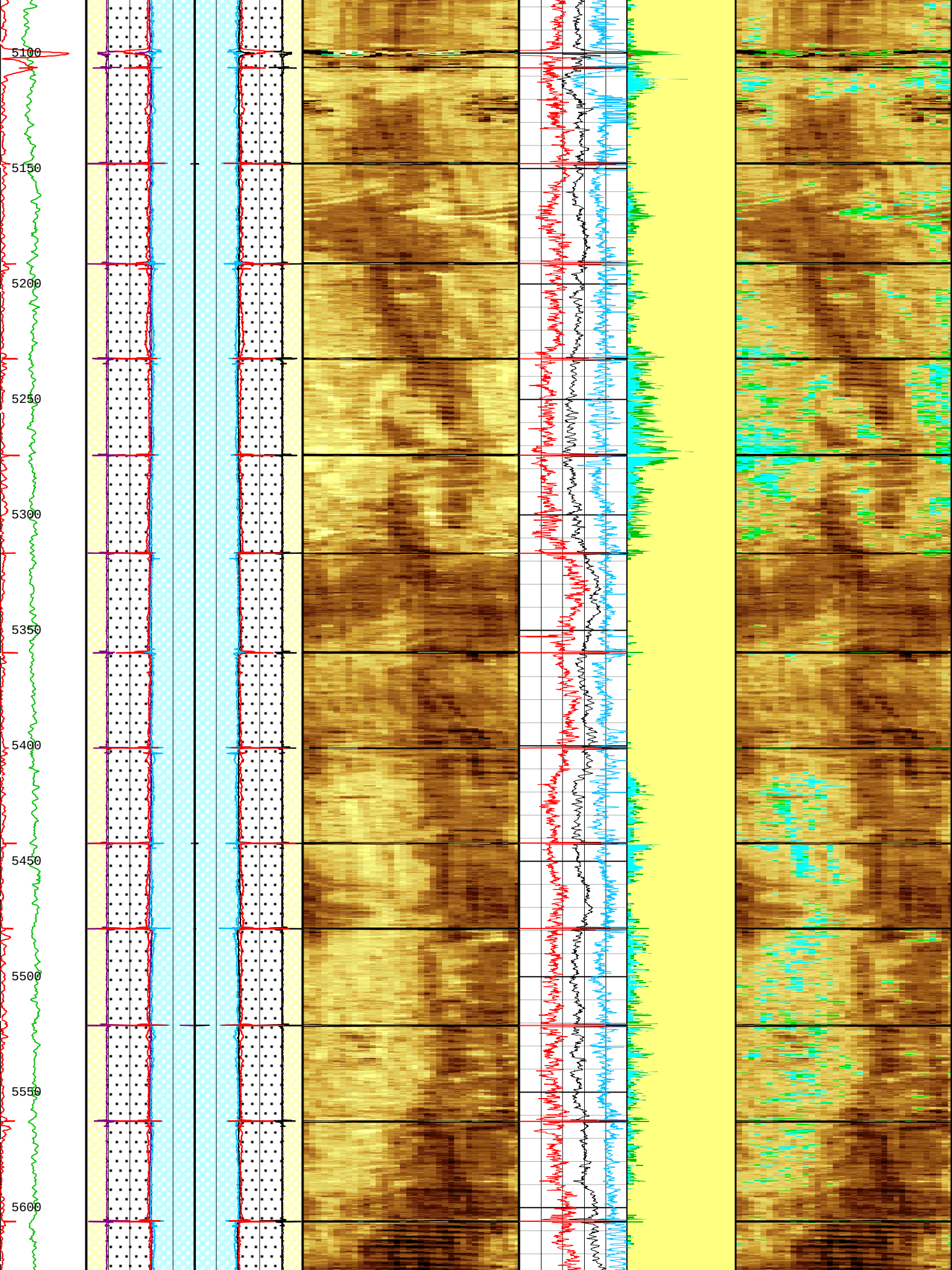
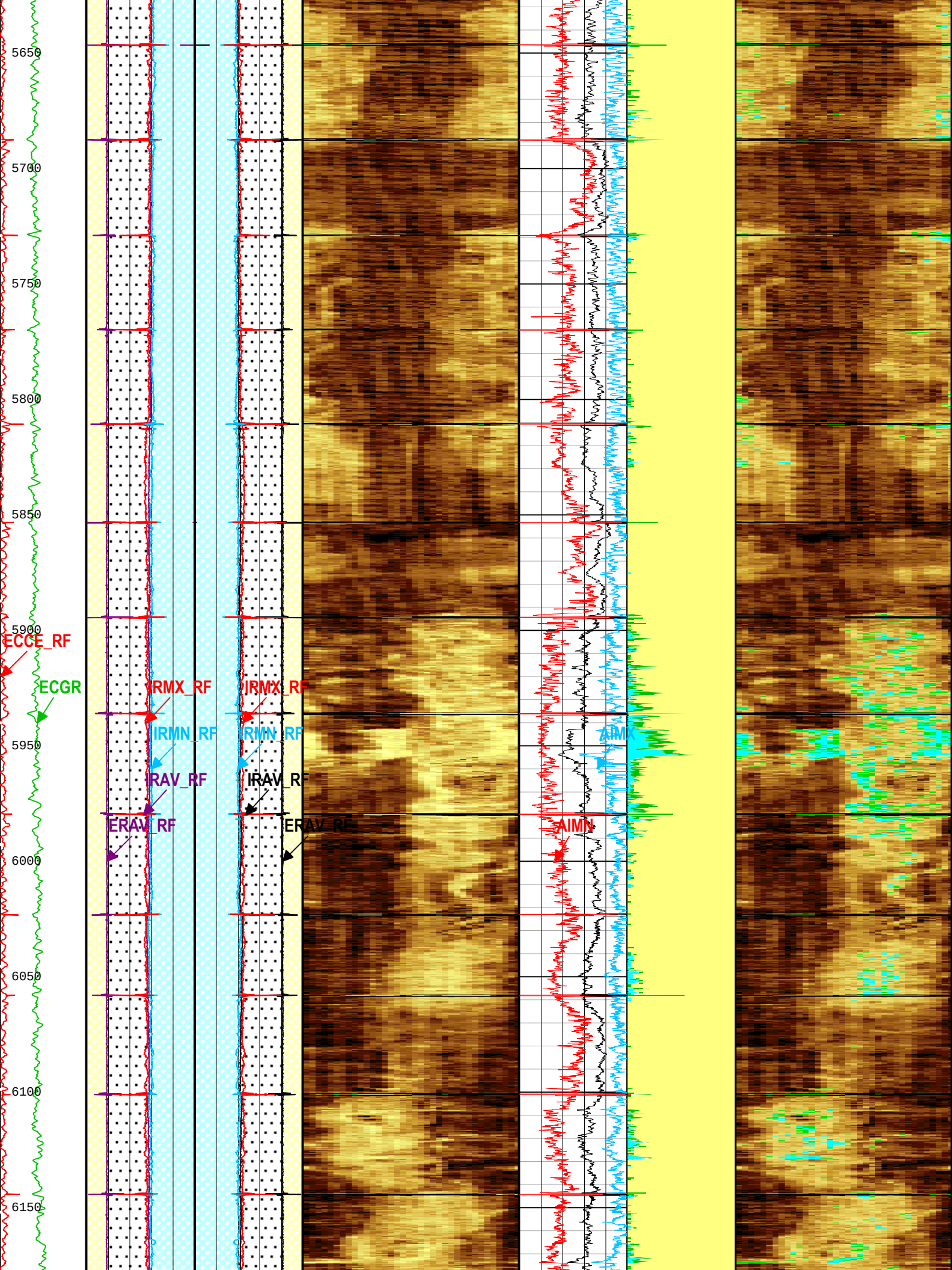
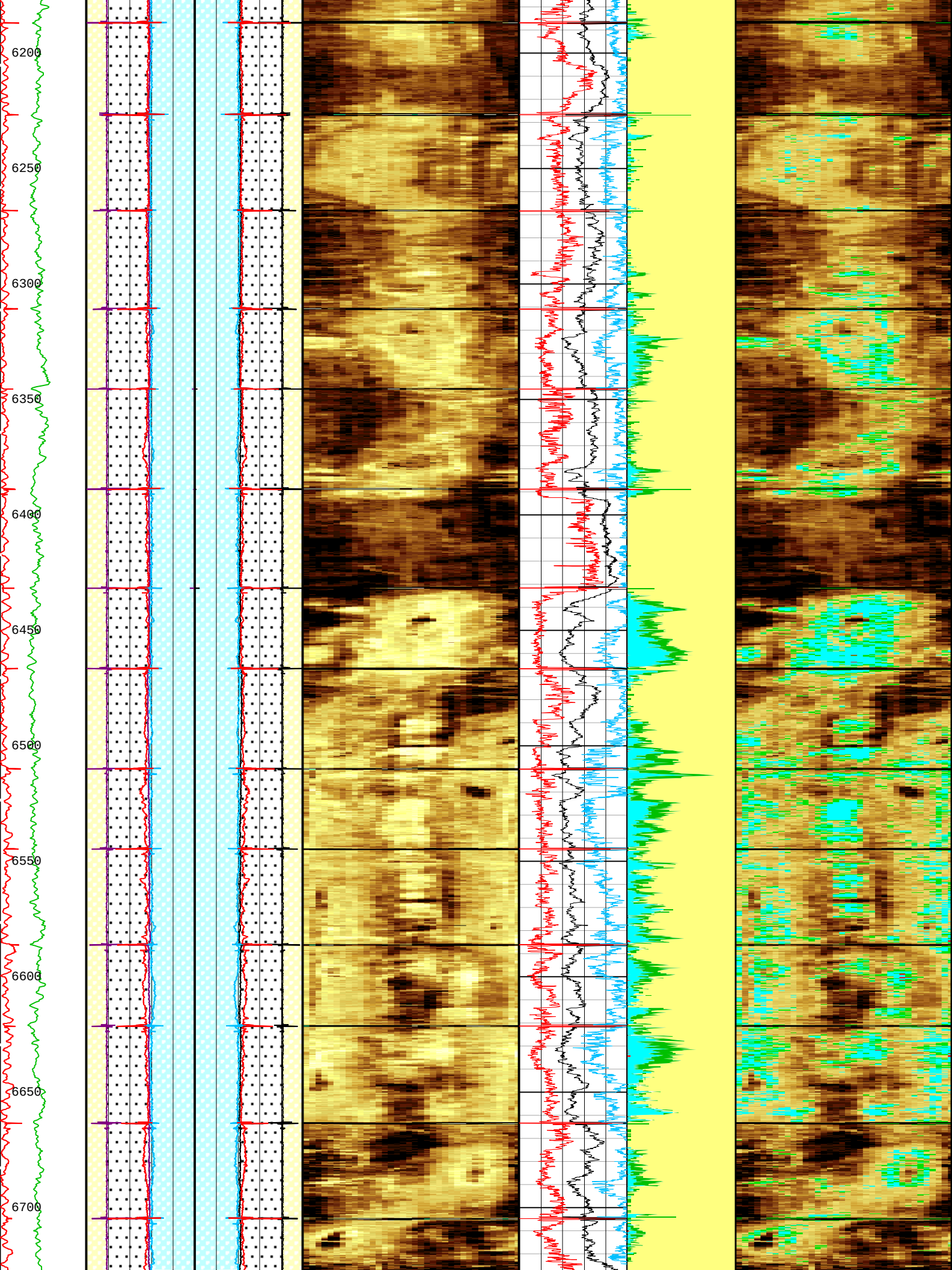
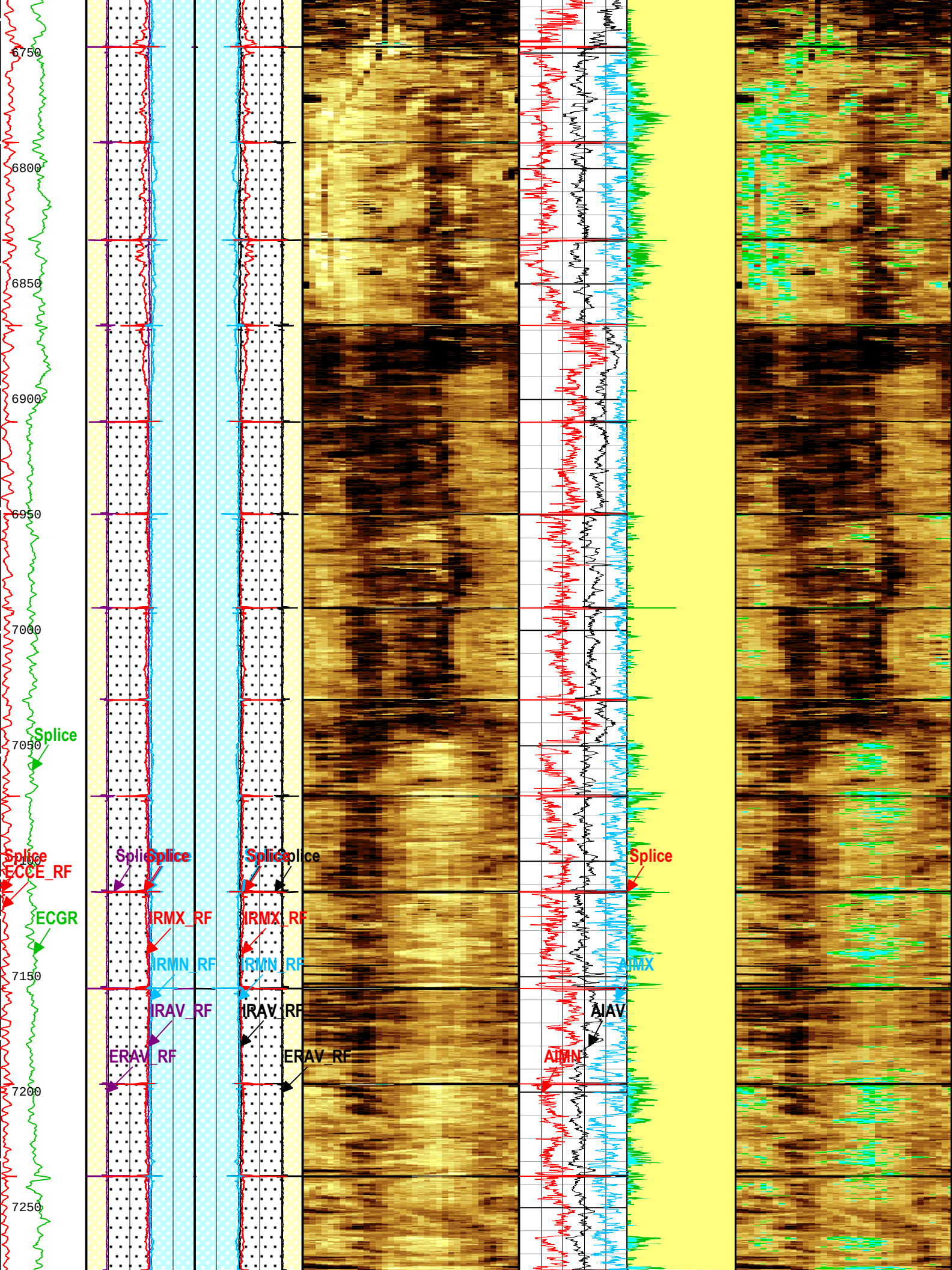
AIMX
AIAV
AIMN


5100
5150
5200
5250
5300
5350
5400
5450
5500
5550
5600


5650
5700
5750
5800
5850
5900
5950
6000
6050
6100
6150
ECCE_RF
ECGR
IRMX_RF
IRMX_RF
IRMN_RF
IRMN_RF
IRAV_RF
IRAV_RF
ERAV_RF
ERAV_RF
AIMX
AIMN


6200
6250
6300
6350
6400
6450
6500
6550
6600
6650
6700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6800
6850
6900
6950
7000
7050
7100
7150
7200
7250
Splice
Splice
ECCE_RF
ECGR
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Splice
IRMX_RF
IRMN_RF
IRAV_RF
ERAV_RF
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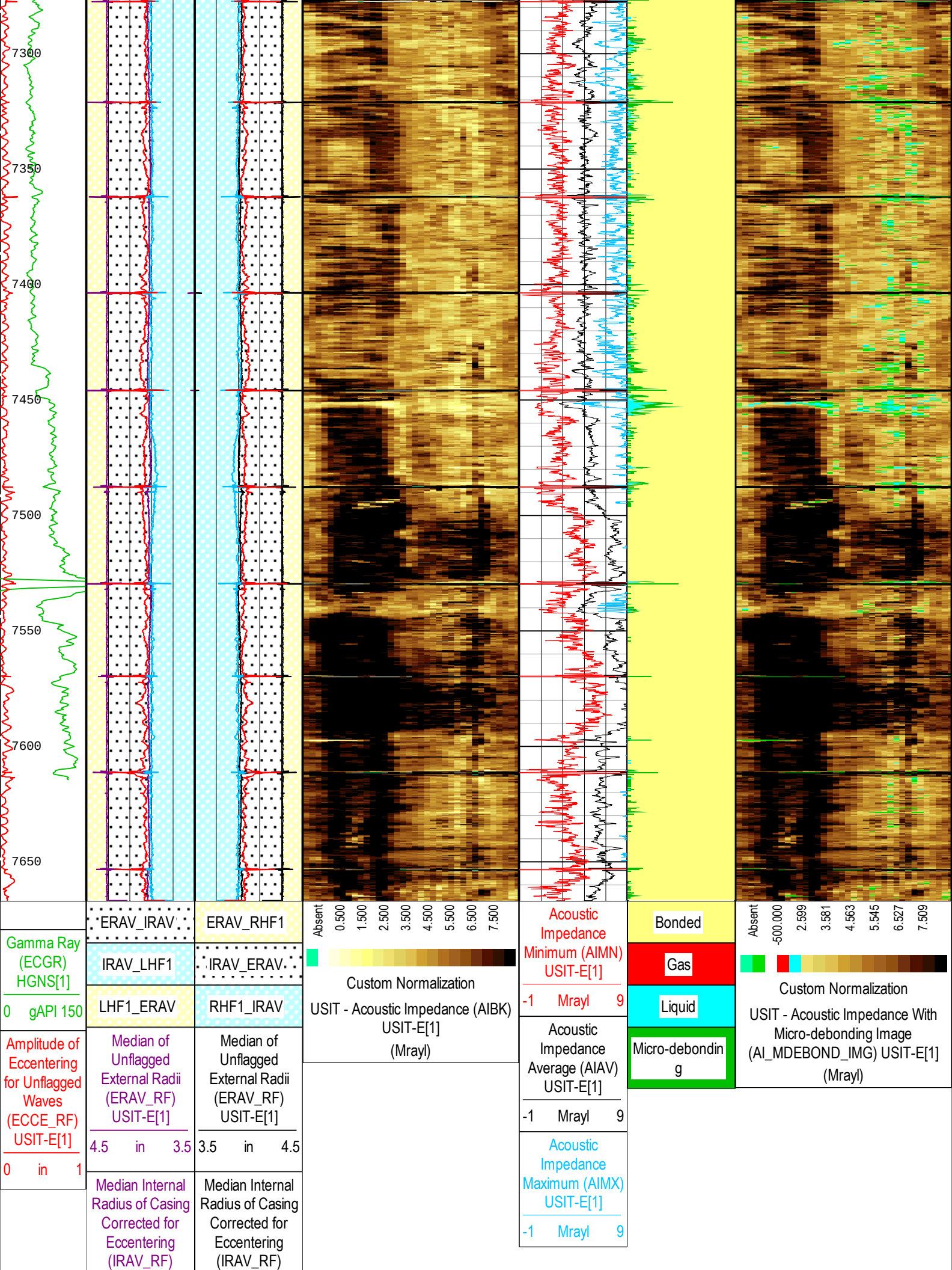
Splice
AIMX
AIAV
AIMN


7300
7350
7400
7450
7500
7550
7600
7650
Gamma Ray (ECGR) HGNS[1]
0 gAPI 150
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
0 in 1
ERAV_IRAV
IRAV_LHF1
LHF1_ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4.5 in 3.5
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF)
ERAV_RHF1
IRAV_ERAV
RHF1_IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
3.5 in 4.5
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF)
Absent 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
Acoustic Impedance Minimum (AIMN) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Maximum (AIMX) USIT-E[1]
-1 Mrayl 9
Bonded
Gas
Liquid
Micro-debonding
Absent -500.000 2.599 3.581 4.563 5.545 6.527 7.509
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)

USIT-E[1]	USIT-E[1]
4.5 in 3.5	3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4.5 in 3.5	3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]	Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4.5 in 3.5	3.5 in 4.5

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Cement Format: Log (LBV1_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:15:29

Composite 1

Corrosion 5 in = 100 ft

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[6]:Up	Up	7108.83 ft	7667.54 ft	10-Aug-2016 9:30:29 AM	10-Aug-2016 9:42:55 AM	ON	0.00 ft	Yes
Run 1	Log[7]:Up	Up	28.78 ft	7252.83 ft	10-Aug-2016 9:52:07 AM	10-Aug-2016 12:12:11 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A Composite 1:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:15:40

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

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

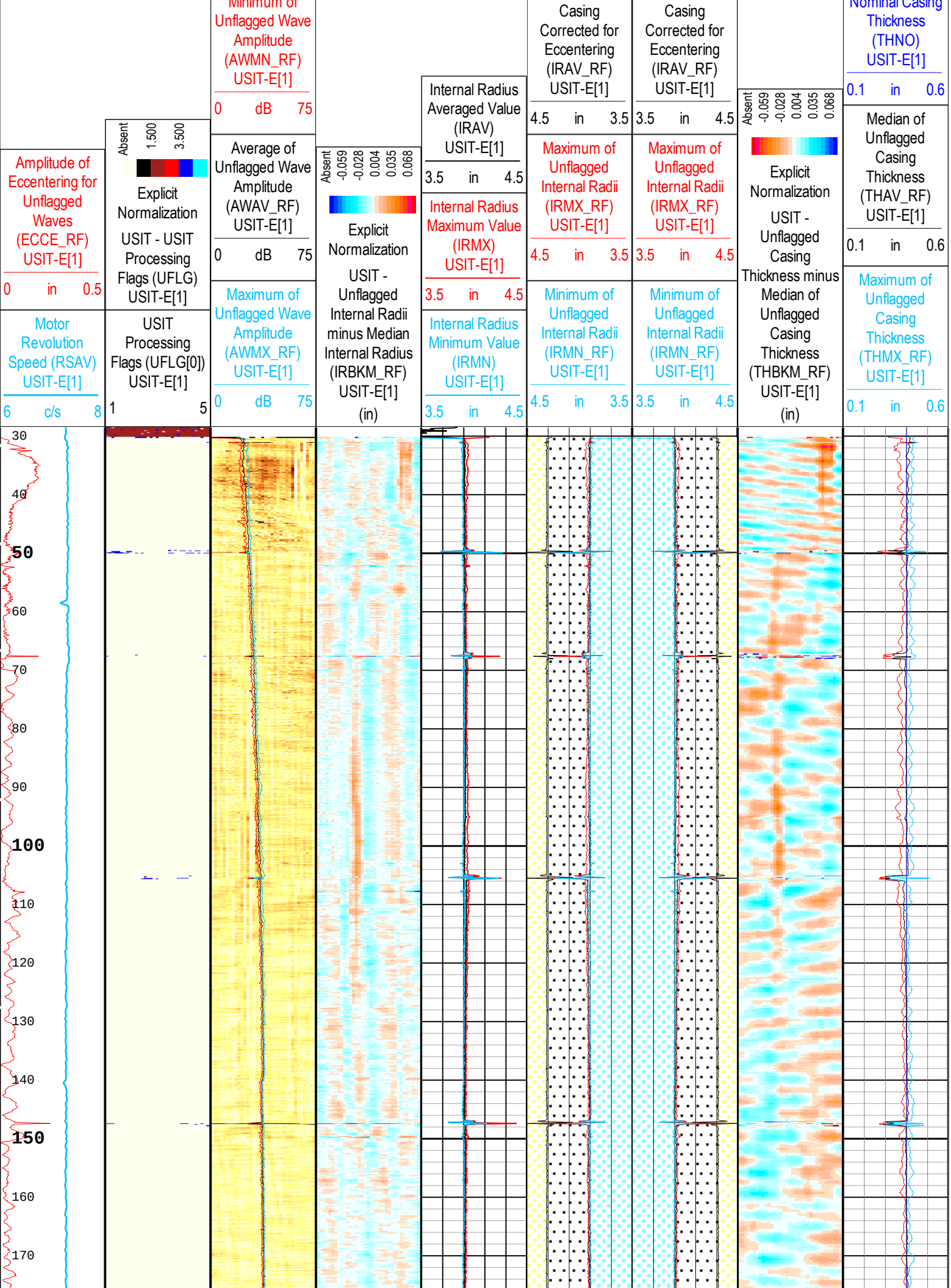
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E[1] (dB)

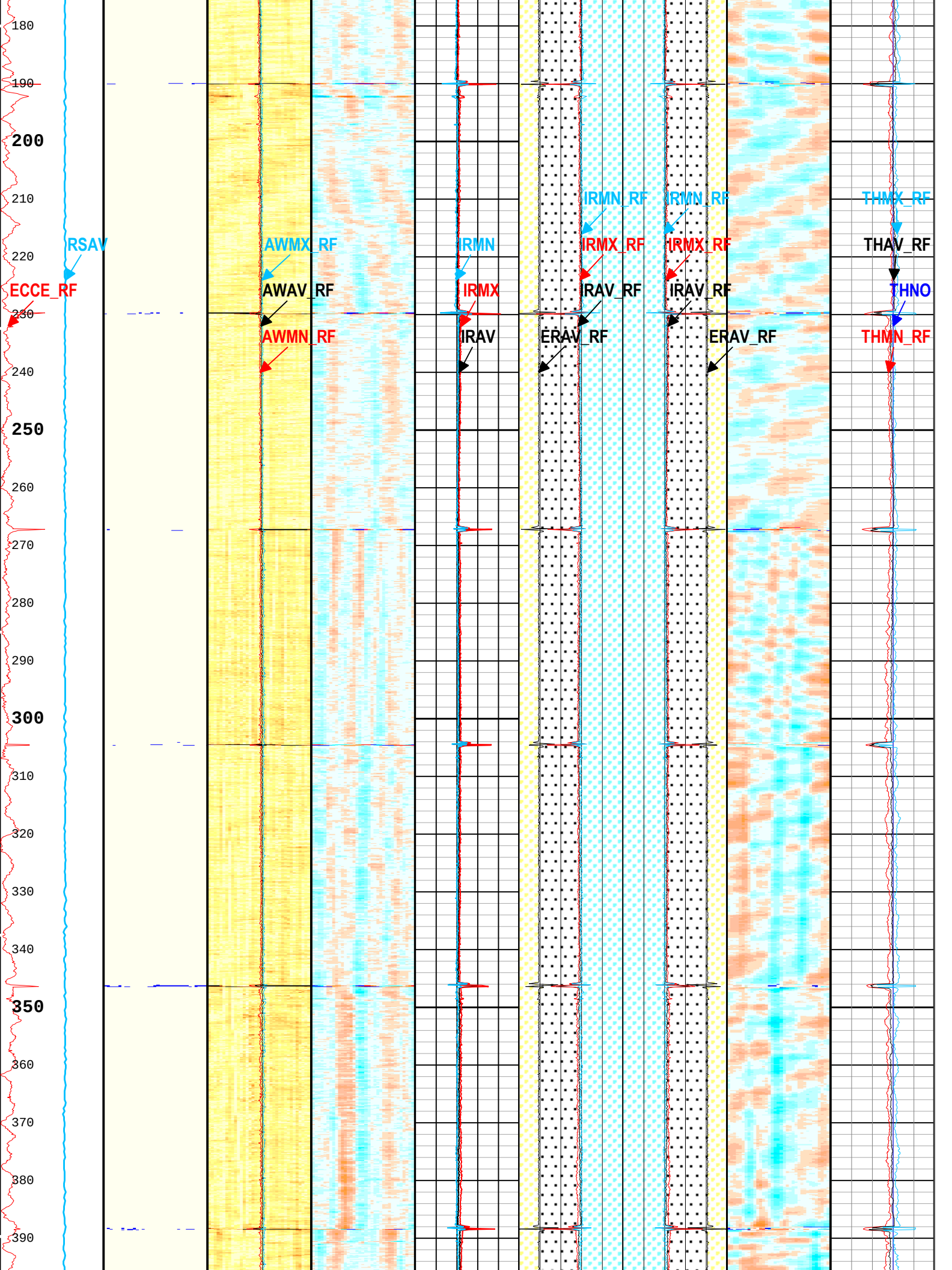
ERAV	IRAV
ERAV-IRAV	ERAV
IRAV	IRAV-ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]	Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4.5 in 3.5	3.5 in 4.5
Median Internal Radius of	Median Internal Radius of

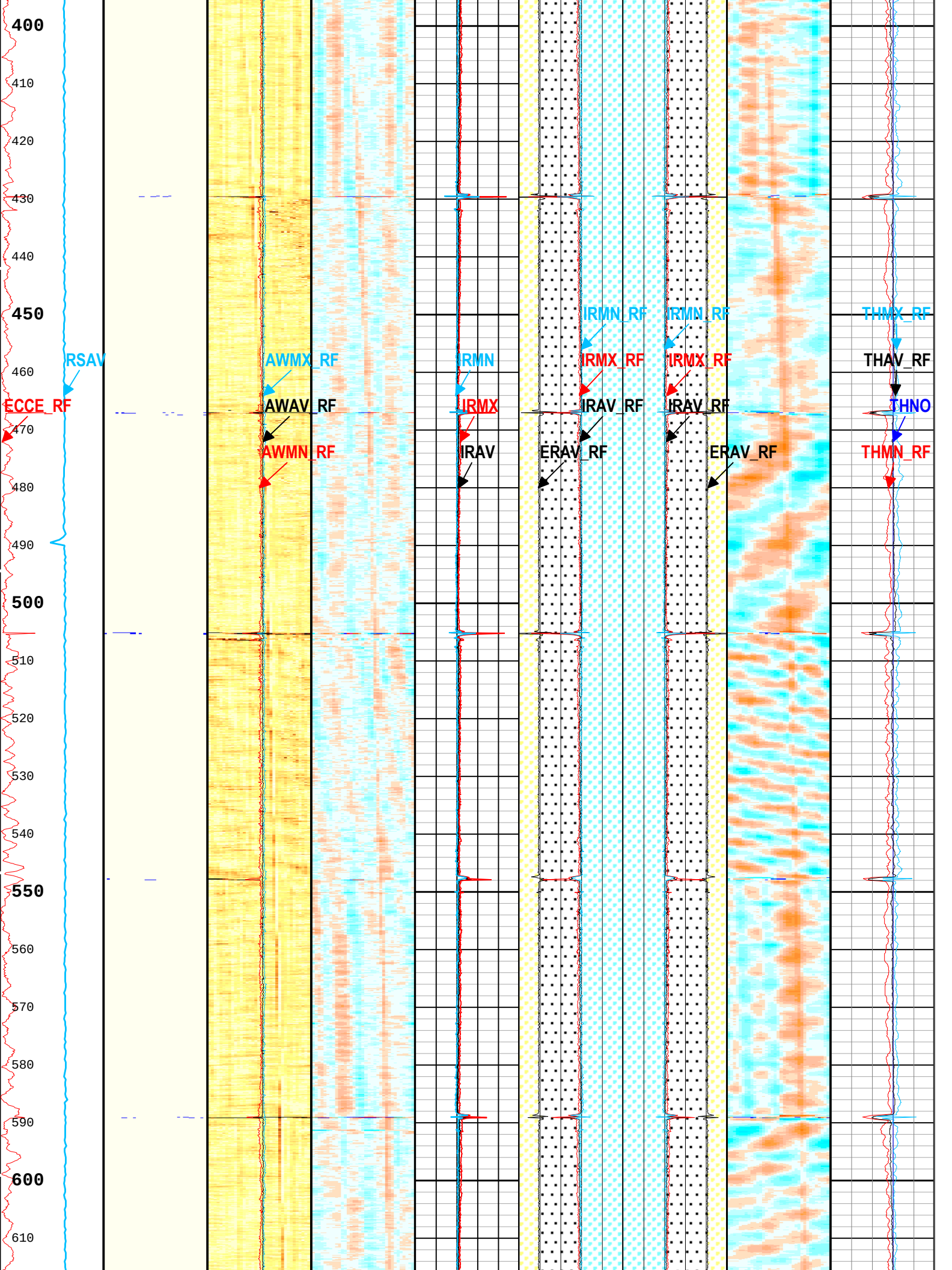
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E[1]

0.1 in 0.6

Nominal Casing


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 8
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E[1]
USIT Processing Flags (UFLG[0]) USIT-E[1]
1 5
Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E[1]
0 dB 75
Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E[1]
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E[1]
0 dB 75
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E[1] (in)
Internal Radius Averaged Value (IRAV) USIT-E[1]
3.5 in 4.5
Internal Radius Maximum Value (IRMX) USIT-E[1]
3.5 in 4.5
Internal Radius Minimum Value (IRMN) USIT-E[1]
3.5 in 4.5
Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4.5 in 3.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4.5 in 3.5
Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
3.5 in 4.5
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1] (in)
Nominal Casing Thickness (THNO) USIT-E[1]
0.1 in 0.6
Median of Unflagged Casing Thickness (THAV_RF) USIT-E[1]
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E[1]
0.1 in 0.6
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170


180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF


400
410
420
430
440
450
460
470
480
490
500
510
520
530
540
550
560
570
580
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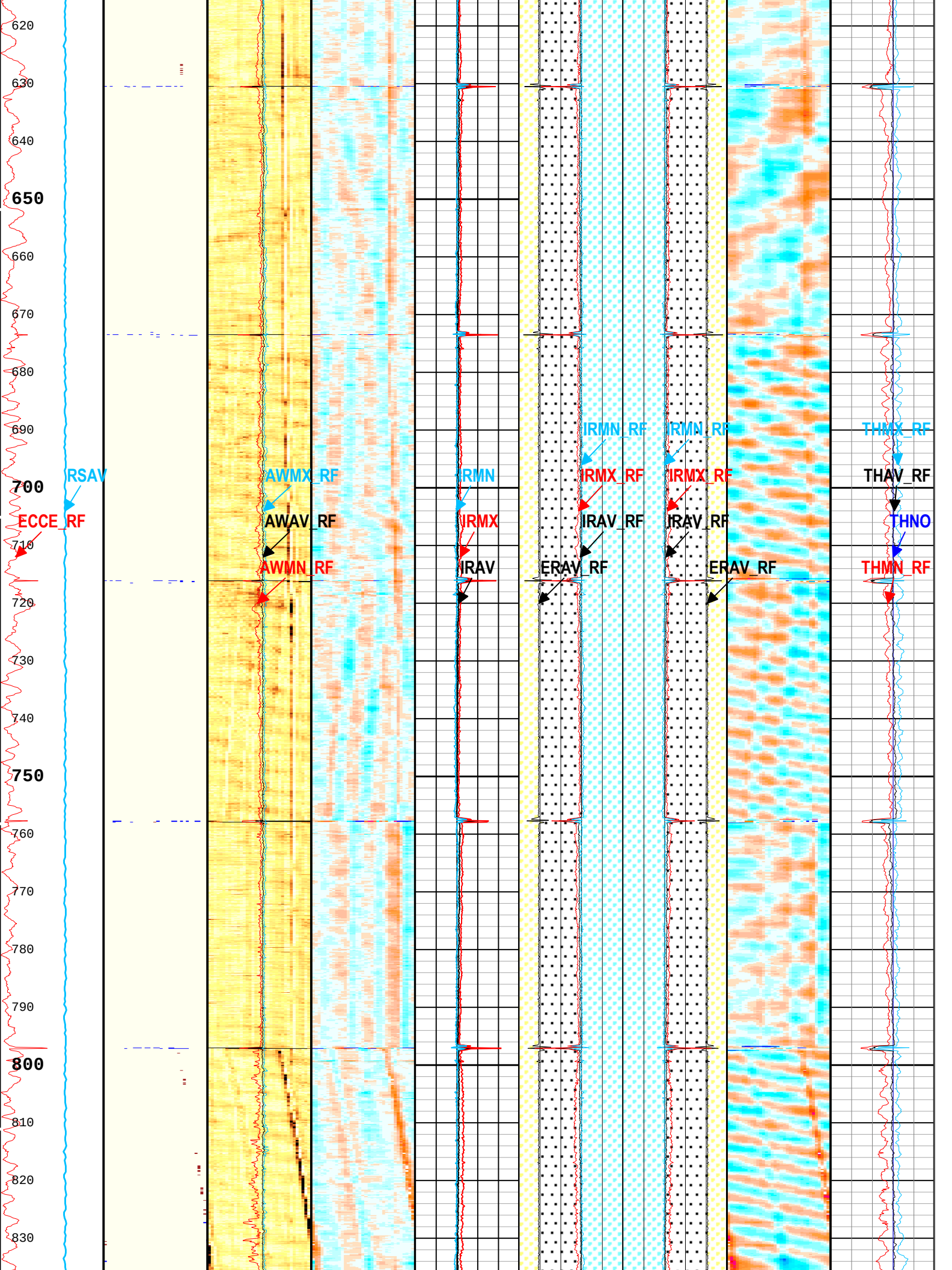
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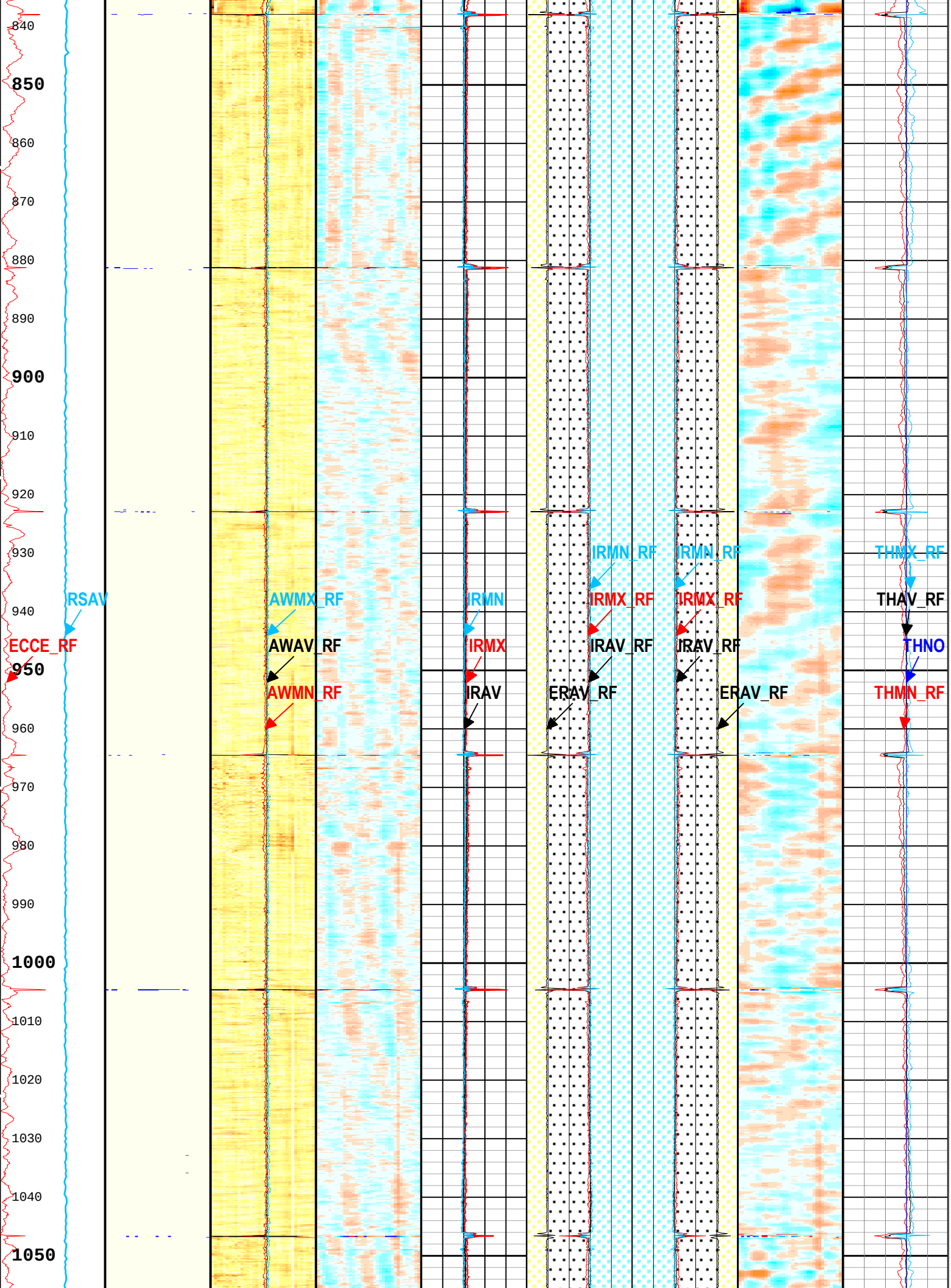
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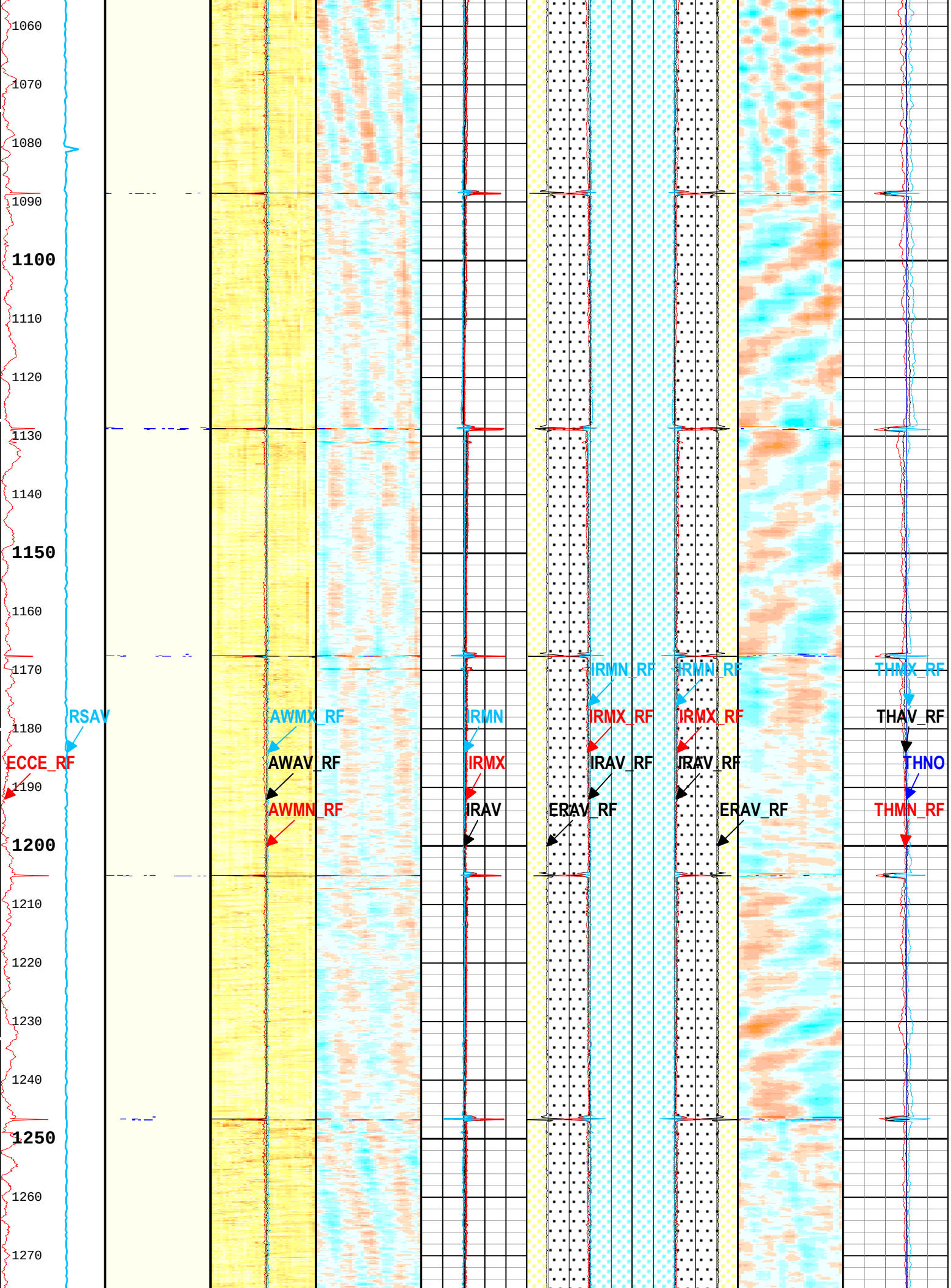
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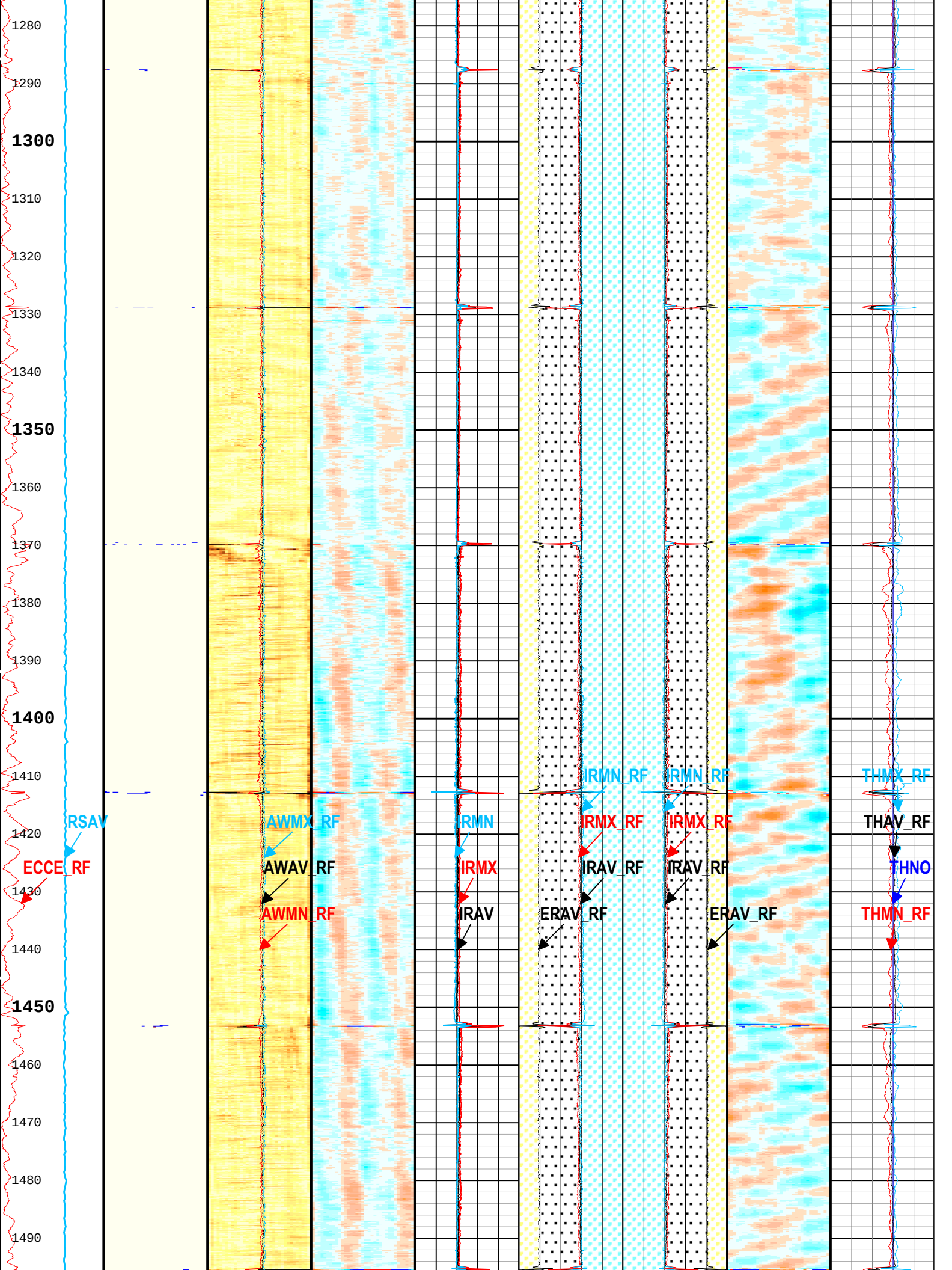
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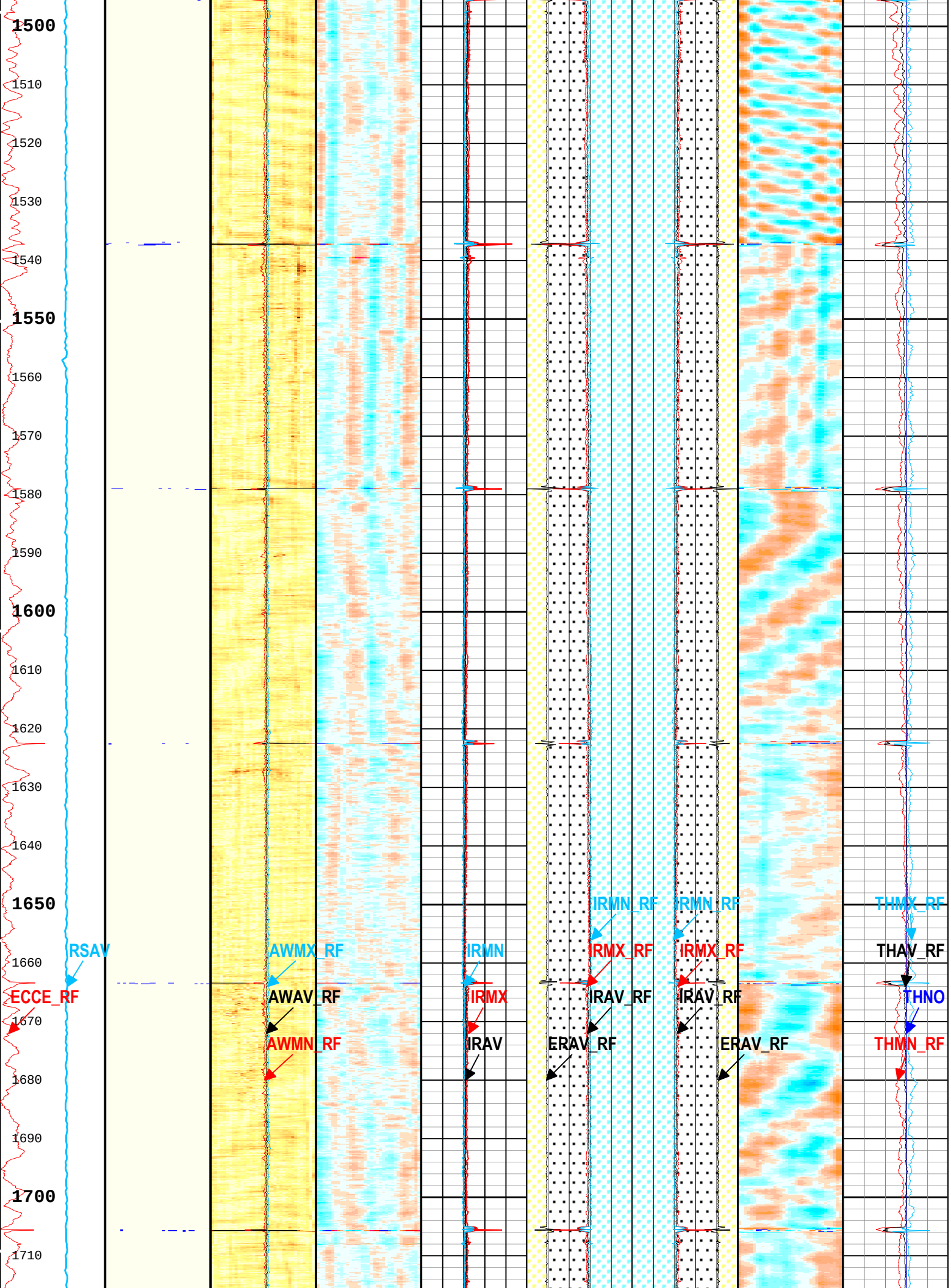
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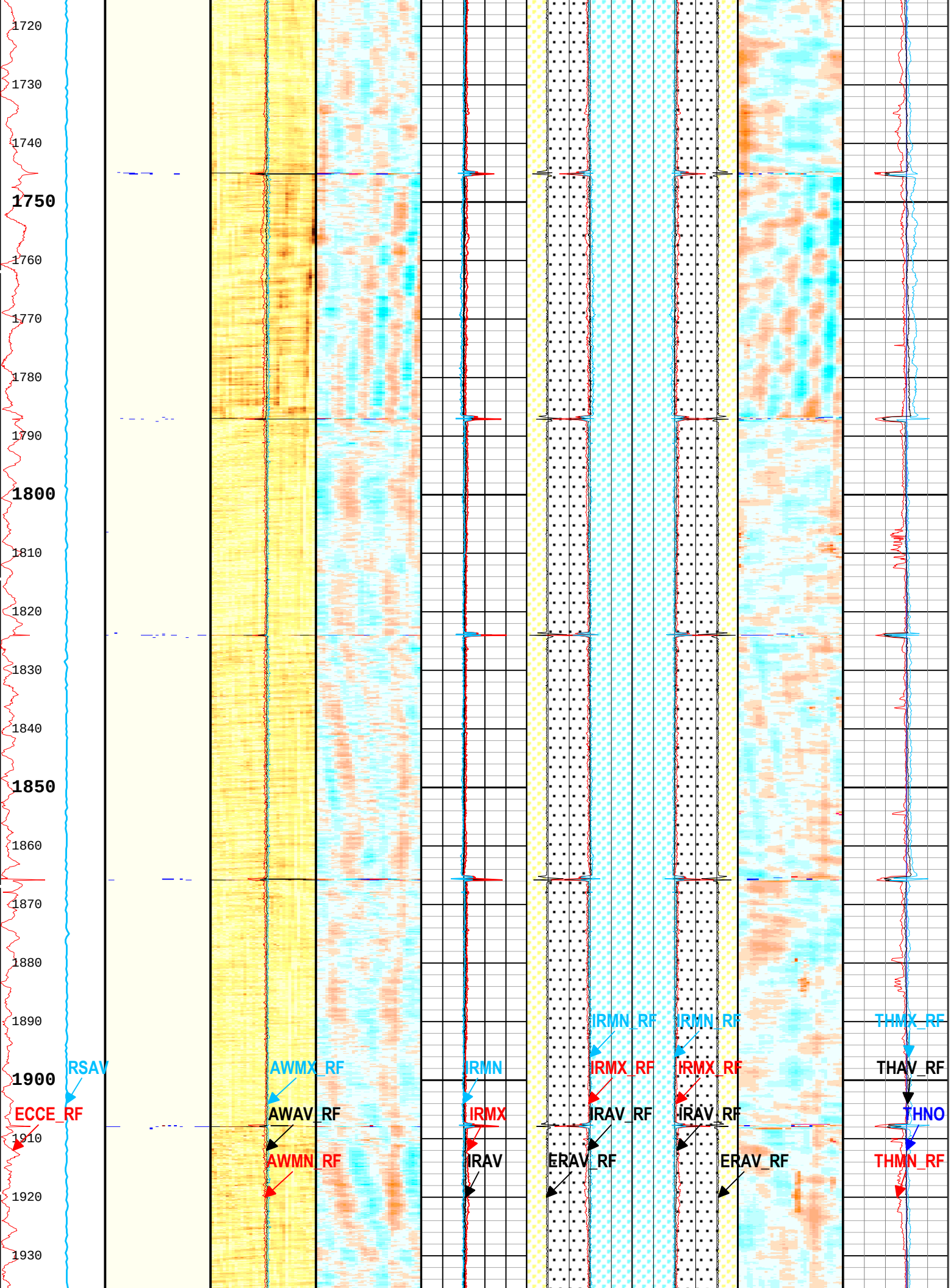
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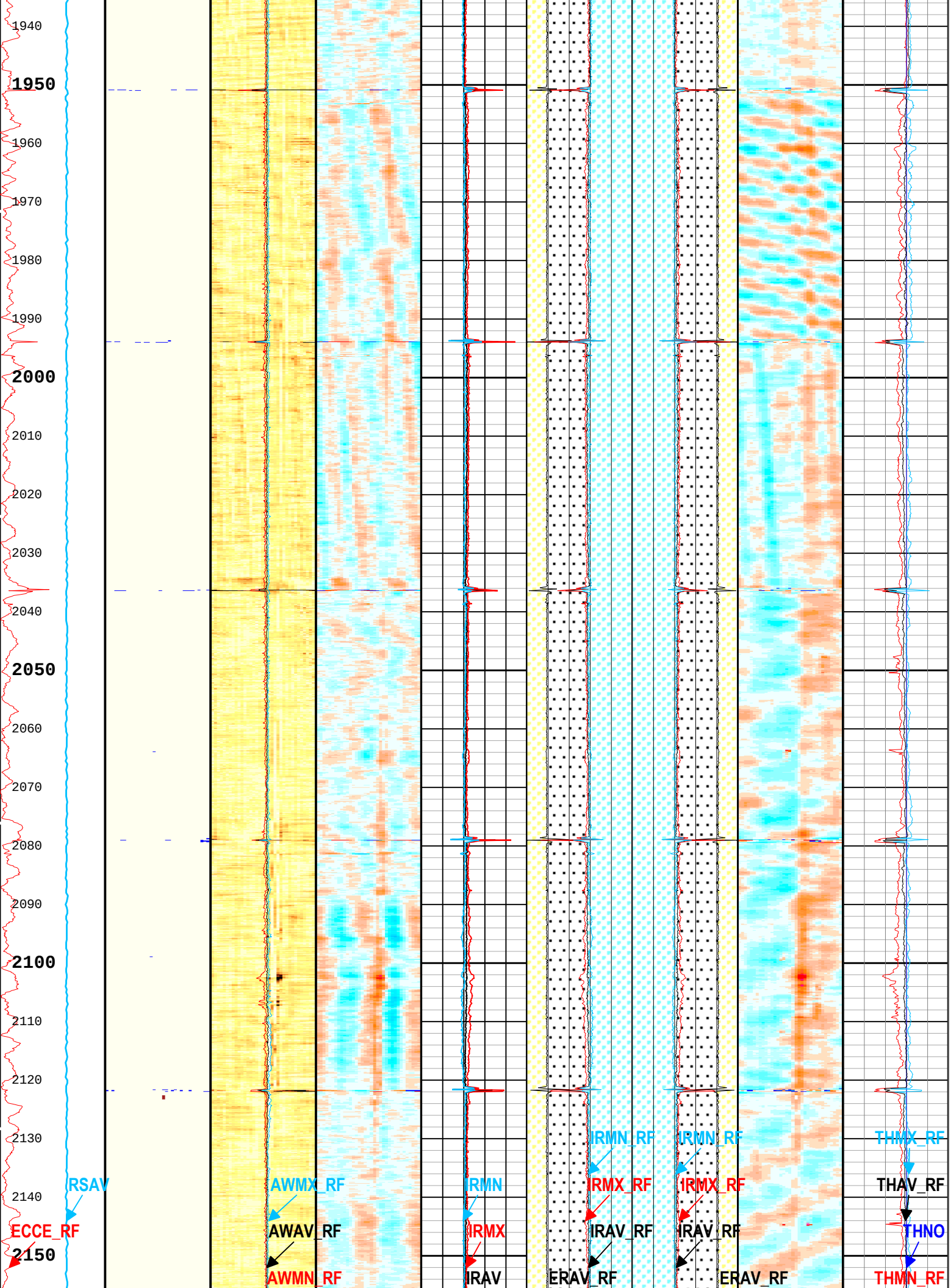
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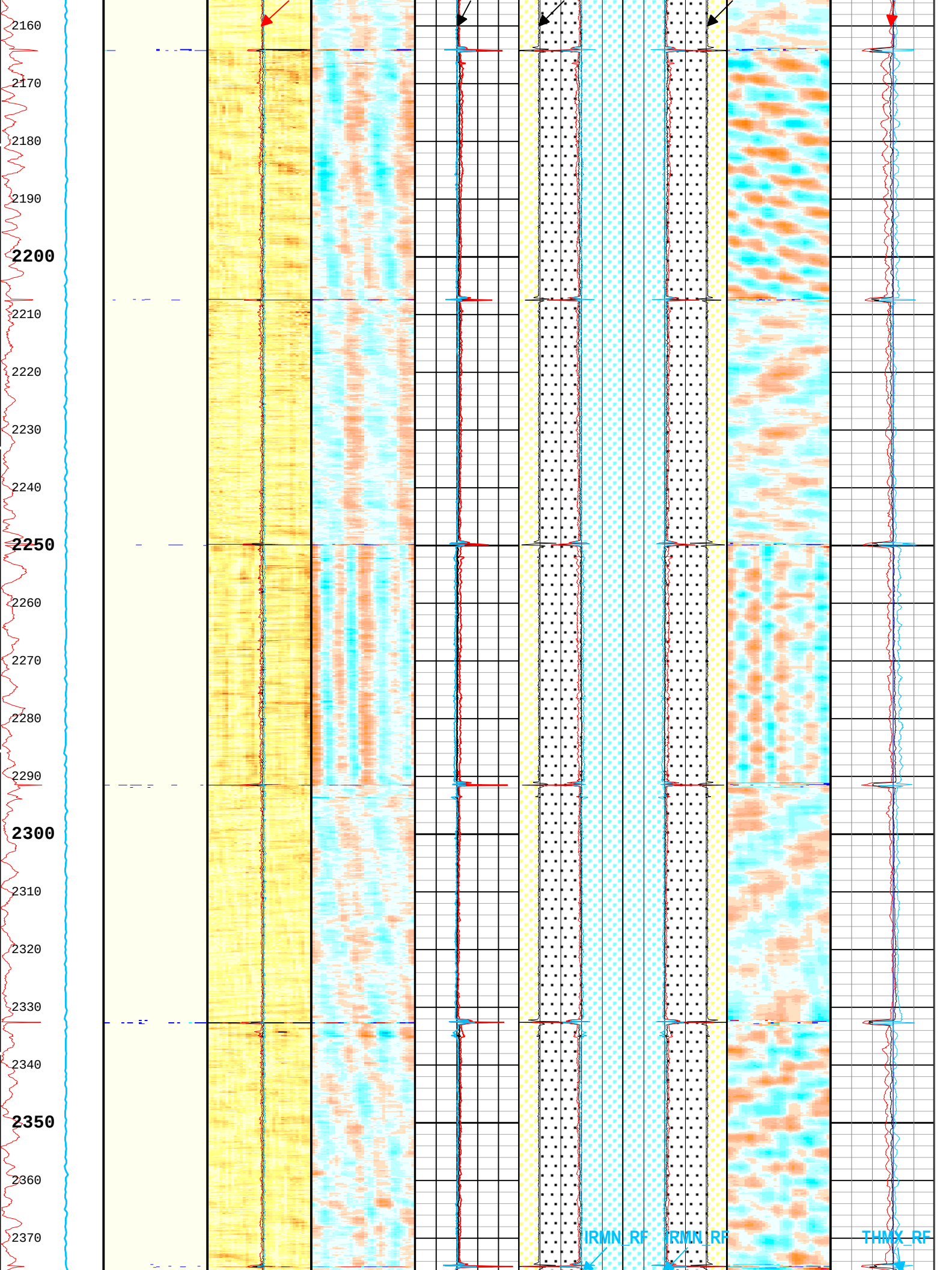
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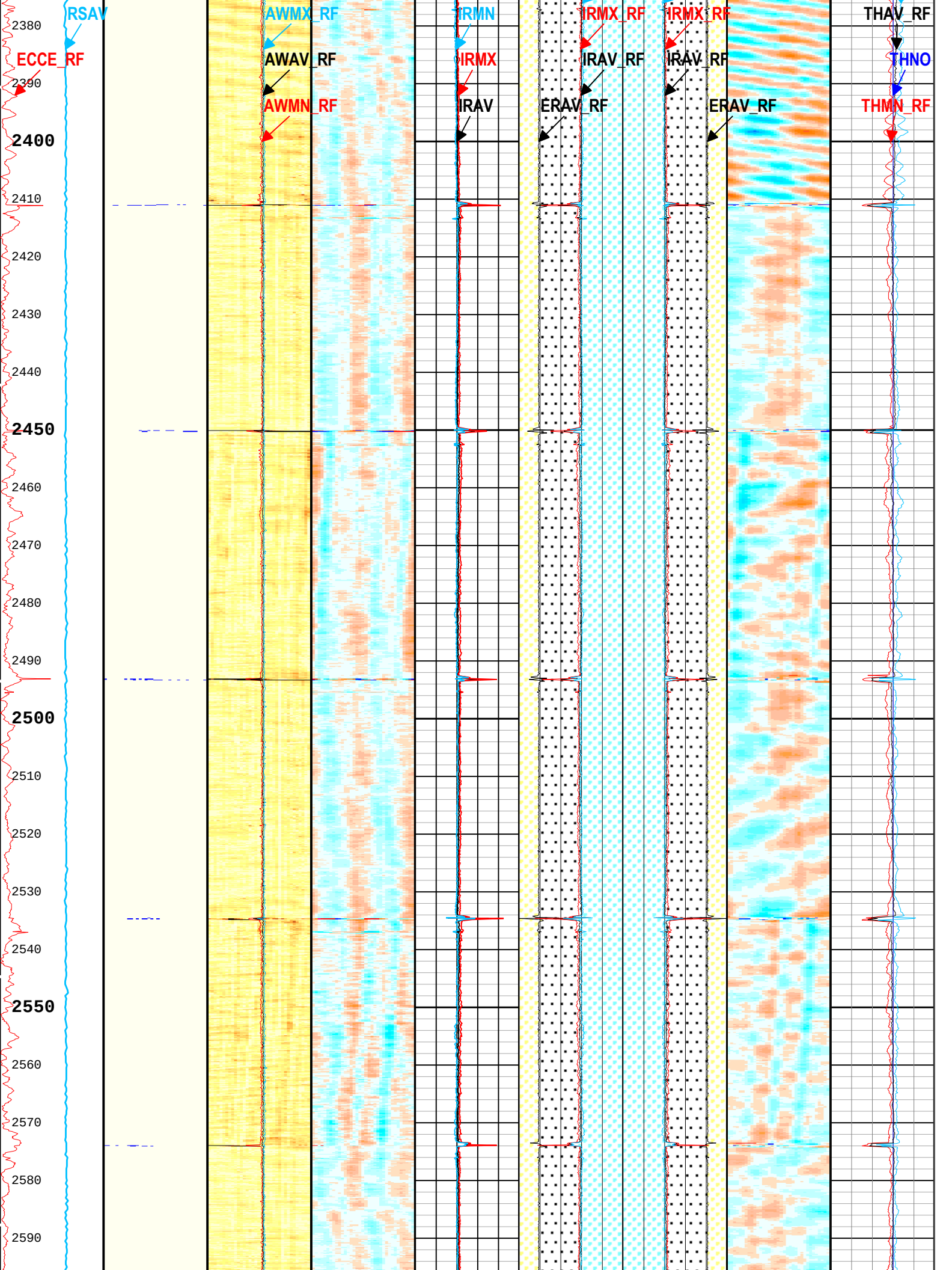
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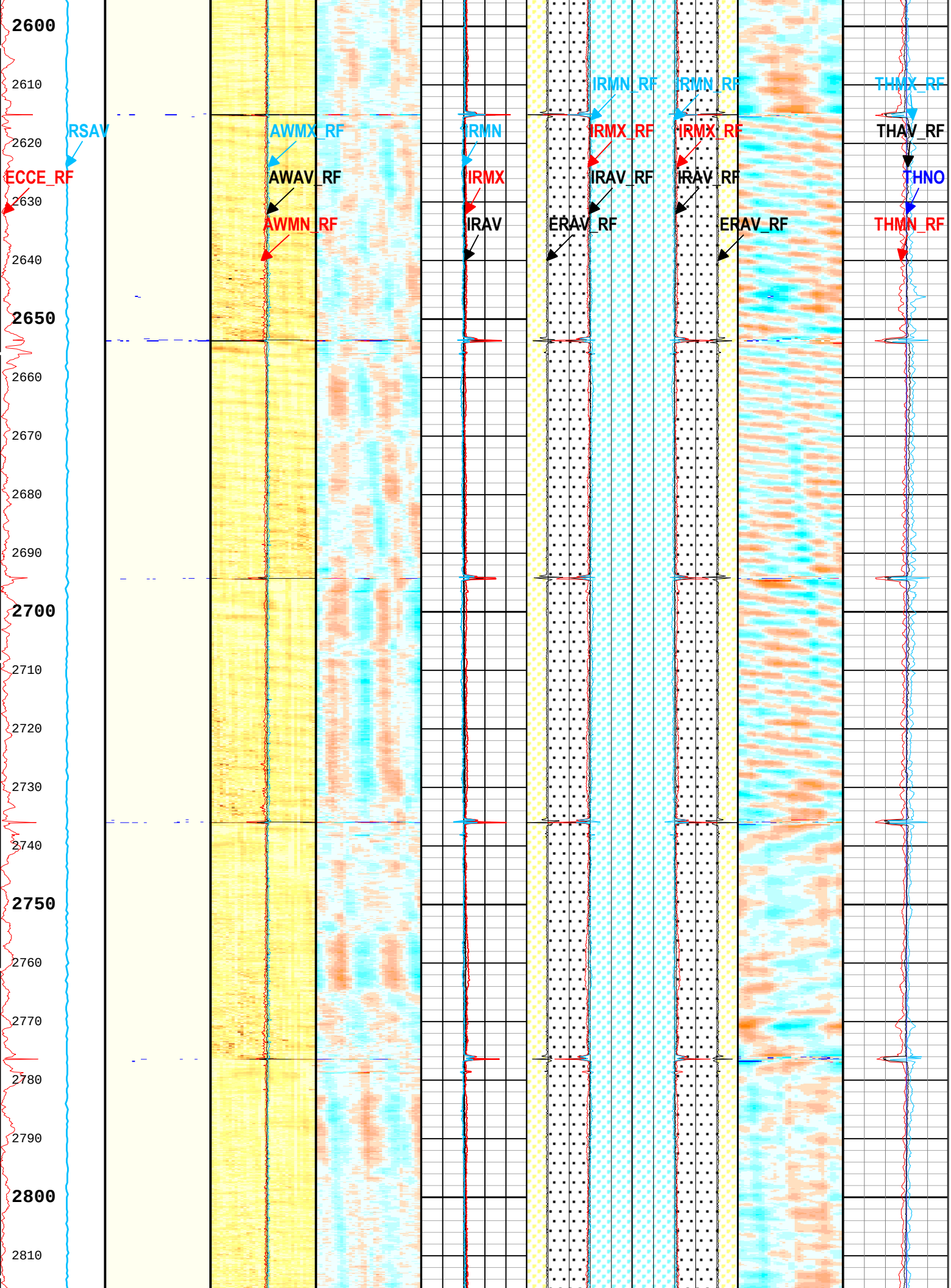
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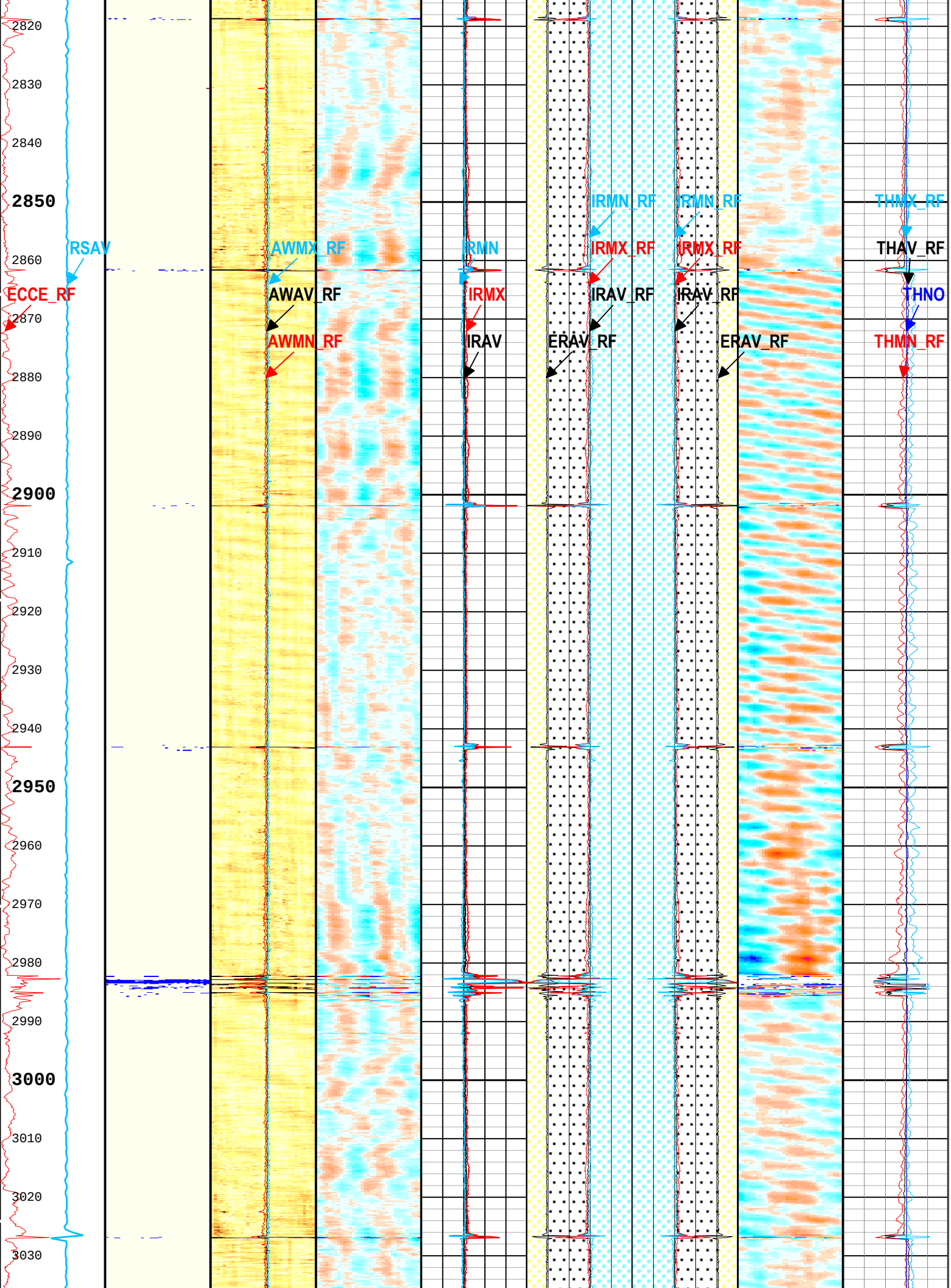
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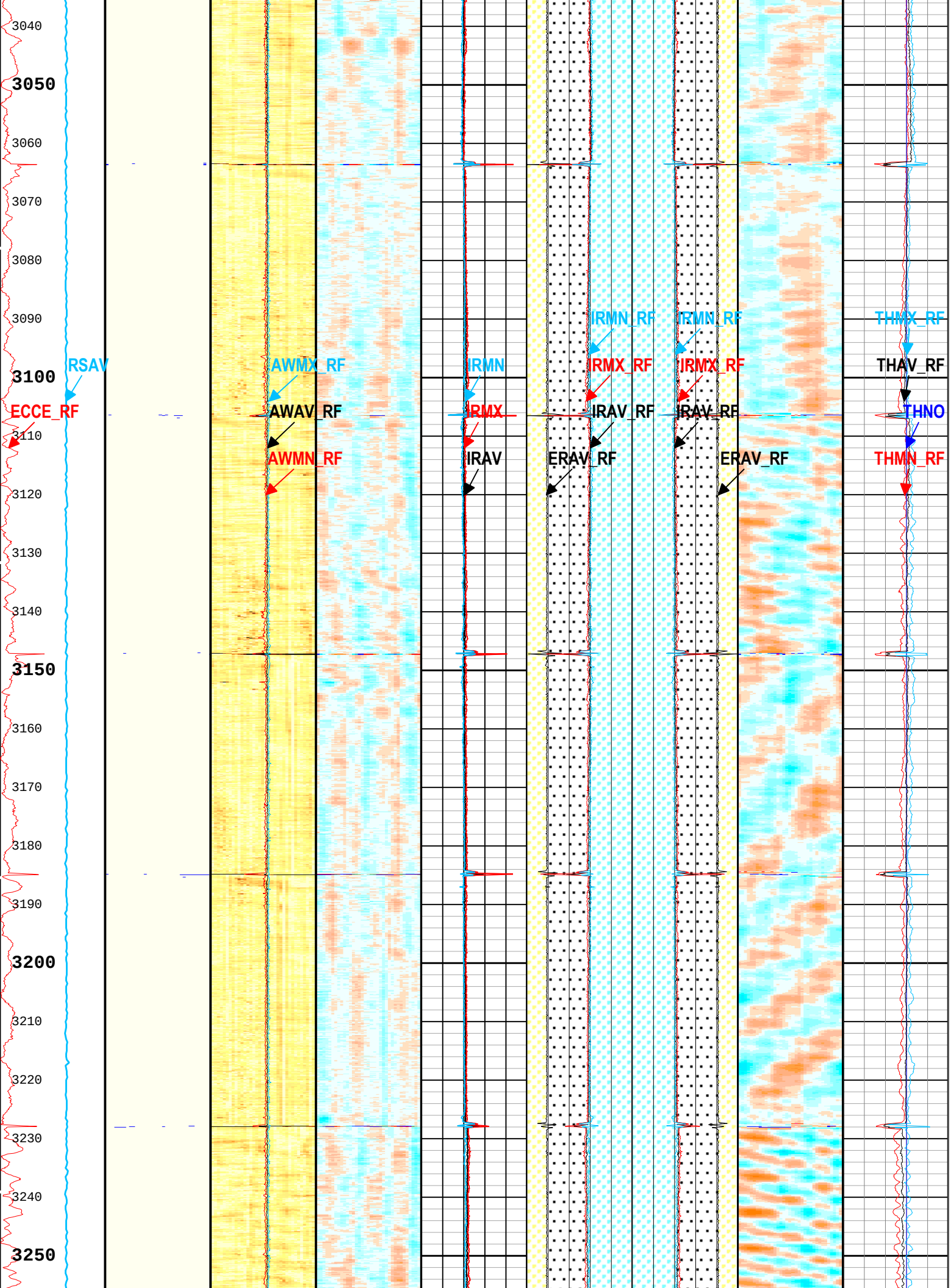
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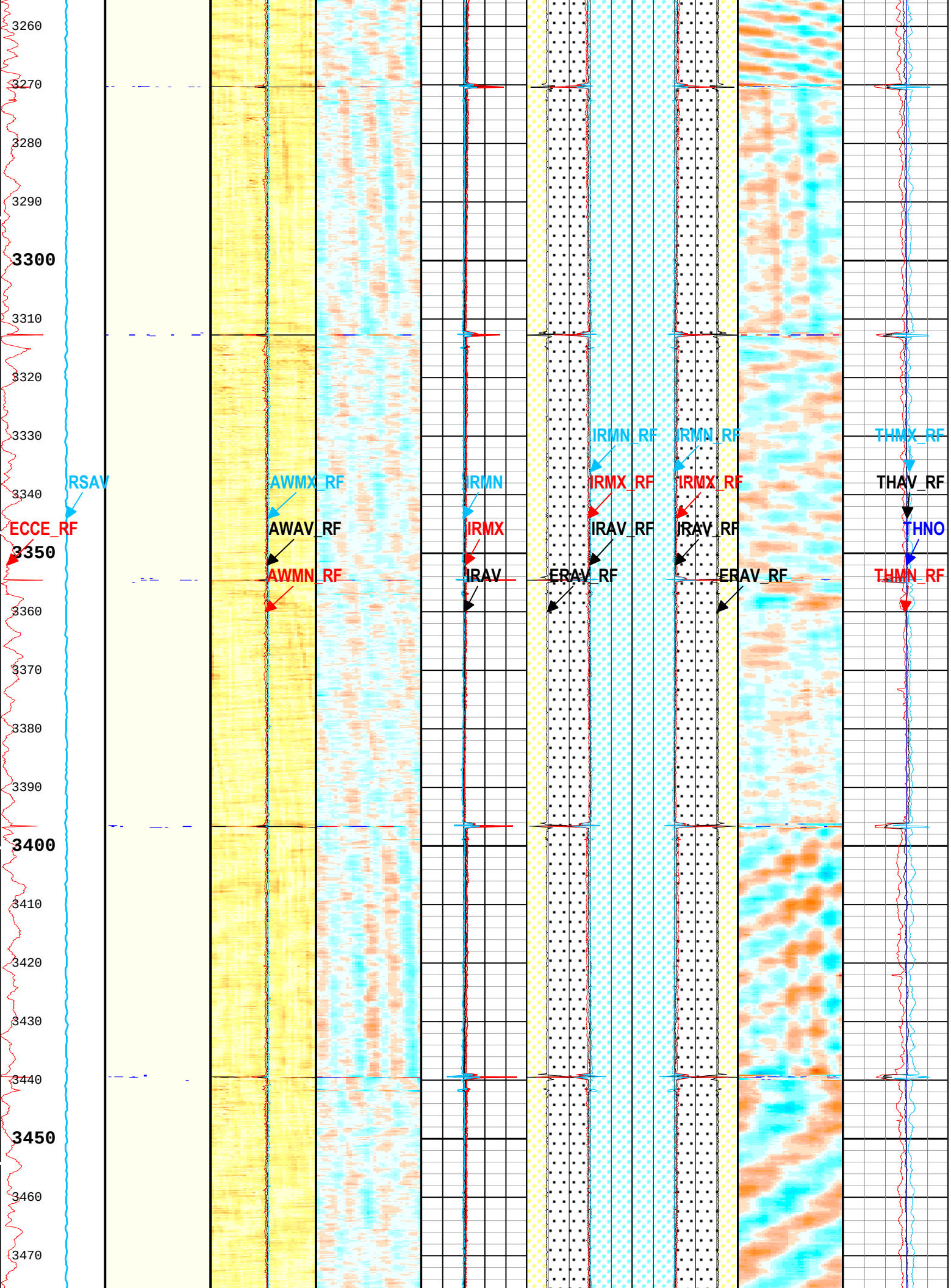
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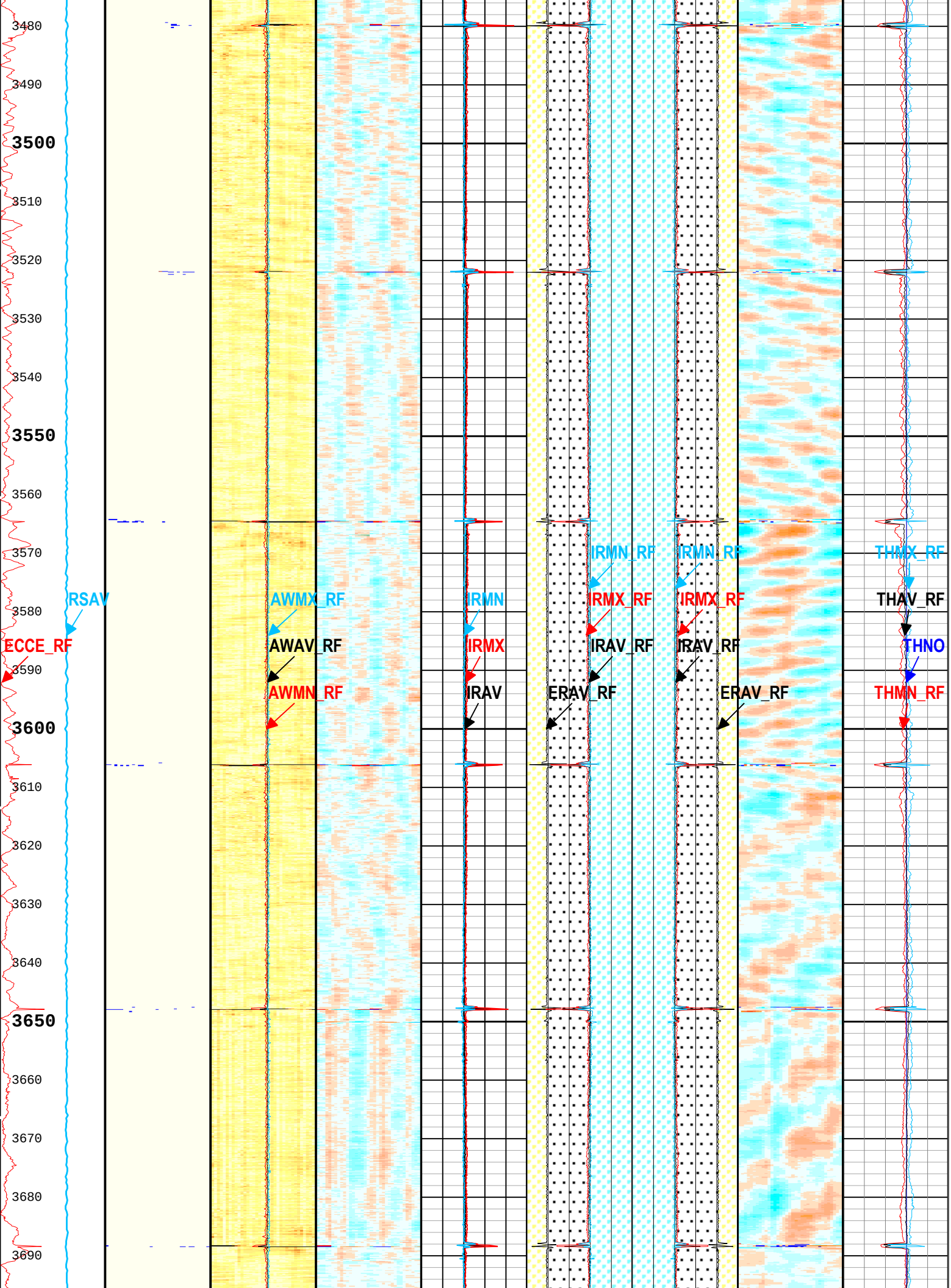
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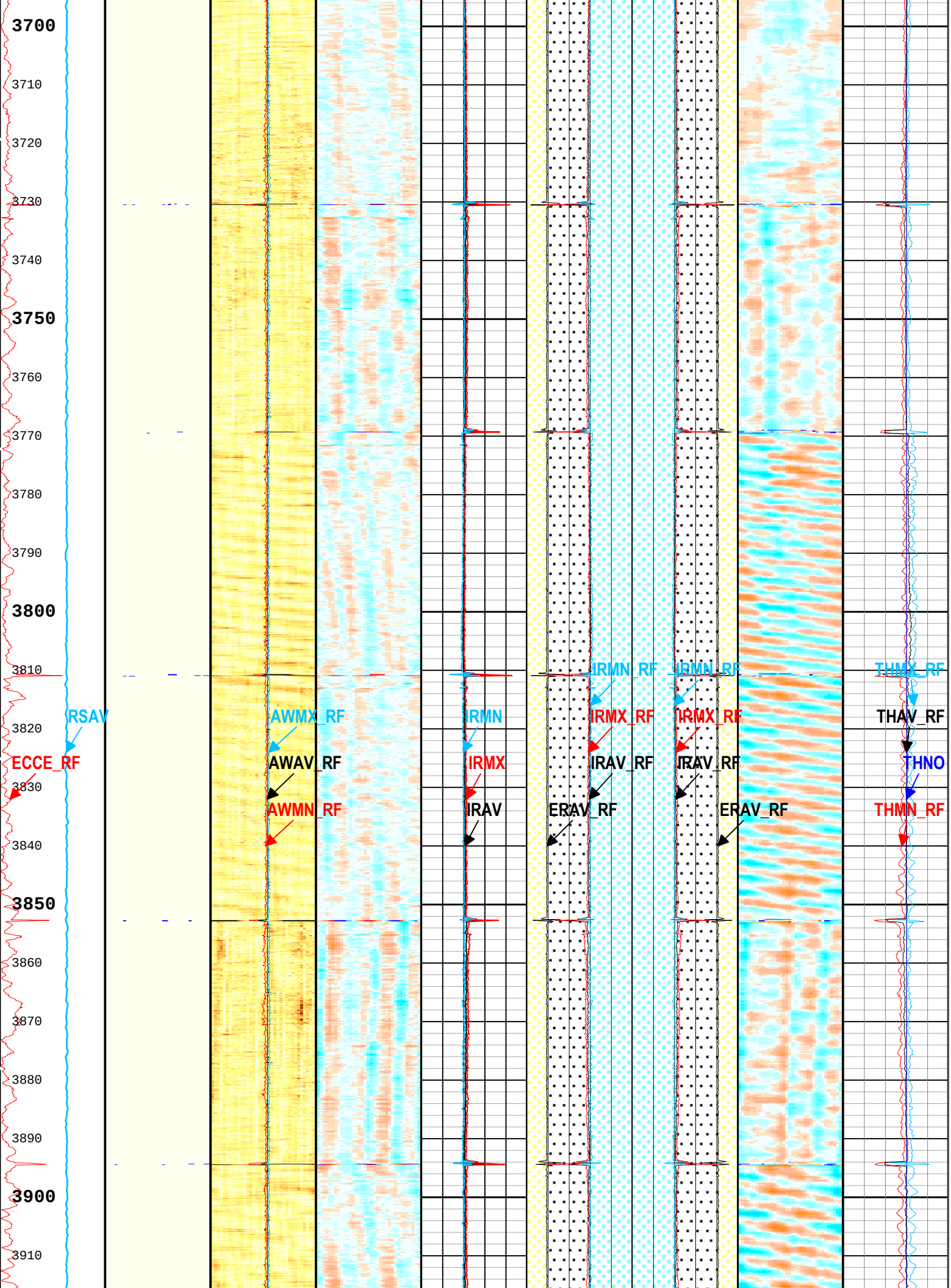
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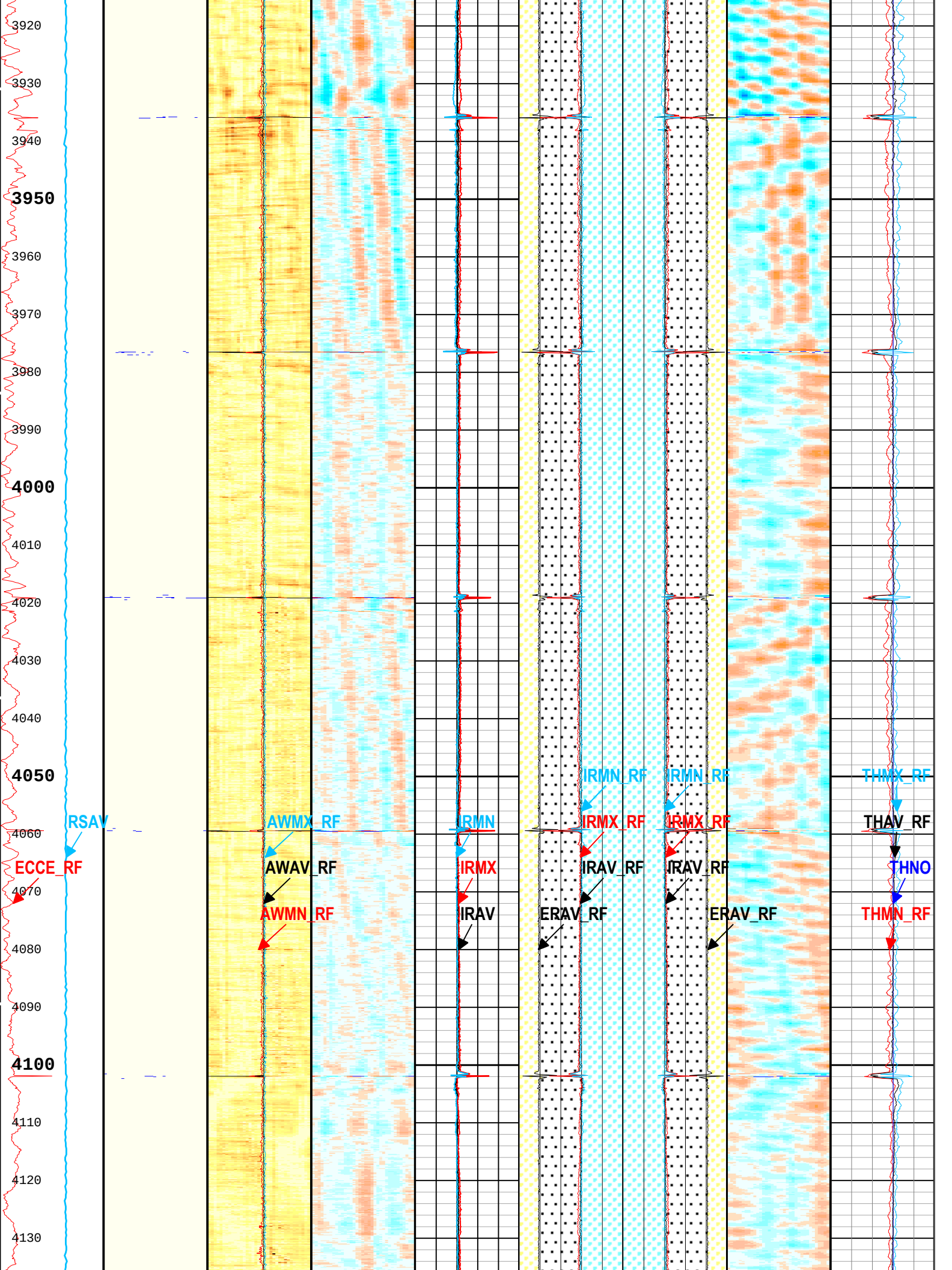
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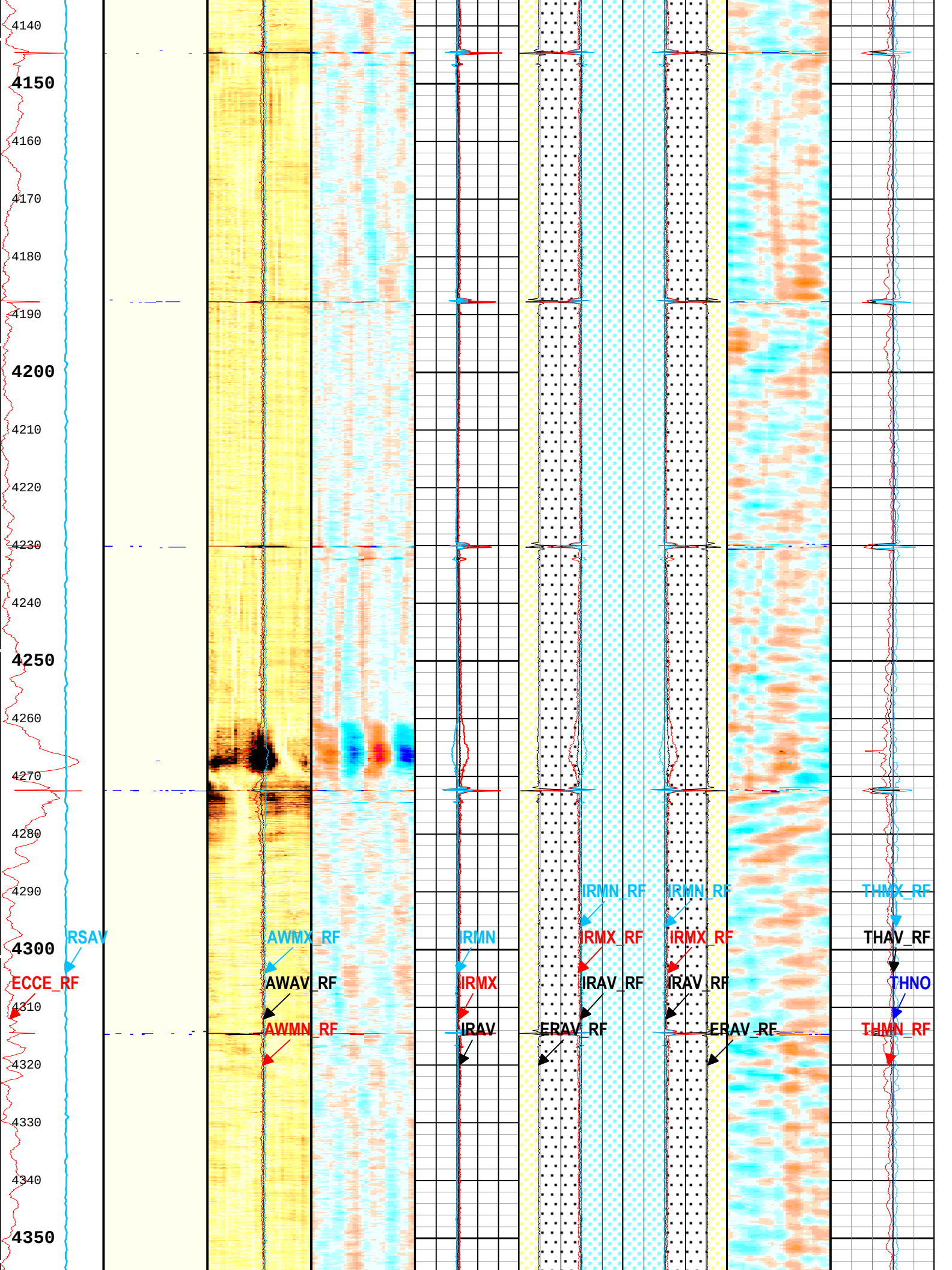
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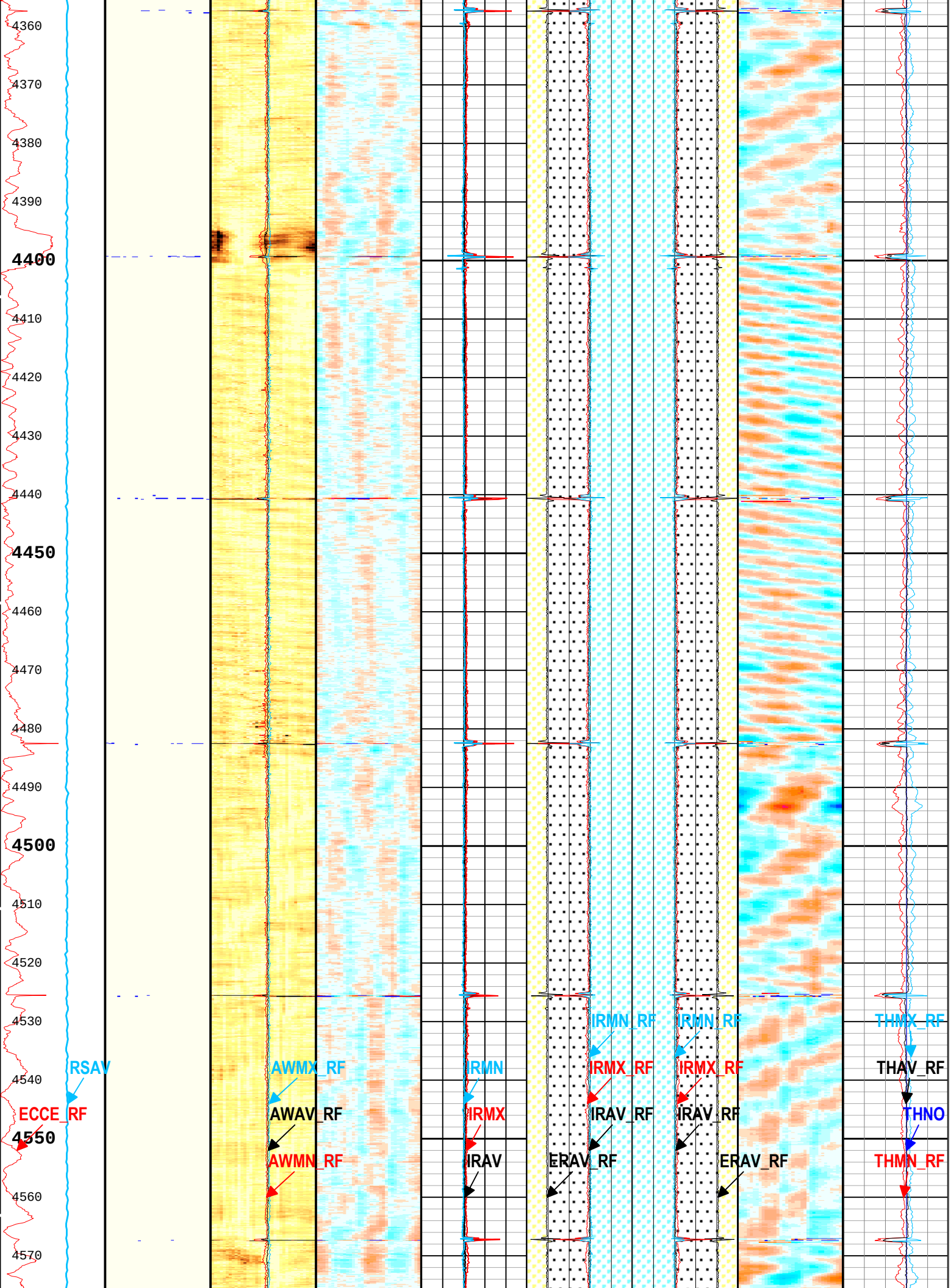
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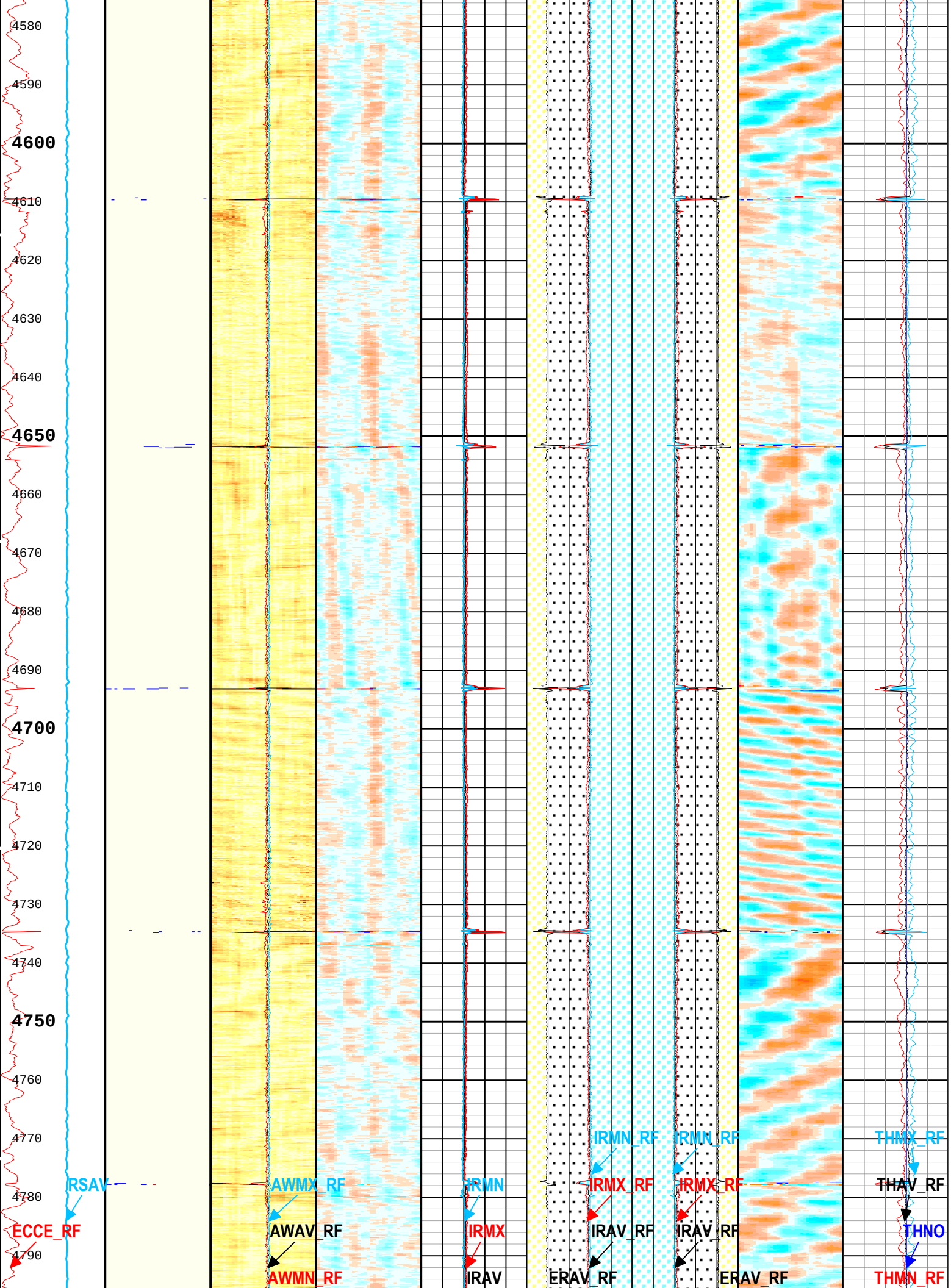
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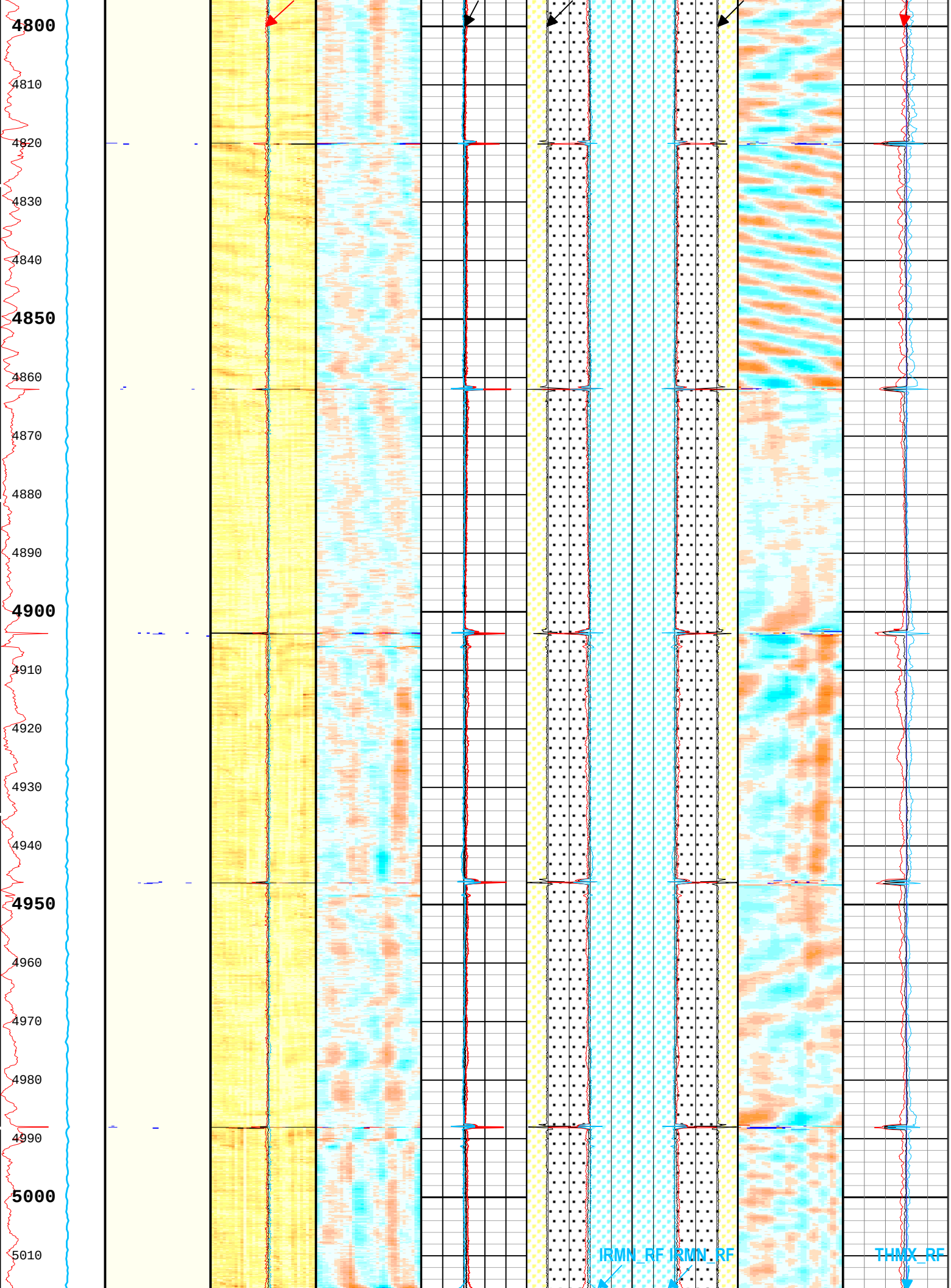
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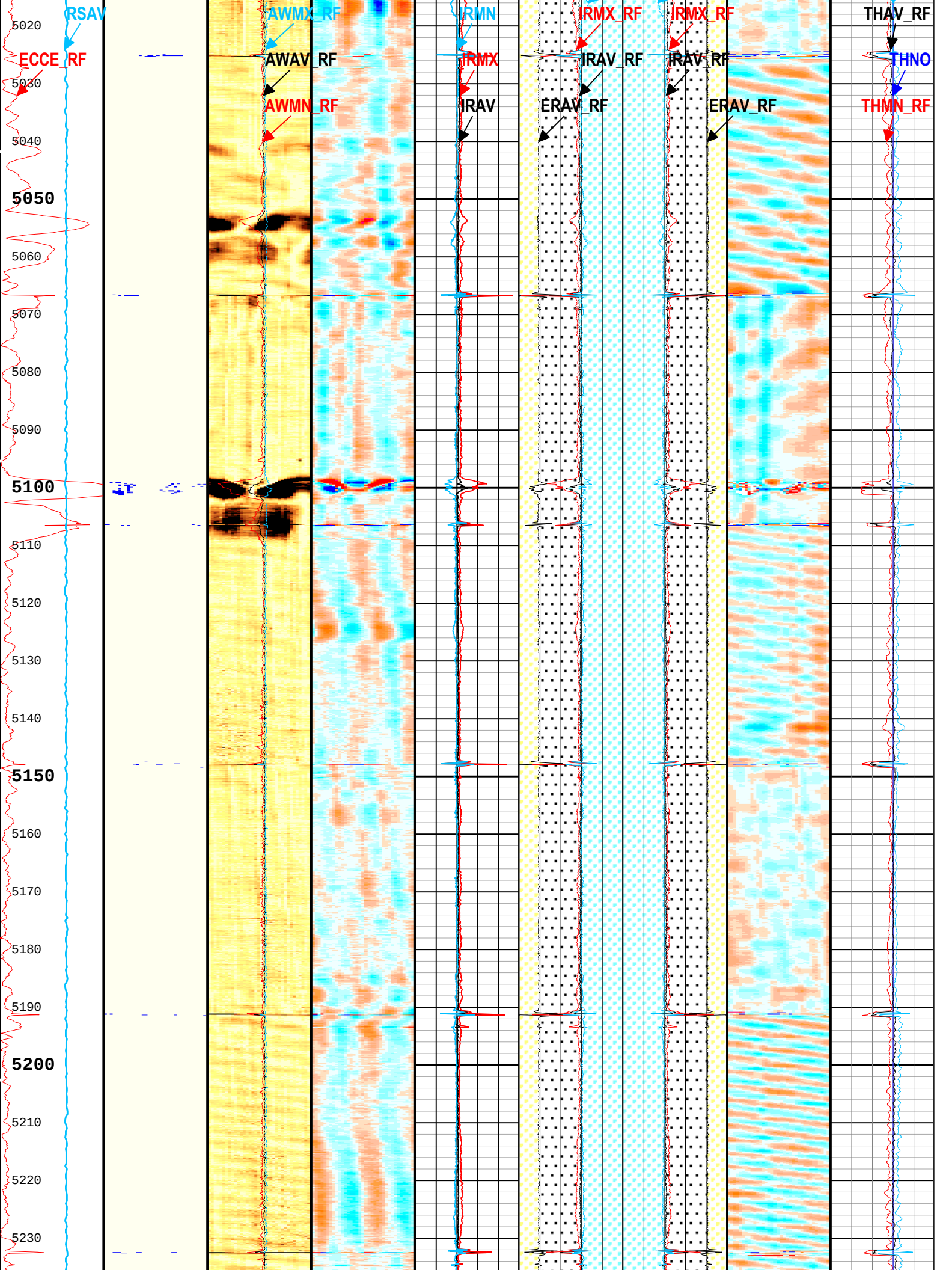
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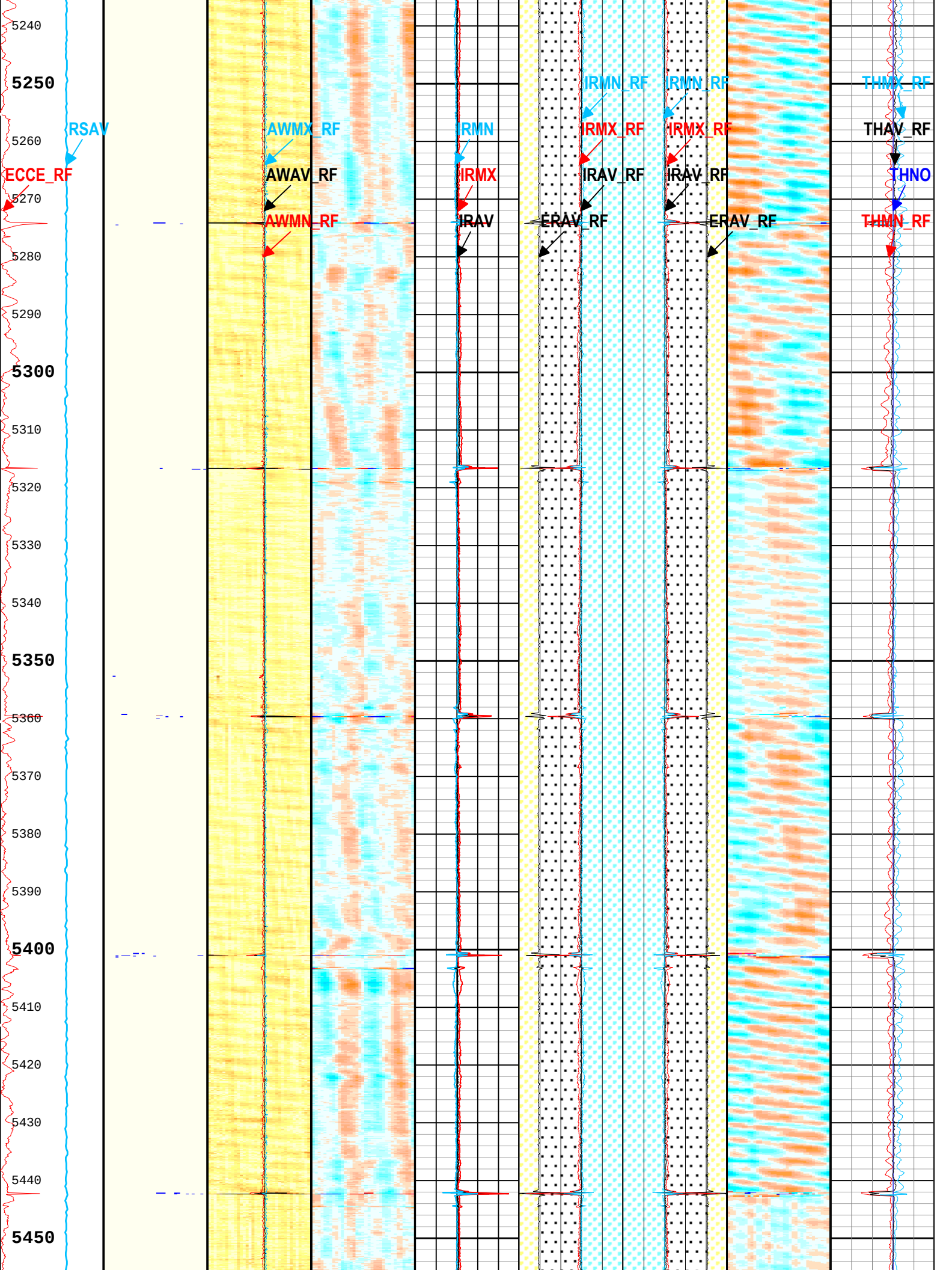
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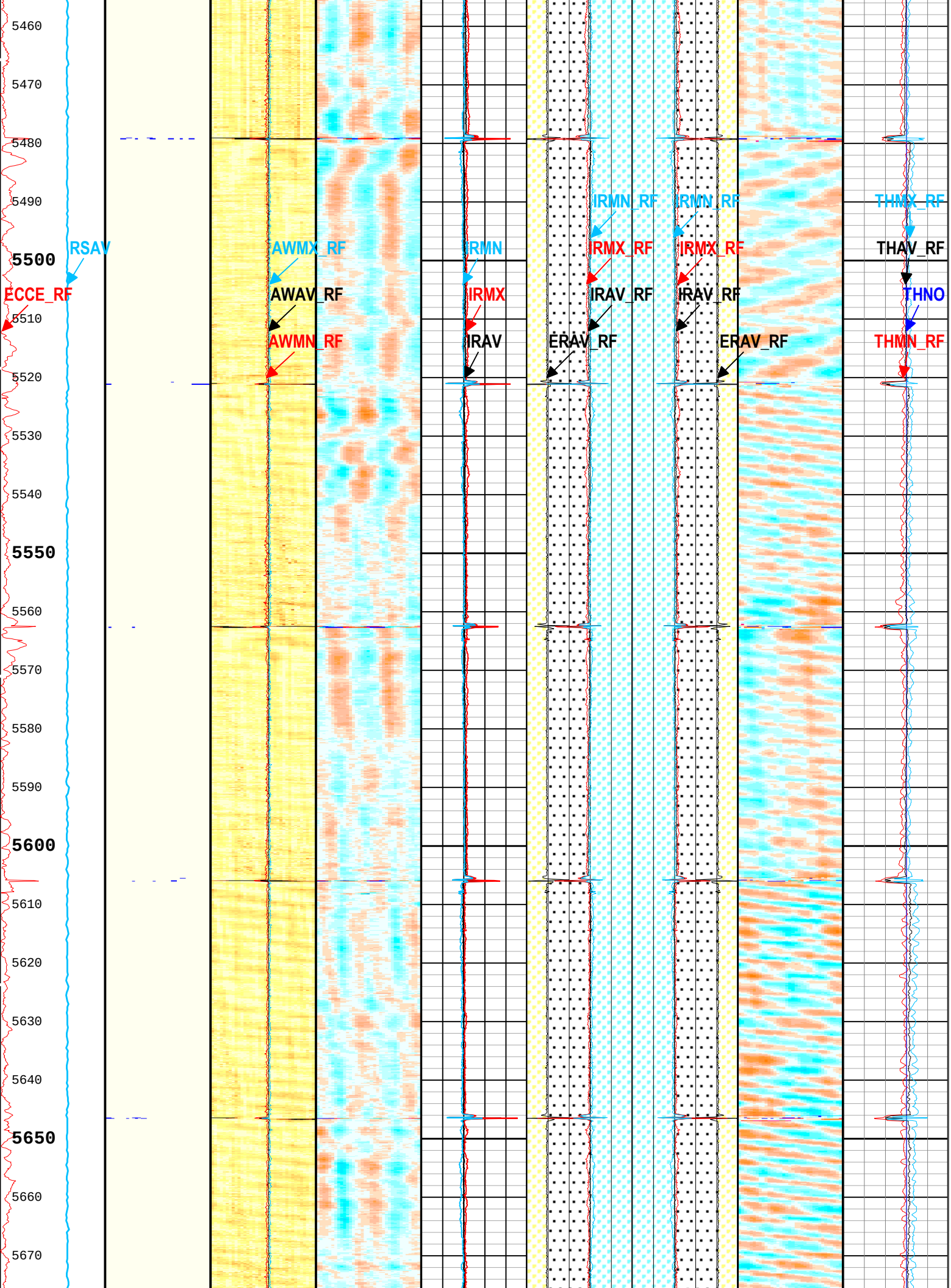
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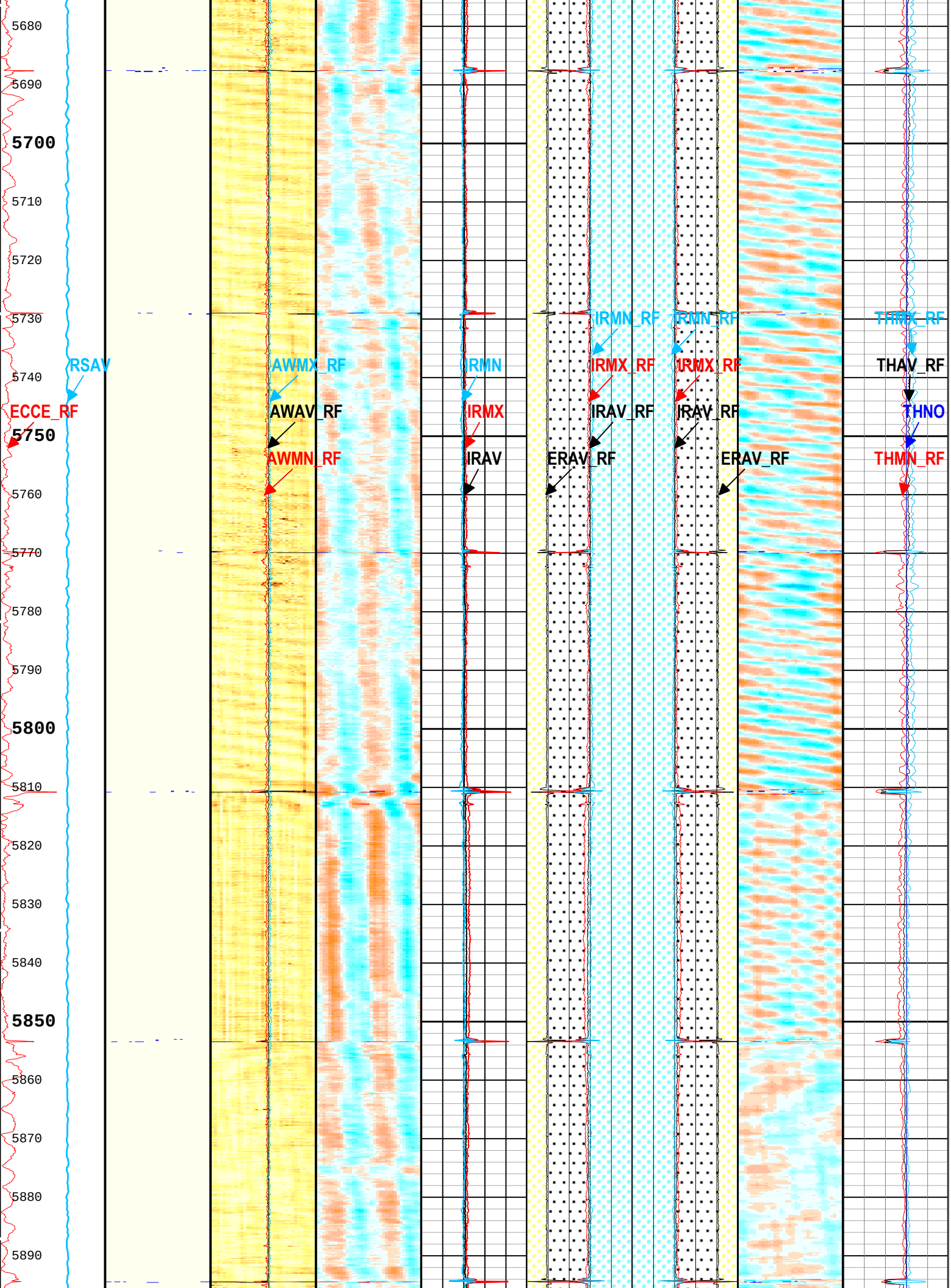
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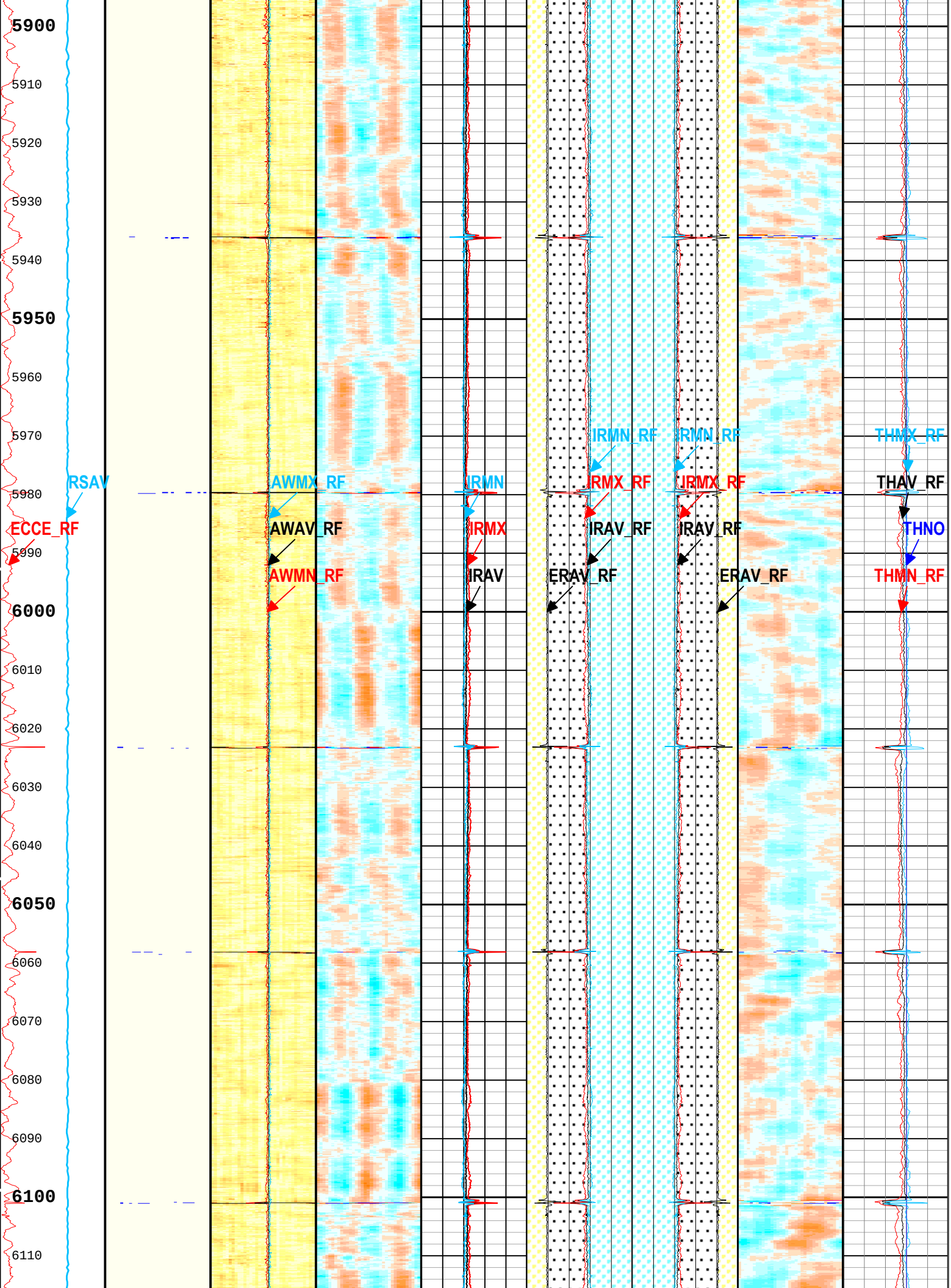
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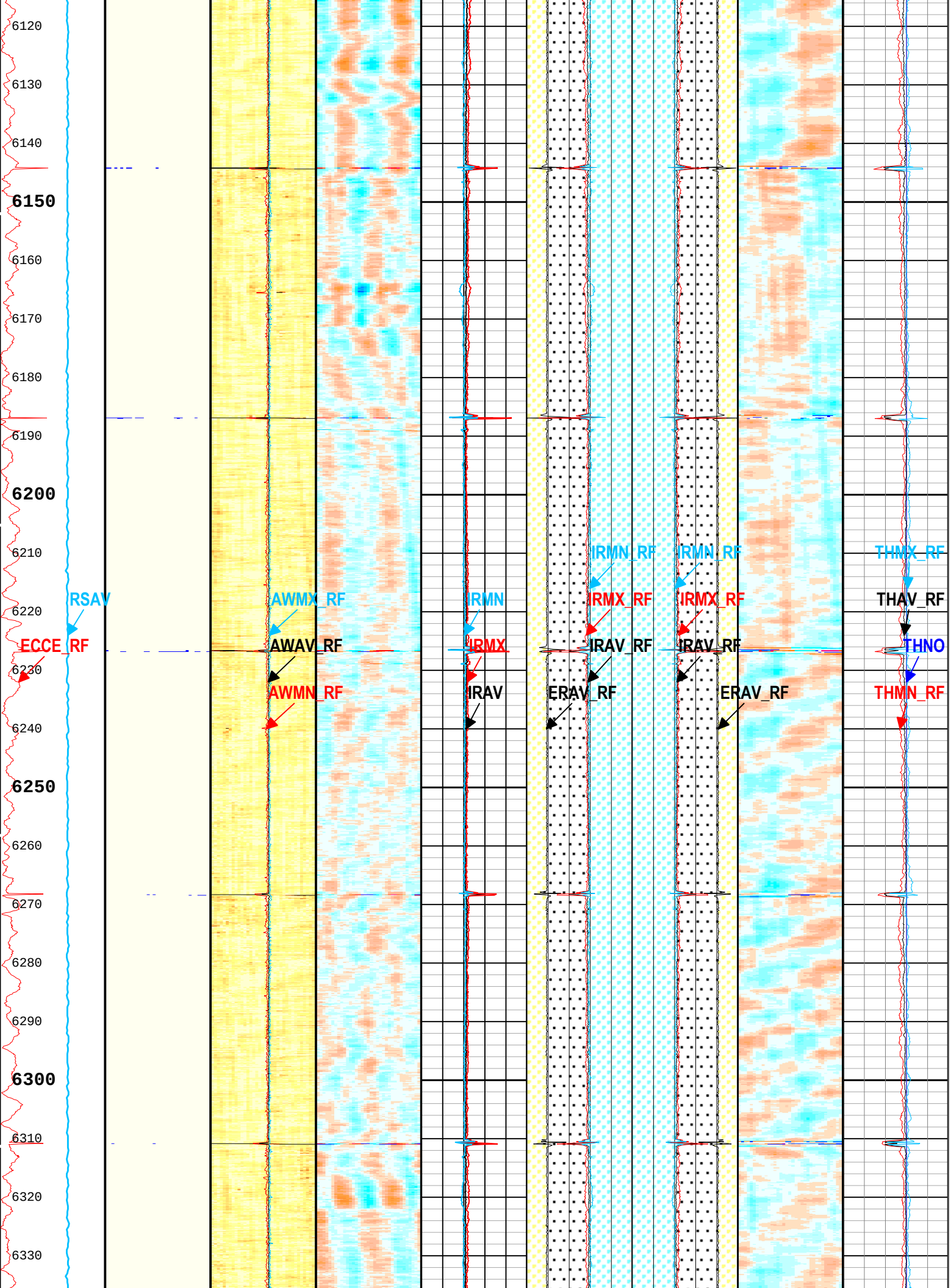
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RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
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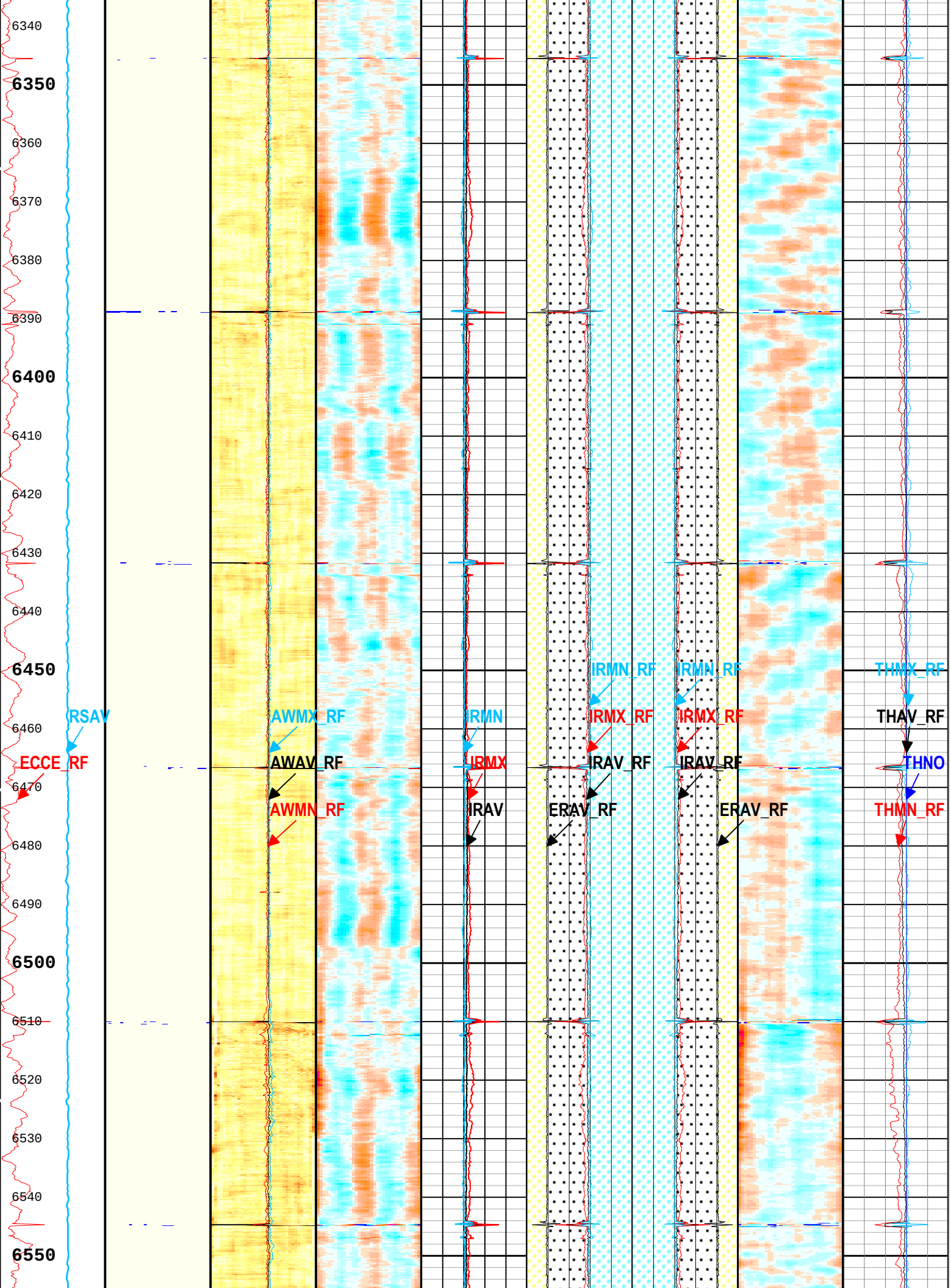
THMN_RF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RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
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IRMX
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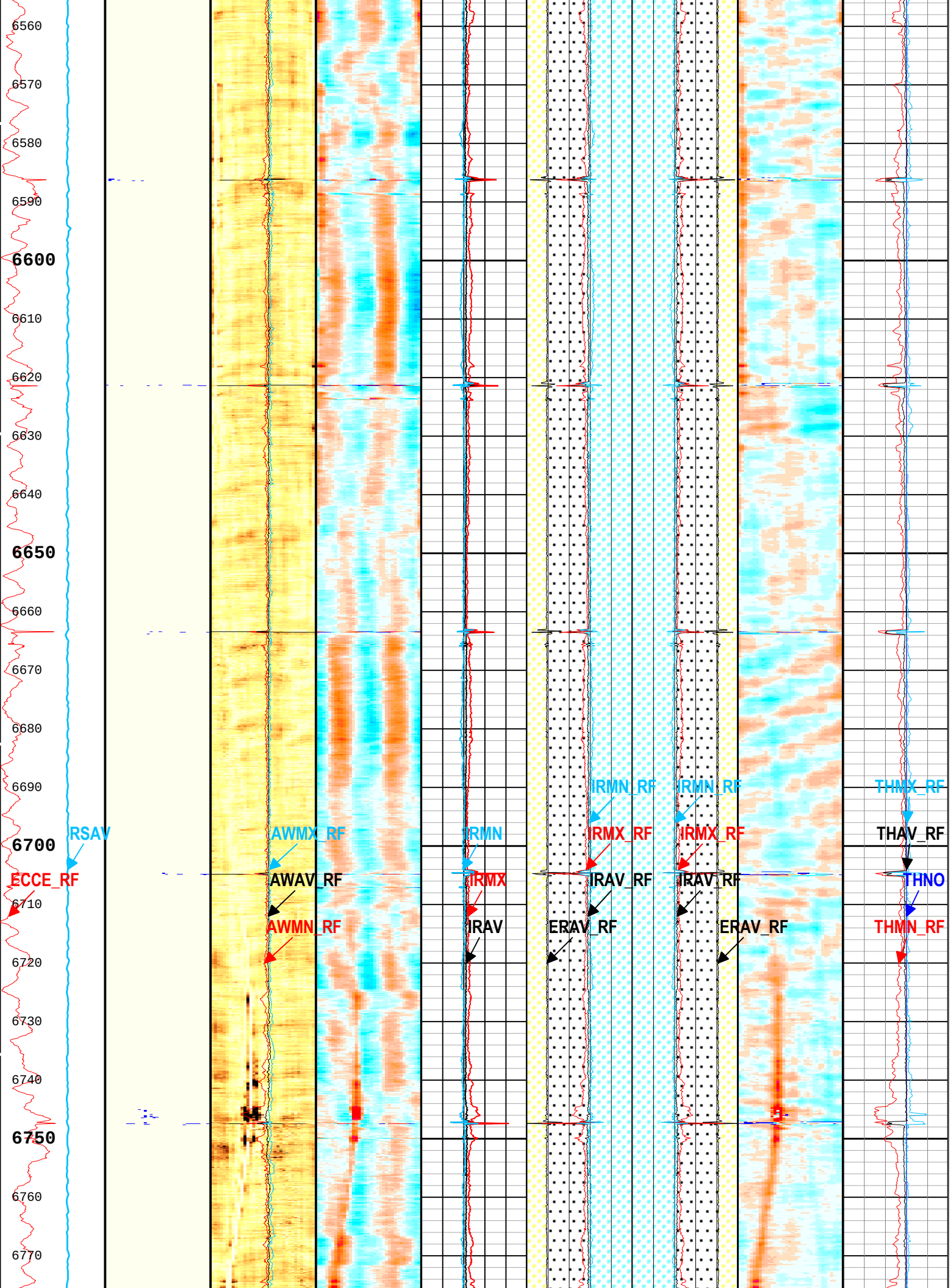
THMN_RF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RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
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THMX_RF
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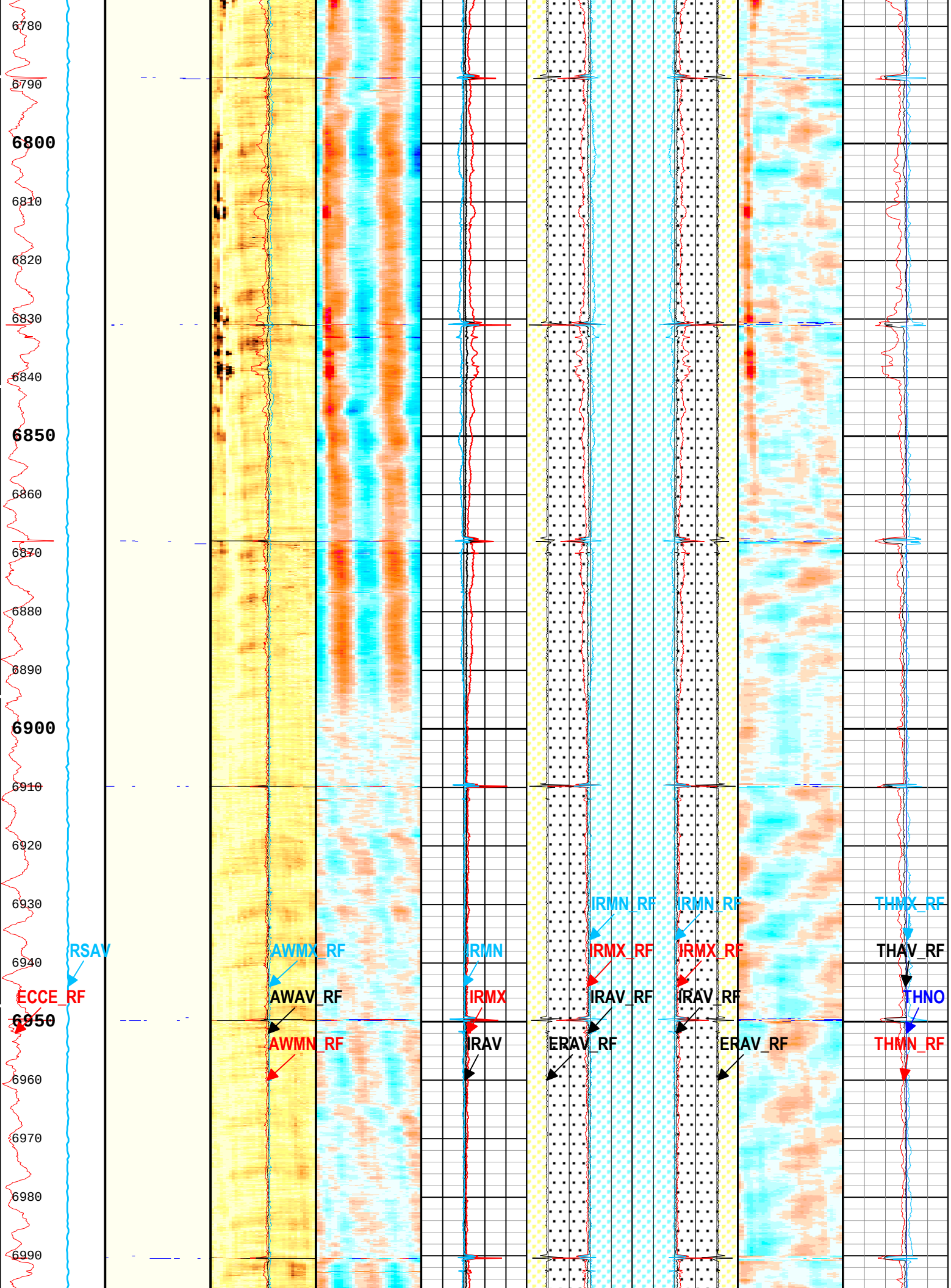
THMN_RF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6980
6990
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
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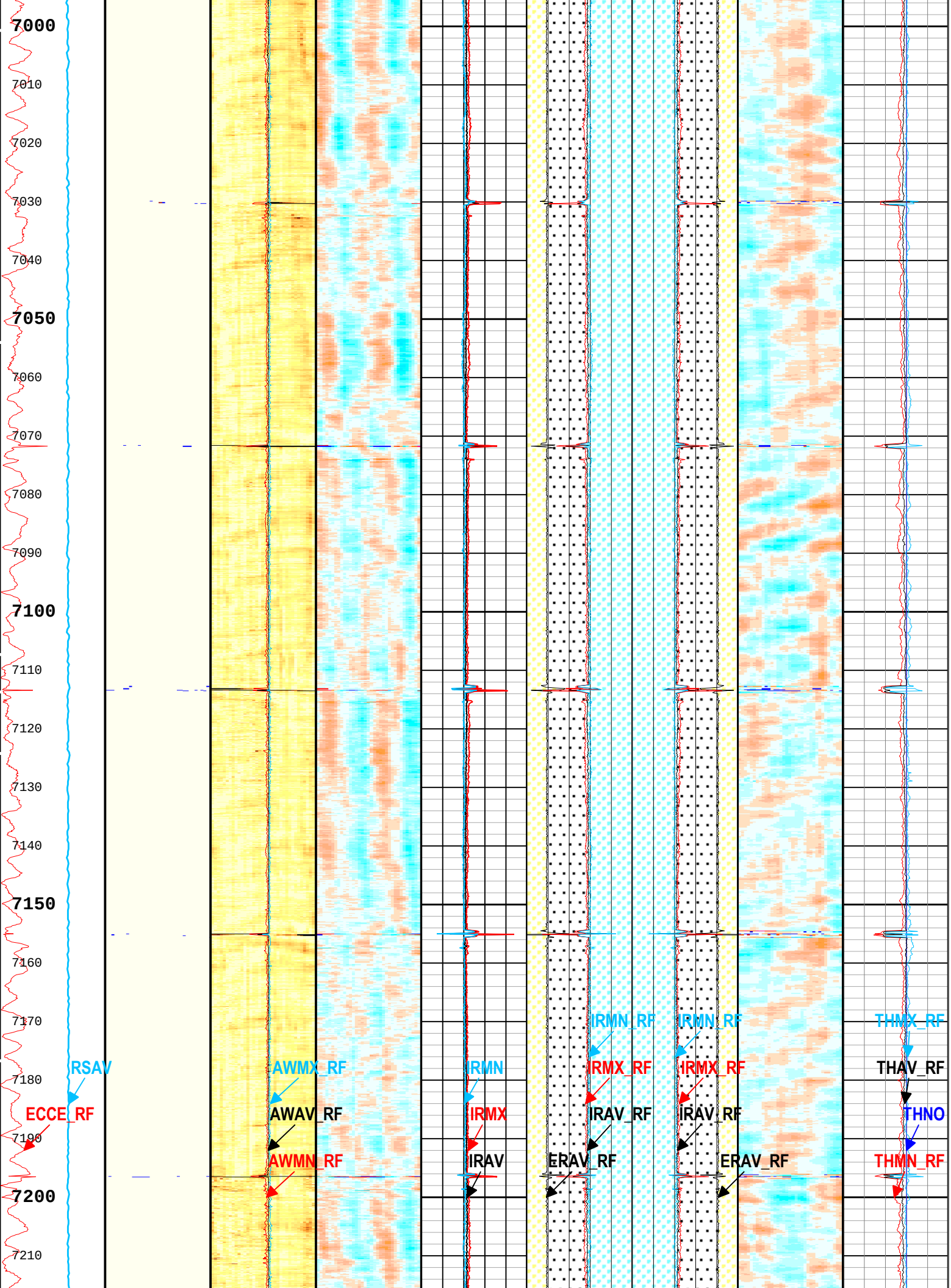
THMX_RF
THAV_RF
THNO
THMN_RF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7210
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
IRAV_RF
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IRMX_RF
IRAV_RF
ERAV_RF
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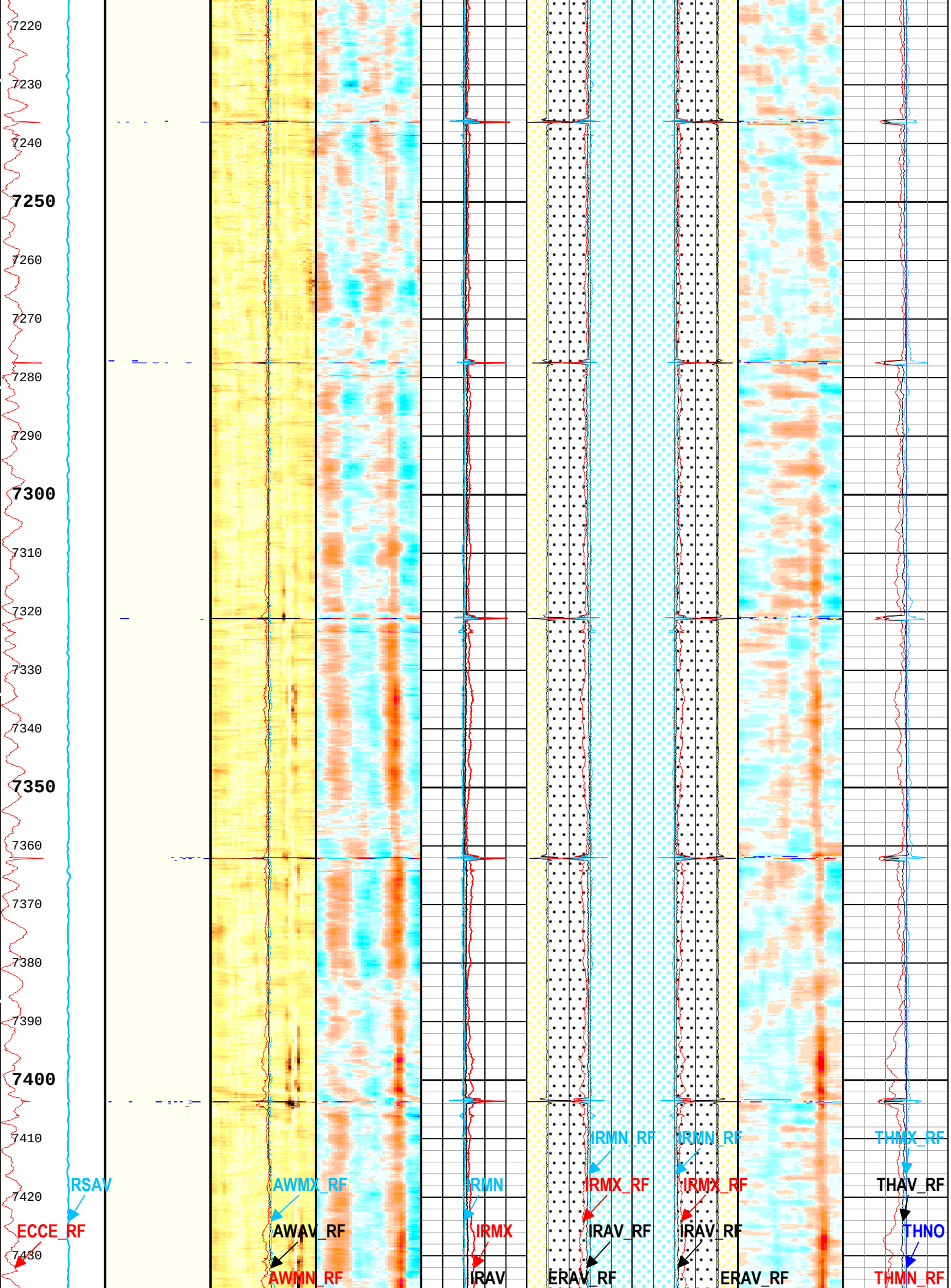
THAV_RF
THNO
THMN_RF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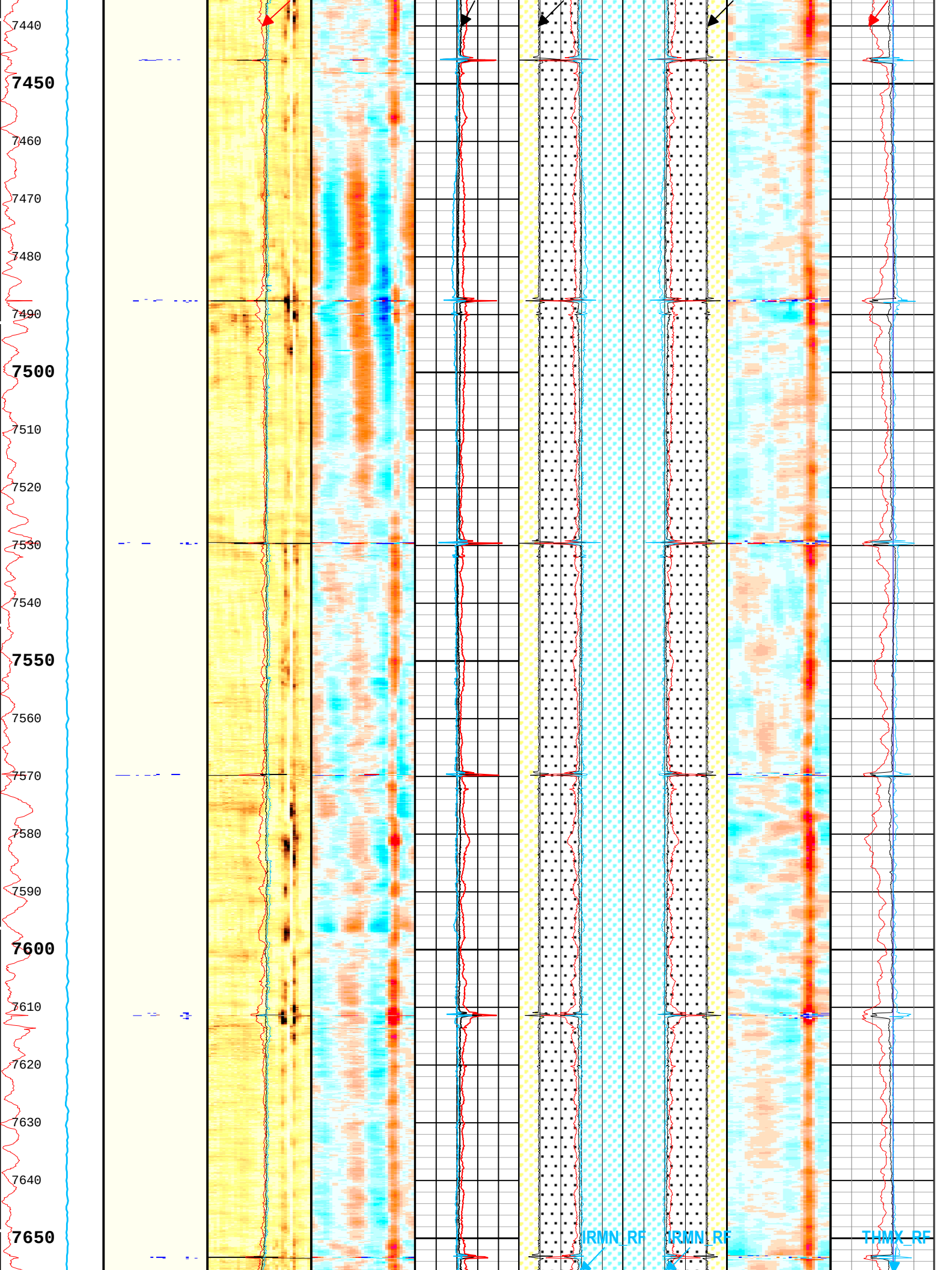
THMN_RF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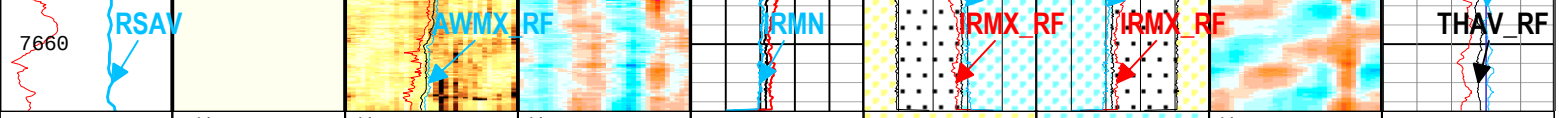
7650
IRMN_RF
IRMN_RF
THMX_RF



Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
0 in 0.5

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

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

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

Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E[1] (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E[1]
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E[1]
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E[1]
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E[1] (in)

Internal Radius Averaged Value (IRAV) USIT-E[1]
3.5 in 4.5

Internal Radius Maximum Value (IRMX) USIT-E[1]
3.5 in 4.5

Internal Radius Minimum Value (IRMN) USIT-E[1]
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1] (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E[1]
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E[1]
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E[1]
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E[1]
0.1 in 0.6

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

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:15:40

Composite 1

USI Compressed Goodwin

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[6]:Up	Up	7108.83 ft	7667.54 ft	10-Aug-2016 9:30:29 AM	10-Aug-2016 9:42:55 AM	ON	0.00 ft	Yes
Run 1	Log[7]:Up	Up	28.78 ft	7252.83 ft	10-Aug-2016 9:52:07 AM	10-Aug-2016 12:12:11 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A

Composite 1:S003

Description: USI Goodwin Format: Log (Import of USI Goodwin) Index Scale: 0.2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:15:55

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E[1] 0 Mrayl 10
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E[1] 0 Mrayl 10
Average Acoustic Impedance 1 (AV_AI1) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 3 (AV_AI3) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 5 (AV_AI5) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 7 (AV_AI7) USIT-E[1] 0 Mrayl 10

Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Minimum (AIMN) USIT-E[1] -1 Mrayl 9
Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Maximum (AIMX) USIT-E[1] -1 Mrayl 9
Average Acoustic Impedance 2 (AV_AI2) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 4 (AV_AI4) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 6 (AV_AI6) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 8 (AV_AI8) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 9 (AV_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Average (AIAV) USIT-E[1] -1 Mrayl 9

GR 0 gAPI 150

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

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

Absent 1.500 3.500 5.500 7.500

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

Bonded

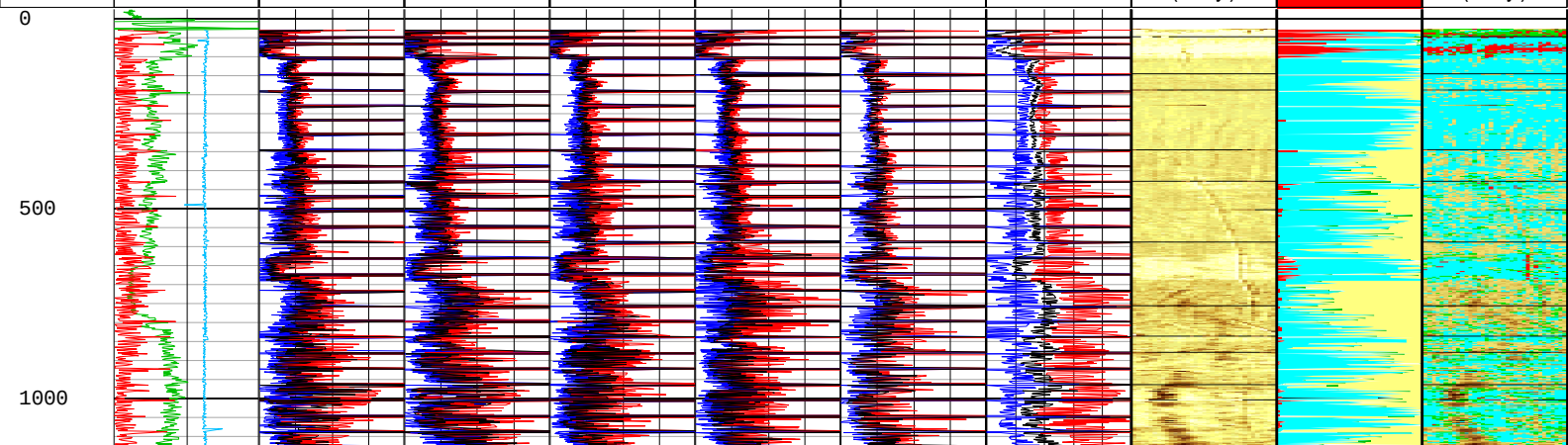
Micro-Debonding

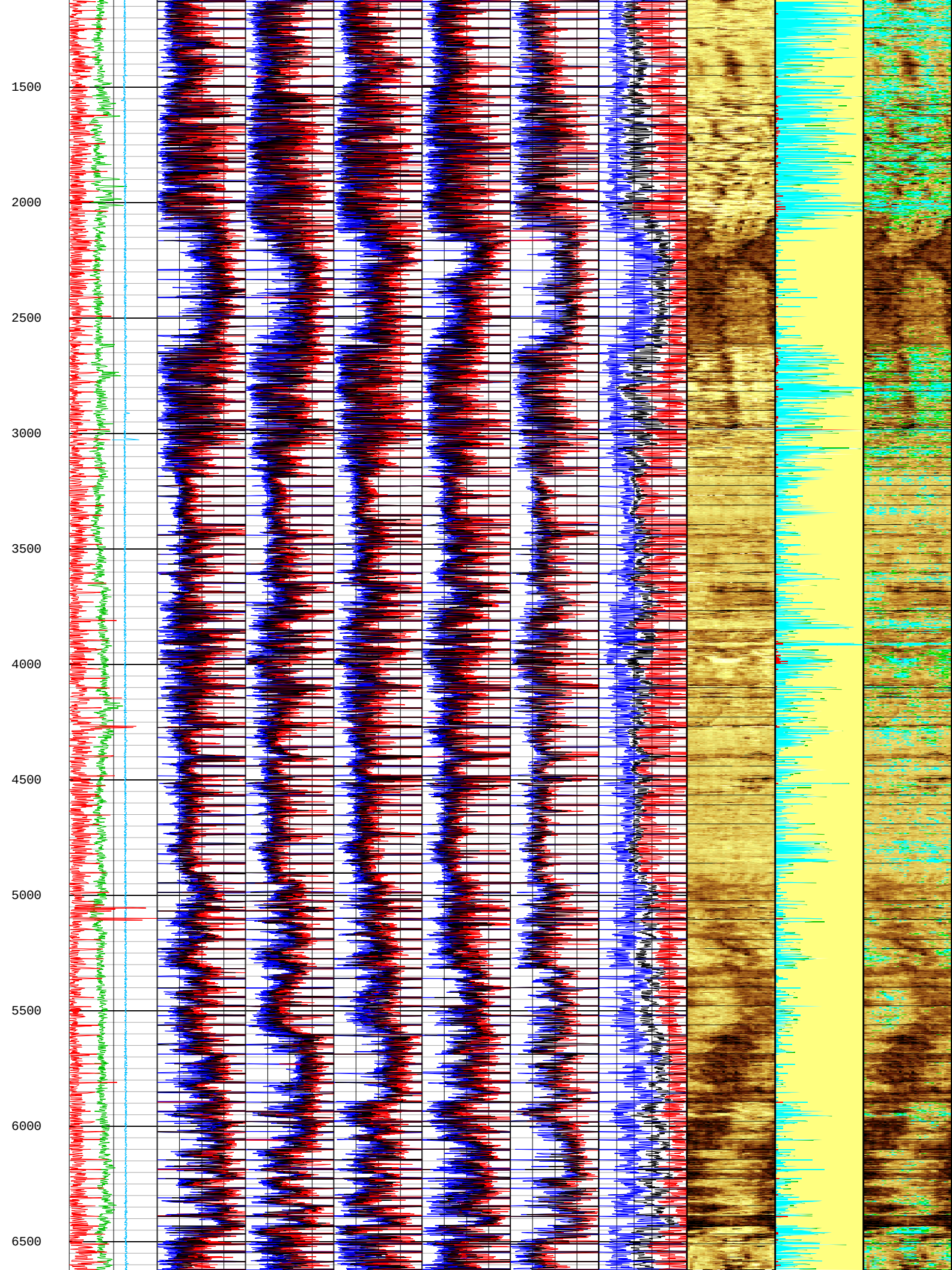
Liquid

Gas

-1000.000 3.090 5.054 7.018

Custom Normalization USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)

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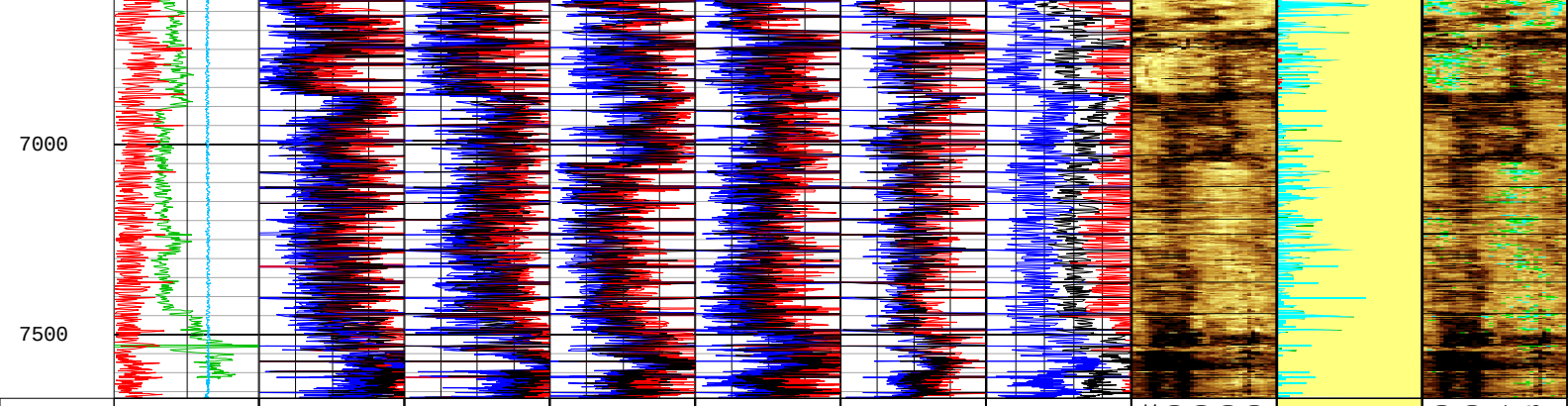
6000
6500



GR 0 gAPI 150	Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Minimum (AIMN) USIT-E[1] -1 Mrayl 9
Motor Revolution Speed (RSAV) USIT-E[1] 6 c/s 8	Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Maximum (AIMX) USIT-E[1] -1 Mrayl 9
Amplitude of Eccentering (ECCE) USIT-E[1] 0 in 0.5	Average Acoustic Impedance 1 (AV_AI1) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 3 (AV_AI3) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 5 (AV_AI5) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 7 (AV_AI7) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 9 (AV_AI9) USIT-E[1] 0 Mrayl 10	Acoustic Impedance Average (AIAV) USIT-E[1] -1 Mrayl 9
	Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E[1] 0 Mrayl 10	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E[1] 0 Mrayl 10		
	Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E[1] 0 Mrayl 10	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E[1] 0 Mrayl 10		
	Average Acoustic Impedance 2 (AV_AI2) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 4 (AV_AI4) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 6 (AV_AI6) USIT-E[1] 0 Mrayl 10	Average Acoustic Impedance 8 (AV_AI8) USIT-E[1] 0 Mrayl 10		

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log (Import of USI Goodwin) Index Scale: 0.2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 10-Aug-2016 16:15:55

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[16]:Up	Up	27.33 ft	149.10 ft	10-Aug-2016 2:25:31 PM	10-Aug-2016 2:32:19 PM	ON	-0.32 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A

Run 1: Log[16]:Up:S003

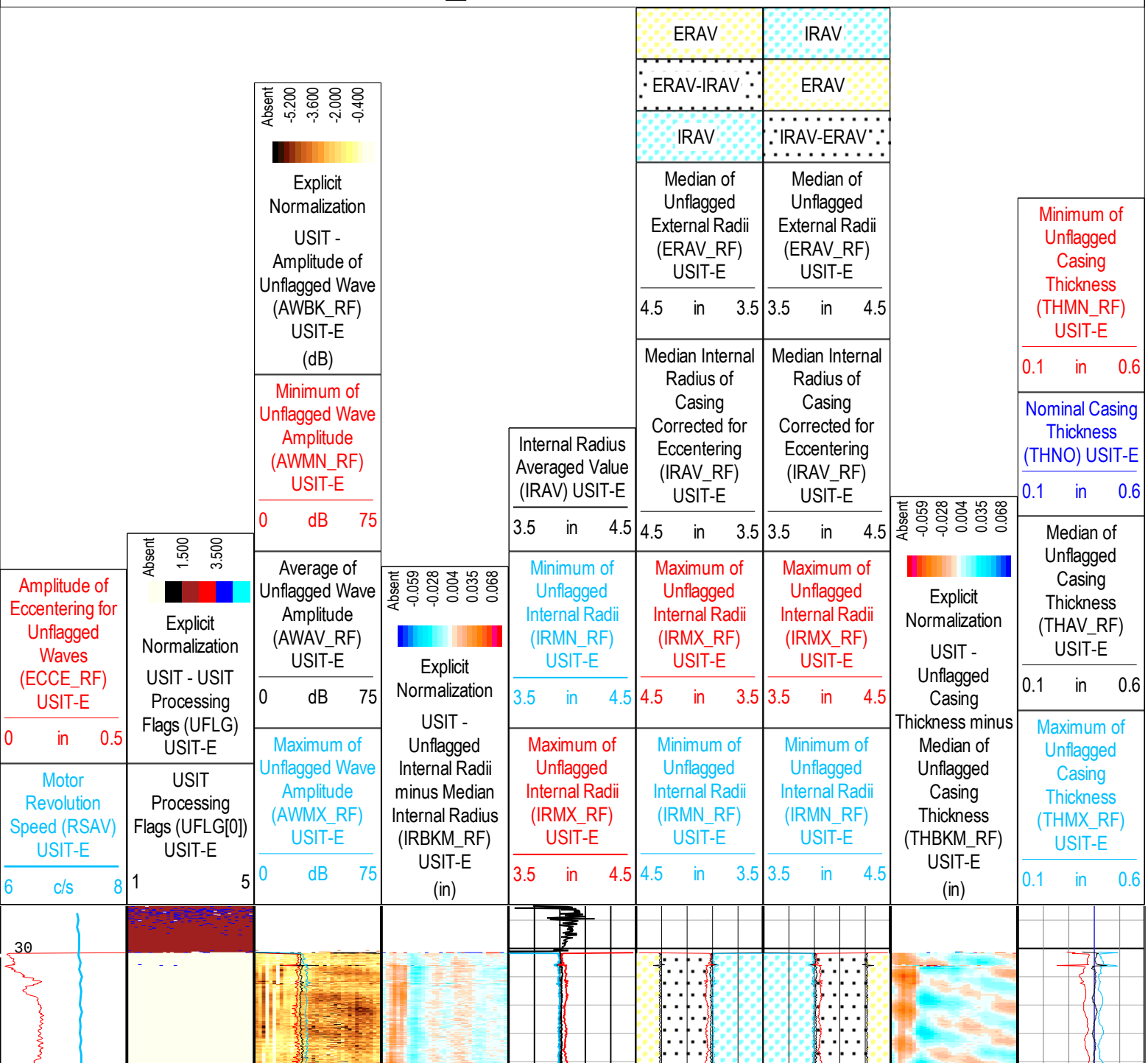
Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:00

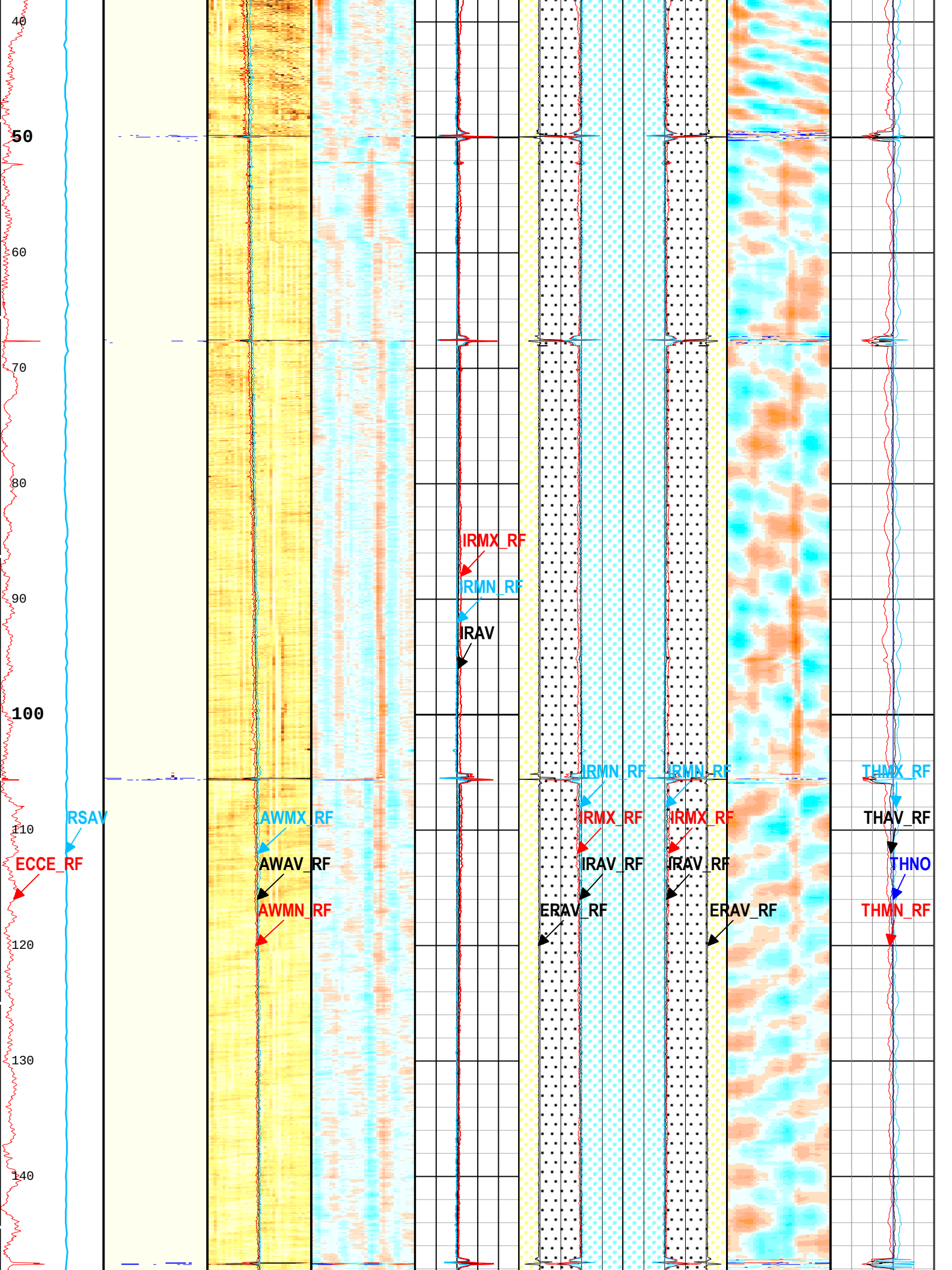
TIME_1900 - Time Marked every 60.00 (s)

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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IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:00

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[15]:Up	Up	2056.19 ft	2141.46 ft	10-Aug-2016 2:08:02 PM	10-Aug-2016 2:12:18 PM	ON	5.27 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A
Run 1: Log[15]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:03

Creation Date: 10-Aug-2010 10:10:05

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)

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

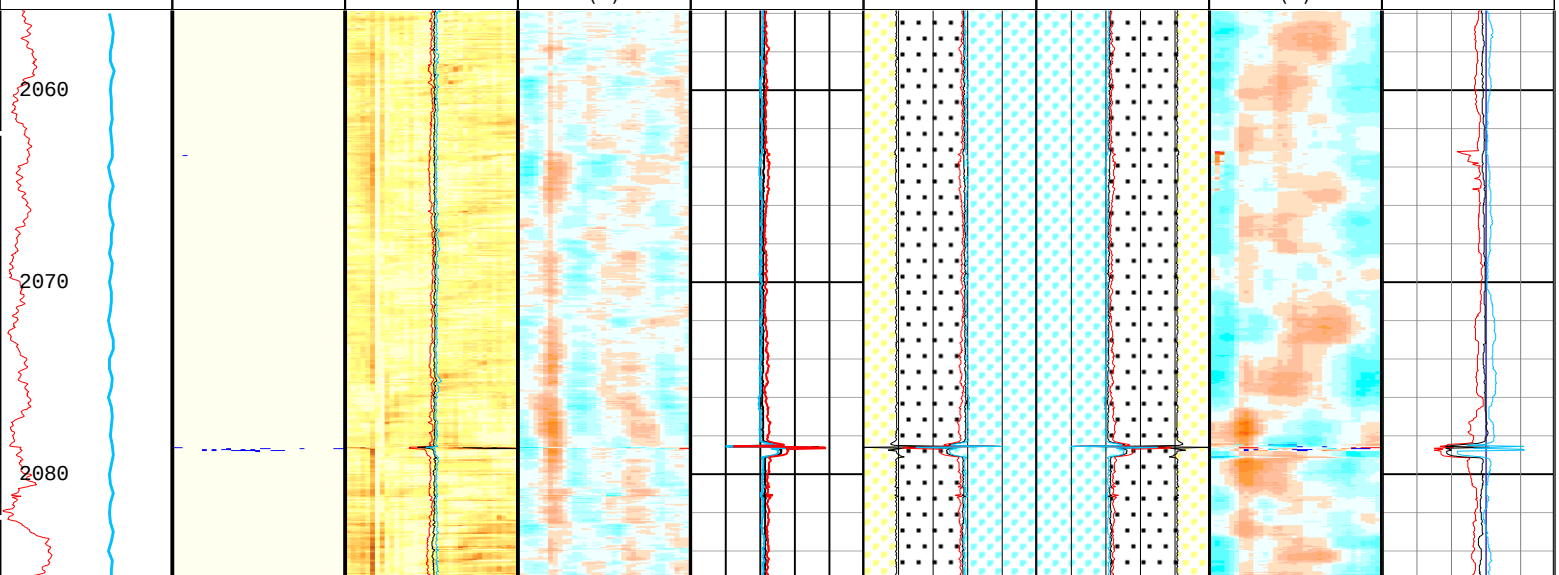
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

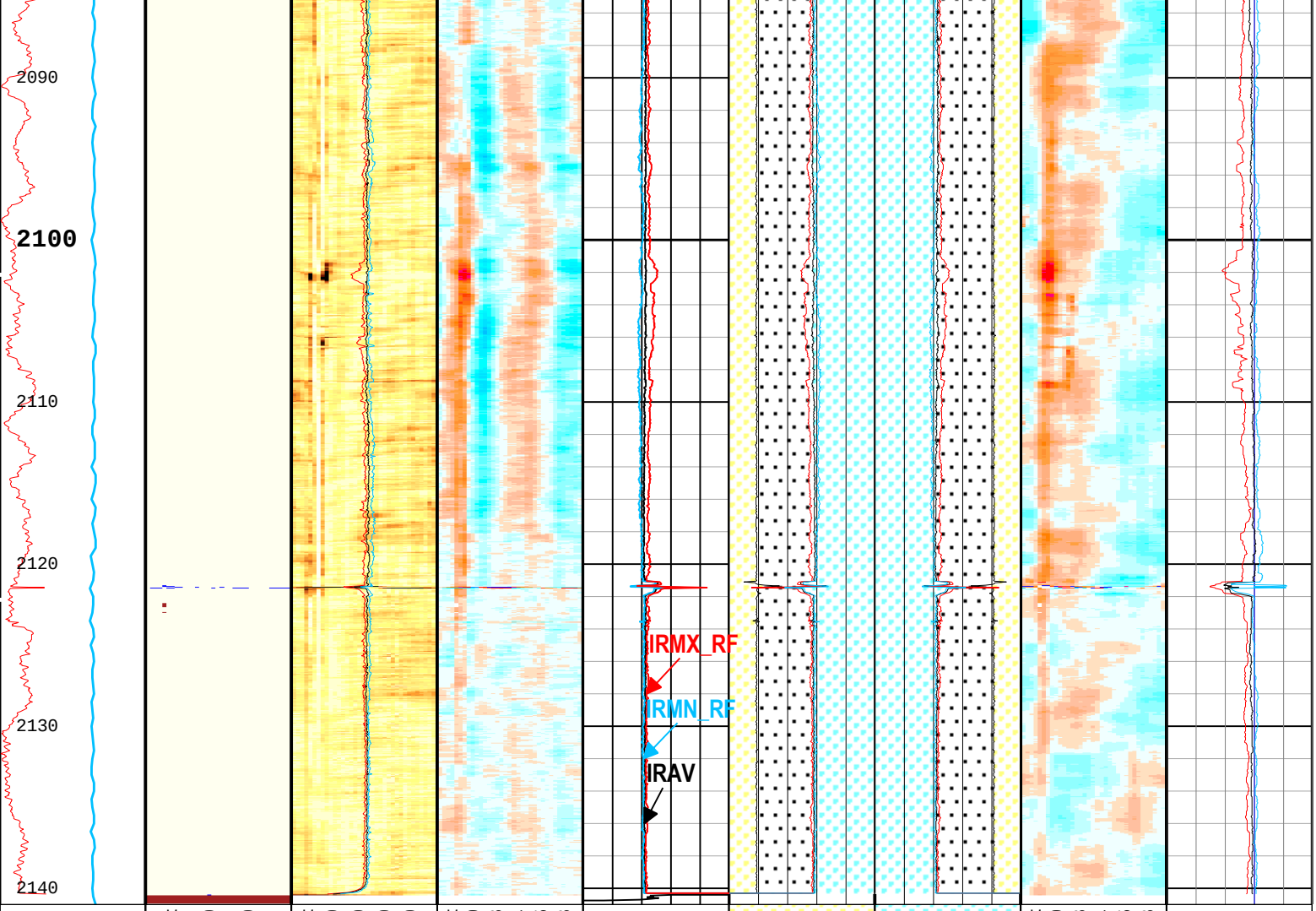
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6





Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

0 dB 75

Internal Radii (IRMN_RF) USIT-E

4.5 in 3.5

Internal Radii (IRMN_RF) USIT-E

3.5 in 4.5

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:03

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[14]:Up	Up	2960.48 ft	3013.53 ft	10-Aug-2016 1:59:42 PM	10-Aug-2016 2:02:25 PM	ON	5.58 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A
Run 1: Log[14]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:05

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)

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E

0 dB 75

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E

4.5 in 3.5

Median of Unflagged External Radii (ERAV_RF) USIT-E

3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E

4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E

3.5 in 4.5

Internal Radius Averaged Value (IRAV) USIT-E

3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068

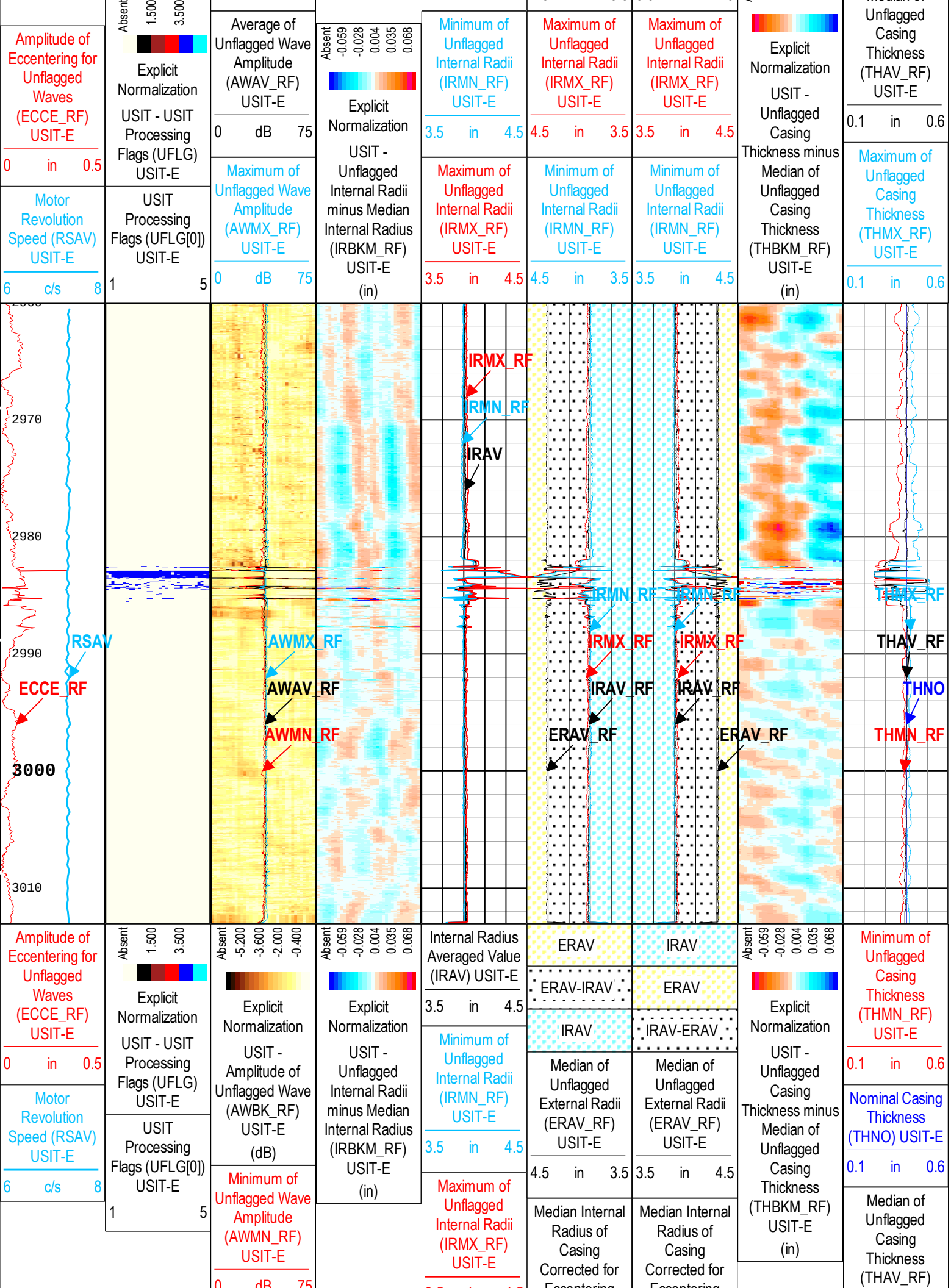
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E

0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E

0.1 in 0.6

Median of


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
Maximum of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
2970
2980
2990
3000
3010
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRMN_RF
IRAV
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
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 Unflagged Wave (AWBK_RF) USIT-E (dB)
Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)
Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
ERAV
ERAV-IRAV
IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5
Median Internal Radius of Casing Corrected for Eccentering
IRAV
ERAV
IRAV-ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5
Median Internal Radius of Casing Corrected for Eccentering
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6
Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6
Median of Unflagged Casing Thickness (THAV_RF)

0	dB	75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E

0	dB	75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

0	dB	75

3.5	in	4.5

Eccentering (IRAV_RF) USIT-E

4.5	in	3.5

Eccentering (IRAV_RF) USIT-E

3.5	in	4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

4.5	in	3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

3.5	in	4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

4.5	in	3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

3.5	in	4.5

USIT-E

0.1	in	0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E

0.1	in	0.6

TIME_1900 - Time Marked every 60.00 (s)

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

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

2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected

3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error

4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - : Loop Processing Error

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:05

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[13]:Up	Up	4253.58 ft	4299.18 ft	10-Aug-2016 1:48:35 PM	10-Aug-2016 1:50:53 PM	ON	4.63 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A

Run 1: Log[13]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:08

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

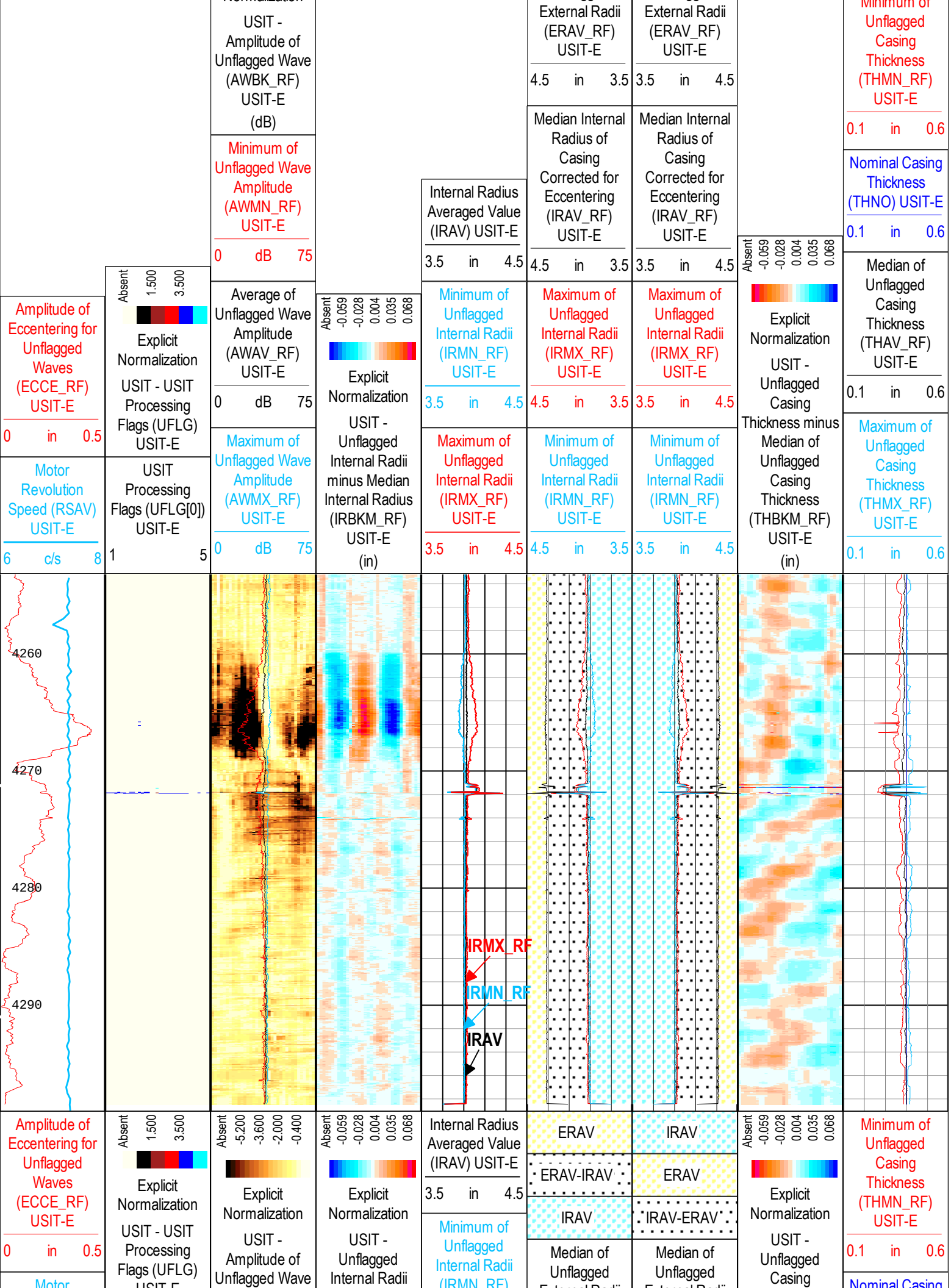
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - : Loop Processing Error

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

ERAV	IRAV
ERAV-IRAV	ERAV
IRAV	IRAV-ERAV
Median of Unflagged	Median of Unflagged


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)
Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75
Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Absent -5.200 -3.600 -2.000 -0.400
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)
Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
IRMX_RF
IRMN_RF
IRAV
External Radii (ERAV_RF) USIT-E
4.5 in 3.5
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
ERAV
ERAV-IRAV
IRAV
External Radii (ERAV_RF) USIT-E
3.5 in 4.5
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
IRAV
ERAV
IRAV-ERAV
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6
Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6
Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
4260
4270
4280
4290

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

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

(AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

minus Median Internal Radius (IRBKM_RF) USIT-E (in)

USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:08

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[10]:Up	Up	5046.78 ft	5130.13 ft	10-Aug-2016 1:34:31 PM	10-Aug-2016 1:38:42 PM	ON	5.52 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A
Run 1: Log[10]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:11

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

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - : Loop Processing Error

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

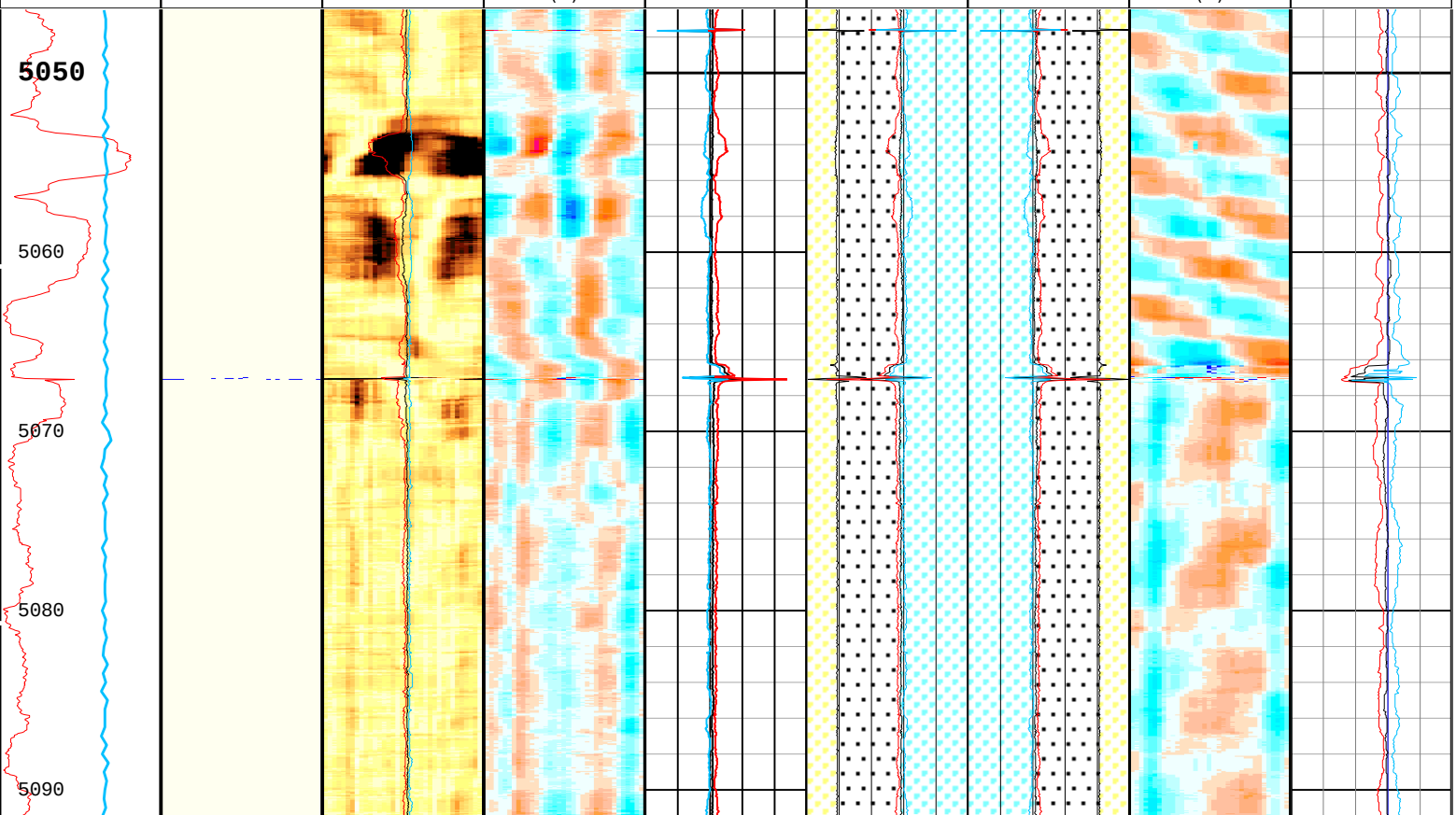
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

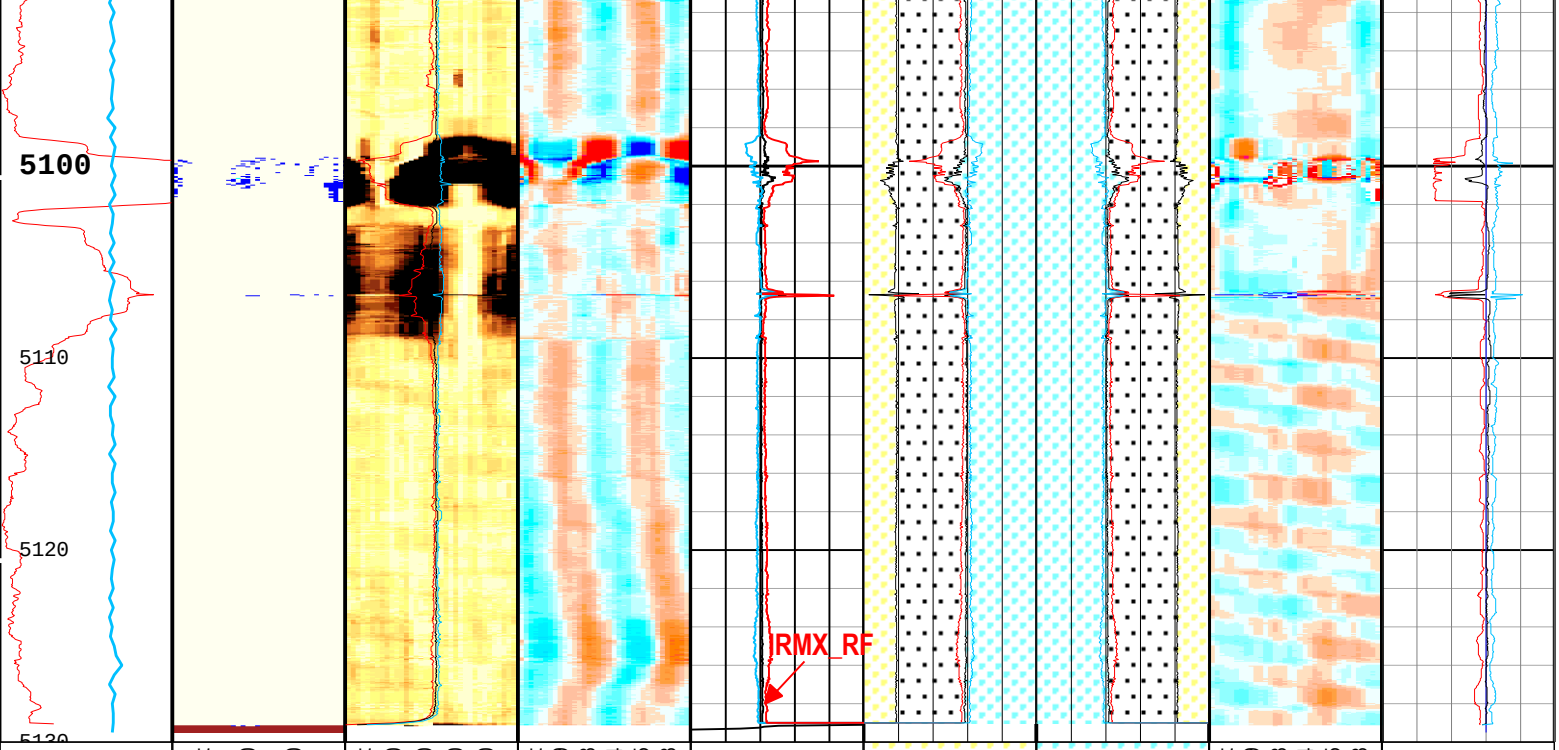
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6





Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

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] - :

UTIM Error
Pulse Origin Not Detected
WINLEN Error

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:11

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[9]:Up	Up	6706.58 ft	6866.44 ft	10-Aug-2016 1:14:17 PM	10-Aug-2016 1:22:17 PM	ON	4.79 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A

Run 1: Log[9]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:14

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)

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged

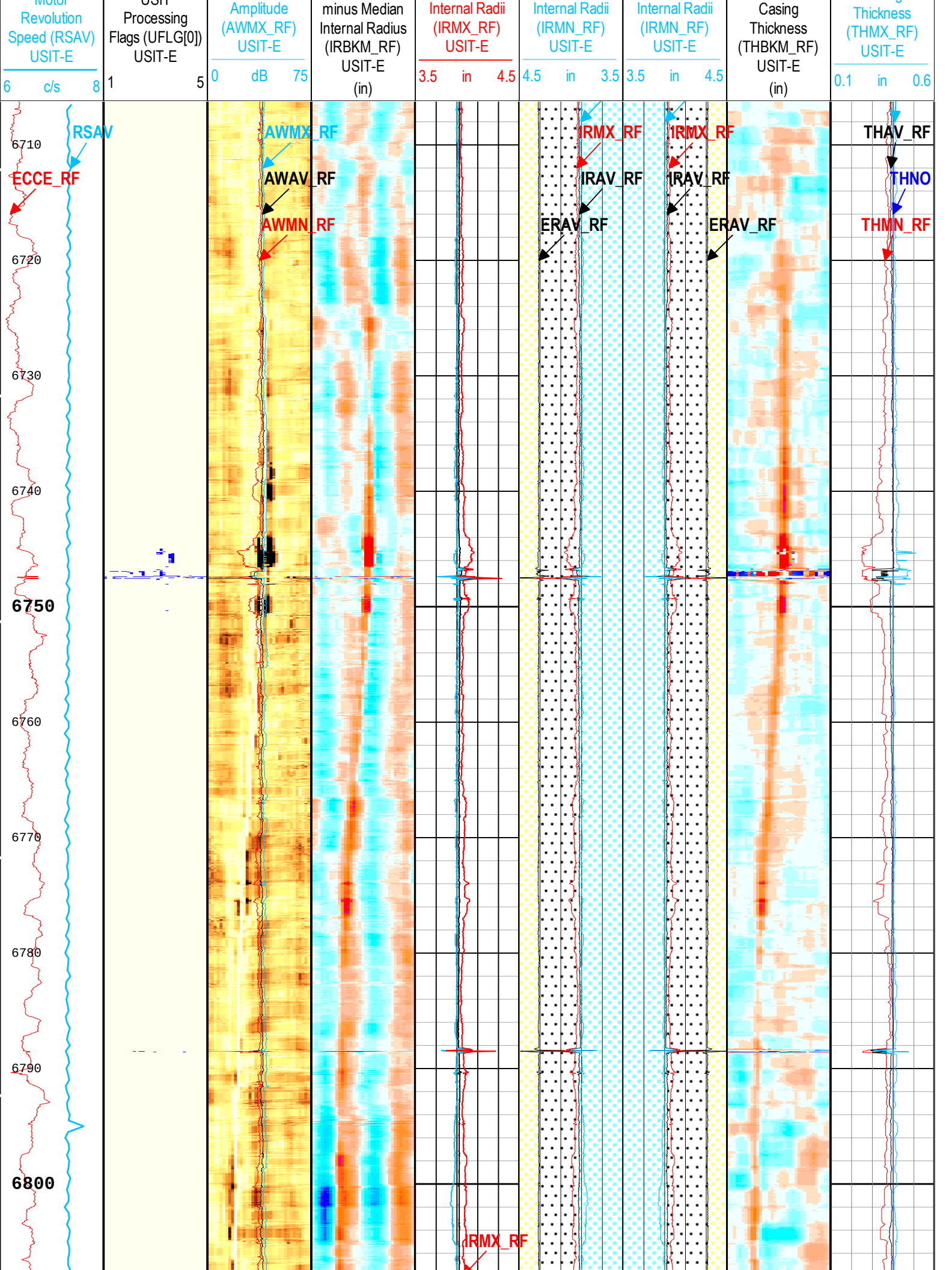
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing


Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Amplitude (AWMX_RF) USIT-E
0 dB 75
minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Casing Thickness (THBKM_RF) USIT-E
(in)
Thickness (THMX_RF) USIT-E
0.1 in 0.6
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMX_RF
IRAV_RF
ERAV_RF
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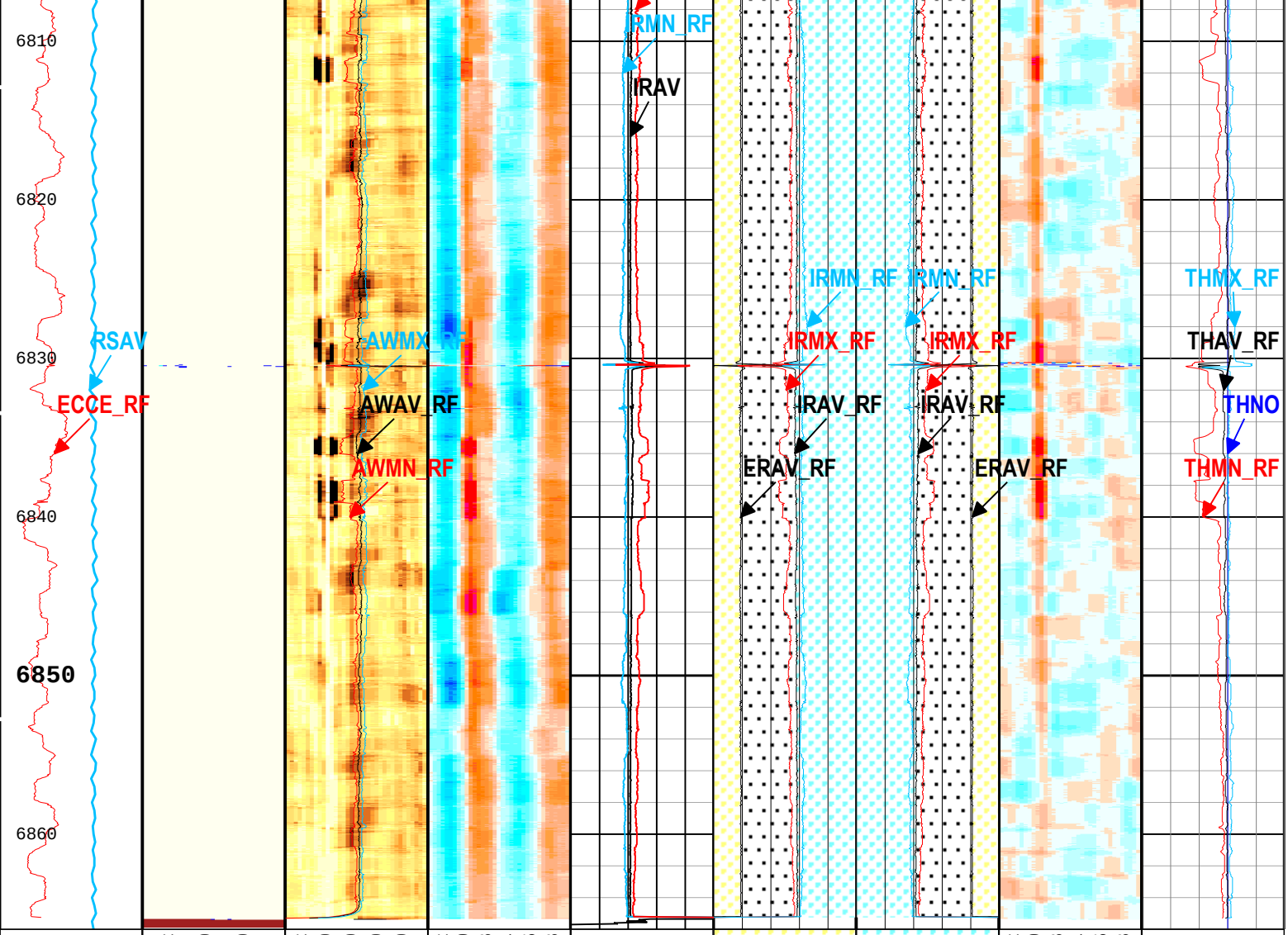
6760
6770
6780
6790
6800



Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6

(AWMX_RF) USIT-E
0 dB 75

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

TIME_1900 - Time Marked every 60.00 (s)

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

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

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:14

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[8]:Up	Up	7374.65 ft	7522.08 ft	10-Aug-2016 1:02:41 PM	10-Aug-2016 1:10:15 PM	ON	4.79 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A
Run 1: Log[8]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:18

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)

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

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E

Internal Radius Averaged Value (IRAV) USIT-E

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

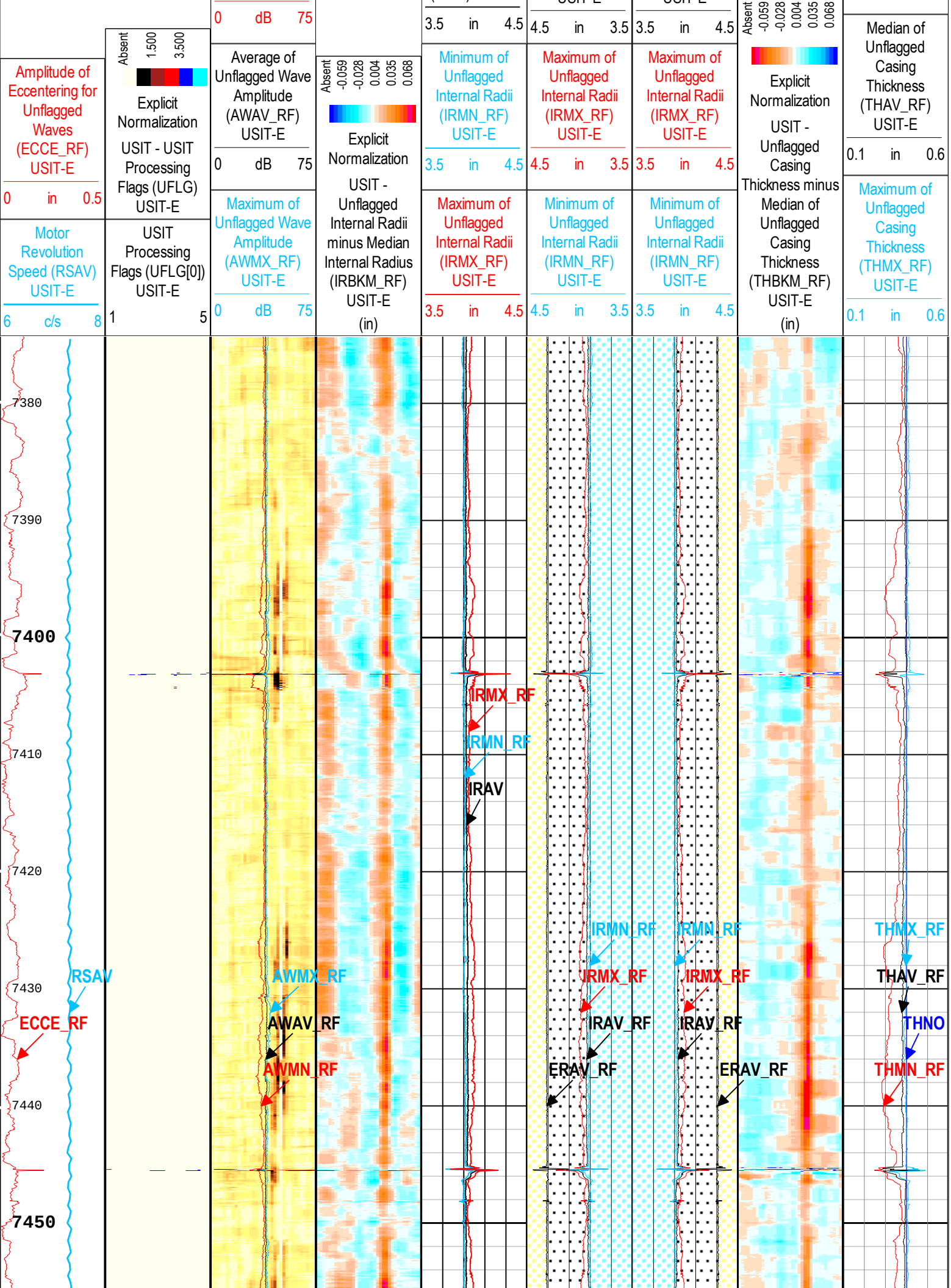
Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
0 dB 75
Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
4.5 in 3.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
7380
7390
7400
7410
7420
7430
7440
7450
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRMN_RF
IRAV
IRMN_RF
IRMX_RF
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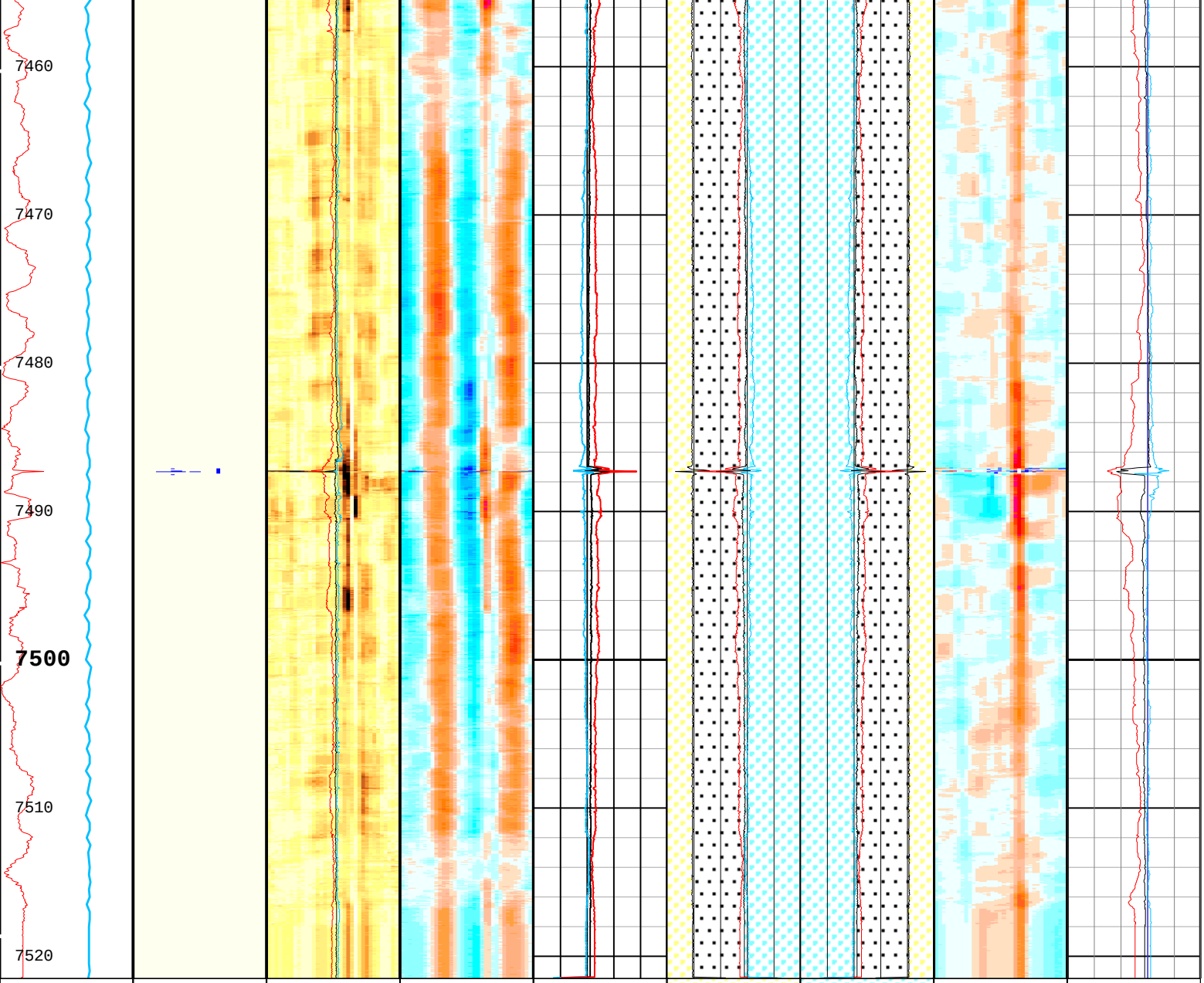
THMX_RF
THAV_RF
THNO
THMN_RF



Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF)

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

(IRMX_RF) USIT-E
4.5 in 3.5

(IRMX_RF) USIT-E
3.5 in 4.5

(THMX_RF) USIT-E
0.1 in 0.6

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:18

Run 1

Hi-Res Corrosion Repeat 10 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Log[3]:Up	Up	7471.84 ft	7508.28 ft	10-Aug-2016 9:18:31 AM	10-Aug-2016 9:20:26 AM	ON	6.22 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter 26A
Run 1: Log[3]:Up:S003

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:22

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)

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)

ERAV | IRAV
ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Median Internal Radius of

Median Internal Radius of

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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

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

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4.5 in 3.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5

Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

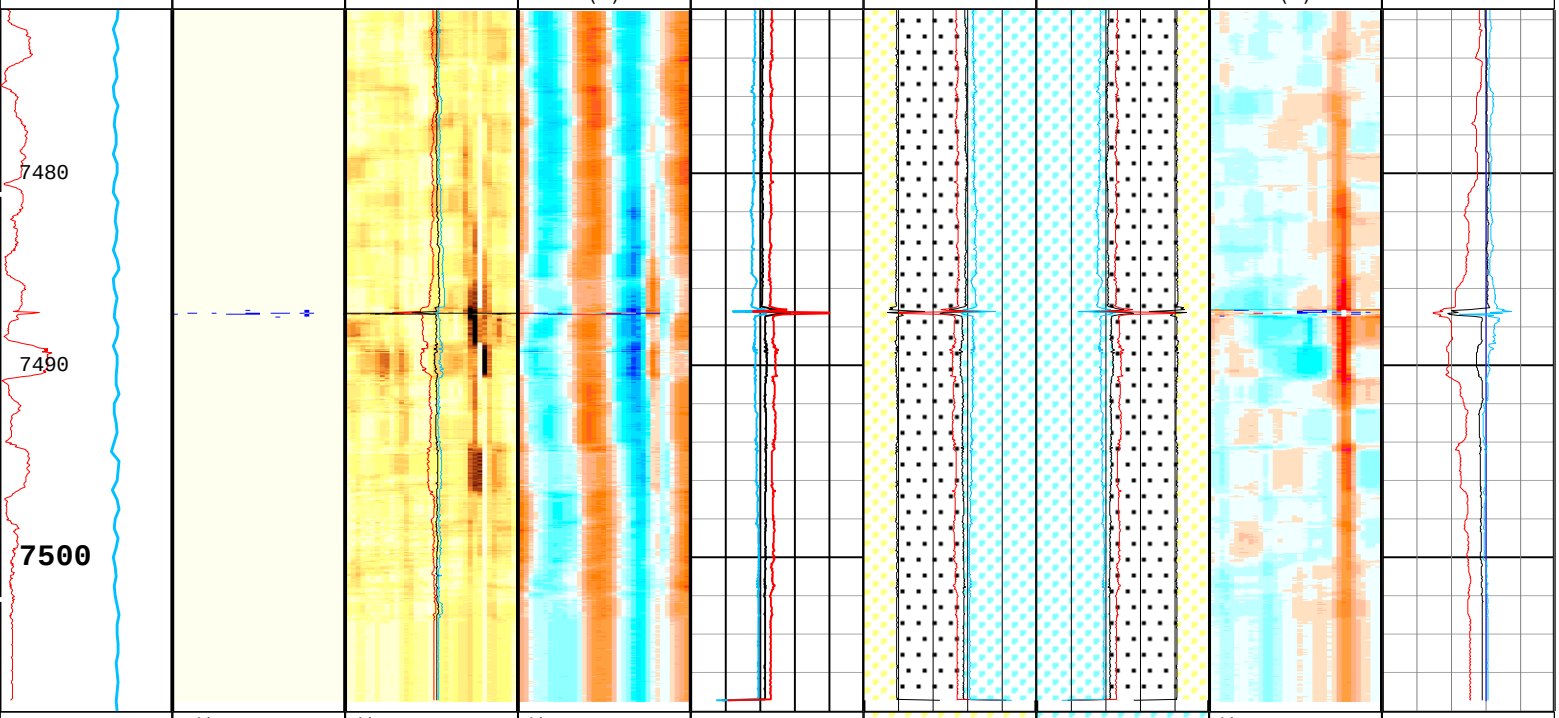
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6



Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5

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

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 Unflagged Wave (AWBK_RF) USIT-E (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E
0 dB 75

Average of Unflagged Wave

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)

Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4.5 in 3.5

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
3.5 in 4.5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-E
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-E
0.1 in 0.6

Maximum of

Amplitude (AWAV_RF) USIT-E	Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E	Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E	Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0 dB 75	4.5 in 3.5	3.5 in 4.5	0.1 in 0.6

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
0 dB 75	4.5 in 3.5	3.5 in 4.5

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 Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 10-Aug-2016 16:16:22

XYZ

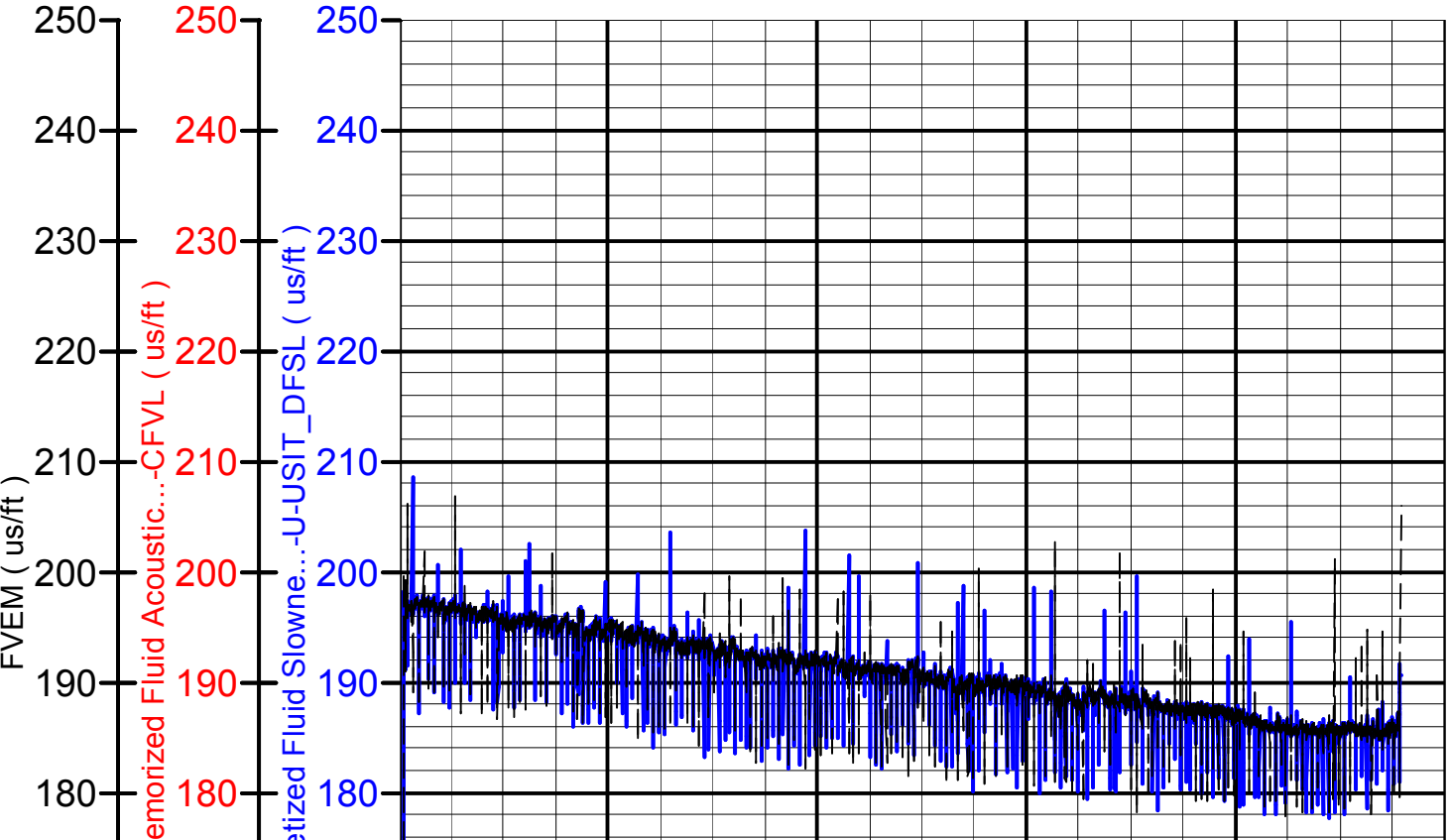
Company:Southern California Gas Company Well:Porter 26A
Composite 1:S003

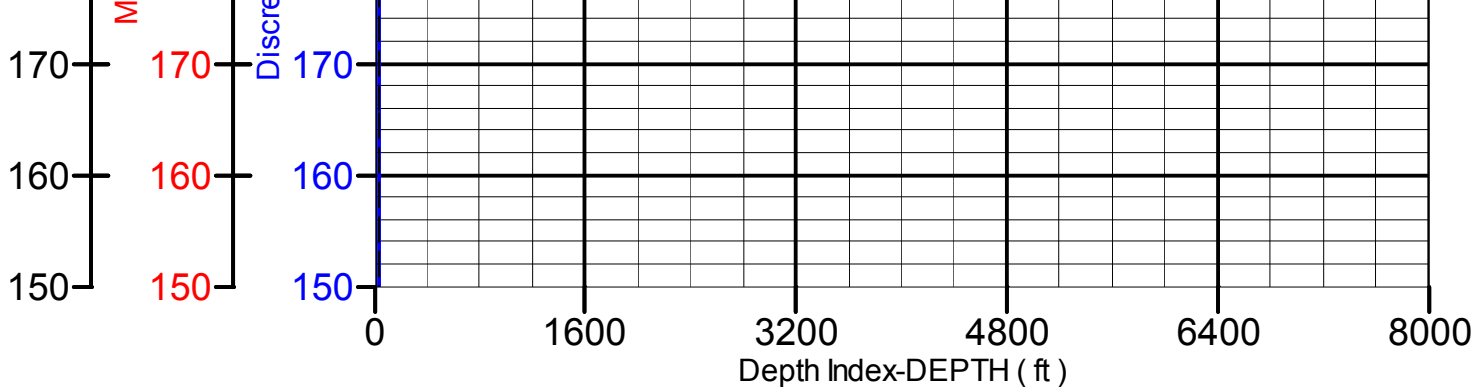
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 28.50 to 7667.50 ft

DEPTH-U-USIT_DFSL — — - DEPTH-CFVL
— — - DEPTH-FVEM (FVEM : Data Not Found)





XYZ

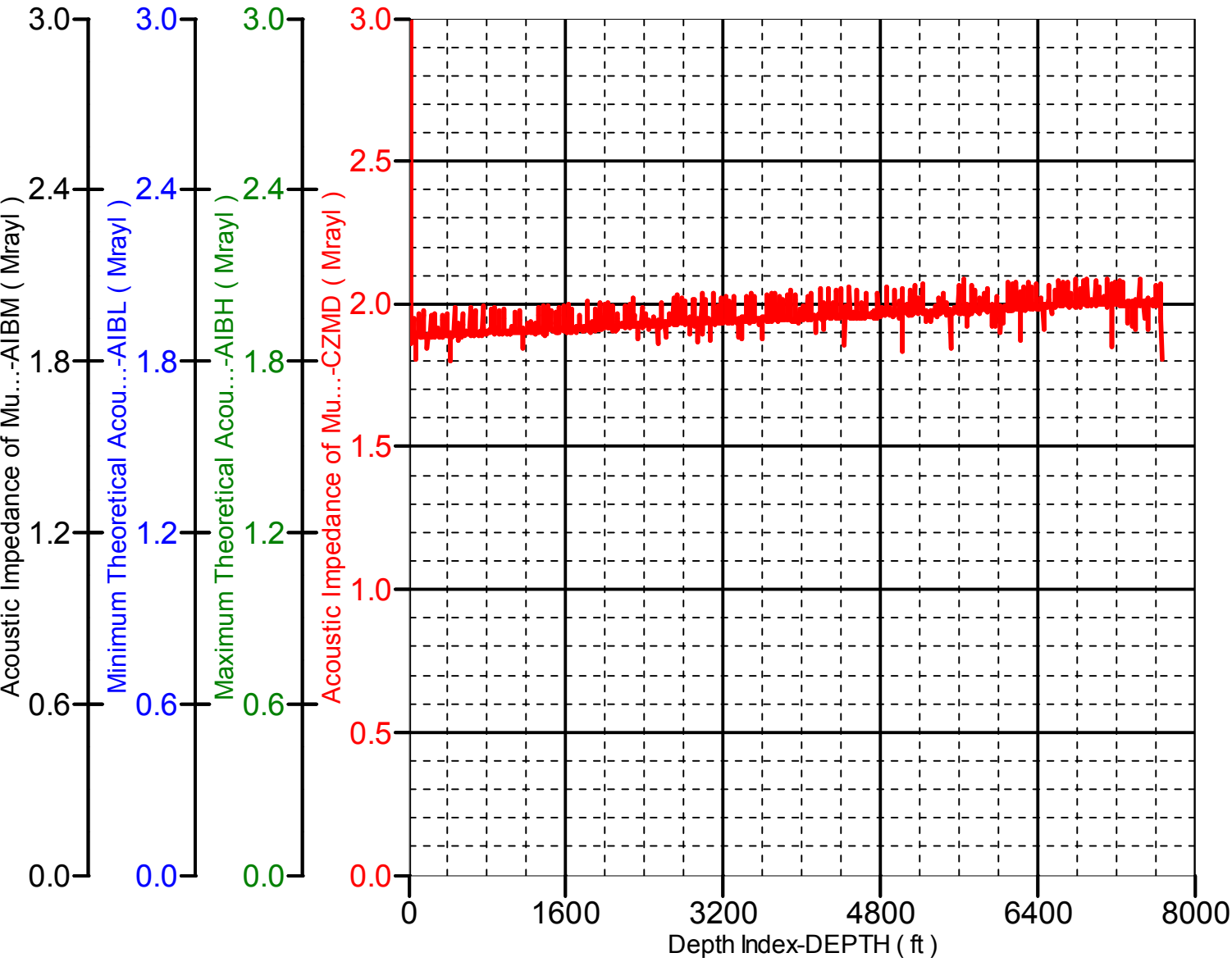
Company:Southern California Gas Company Well:Porter 26A
Composite 1:S003

Theoretical Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 28.50 to 7667.50 ft

DEPTH-CZMD
DEPTH-AIBH (AIBH : Data Not Found)
DEPTH-AIBL (AIBL : Data Not Found)
DEPTH-AIBM (AIBM : Data Not Found)



Company:	Southern California Gas Company
Well:	Porter 26A
Field:	Aliso Canyon
County:	Los Angeles
State:	California

Schlumberger

Ultrasonic Imager

Ultrasonic imager

Gamma Ray - CCL

8-5/8" 36# casing