Schlumberger

Company: Southern California Gas Company

Well: Porter No. 69-D

Field: Aliso Canyon

County: Los Angeles State: California

County: Los Angeles
Field: Aliso Canyon
Location:
Well: Porter No. 69-D
Company: Southern California Gas Company

Ultrasonic Imager

Gamma Ray - CCL

9-5/8" 47# casing

Location:			
		Elev.: K.B.	2389.50 ft
		G.L.	2366.00 ft
		D.F.	
Permanent Datum:	Ground Level	Elev.:	2366.00 f
Log Measured From:	Kelly Bushing	23.50 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section:	Township:	Range:
04-037-24130	28	3N	16W

Logging Date		24-May-2016	
Run Number		Three	
Depth Driller		7626.00 ft	
Schlumberger Depth		7619.00 ft	
Bottom Log Interval		7616.00 ft	
Top Log Interval		45.00 ft	
Casing Fluid Type		Polymer	
Salinity			
Density		9 lbm/gal	
Fluid Level		8.00 ft	
BIT/CASING/TUBING STRING			
Bit Size		8.50 in	
From		8108.00 ft	
To		8120.00 ft	
Casing/Tubing Size		9.625 in	
Weight		47 lbm/ft	
Grade		N80	
From		0.00 ft	
To		7801.00 ft	
Max Recorded Temperatures			
Logger on Bottom	Time	24-May-2016 08:46:00	
Unit Number	Location:	3189 Ventura	
Recorded By		I. Kartawidjaja	
Witnessed By		Mr. Tom McMahon	

Disclaimer

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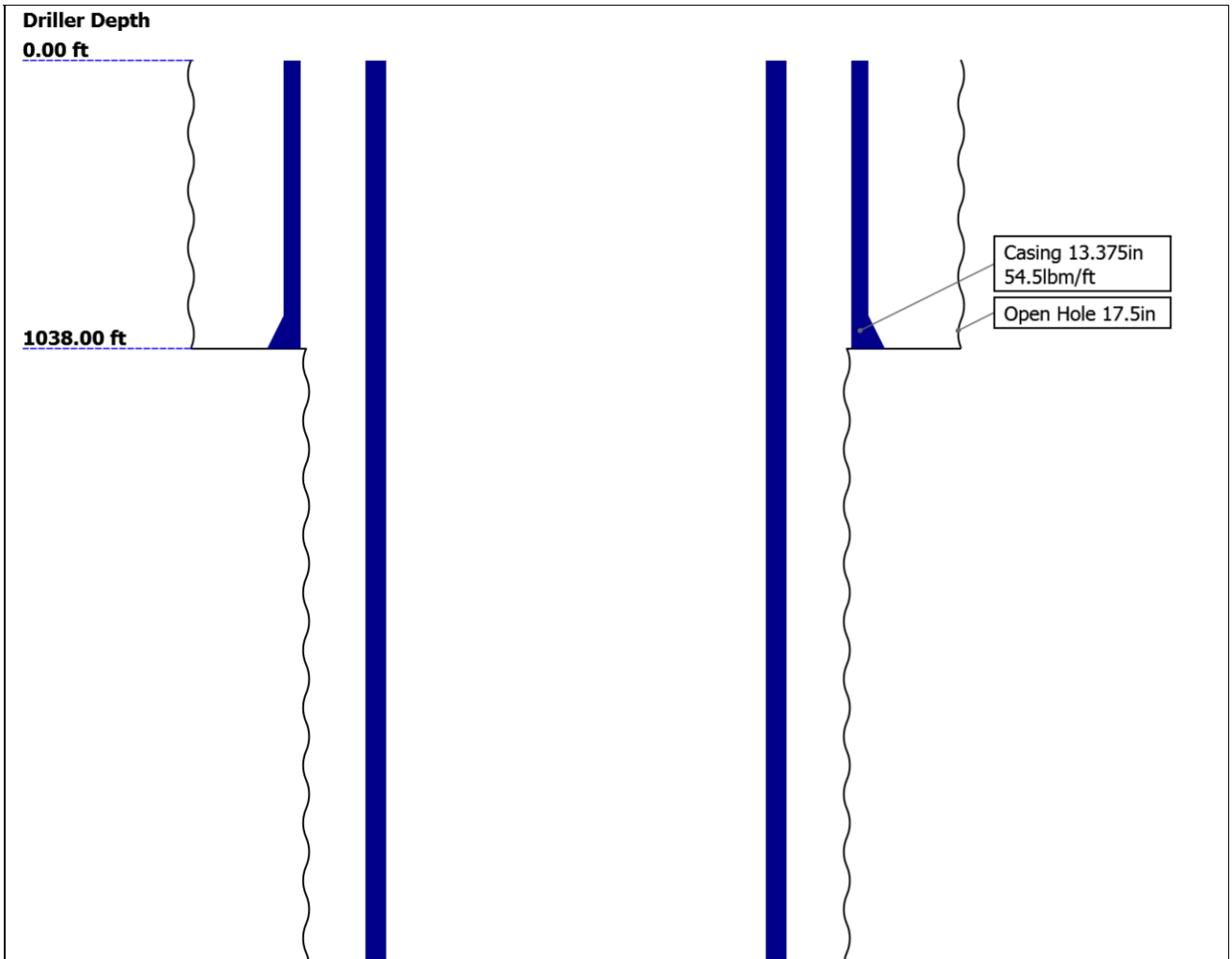
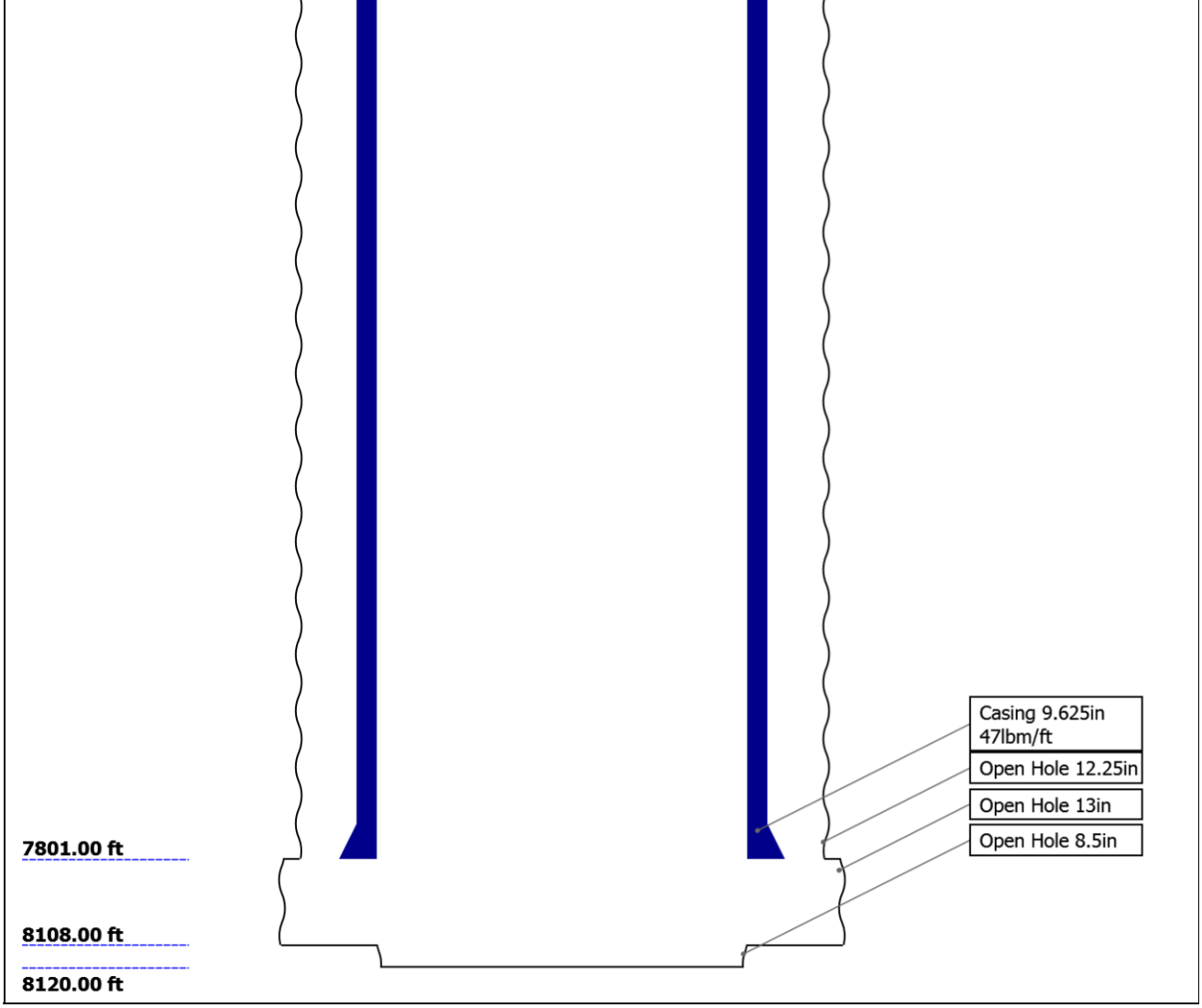
Well Sketch



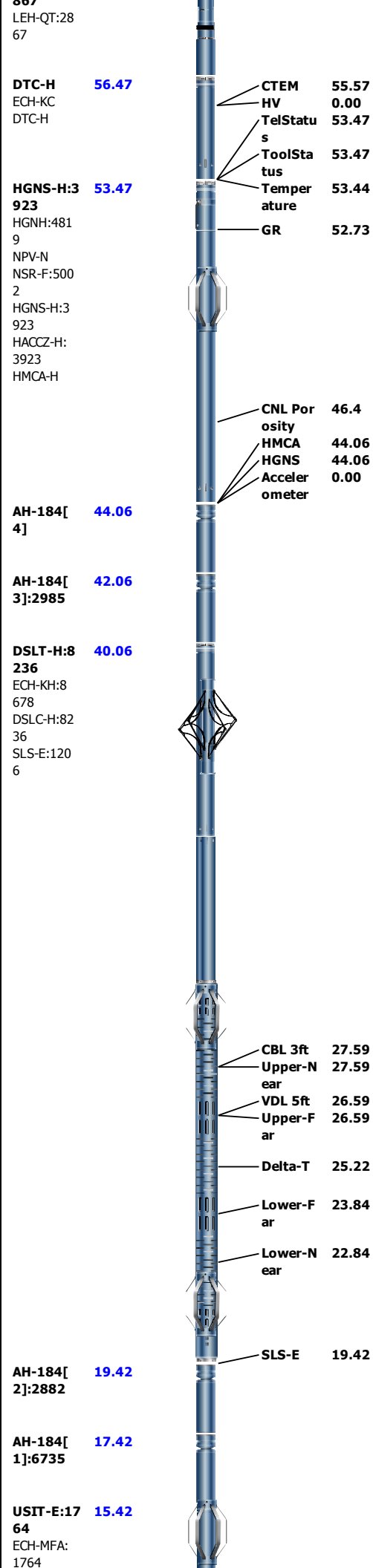


Borehole Size/Casing/Tubing Record

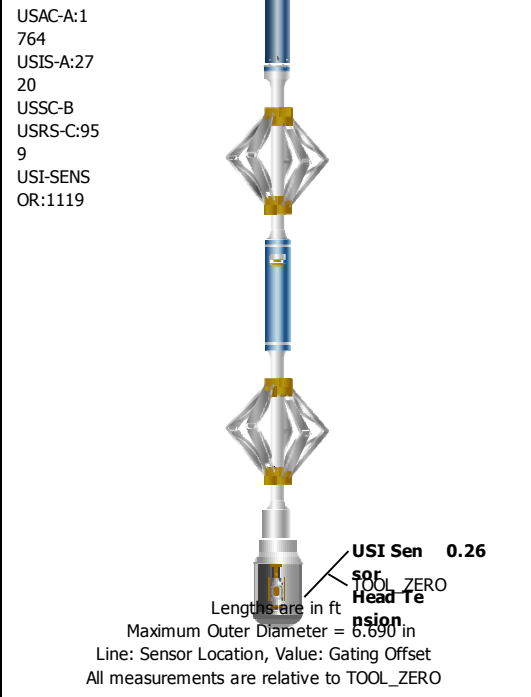
Bit						
Bit Size (in)	17.5	12.25	13	8.5		
Top Driller (ft)	0	1038	7801	8108		
Top Logger (ft)	0	1038	7801	8108		
Bottom Driller (ft)	1038	7801	8108	8120		
Bottom Logger (ft)	1038	7801	8108	8120		
Casing						
Size (in)	13.375	9.625				
Weight (lbm/ft)	54.5	47				
Inner Diameter (in)	12.615	8.681				
Grade	K55	N80				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	1038	7801				
Bottom Logger (ft)	1038	7801				

Remarks and Equipment Summary

Three: Toolstring	Three: Remarks
Equip name Length **MP name Offset** **LEH-QT:2 59.39** Red **867**	Depth correlated to SLB Compensated Neutron Log run One dated 29-May-1992



Logging objective is cement and corrosion evaluation
9-5/8" 47# casing cemented with 275 bbls Foamed Cement + 156 BBLS + 10 BBLS Cross Linked Gel + 22 BBLS Cmt top job
USIT Logged at 10 deg/1.5 inch resolution, logging speed 2800-3000 fph. Hi-res repeats at 10 deg/0.6 inch, speed 1000 fph
USIT run in combination with CBL, Neutron and Gamma Ray tools.
Bridge plug set in hole with Top of sand at 7619 ft.
Rig: Rival 6
Toolstring ran as per toolsketch.
Two centralizers on USIS and two CME-Y used to centralize ultrasonic tool.
Thank you for choosing Schlumberger!
Main Pass Recorded with 0 Psi surface pressure
Performed Repeat Passes at 0 psi, 500 psi and 1000 psi from 7400-7716 ft



Job Event Summary

Event	Time	Duration	Interval	Remark
Run 1				May-24-2016 06:53
Log[1]:Down	May-24-2016 07:24	01:40:34	159.37 - 7621.25 ft	FPM Pass
Log[2]:Up	May-24-2016 08:07	00:07:44	7620.36 - 7295.86 ft	Repeat Pass 0 PSI
Log[3]:Up	May-24-2016 08:20	00:04:51	7618.59 - 7400.56 ft	Repeat Pass 500 Psi
Log[4]:Up	May-24-2016 08:31	00:06:13	7619.35 - 7397.1 ft	Repeat Pass 1000 Psi
Log[5]:Up	May-24-2016 08:46	03:32:24	7615.88 - 892.54 ft	Main Pass #1 0 Psi
Log[6]:Up	May-24-2016 11:38	00:18:52	1002.74 - 99.52 ft	Main Pass #2 0 Psi
Log[7]:Up	May-24-2016 12:26	00:06:26	7063.94 - 6953.77 ft	Very Hi Res Repeat 0 Psi
Log[8]:Up	May-24-2016 12:43	00:08:54	6414.13 - 6258.58 ft	Very Hi Res Repeat 0 Psi
Log[9]:Up	May-24-2016 12:52	00:03:26	6204.15 - 6144.28 ft	Very Hi Res Repeat 0 Psi
Log[10]:Up	May-24-2016 13:09	00:08:11	4224.2 - 4087.99 ft	Very Hi Res Repeat 0 Psi
Log[11]:Up	May-24-2016 13:20	00:07:09	3787.25 - 3664.22 ft	Very Hi Res Repeat 0 Psi
Log[12]:Up	May-24-2016 13:31	00:04:00	3409.15 - 3337.85 ft	Very Hi Res Repeat 0 Psi
Log[13]:Up	May-24-2016 13:38	00:02:36	3139.86 - 3094.86 ft	Very Hi Res Repeat 0 Psi
Log[14]:Up	May-24-2016 13:44	00:05:53	2566.08 - 2465.97 ft	Very Hi Res Repeat 0 Psi
Log[15]:Up	May-24-2016 13:56	00:04:34	2173.29 - 2096.94 ft	Very Hi Res Repeat 0 Psi
Log[16]:Up	May-24-2016 14:01	00:03:15	2172.67 - 2116.82 ft	Very Hi Res Repeat 0 Psi
Log[18]:Up	May-24-2016 14:07	00:01:21	1798.83 - 1776.29 ft	Very Hi Res Repeat 0 Psi
Log[19]:Up	May-24-2016 14:10	00:02:18	1707.66 - 1667.71 ft	Very Hi Res Repeat 0 Psi
Log[20]:Up	May-24-2016 14:26	00:05:59	309 - 56.25 ft	Main Pass #3 200 psi
Run 2				May-24-2016 14:57
Log[1]:Up	May-24-2016 15:03	00:09:23	255.24 - 8.91 ft	Surface Main Pass 200 Psi
Log[2]:Up	May-24-2016 15:14	00:04:17	43.07 - 10.06 ft	Surface HiRes Repeat 200 Psi

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[6]:Up	1002.74	99.52

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 : 216.02m(708.74ft) to 223.01m(731.65ft)
MUD_N_FRP = 1.07
DFD = 1.08g/cm3(9.00lbm/gal)
CZMD median computed in free pipe normalization interval = 1.73 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

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
Three	Log[5]:Up	Up	892.54 ft	7615.88 ft	24-May-2016 8:46:05 AM	24-May-2016 11:18:30 AM	ON	0.25 ft	Yes
Three	Log[6]:Up	Up	99.52 ft	1002.74 ft	24-May-2016 11:38:34 AM	24-May-2016 11:57:27 AM	ON	0.54 ft	Yes
Three	Log[20]:Up	Up	56.25 ft	309.00 ft	24-May-2016 2:26:52 PM	24-May-2016 2:32:51 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

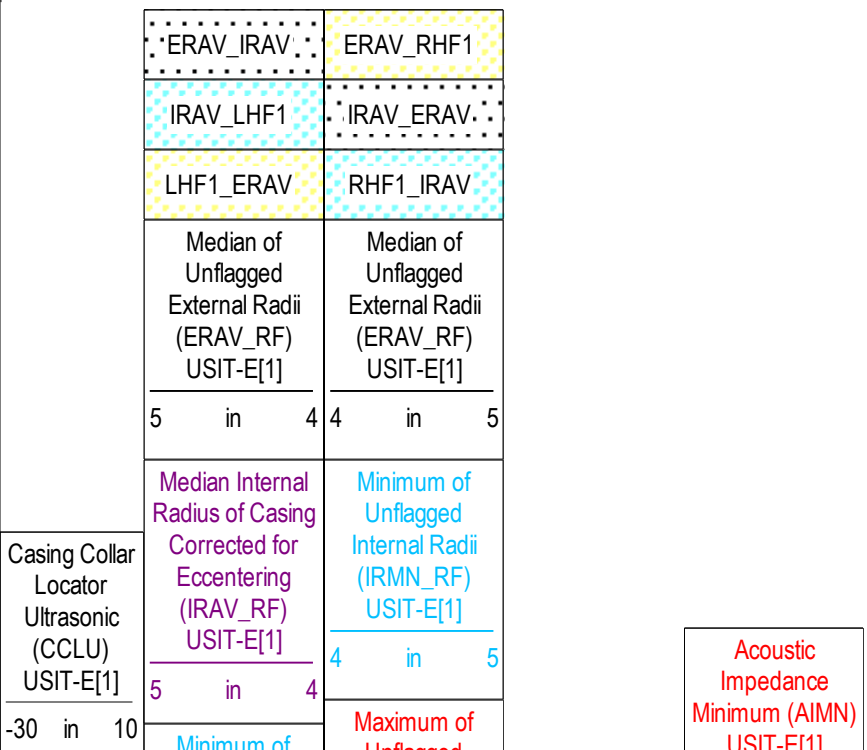
Log

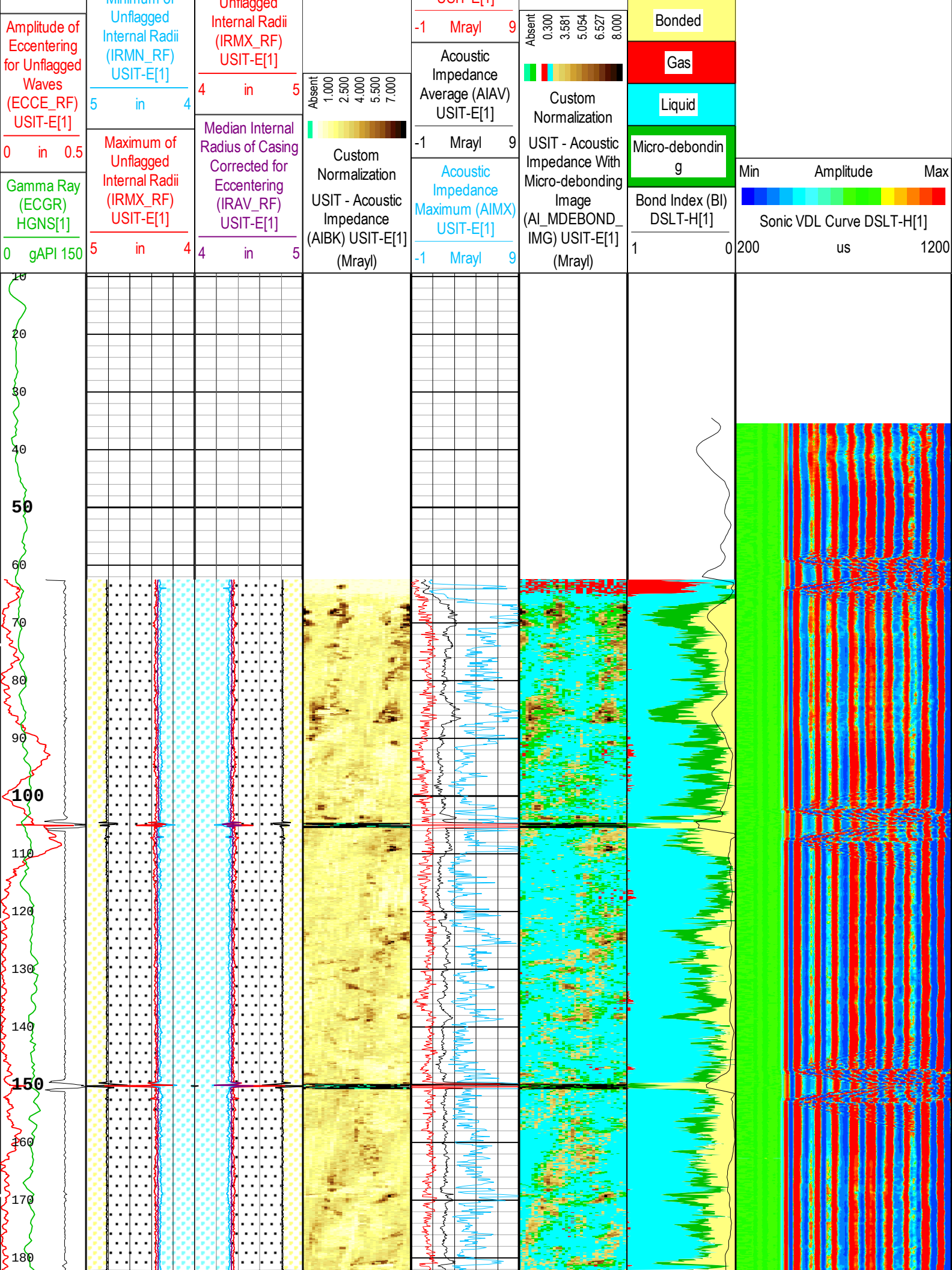
Company:Southern California Gas Company Well:Porter No. 69-D

Composite 1:S004

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: 24-May-2016 18:36:09

TIME_1900 - Time Marked every 60.00 (s)




Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
0 in 0.5
Gamma Ray (ECGR) HGNS[1]
0 gAPI 150
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
5 in 4
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
5 in 4
Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4 in 5
Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4 in 5
Absent 1.000 2.500 4.000 5.500 7.000
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
-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)
Bonded
Gas
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Bond Index (BI) DSLT-H[1]
1 0
Min Amplitude Max
Sonic VDL Curve DSLT-H[1]
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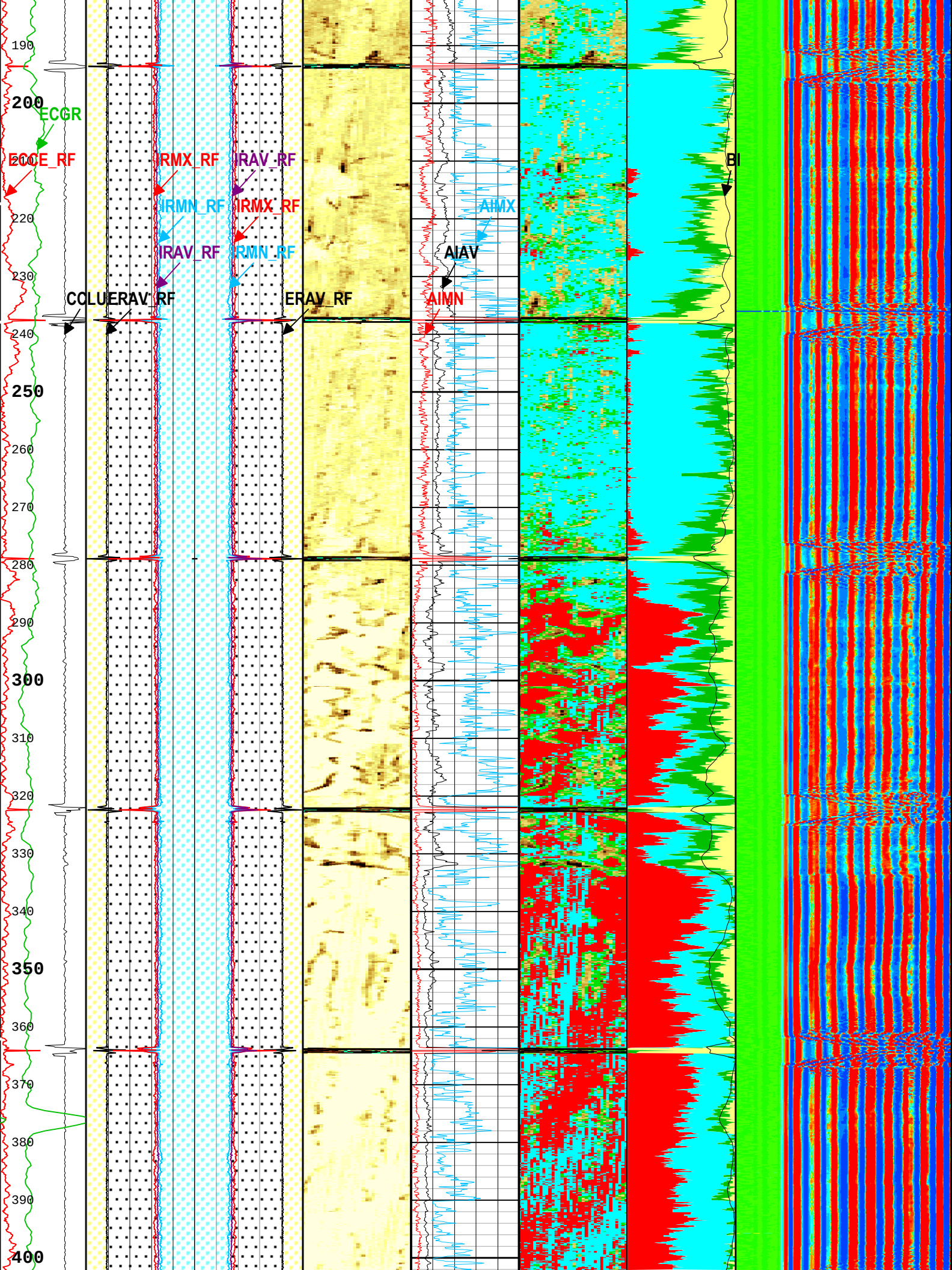
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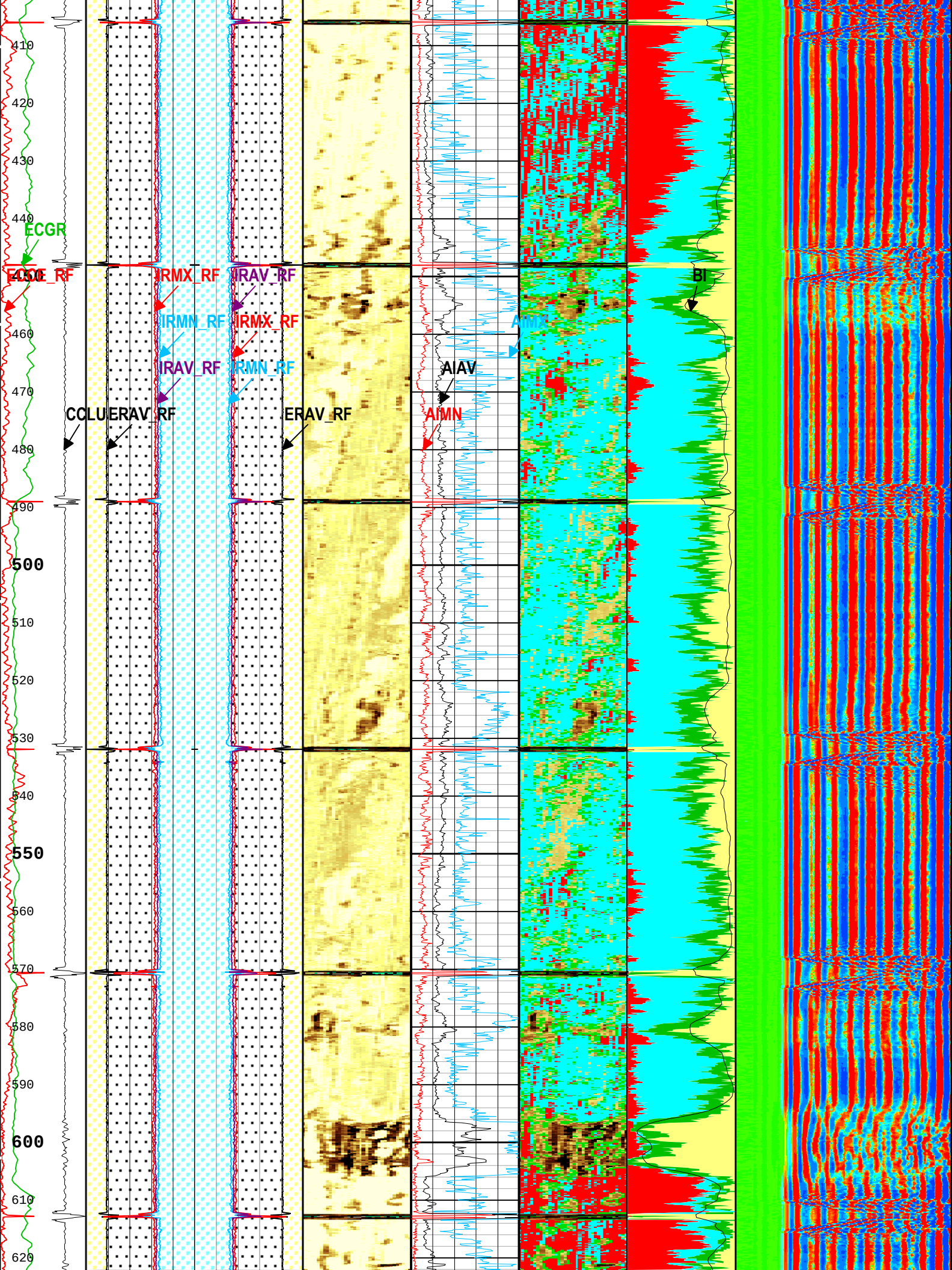
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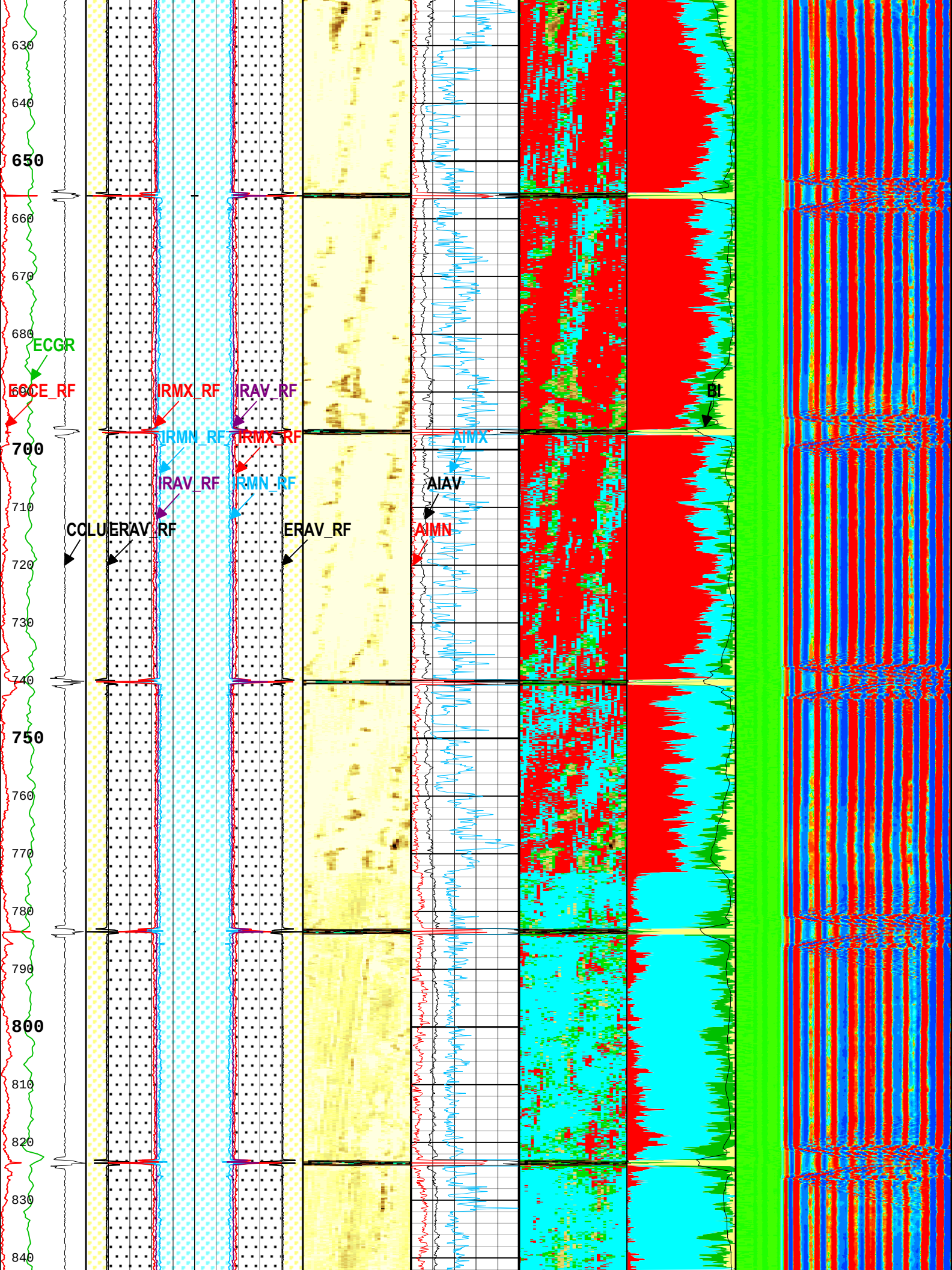
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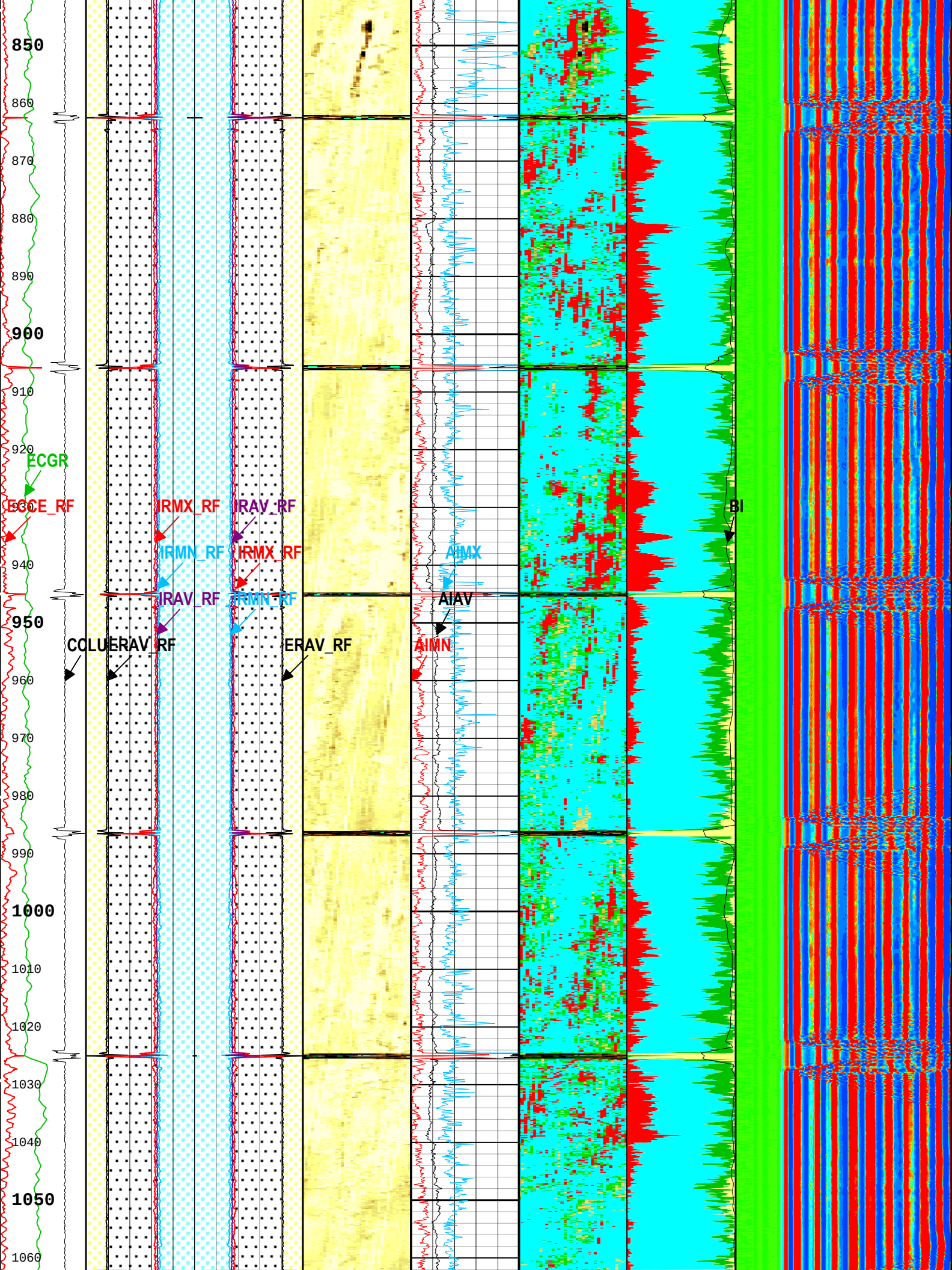
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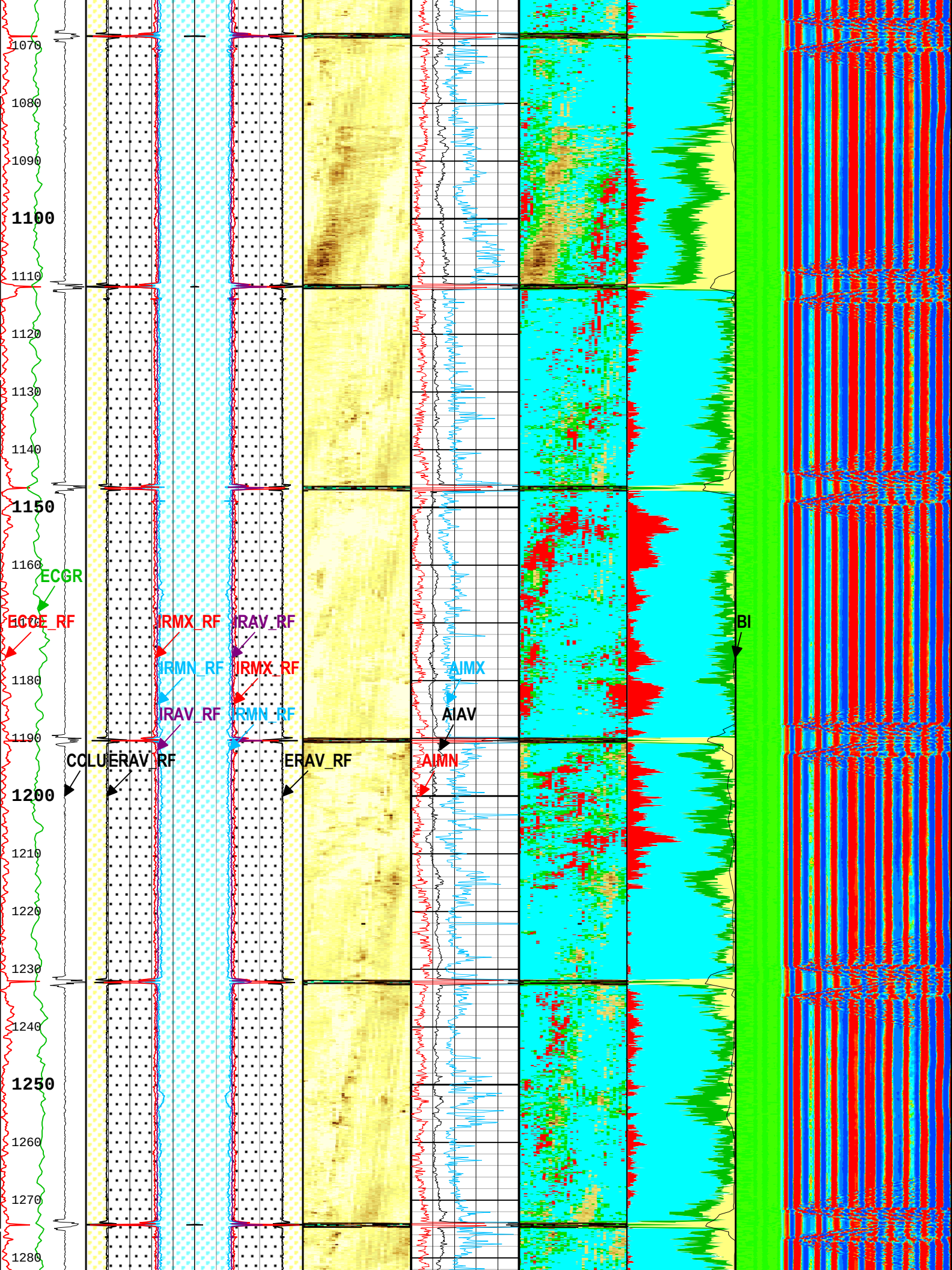
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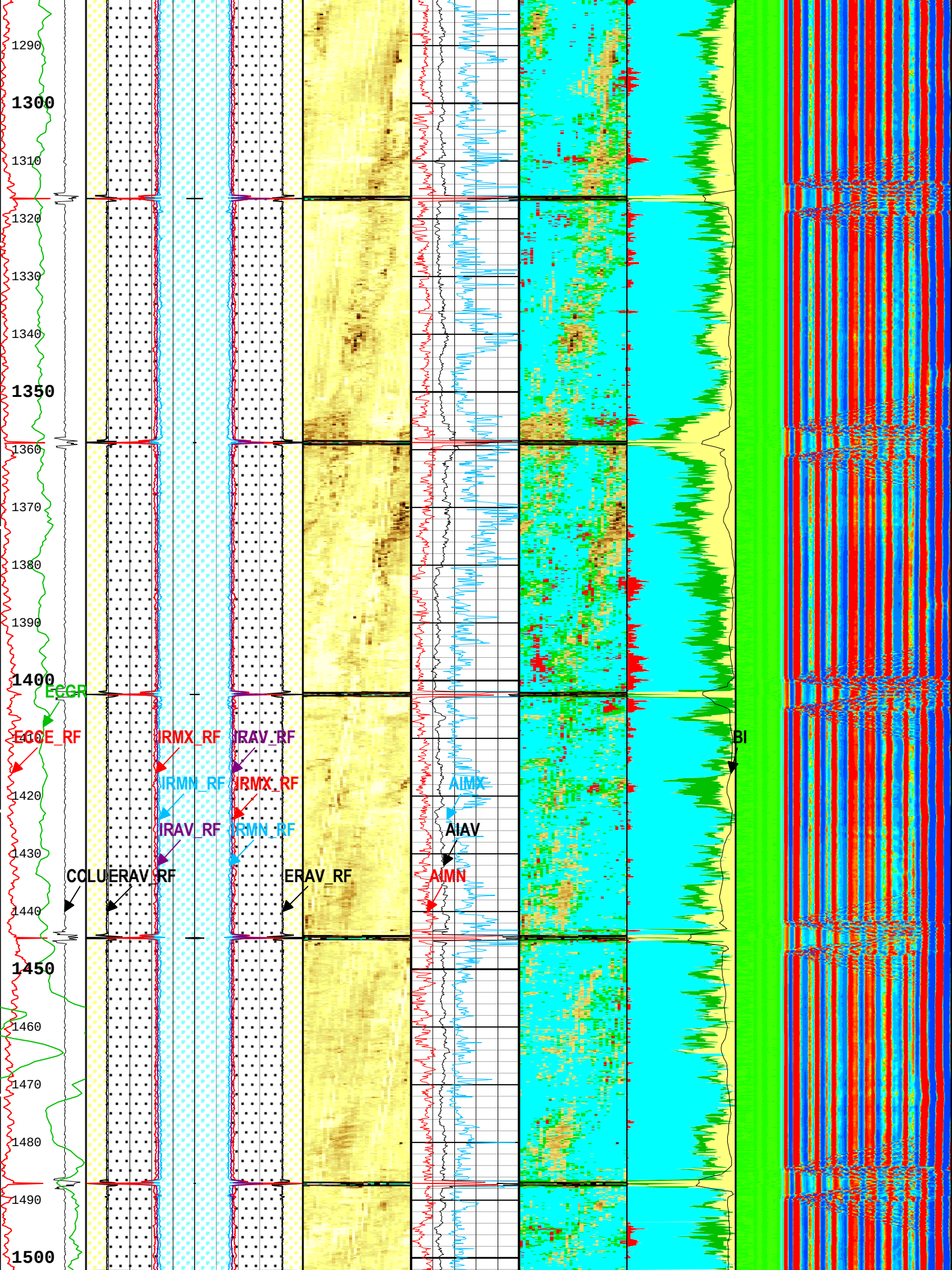
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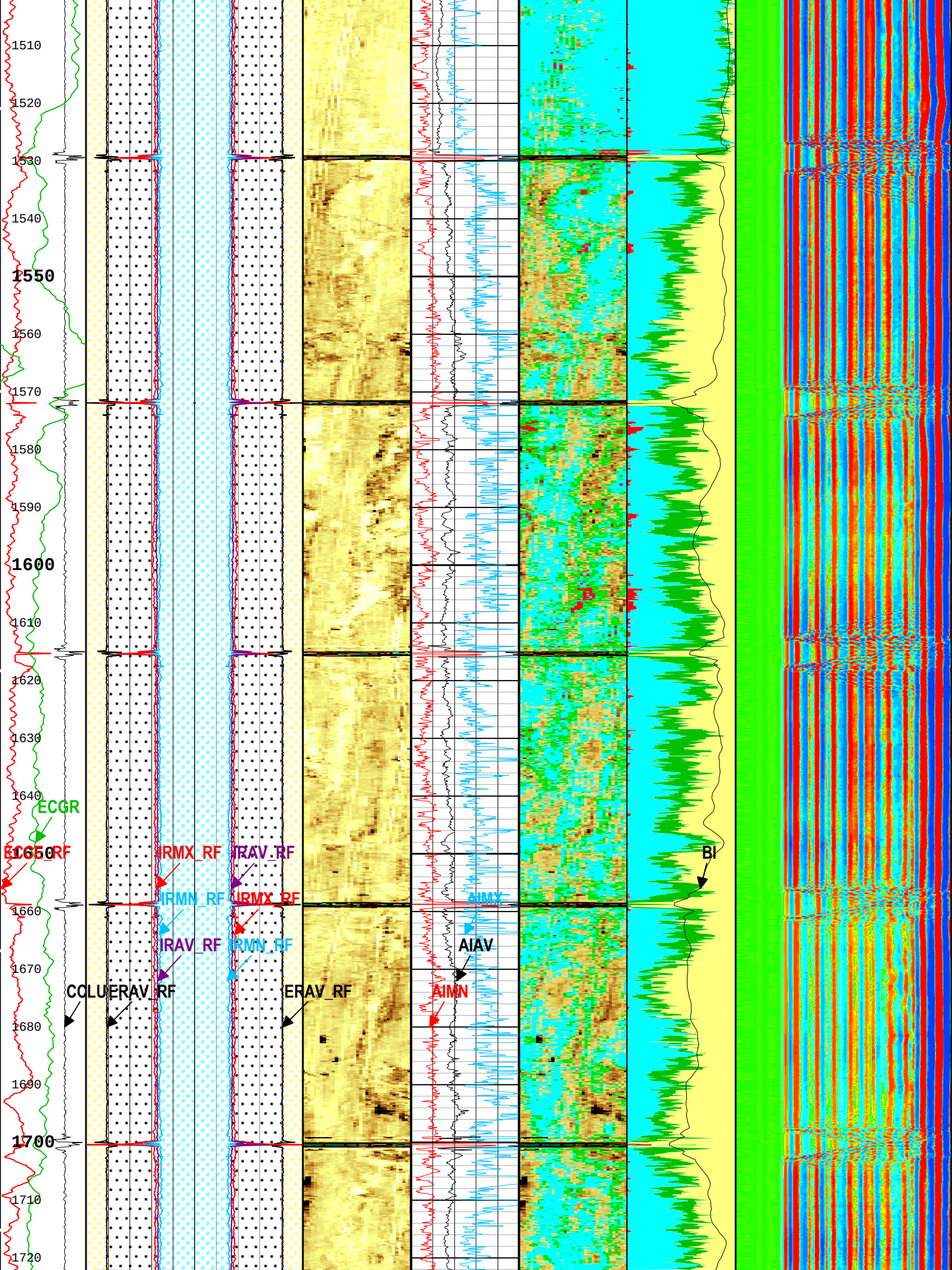
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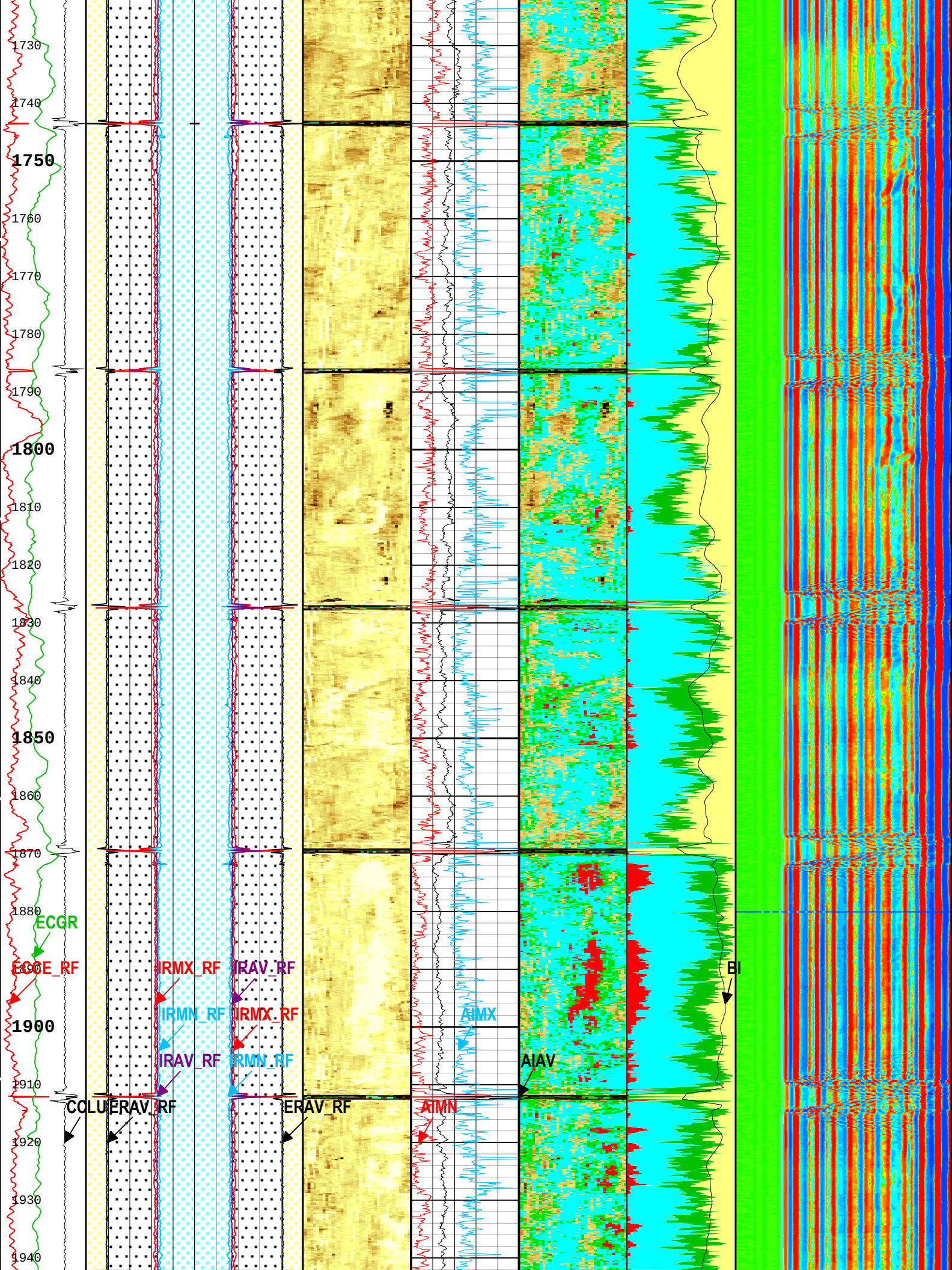
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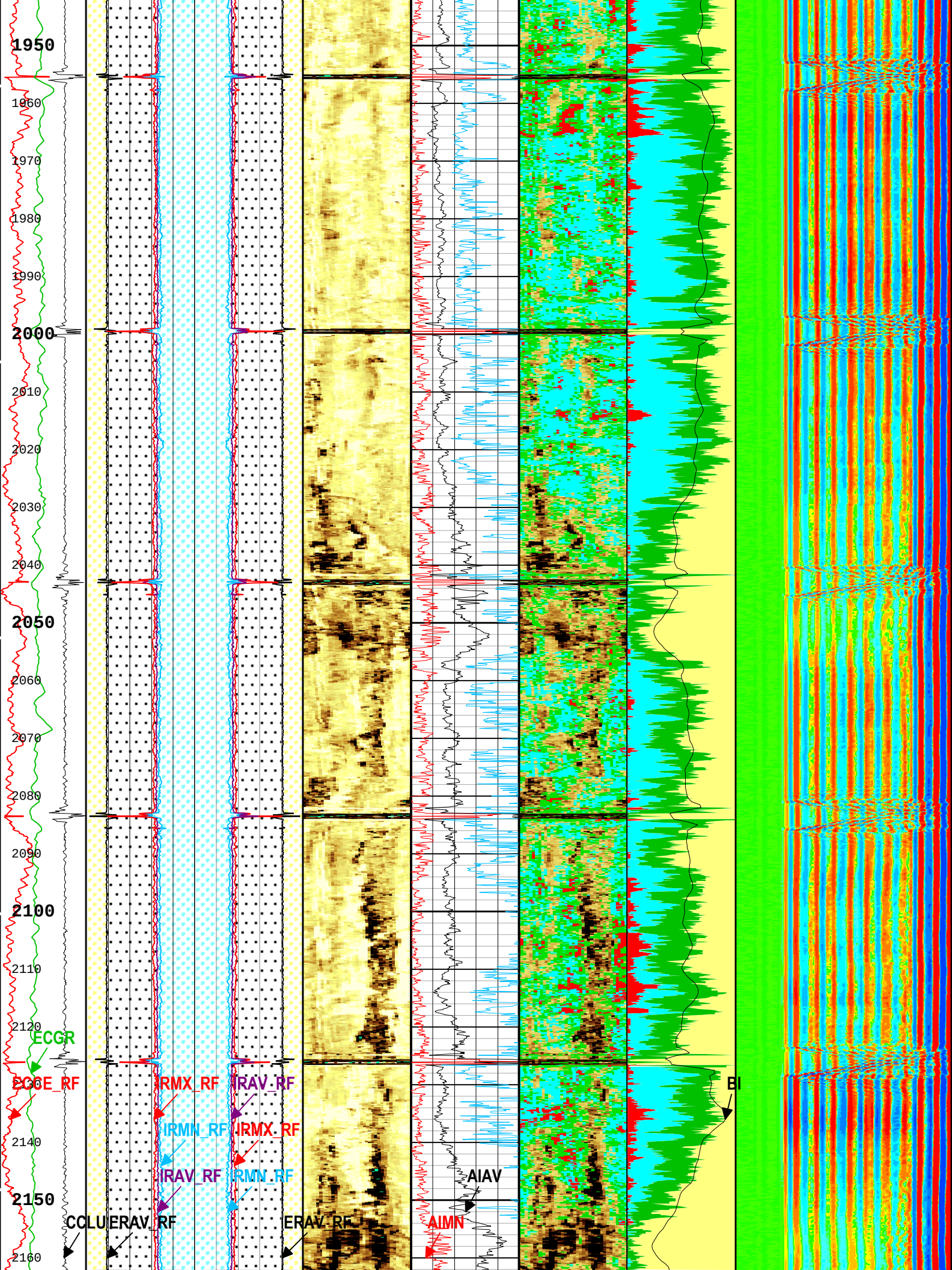
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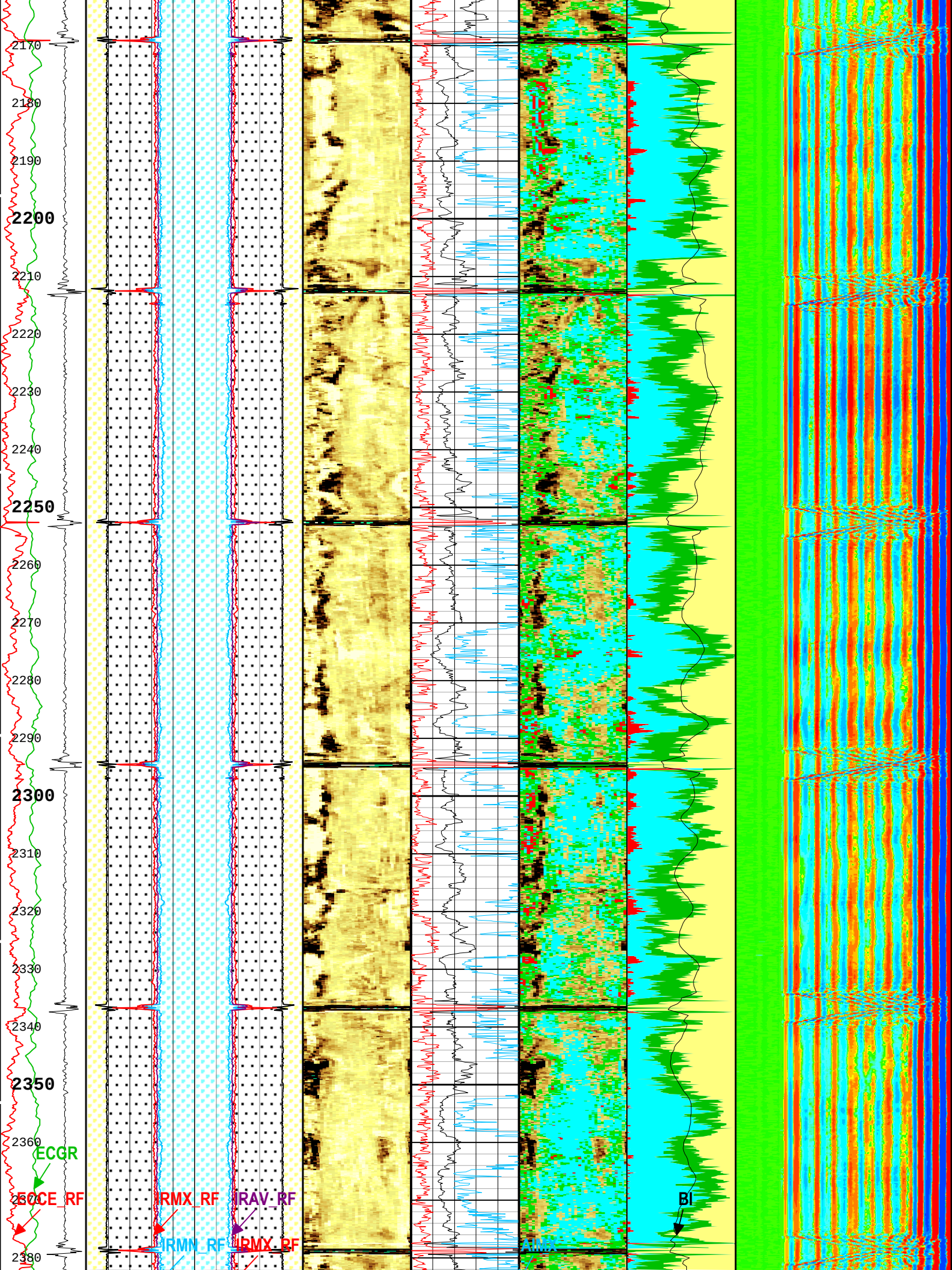
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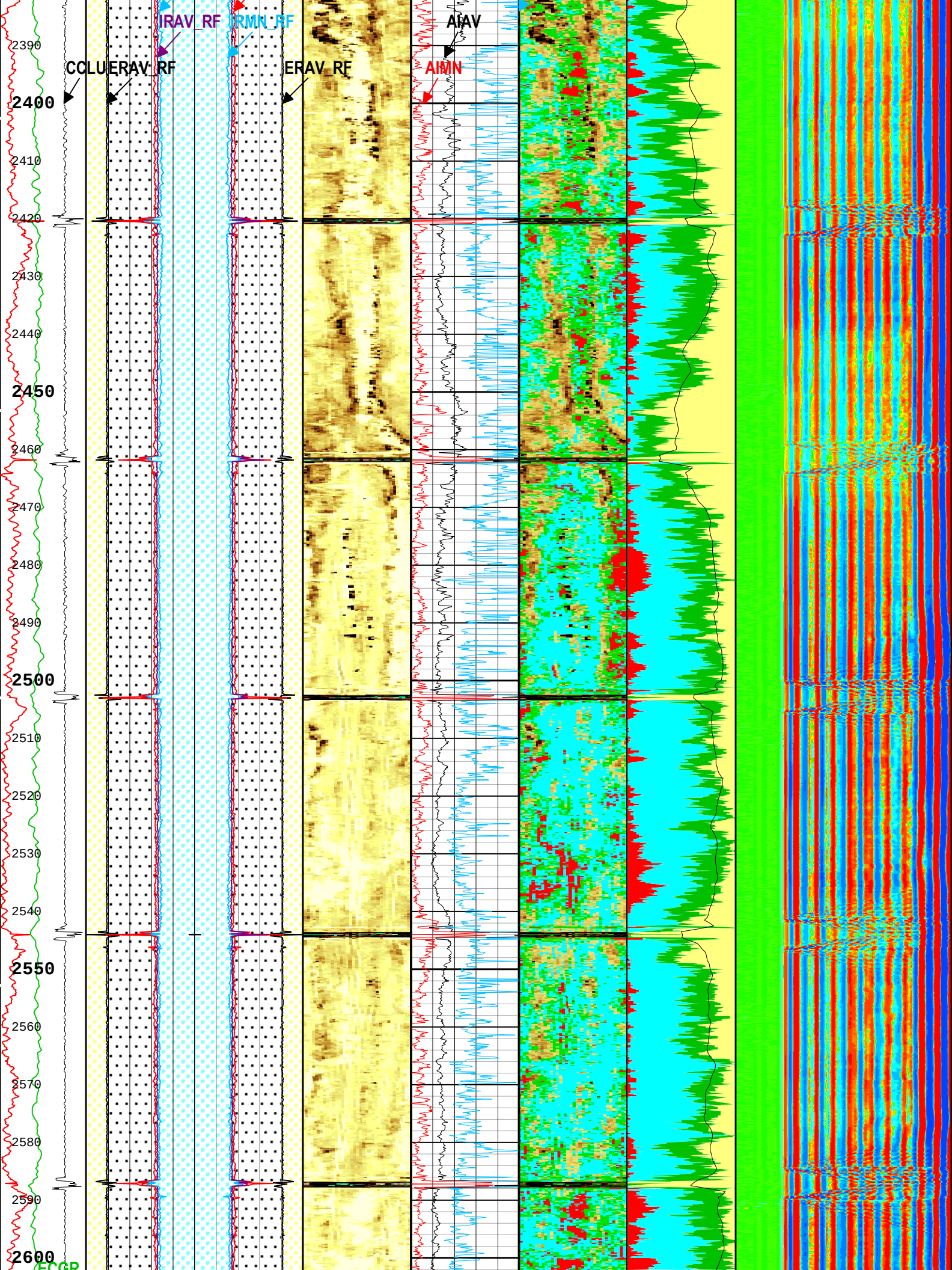
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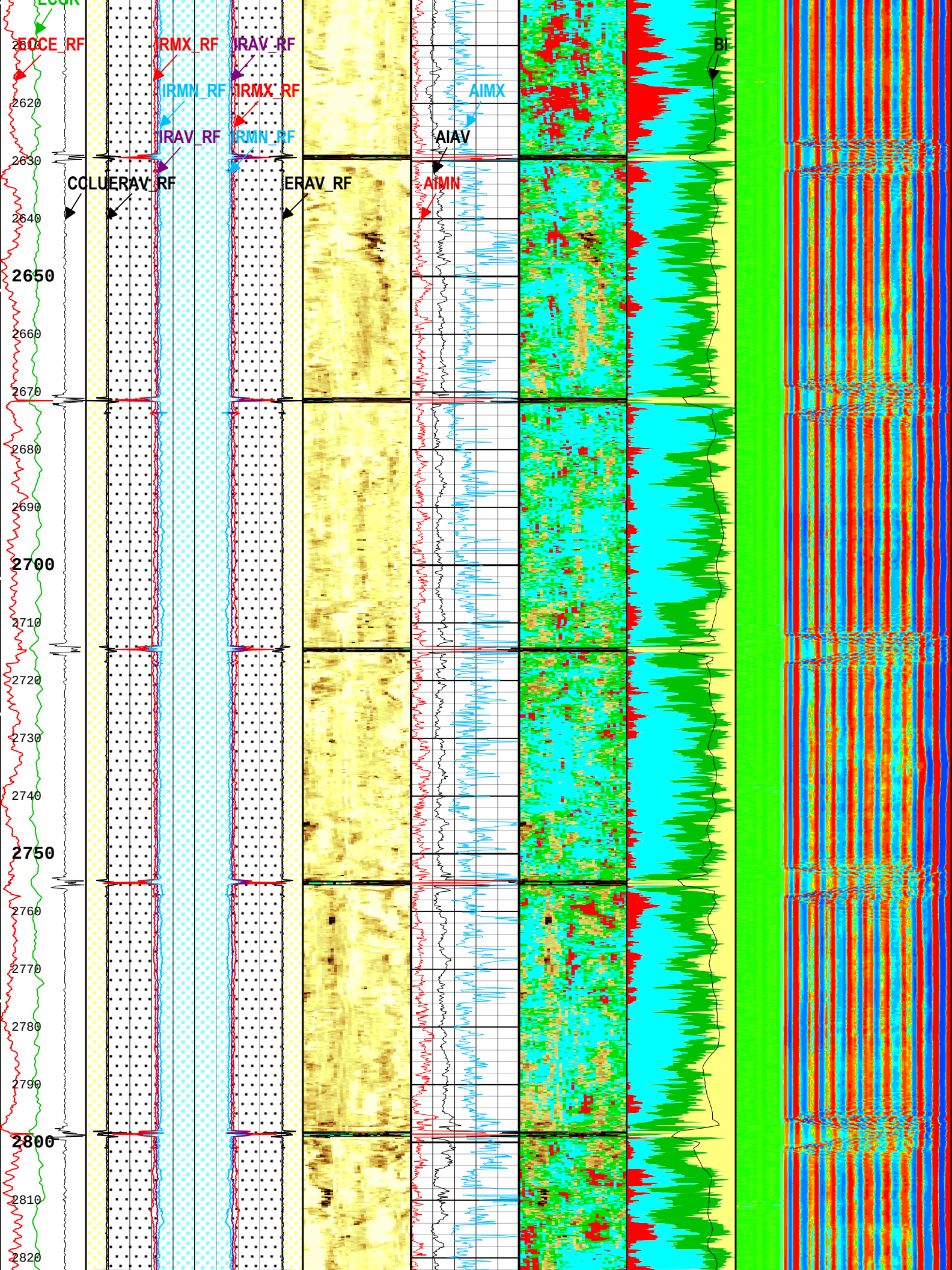
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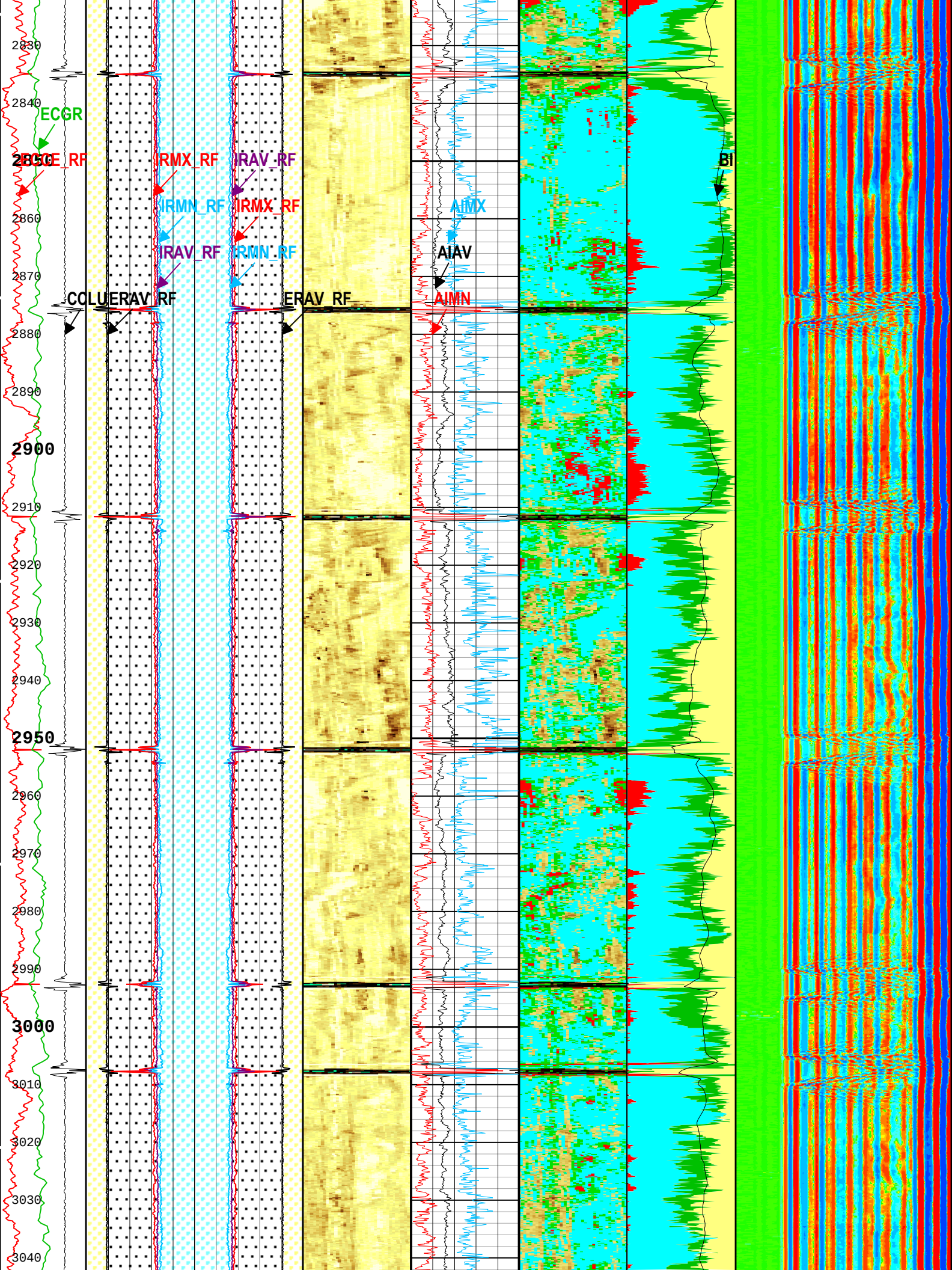
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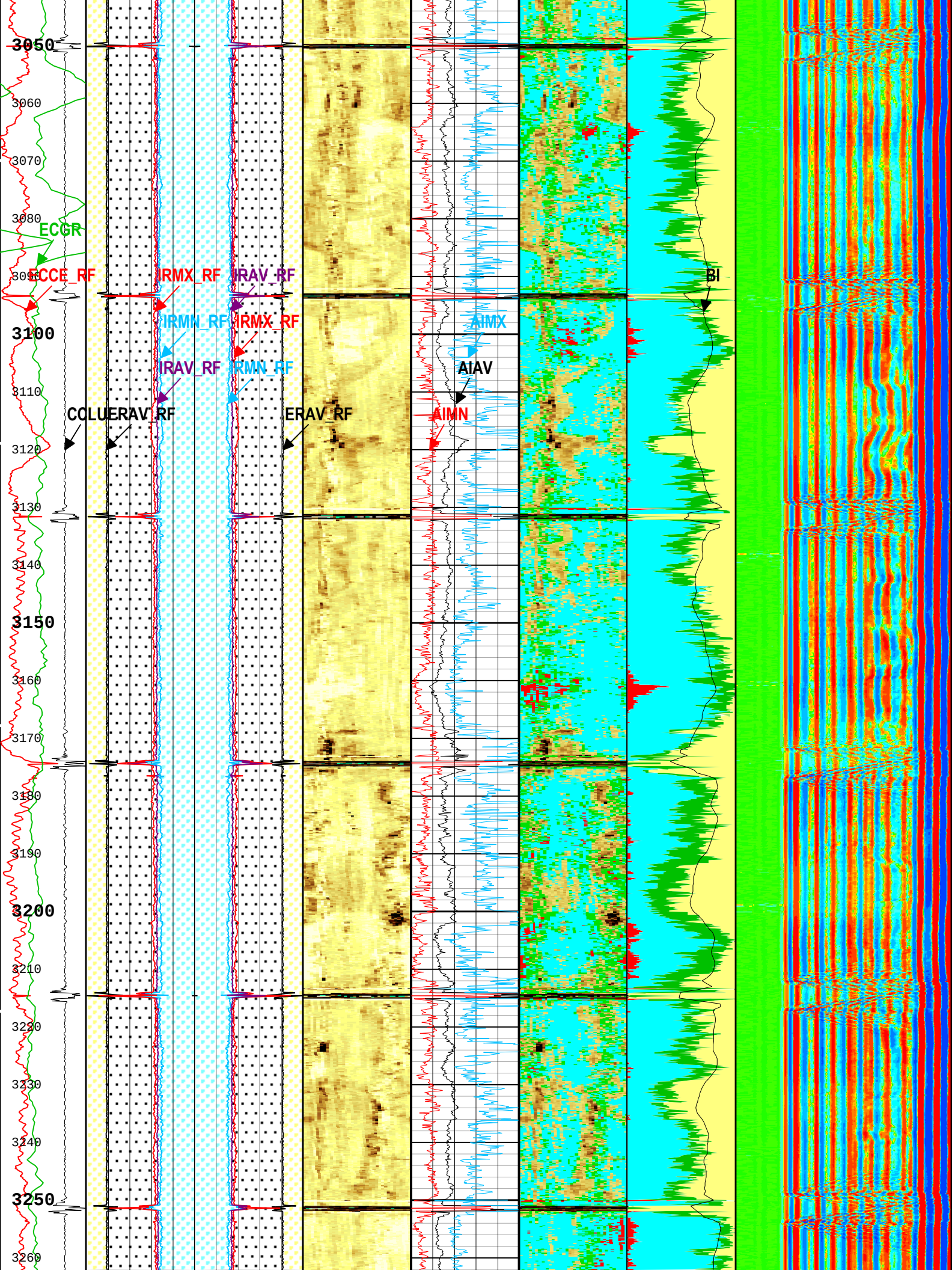
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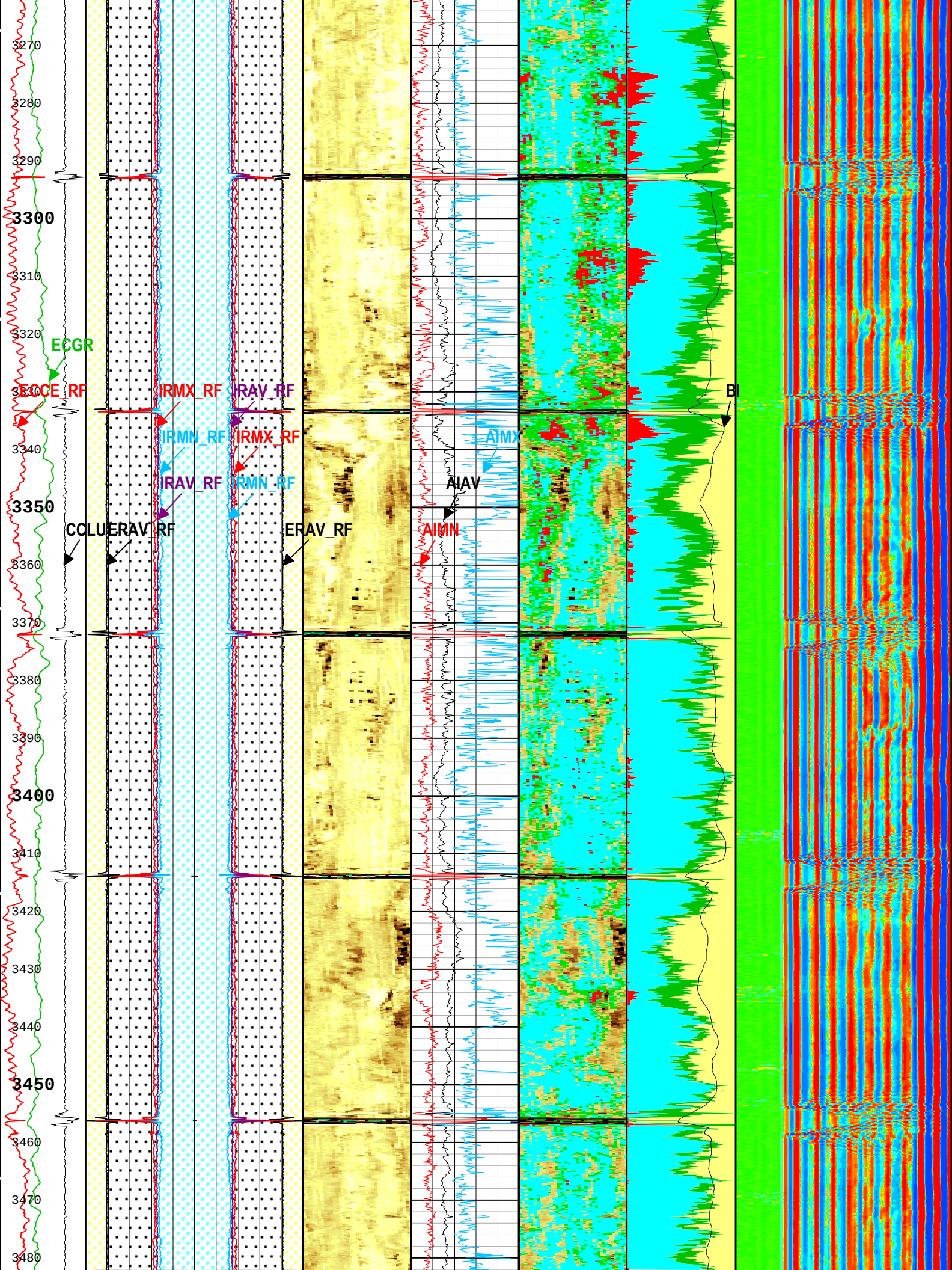
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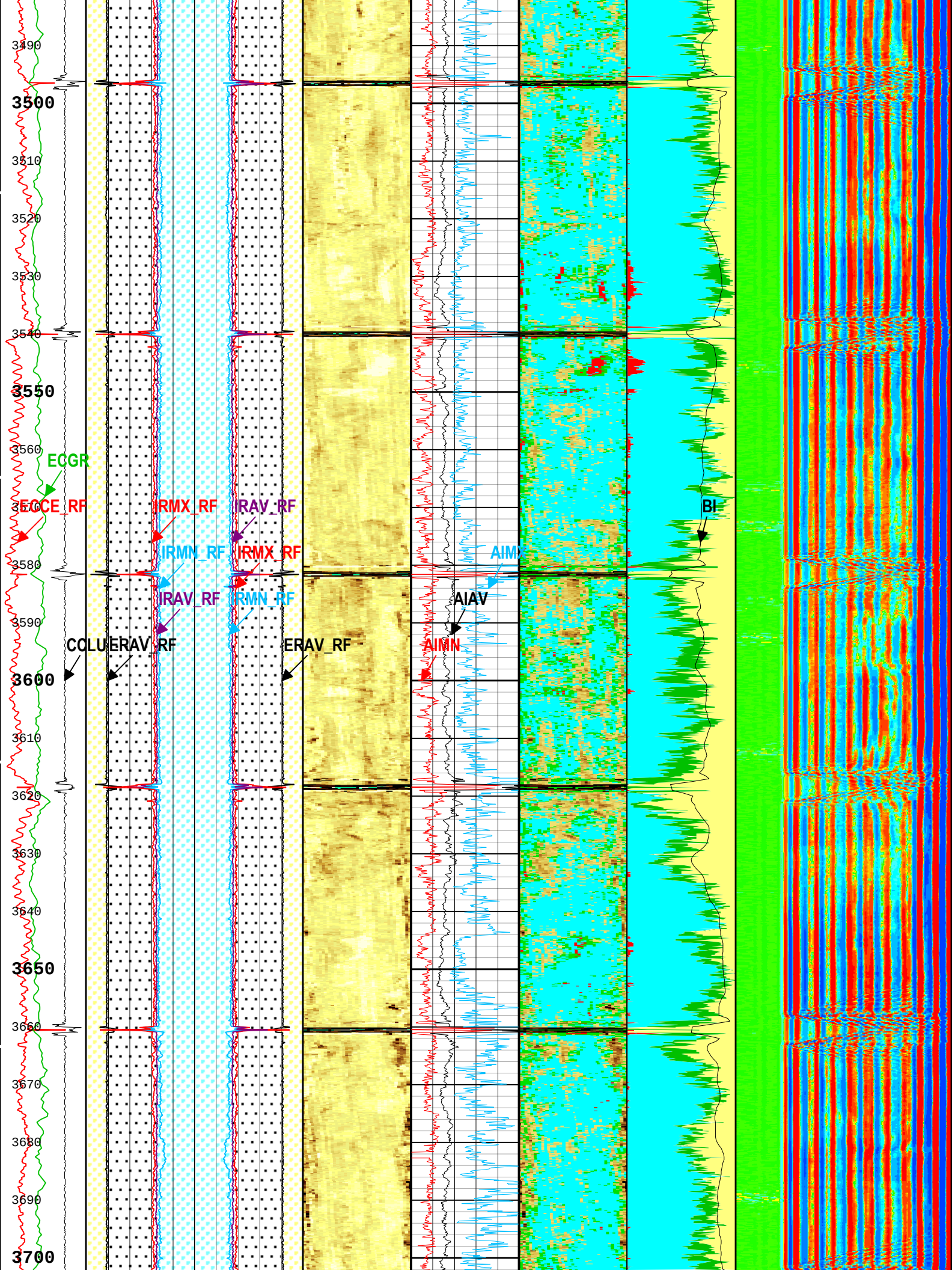
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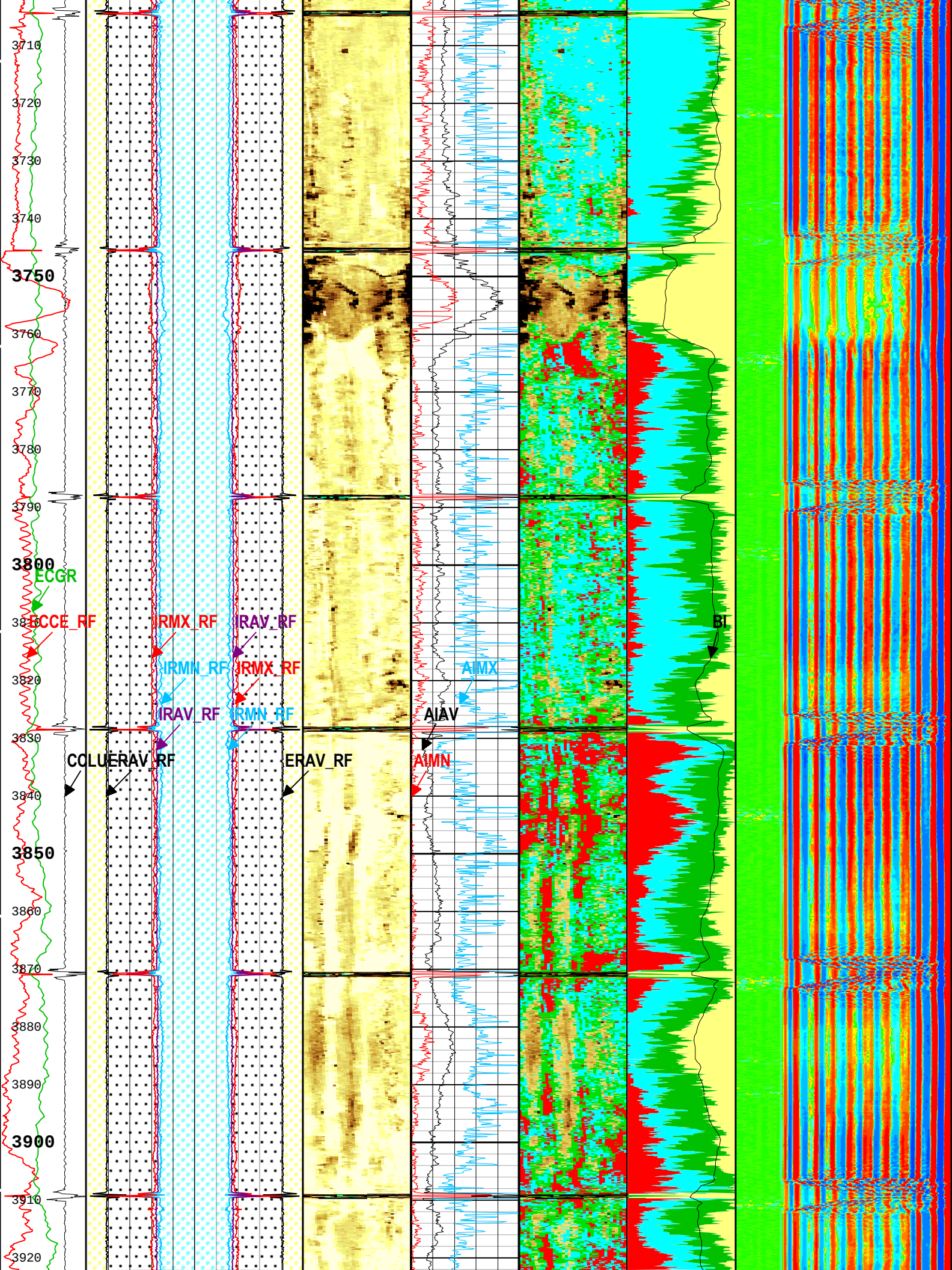
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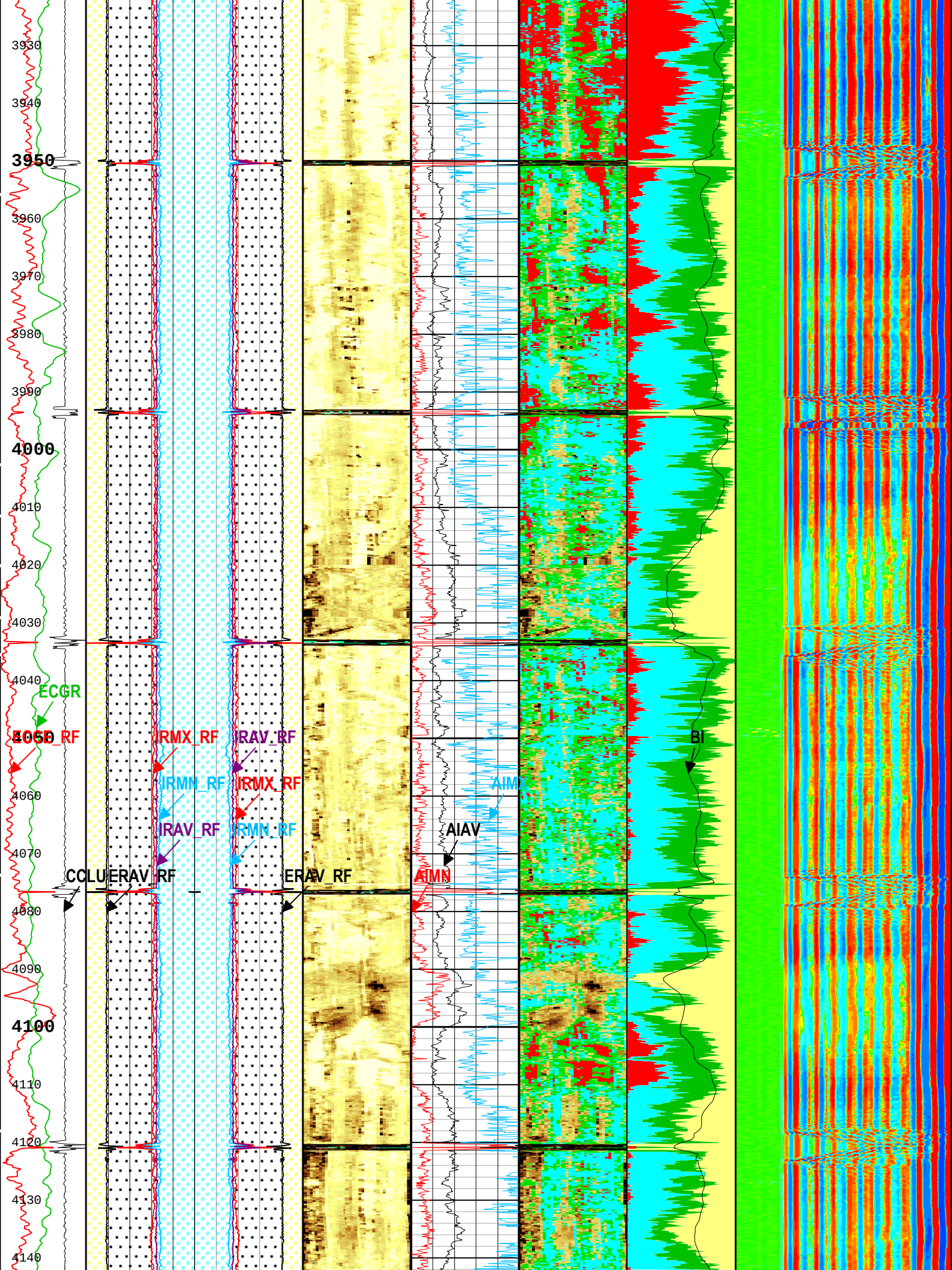
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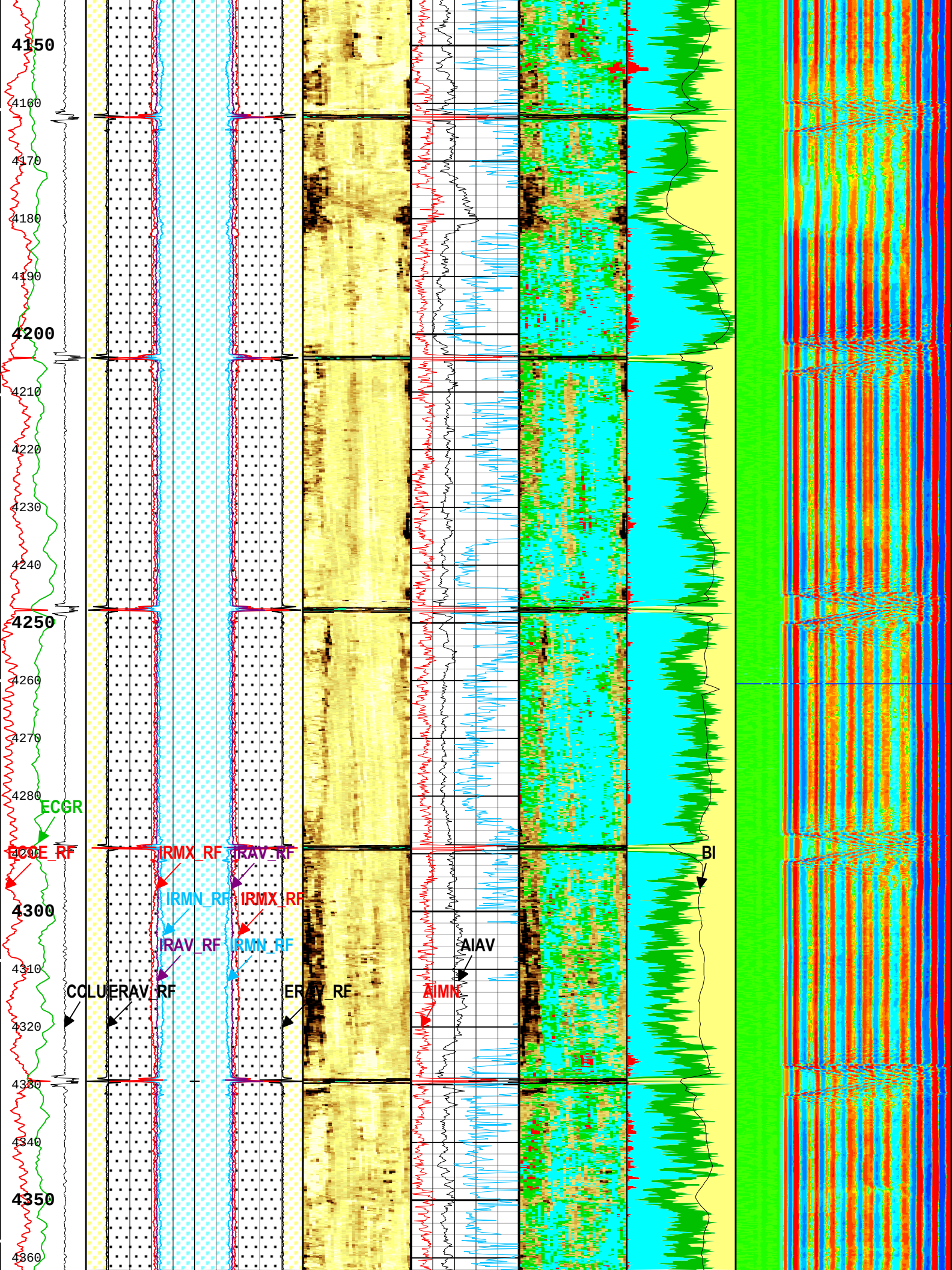
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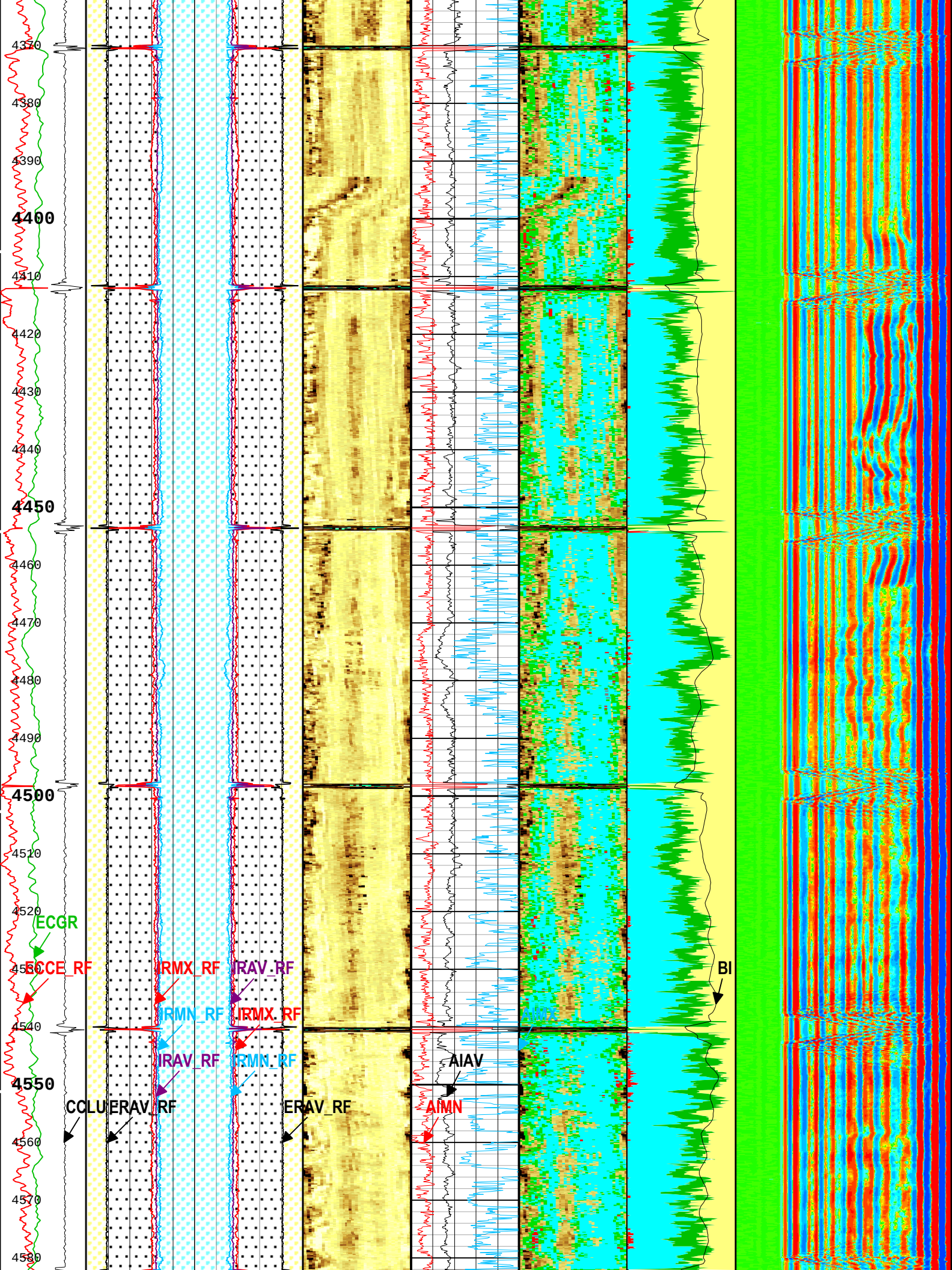
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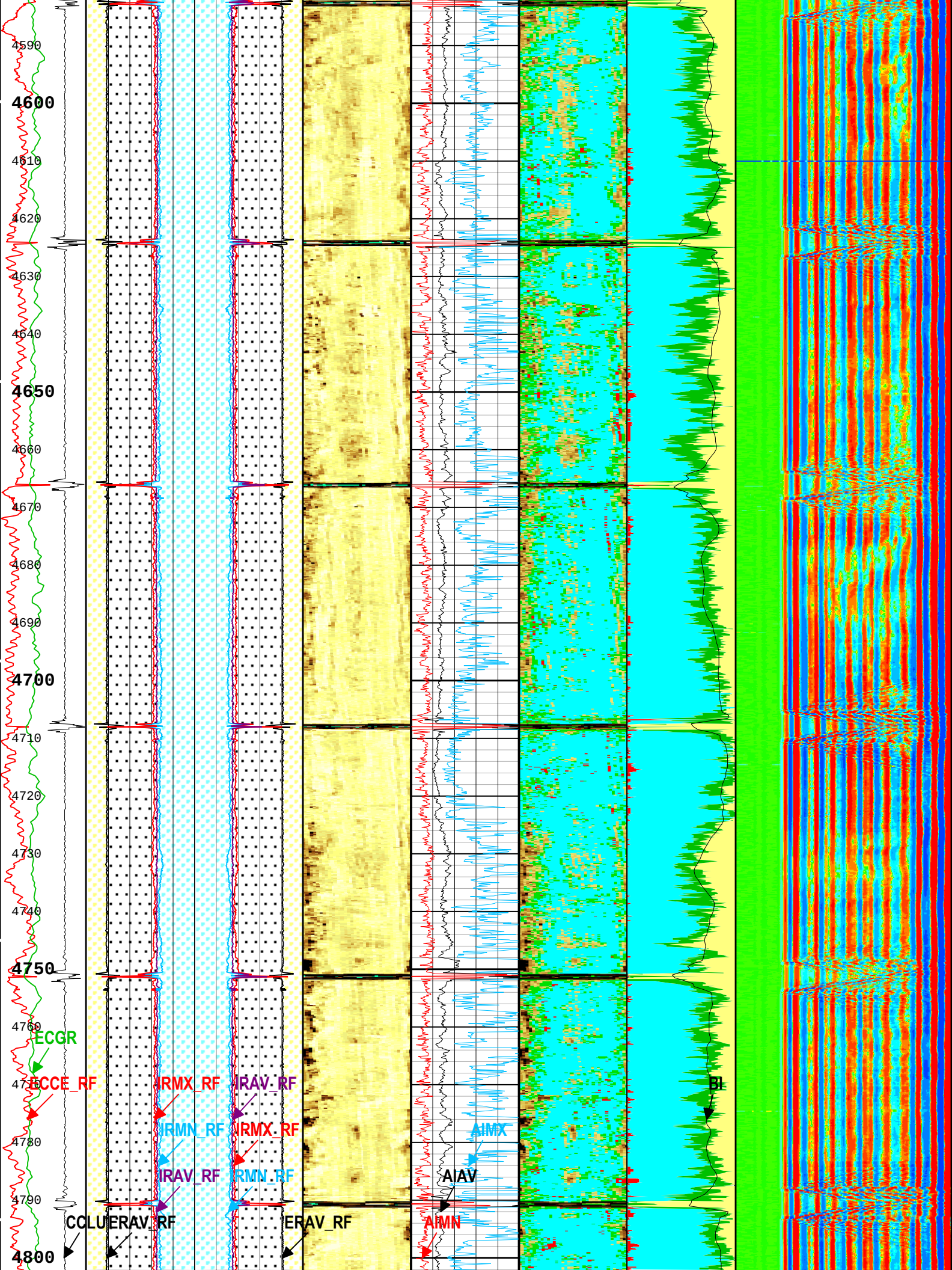
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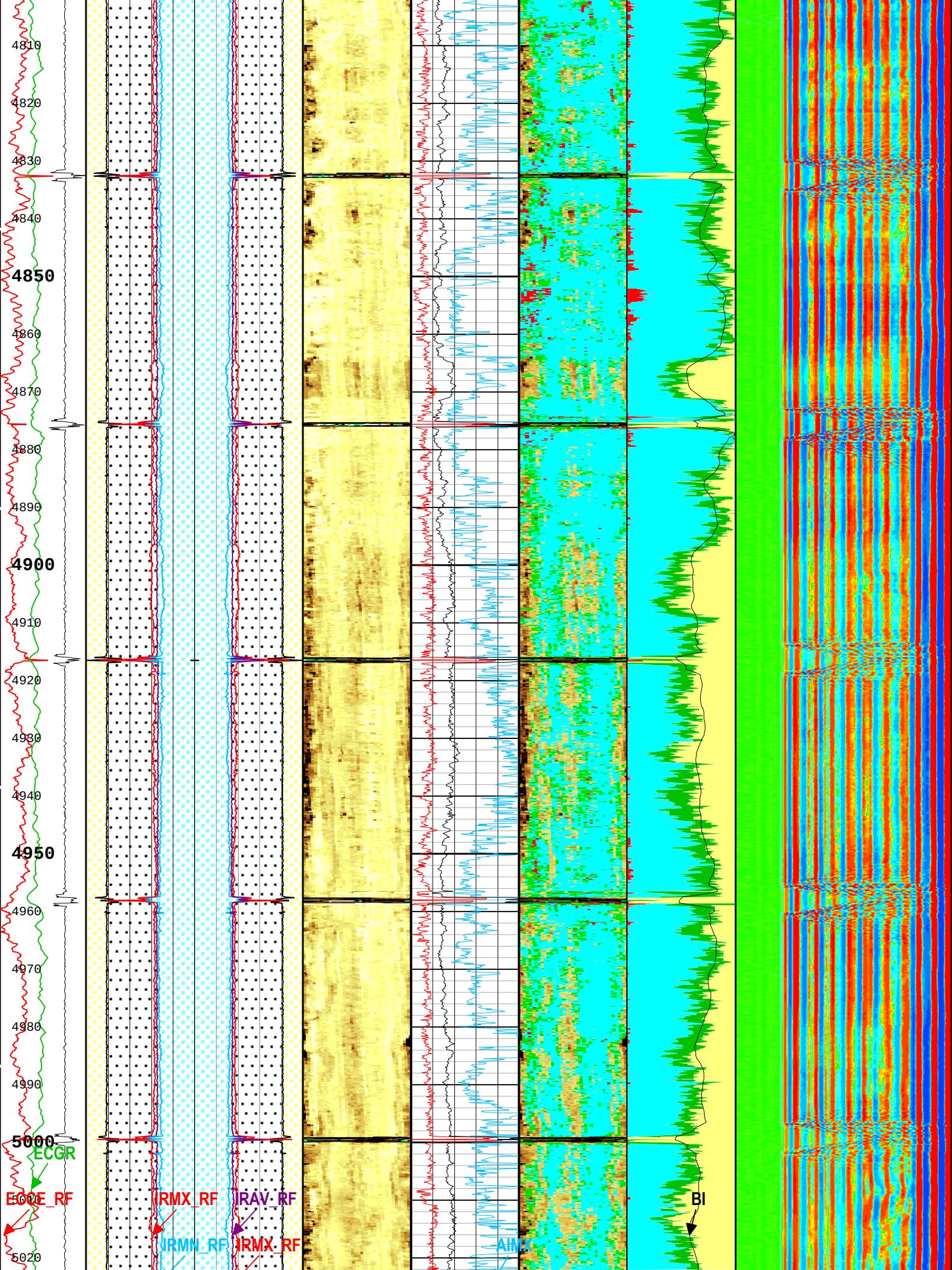
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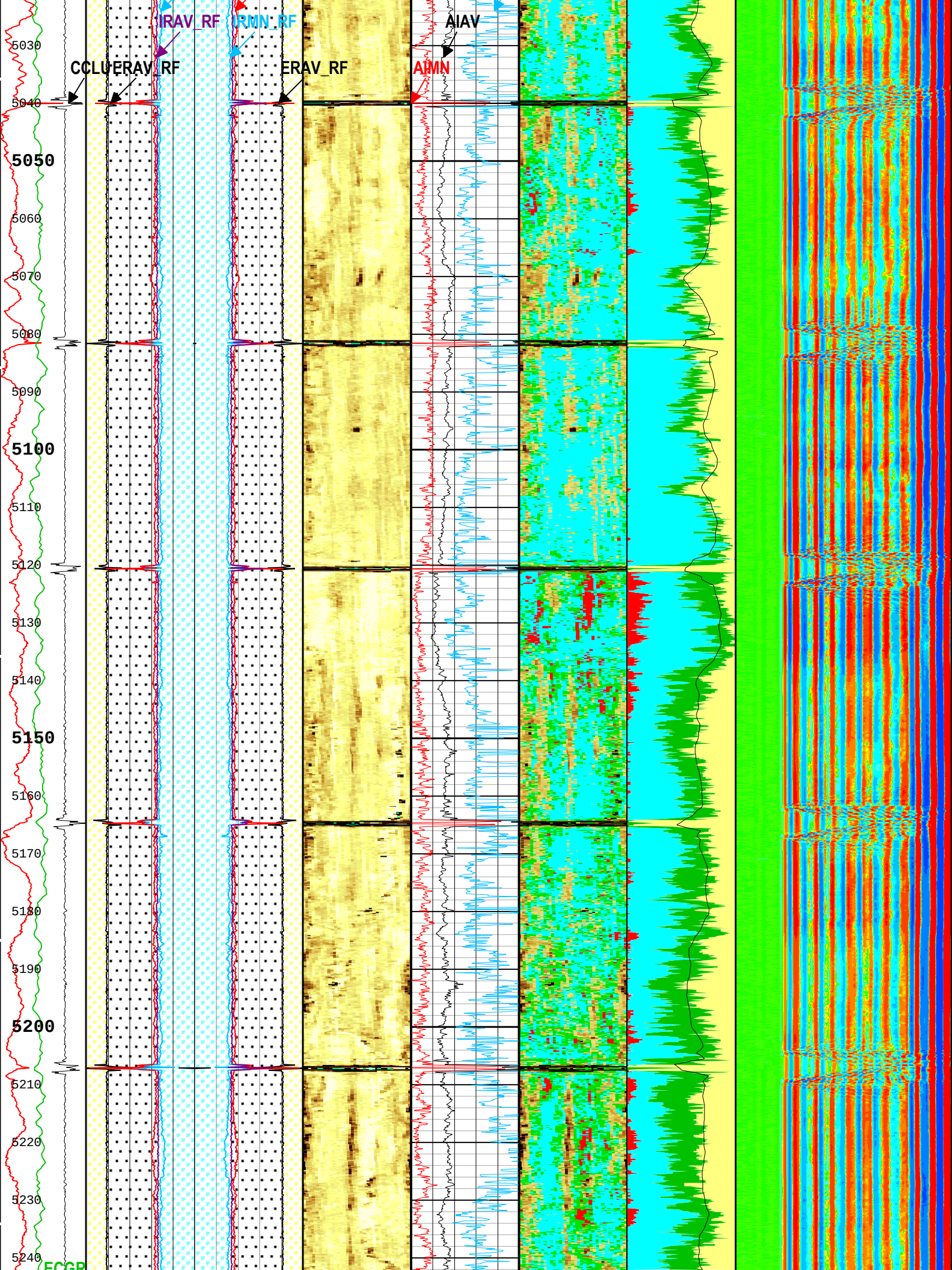
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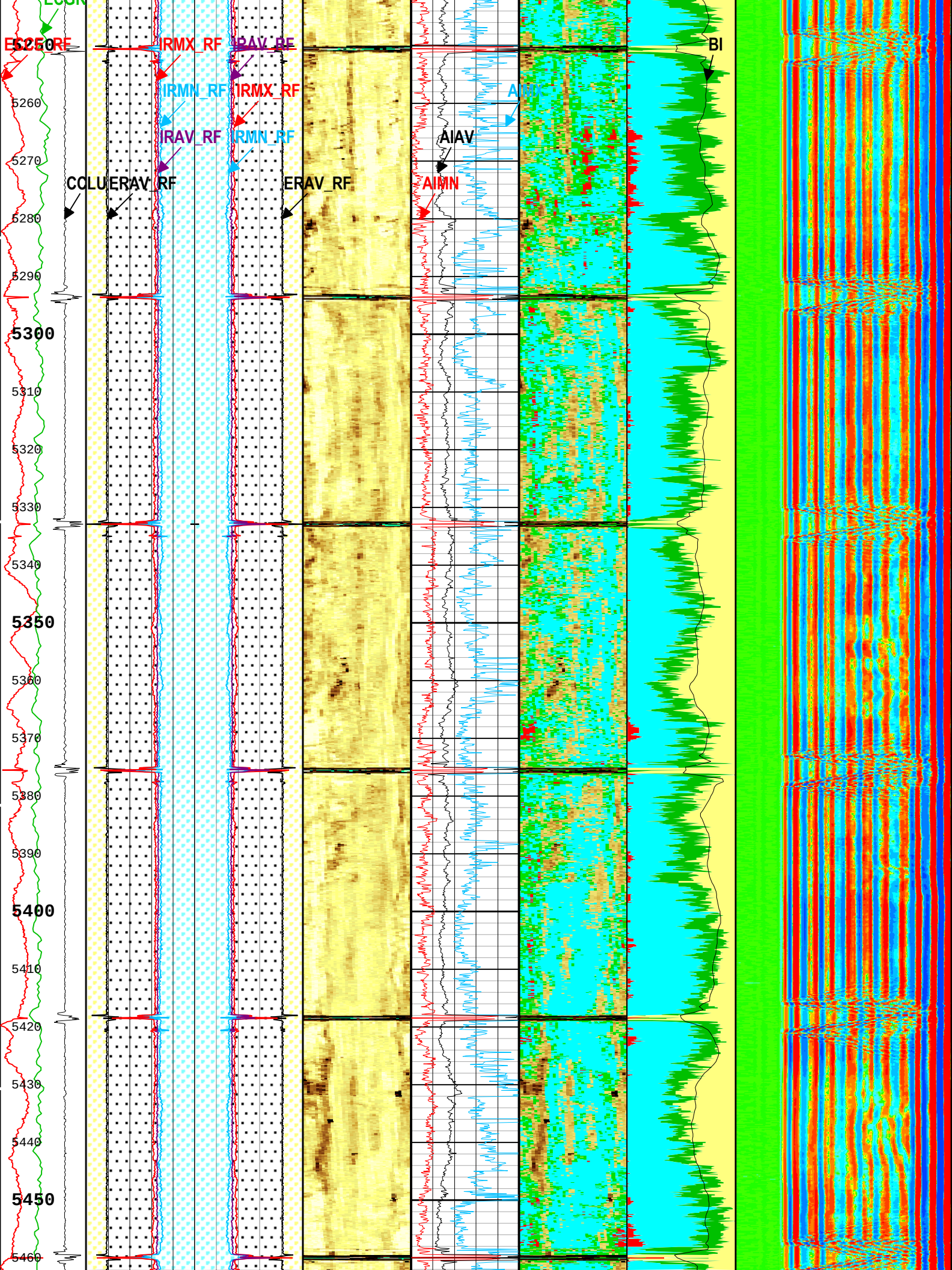
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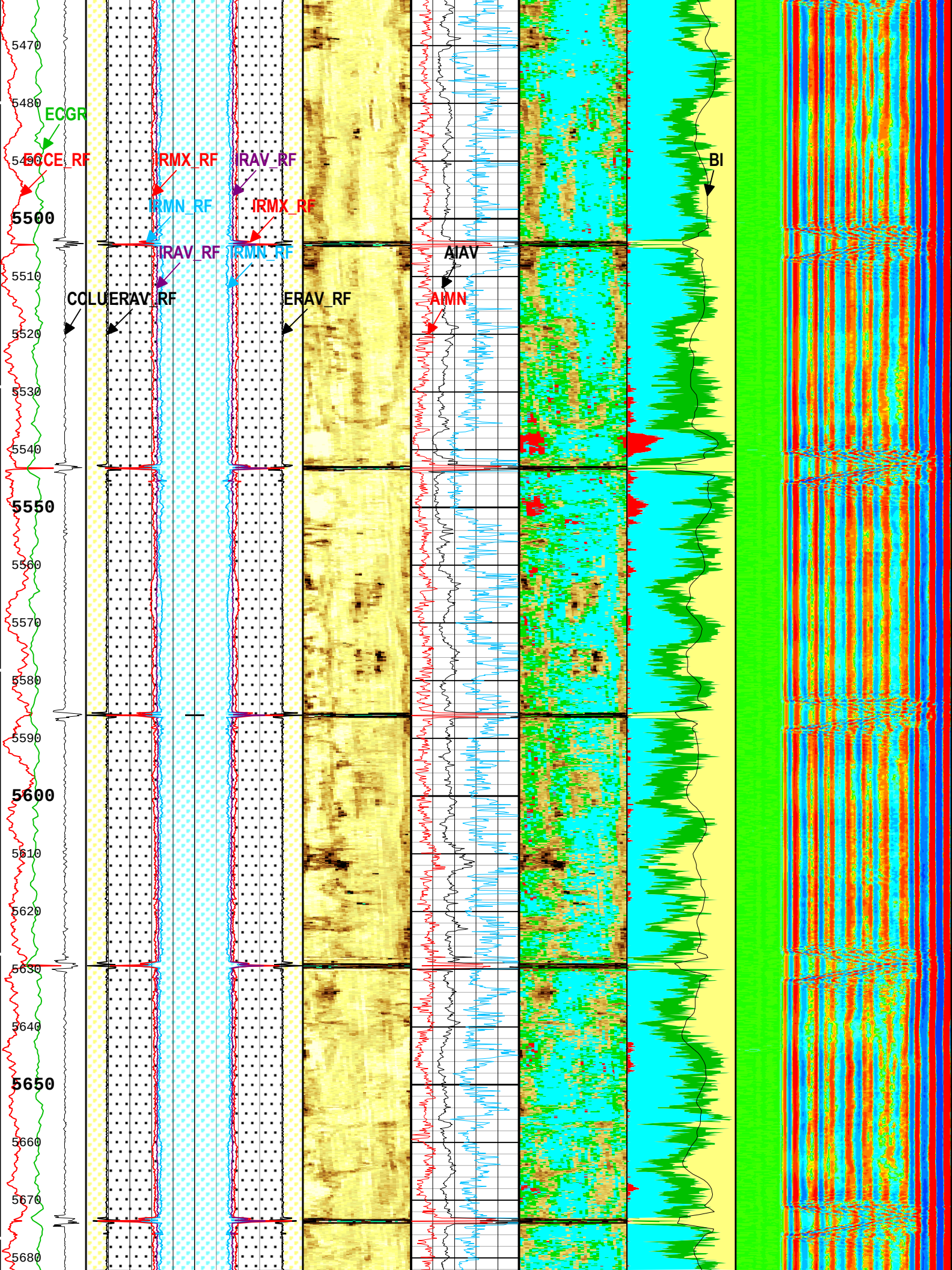
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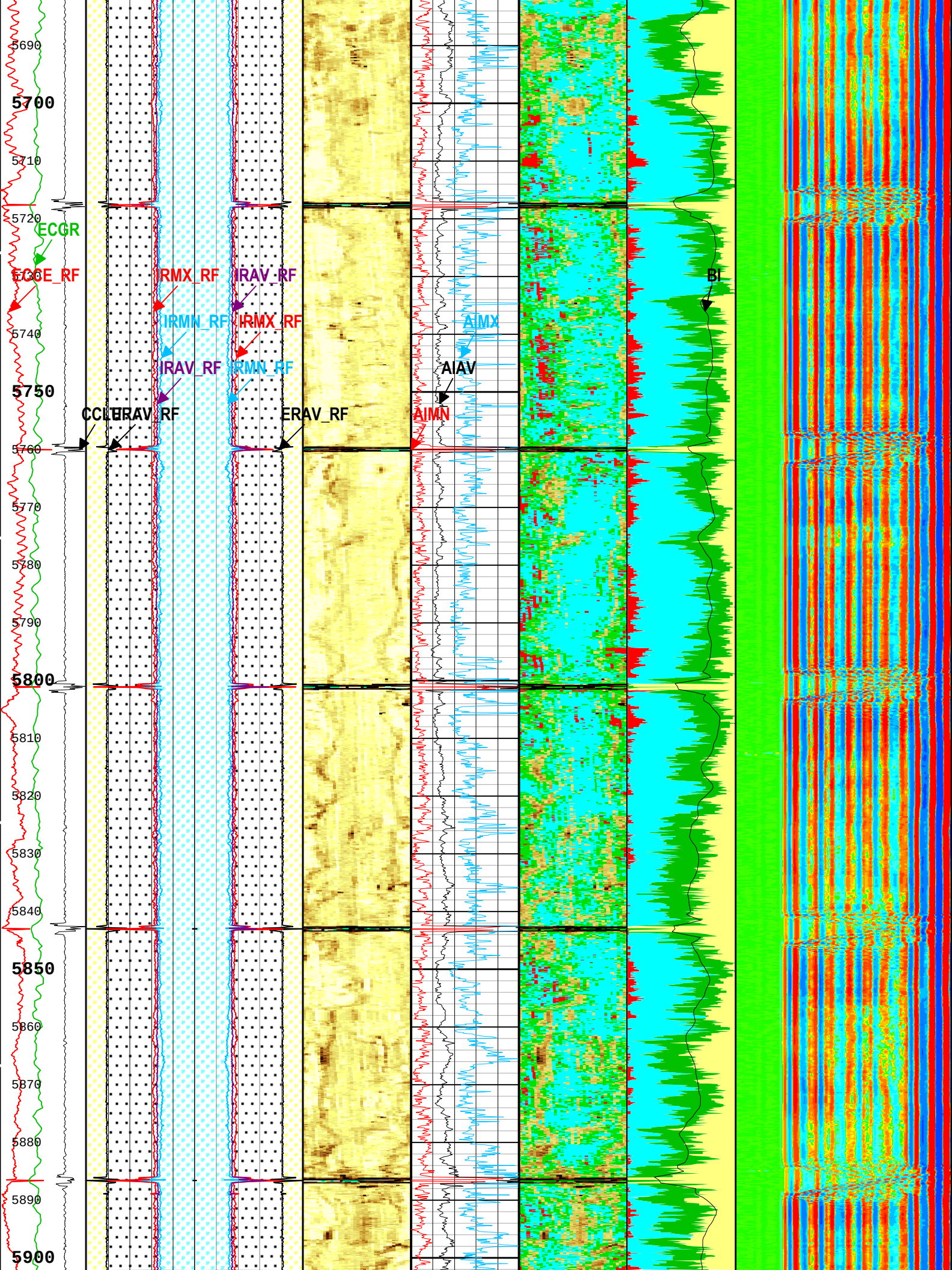
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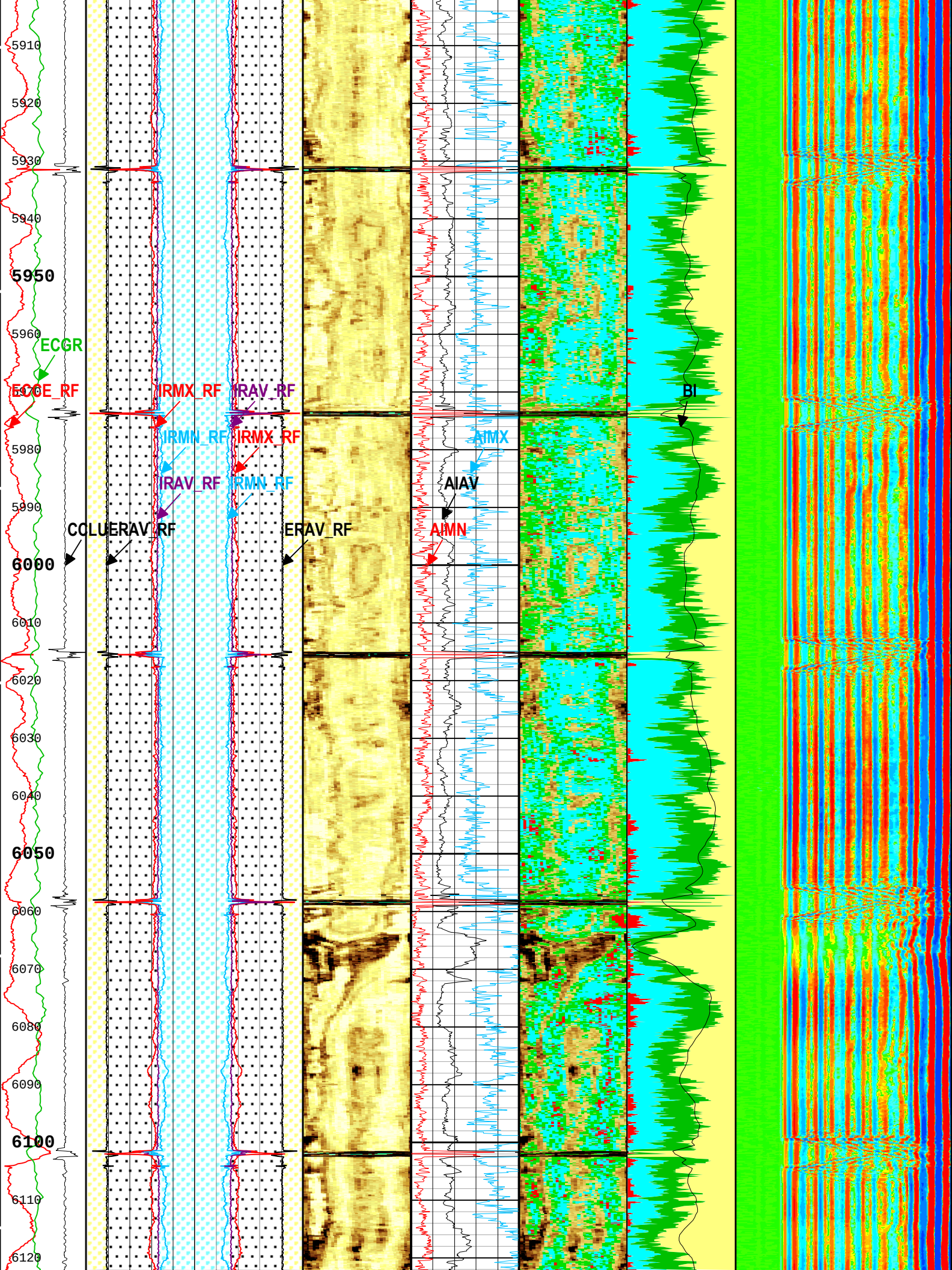
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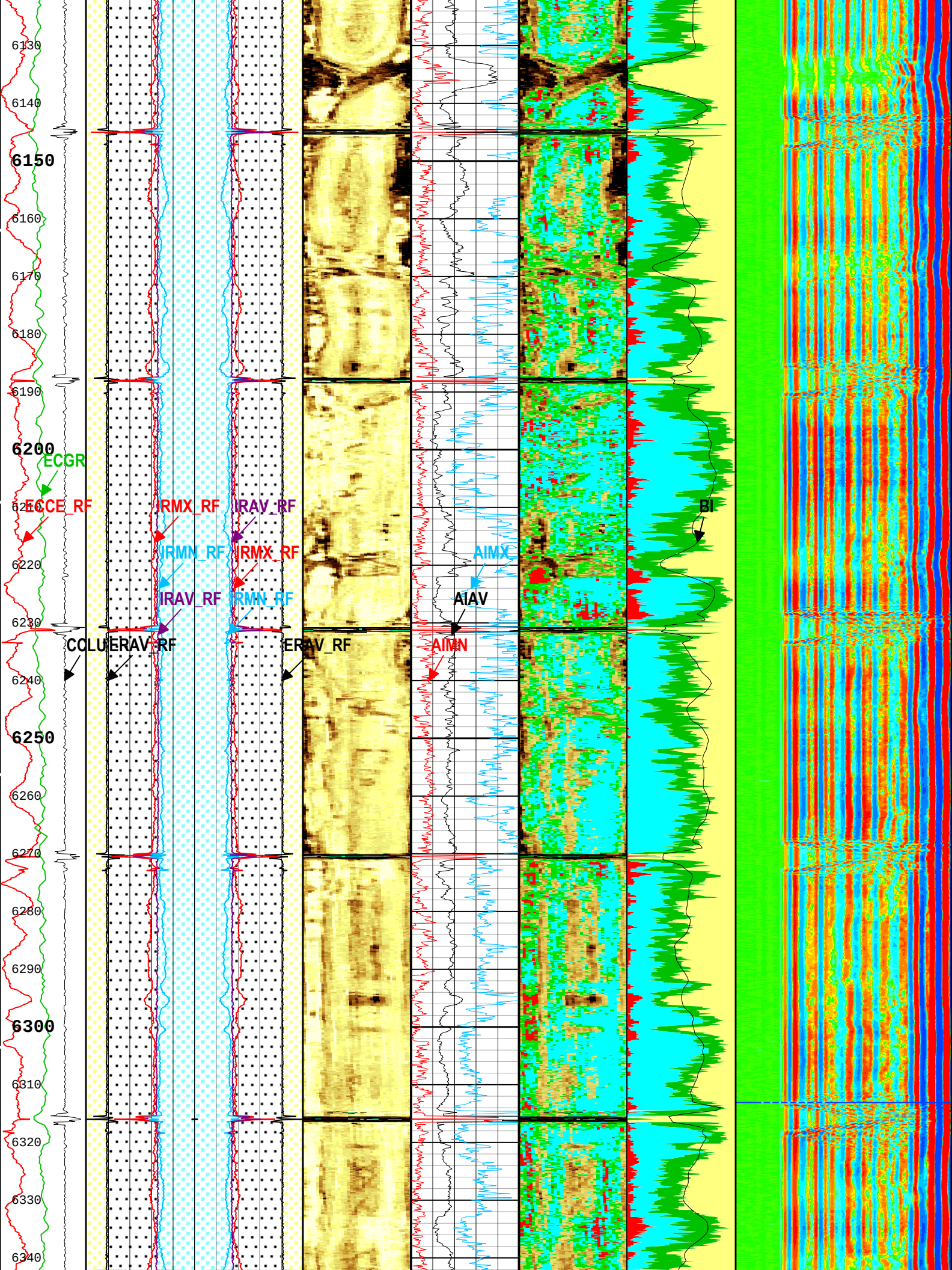
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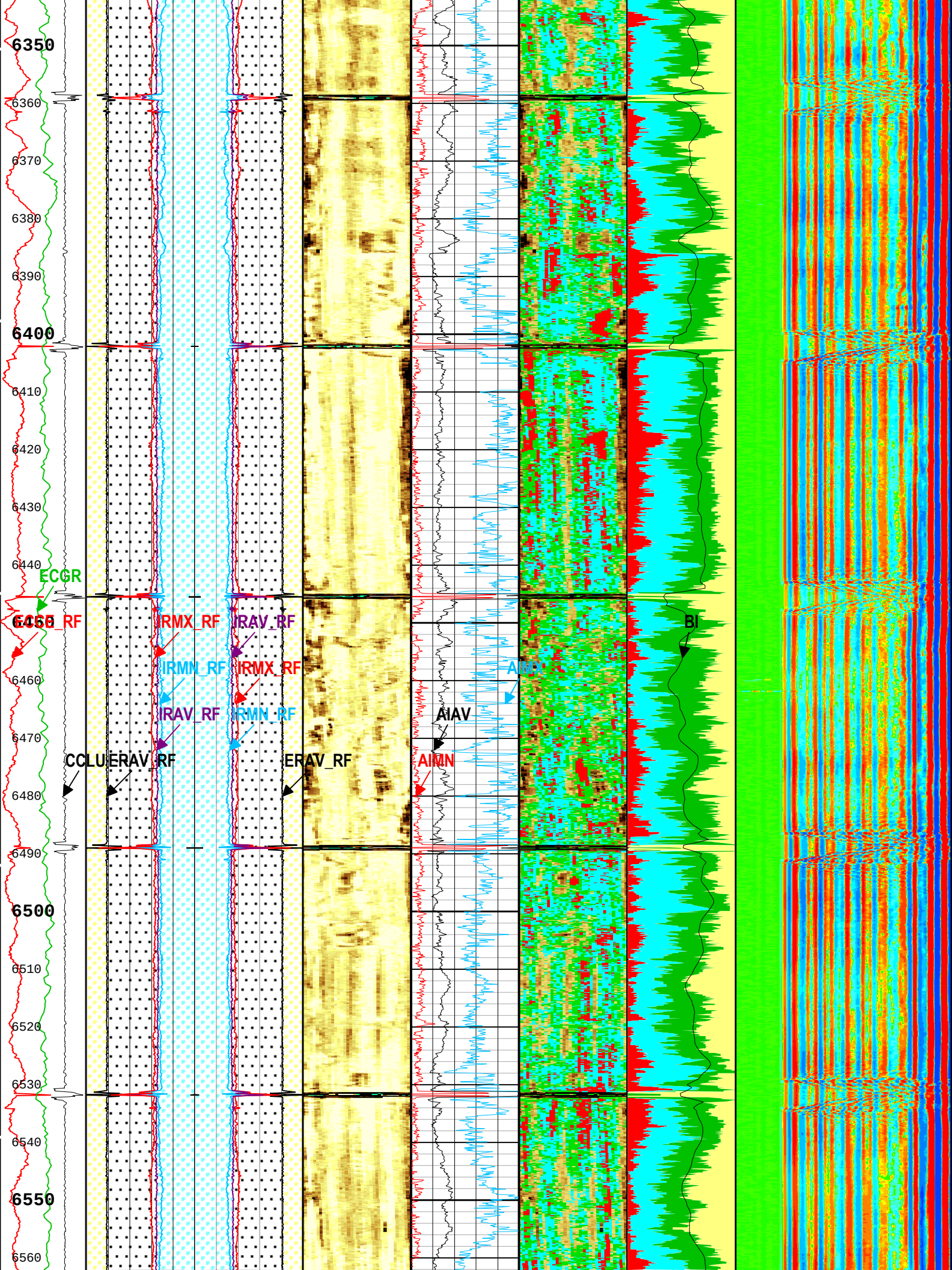
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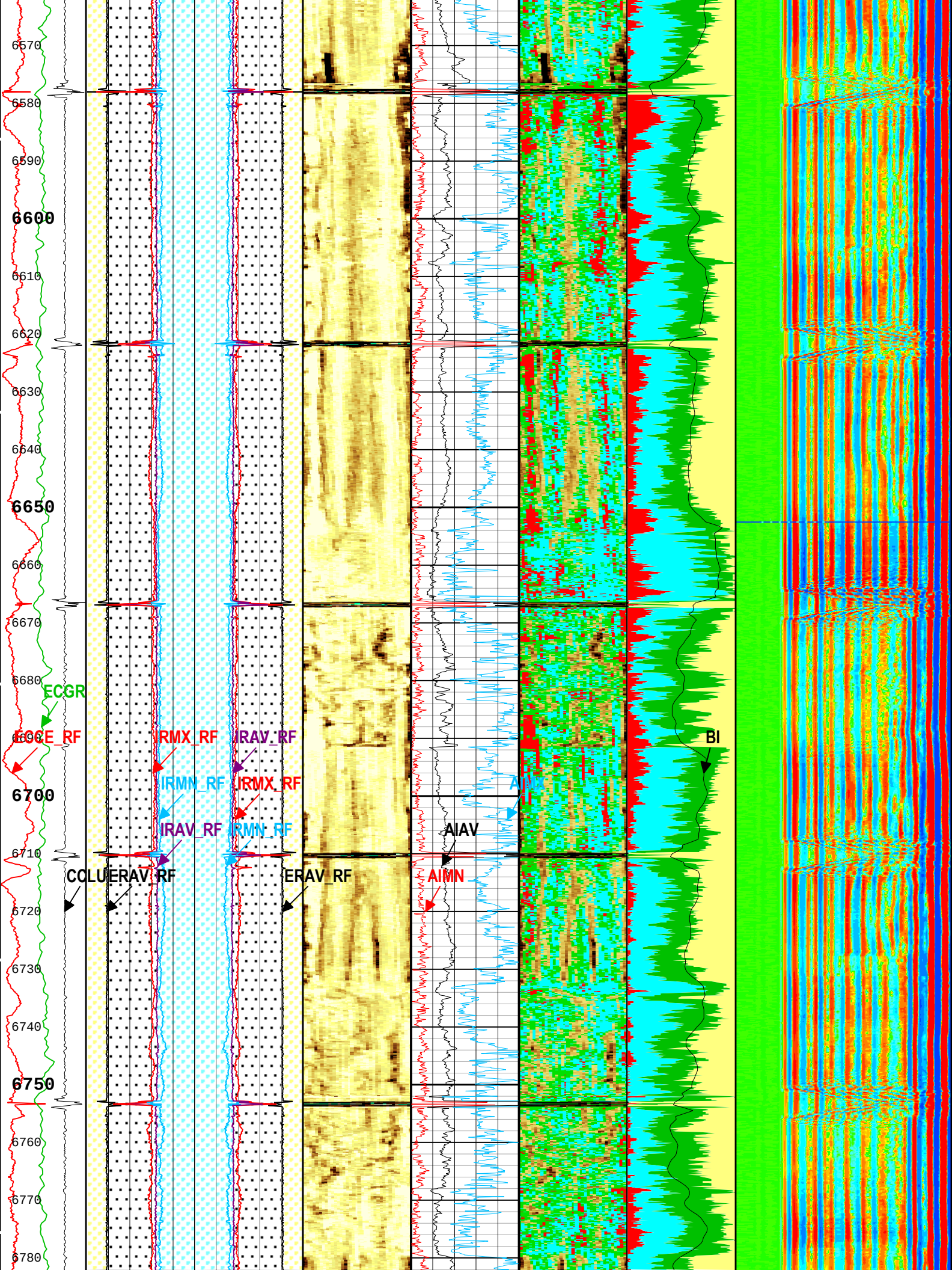
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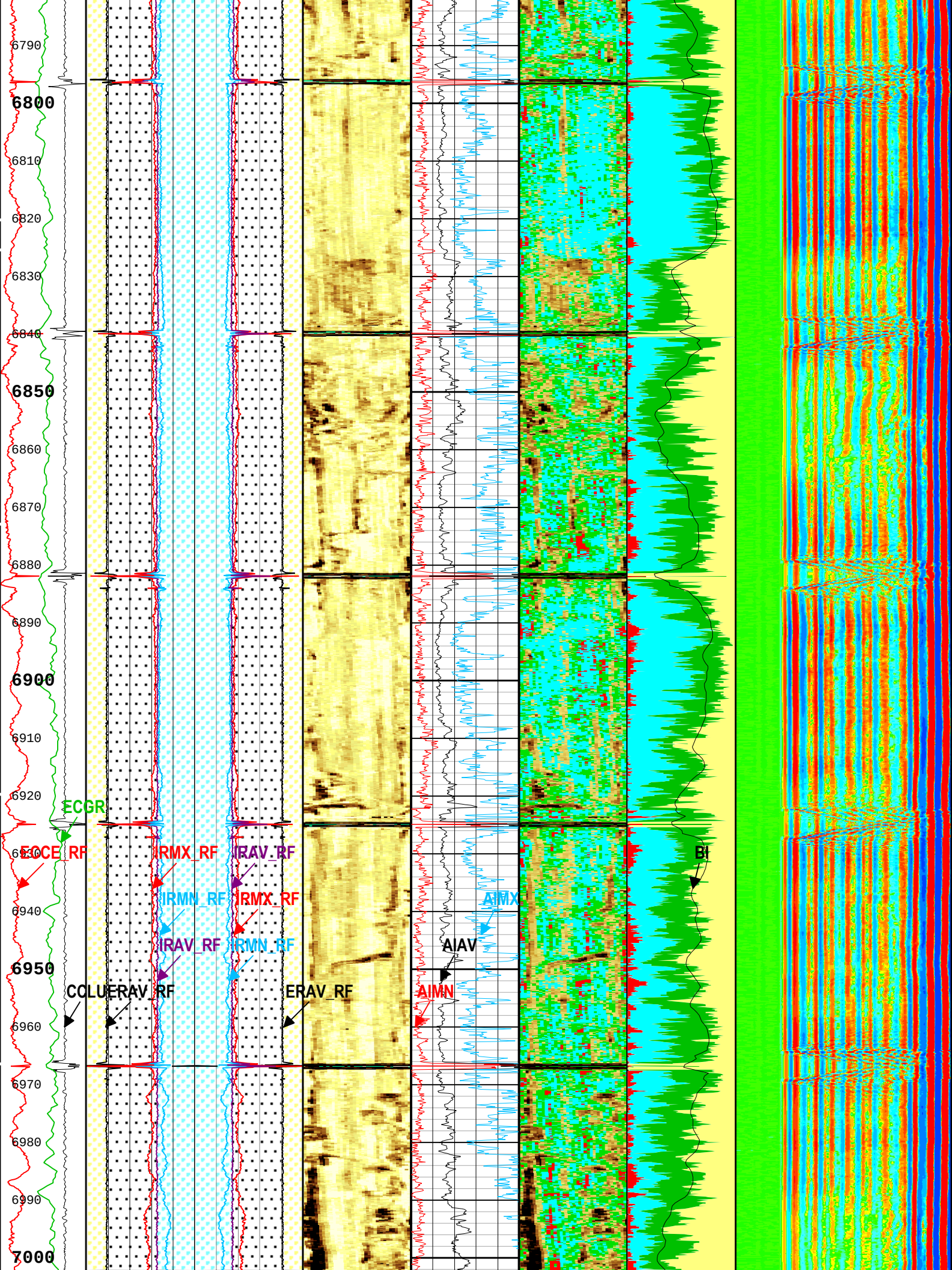
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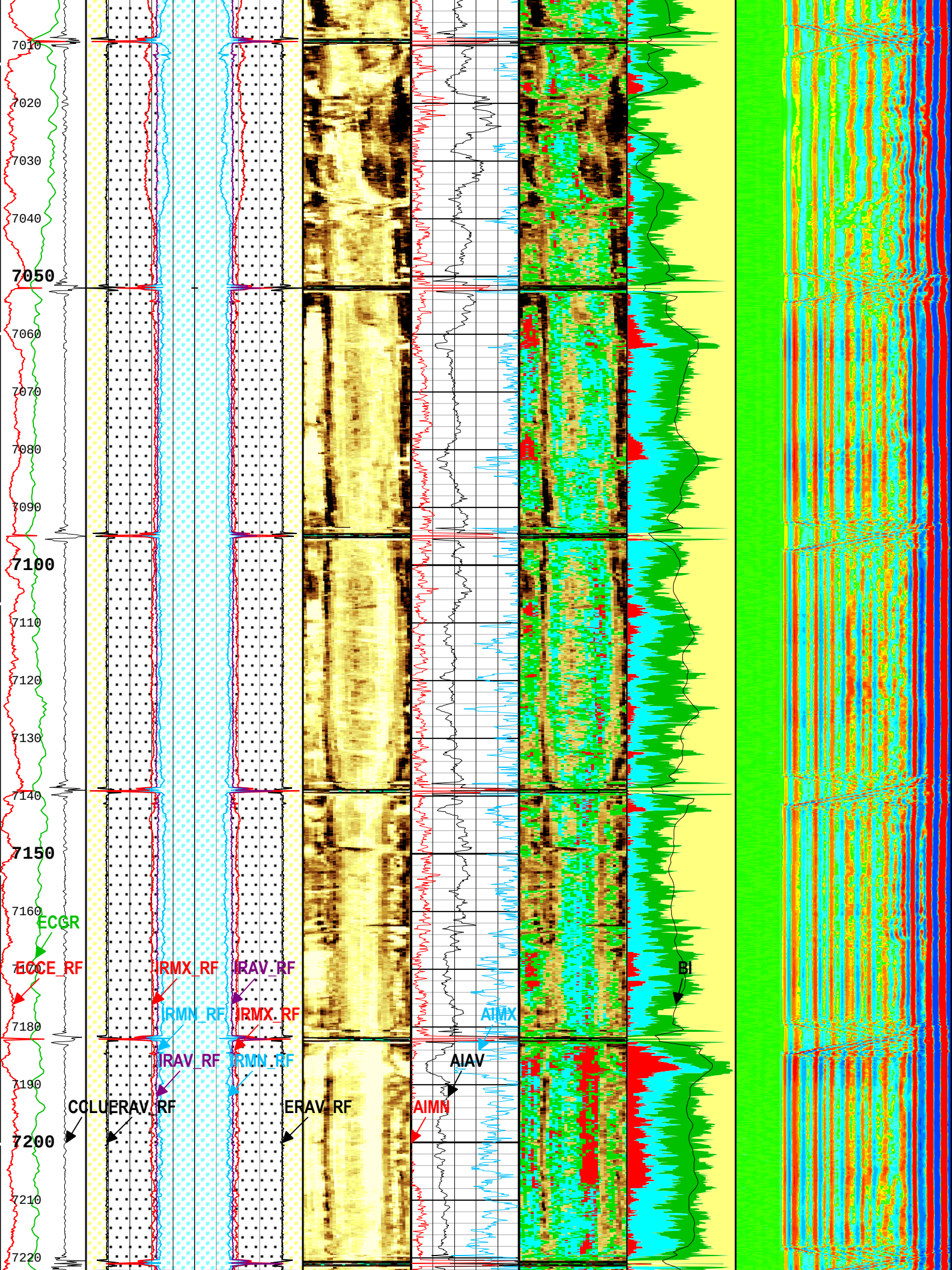
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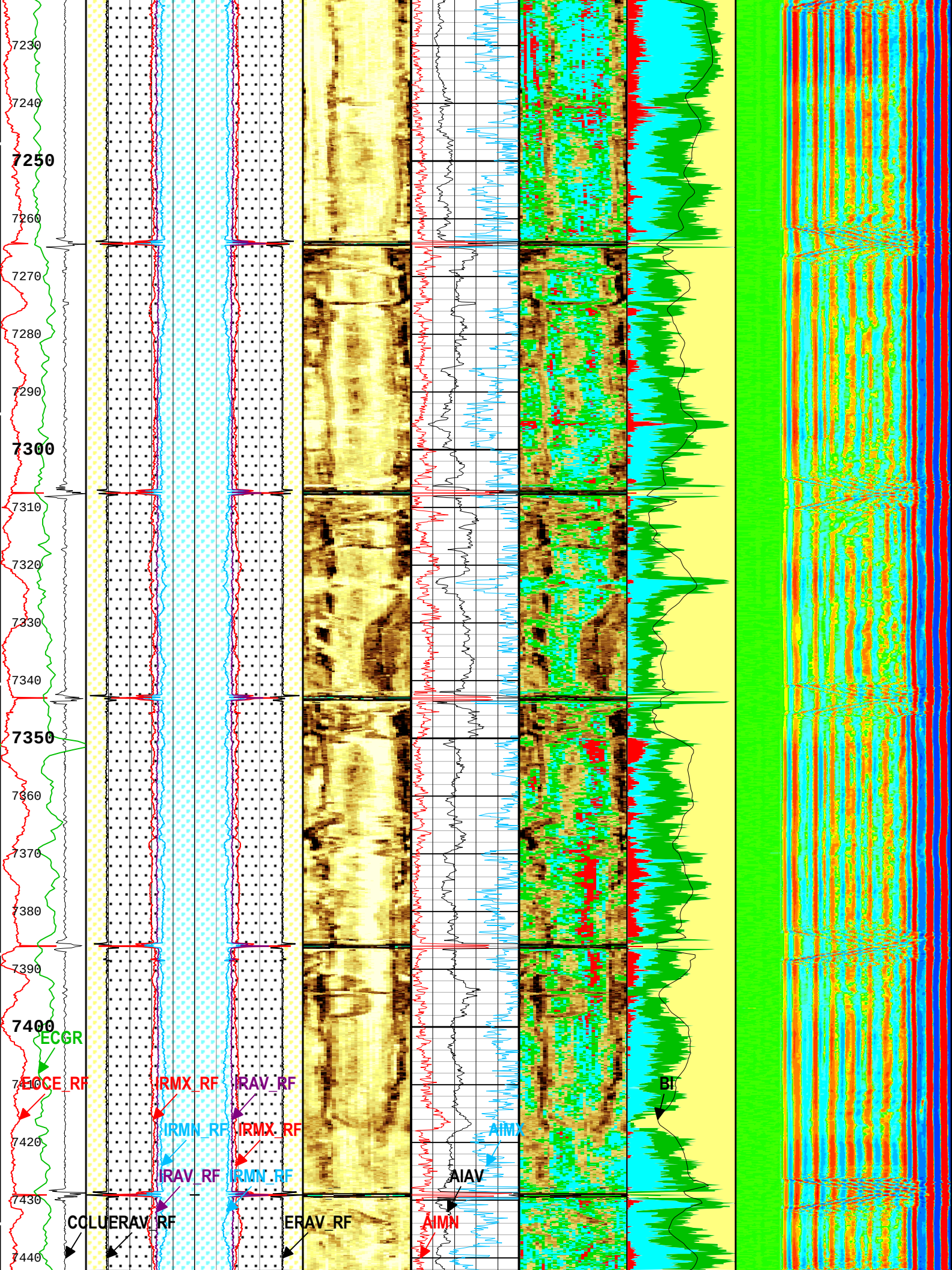
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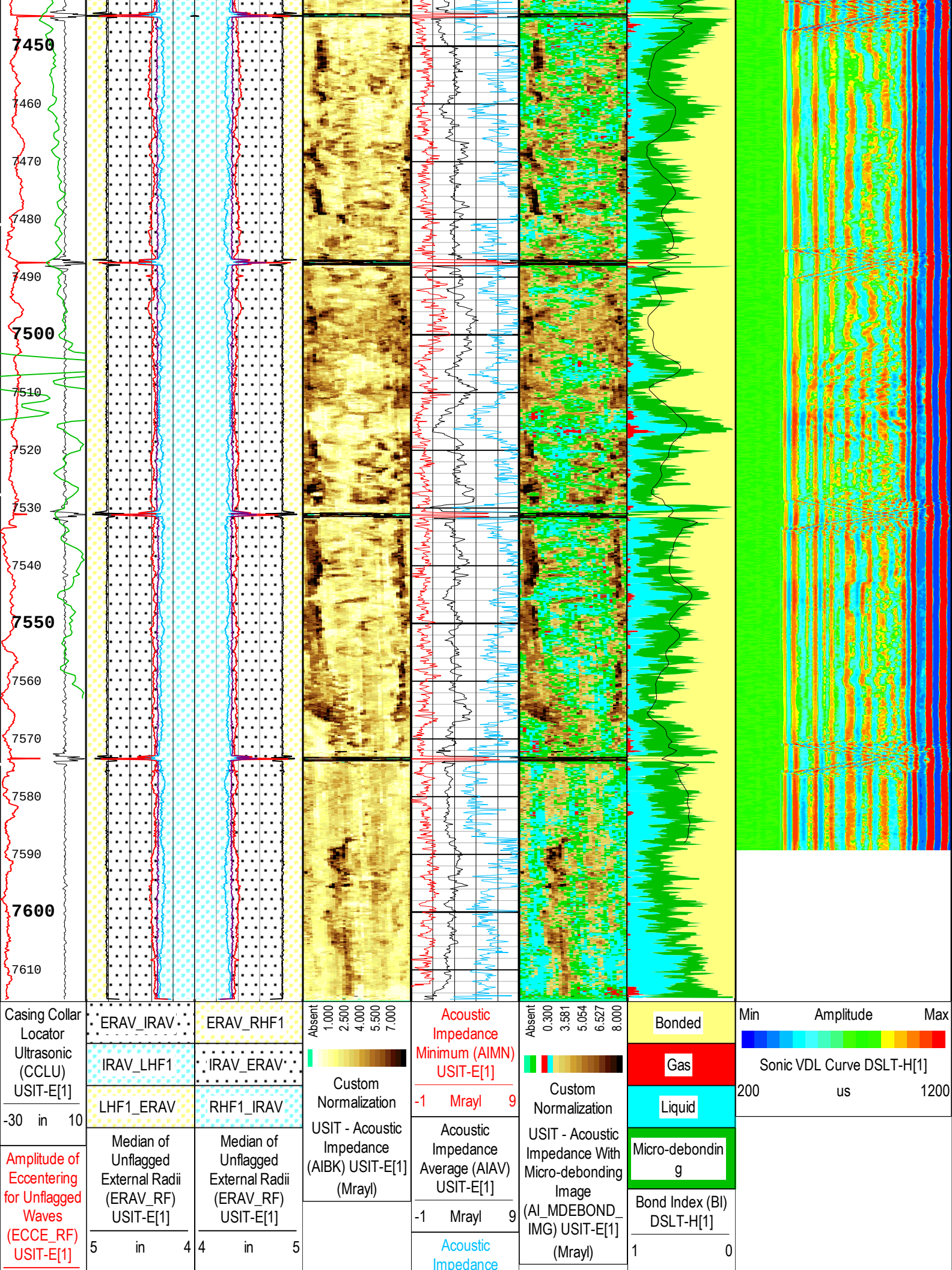
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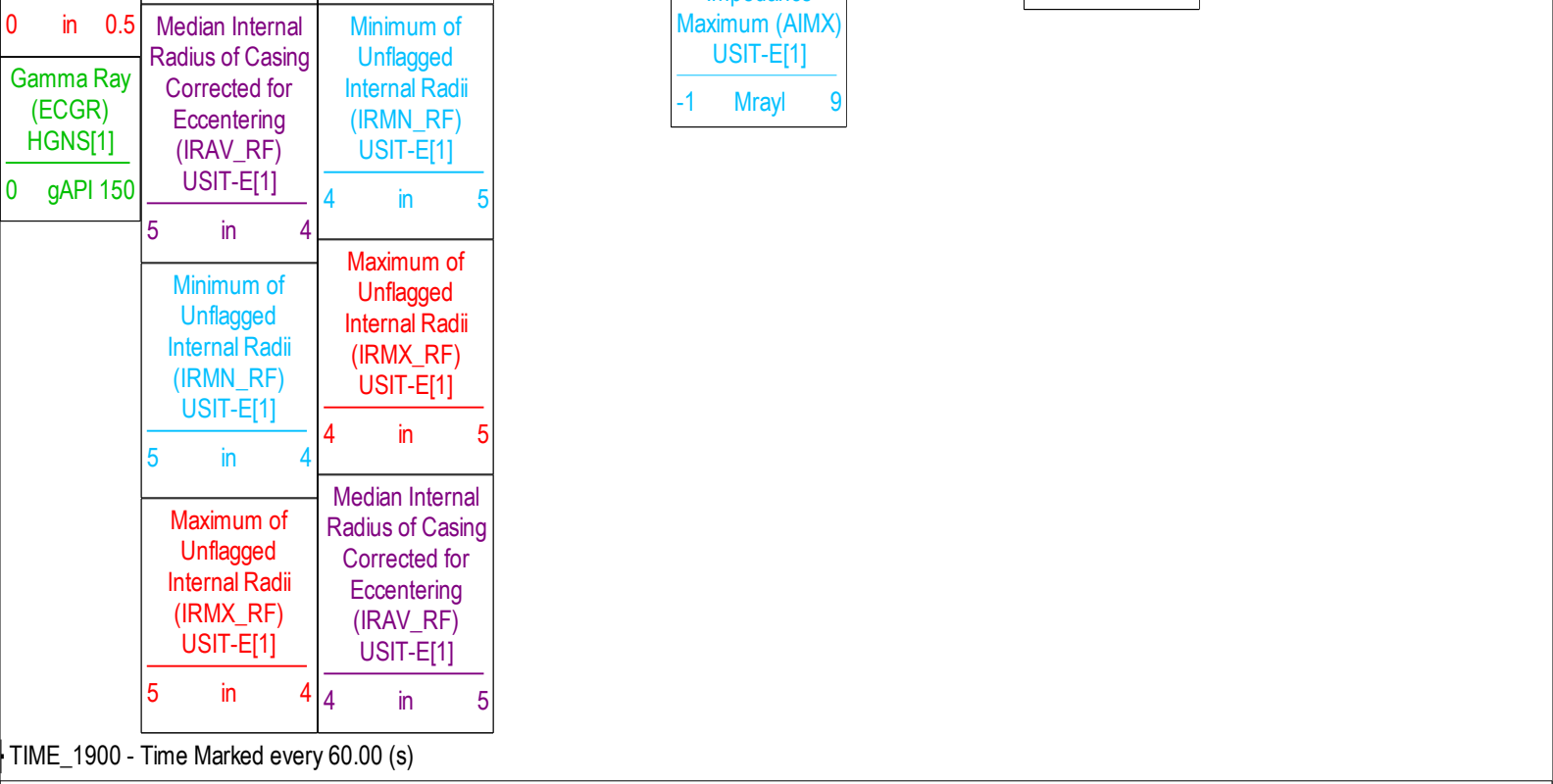
7610
Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]
ERAV_IRAV
IRAV_LHF1
LHF1_ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
5 in 4
ERAV_RHF1
IRAV_ERAV
RHF1_IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4 in 5
Absent 1.000 2.500 4.000 5.500 7.000
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
Acoustic Impedance Minimum (AIMN) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance
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)
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



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: 24-May-2016 18:36:09

Channel Processing Parameters

Three: 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	7801	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLT-H	52	mV
CDEN	Cement Density	HGNS-H	2	g/cm3
CMCF	CBL Cement Type Compensation Factor	DSLT-H	0.63	
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.472	in
DETE	Delta-T Detection	DSLT-H	E1	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FCF	CBL Fluid Compensation Factor	DSLT-H	0.94	
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GOBO_CURR	Good Bond in Arbitrary Cement	DSLT-H	6.82	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	RB	
MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H	120	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	DSLT-H	7.94	dB/ft
MCI	Minimum Cemented Interval for Isolation	DSLT-H	Depth Zoned	ft
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	29.67	us
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H	100	
MSA	Minimum Sonic Amplitude	DSLT-H	2.61	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLT-H	4.11	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.07	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
NMSG	Near Minimum Sliding Gate	DSLT-H	310	us
NMXG	Near Maximum Sliding Gate	DSLT-H	950	us
NUMP	Number of Detection Passes	DSLT-H	2	
OPLEV	USIT Remove Flagged Data Level	USIT-E	OPT2	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.378	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	Time Zoned	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	Time Zoned	%
HISC	Tool Position: Centered or Eccentered	HGNS-H	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0.1	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
VDLG	VDL Manual Gain	DSLT-H	5	
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZCMT	Acoustic Impedance of Cement	DSLT-H	5.5	Mrayl
ZCMT_NEAT	Acoustic Impedance of Cement in Neat Cement	DSLT-H	6.8	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl

ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

ThreeDepth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	17.5	9.5	1038
BS	12.25	1038	7615.5
MCI	21.68	9.5	1038
MCI	14.81	1038	7615.5

All depth are actual.

ThreeTime Zoned Parameters

Pass Log[5]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
THDH	120	24-May-2016 08:46:05	24-May-2016 11:18:30	7615.76	945.01
THDL	60	24-May-2016 08:46:05	24-May-2016 11:18:30	7615.76	945.01

Pass Log[6]:Up

THDH	120	24-May-2016 11:39:52	24-May-2016 11:57:27	945.79	237.87
THDL	60	24-May-2016 11:39:52	24-May-2016 11:57:27	945.79	237.87

Pass Log[20]:Up

THDH	130	24-May-2016 14:28:33	24-May-2016 14:32:51	238.91	62.06
THDL	70	24-May-2016 14:28:33	24-May-2016 14:32:51	238.91	62.06

All depth are at tool zero.

Tool Control Parameters

Three: 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	4.874	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	7600	ft

USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	25	us
WINE	Window End Time	USIT-E	100	us
WMOD	Waveform Firing Mode	DSLT-H	Full	

ThreeTime Zoned Parameters

Pass Log[5]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	20	24-May-2016 08:46:05	24-May-2016 10:43:14	7615.76	2441.22
EMXV	40	24-May-2016 10:43:14	24-May-2016 10:43:19	2441.22	2436.38
EMXV	30	24-May-2016 10:43:19	24-May-2016 11:18:30	2436.38	945.01

Pass Log[6]:Up

EMXV	40	24-May-2016 11:39:52	24-May-2016 11:57:27	945.79	237.87

Pass Log[20]:Up

EMXV	30	24-May-2016 14:28:33	24-May-2016 14:32:51	238.91	62.06

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
Three	Log[5]:Up	Up	892.54 ft	7615.88 ft	24-May-2016 8:46:05 AM	24-May-2016 11:18:30 AM	ON	0.25 ft	Yes
Three	Log[6]:Up	Up	99.52 ft	1002.74 ft	24-May-2016 11:38:34 AM	24-May-2016 11:57:27 AM	ON	0.54 ft	Yes
Three	Log[20]:Up	Up	56.25 ft	309.00 ft	24-May-2016 2:26:52 PM	24-May-2016 2:32:51 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Composite 1:S004

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: 24-May-2016 18:36:55

TIME_1900 - Time Marked every 60.00 (s)

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

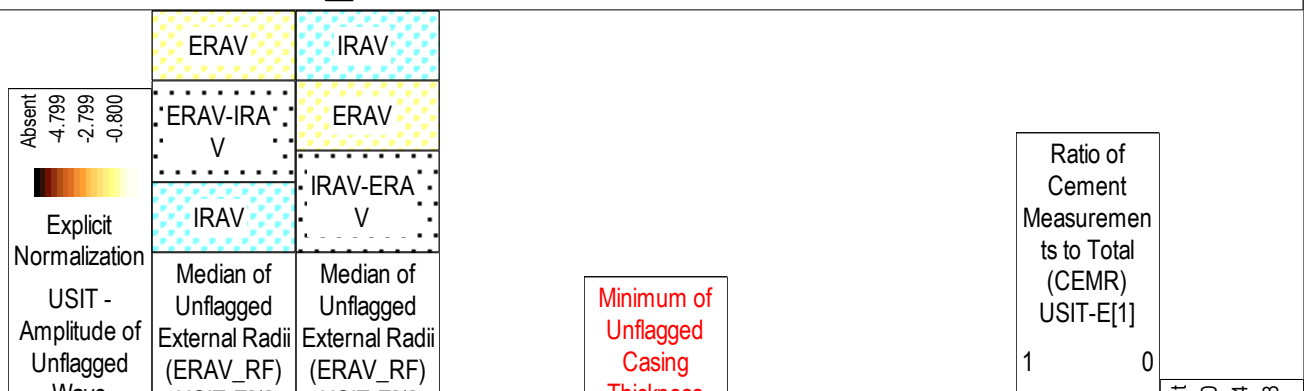
1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error

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

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

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

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



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]

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

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

USIT-E[1]
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
5 in 4

USIT-E[1]
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4 in 5

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

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)

Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)

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

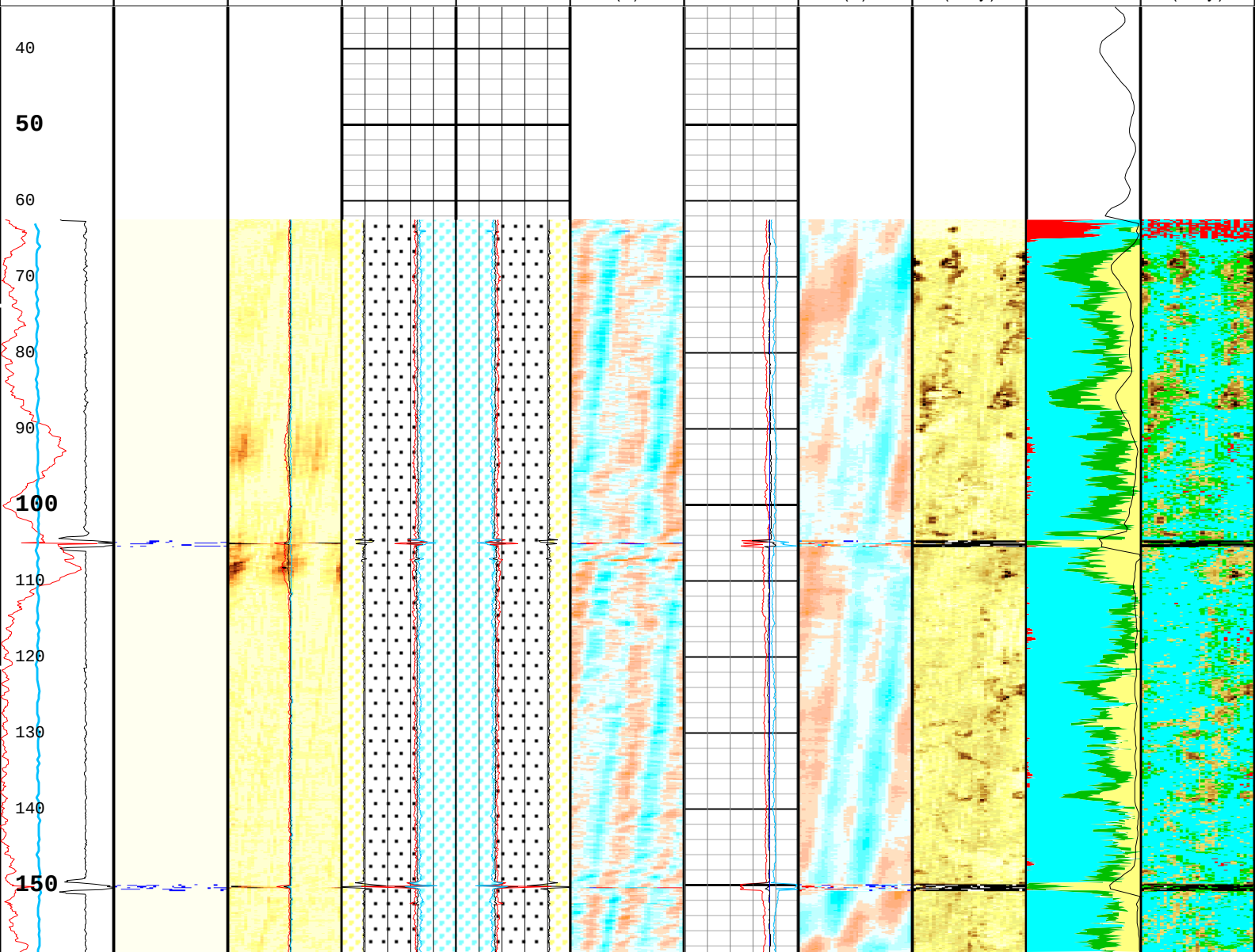
Ratio of Gas Measurements to Total (GASR) USIT-E[1]
1 0

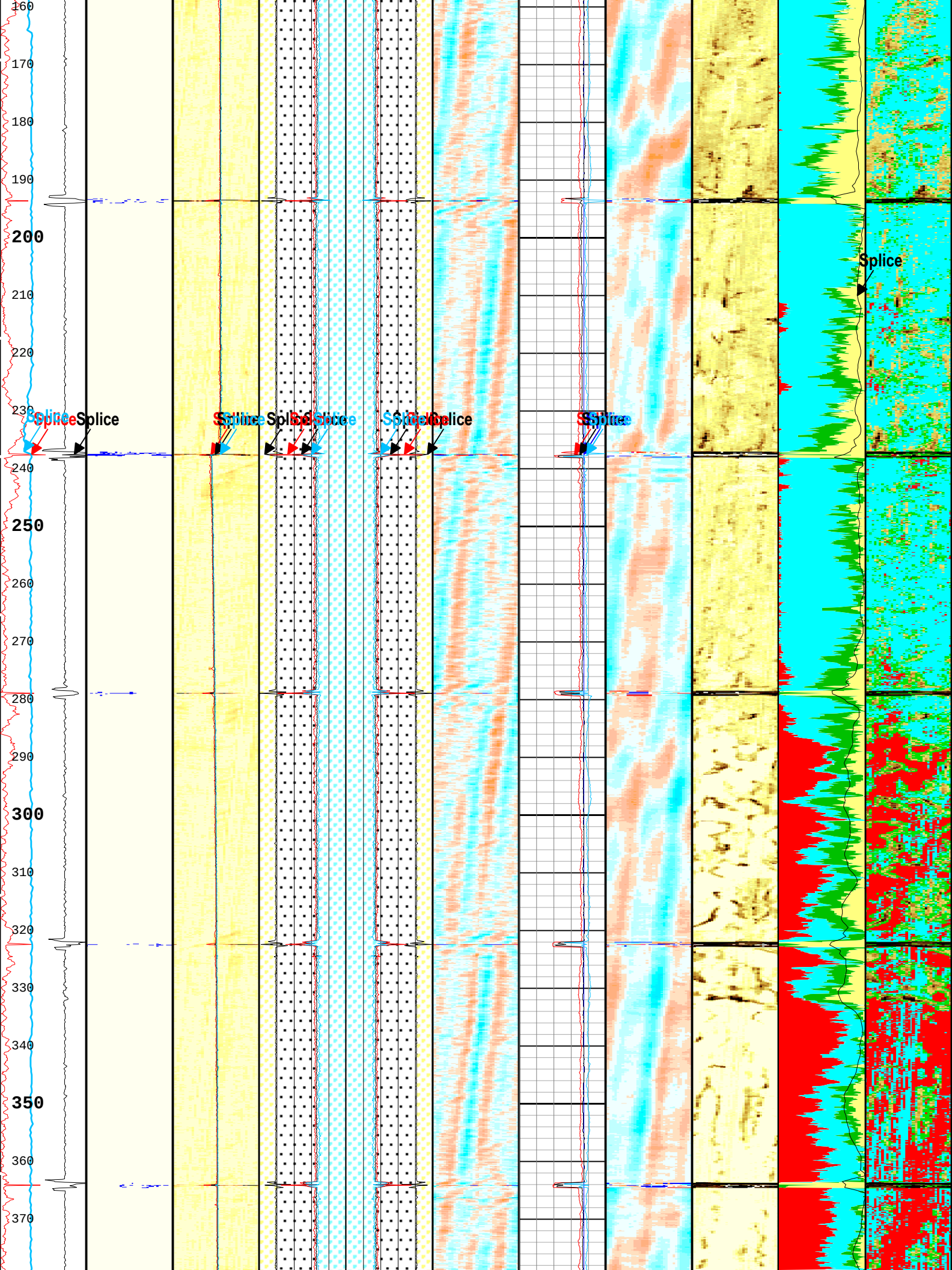
Bonded
Gas
Liquid
Micro-debonding

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)

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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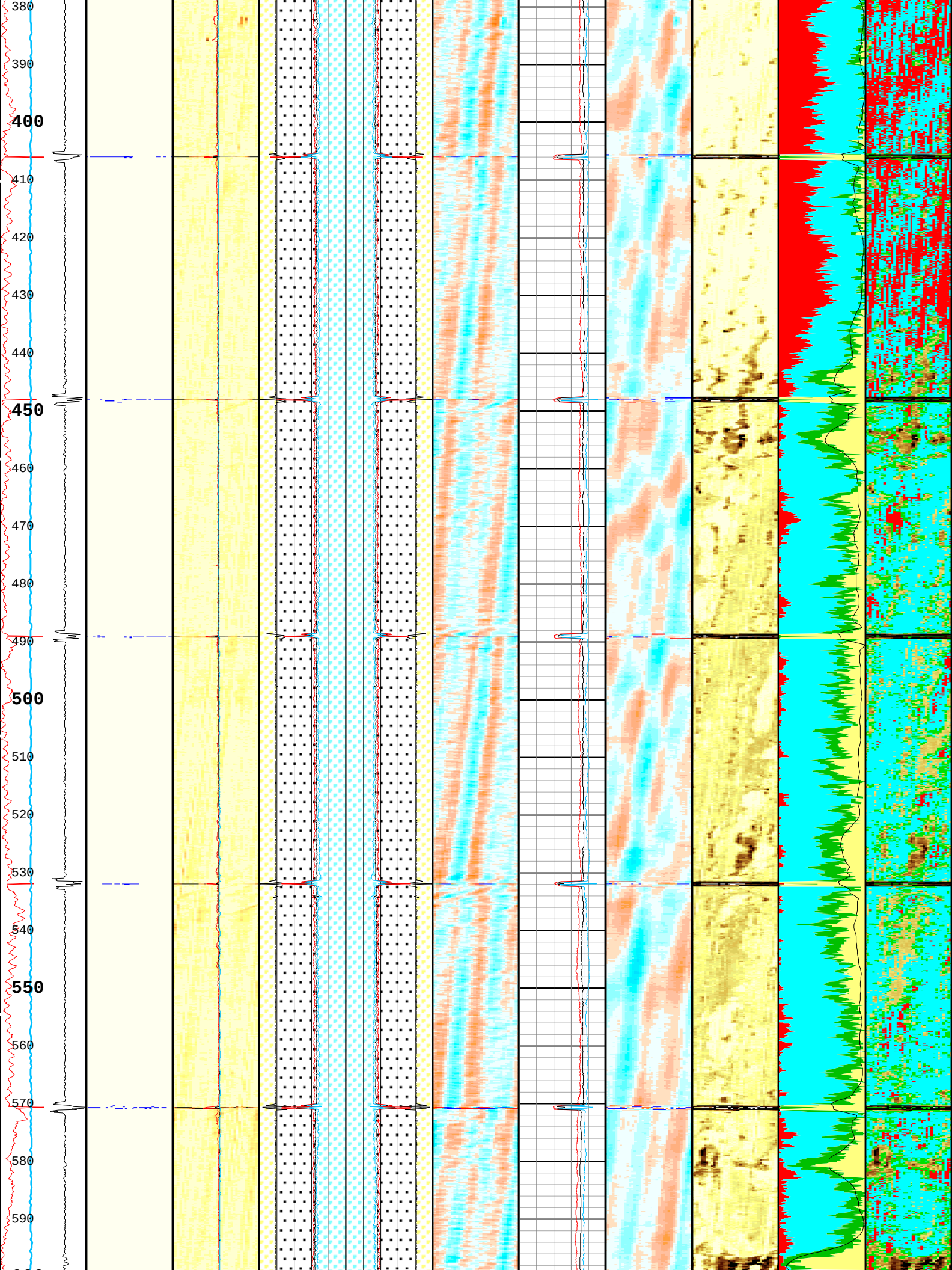
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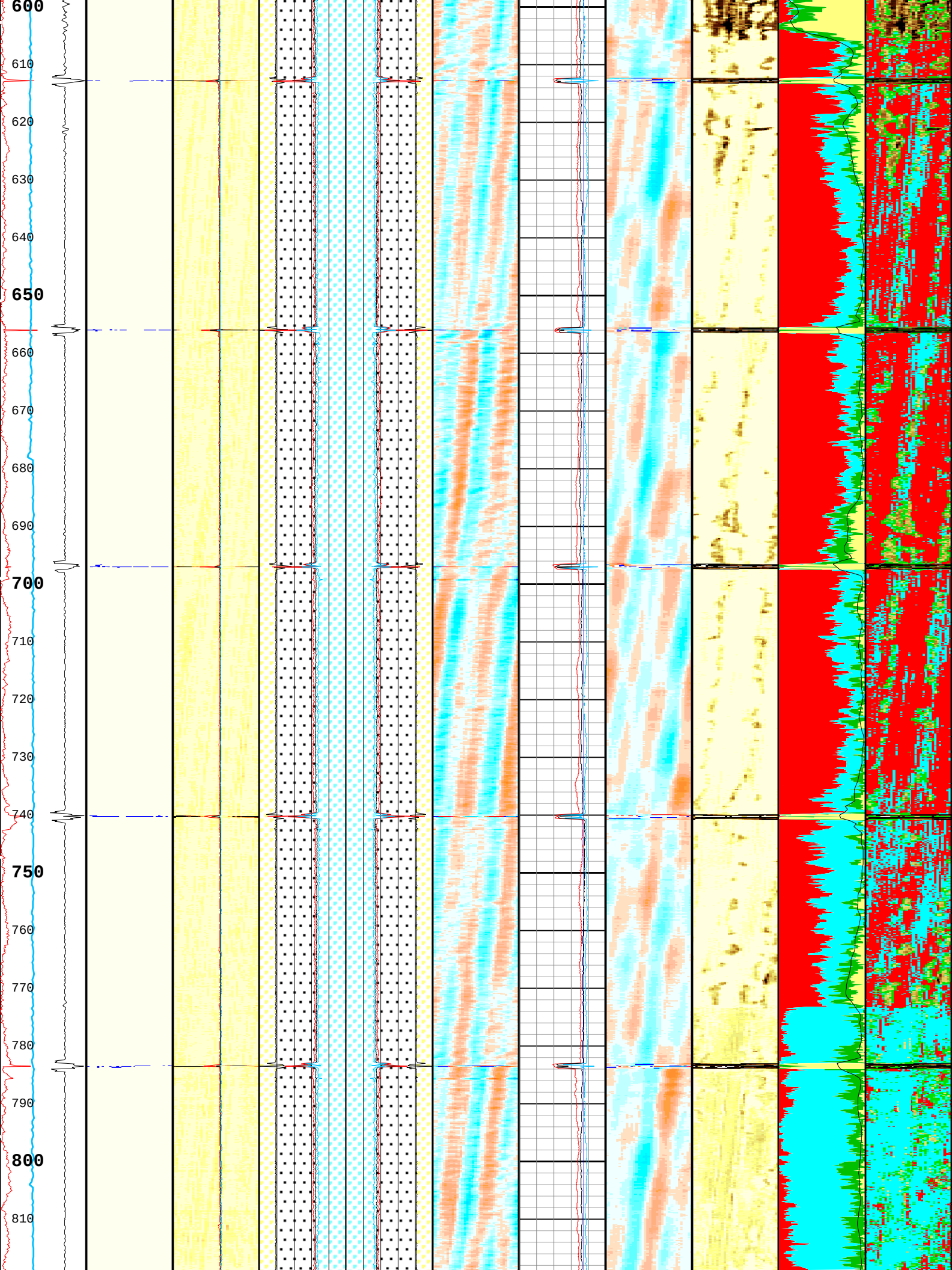
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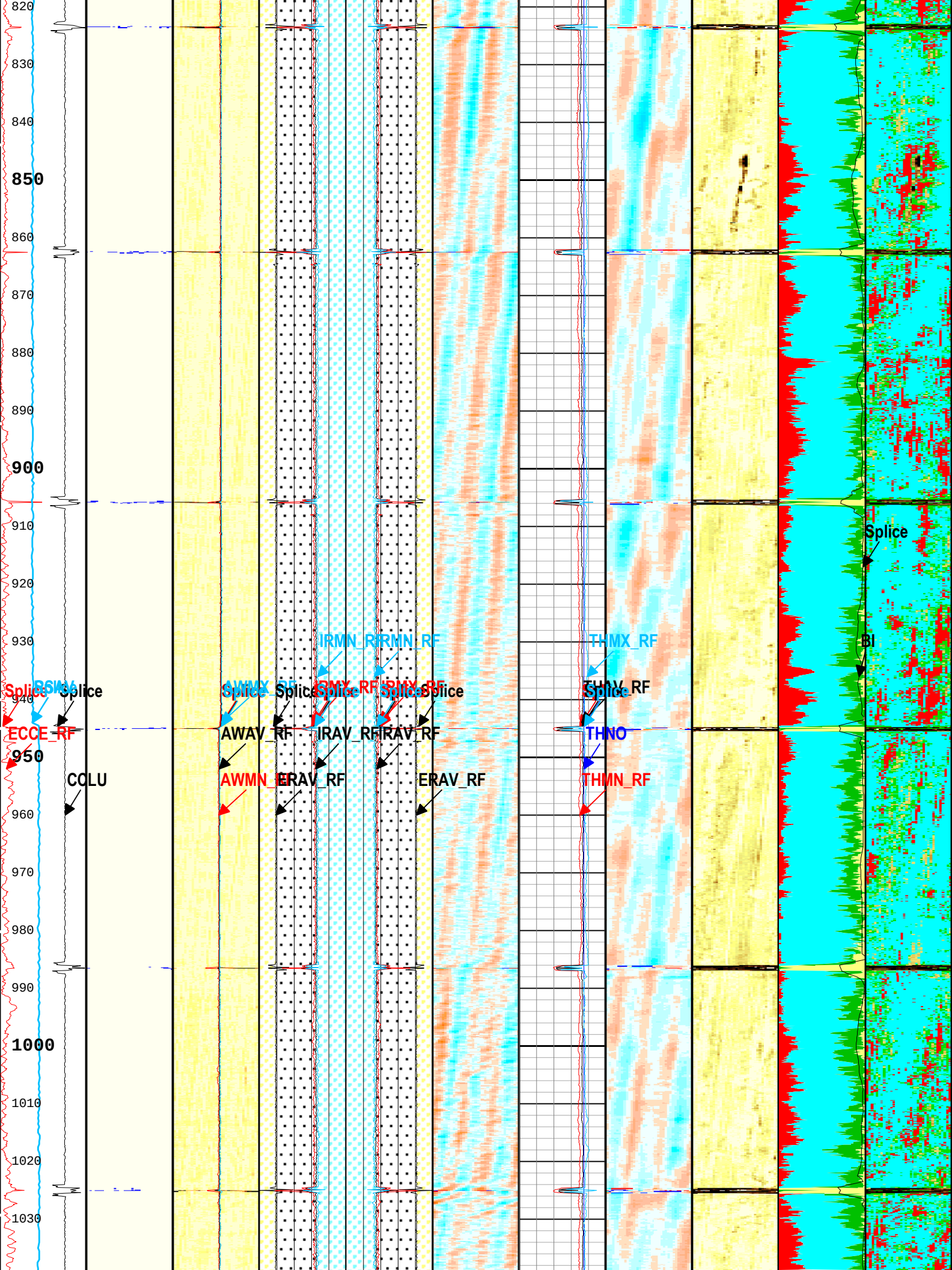
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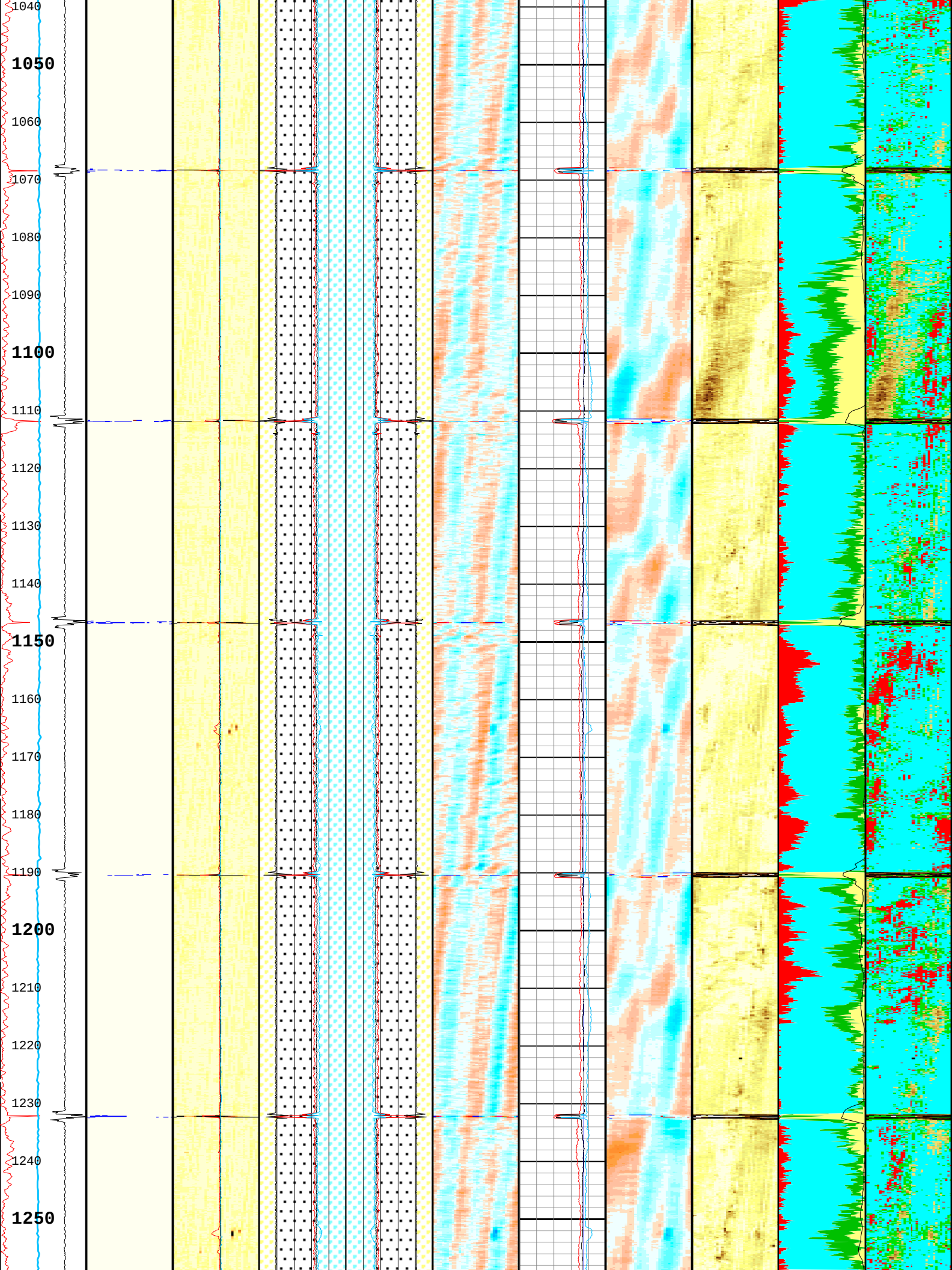
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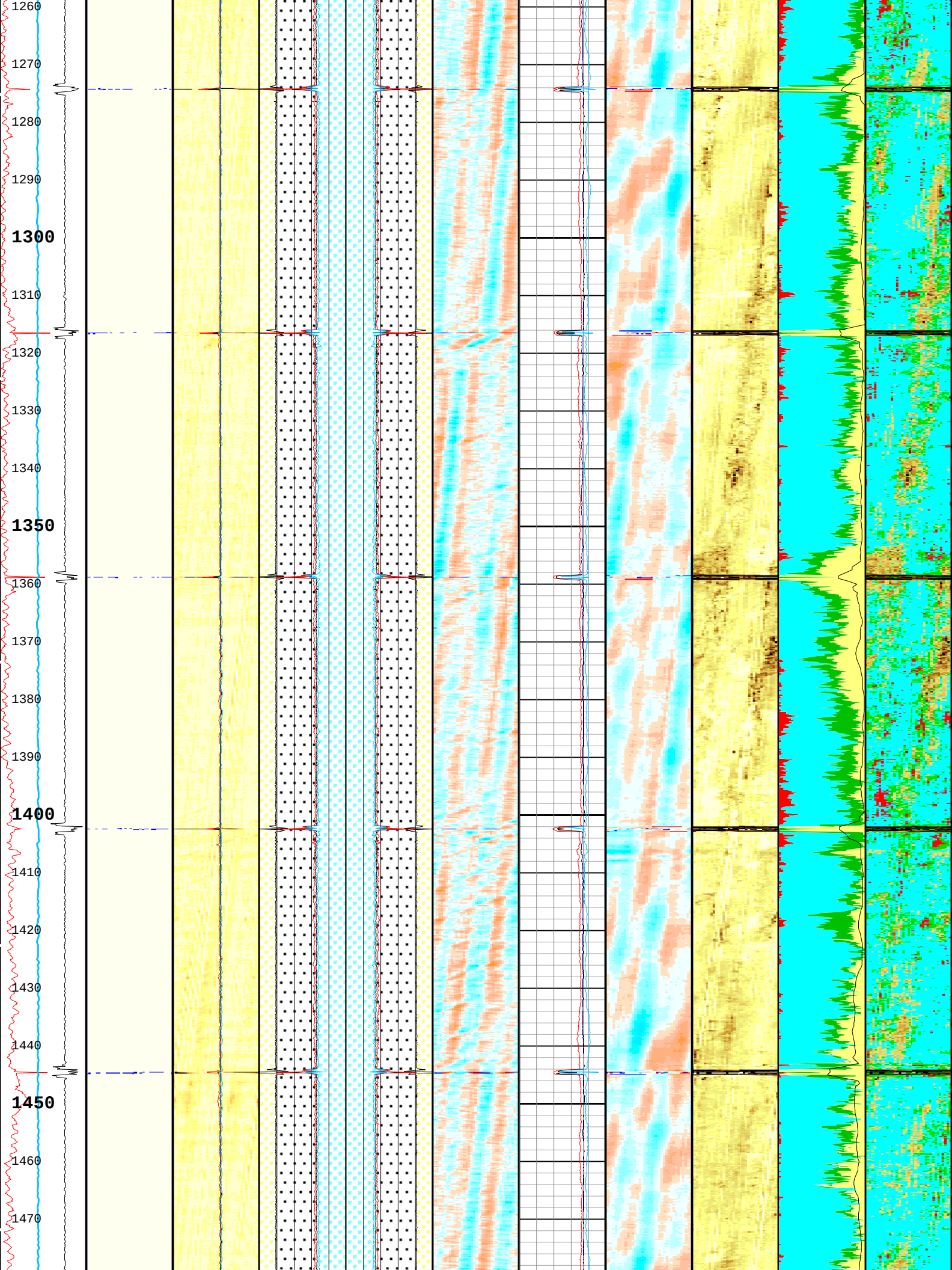
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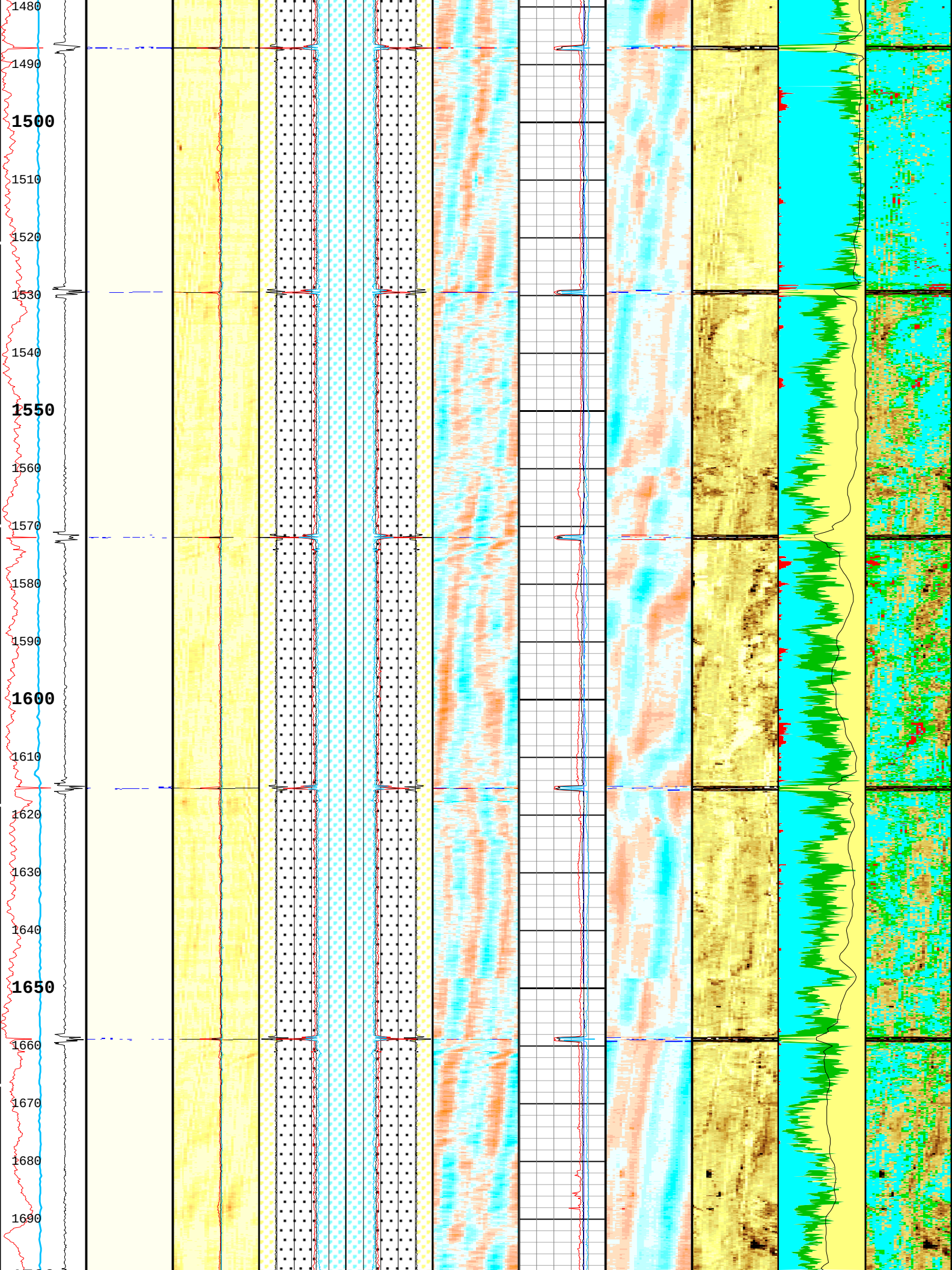
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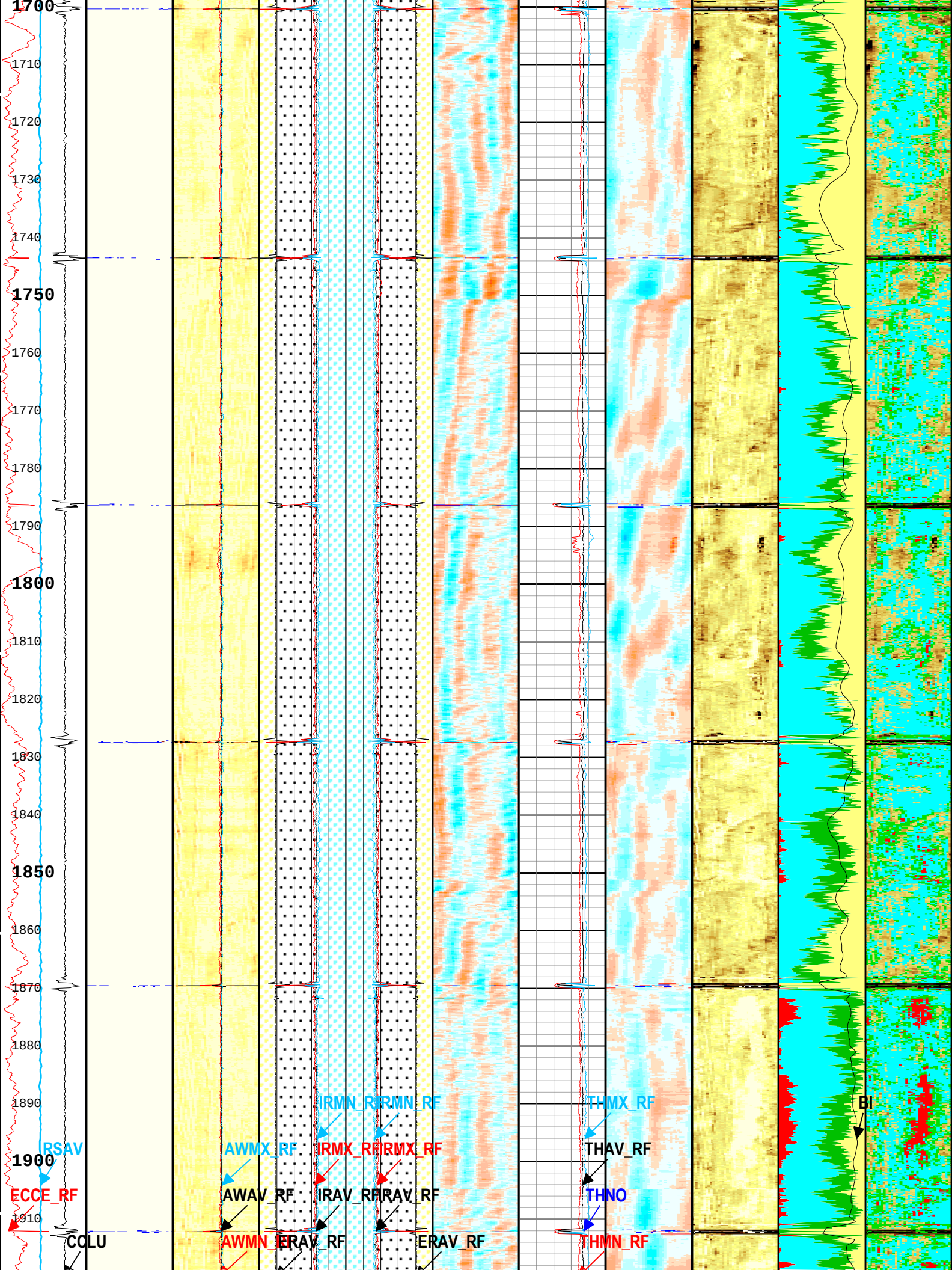
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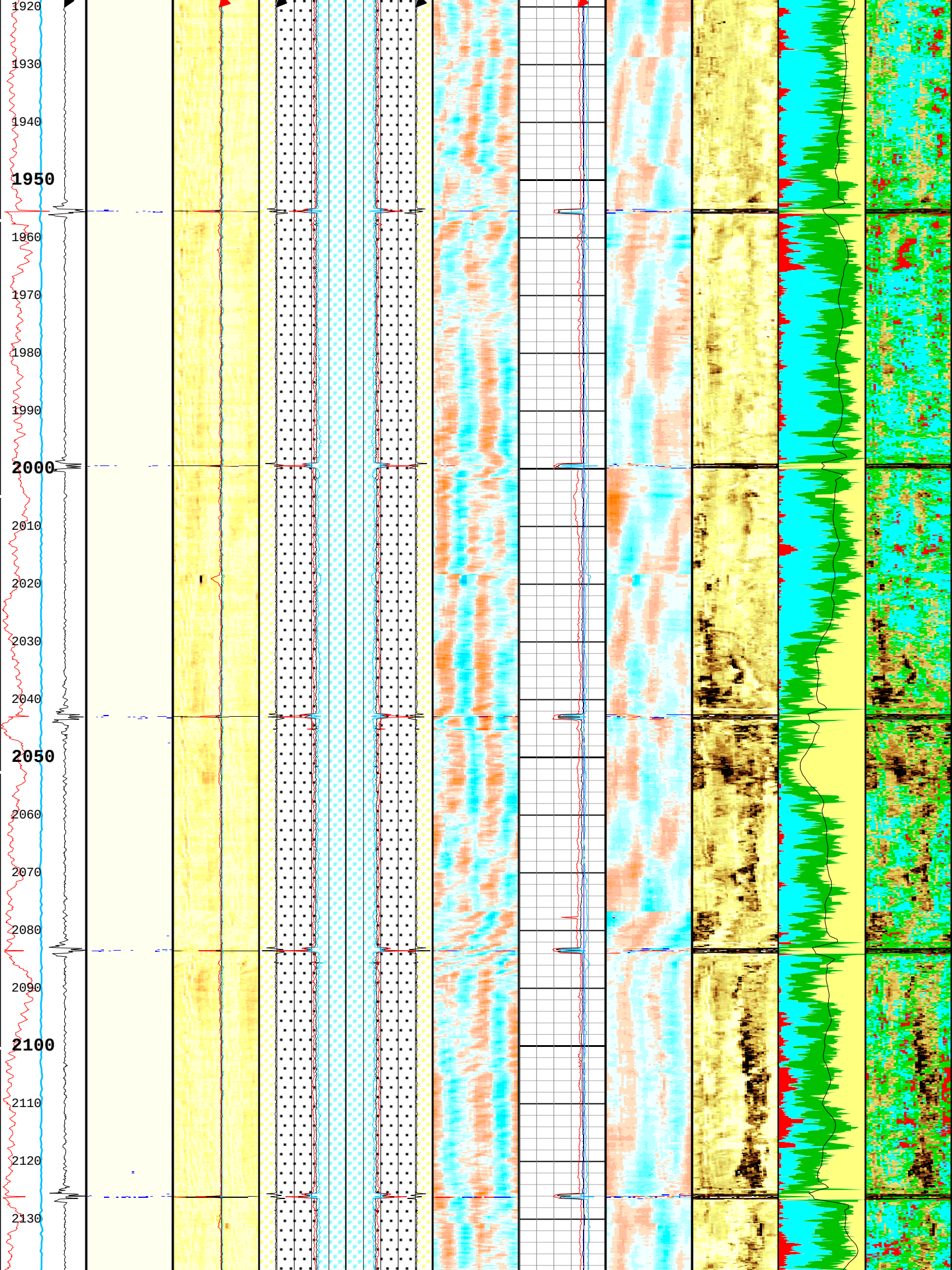
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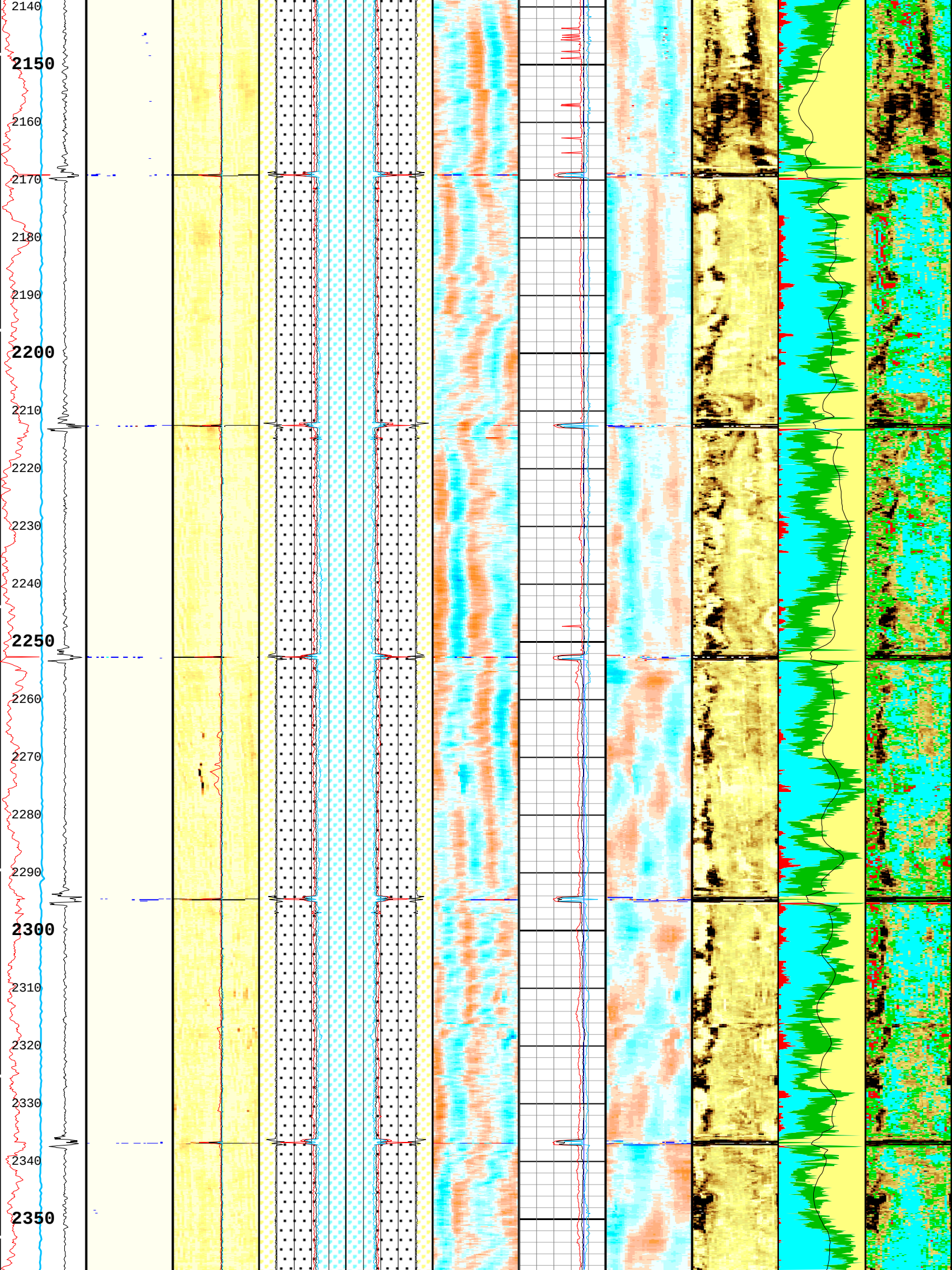
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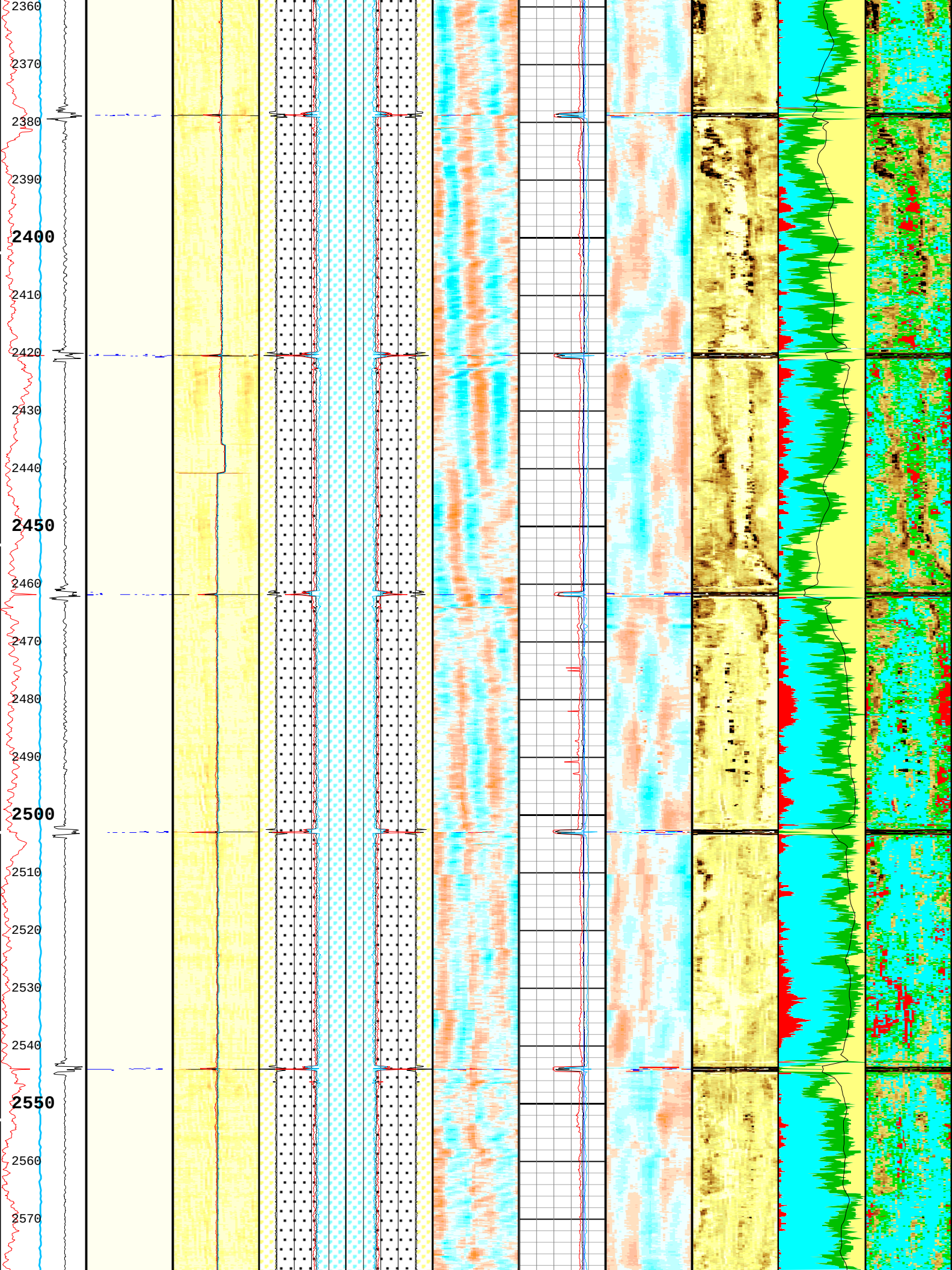
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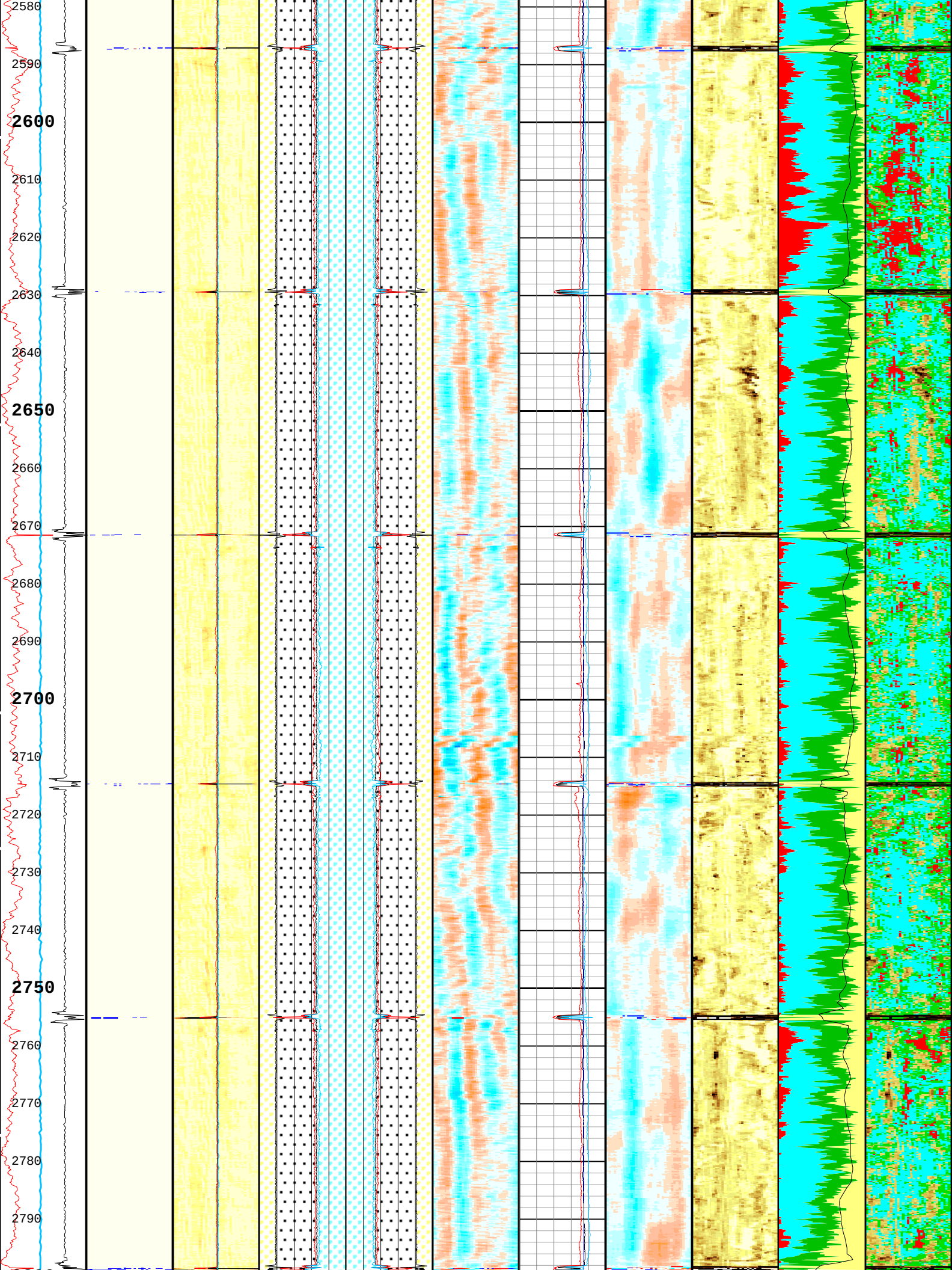
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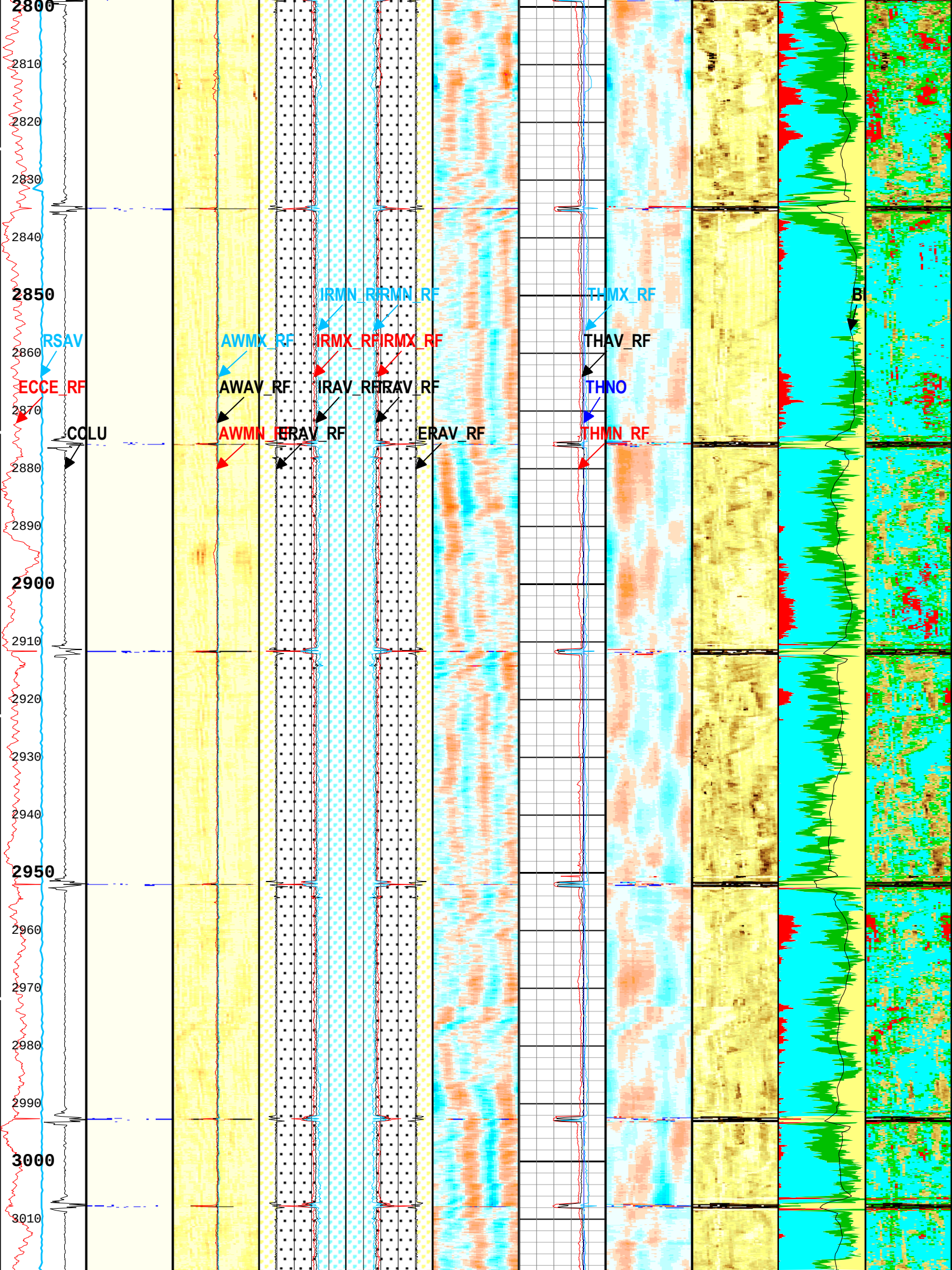
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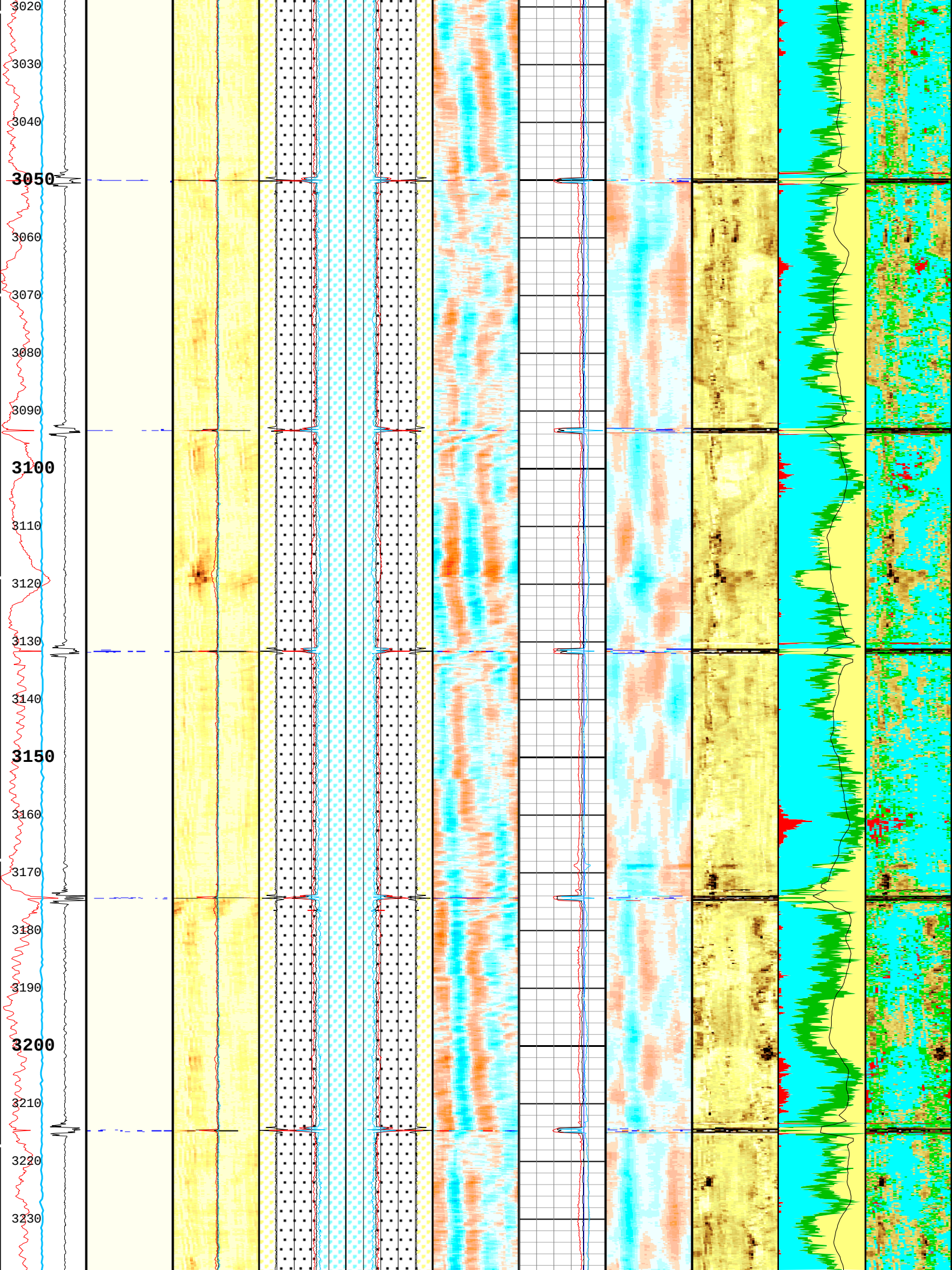
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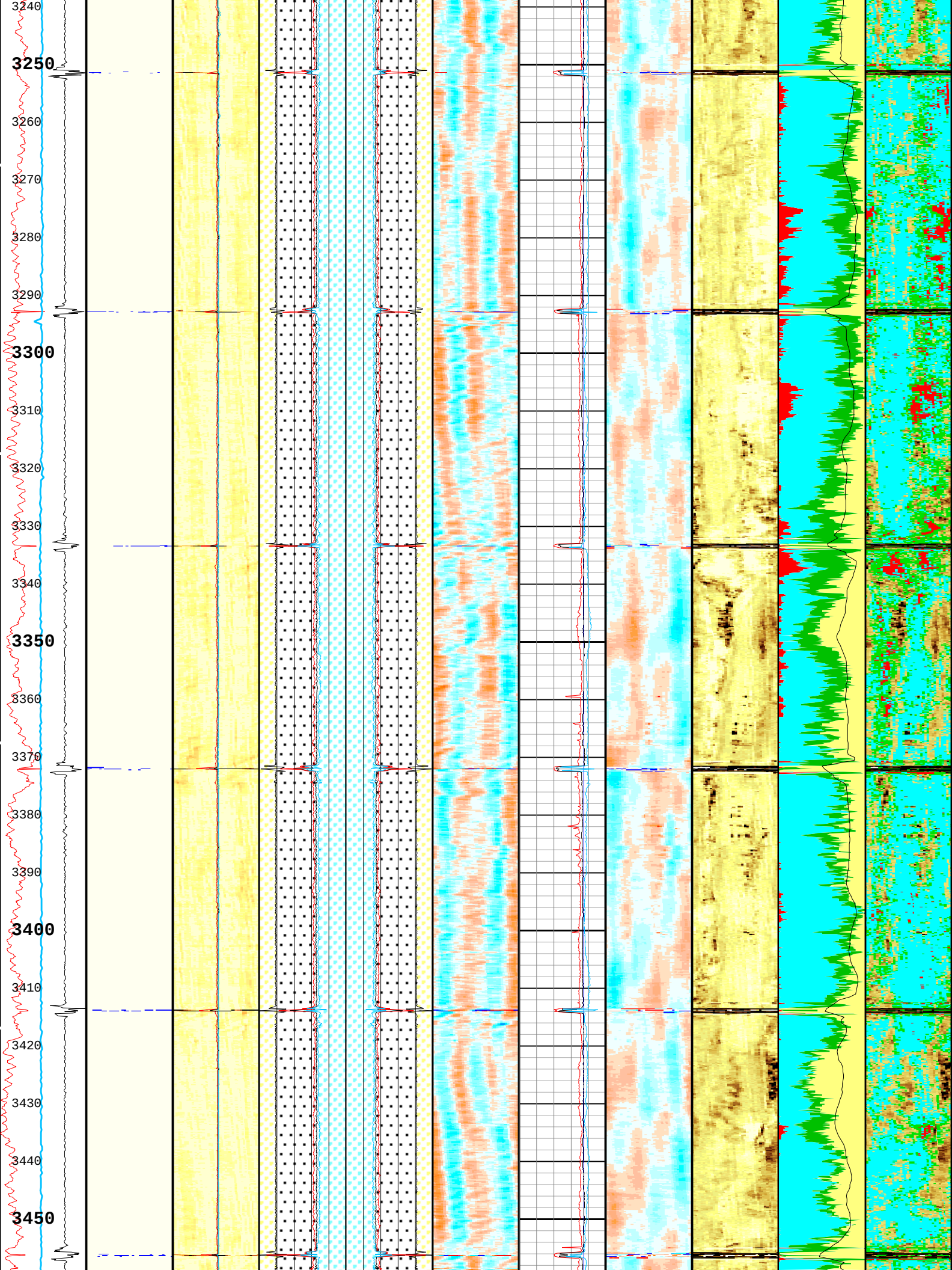
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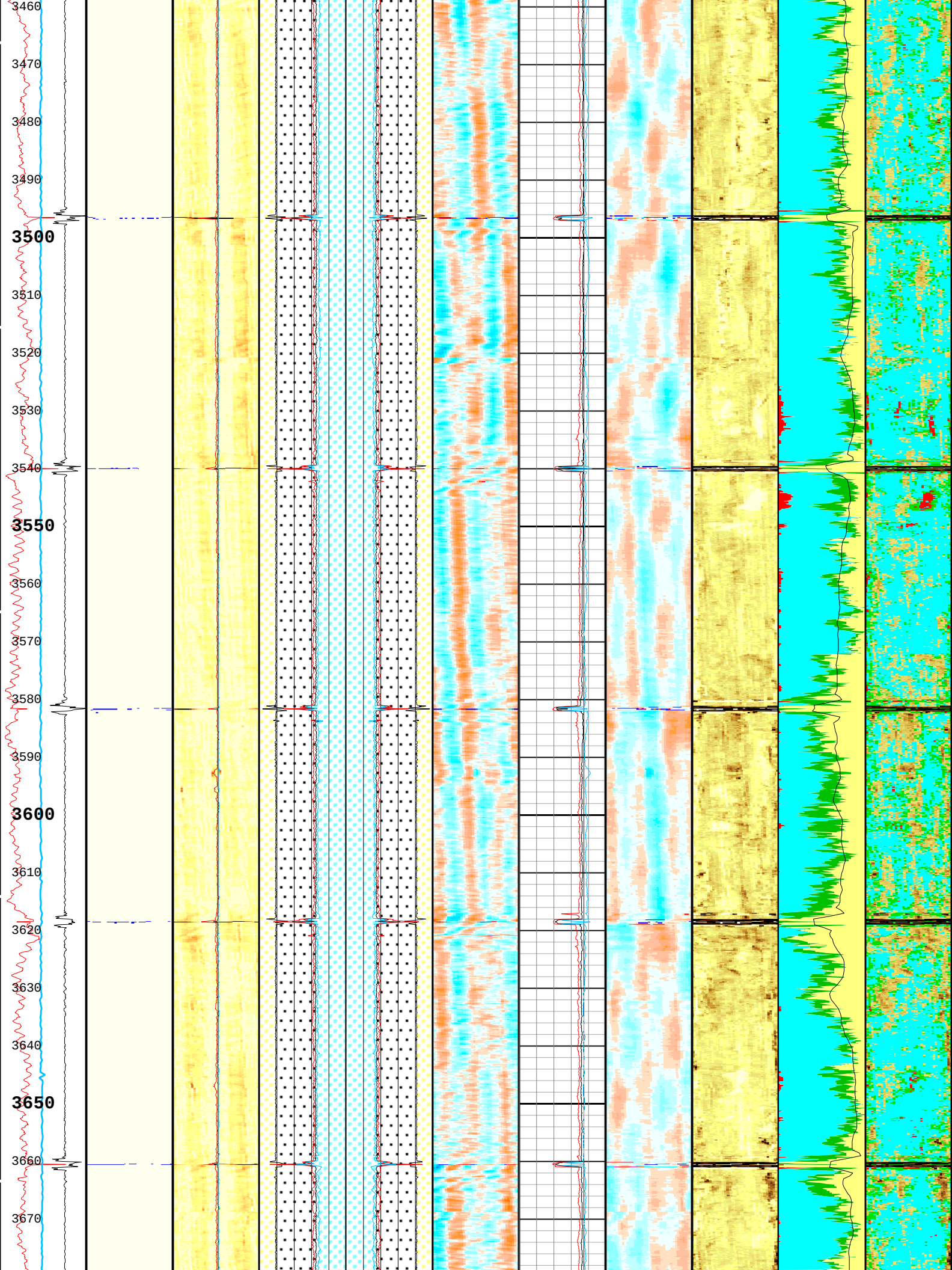
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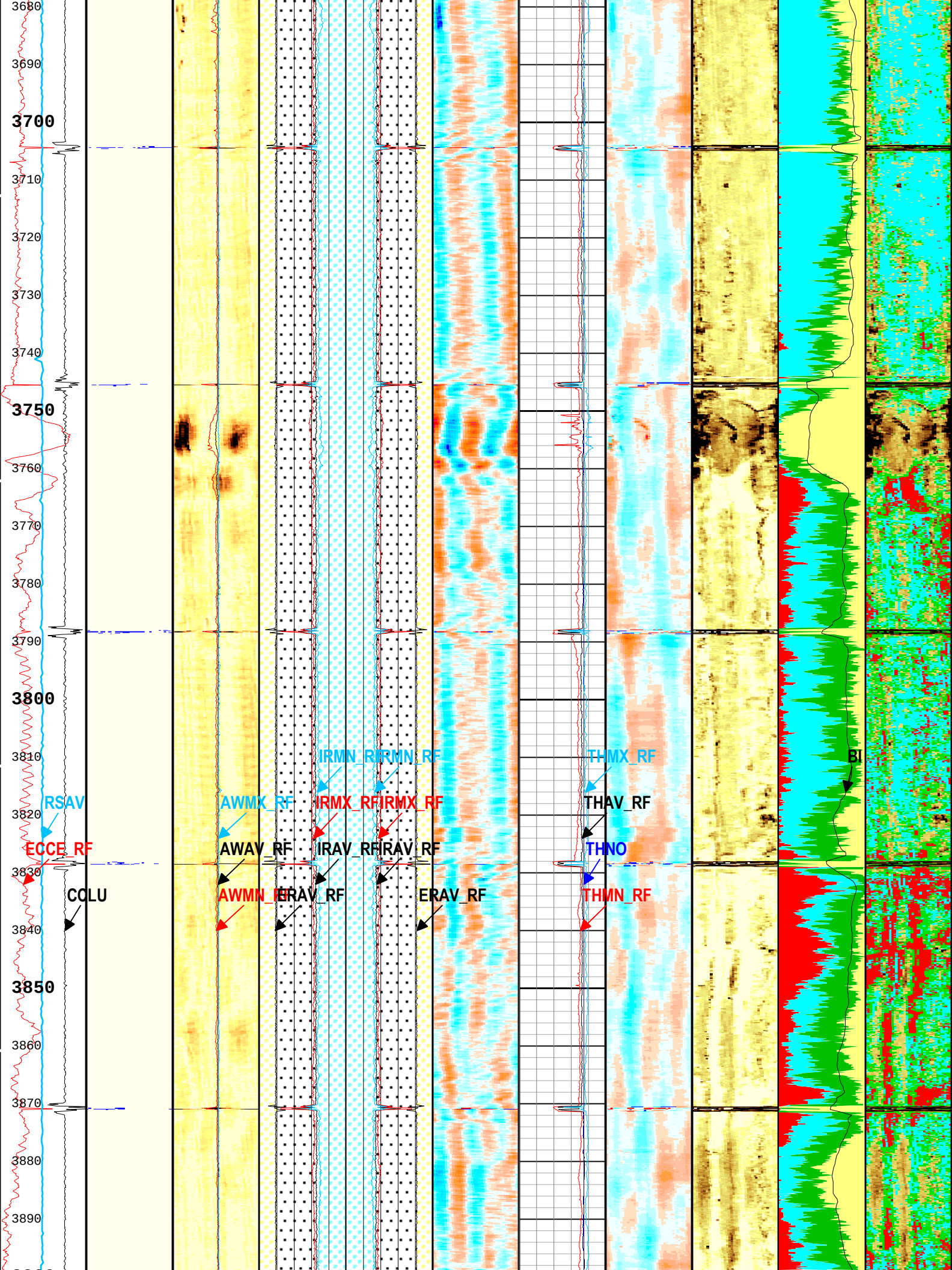
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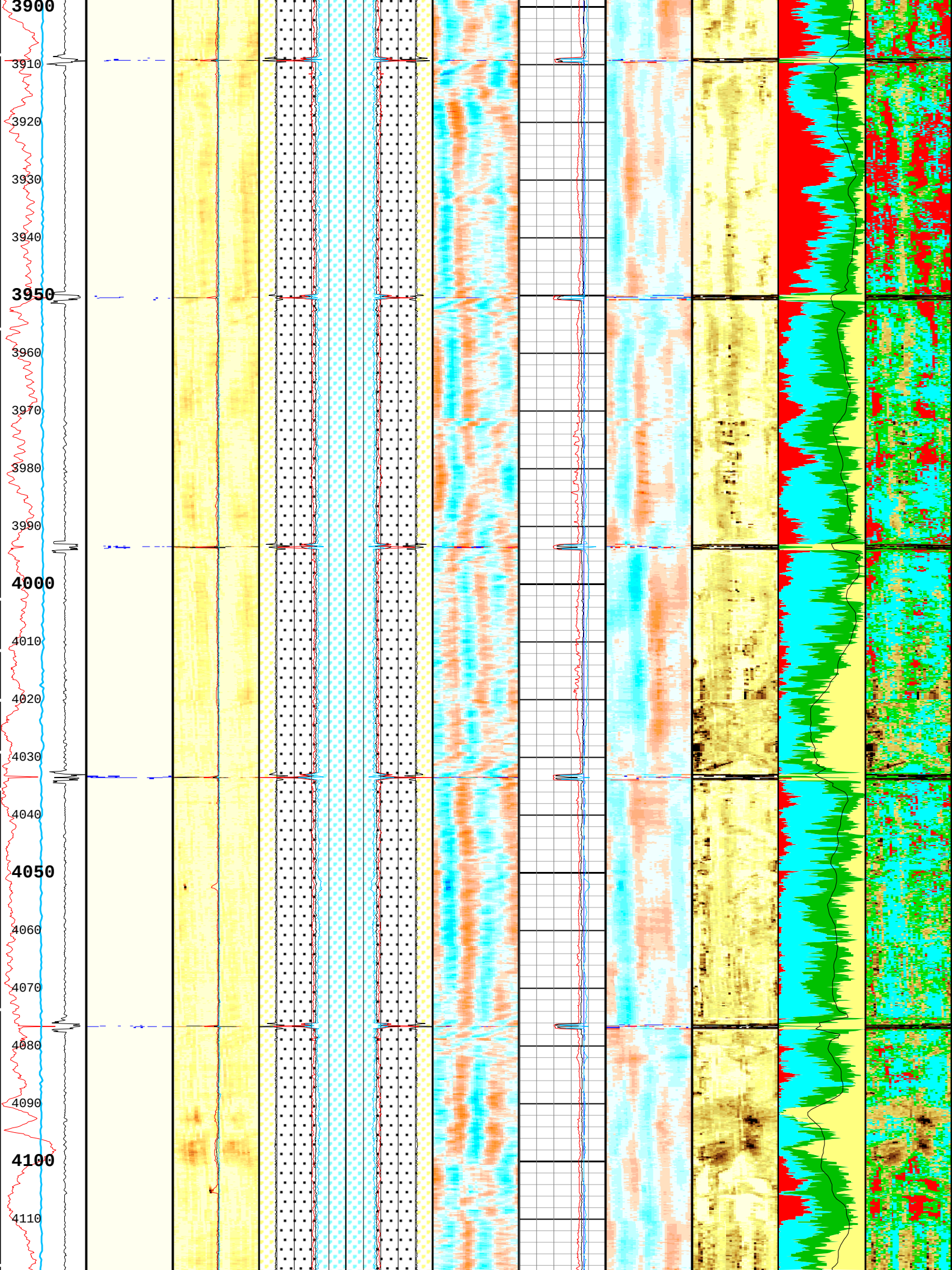
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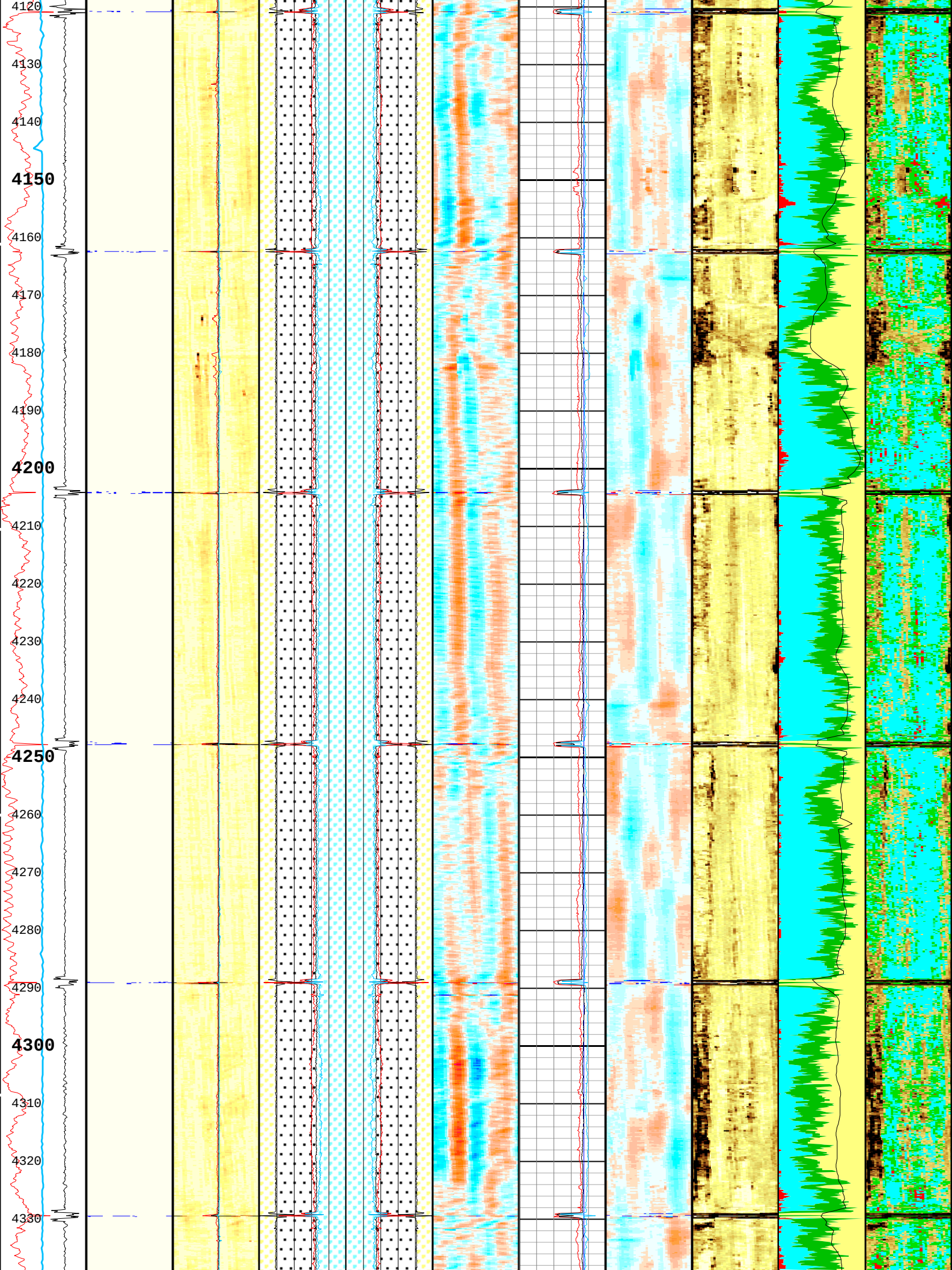
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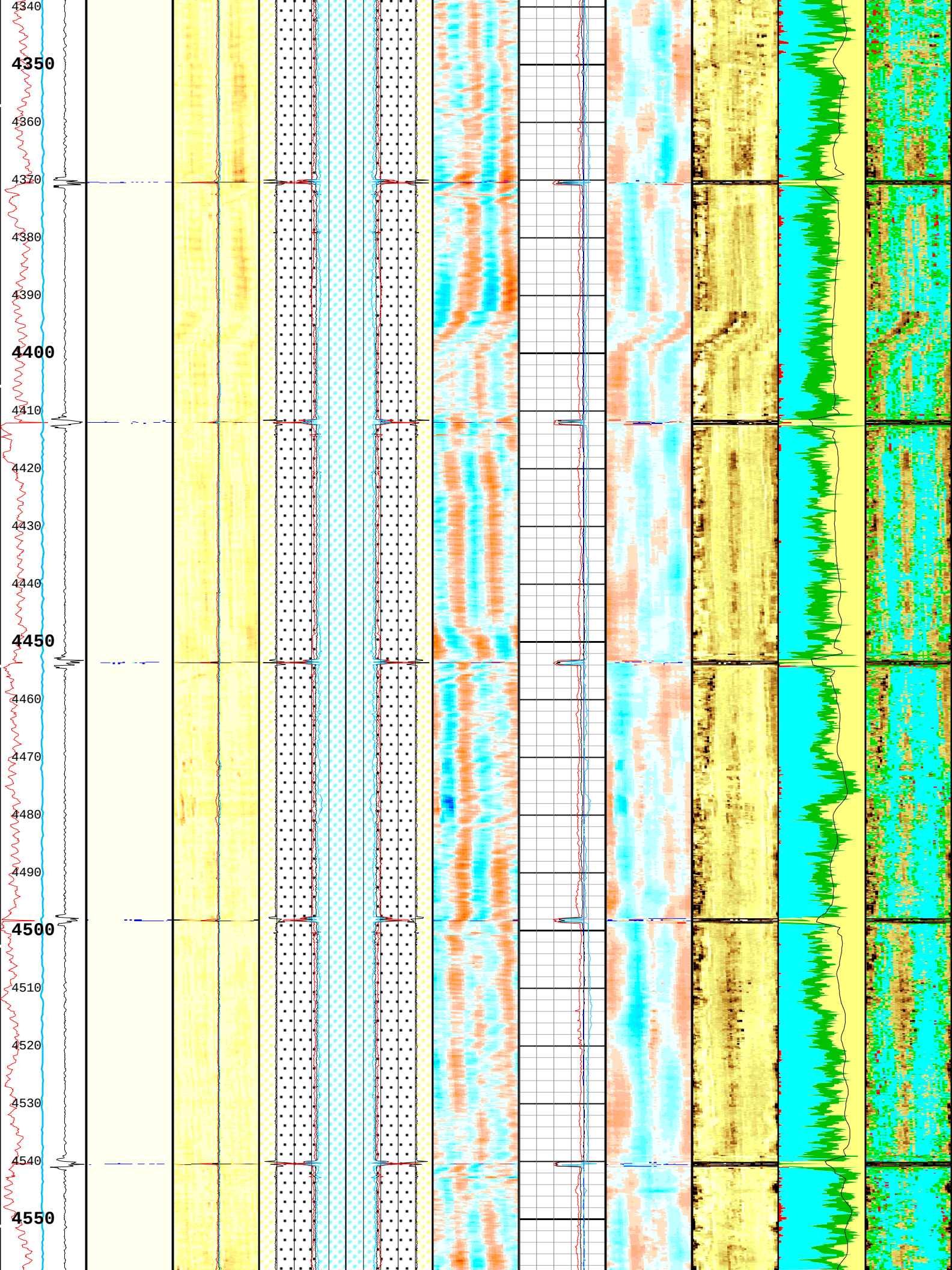
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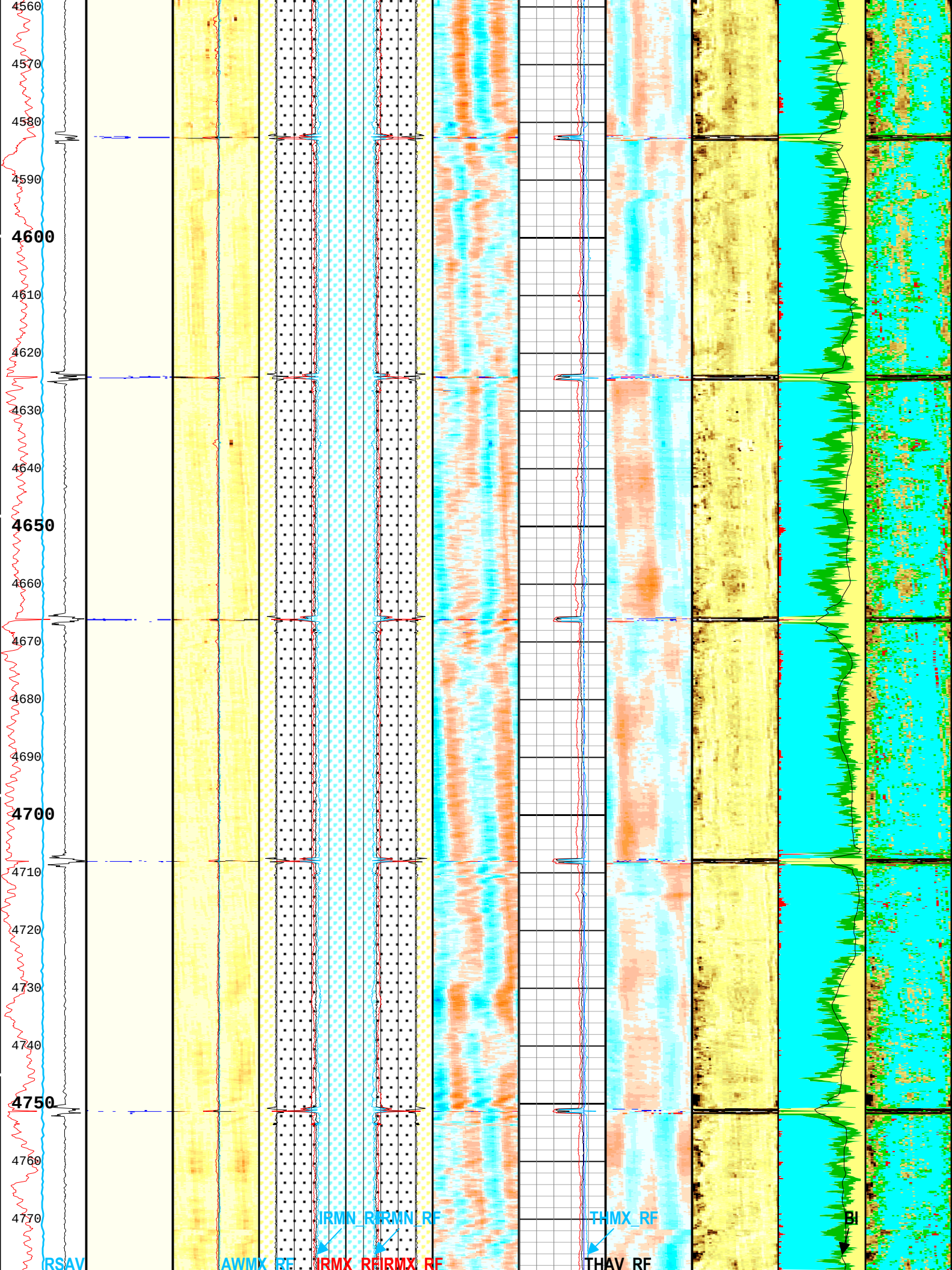
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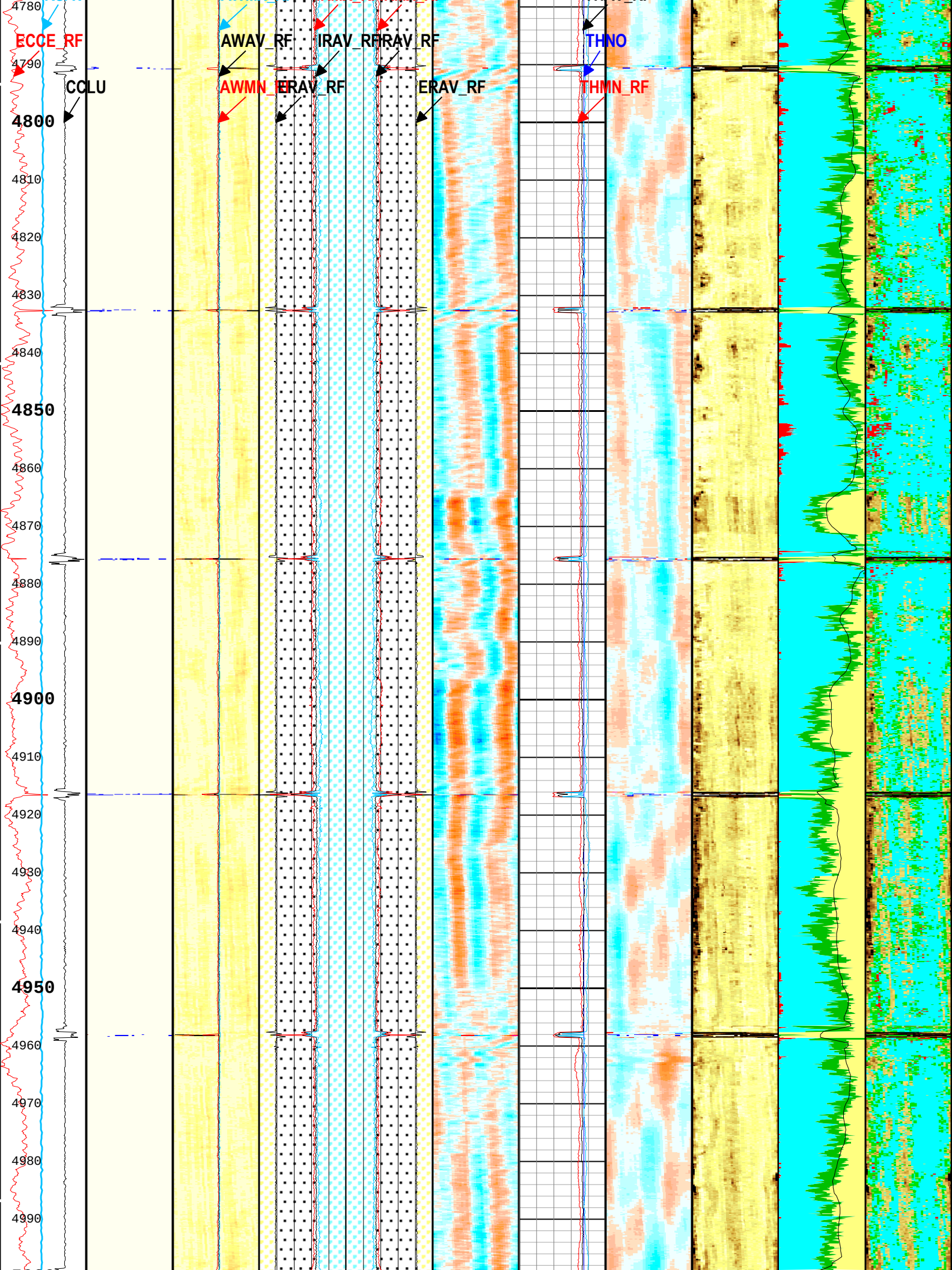
IRMX_RF
IRMX_RF
THMX_RF
THAV_RF
BI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THNO
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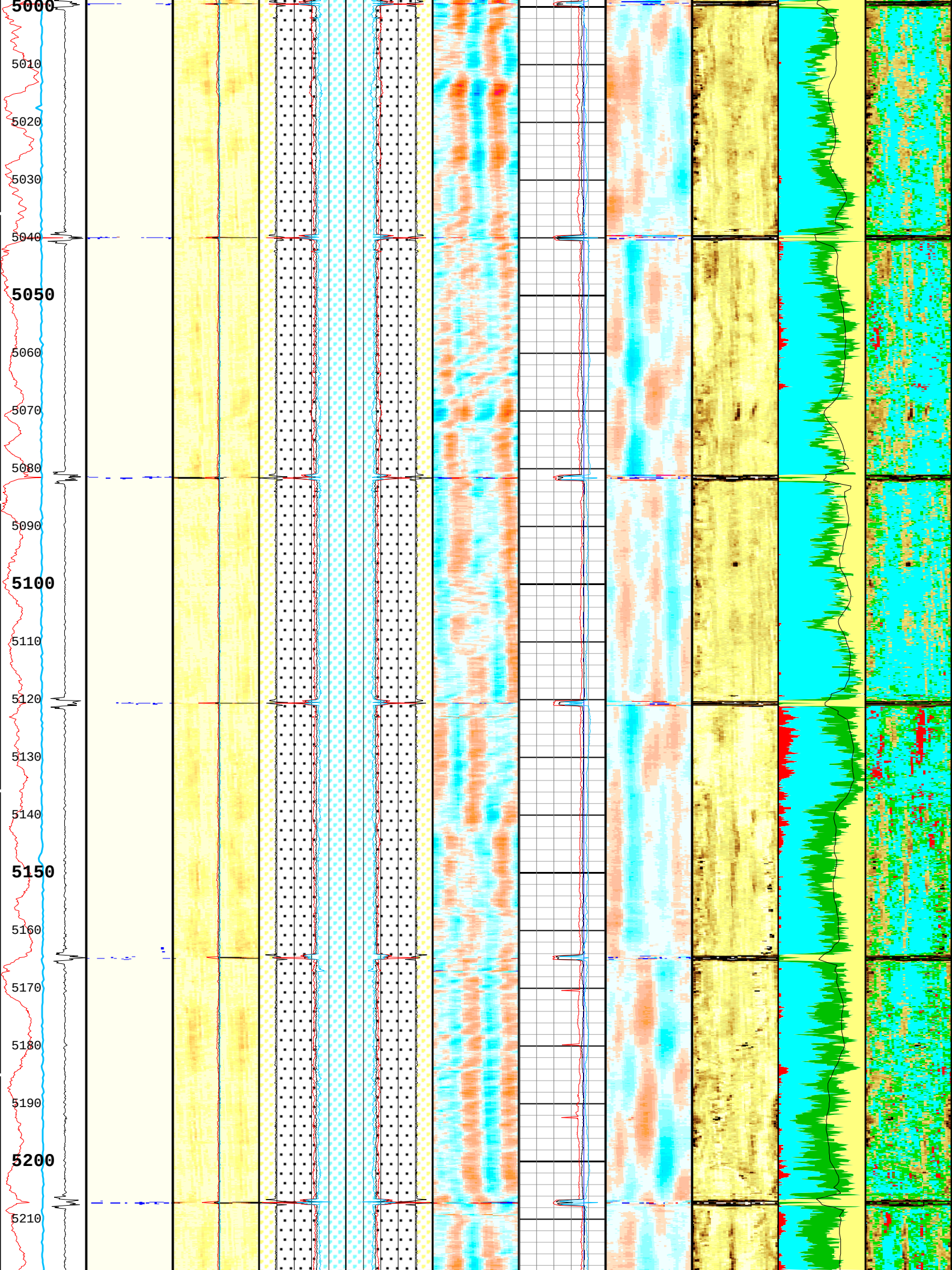
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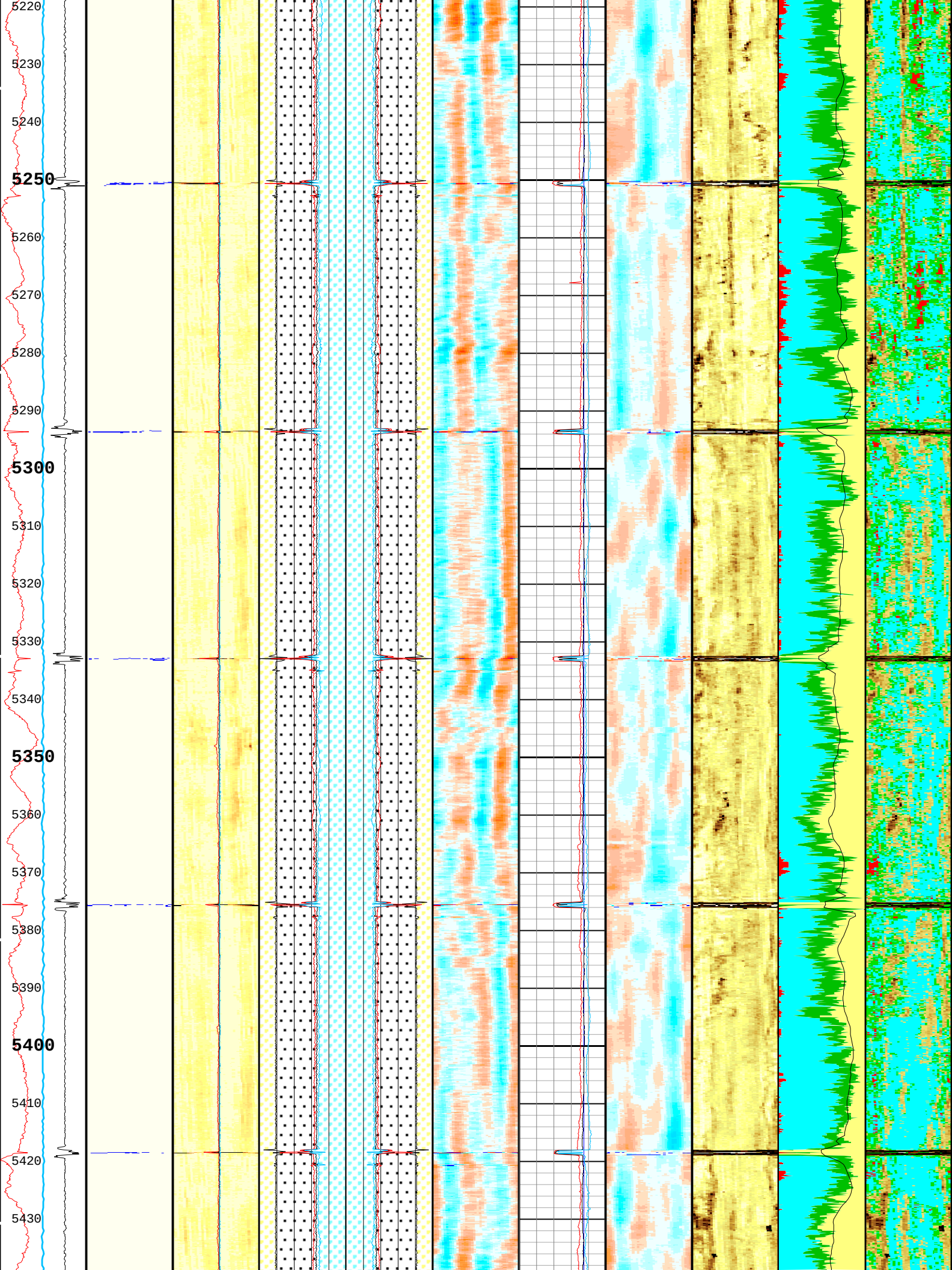
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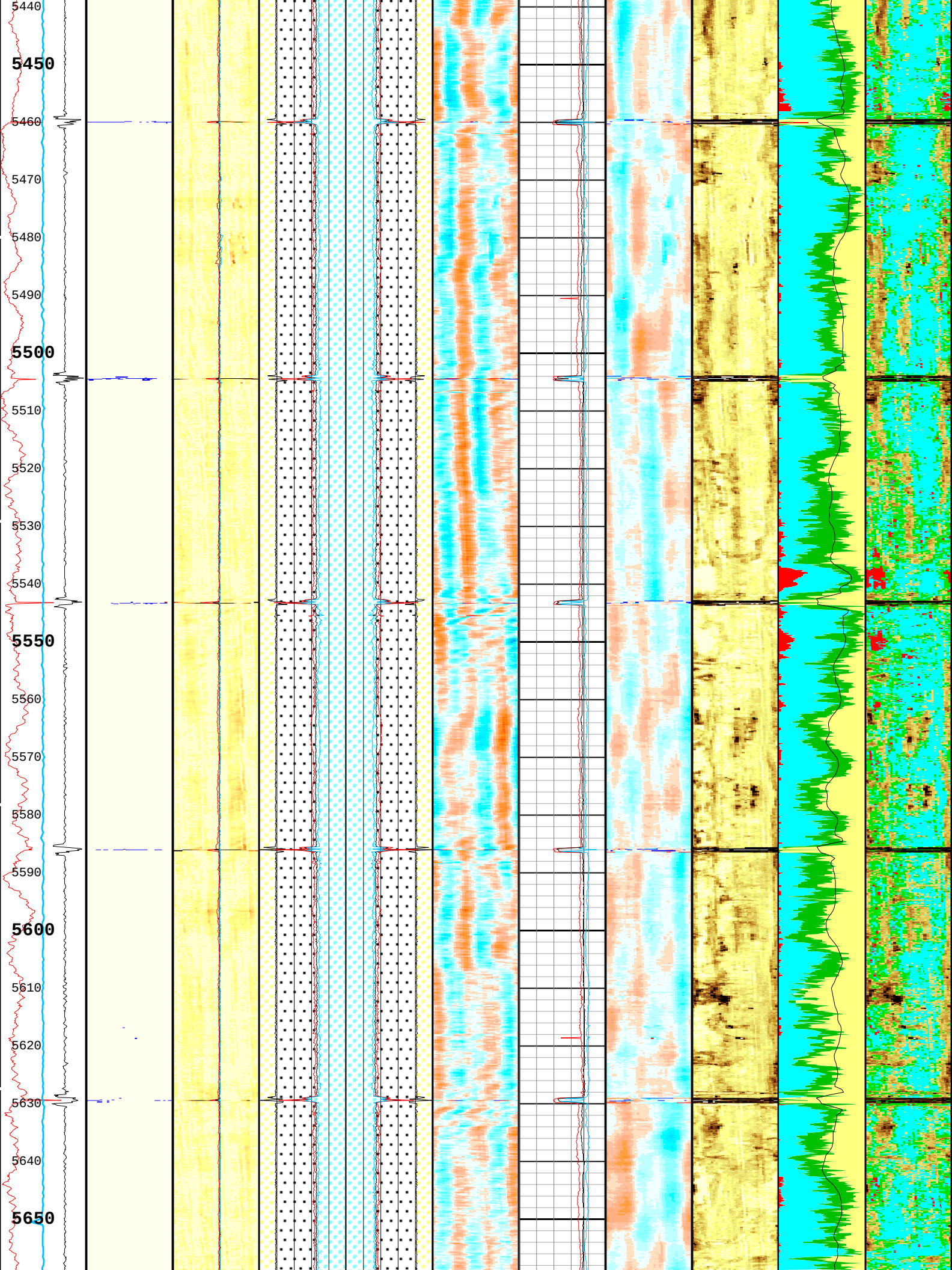
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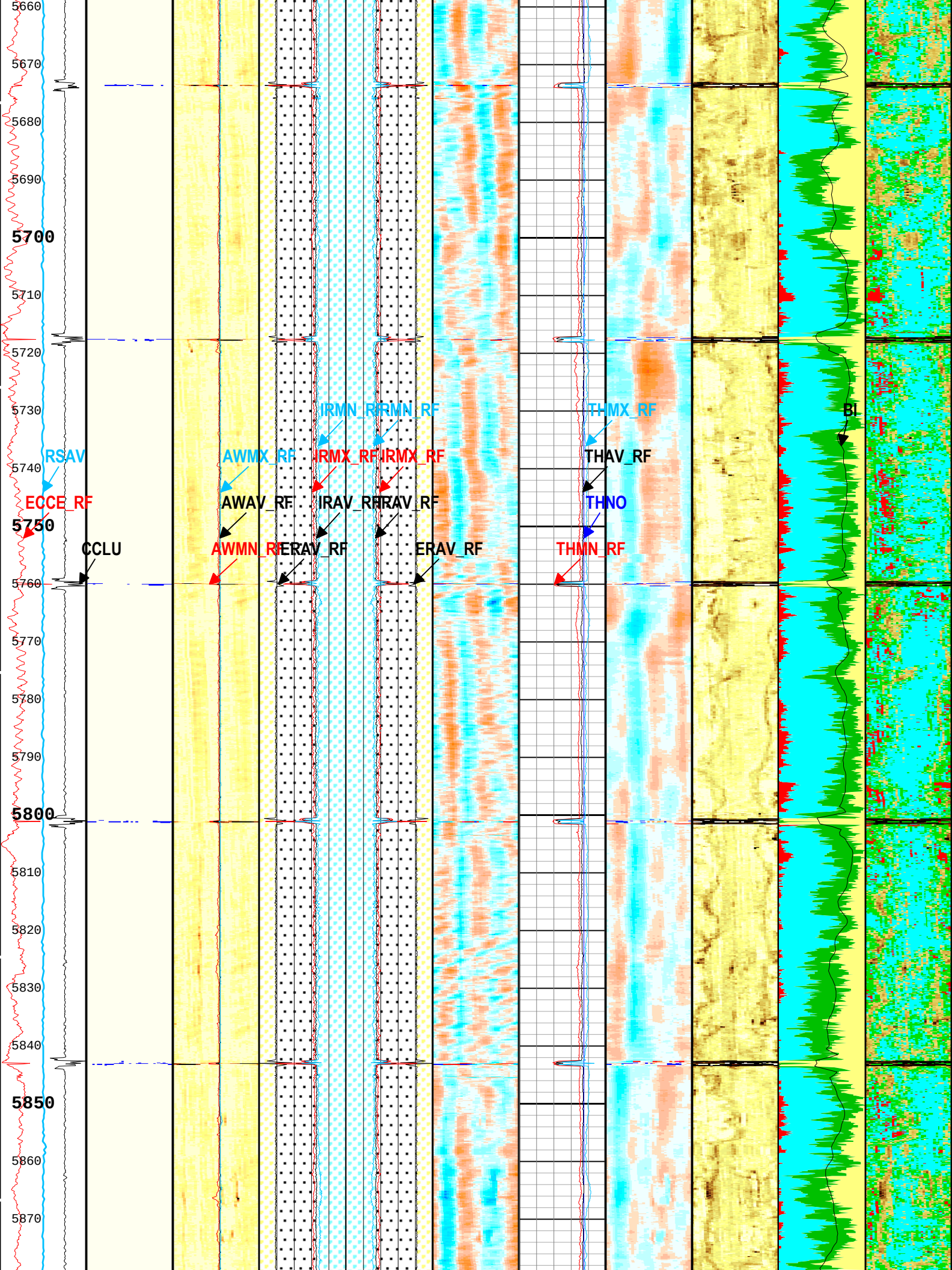
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RSAV
ECCE_RF
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IRMN_RF
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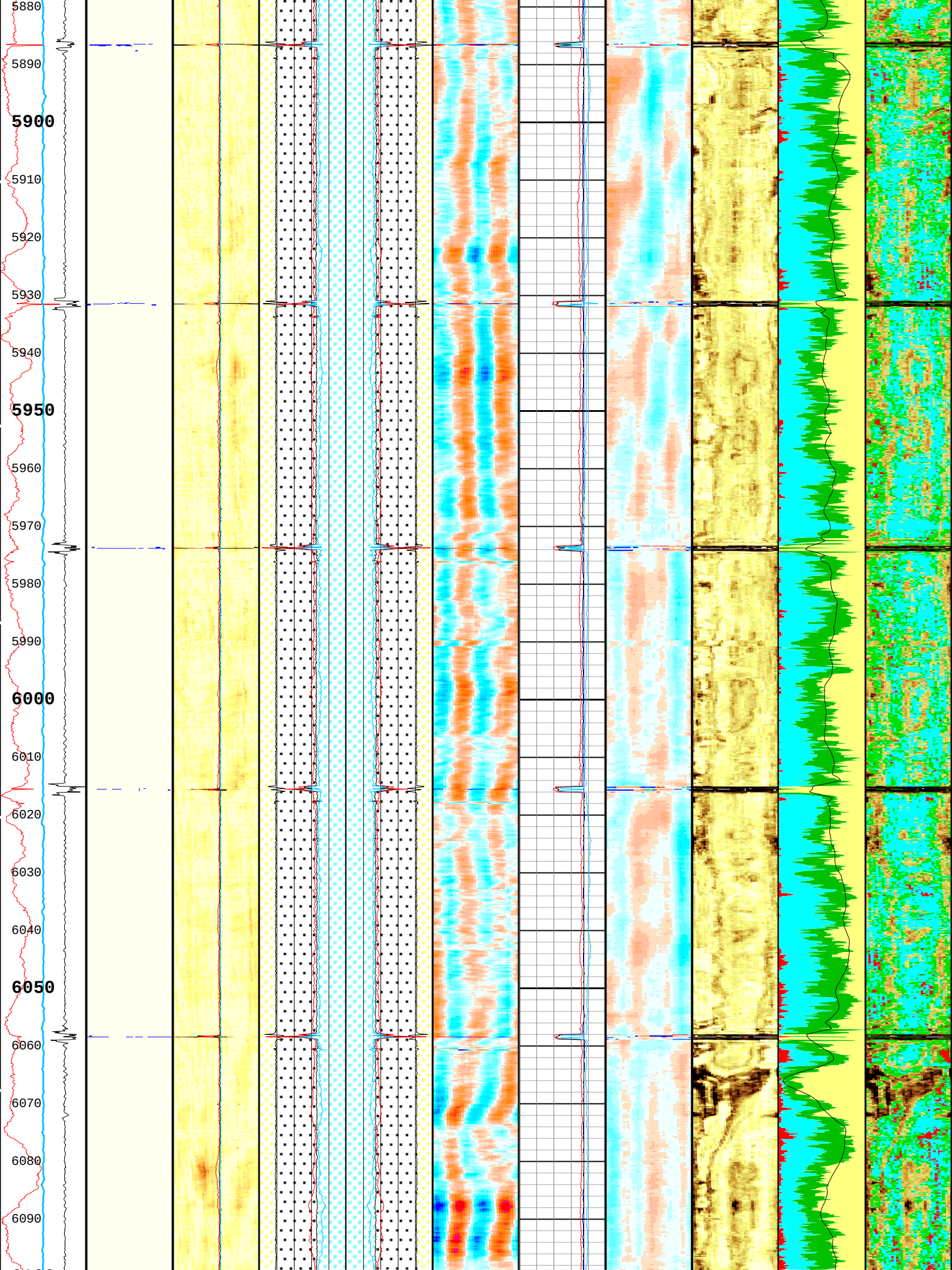
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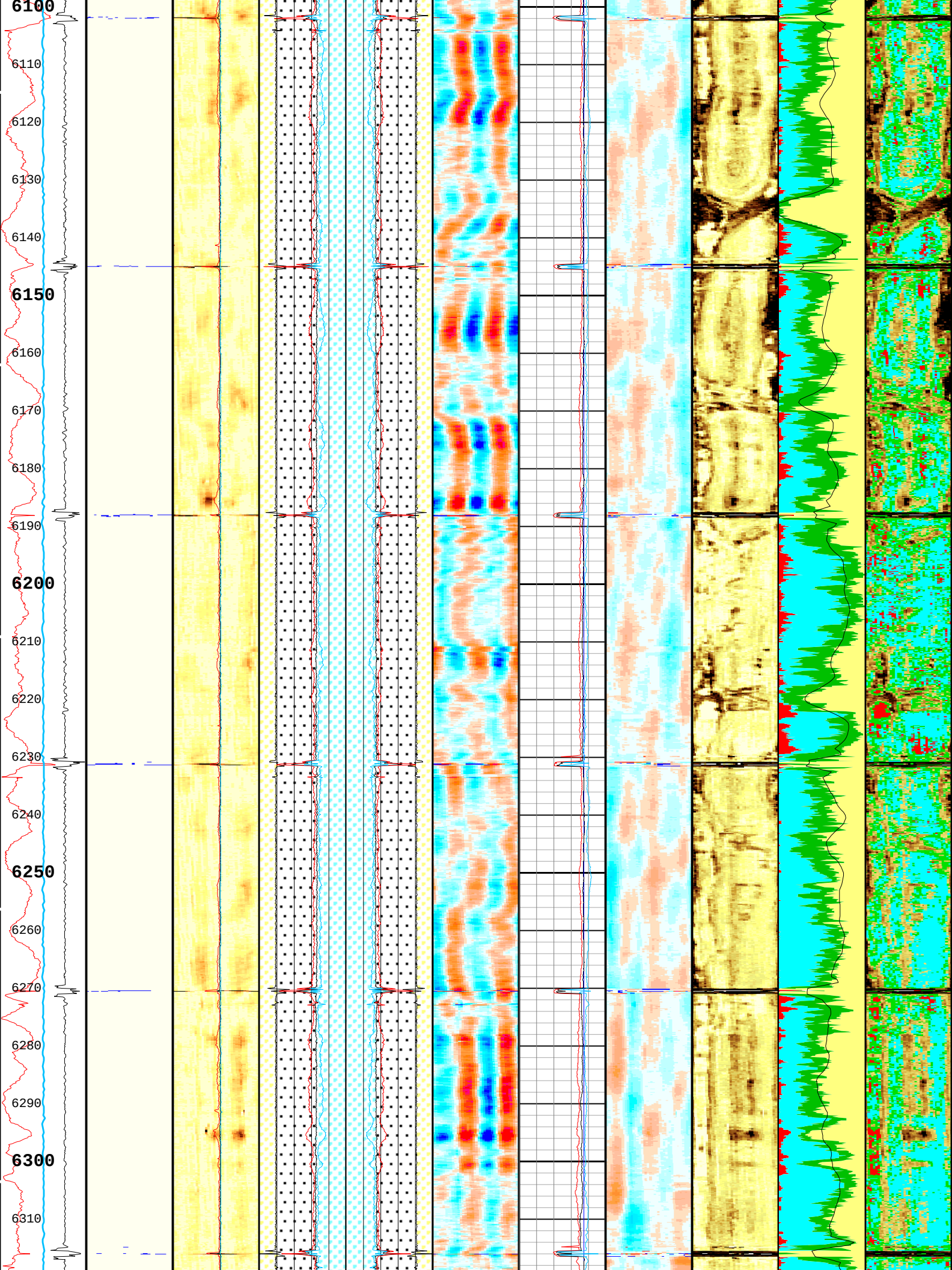
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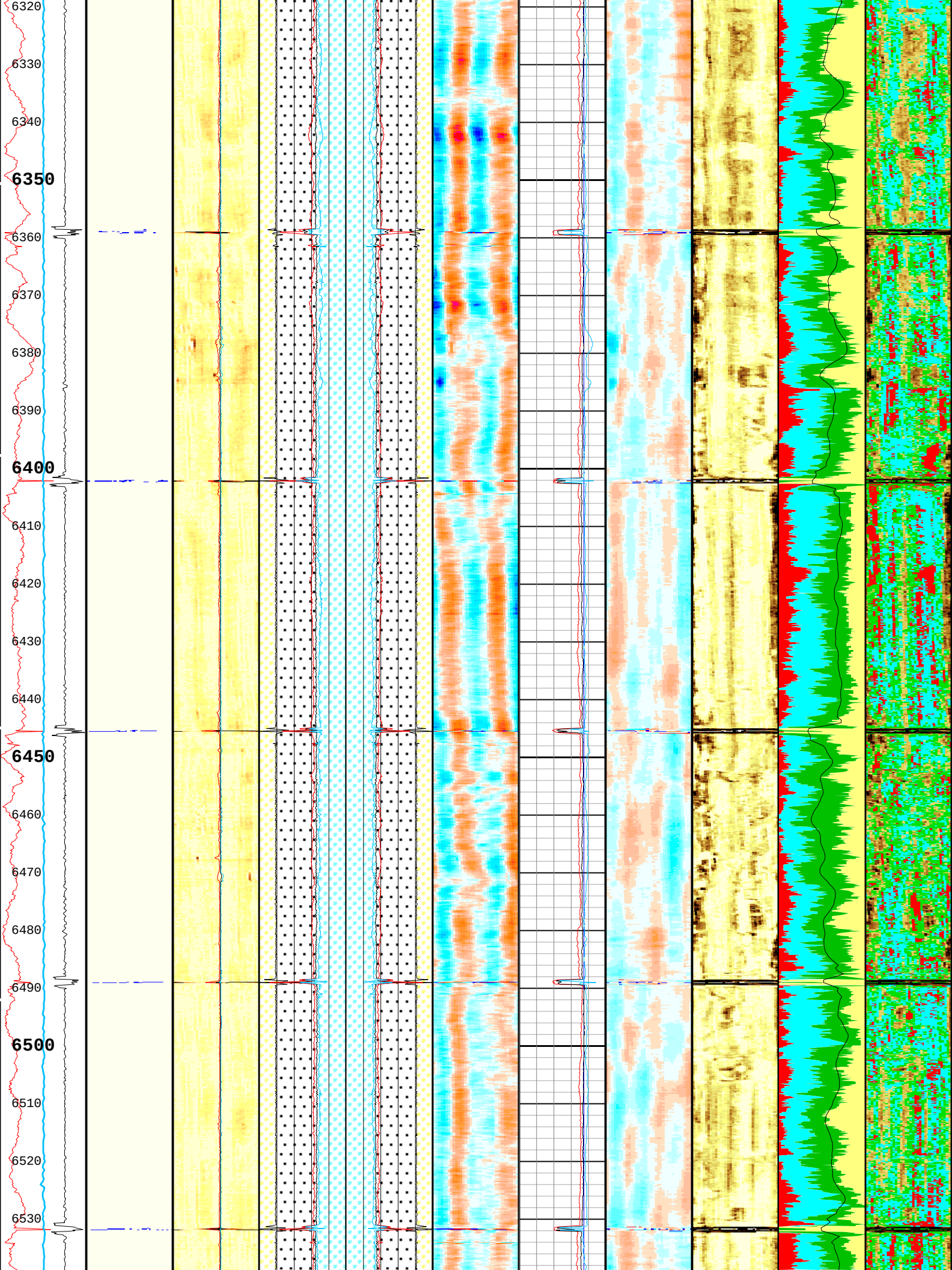
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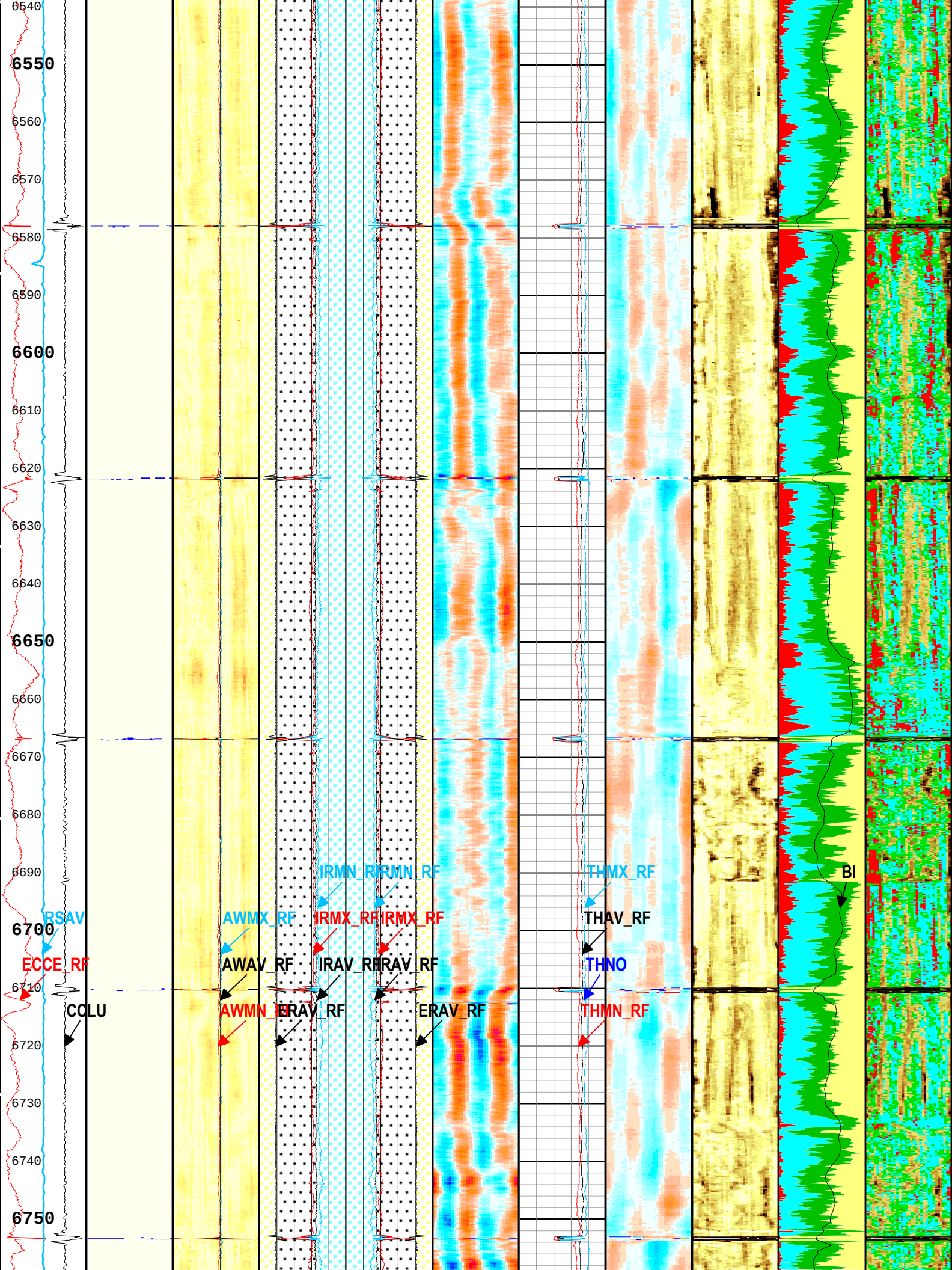
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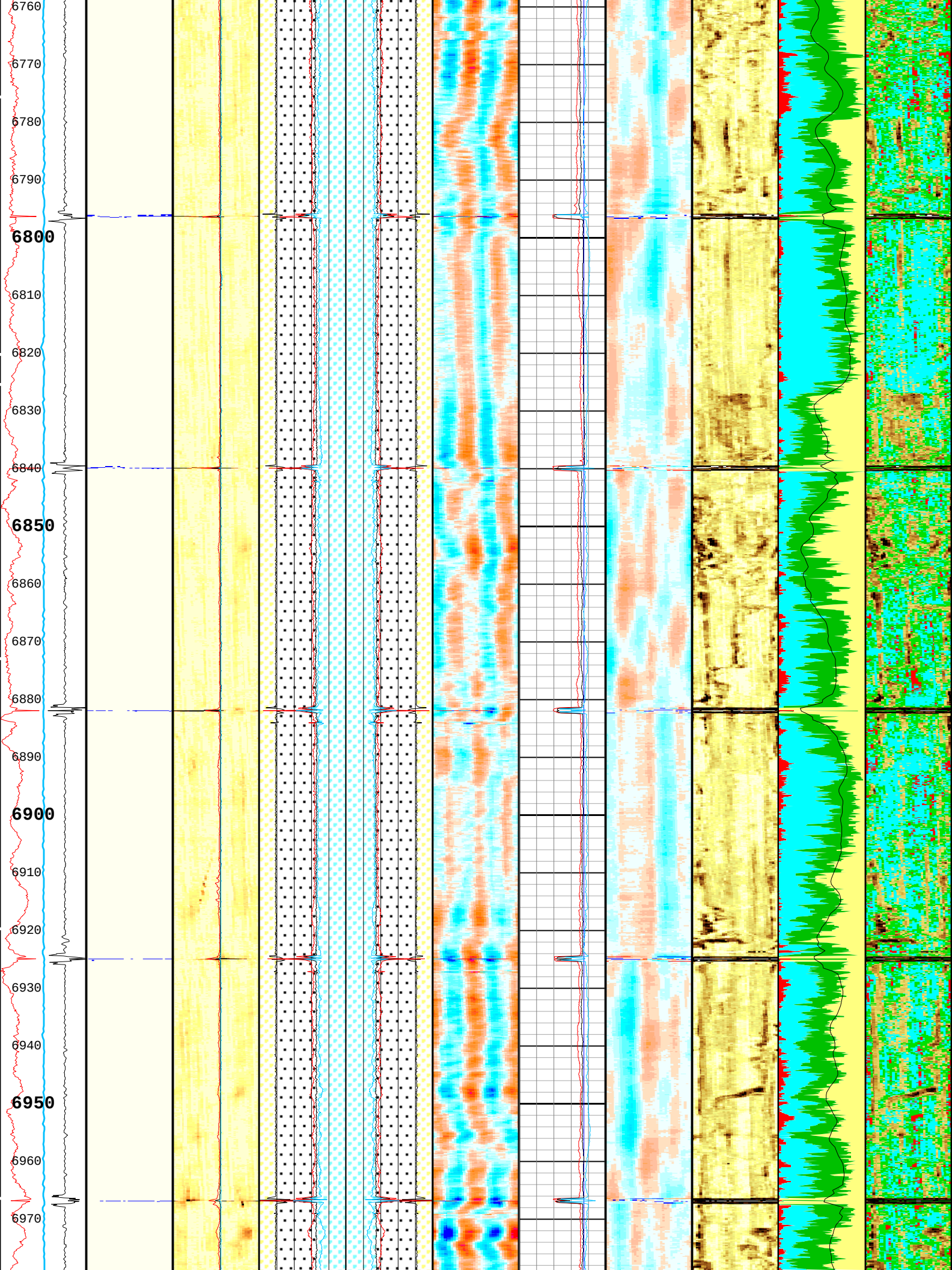
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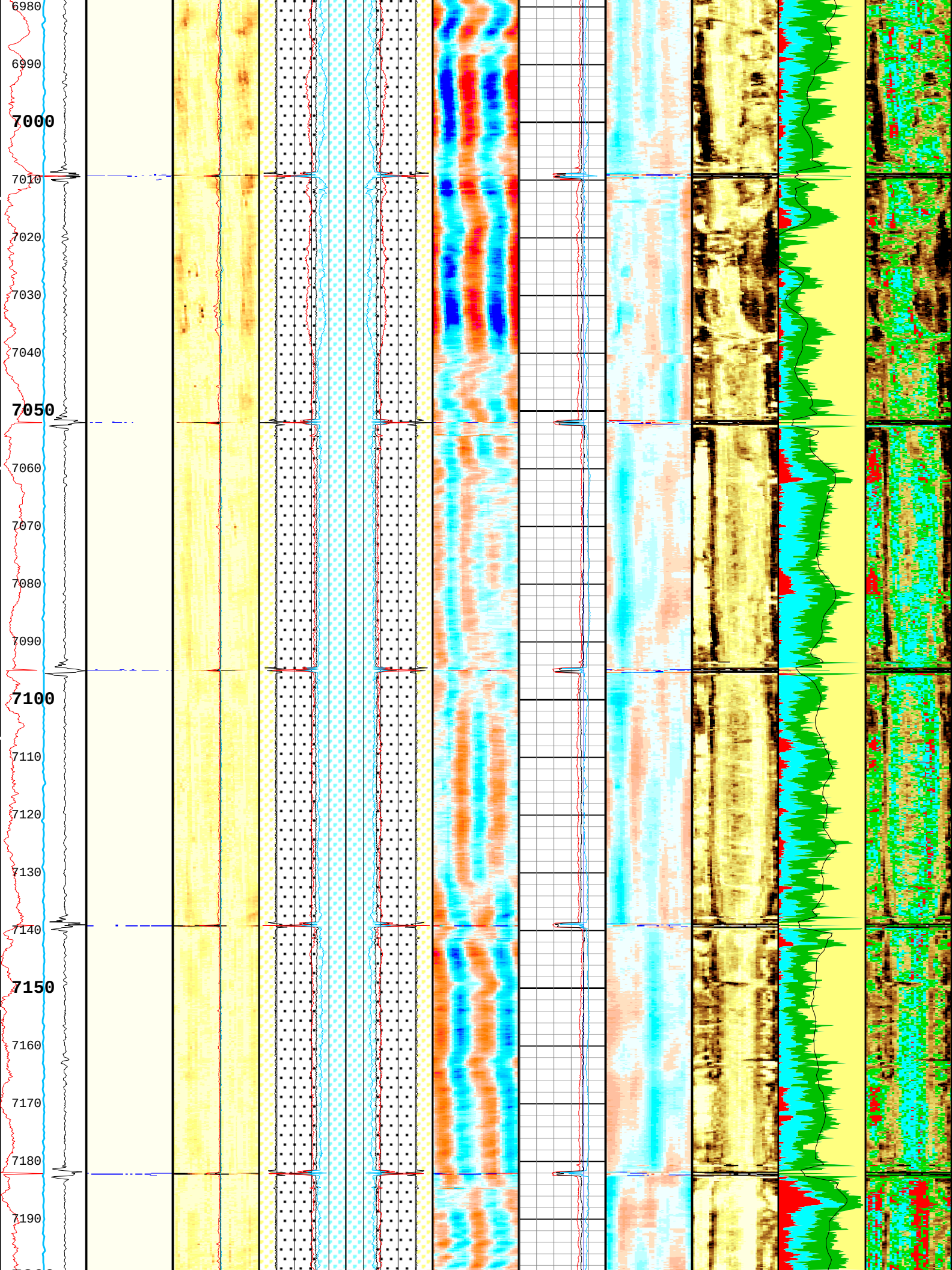
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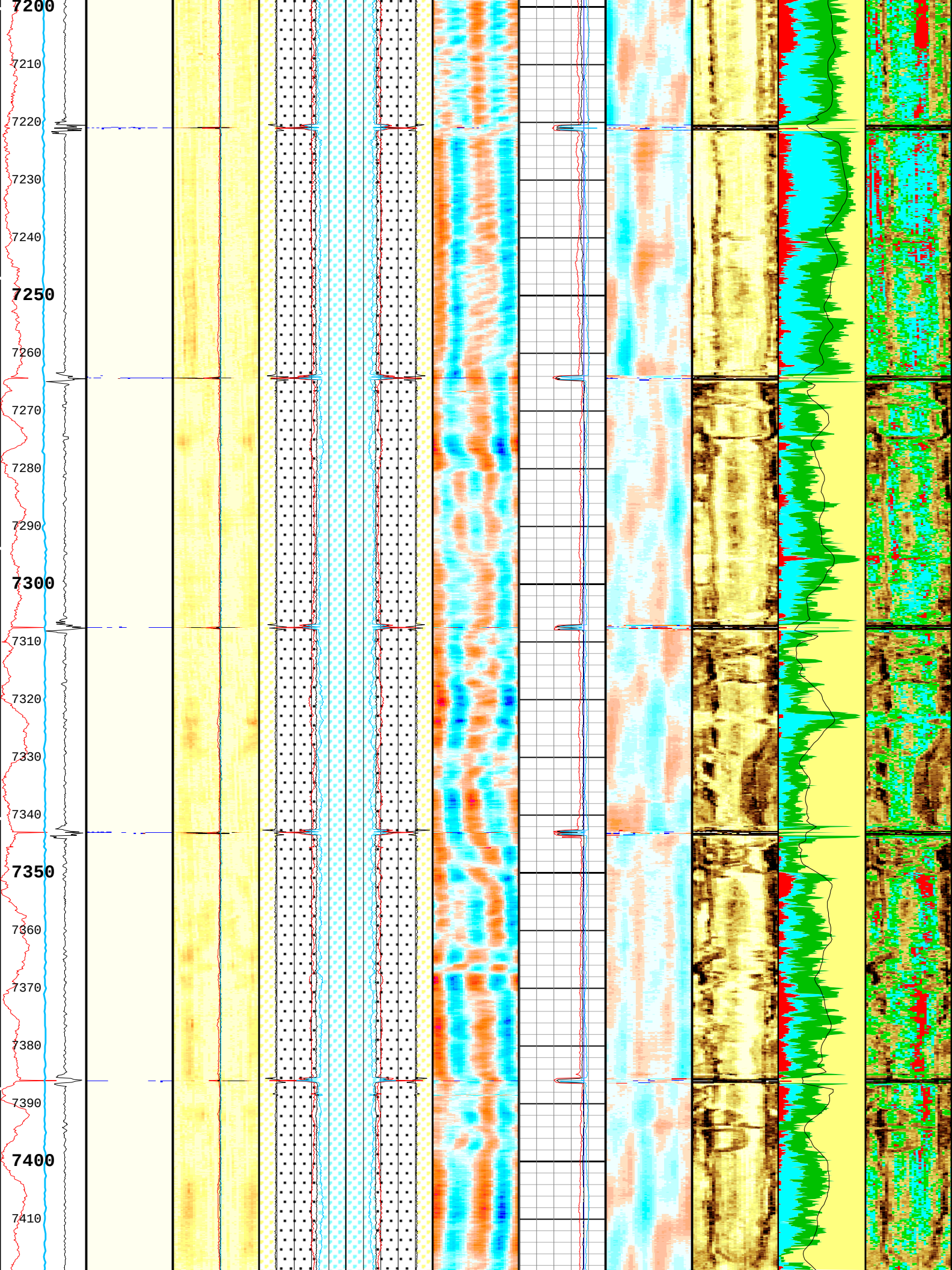
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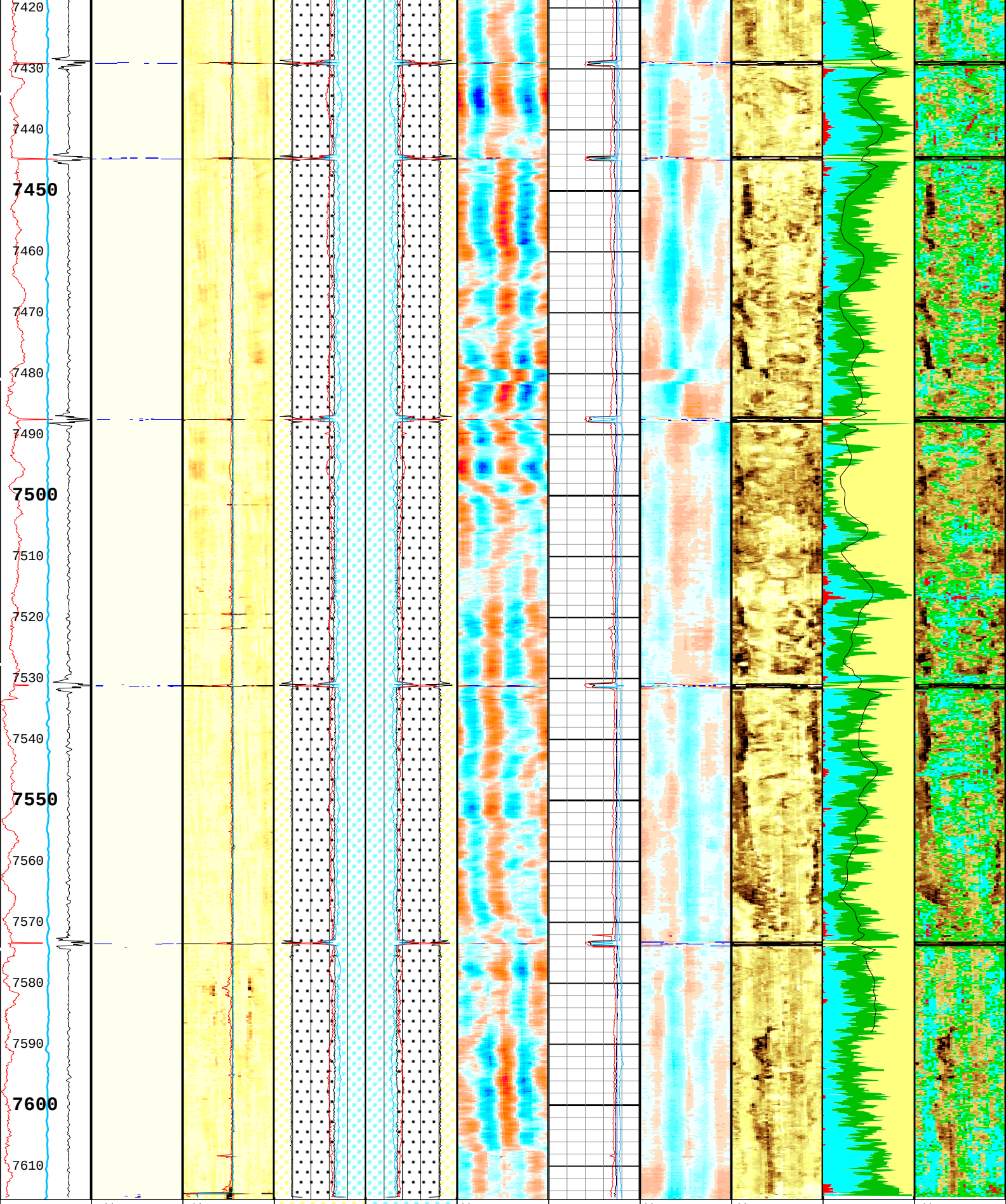
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7600
7610
Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10
Absent 1.500 3.500
Explicit Normalization
USIT - USIT
Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT -
ERAV
ERAV-IRAV
IRAV
IRAV
ERAV
IRAV-ERAV
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT -
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E[1]
Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT -
Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT -
Ratio of Cement Measurements to Total (CEMR) USIT-E[1]
Absent 3.090 5.054 7.018
Custom Normalization
USIT -

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

Processing Flags (UFLG) USIT-E[1]

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

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

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4 in 5

Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E[1] (in)

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

Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E[1] (in)

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

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

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

Absent 2.599 4.563 6.527

Custom Normalization

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

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: 24-May-2016 18:36:55

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
Three	Log[5]:Up	Up	892.54 ft	7615.88 ft	24-May-2016 8:46:05 AM	24-May-2016 11:18:30 AM	ON	0.25 ft	Yes
Three	Log[6]:Up	Up	99.52 ft	1002.74 ft	24-May-2016 11:38:34 AM	24-May-2016 11:57:27 AM	ON	0.54 ft	Yes
Three	Log[20]:Up	Up	56.25 ft	309.00 ft	24-May-2016 2:26:52 PM	24-May-2016 2:32:51 PM	ON	1.53 ft	Yes

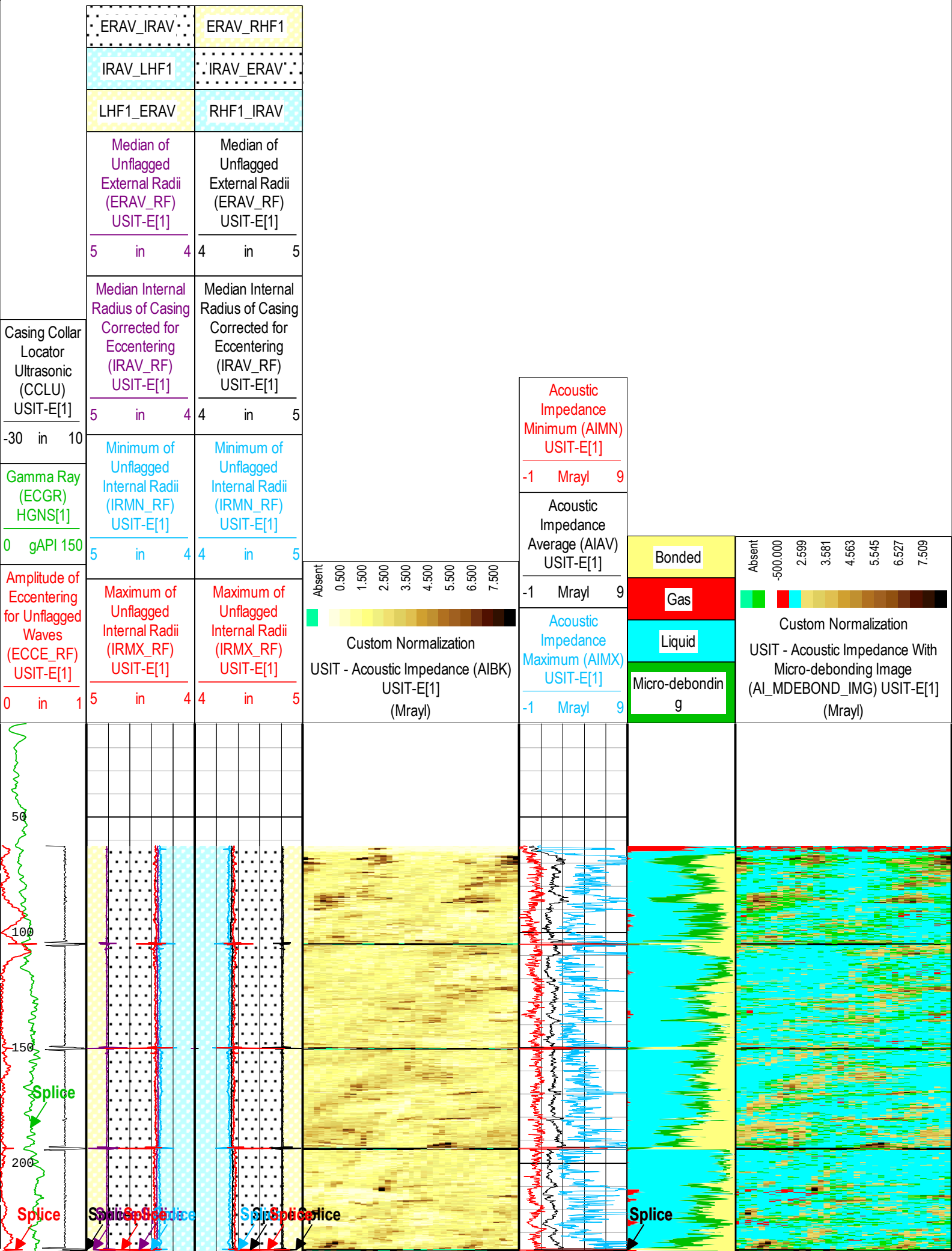
All depths are referenced to toolstring zero

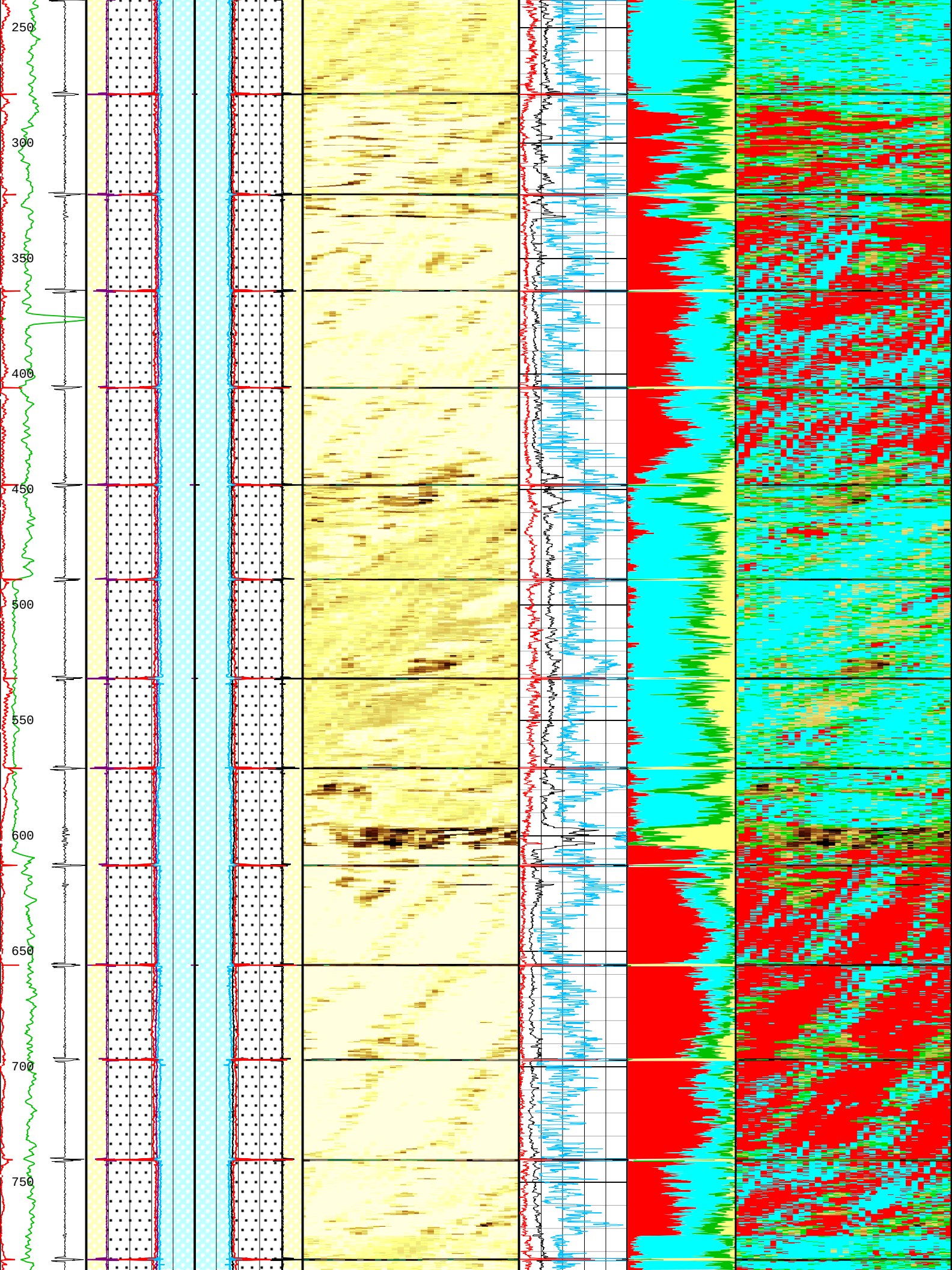
Log

Company:Southern California Gas Company Well:Porter No. 69-D
Composite 1:S004

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: 24-May-2016 18:37:55

TIME_1900 - Time Marked every 60.00 (s)

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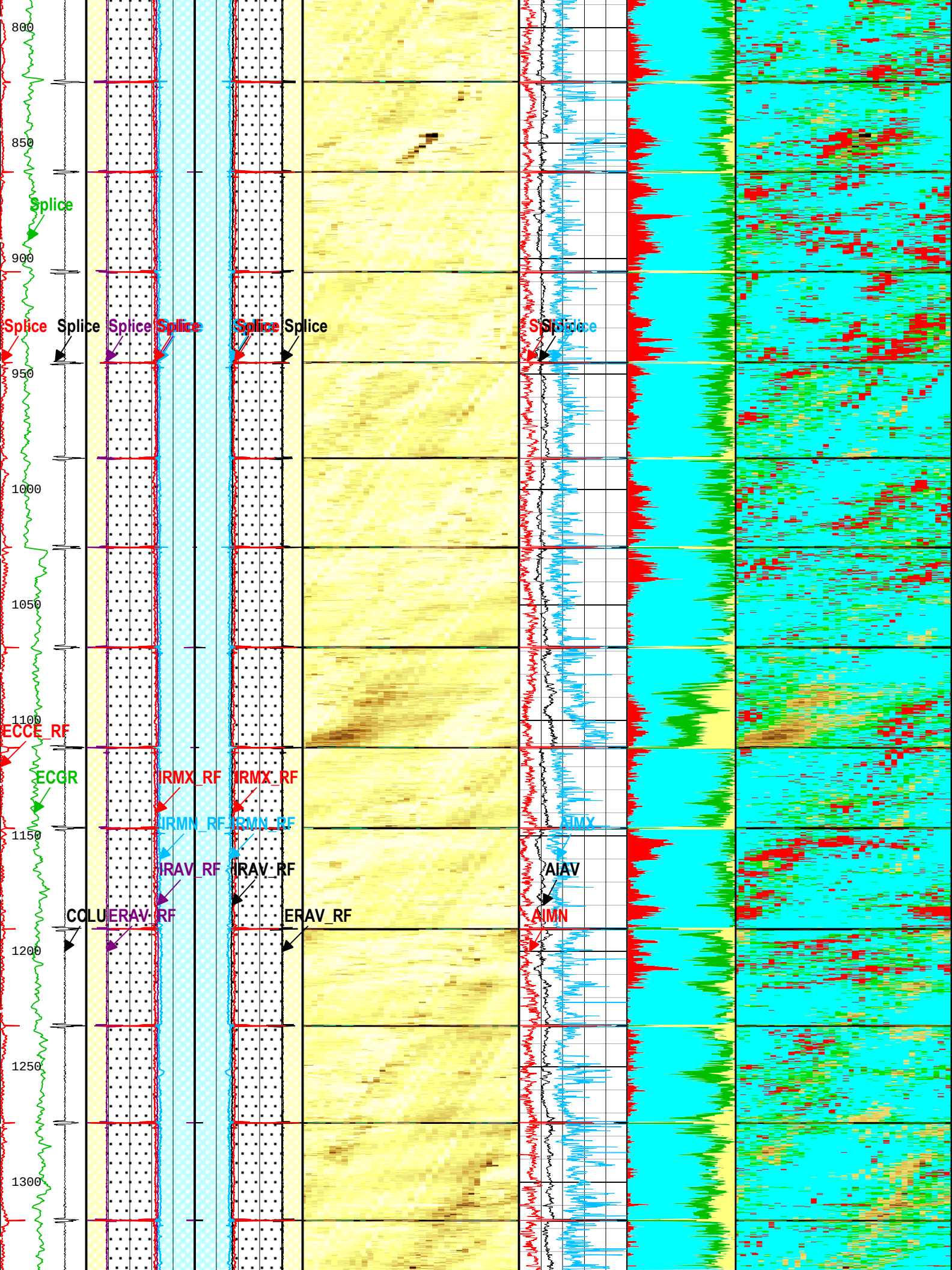
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850
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Splice
Splice
950
1000
1050
1100
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ECGR
IRMX_RF
IRMX_RF
IRMN_RF
IRMN_RF
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IRAV_RF
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AIAV
COLU
ERAV_RF
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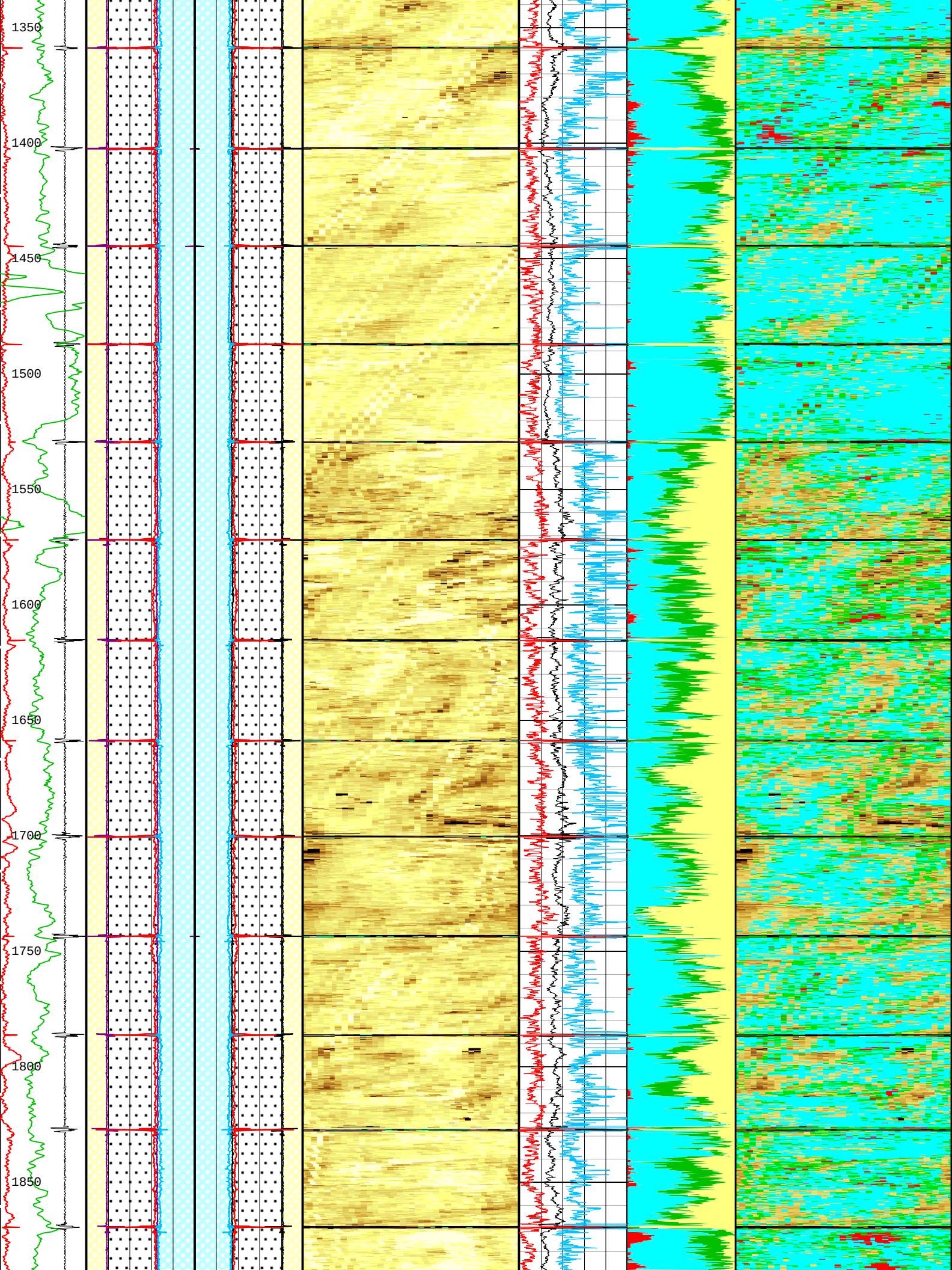
AIMN
1200
1250
1300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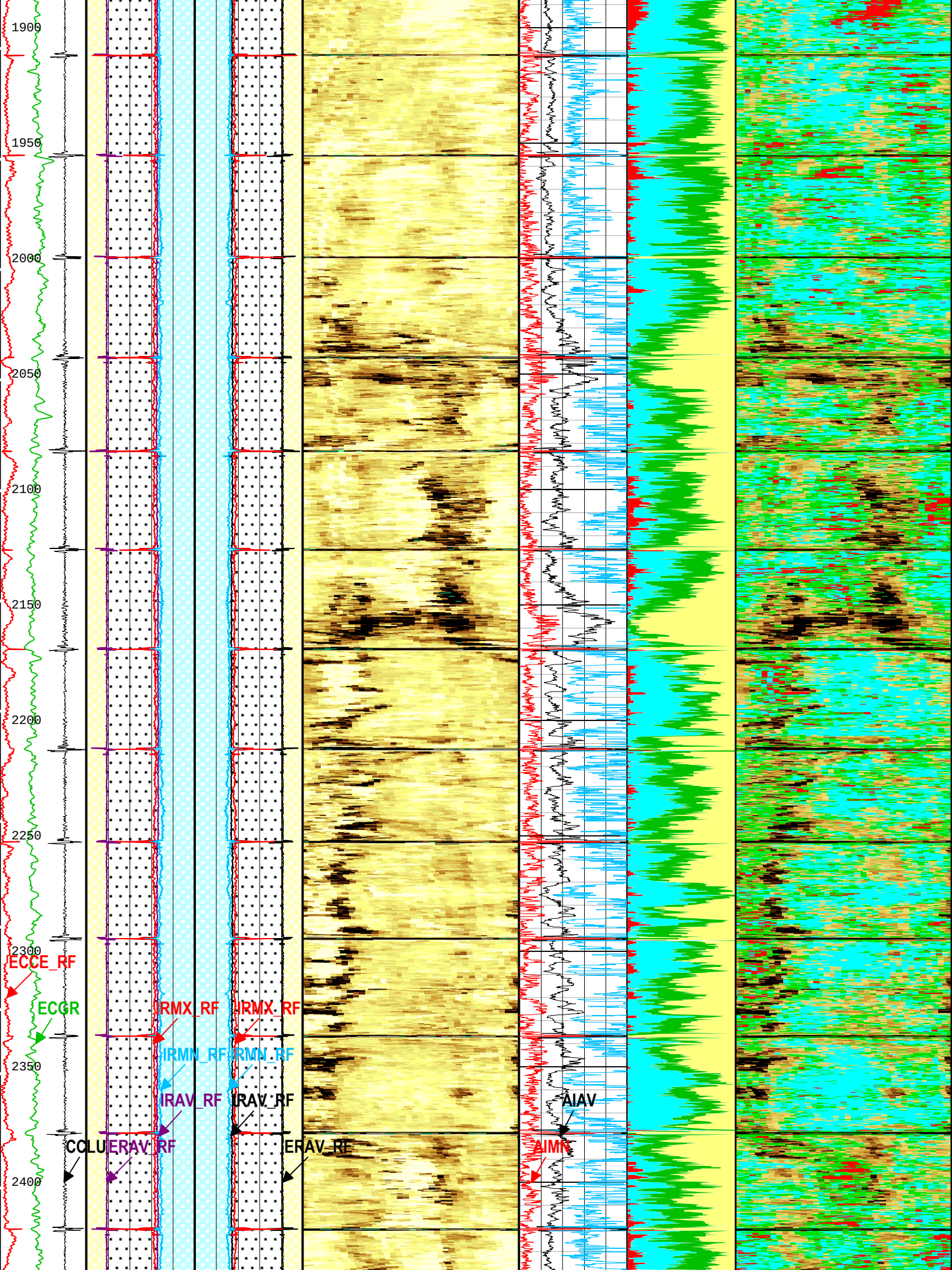
1800
1850


1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
2400
ECCE_RF
ECGR
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IRMN_RF
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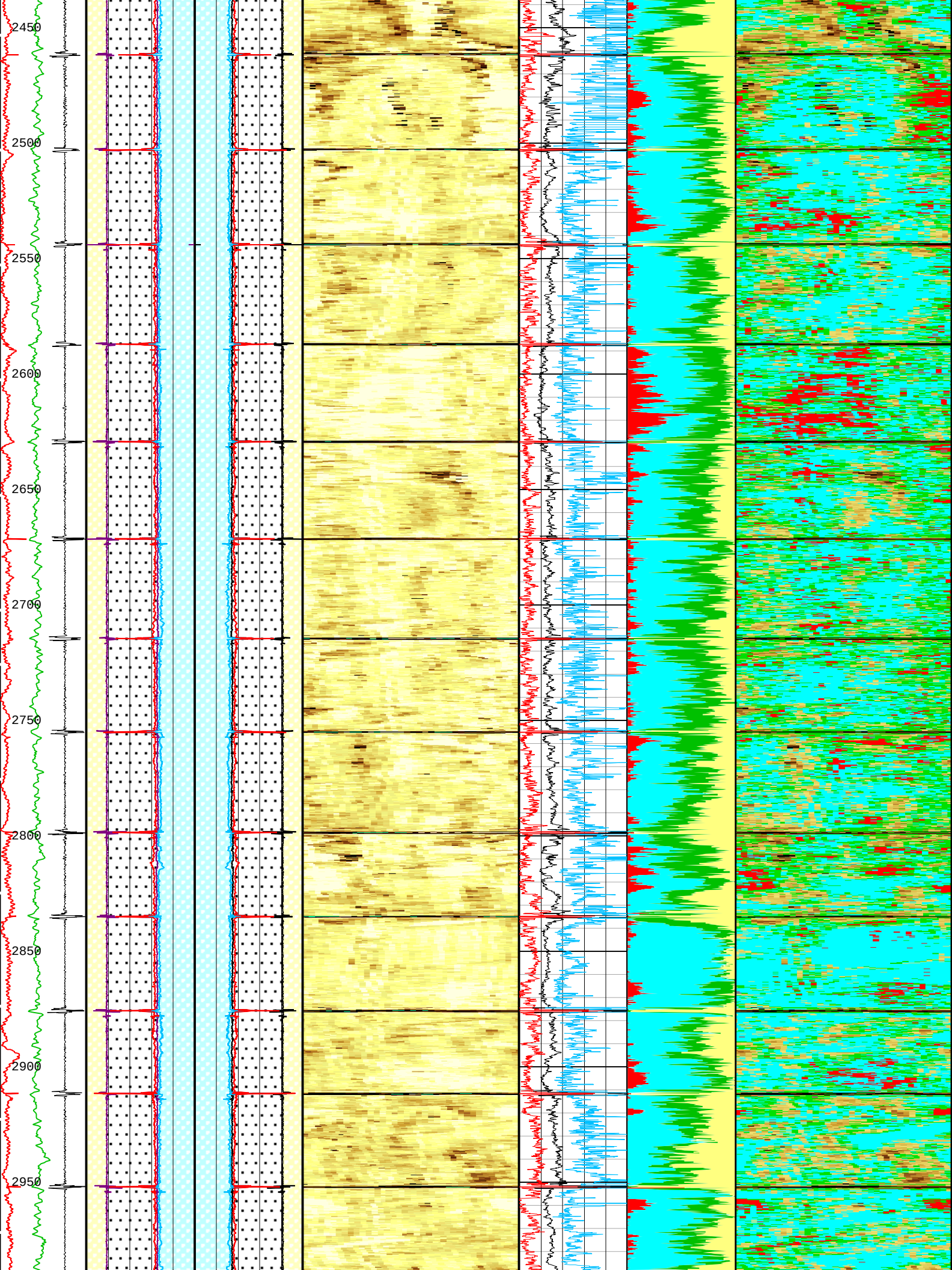
IRAV_RF
CCLU
ERAV_RF
ERAV_RF
AIAV
AIMN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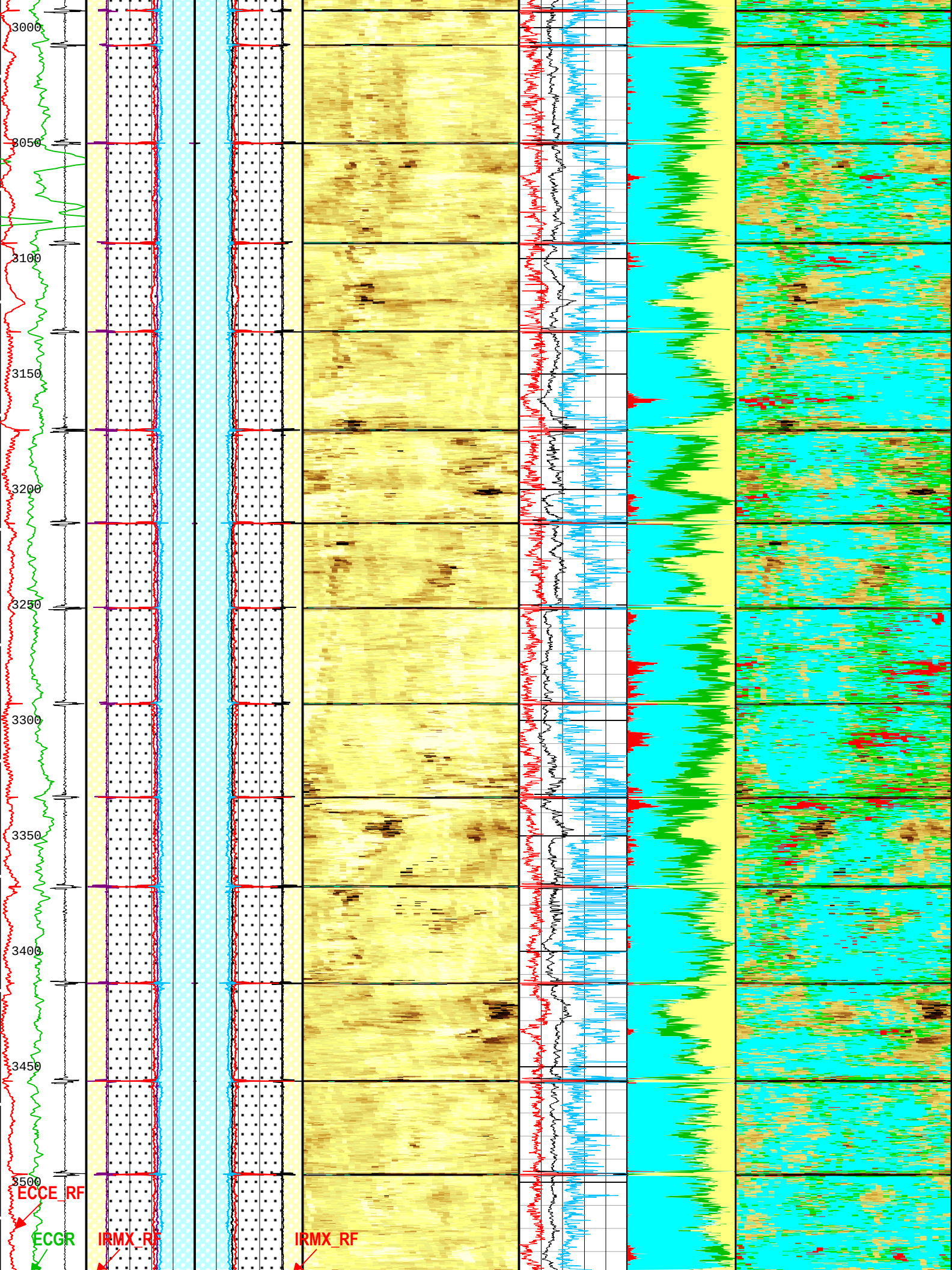
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IRMX_RF
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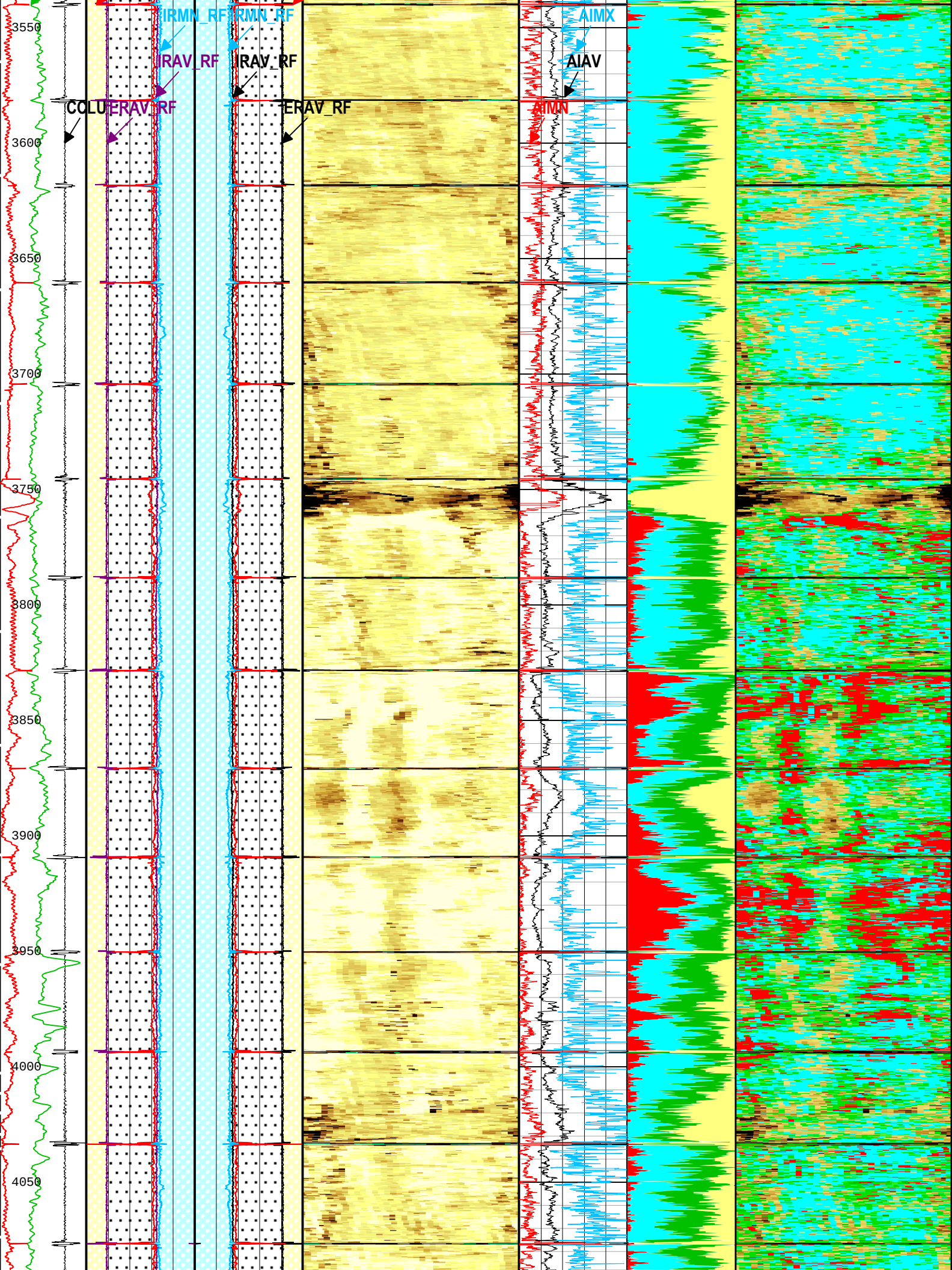
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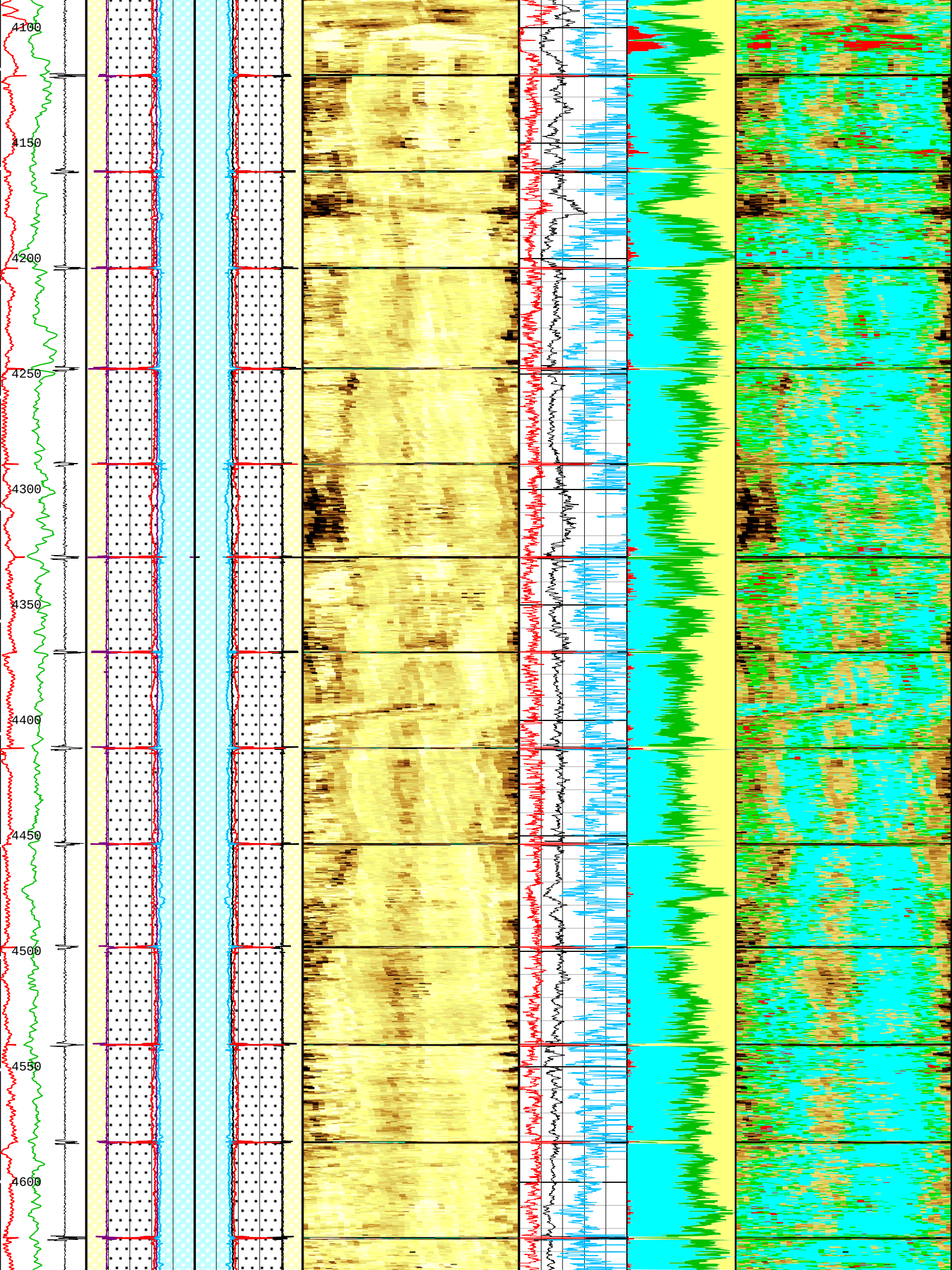
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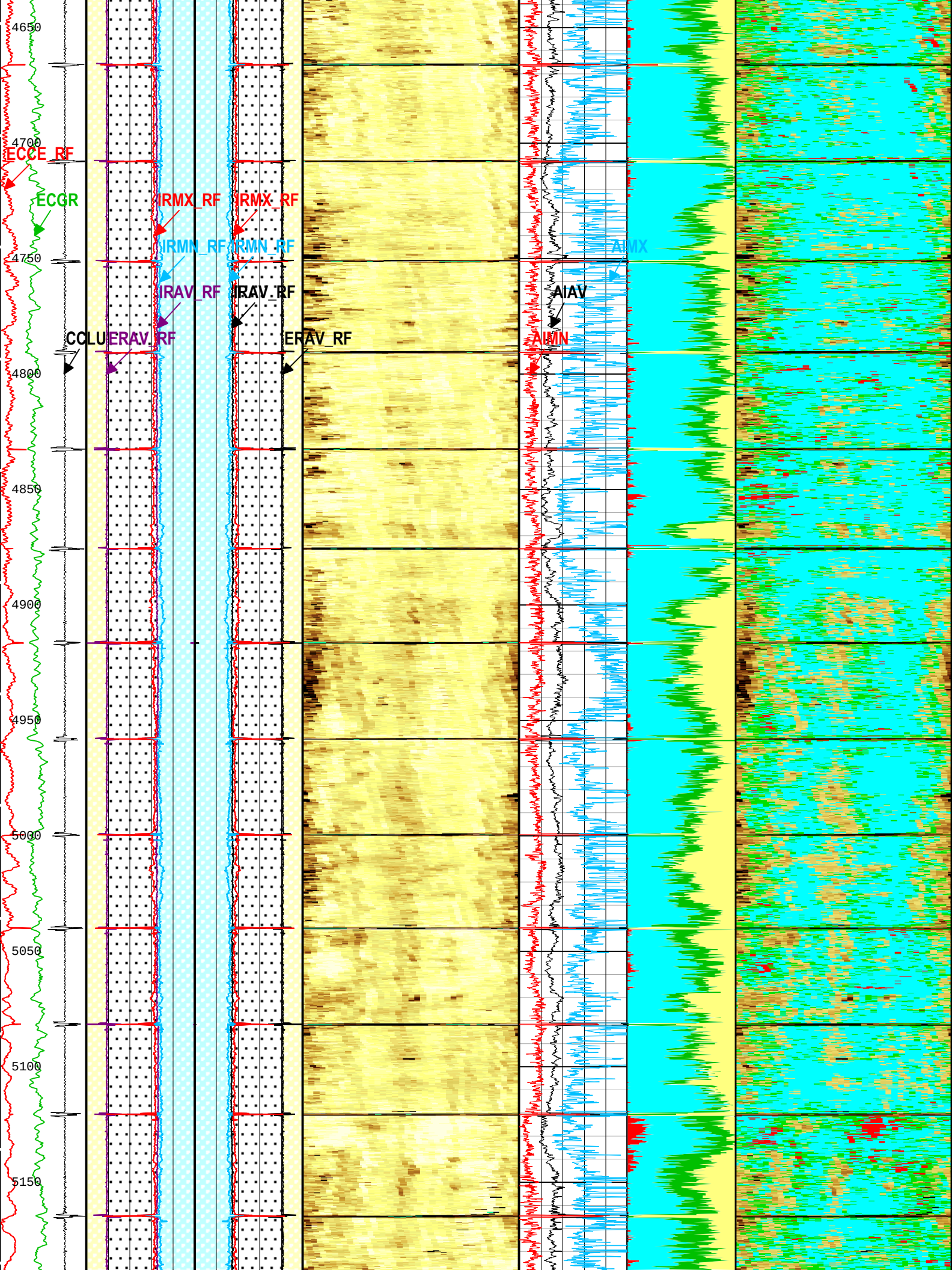
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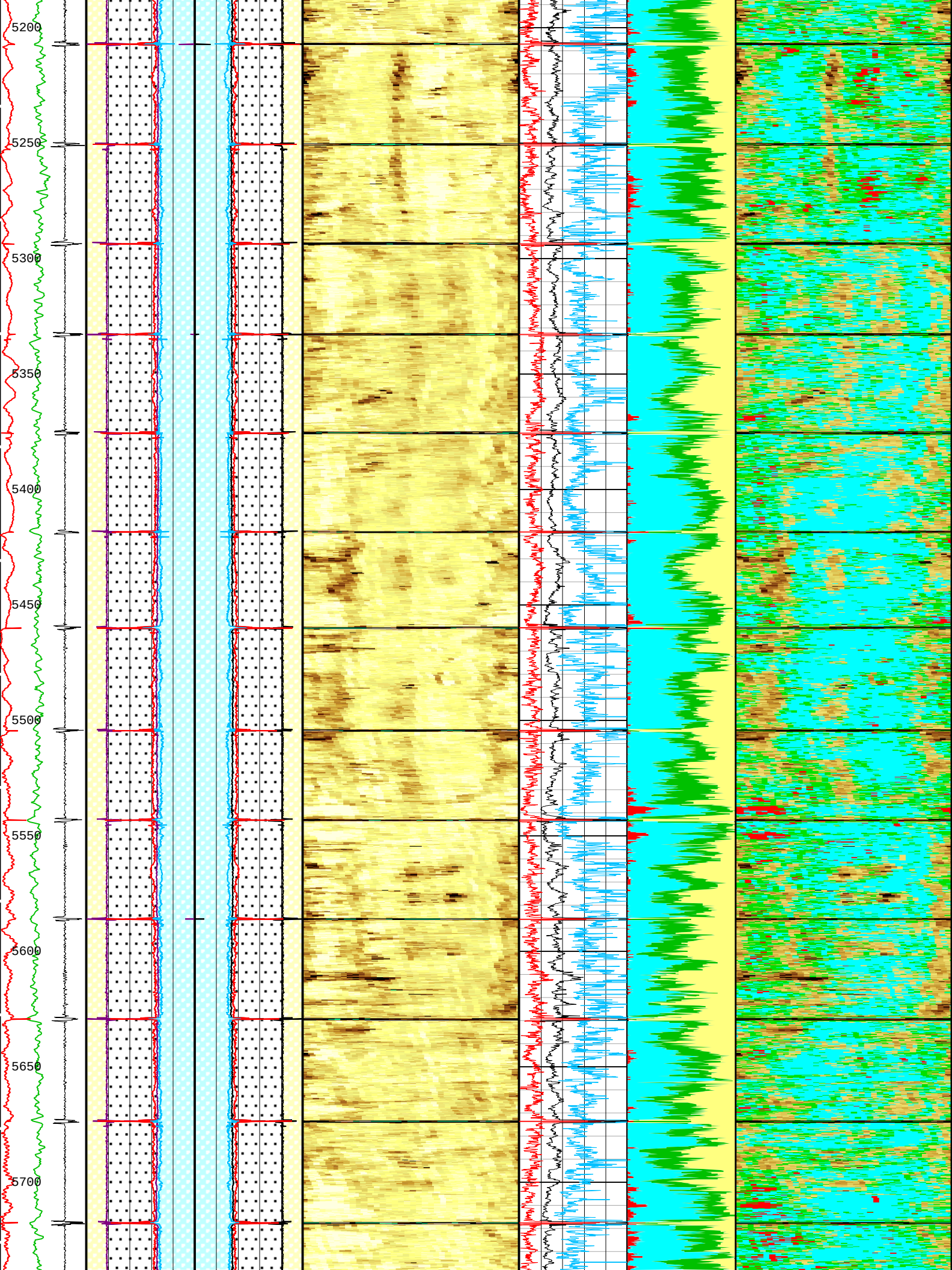
AIMN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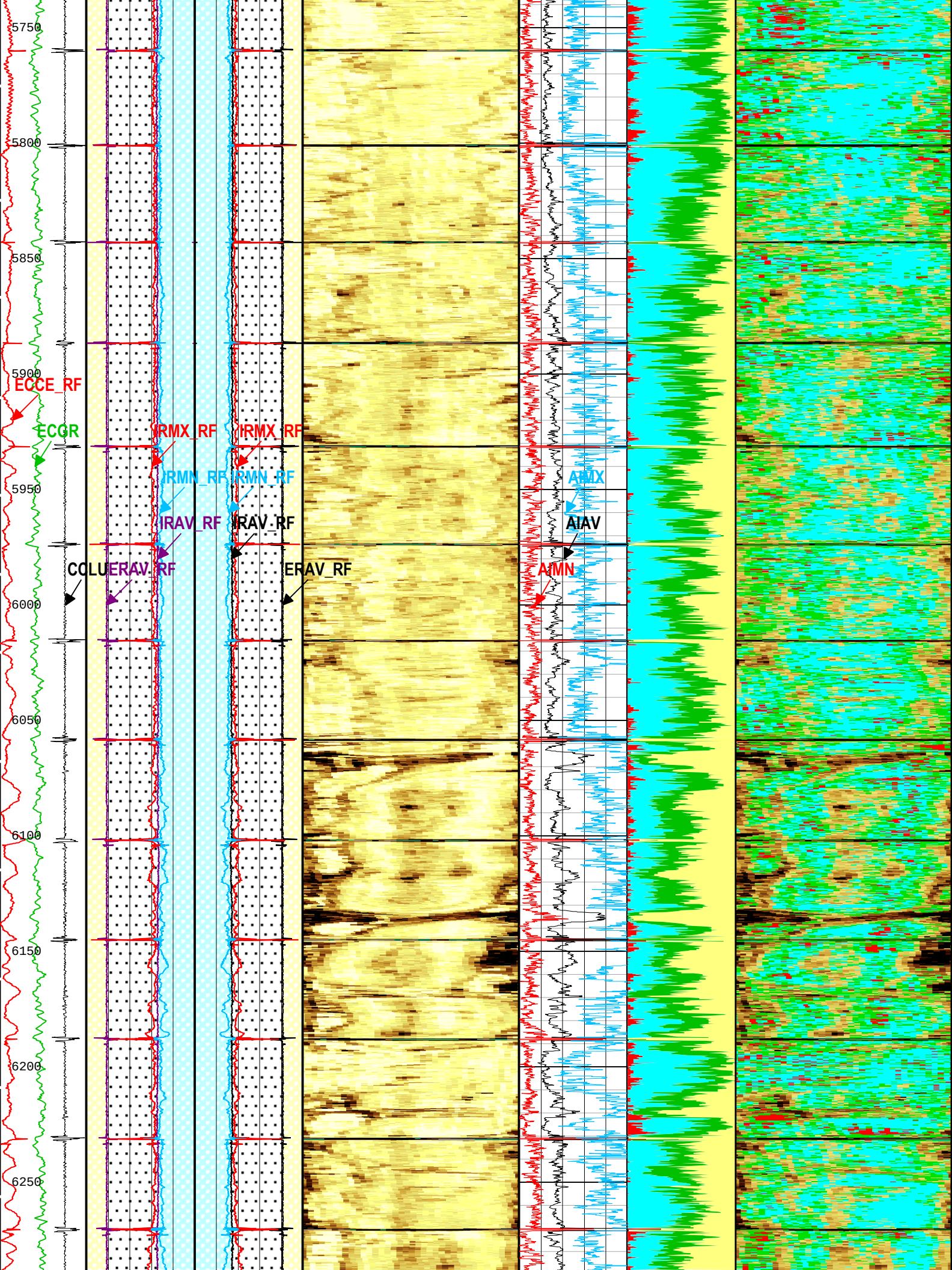
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IRAV_RF
COLU
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ERAV_RF
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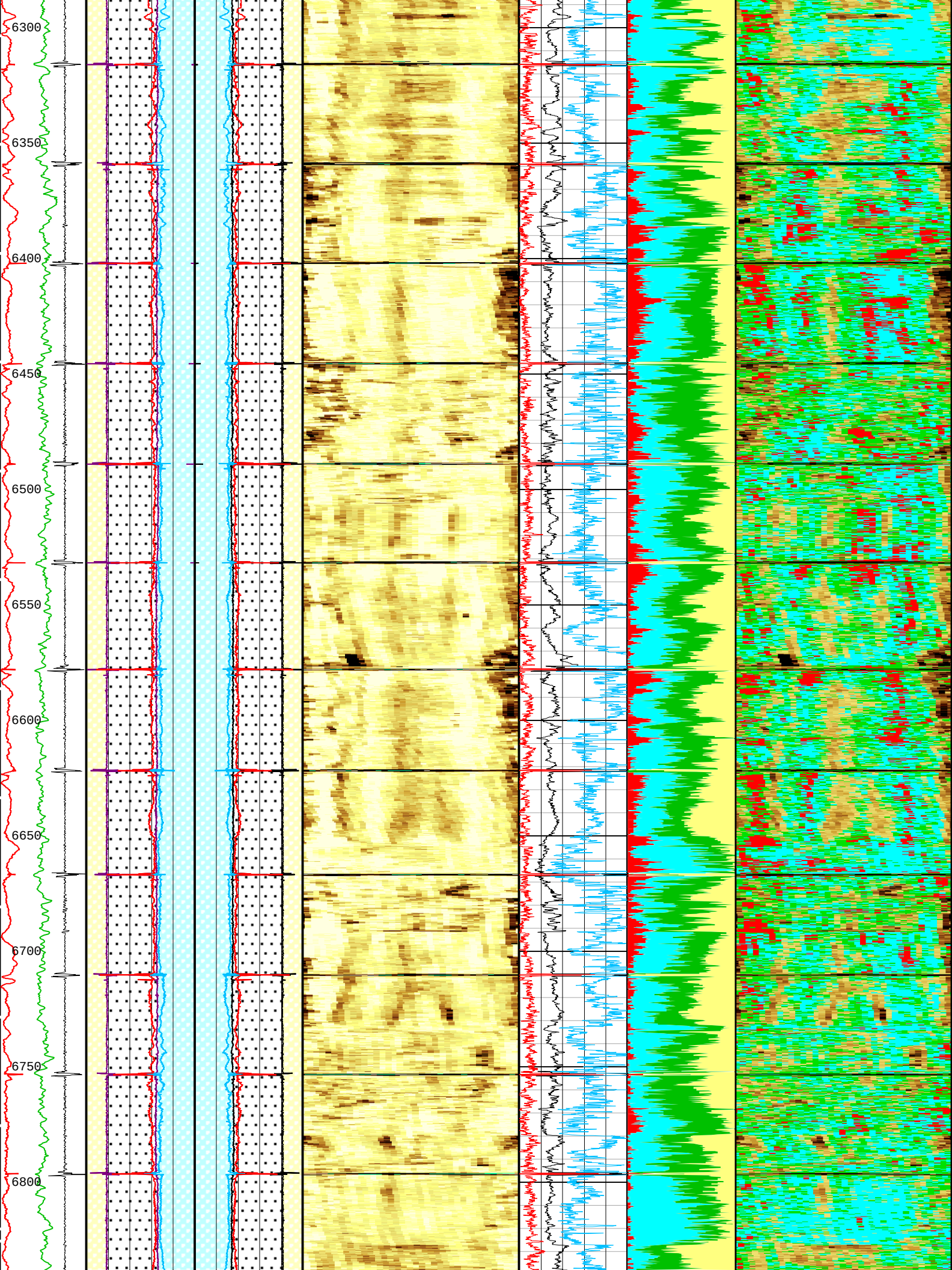
AIAV
AIMN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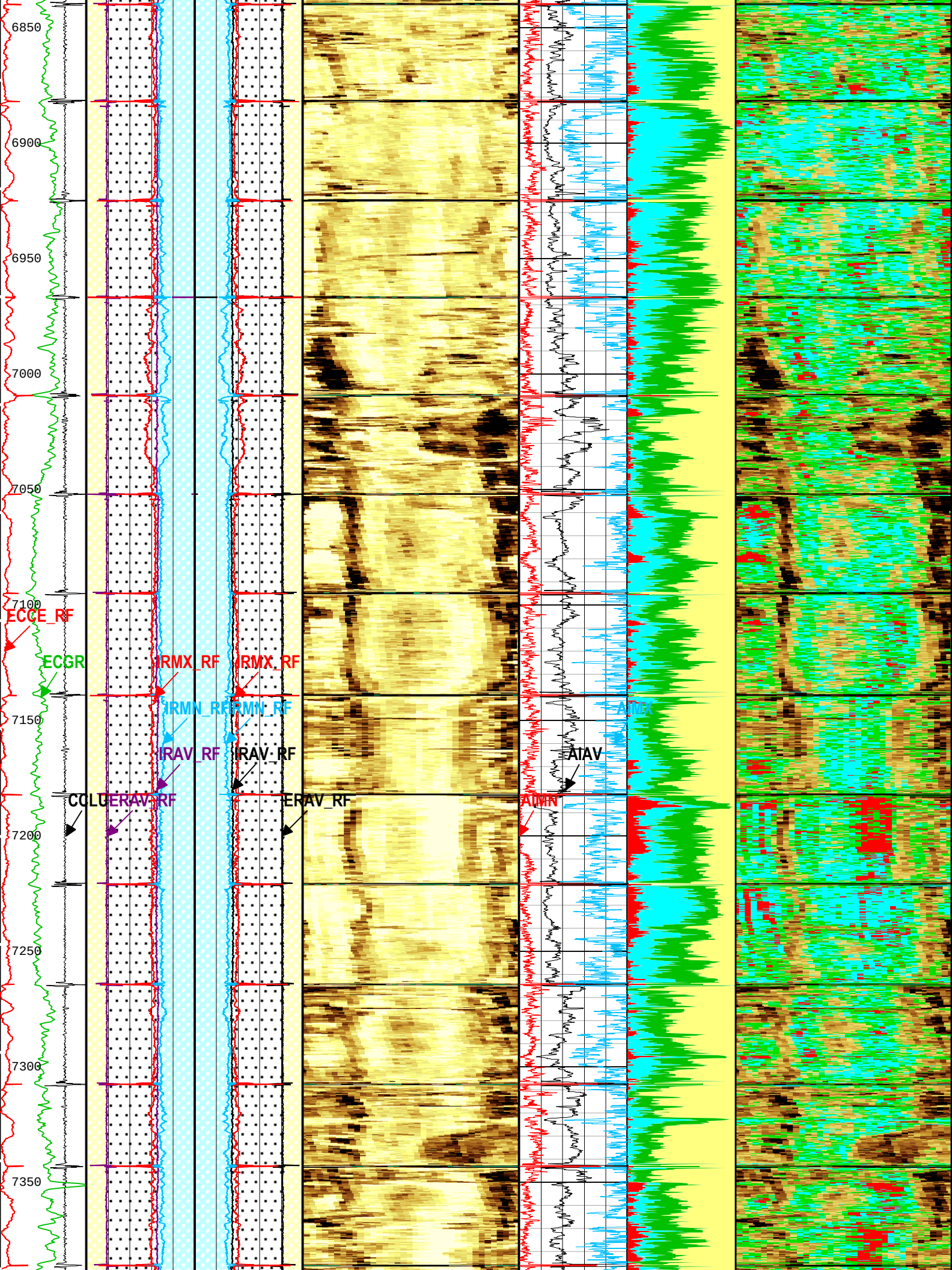
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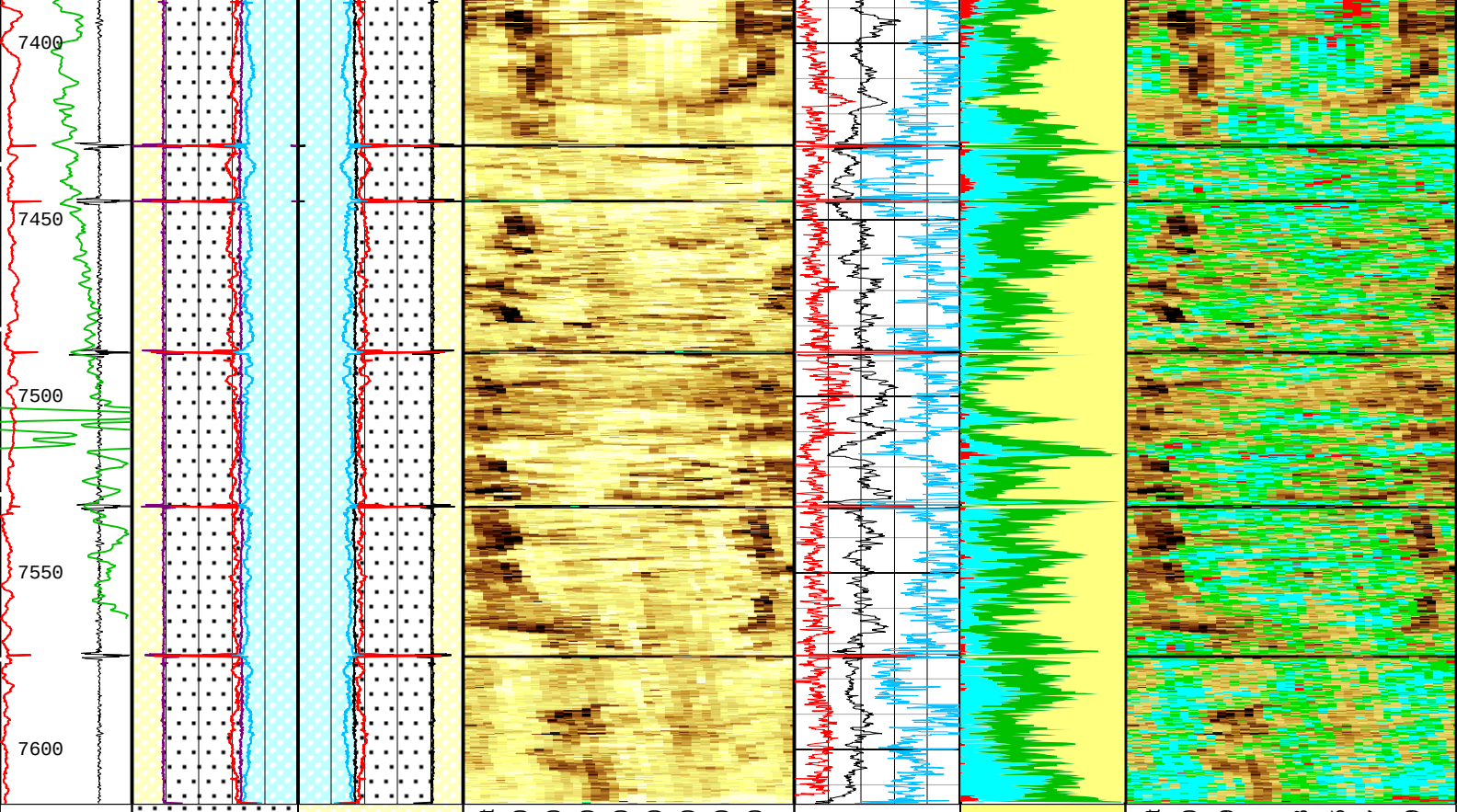
AIAV
AIMN



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: 24-May-2016 18:37:55

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
Three	Log[5]:Up	Up	892.54 ft	7615.88 ft	24-May-2016 8:46:05 AM	24-May-2016 11:18:30 AM	ON	0.25 ft	Yes
Three	Log[6]:Up	Up	99.52 ft	1002.74 ft	24-May-2016 11:38:34 AM	24-May-2016 11:57:27 AM	ON	0.54 ft	Yes
Three	Log[20]:Up	Up	56.25 ft	309.00 ft	24-May-2016 2:26:52 PM	24-May-2016 2:32:51 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Composite 1:S004

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: 24-May-2016 18:38:36

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

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

USIT Processing

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

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

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

Maximum of Unflagged Wave Amplitude

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

Internal Radius Averaged Value (IRAV) USIT-E[1]
4 in 5

Internal Radius Maximum Value (IRMX) USIT-E[1]
4 in 5

Internal Radius Minimum Value

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

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
5 in 4

Minimum of Unflagged Internal Radii

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4 in 5

Minimum of Unflagged Internal Radii

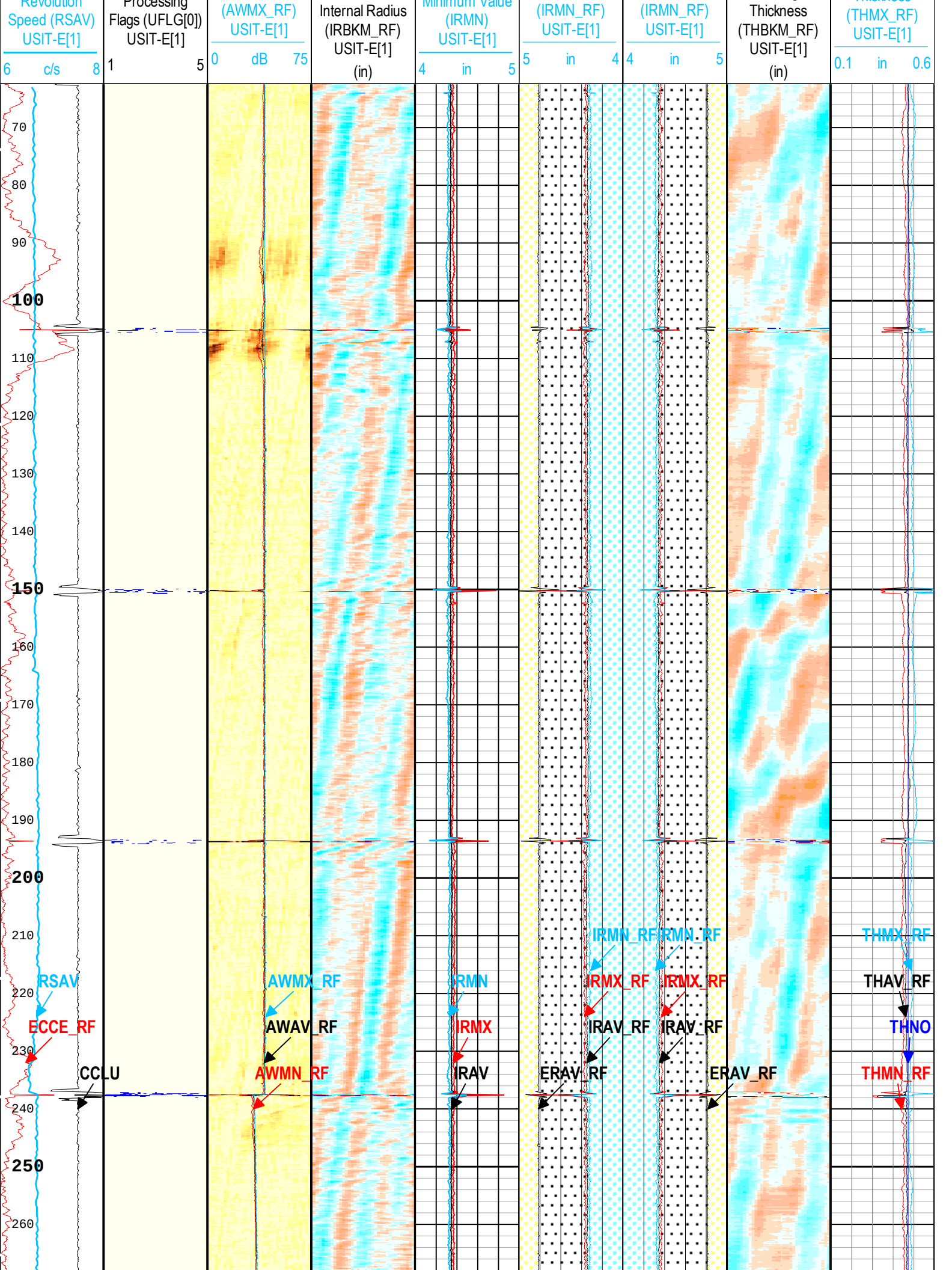
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing

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


Revolution Speed (RSAV) USIT-E[1]
6 c/s 8
Processing Flags (UFLG[0]) USIT-E[1]
1 5
(AWMX_RF) USIT-E[1]
0 dB 75
Internal Radius (IRBKM_RF) USIT-E[1] (in)
Minimum Value (IRMN) USIT-E[1]
4 in 5
(IRMN_RF) USIT-E[1]
5 in 4
(IRMN_RF) USIT-E[1]
4 in 5
Thickness (THBKM_RF) USIT-E[1] (in)
(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
260
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMN
IRMX
IRAV
IRMN_RF
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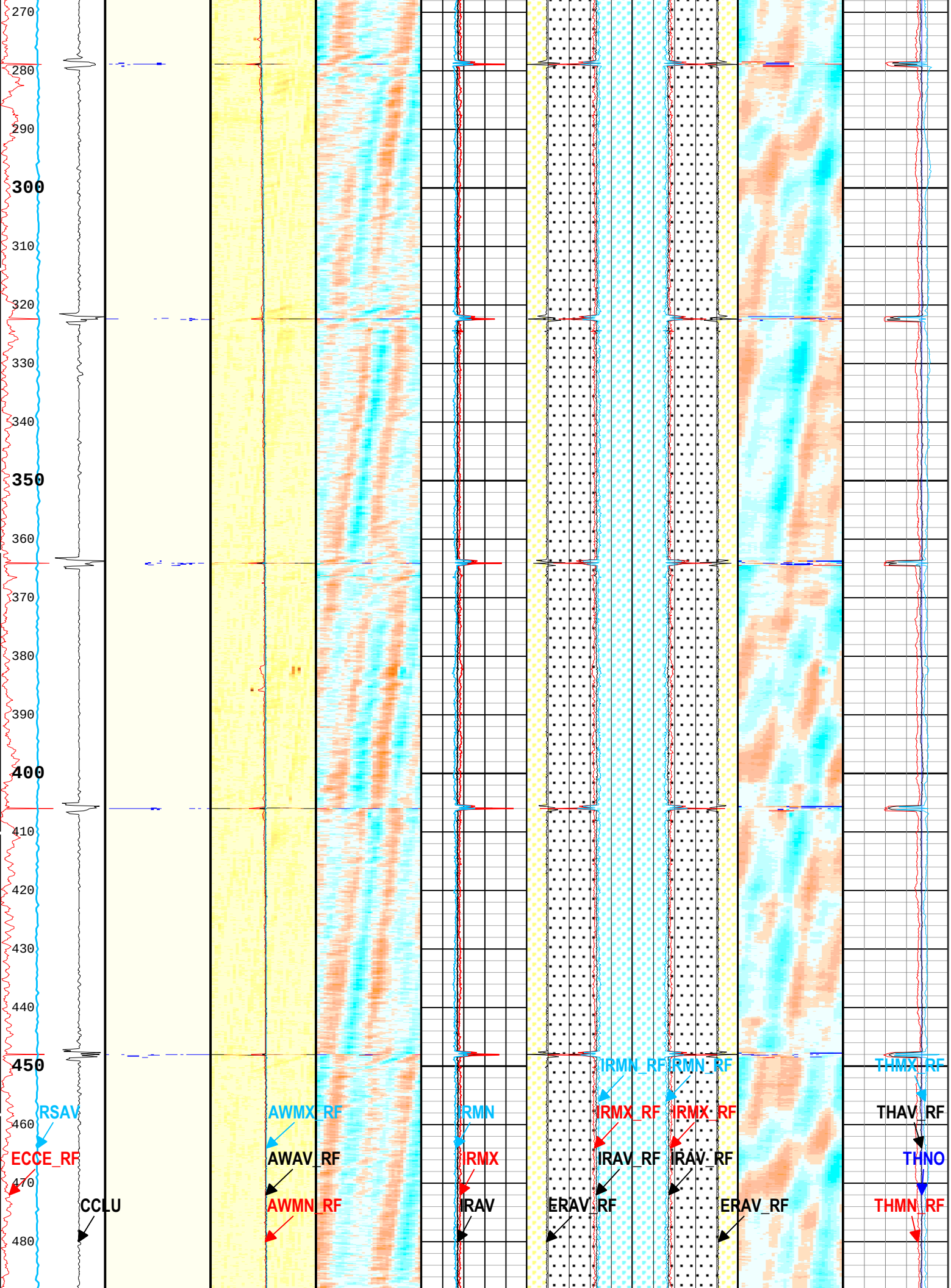
THAV_RF
THNO
THMN_RF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CCLU
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AWAV_RF
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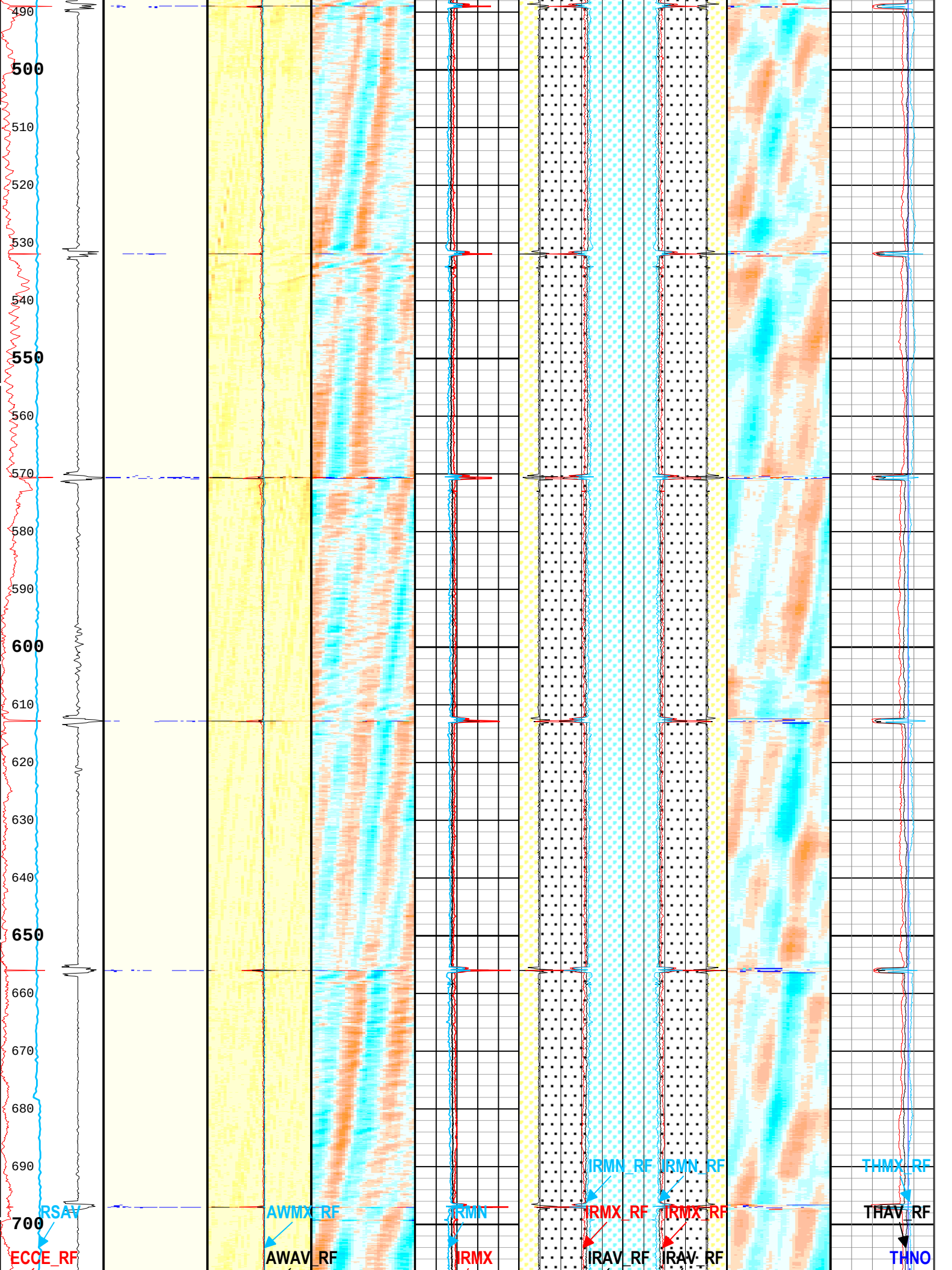
THMN_RF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RSAV
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AWMX_RF
AWAV_RF
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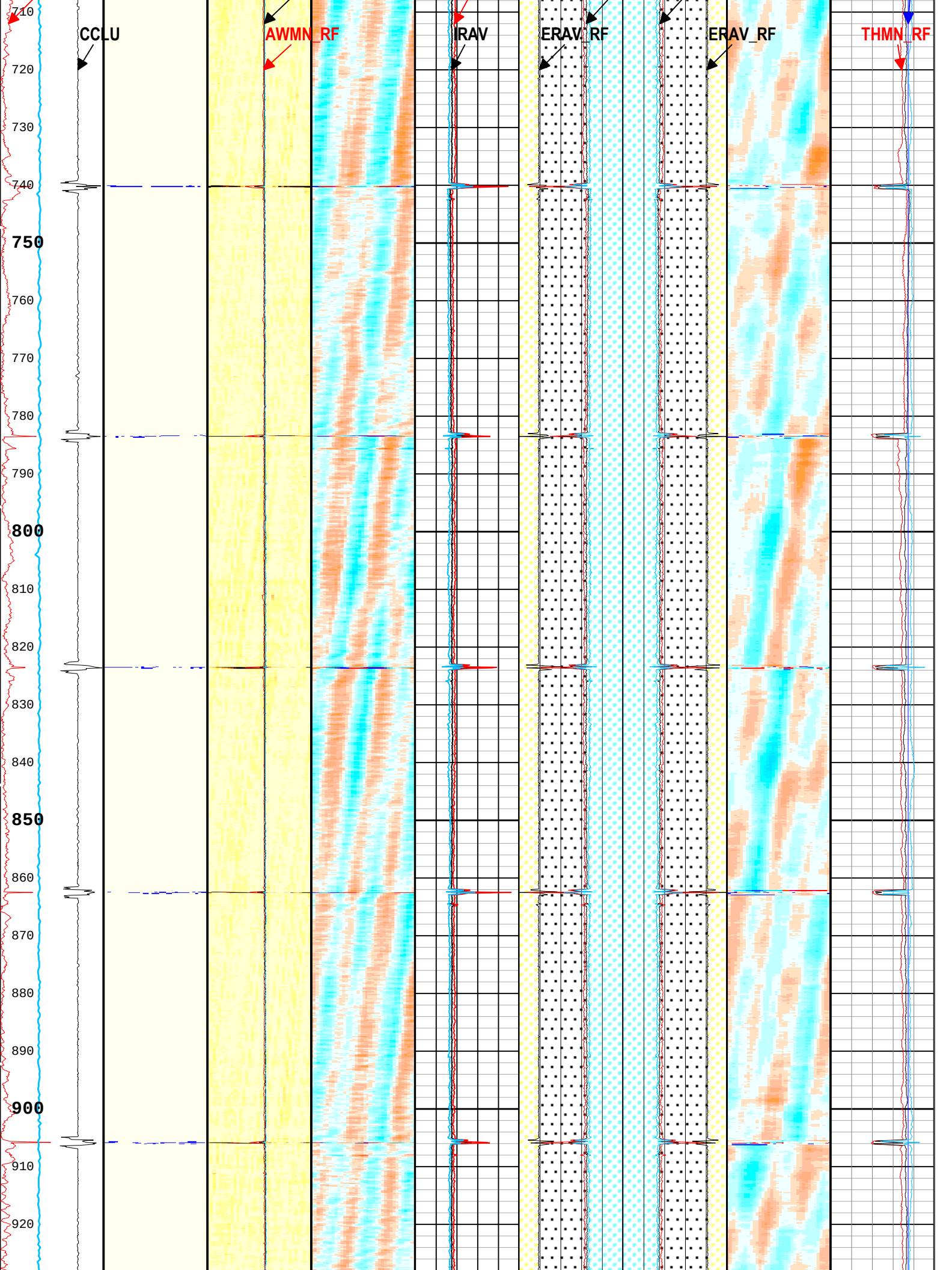
THNO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IRAV
ERAV_RF
ERAV_RF
THMN_RF
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720
730
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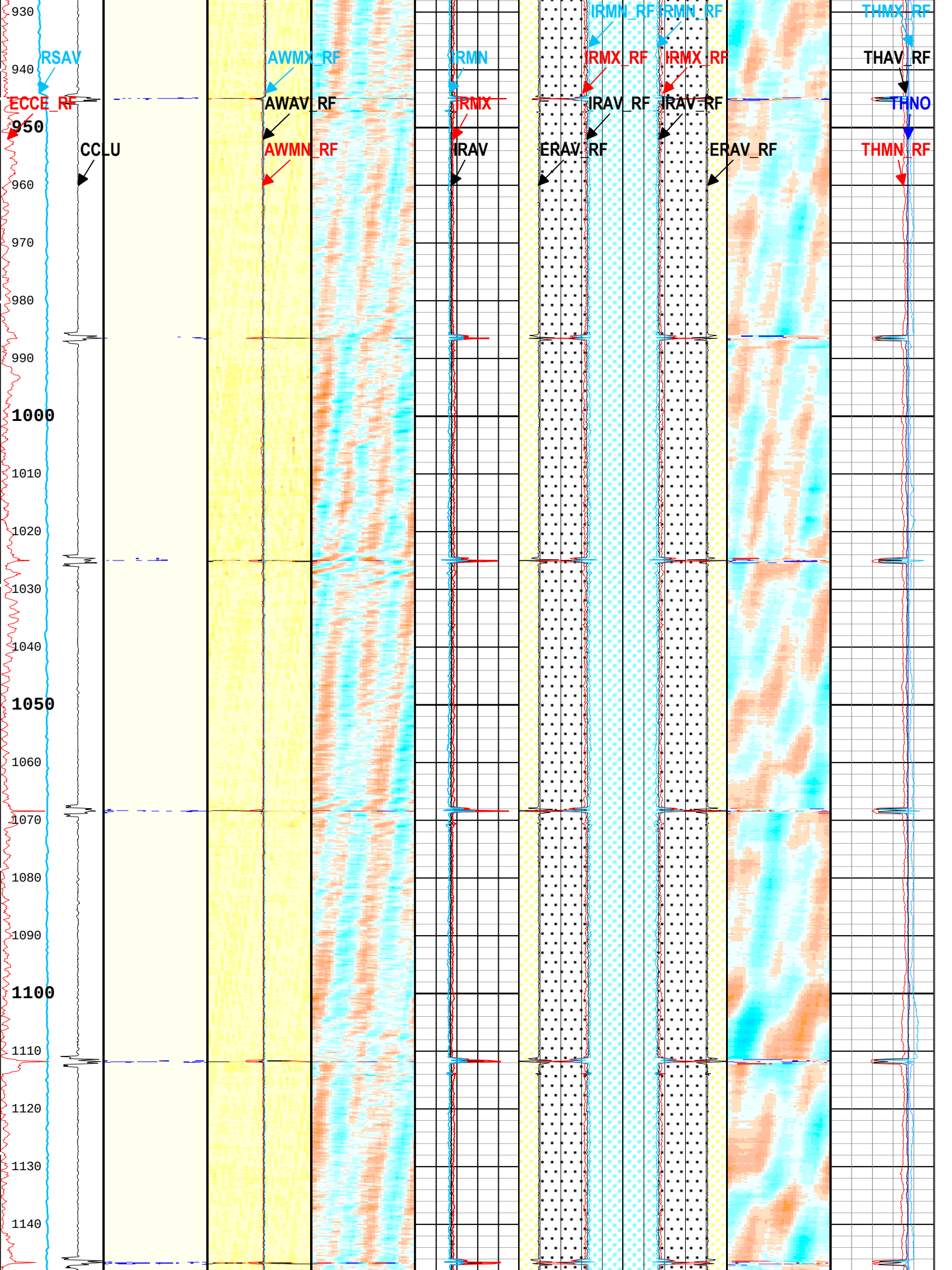
910
920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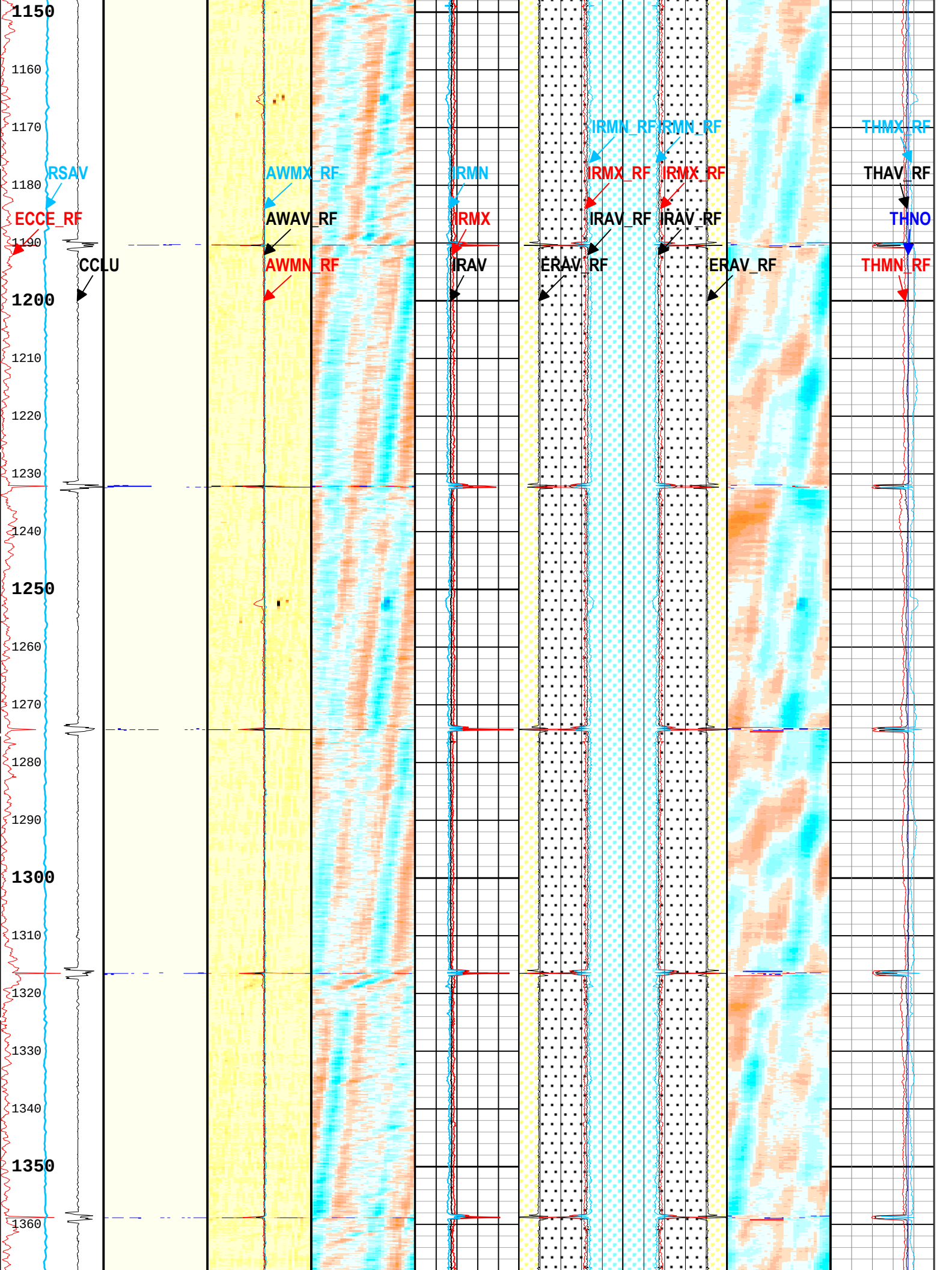
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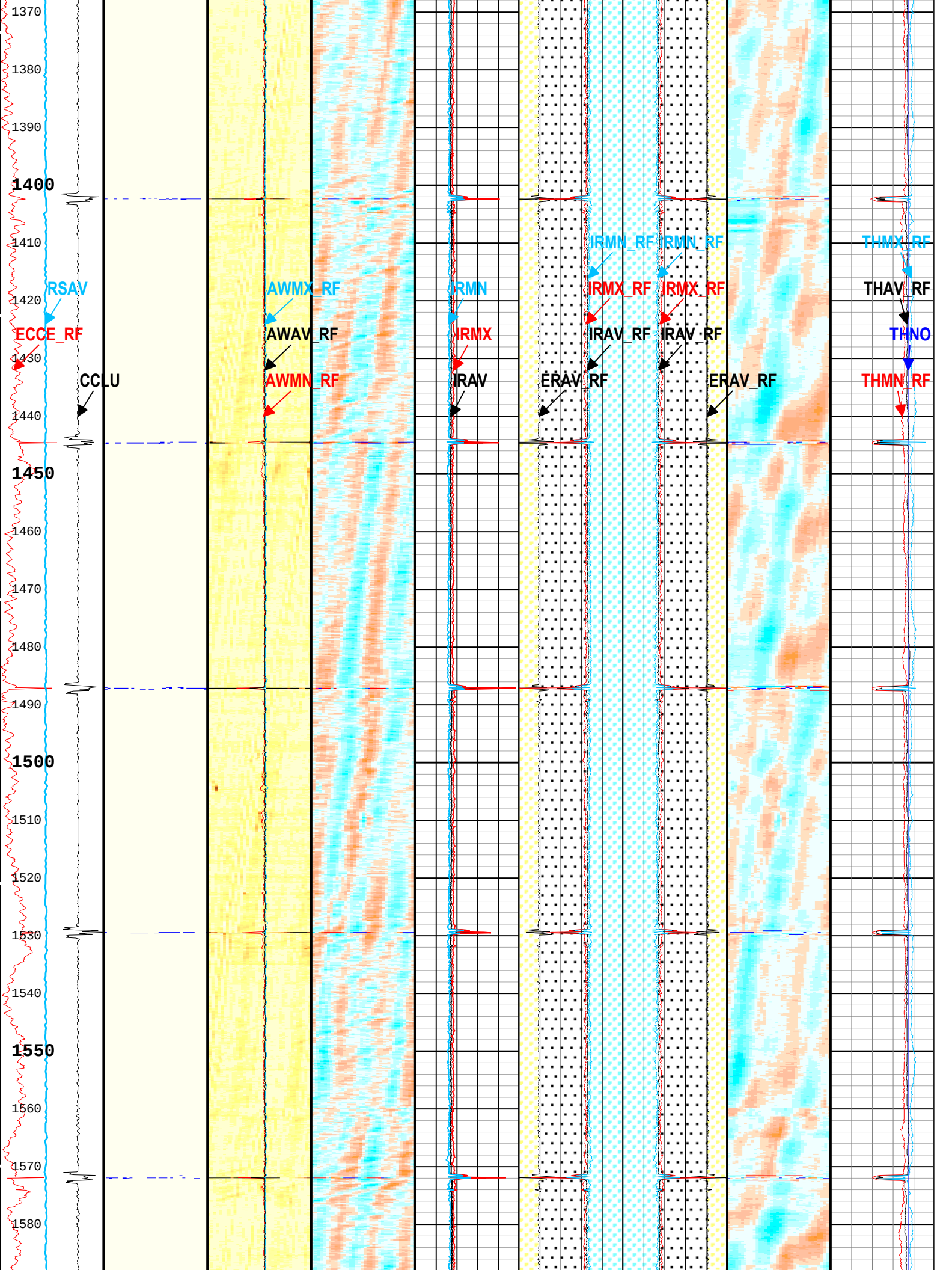
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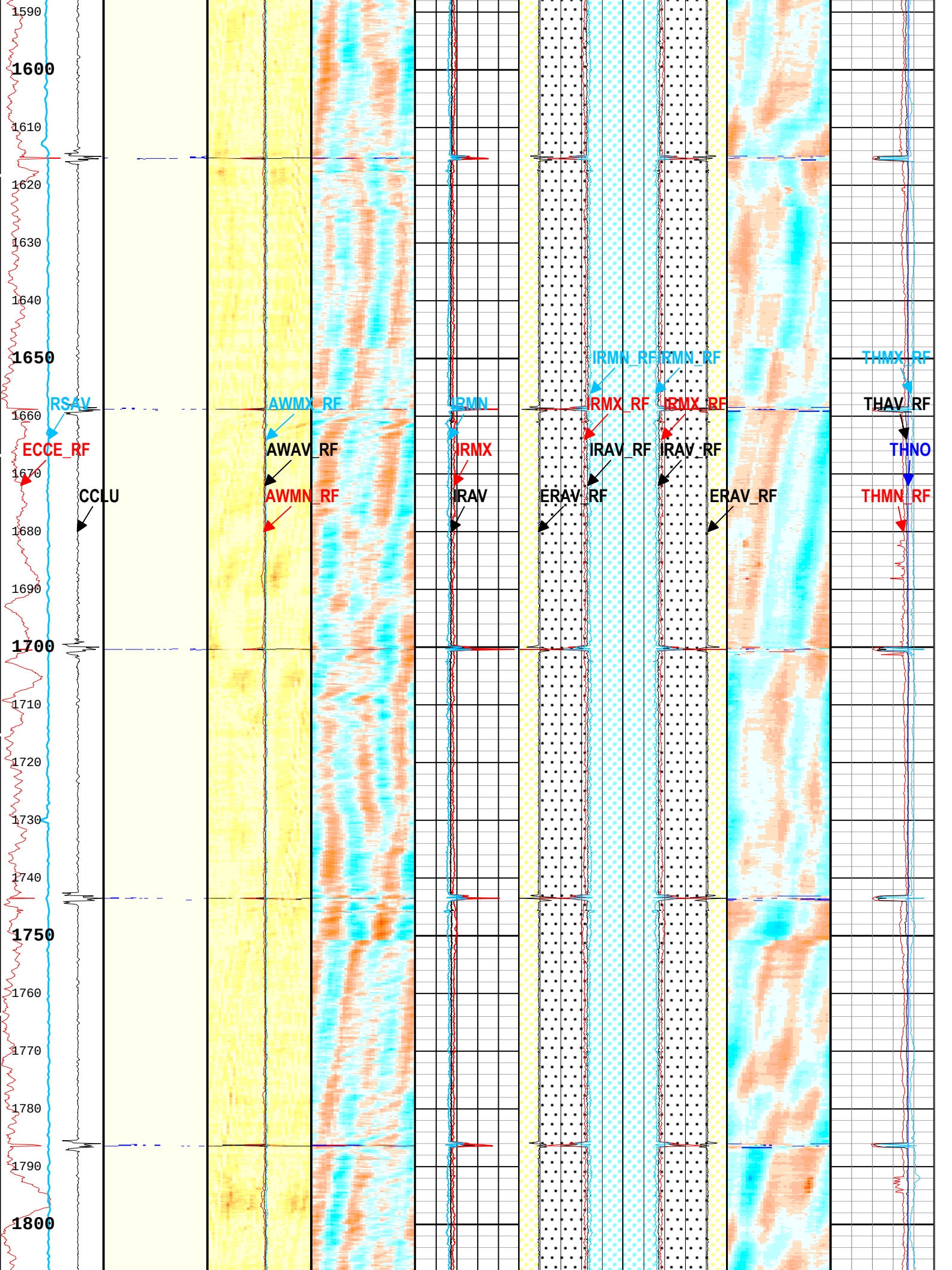
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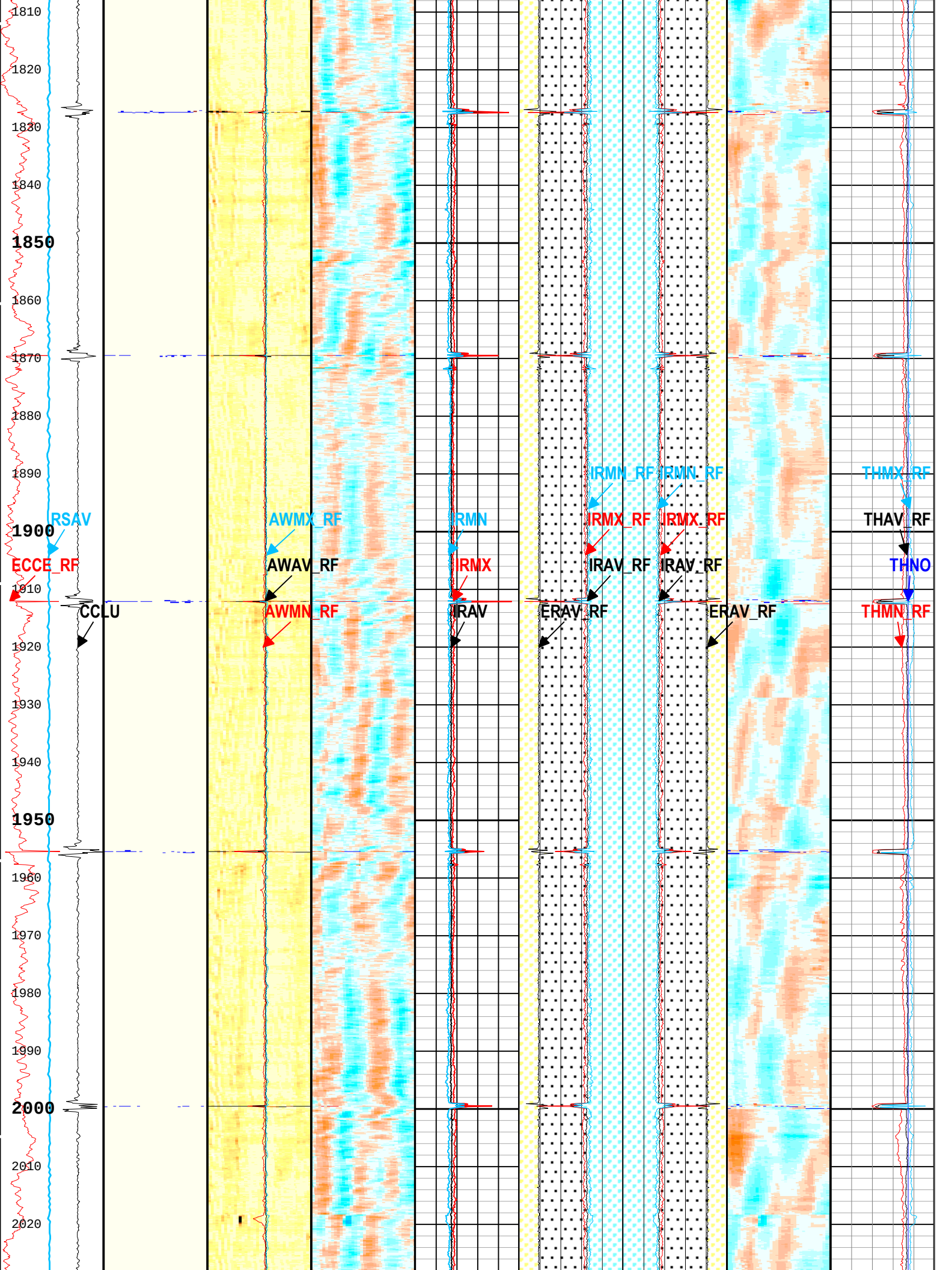
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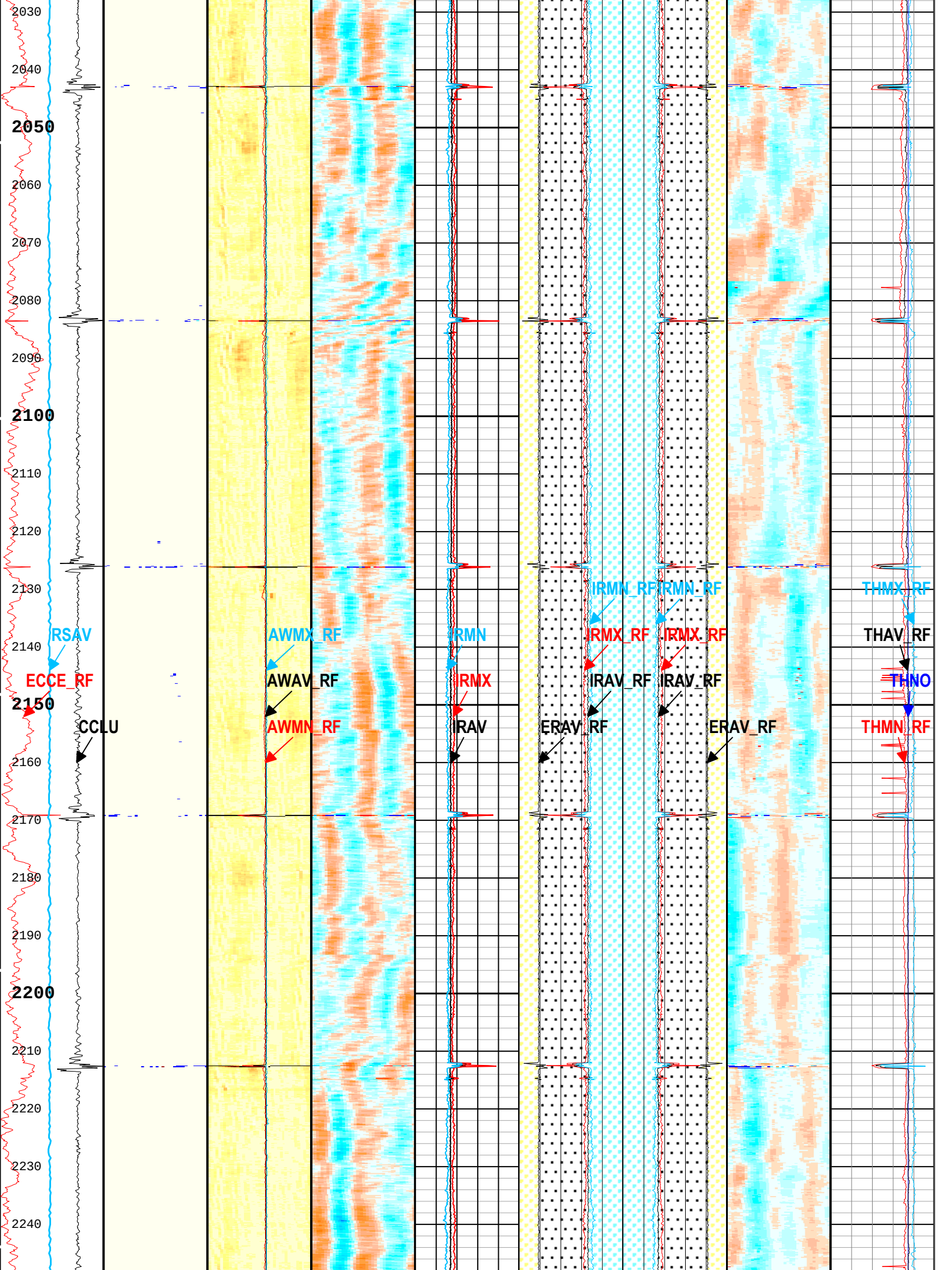
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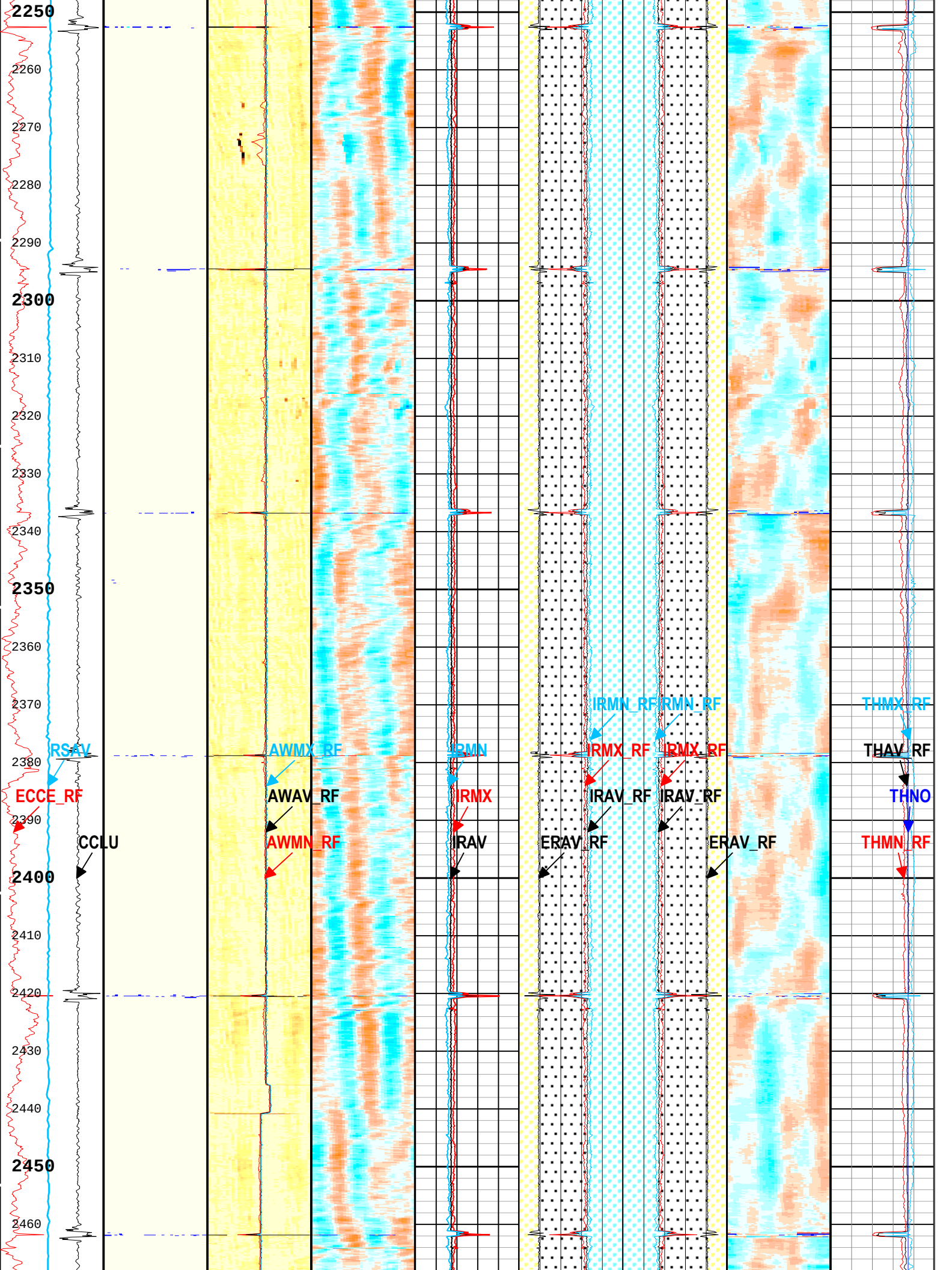
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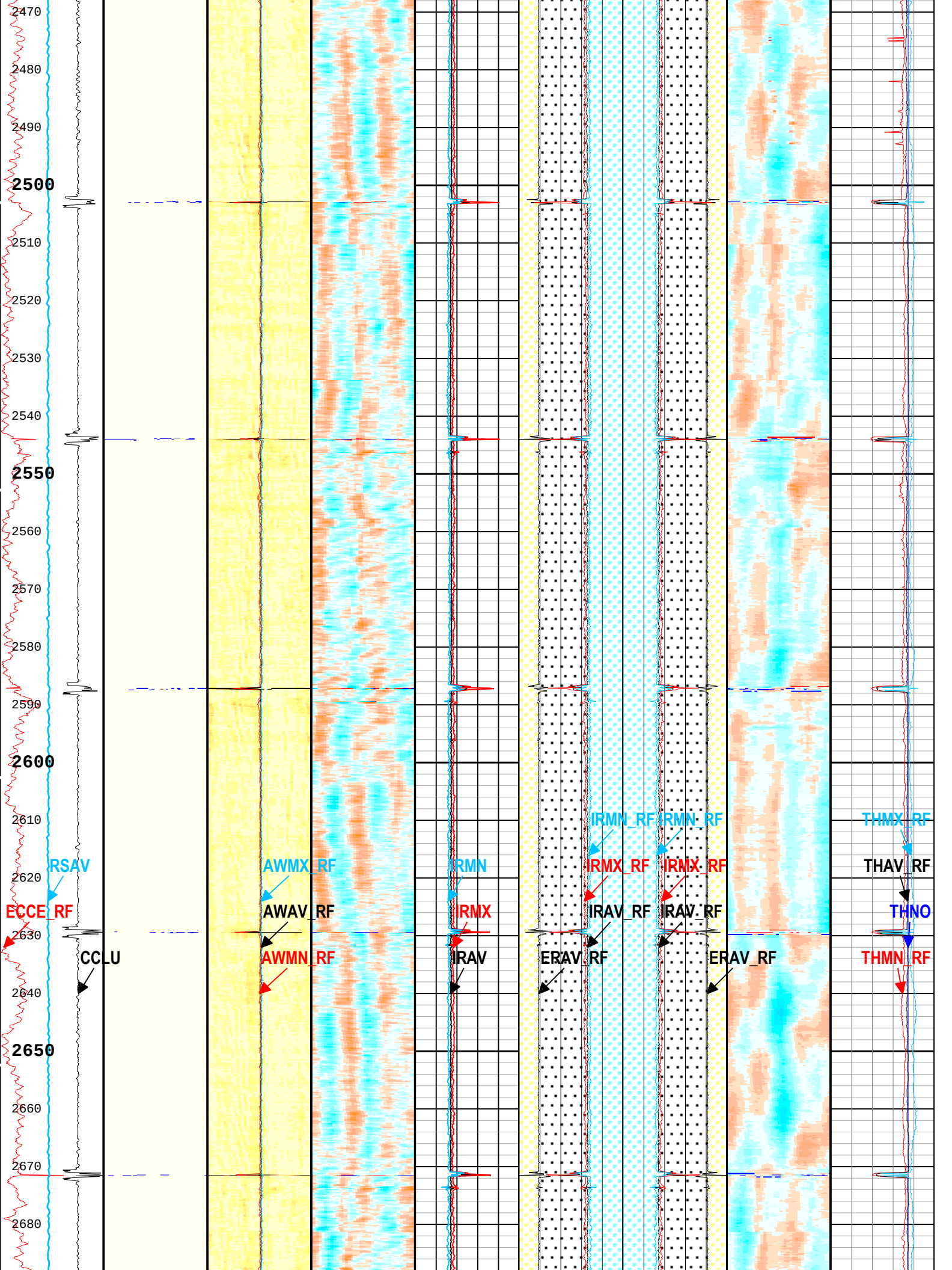
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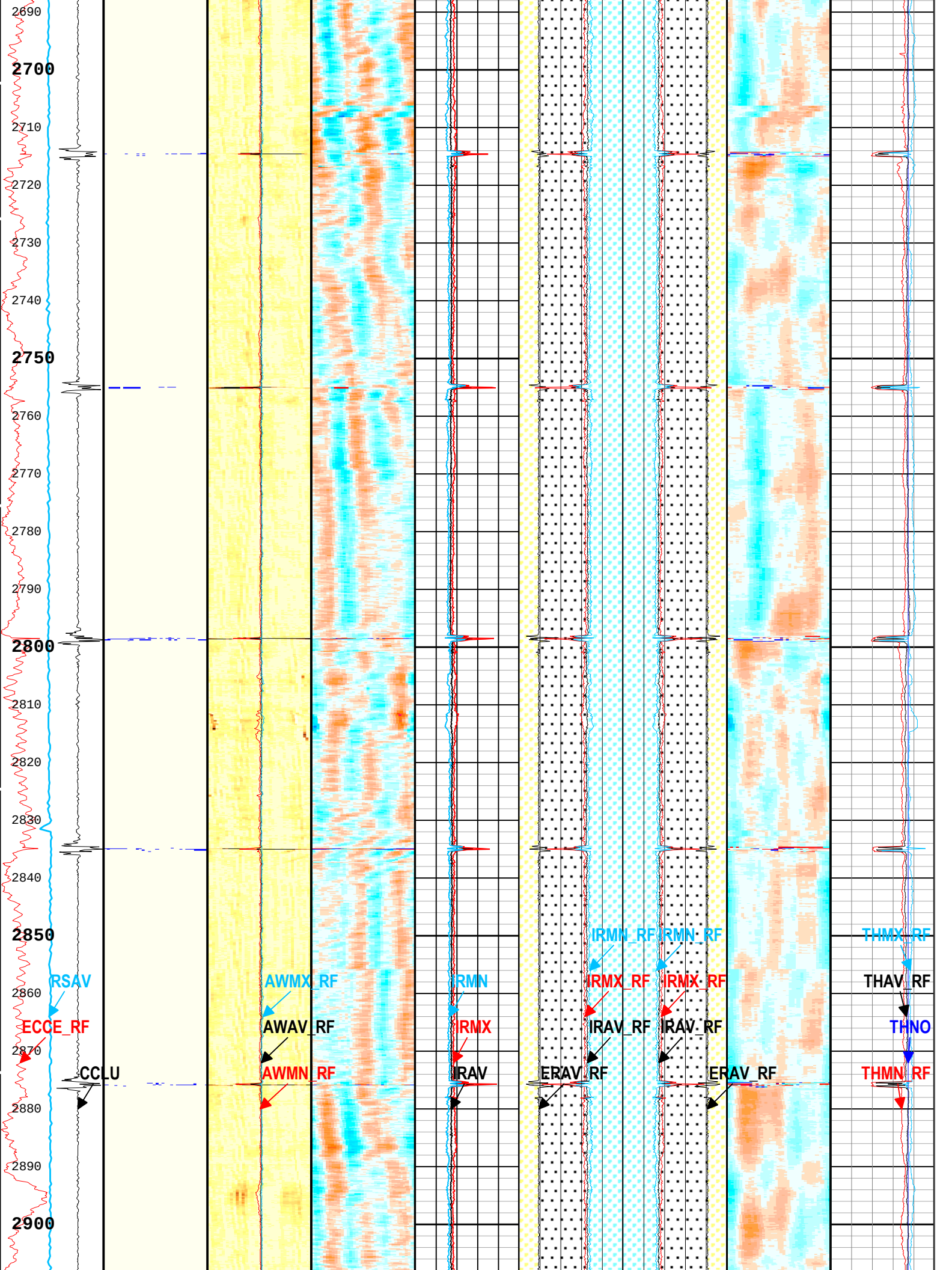
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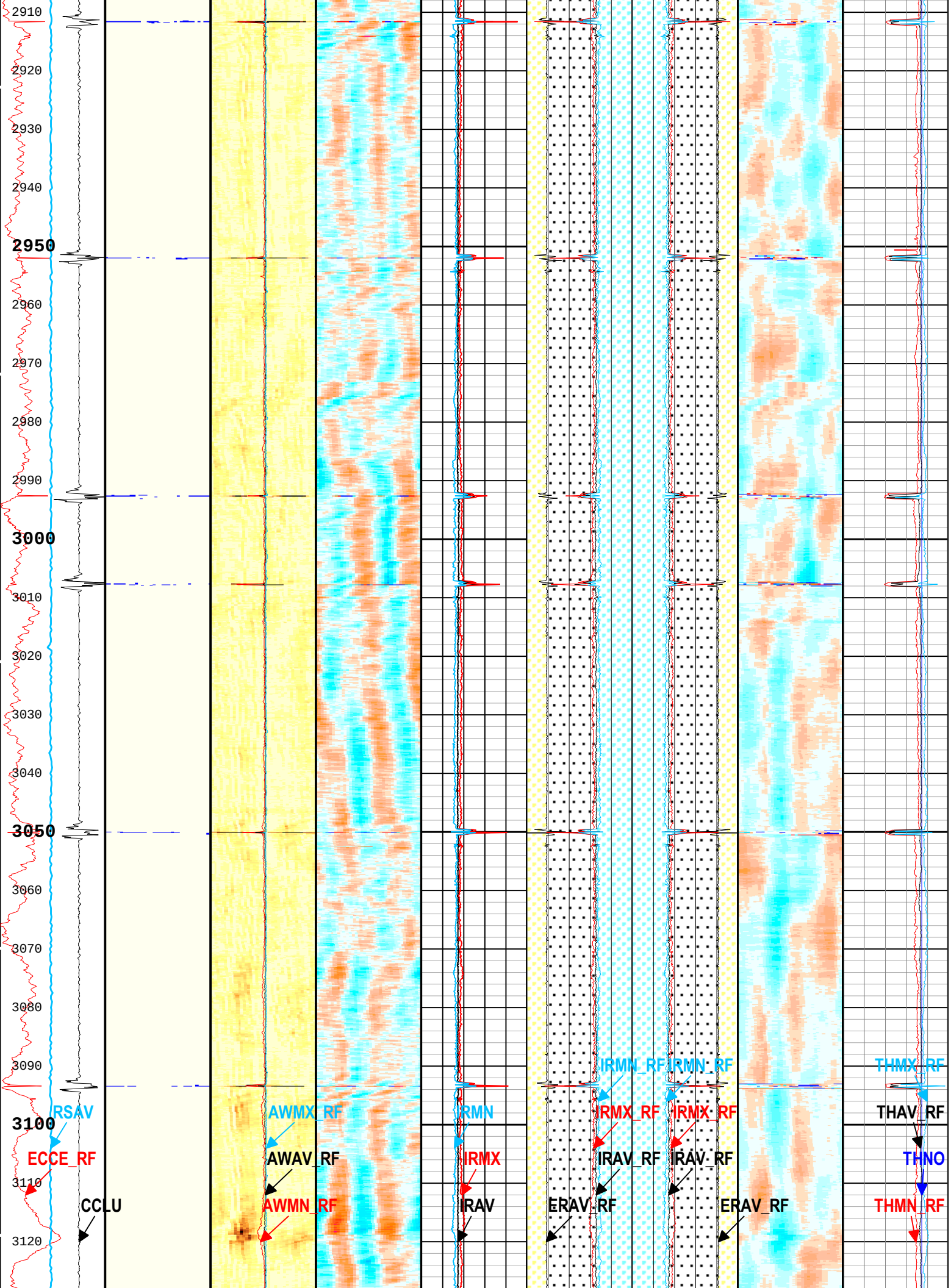
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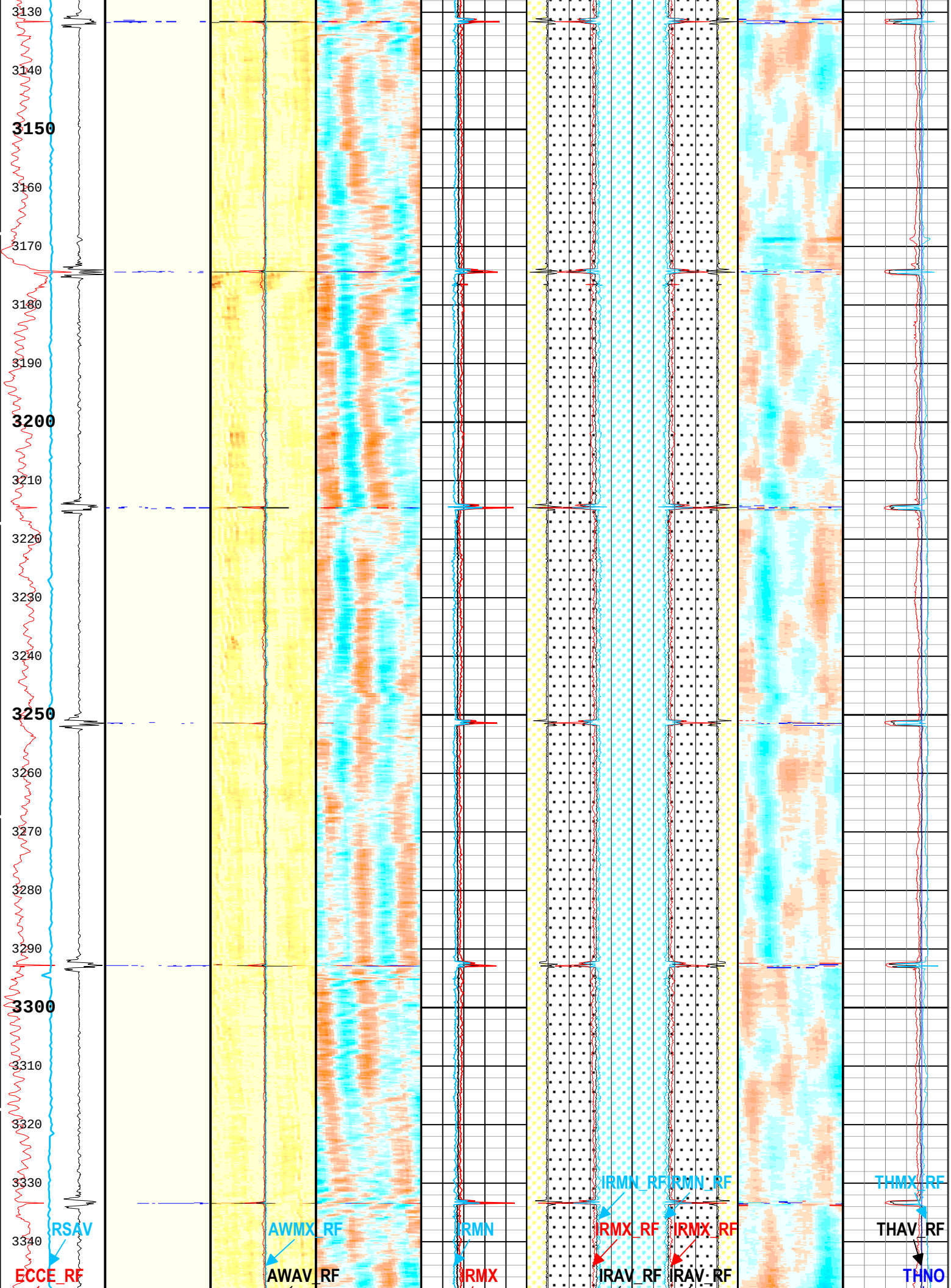
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AWMX_RF
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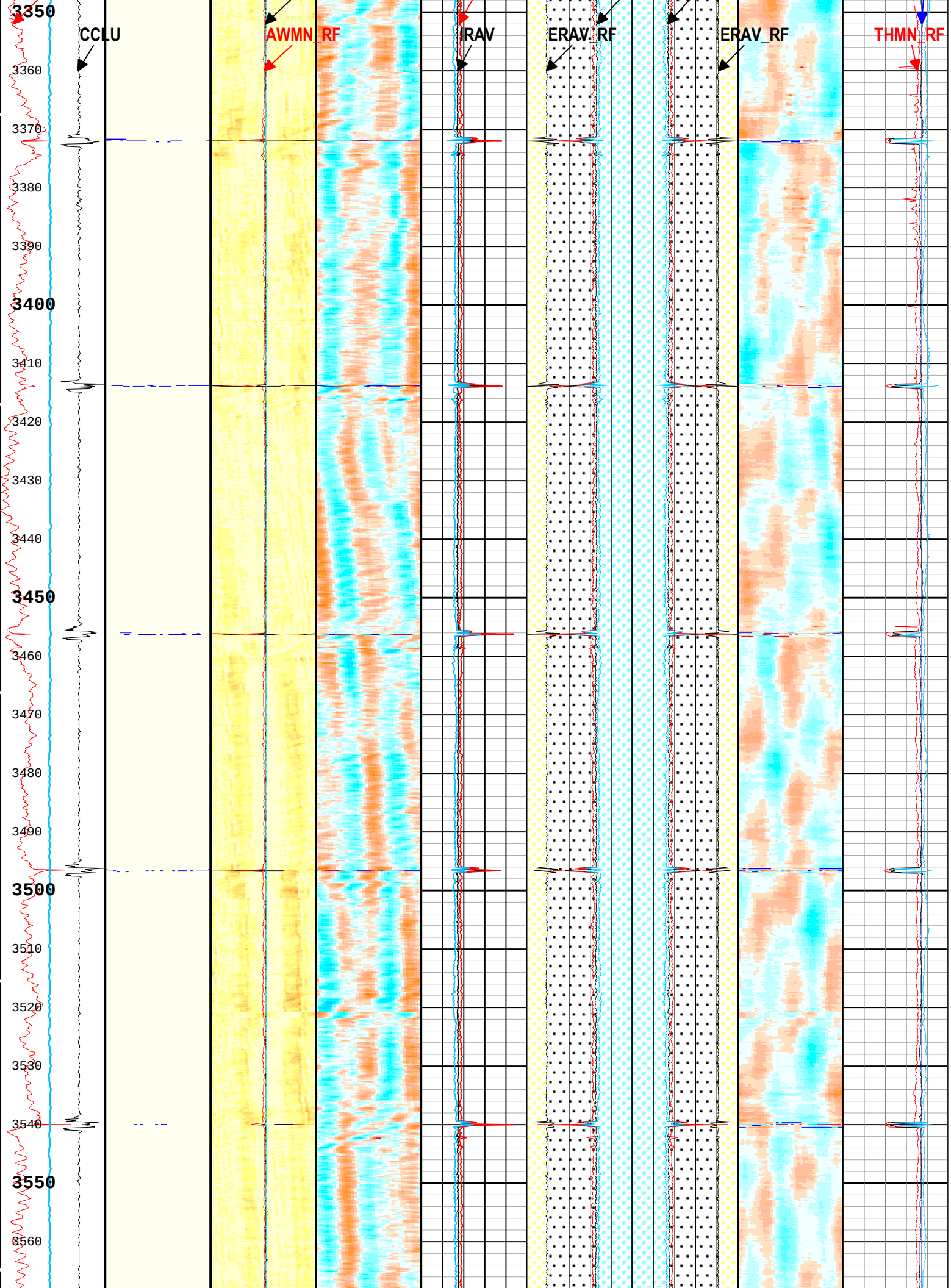
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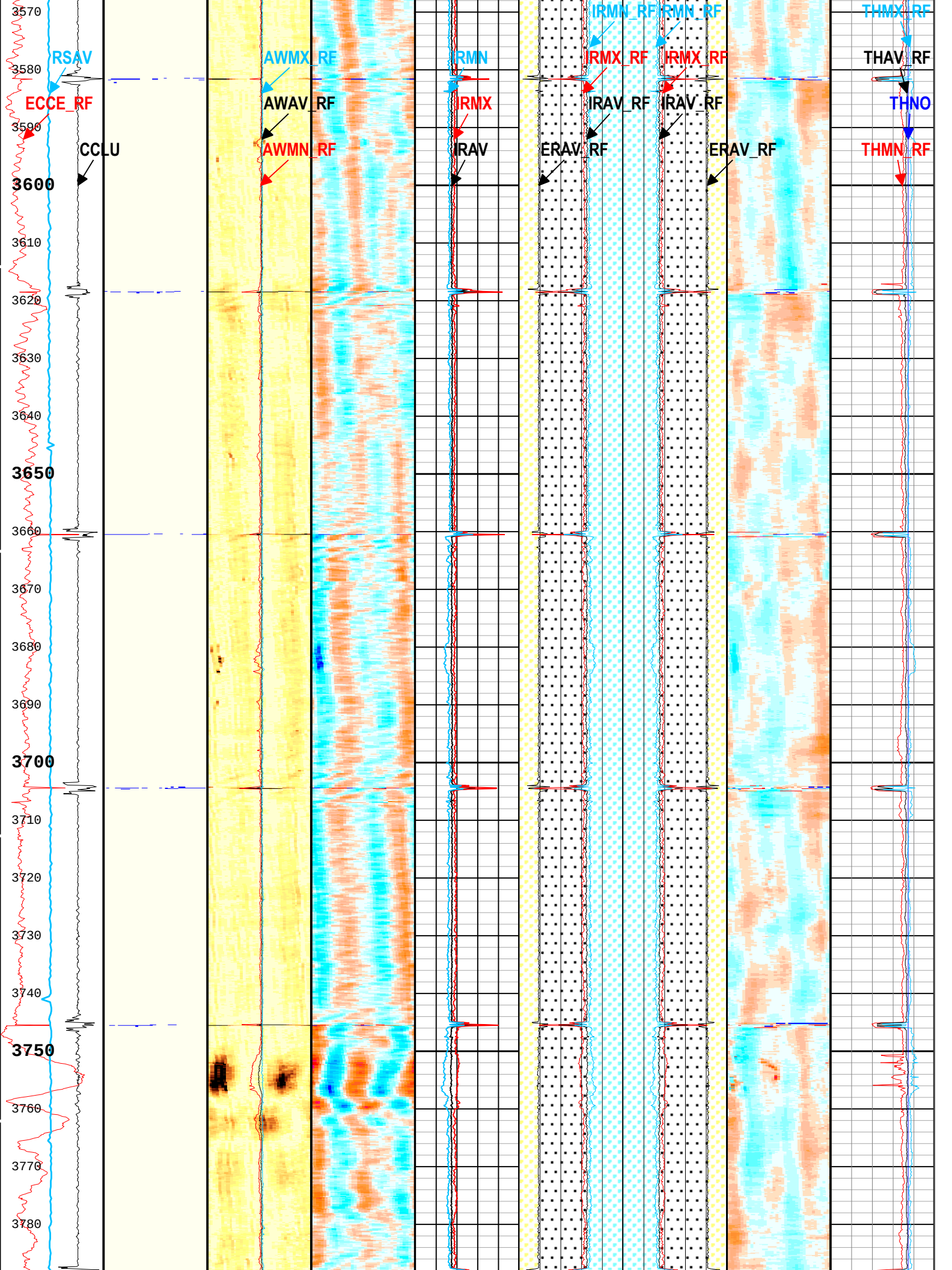
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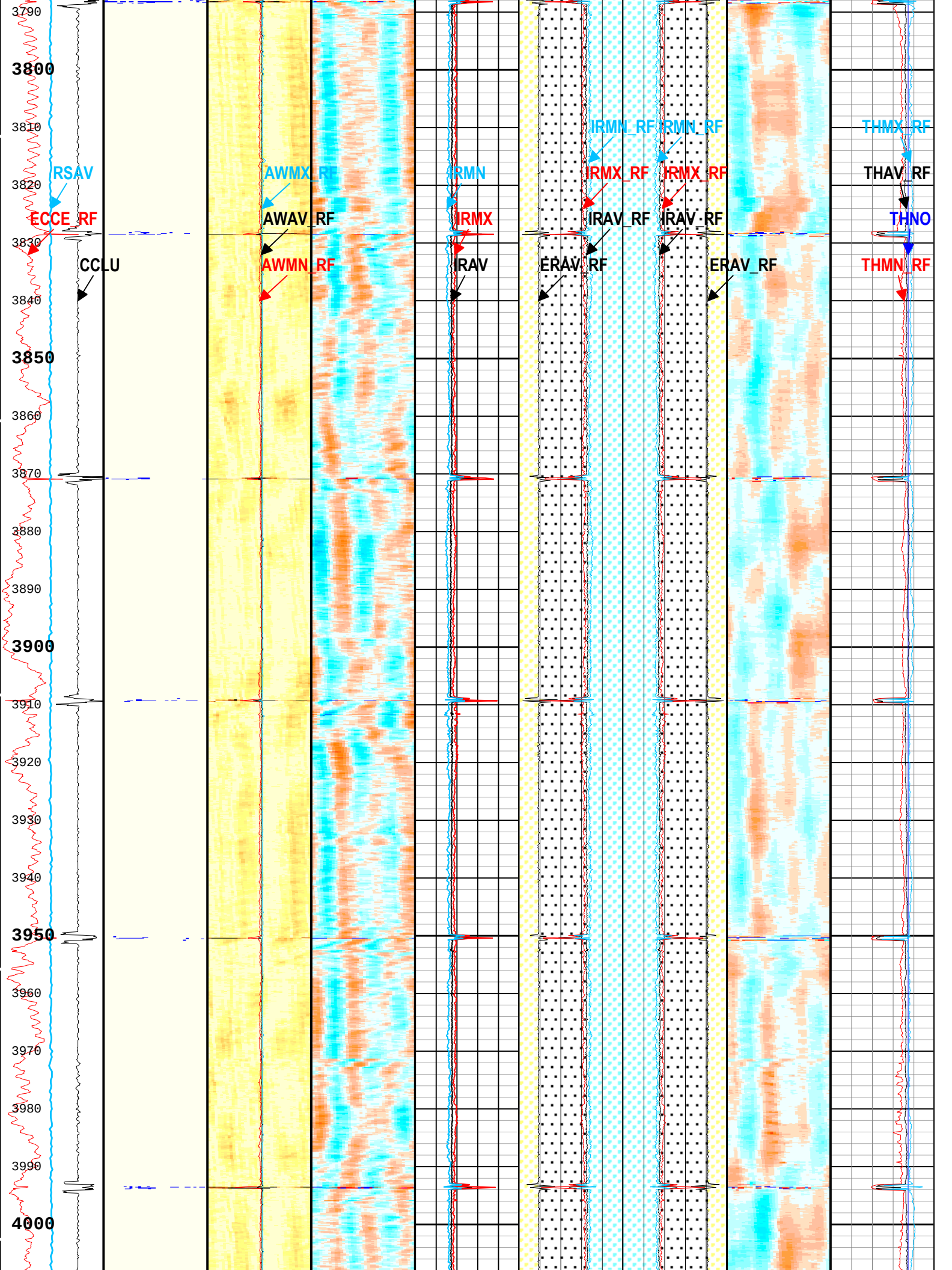
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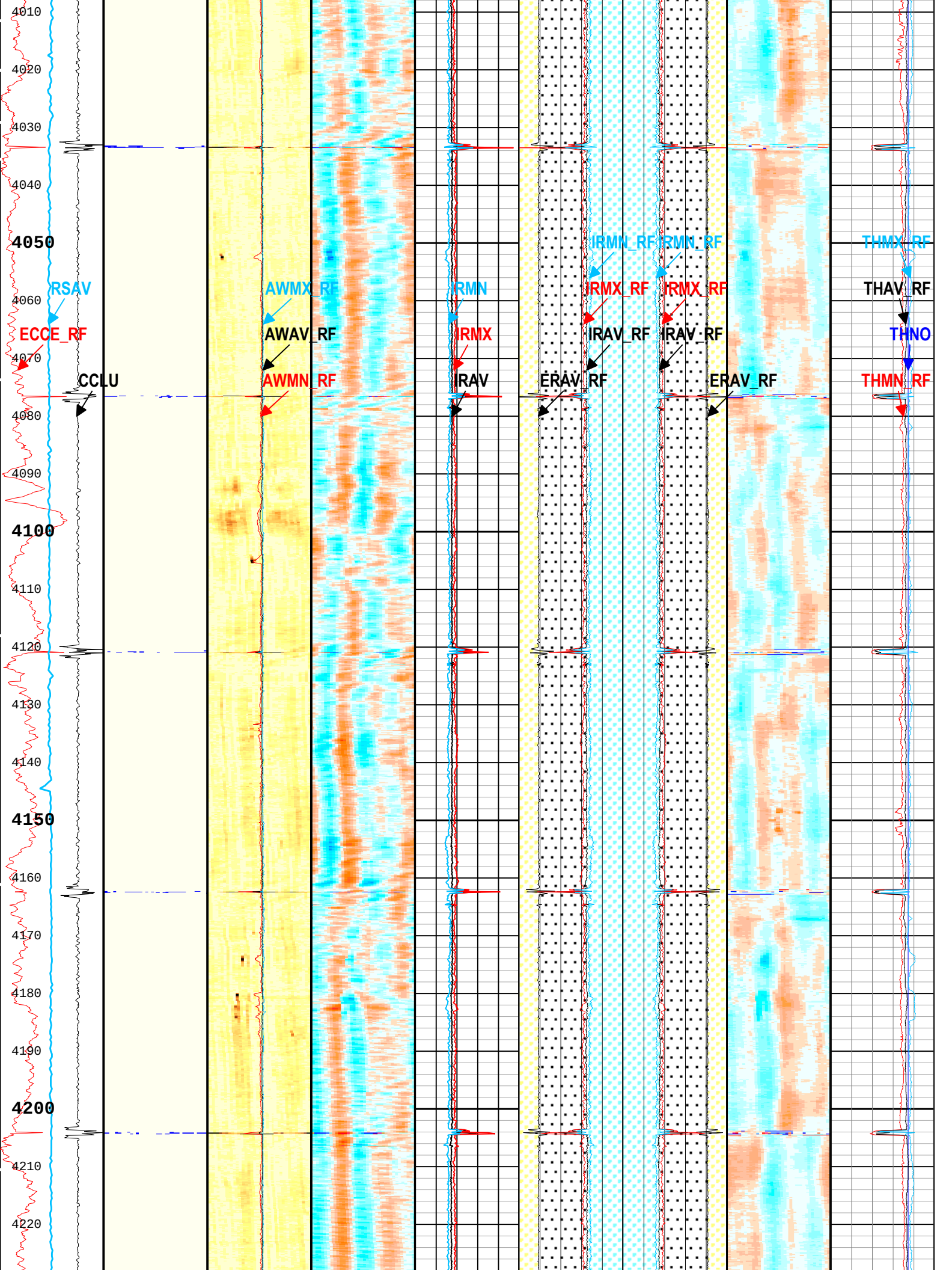
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4220
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CCLU
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RMN
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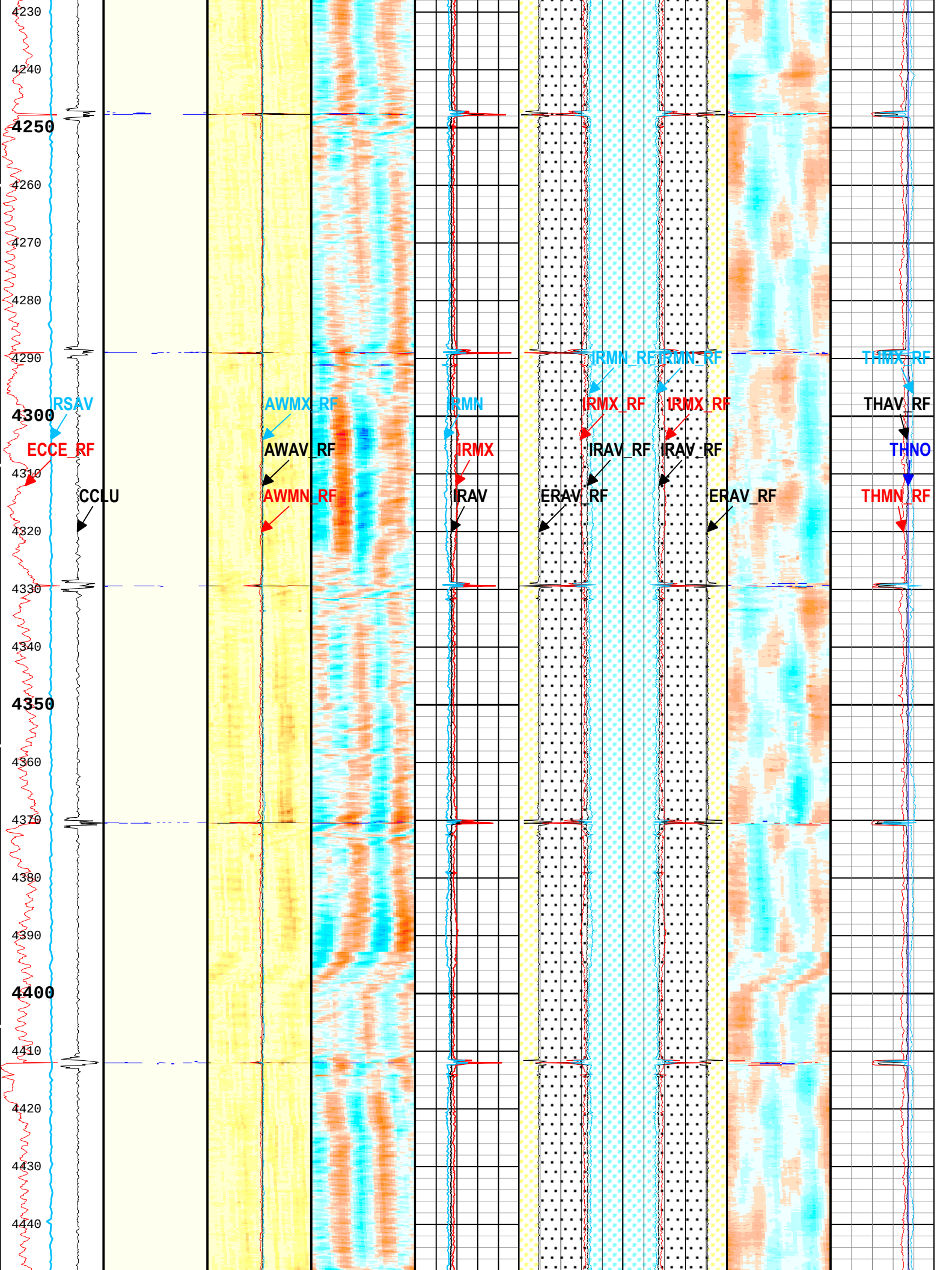
THMN_RF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CCLU
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AWAV_RF
AWMN_RF
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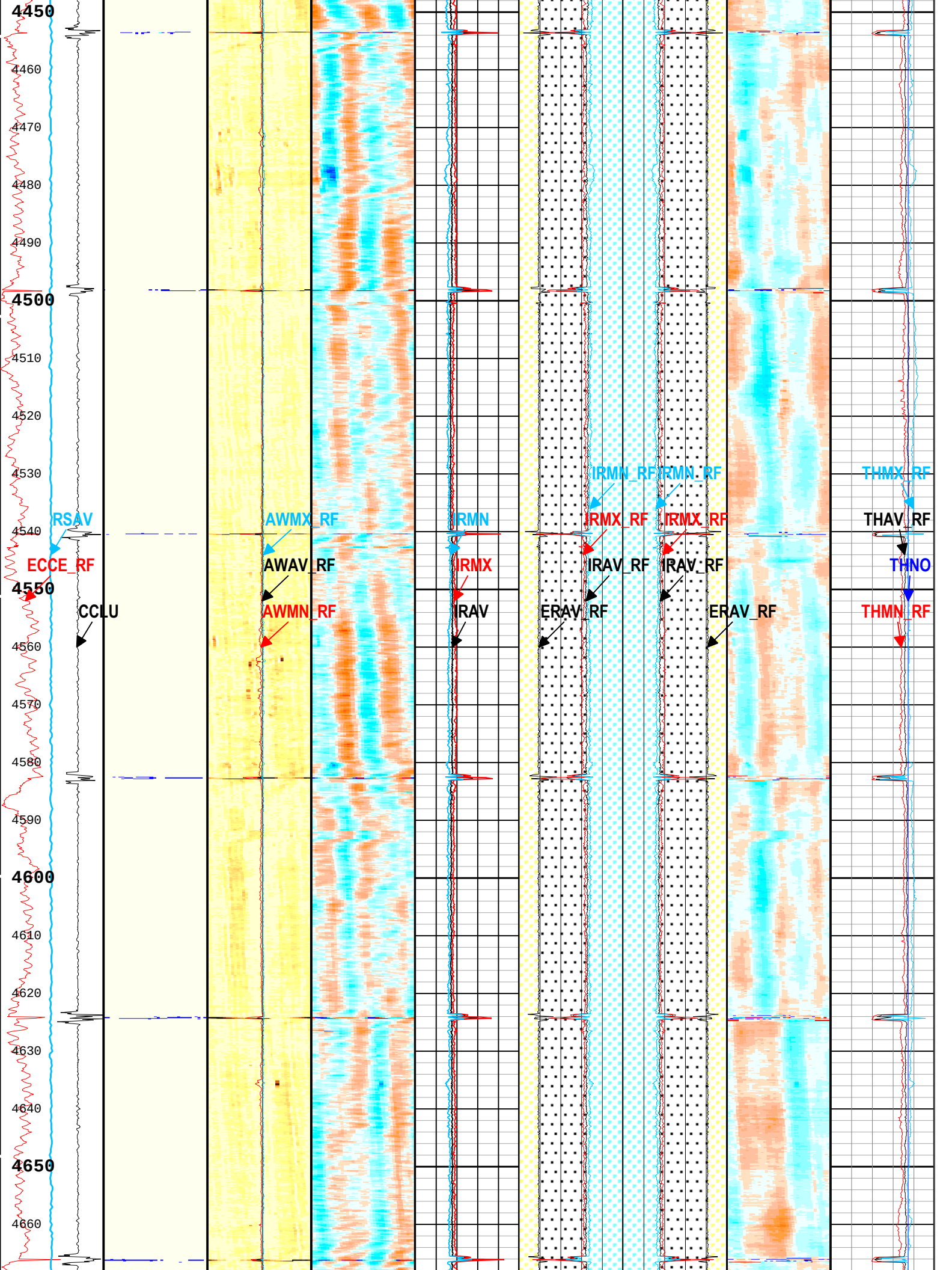
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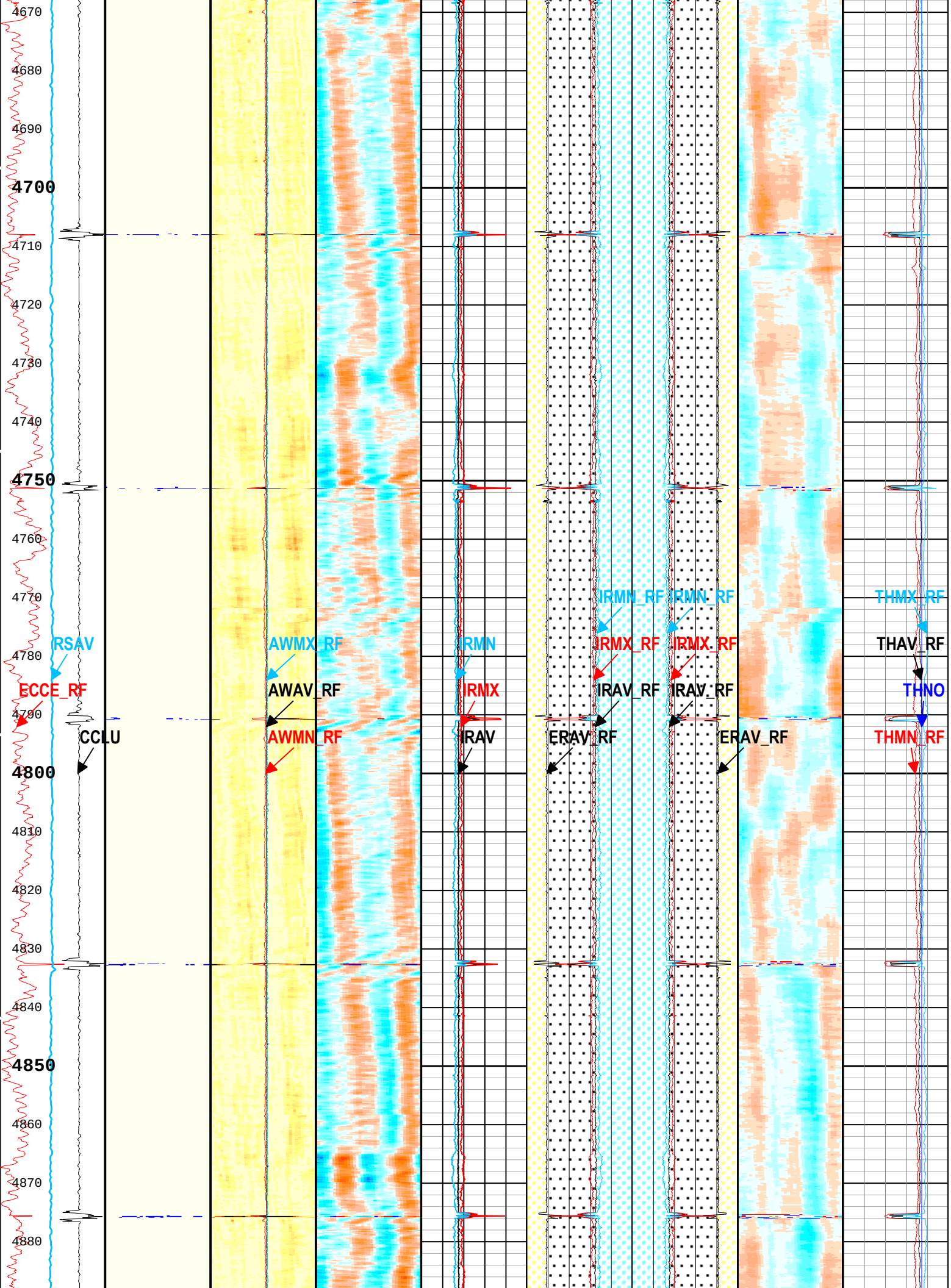
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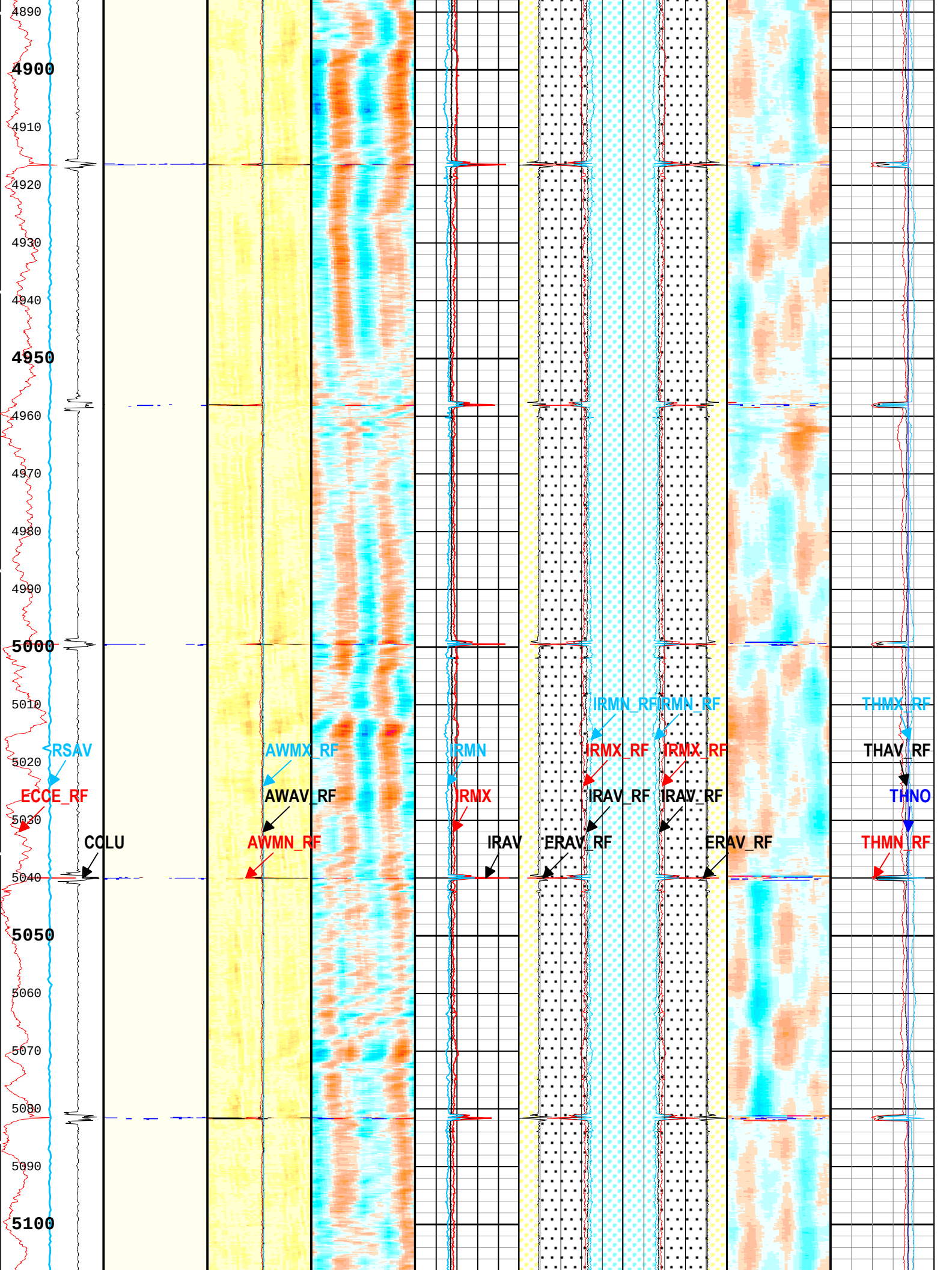
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AWAV_RF
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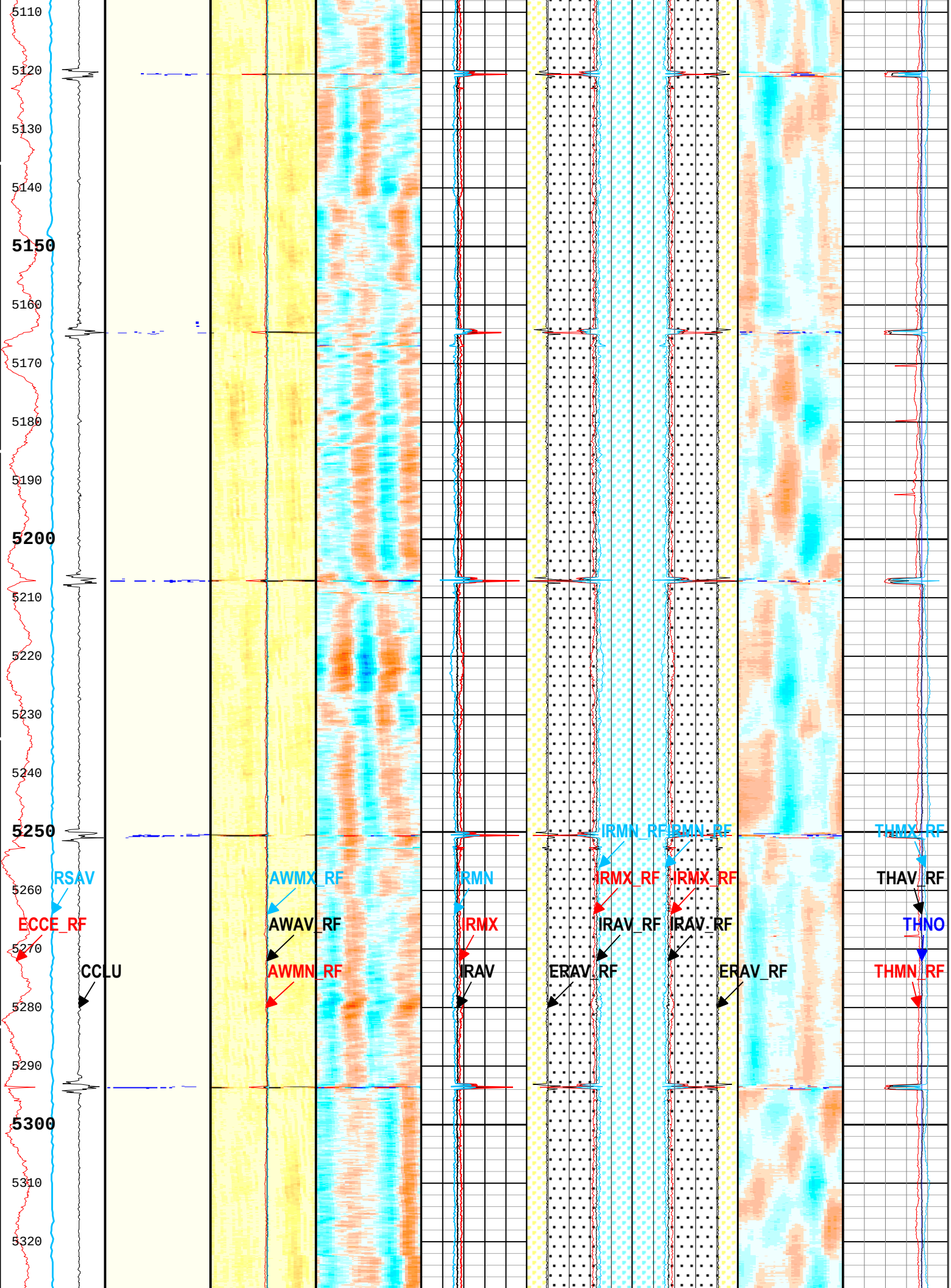
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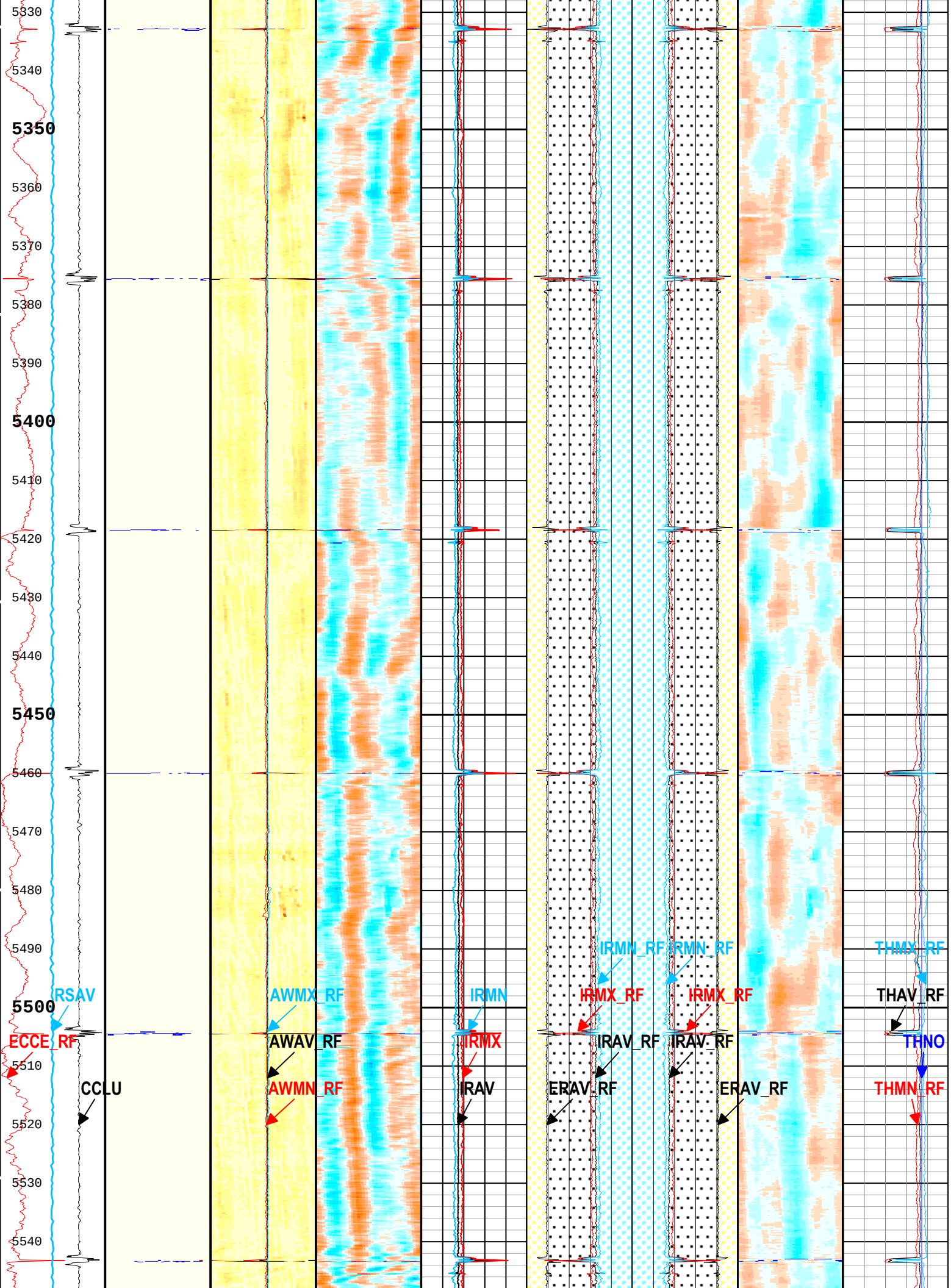
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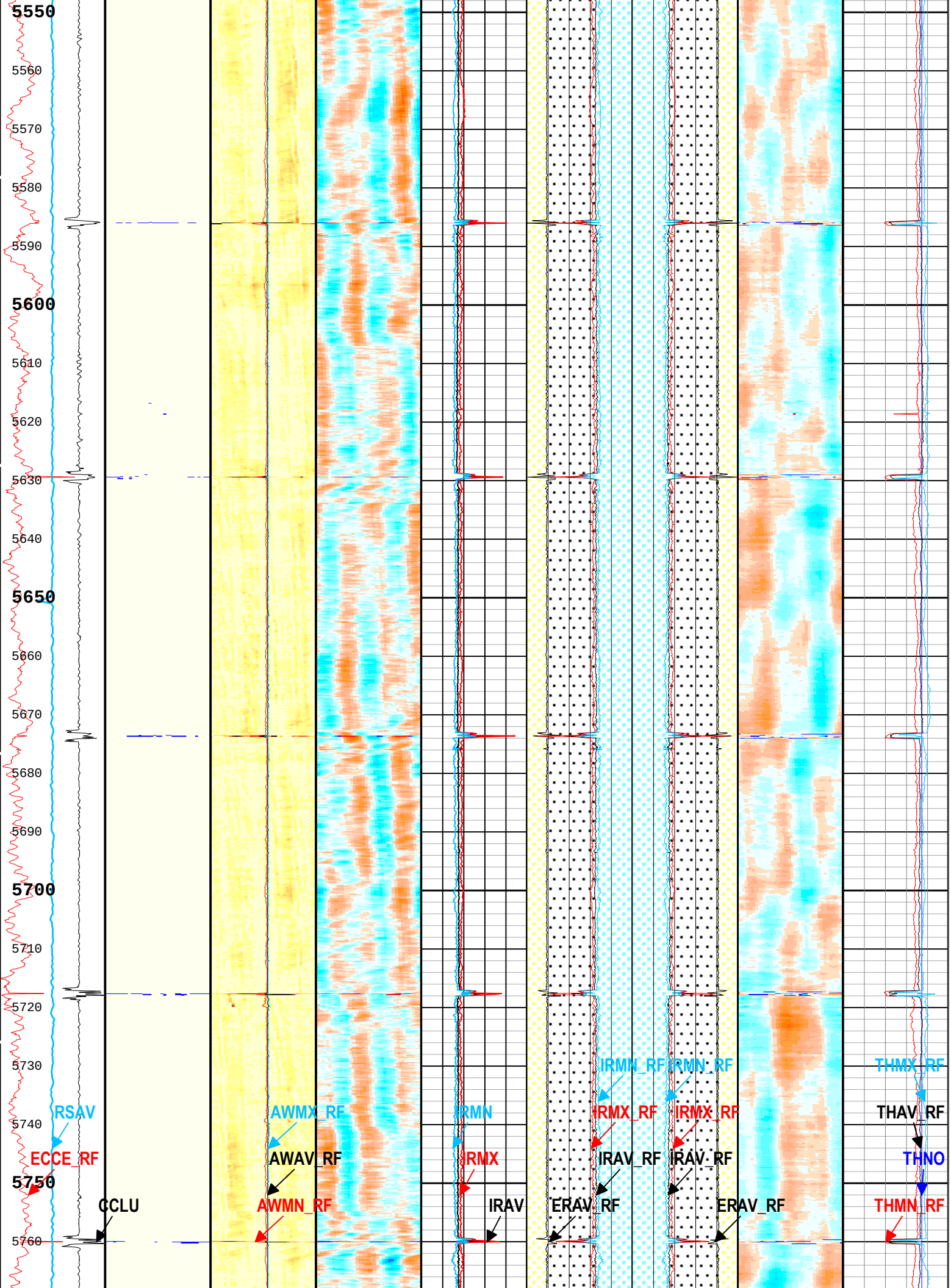
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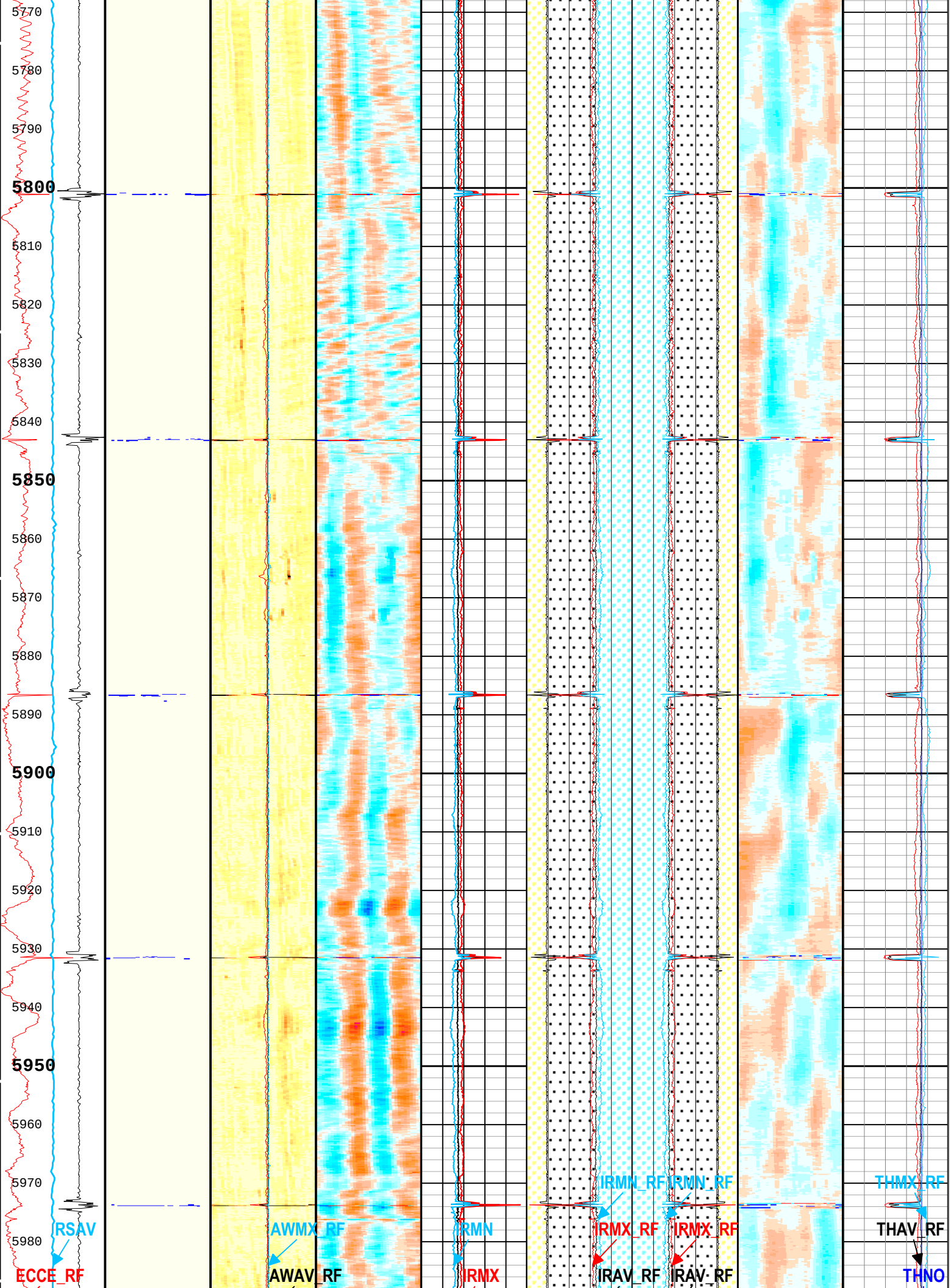
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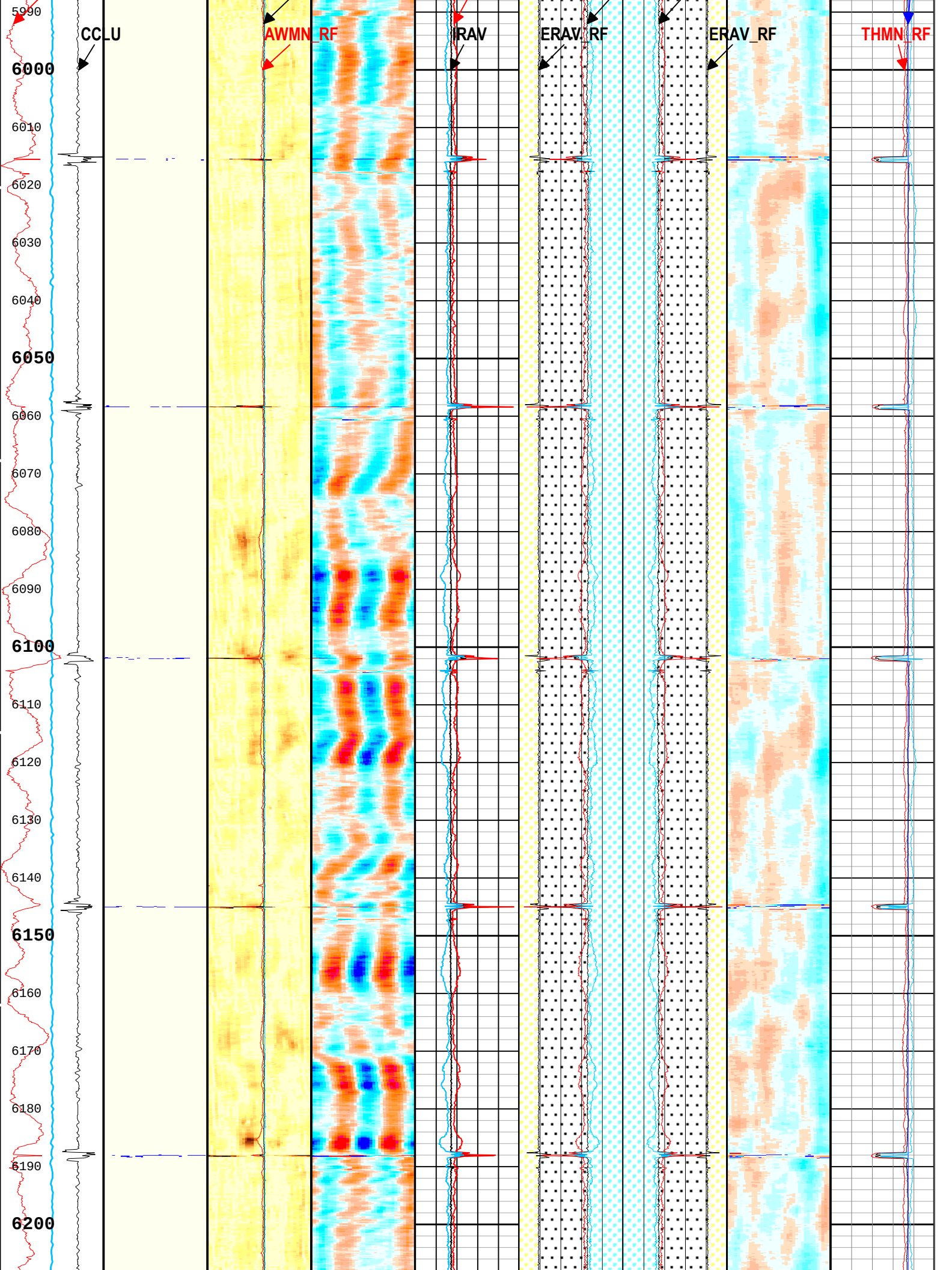
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AWMN_RF
RAV
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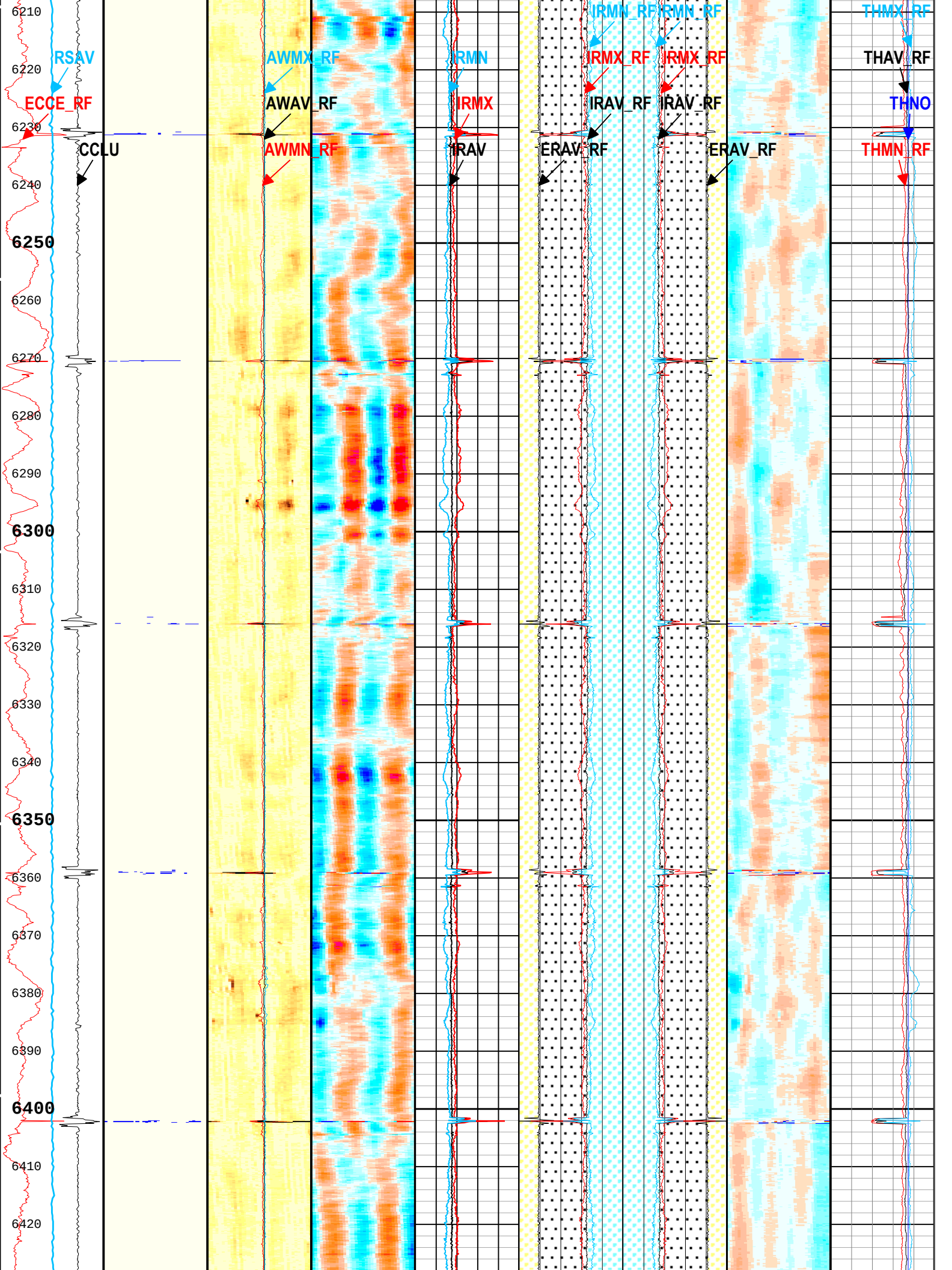
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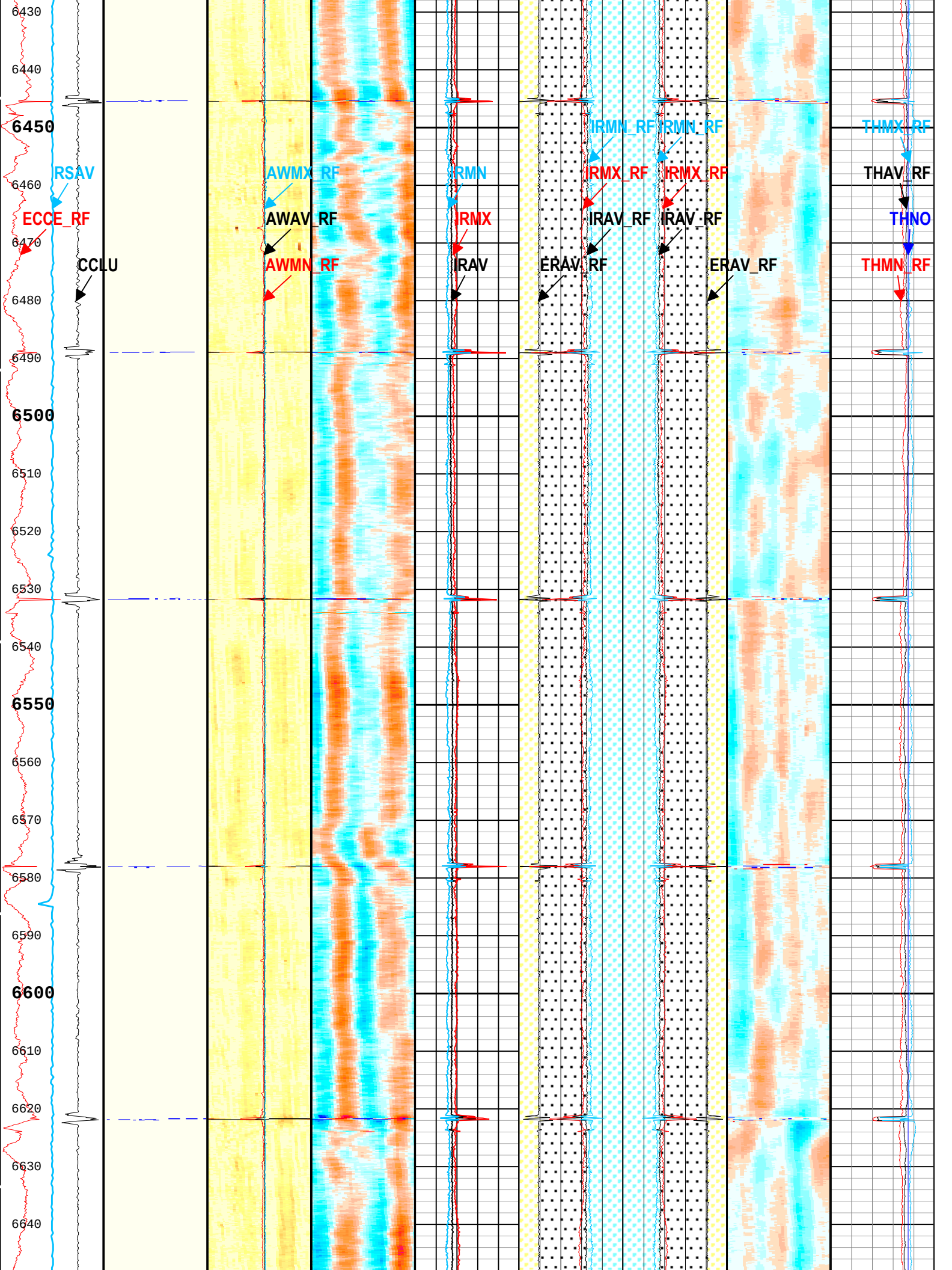
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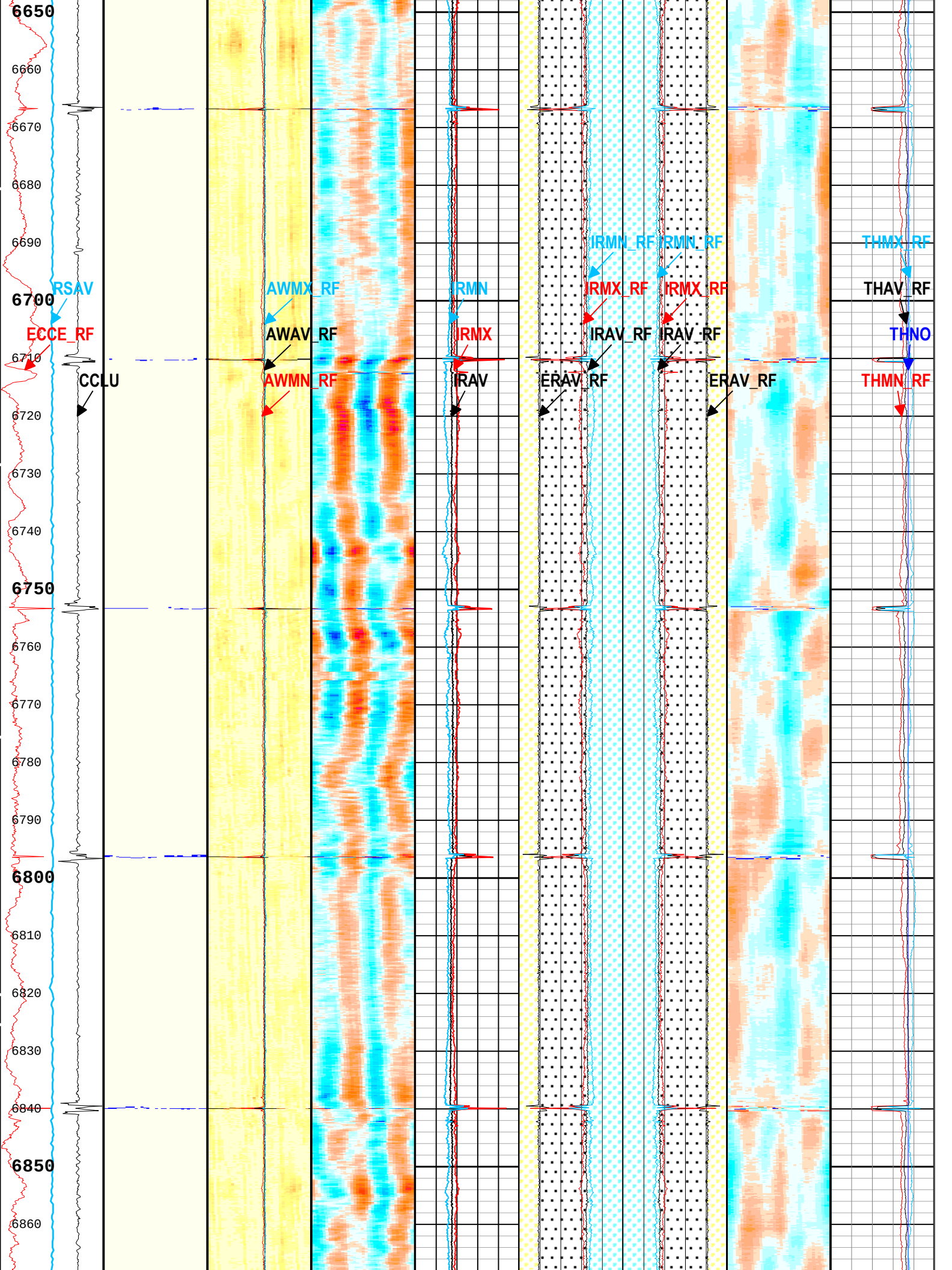
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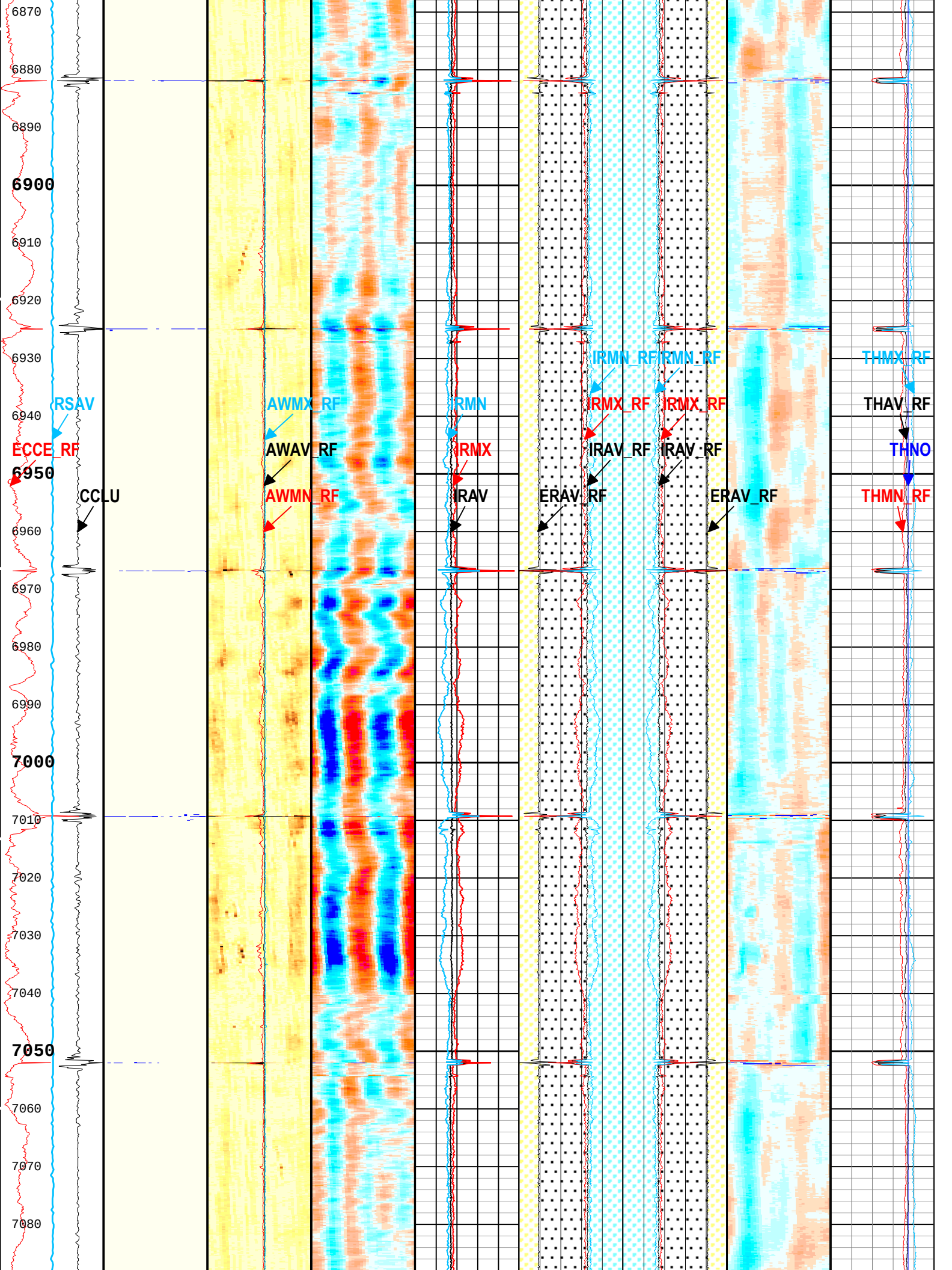
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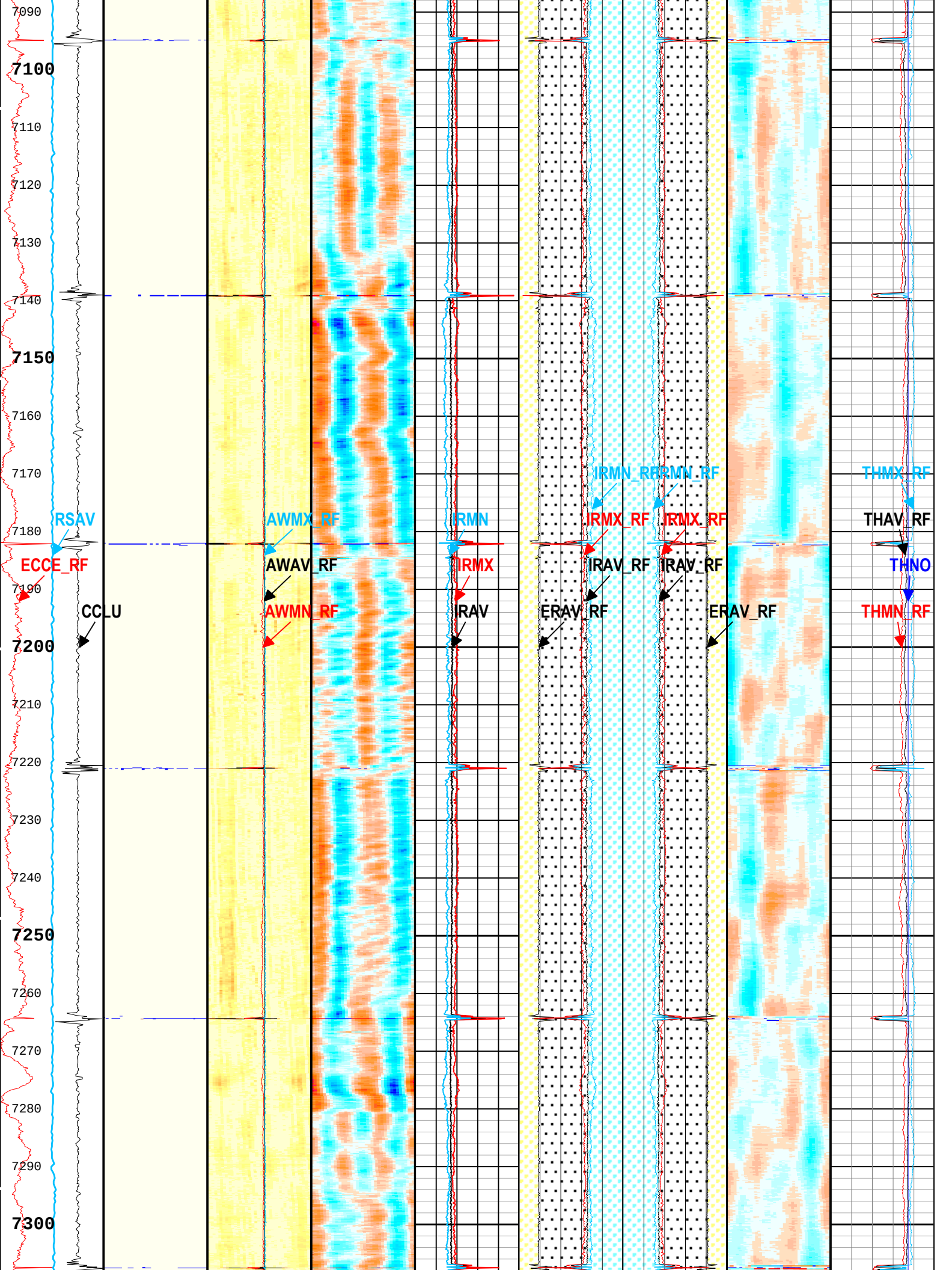
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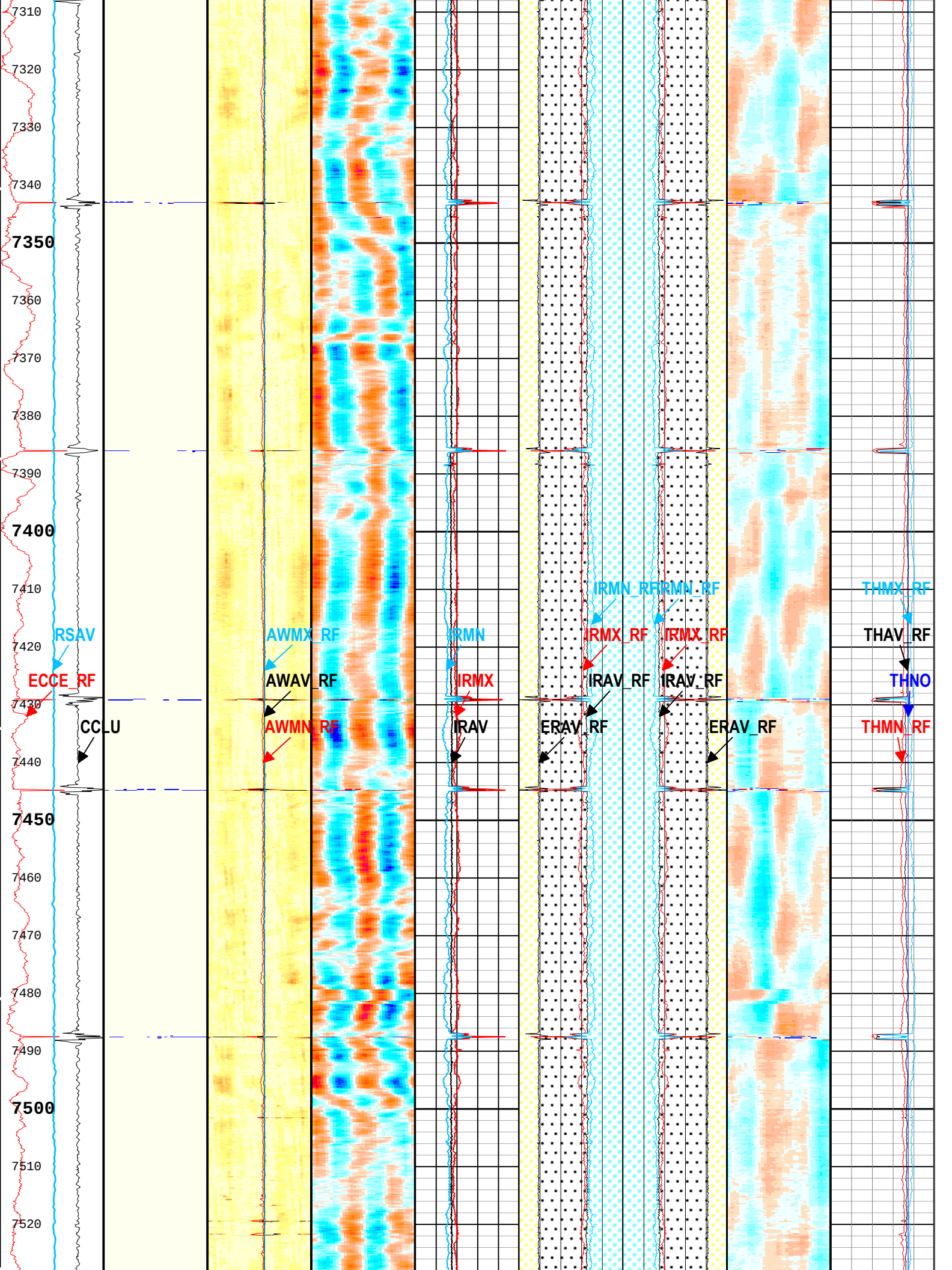
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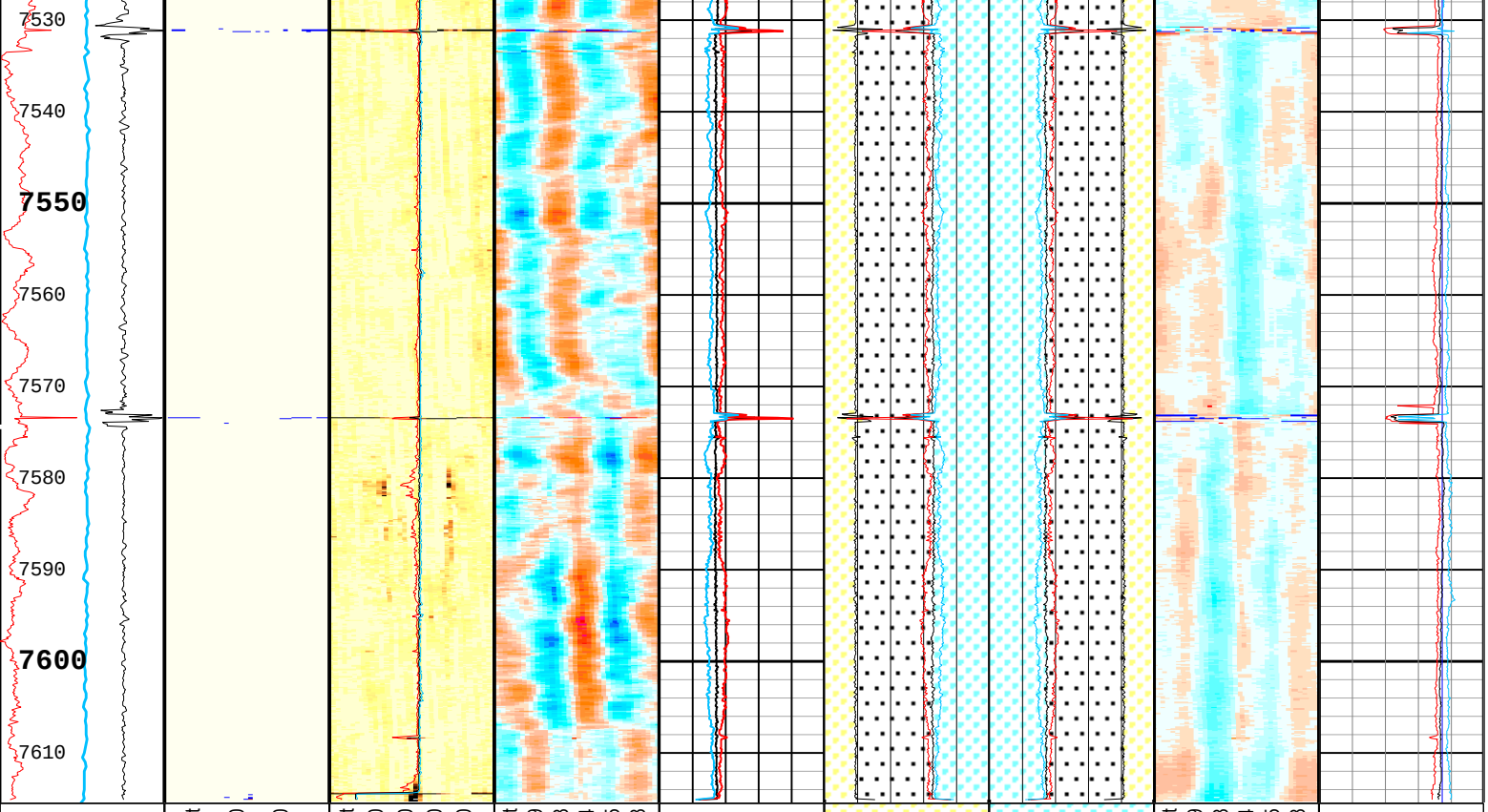


Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-30 in 10

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]

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

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

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

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

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

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

Internal Radius Averaged Value (IRAV) USIT-E[1]
4 in 5

Internal Radius Maximum Value (IRMX) USIT-E[1]
4 in 5

Internal Radius Minimum Value (IRMN) USIT-E[1]
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E[1]
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E[1]
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E[1]
4 in 5

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

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

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

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

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

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

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

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 24-May-2016 18:38:36

Composite 1

USI Compressed Goodwin

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[5]:Up	Up	892.54 ft	7615.88 ft	24-May-2016 8:46:05 AM	24-May-2016 11:18:30 AM	ON	0.25 ft	Yes
Three	Log[6]:Up	Up	99.52 ft	1002.74 ft	24-May-2016 11:38:34 AM	24-May-2016 11:57:27 AM	ON	0.54 ft	Yes
Three	Log[20]:Up	Up	56.25 ft	309.00 ft	24-May-2016 2:26:52 PM	24-May-2016 2:32:51 PM	ON	1.53 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Composite 1:S004

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: 24-May-2016 18:39:23

TIME_1900 - Time Marked every 60.00 (s)

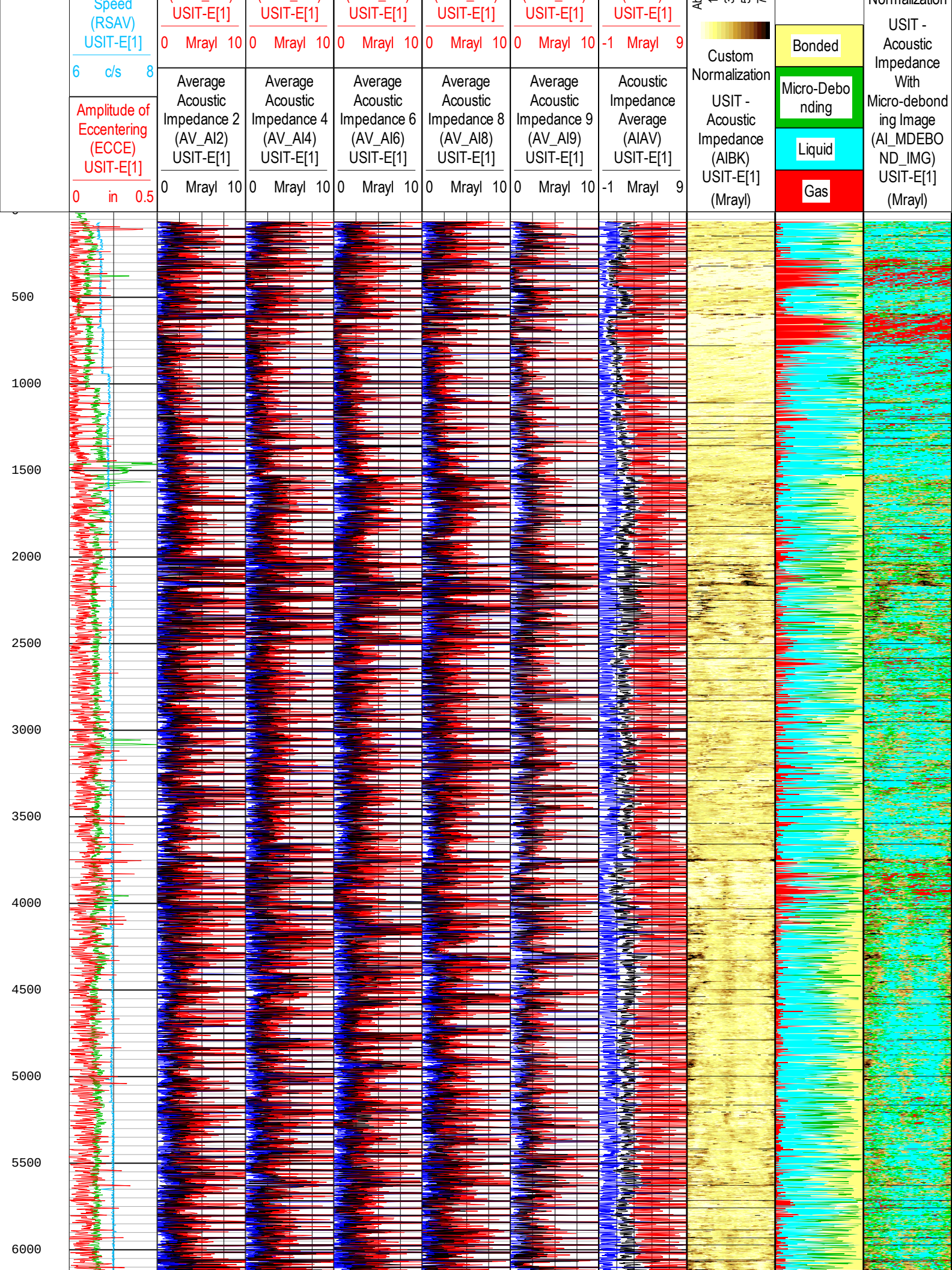
Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E[1]	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E[1]	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E[1]	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E[1]
0 Mrayl 10	0 Mrayl 10	0 Mrayl 10	0 Mrayl 10
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E[1]	Maximum Acoustic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

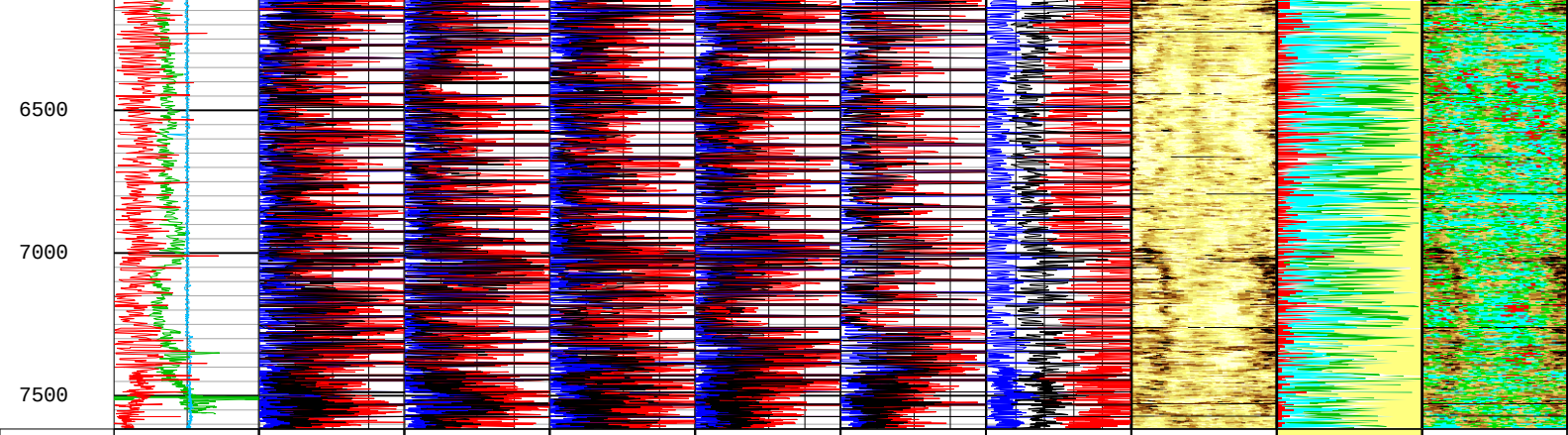
Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E[1]	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E[1]	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E[1]	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E[1]	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E[1]	Acoustic Impedance Minimum (AIMN) USIT-E[1]
0 Mrayl 10	0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

GR
0 gAPI 150

Motor Revolution

-1000.000 3.090 5.054 7.018
Custom Normalization


Speed (RSAV) USIT-E[1]
6 c/s 8
Amplitude of Eccentering (ECCE) USIT-E[1]
0 in 0.5
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
Average Acoustic Impedance 9 (AV_AI9) USIT-E[1]
0 Mrayl 10
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-E[1]
-1 Mrayl 9
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
Bonded
Micro-Debonding
Liquid
Gas
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000



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)	Bonded Micro-Debonding Liquid Gas
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				

-1000.000 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)

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: 24-May-2016 18:39:23

Three

Repeat Pass 1000 Psi 5 IN=100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[4]:Up	Up	7397.10 ft	7619.35 ft	24-May-2016 8:31:10 AM	24-May-2016 8:37:23 AM	ON	1.54 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[4]:Up:S004

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: 24-May-2016 18:39:30

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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 (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

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

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 (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 (Mrayl)

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

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

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

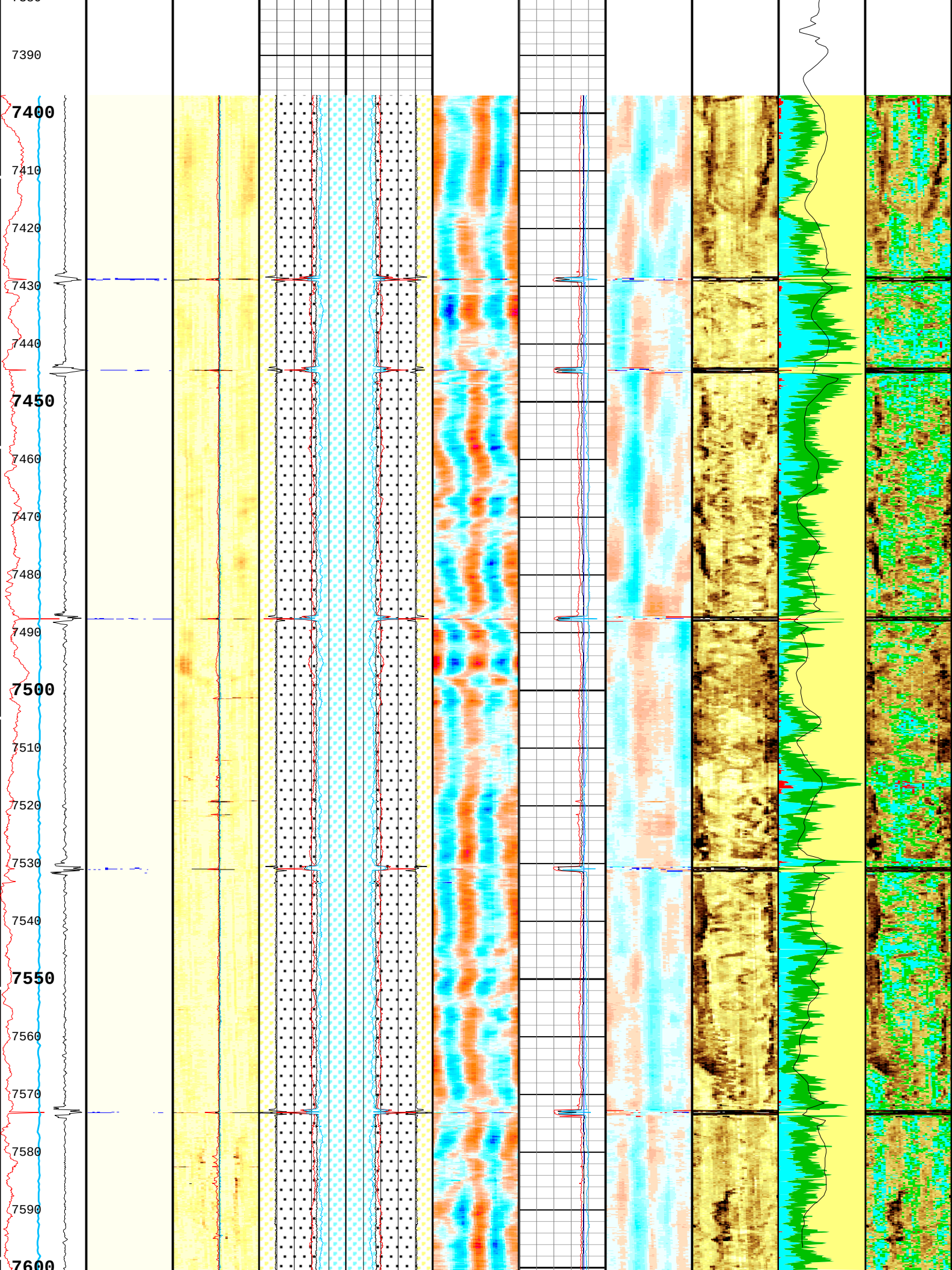
Bonded
Gas
Liquid
Micro-debonding

Bond Index (BI) DSLT-H
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 (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 (Mrayl)

7380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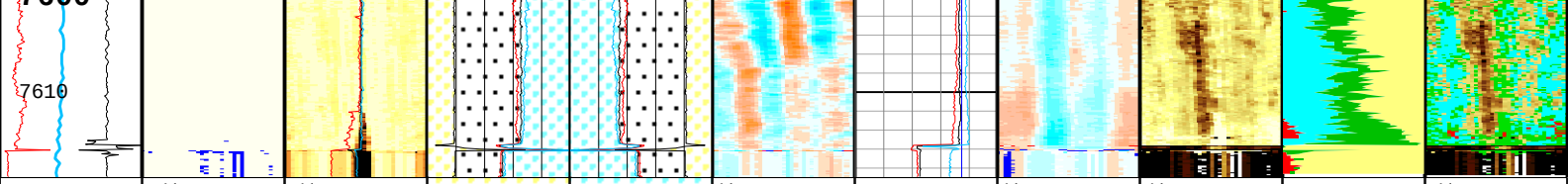


Casing Collar Locator Ultrasonic (CCLU) USIT-E
-30 in 10

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
Orientation: Top of Hole
U L B R U

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

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

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

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

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

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

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
(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
(Mrayl)
Orientation: Top of Hole
U L B R U

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

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

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

Bonded
Gas
Liquid
Micro-debonding

Bond Index (BI) DSLT-H
1 0

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

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

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

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (LBV1_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 24-May-2016 18:39:30

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Pass Name	Pass Objective	Direction	Type	Pattern	Start	Stop	DSC Mode	Depth Shift	Index

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[19]:Up	Up	1667.71 ft	1707.66 ft	24-May-2016 2:10:38 PM	24-May-2016 2:12:56 PM	ON	1.35 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[19]:Up:S004

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: 24-May-2016 18:39:33

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

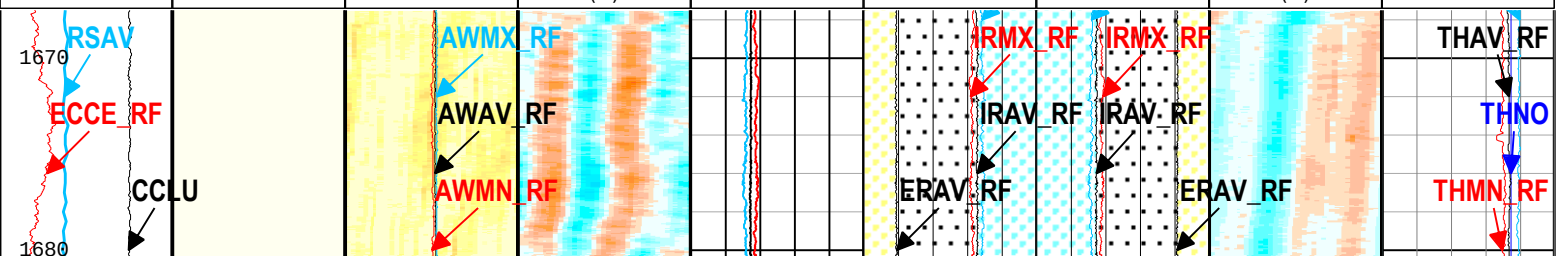
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

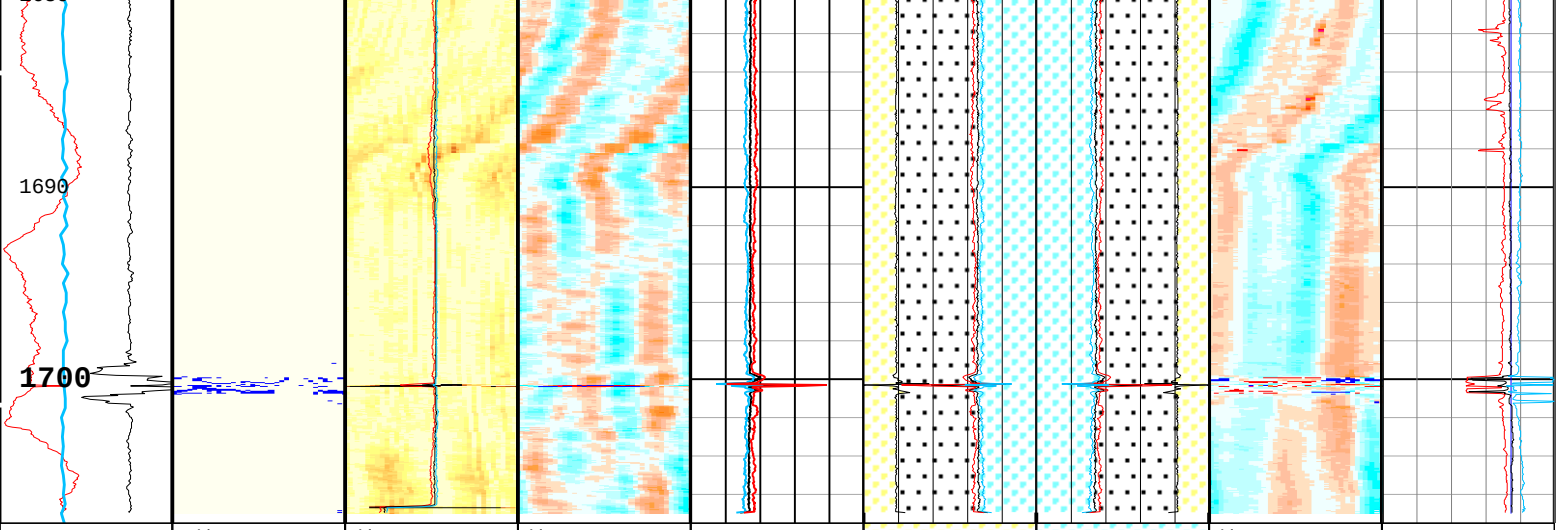
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 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)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:39:33

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[18]:Up	Up	1776.29 ft	1798.83 ft	24-May-2016 2:07:53 PM	24-May-2016 2:09:14 PM	ON	1.48 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[18]:Up:S004

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: 24-May-2016 18:39:35

TIME_1900 - Time Marked every 60.00 (s)

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

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

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

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

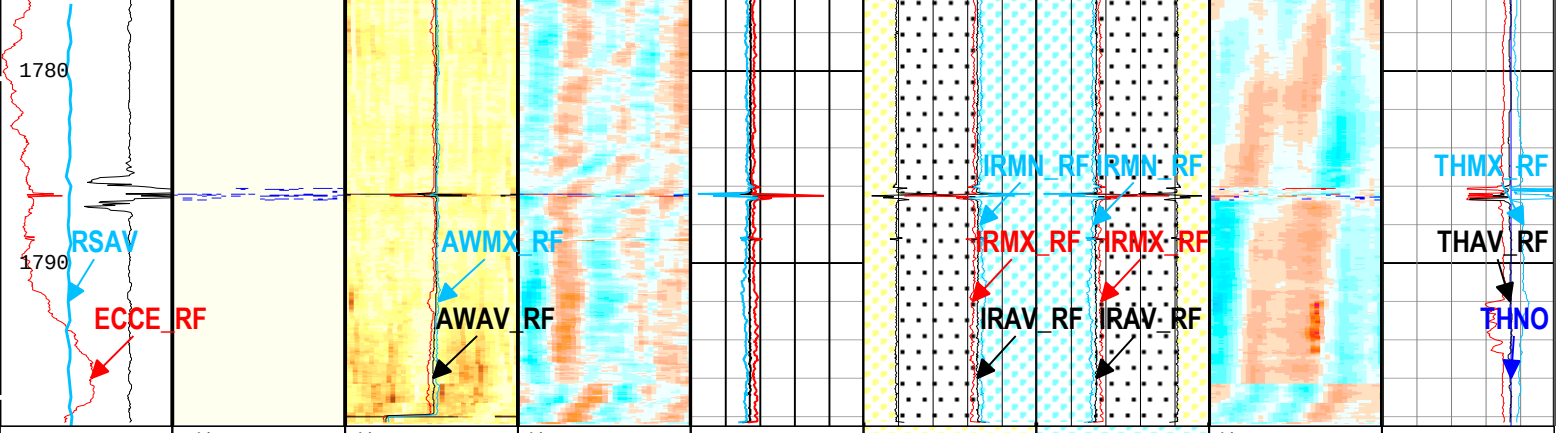
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 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)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:39:35

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[16]:Up	Up	2116.82 ft	2172.67 ft	24-May-2016 2:01:57 PM	24-May-2016 2:05:12 PM	ON	1.35 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[16]:Up:S004

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: 24-May-2016 18:39:38

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 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 Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

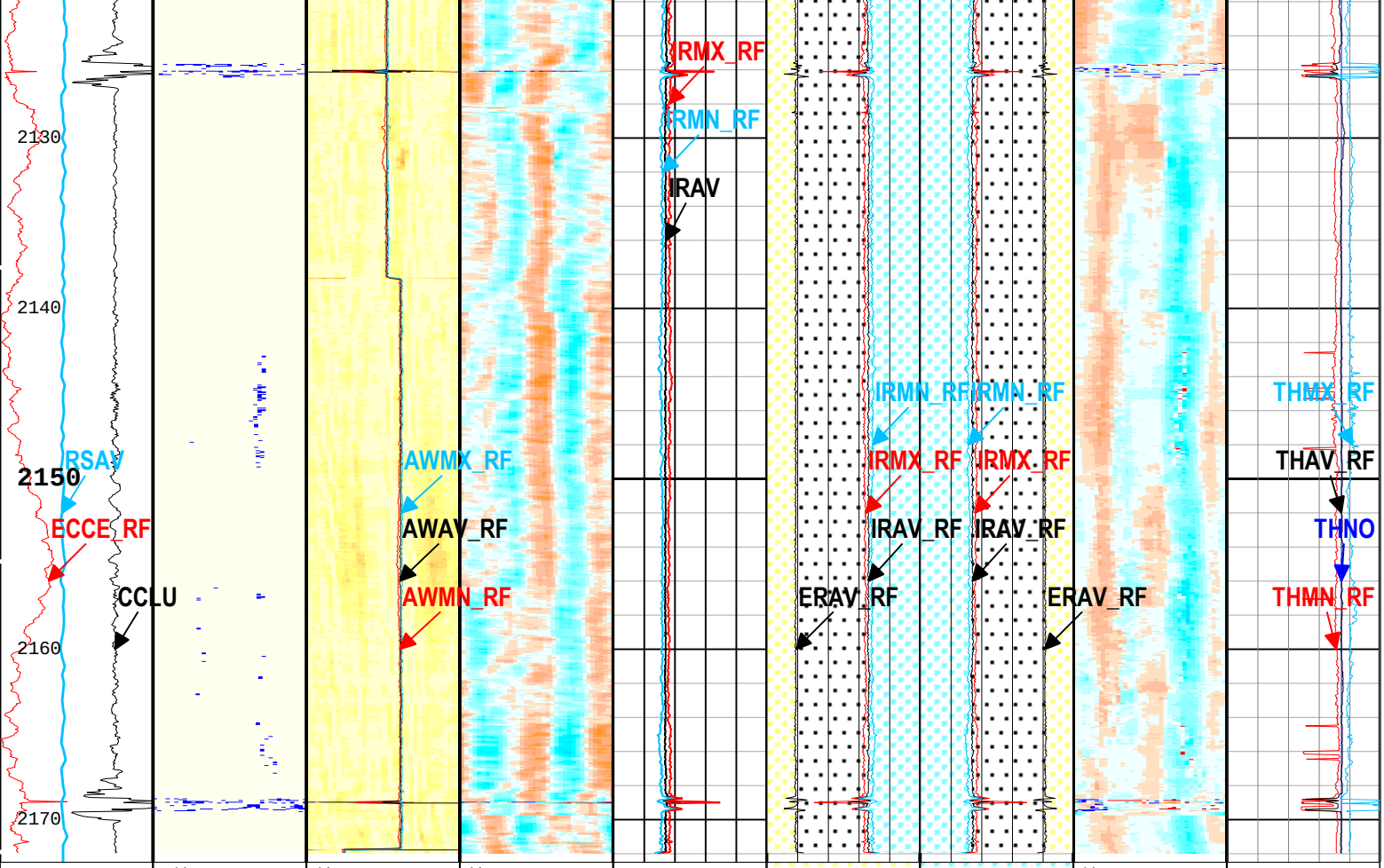
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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

2120



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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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

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

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

Minimum of Unflagged Internal Radii (IRMN_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)
Orientation: Top of Hole
U L B R U

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-E
0 dB 75

5 in 4 | 4 in 5

TIME_1900 - Time Marked every 60.00 (s)

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

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

Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 24-May-2016 18:39:38

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[15]:Up	Up	2096.94 ft	2173.29 ft	24-May-2016 1:56:08 PM	24-May-2016 2:00:42 PM	ON	1.08 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[15]:Up:S004

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: 24-May-2016 18:39:41

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

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 (dB)

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

Average of

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500

U L B R U
Orientation: Top of Hole
Absent -0.069 -0.038 0.004 0.045 0.085

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of

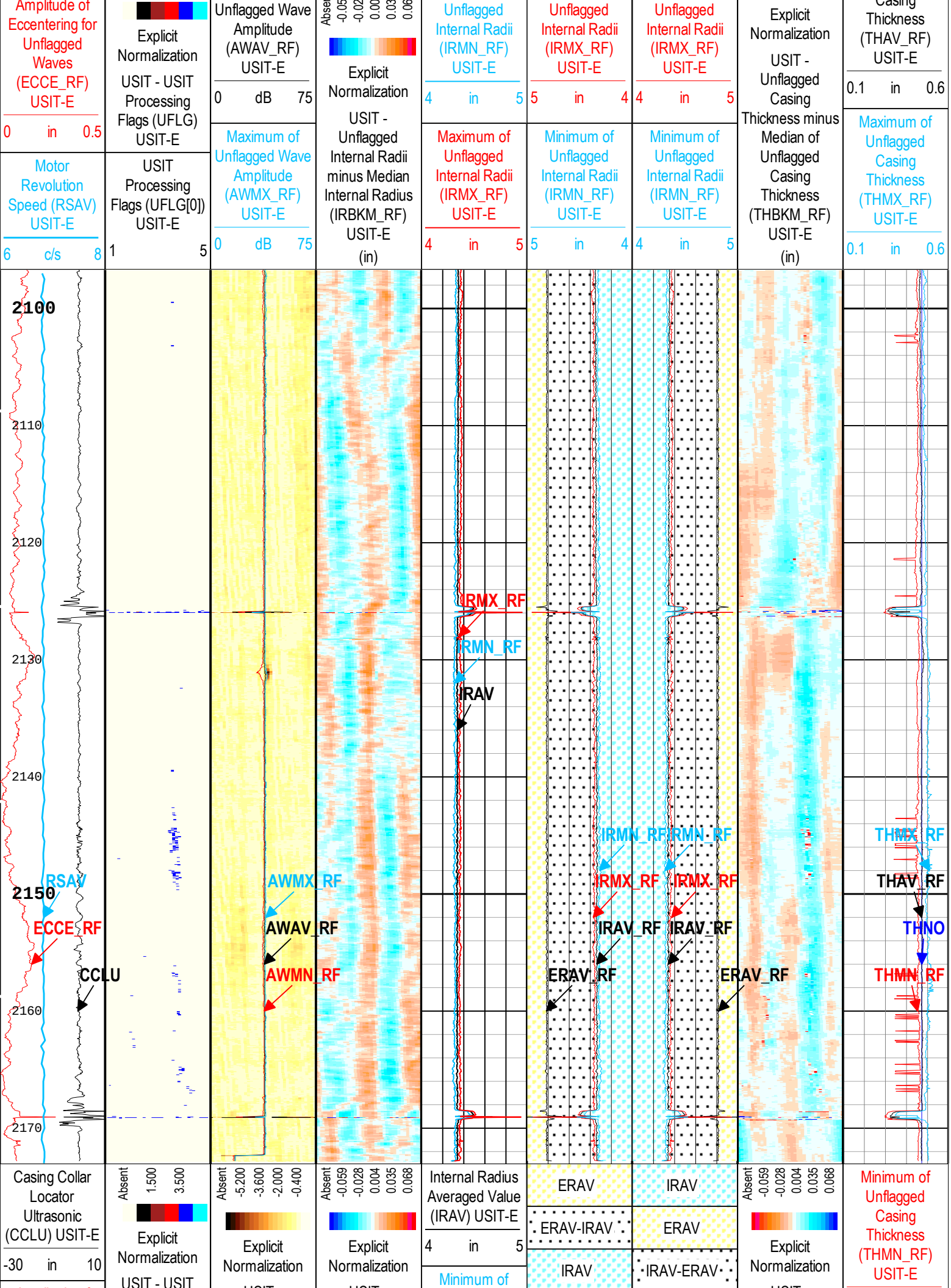
Maximum of

U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068

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

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

Median of Unflagged


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Unflagged Wave Amplitude (AWAV_RF) 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)
Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5
Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4
Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
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
2100
2110
2120
2130
2140
2150
2160
2170
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRMN_RF
IRAV
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
Absent 1.500 3.500
Explicit Normalization
USIT - USIT
Absent -5.200 -3.600 -2.000 -0.400
Explicit Normalization
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
Internal Radius Averaged Value (IRAV) USIT-E
4 in 5
Minimum of
ERAV
IRAV
ERAV-IRAV
ERAV
IRAV
IRAV-ERAV
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E

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

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

USIT Processing Flags (UFLG) USIT-E
Orientation: Top of Hole
U L B R U

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

USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E
(dB)
Orientation: Top of Hole
U L B R U

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

USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Orientation: Top of Hole
U L B R U

Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:39:41

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[14]:Up	Up	2465.97 ft	2566.08 ft	24-May-2016 1:44:38 PM	24-May-2016 1:50:31 PM	ON	1.35 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[14]:Up:S004

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: 24-May-2016 18:39:44

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] - :

UTIM Error
Pulse Origin Not Detected

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] - :

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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 (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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

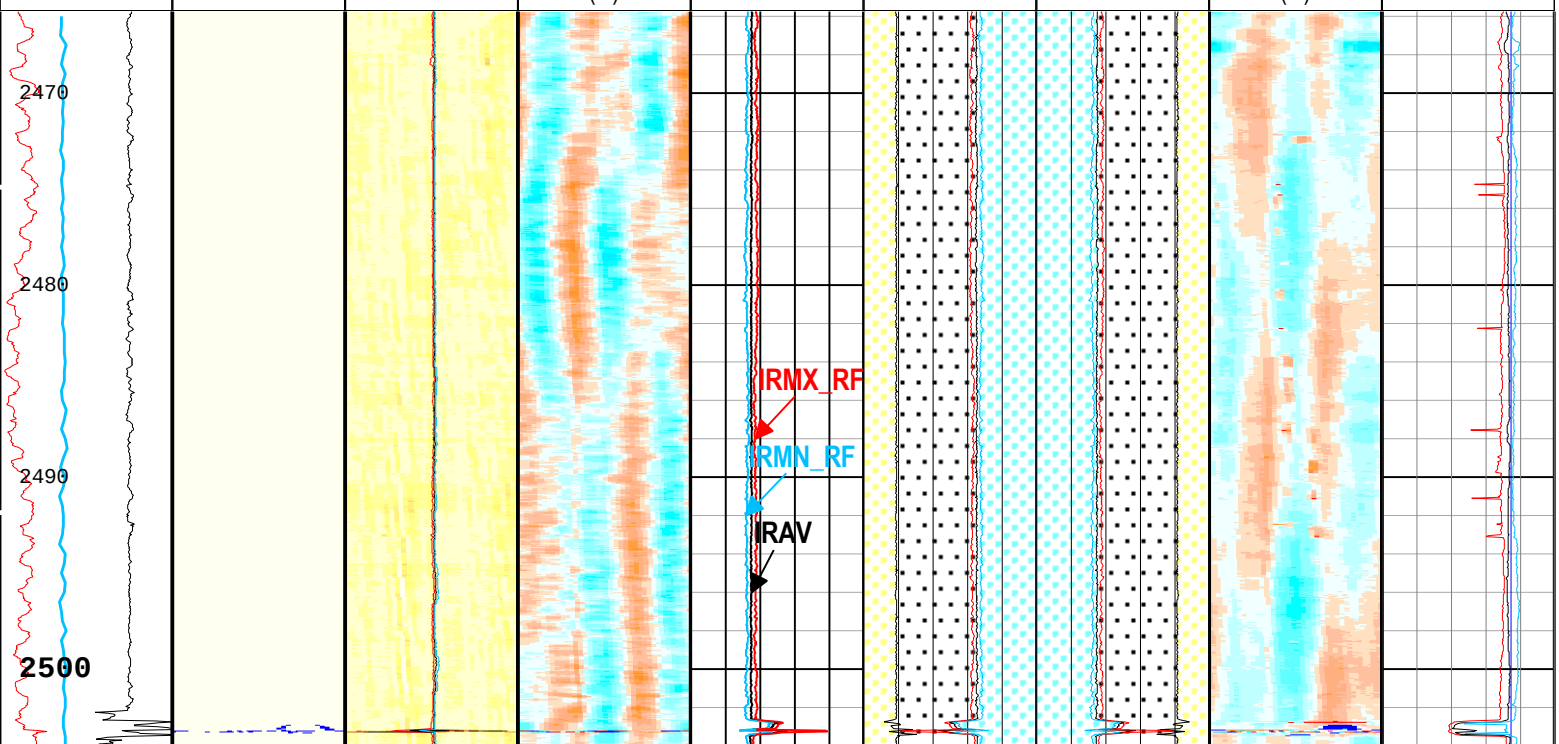
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

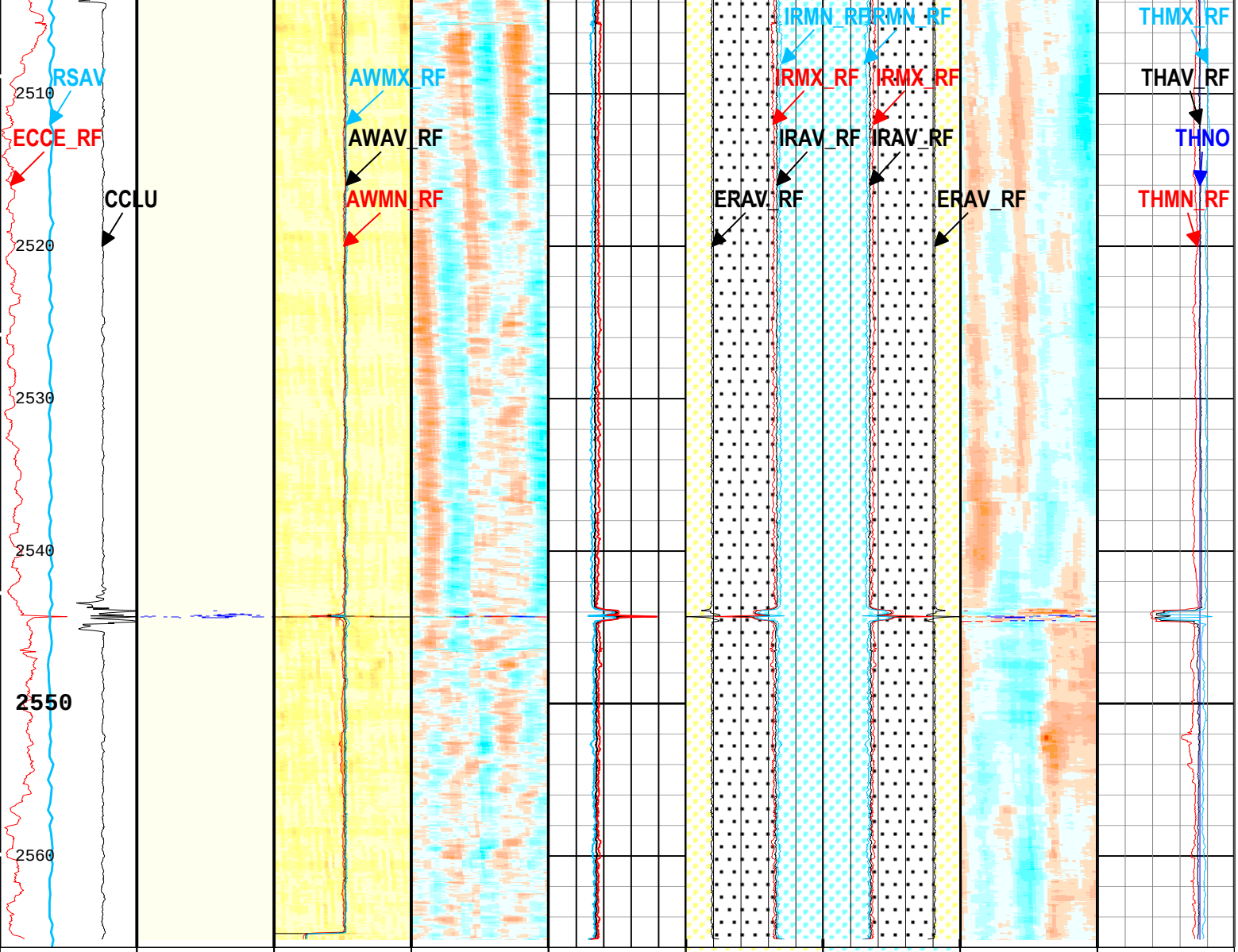
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 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)
Orientation: Top of Hole
U L B R U

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	dB	75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

0	dB	75

5	in	4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

5	in	4

4	in	5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

4	in	5

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: 24-May-2016 18:39:44

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[13]:Up	Up	3094.86 ft	3139.86 ft	24-May-2016 1:38:24 PM	24-May-2016 1:41:01 PM	ON	1.21 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[13]:Up:S004

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: 24-May-2016 18:39:47

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)

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 (dB)

Minimum of Unflagged Wave

ERAV	IRAV
ERAV-IRAV	ERAV
IRAV	IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E

5	in	4

Median of Unflagged External Radii (ERAV_RF) USIT-E

4	in	5

Median Internal Radius of Casing

Median Internal Radius of Casing

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E

0.1	in	0.6

Nominal 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

U L B R U
Orientation: Top of Hole

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

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

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

U L B R U
Orientation: Top of Hole

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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

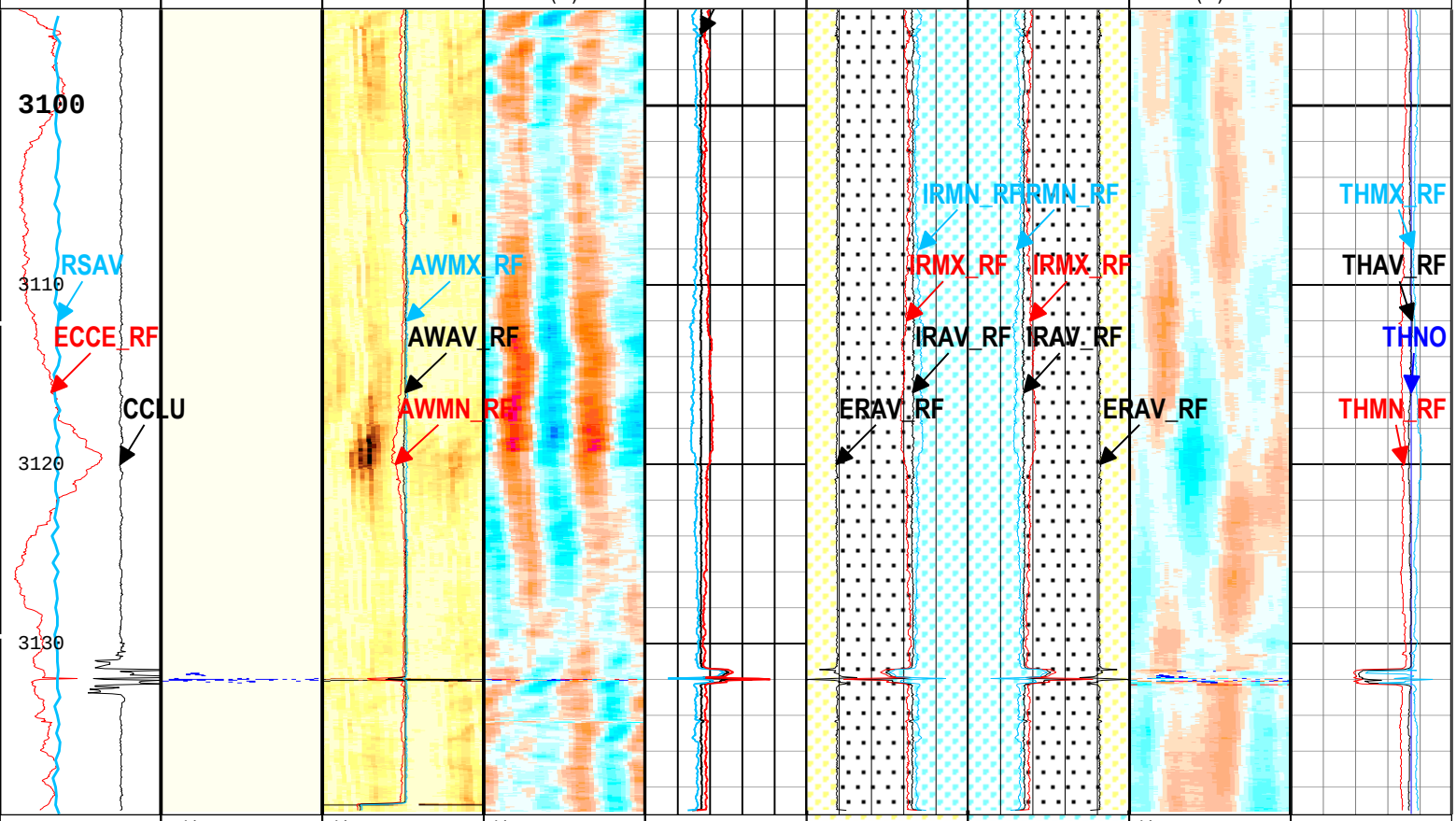
U L B R U
Orientation: Top of Hole

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



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

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

Orientation: Top of Hole
U L B R U

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

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

Orientation: Top of Hole
U L B R U

Minimum of Unflagged Wave

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

Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for

Median Internal Radius of Casing Corrected for

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)

Orientation: Top

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)

6 c/s 8

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

4 in 5

Eccentering (IRAV_RF) USIT-E

5 in 4

Eccentering (IRAV_RF) USIT-E

4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

4 in 5

of Hole

U L B R U

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: 24-May-2016 18:39:47

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[12]:Up	Up	3337.85 ft	3409.15 ft	24-May-2016 1:31:14 PM	24-May-2016 1:35:14 PM	ON	0.94 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[12]:Up:S004

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: 24-May-2016 18:39:50

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)

U L B R U

Orientation: Top of Hole

Absent -5.200 -3.600 -2.000 -0.400

ERAV IRAV

ERAV-IRAV ERAV

IRAV IRAV-ERAV

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

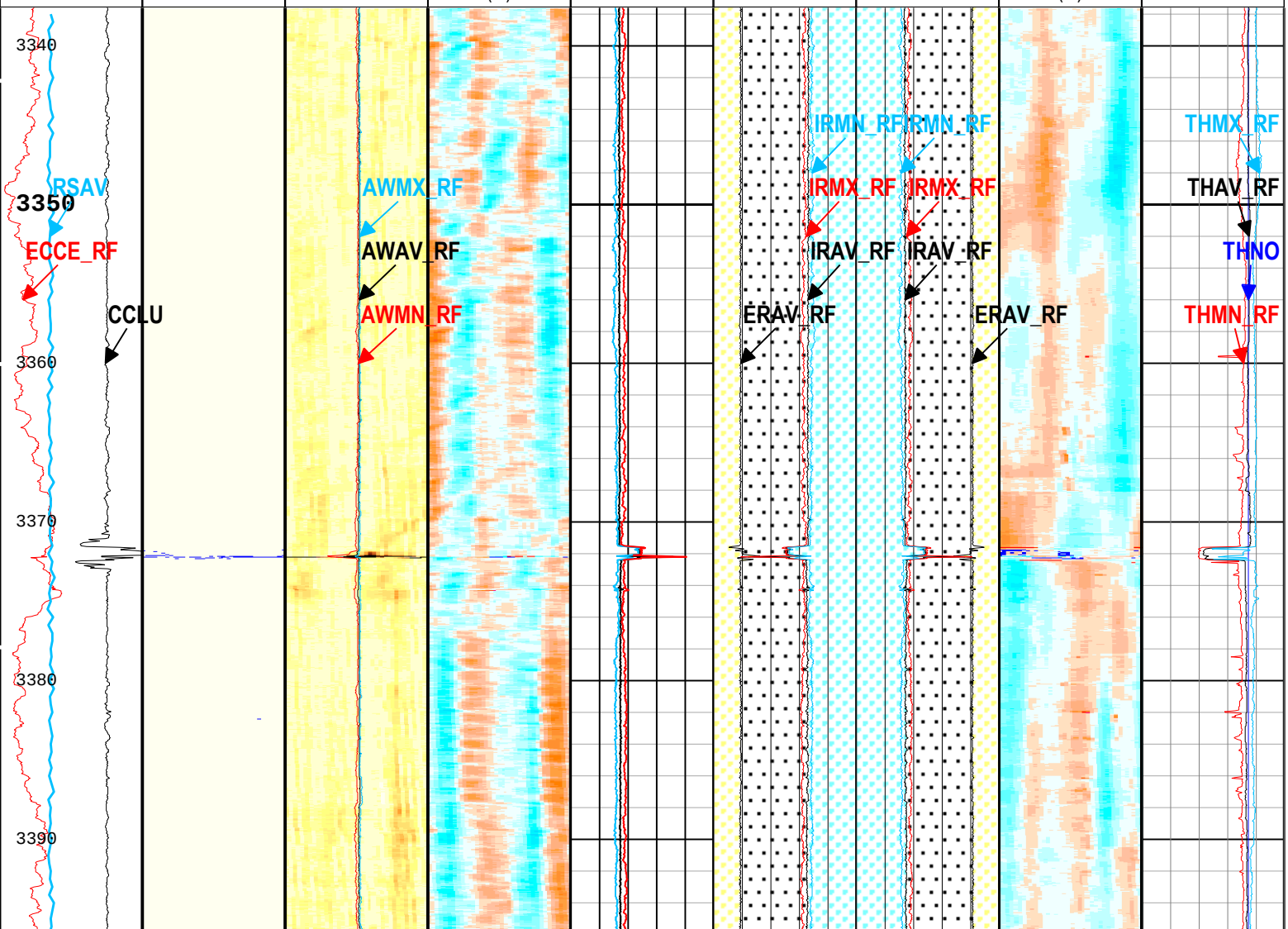
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)

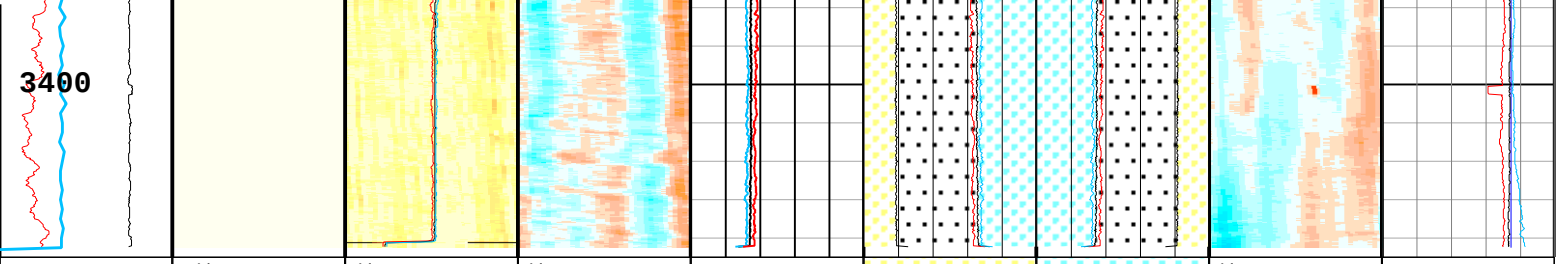
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 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)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:39:50

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include

									Parallel Data
Three	Log[11]:Up	Up	3664.23 ft	3787.25 ft	24-May-2016 1:20:35 PM	24-May-2016 1:27:44 PM	ON	0.54 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D

Three: Log[11]:Up:S004

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: 24-May-2016 18:39:53

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

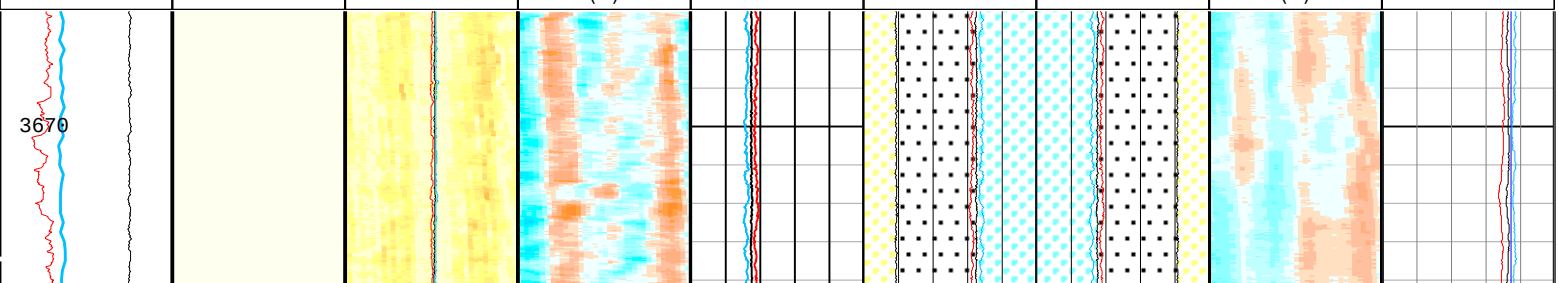
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

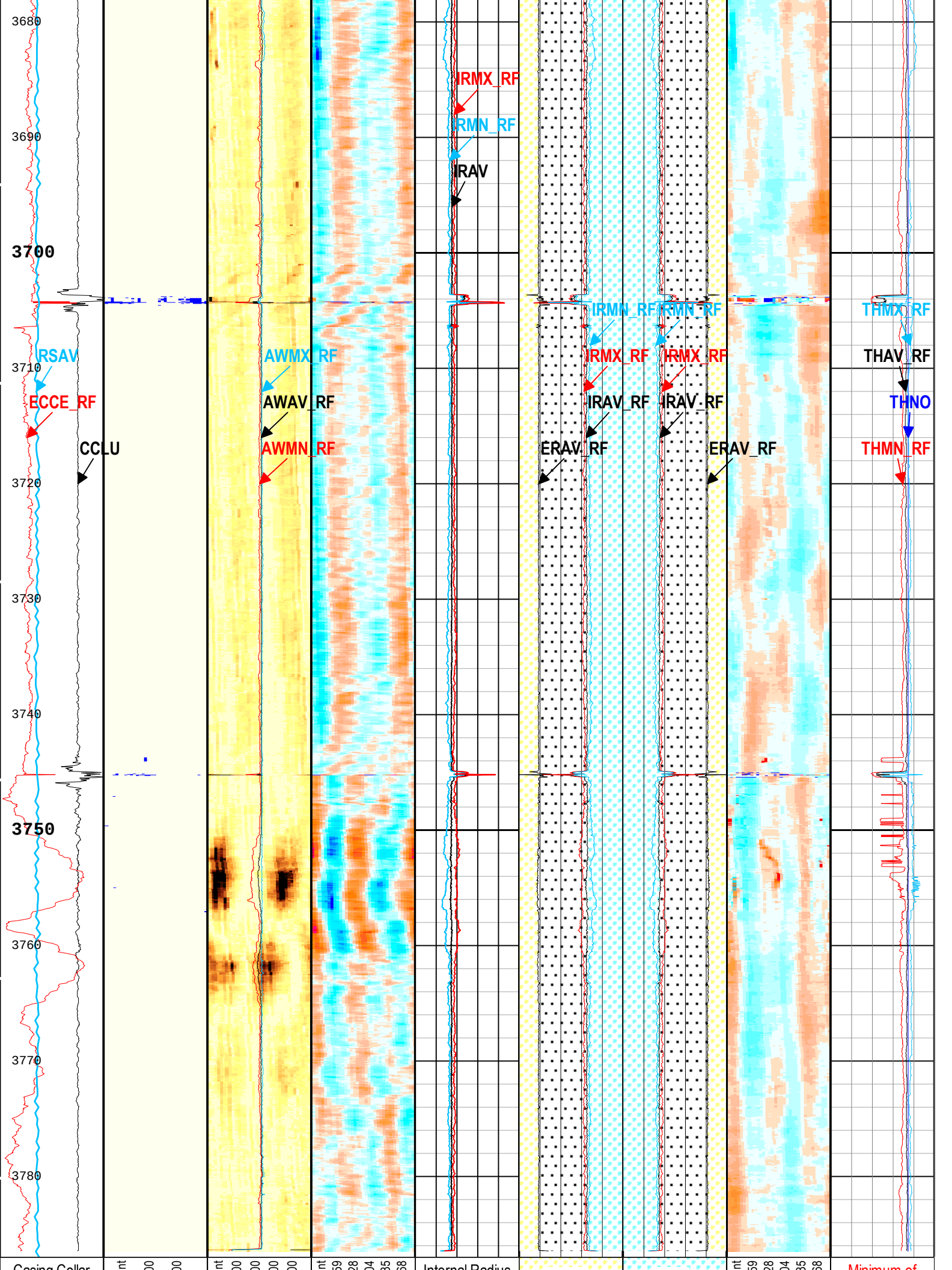
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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




3680
3690
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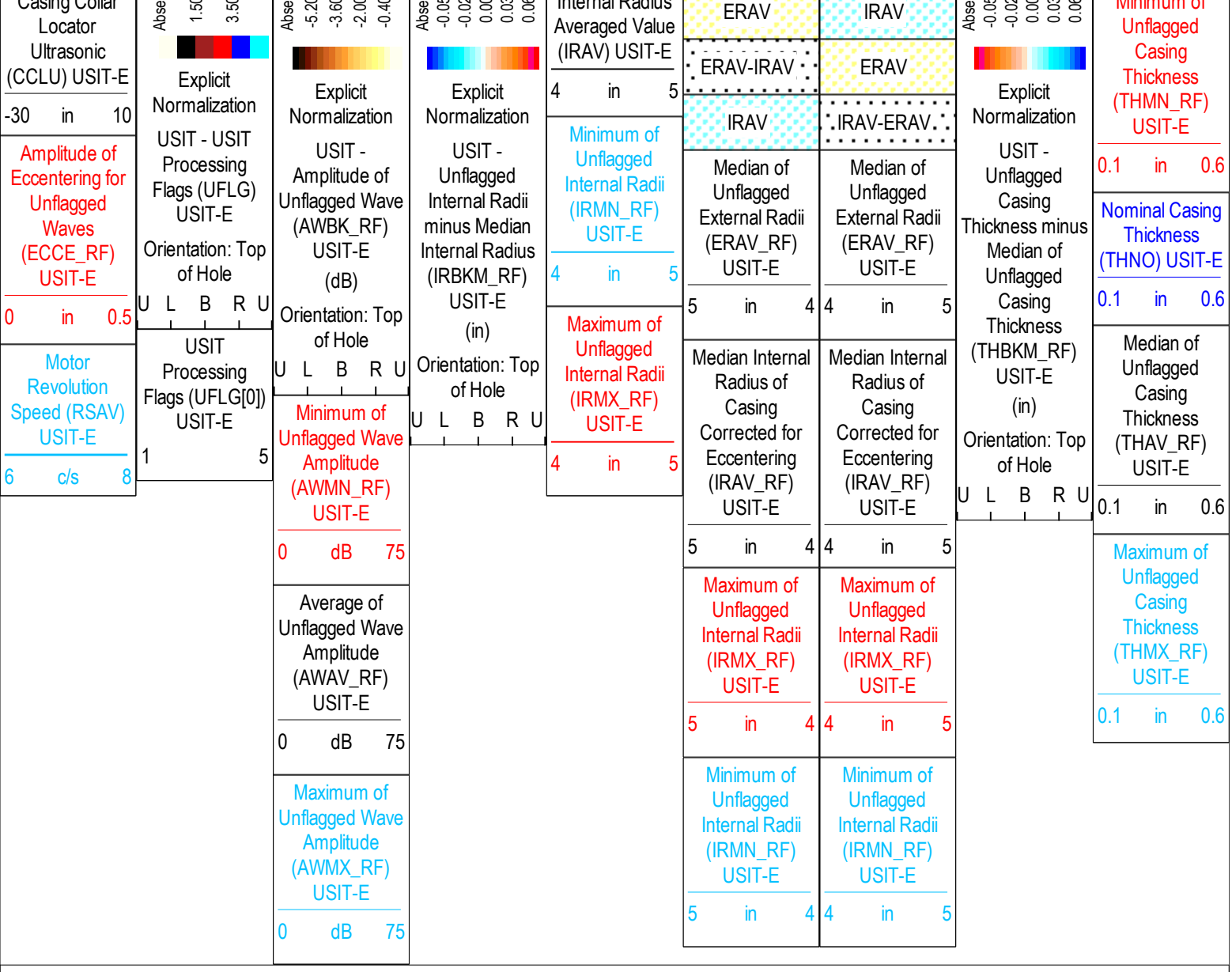
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRMN_RF
IRAV
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
Casing Collar
Internal Radius
Minimum of



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: 24-May-2016 18:39:53

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[10]:Up	Up	4087.99 ft	4224.20 ft	24-May-2016 1:09:08 PM	24-May-2016 1:17:20 PM	ON	10.52 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[10]:Up:S004

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: 24-May-2016 18:39:57

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

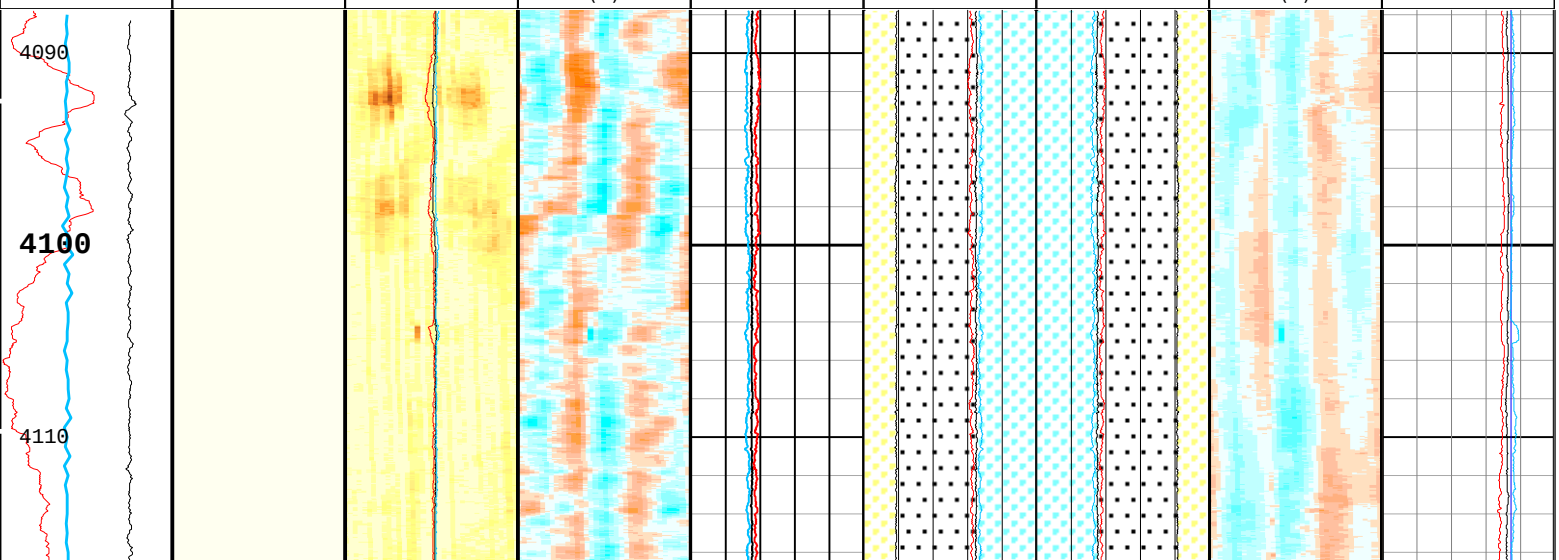
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

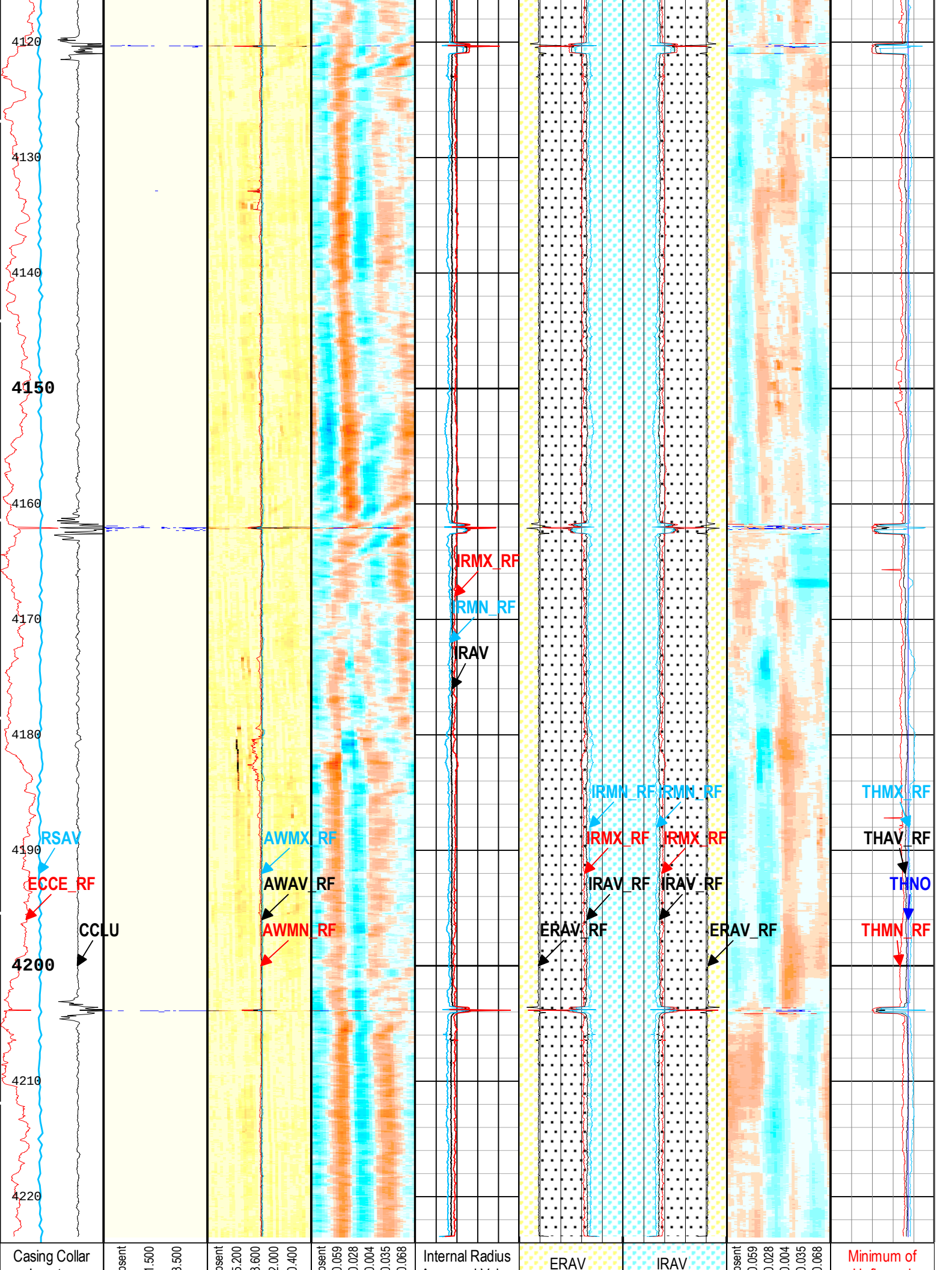
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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




4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
4220
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
Internal Radius
ERAV
IRAV
Minimum of

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

Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E
Orientation: Top of Hole
U L B R U

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

Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E
(dB)
Orientation: Top of Hole
U L B R U

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

Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E
(in)
Orientation: Top of Hole
U L B R U

Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV-IRAV | ERAV
IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:39:57

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[9]:Up	Up	6144.28 ft	6204.15 ft	24-May-2016 12:52:54 PM	24-May-2016 12:56:21 PM	ON	9.85 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[9]:Up:S004

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: 24-May-2016 18:40:01

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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
(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

U L B R U
Orientation: Top of Hole
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
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

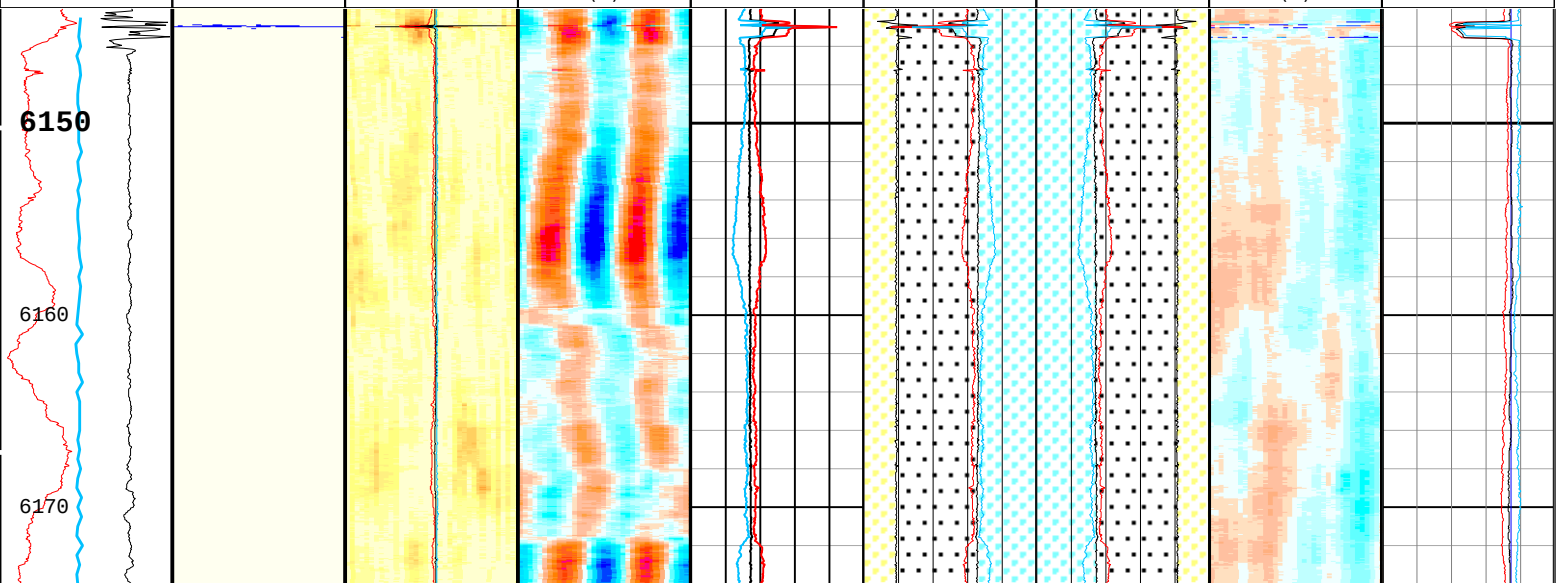
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E
(in)

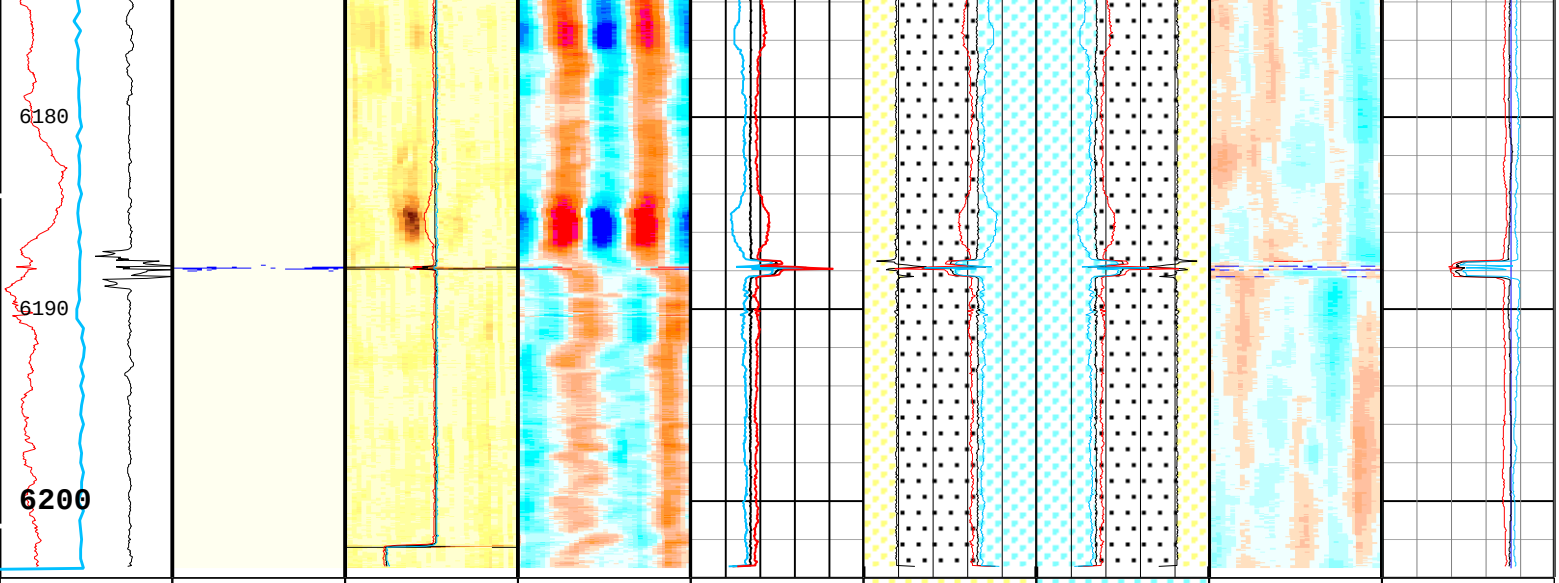
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4 | 4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4 | 4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4 | 4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4 | 4 in 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)
Orientation: Top of Hole
U L B R U

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: 24-May-2016 18:40:01

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[8]:Up	Up	6258.58 ft	6414.13 ft	24-May-2016 12:43:04 PM	24-May-2016 12:51:59 PM	ON	9.98 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[8]:Up:S004

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: 24-May-2016 18:40:04

TIME_1900 - Time Marked every 60.00 (s)

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

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

U L B R U
Orientation: Top of Hole
Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-E

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

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 (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

U L B R U
Orientation: Top of Hole
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

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E

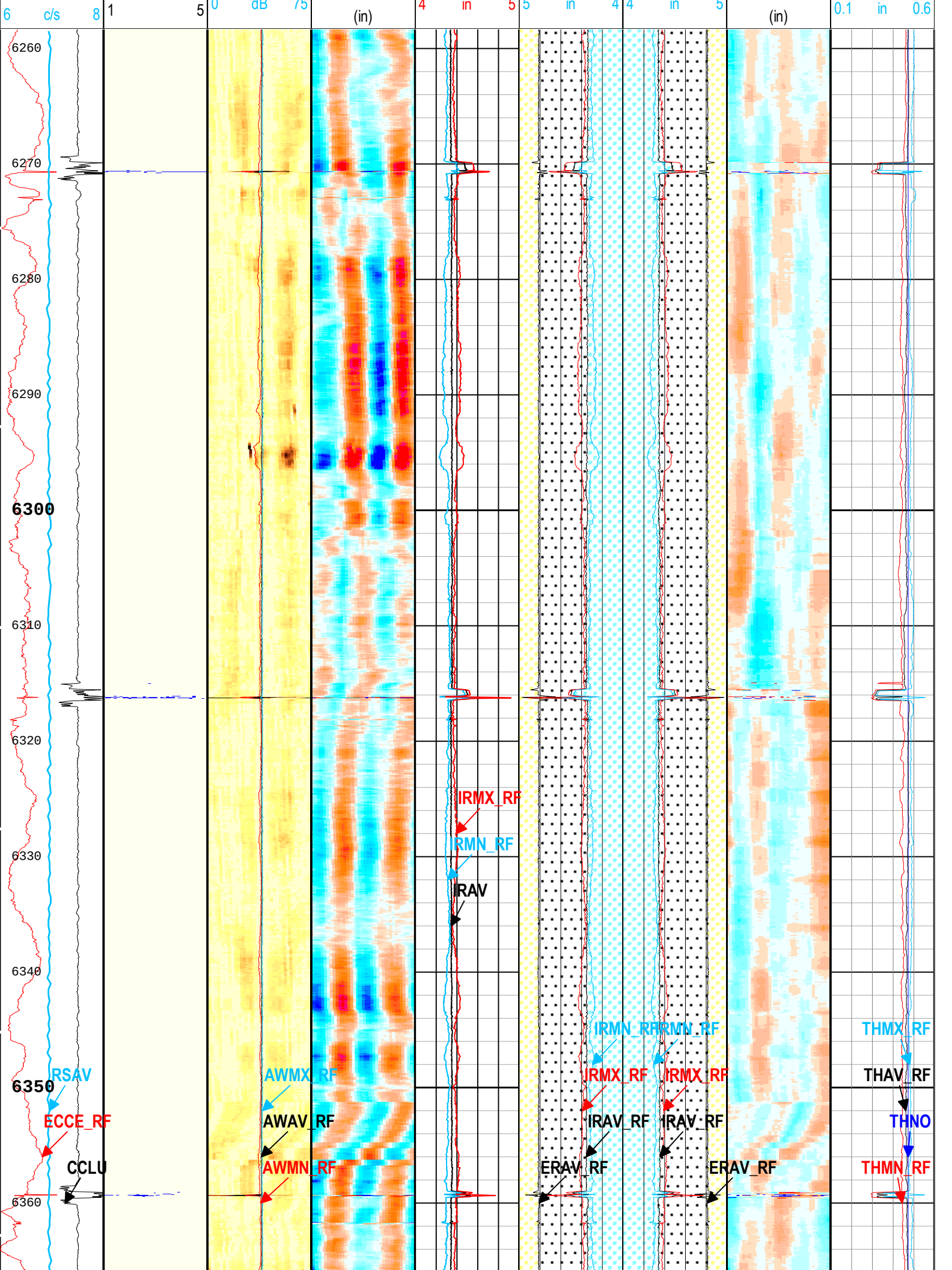
U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E

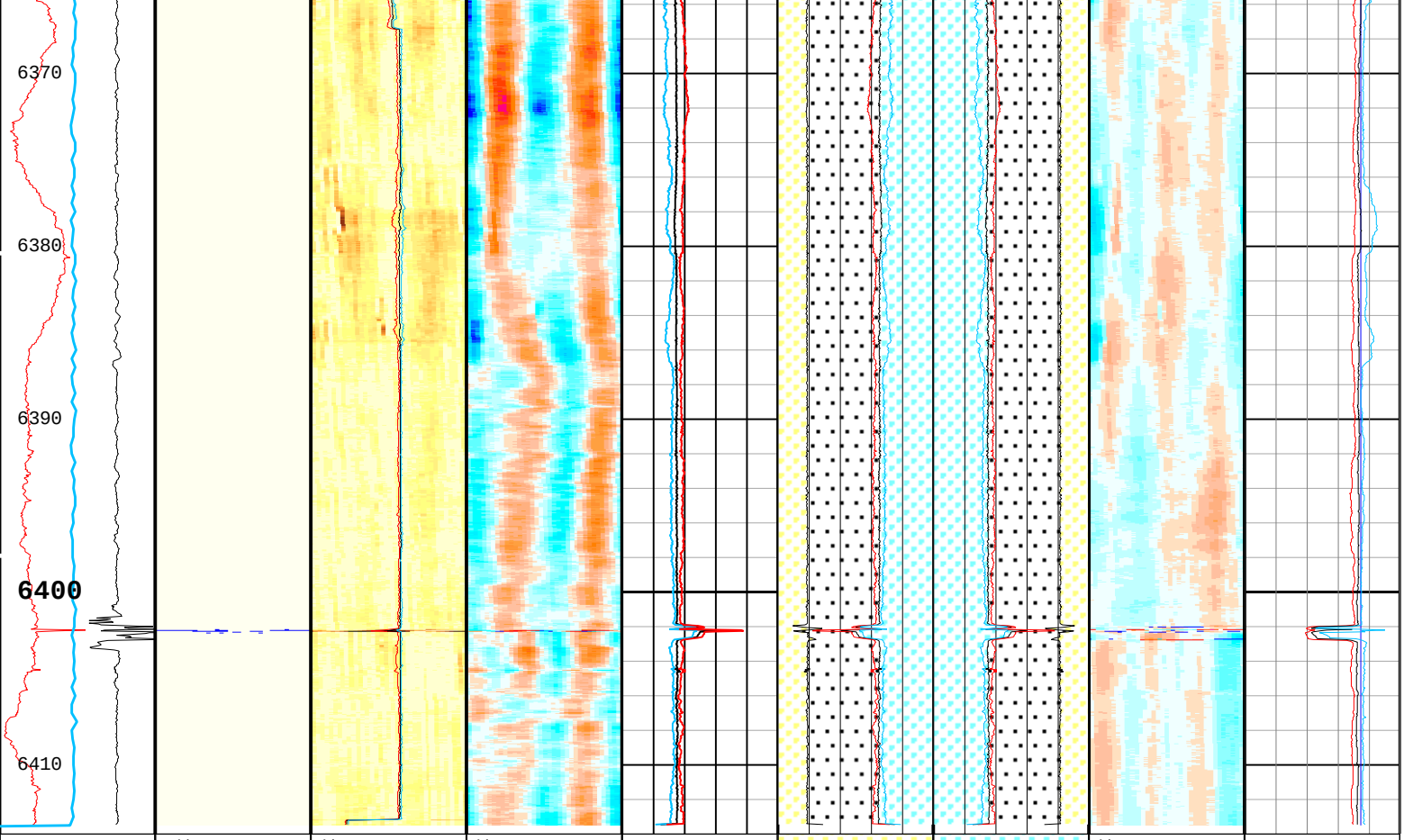
Minimum of Unflagged Casing Thickness (THMN_RF) USIT-E
0.1 in 0.6

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

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

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E


6 c/s 8
1 5
0 dB 75
(in)
4 in 5
5 in 4
4 in 5
(in)
0.1 in 0.6
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
RSAV
ECCE_RF
CCLU
AWMX_RF
AWAV_RF
AWMN_RF
IRMX_RF
IRMN_RF
IRAV
IRMN_RF
IRMN_RF
IRMX_RF
IRMX_RF
IRAV_RF
IRAV_RF
ERAV_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

Orientation: Top of Hole

U L B R U

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)

Orientation: Top of Hole

U L B R U

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

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

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E

Absent -0.059 -0.028 0.004 0.035 0.068

Explicit Normalization

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

Orientation: Top of Hole

U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV | IRAV

ERAV-IRAV | ERAV

IRAV | IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

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

Orientation: Top of Hole

U L B R U

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

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

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

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

0 dB 75

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: 24-May-2016 18:40:04

Three

Very Hi-Res Corrosion 10 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Three	Log[7]:Up	Up	6953.77 ft	7063.94 ft	24-May-2016 12:26:30 PM	24-May-2016 12:32:57 PM	ON	9.58 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Porter No. 69-D
Three: Log[7]:Up:S004

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: 24-May-2016 18:40:08

TIME_1900 - Time Marked every 60.00 (s)

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

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

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 (dB)

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

Average of Unflagged Wave Amplitude

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

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii

Maximum of Unflagged Internal Radii

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

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

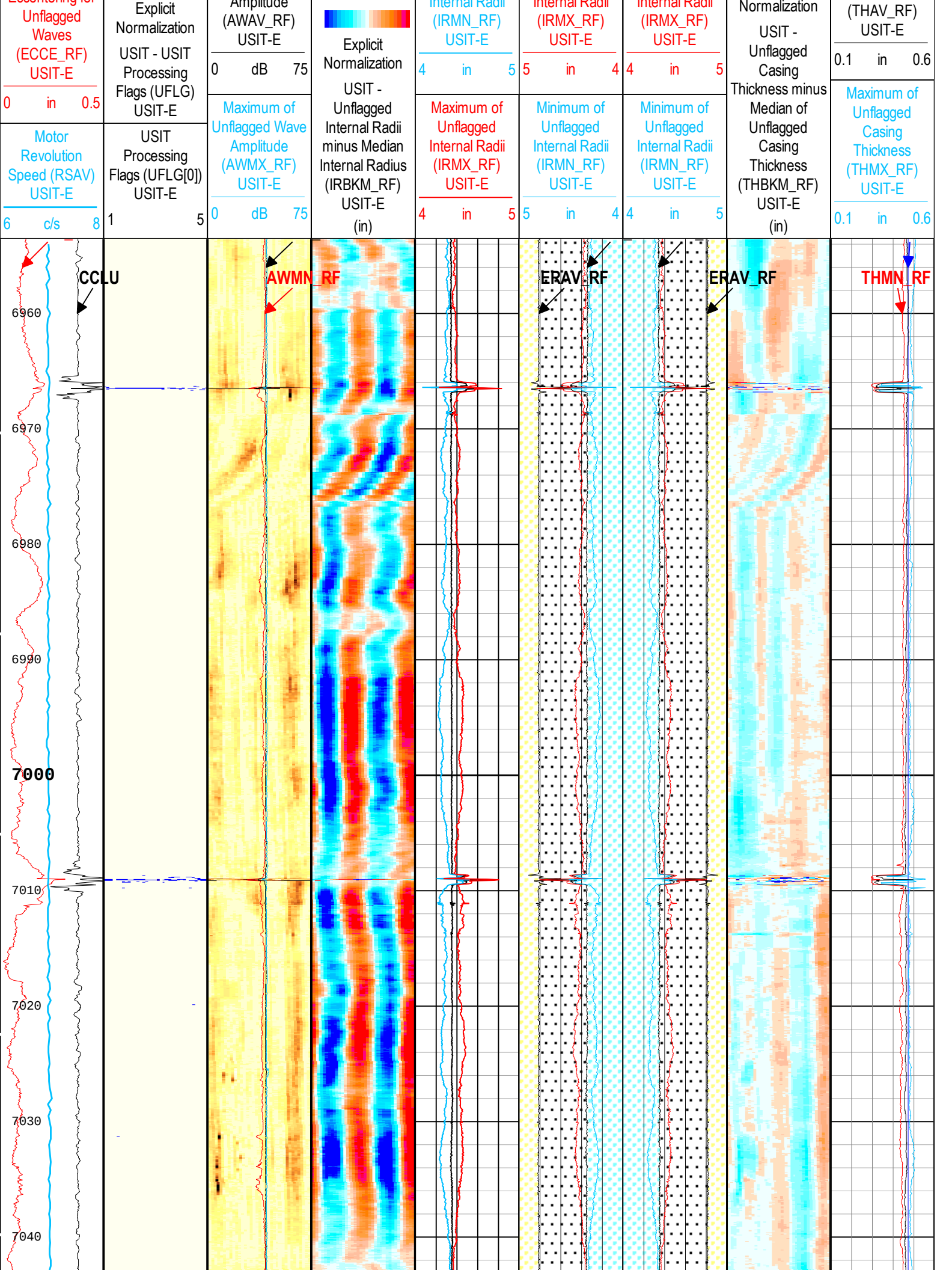
Amplitude of Eccentering for

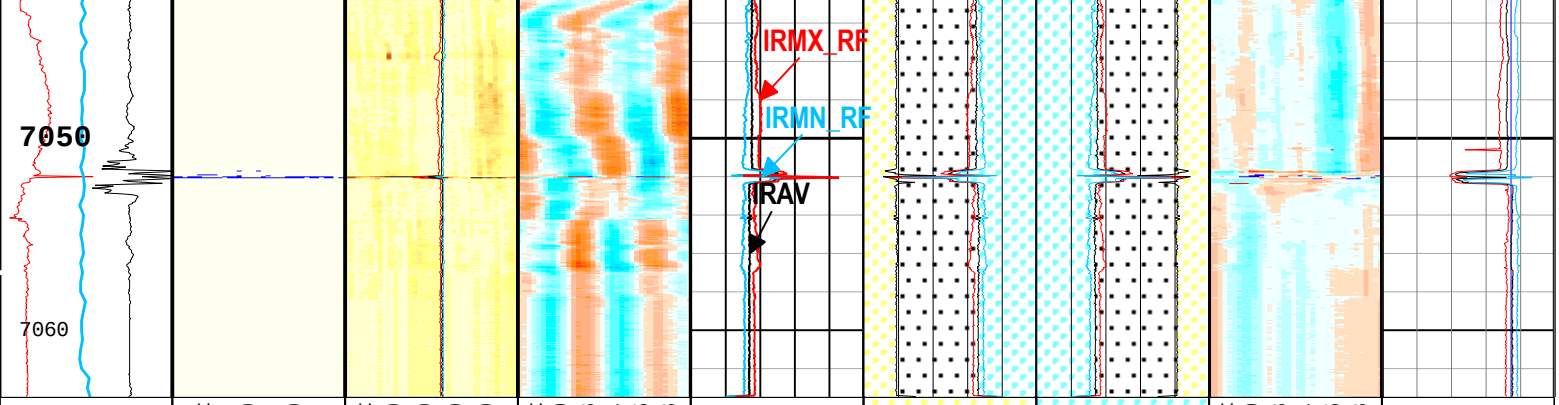
U L B R U
Orientation: Top of Hole
Absent 1.500 3.500

U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

U L B R U
Orientation: Top of Hole
Absent -0.059 -0.028 0.004 0.035 0.068
Explicit


Eccentering for Unflagged Waves (ECCE_RF) USIT-E
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E
6 c/s 8
Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-E
USIT Processing Flags (UFLG[0]) USIT-E
1 5
Amplitude (AWAV_RF) 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)
Internal Radii (IRMN_RF) USIT-E
4 in 5
Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5
Internal Radii (IRMX_RF) USIT-E
5 in 4
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4
Internal Radii (IRMX_RF) USIT-E
4 in 5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5
Normalization USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)
(THAV_RF) USIT-E
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-E
0.1 in 0.6
CCLU
AWMN_RF
ERAV_RF
ERAV_RF
THMN_RF
6960
6970
6980
6990
7000
7010
7020
7030
7040



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
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

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)
Orientation: Top of Hole
U L B R U

Internal Radius Averaged Value (IRAV) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

ERAV
ERAV-IRAV
IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
5 in 4

IRAV
ERAV
IRAV-ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF) USIT-E
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E
4 in 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)
Orientation: Top of Hole
U L B R U

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)

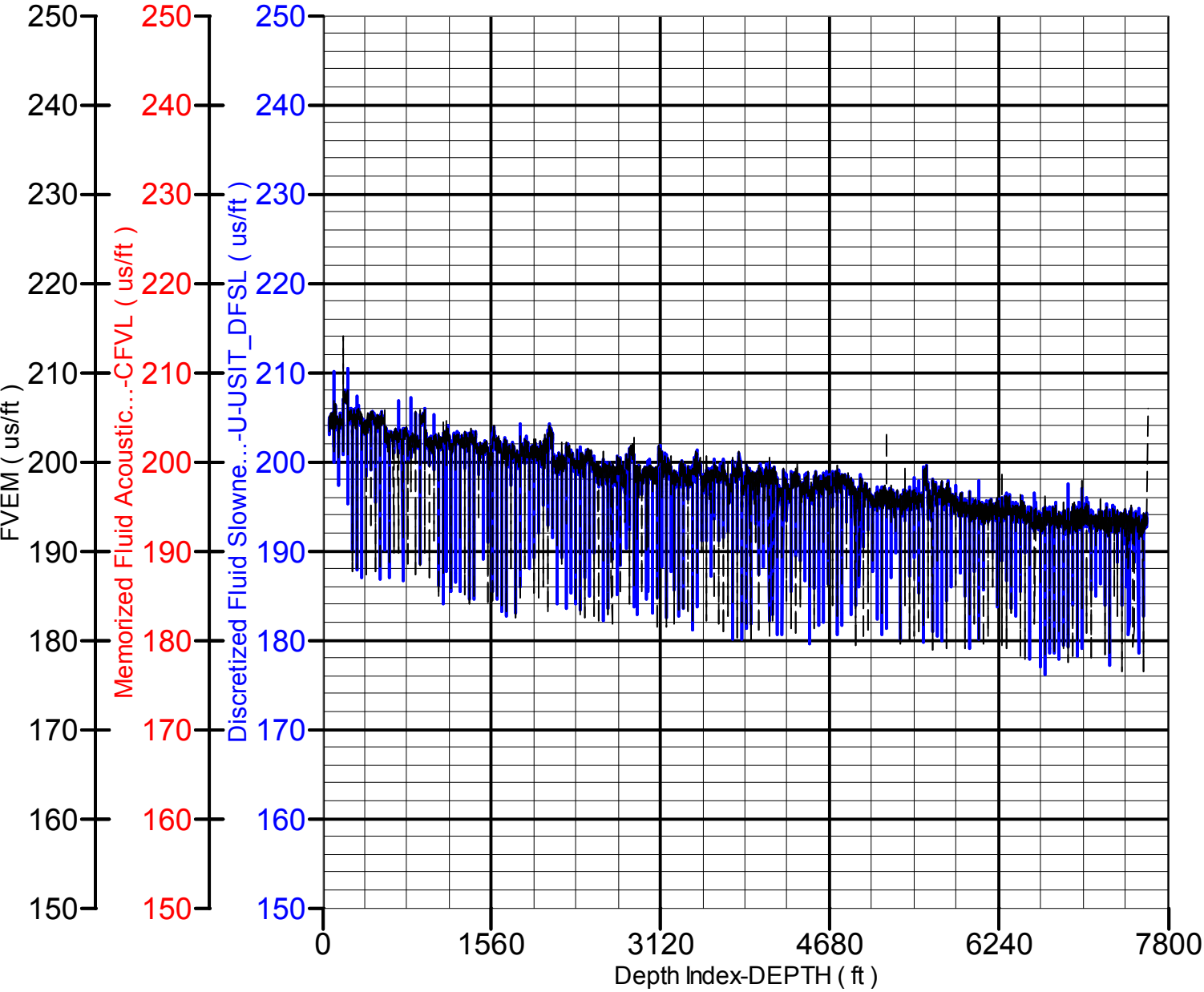
Description: USI Composite Format: Log (LBV1_USI Corrosion 9.625inch) Index Scale: 10 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 24-May-2016 18:40:08

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 62.50 to 7616.00 ft

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



XYZ

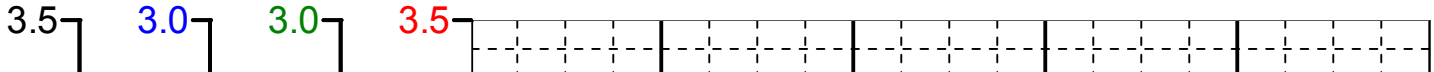
Company:Southern California Gas Company Well:Porter No. 69-D
Composite 1:S004

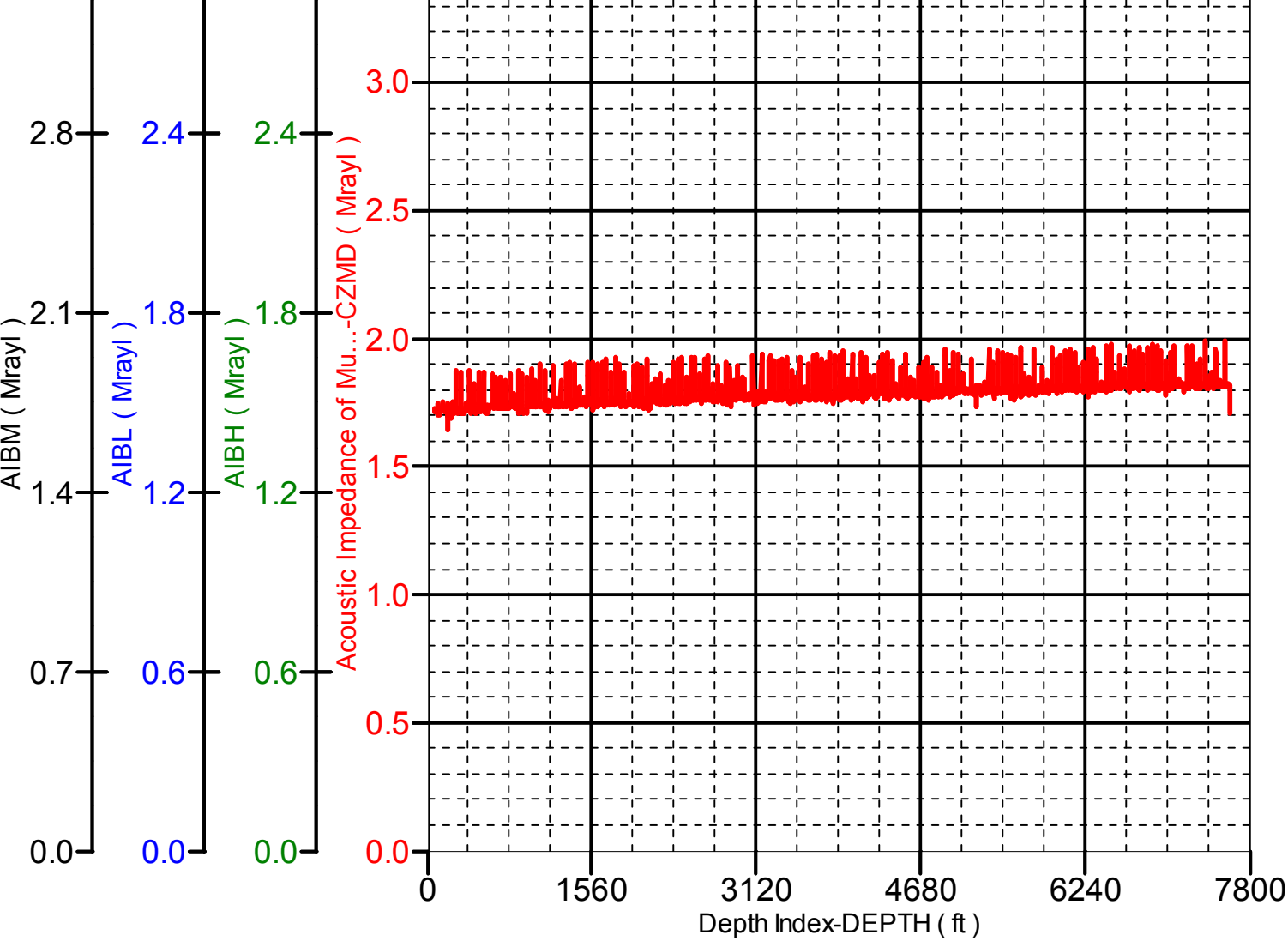
Theoretical Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 62.50 to 7616.00 ft

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




AIBM (Mrayl)
2.8
2.1
1.4
0.7
0.0
AIBL (Mrayl)
2.4
1.8
1.2
0.6
0.0
AIBH (Mrayl)
2.4
1.8
1.2
0.6
0.0
Acoustic Impedance of Mu...-CZMD (Mrayl)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
1560
3120
4680
6240
7800
Depth Index-DEPTH (ft)

Company:	Southern California Gas Company
Well:	Porter No. 69-D
Field:	Aliso Canyon
County:	Los Angeles
State:	California

Schlumberger

Ultrasonic Imager

Gamma Ray - CCL

9-5/8" 47# casing