Schlumberger

Company: Southern California Gas Company

Well: PORTER NO. 42-B

Field: Aliso Canyon

County: Los Angeles State: California

County: Los Angeles
Field: Aliso Canyon
Location:
Well: PORTER NO. 42-B
Company: Southern California Gas Company

Ultrasonic Imager

Gamma Ray - CCL

8-5/8" 36# casing

Location:				
			Elev.: K.B.	1661.00 ft
			G.L.	1639.00 ft
			D.F.	
Permanent Datum:	Ground Level	Elev.:	1639.00 f	
Log Measured From:	Kelly Bushing	22.00 ft	above Perm.Datum	
Drilling Measured From:	Kelly Bushing			

API Serial No.	Section:	Township:	Range:
04-037-21877	28	3N	16W

Logging Date		26-May-2016	
Run Number		Four	
Depth Driller		7570.00 ft	
Schlumberger Depth		7566.00 ft	
Bottom Log Interval		7566.00 ft	
Top Log Interval		35.00 ft	
Casing Fluid Type		Water	
Salinity			
Density		9 lbm/gal	
Fluid Level		8.00 ft	
BIT/CASING/TUBING STRING			
Bit Size		11.00 in	
From		1020.00 ft	
To		7610.00 ft	
Casing/Tubing Size		8.625 in	
Weight		36 lbm/ft	
Grade		N80	
From		4082.00 ft	
To		7610.00 ft	
Max Recorded Temperatures			
Logger on Bottom	Time	26-May-2016 08:27:00	
Unit Number	Location:	3189 Ventura	
Recorded By		I. Kartawidjaja	
Witnessed By		Mr. Tom McMahon	

Disclaimer

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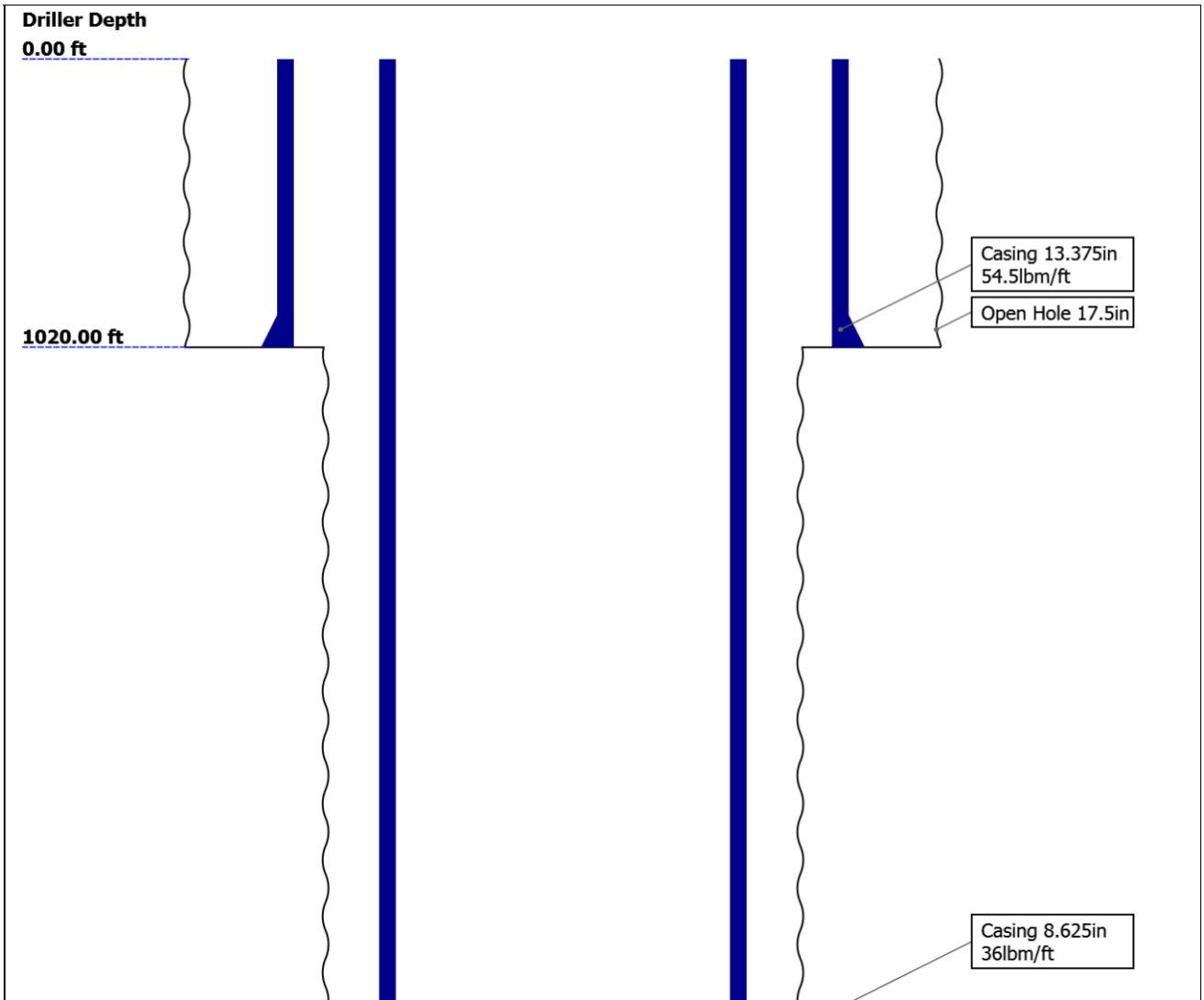
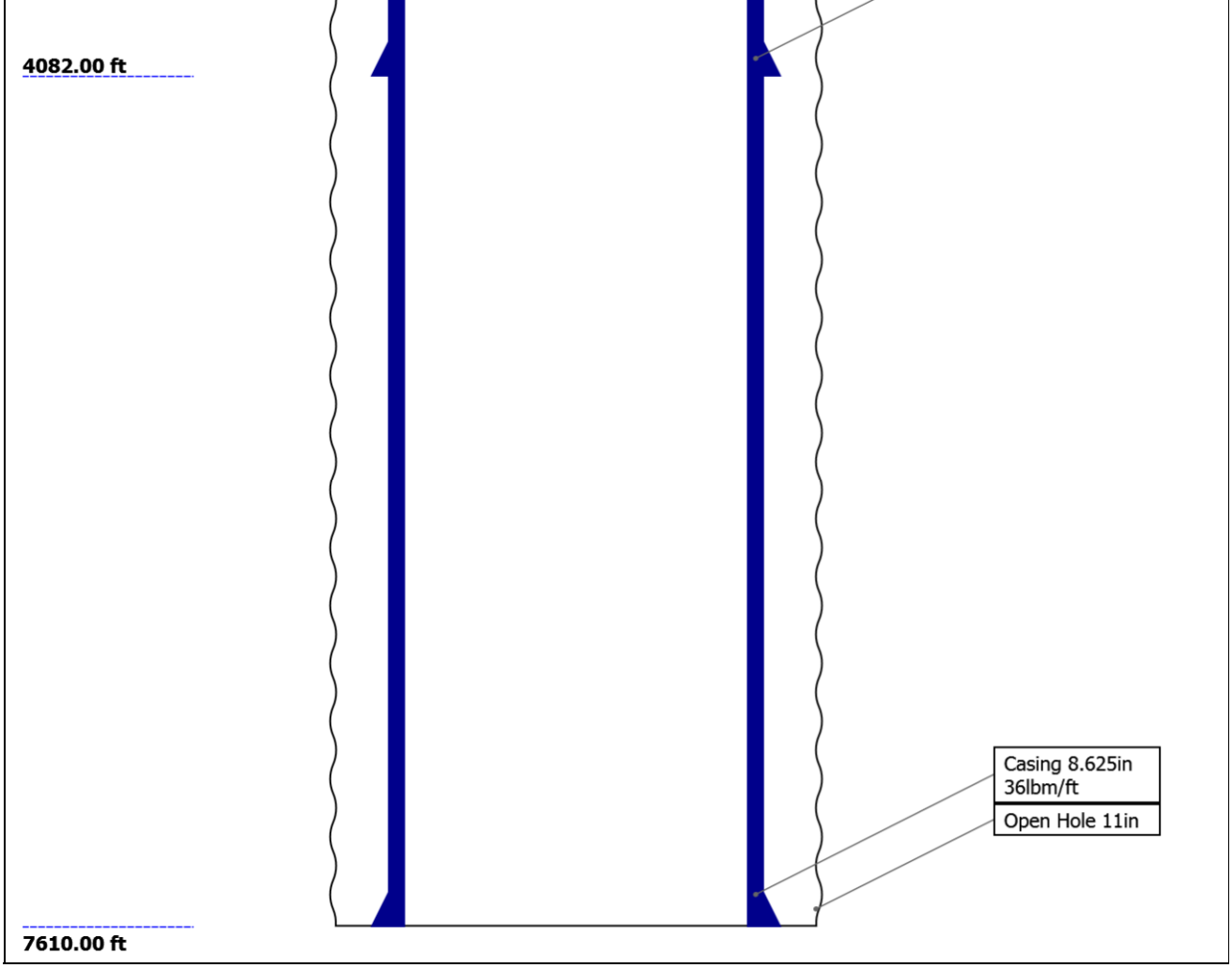
Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	17.5	11				
Top Driller (ft)	0	1020				
Top Logger (ft)	0	1020				
Bottom Driller (ft)	1020	7610				
Bottom Logger (ft)	1020	7610				
Casing						
Size (in)	13.375	8.625	8.625			
Weight (lbm/ft)	54.5	36	36			
Inner Diameter (in)	12.615	7.825	7.825			
Grade	K55	K55	N80			
Top Driller (ft)	0	0	4082			
Top Logger (ft)	0	0	4082			
Bottom Driller (ft)	1020	4082	7610			
Bottom Logger (ft)	1020	4082	7610			

Remarks and Equipment Summary

Four_D1: Toolstring

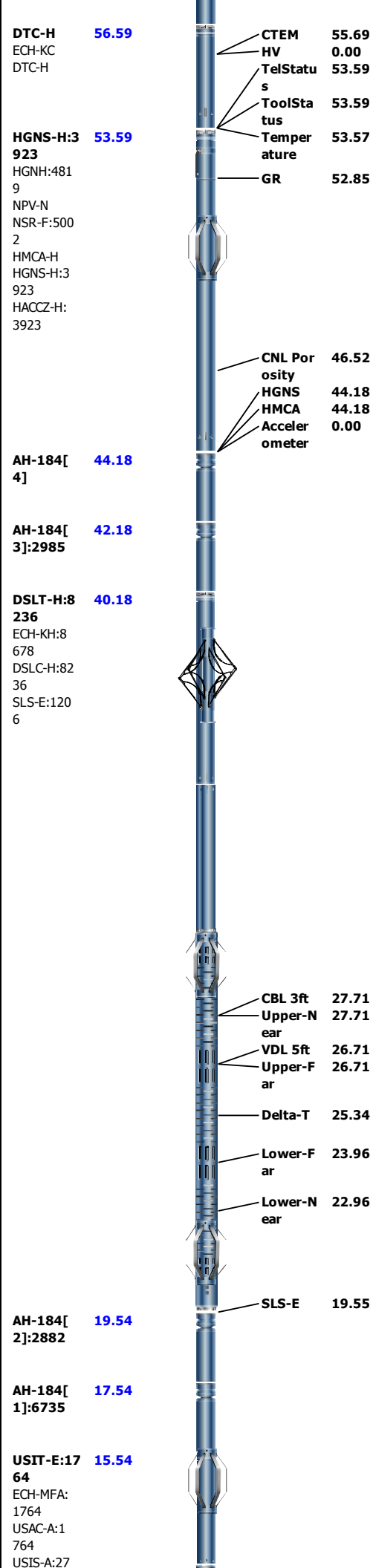
Equip name	Length	MP name	Offset
LEH-QT:2 867	**59.51**	Red	
LEH-QT:28 67			

Four_D1: Remarks

Depth correlated to SLB USIT Log dated 12-Dec-2012

Logging objective is cement and corrosion evaluation

8 5/8" 36# K-55, N-80 casing, cemented w/



8-5/8" 36# K-55, N-80 casing, cemented w/ 1853 cu-ft Class G. WSO at 7510 ft

USIT Logged at 10 deg/1.5 inch resolution, logging speed 2900-3200 fph. Hi-res repeats at 10 deg/0.6 inch, speed 1000 fph

Logged from above 5-1/2" casing stub to surface

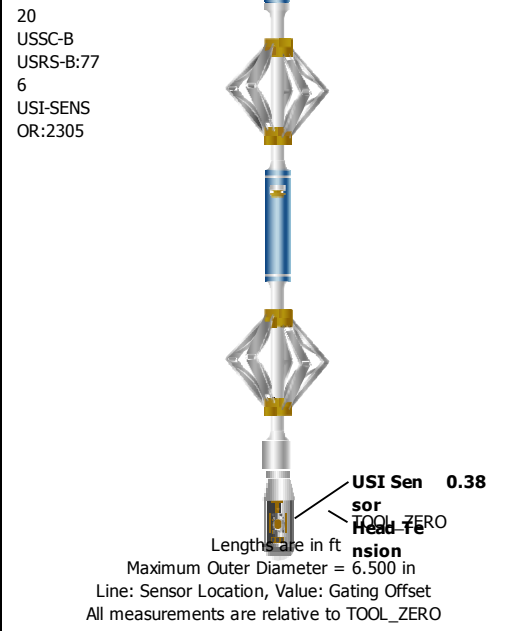
All passes were recorded with 0 psi surface pressure

Rig: Ensign 342

Toolstring ran as per toolsketch.

Two centralizers on USIS and two CME-Y used to centralize ultrasonic tool.

Thank you for choosing Schlumberger!



Job Event Summary

Event	Time	Duration	Interval	Remark
Run 1				May-26-2016 07:06
Log[1]:Down	May-26-2016 07:29	01:39:24	112.58 - 7560.3 ft	FPM Pass
Log[2]:Up	May-26-2016 08:10	00:05:58	7568.66 - 7296.78 ft	Repeat Pass
Log[3]:Up	May-26-2016 08:19	00:05:45	7565.51 - 7460.02 ft	Hi-Res repeat pass
Log[4]:Up	May-26-2016 08:27	02:27:00	7567.42 - 91.68 ft	Main Pass
Log[5]:Up	May-26-2016 11:25	00:06:15	7312.53 - 7201.1 ft	Hi-Res repeat pass
Log[6]:Up	May-26-2016 11:35	00:04:23	6810.82 - 6729.99 ft	Hi-Res repeat pass
Log[7]:Up	May-26-2016 11:44	00:05:26	6004.82 - 5904.32 ft	Hi-Res repeat pass
Log[8]:Up	May-26-2016 11:58	00:04:00	4544.15 - 4468.85 ft	Hi-Res repeat pass
Log[9]:Up	May-26-2016 12:02	00:04:56	4383.95 - 4294.58 ft	Hi-Res repeat pass
Log[10]:Up	May-26-2016 12:22	00:02:50	1436.29 - 1381.24 ft	Hi-Res repeat pass
Log[11]:Up	May-26-2016 12:26	00:08:12	1300.57 - 1141.51 ft	Hi-Res repeat pass
Log[12]:Up	May-26-2016 12:35	00:01:22	1254.91 - 1227.15 ft	Hi-Res repeat pass
Log[13]:Up	May-26-2016 12:40	00:03:18	793.68 - 730.02 ft	Hi-Res repeat pass
Log[14]:Up	May-26-2016 12:46	00:11:20	412.23 - 217.31 ft	Hi-Res repeat pass
Log[16]:Up	May-26-2016 12:59	00:03:33	185.13 - 106.91 ft	Hi-Res repeat pass
Log[17]:Up	May-26-2016 13:04	00:06:13	202.9 - 49.16 ft	Main Pass

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[4]:Up	7567.42	91.68

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 : 33.25m(109.08ft) to 36.30m(119.08ft)
MUD_N_FRP = 1.03
DFD = 1.08g/cm3(9.00lbm/gal)
CZMD median computed in free pipe normalization interval = 1.71 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
Four_D1	Log[4]:Up	Up	91.68 ft	7567.42 ft	26-May-2016 8:27:27 AM	26-May-2016 10:54:27 AM	ON	1.00 ft	Yes
Four_D1	Log[17]:Up	Up	49.16 ft	202.90 ft	26-May-2016 1:04:46 PM	26-May-2016 1:10:59 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

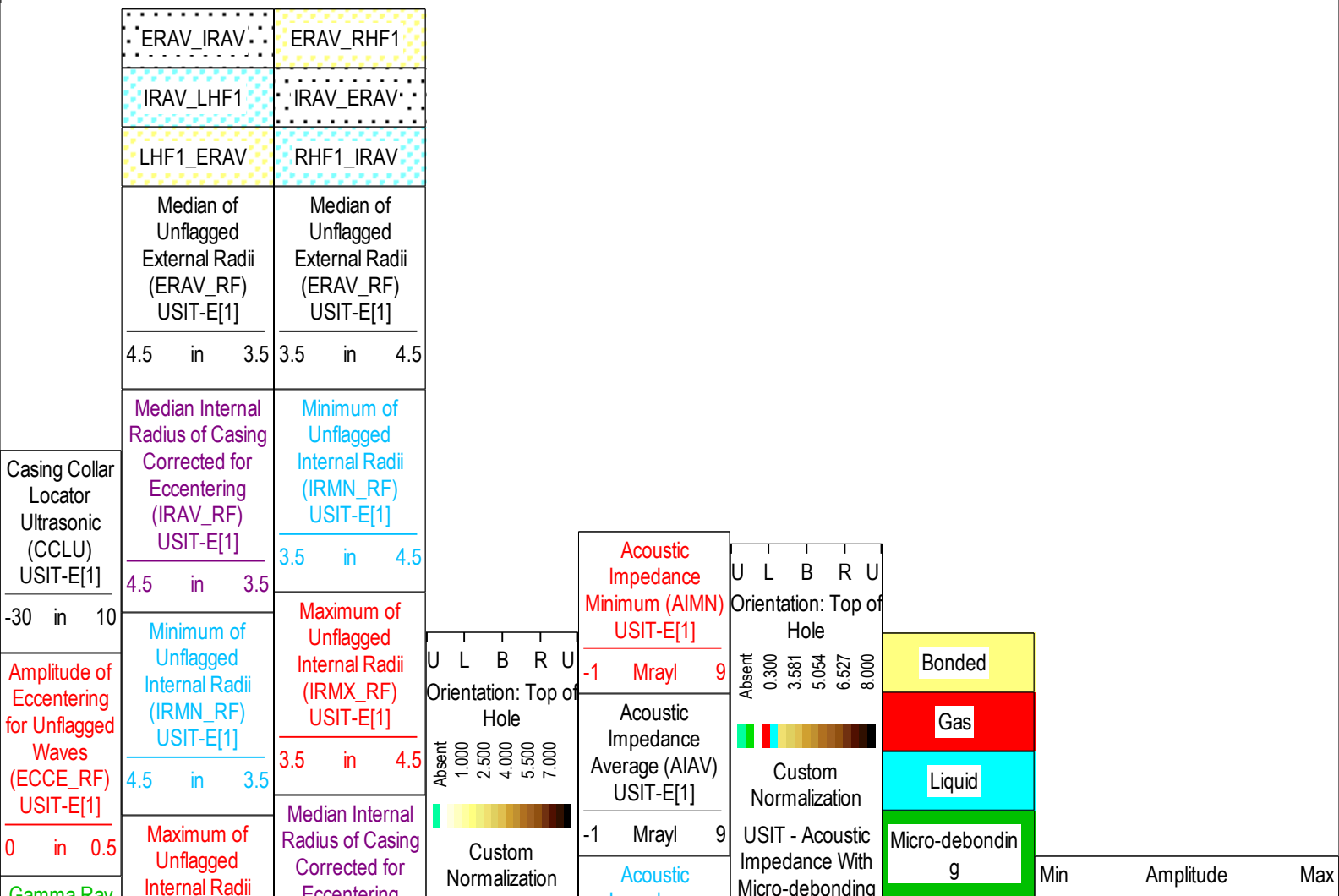
Log

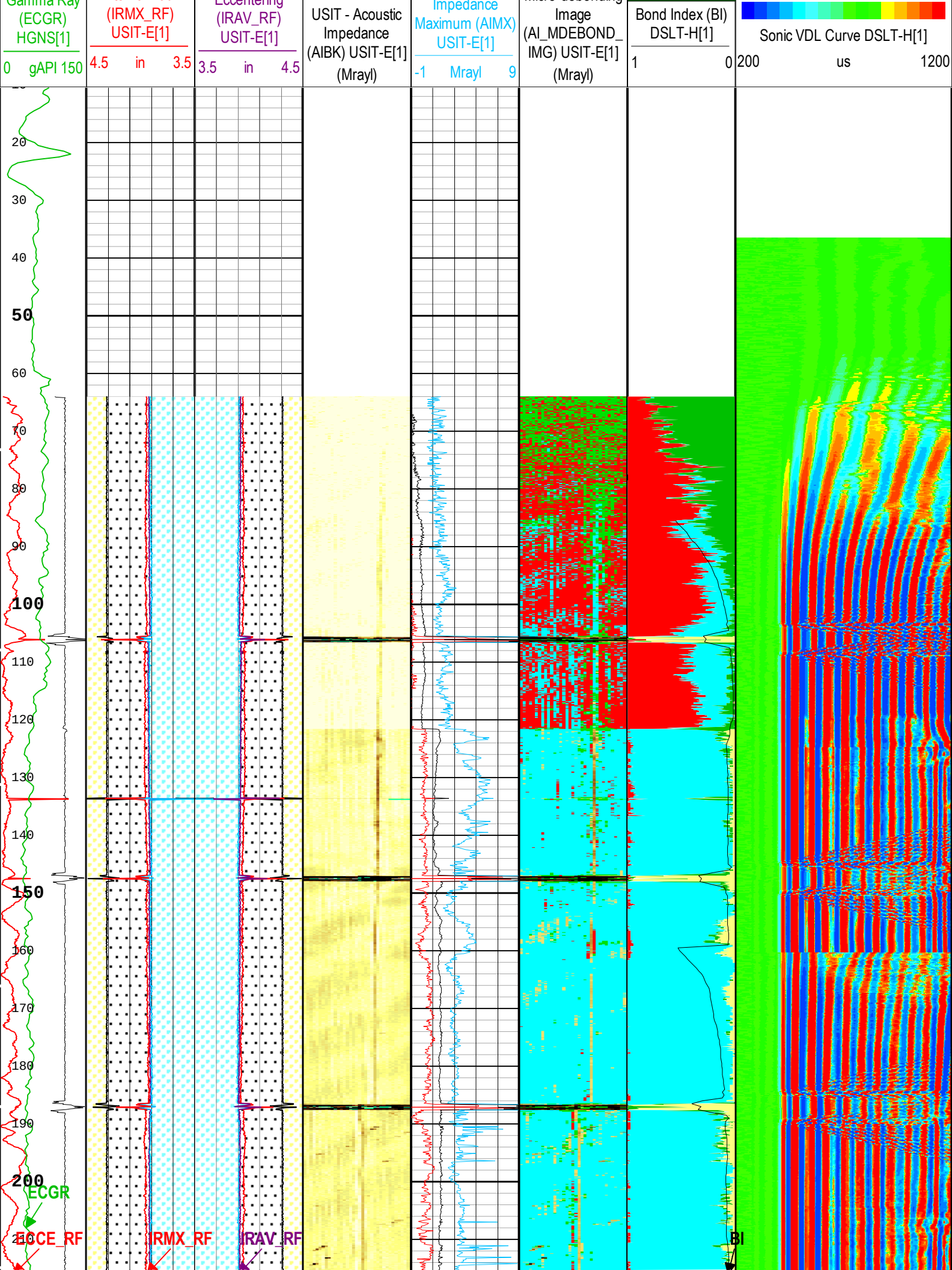
Company:Southern California Gas Company Well:PORTER NO. 42-B

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: 26-May-2016 18:19:32

TIME_1900 - Time Marked every 60.00 (s)

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3.5 in 4.5
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
Impedance Maximum (AIMX) USIT-E[1]
-1 Mrayl 9
Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)
Bond Index (BI) DSLT-H[1]
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Sonic VDL Curve DSLT-H[1]
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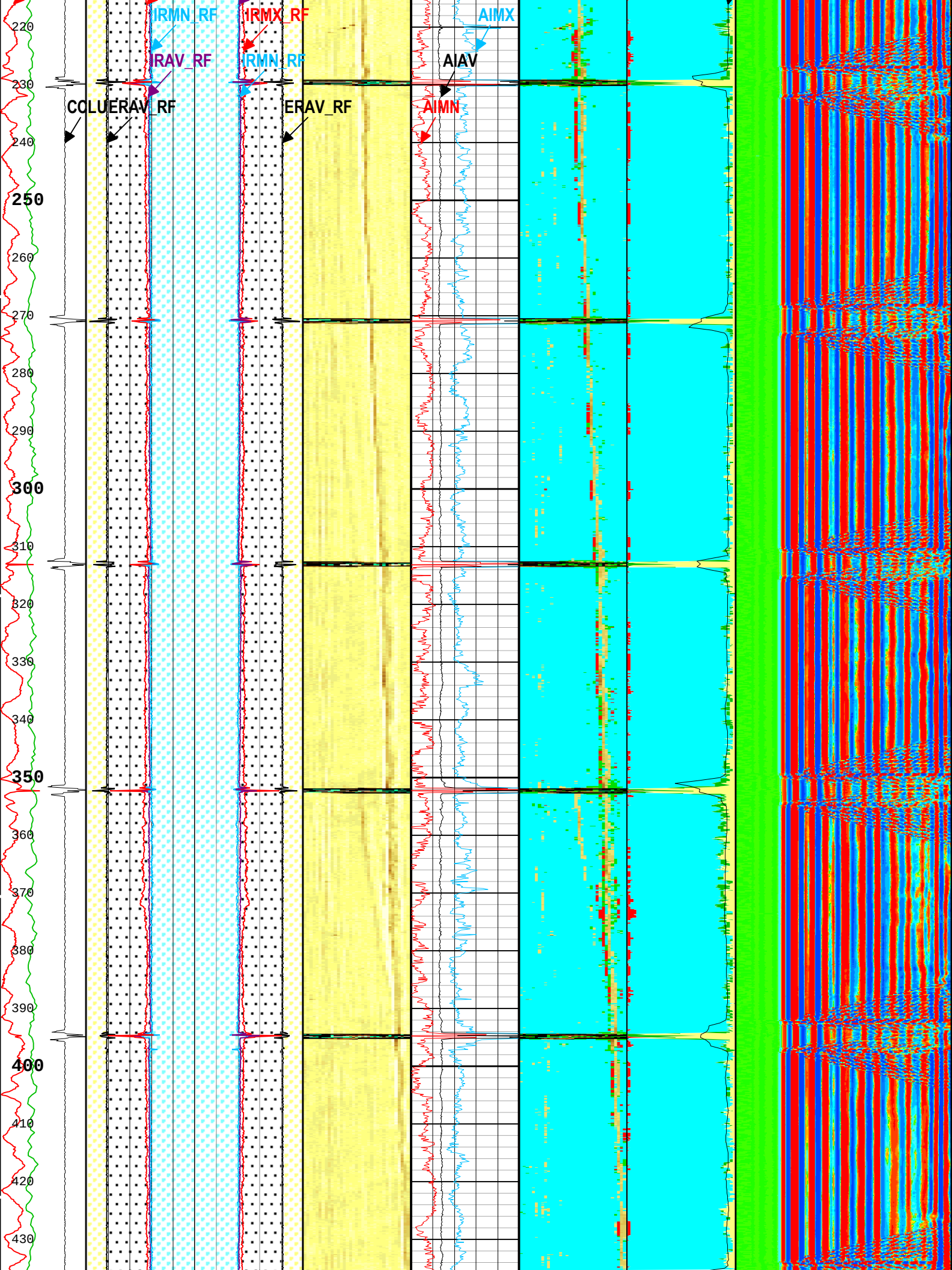
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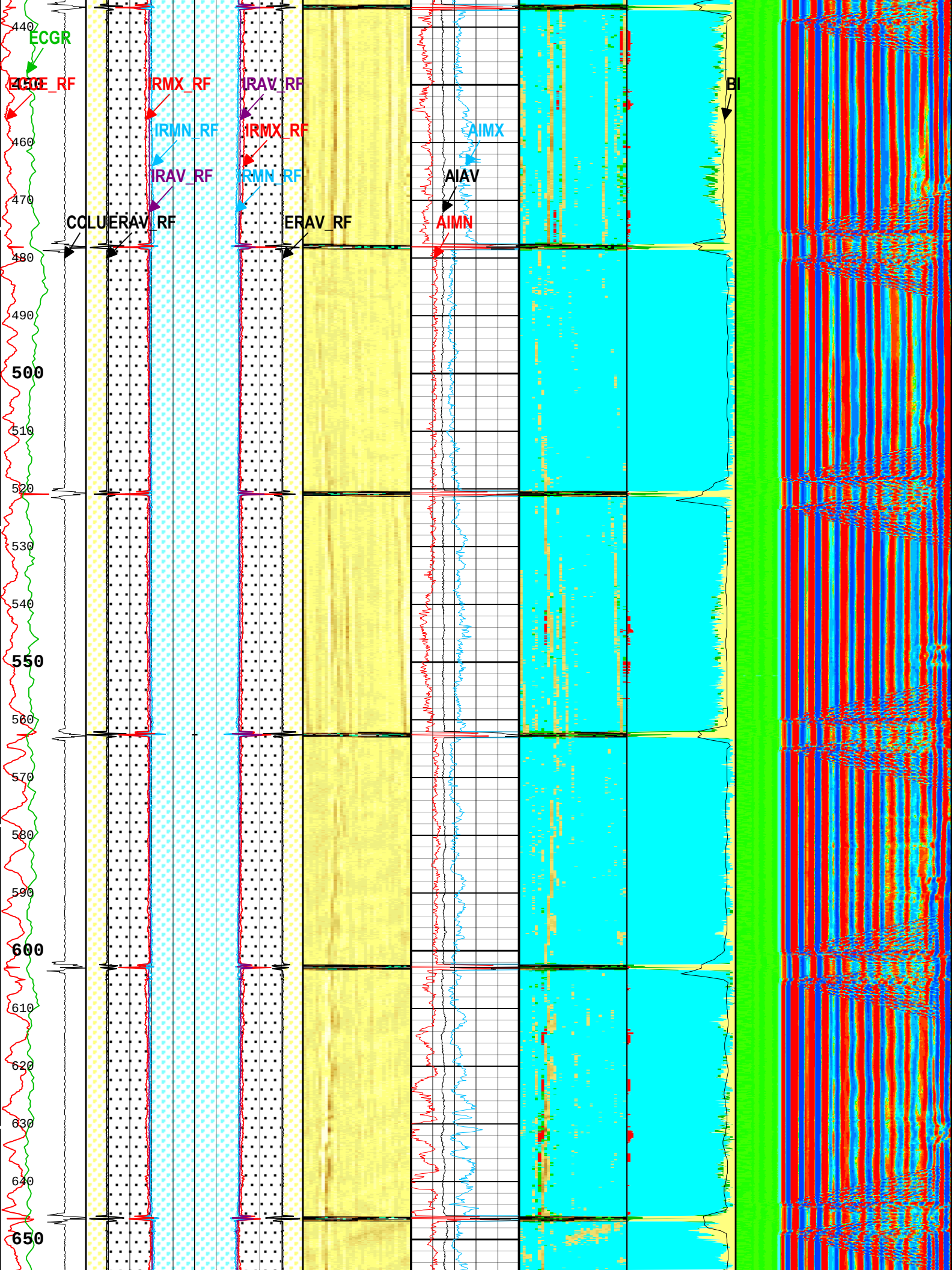
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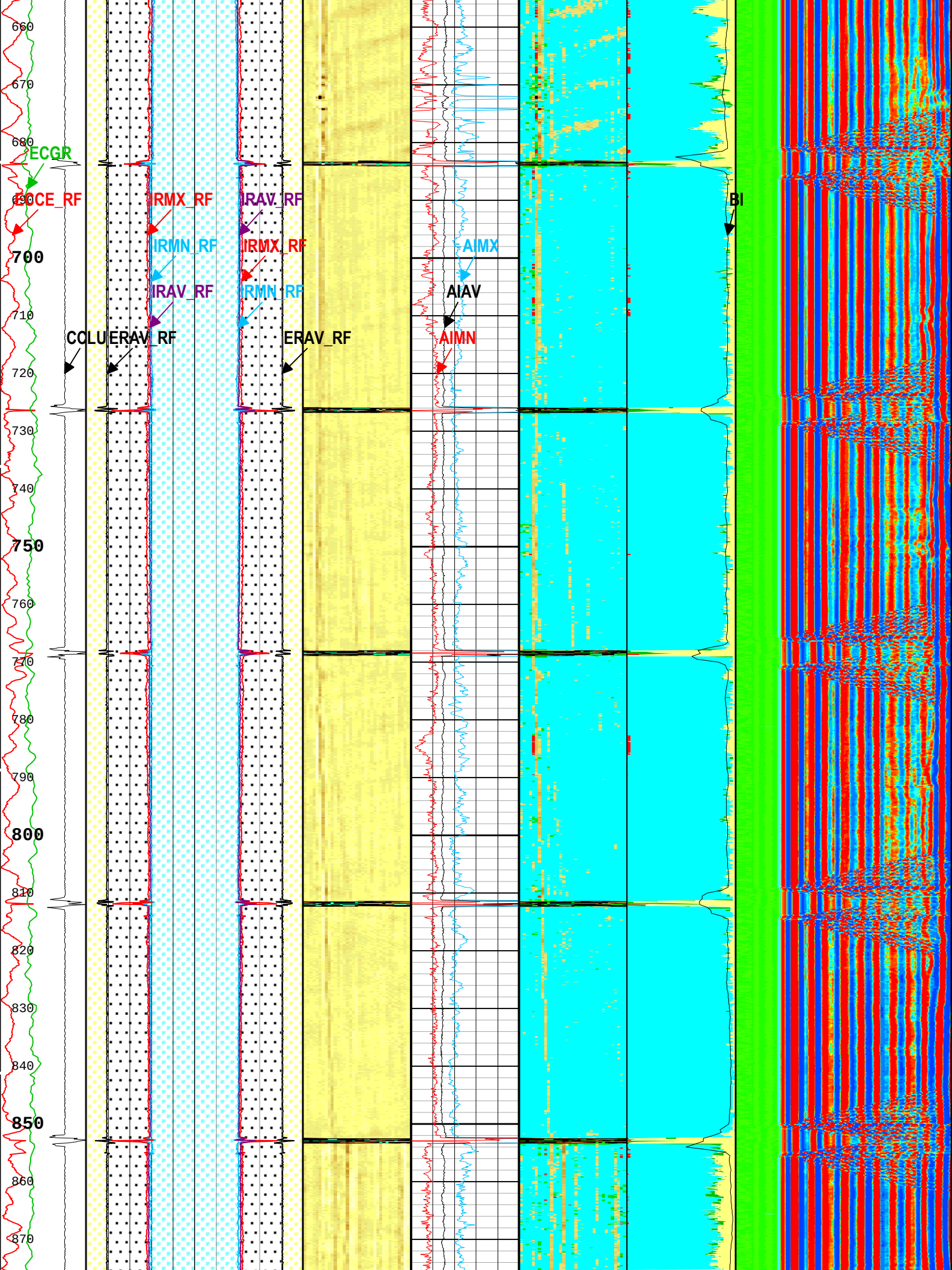
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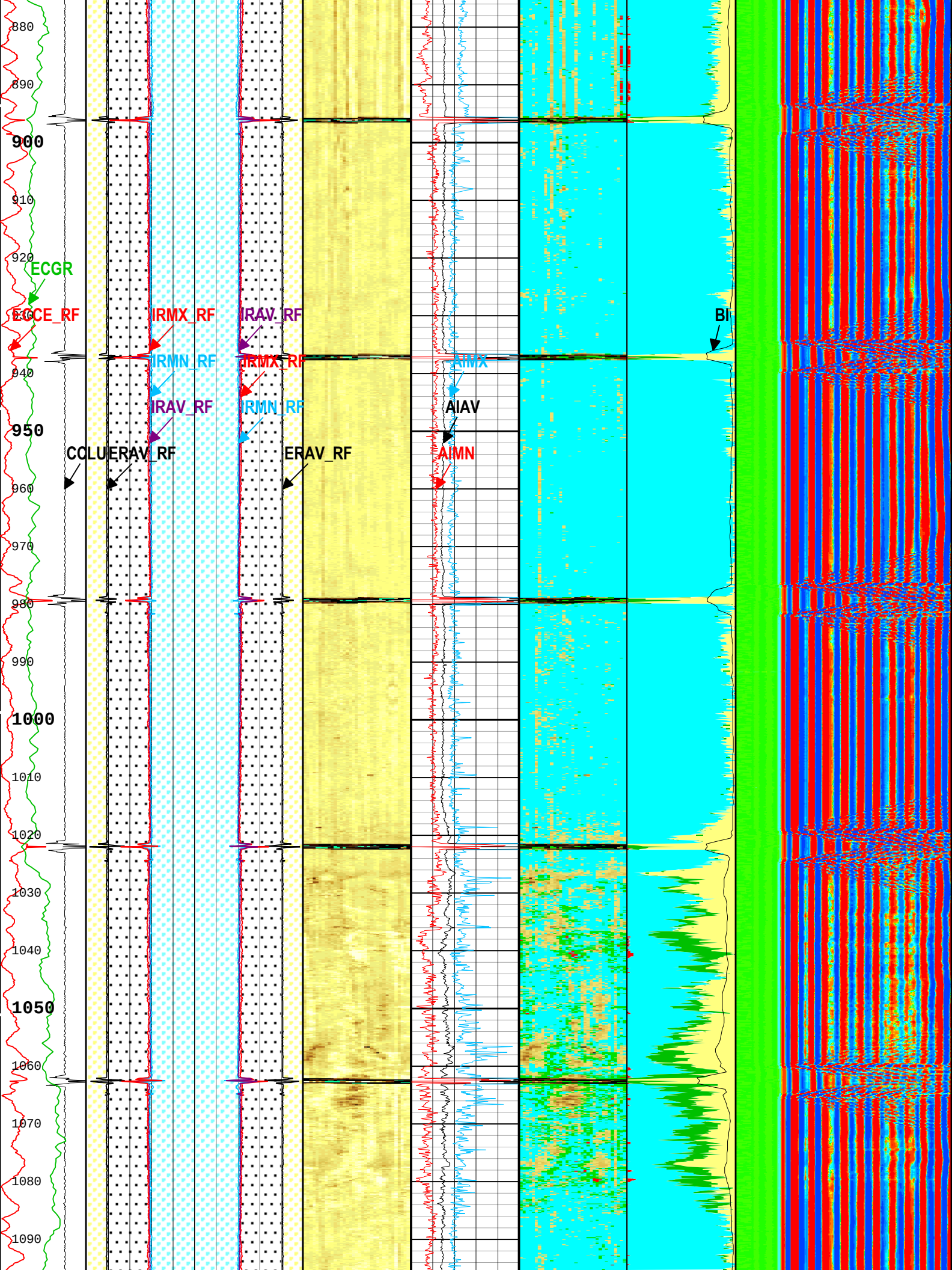
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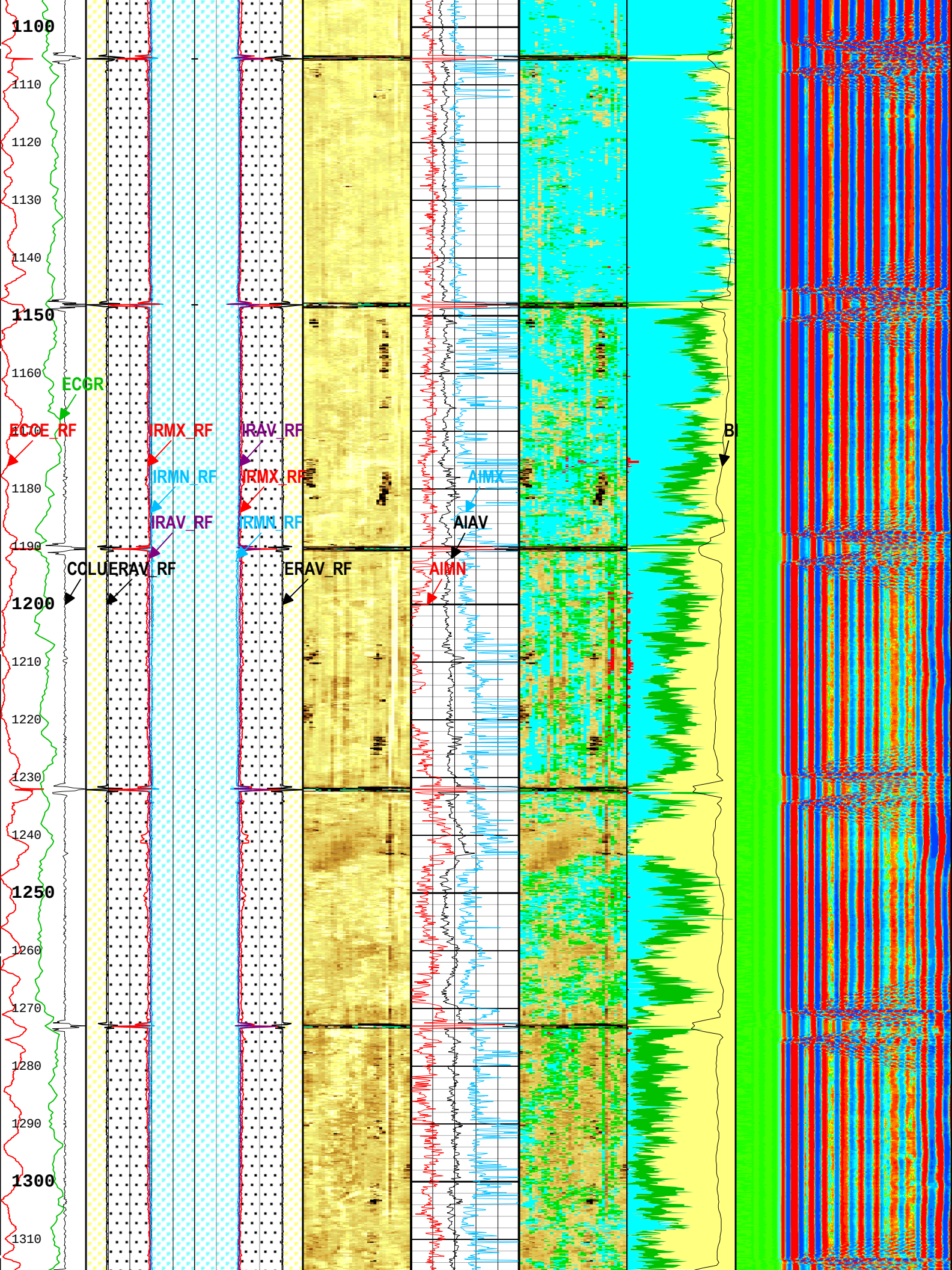
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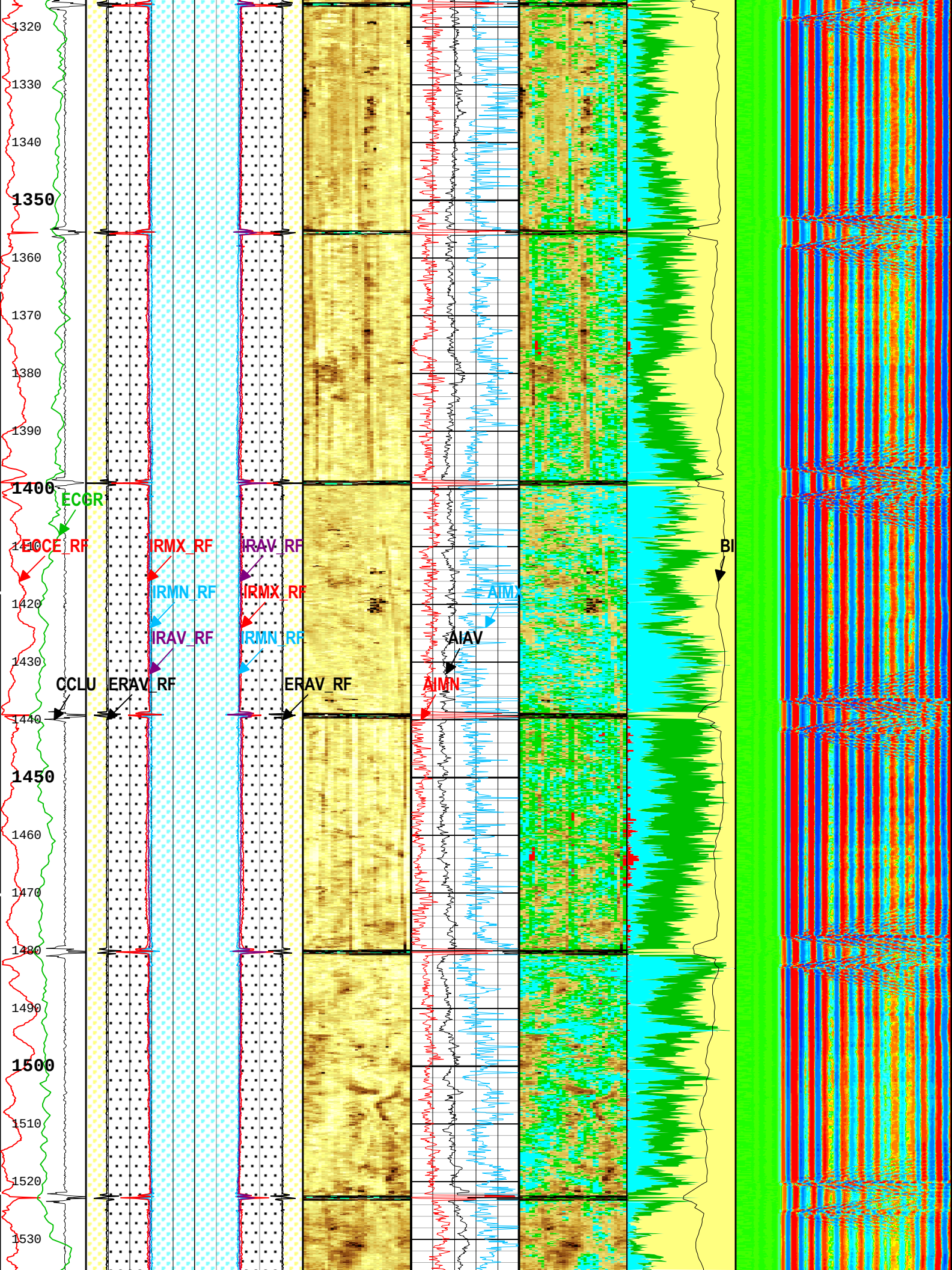
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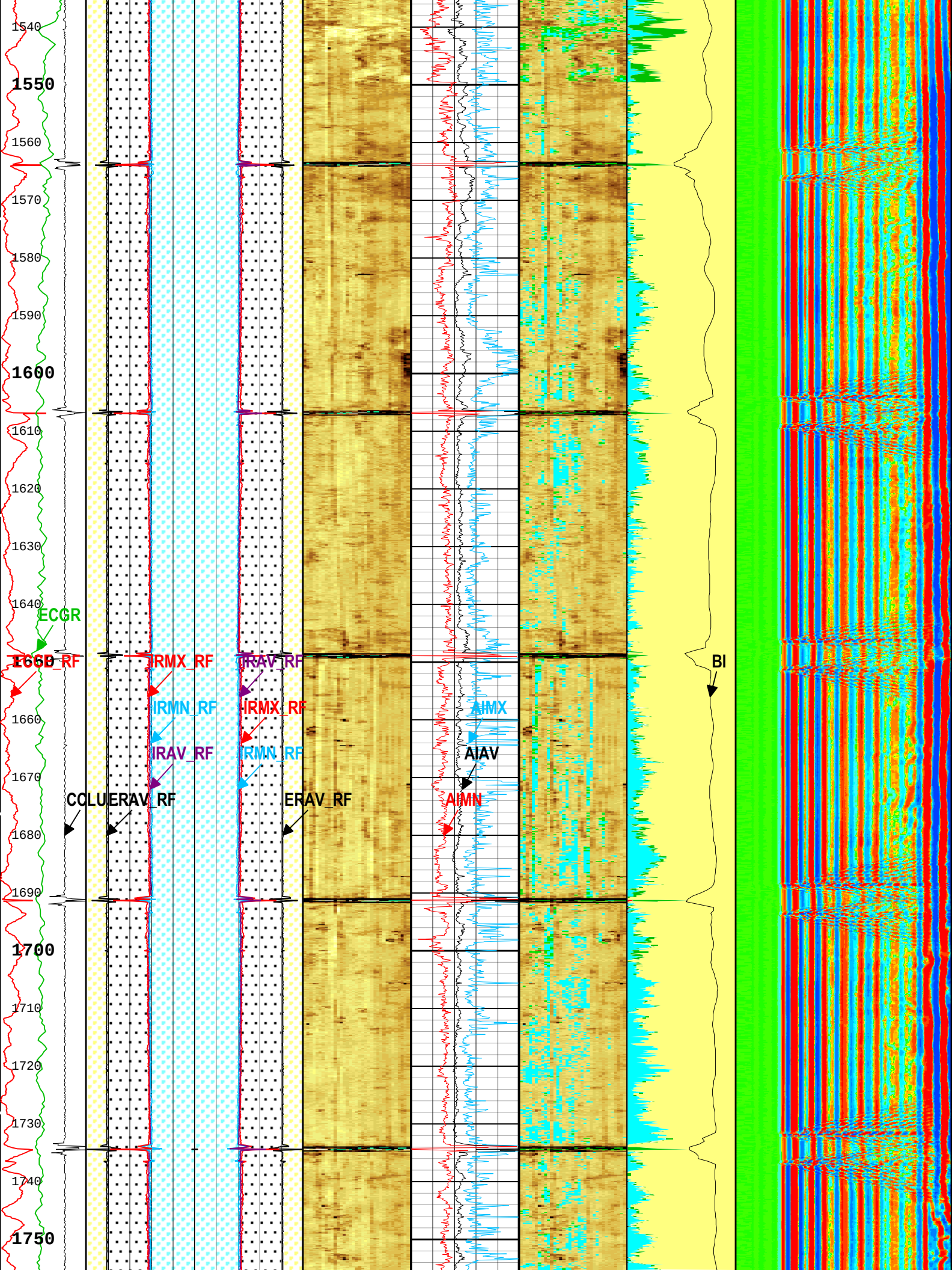
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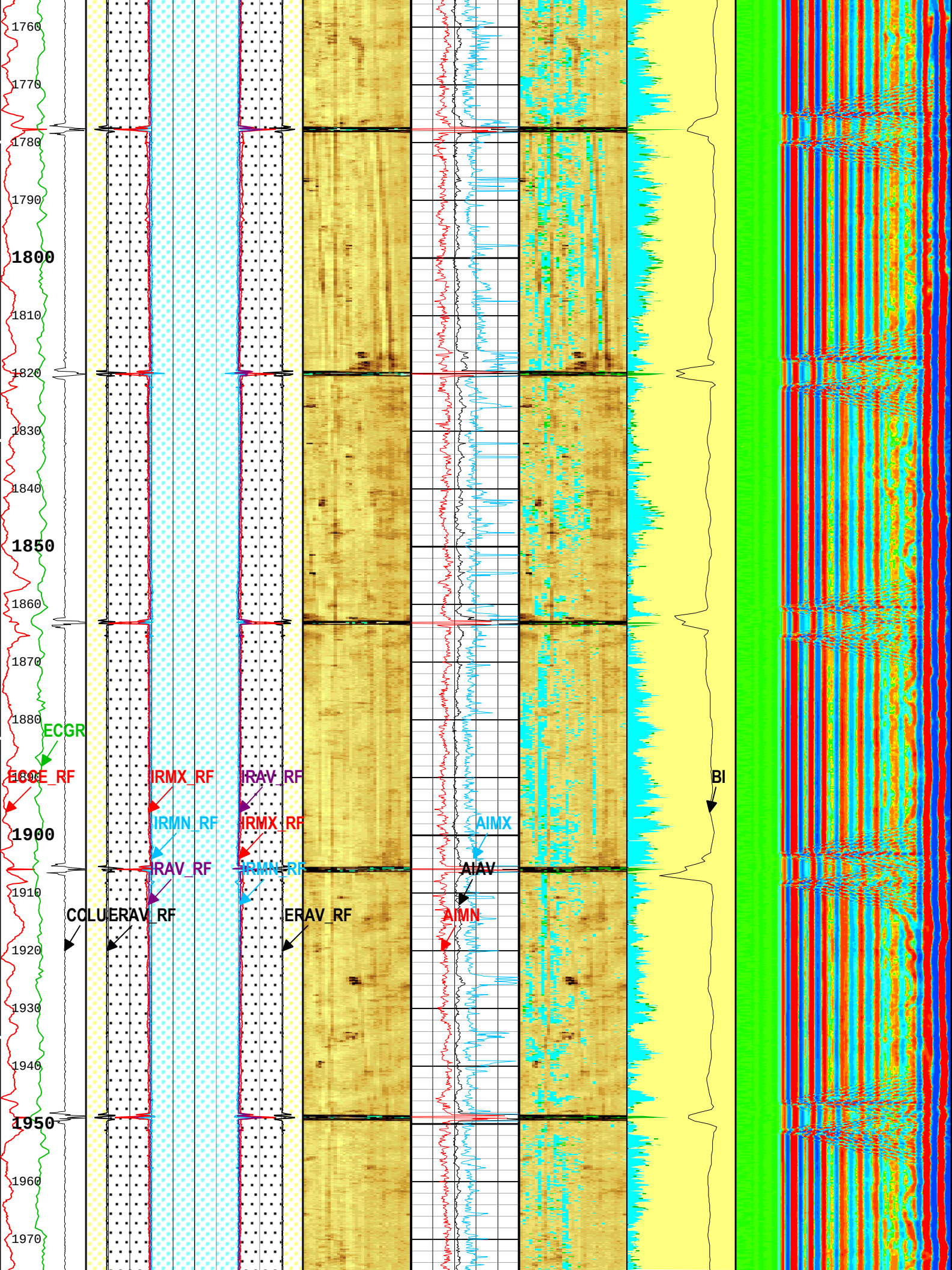
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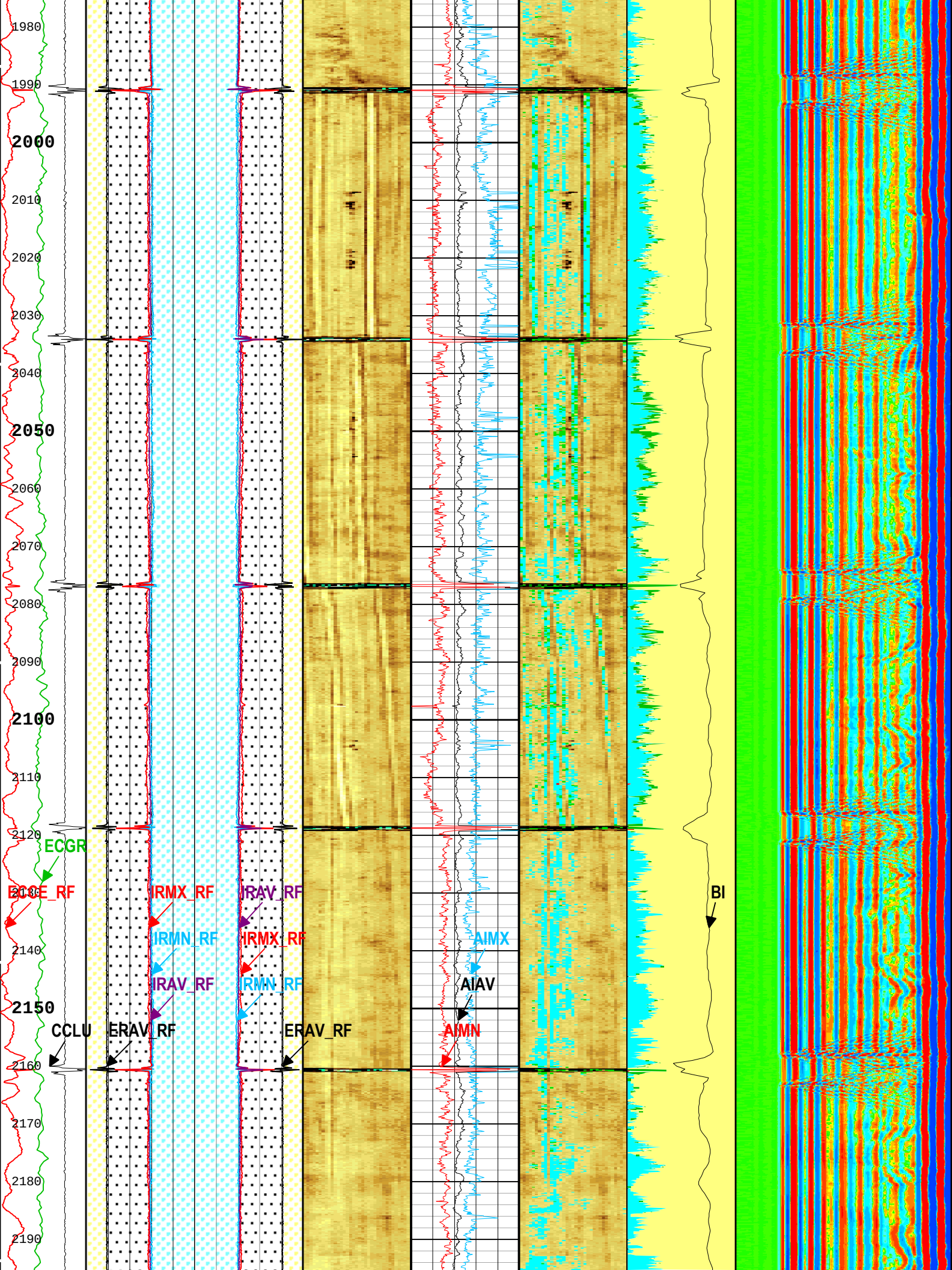
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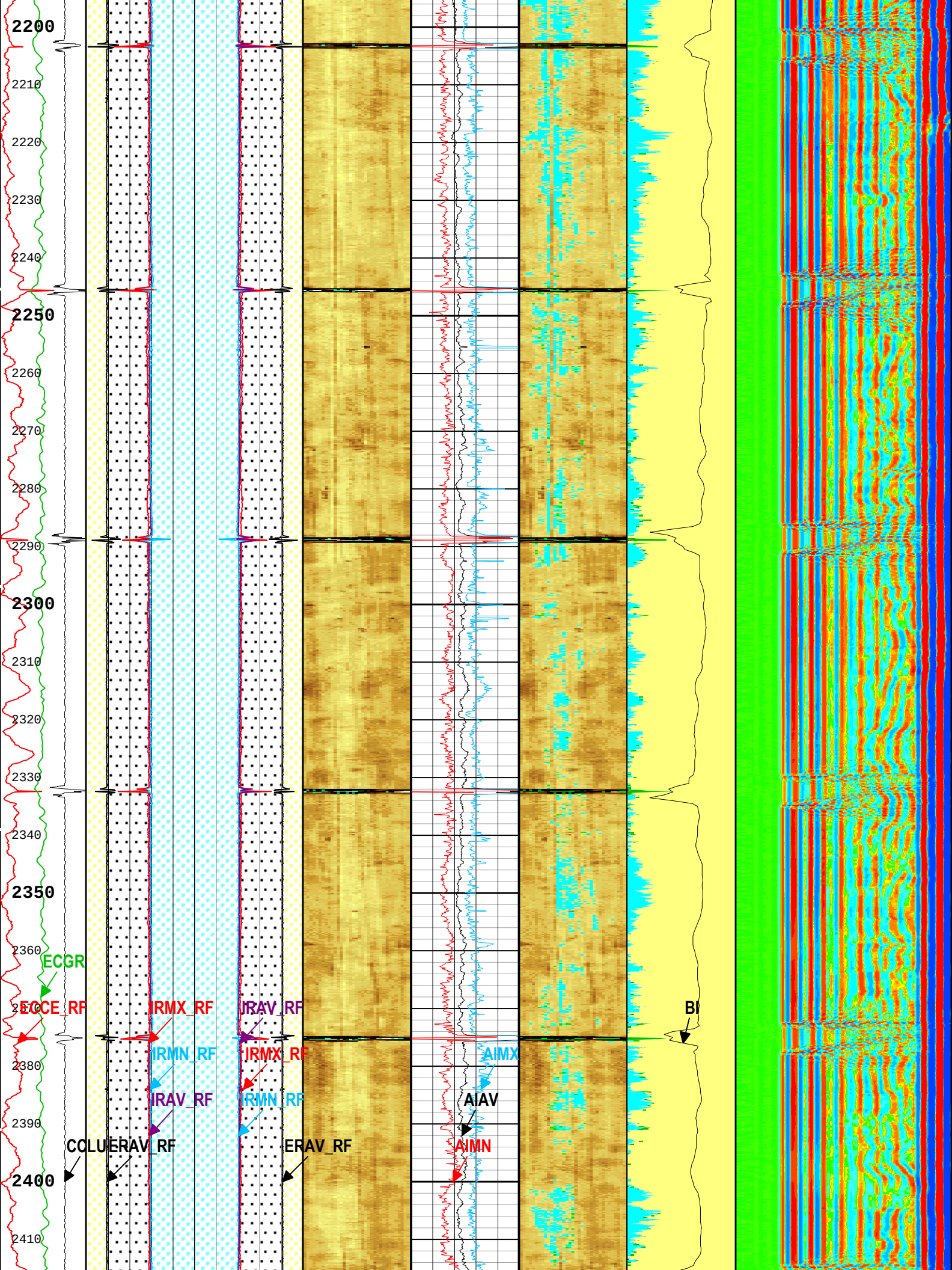
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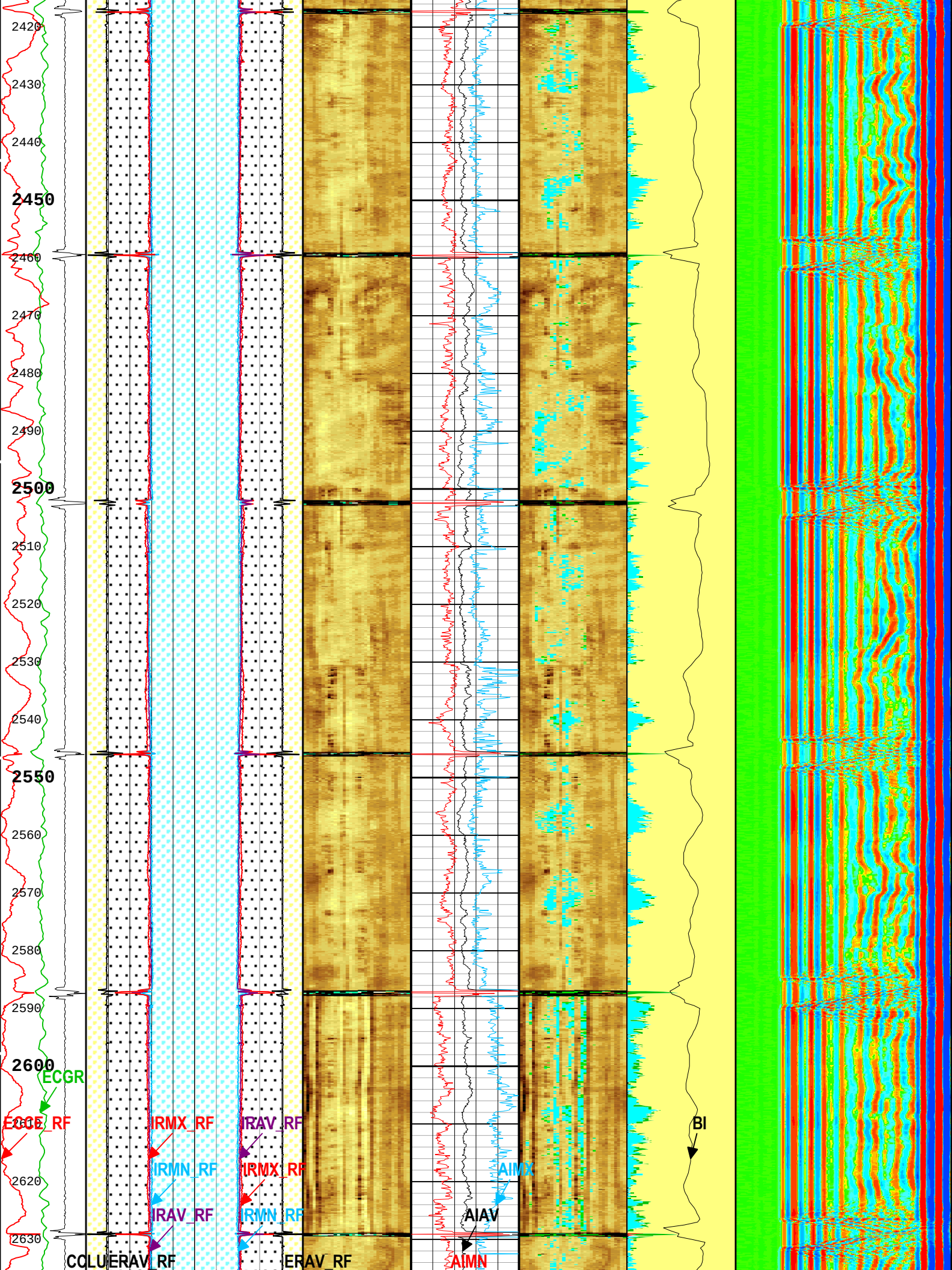
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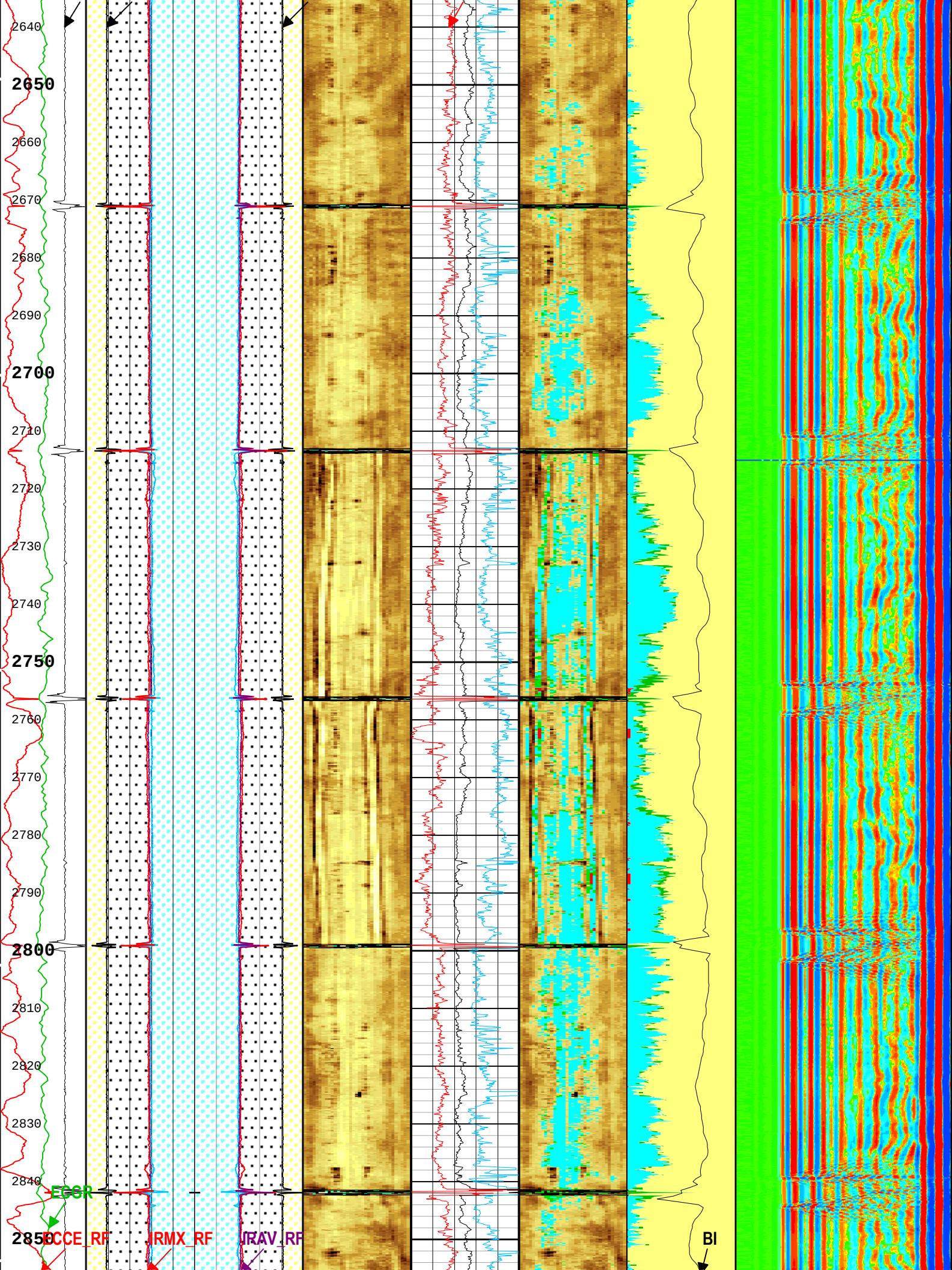
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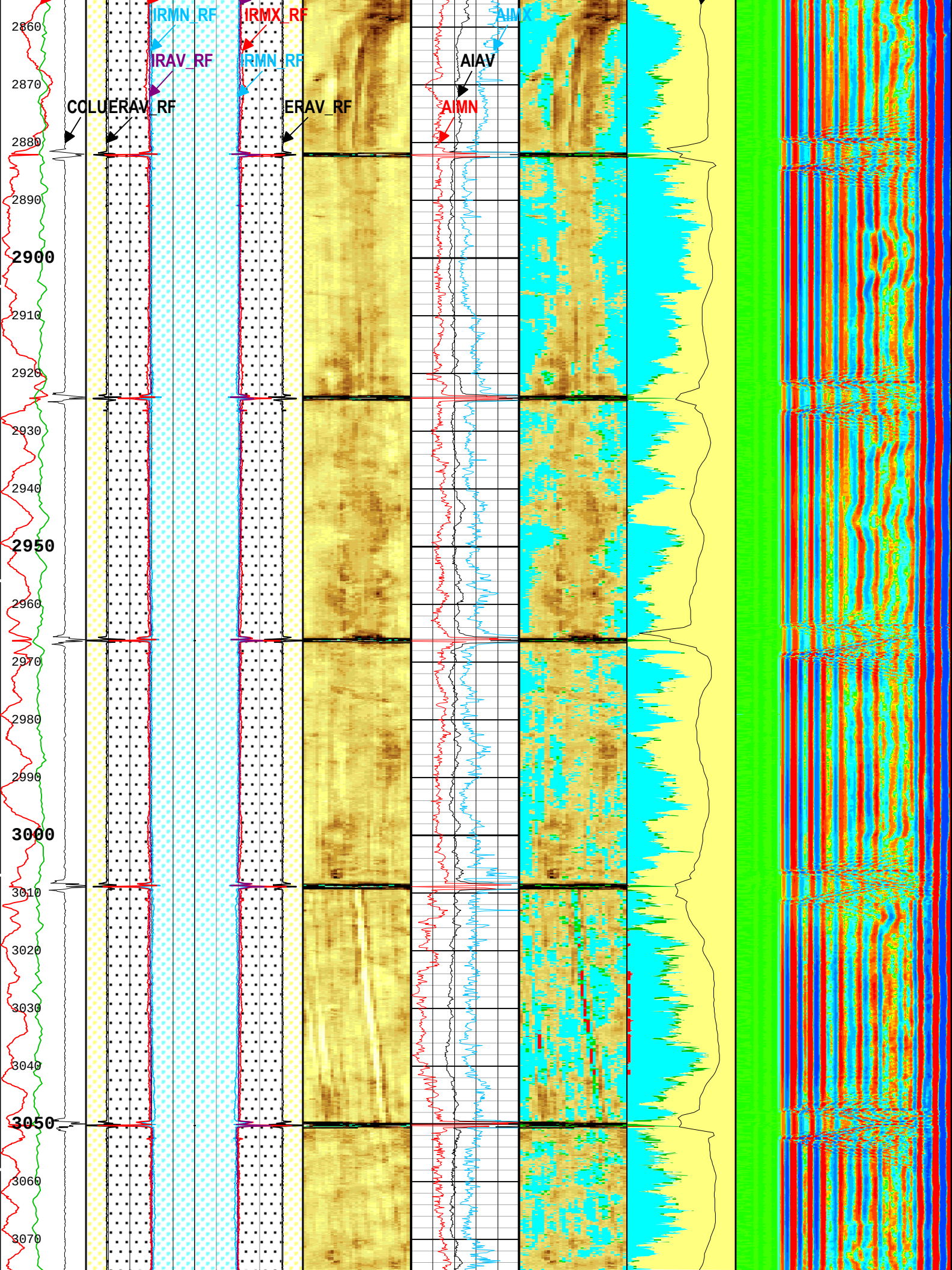
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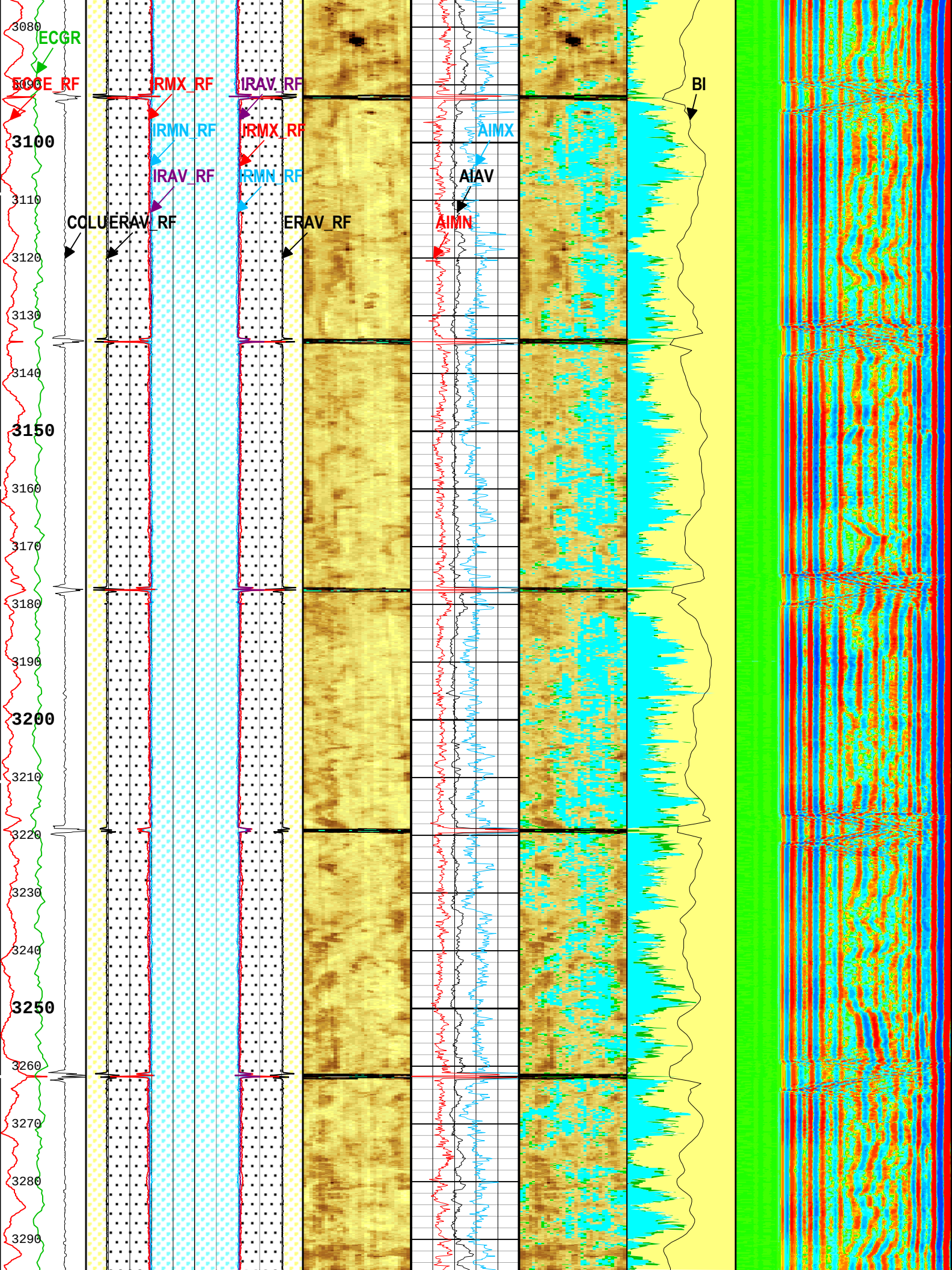
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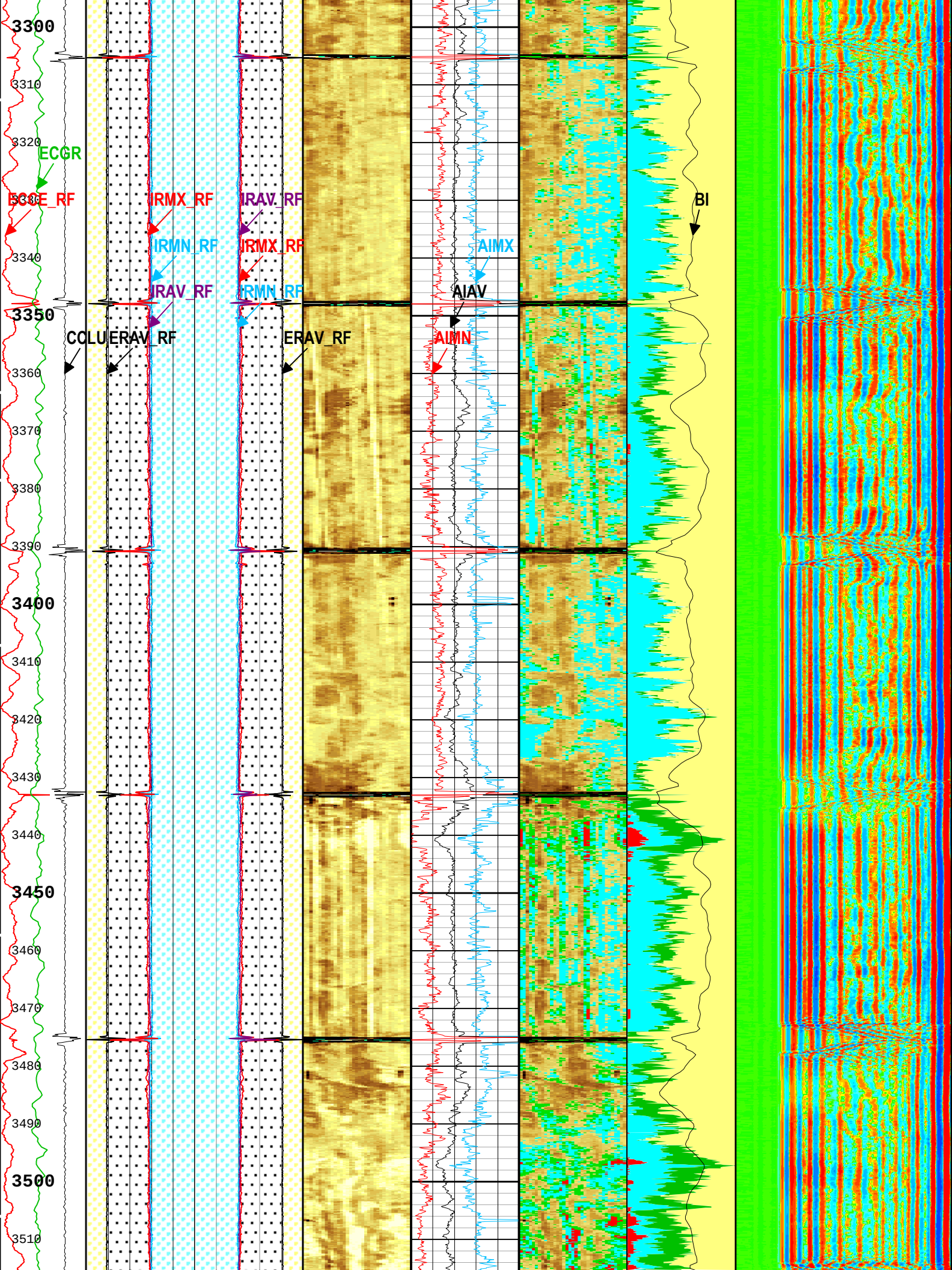
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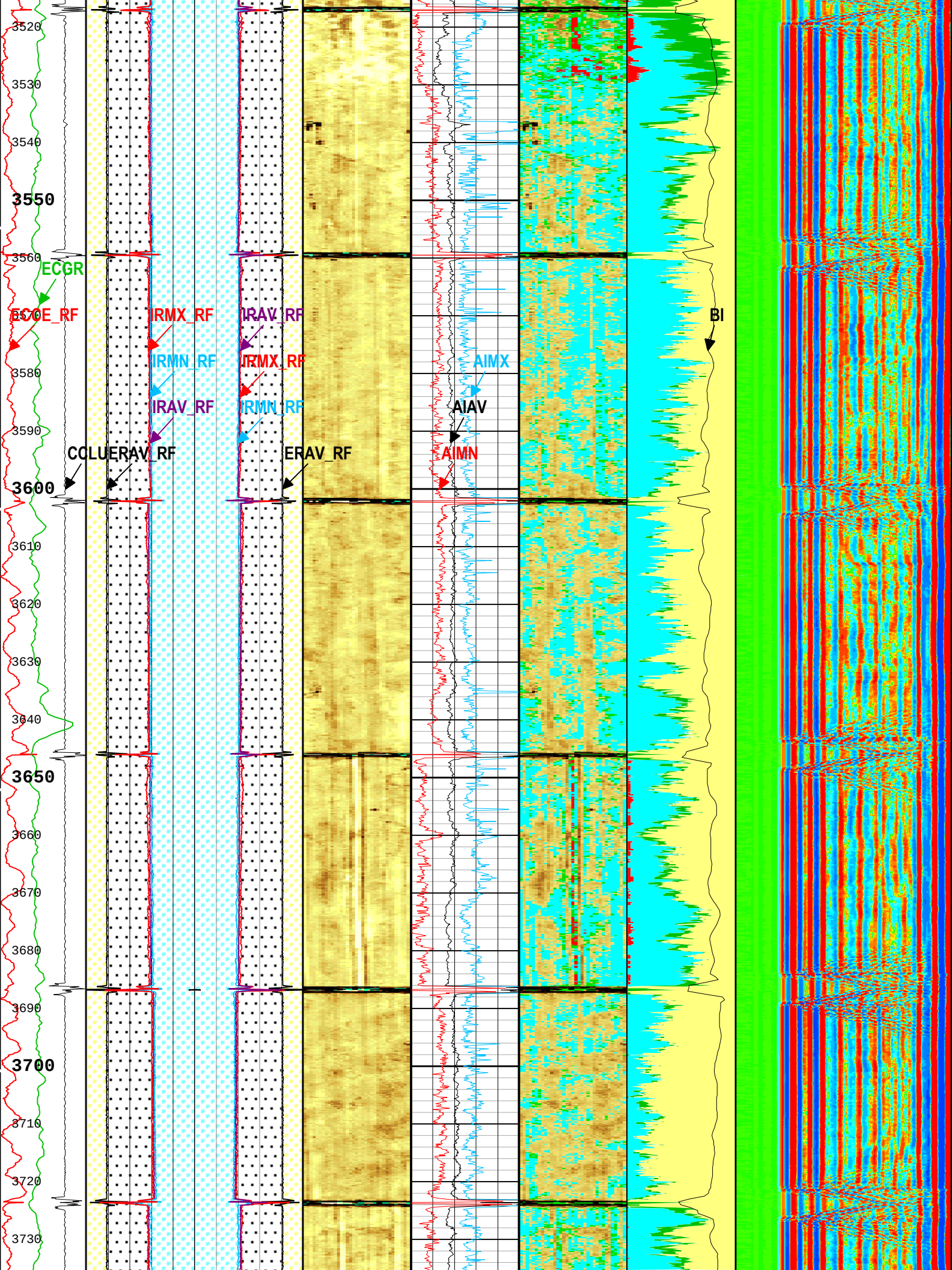
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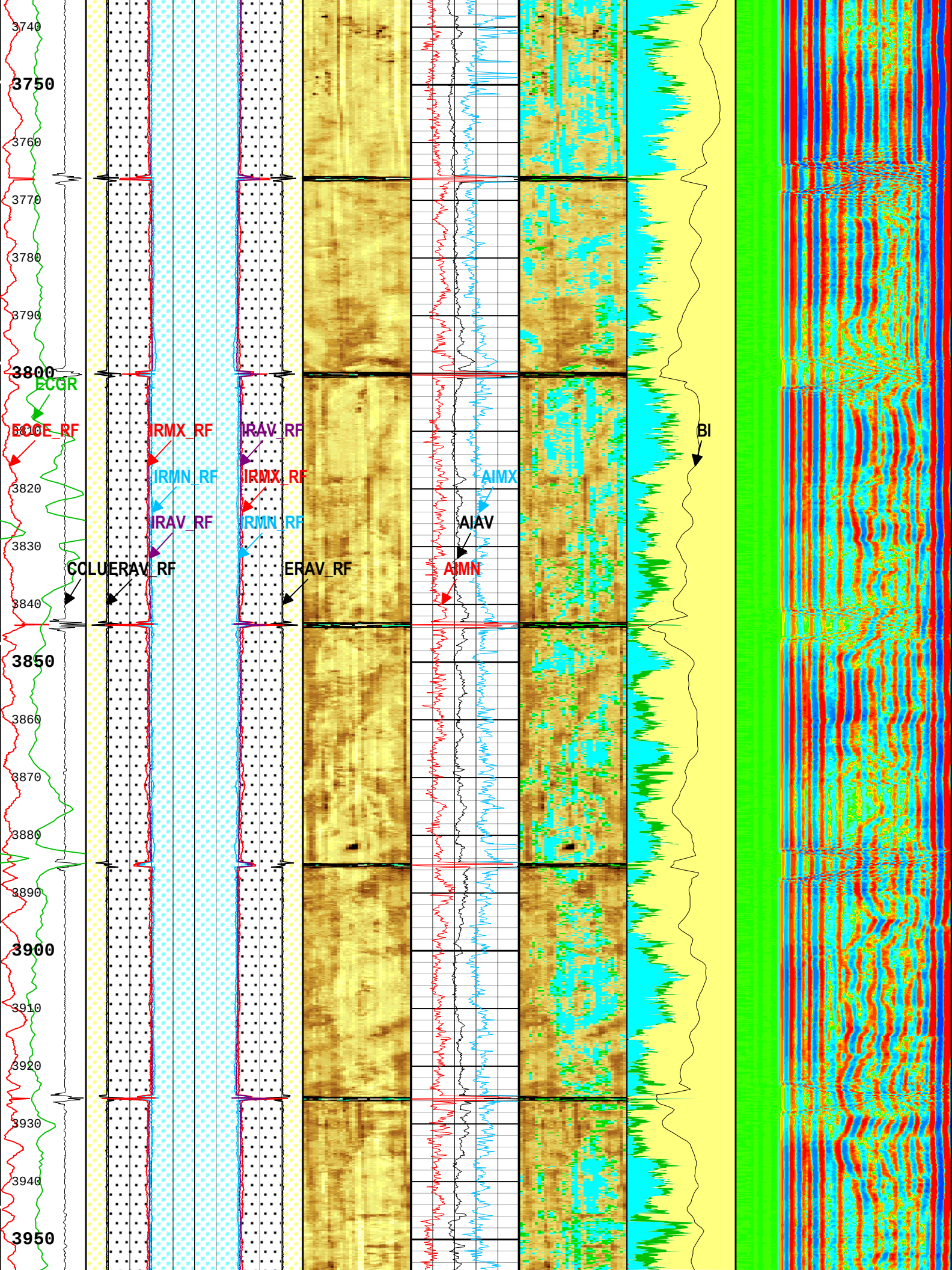
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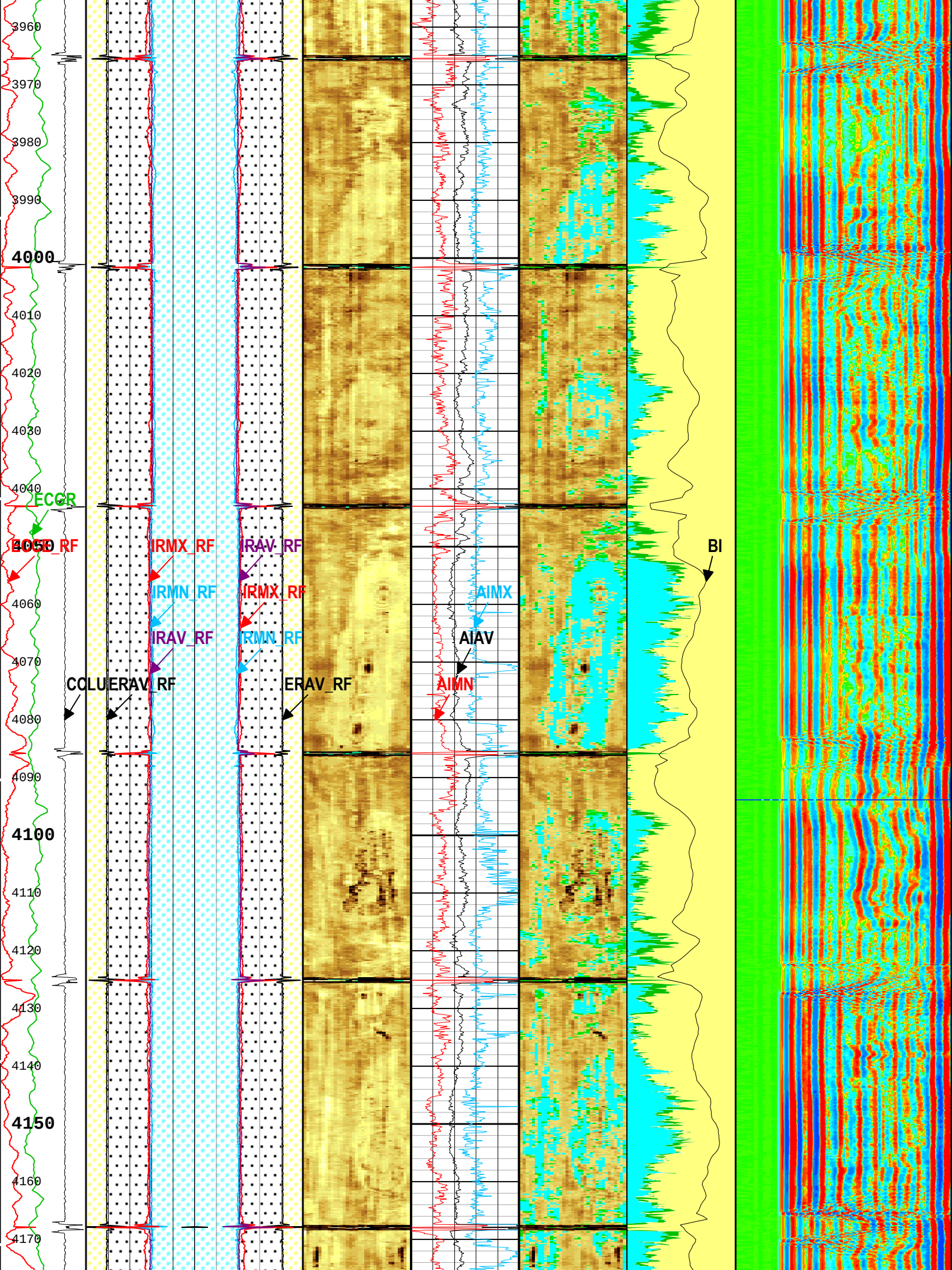
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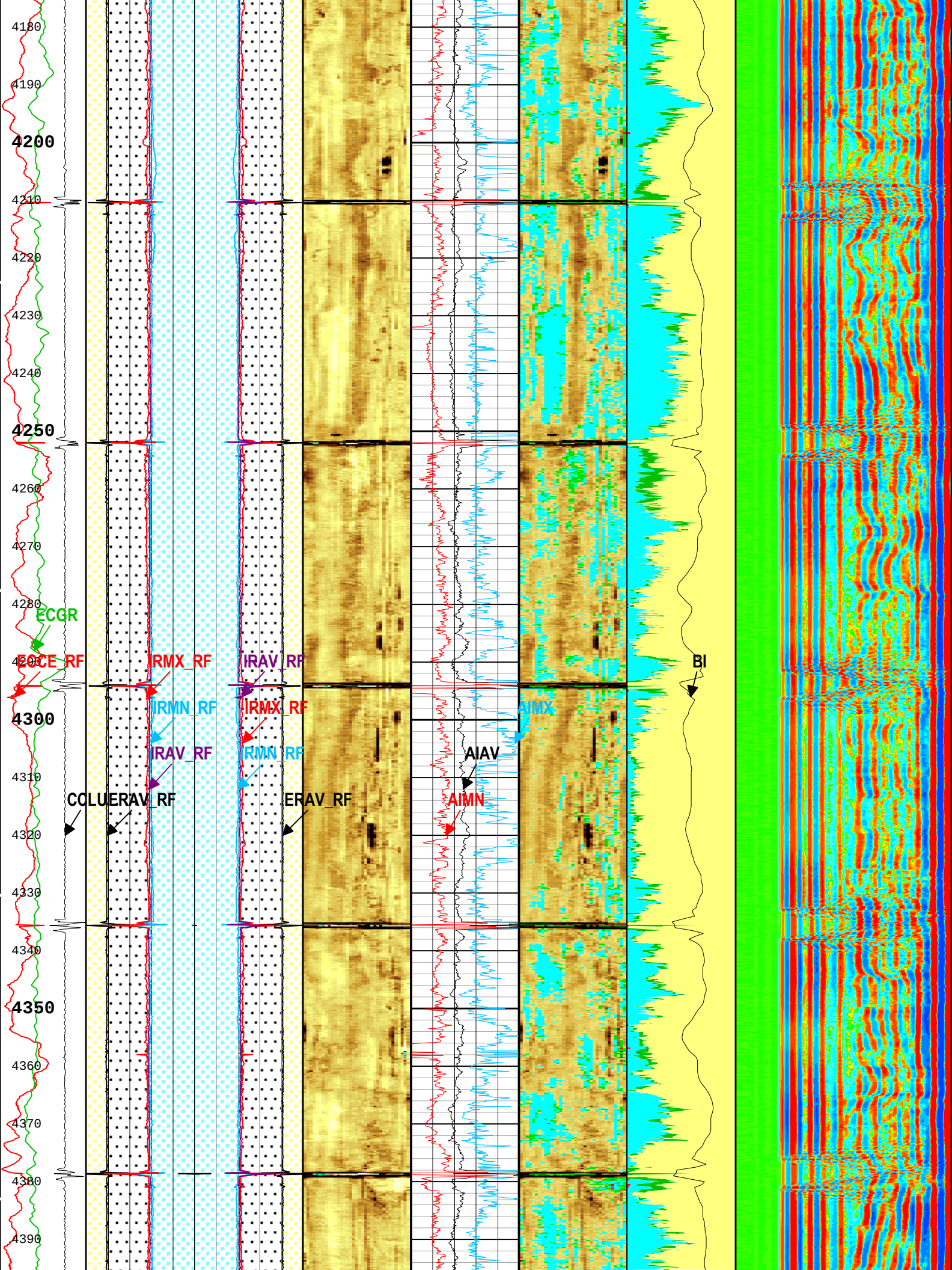
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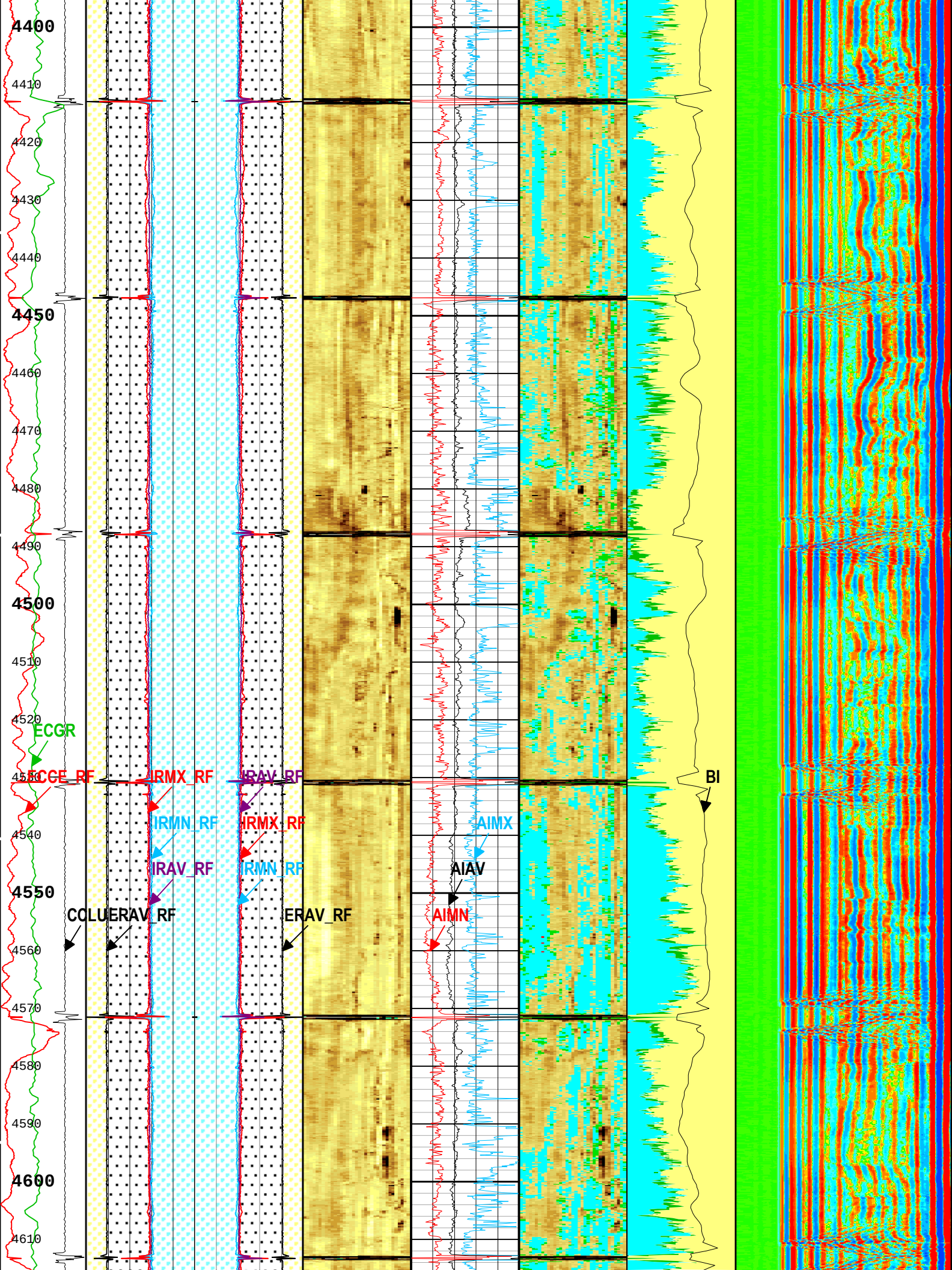
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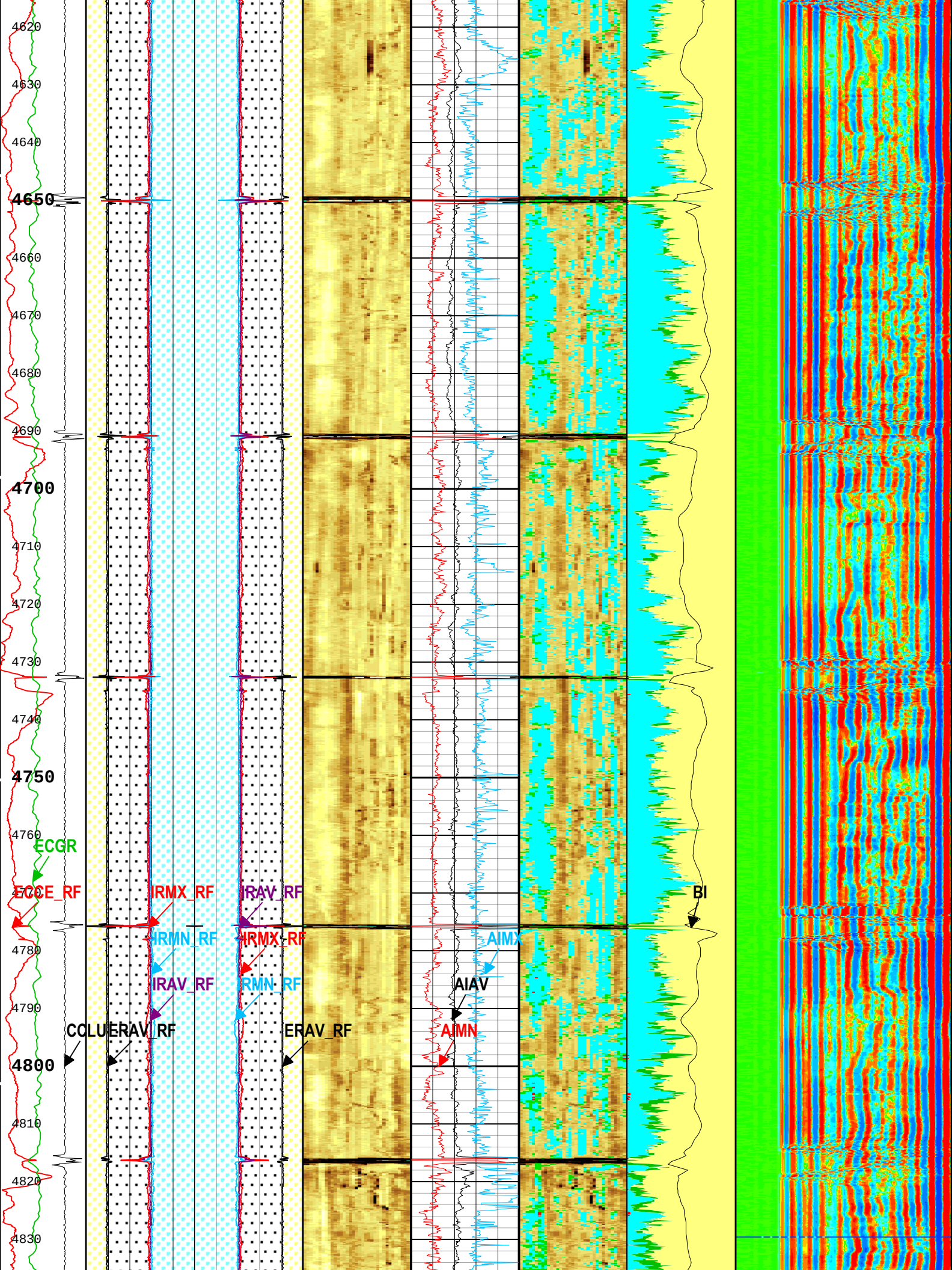
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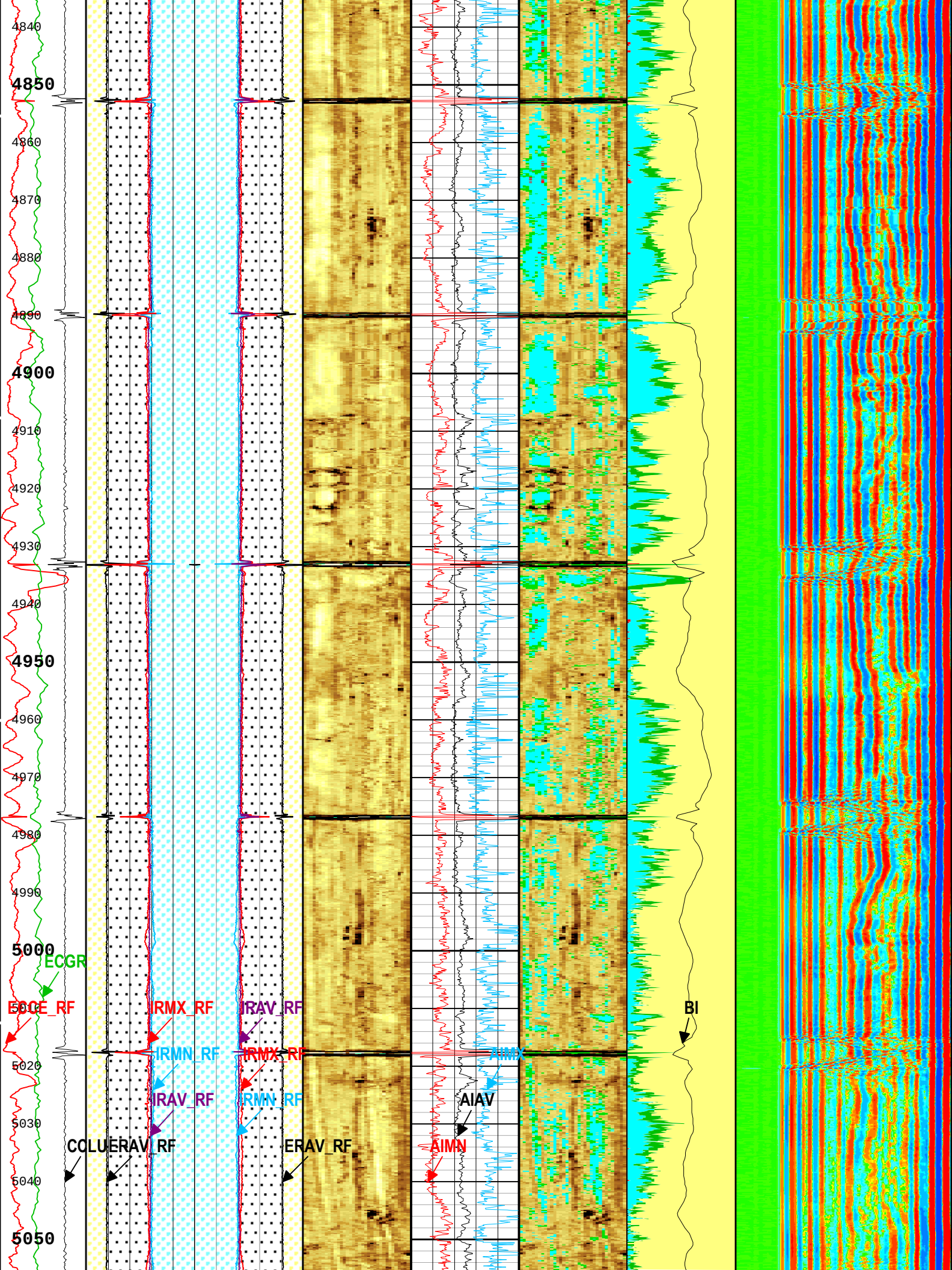
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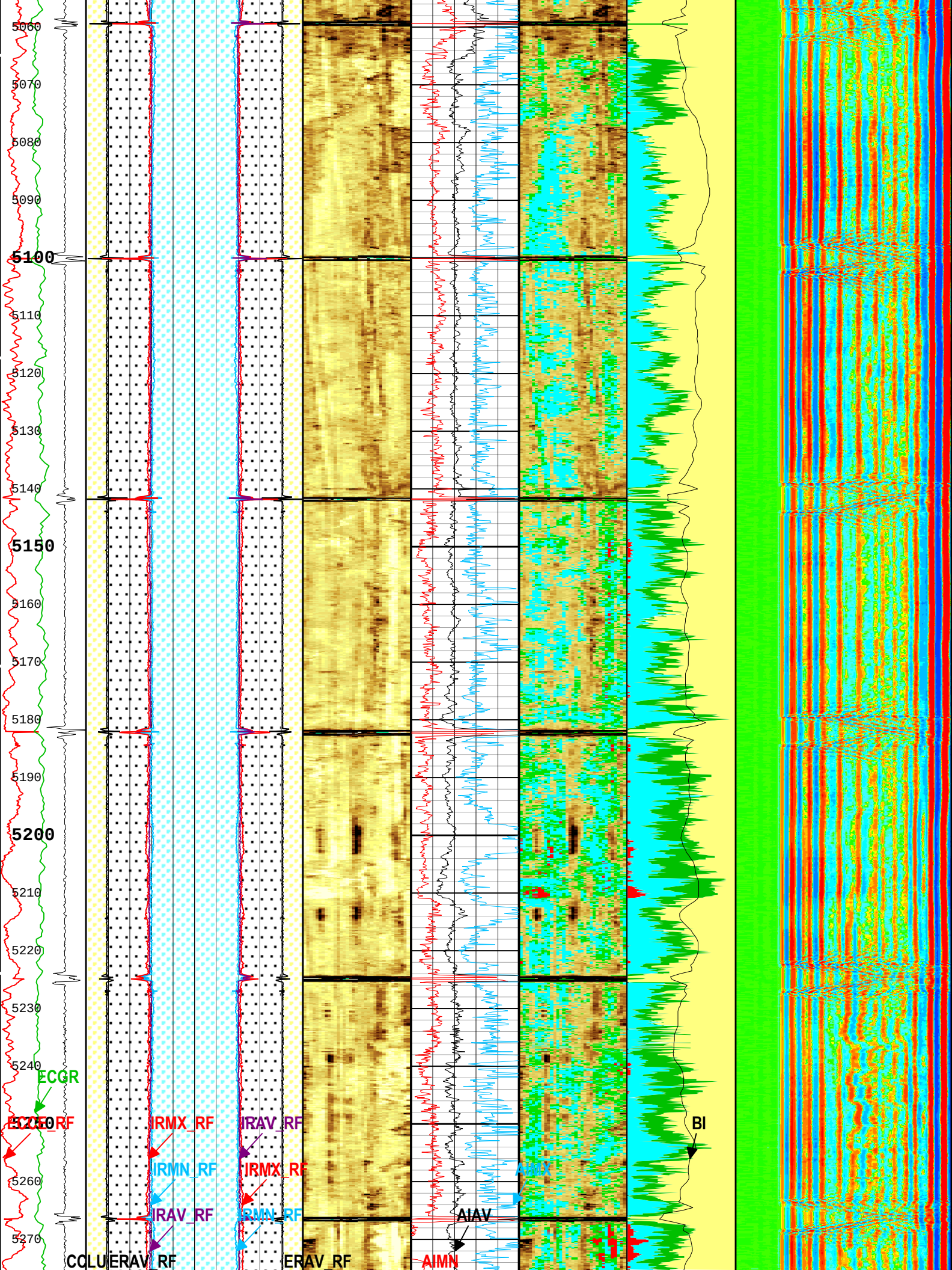
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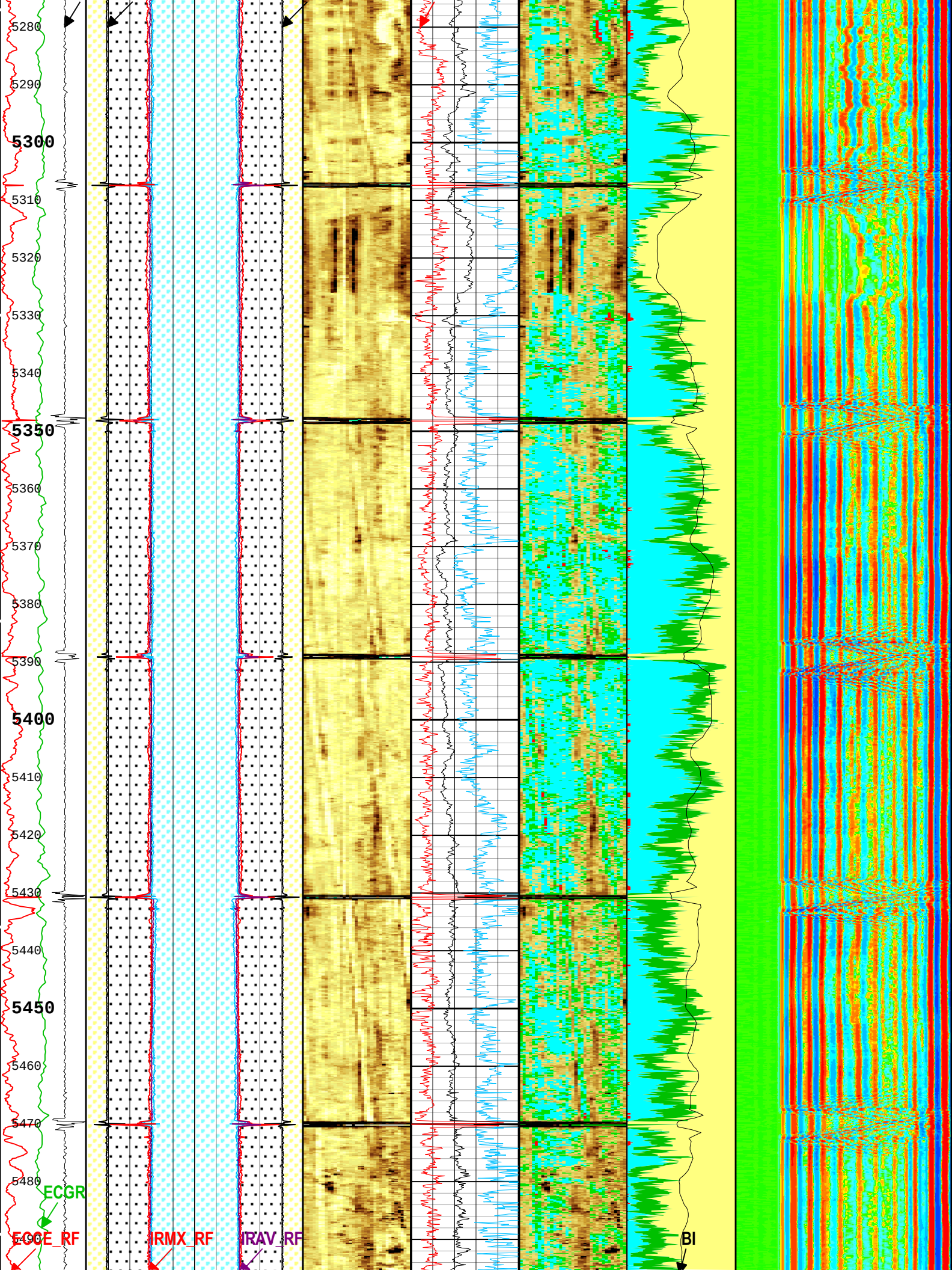
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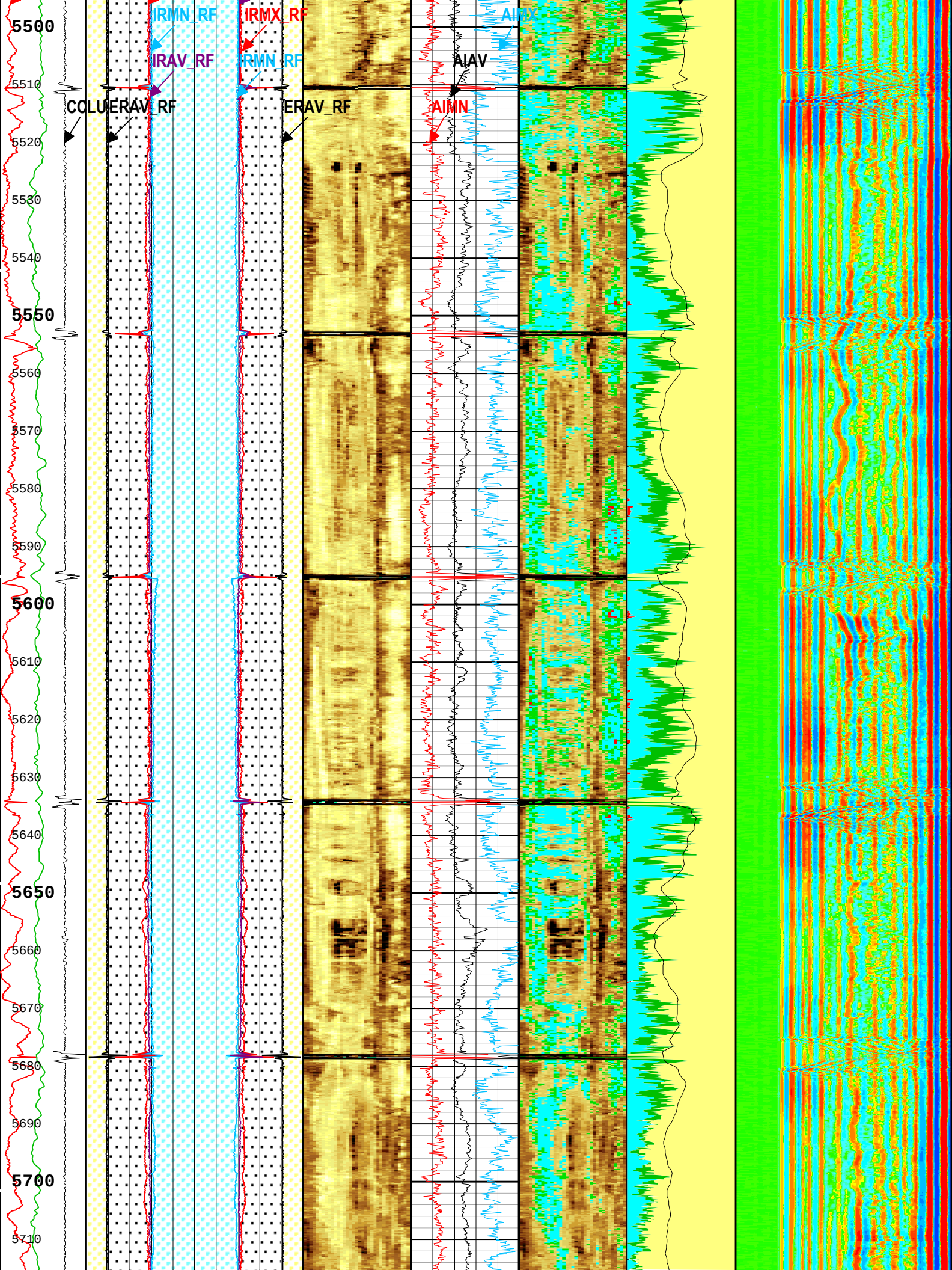
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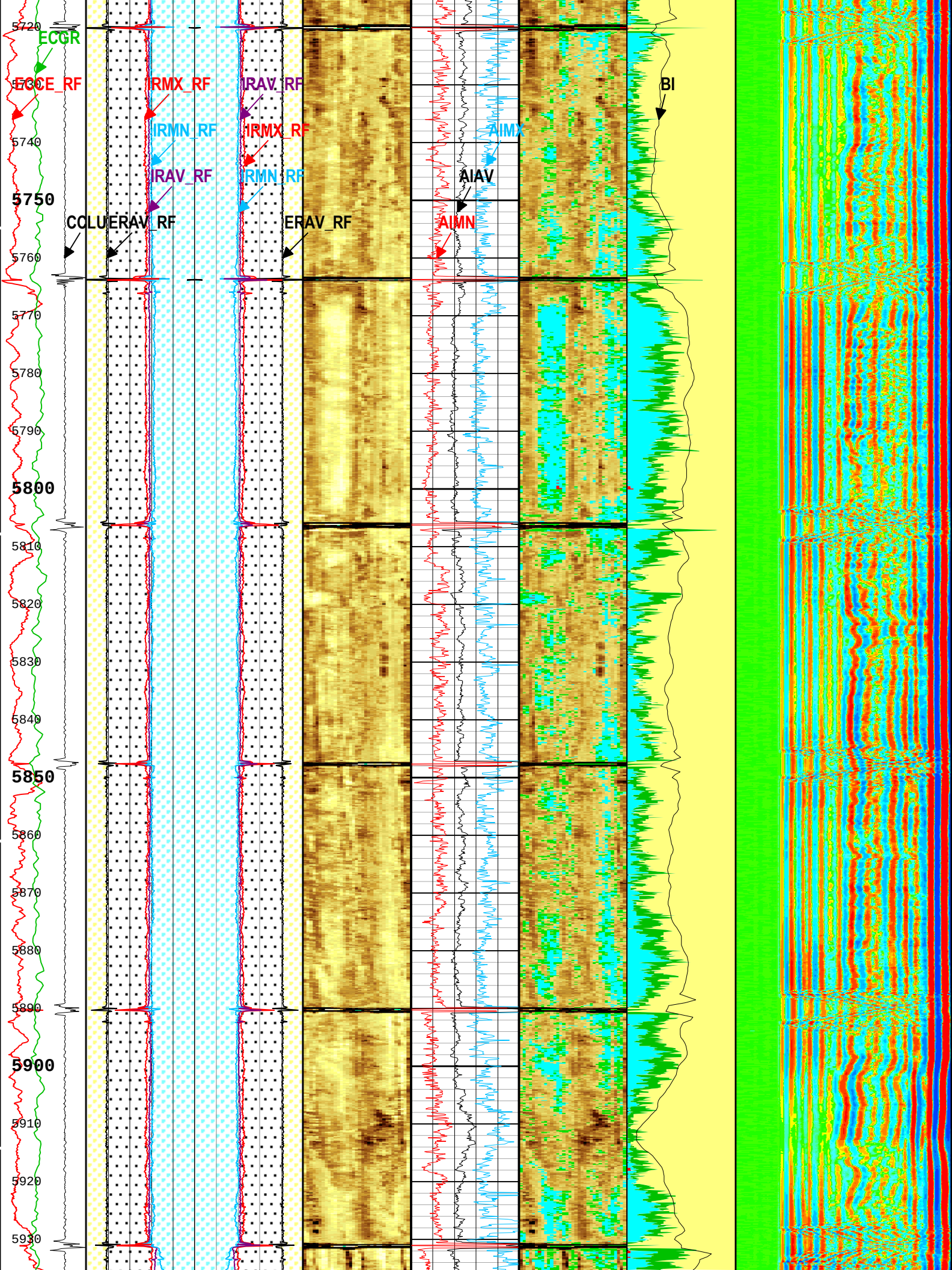
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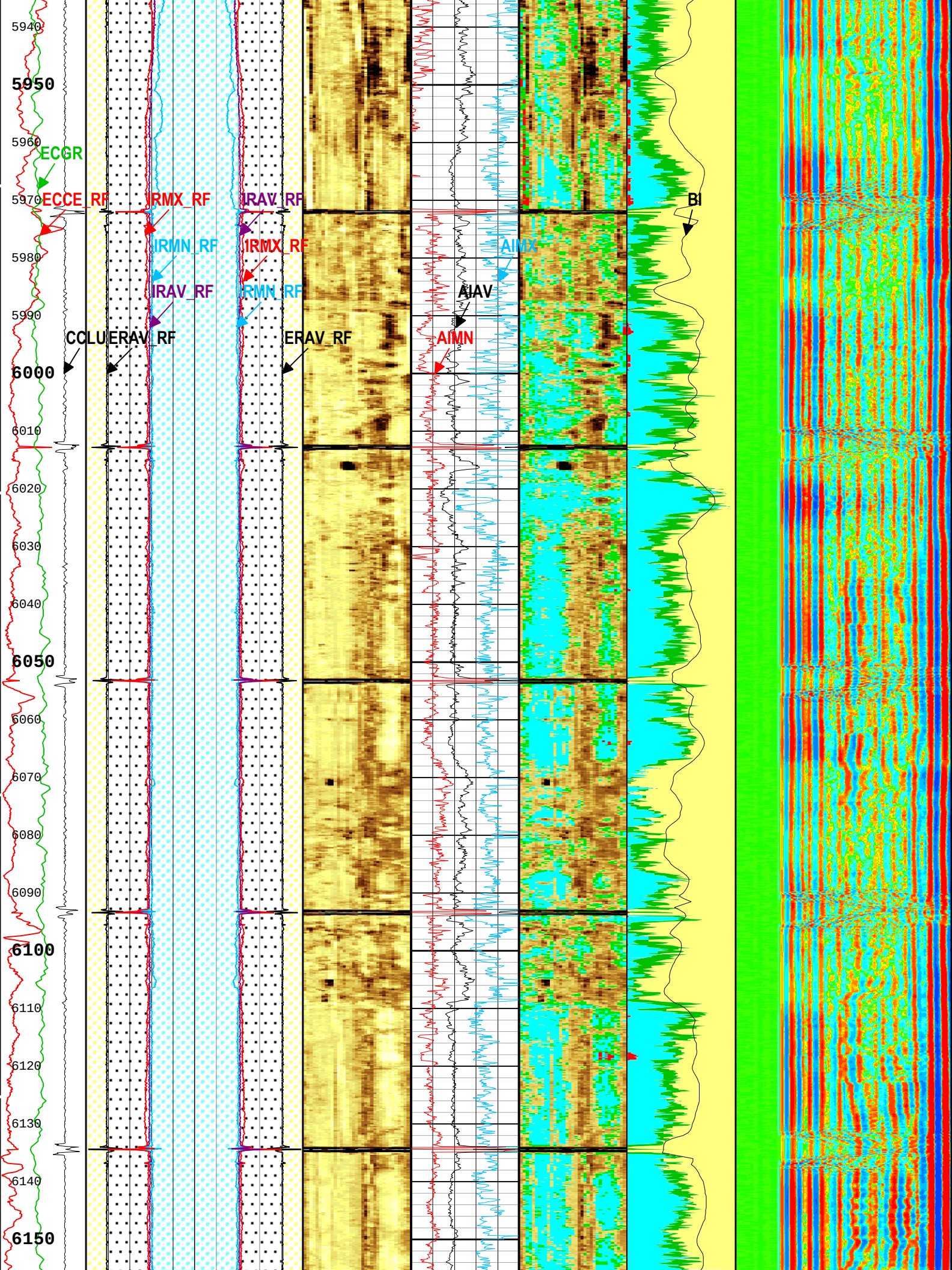
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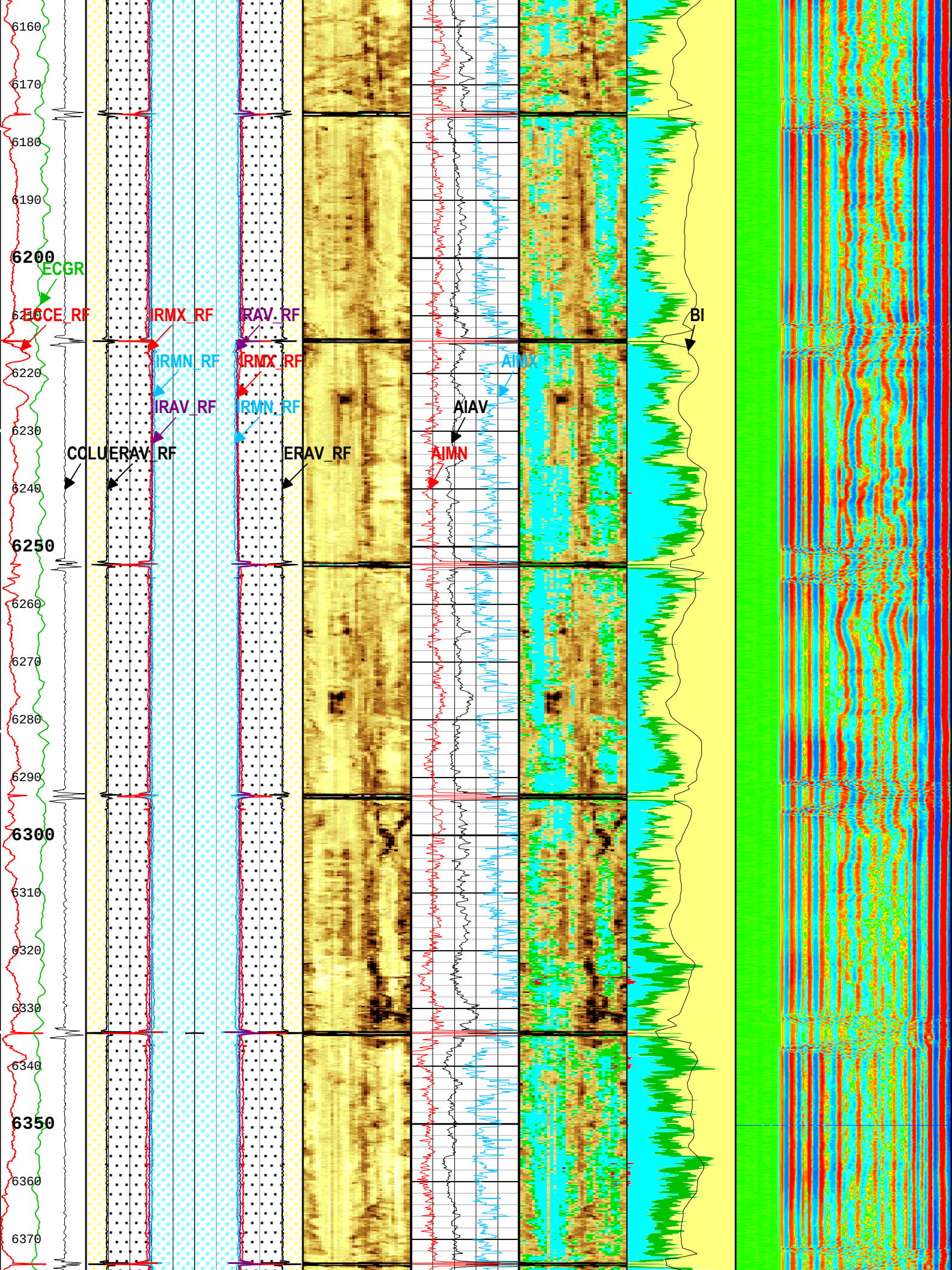
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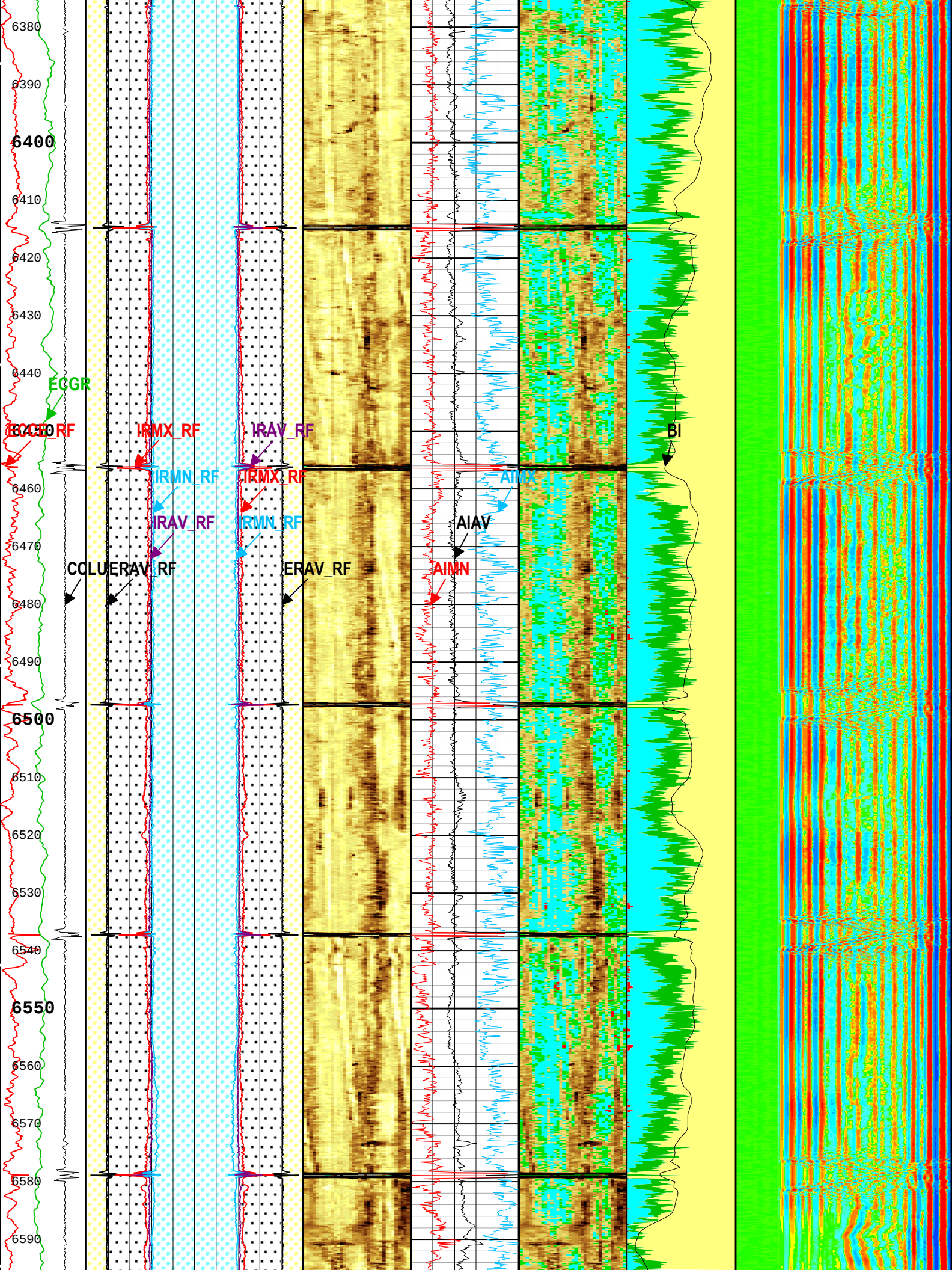
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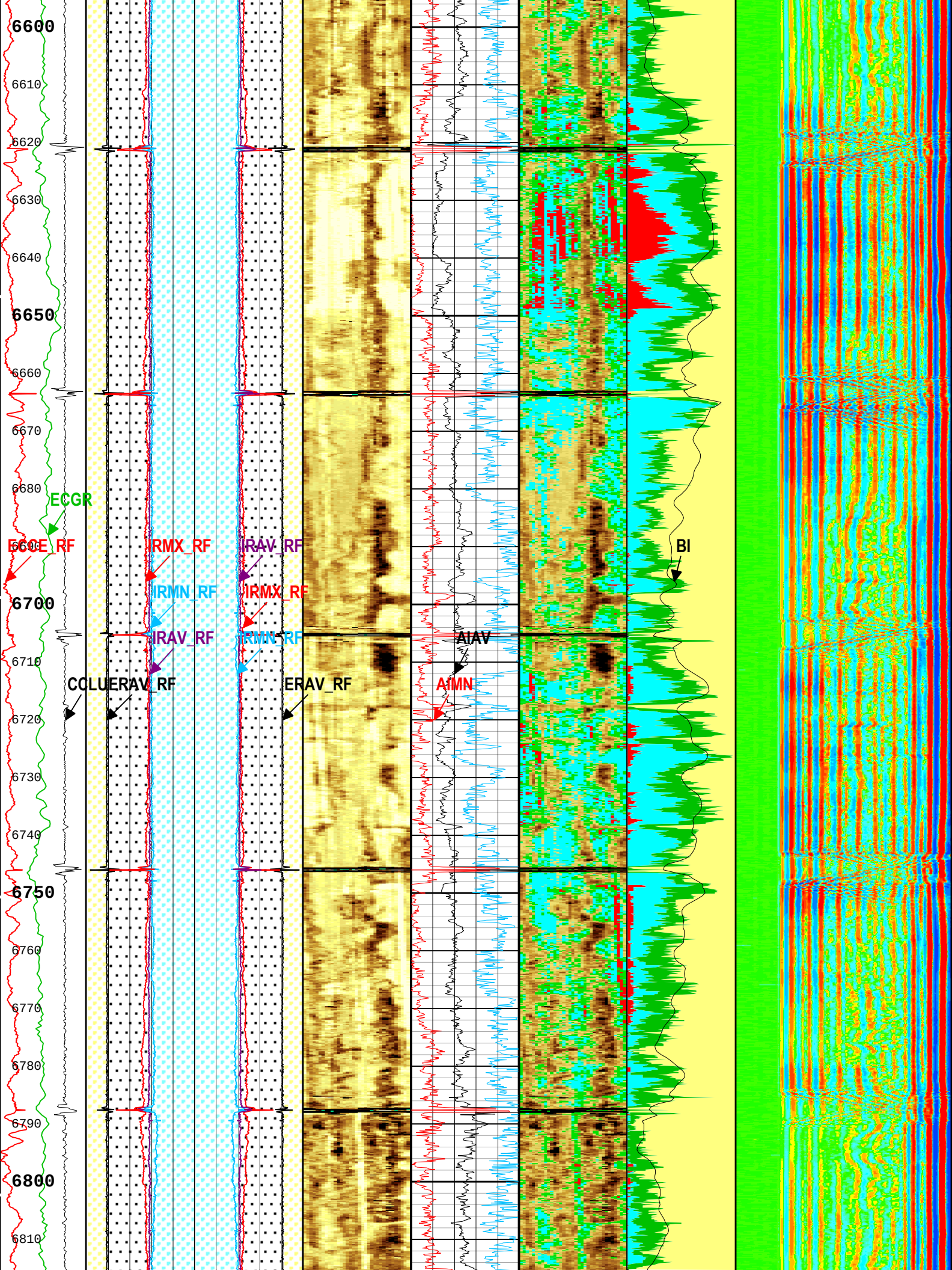

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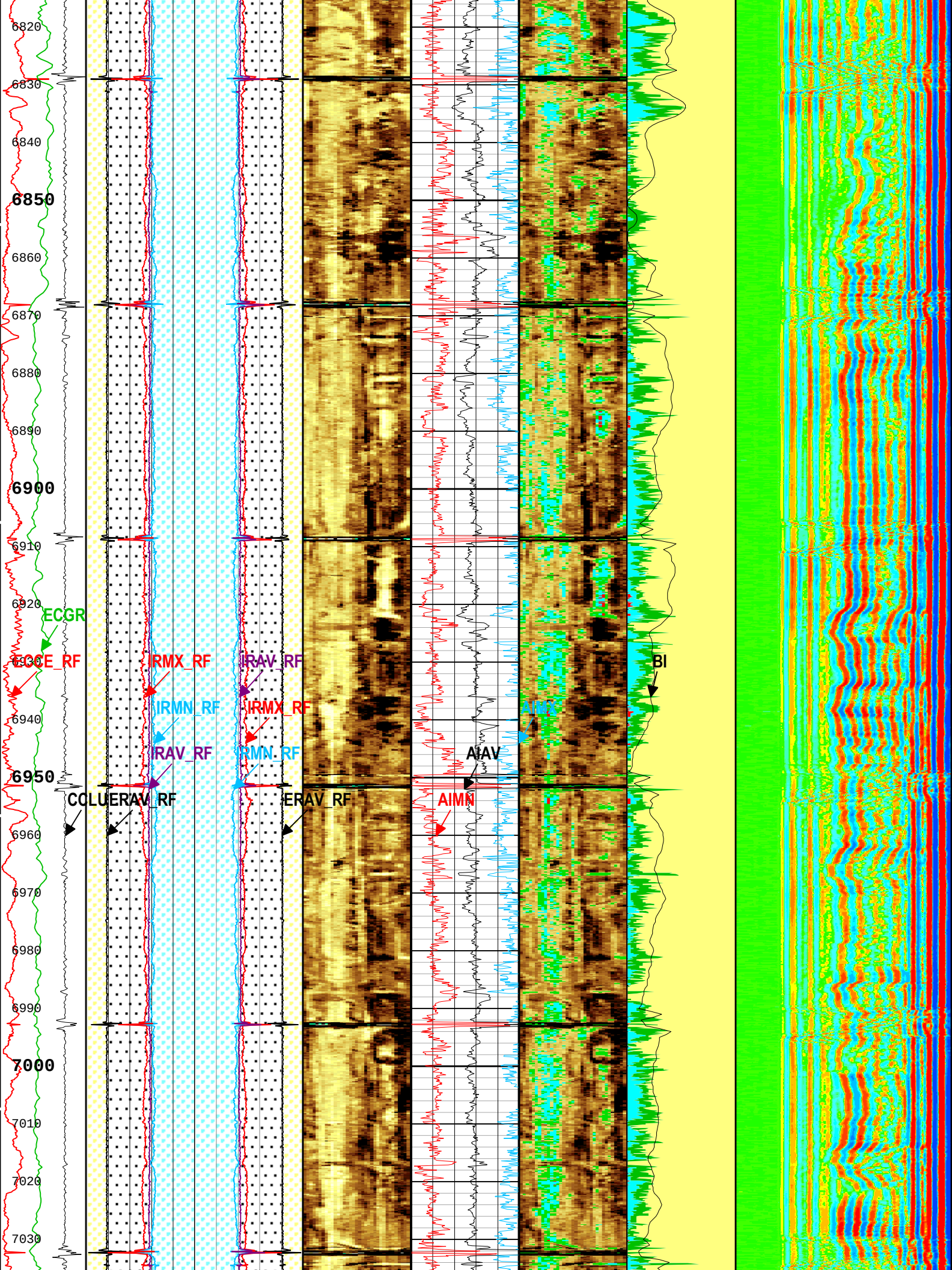
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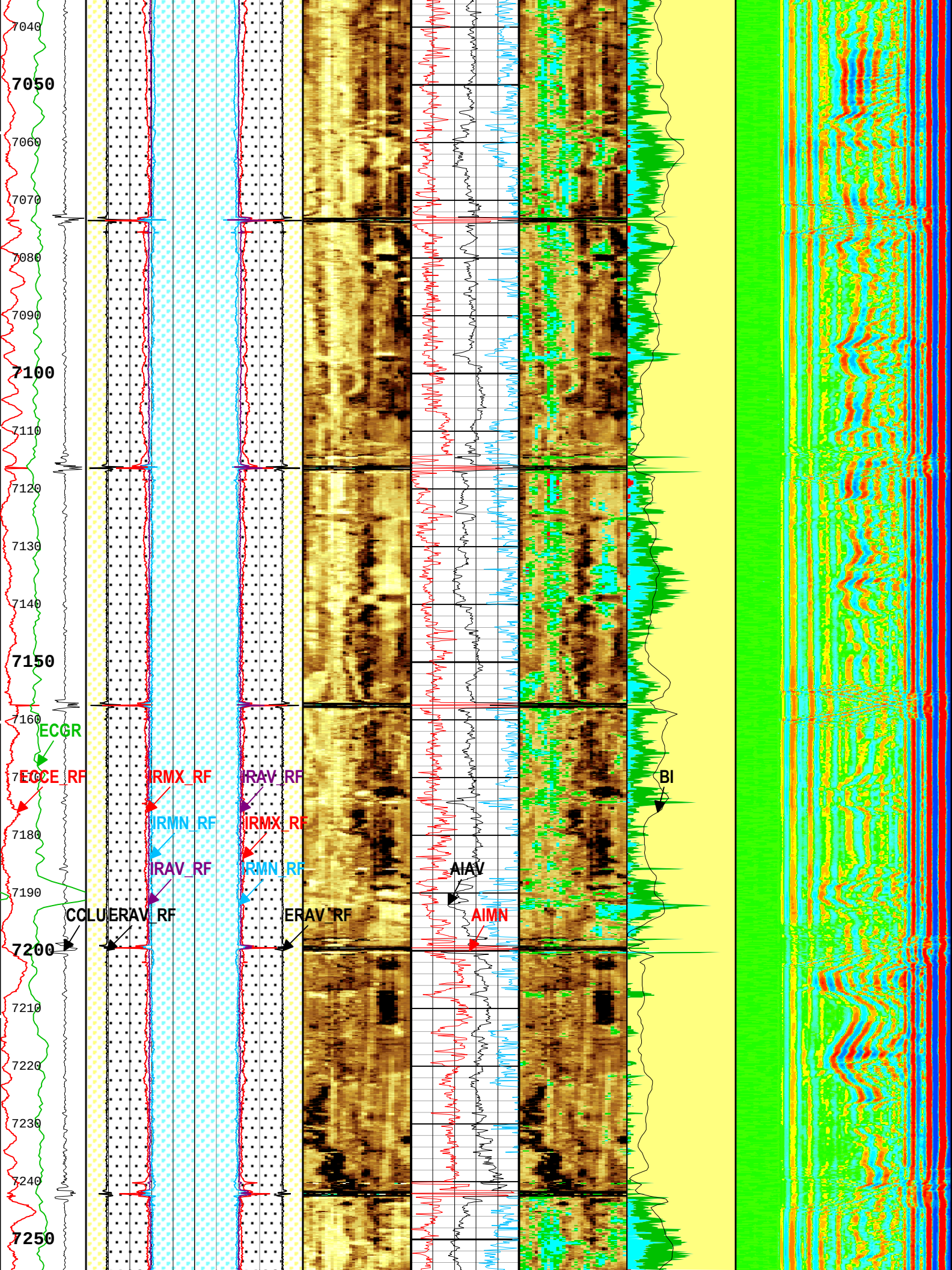
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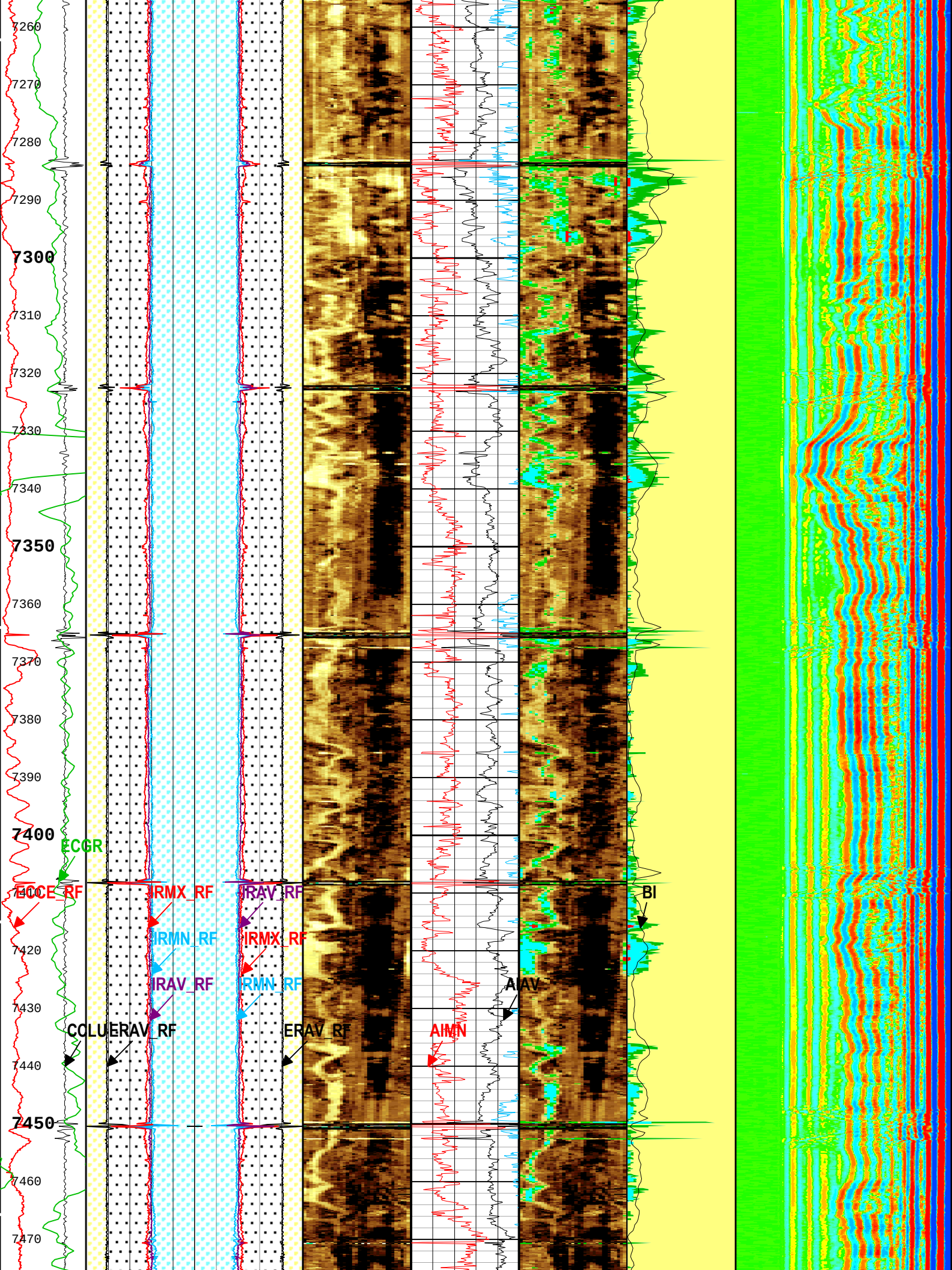
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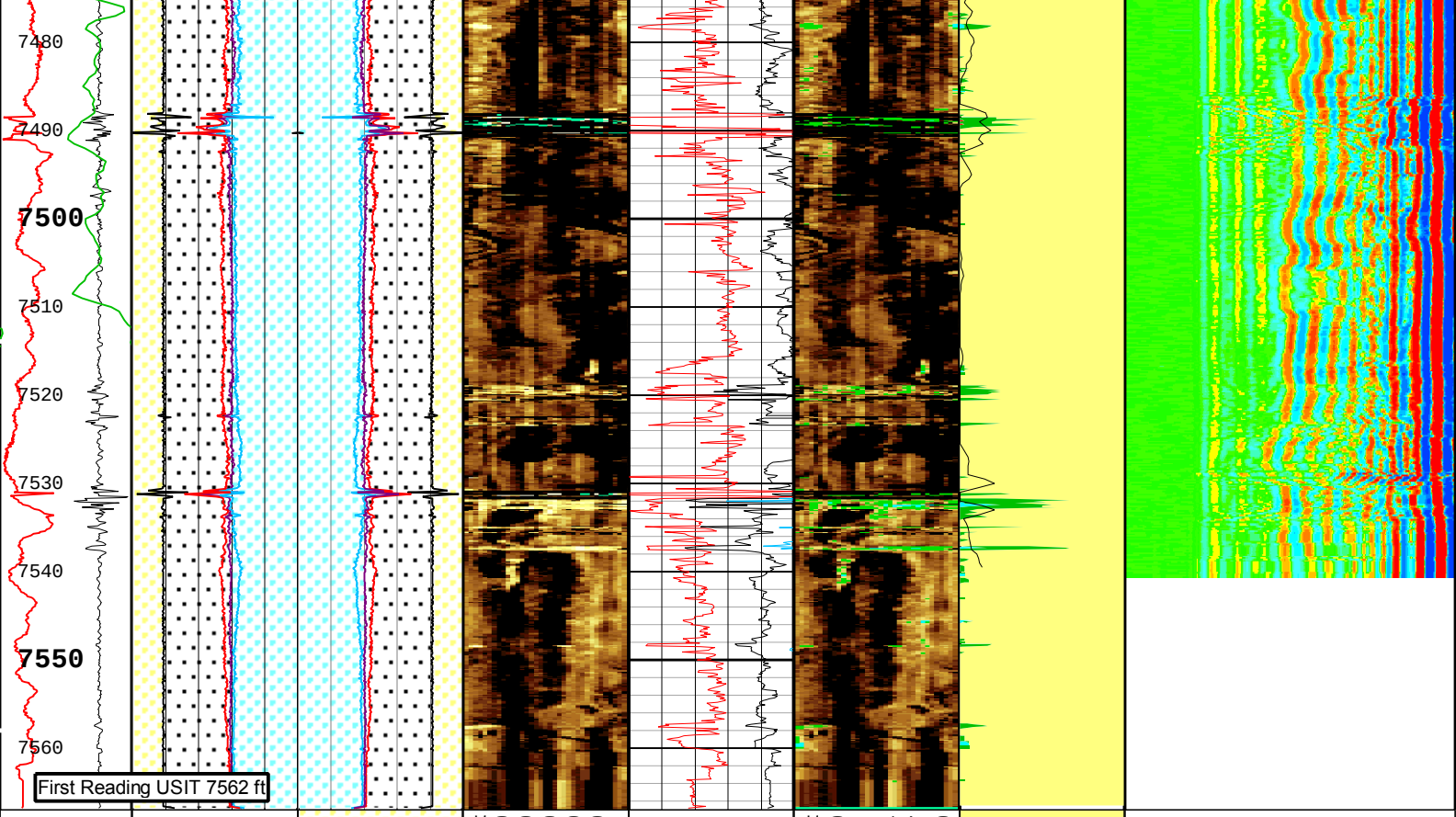

Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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

Gamma Ray (ECGR) HGNS[1]
0 gAPI 150

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) USIT-E[1]
4.5 in 3.5

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

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

ERAV_RHF1
IRAV_ERAV
RHF1_IRAV

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

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

Maximum of Unflagged Internal Radii (IRMX_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

Absent 1.000 2.500 4.000 5.500 7.000
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1]
(Mrayl)
Orientation: Top of Hole
U L B R U

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

Absent 0.300 3.581 5.054 6.527 8.000
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1]
(Mrayl)
Orientation: Top of Hole
U L B R U

Bonded
Gas
Liquid
Micro-debonding

Bond Index (BI) DSLT-H[1]
1 0

Min Amplitude Max
Sonic VDL Curve DSLT-H[1]
200 us 1200

TIME_1900 - Time Marked every 60.00 (s)

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: 26-May-2016 18:19:32

Channel Processing Parameters

Four_D1: 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	Cased	
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	7610	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	0.48	
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	190	us/ft
FCF	CBL Fluid Compensation Factor	DSLT-H	0.87	
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	6.13	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	8.58	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	1.69	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLT-H	3.54	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.03	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
NMSG	Near Minimum Sliding Gate	DSLT-H	290	us
NMXG	Near Maximum Sliding Gate	DSLT-H	940	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	140	%
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	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	1.7	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Four_D1Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	17.5	10.5	1020
BS	11	1020	7567
MCI	21.68	10.5	1020
MCI	12.98	1020	7567

All depth are actual.

Tool Control Parameters

Four_D1: 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	CBLB	

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	7550	ft
USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us
WMOD	Waveform Firing Mode	DSLT-H	Full	

Four_D1Time Zoned Parameters

Pass Log[4]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	50	26-May-2016 08:27:27	26-May-2016 10:54:27	7567.38	187
WINB	40	26-May-2016 08:27:27	26-May-2016 10:54:27	7567.38	187
WINE	120	26-May-2016 08:27:27	26-May-2016 10:54:27	7567.38	187

Pass Log[17]:Up

EMXV	80	26-May-2016 13:04:46	26-May-2016 13:08:53	187.71	76.81
EMXV	120	26-May-2016 13:08:53	26-May-2016 13:10:59	76.81	63.21
WINB	58.39	26-May-2016 13:04:46	26-May-2016 13:06:50	187.71	134.12
WINB	40.6	26-May-2016 13:06:50	26-May-2016 13:10:59	134.12	63.21
WINE	98.39	26-May-2016 13:04:46	26-May-2016 13:06:41	187.71	137.11
WINE	120.39	26-May-2016 13:06:41	26-May-2016 13:10:59	137.11	63.21

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
Four_D1	Log[4]:Up	Up	91.68 ft	7567.42 ft	26-May-2016 8:27:27 AM	26-May-2016 10:54:27 AM	ON	1.00 ft	Yes
Four_D1	Log[17]:Up	Up	49.16 ft	202.90 ft	26-May-2016 1:04:46 PM	26-May-2016 1:10:59 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

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: 26-May-2016 18:19:50

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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

U L B R U
Orientation: Top of Hole
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

U L B R U
Orientation: Top of Hole
Absent -4.799 -2.799 -0.800
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

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

U L B R U
Orientation: Top of Hole
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_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

U L B R U
Orientation: Top of Hole
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1] (in)

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)

Ratio of Cement Measurements to Total (CEMR) USIT-E[1]
1 0

Micro-debonding Ratio (MDR) USIT-E[1]
1 0

Ratio of Gas Measurements to Total (GASR) USIT-E[1]
1 0

Bonded
Gas
Liquid
Micro-debonding

Bond Index (BI) DSLT-H[1]
1 0

U L B R U
Orientation: Top of Hole
Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)

U L B R U
Orientation: Top of Hole
Absent 2.599 4.563 6.527
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)

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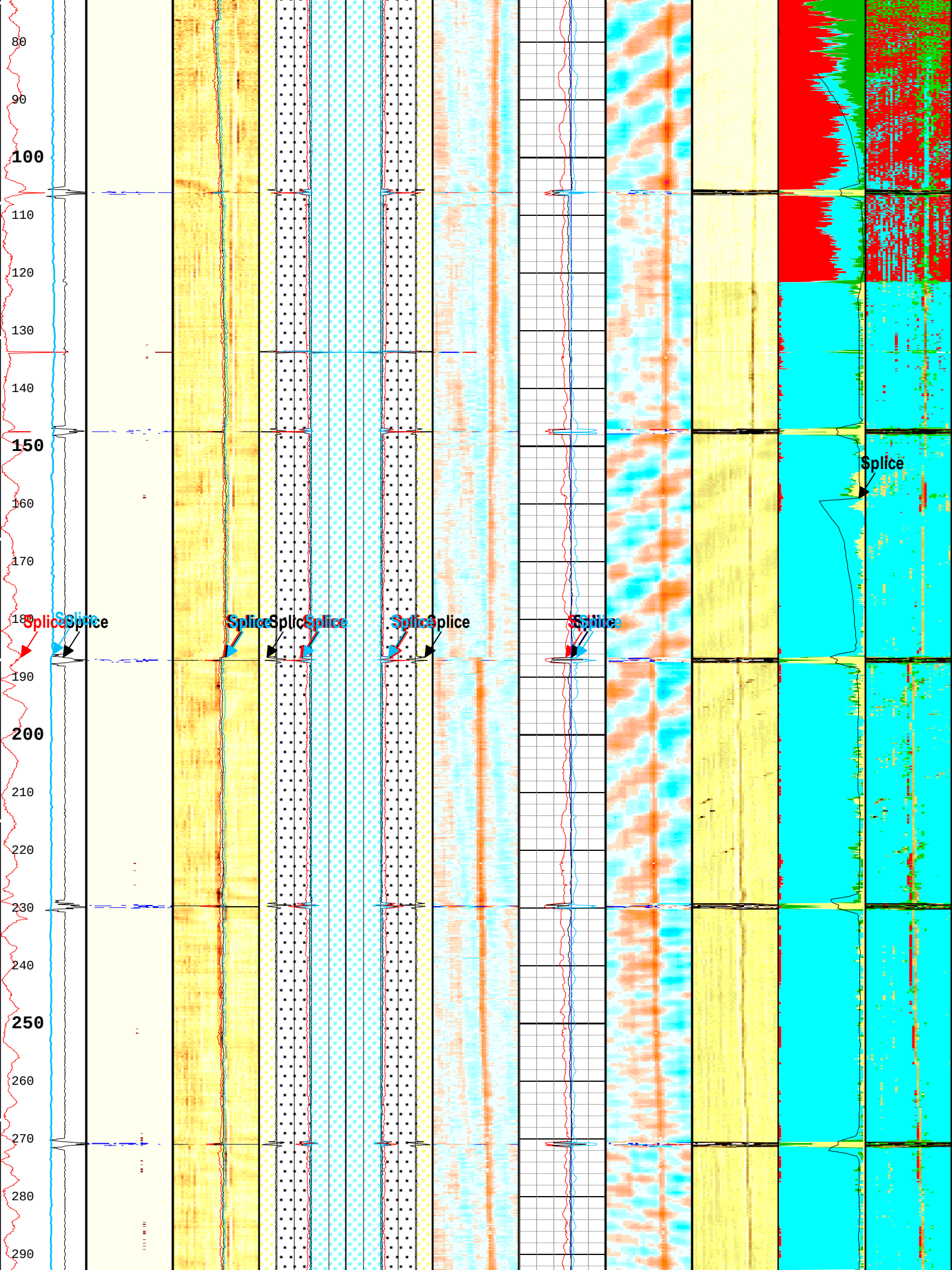
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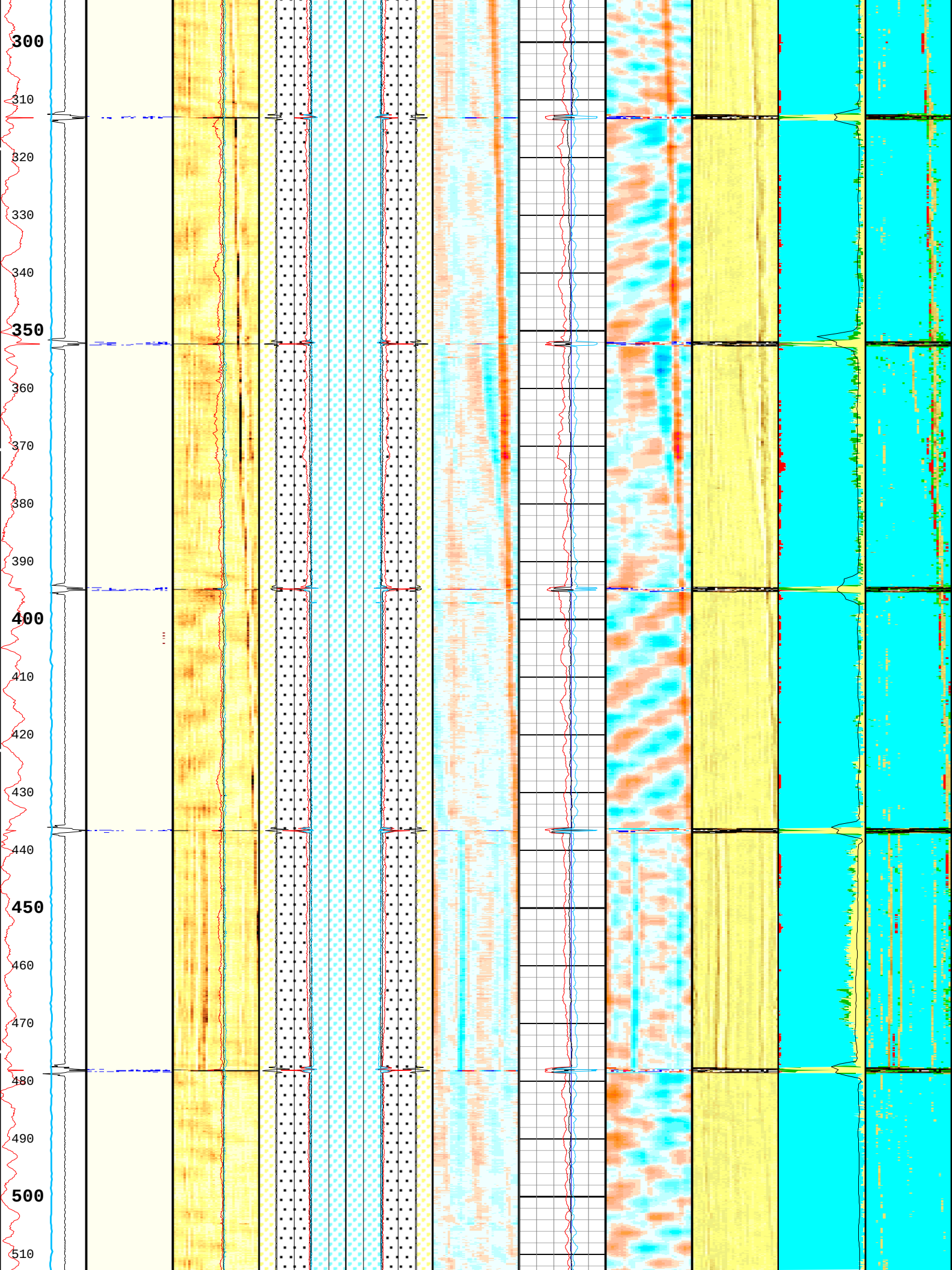
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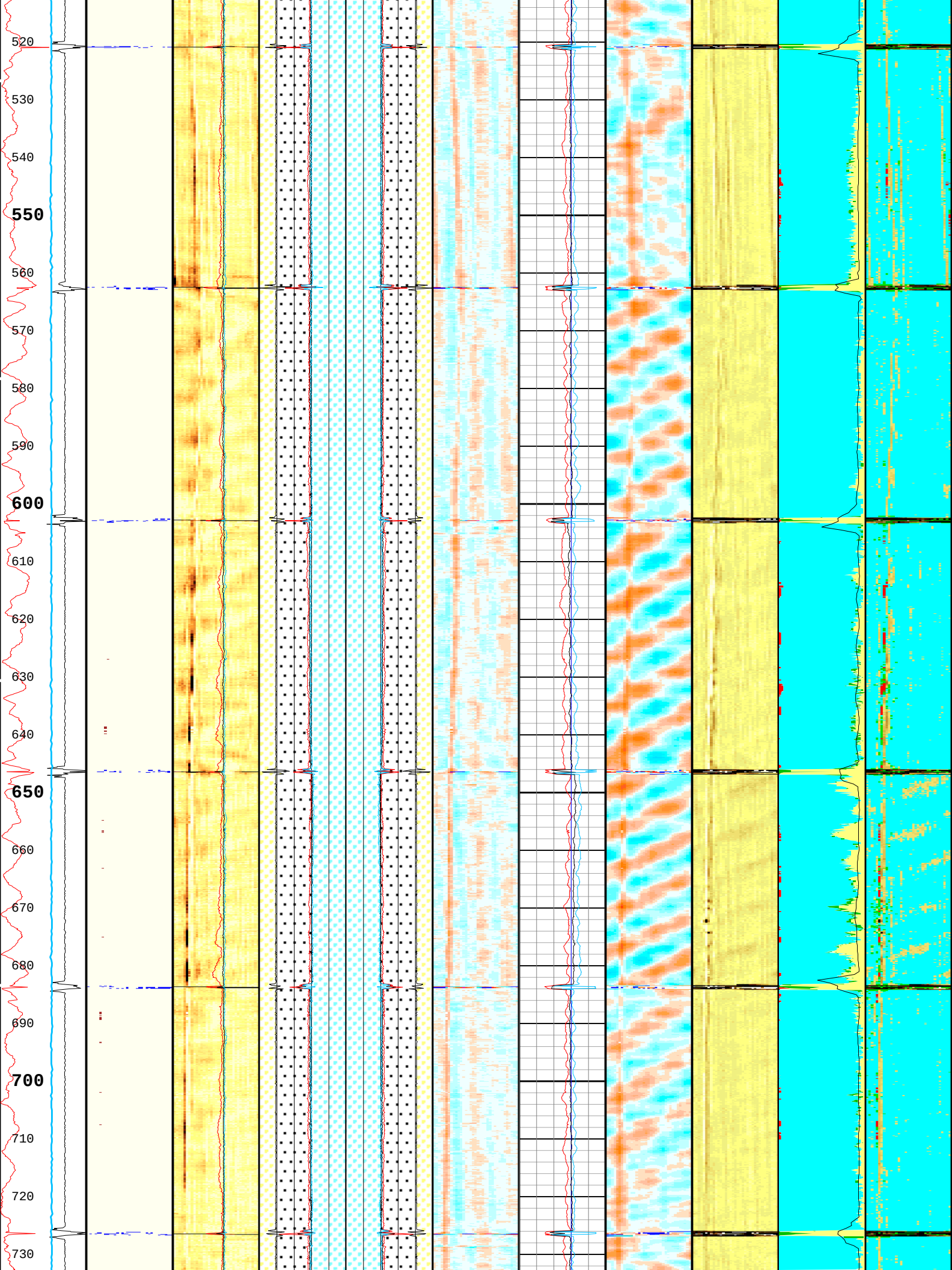
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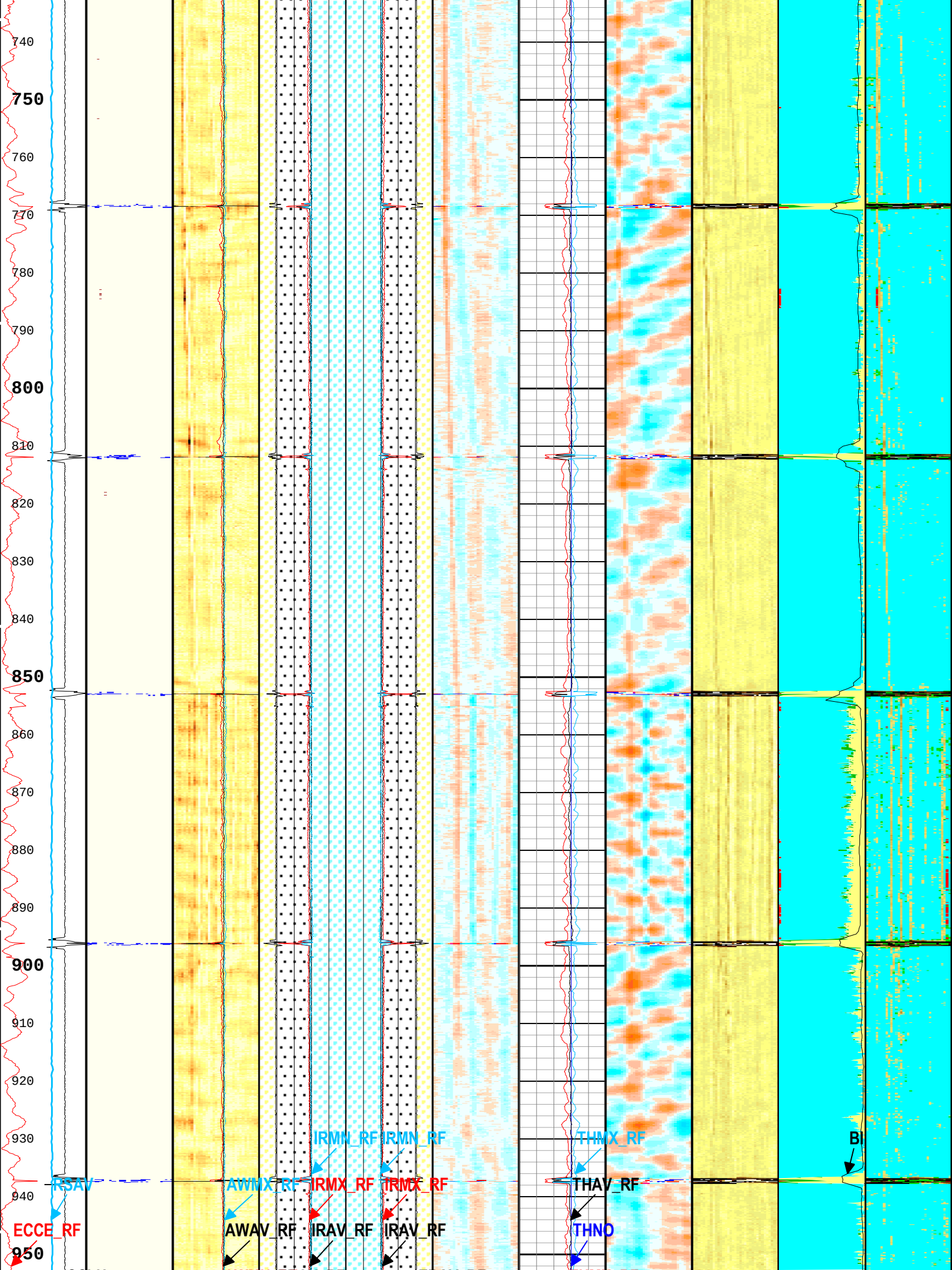
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IRMN_RF
THMX_RF
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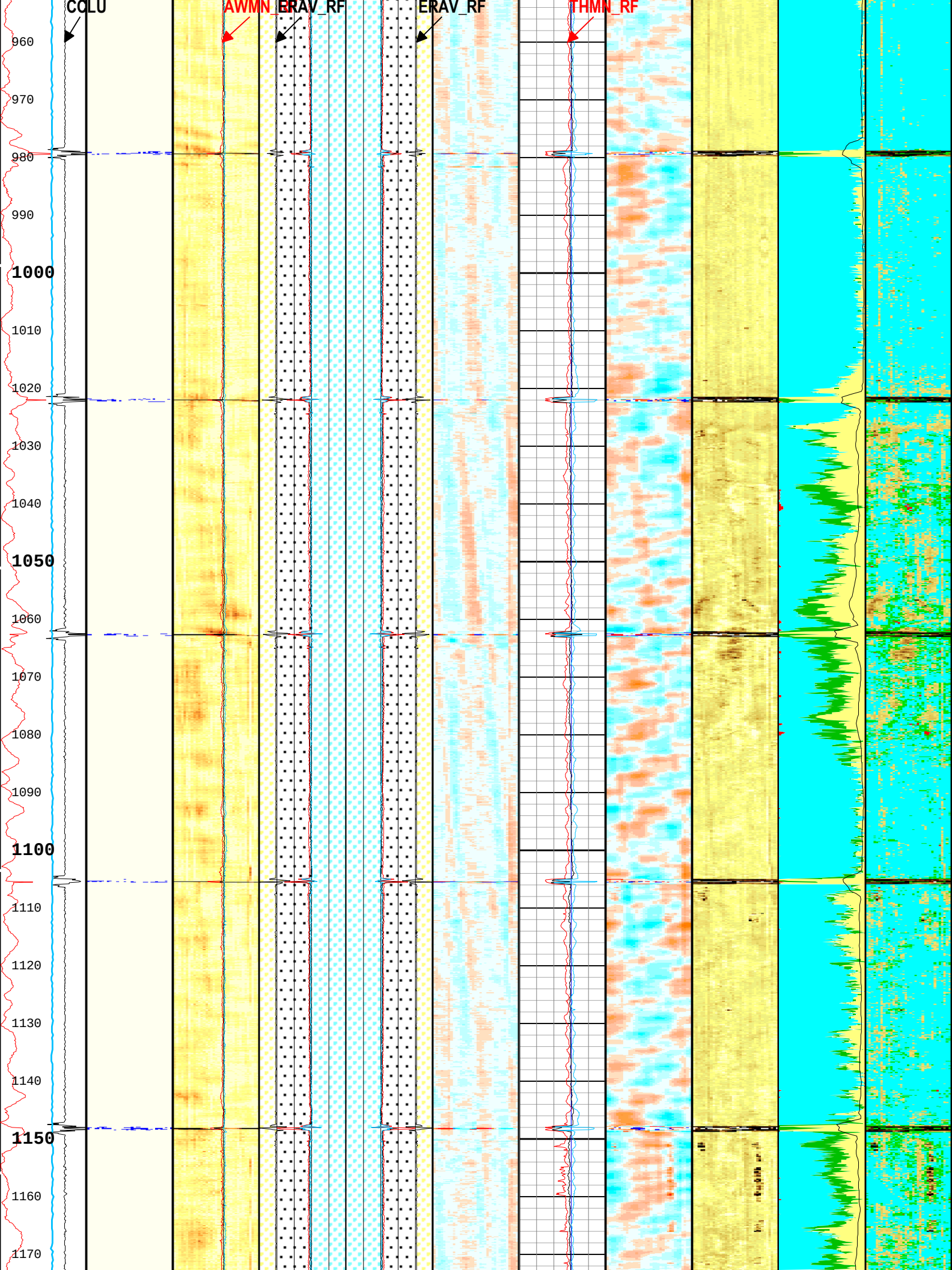
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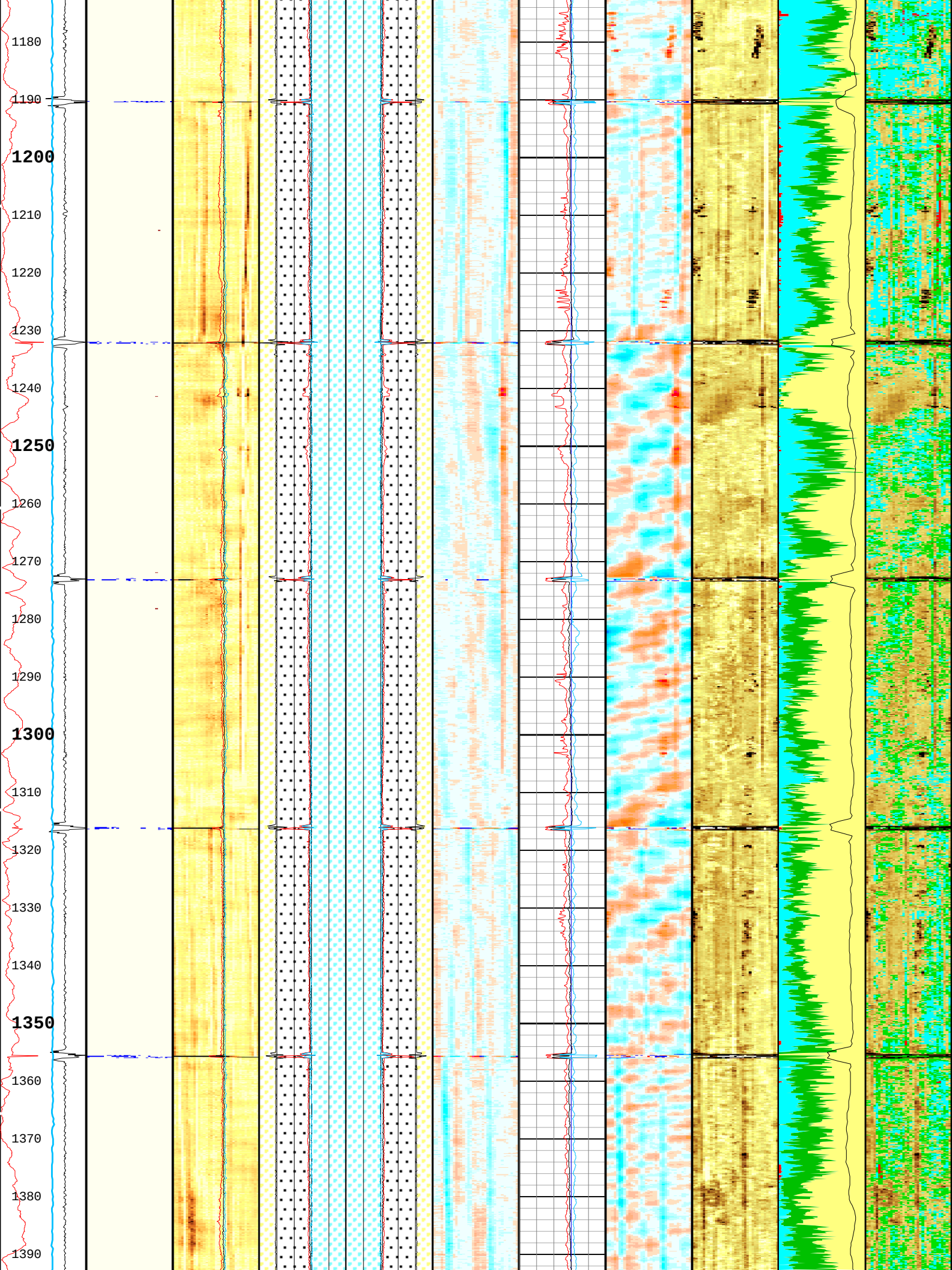
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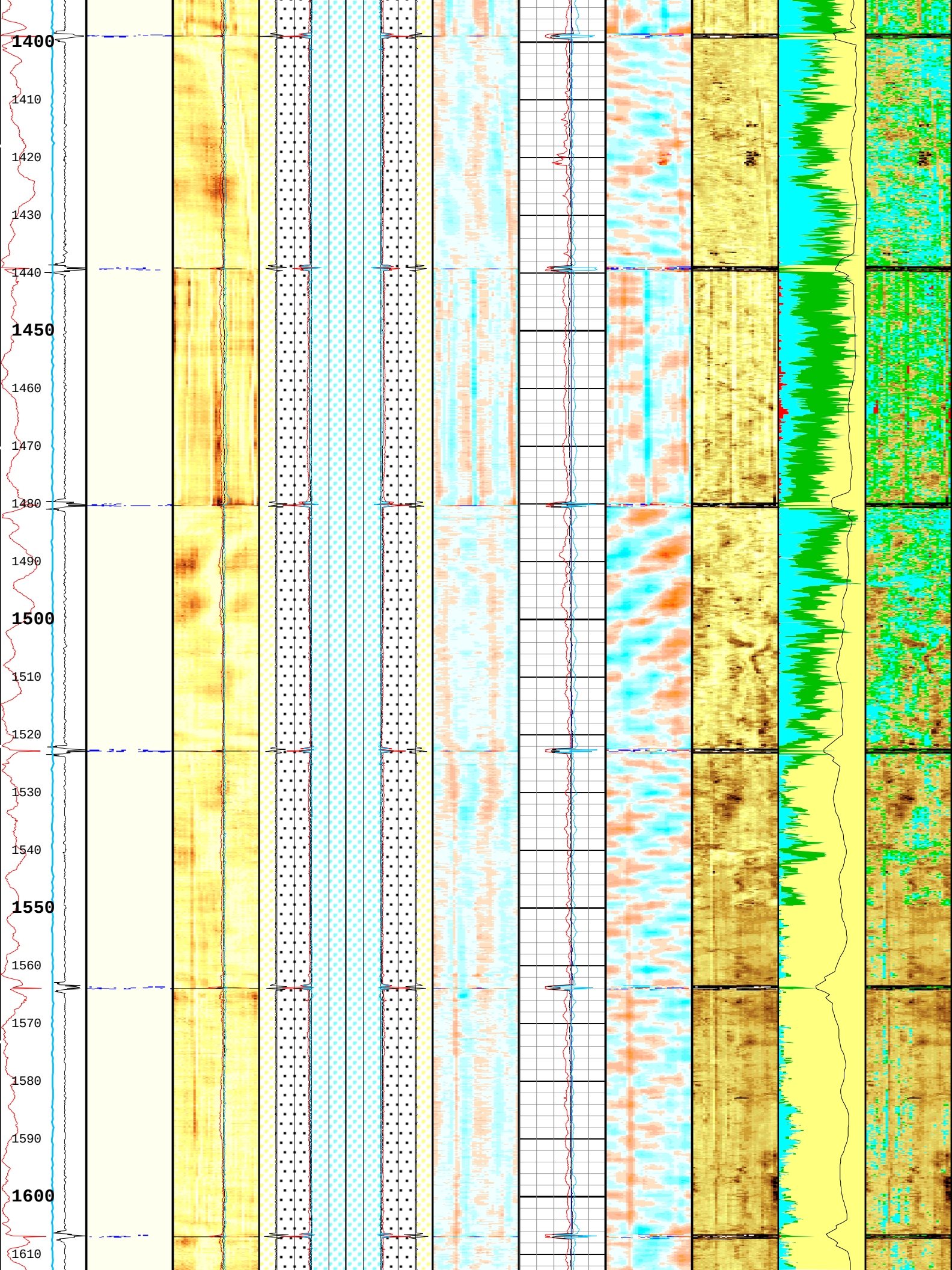
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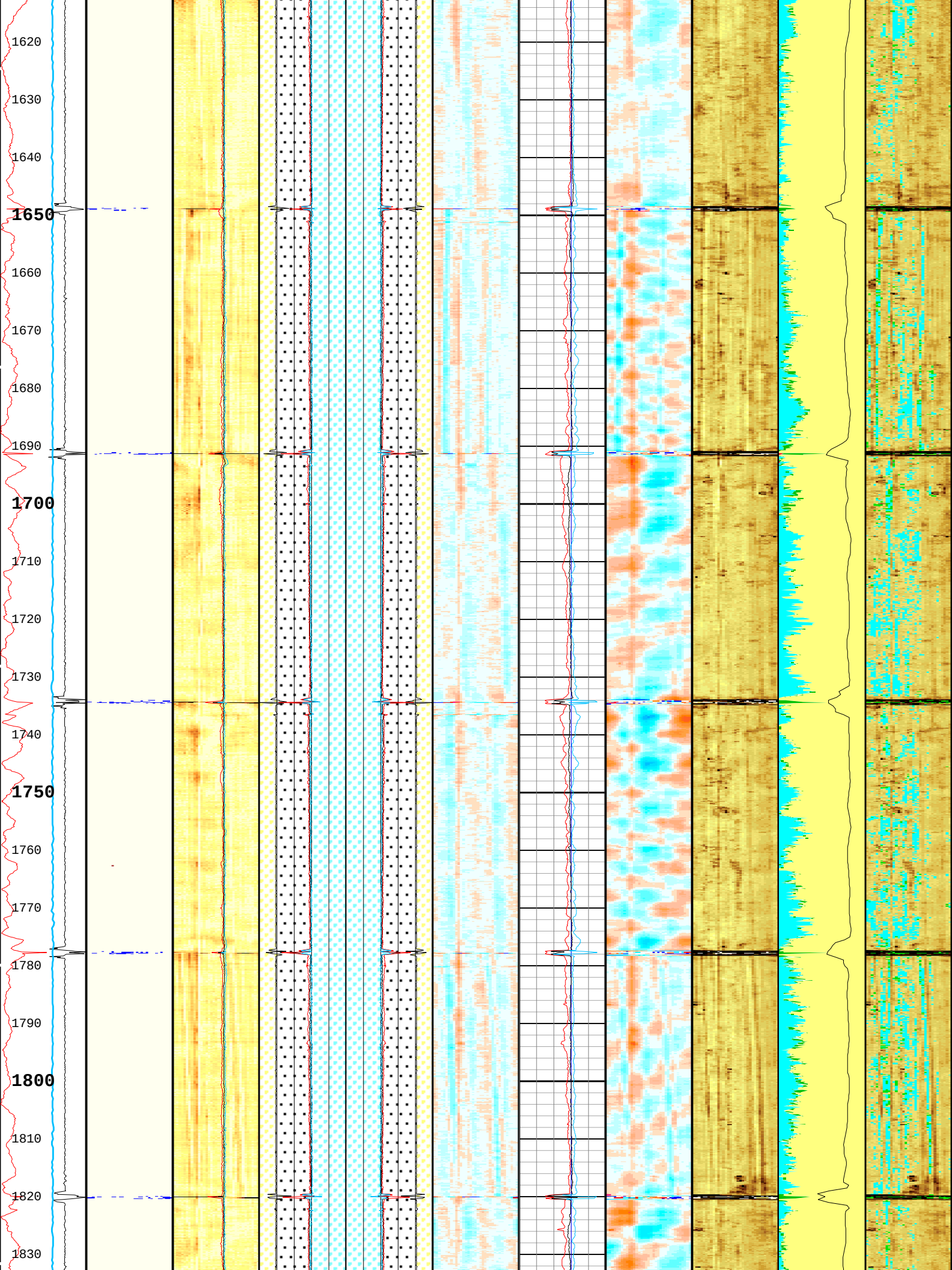
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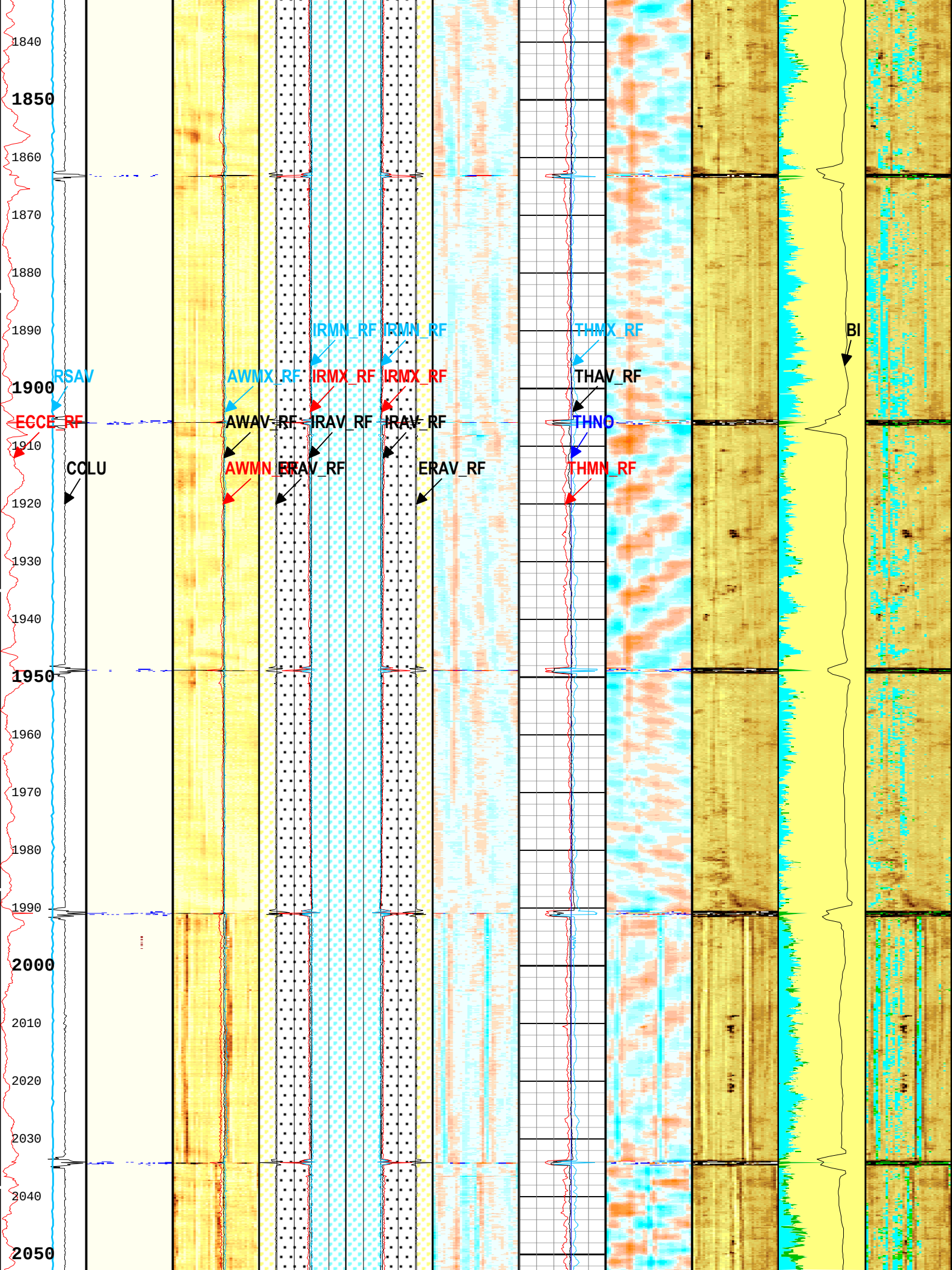
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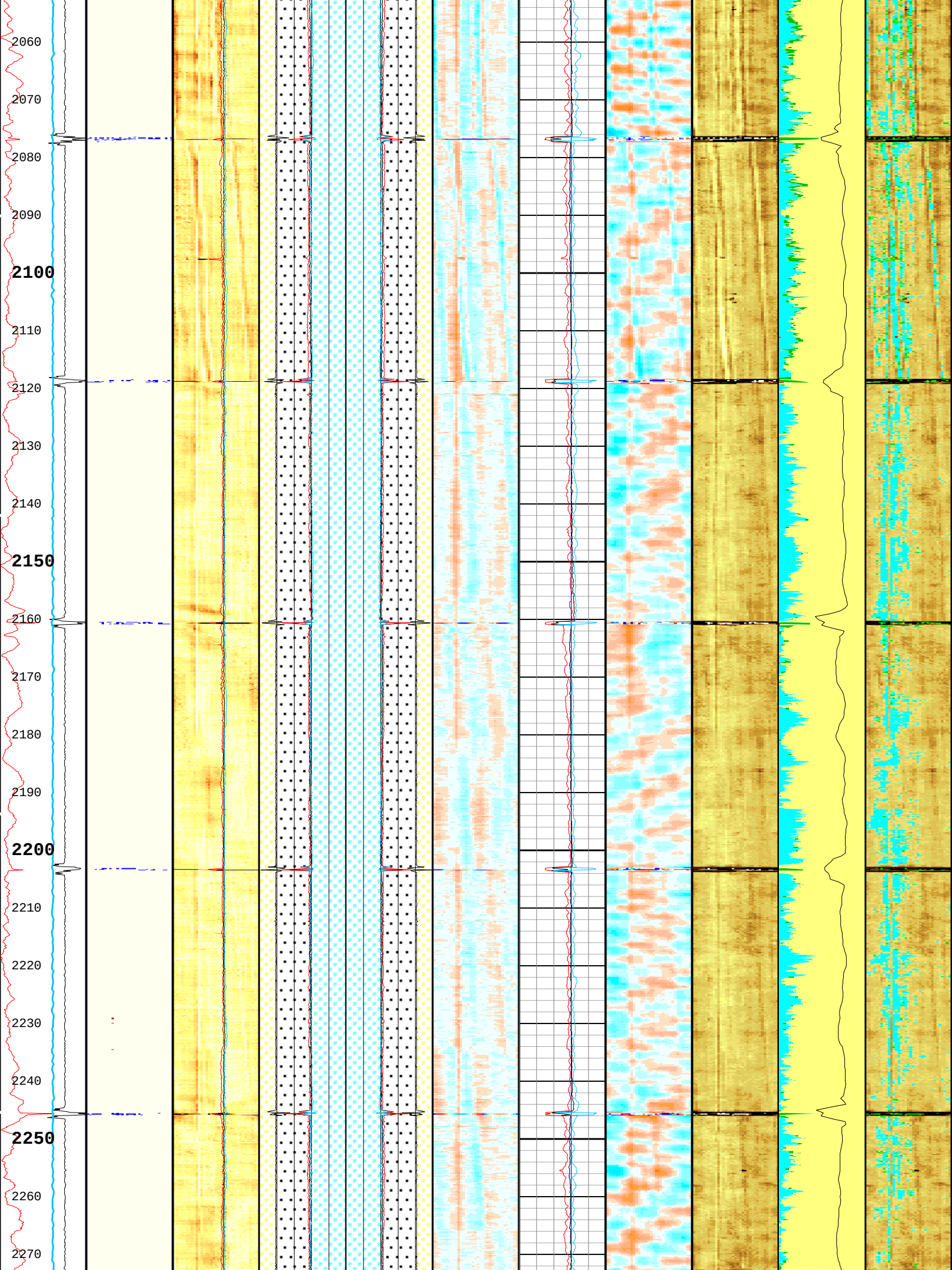
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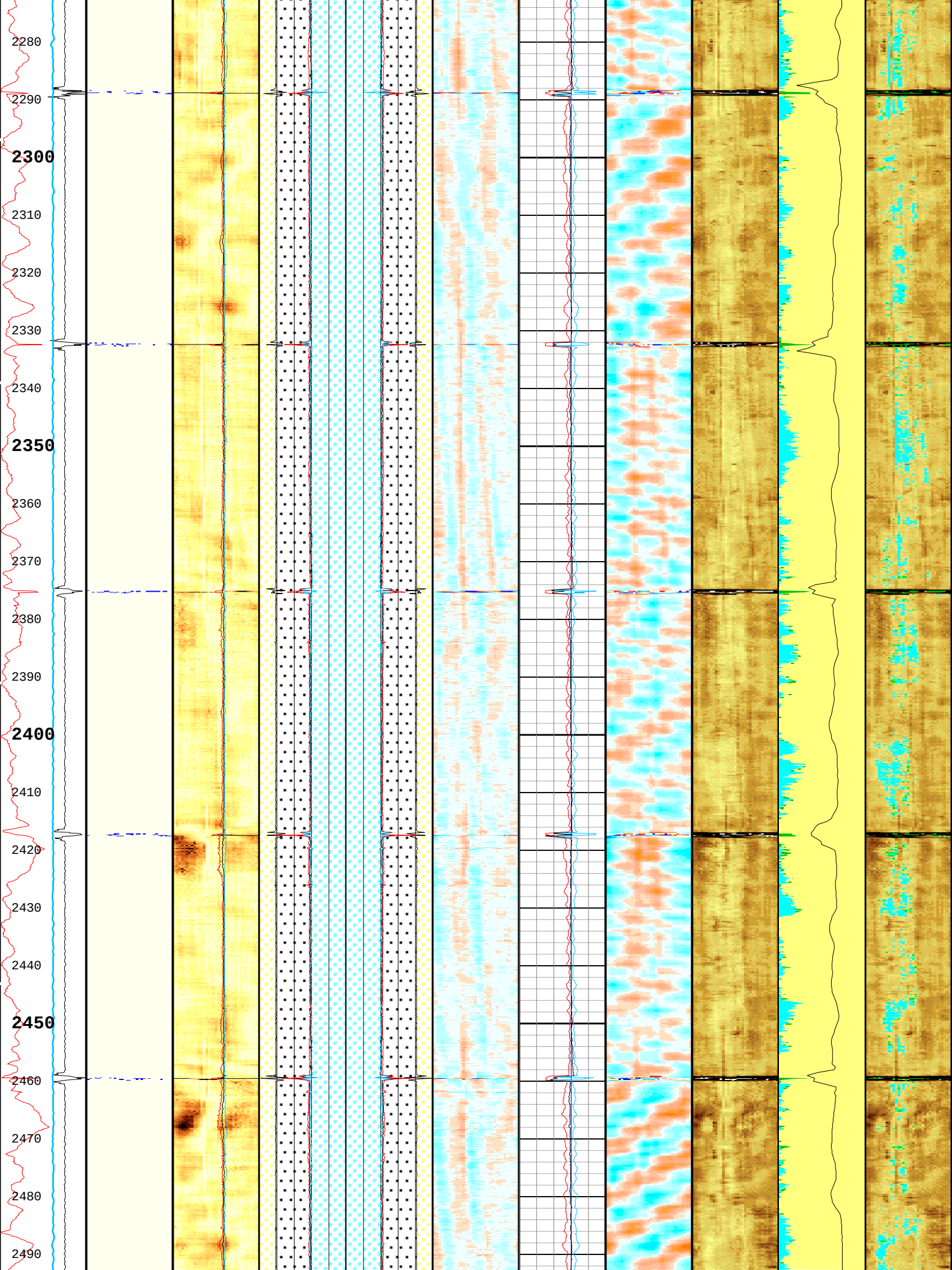
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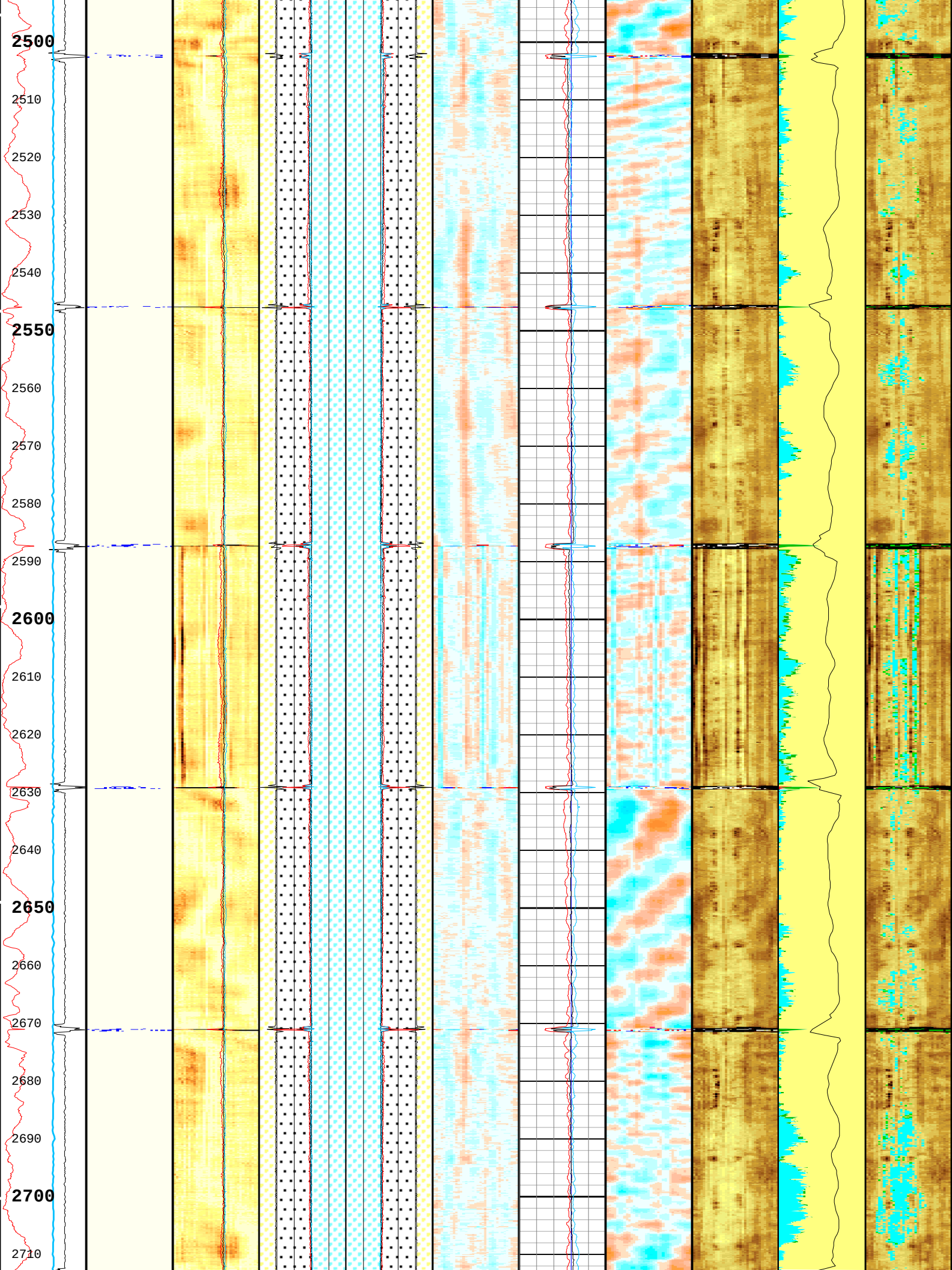
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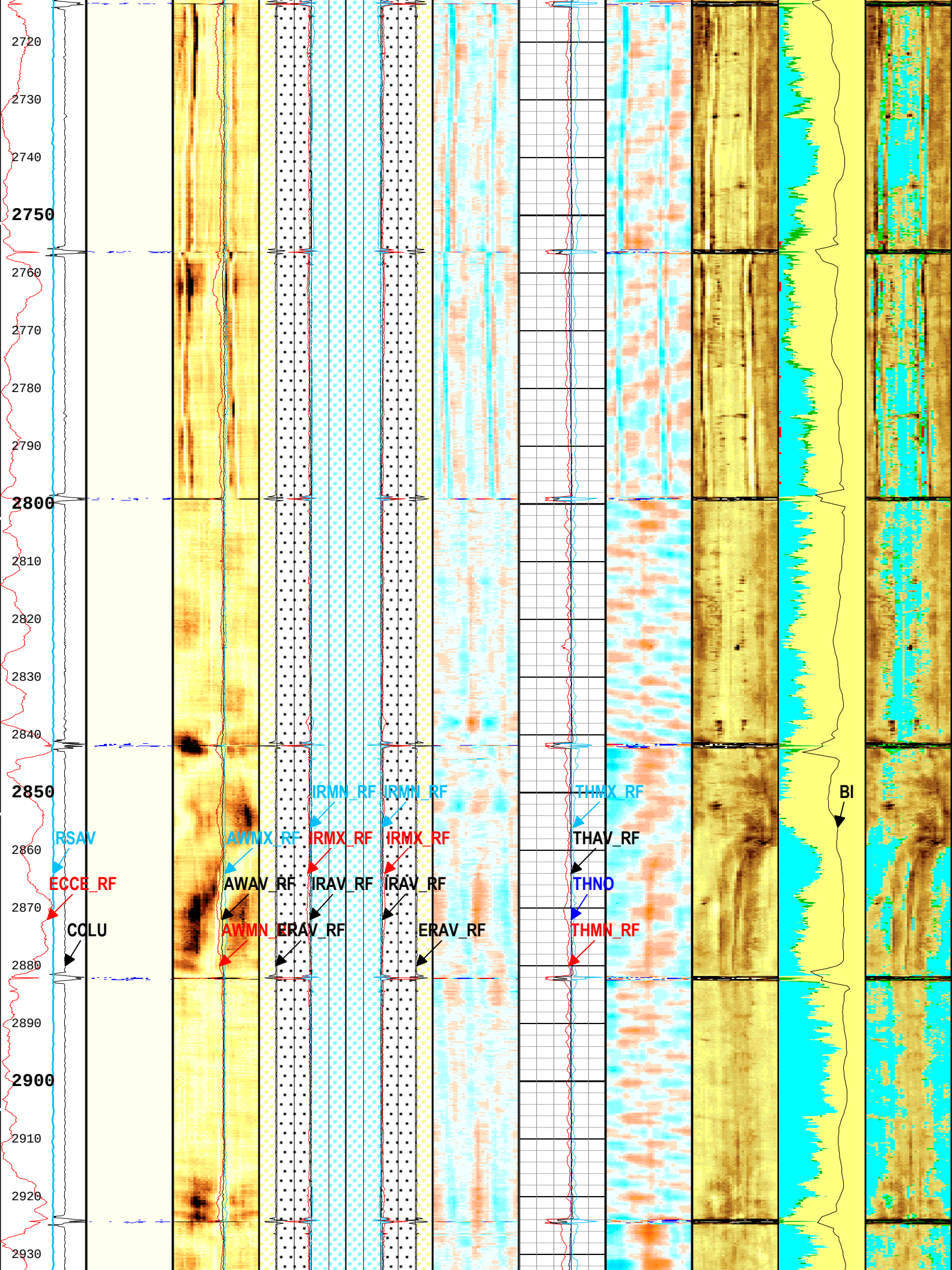
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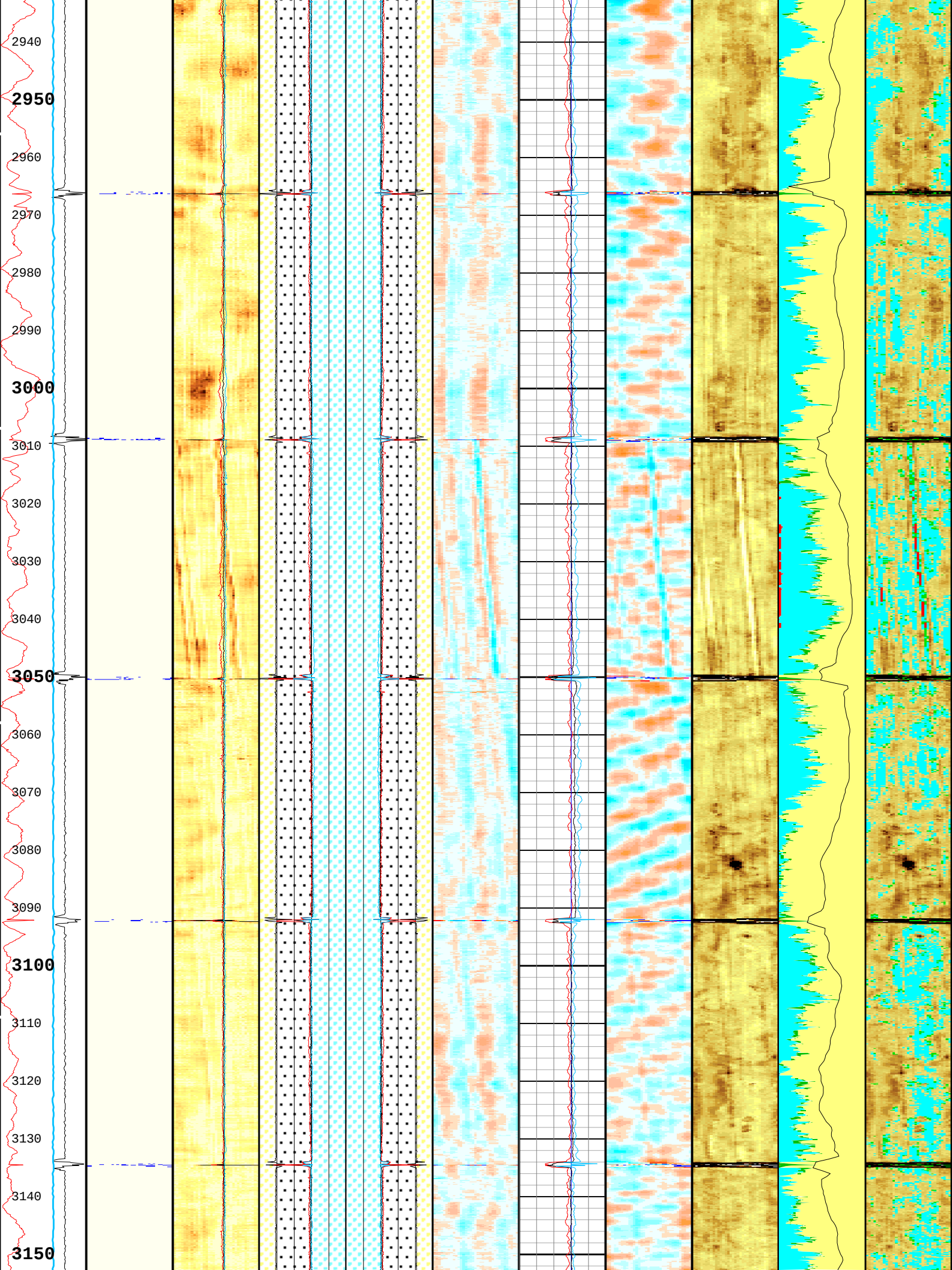
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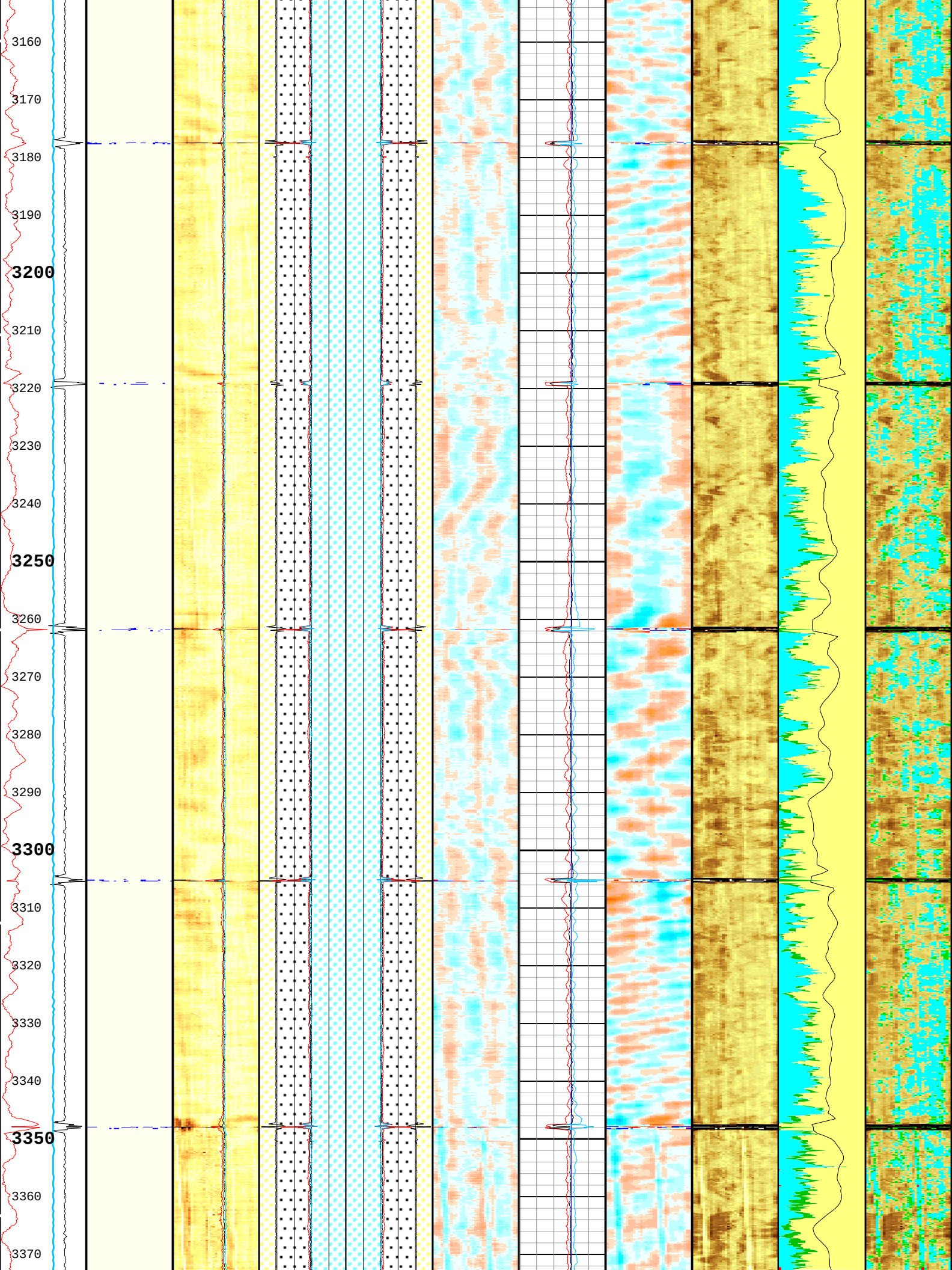
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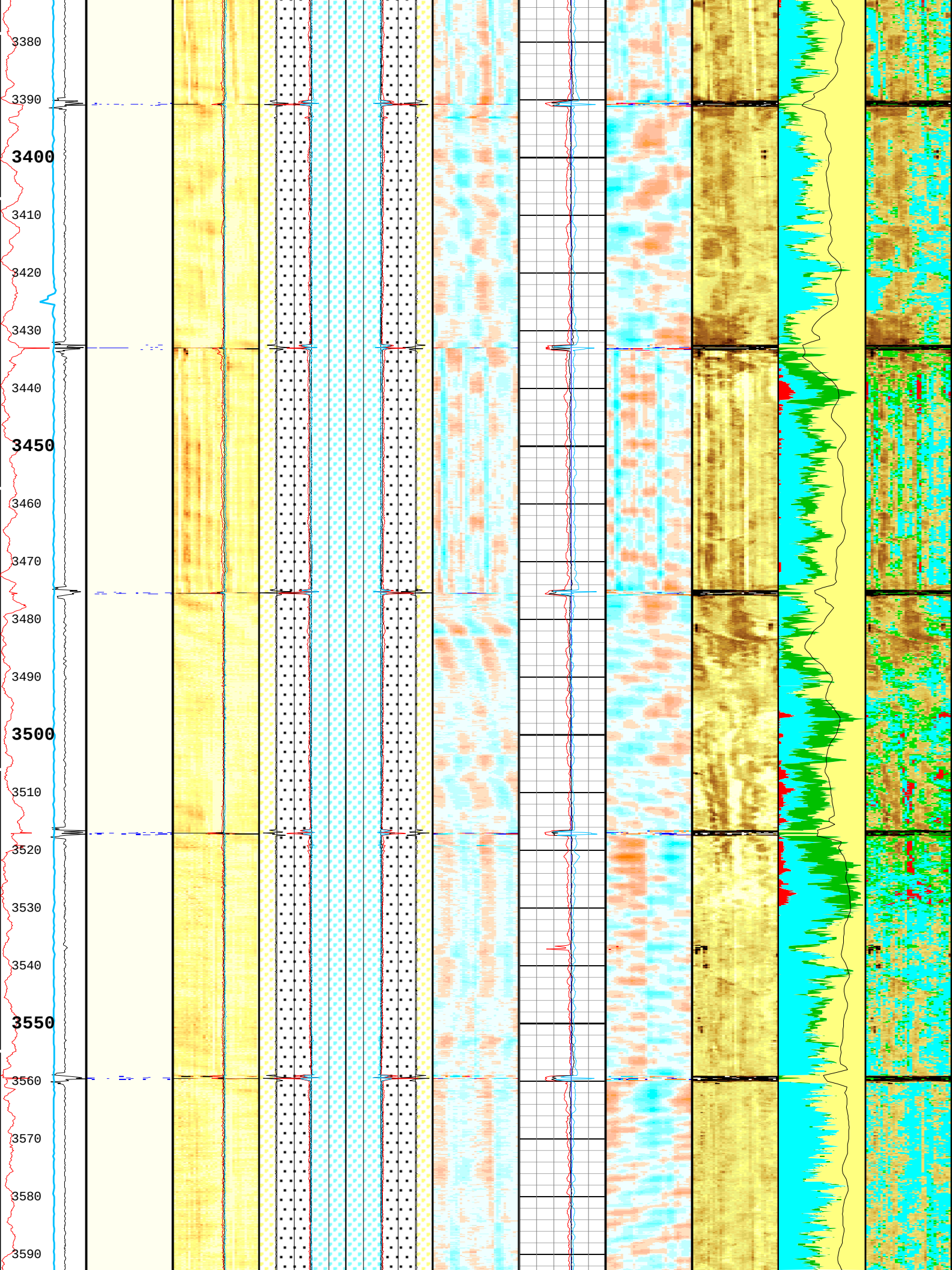
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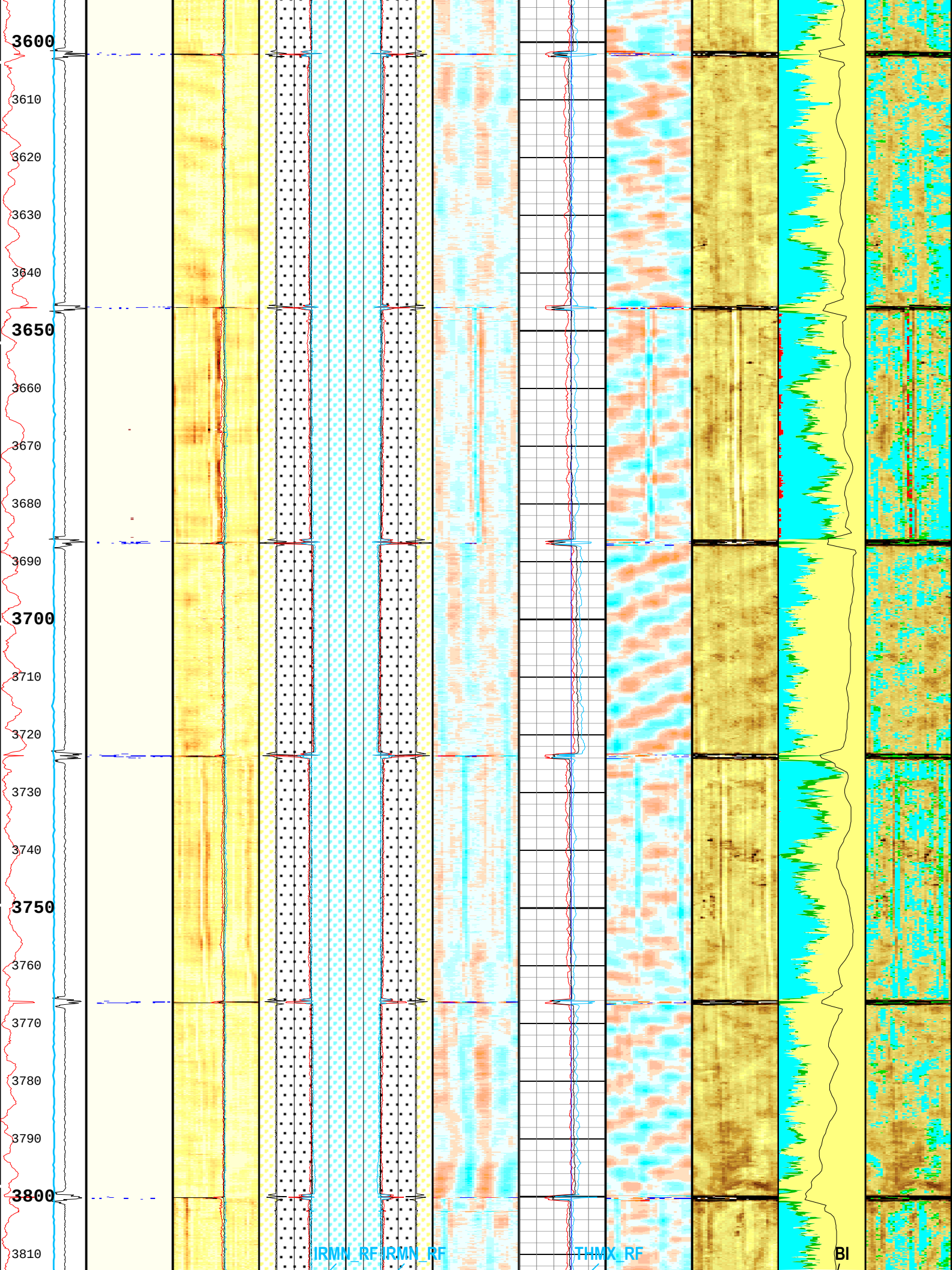
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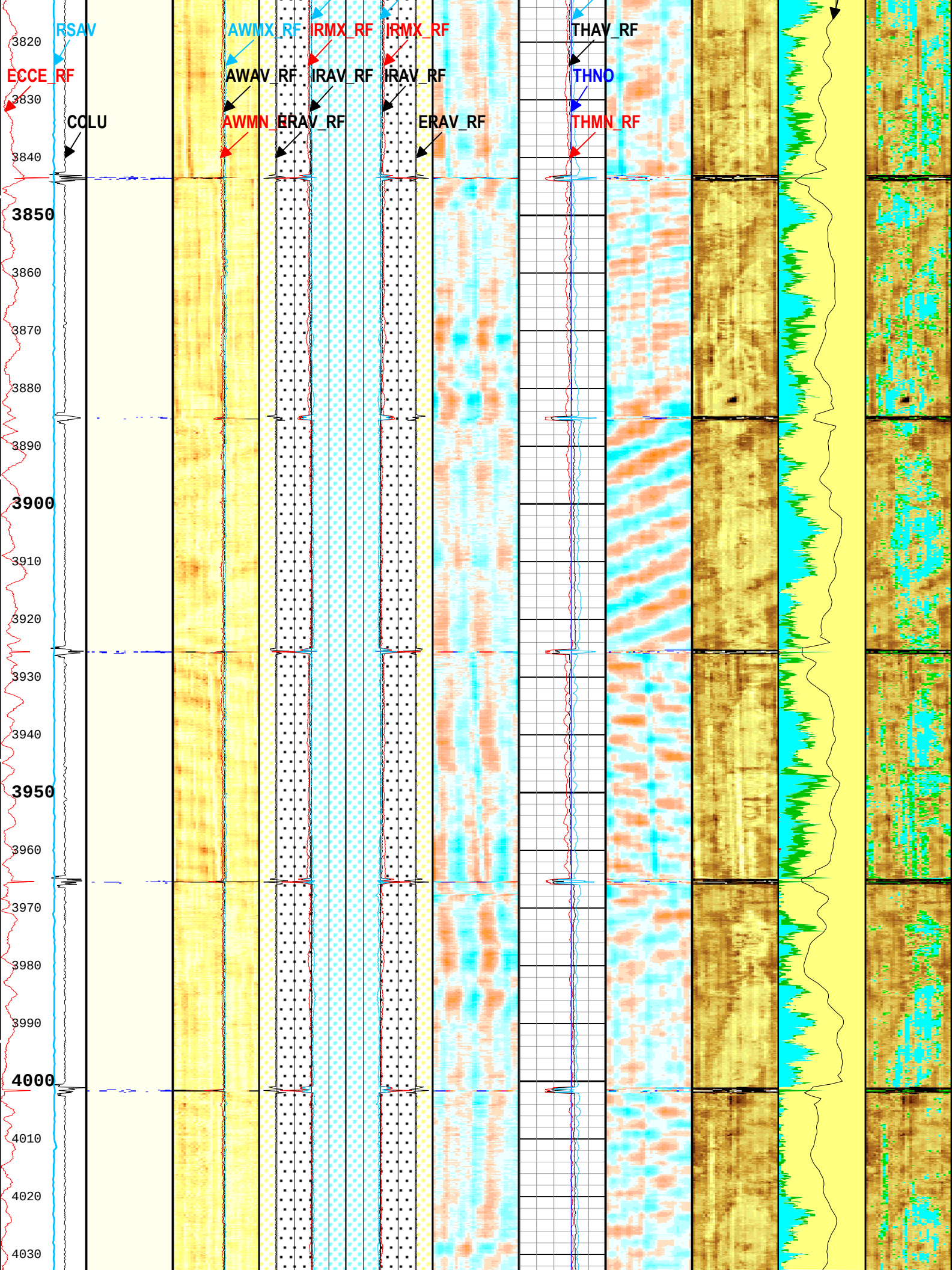
IRMN_RF
THMX_RF
BI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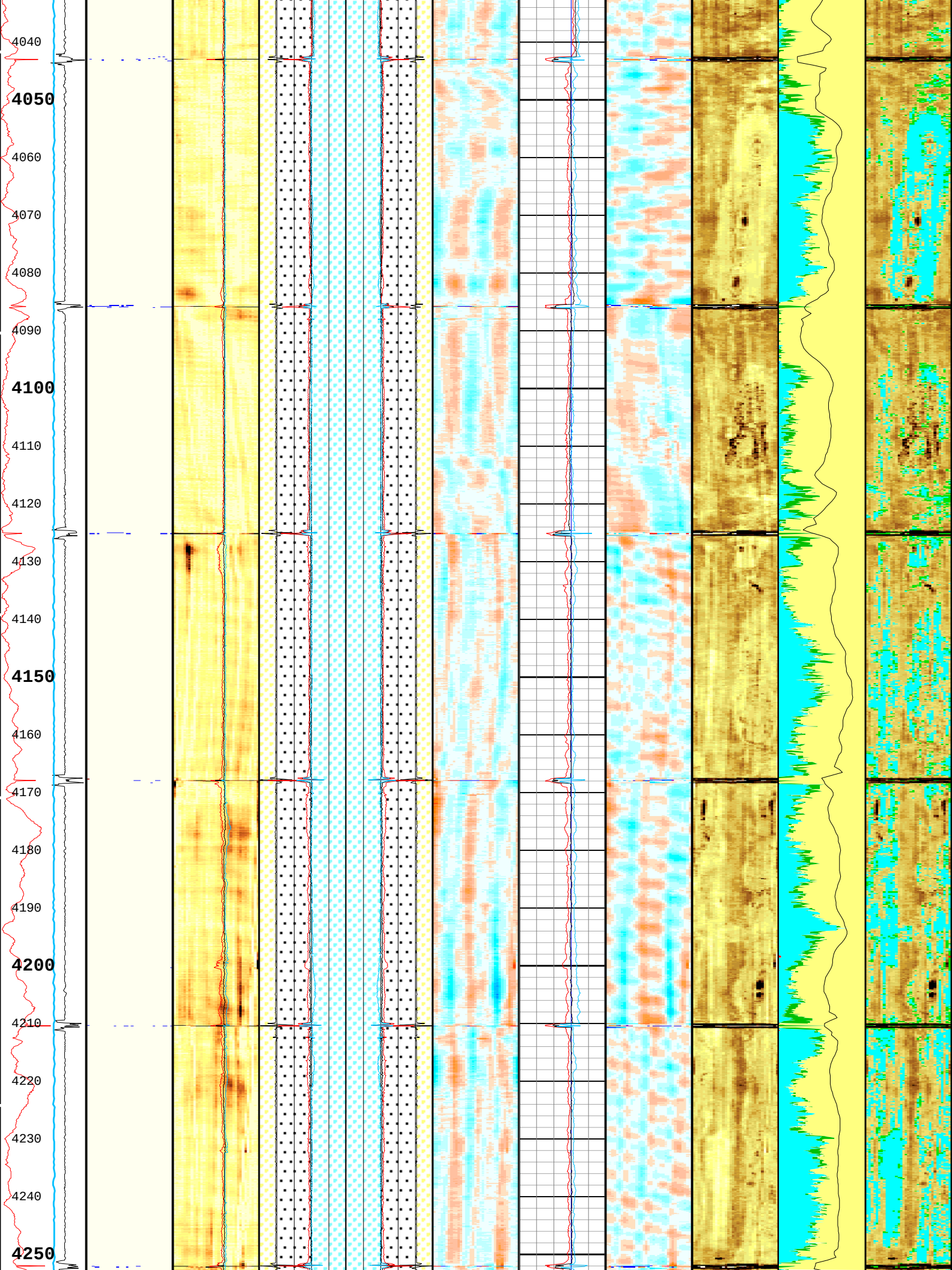
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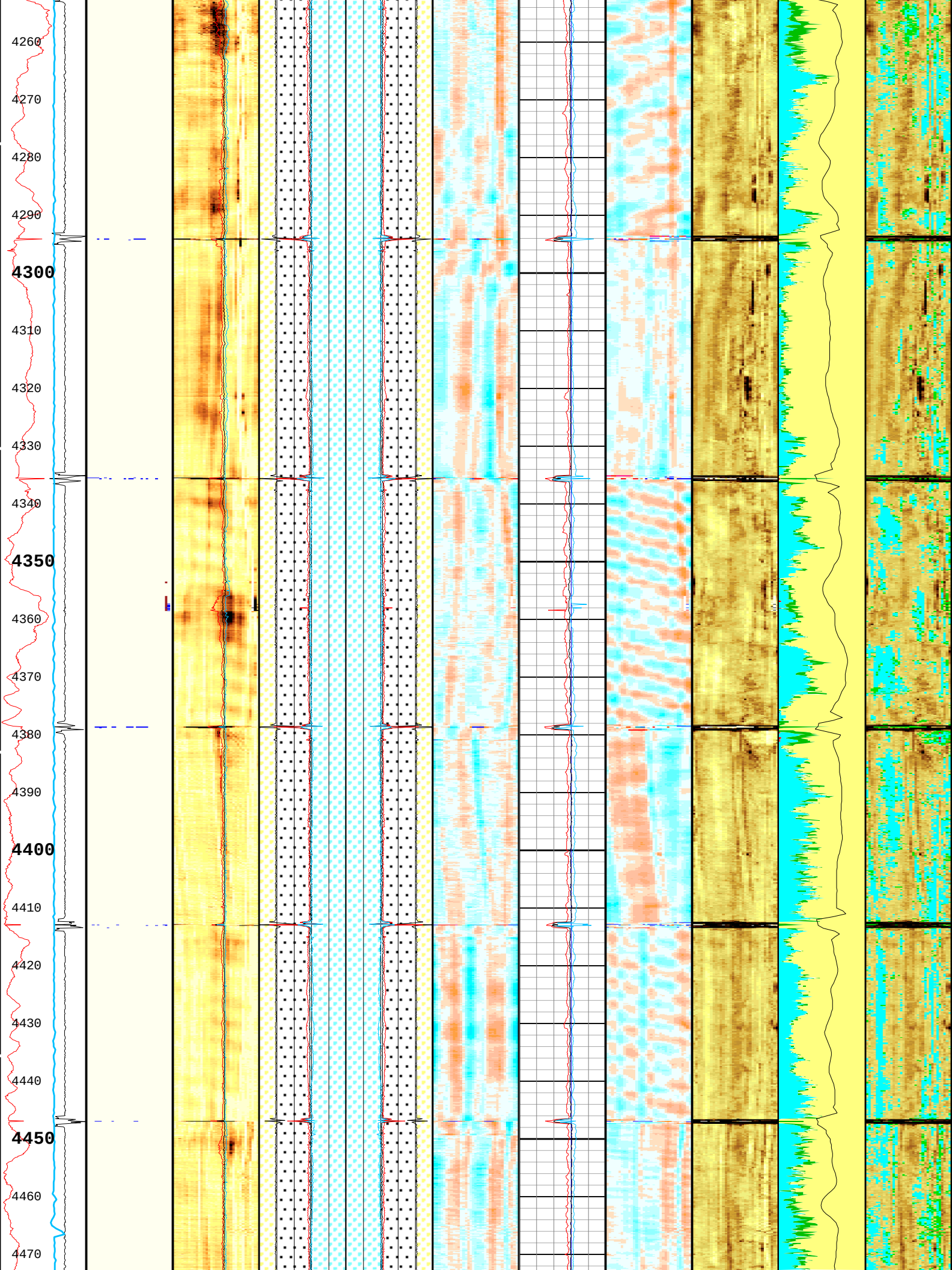
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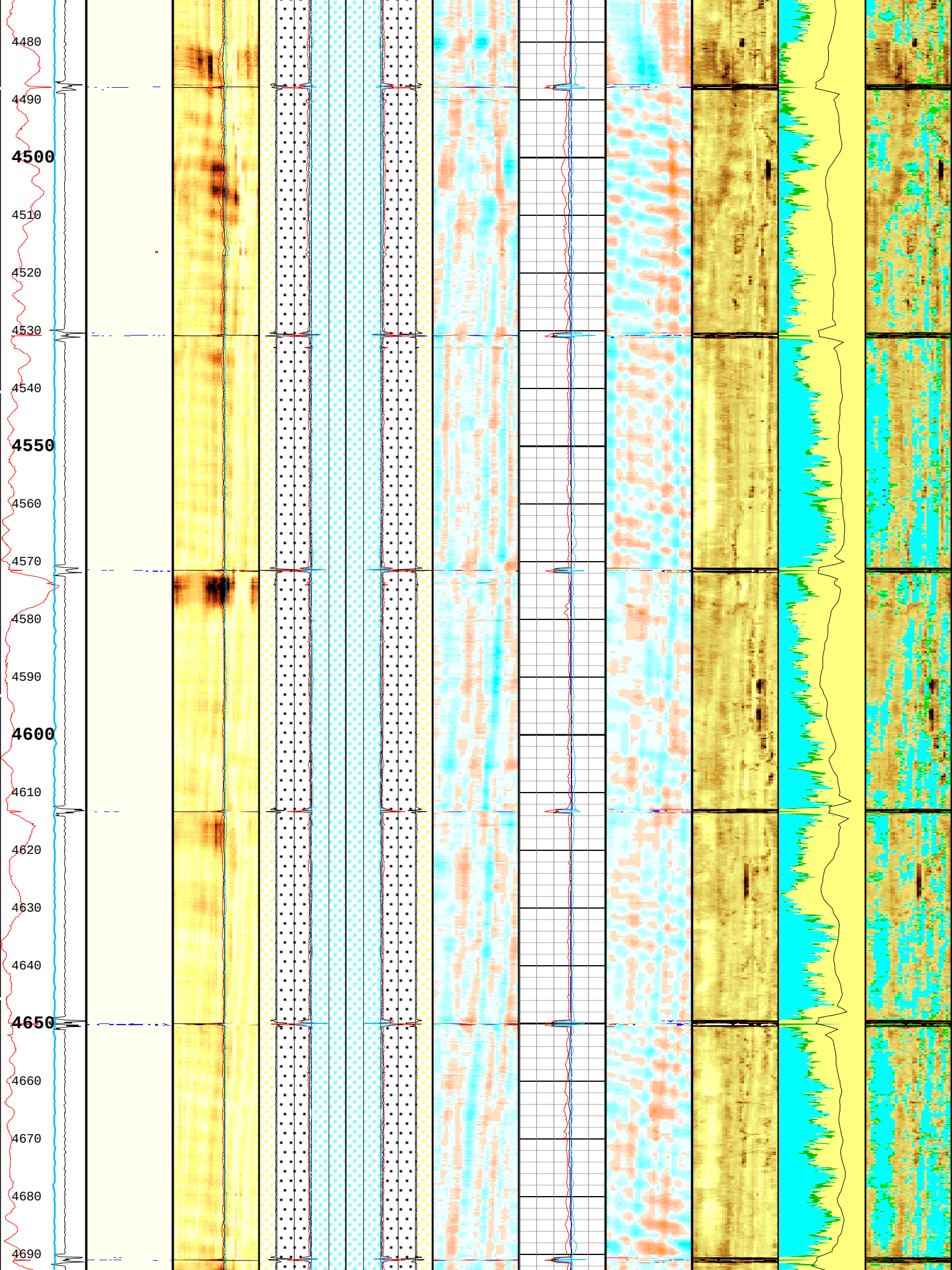
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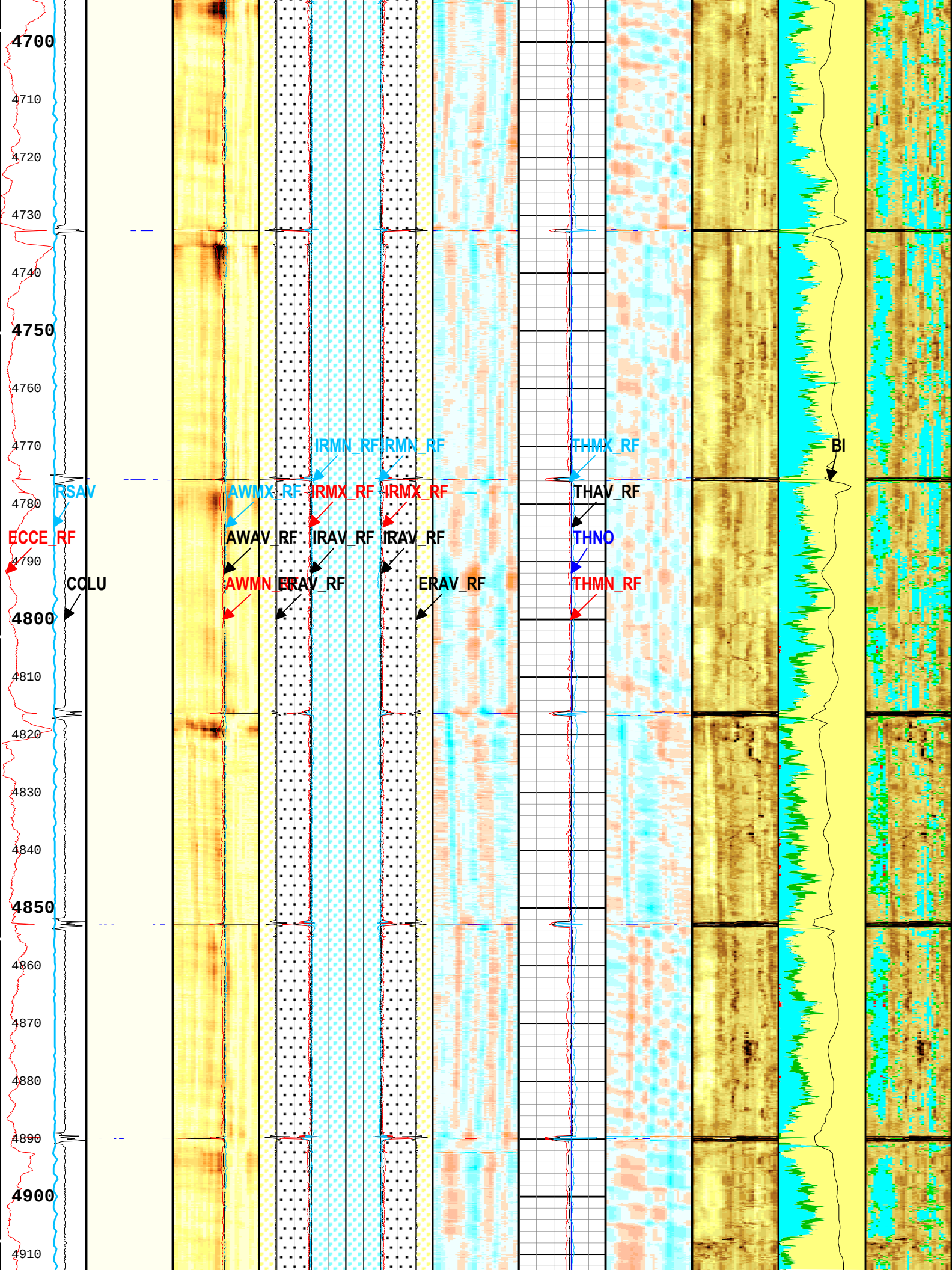
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4900
4910
RSAV
ECCE_RF
COLU
IRMN_RF
IRMN_RF
AWMX_RF
IRMX_RF
IRMX_RF
AWAV_RF
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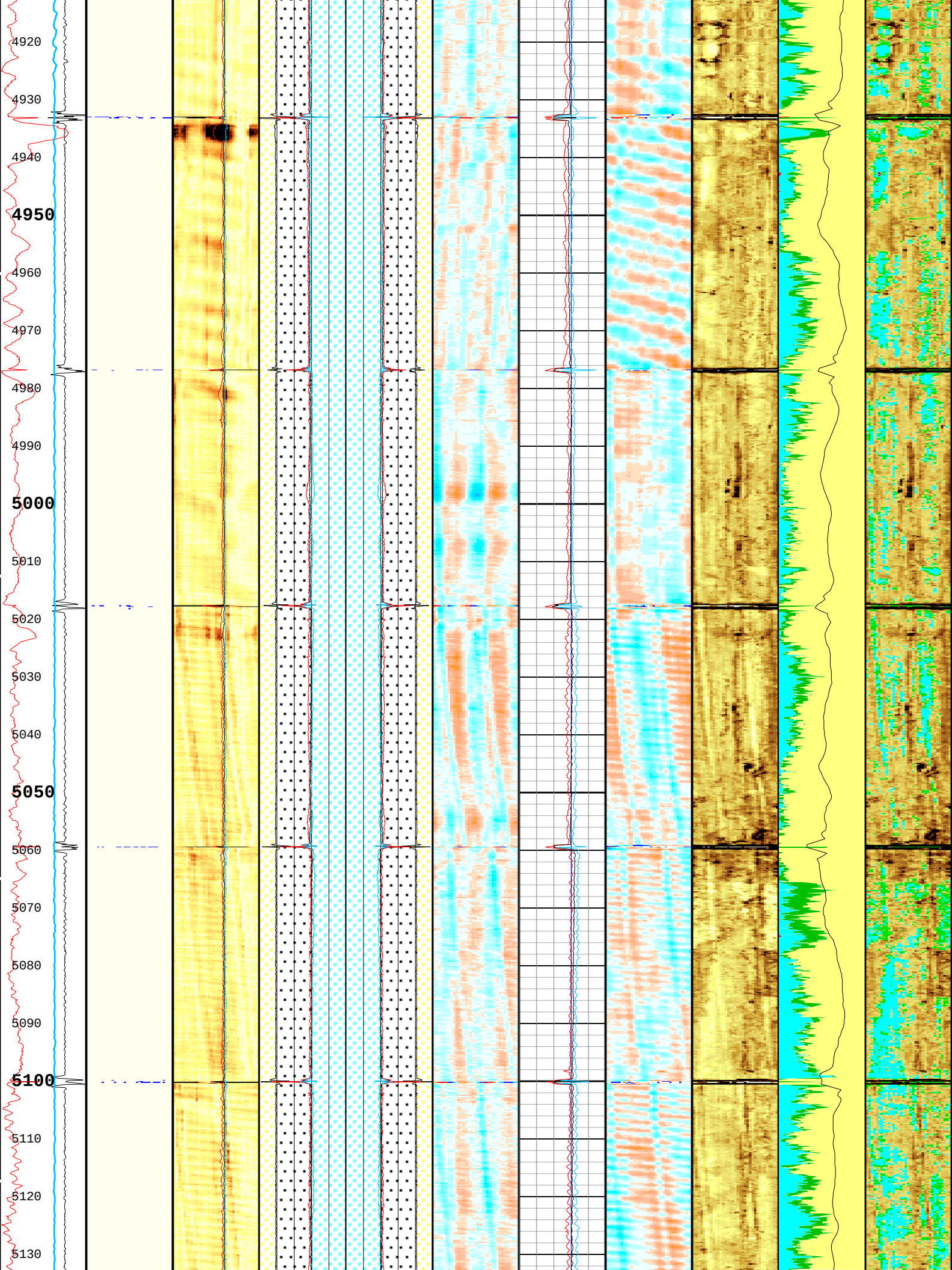
BI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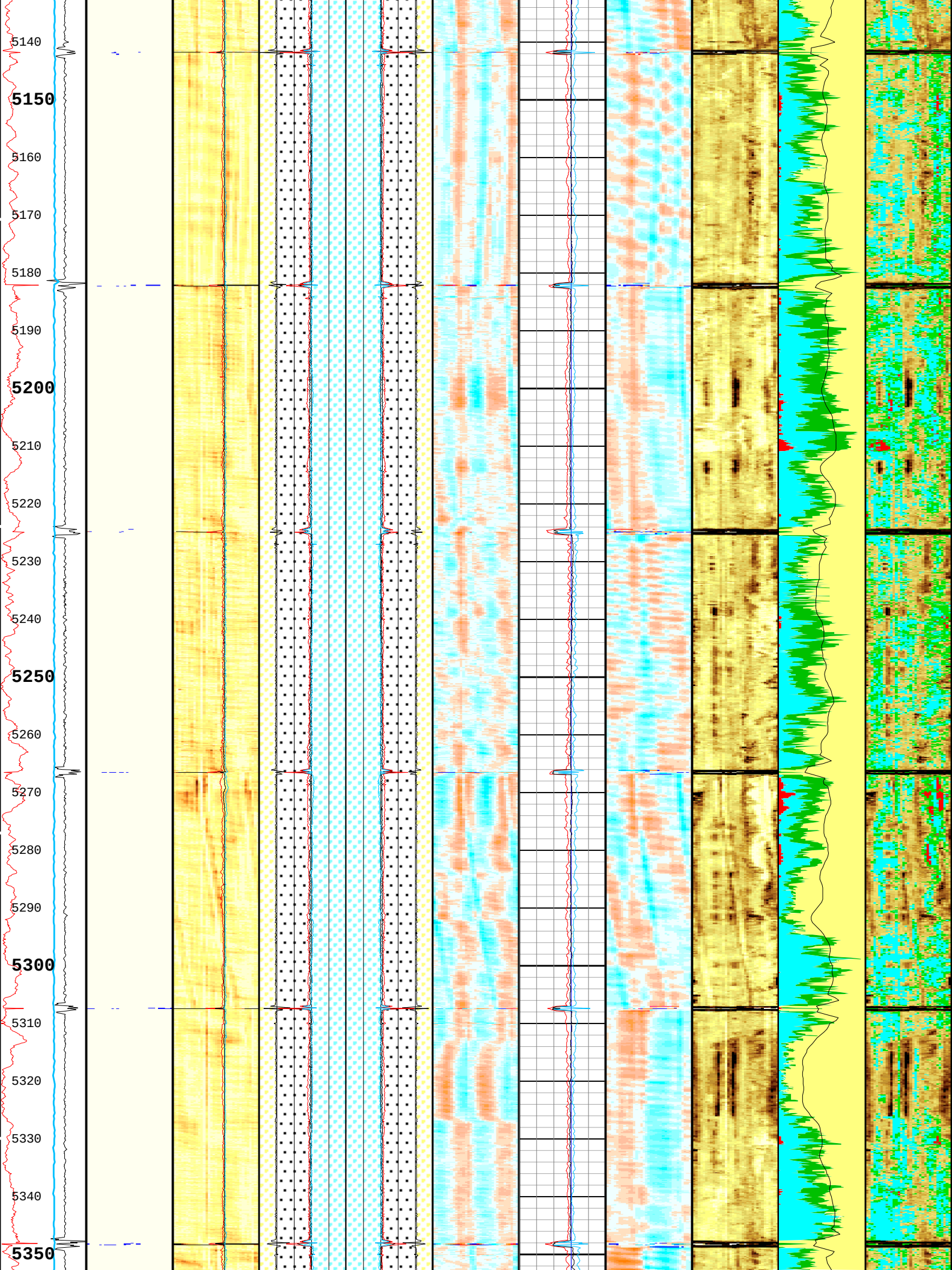
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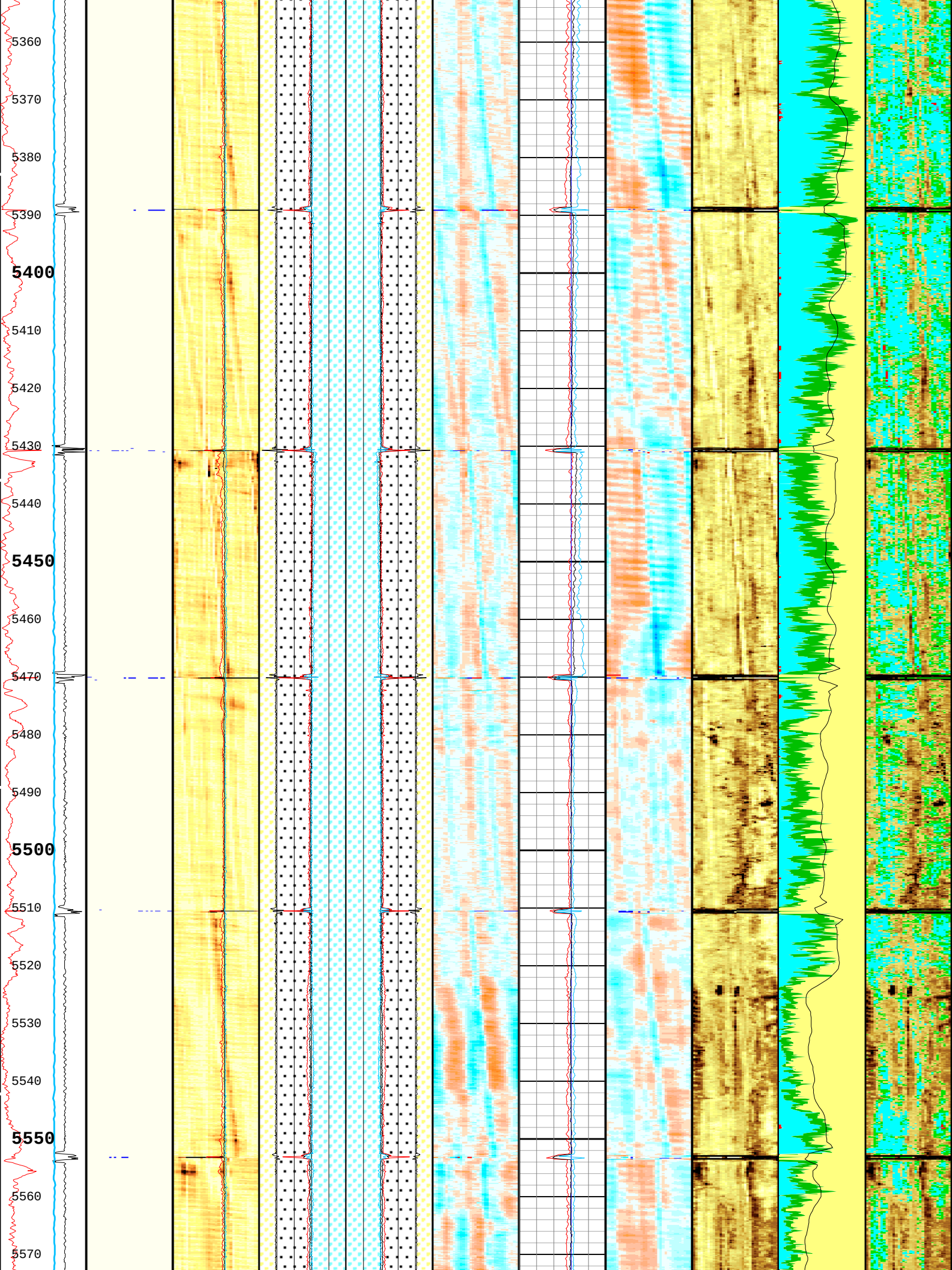
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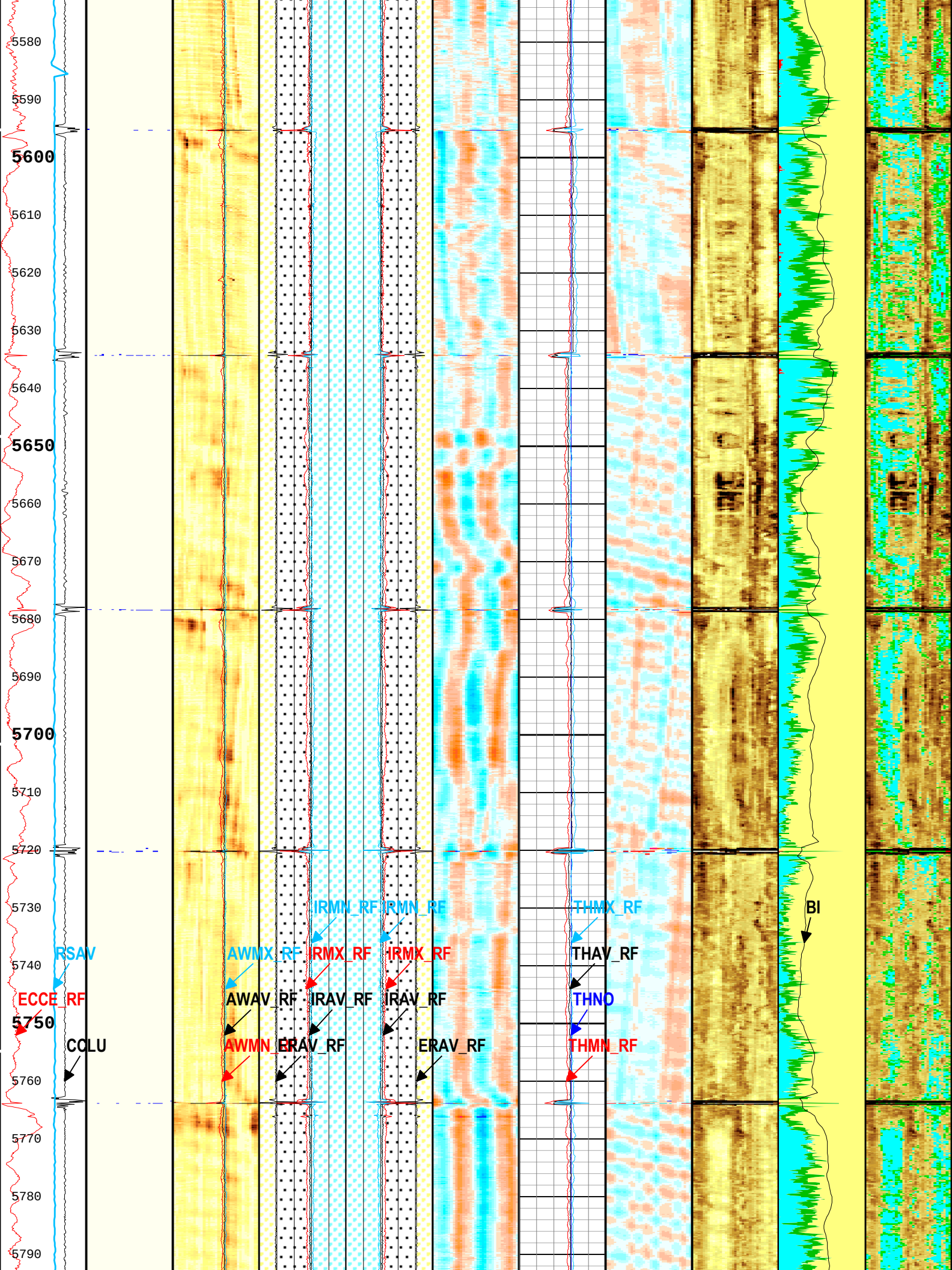
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AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
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THNO
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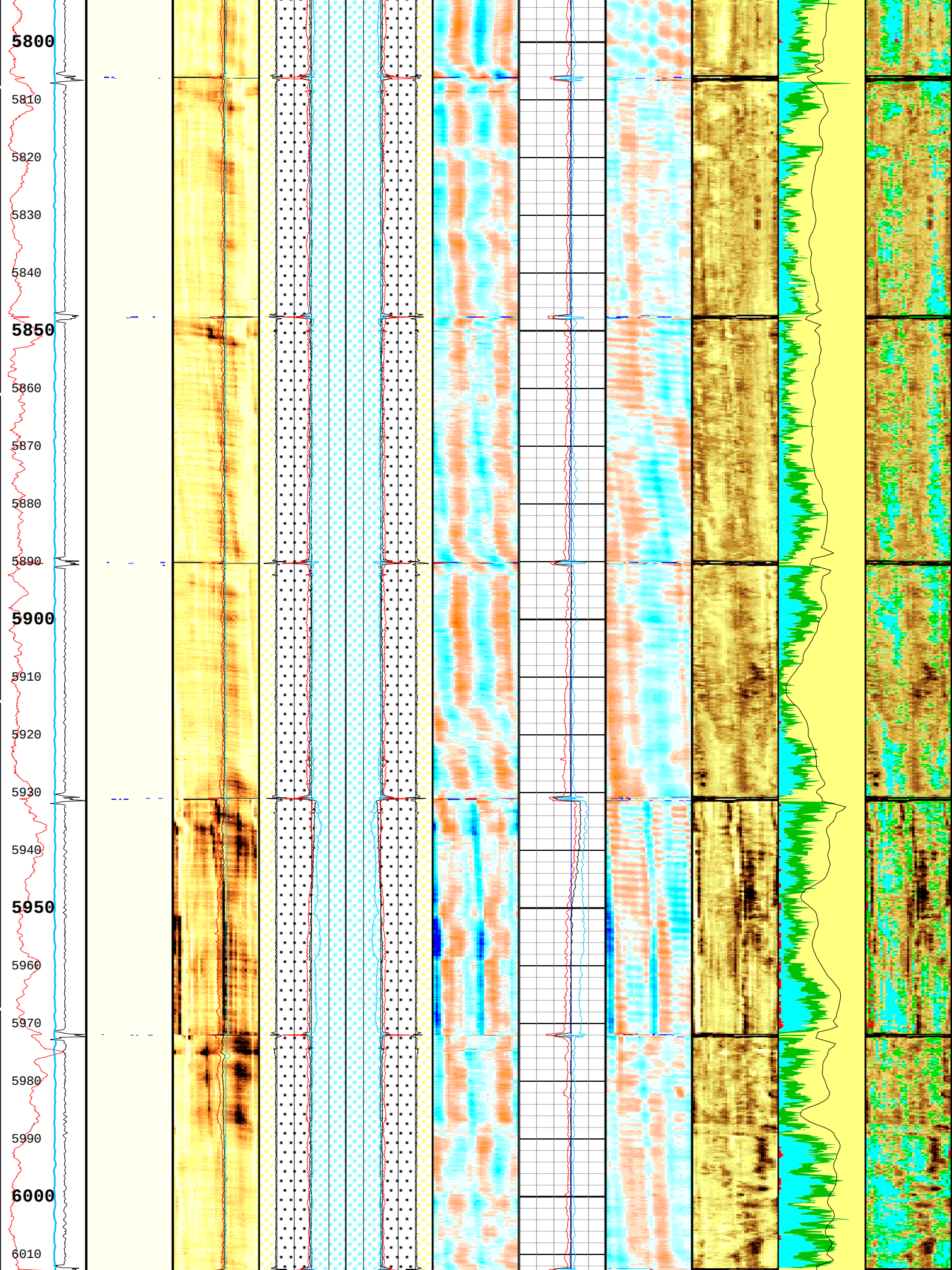
BI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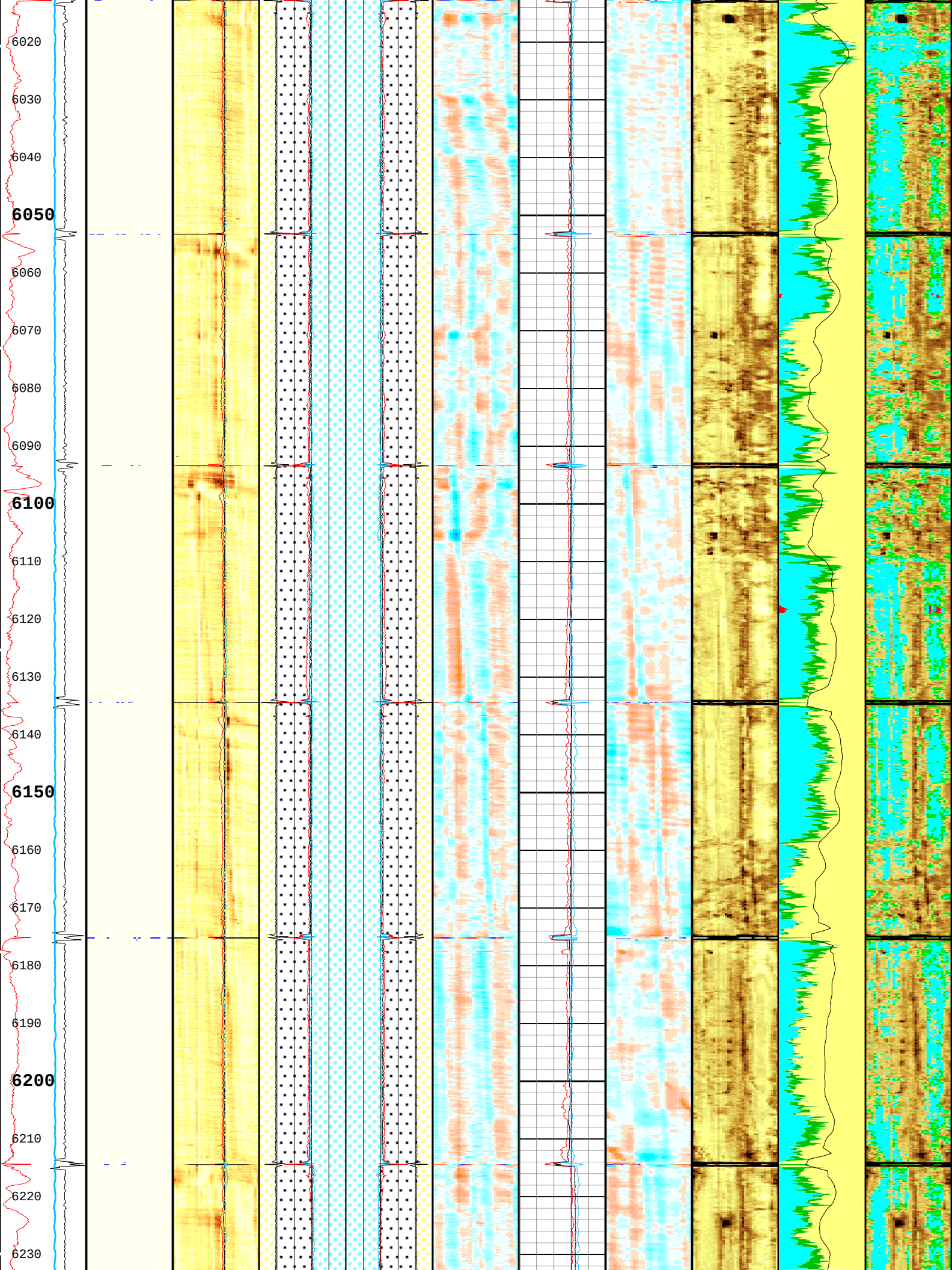
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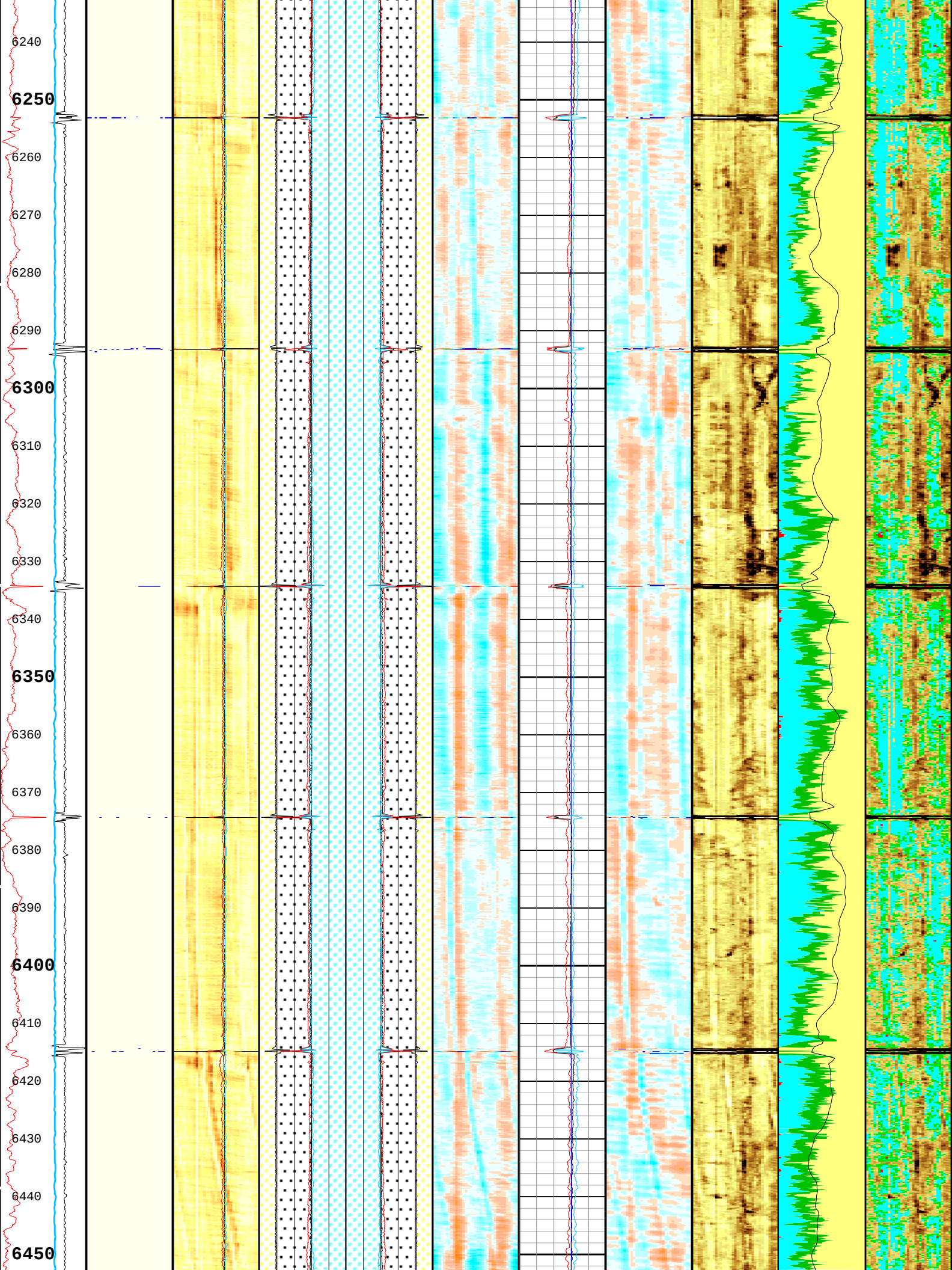
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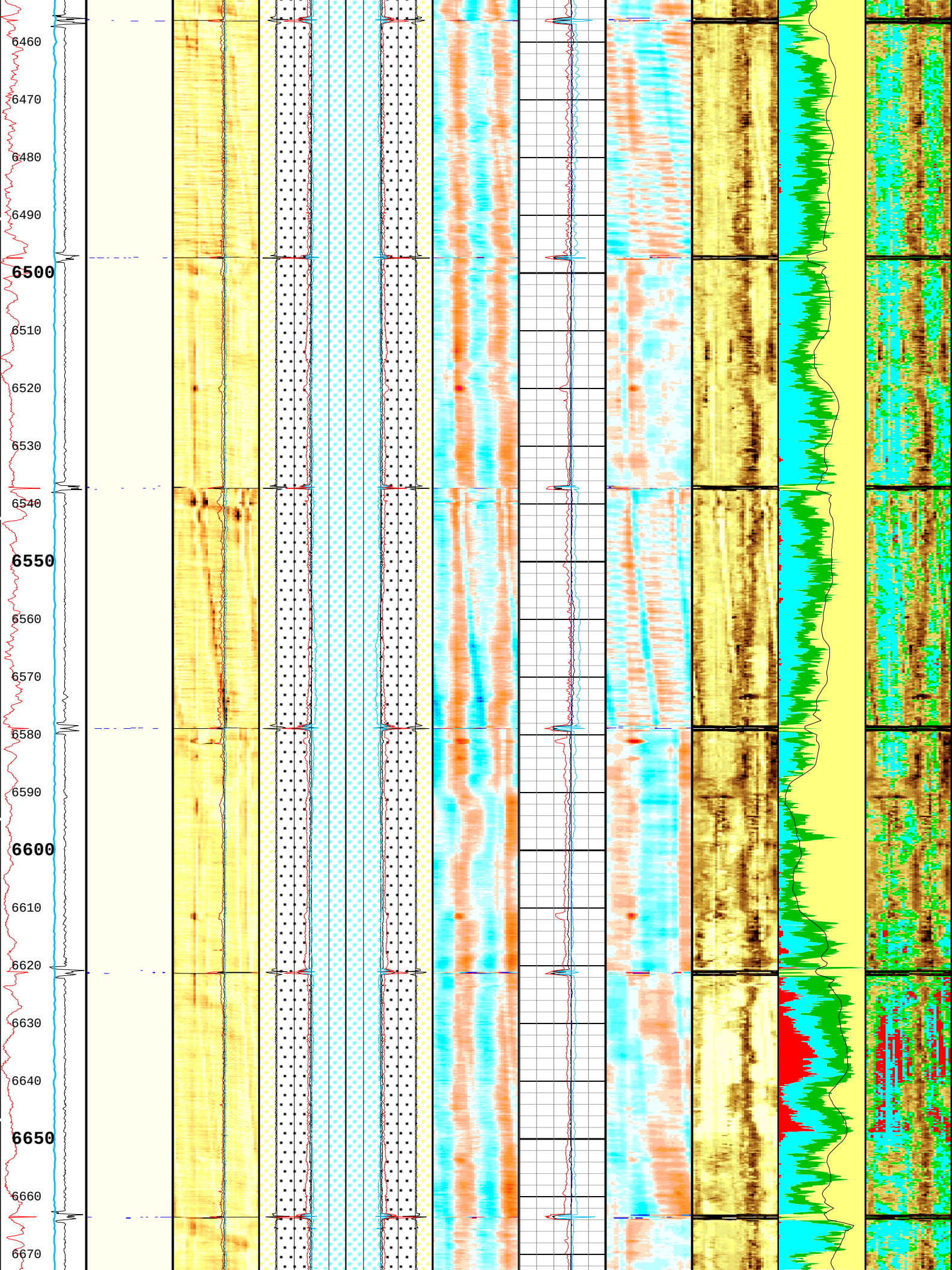
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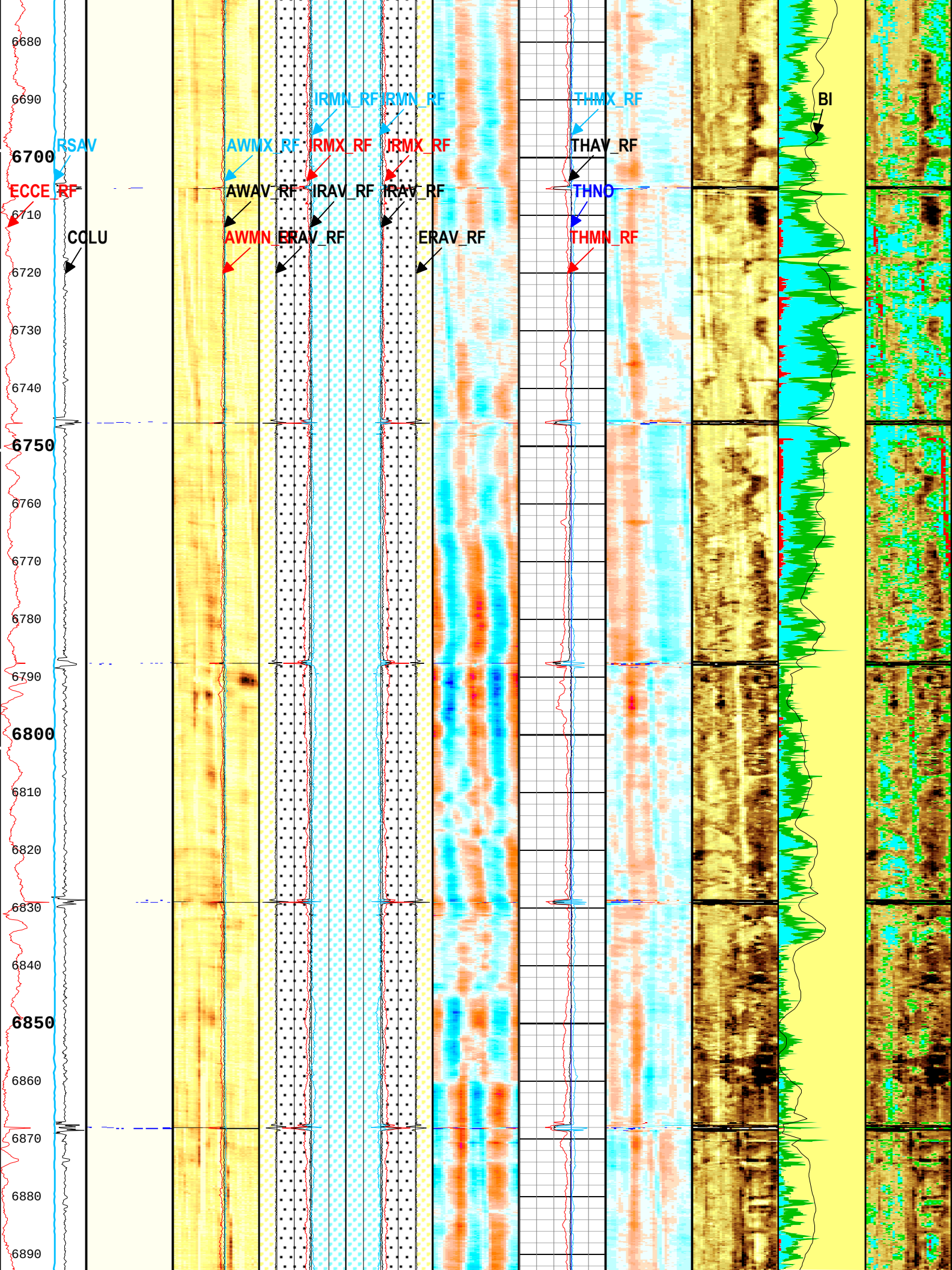
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AWAV_RF
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IRMX_RF
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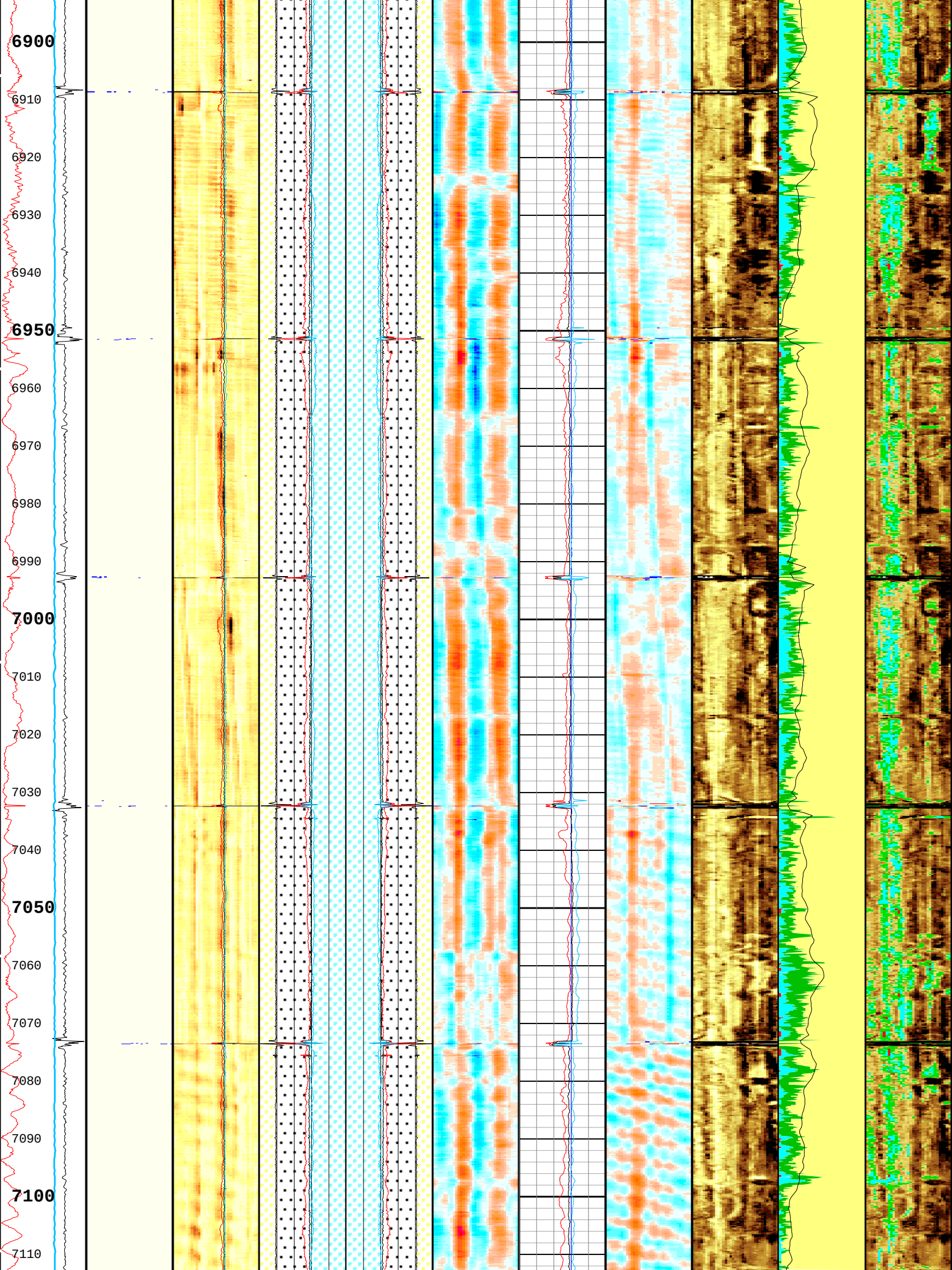
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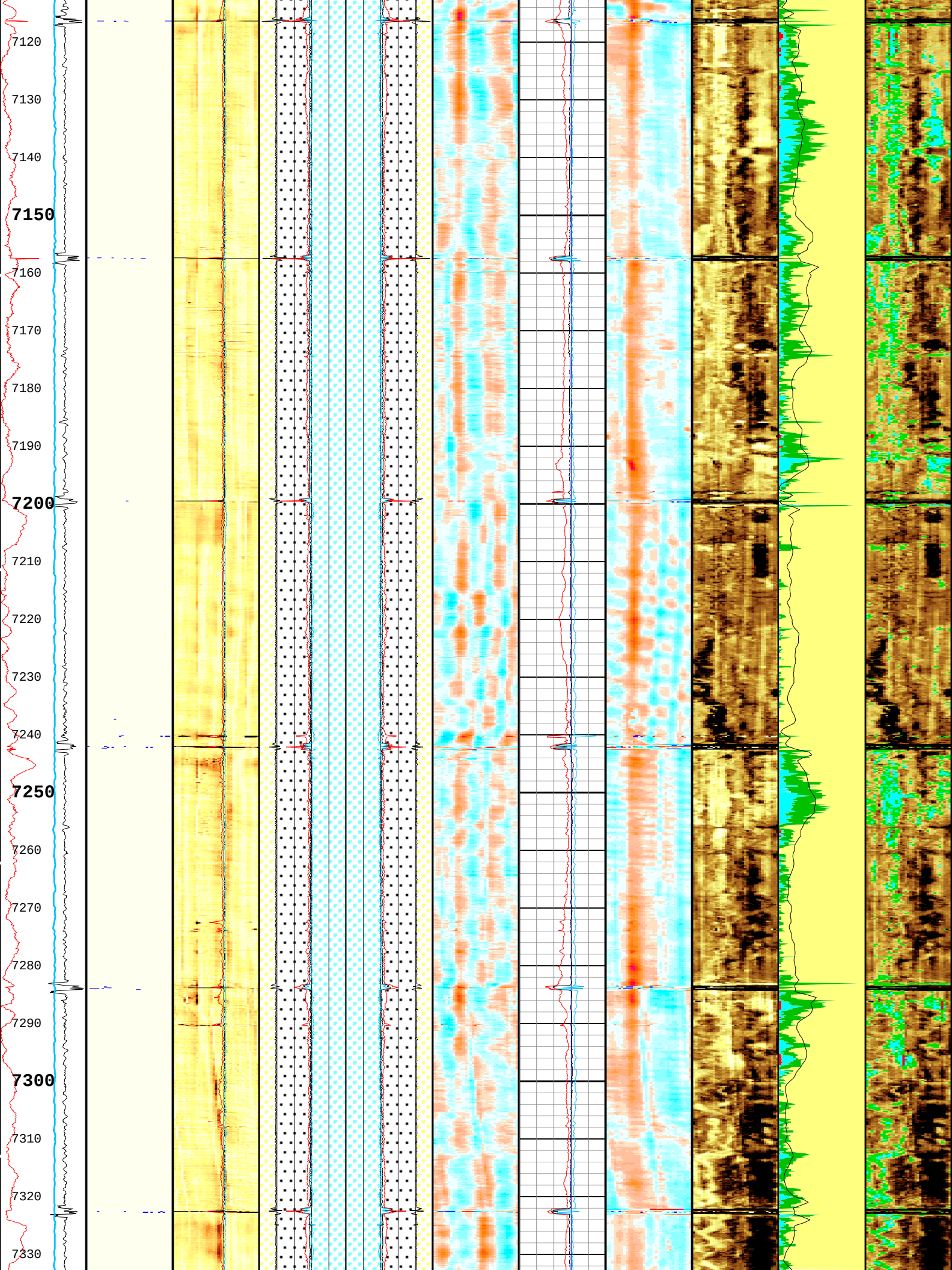
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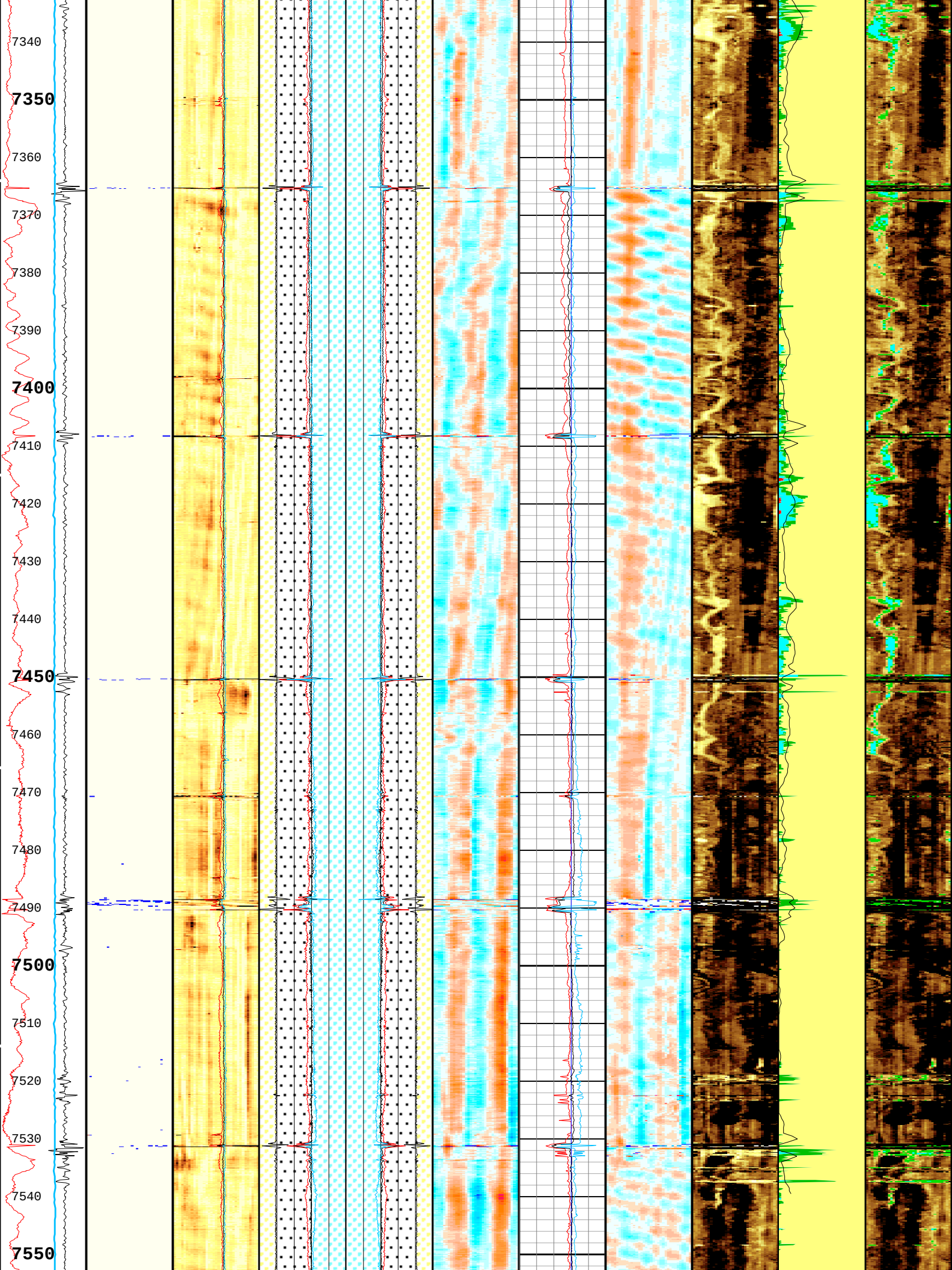
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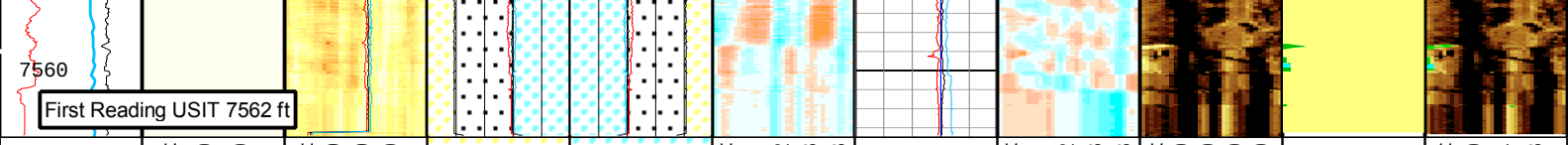


Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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]
Orientation: Top of Hole
U L B R U

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

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E[1]
(dB)
Orientation: Top of Hole
U L B R U

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

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 -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E[1]
(in)
Orientation: Top of Hole
U L B R U

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

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1]
(in)
Orientation: Top of Hole
U L B R U

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1]
(Mrayl)
Orientation: Top of Hole
U L B R U

Ratio of Cement Measurements to Total (CEMR) USIT-E[1]
1 0

Micro-debonding Ratio (MDR) USIT-E[1]
1 0

Ratio of Gas Measurements to Total (GASR) USIT-E[1]
1 0

Bonded
Gas
Liquid
Micro-debonding

Bond Index (BI) DSLT-H[1]
1 0

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1]
(Mrayl)
Orientation: Top of Hole
U L B R U

Absent 2.599 4.563 6.527
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1]
(Mrayl)
Orientation: Top of Hole
U L B R U

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 Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:19:50

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

Four_D1	Log[4]:Up	Up	91.68 ft	7567.42 ft	26-May-2016 8:27:27 AM	26-May-2016 10:54:27 AM	ON	1.00 ft	Yes
Four_D1	Log[17]:Up	Up	49.16 ft	202.90 ft	26-May-2016 1:04:46 PM	26-May-2016 1:10:59 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

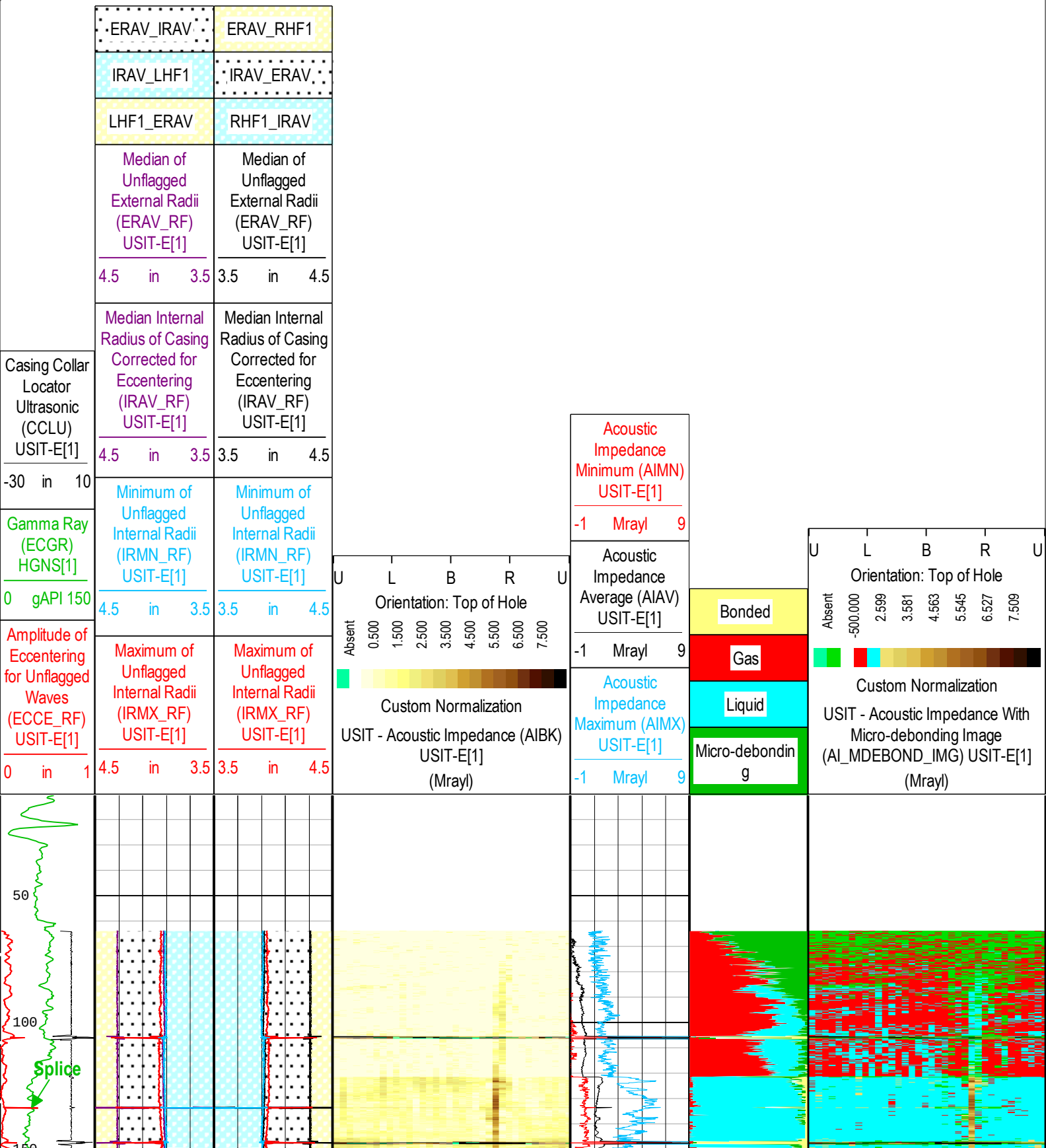
Log

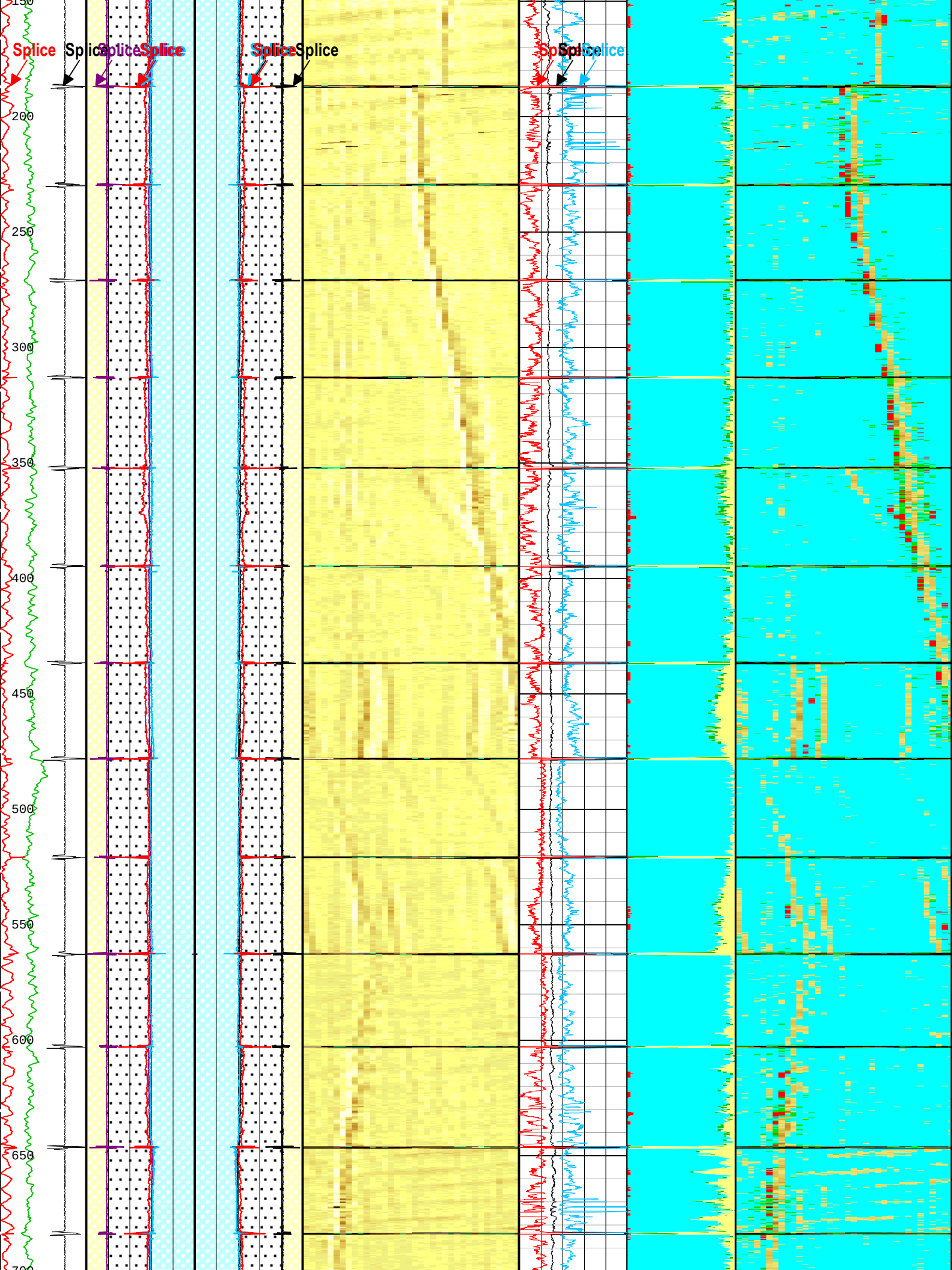
Company:Southern California Gas Company Well:PORTER NO. 42-B

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: 26-May-2016 18:20:14

TIME_1900 - Time Marked every 60.00 (s)

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Splice
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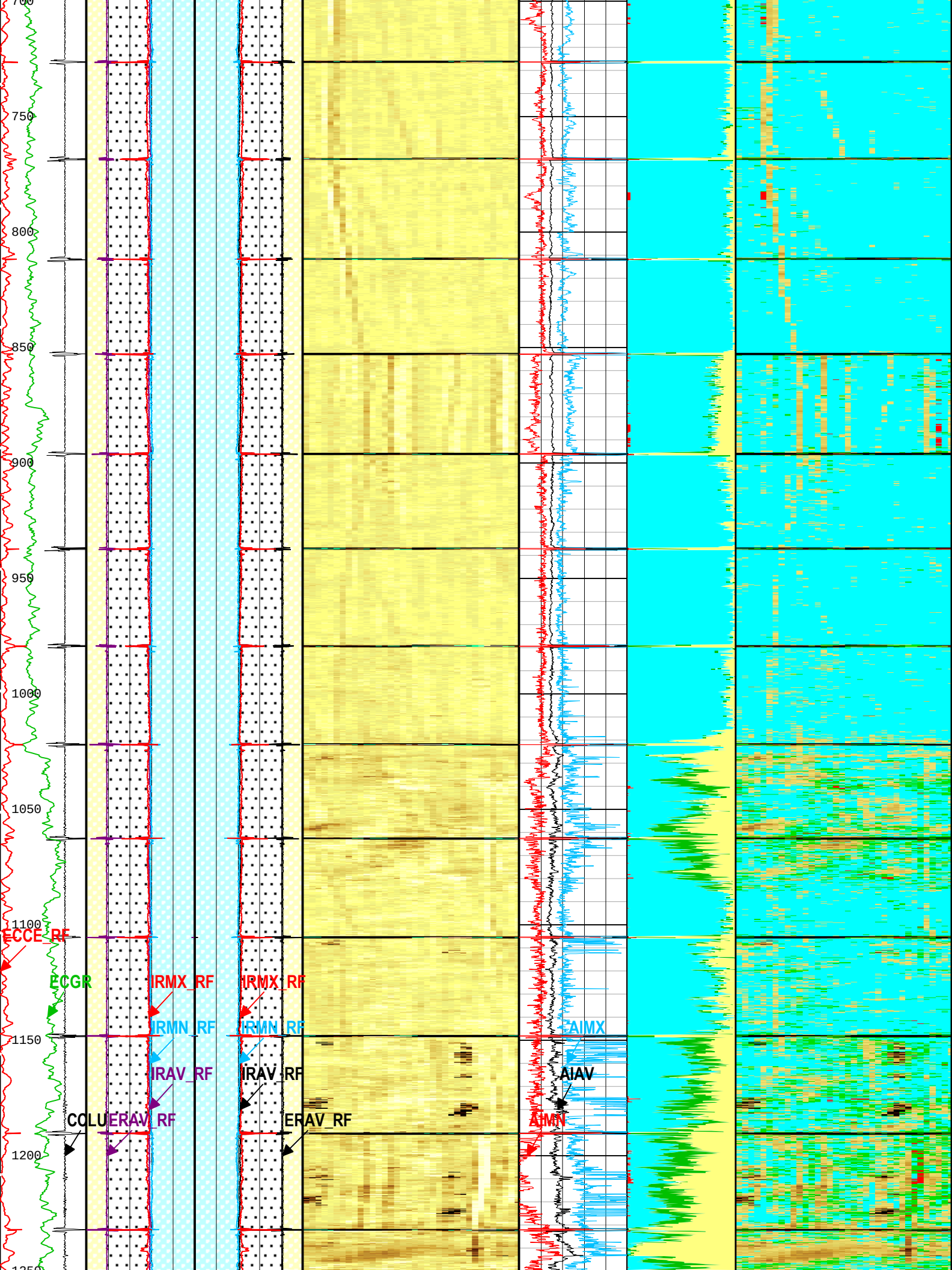
550
600
650
700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750
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850
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950
1000
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1100
1150
1200
1250
ECCE_RF
ECGR
IRMX_RF
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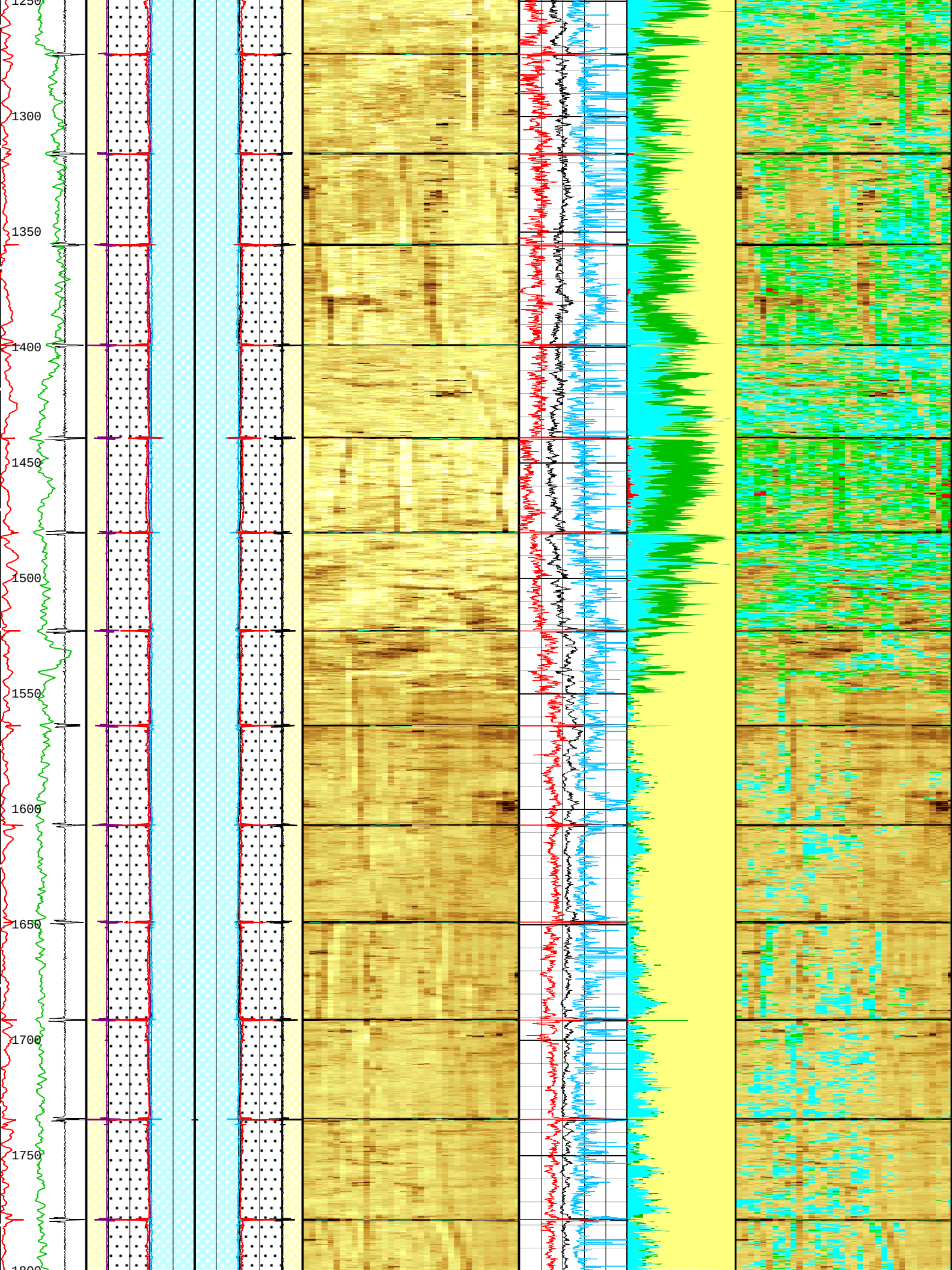
AIMX
AIAV
AIMN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1600
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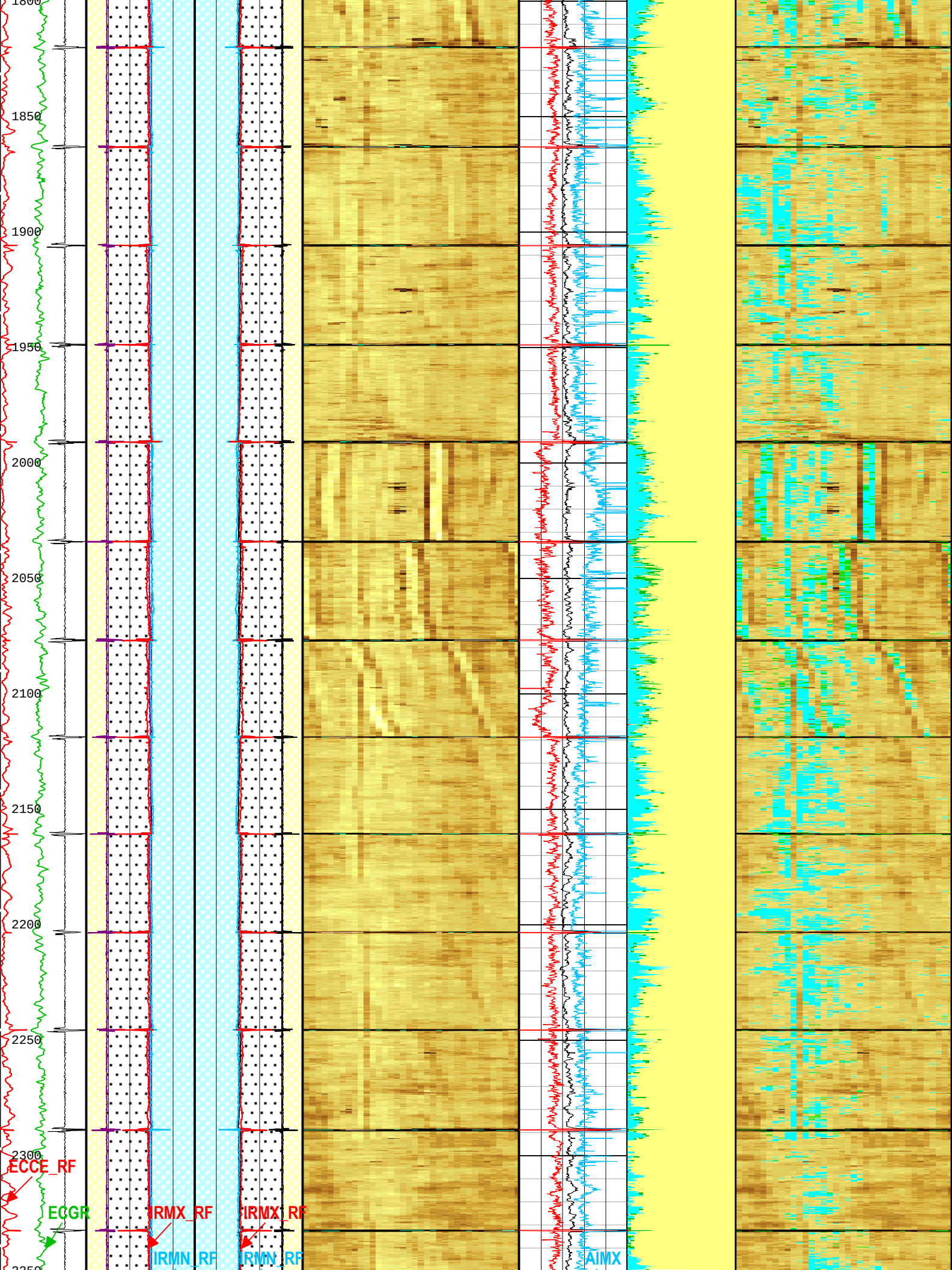
1700
1750
1800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1850
1900
1950
2000
2050
2100
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2350
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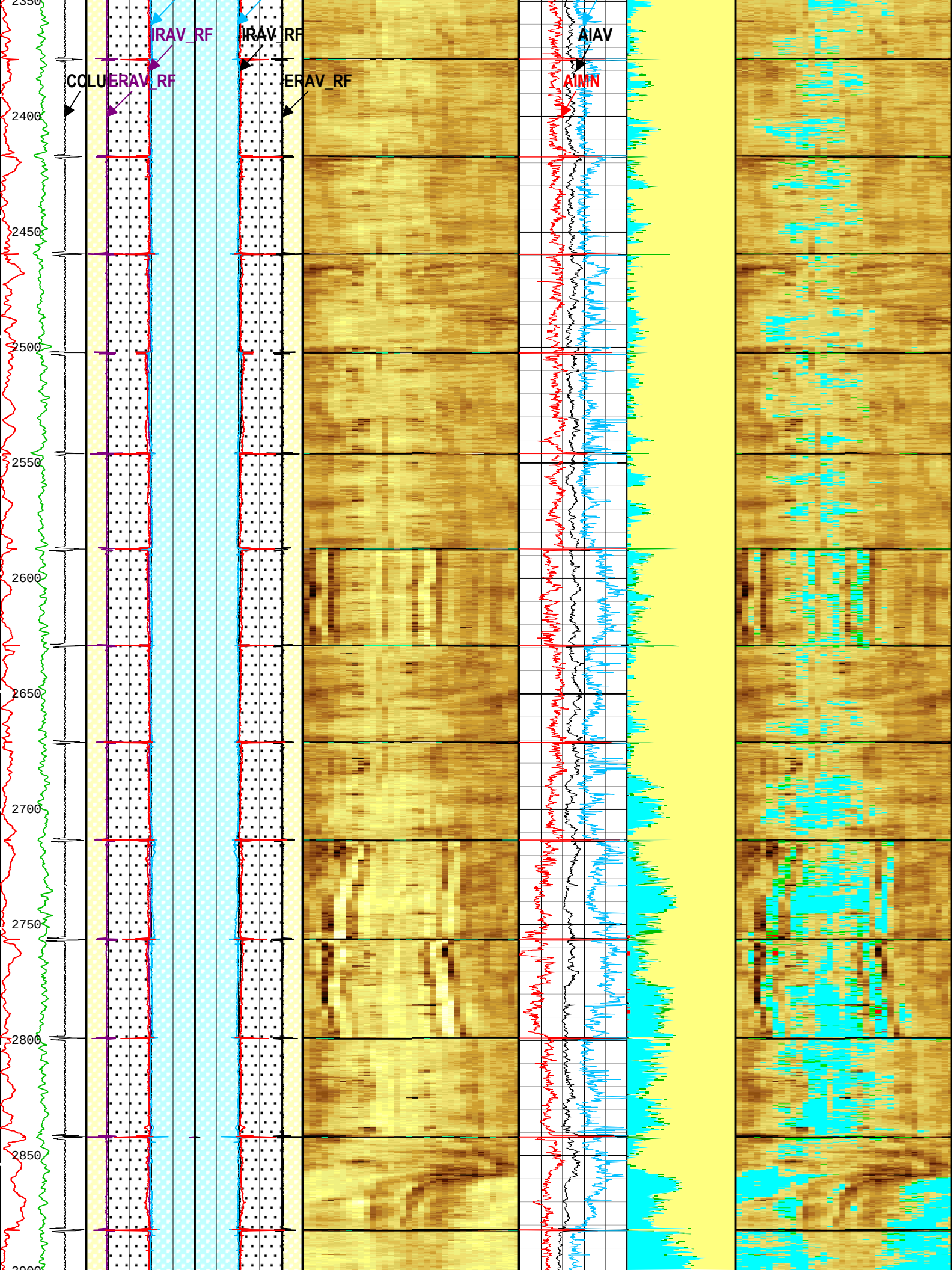
ECGR
IRMX_RF
IRMX_RF
IRMN_RF
IRMN_RF
AIMX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2600
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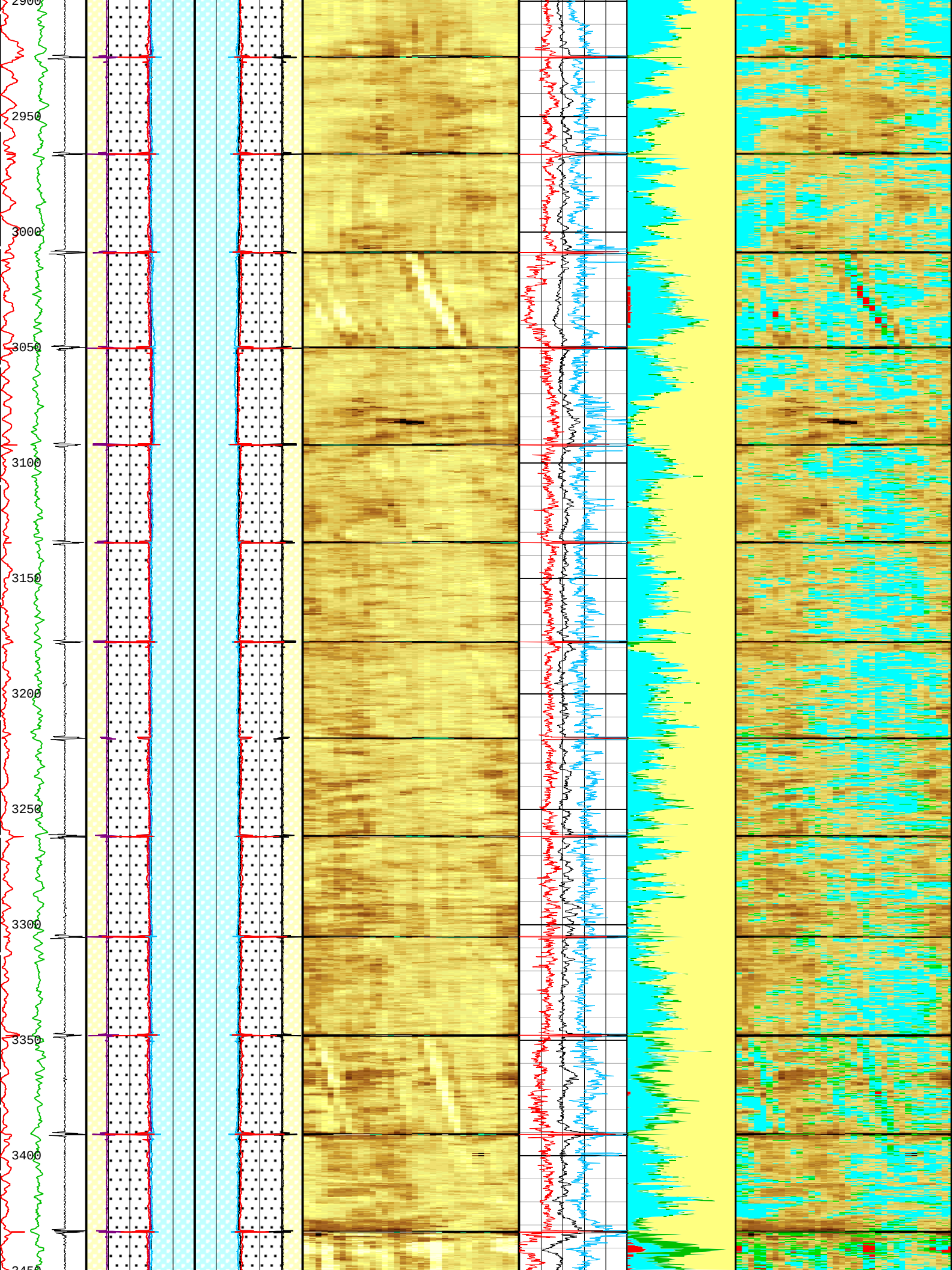
2800
2850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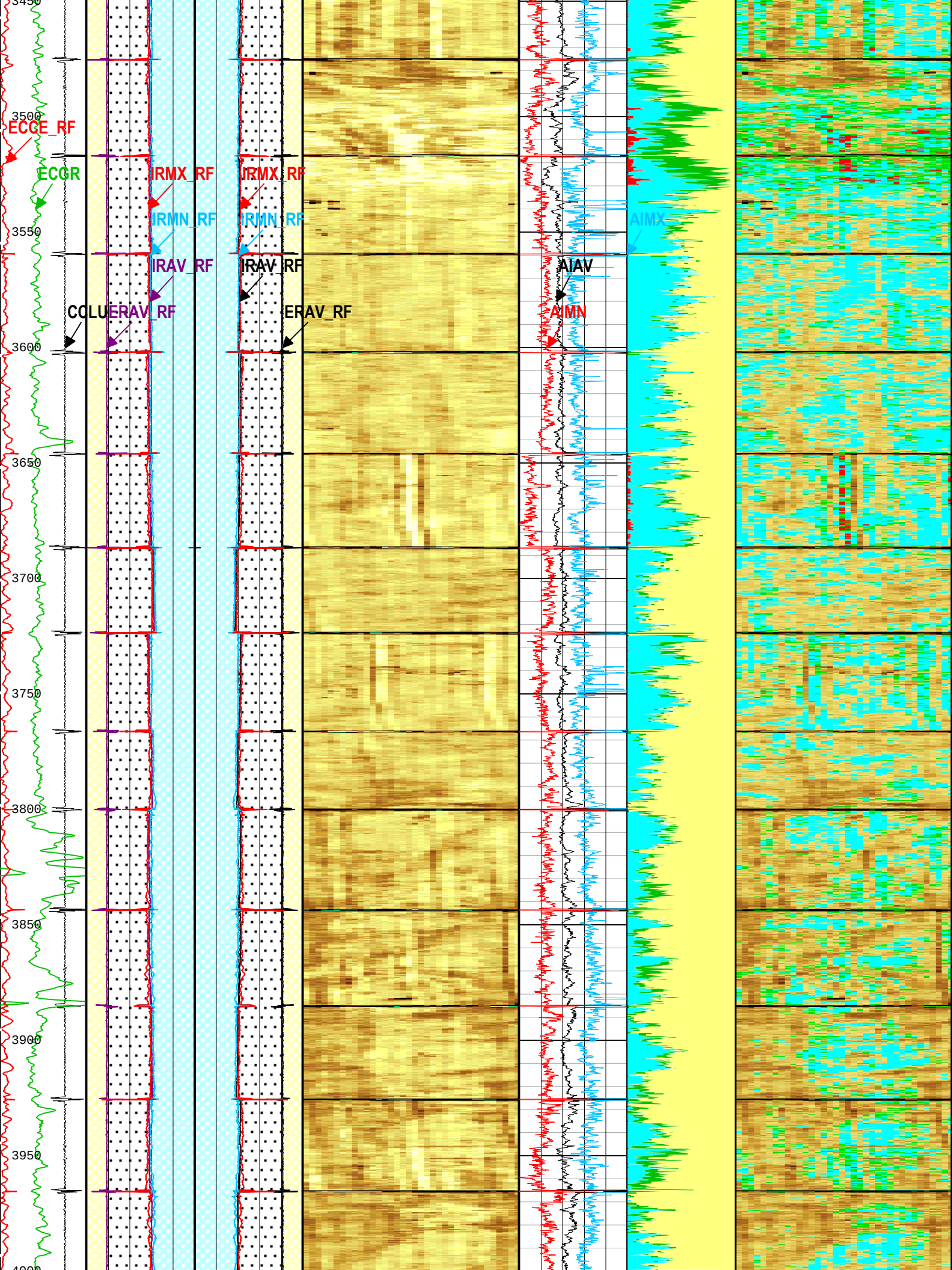
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ECGR
IRMX_RF
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IRMX_RF
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ERAV_RF
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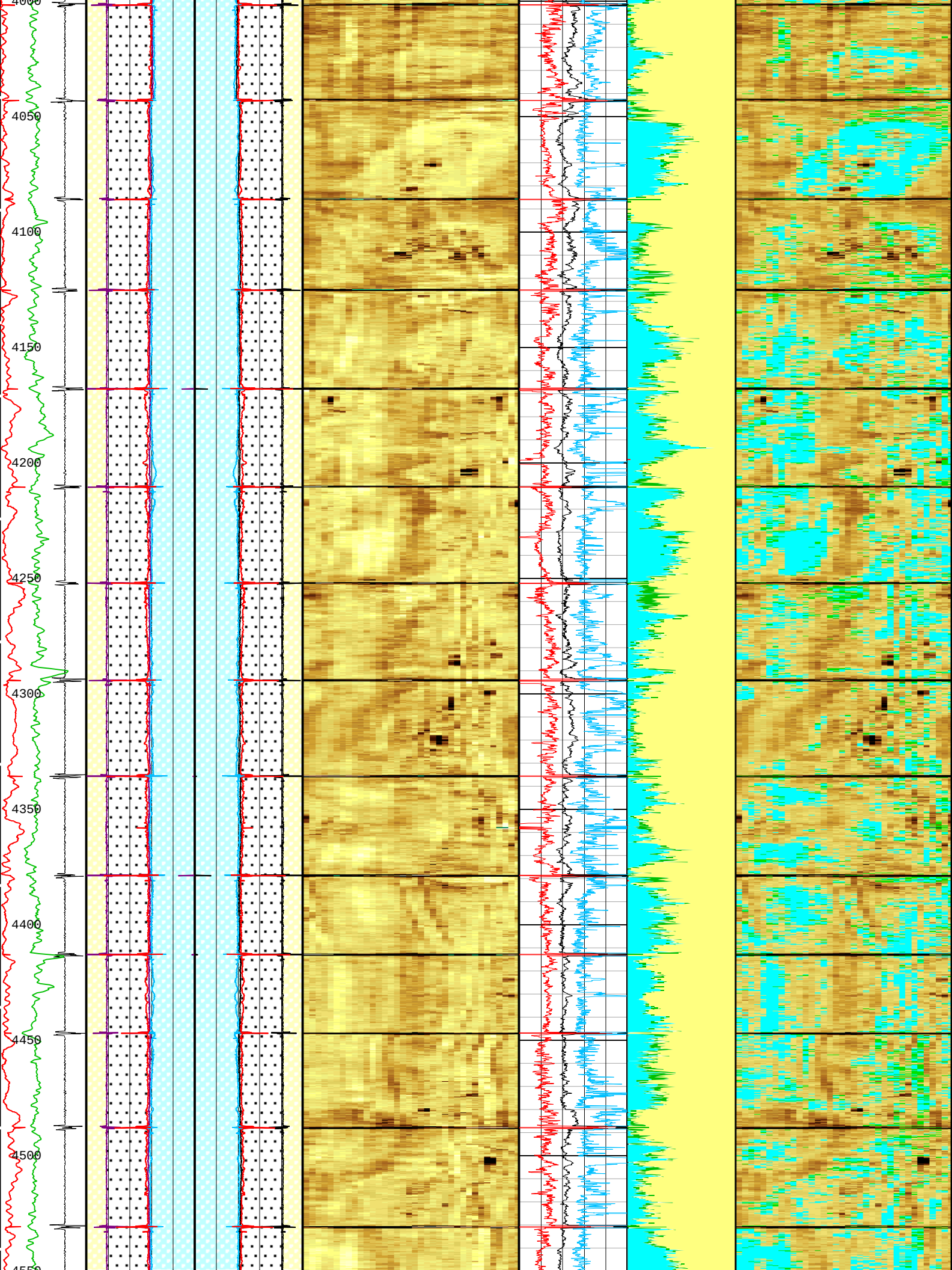
AIMN
AIMX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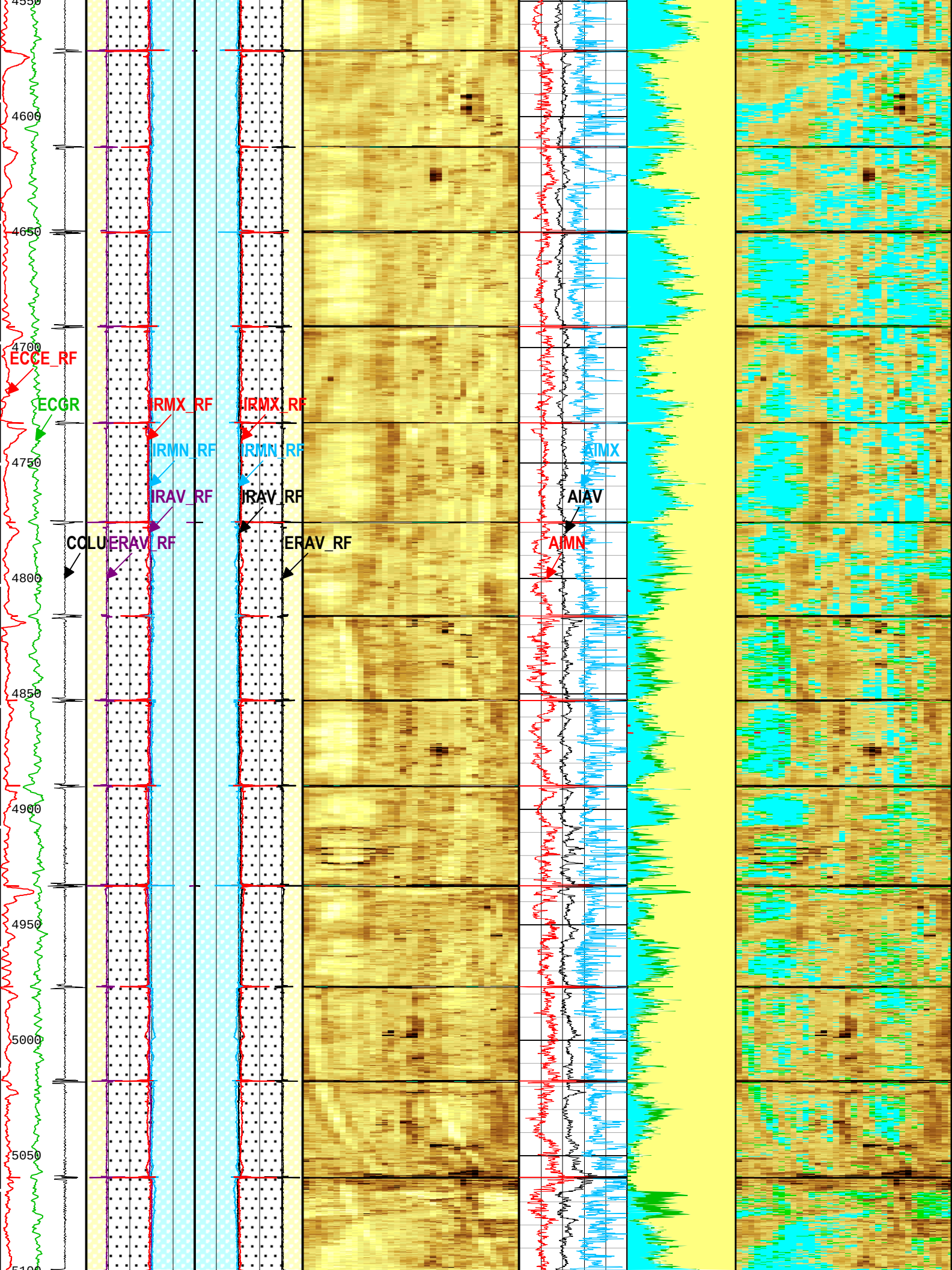
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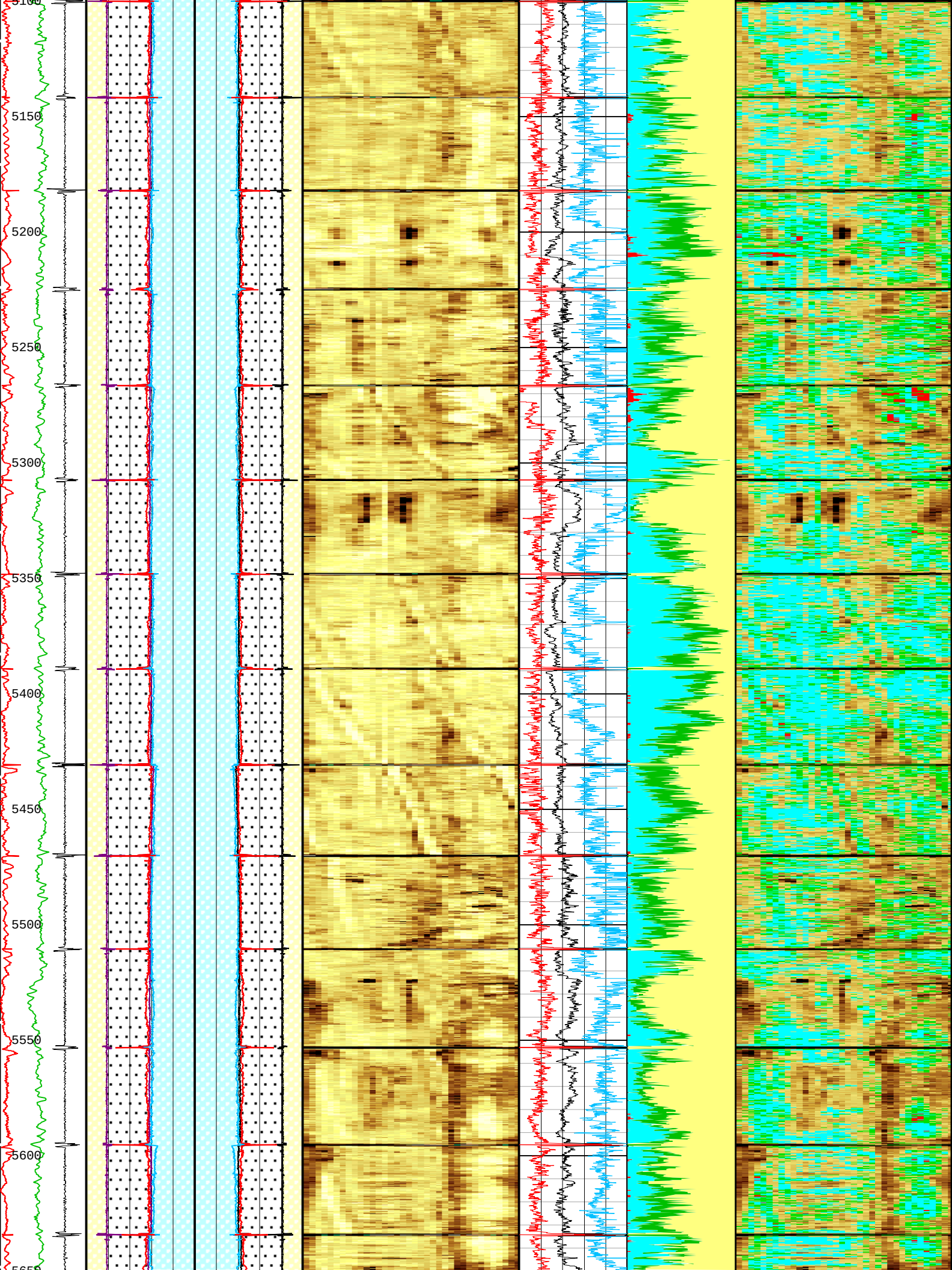
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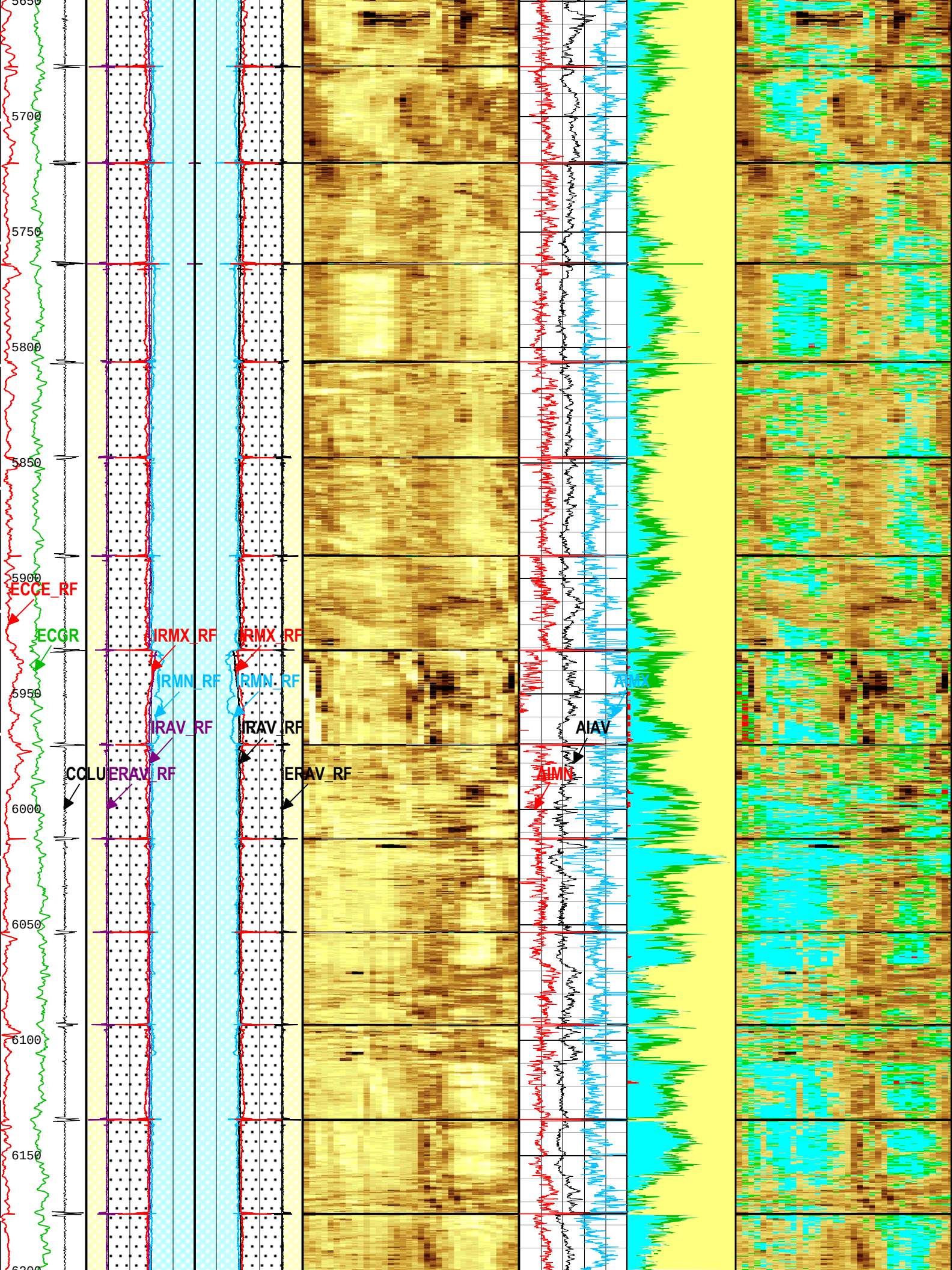
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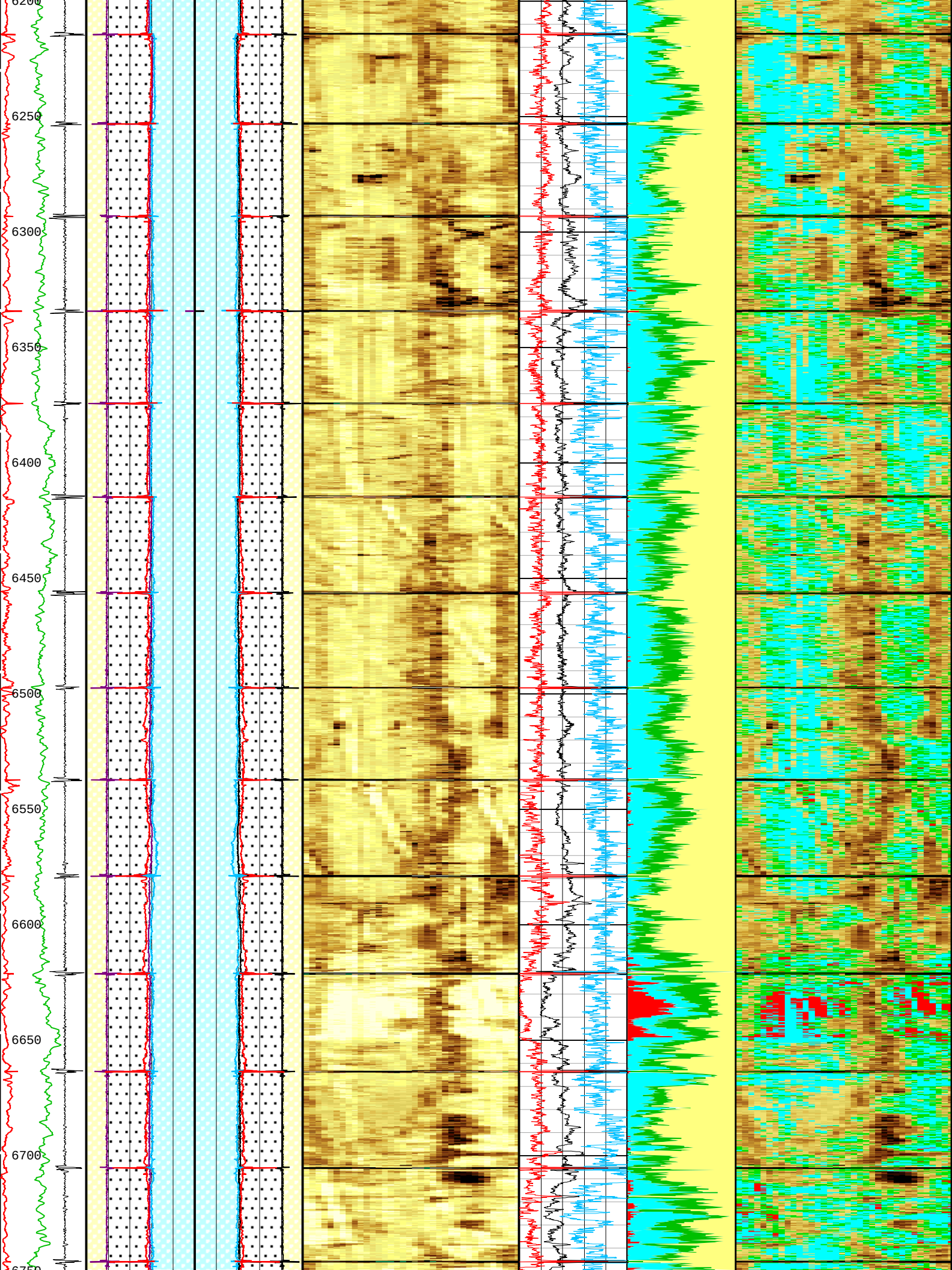
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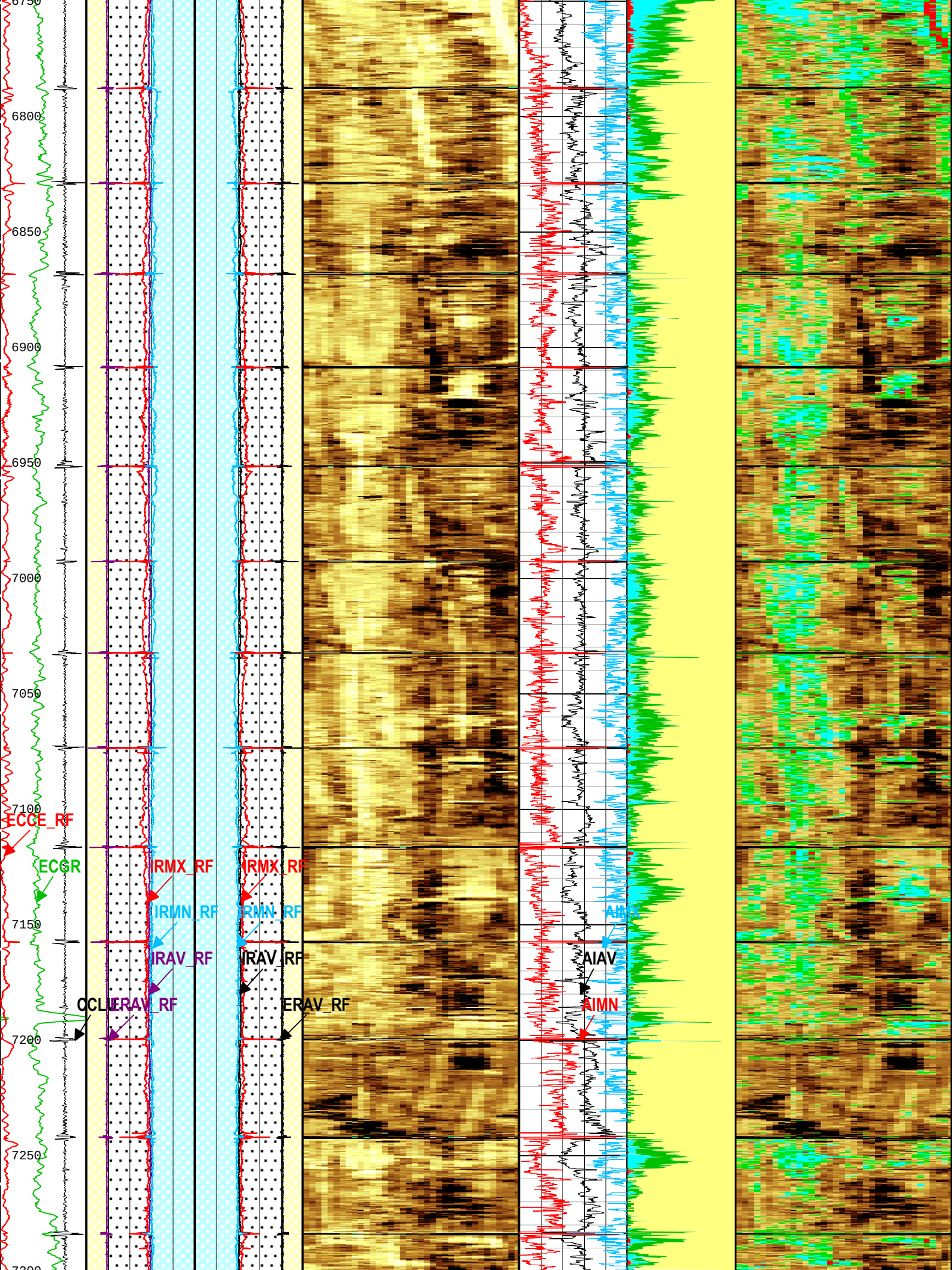
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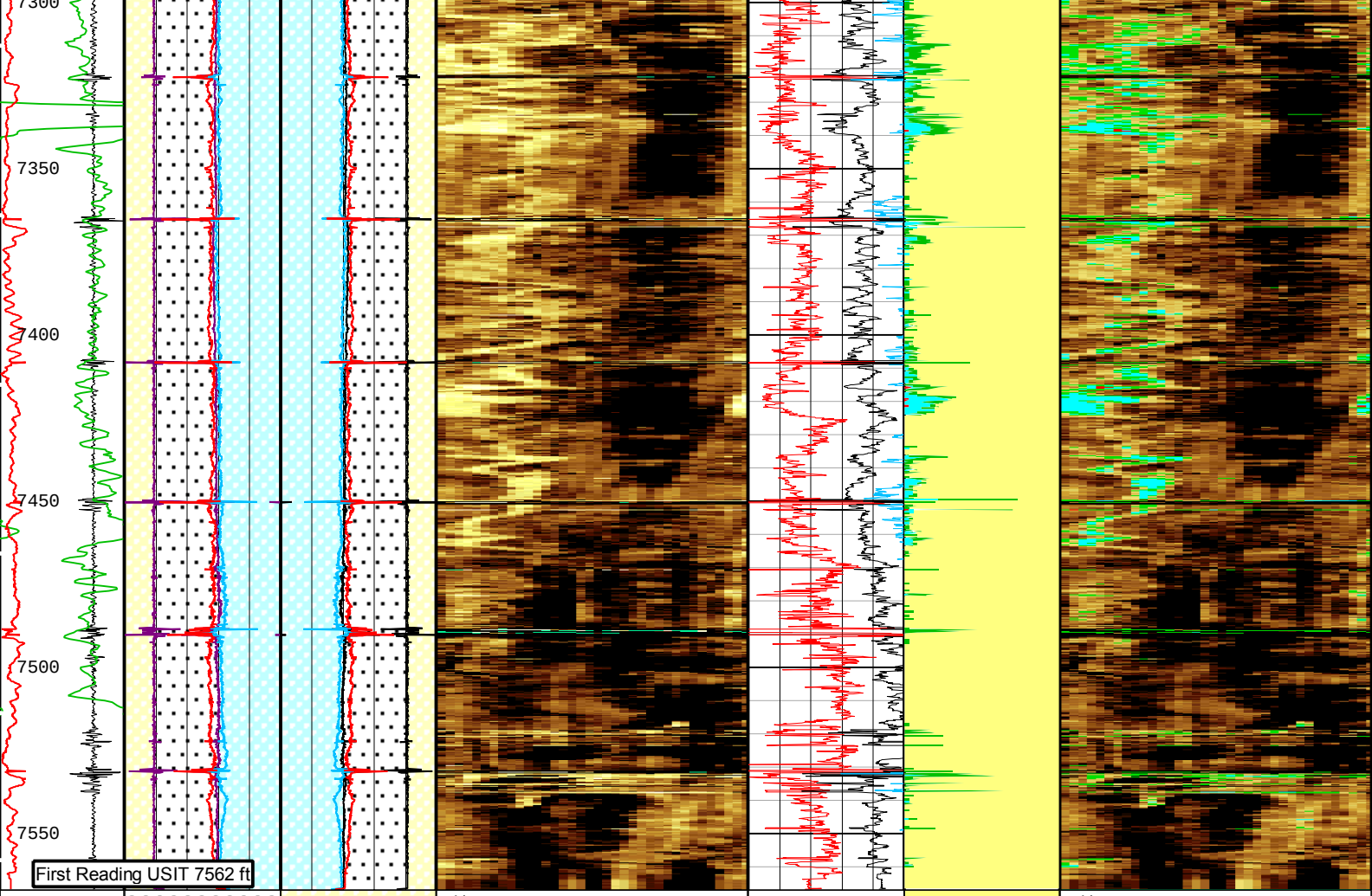
AIAV
AIMN



Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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) USIT-E[1]
4.5 in 3.5

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

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

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

Maximum of Unflagged Internal Radii (IRMX_RF)

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

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: 26-May-2016 18:20:14

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
Four_D1	Log[4]:Up	Up	91.68 ft	7567.42 ft	26-May-2016 8:27:27 AM	26-May-2016 10:54:27 AM	ON	1.00 ft	Yes
Four_D1	Log[17]:Up	Up	49.16 ft	202.90 ft	26-May-2016 1:04:46 PM	26-May-2016 1:10:59 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

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: 26-May-2016 18:20:27

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]

-30 in 10

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

U L B R U Orientation: Top of Hole

Absent 1.500 3.500

Explicit Normalization

USIT - USIT Processing Flags (UFLG[0])

U L B R U Orientation: Top of Hole

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

U L B R U Orientation: Top of Hole

Absent -0.059 -0.028 0.004 0.035 0.068

Explicit Normalization

USIT

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

3.5 in 4.5

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

ERAV | IRAV

ERAV-IRAV | ERAV

IRAV | IRAV-ERAV

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

4.5 in 3.5 | 3.5 in 4.5

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

4.5 in 3.5 | 3.5 in 4.5

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

4.5 in 3.5 | 3.5 in 4.5

U L B R U Orientation: Top of Hole

Absent -0.059 -0.028 0.004 0.035 0.068

Explicit Normalization

USIT - Unflagged Casing Thickness minus

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

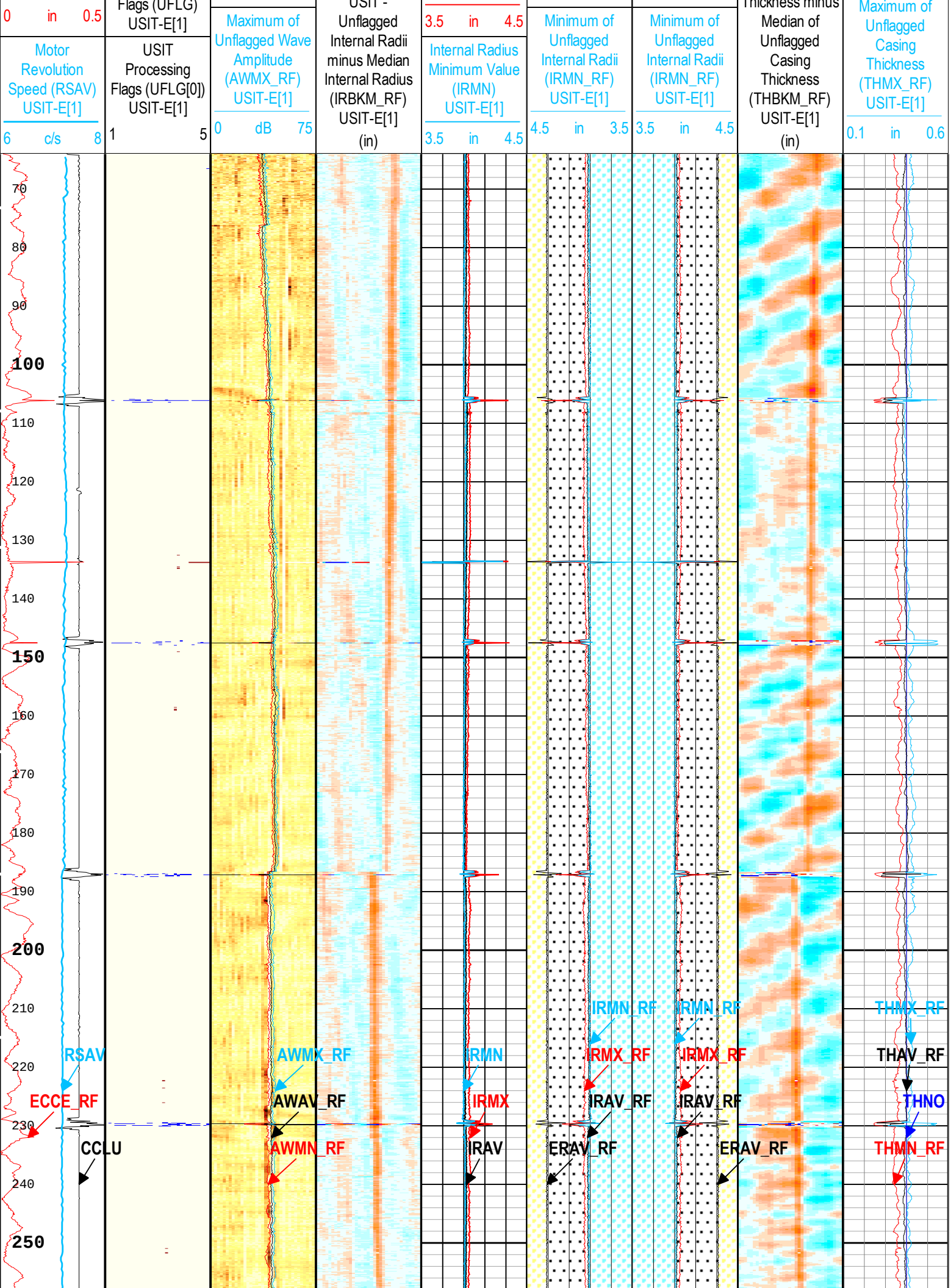
0.1 in 0.6

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


0 in 0.5
Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 8
Flags (UFLG) USIT-E[1]
USIT Processing Flags (UFLG[0]) USIT-E[1]
1 5
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E[1]
0 dB 75
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E[1]
(in)
3.5 in 4.5
Internal Radius Minimum Value (IRMN) USIT-E[1]
3.5 in 4.5
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
Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1]
(in)
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E[1]
0.1 in 0.6
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
IRMX_RF
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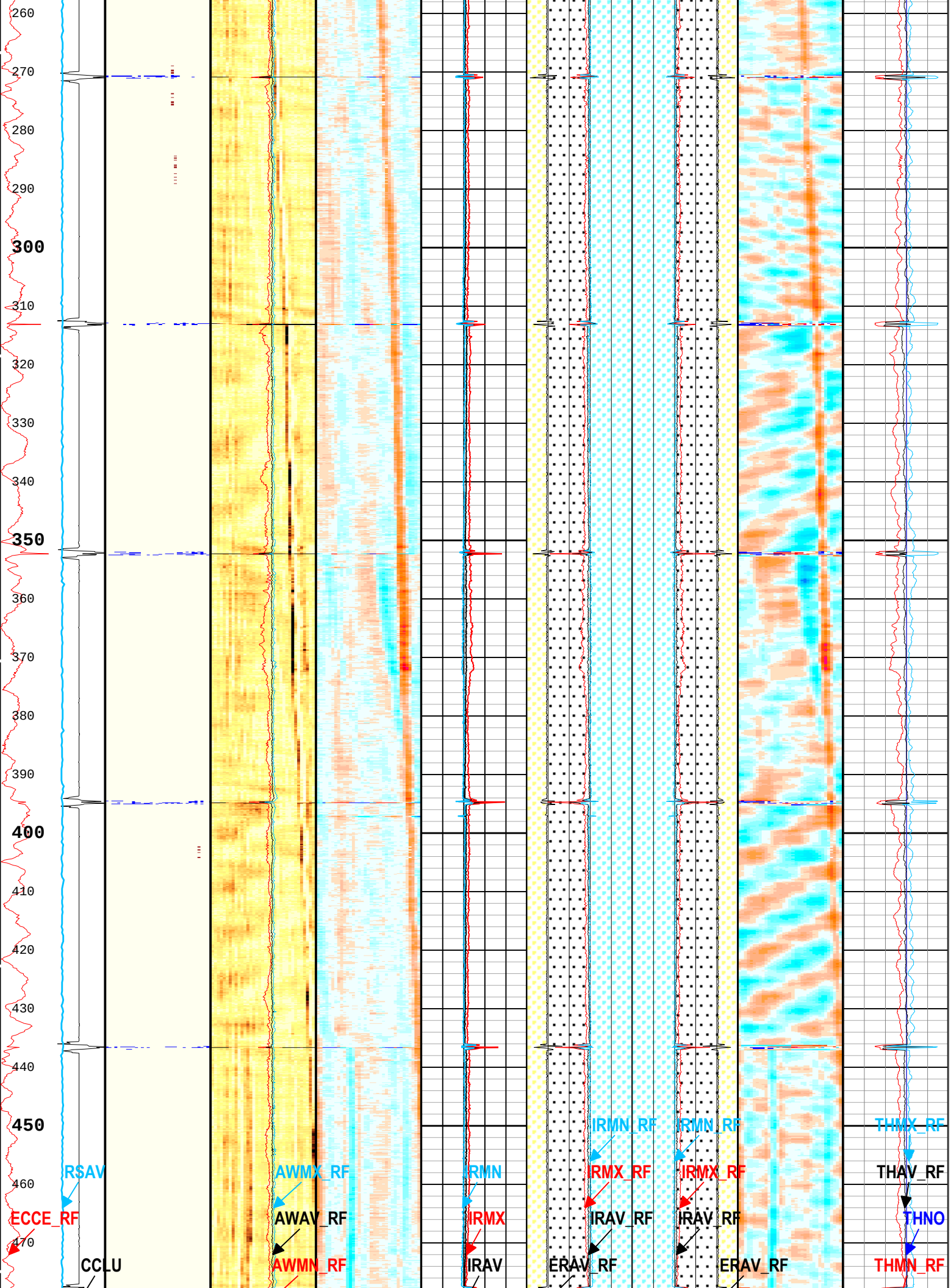
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF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CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
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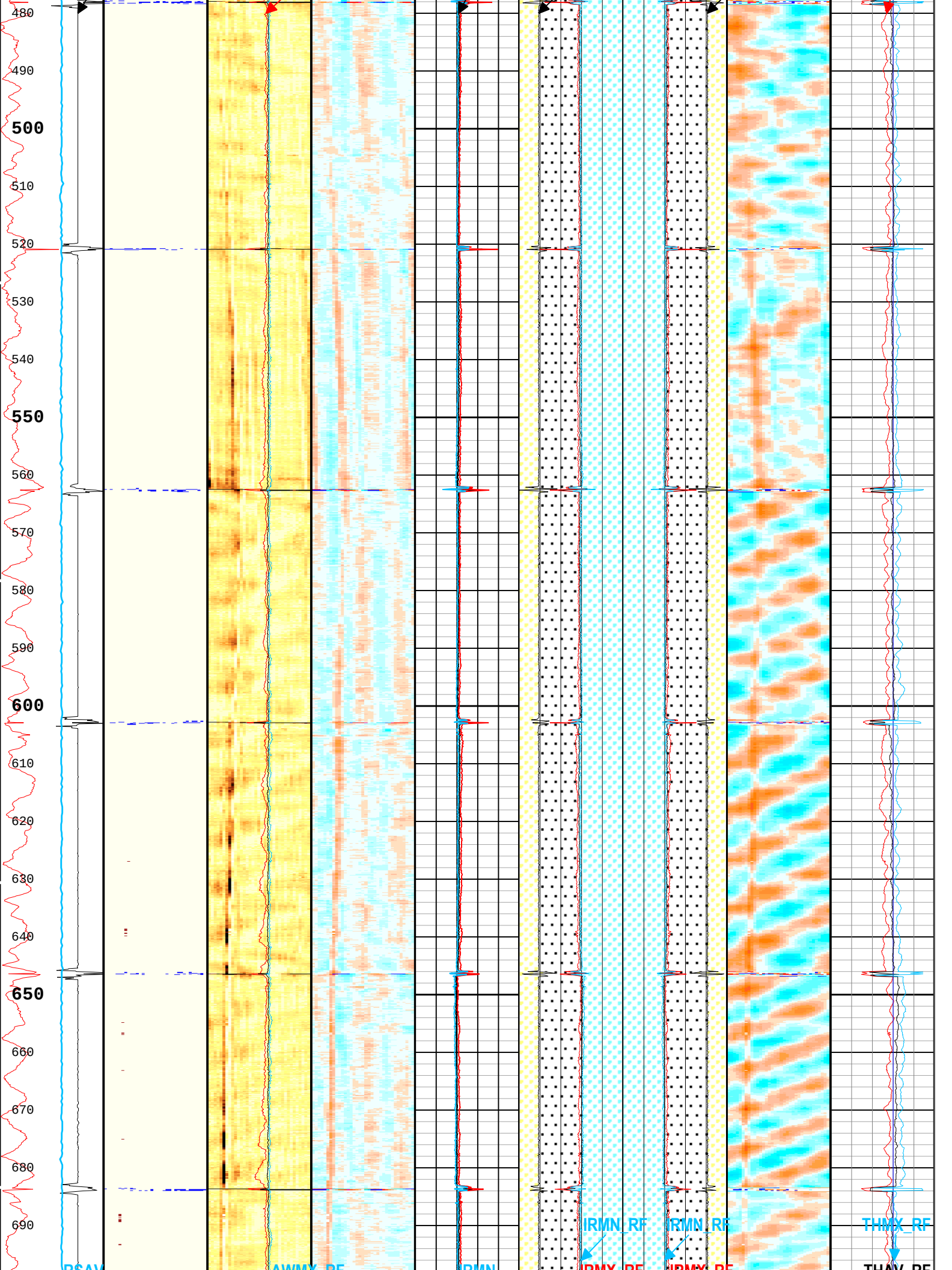
THNO
THMN_RF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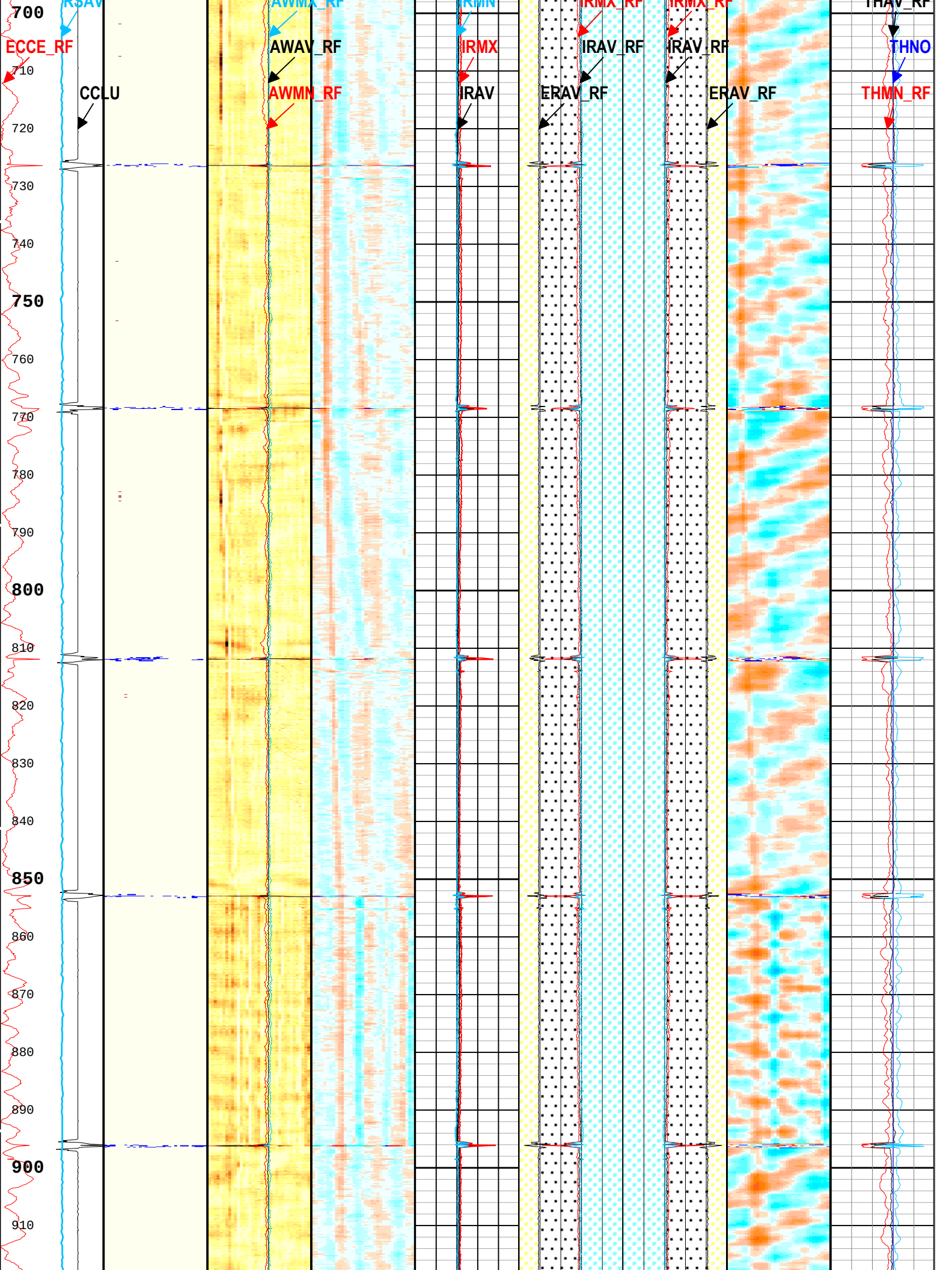
IRMX_RF
THMX_RF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IRMX_RF
IRMX_RF
THAV_RF
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AWAV_RF
IRMX
IRAV_RF
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CCLU
AWMN_RF
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ERAV_RF
ERAV_RF
THMN_RF
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850
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880
890
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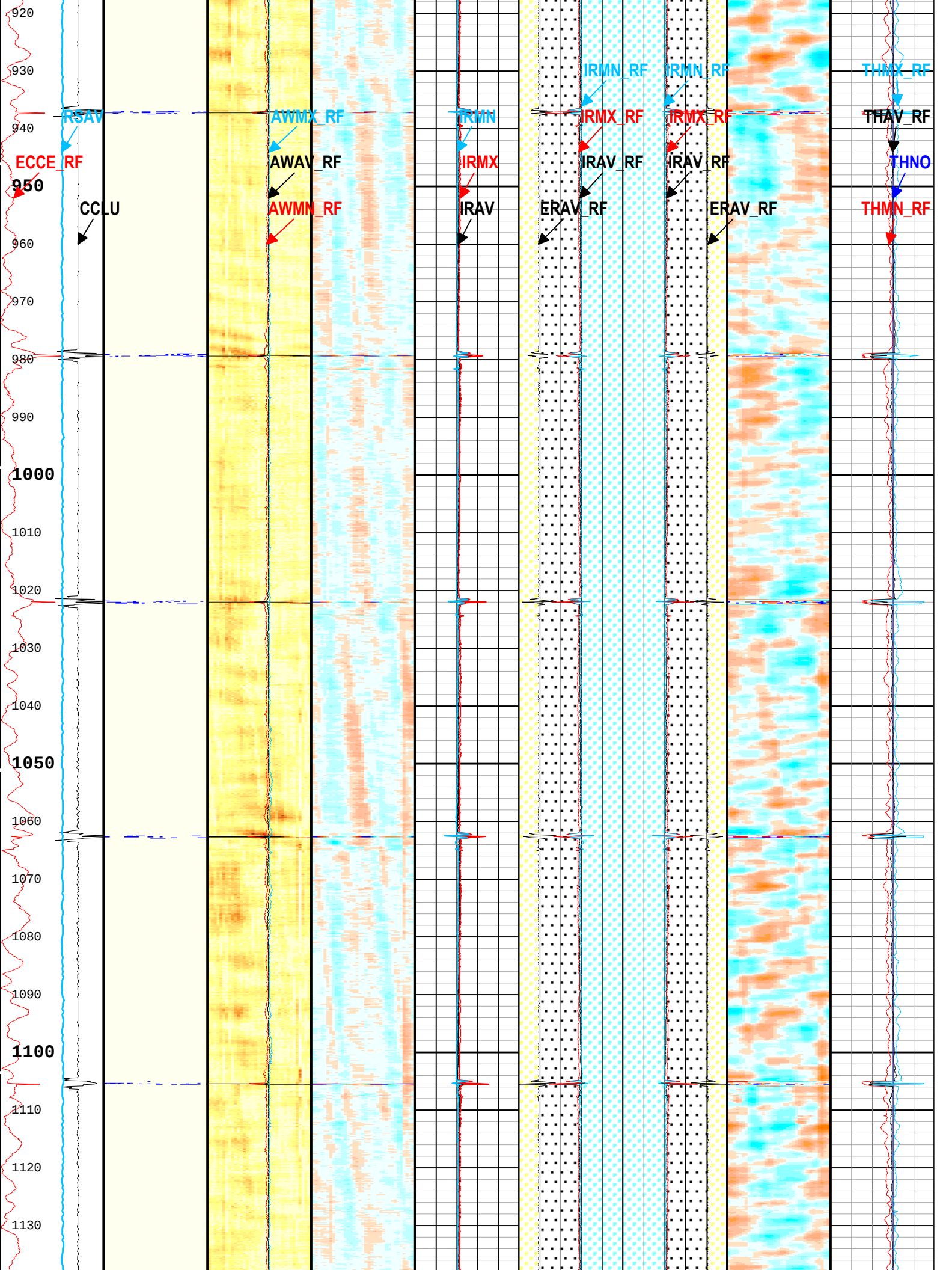
910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CCLU
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AWAV_RF
AWMN_RF
IRMN
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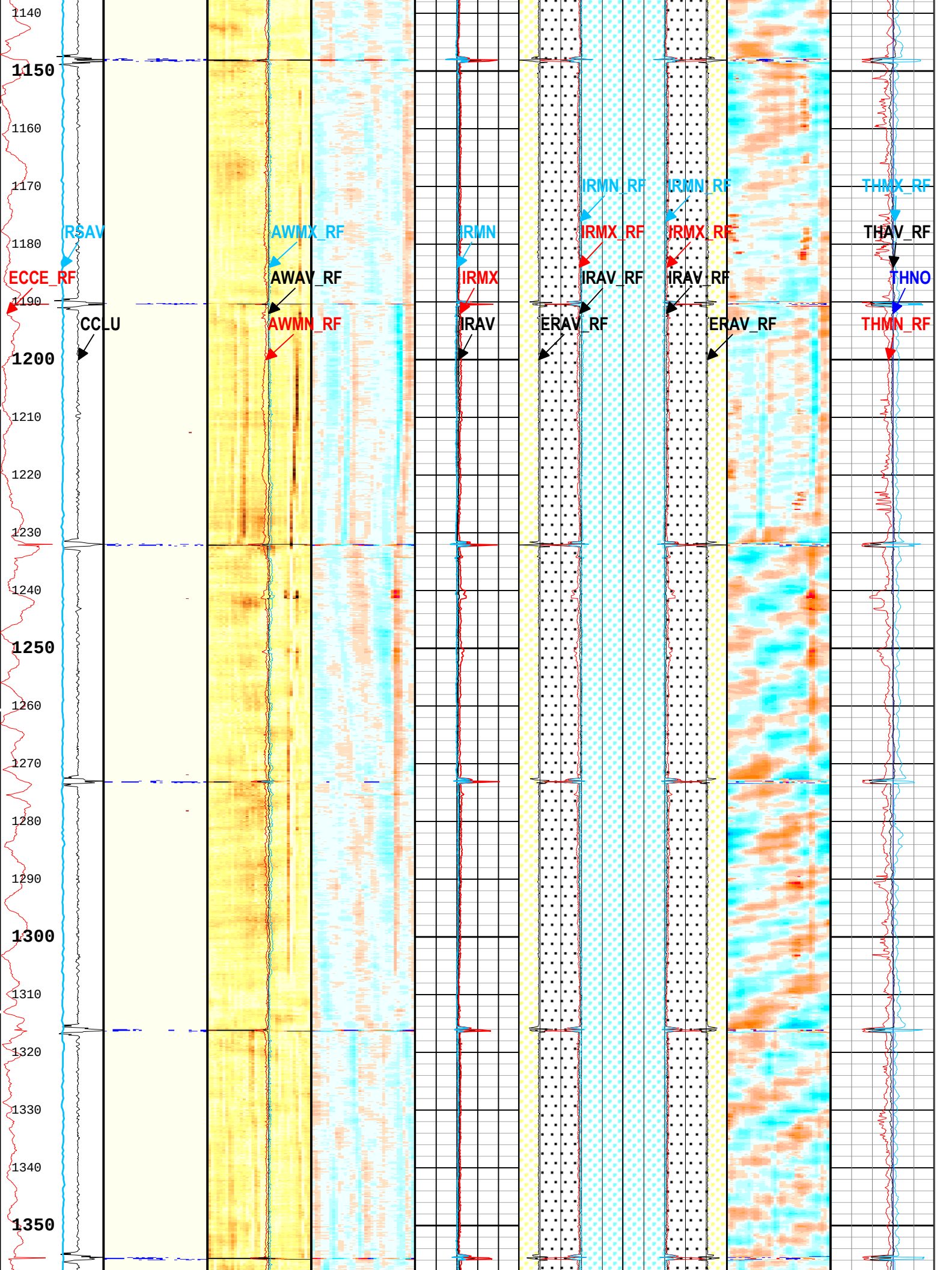
THMN_RF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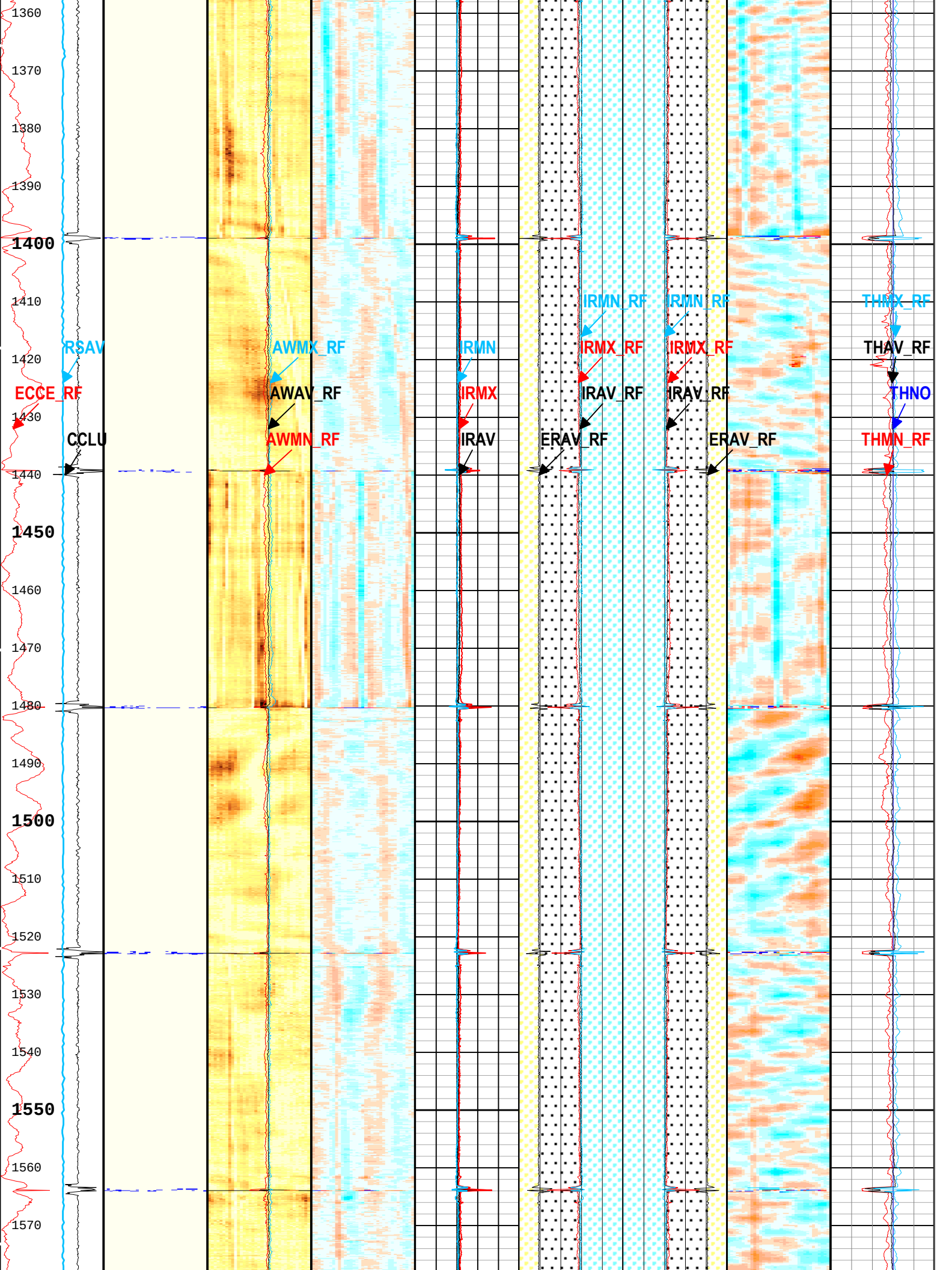
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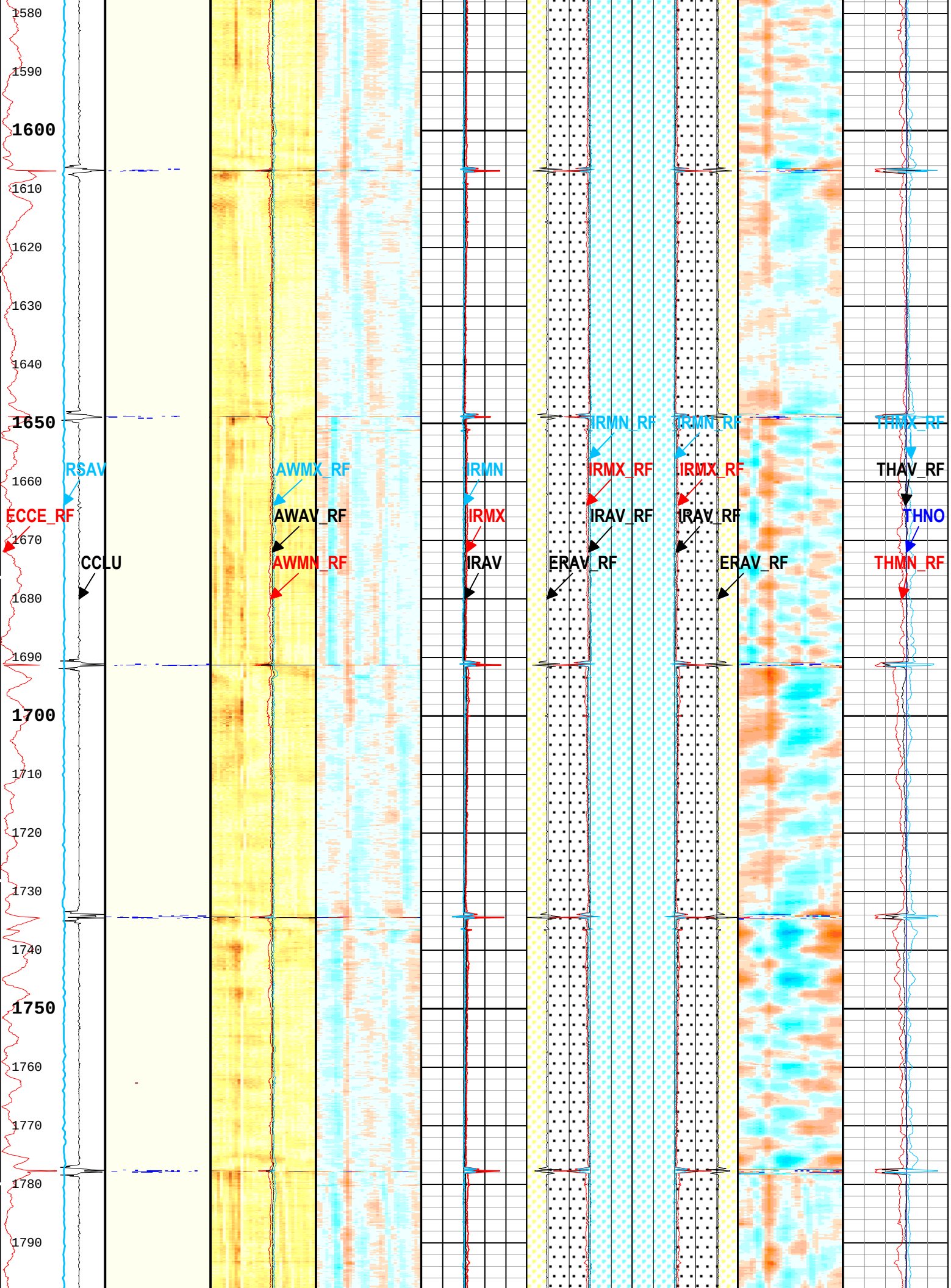
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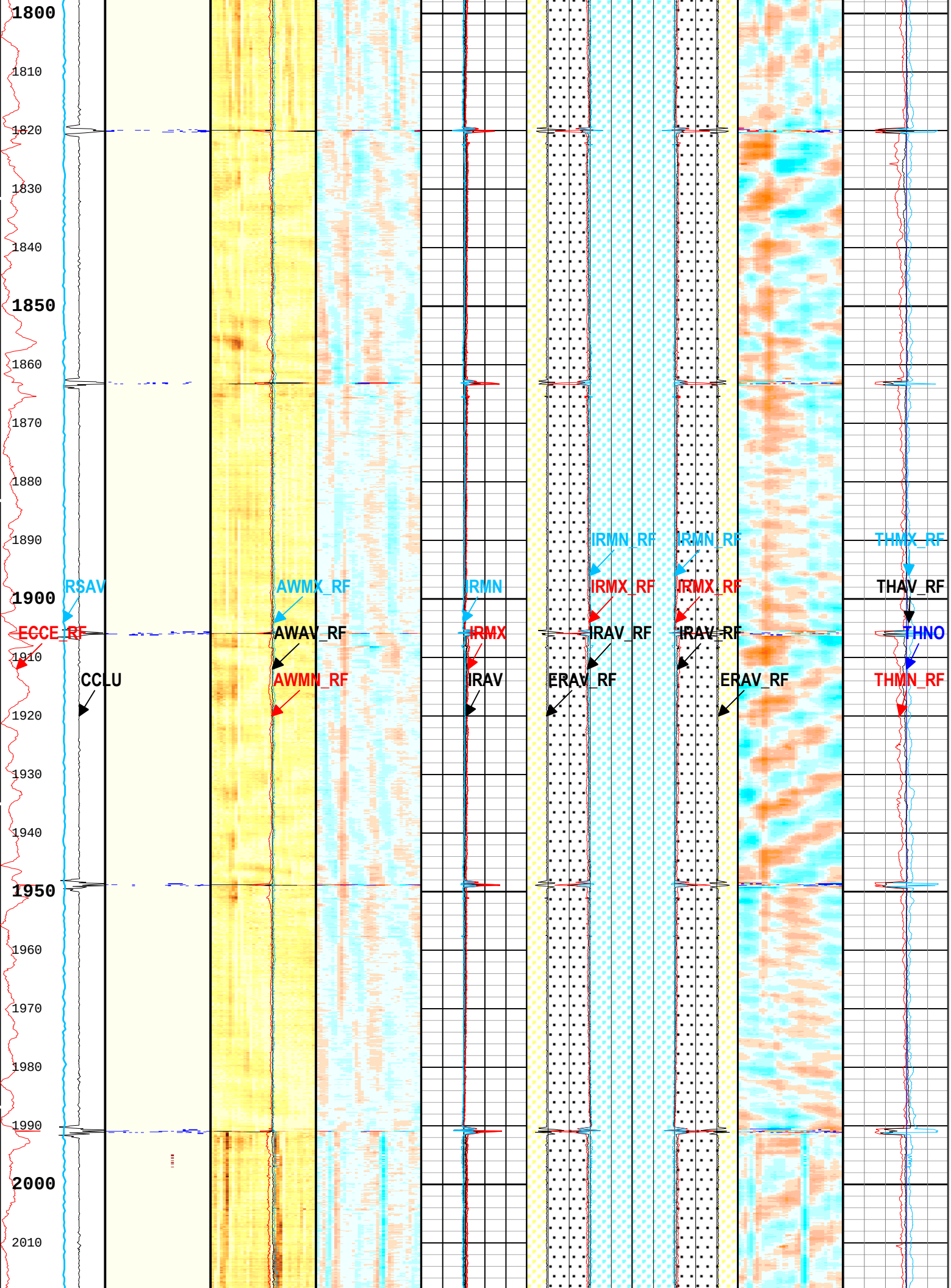
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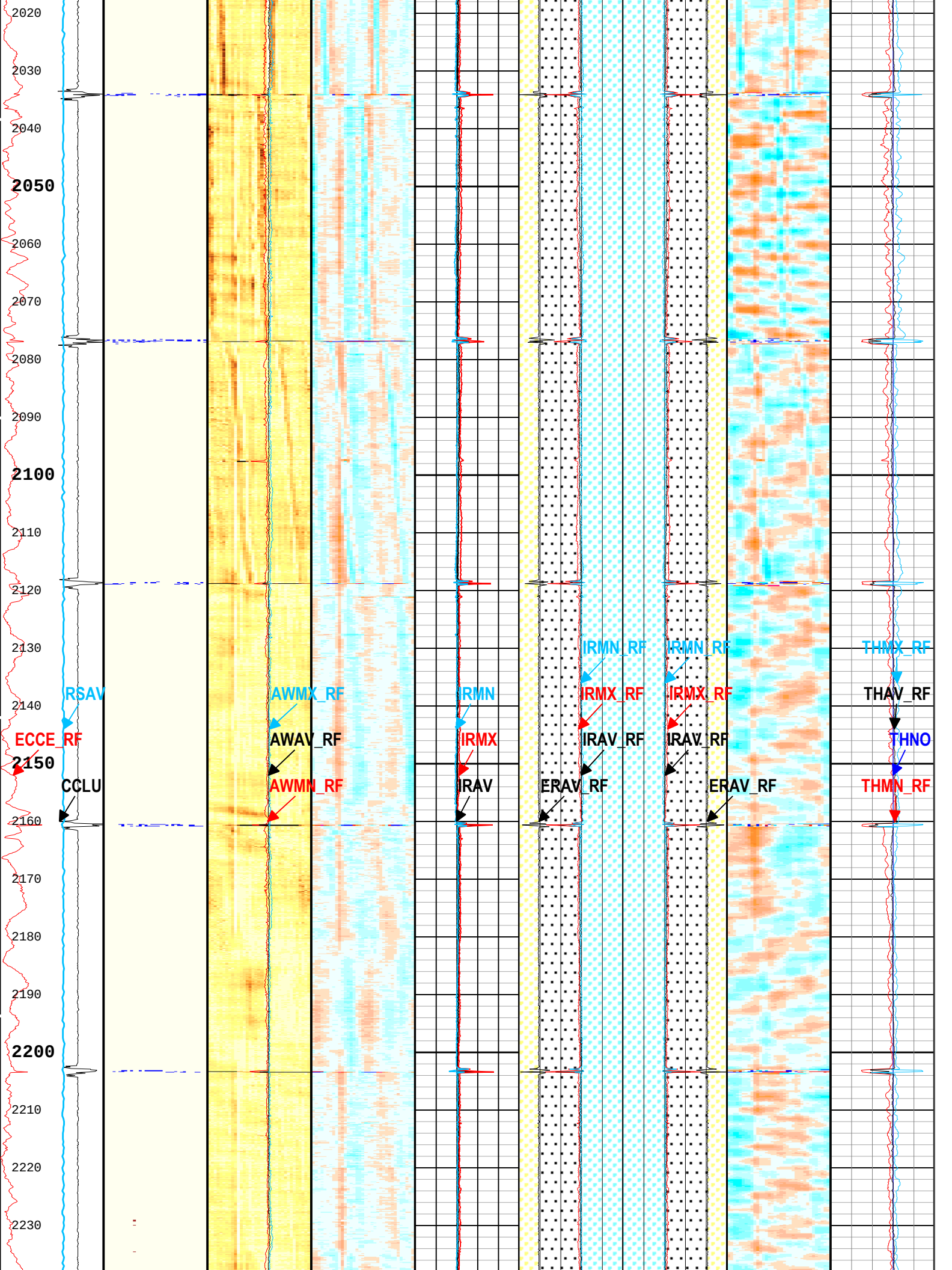
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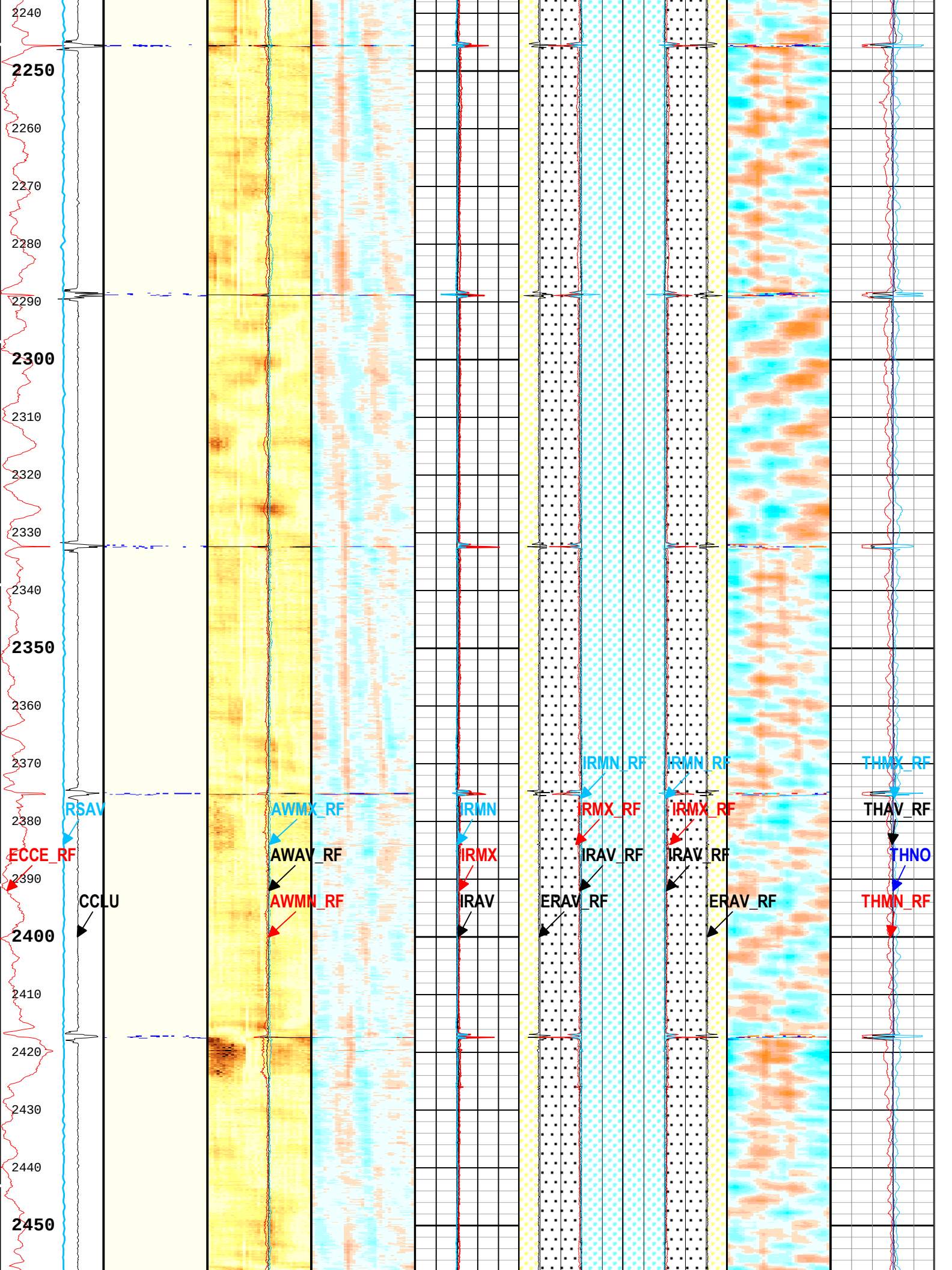
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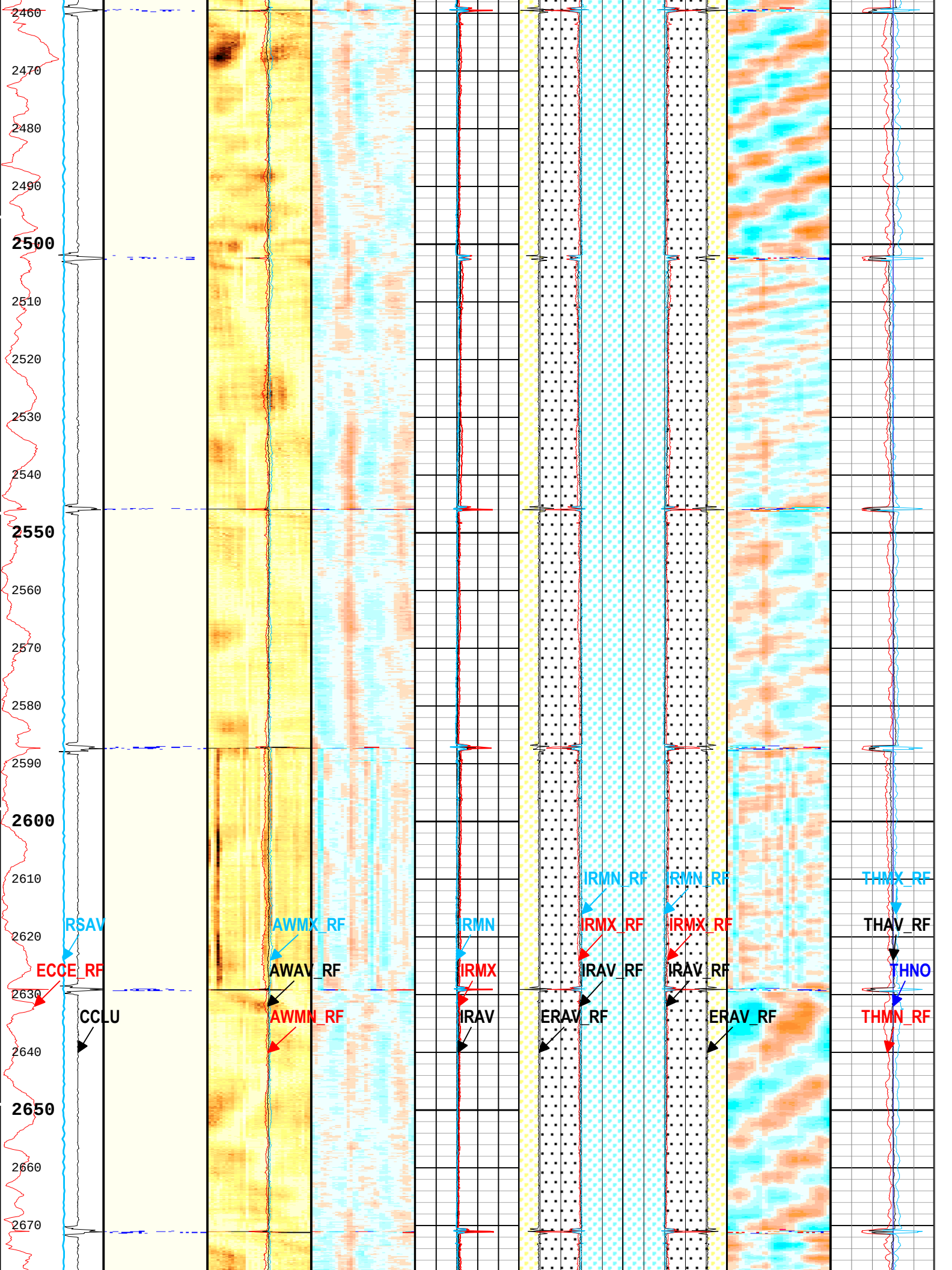
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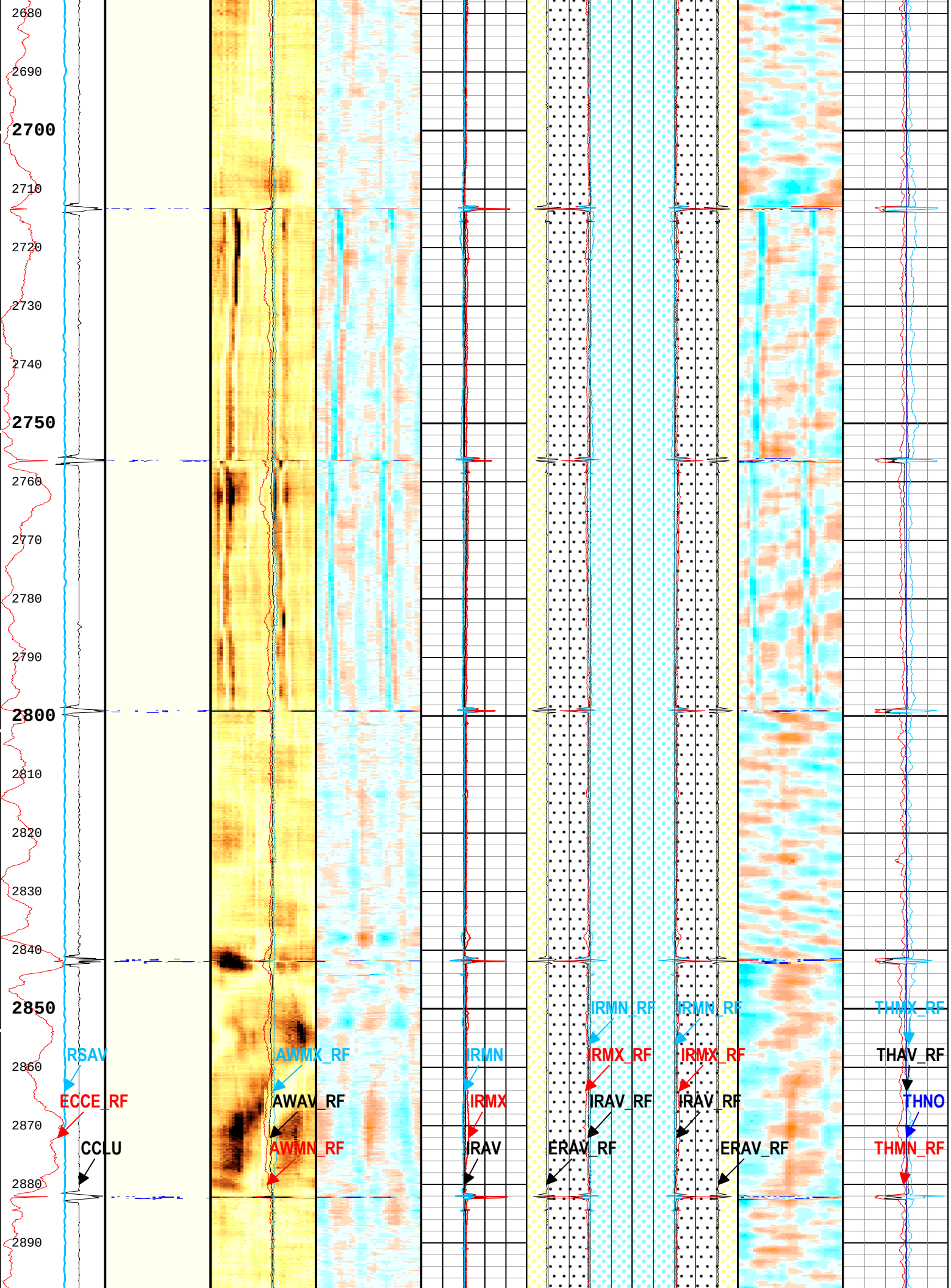
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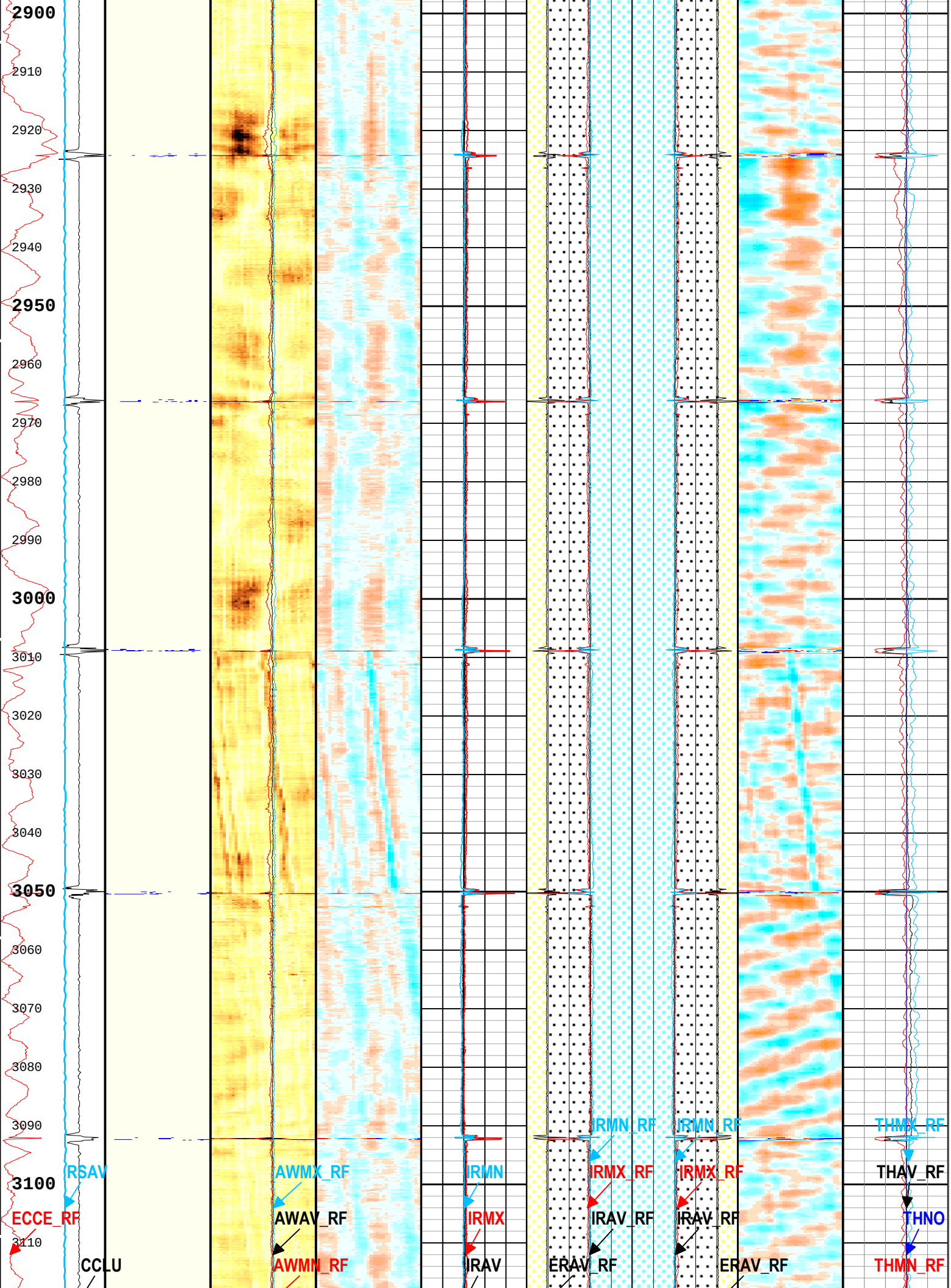
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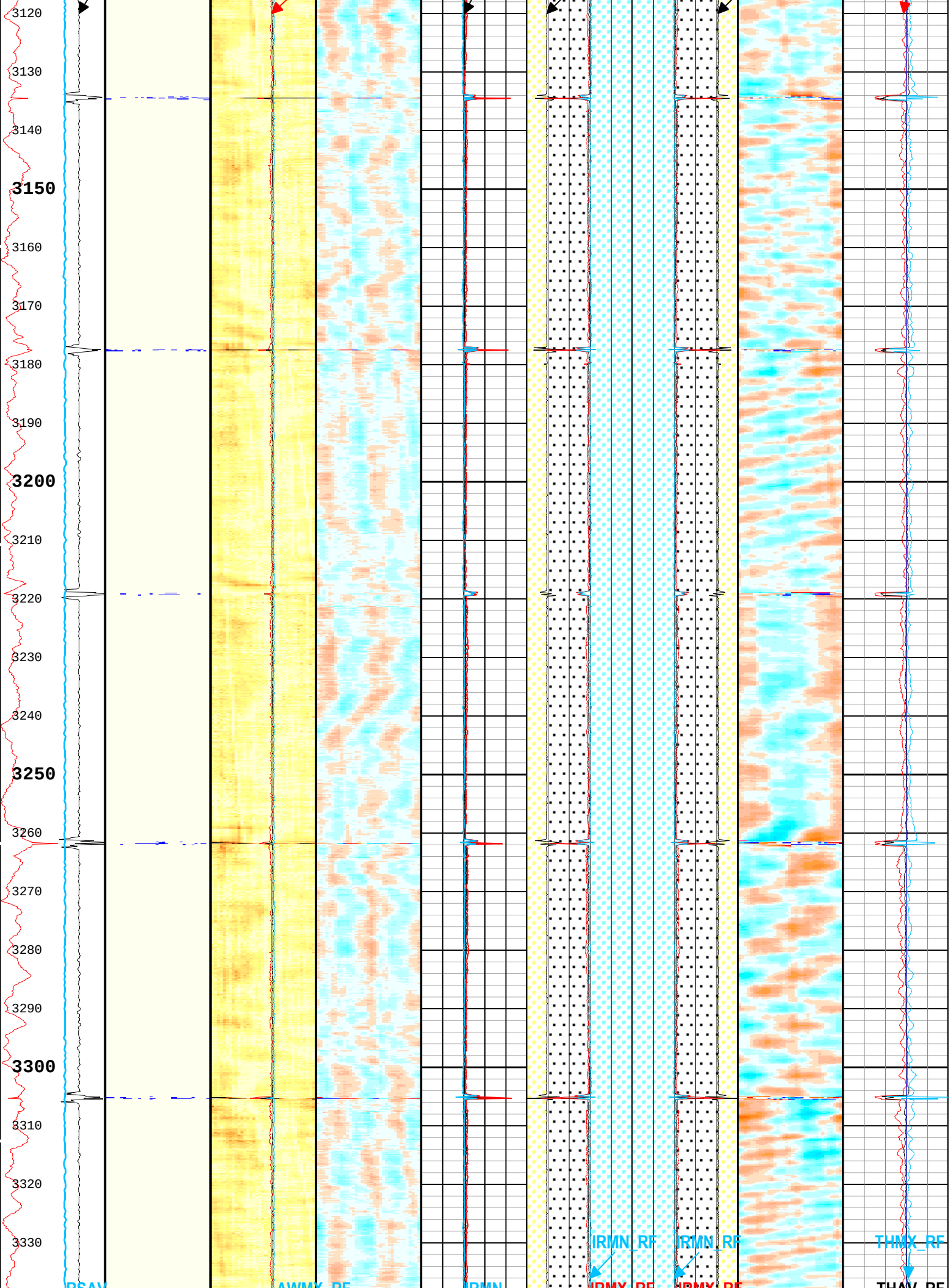
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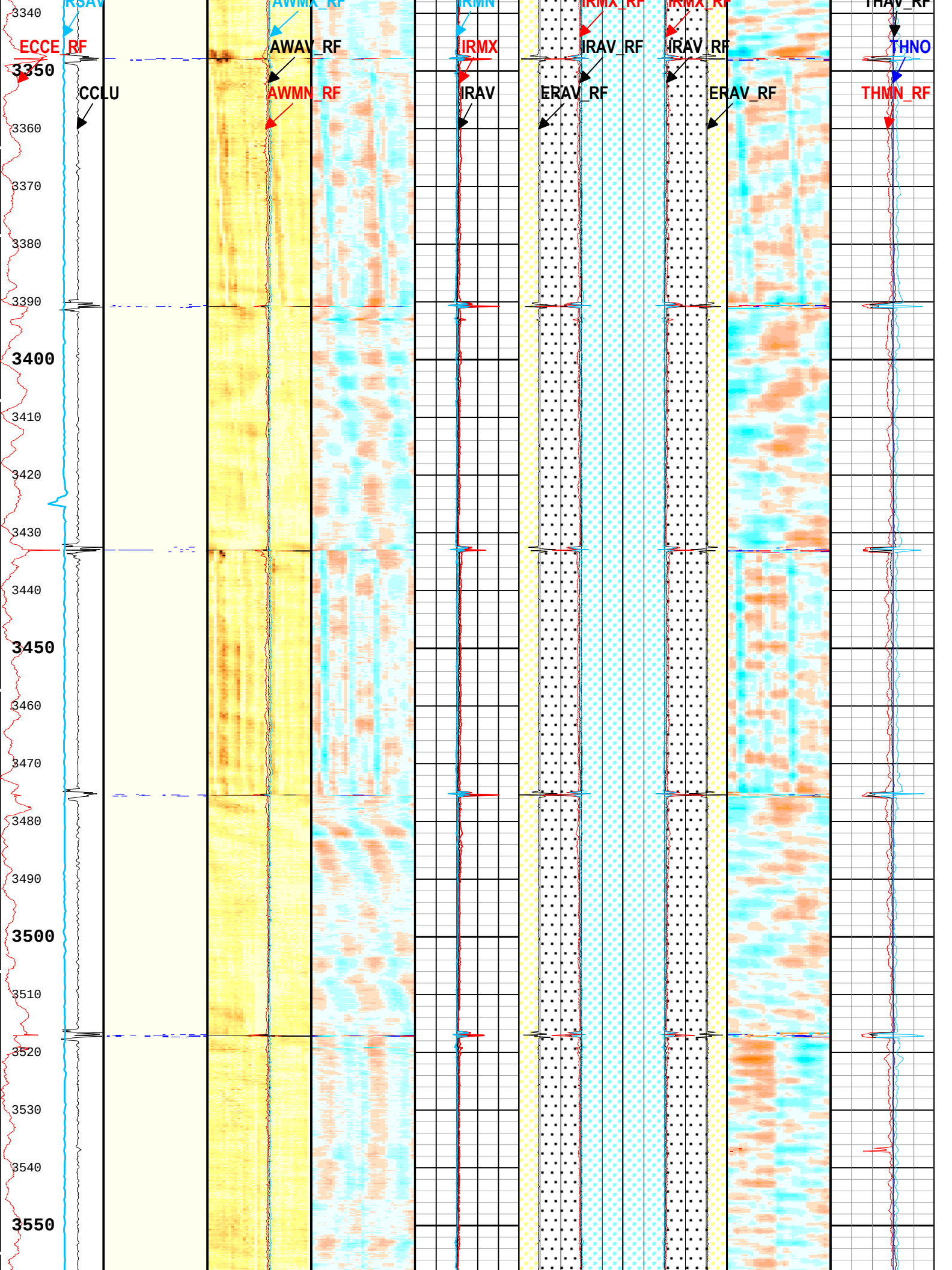
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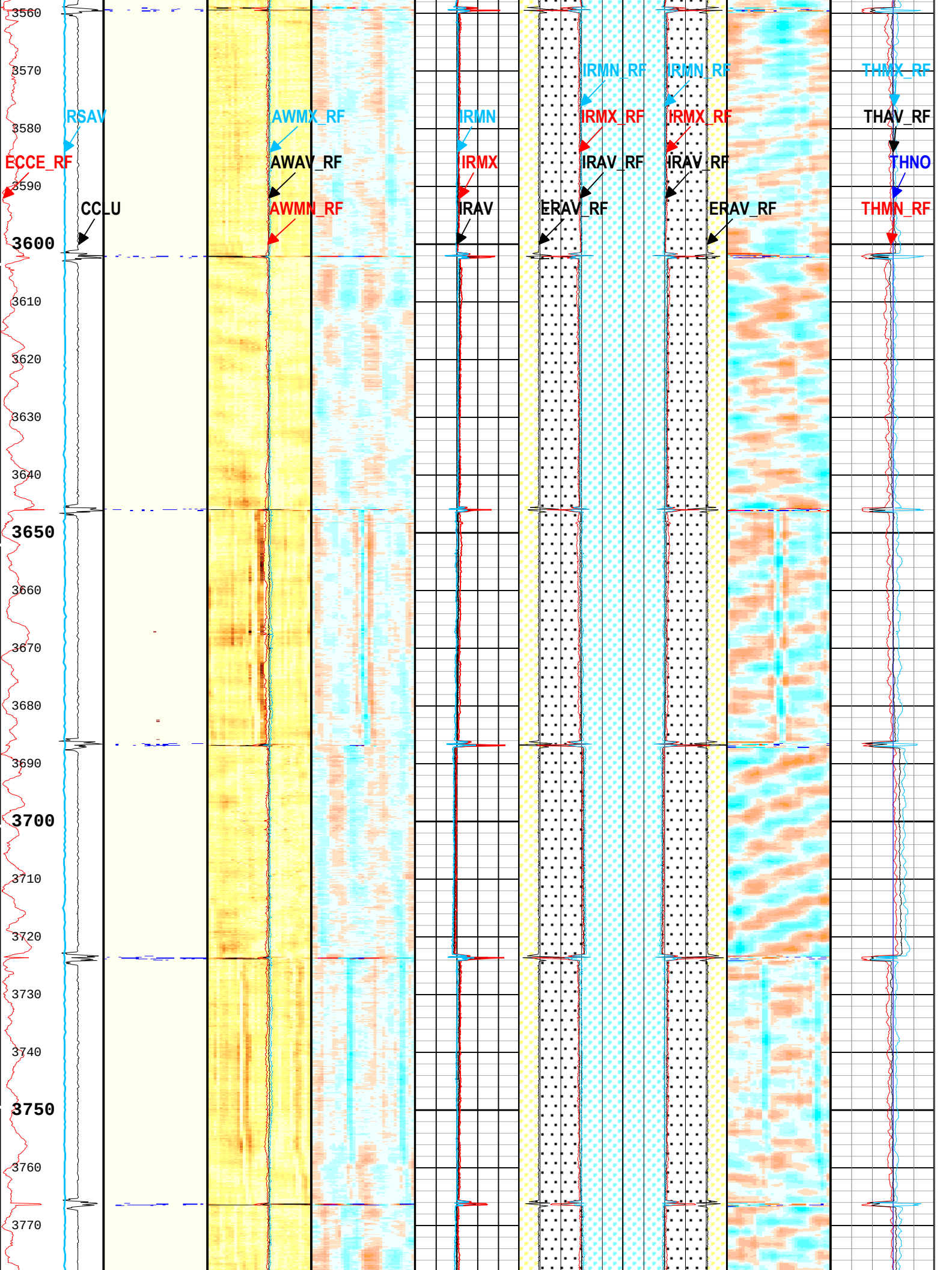
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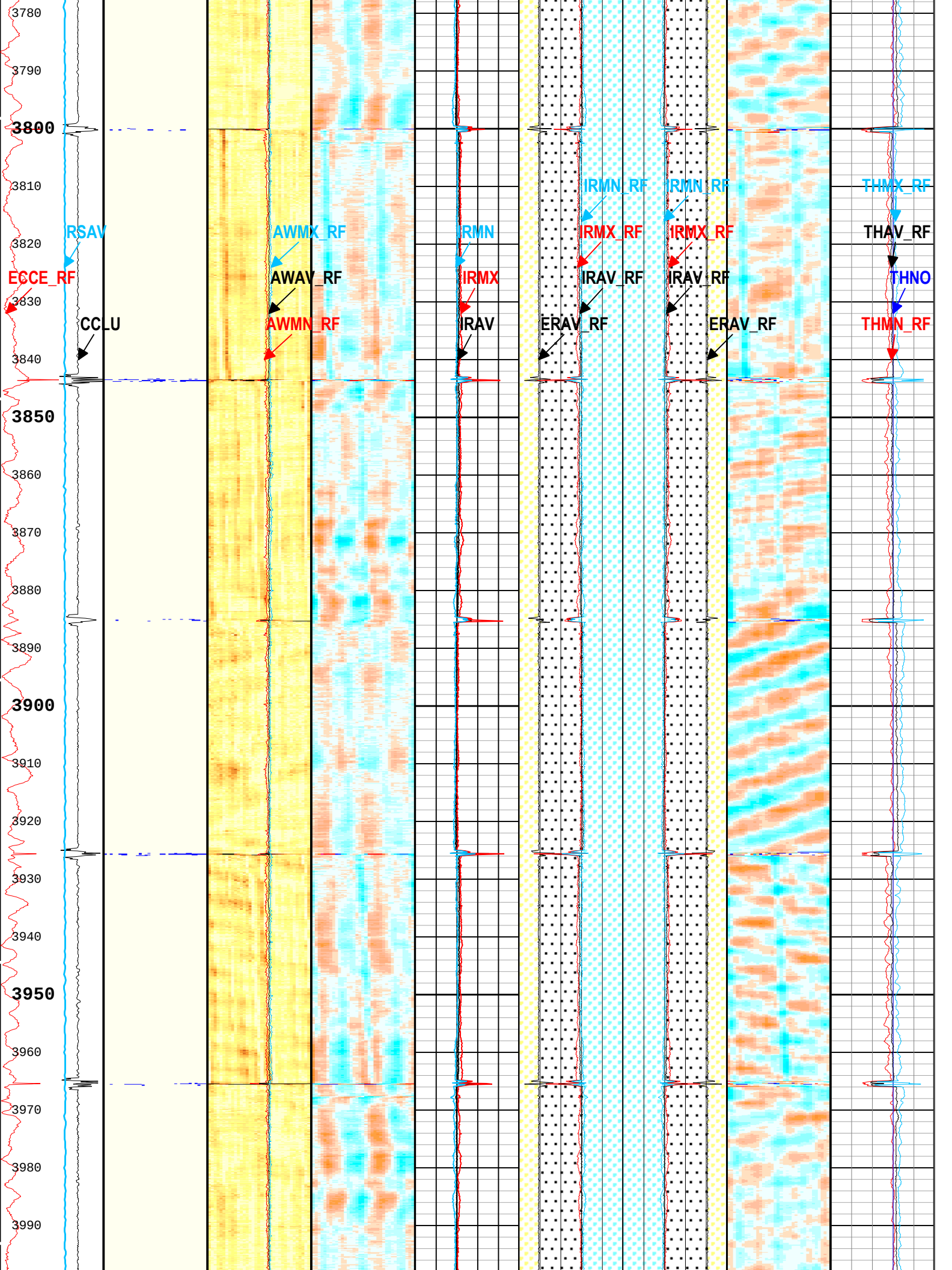
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CCLU
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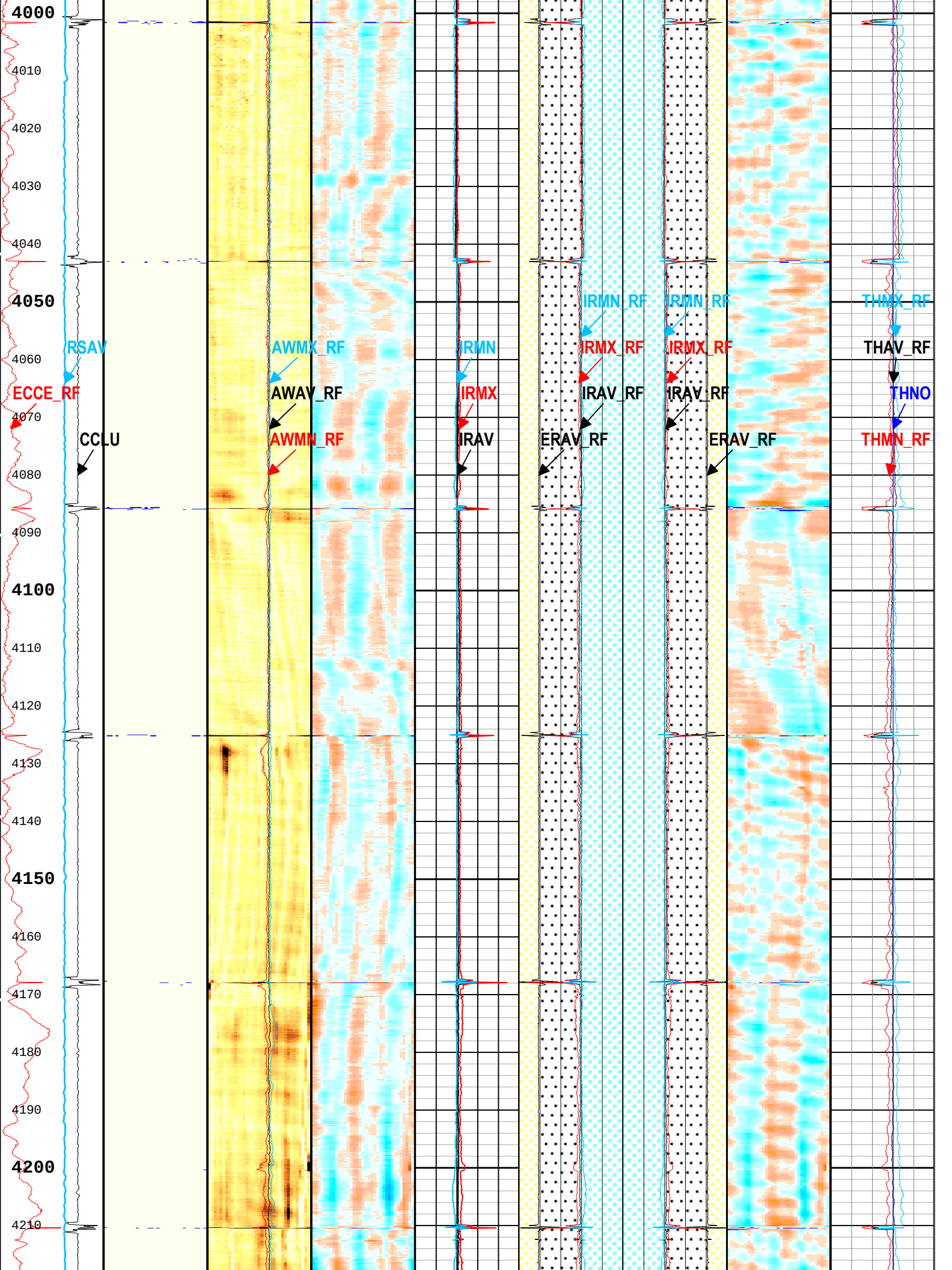
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ECCE_RF
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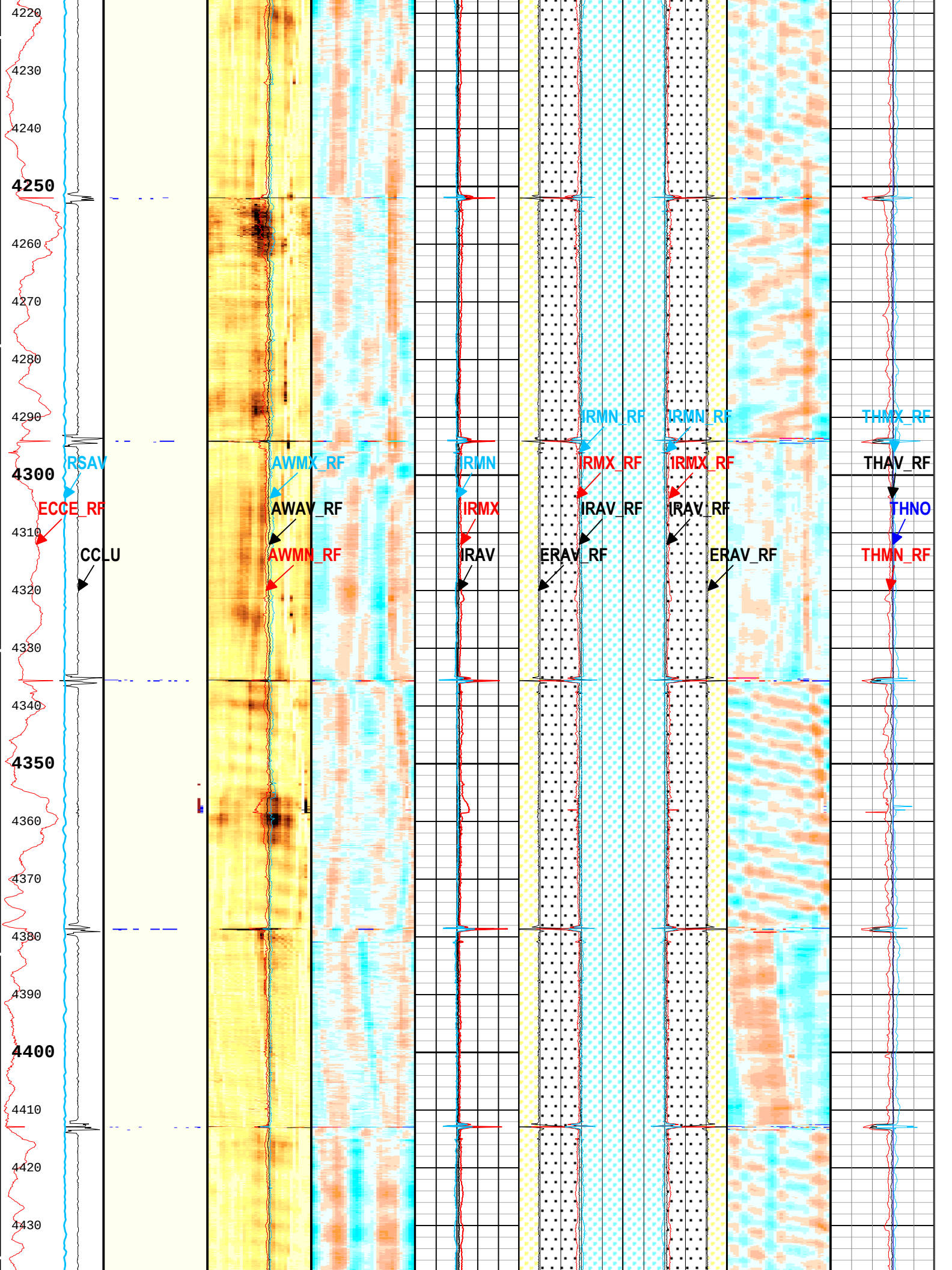
THMN_RF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ECCE_RF
CCLU
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AWAV_RF
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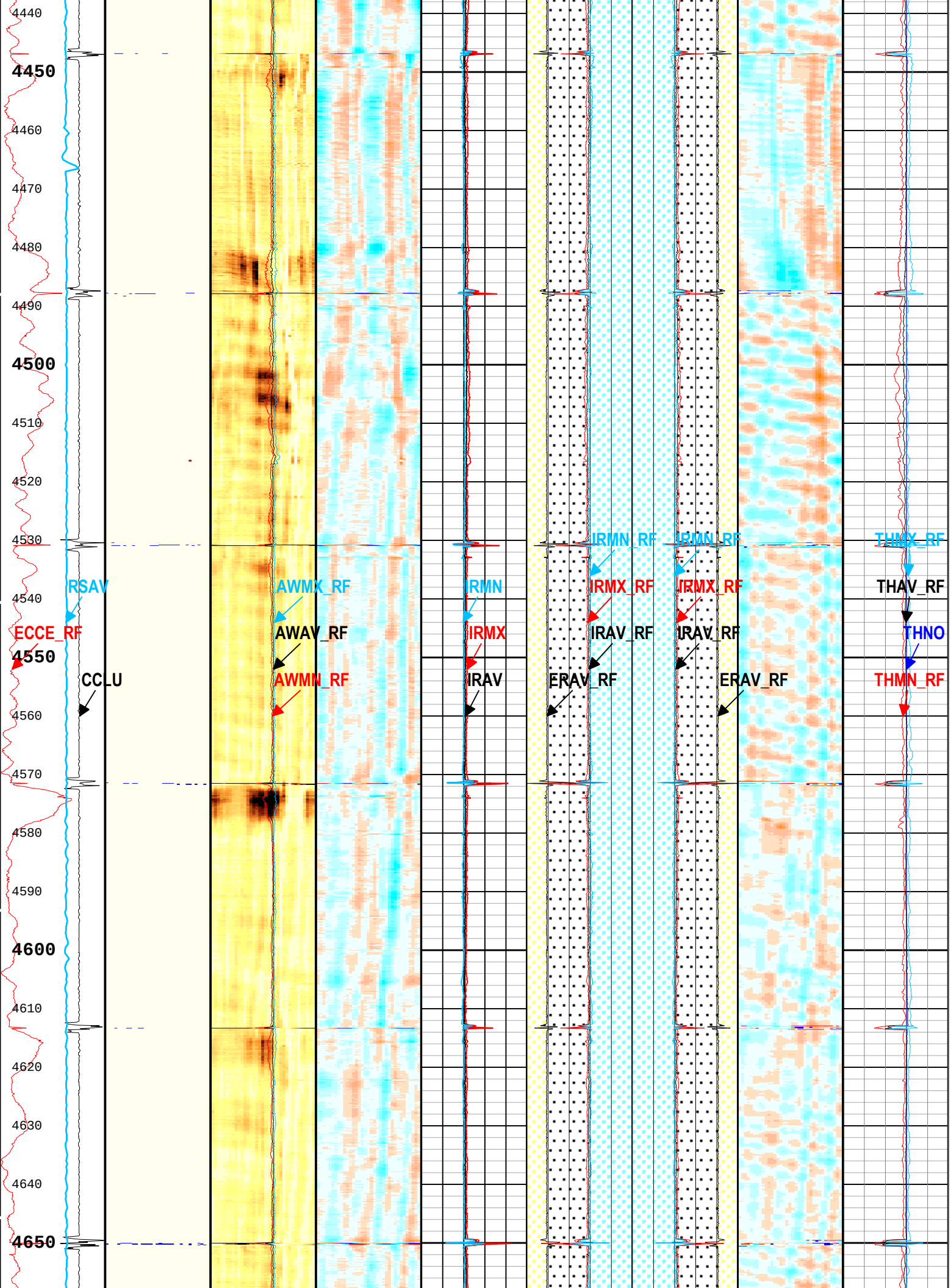
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CCLU
AWMX_RF
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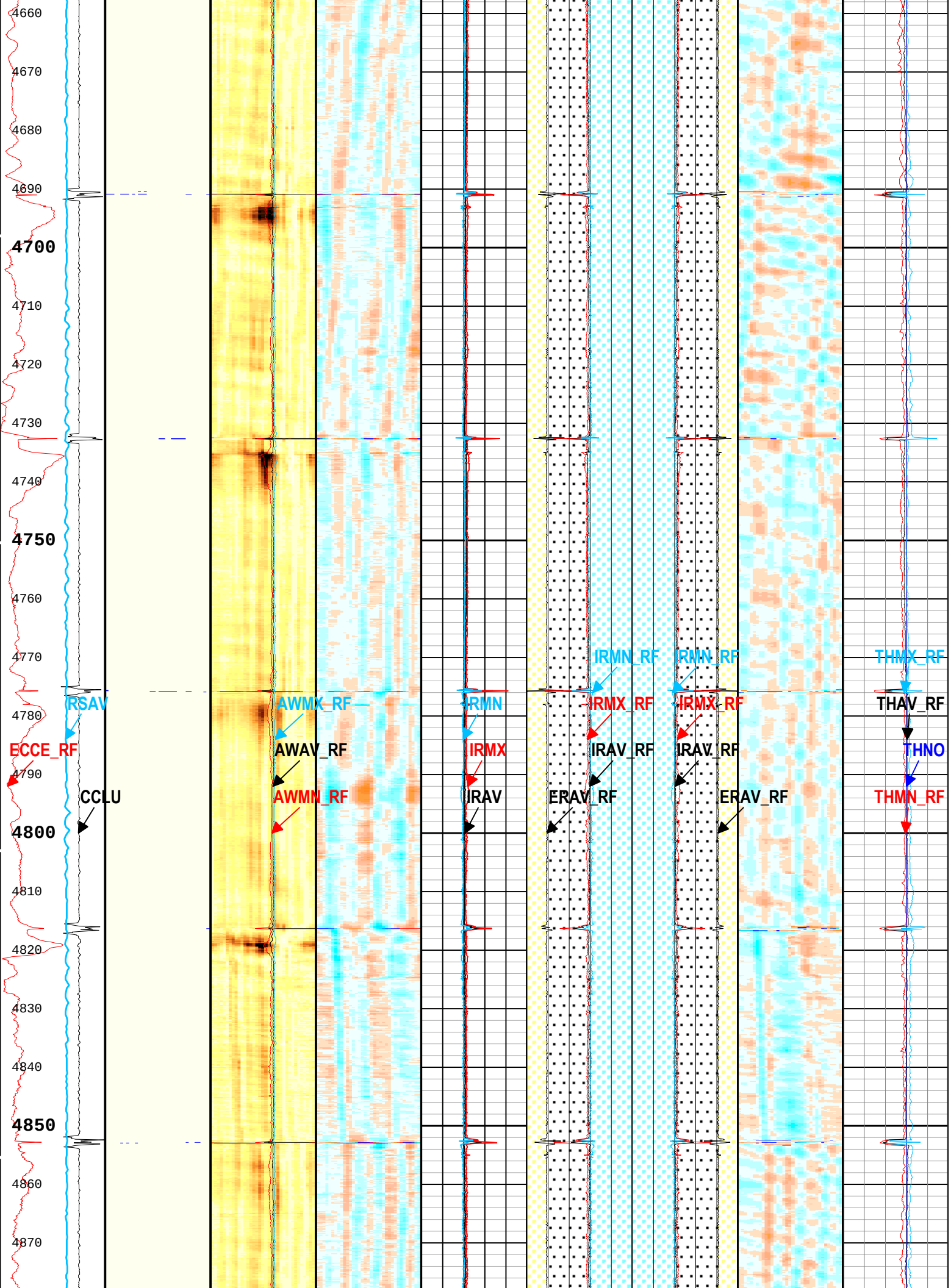
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CCLU
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AWAV_RF
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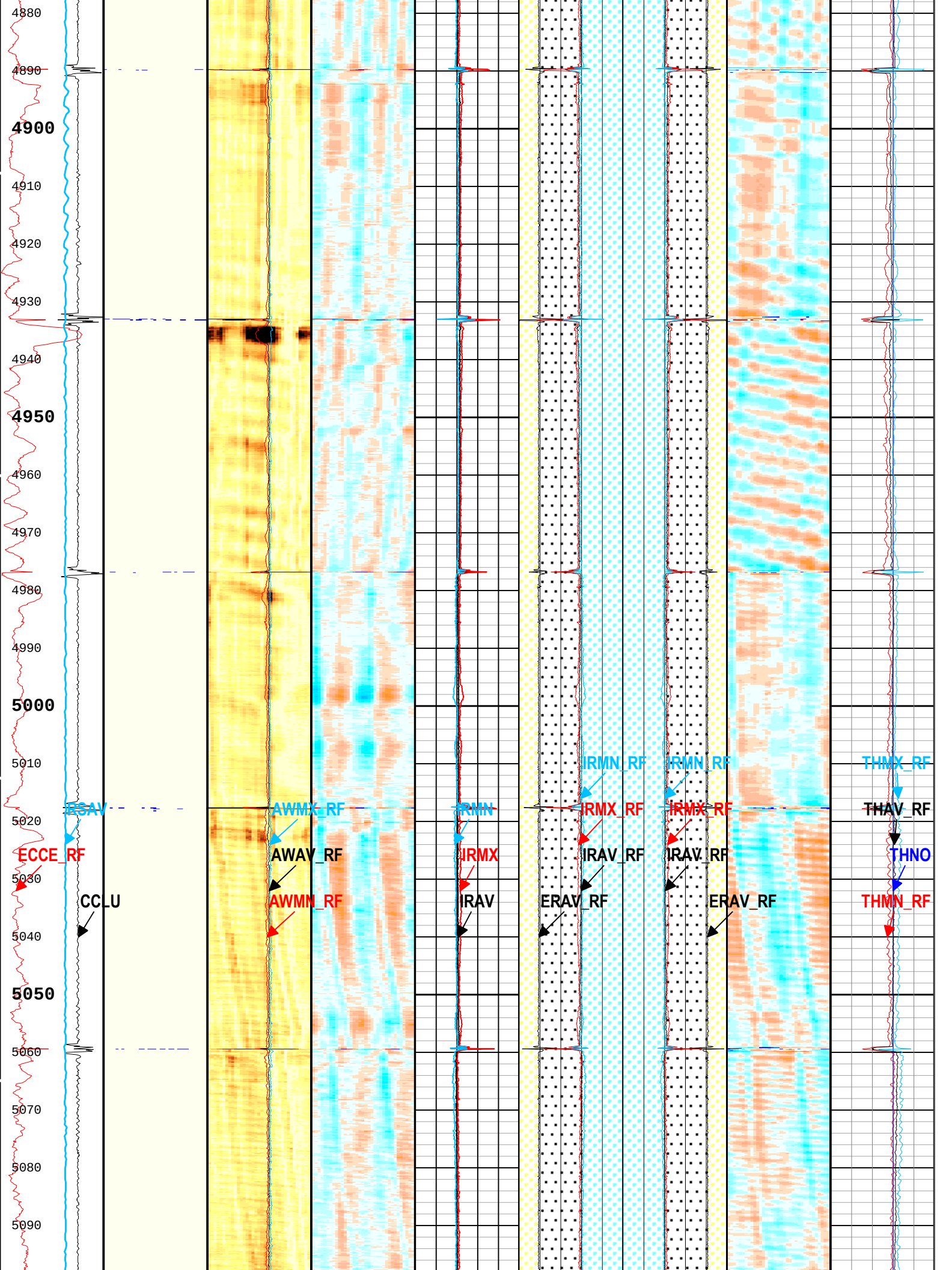
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CCLU
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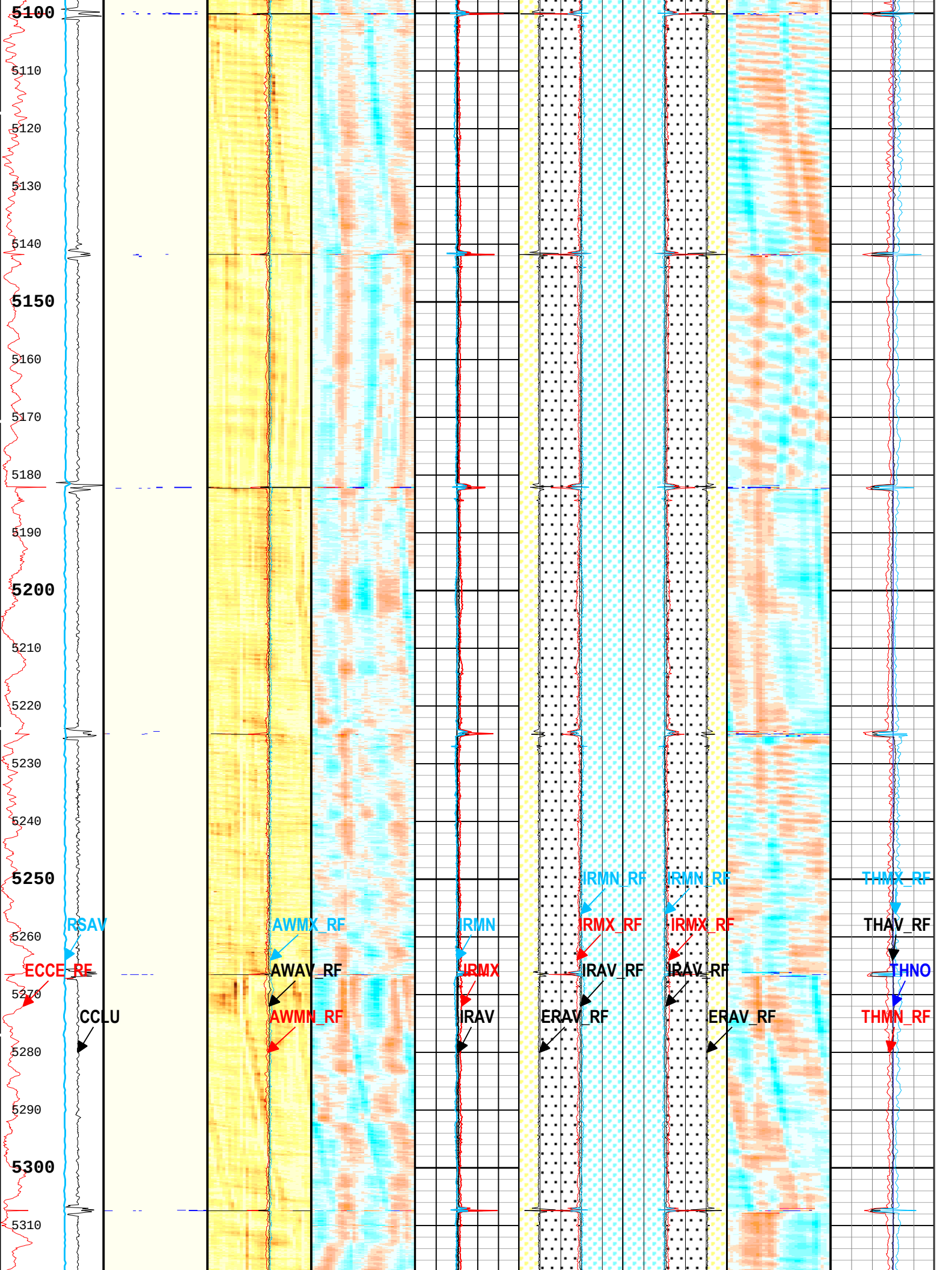
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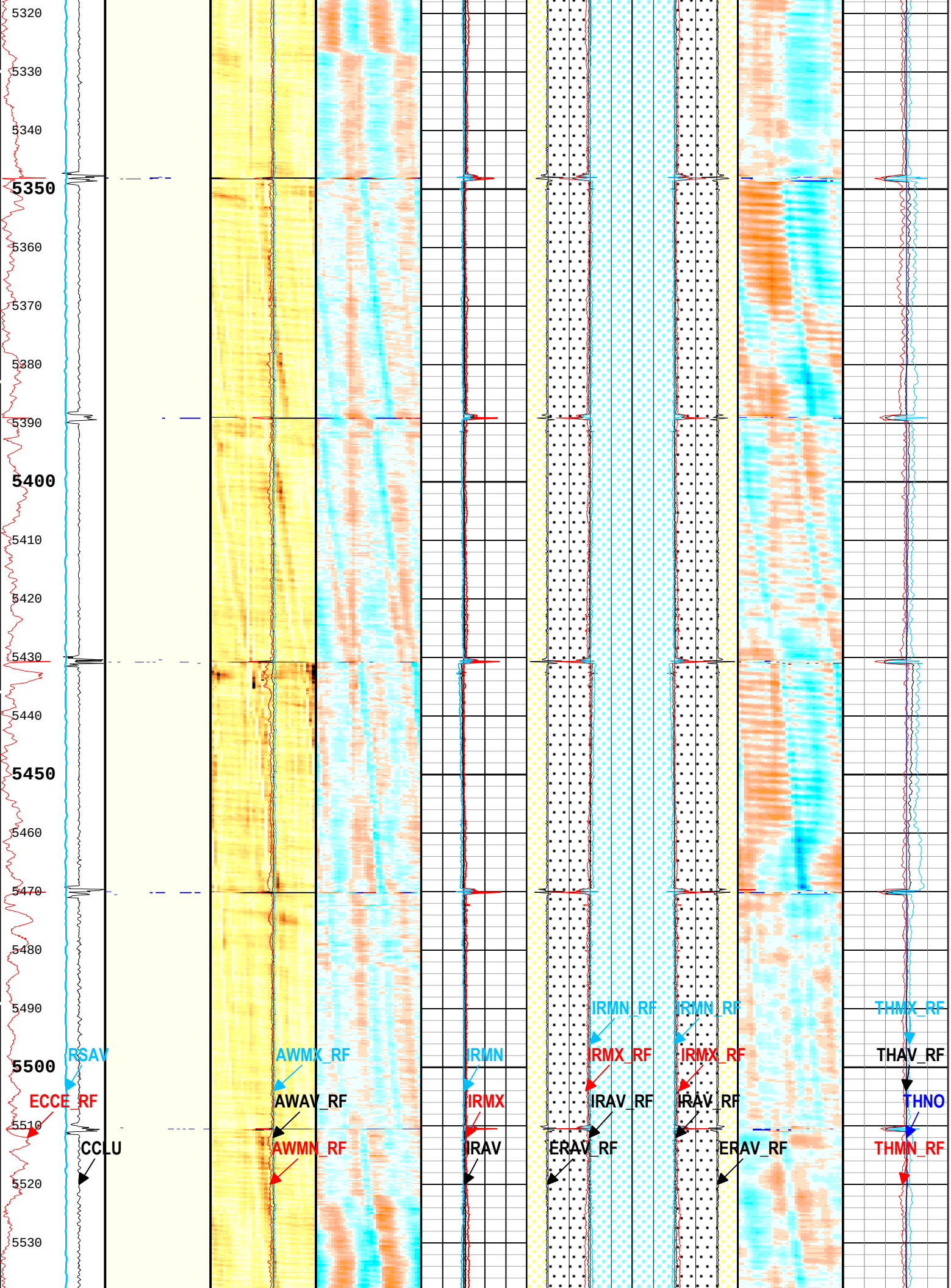
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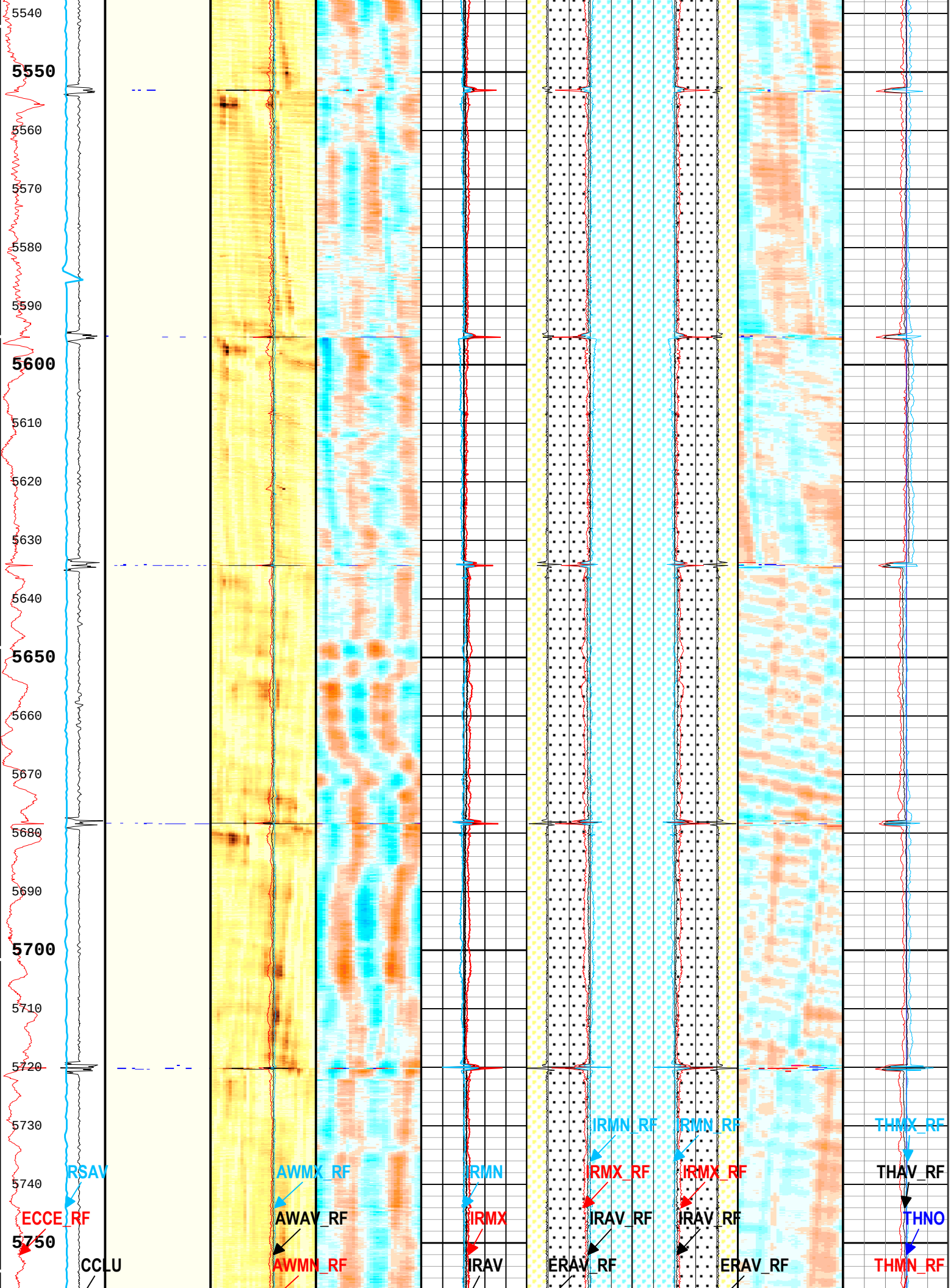
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AWAV_RF
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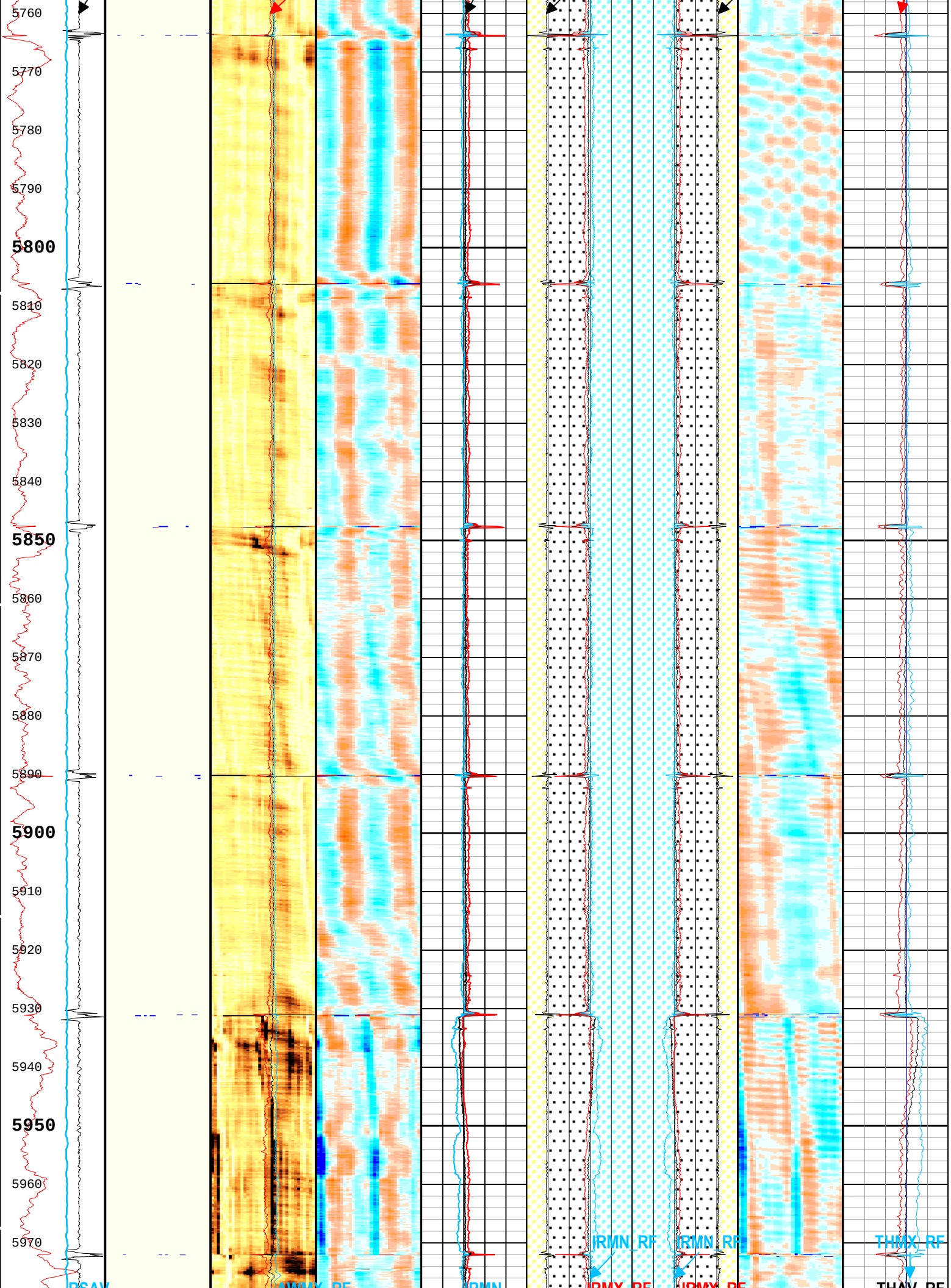
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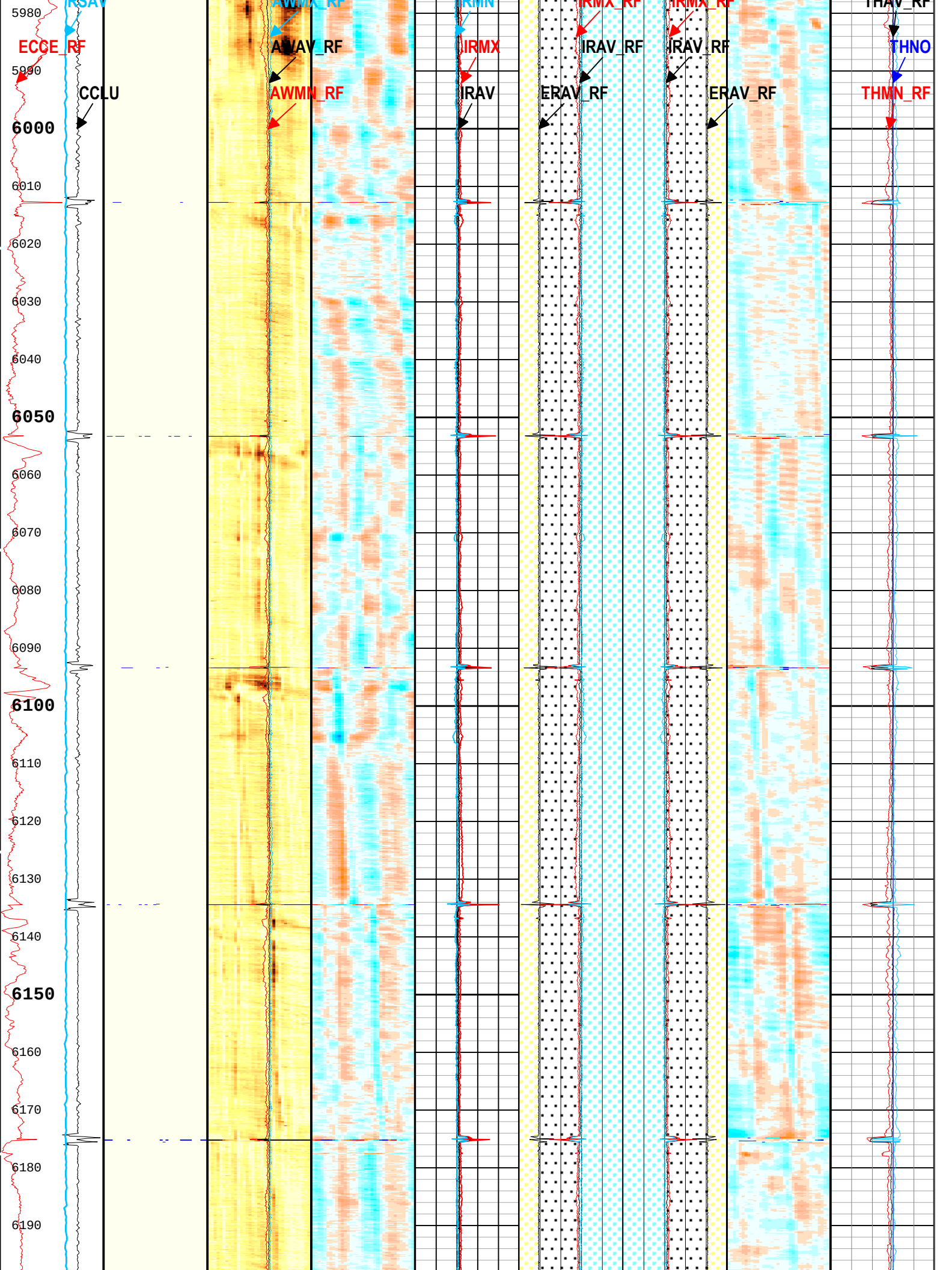
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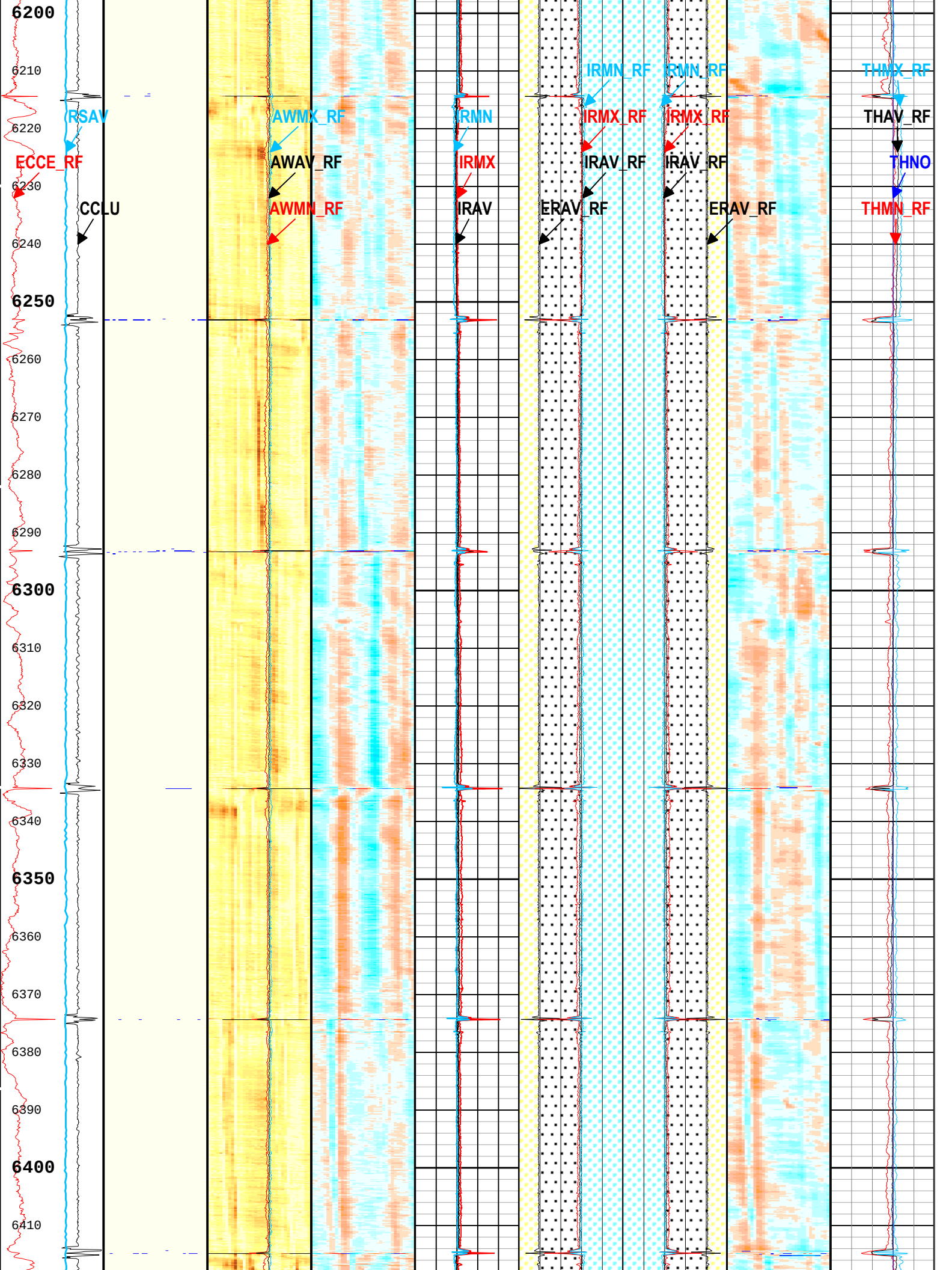
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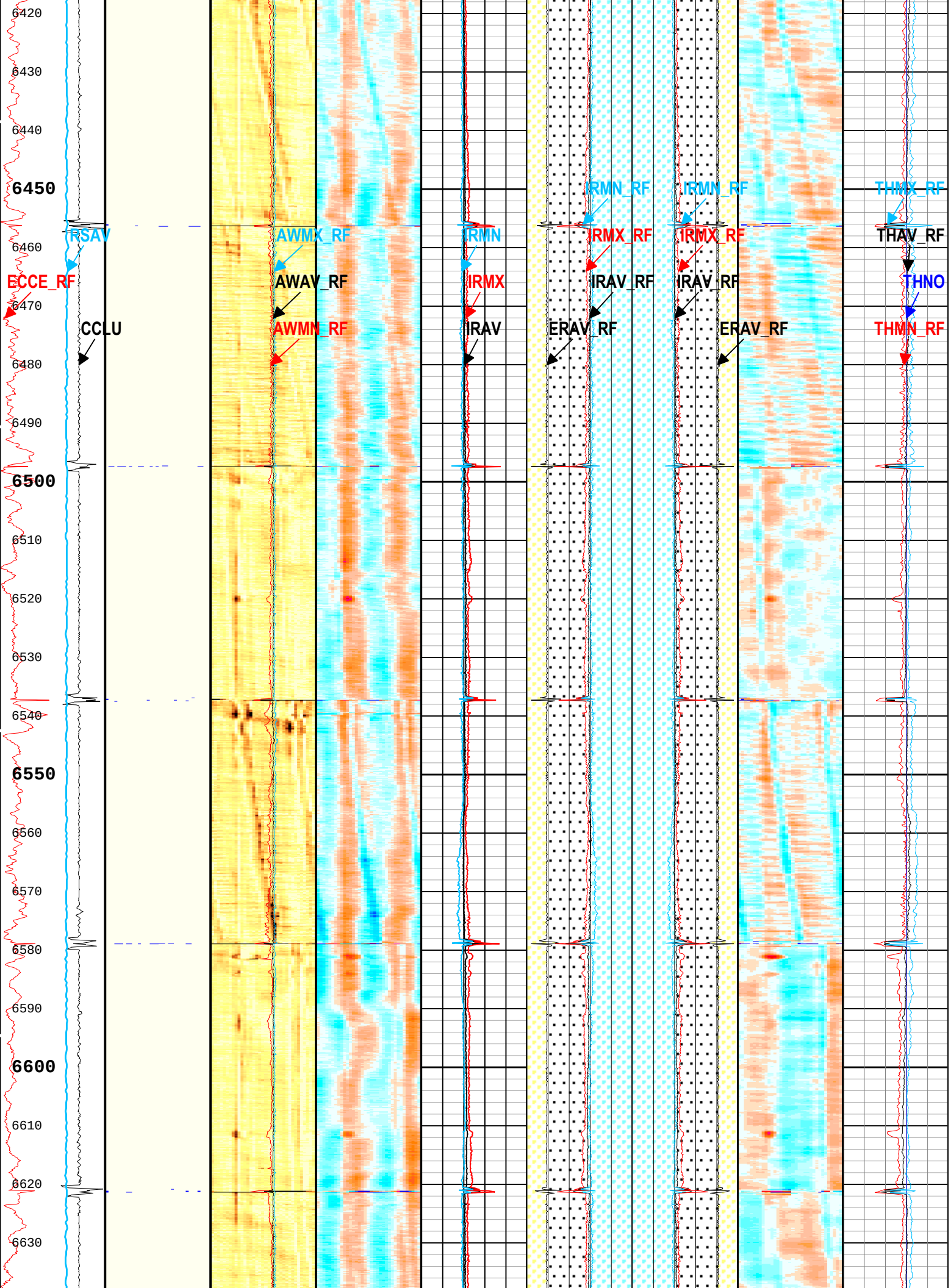
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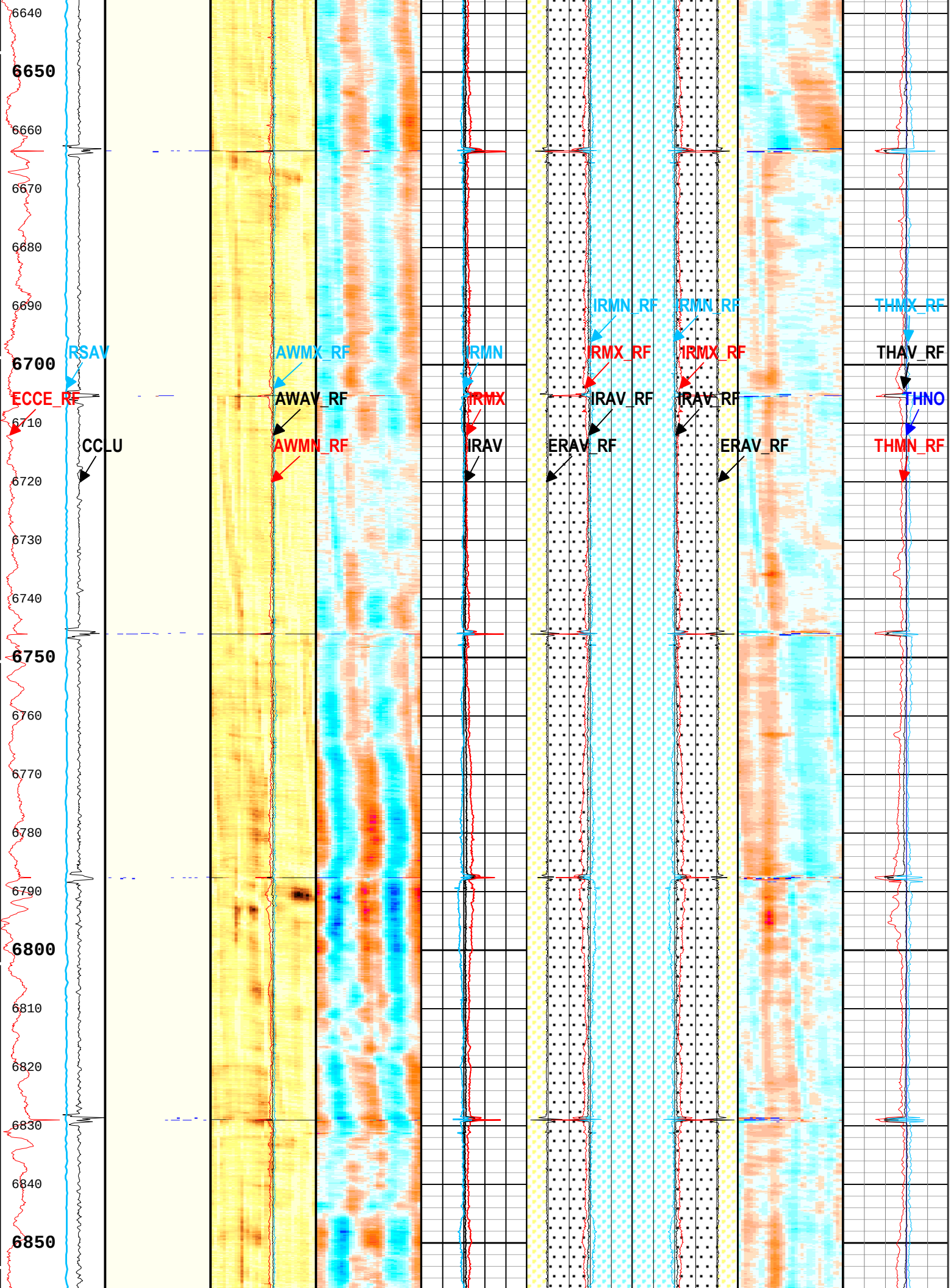
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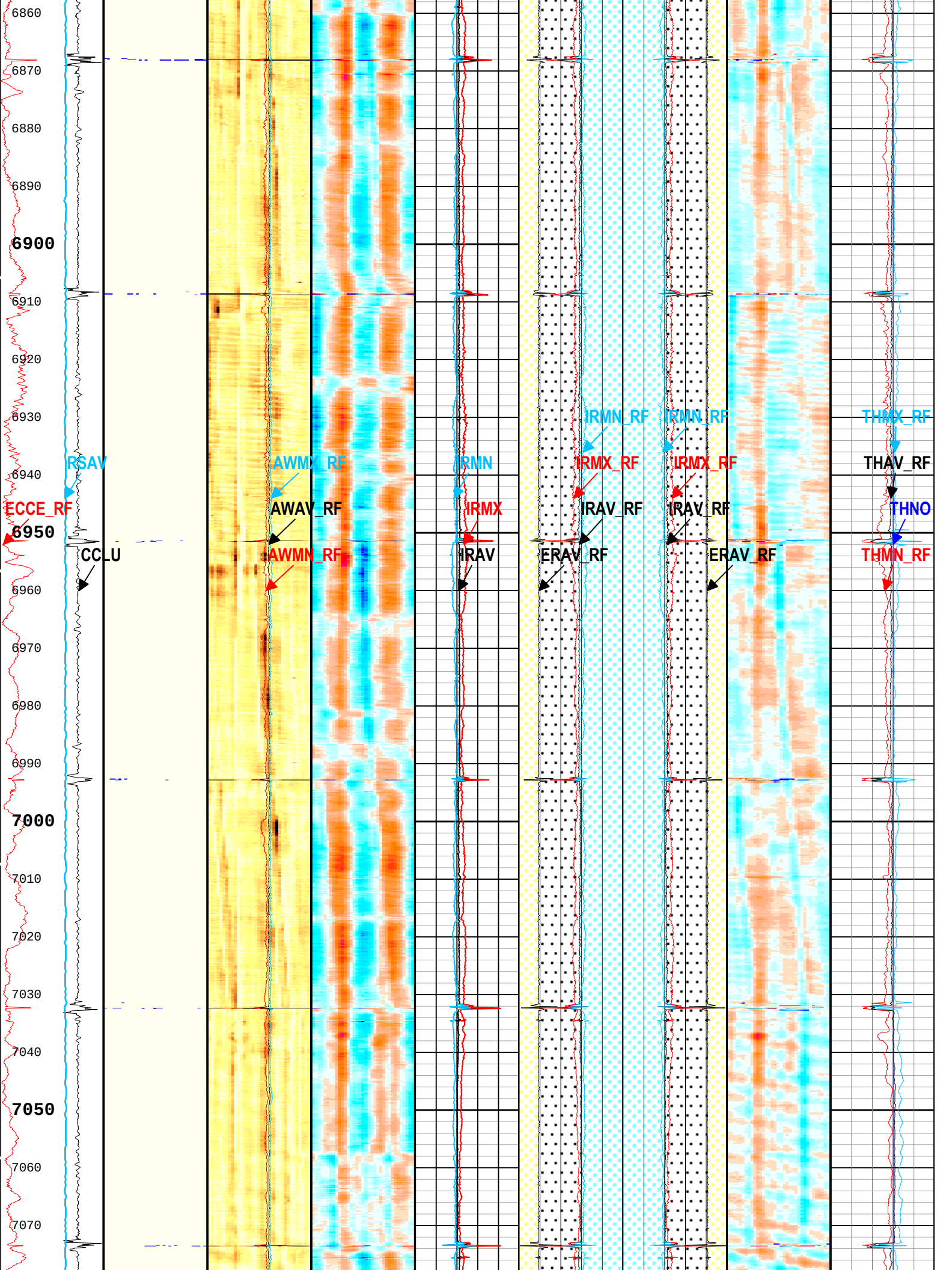
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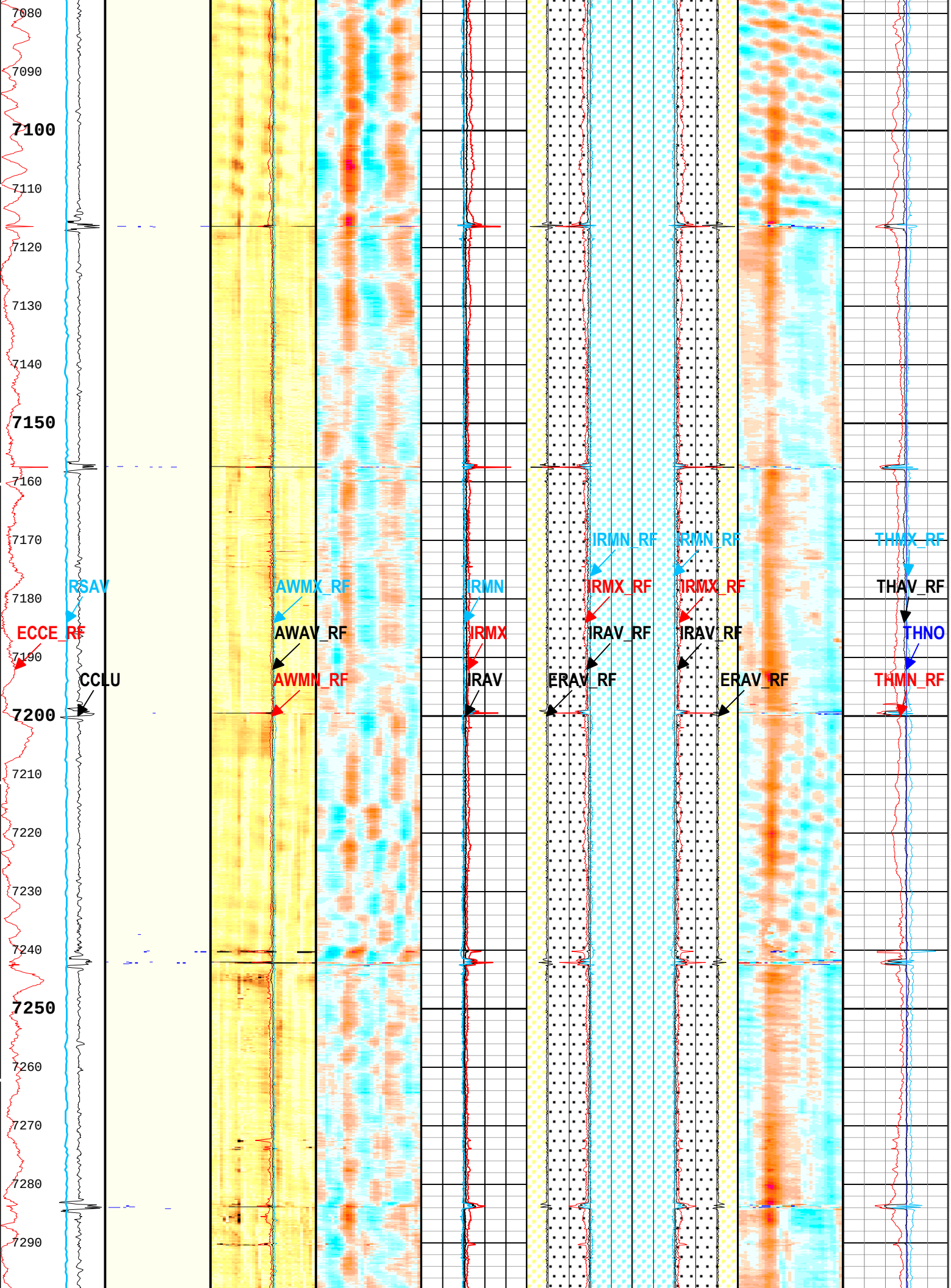
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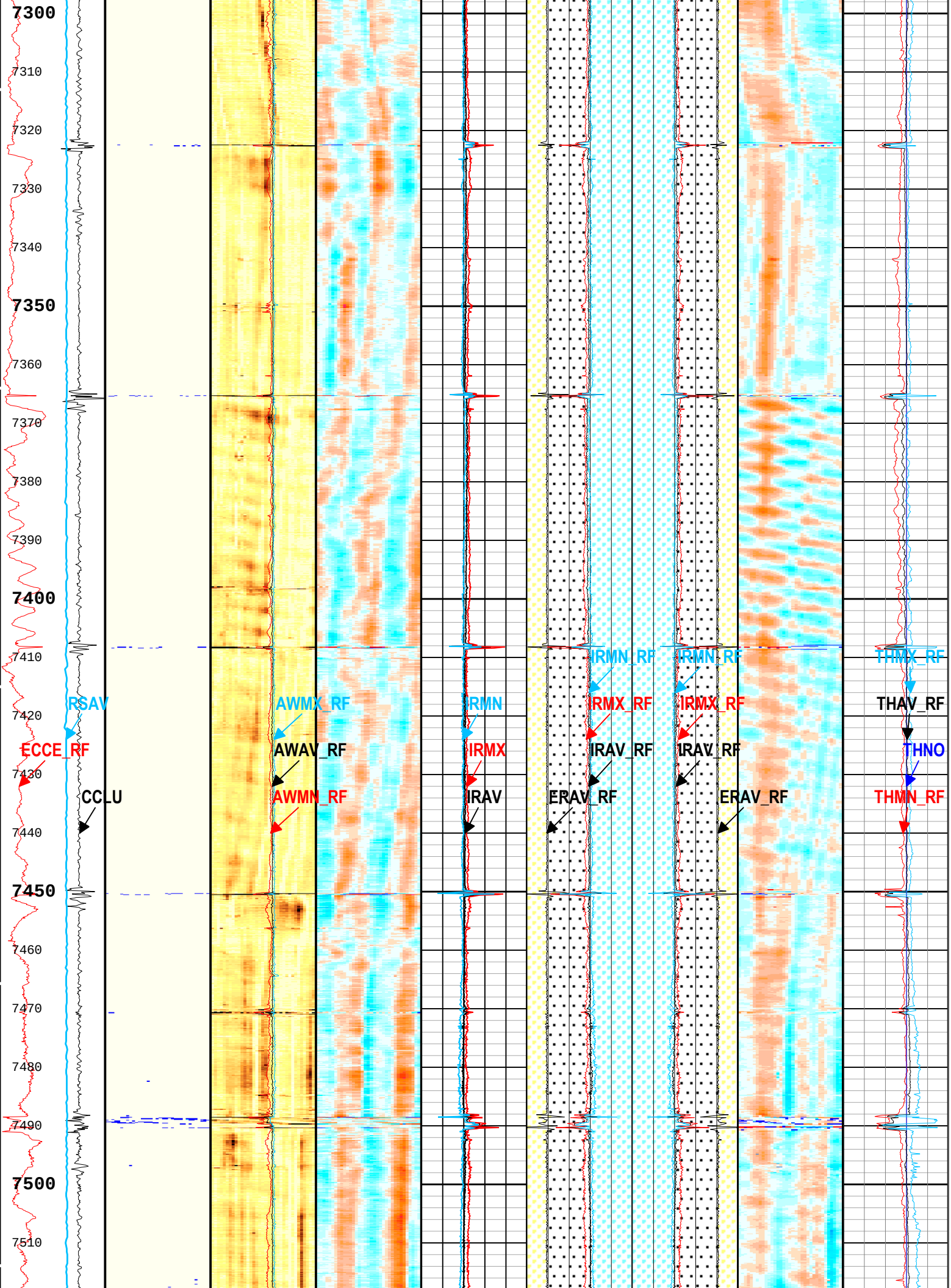
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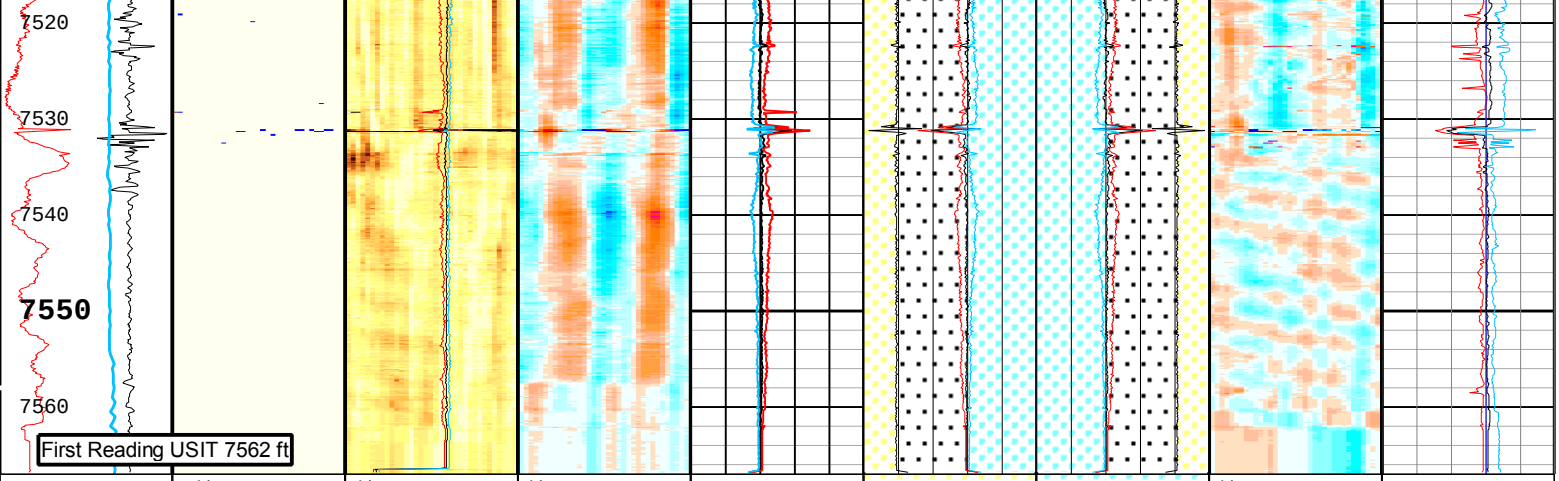


Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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]
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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

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

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]
4.5 in 3.5

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]
4.5 in 3.5

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]
4.5 in 3.5

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)
Orientation: Top of Hole
U L B R U

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:20:27

Composite 1

USI Compressed Goodwin

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[4]:Up	Up	91.68 ft	7567.42 ft	26-May-2016 8:27:27 AM	26-May-2016 10:54:27 AM	ON	1.00 ft	Yes
Four_D1	Log[17]:Up	Up	49.16 ft	202.90 ft	26-May-2016 1:04:46 PM	26-May-2016 1:10:59 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

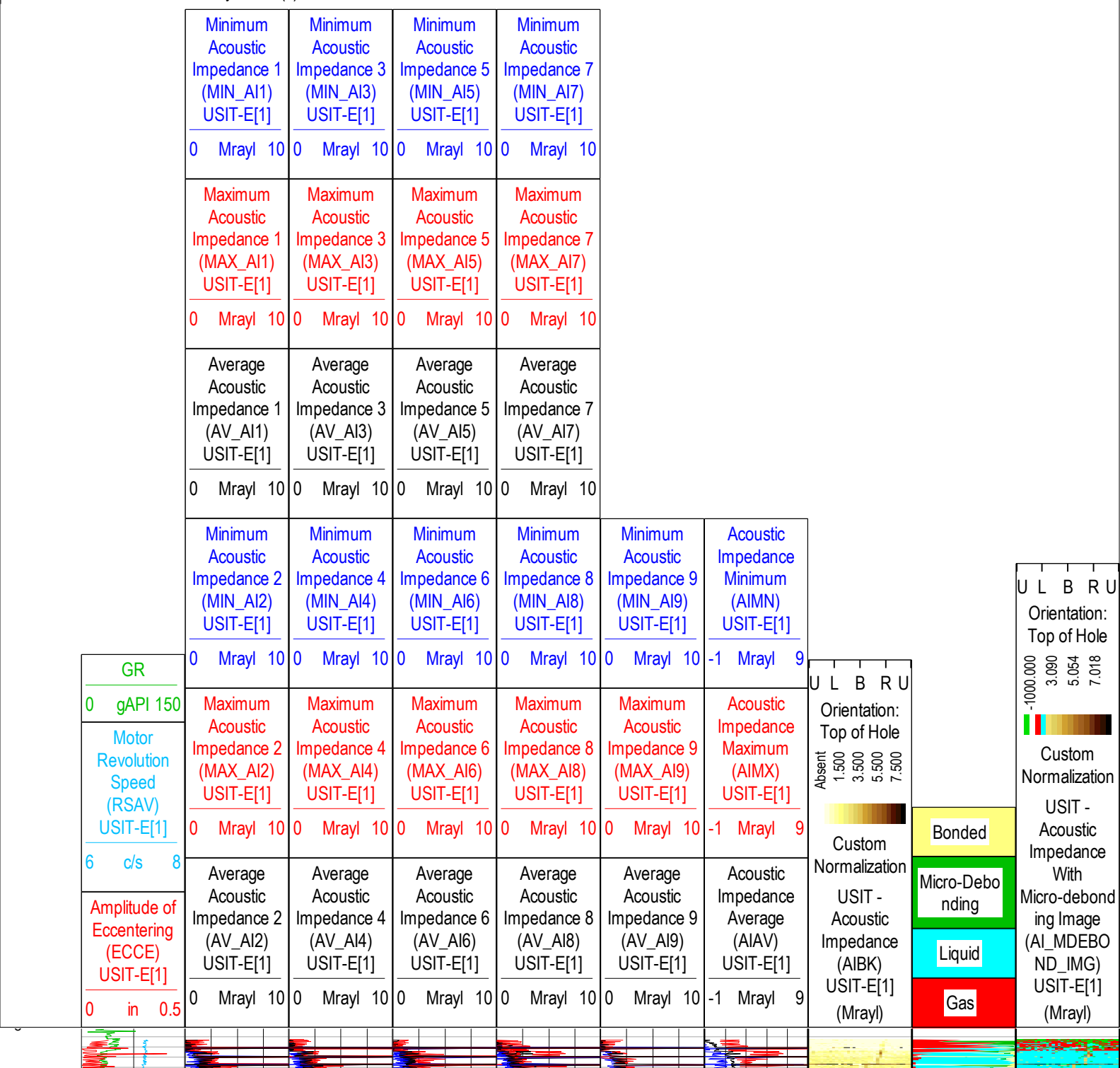
Log

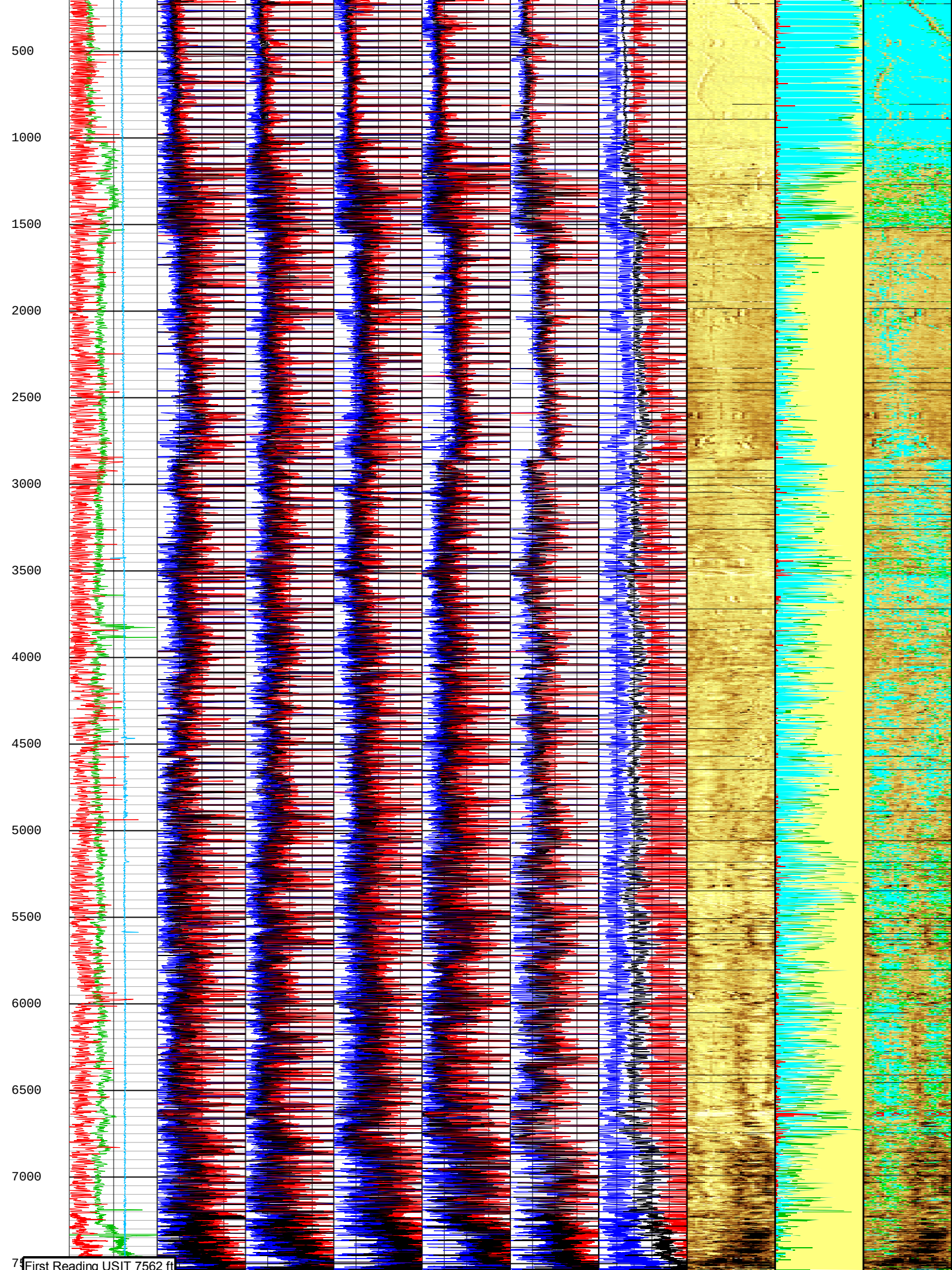
Company:Southern California Gas Company Well:PORTER NO. 42-B

Composite 1:S003

Description: USI Goodwin Format: Log (Import of USI Goodwin) Index Scale: 0.15 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 26-May-2016 18:20:45

TIME_1900 - Time Marked every 60.00 (s)

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6000
6500
7000
First Reading USIT 7562 ft

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	Absent 1.500 3.500 5.500 7.500 Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl) Orientation: Top of Hole U L B R U	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) Orientation: Top of Hole U L B R U	
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: 0.15 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 26-May-2016 18:20:45

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[16]:Up	Up	106.91 ft	185.13 ft	26-May-2016 12:59:10 PM	26-May-2016 1:02:43 PM	ON	0.78 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: 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: 26-May-2016 18:20:49

TIME_1900 - Time Marked every 60.00 (s)

TIME_1500 - Time Marked every 00.00 (s)

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

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

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

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

Internal Radius Minimum Value (IRMN) 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

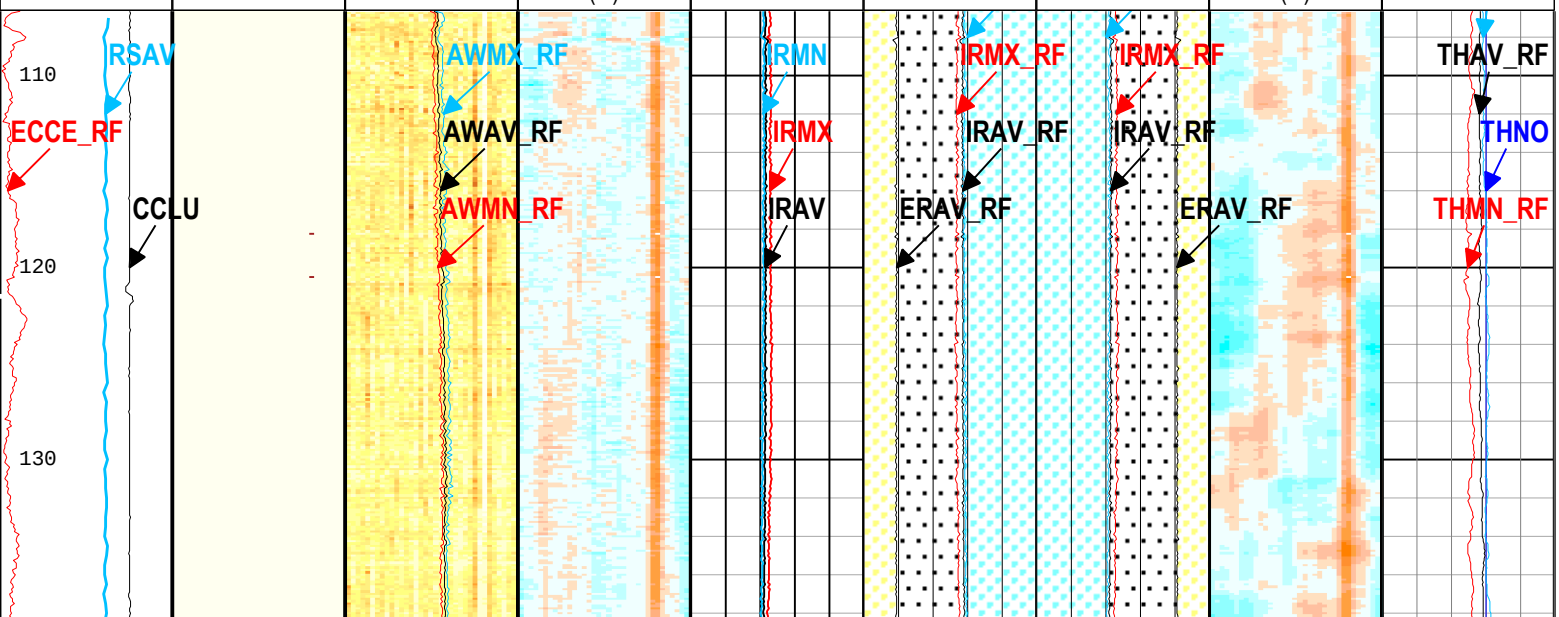
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

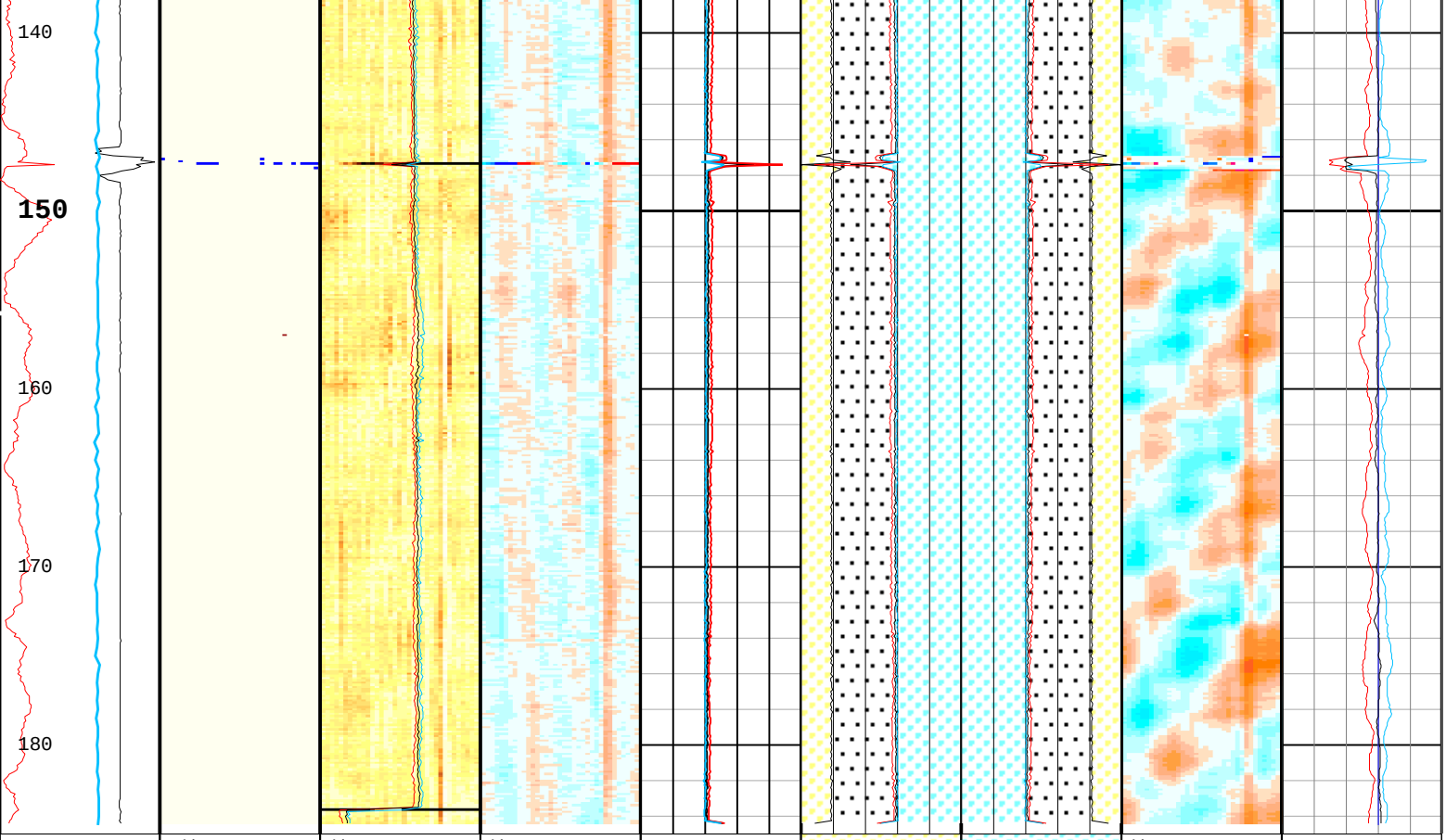
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

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

Internal Radius Minimum Value (IRMN) 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] - :	UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :	Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:20:49

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[14]:Up	Up	217.31 ft	412.23 ft	26-May-2016 12:46:07 PM	26-May-2016 12:57:28 PM	ON	0.78 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: 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: 26-May-2016 18:20:51

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)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves

Absent 1.500 3.500
Explicit Normalization

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

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit

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

Minimum of Unflagged Internal Radii (IRMN_RF) 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
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

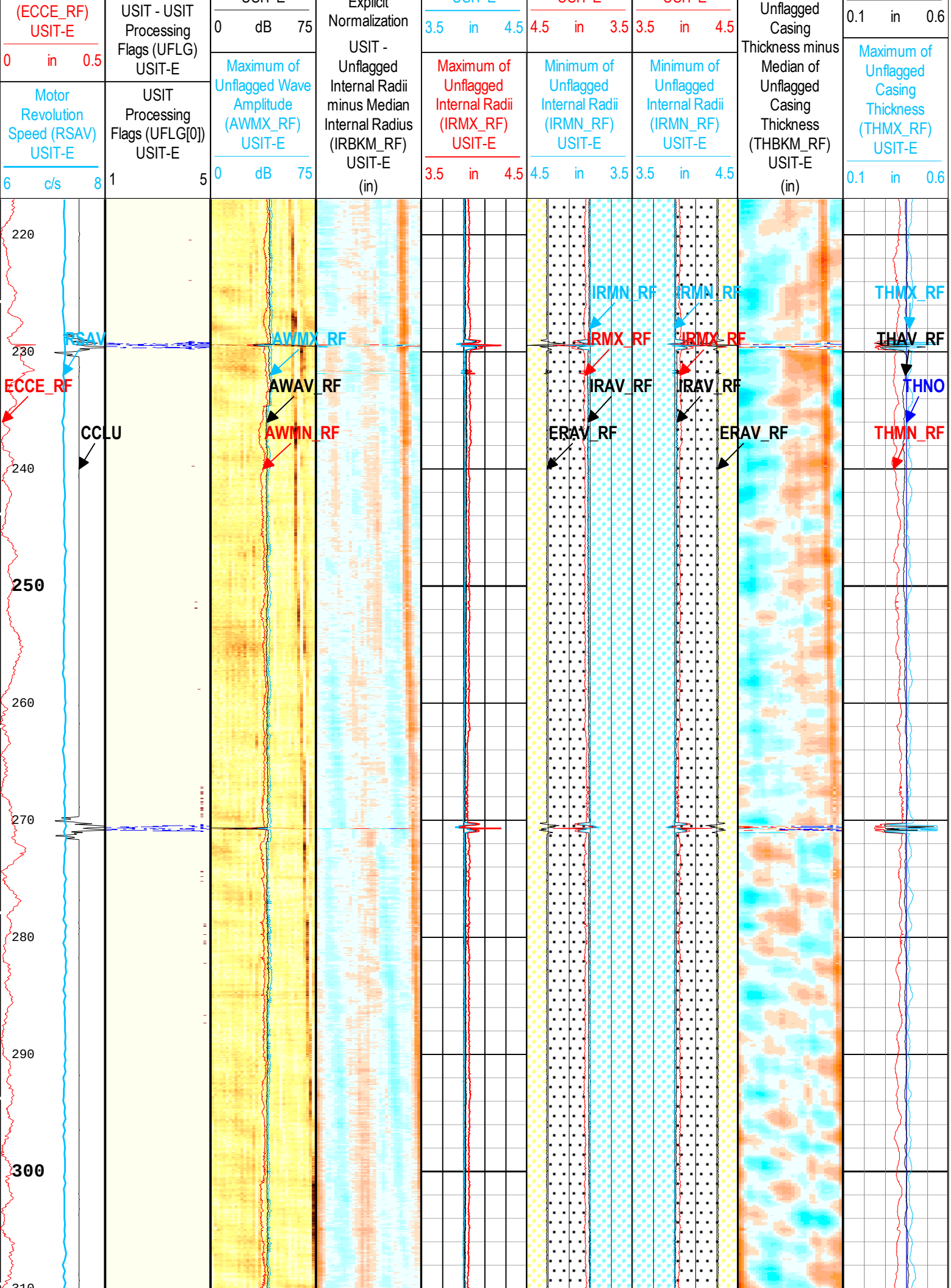
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

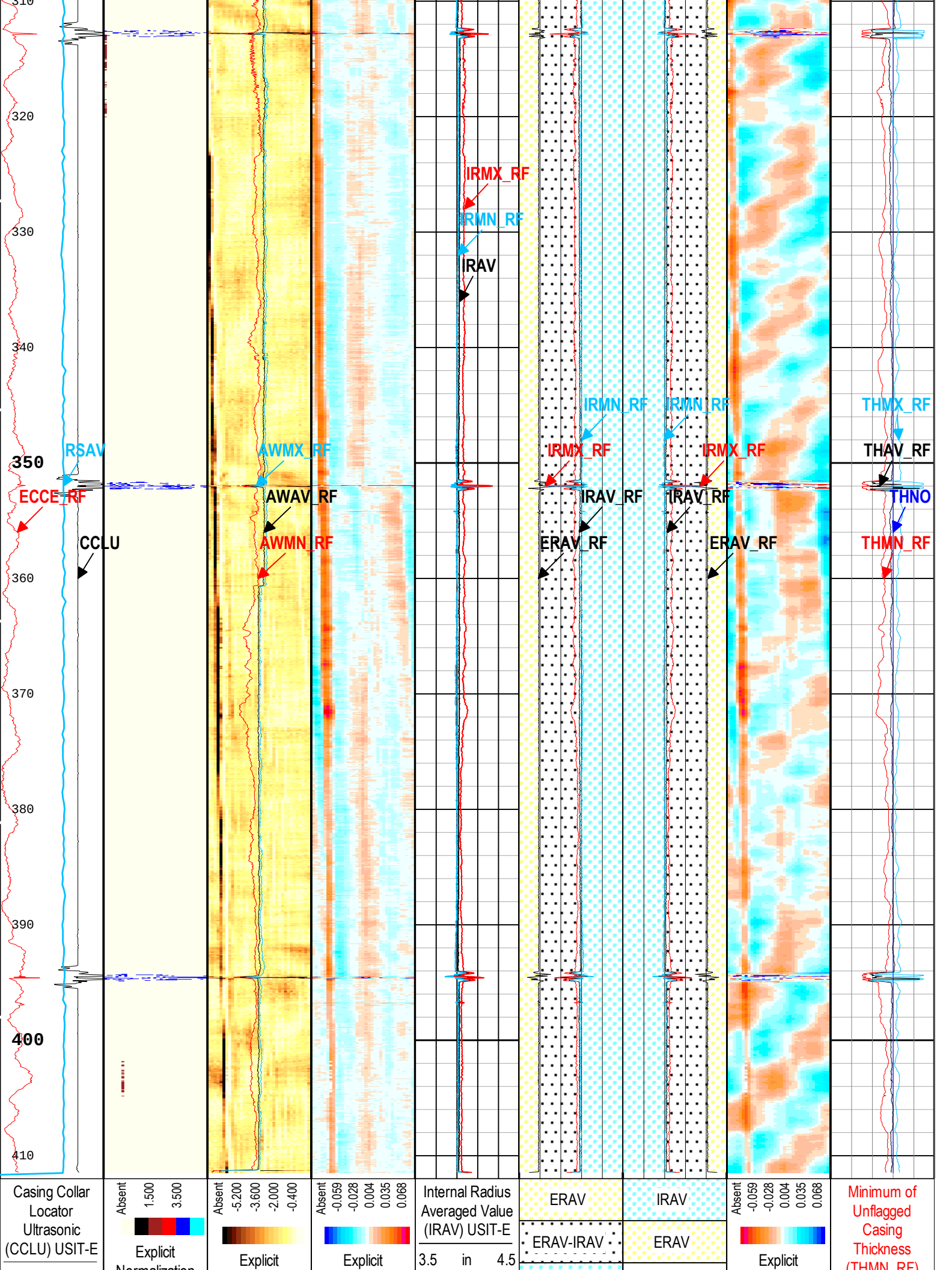
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT -

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


(ECCE_RF)
USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
USIT-E
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Explicit Normalization
USIT - Unflagged Internal Radii 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
USIT-E
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
USIT-E
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
220
230
240
250
260
270
280
290
300
310
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF


310
320
330
340
350
360
370
380
390
400
410
RSAV
ECCE_RF
CCLU
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
Casing Collar Locator Ultrasonic (CCLU) USIT-E
Absent 1.500 3.500
Explicit Normalization
Absent -5.200 -3.600 -2.000 -0.400
Explicit
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit
Internal Radius Averaged Value (IRAV) USIT-E
3.5 in 4.5
ERAV
IRAV
ERAV-IRAV
ERAV
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit
Minimum of Unflagged Casing Thickness (THMN_RF)

-30 in 10

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

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

Normalization USIT - USIT Processing Flags (UFLG) USIT-E

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

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

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

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

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

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

(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

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: 26-May-2016 18:20:51

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[13]:Up	Up	730.02 ft	793.68 ft	26-May-2016 12:40:03 PM	26-May-2016 12:43:22 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B
Four_D1: 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: 26-May-2016 18:20:55

TIME_1900 - Time Marked every 60.00 (s)

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

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

UTIM Error

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

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

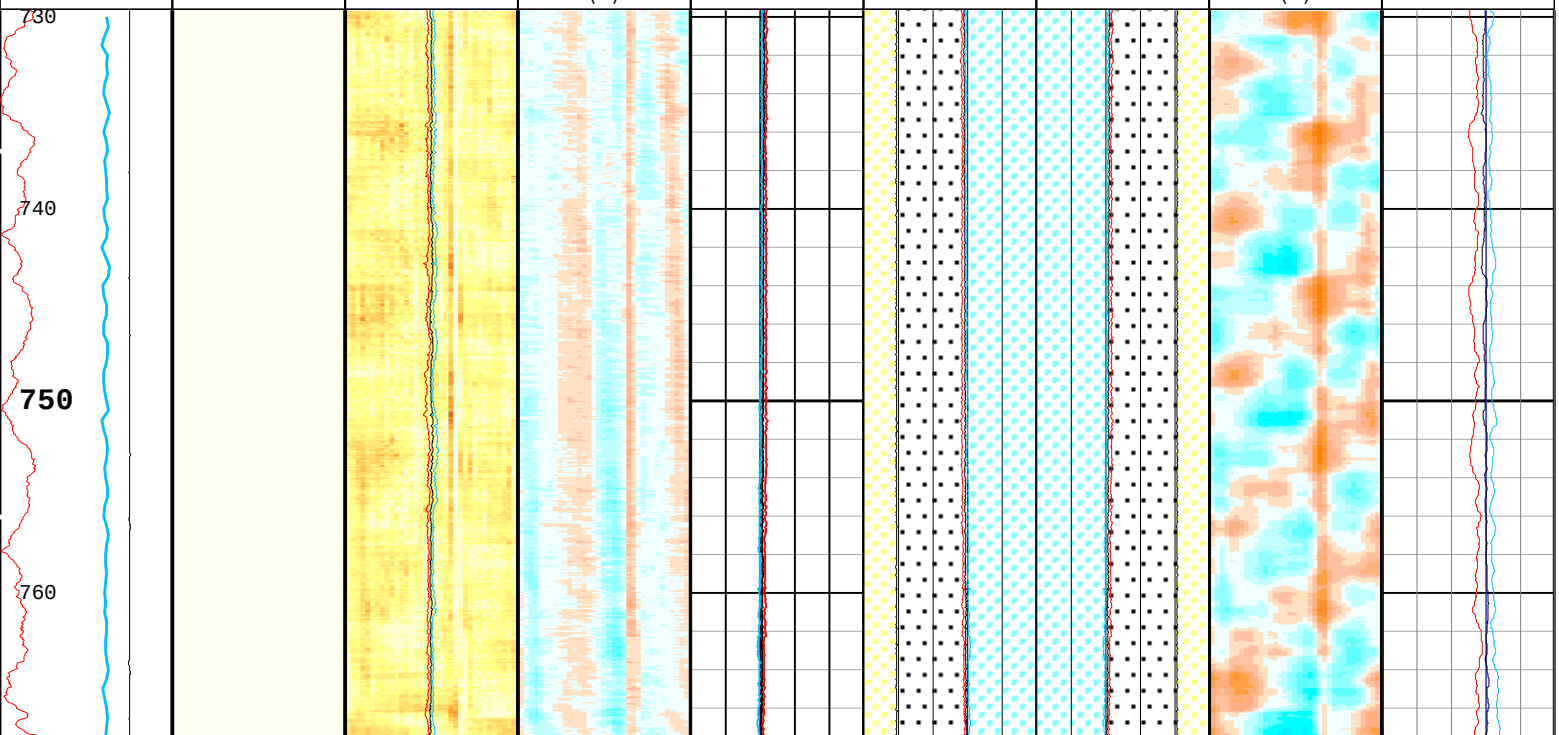
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

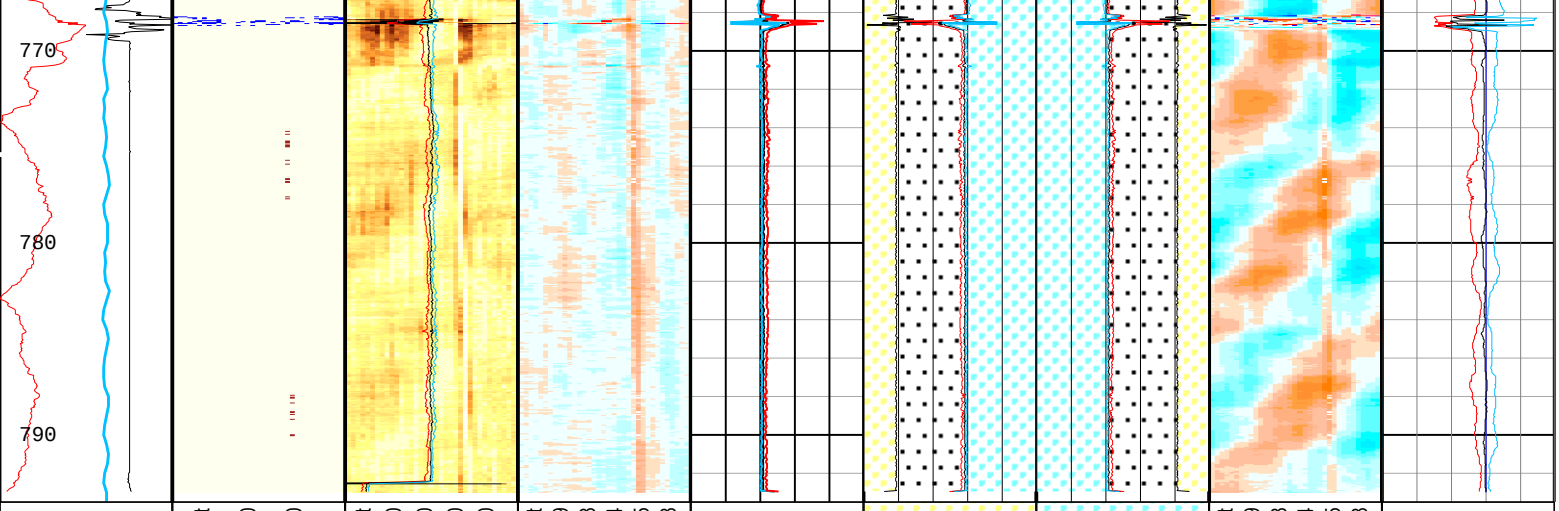
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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: 26-May-2016 18:20:55

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[12]:Up	Up	1227.15 ft	1254.91 ft	26-May-2016 12:35:34 PM	26-May-2016 12:36:56 PM	ON	0.78 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: Log[12]: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: 26-May-2016 18:20:57

TIME_1900 - Time Marked every 60.00 (s)

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

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

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

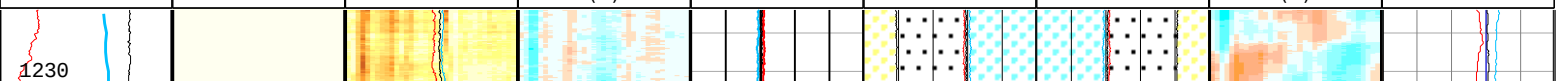
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

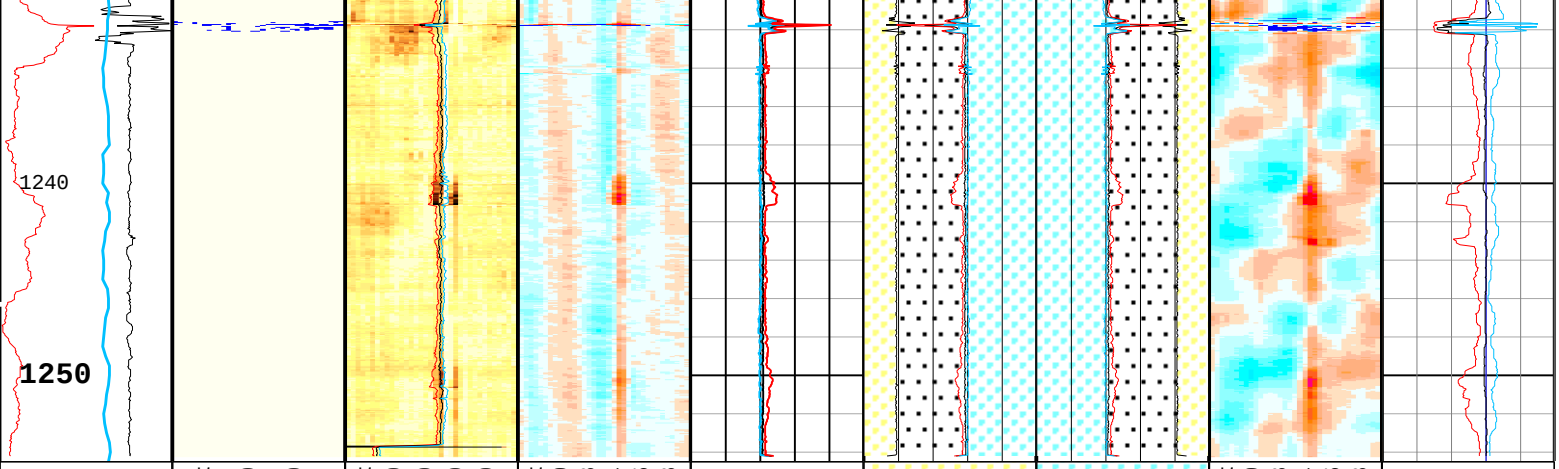
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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: 26-May-2016 18:20:57

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[11]:Up	Up	1141.51 ft	1300.57 ft	26-May-2016 12:26:25 PM	26-May-2016 12:34:37 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: Log[11]: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: 26-May-2016 18:21:00

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)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

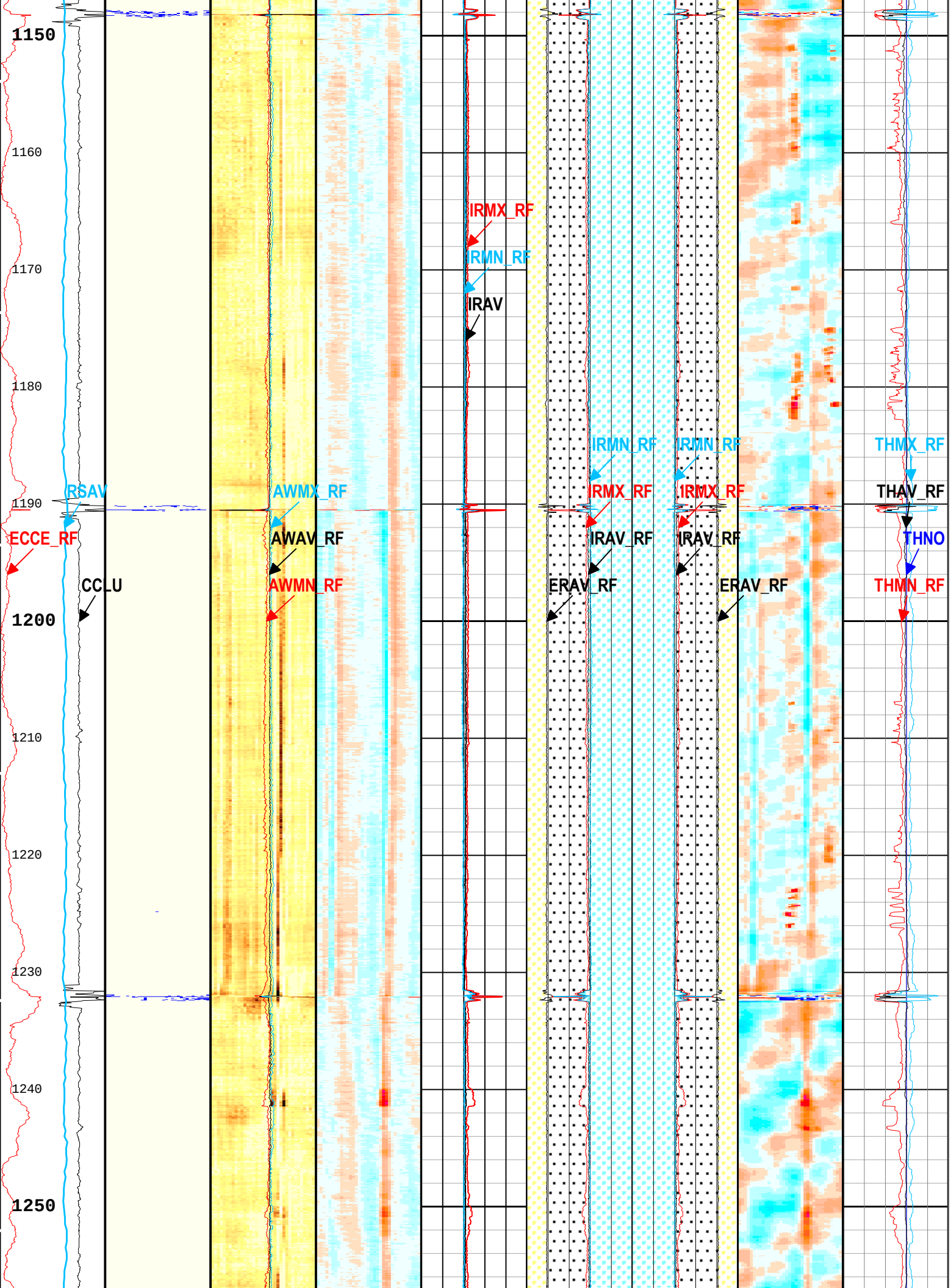
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

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


1150
1160
1170
1180
1190
1200
1210
1220
1230
1240
1250
IRMX_RF
IRMN_RF
IRAV
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
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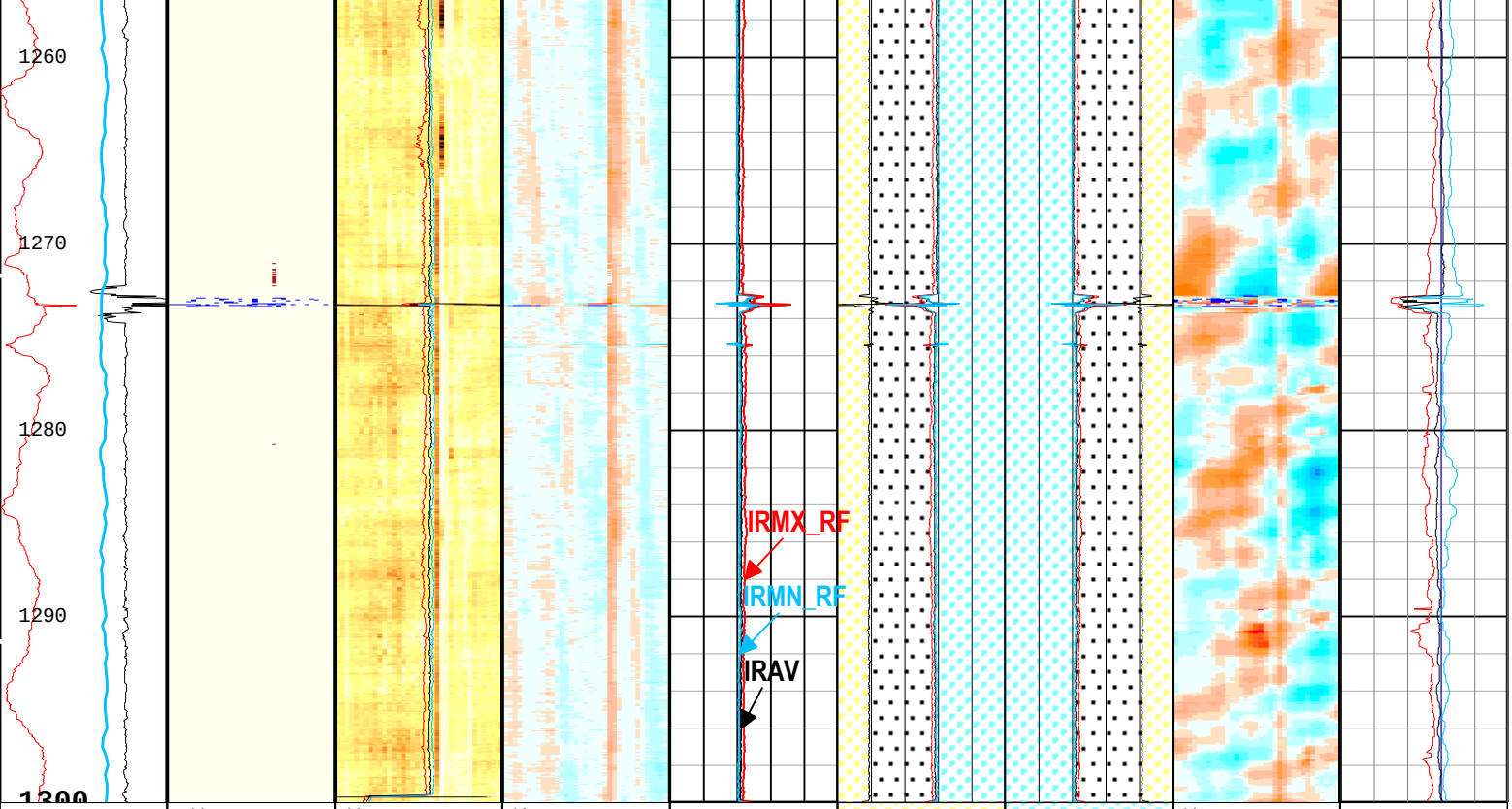
THAV_RF
THNO
THMN_RF



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

TIME_1900 - Time Marked every 60.00 (s)

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

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: 26-May-2016 18:21:00

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[10]:Up	Up	1381.24 ft	1436.29 ft	26-May-2016 12:22:49 PM	26-May-2016 12:25:40 PM	ON	0.52 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B
Four_D1: 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: 26-May-2016 18:21:04

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)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing

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

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

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

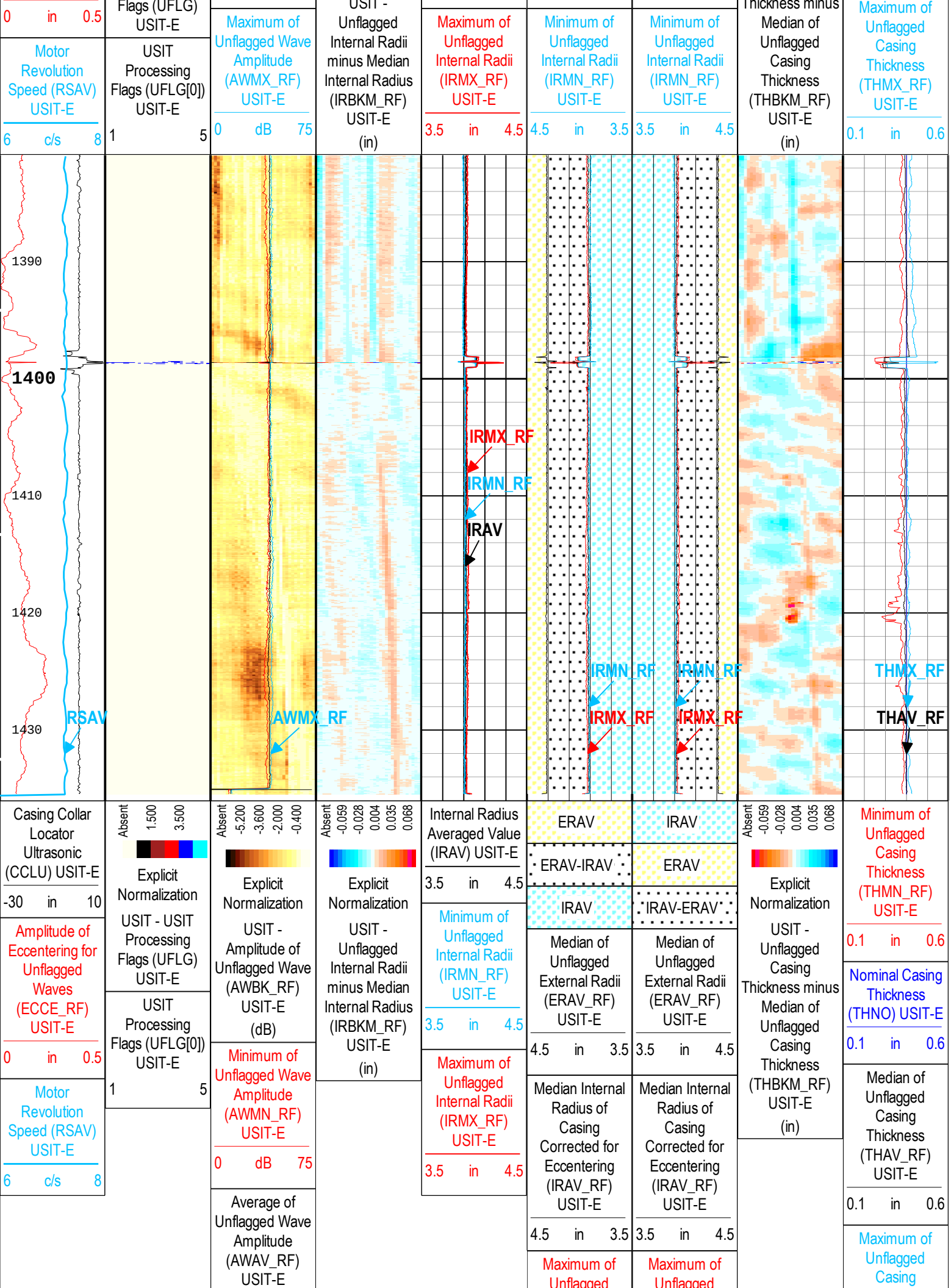
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing

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


0 in 0.5
Flags (UFLG) USIT-E
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
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
Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
1390
1400
1410
1420
1430
RSAV
AWMX_RF
IRMX_RF
IRMN_RF
IRAV
IRMN_RF
IRMX_RF
IRMN_RF
IRMX_RF
THMX_RF
THAV_RF
Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10
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
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
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
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

0	dB	75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

0	dB	75

Internal Radii (IRMX_RF) USIT-E

4.5	in	3.5

Internal Radii (IRMX_RF) USIT-E

3.5	in	4.5

Thickness (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: 26-May-2016 18:21:04

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[9]:Up	Up	4294.58 ft	4383.95 ft	26-May-2016 12:02:43 PM	26-May-2016 12:07:39 PM	ON	0.52 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B
Four_D1: 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: 26-May-2016 18:21:06

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

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

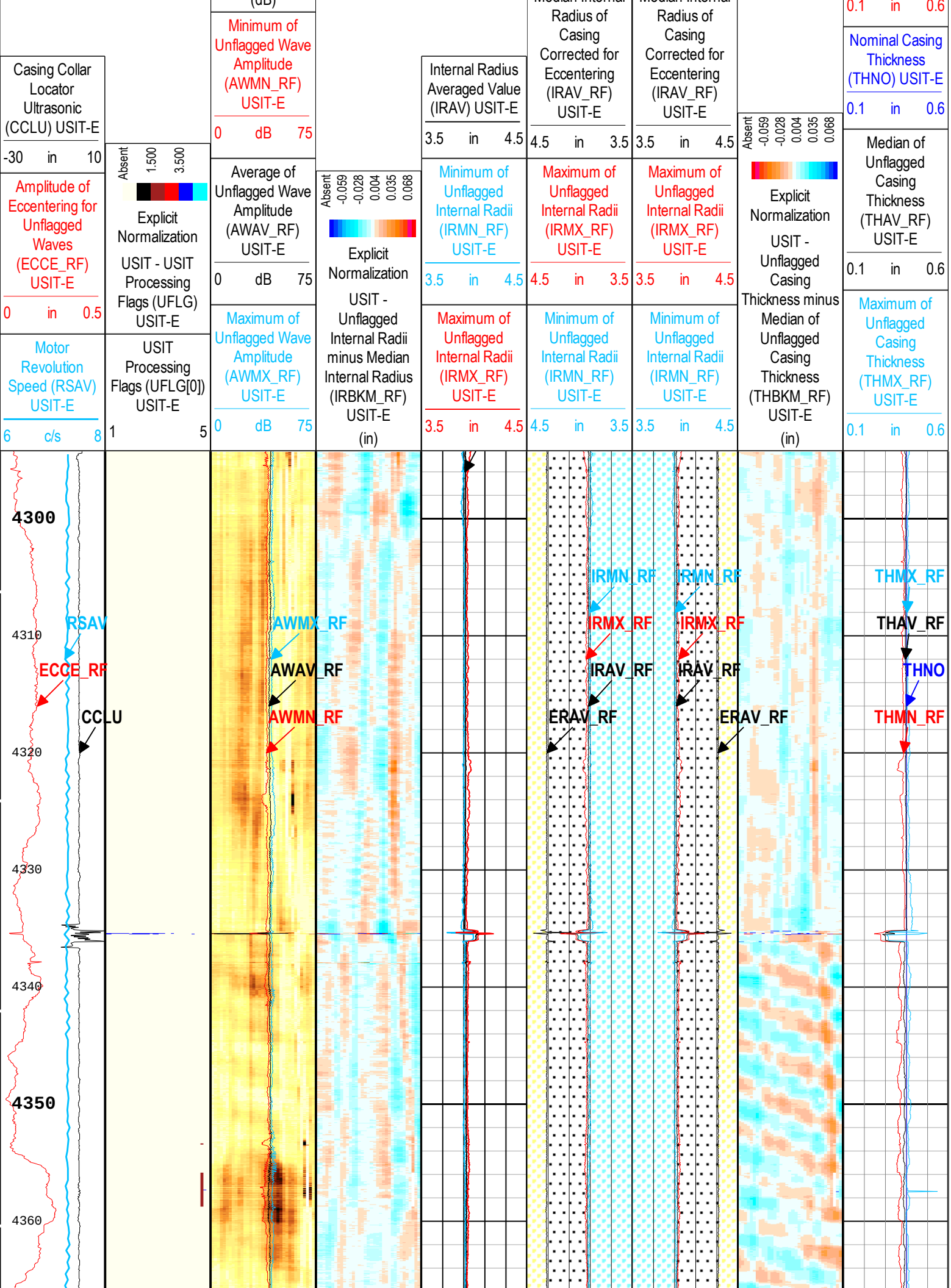
4.5	in	3.5

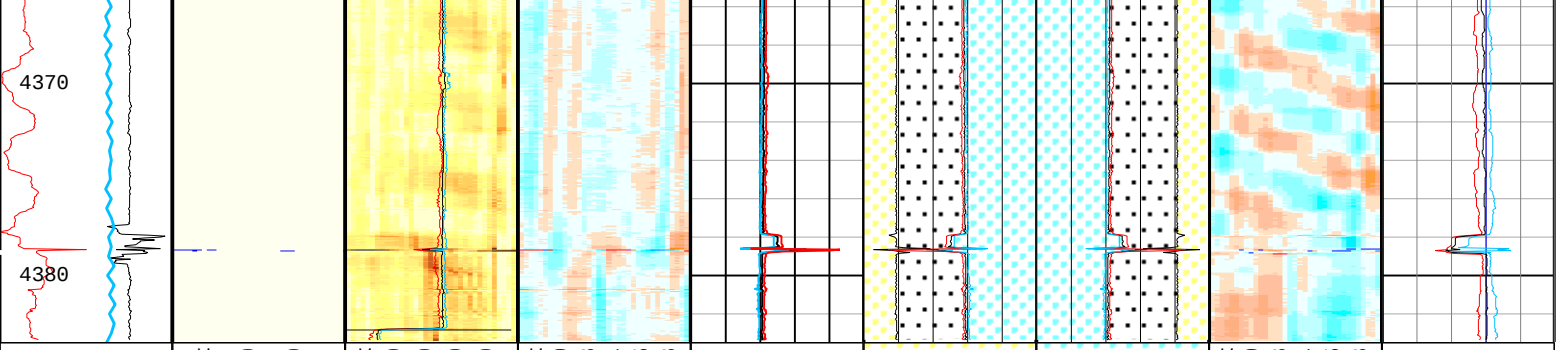
Median of Unflagged External Radii (ERAV_RF) USIT-E

3.5	in	4.5

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E

Median Internal


Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10
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
(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
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
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)
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
4300
4310
4320
4330
4340
4350
4360
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:21:06

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[8]:Up	Up	4468.85 ft	4544.15 ft	26-May-2016 11:58:05 AM	26-May-2016 12:02:05 PM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: 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: 26-May-2016 18:21:09

TIME_1900 - Time Marked every 60.00 (s)

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

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

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

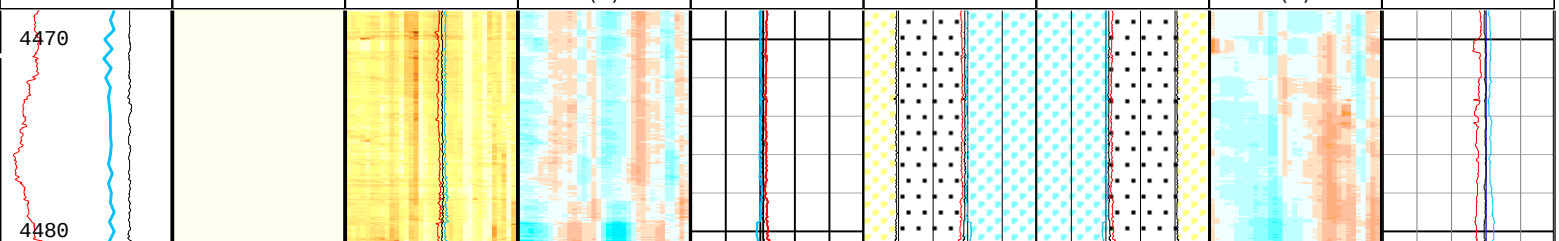
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

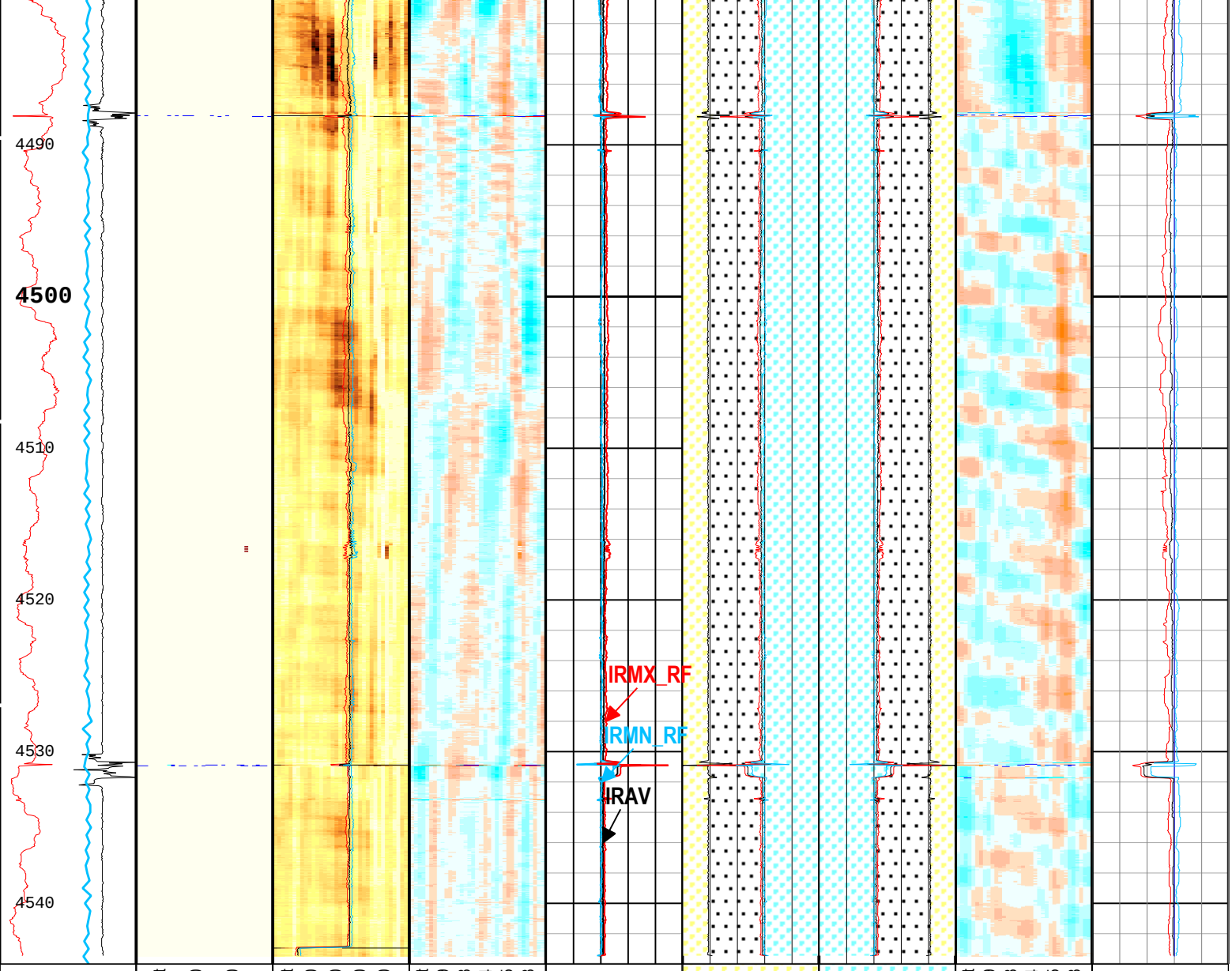
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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 (IRMX_RF) USIT-E

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

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

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

4.5 in 3.5 | 3.5 in 4.5

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

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: 26-May-2016 18:21:09

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[7]:Up	Up	5904.33 ft	6004.82 ft	26-May-2016 11:44:28 AM	26-May-2016 11:49:54 AM	ON	0.52 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B
Four_D1: Log[7]: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: 26-May-2016 18:21:12

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

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

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

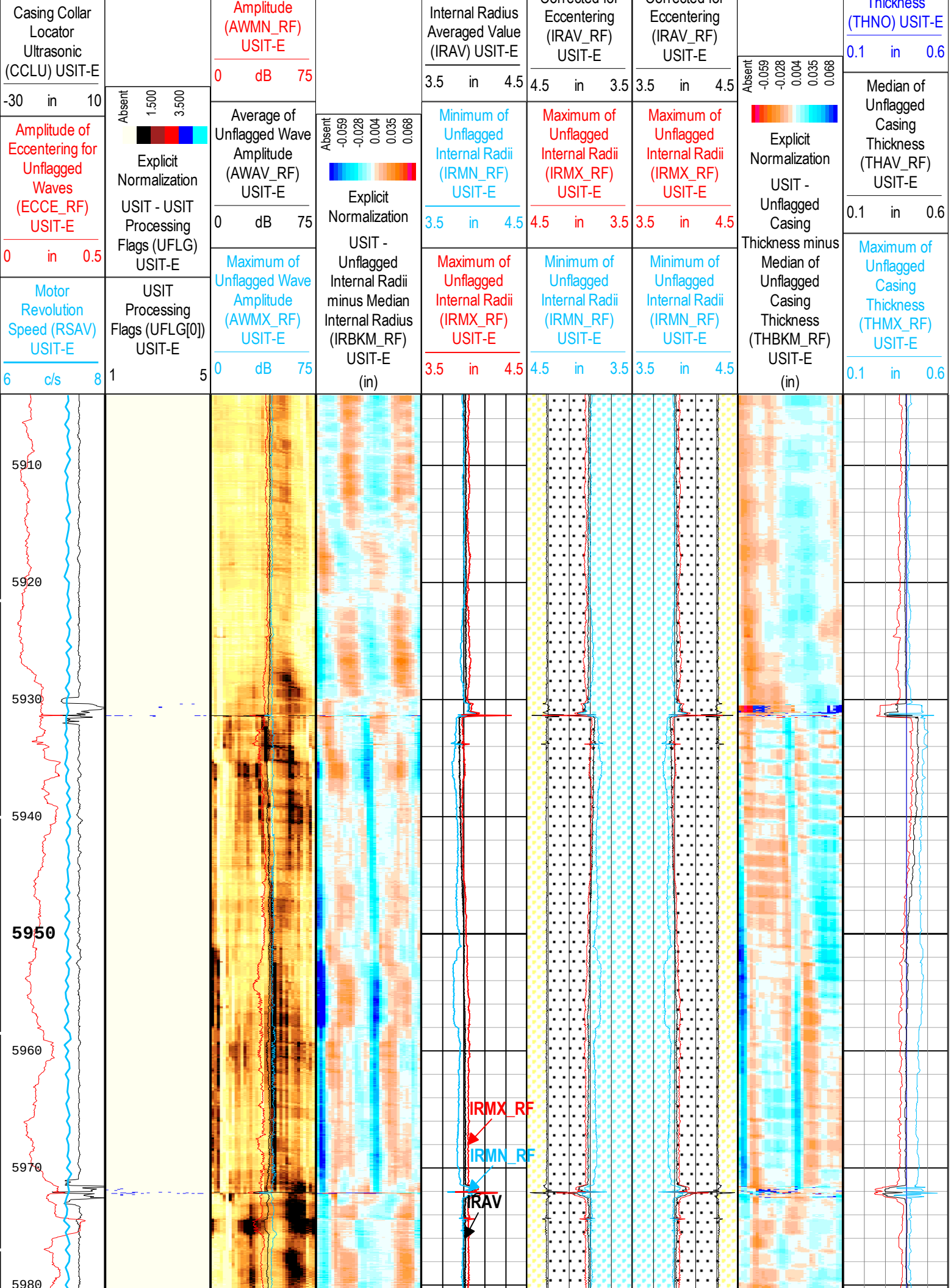
Median of Unflagged External Radii (ERAV_RF) USIT-E
4.5 in 3.5 | 3.5 in 4.5

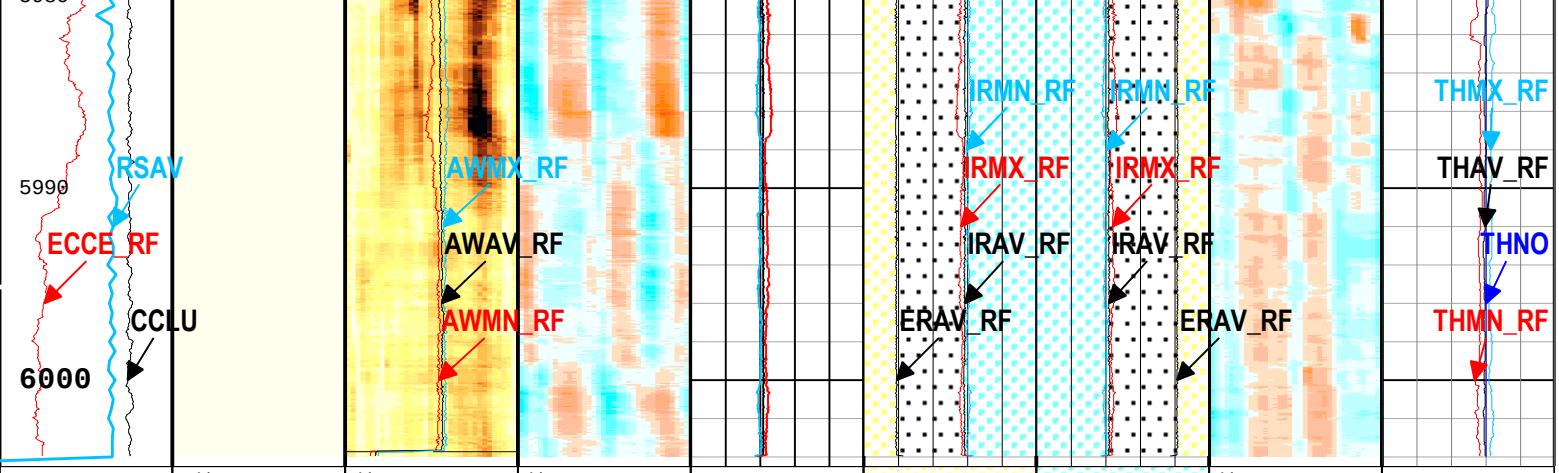
Median Internal Radius of Casing Corrected for

Median Internal Radius of Casing Corrected for

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

Nominal Casing Thickness


Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10
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
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
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
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)
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
5910
5920
5930
5940
5950
5960
5970
5980
IRMX_RF
IRMN_RF
IRAV



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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 | 3.5 in 4.5

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

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

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

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: 26-May-2016 18:21:12

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[6]:Up	Up	6729.99 ft	6810.82 ft	26-May-2016 11:35:12 AM	26-May-2016 11:39:35 AM	ON	2.86 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: Log[6]: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: 26-May-2016 18:21:15

TIME_1900 - Time Marked every 60.00 (s)

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

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

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

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

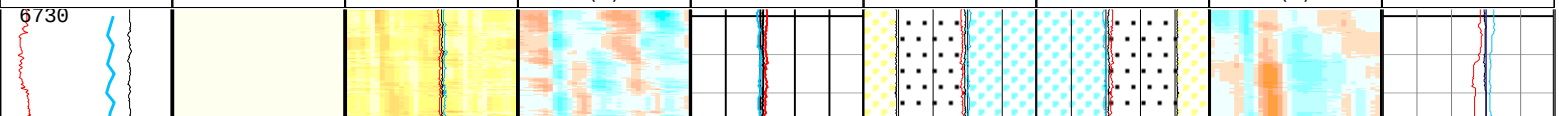
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

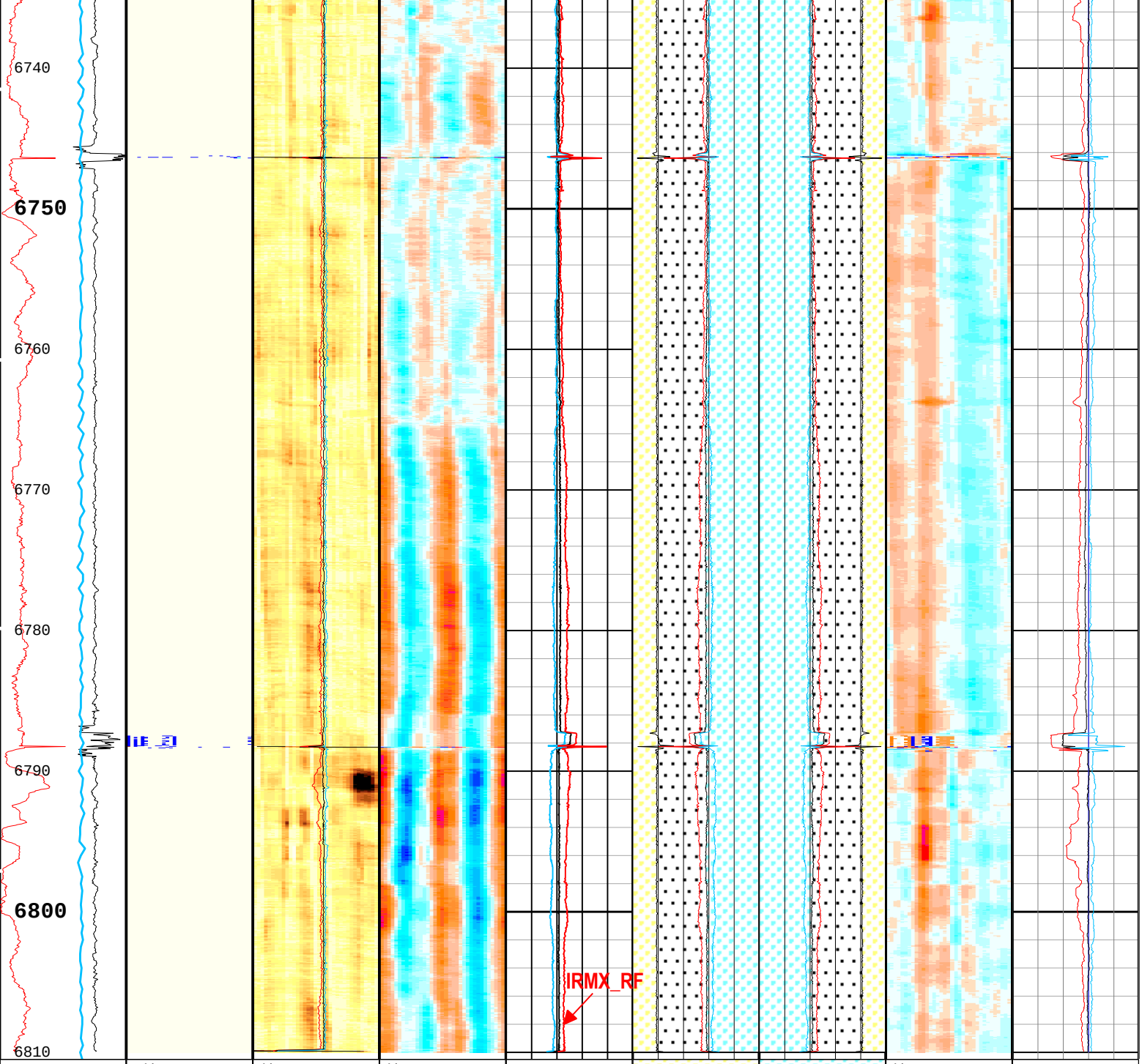
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

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

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

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

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

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

USIT-E		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

USIT-E		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

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] - : UTIM Error

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

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

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

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:21:15

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[5]:Up	Up	7201.10 ft	7312.53 ft	26-May-2016 11:25:50 AM	26-May-2016 11:32:06 AM	ON	8.33 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B

Four_D1: Log[5]: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: 26-May-2016 18:21:18

TIME_1900 - Time Marked every 60.00 (s)

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

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

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

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

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

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

Absent -5.200 -3.600 -2.000 -0.400

Explicit Normalization

USIT - Amplitude of

ERAV	IRAV
ERAV-IRAV	ERAV
IRAV	IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF)	Median of Unflagged External Radii (ERAV_RF)

Minimum of Unflagged Casing

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

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

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

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

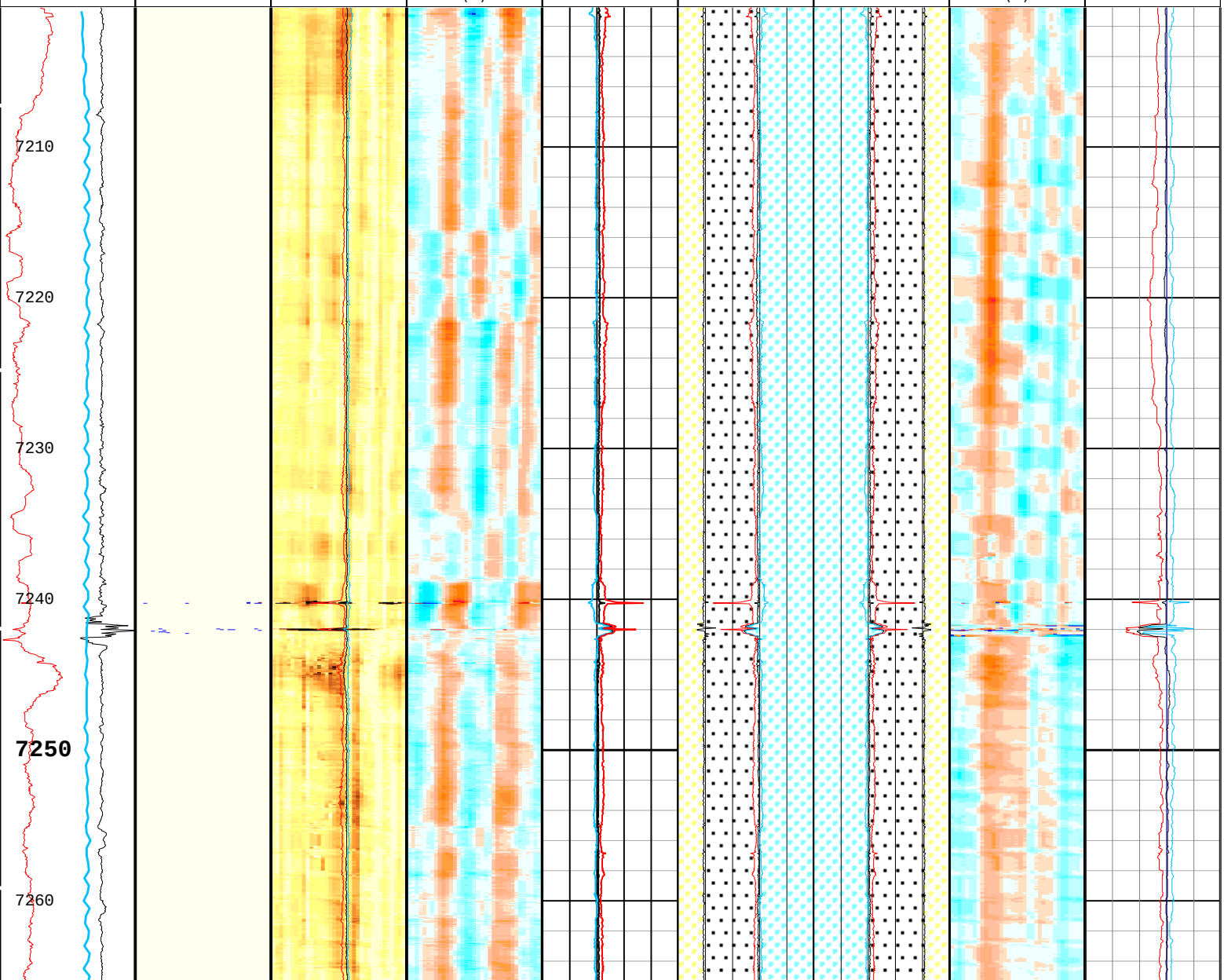
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

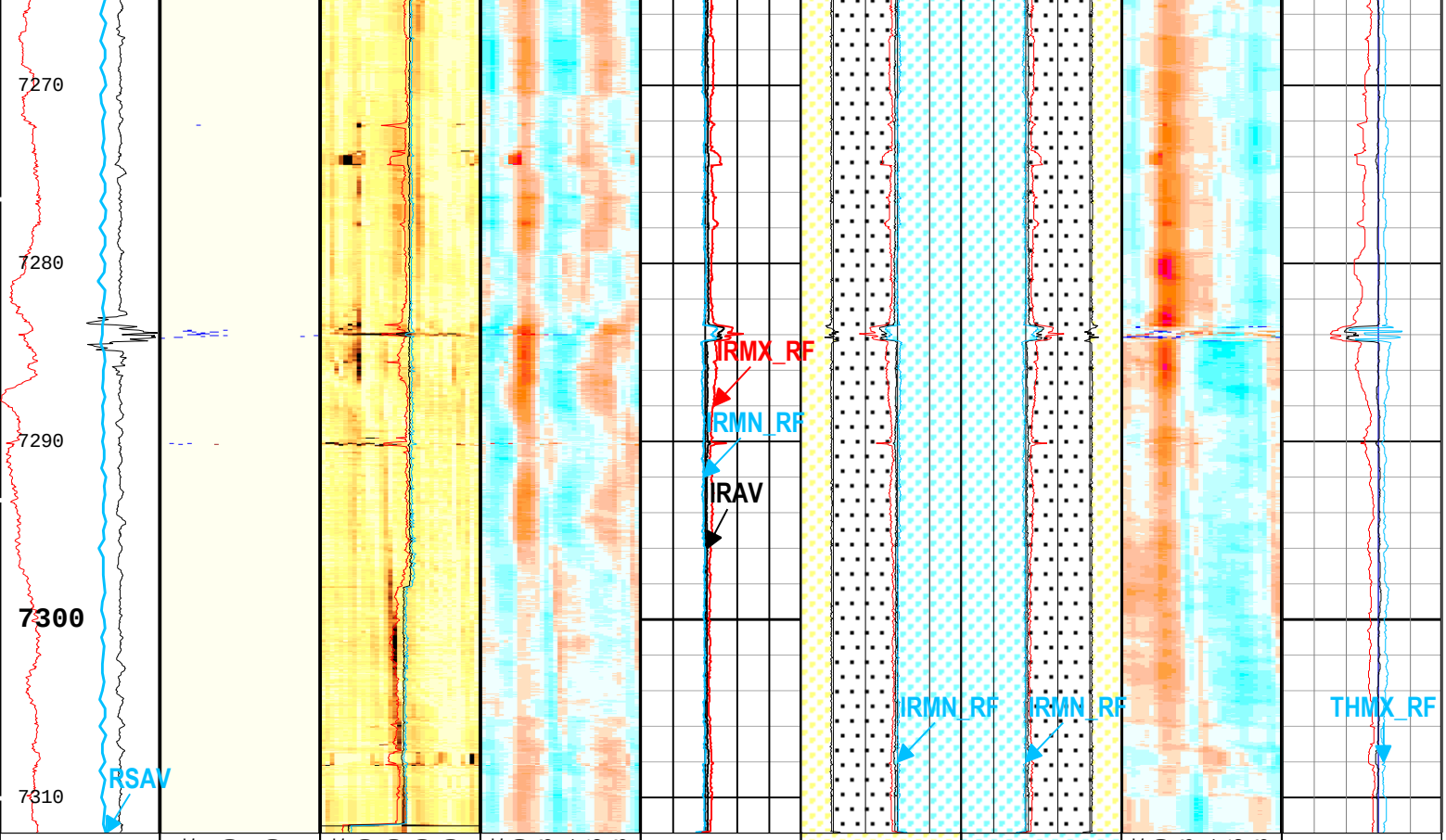
Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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





Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 26-May-2016 18:21:18

Four_D1

Hi Res Repeat Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Four_D1	Log[3]:Up	Up	7460.02 ft	7565.51 ft	26-May-2016 8:19:33 AM	26-May-2016 8:25:18 AM	ON	1.15 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER NO. 42-B
Four_D1: 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: 26-May-2016 18:21:21

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)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

Amplitude of Eccentering for Unflagged Waves

Absent 1.500 3.500
Explicit Normalization

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

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit

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

Minimum of Unflagged Internal Radii (IRMN_RF) 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
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

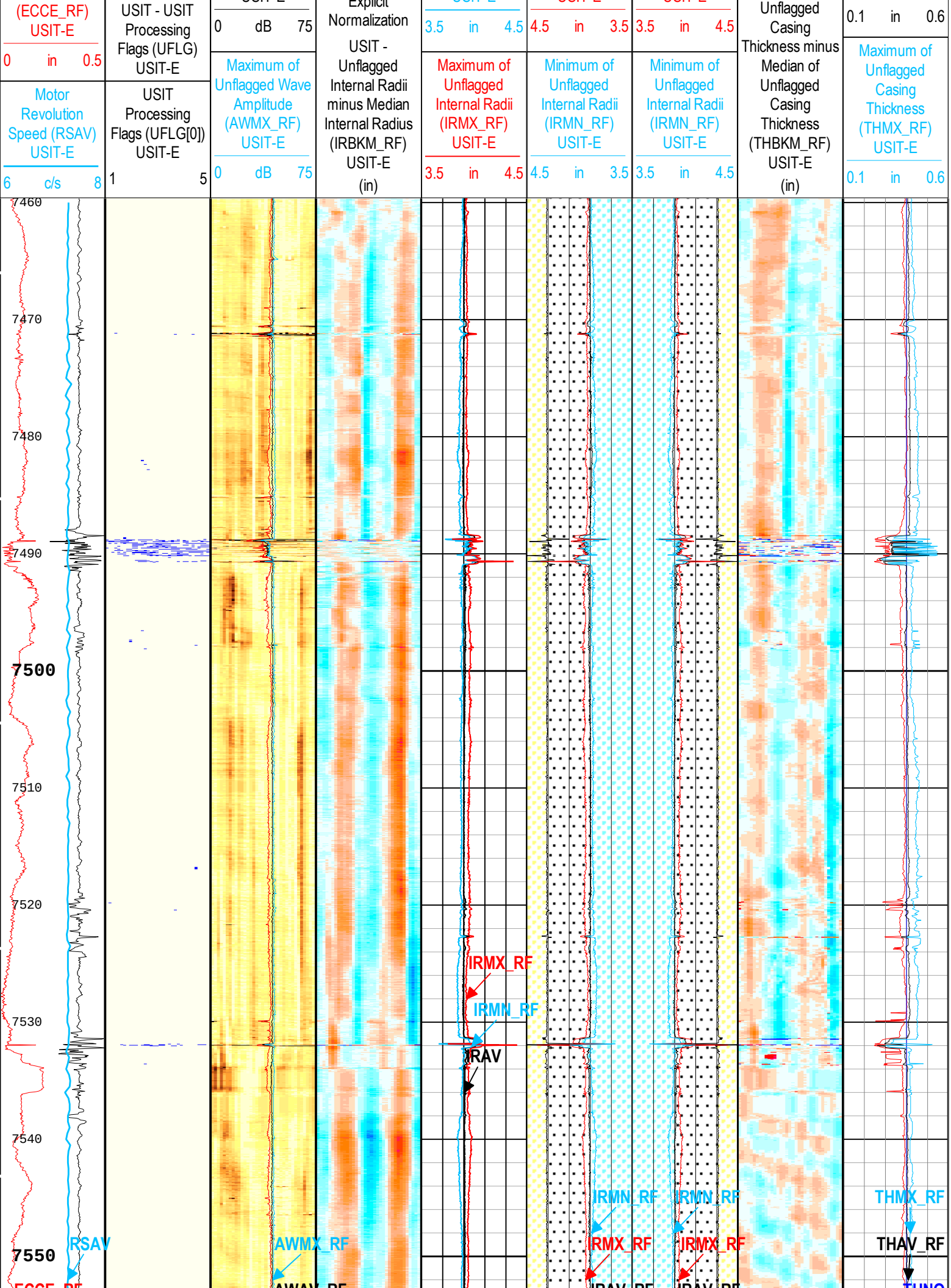
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT -

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


(ECCE_RF)
USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E
0 dB 75
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
3.5 in 4.5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
3.5 in 4.5
4.5 in 3.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4.5 in 3.5
3.5 in 4.5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
3.5 in 4.5
Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
7460
7470
7480
7490
7500
7510
7520
7530
7540
7550
RSAV
AWMX_RF
IRMX_RF
IRMN_RF
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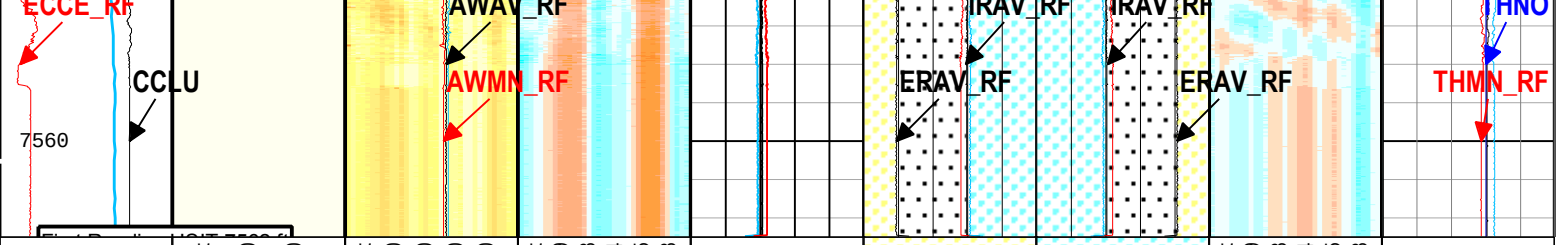
IRMX_RF
THMX_RF
THAV_RF



Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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 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

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

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: 26-May-2016 18:21:21

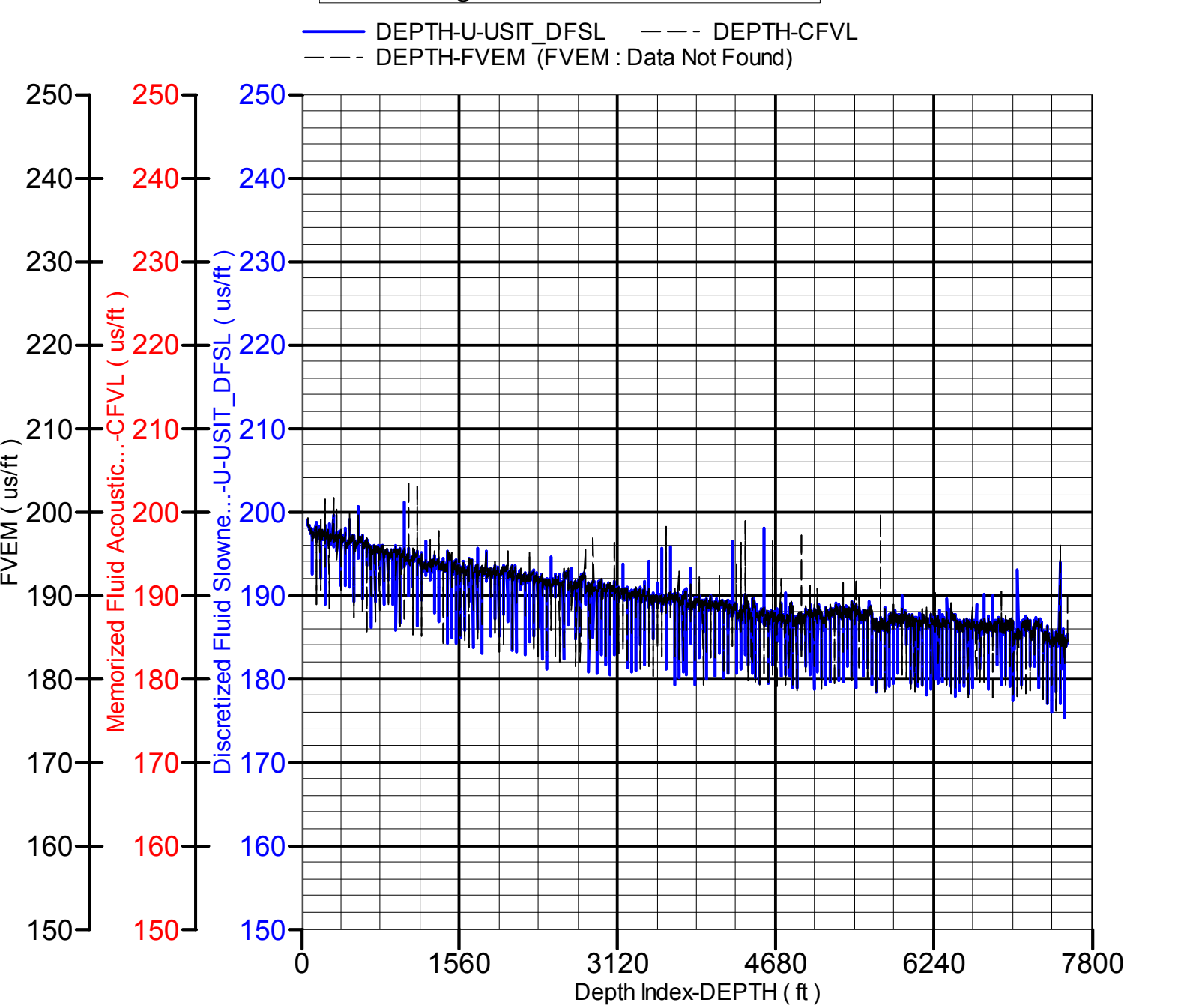
XYZ

Company:Southern California Gas Company Well:PORTER NO. 42-B
Composite 1:S003

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 64.00 to 7567.50 ft



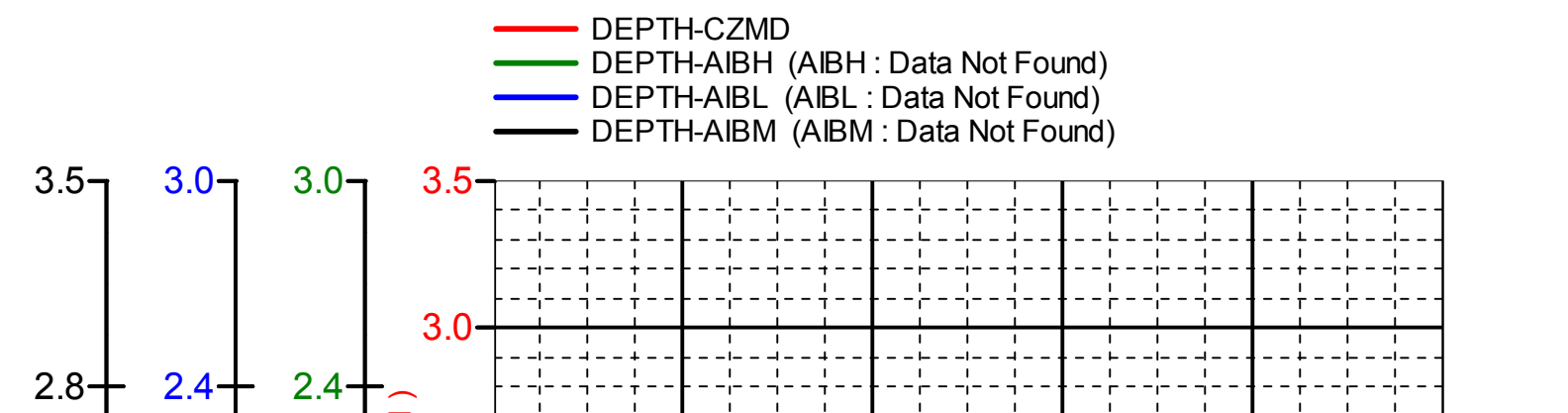
XYZ

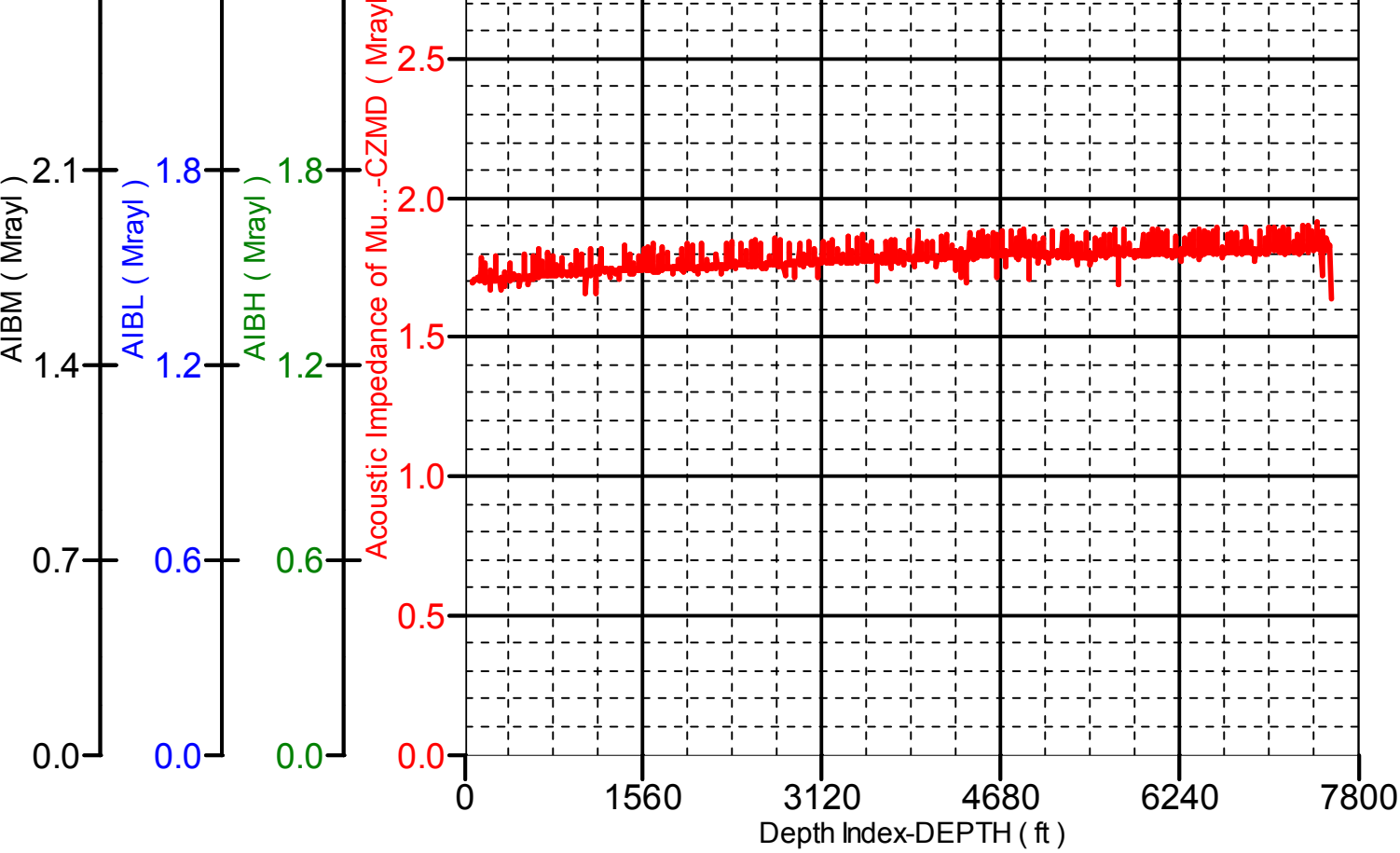
Company:Southern California Gas Company Well:PORTER NO. 42-B
Composite 1:S003

Theoretical Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 64.00 to 7567.50 ft





Company:	Southern California Gas Company
Well:	PORTER NO. 42-B
Field:	Aliso Canyon
County:	Los Angeles
State:	California

Schlumberger

Ultrasonic Imager

Gamma Ray - CCL

8-5/8" 36# casing