

Company: V.O.F. Geothermie De Lier

Well: De Lier - GT-01

Field: De Lier

Rig Name: T-49

Country: Netherlands

## Cement and Corrosion log

### 9-5/8" section

29-JUN-2014

Rig Name:	T-49	Field:	De Lier	Location:	De Lier	Well:	De Lier - GT-01	Company:	V.O.F. Geothermie De Lier	
Location:	De Lier	Permanent Datum:	NAP	Log Measured From:	Drill Floor	Drilling Measured From:	Drill Floor	Elev.:	K.B. G.L. D.F.	Latitude: 4° 16' 57" E 51° 58' 37" N

Logging Date	29-Jun-2014	Scale:	Max.Hole Deviation	Longitude:	4° 16' 57" E	Latitude:	51° 58' 37" N
Run Number	1						
Depth Driller			2876.00 m				
Schlumberger Depth			2485.00 m				
Bottom Log Interval			2485.00 m				
Top Log Interval			935.00 m				
Casing Fluid Type			Salt Brine				
Salinity							
Density			1.08 g/cm³				
Fluid Level			0.00 m				
BIT/CASING/TUBING STRING							
Bit Size			8.50 in				
From			2579.00 m				
To			2876.00 m				
Casing/Tubing Size			6.625 in				
Weight			24 lb/mft				
Grade			L80				
From			2499.40 m				
To			2872.00 m				
Max Recorded Temperatures							
Logger on Bottom	Time	29-jun-2014	21:45:00				
Unit Number	Location:	705	NLU				
Recorded By		P. Kool					
Witnessed By		Peter Nutters					

## Disclaimer

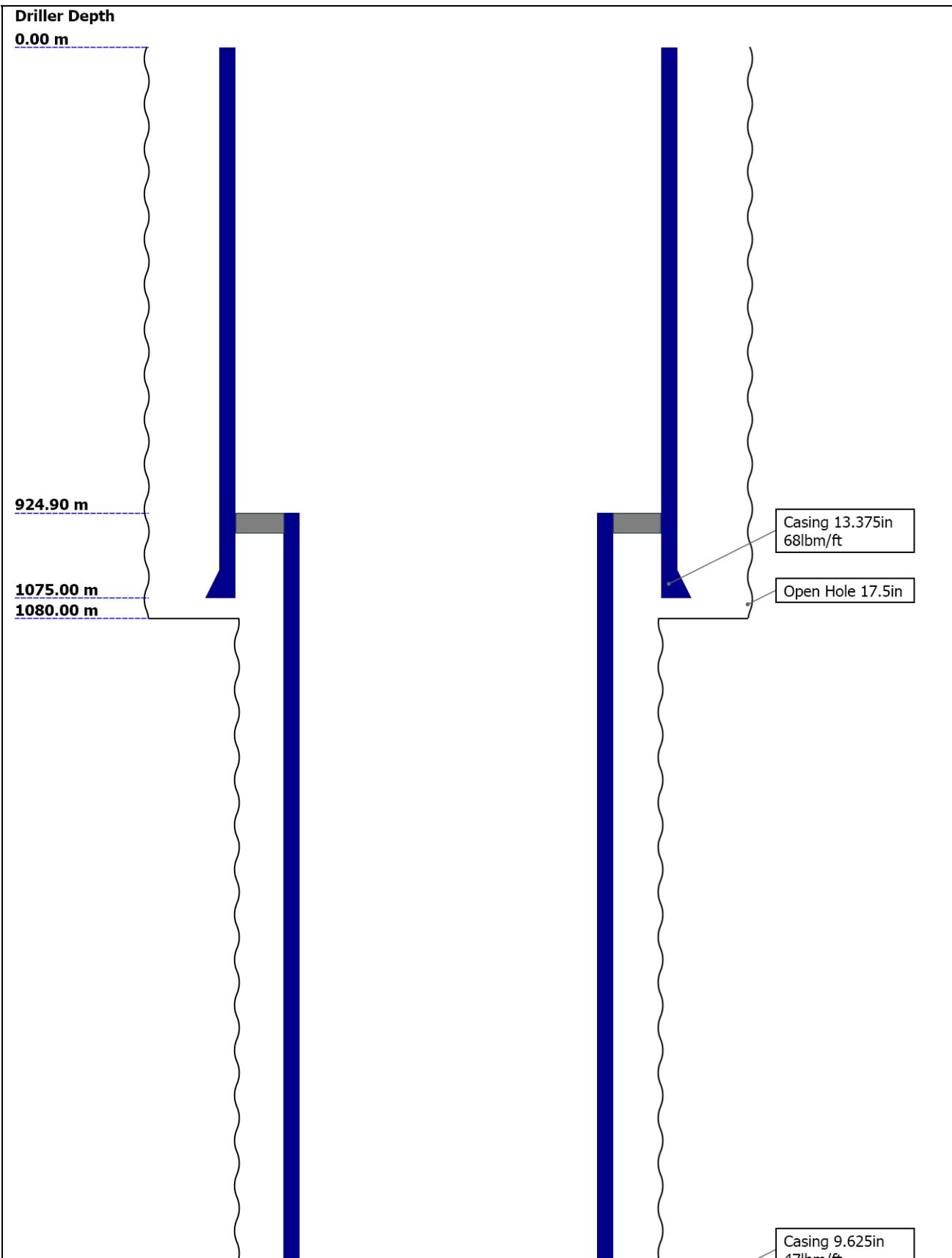
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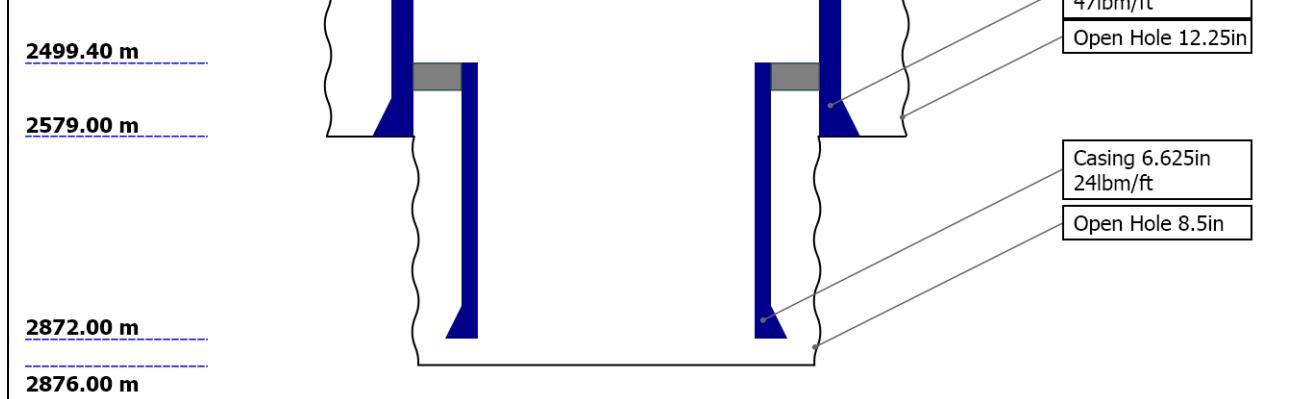
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## Well Sketch





## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	17.5	12.25	8.5			
Top Driller ( m )	0	1080	2579			
Top Logger ( m )	0	1080	2579			
Bottom Driller ( m )	1080	2579	2876			
Bottom Logger ( m )	1080	2579	2876			
Casing						
Size ( in )	13.375	9.625	6.625			
Weight ( lbm/ft )	68	47	24			
Inner Diameter ( in )	12.415	8.681	5.921			
Grade	L80	L80	L80			
Top Driller ( m )	0	924.9	2499.4			
Top Logger ( m )	0	924.9	2499.4			
Bottom Driller ( m )	1075	2579	2872			
Bottom Logger ( m )	1075	2579	2872			

## Operational Run Summary

Parameter ( unit )	1					
Date Log Started	29-Jun-2014					
Time Log Started	18:46:25					
Date Log Finished	30-Jun-2014					
Time Log Finished	01:09:41					
Top Log Interval ( m )	935.00					
Bottom Log Interval ( m )	2485.00					
Total Depth ( m )						
Max Hole Deviation ( deg )	40.00					
Azimuth of Max Deviation ( deg )	0.00					
Bit Size ( in )	8.500					
Logging Unit Number	705					
Logging Unit Location	NLIJ					
Recorded By	P. Kool					
Witnessed By	Peter Nutters					
Service Order Number						

## Borehole Fluids

Parameter( unit )	1					
Fluid Type	Water					
Fluid Name	Salt Brine					
Max Recorded Temperatures ( degC )	87					
Salinity ( ppm )	0					
Density ( g/cm3 )	1.08					
Date Logger on Bottom	29-Jun-2014					
Time Logger on Bottom	21:45:00					
Total Solid ( % )						
High Gravity Solids ( % )						

## Remarks and Equipment Summary

1: Toolstring	1: Remarks	
<p>Equip name Length MP name Offset</p> <p>LEH-QT 8.18</p> <p>LEH-QT</p>  <p>DTC-H:8057 7.29</p> <p>ECH-KC</p> <p>DTC-H:8057</p> <p>SGT-N:1002 6.38</p> <p>2</p> <p>SGH-K</p> <p>SGD-TAA</p> <p>SGC-TB:10022</p> <p>USIT-E:1750 4.7</p> <p>ECH-MFA</p> <p>USAC-A:1750</p> <p>USIS-A:1757</p> <p>USSC-B:795</p> <p>USR-S-C:1820</p> <p>USI-SENSOR:2</p> <p>369</p> <p>Lengths are in m Maximum Outer Diameter = 6.690 in Line: Sensor Location, Value: Gating Offset All measurements are relative to TOOL_ZERO</p>	<p>Log objective: Cement and Casing Evaluation.</p> <p>Logging fluid: 1.08 g/cc brine, as given by the Client on the wellsite.</p> <p>ZMUD set to theoretical.</p> <p>FVEL set to automatic.</p> <p>USIT logged with 10 deg 3 in resolution.</p> <p>Log correlated to GR peak at 1112m from down log.</p> <p>Main log interval: from 2485m to 935m</p> <p>Repeat log interval: from 1440m to 1370m</p>	

## Depth Summary

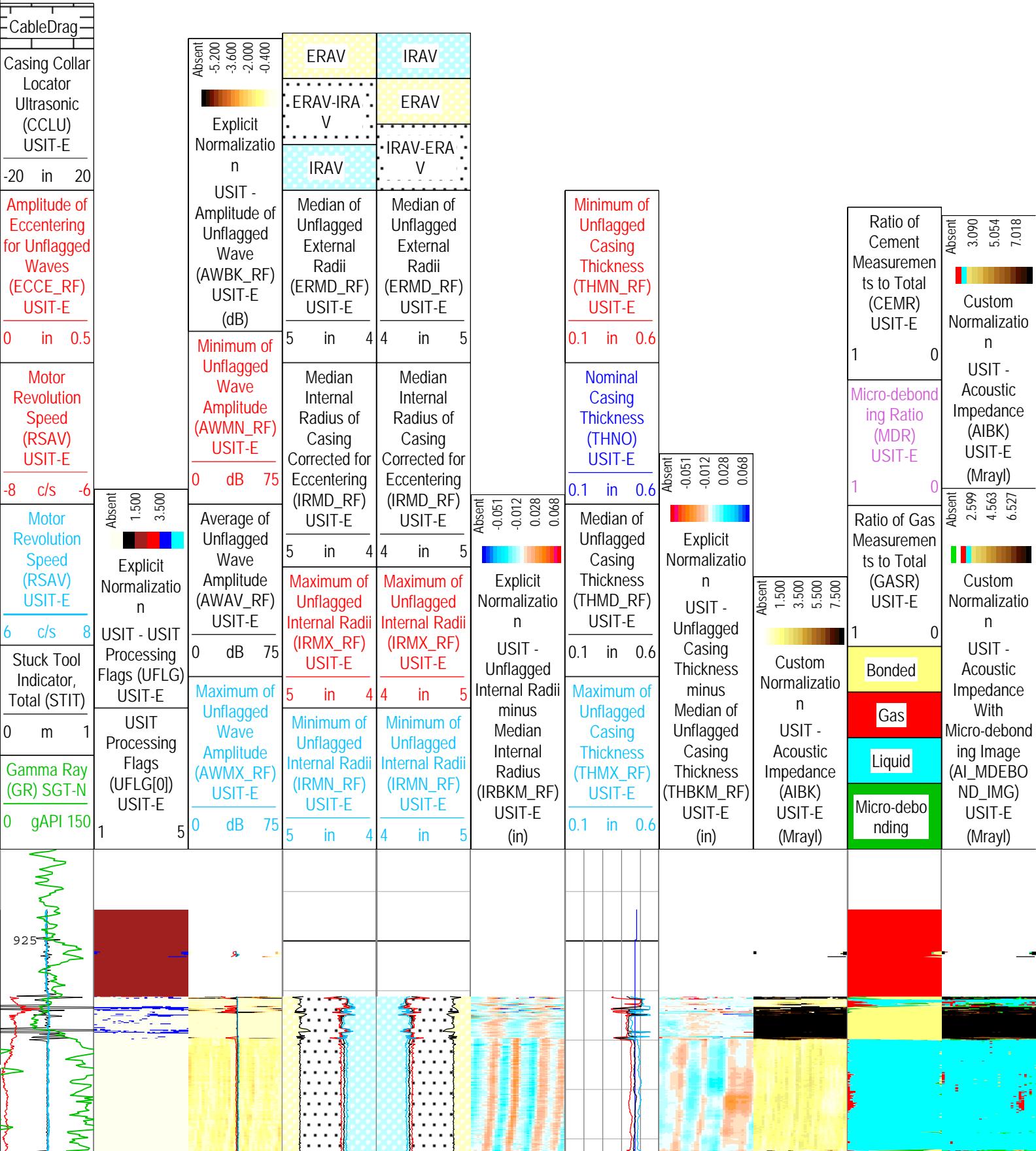
Depth Measuring Device																				
Type	IDW-E																			
Serial Number	967																			
Calibration Date	31-JAN-2014																			
Calibrator Serial Number	15																			
Calibration Cable Type	7-46 ZV-XS																			
Wheel Correction 1	-5																			
Wheel Correction 2	-5																			
Tension Device																				
Type	CMTD-B/A																			
Serial Number	1536																			
Calibration Date	11-JUN-2014																			
Calibrator Serial Number	1267																			
Number of Calibration Points	10																			
Calibration Root Mean Square Error	35																			
Calibration Peak Error	78																			
Logging Cable																				
Type	7-46ZV-XS																			
Serial Number	F712451																			
Length	7315.20 m																			
Conveyance Type	Wireline																			
Rig Type																				
1:Depth Control Parameters						Depth Control Remarks														
Log Sequence	First Log In the Well					SLB Depth Control Standard-05 & SLB WL Depth Control Guidelines-10 (both dated on APR-10 & DEC-10) followed.														
Rig Up Length At Surface	51.86 m					First Log in the Well procedures followed.														
Rig Up Length At Bottom	51.59 m					IDW used as primary depth control, Z-chart used as secondary depth control.														
Rig Up Length Correction	0.27 m					TD not tagged.														
Stretch Correction																				
Tool Zero Check At Surface																				
1																				
Main 1:500																				
Software Version																				
Acquisition System						Version														
MaxWell						4.0.9163.3000														
Application Patch						Patch-SP-10767_13393-4.0.9163.3001														
Computation		Description							Version											
Cementation		Cementation Computation Application							4.0.9167.3000											
DepthCorrection		DepthCorrection							4.0.9213.3000											
CORROSION Ensemble		CORROSION Ensemble							4.0.9033.3000											
Tool Elements		Description				Software Version		Firmware Version												
USI-SENSOR		USIT Transducer Element				4.0.9265.3000		DSP: v01.82												
SGC-TB		Scintillation Gamma Cartridge				4.0.9033.3000														
Pass Summary																				
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data											
1	Log[5]:Up	Up	921.82 m	2485.96 m	29-Jun-2014 11:34:01 PM	30-Jun-2014 12:30:29 AM	ON	0.95 m	Yes											
All depths are referenced to toolstring zero																				
Log	Company:V.O.F. Geothermie De Lier				Well:De Lier - GT-01															
					1: Log[5]:Up:S008															

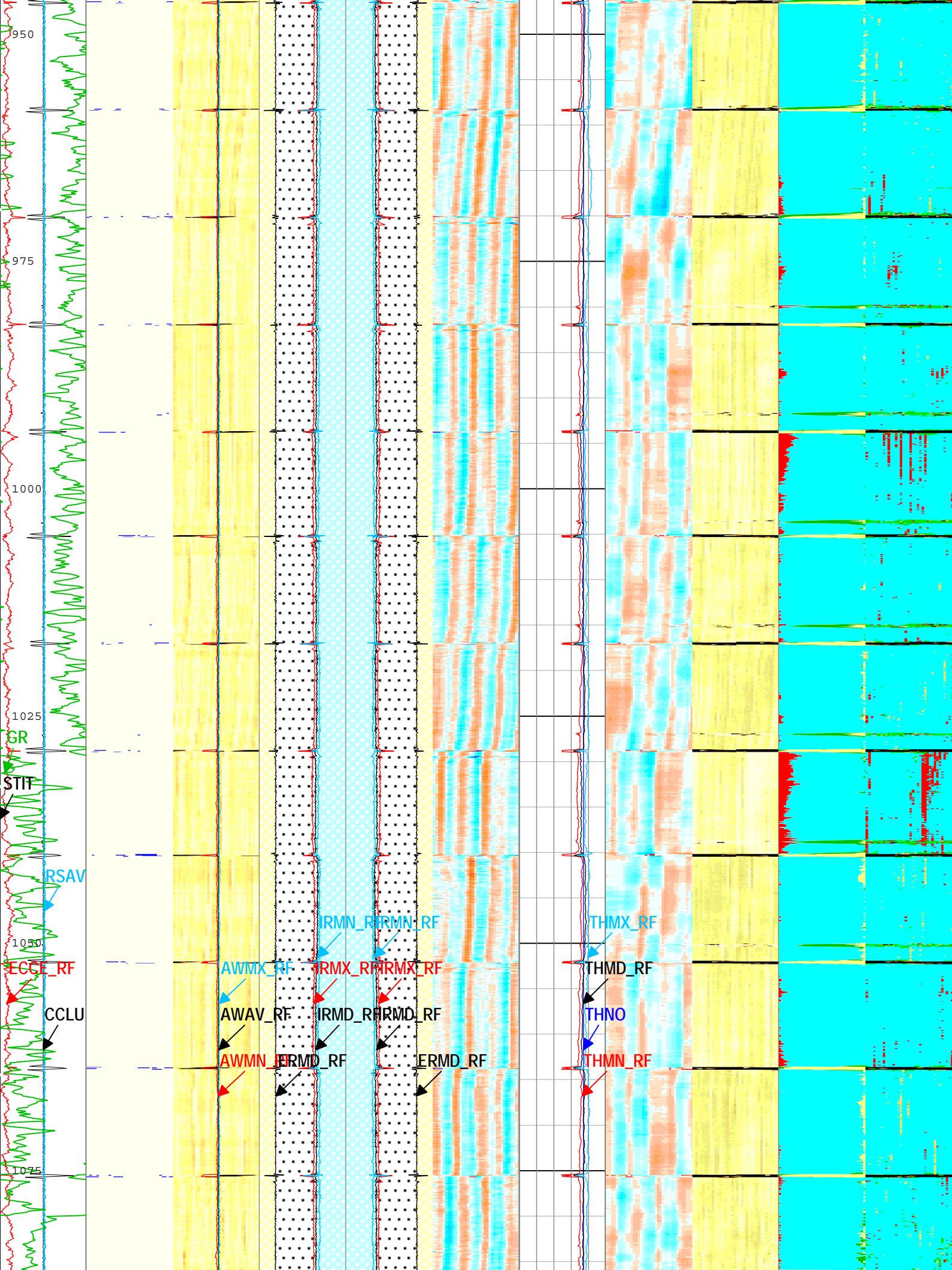
Description: USI Composite Format: Log ( USI Composite 9.58in ) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date:

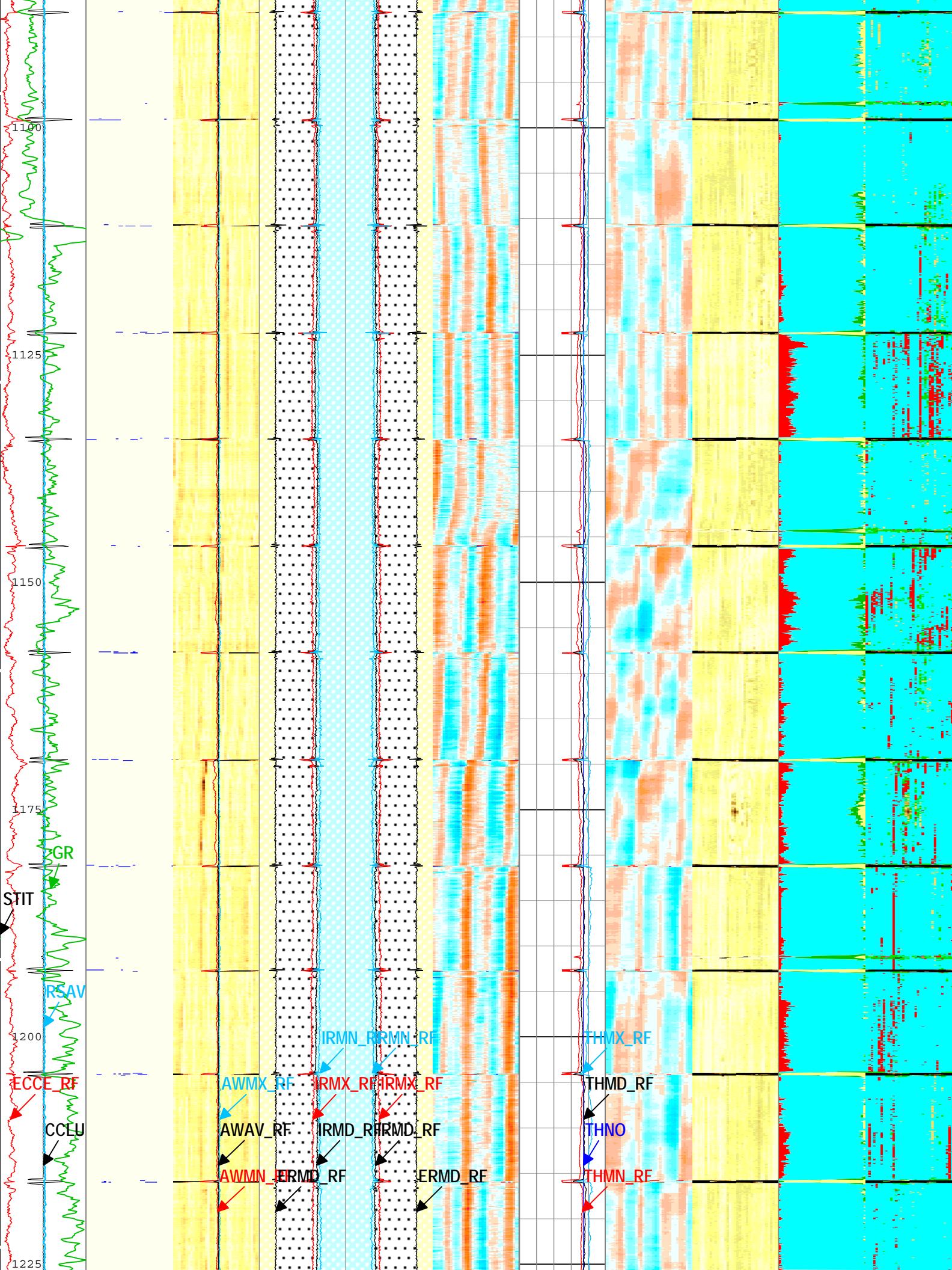
## USIT Processing Flags (UFLG[0]) USIT-E

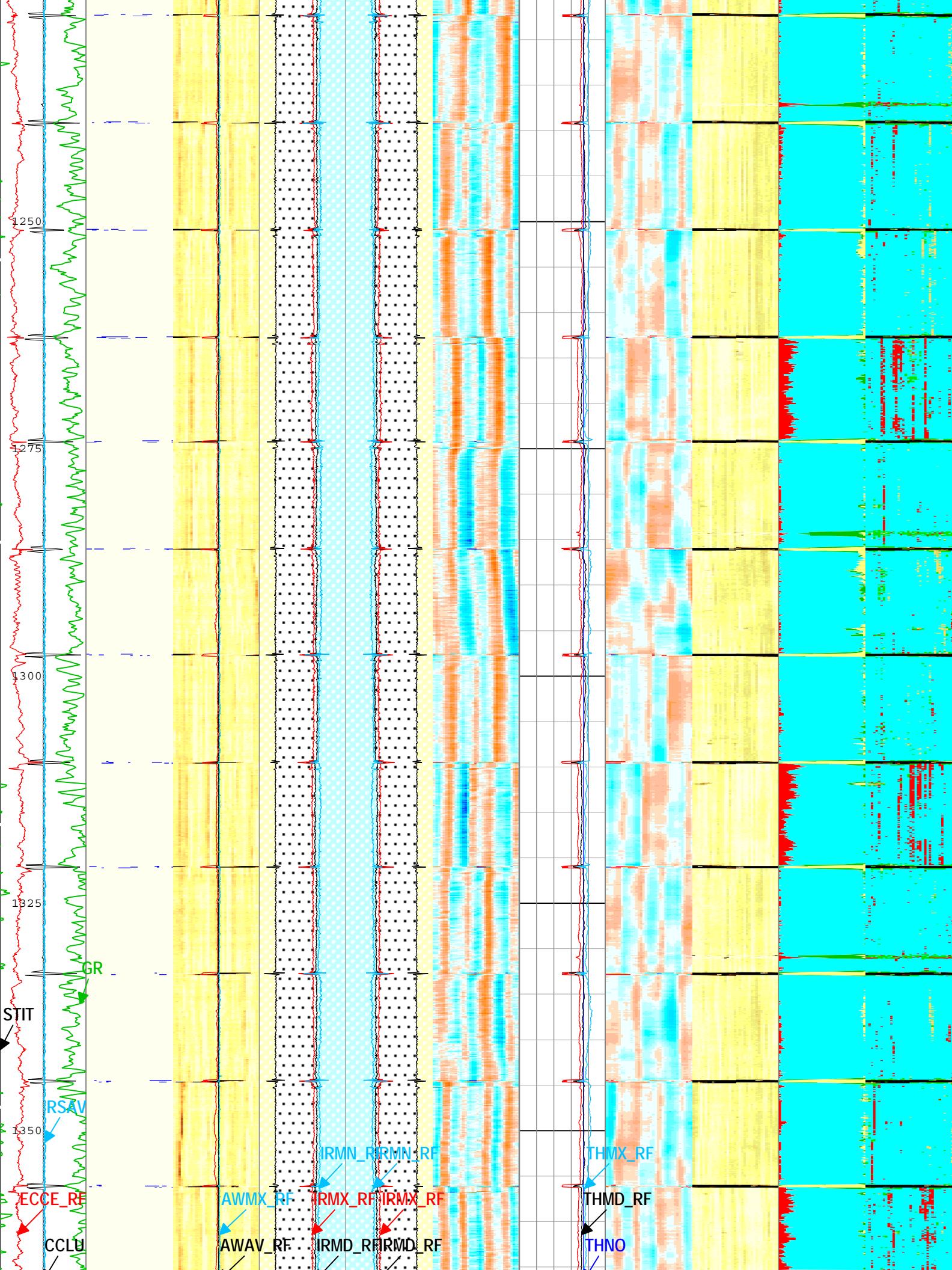
- 1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error  
 2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected  
 3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error  
 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error  
 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5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

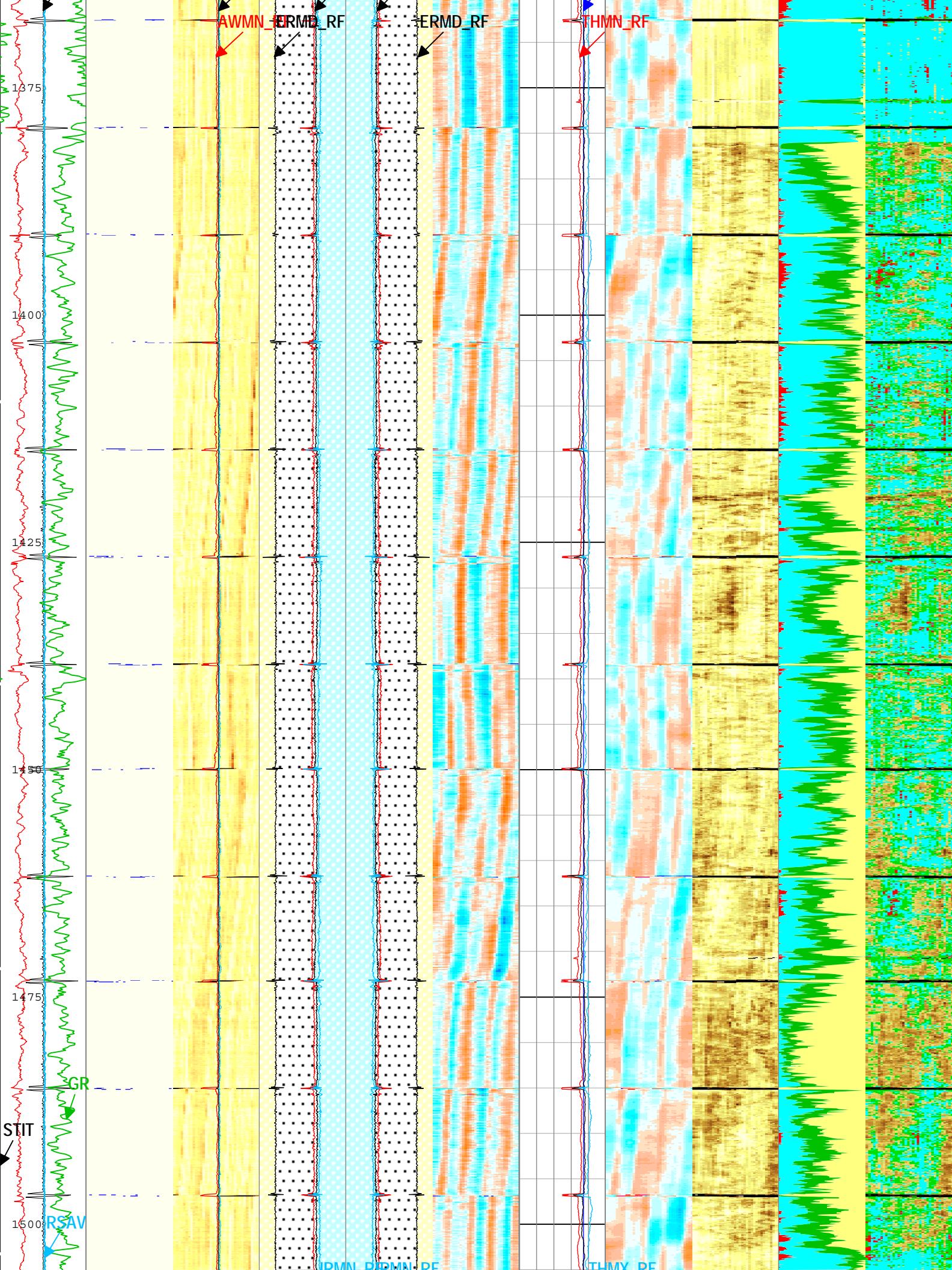
TIME\_1900 - Time Marked every 60.00 (s)

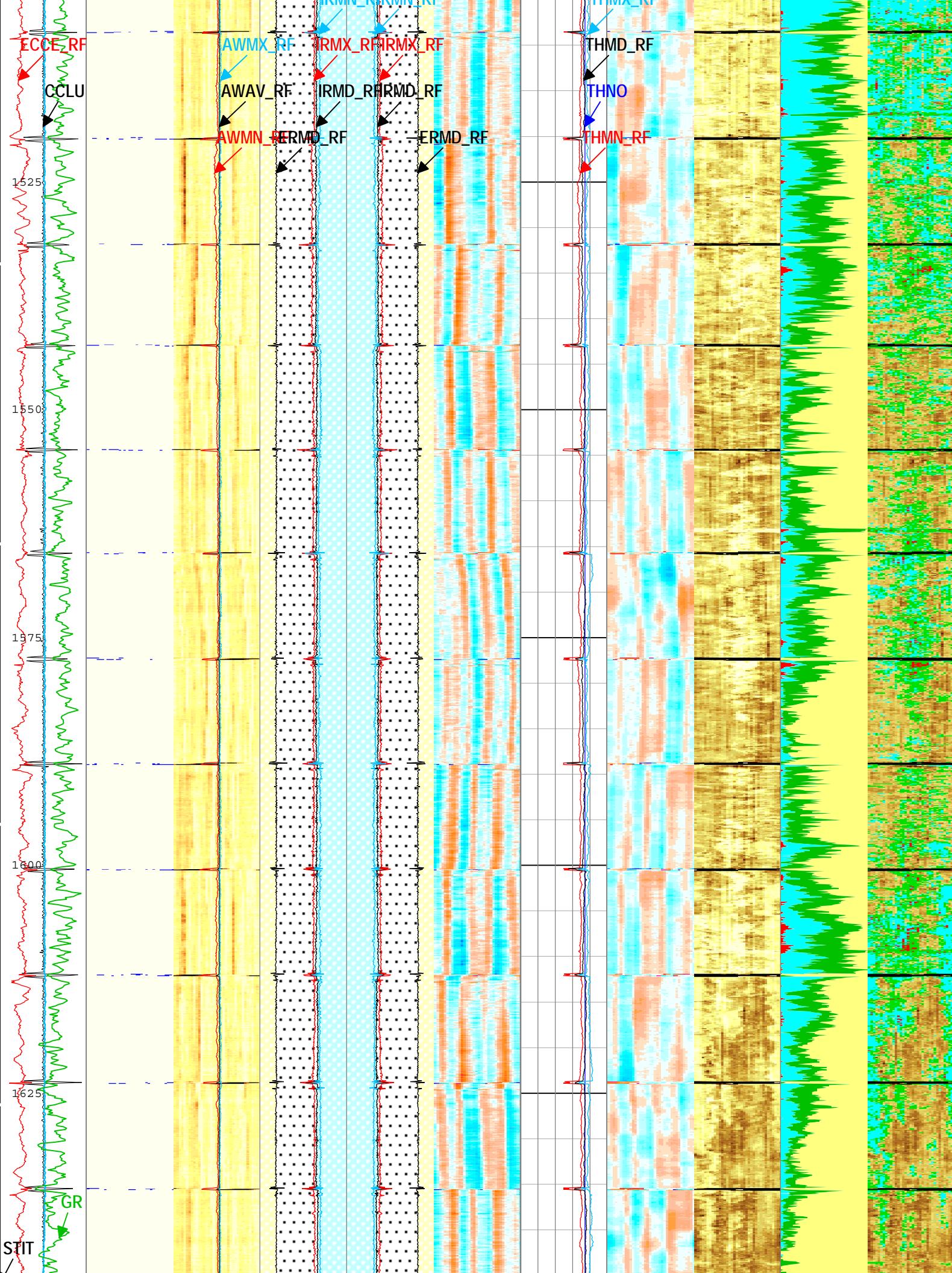


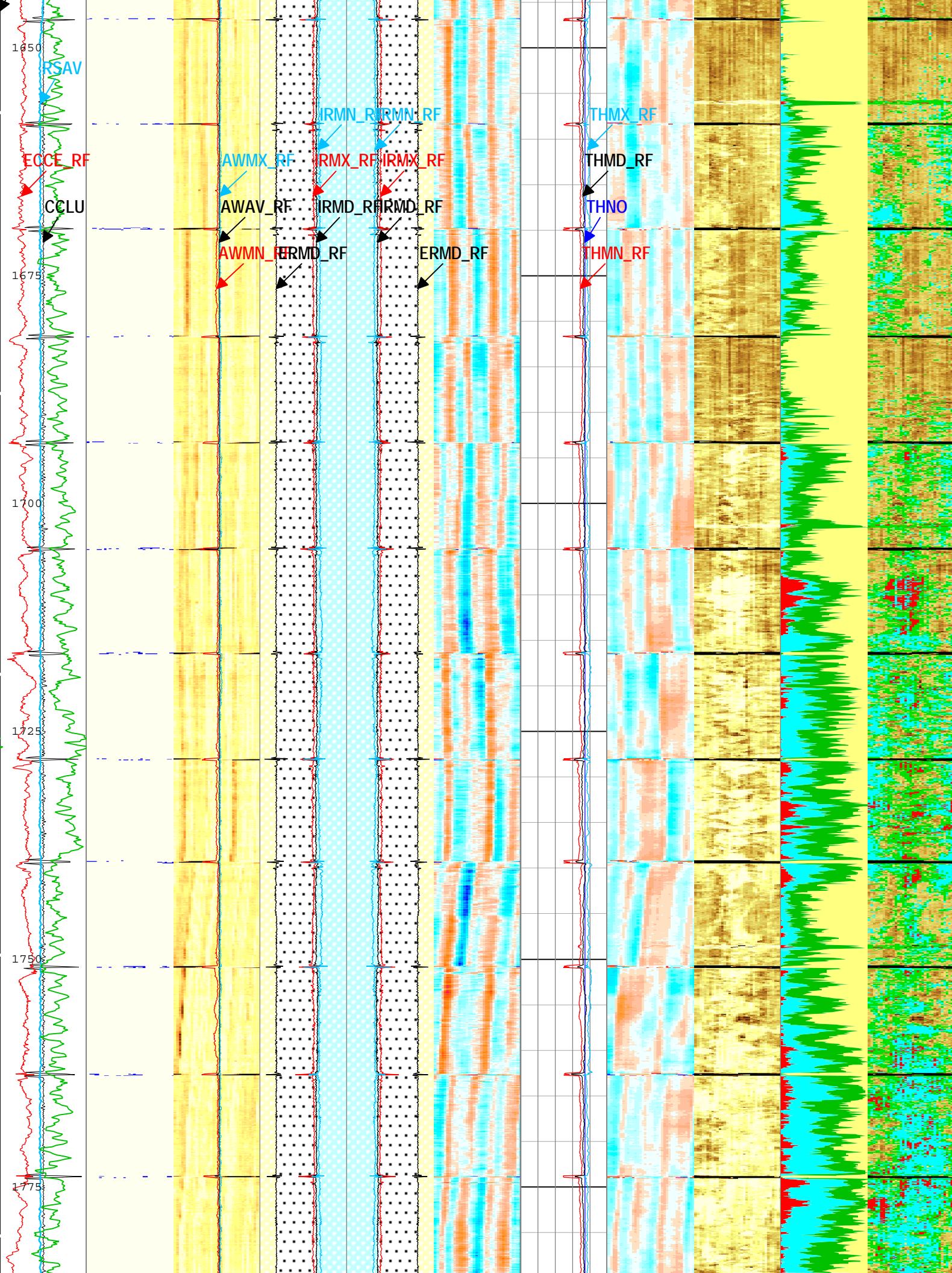


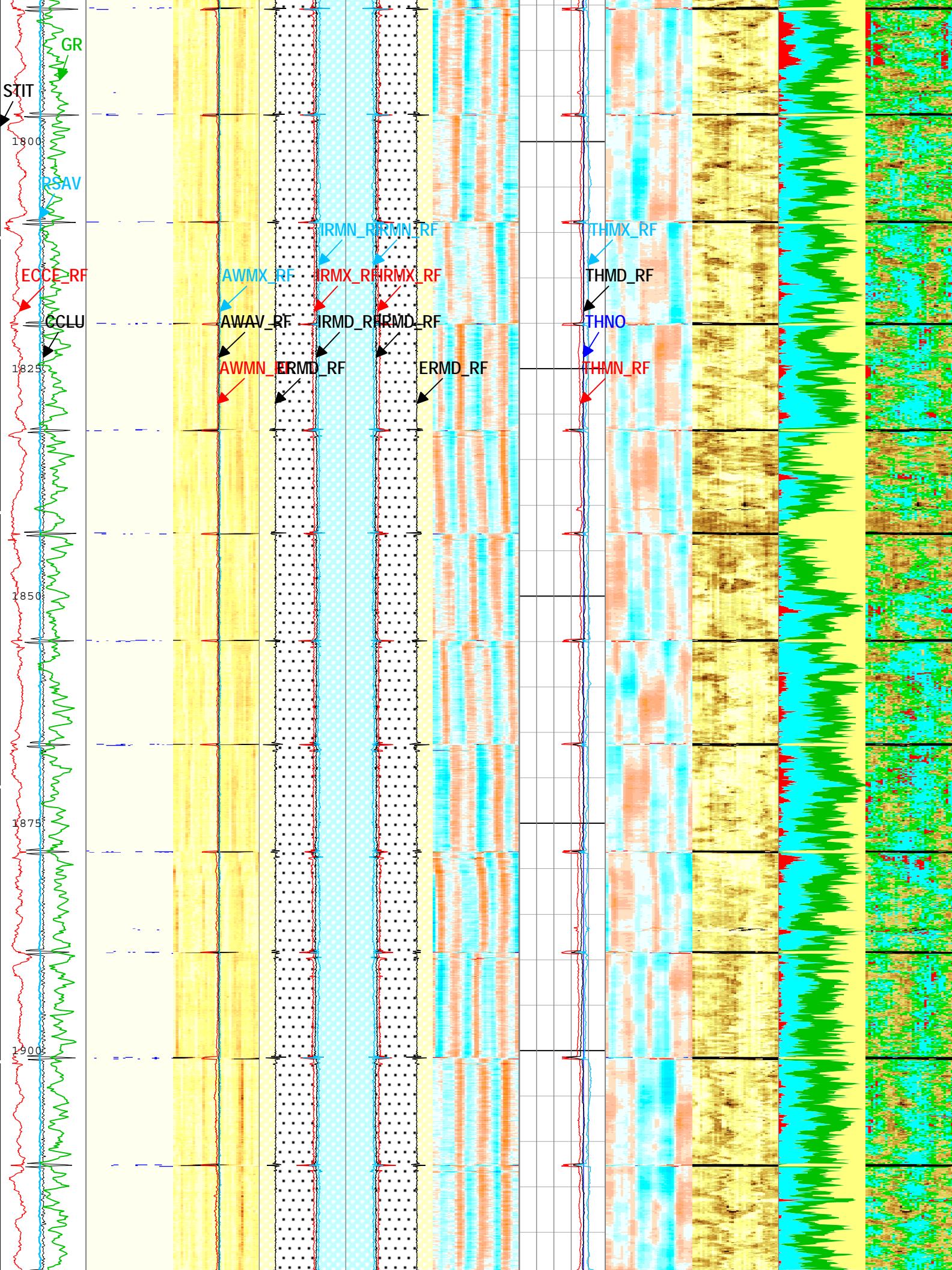


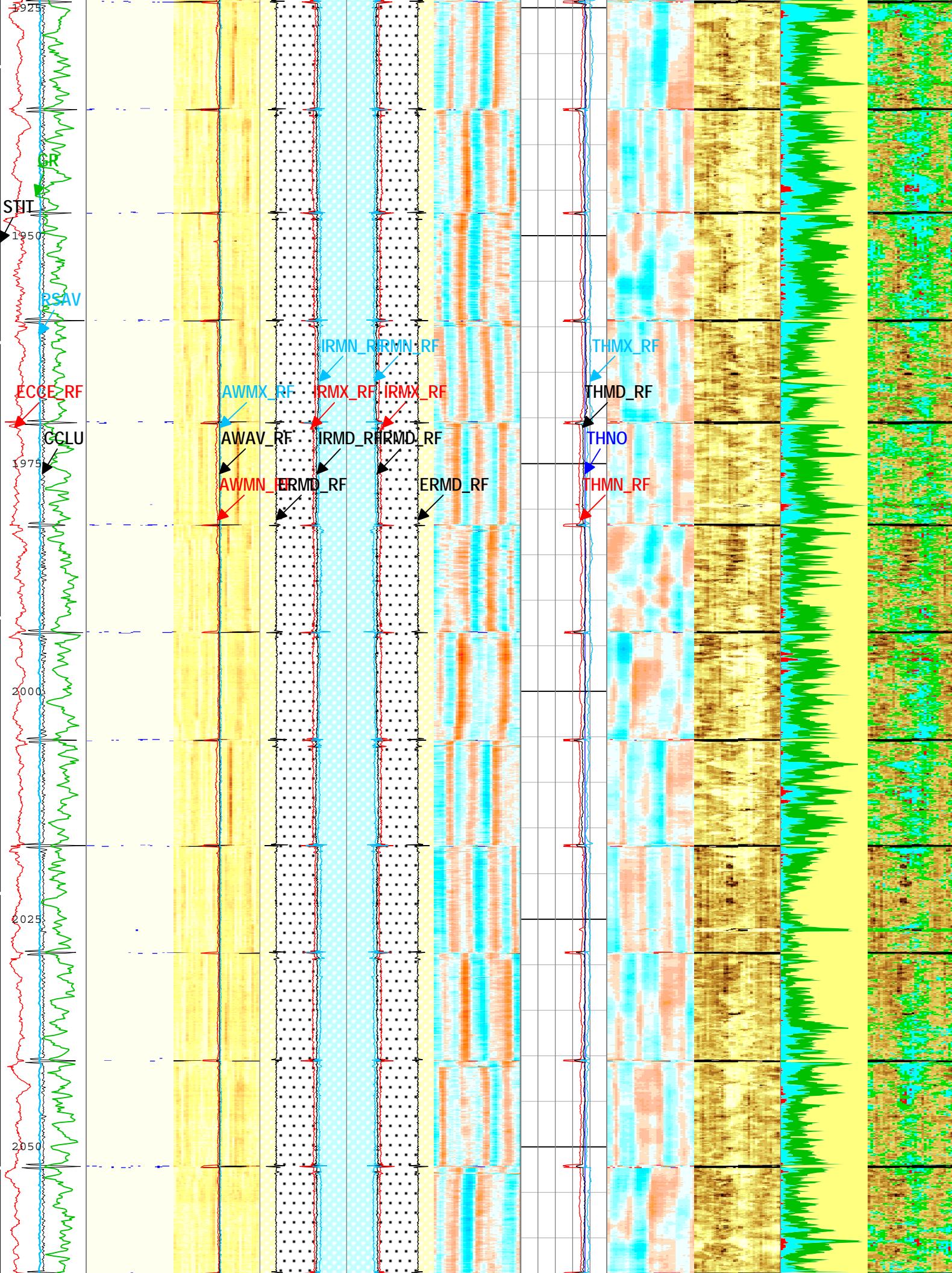


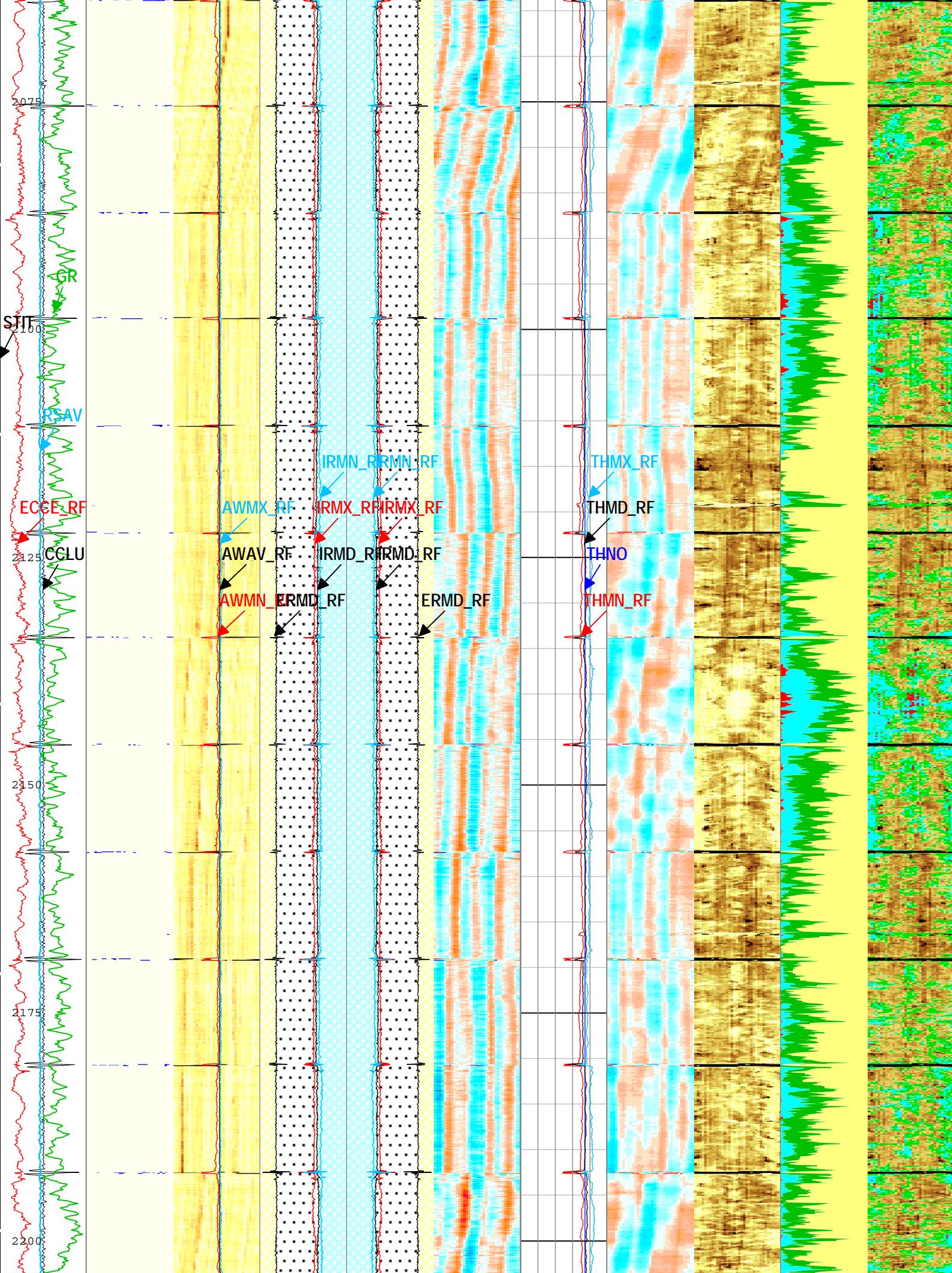


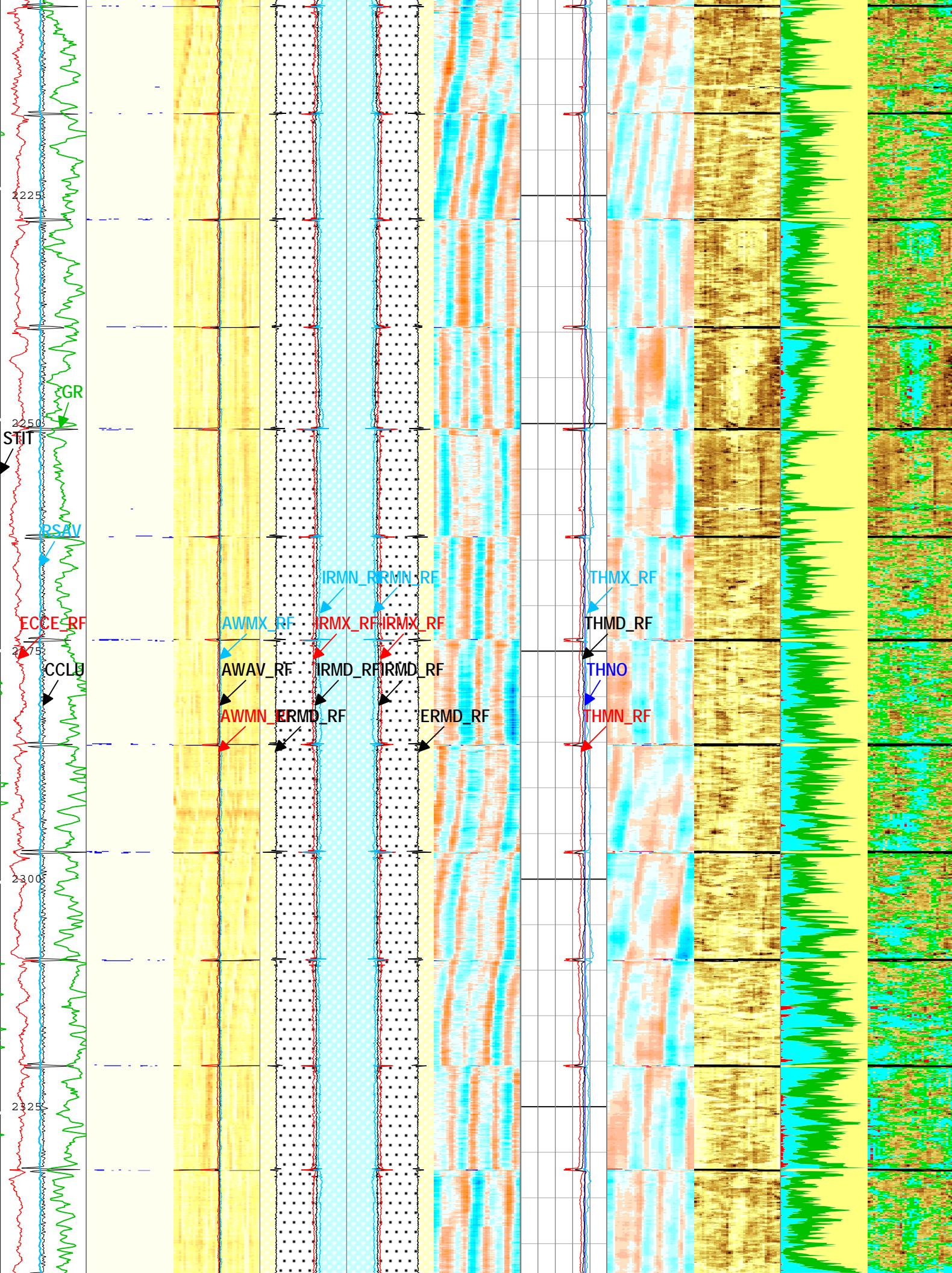


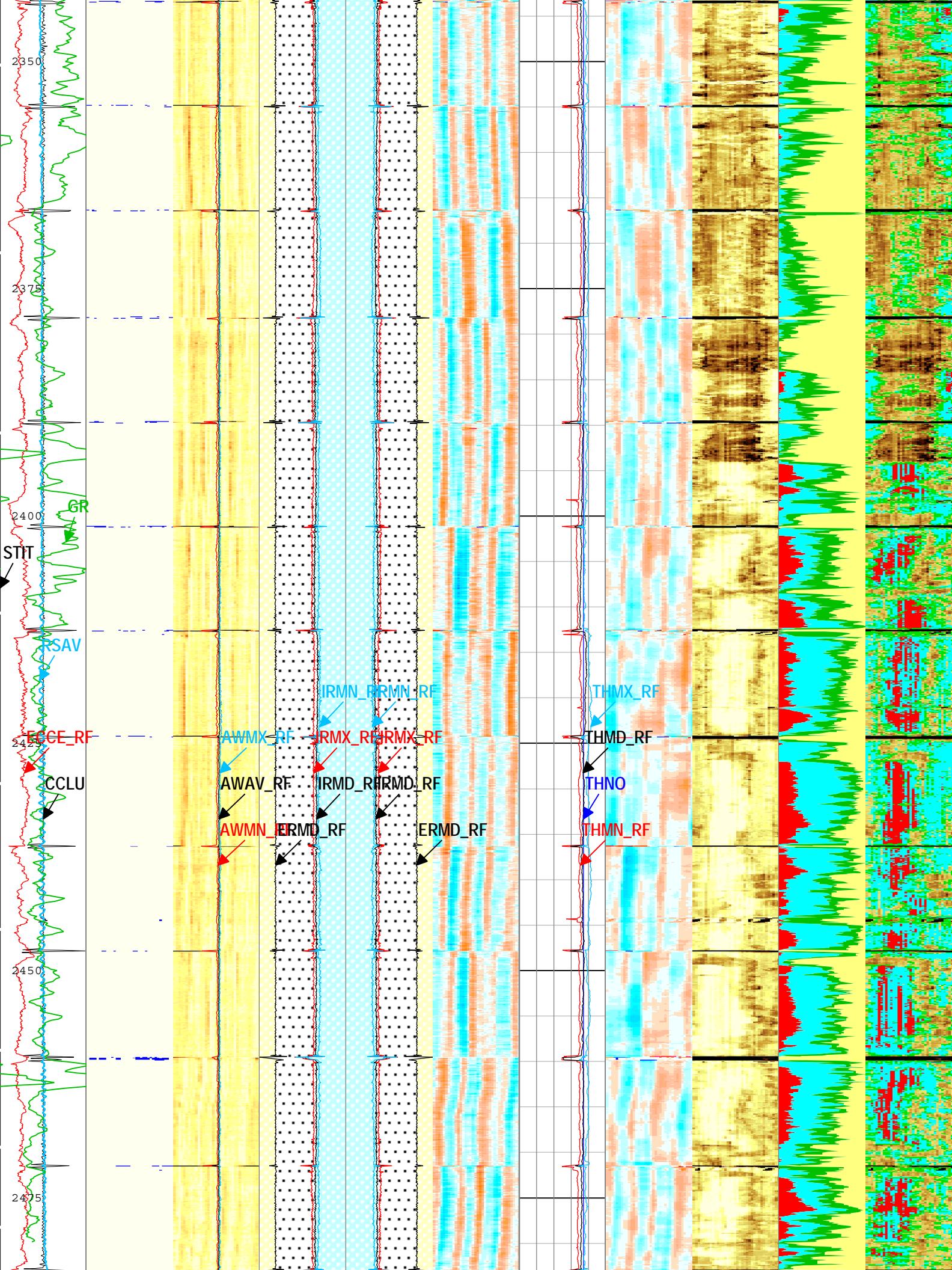


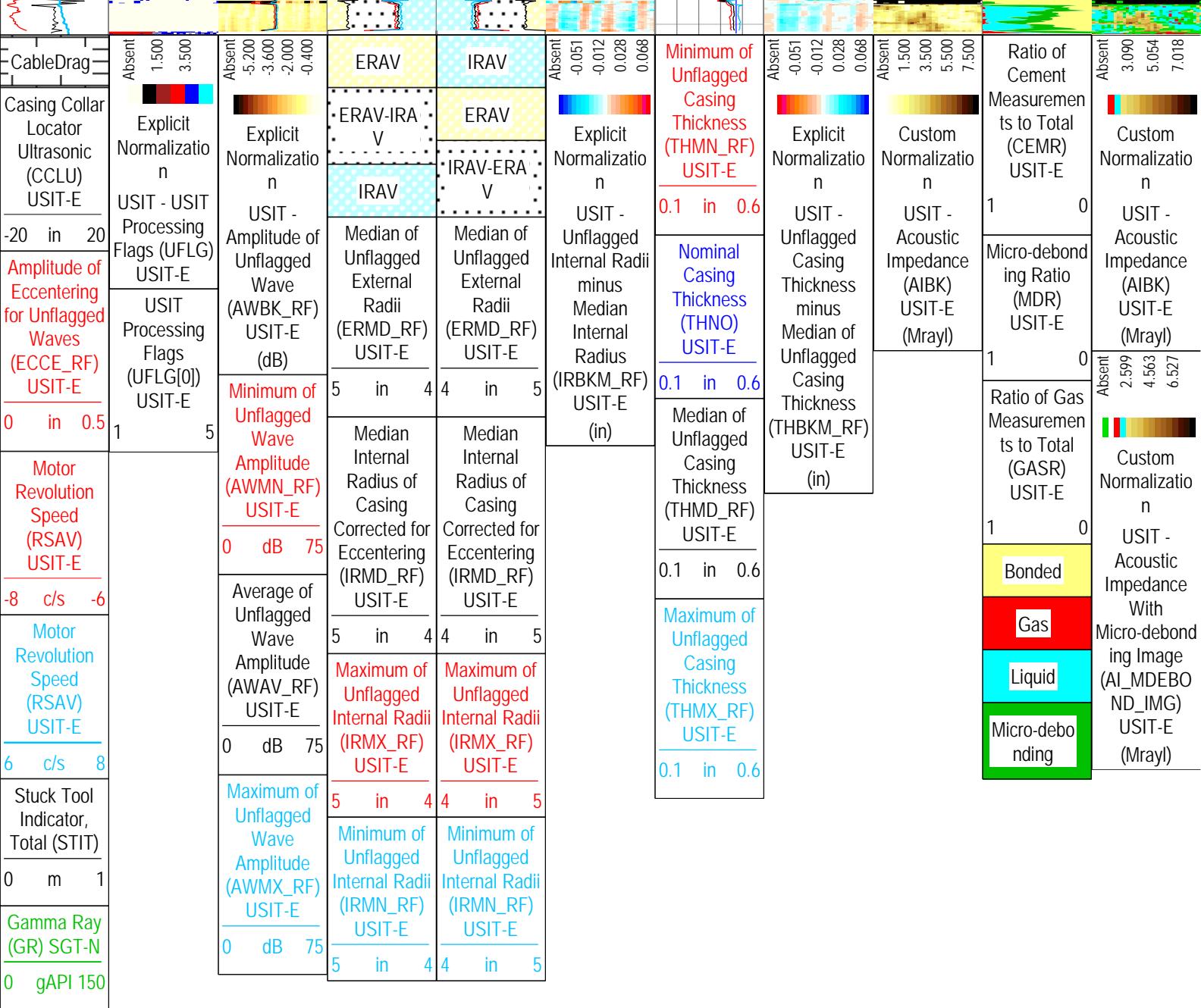












TIME\_1900 - Time Marked every 60.00 (s)

#### 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 ( USI Composite 9-58in ) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 30-Jun-2014 01:47:05

1

Main 1:200

#### Software Version

Acquisition System	Version
MaxWell	4.0.9163.3000
Application Patch	Patch-SP-10767_13393-4.0.9163.3001
Computation	Description

Cementation	Cementation Computation Application						4.0.9167.3000
DepthCorrection	DepthCorrection						4.0.9213.3000
CORROSION Ensemble	CORROSION Ensemble						4.0.9033.3000
Tool Elements	Description				Software Version		Firmware Version
USI-SENSOR	USIT Transducer Element				4.0.9265.3000		DSP: v01.82
SGC-TB	Scintillation Gamma Cartridge				4.0.9033.3000		

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[5]:Up	Up	921.82 m	2485.96 m	29-Jun-2014 11:34:01 PM	30-Jun-2014 12:30:29 AM	ON	0.95 m	Yes

All depths are referenced to toolstring zero

### Log

Company: V.O.F. Geothermie De Lier

Well: De Lier - GT-01

1: Log[5]:Up:S008

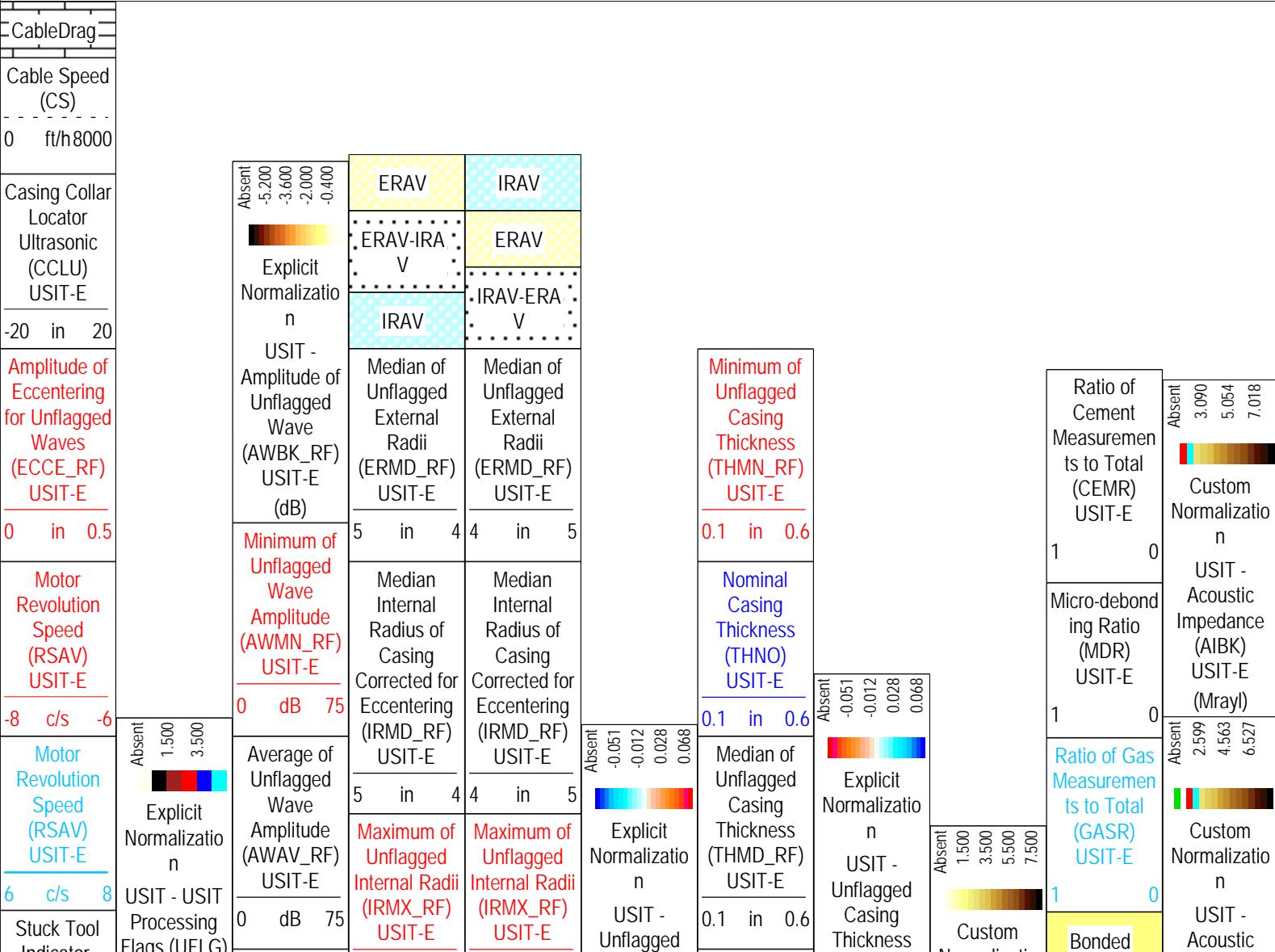
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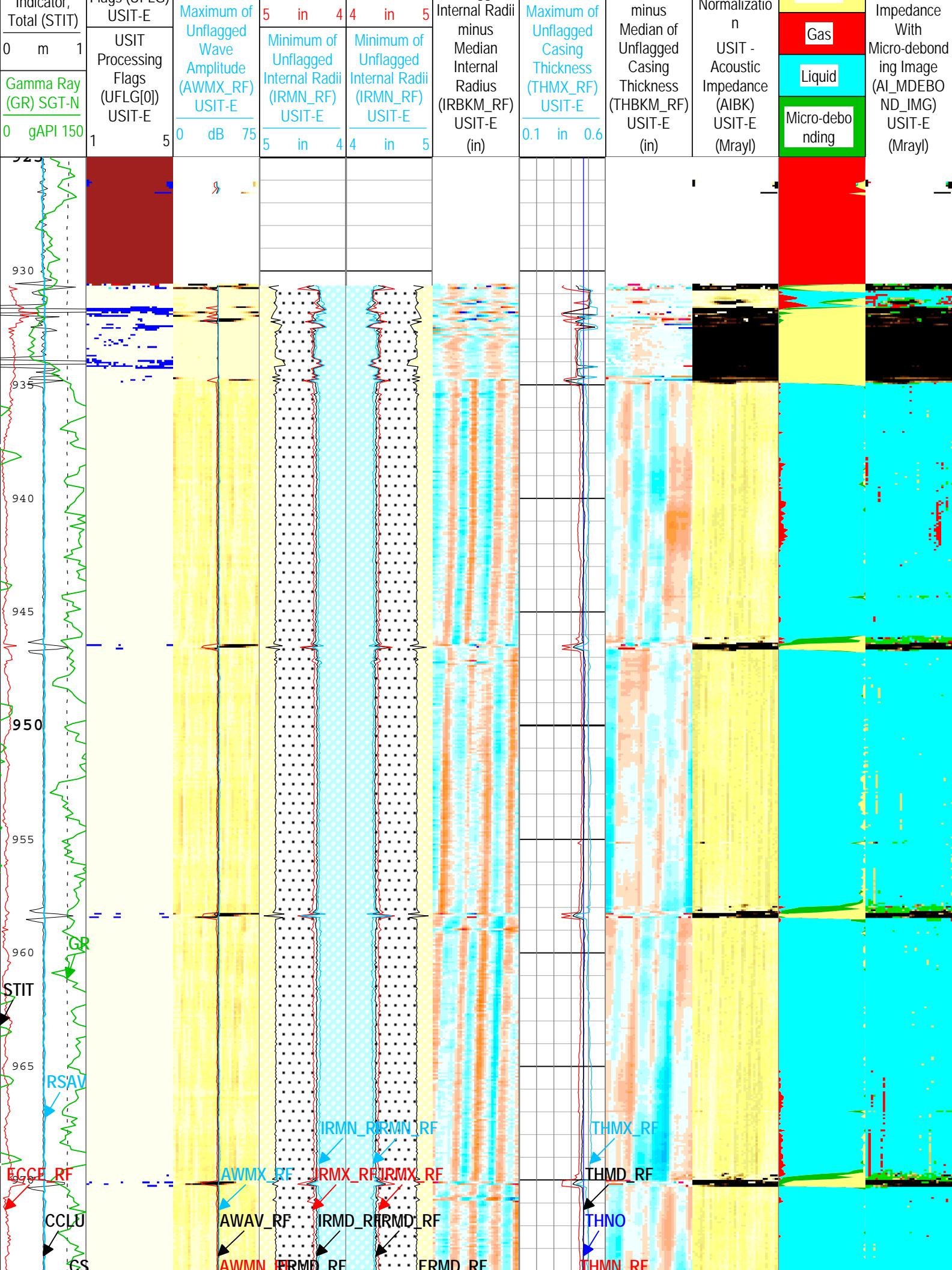
TIME\_1900 - Time Marked every 60.00 (s)

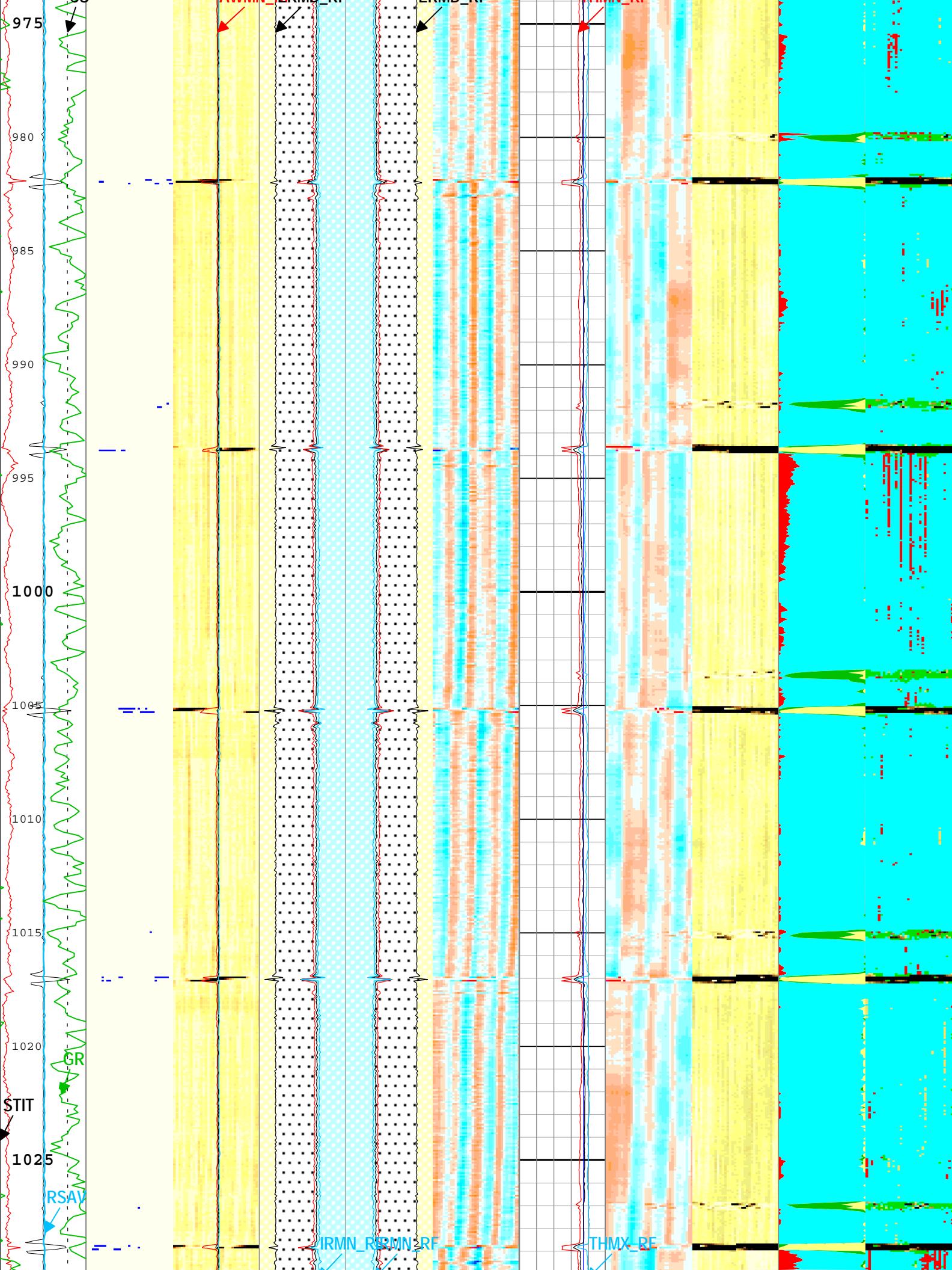
USIT Processing Flags (UFLG[0]) USIT-E

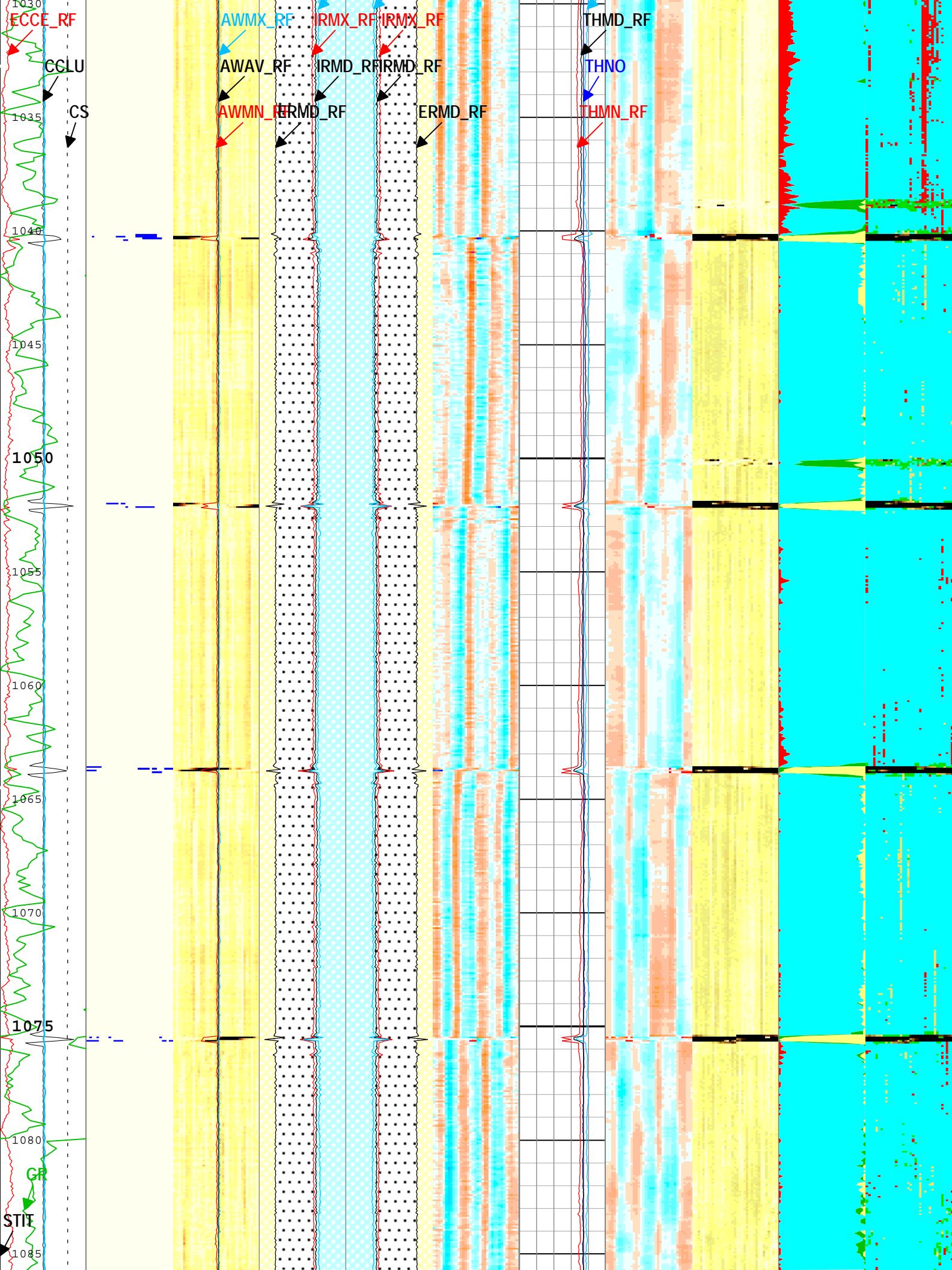
- 1 - UFLG 1 Value within [0.0 - 1.5] - :
- 2 - UFLG 2 Value within [1.5 - 2.5] - :
- 3 - UFLG 3 Value within [2.5 - 3.5] - :
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

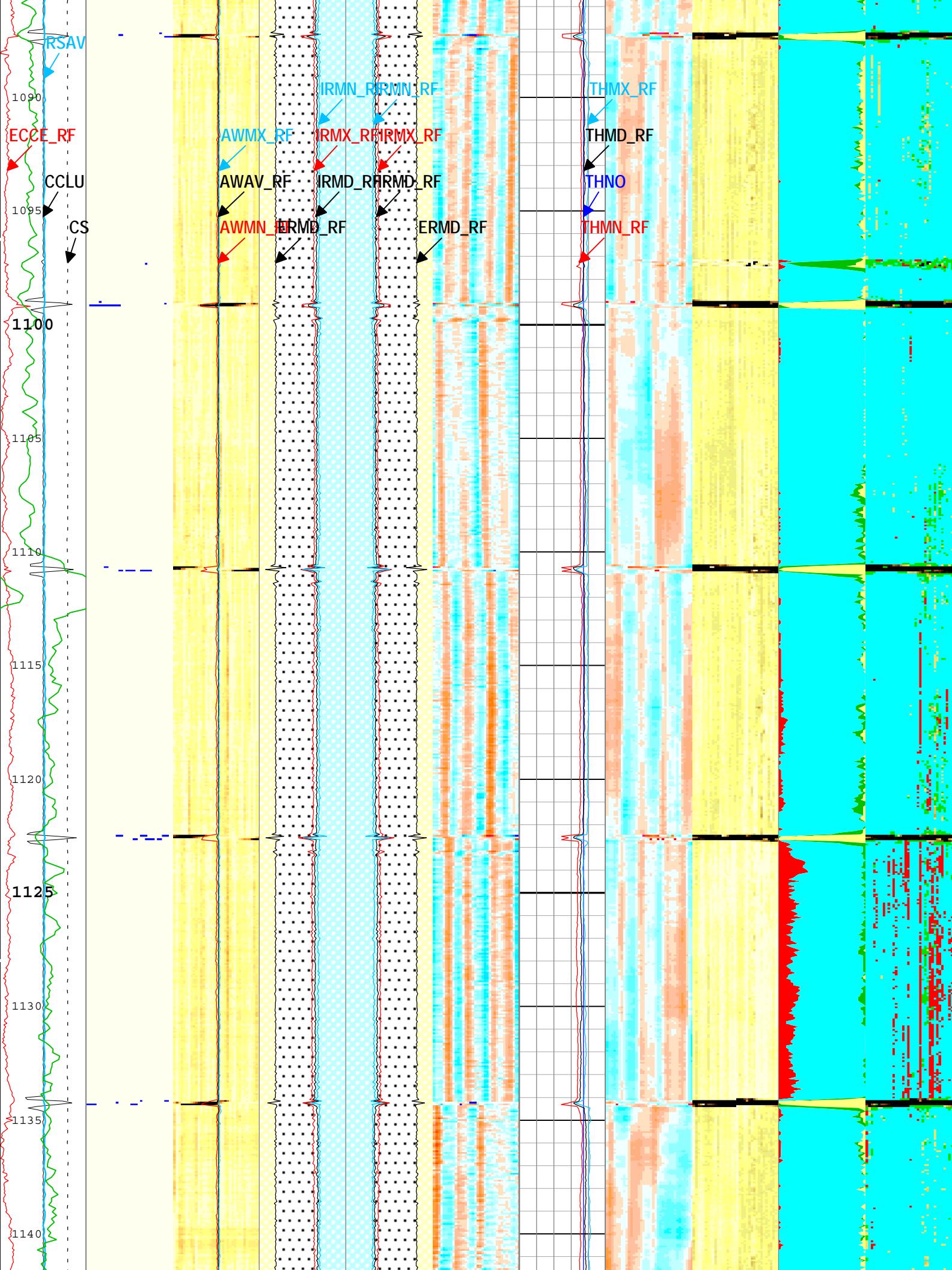
- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

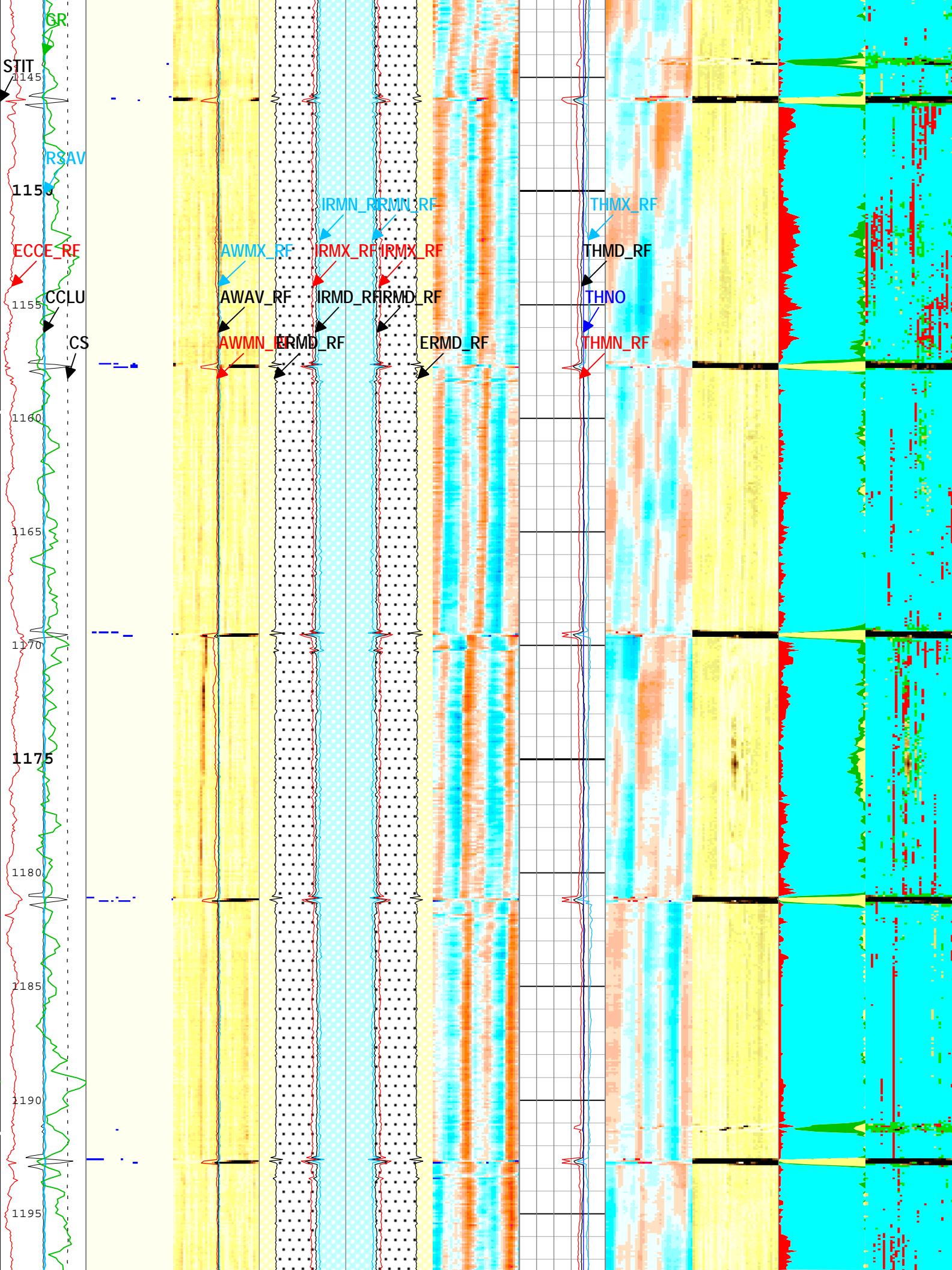


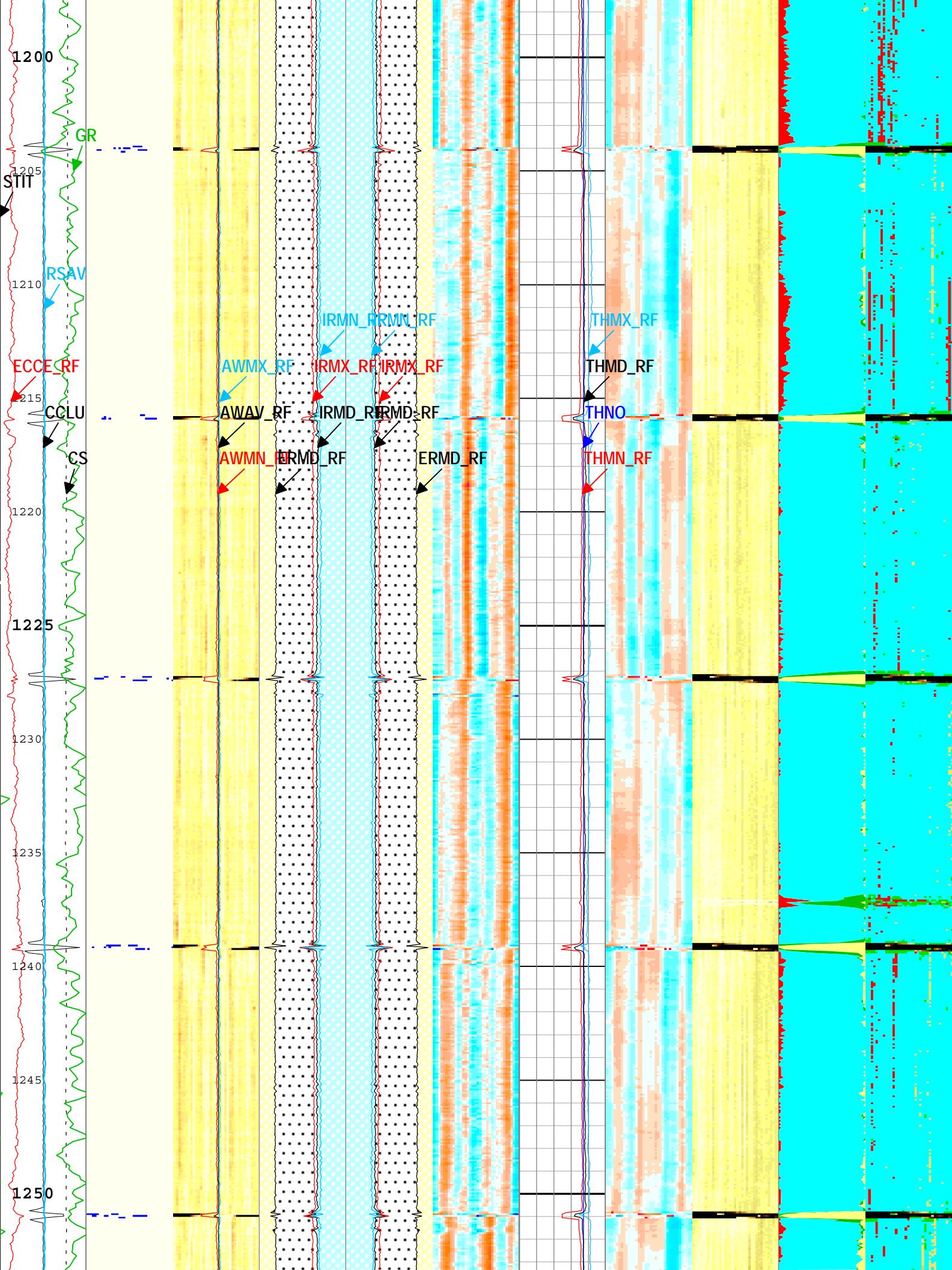


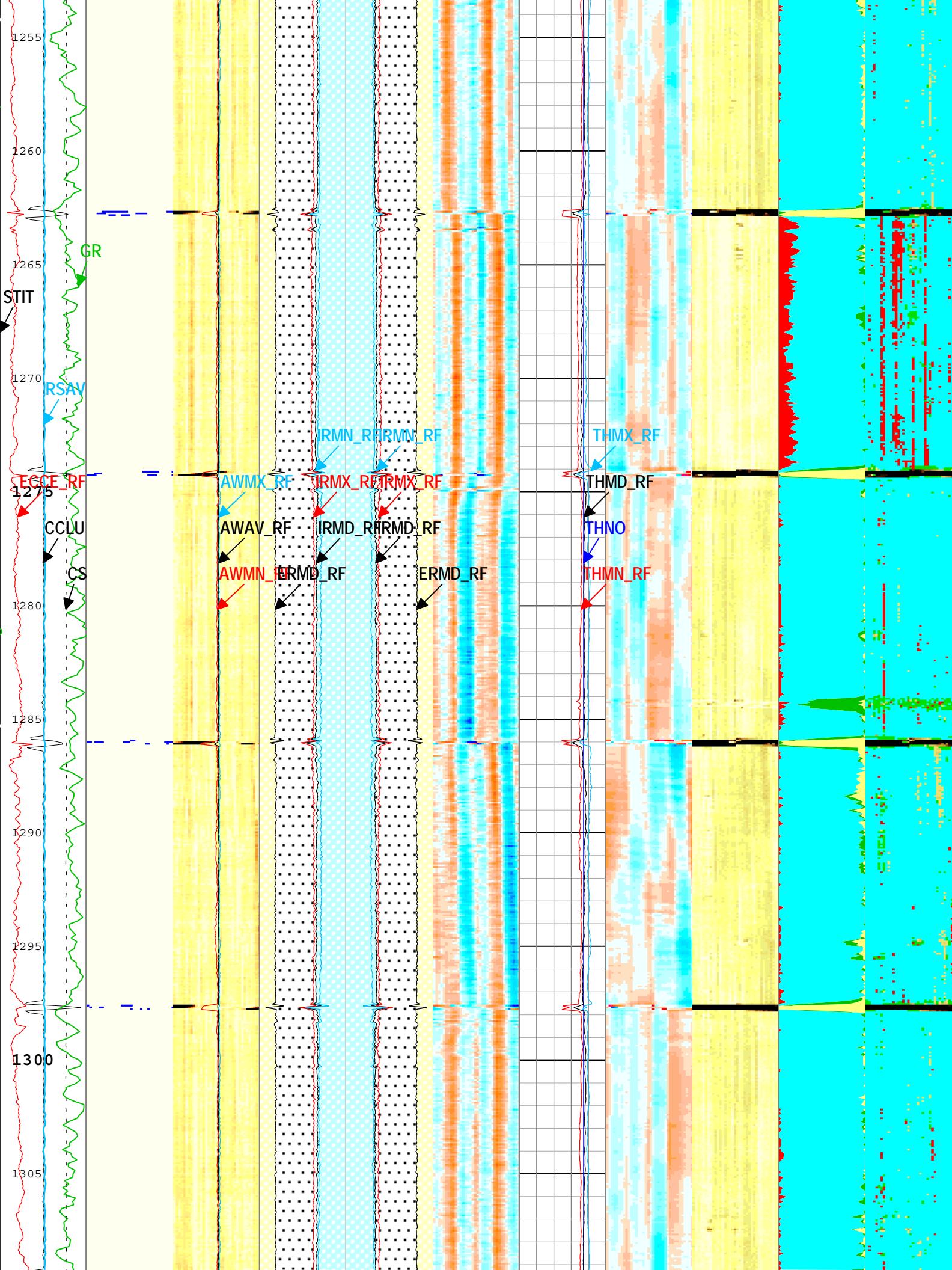


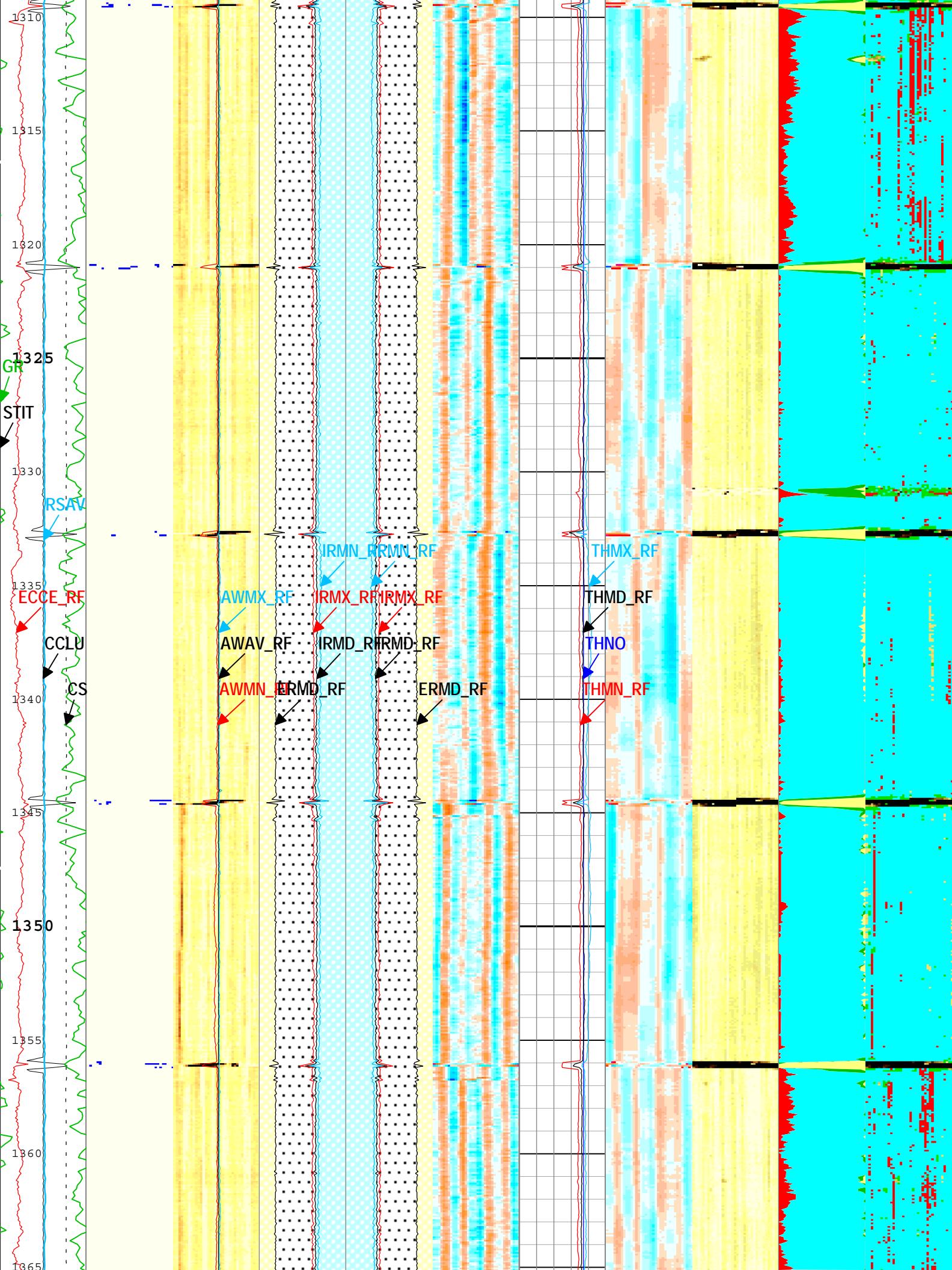


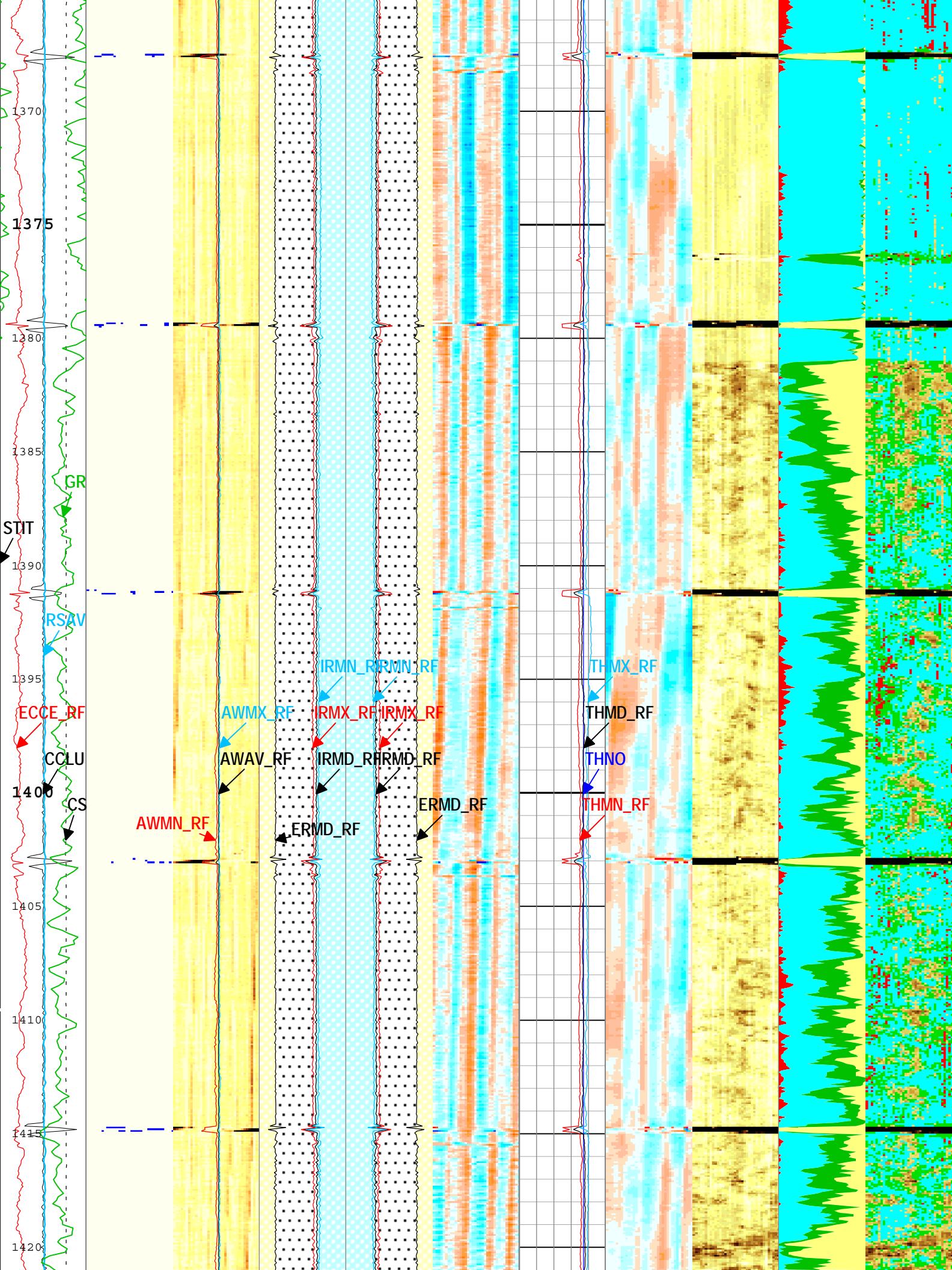


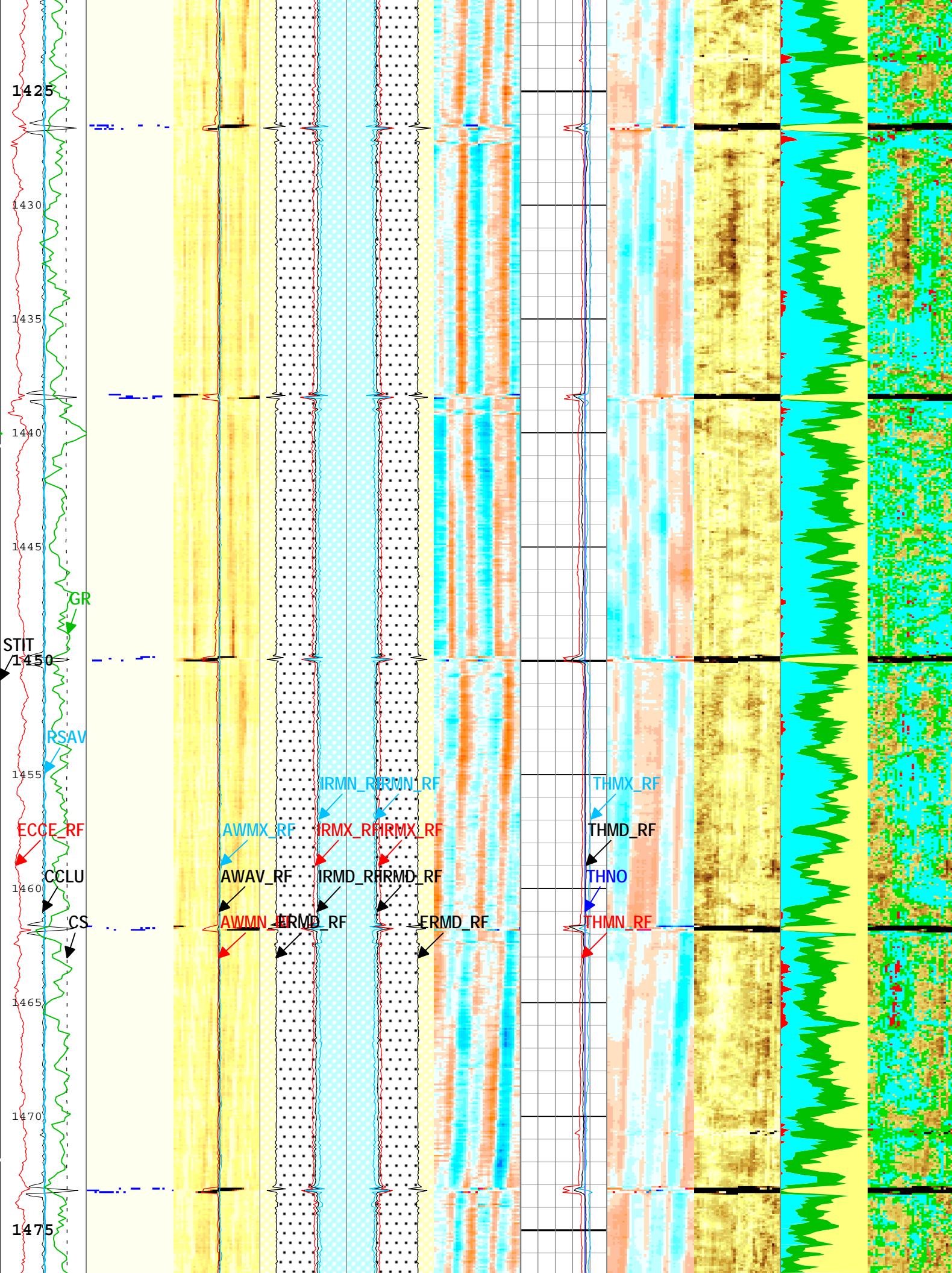


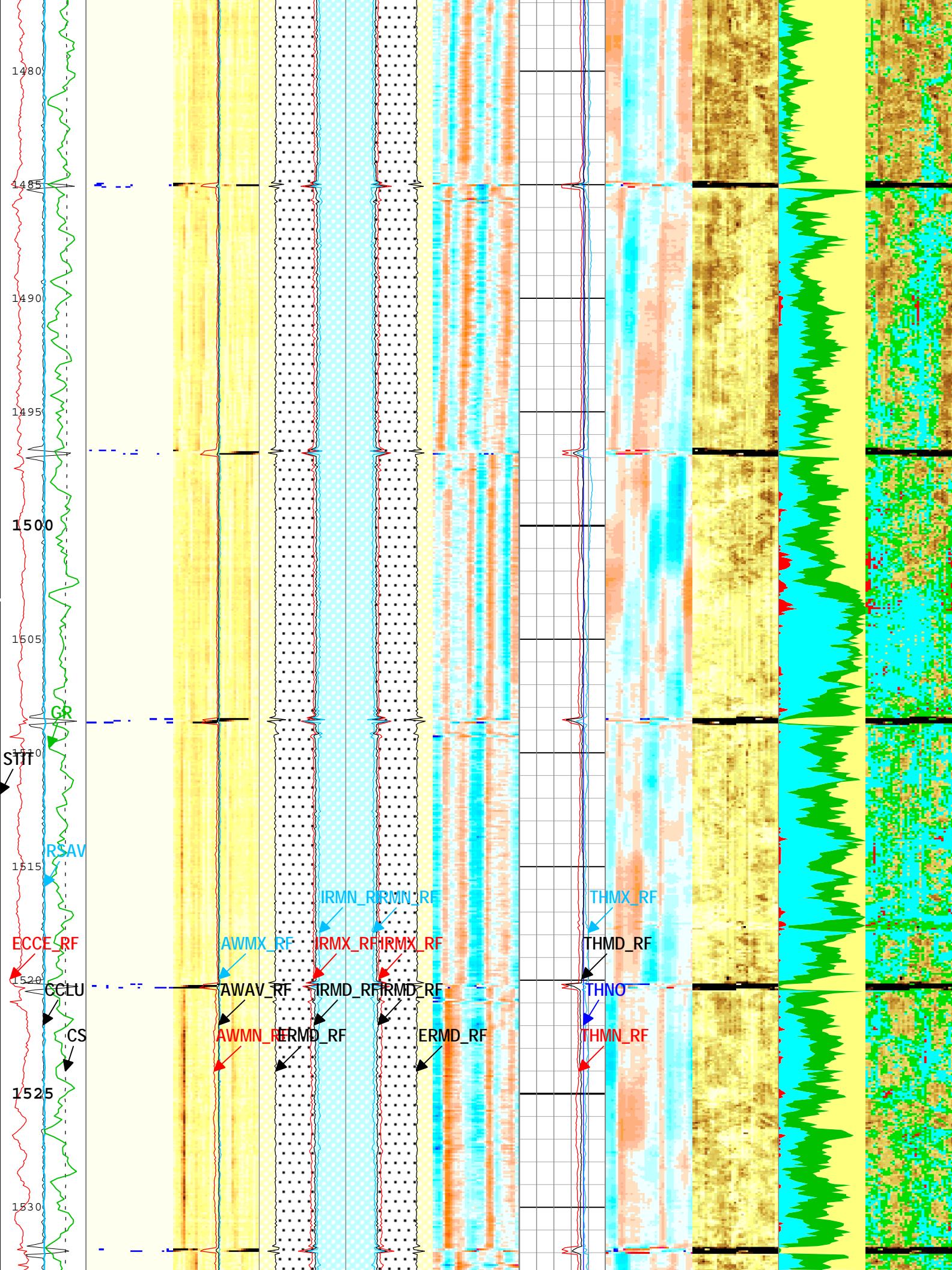


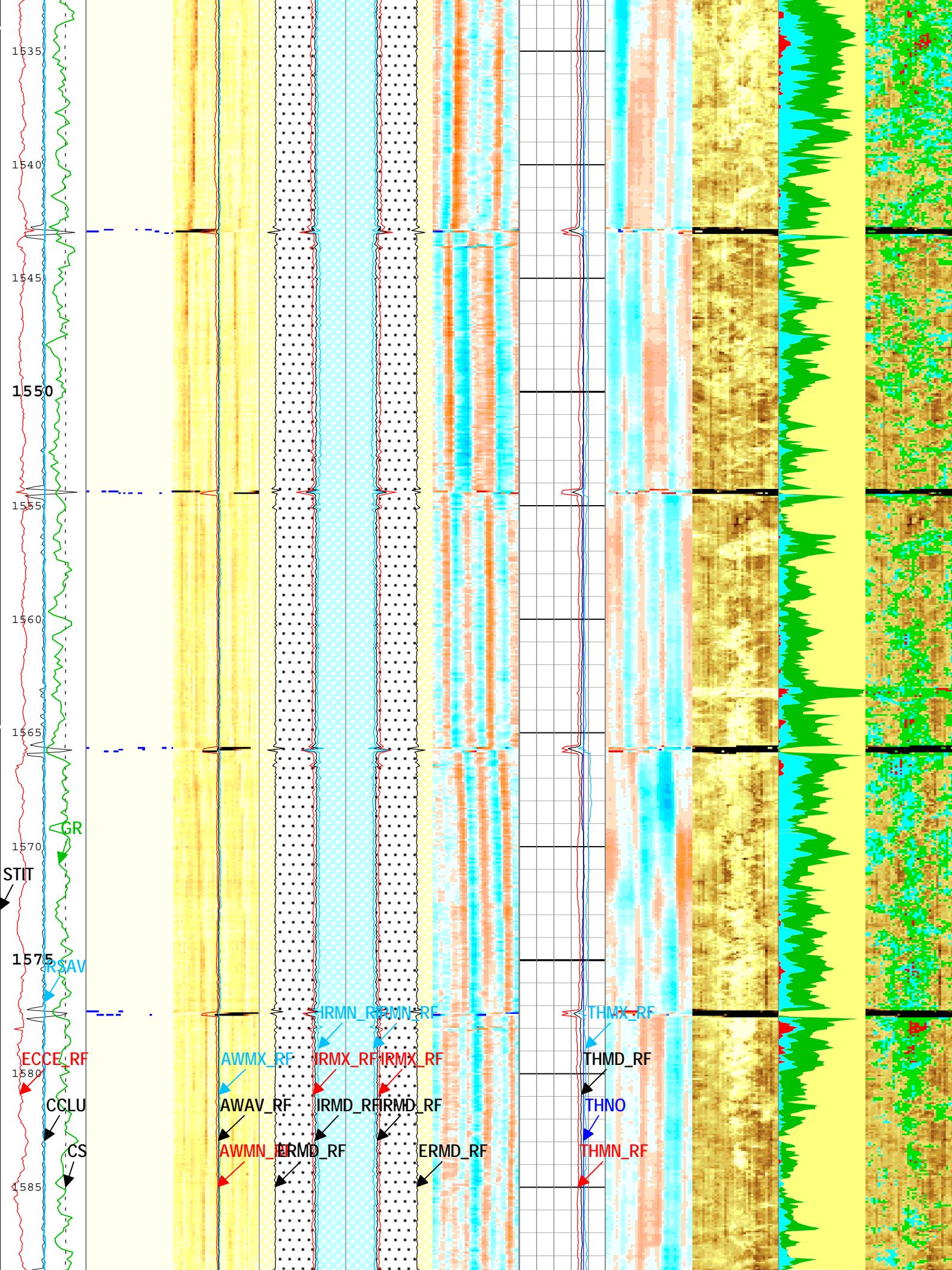


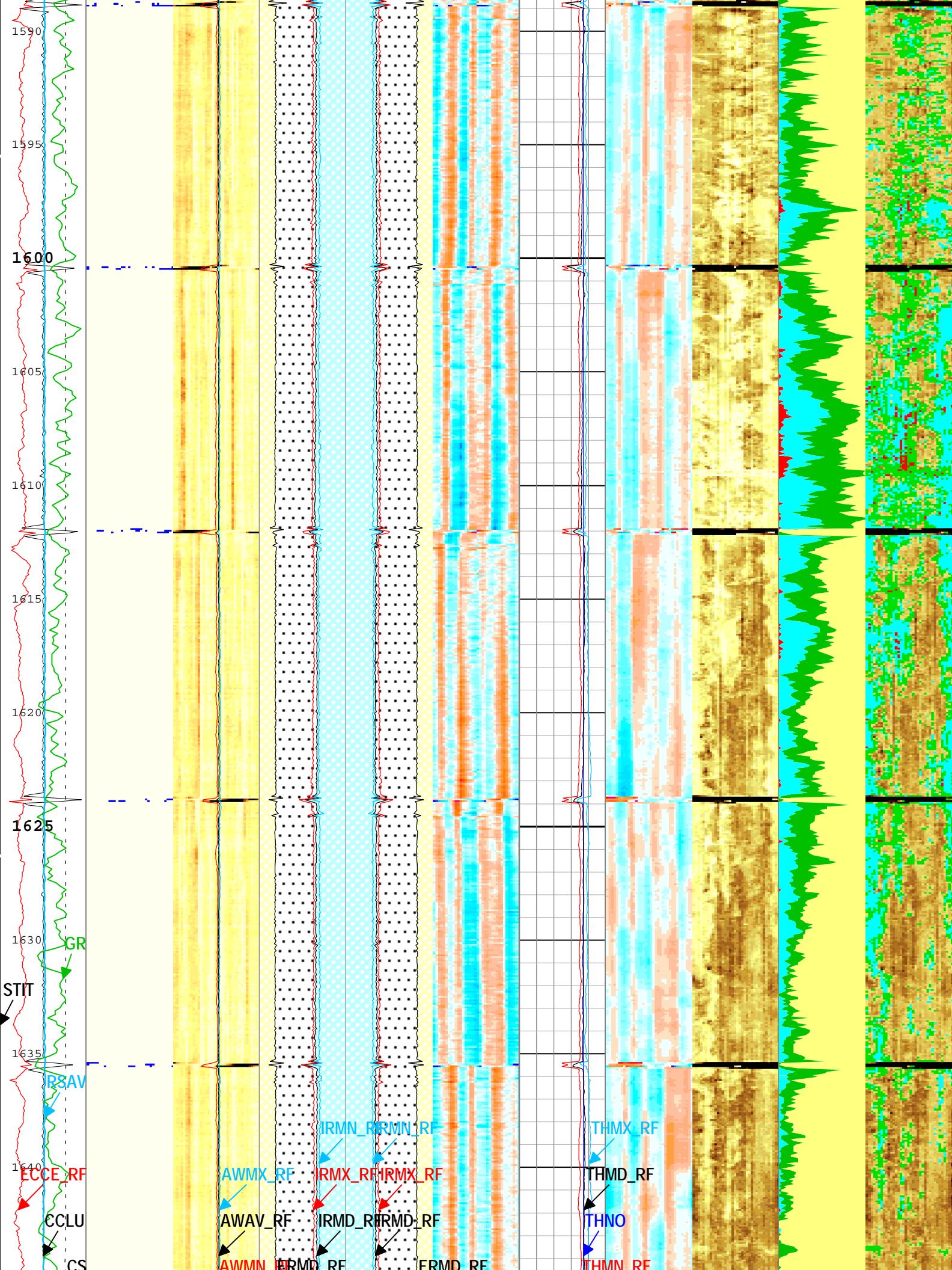


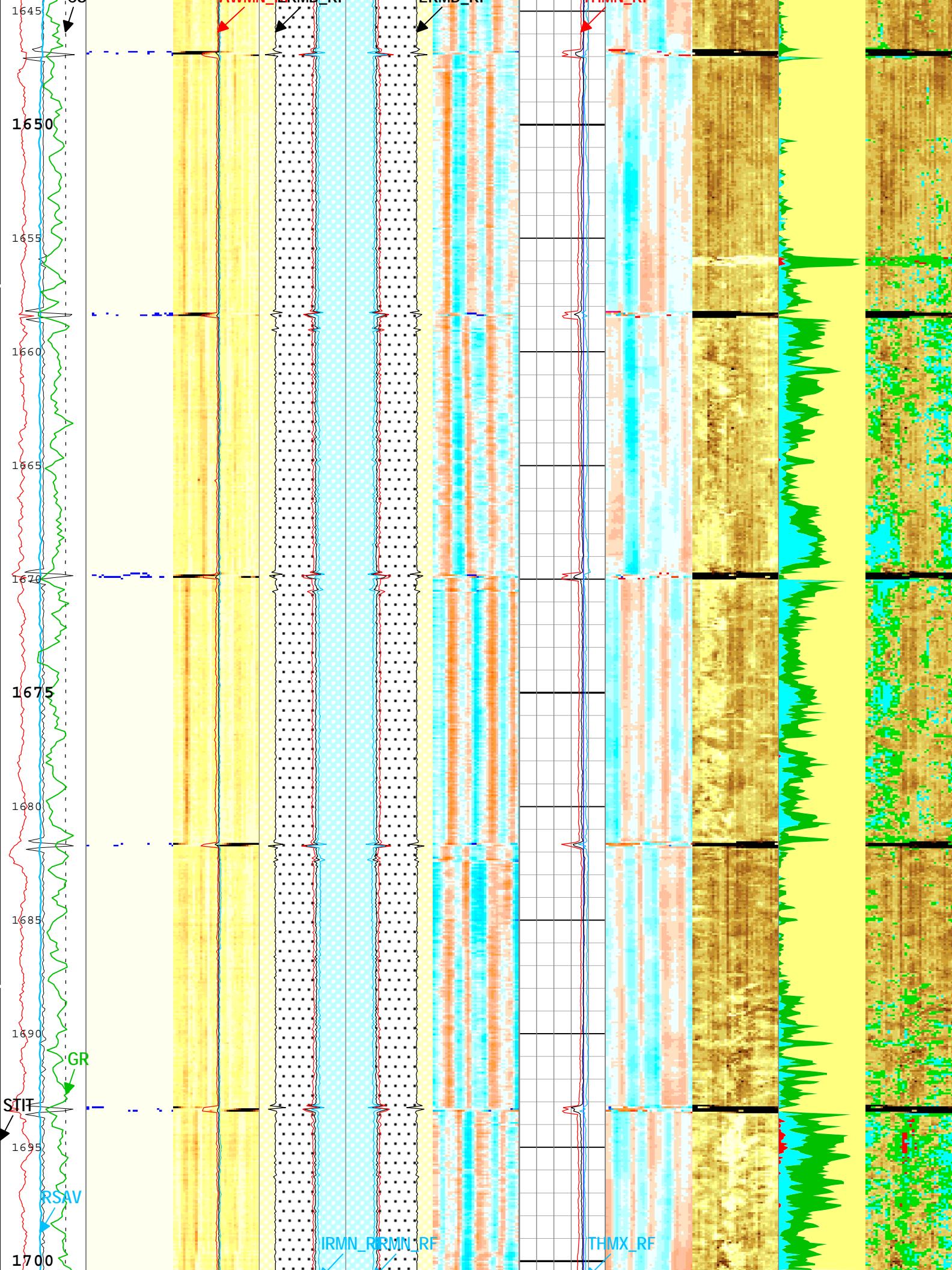


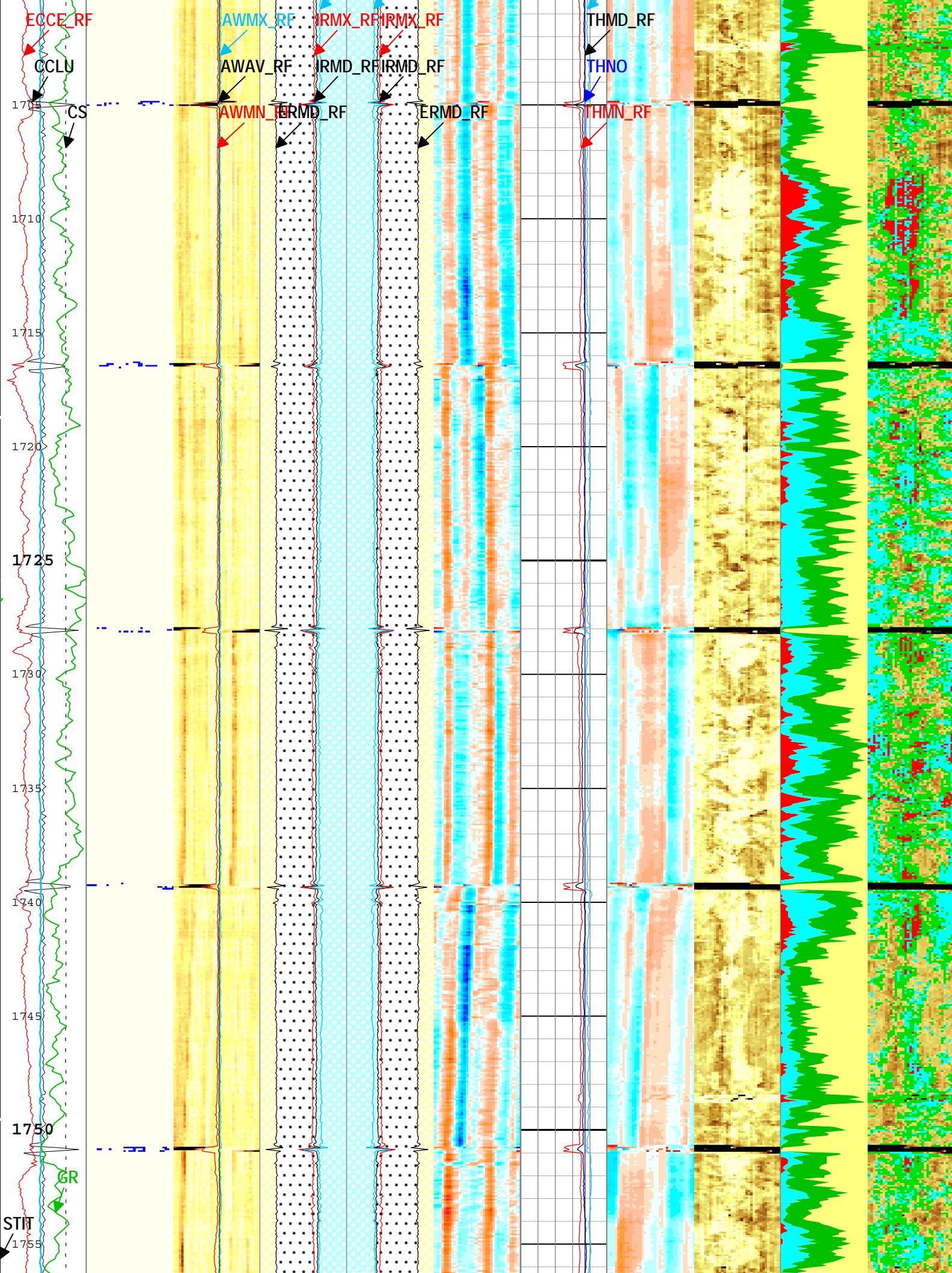


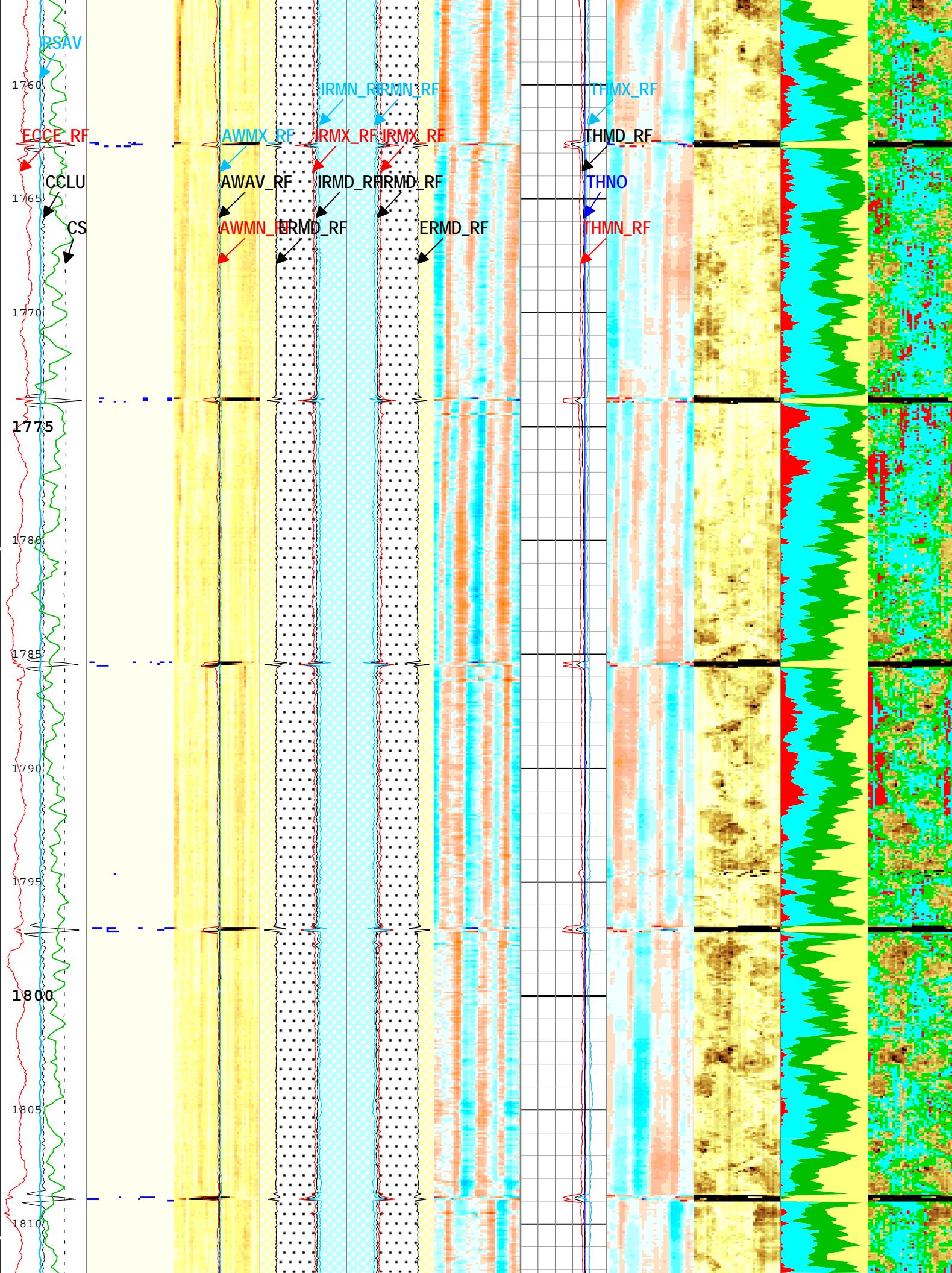


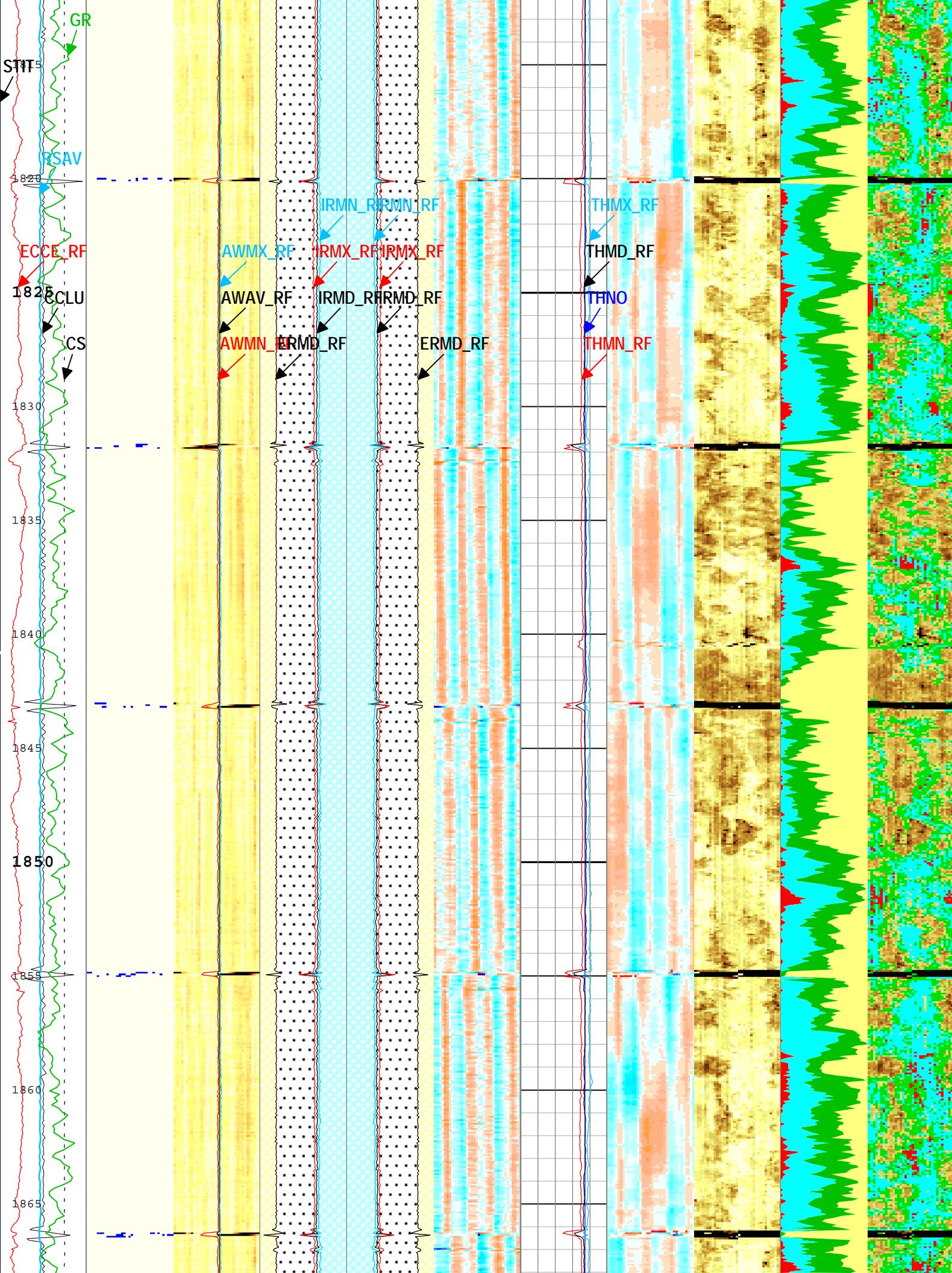


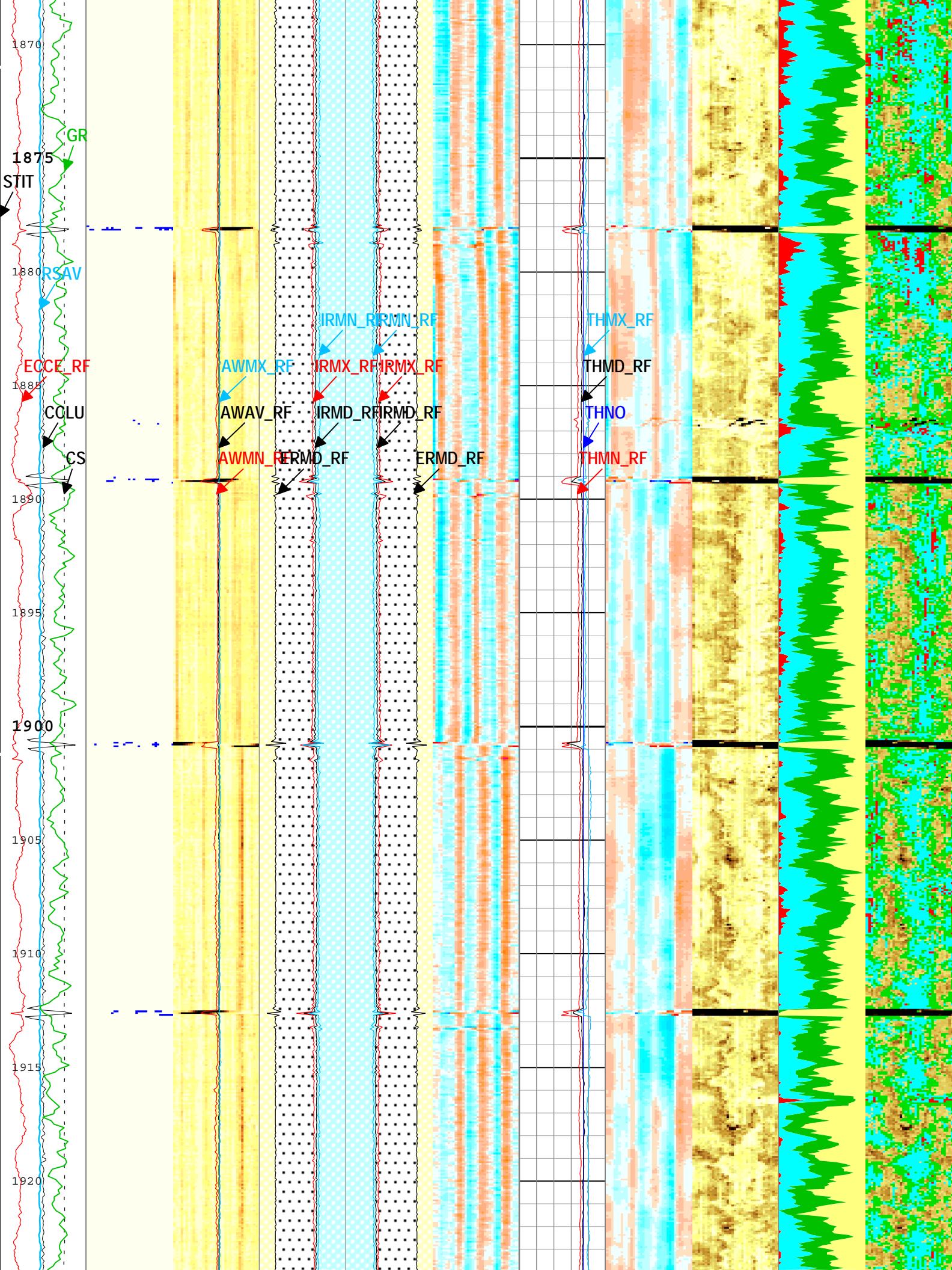


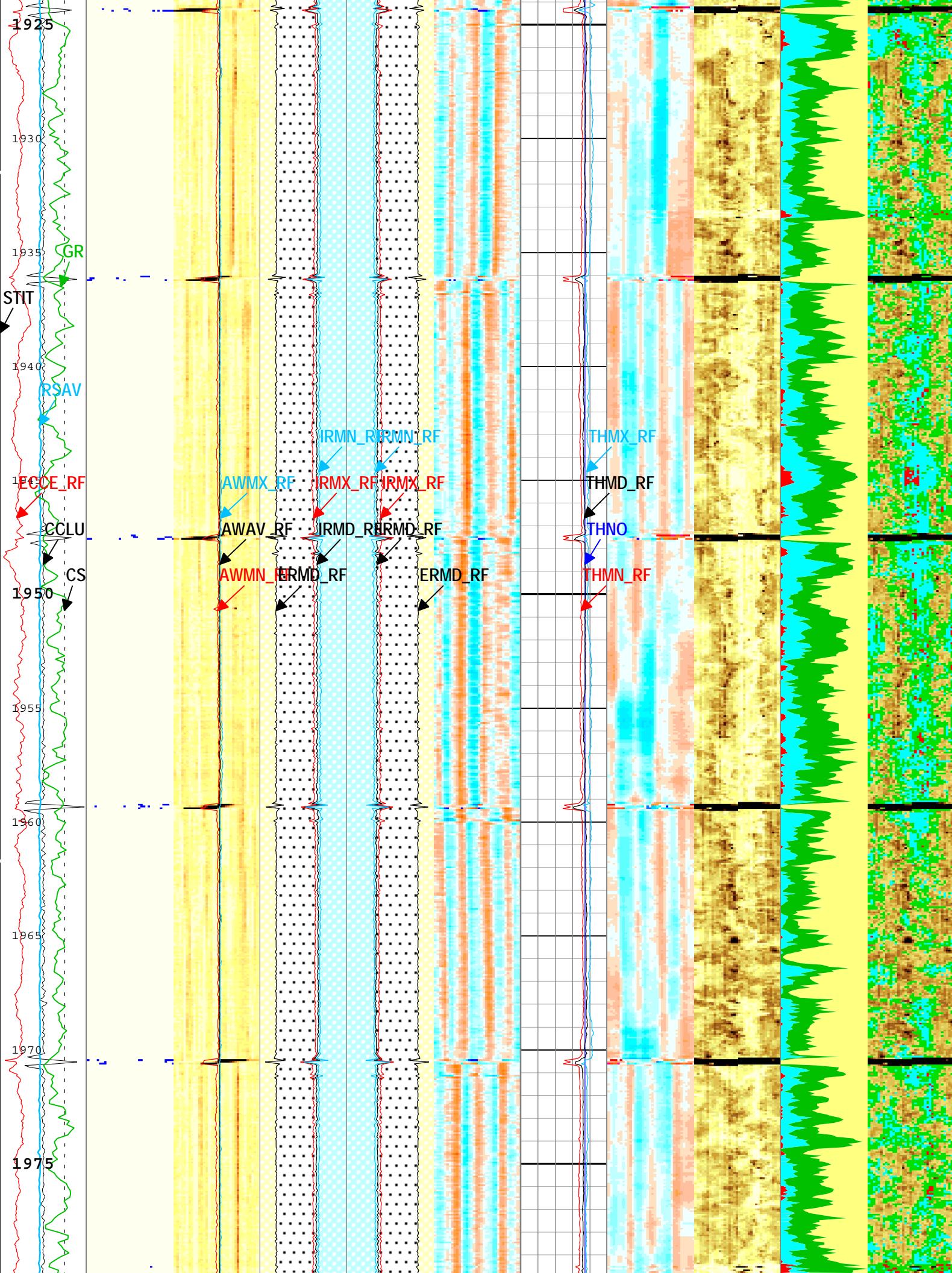


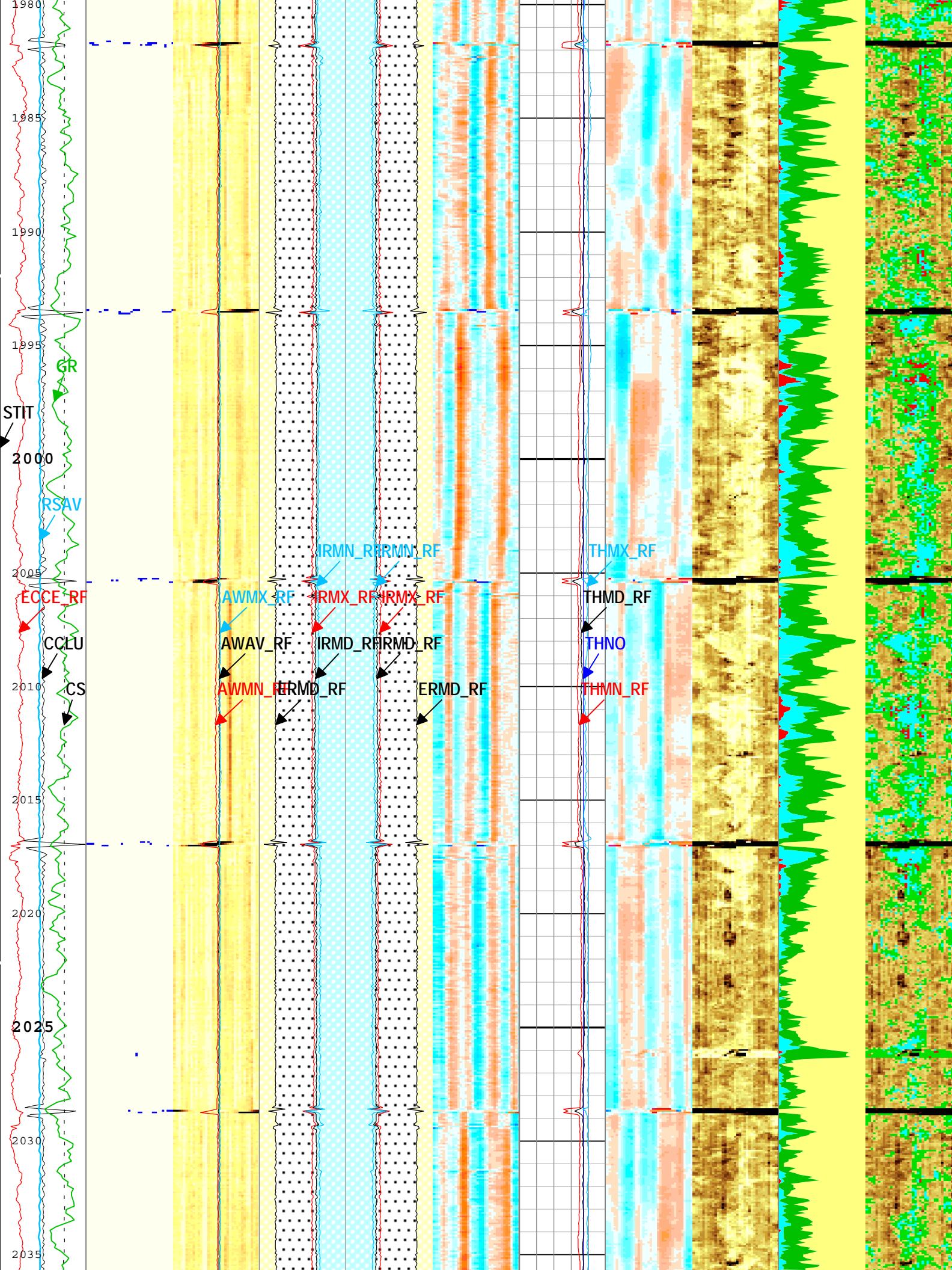


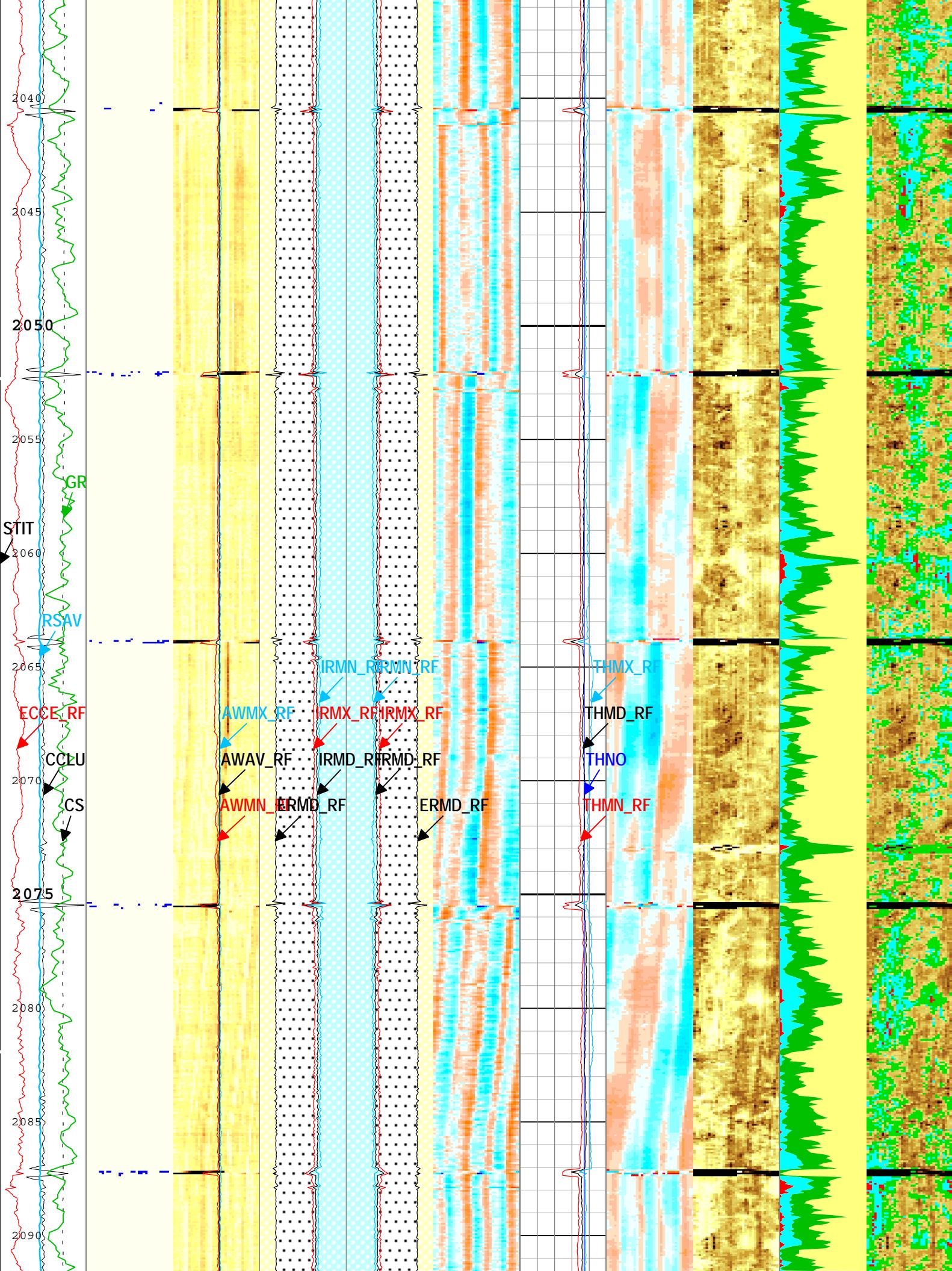


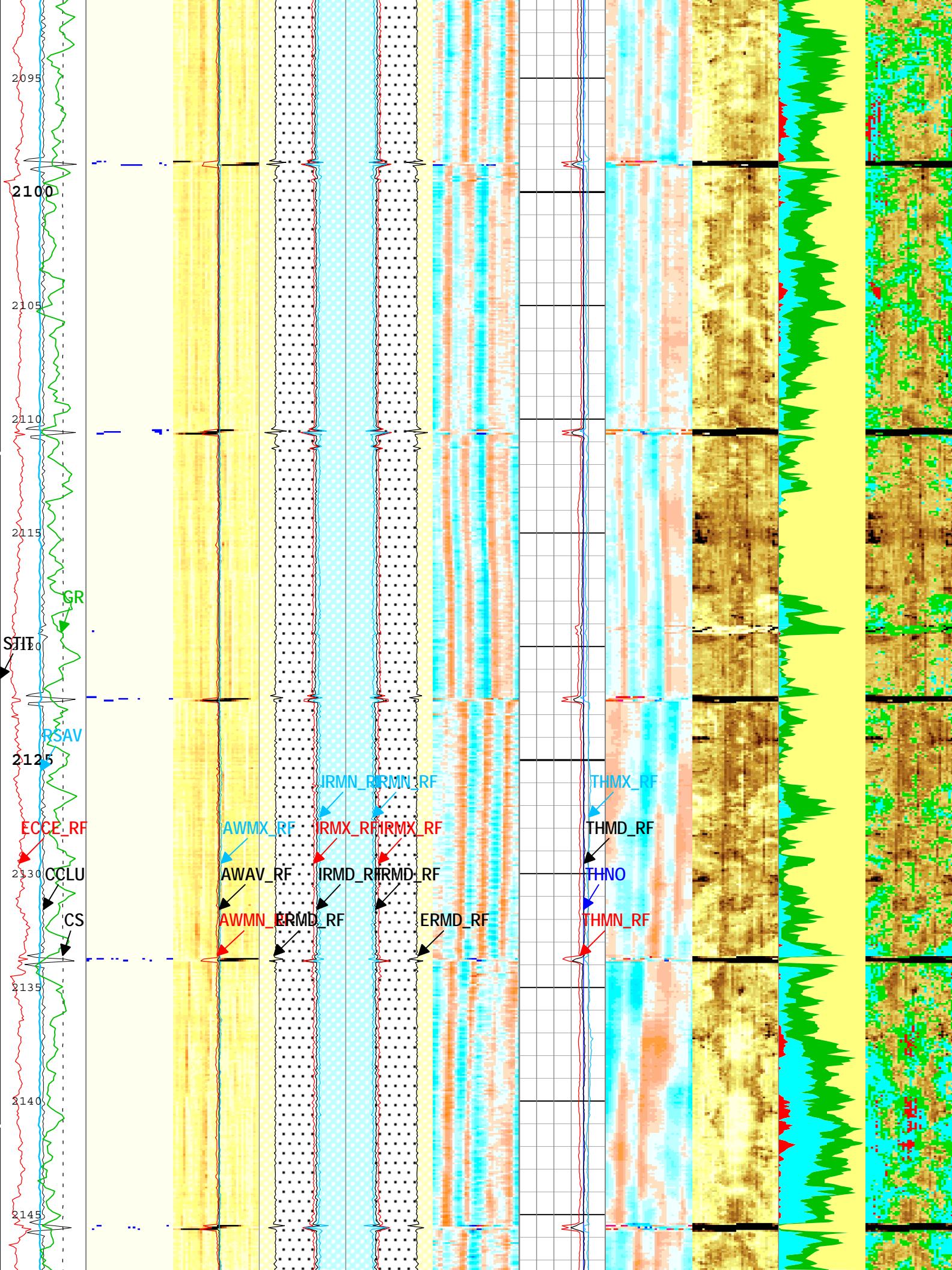


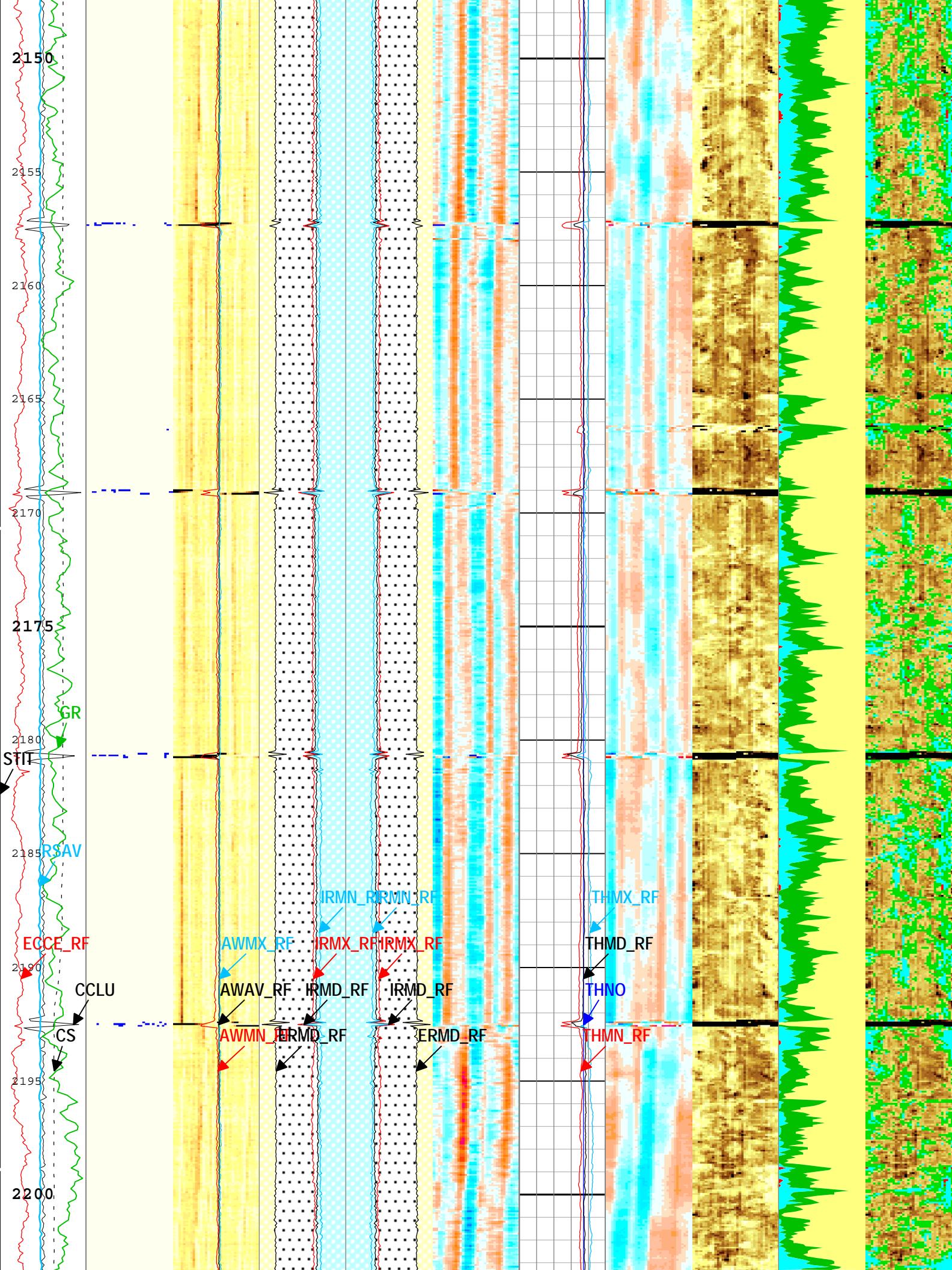


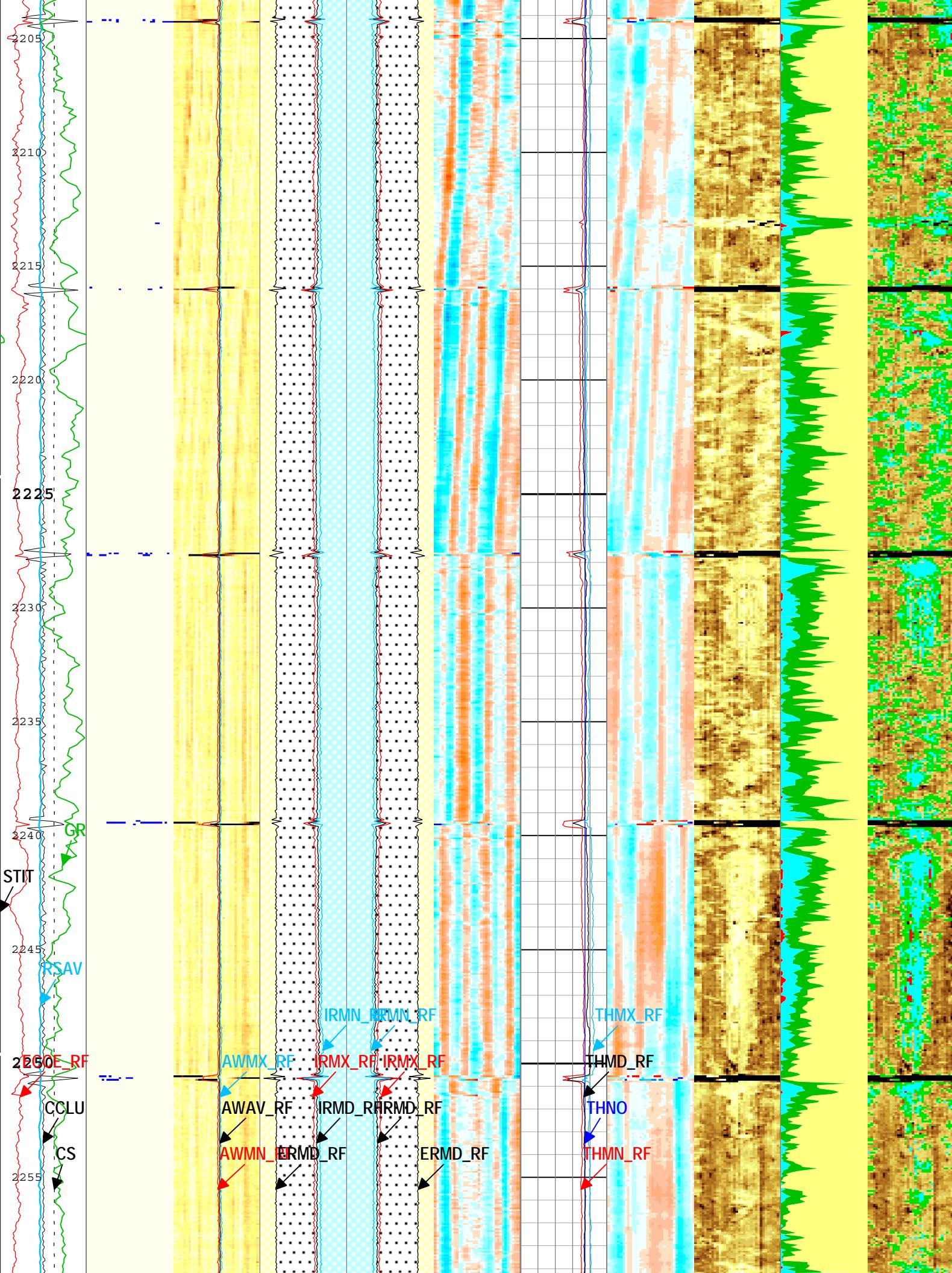


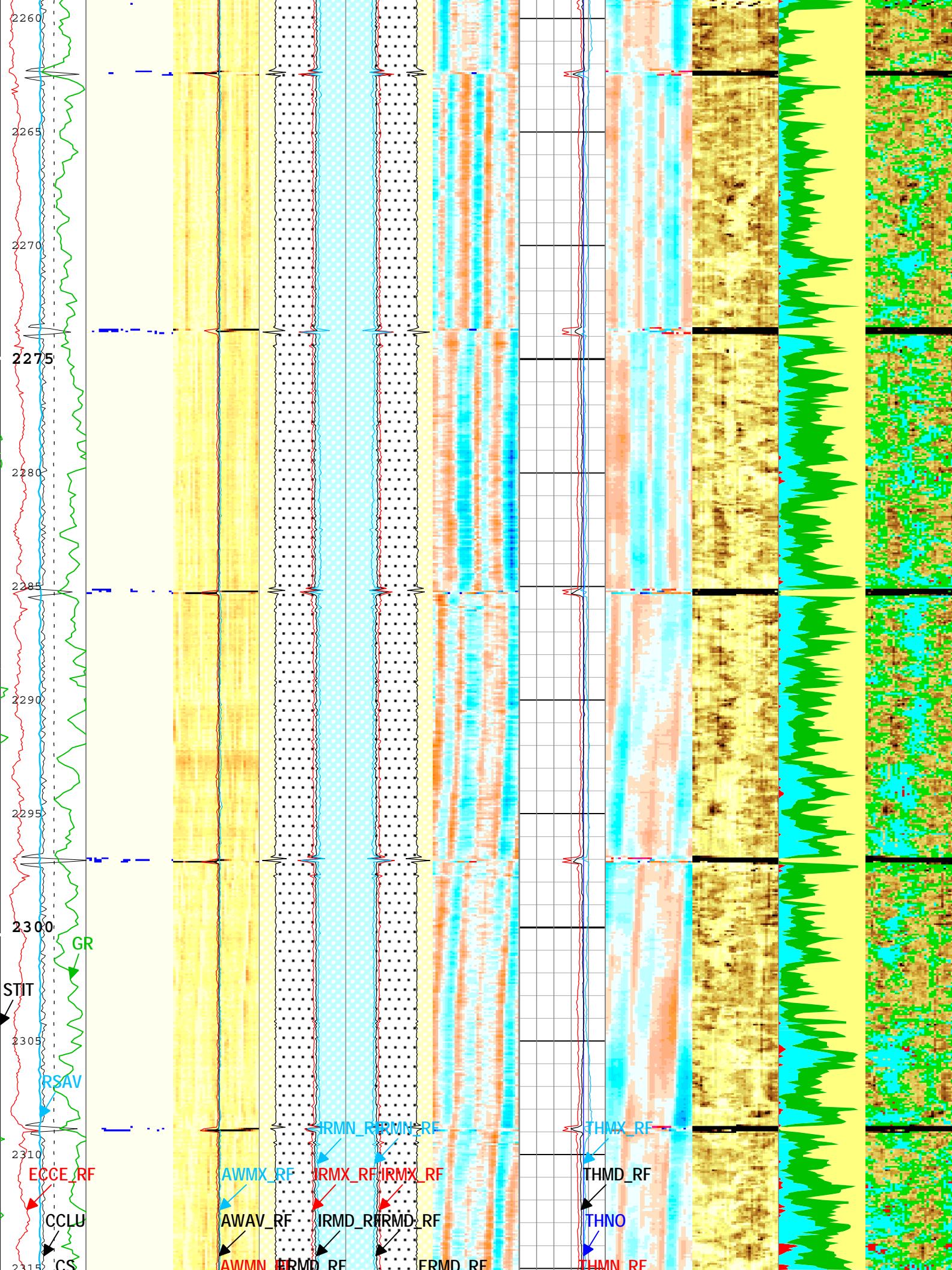


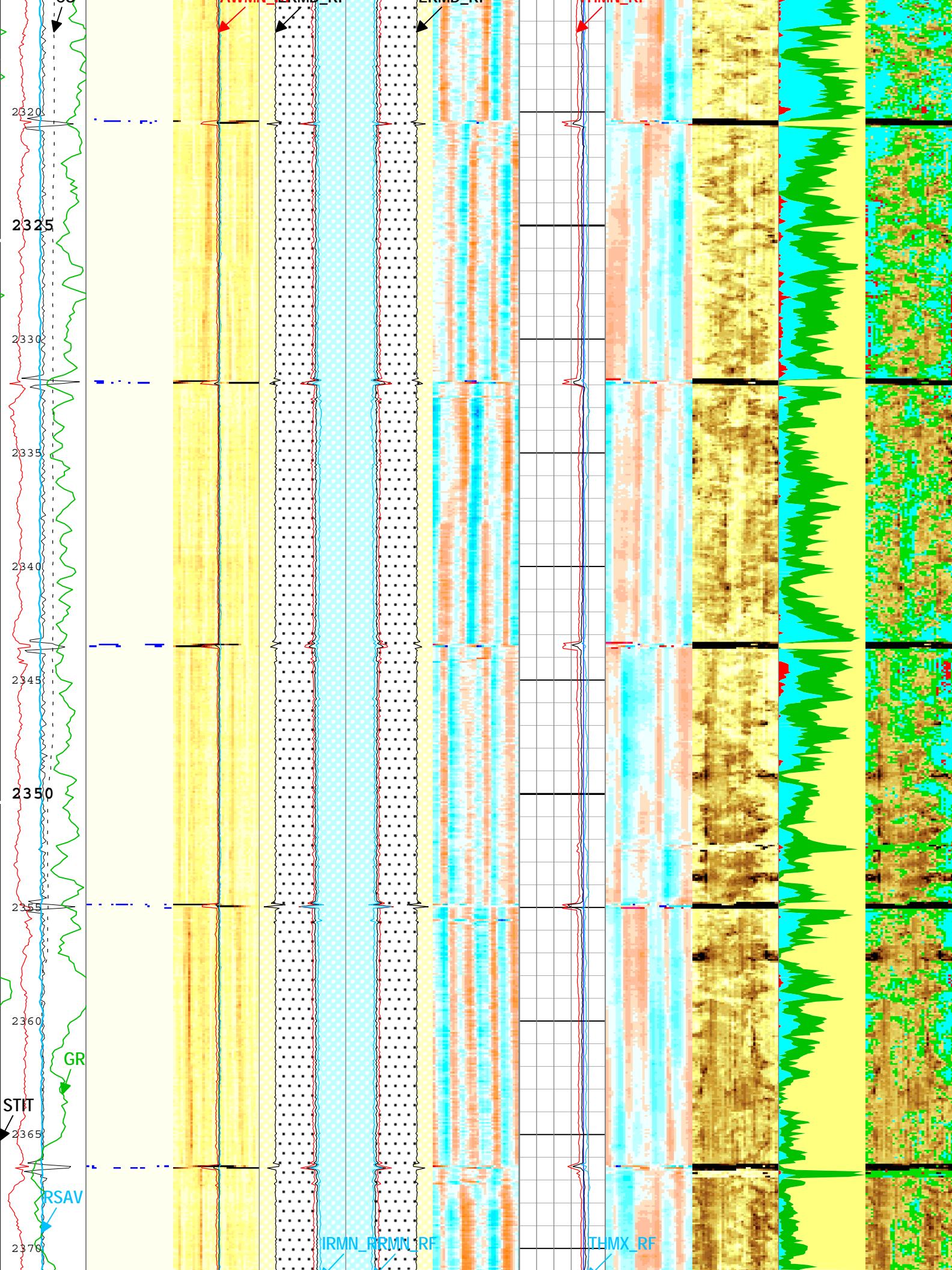


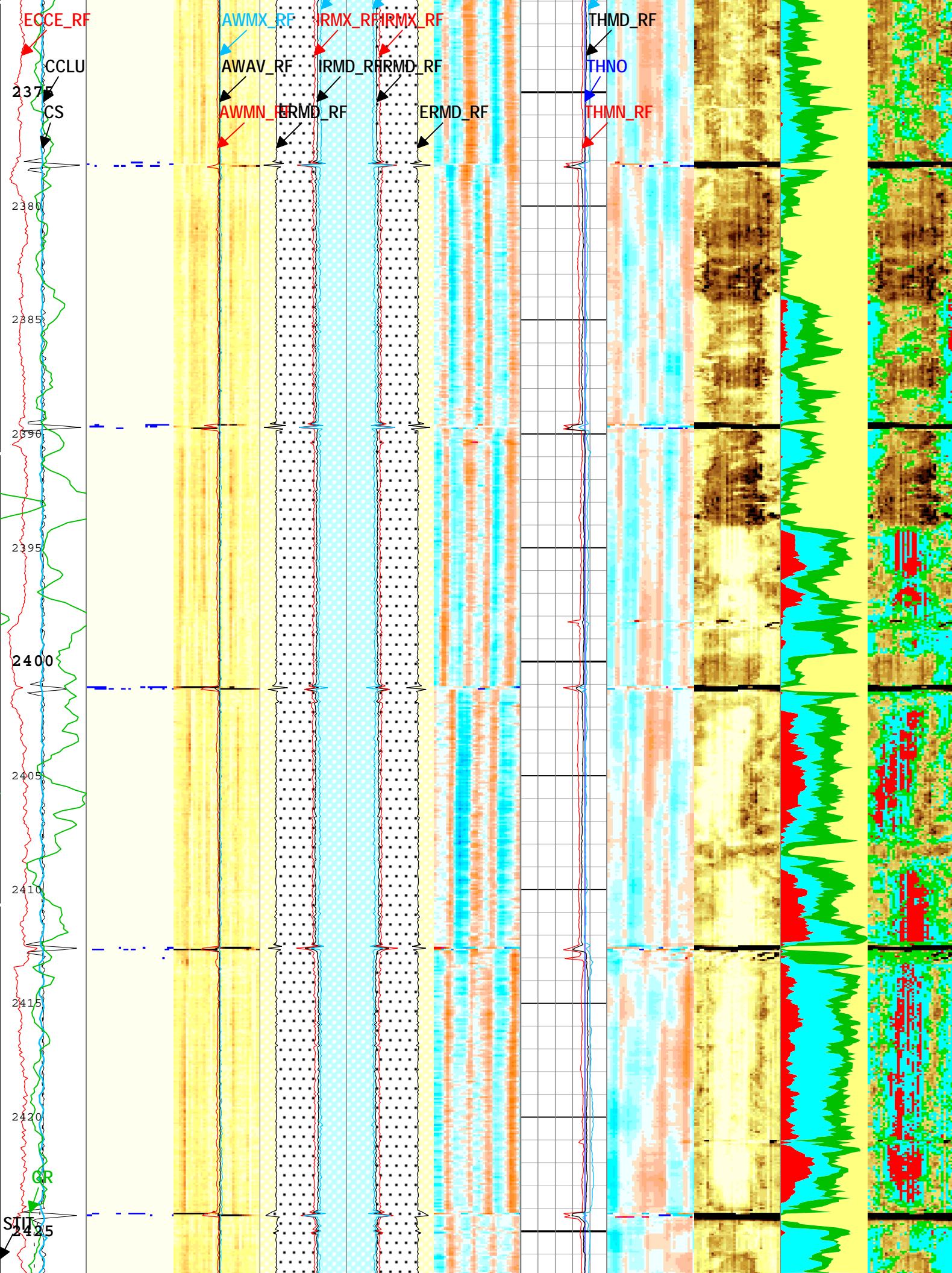


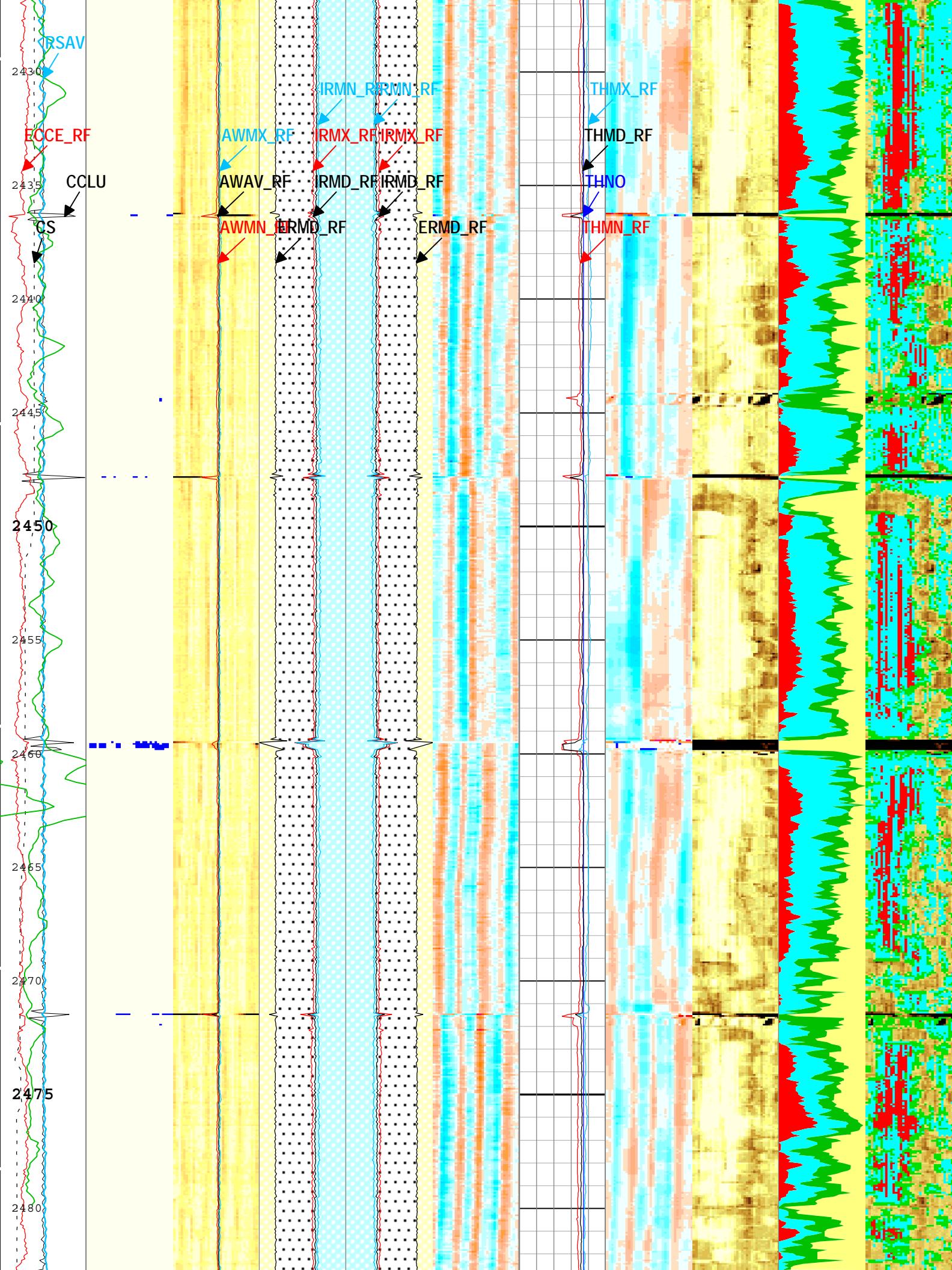


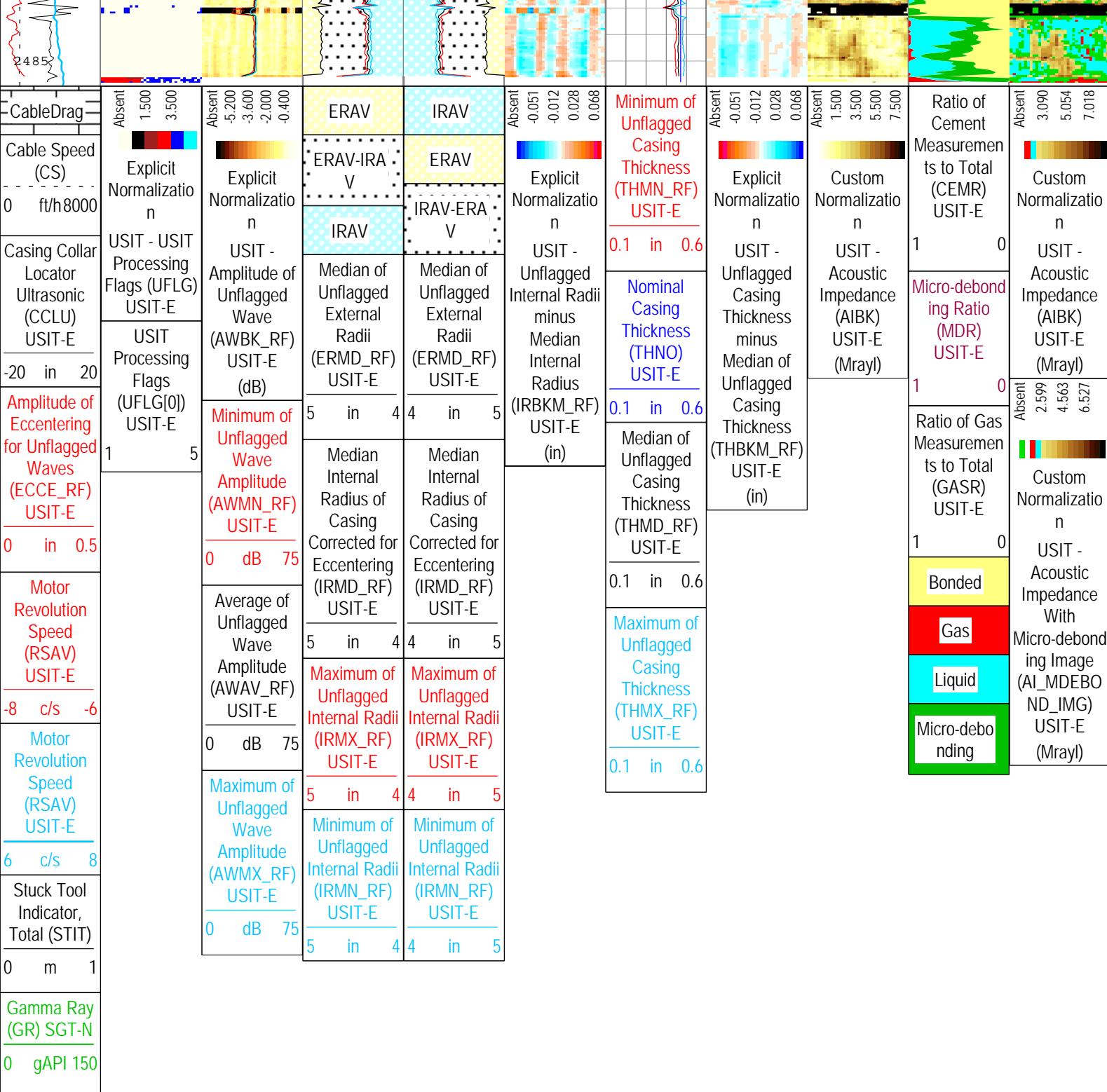












## Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
AFVU	Automatic Fluid Velocity Update	USIT-E	On	
BARI	Barite Mud Presence Flag	Borehole	No	

BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CBLO	Casing Bottom (Logger)	WLSESSION	2872	m
CDEN	Cement Density	SGT-N	2	g/cm3
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.48	in
CYSTLGR	Casing Yield Strength - Zoned along logger depths	WLSESSION	551580.58	kPa
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	1.08	g/cm3
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	185	us/ft
FDII	FPM Data Interpolation Interval	USIT-E	0	m
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	
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
HEMA	Hematite Presence Flag	Borehole	No	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OPLLEV	USIT Remove Flagged Data Level	USIT-E	OPT2	
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
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
SOGR	Standoff Distance of the Gamma Ray Tool	SGT-N	0	in
TBIDLGR	Tubing inner diameter - Zoned along logger depths	WLSESSION	0	in
TBODLGR	Tubing outer diameter - Zoned along logger depths	WLSESSION	0	in
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
TPOS	Tool Position: Centered or Eccentered	SGT-N	Centered	
TWTLGR	Tubing Linear Weight - Zoned along logger depths	WLSESSION	0	lbm/ft
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	2950	m/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	Theoretical	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl

ZINI	Initial Estimate of Cement Impedance			USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud			Borehole	1.78	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement			USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas			USIT-E	0.3	Mrayl

## Depth Zone Parameters

Parameter	Value	Start ( m )	Stop ( m )
BS	17.5	925	1080
BS	12.25	1080	2485.95
MEAS_WLEN	30.2	925	975
MEAS_WLEN	29.67	975	2485.95

All depth are actual.

## Tool Control Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	4.874	in
EMXV	EMEX Voltage	USIT-E	60	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 300 KHz	
USI_UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	2400	m
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	38.69	us
WINE	Window End Time	USIT-E	78.69	us

1

## Repeat pass 1:200

## Software Version

Acquisition System	Version
MaxWell	4.0.9163.3000
Application Patch	Patch-SP-10767_13393-4.0.9163.3001

Computation	Description	Version
Cementation	Cementation Computation Application	4.0.9167.3000
DepthCorrection	DepthCorrection	4.0.9213.3000
CORROSION Ensemble	CORROSION Ensemble	4.0.9033.3000
Tool Elements	Description	Software Version
USI-SENSOR	USIT Transducer Element	
SGC-TB	Scintillation Gamma Cartridge	

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Repeat[6]:Up	Up	1249.77 m	1441.49 m	30-Jun-2014 12:54:10 AM	30-Jun-2014 1:00:43 AM	ON	0.95 m	Yes

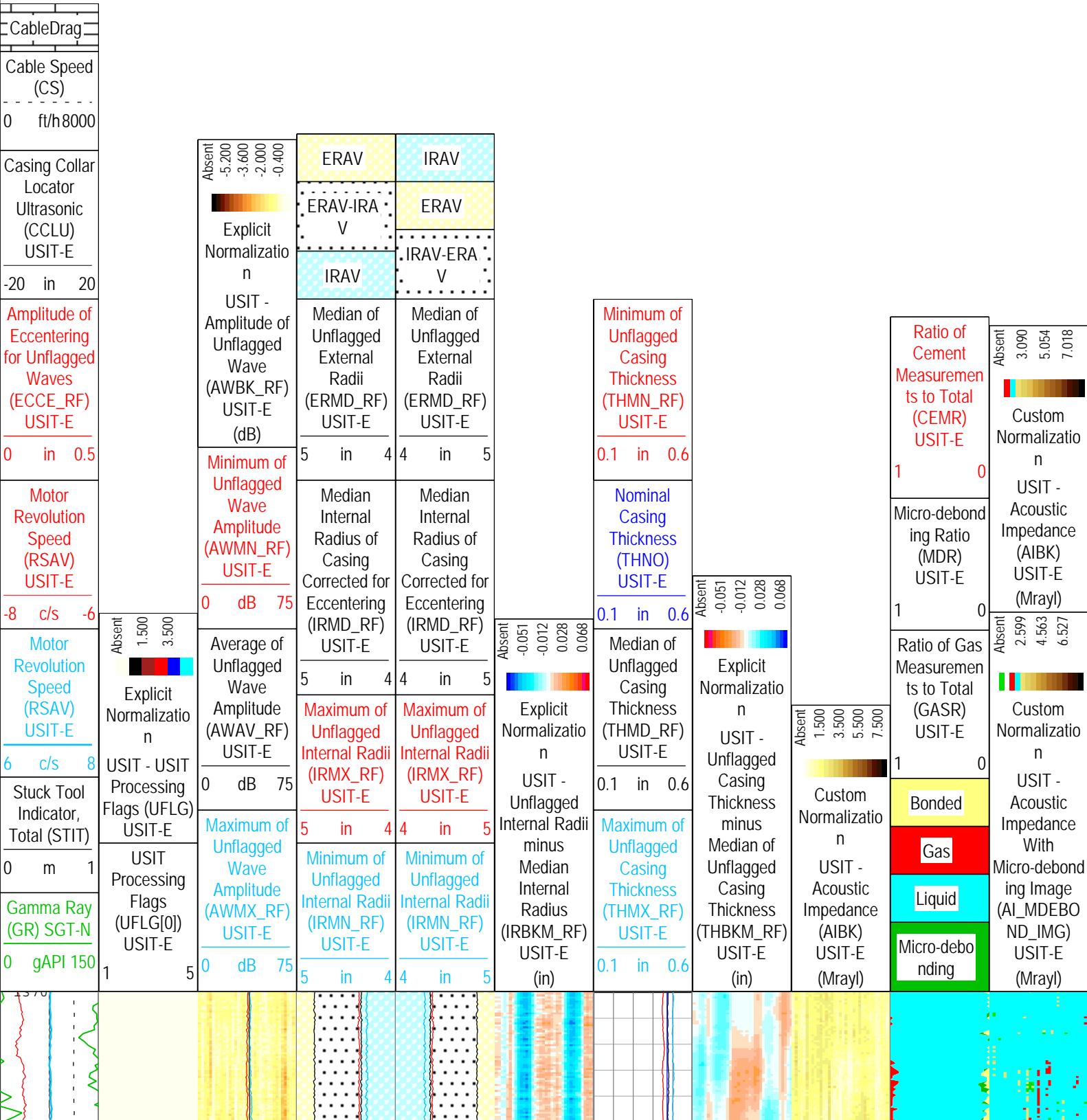
All depths are referenced to toolstring zero.

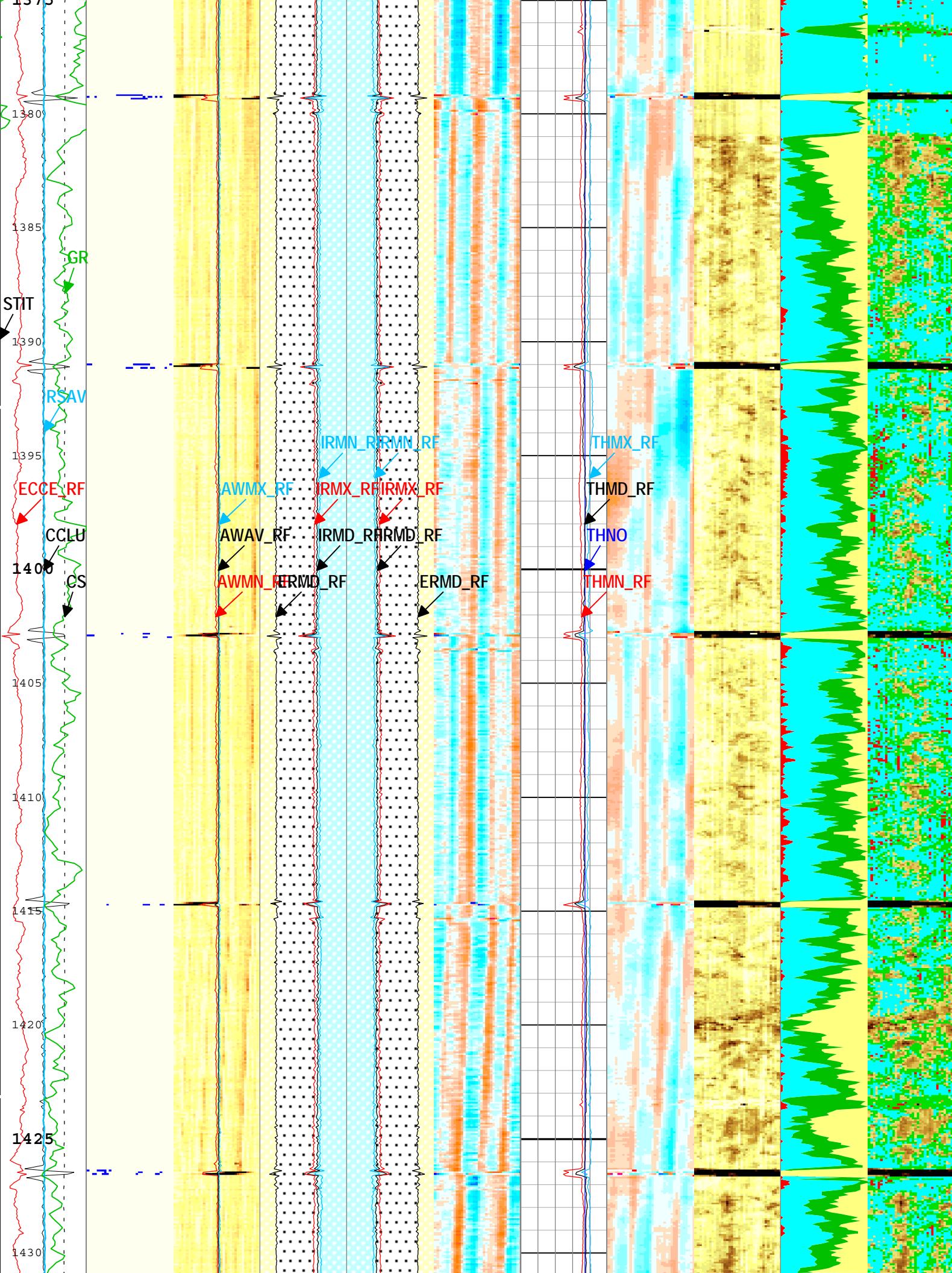
Description: USI Composite Format: Log ( USI Composite 9-58in ) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 30-Jun-2014 01:47:24

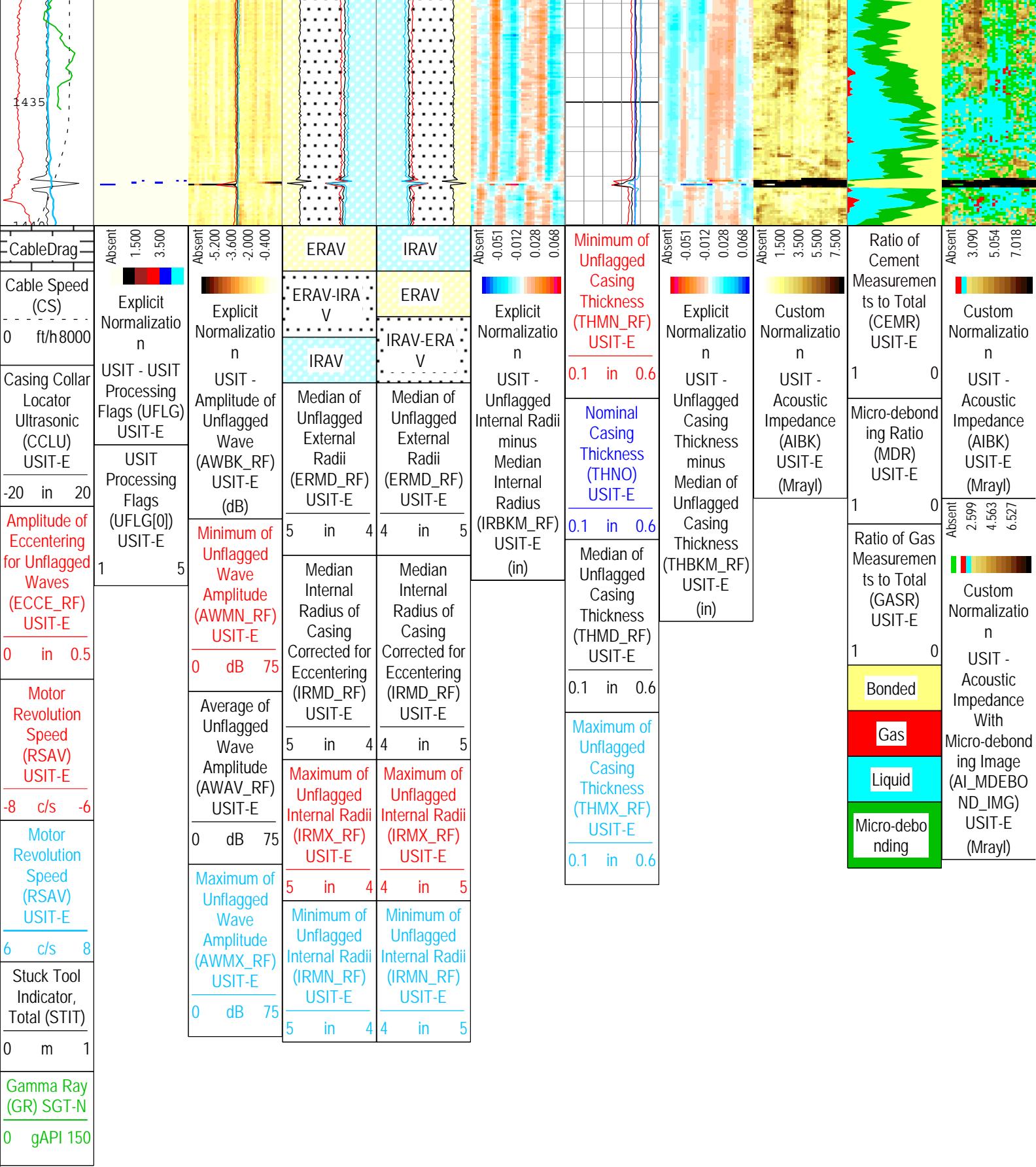
## USIT Processing Flags (UFLG[0]) USIT-E

- 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)







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] - :

Description: USI Composite Format: Log (USI Composite 0.5in) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date:

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	12.25	in
CBLO	Casing Bottom (Logger)	WLSESSION	2872	m
CDEN	Cement Density	SGT-N	2	g/cm3
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.472	in
CYSTLGR	Casing Yield Strength - Zoned along logger depths	WLSESSION	551580.58	kPa
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	1.08	g/cm3
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	185	us/ft
FDII	FPM Data Interpolation Interval	USIT-E	0	m
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	
HEMA	Hematite Presence Flag	Borehole	No	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	29.67	us
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
TBIDLGR	Tubing inner diameter - Zoned along logger depths	WLSESSION	0	in
TBODLGR	Tubing outer diameter - Zoned along logger depths	WLSESSION	0	in
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
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TPOS	Tool Position: Centered or Eccentered	SGT-N	Centered	
TWTLGR	Tubing Linear Weight - Zoned along logger depths	WLSESSION	0	lbm/ft
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	2950	m/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	
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Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
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HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h

ULOG	Logging Objective	USIT-E	MEASUREMENT	
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USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 300 KHz	
USI_UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	2400	m
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	38.69	us
WINE	Window End Time	USIT-E	78.69	us

XYZ

Company:V.O.F. Geothermie De Lier

Well:De Lier - GT-01

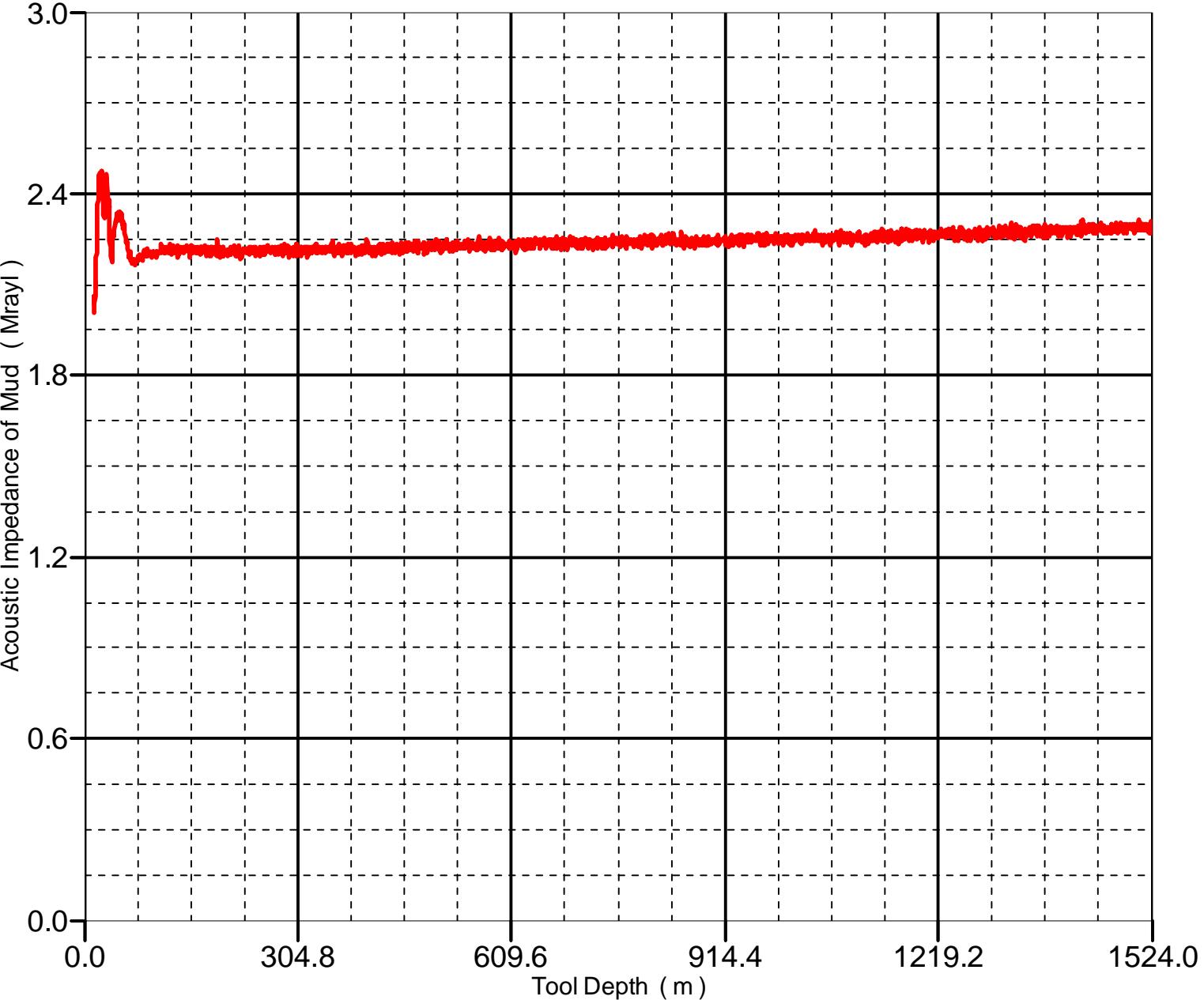
1: Log[1]:Down:S008

# Acoustic Impedance of Mud vs Depth

## 2D Cross Plot

Index Range: From 13.72 to 2484.88 m

— UDEP-AIBM

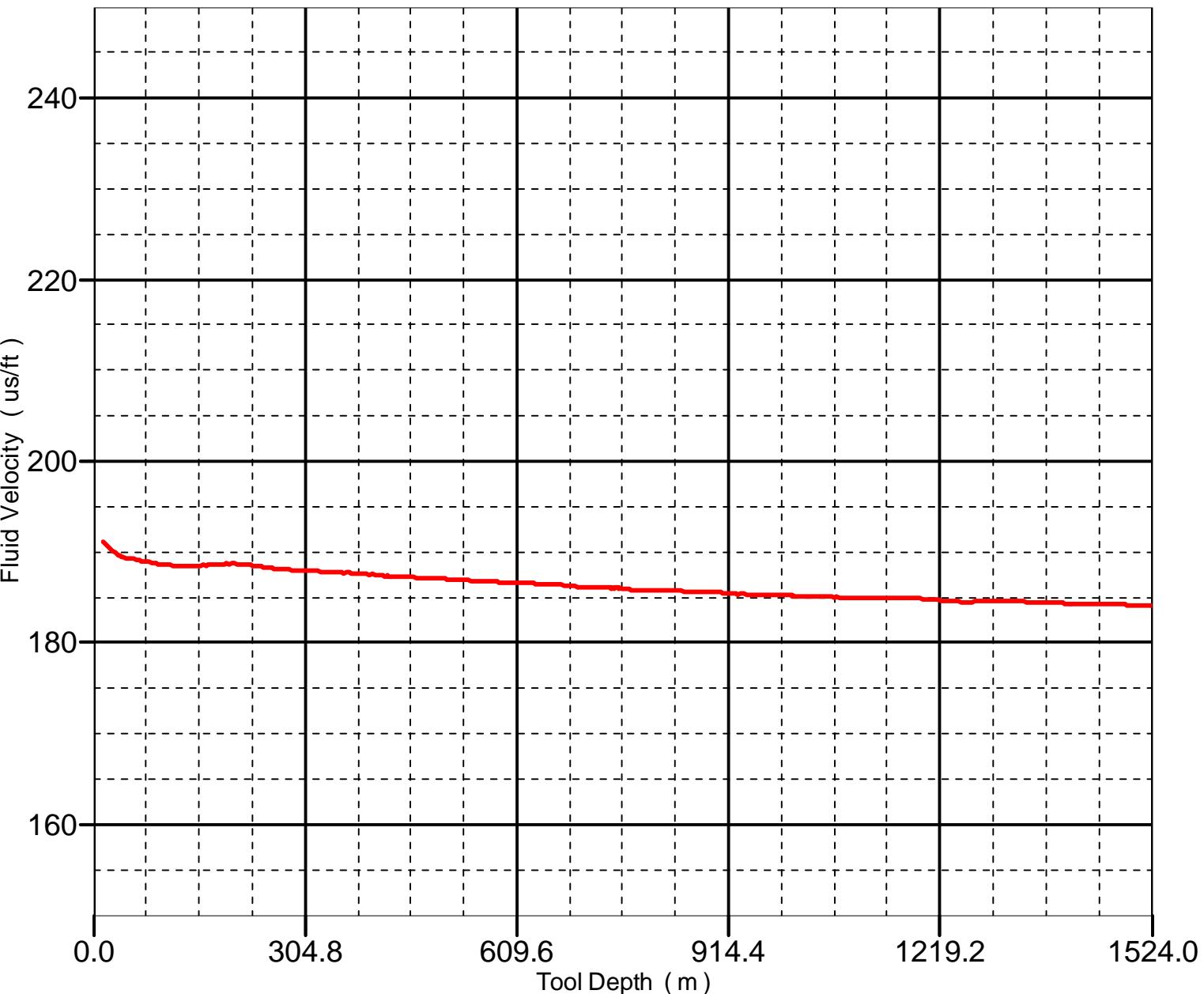


# Fluid Acoustic Slowness vs Depth

## 2D Cross Plot

Index Range: From 13.72 to 2484.88 m

— UDEP-FVEM

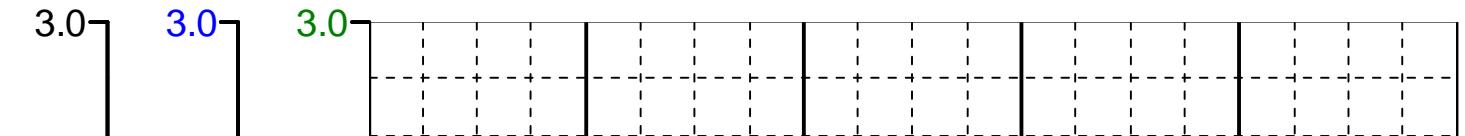


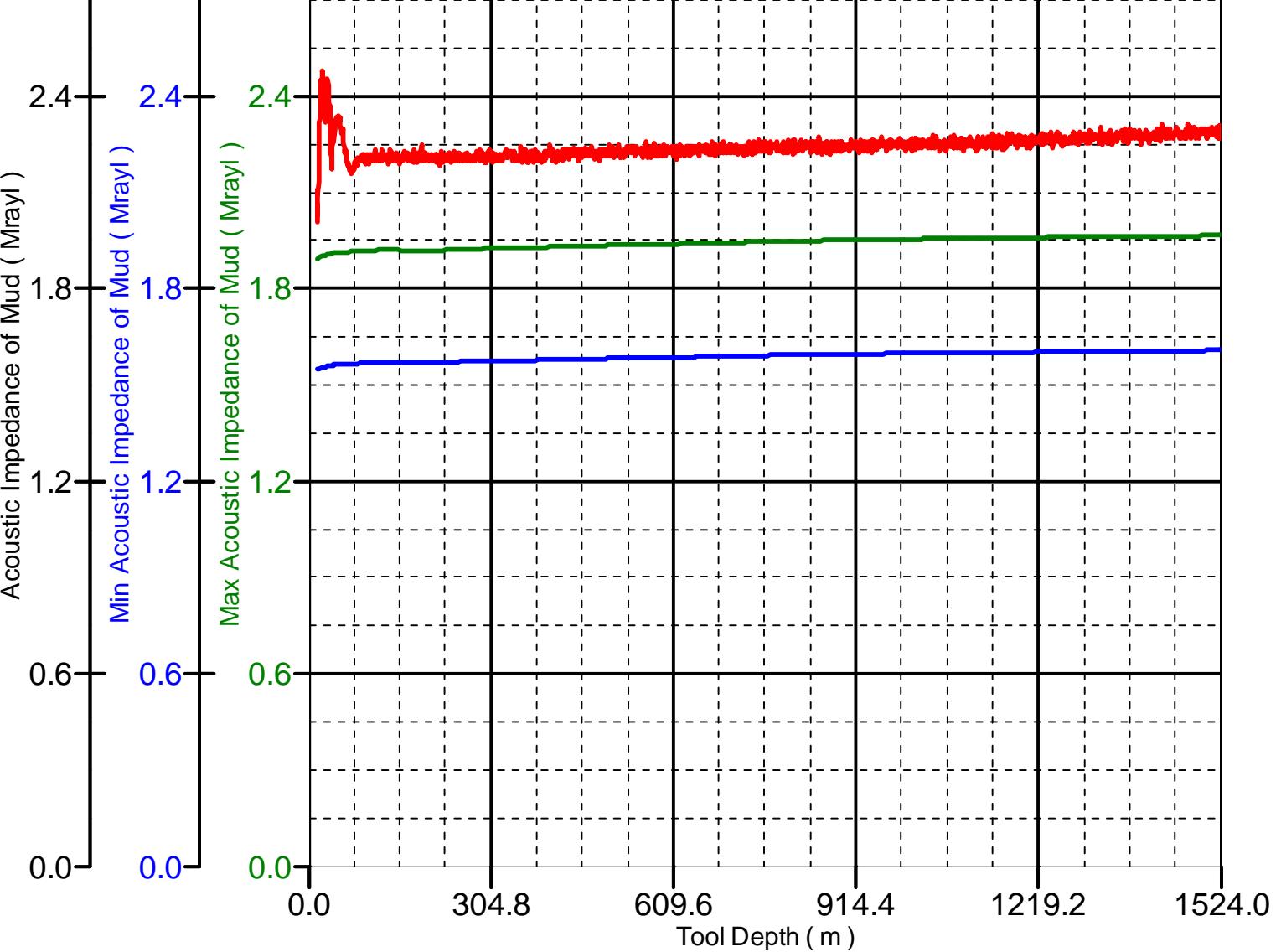
# Theoretical Acoustic Impedance of Mud vs Depth

## 2D Cross Plot

Index Range: From 13.72 to 2484.88 m

— UDEP-AIBH   — UDEP-AIBL   — UDEP-AIBM





## Calibration Report

### SGT-N (Scintillation Gamma-Ray Tool) Calibration - Run 1

Primary Equipment :

Scintillation Gamma Cartridge

SGC-TB

10022

Calibration Parameter :

Plus Reference (Jig minus background reference)

165

### SGT-N Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 18:52:08 29-Jun-2014

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before After After-Before	---	---	1.046	---	

### SGT-N Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 18:52:08 29-Jun-2014

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before After After-Before	---	0	9.614	120.000	

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Plus Measurement	gAPI	Before After After-Before	157.763	143.421	157.763 NOT DONE	172.105	

### SGT-N Gamma-Ray Plateau Check - Gamma Ray Plateau Check

Before:

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Plus Plateau Measurement - 0	gAPI	Before	----	----	----	----	

		gAPI	Before After After-Before	---	---	---	---	---	---
RGR Plus Plateau Measurement - 0				---	---	---	---	---	---

Company: V.O.F. Geothermie De Lier **Schlumberger**  
 Well: De Lier - GT-01  
 Field: De Lier  
 Rig Name: T-49  
 Country: Netherlands

## Cement and Corrosion log

9-5/8" section

29-JUN-2014