Schlumberger

Company: Occidental Petroleum Corporation

Well: Sherwood L Federal #30-29D

Field: Wattenberg

County: Weld Country: United States

# Isolation Scanner
## Cement Evaluation
## Gamma Ray - CCL Log

| | |
|---|---|
| County: | Weld |
| Field: | Wattenberg |
| Location: | NWNW |
| Well: | Sherwood L Federal #30-29D |
| Company: | Occidental Petroleum Corporation |

Location: NWNW 721 FNL 783FWL

| | | | |
|---|---|---|---|
| Permanent Datum: | Ground Level | Elev.: | K.B. 4835.00 ft |
| | | | G.L. 4820.00 ft |
| Log Measured From: | Kelly Bushing | 15.00 ft | 4820.00 f above Perm.Datum |
| Drilling Measured From: | Kelly Bushing | | D.F. 4835.00 ft |

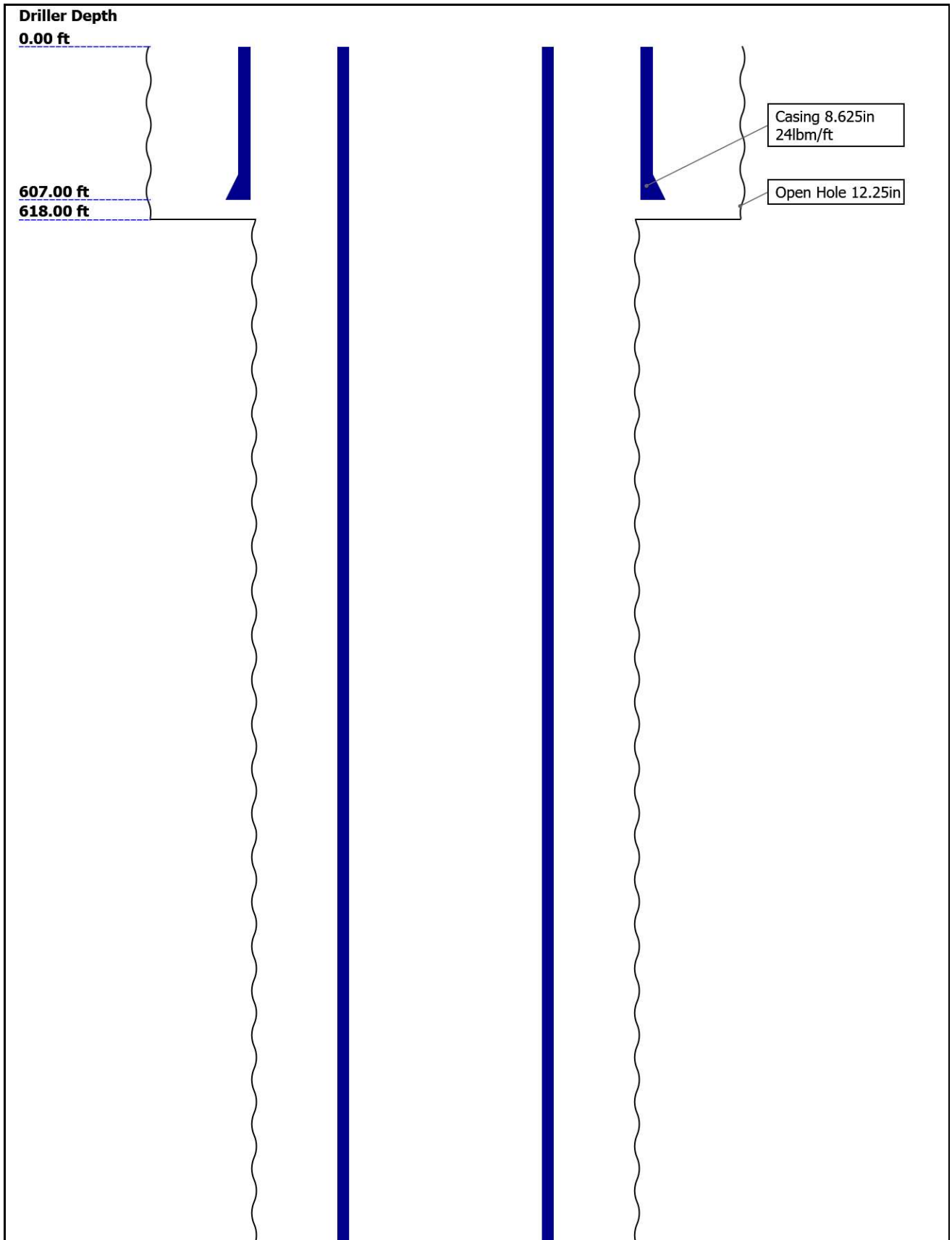
| | | | | |
|---|---|---|---|---|
| API Serial No. 05-123-31135 | Max.Hole Deviation 0 deg | Longitude: 104° 49' 38.172" W | Latitude: 40° 12' 2.988" N | |
| Logging Date | 15-Nov-2022 | | | |
| Run Number | ONE | | | |
| Depth Driller | 8095.00 ft | | | |
| Schlumberger Depth | 8095.00 ft | | | |
| Bottom Log Interval | 7100.00 ft | | | |
| Top Log Interval | 55.00 ft | | | |
| Casing Fluid Type | Water | | | |
| Salinity | | | | |
| Density | 8.4 lbm/gal | | | |
| Fluid Level | 8.00 ft | | | |
| BIT/CASING/TUBING STRING | | | | |
| Bit Size | 7.88 in | | | |
| From | 618.00 ft | | | |
| To | 8095.00 ft | | | |
| Casing/Tubing Size | 4.5 in | | | |
| Weight | 11.6 lbm/ft | | | |
| Grade | N/A | | | |
| From | 0.00 ft | | | |
| To | 8083.00 ft | | | |
| Max Recorded Temperatures | | | | |
| Logger on Bottom | 15-Nov-2022 15:00:00 | | | |
| Unit Number / Location: | OSLC-HA2801 / Fort Morgan | | | |
| Recorded By | D. Hassan | | | |
| Witnessed By | Eric Wenzel | | | |

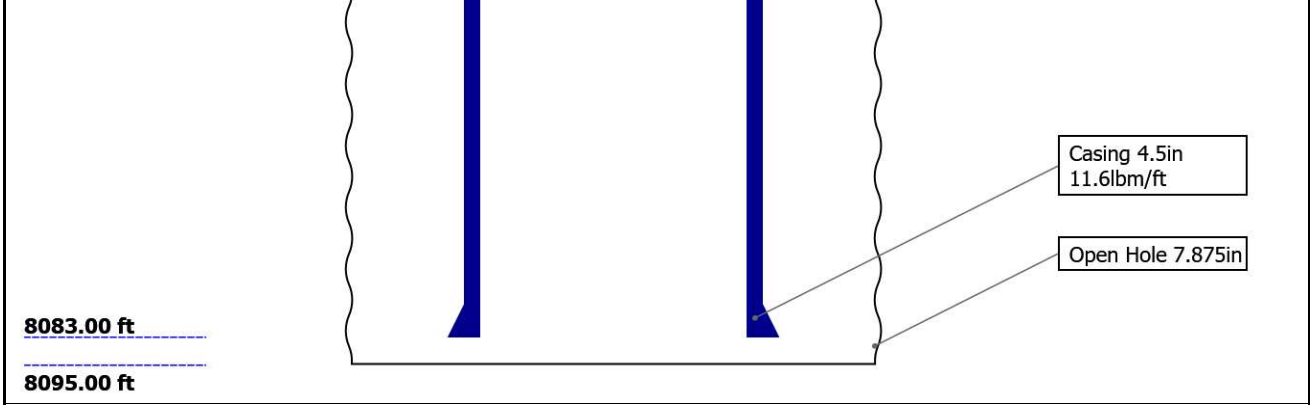
## Disclaimer



## Contents

## Well Sketch






## Borehole Size/Casing/Tubing Record

| | | | | | | |
|---|---|---|---|---|---|---|
| Bit | | | | | | |
| Bit Size ( in ) | 12.25 | 7.875 | | | | |
| Top Driller ( ft ) | 0 | 618 | | | | |
| Top Logger ( ft ) | 0 | 618 | | | | |
| Bottom Driller ( ft ) | 618 | 8095 | | | | |
| Bottom Logger ( ft ) | 618 | 8095 | | | | |
| Casing | | | | | | |
| Size ( in ) | 8.625 | 4.5 | | | | |
| Weight ( lbm/ft ) | 24 | 11.6 | | | | |
| Inner Diameter ( in ) | 8.097 | 4 | | | | |
| Grade | J55 | N/A | | | | |
| Top Driller ( ft ) | 0 | 0 | | | | |
| Top Logger ( ft ) | 0 | 0 | | | | |
| Bottom Driller ( ft ) | 607 | 8083 | | | | |
| Bottom Logger ( ft ) | 607 | 8083 | | | | |

## Remarks and Equipment Summary

### ONE: Toolstring


### ONE: Remarks

| |
|---|
| Thank you for choosing Schlumberger |
| Log run for cement and casimg evaluation |
| IBC-A sub was used with IBC-TX |
| Tool was run as per tool sketch |
| Log run under 500 psi |
| Crew: Derrick Hunter |


Lengths are in ft
Maximum Outer Diameter = 3.800 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

## Depth Summary

| | ONE | | |
|---|---|---|---|
| Depth Measuring Device | | | |
| Type | IDW-B | | |
| Serial Number | | | |
| Calibration Date | | | |
| Calibrator Serial Number | | | |
| Calibration Cable Type | | | |
| Wheel Correction 1 | 0 | | |
| Wheel Correction 2 | 0 | | |
| Tension Device | | | |

| Tension Device | | | |
|---|---|---|---|
| Type | CMTD-B/A | | |
| Serial Number | | | |
| Calibration Date | | | |
| Calibrator Serial Number | | | |
| Number of Calibration Points | 0 | | |

| Logging Cable | | | |
|---|---|---|---|
| Type | 7-46NT-XS | | |
| Serial Number | ahosp | | |
| Length | 24000.00 ft | | |
| Conveyance Type | Wireline | | |
| Rig Type | Workover rig | | |

| ONE:Depth Control Parameters | | Depth Control Remarks |
|---|---|---|
| Log Sequence | First Log In the Well | Schlumberger depth control procedures followed |
| Rig Up Length At Surface | | IDW used as primary depth control system |
| Rig Up Length At Bottom | | Z-Chart used as secondary depth control system |
| Rig Up Length Correction | | |
| Stretch Correction | | |
| Tool Zero Check At Surface | | |

## USIT - Fluid Properties Measurement

| Run Name | Pass Name | Start Depth(ft) | Stop Depth(ft) |
|---|---|---|---|
| Run 4 | Log[2]:Down | 4567.4 | 7101.19 |

**Fluid Velocity = "Automatic".**
**CFVL equals DFSL channel**

| Start Depth(ft) | Stop Depth(ft) | Start Value(us/ft) | End Value(us/ft) |
|---|---|---|---|

**Mud Impedance = "Theoretical".**
**CZMD uses theoretical results.**
**MUD_N_THE=1.13**
**DFD=1.01g/cm3(8.40lbm/gal)**

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

## Composite 1

## IBC SLG

## Software Version

| Acquisition System | Version |
|---|---|
| Maxwell 2022.1 | 12.1.217729.3100 |
| Application Patch | Wireline_Hotfix-Mandatory-2022.1_12.1.220972 |
| | Wireline_NPD-ThruBit-2022.1_12.1.220135 |

## Composite Summary

| Run Name | Pass Objective | Direction | Top | Bottom | Start | Stop | DSC Mode | Depth Shift | Include Parallel Data |
|---|---|---|---|---|---|---|---|---|---|
| ONE | Log[3]:Up | Up | 5436.73 ft | 7107.90 ft | 15-Nov-2022 10:06:56 PM | 15-Nov-2022 10:34:39 PM | ON | 9.90 ft | Yes |
| ONE | Log[4]:Up | Up | 67.82 ft | 6315.28 ft | 15-Nov-2022 10:37:21 PM | 16-Nov-2022 12:14:08 AM | ON | 12.11 ft | Yes |

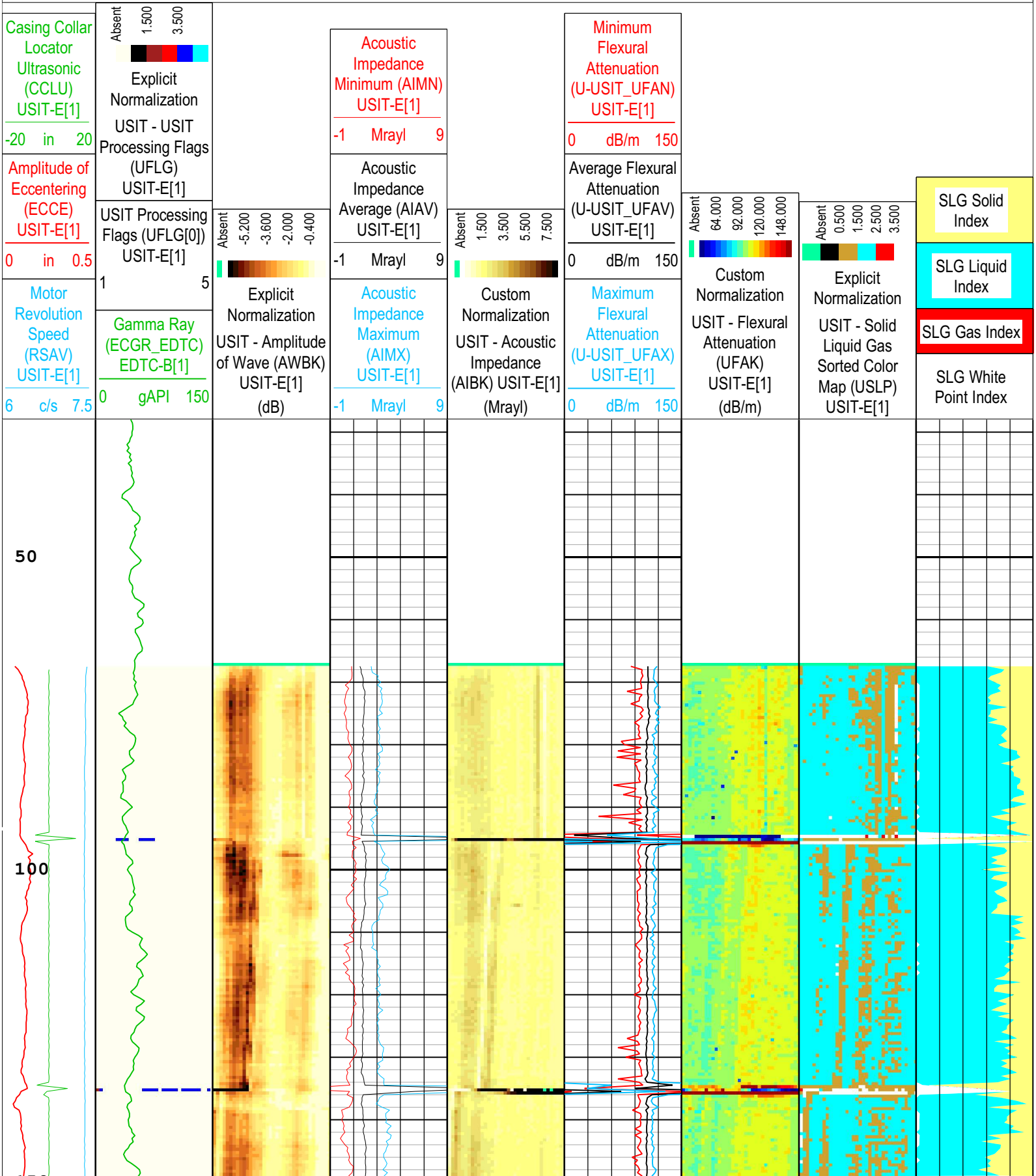
All depths are referenced to toolstring zero

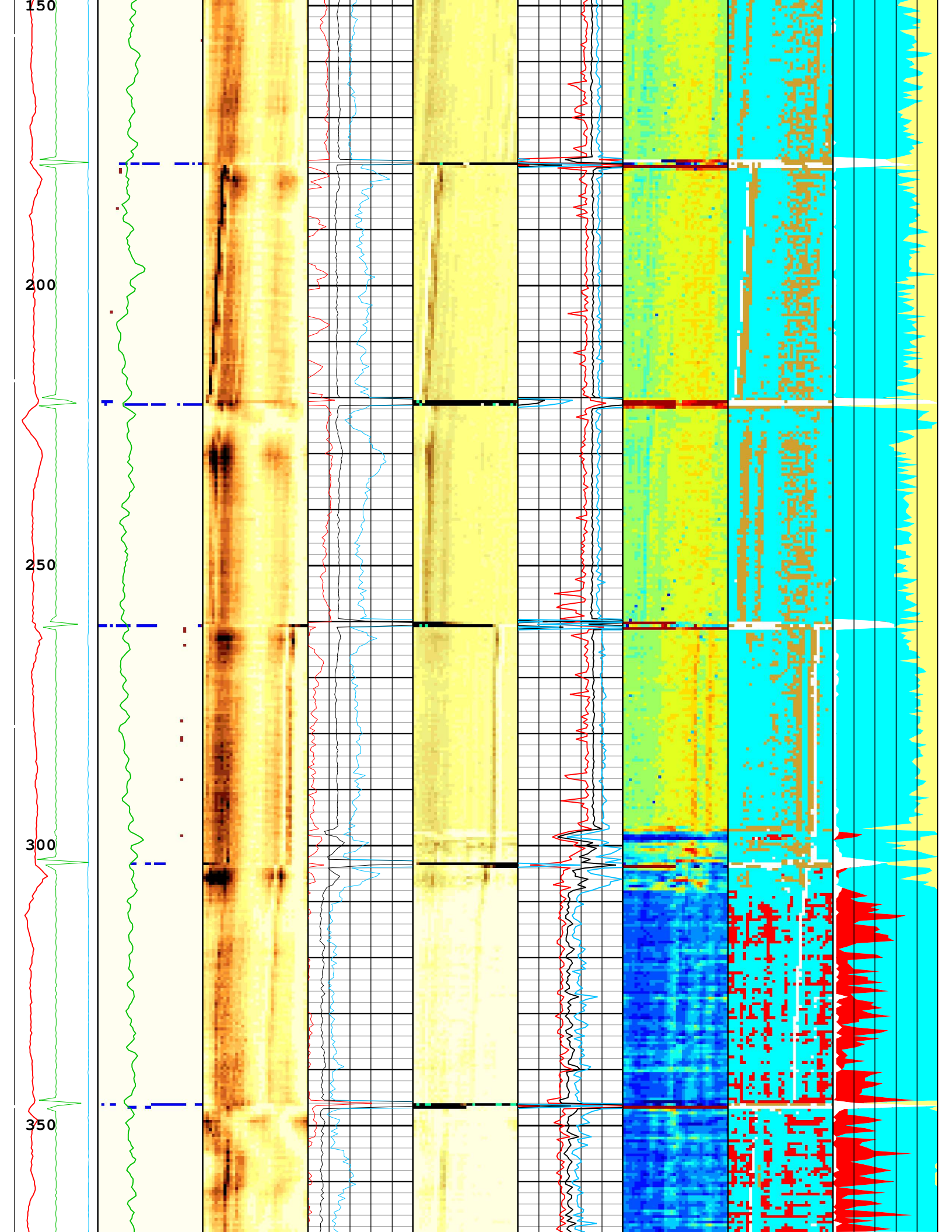
TIME_1900 - Time Marked every 60.00 (s)

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

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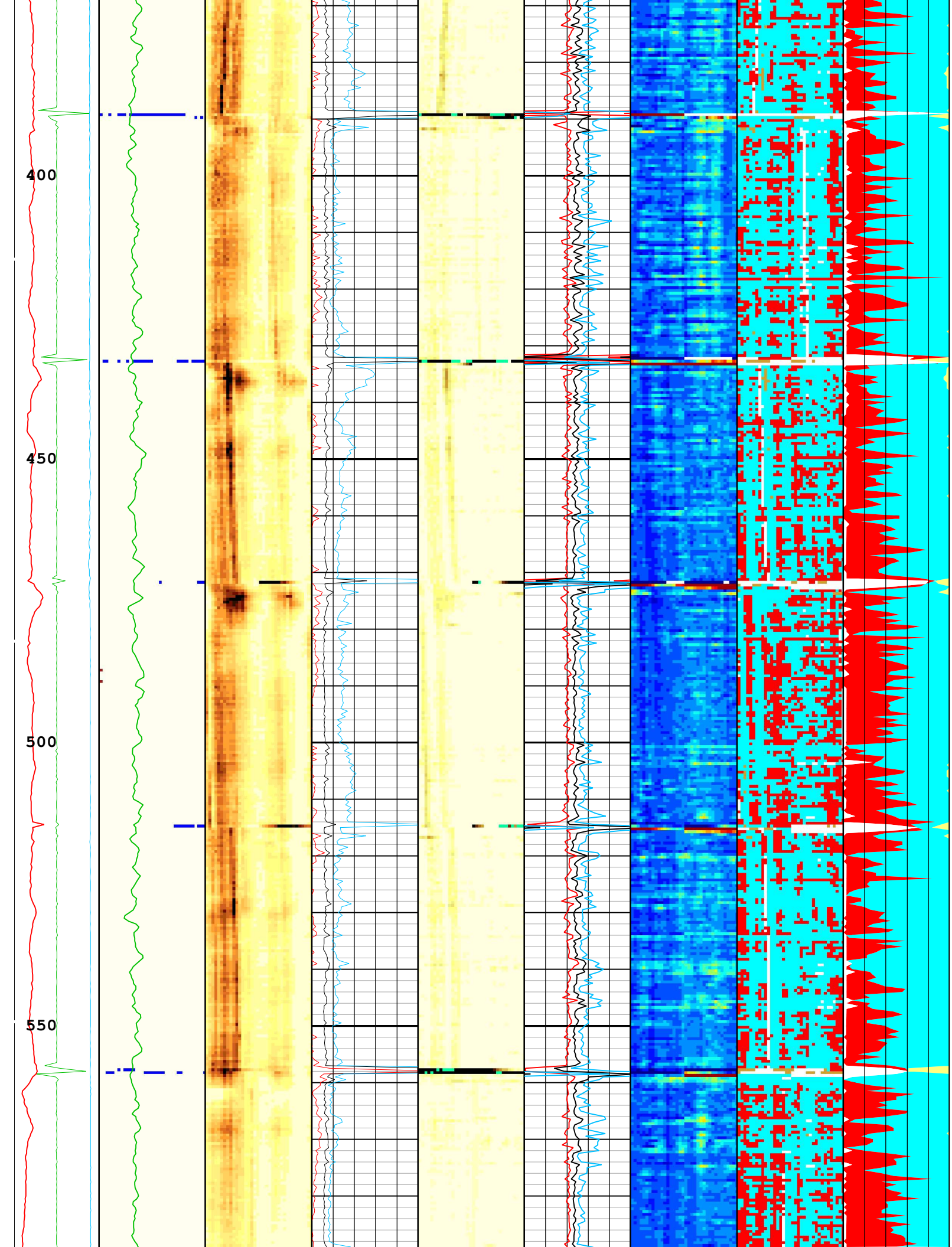
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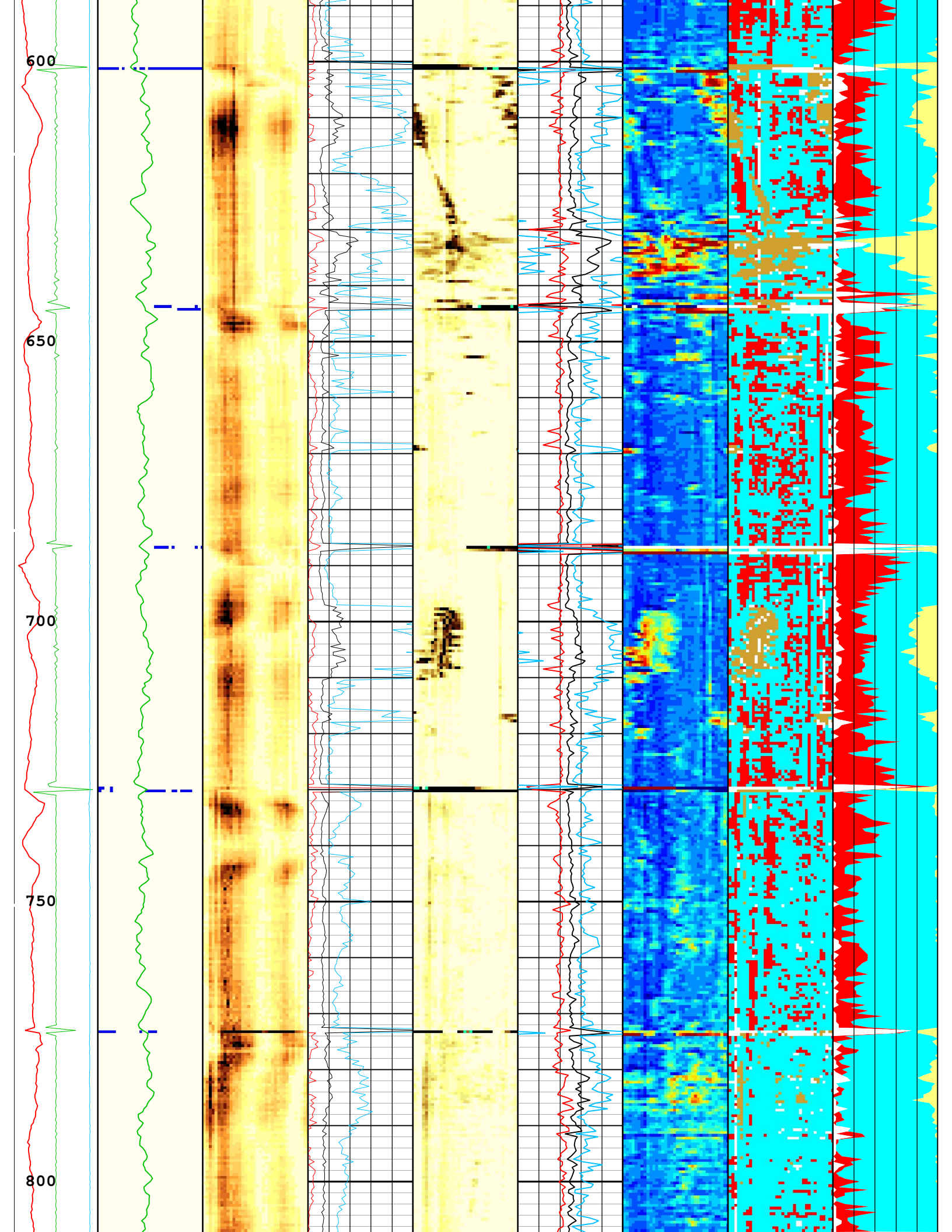
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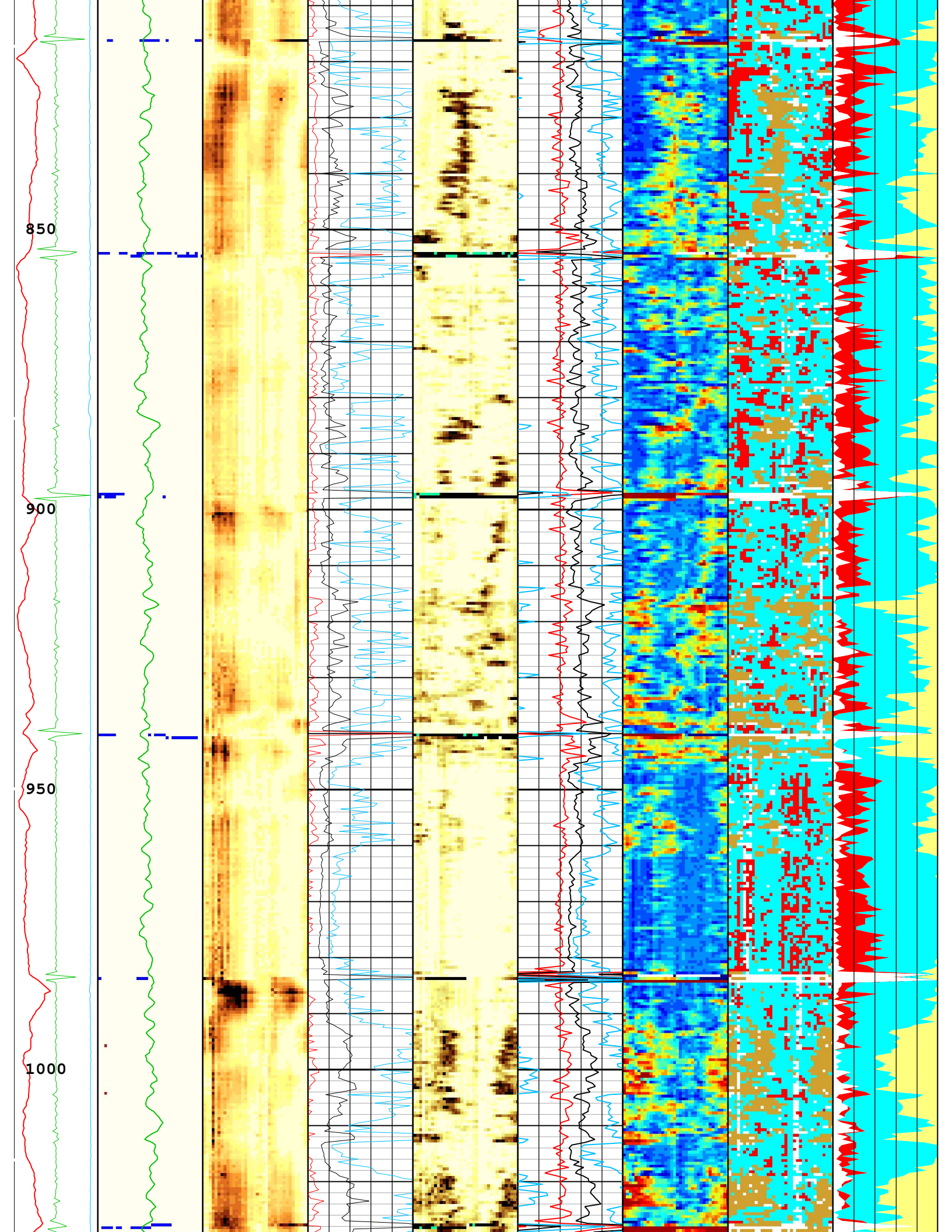
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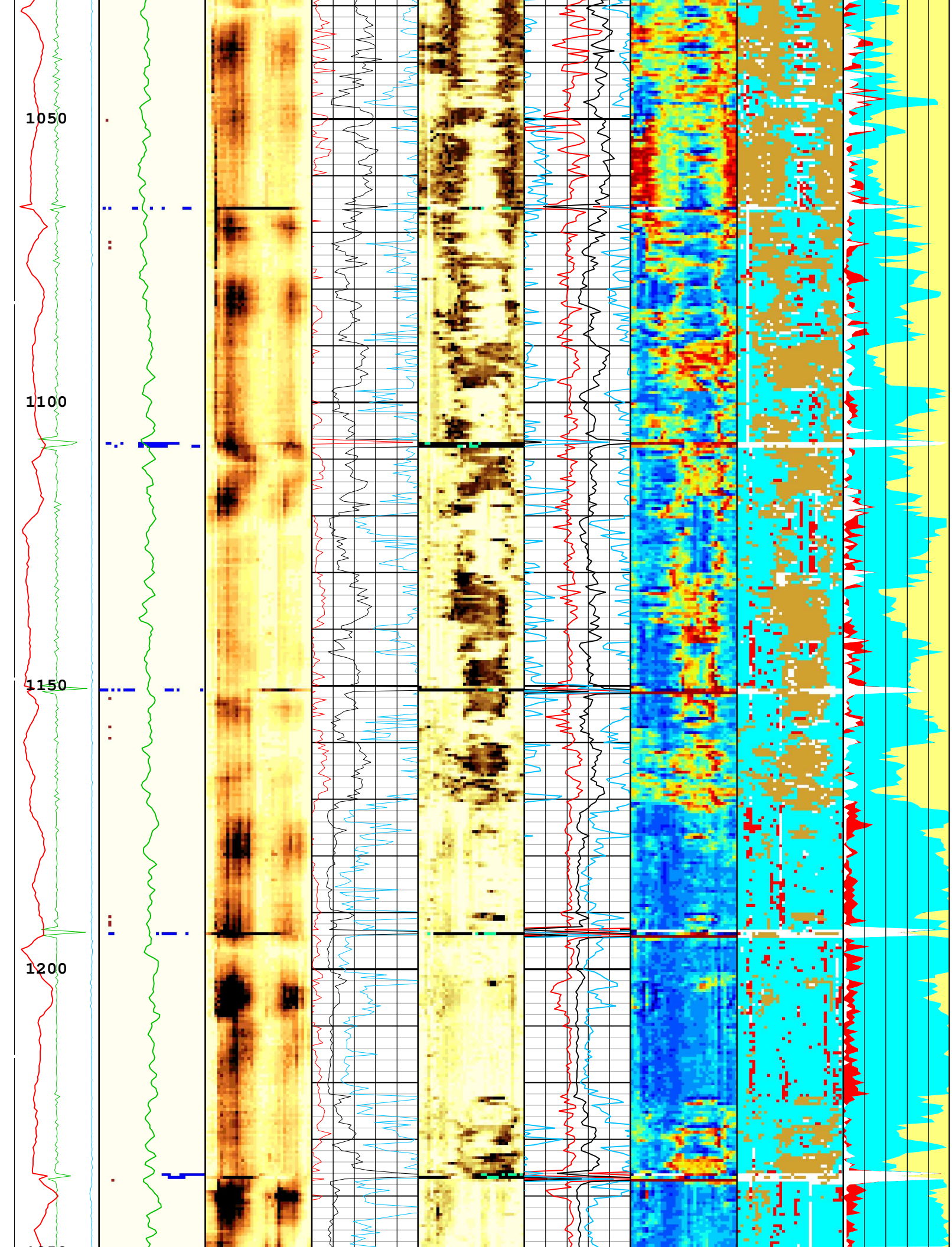
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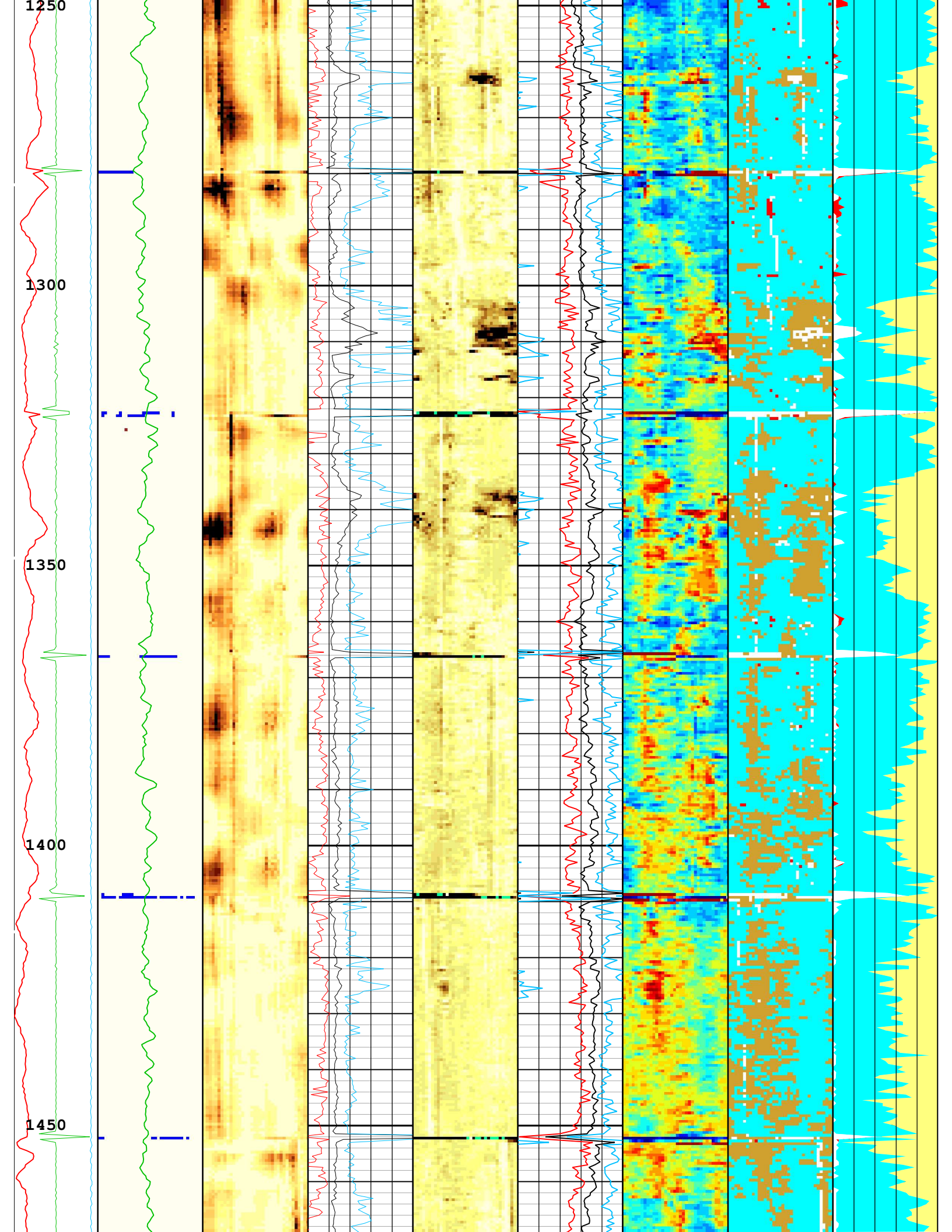
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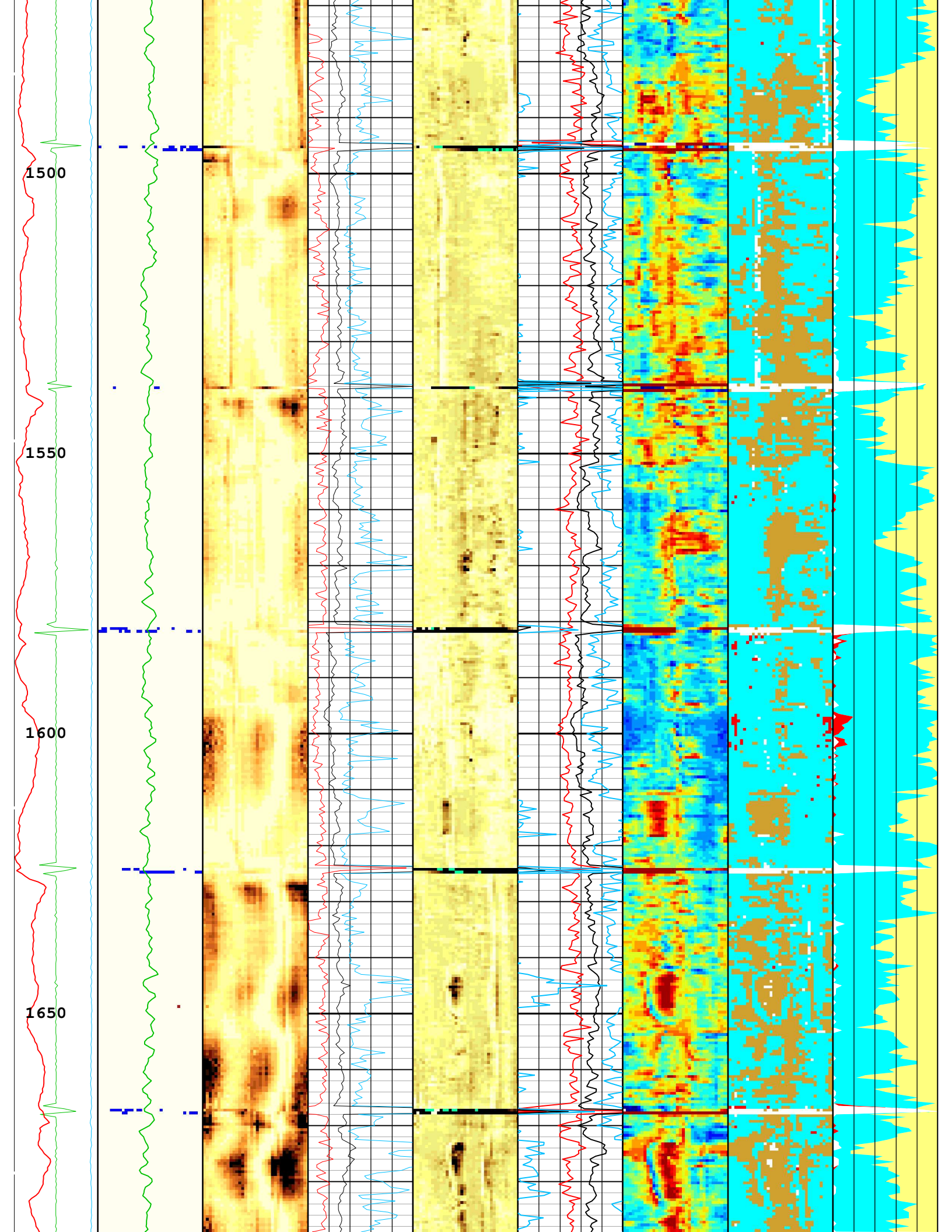
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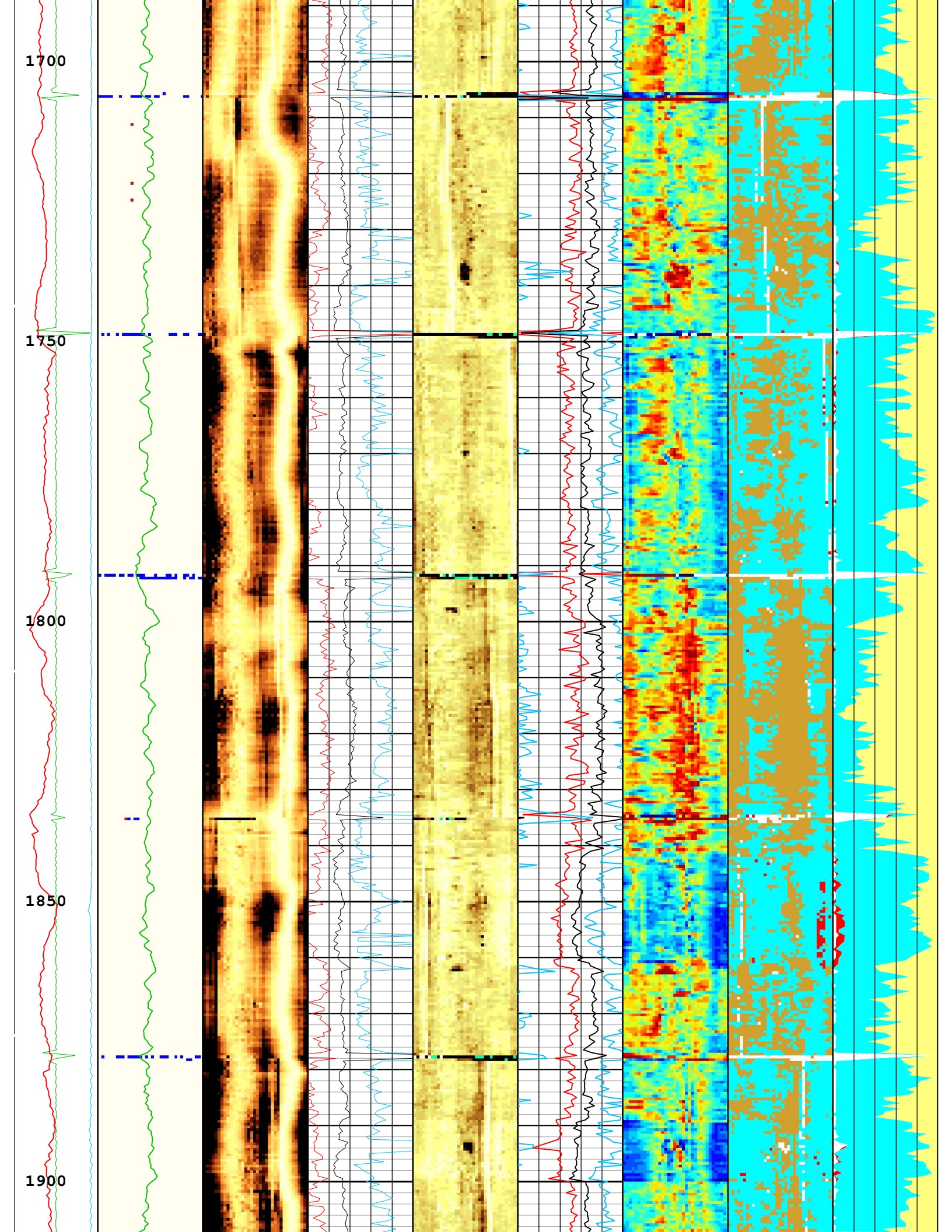
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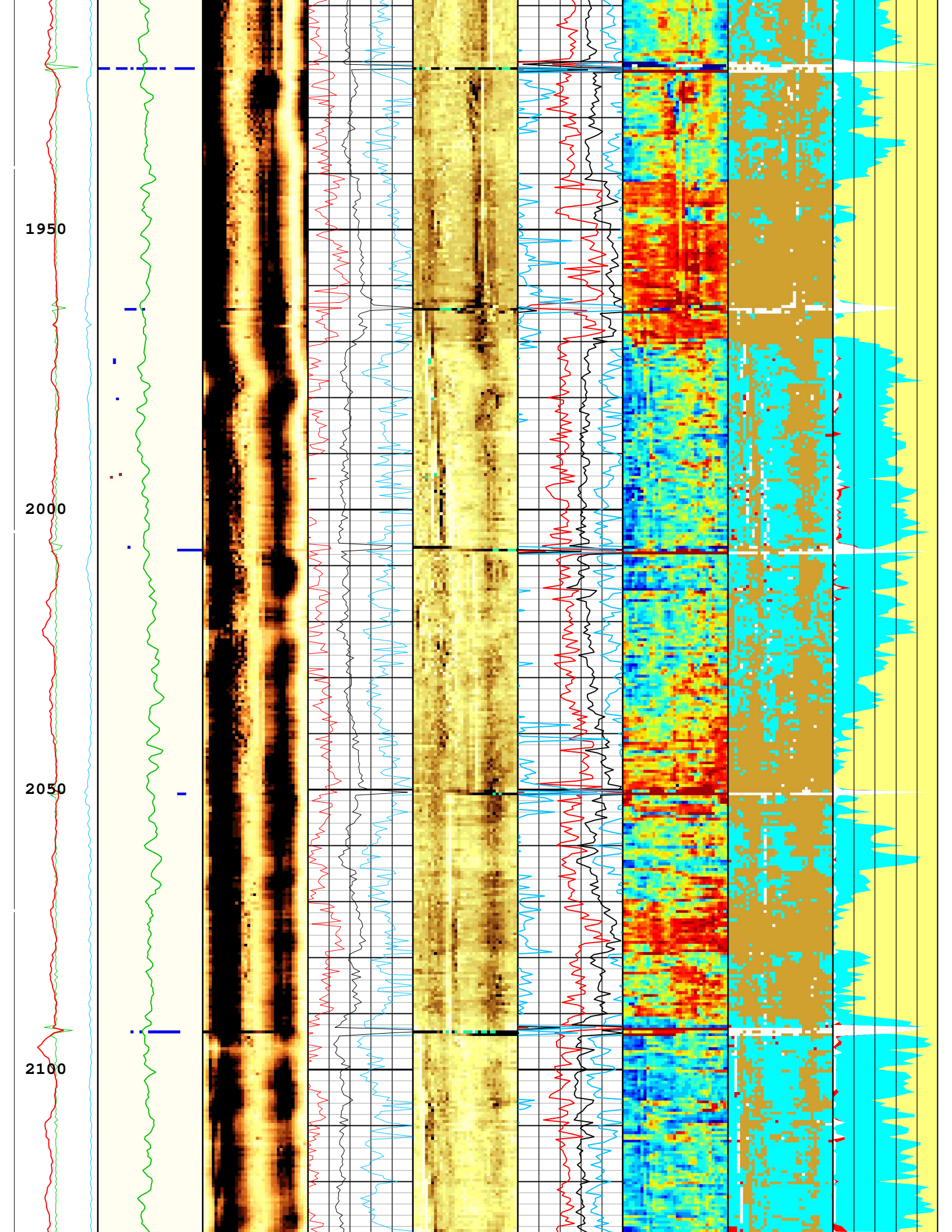
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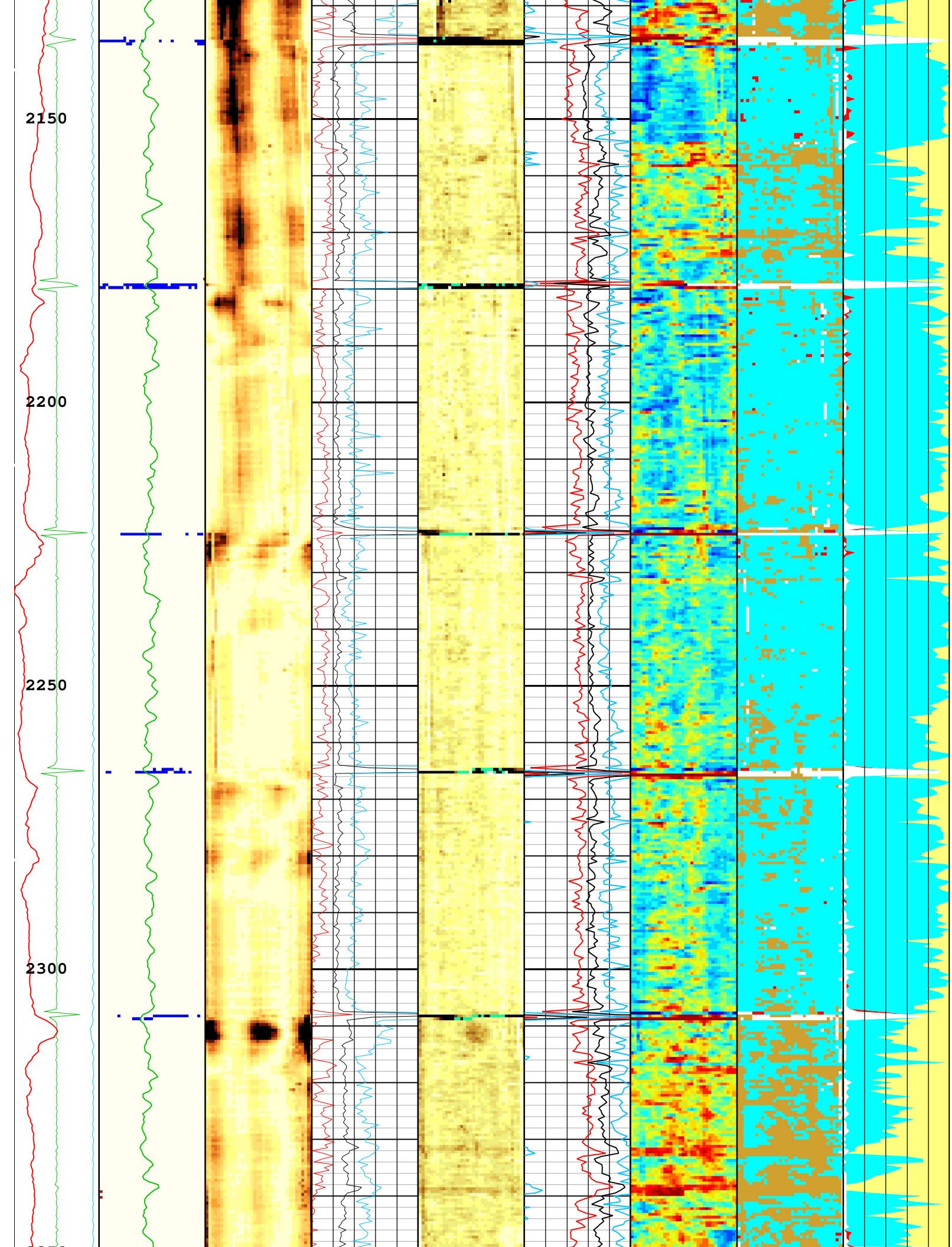
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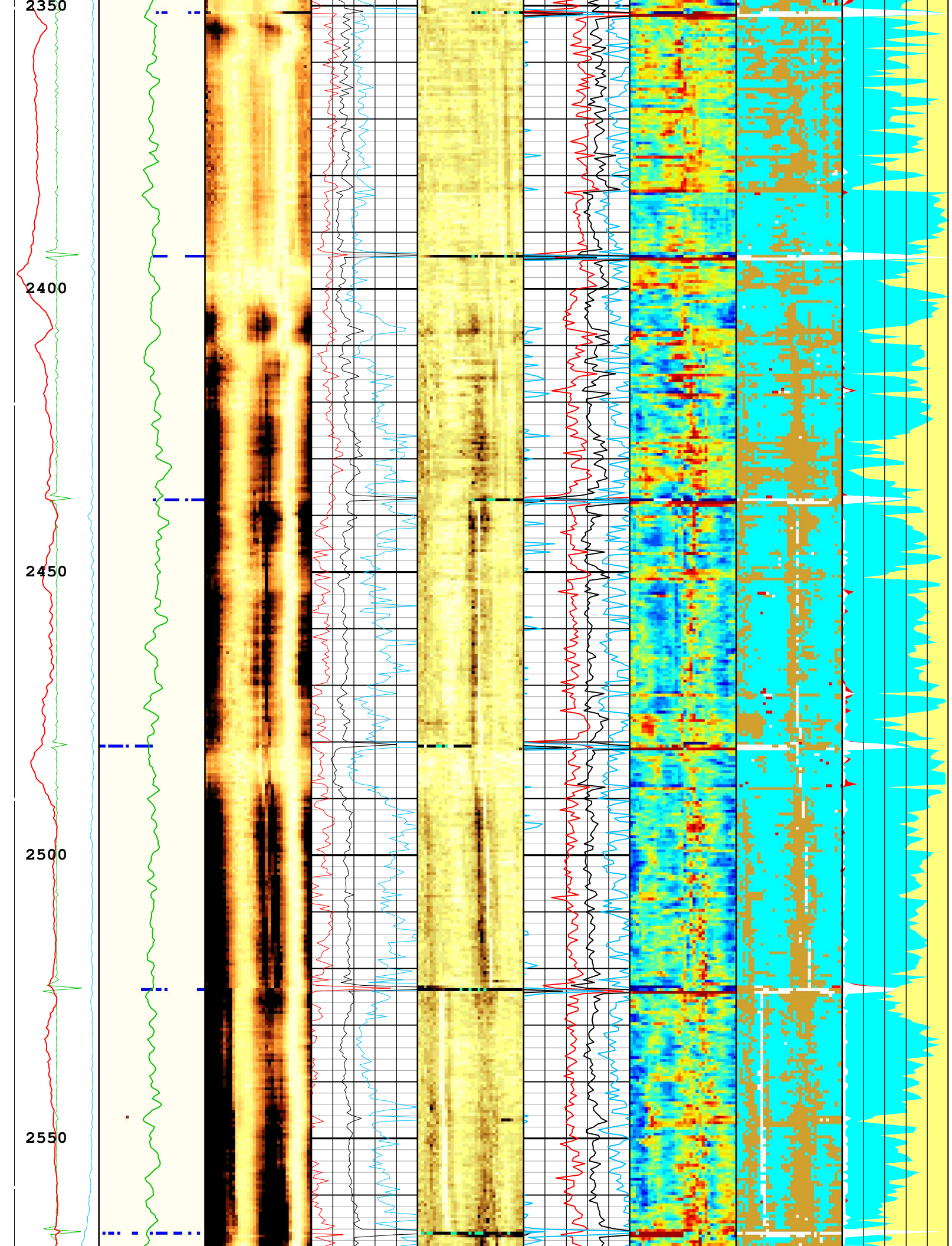
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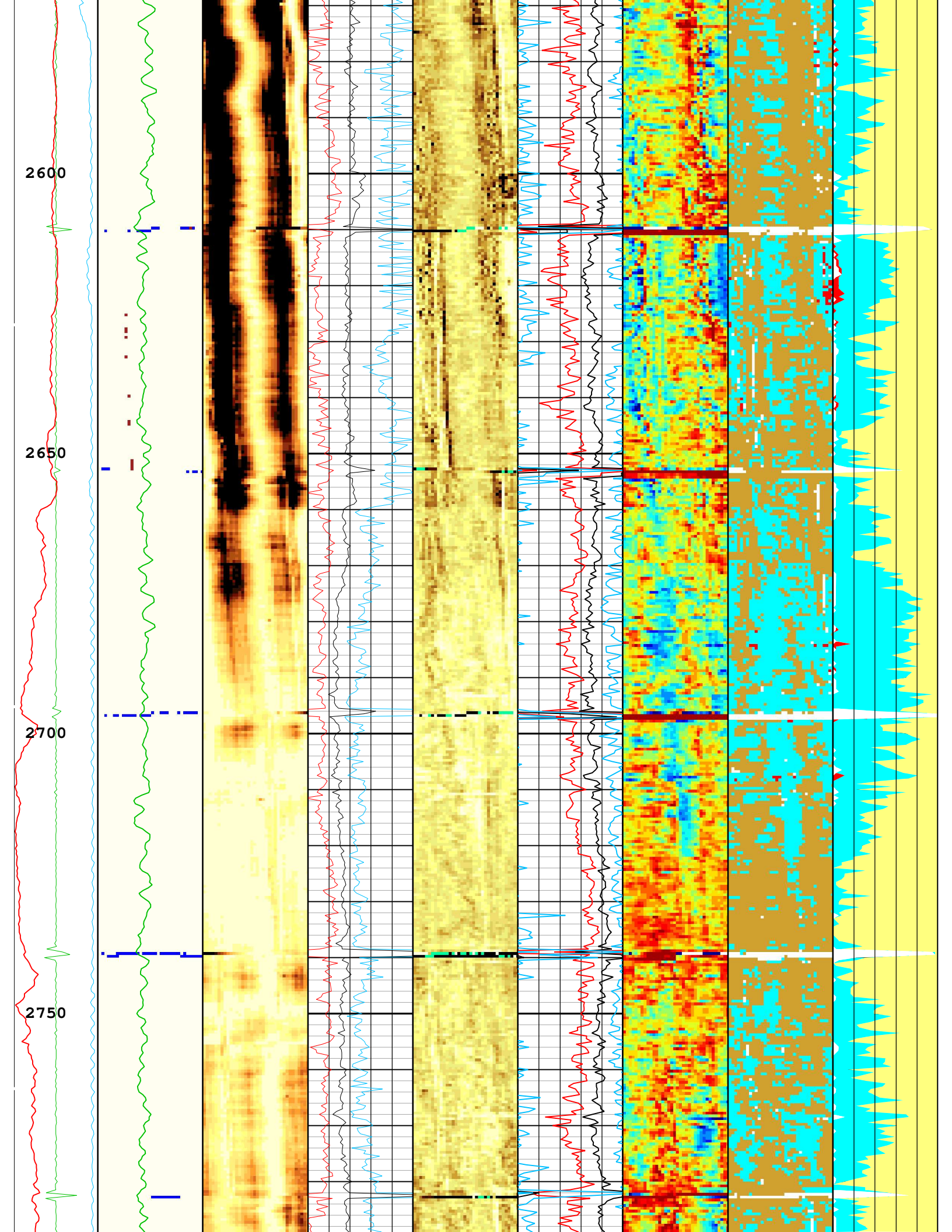
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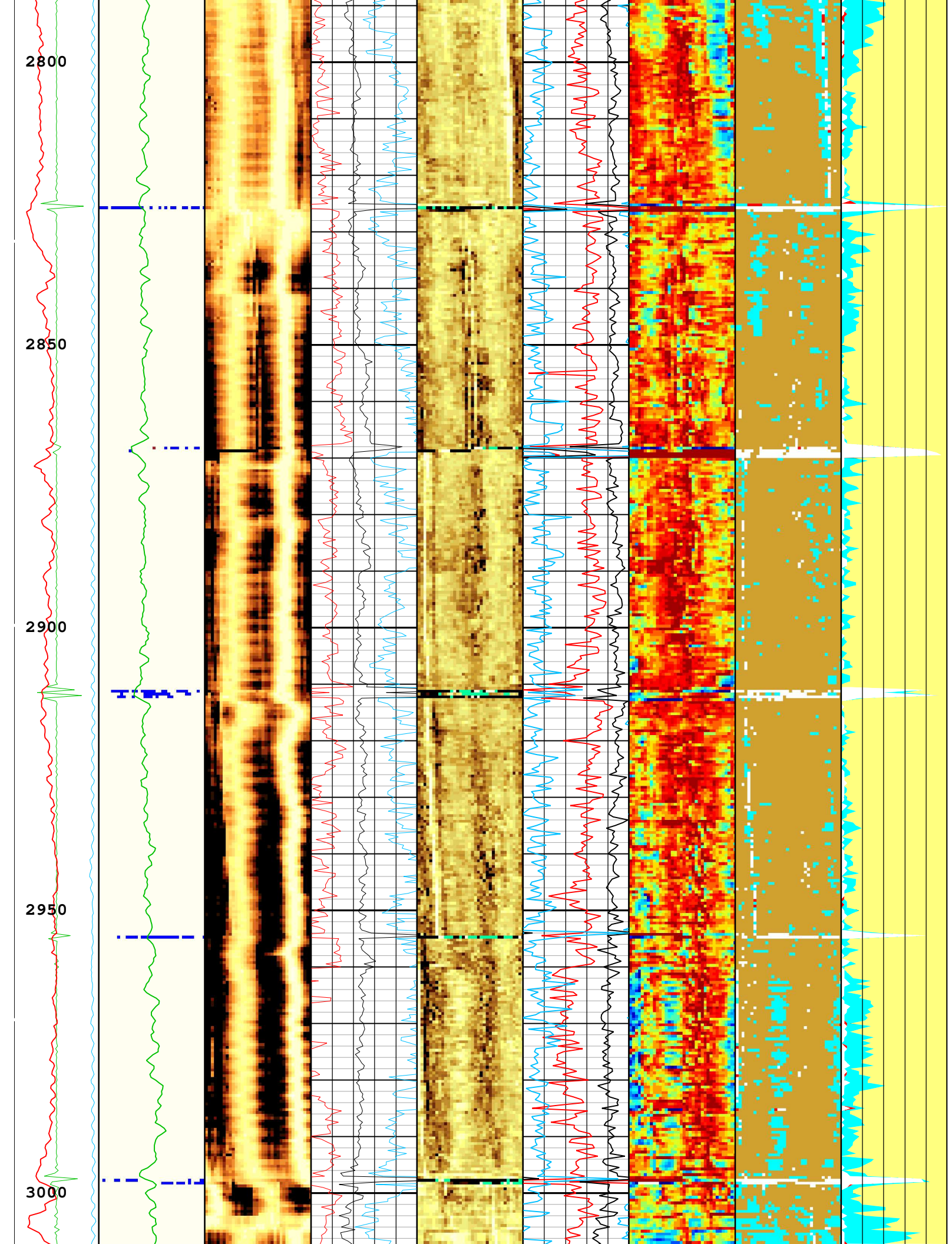
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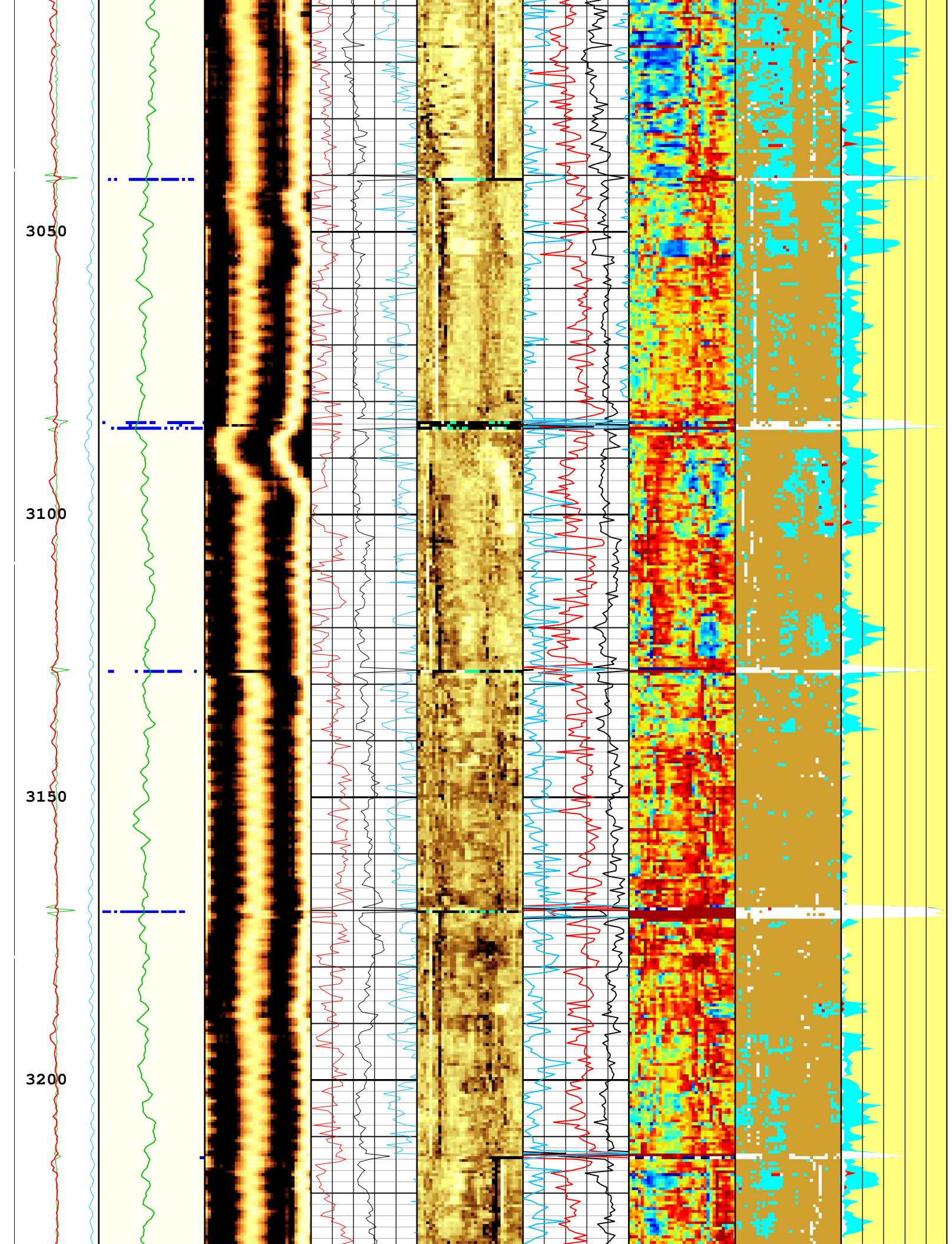
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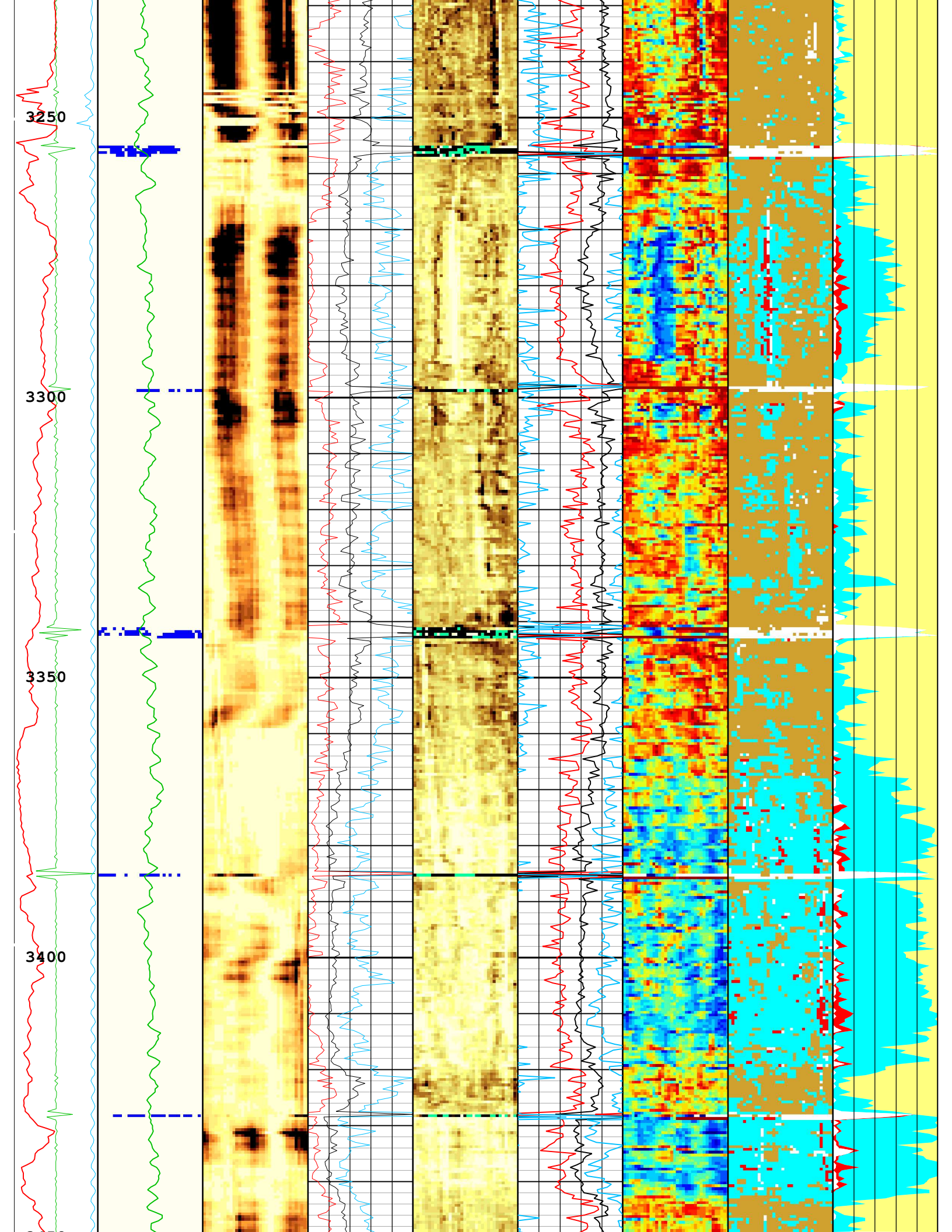
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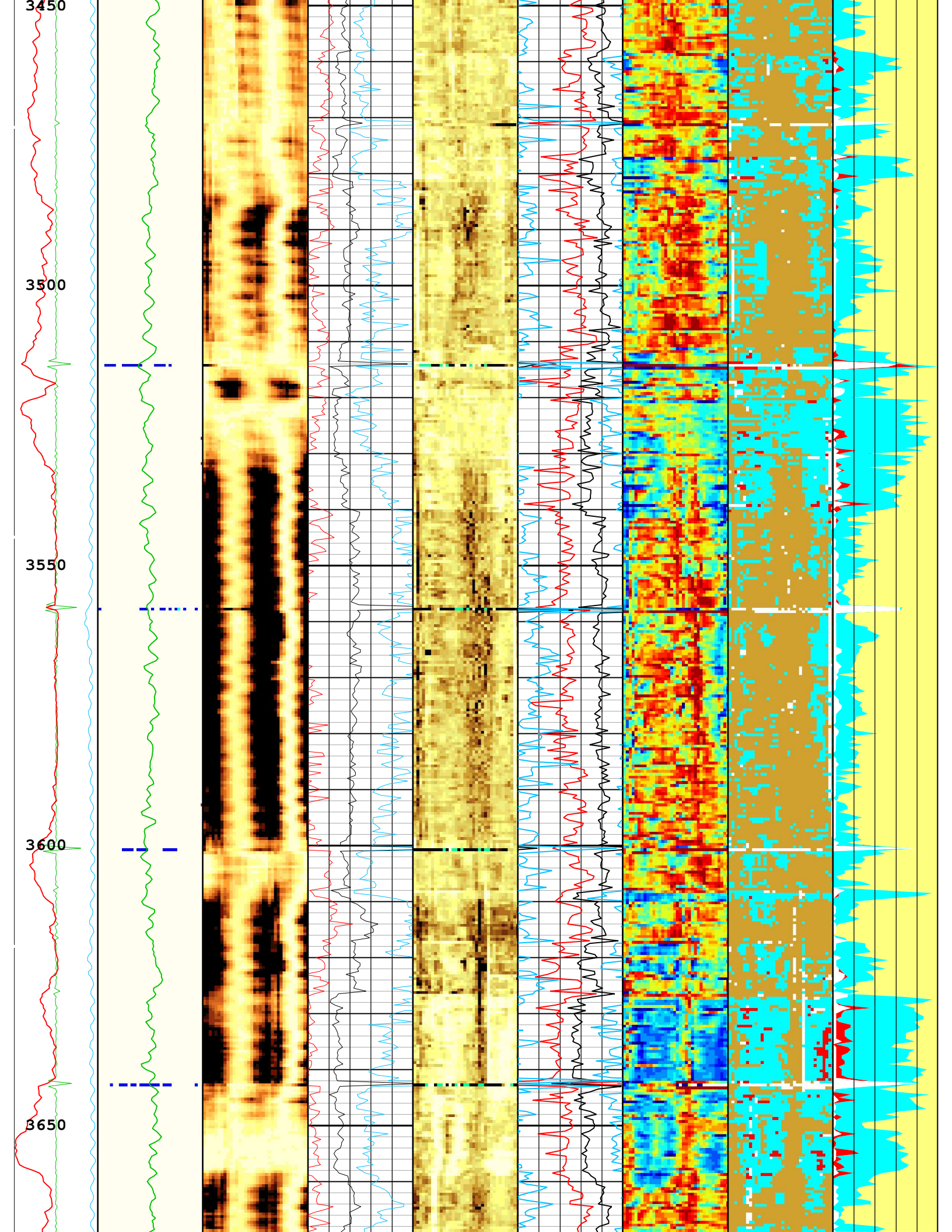
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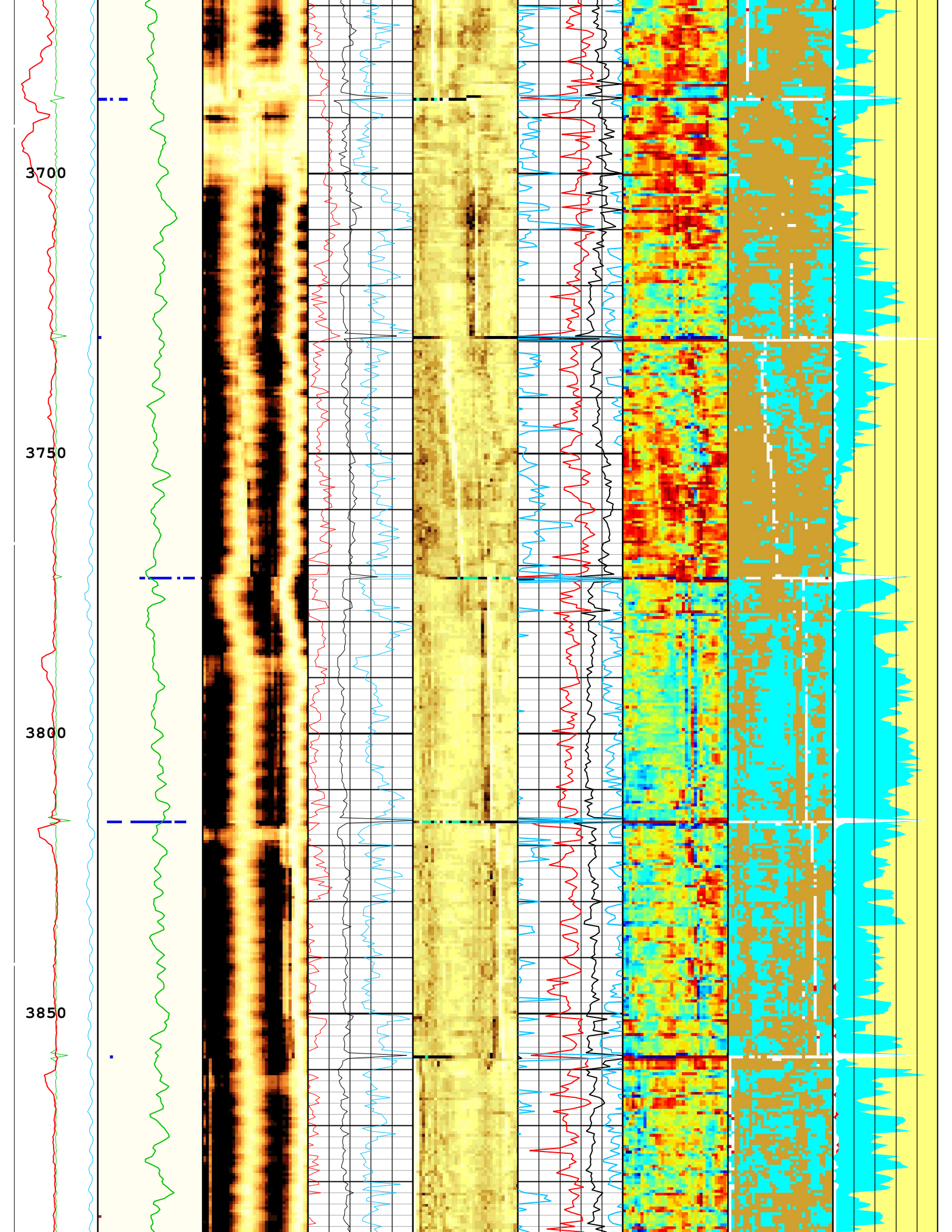
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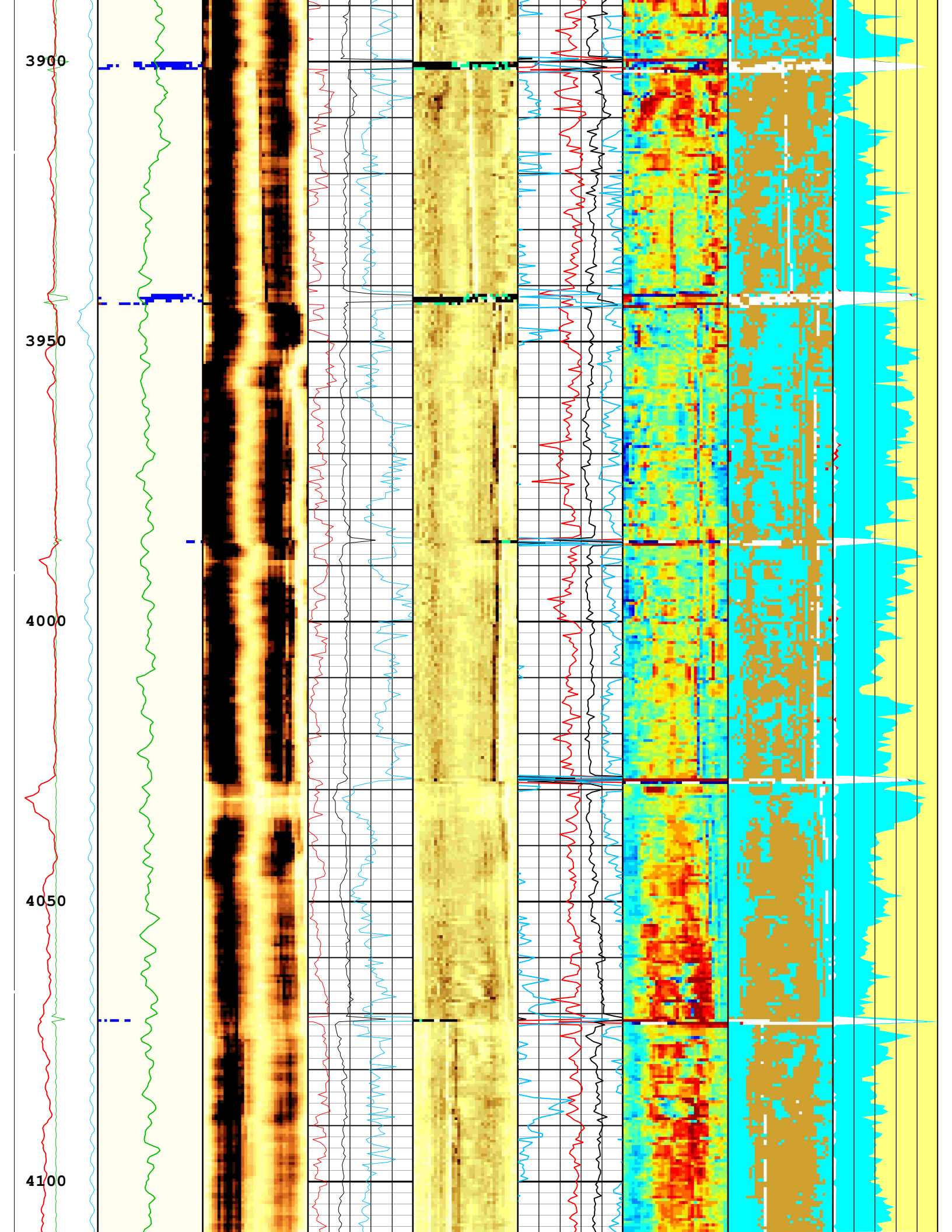
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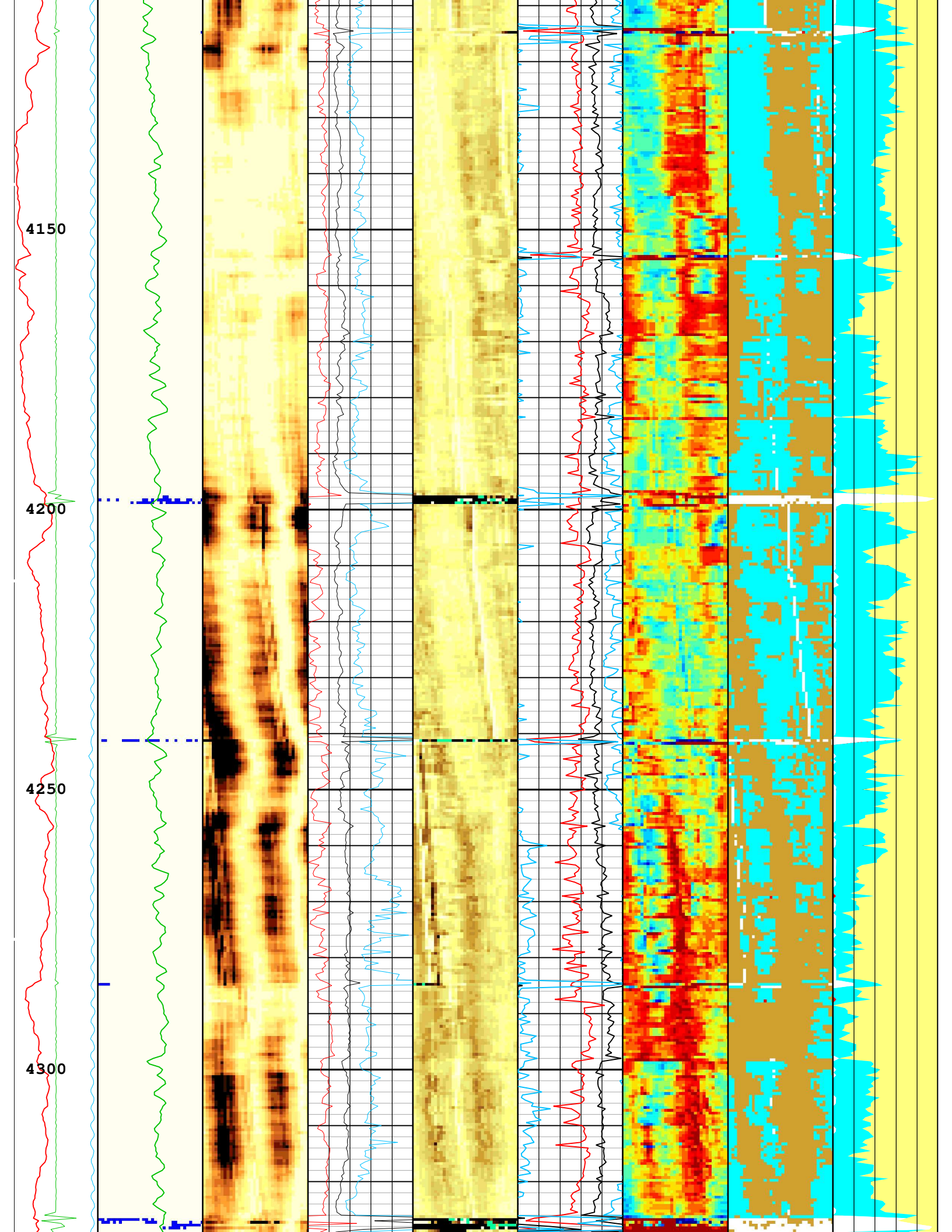
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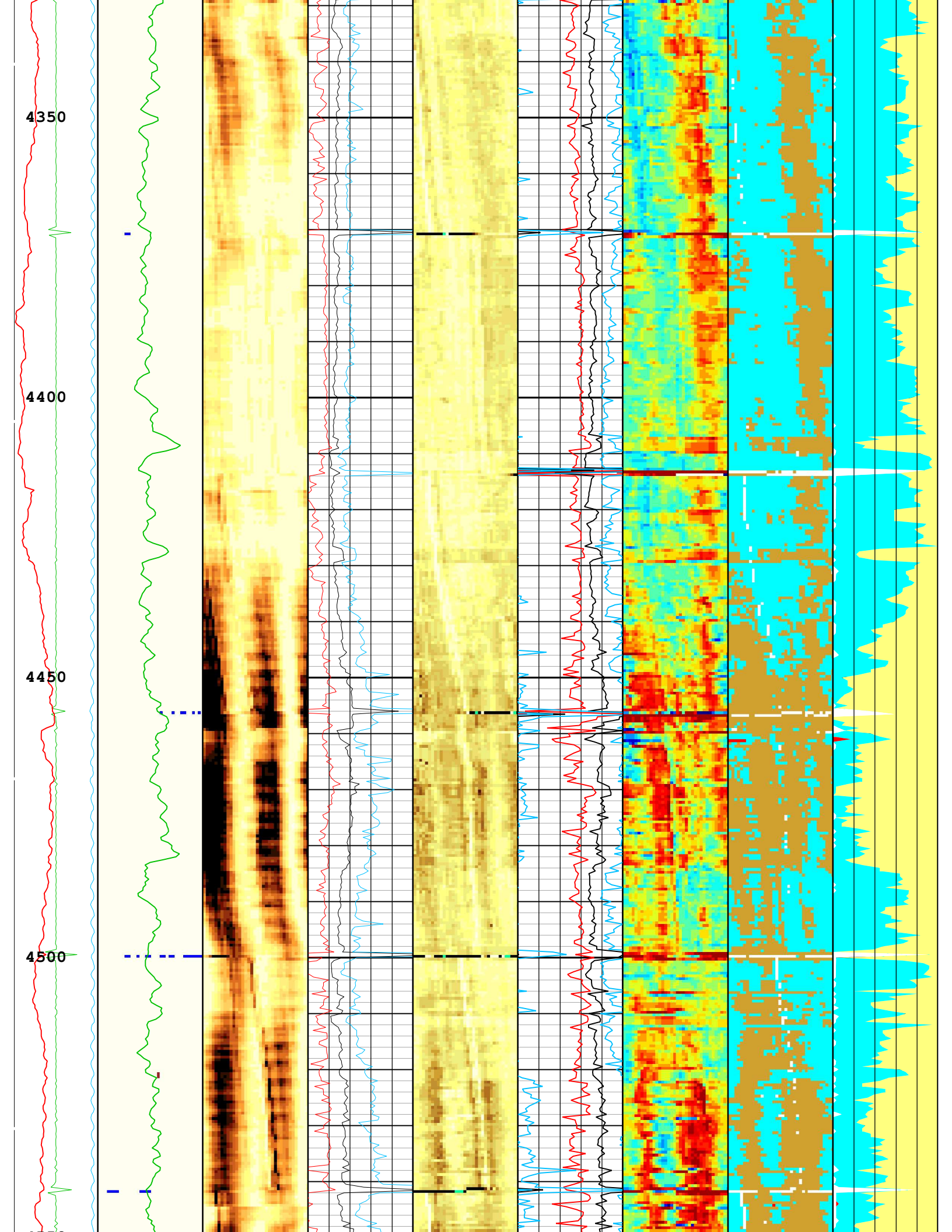
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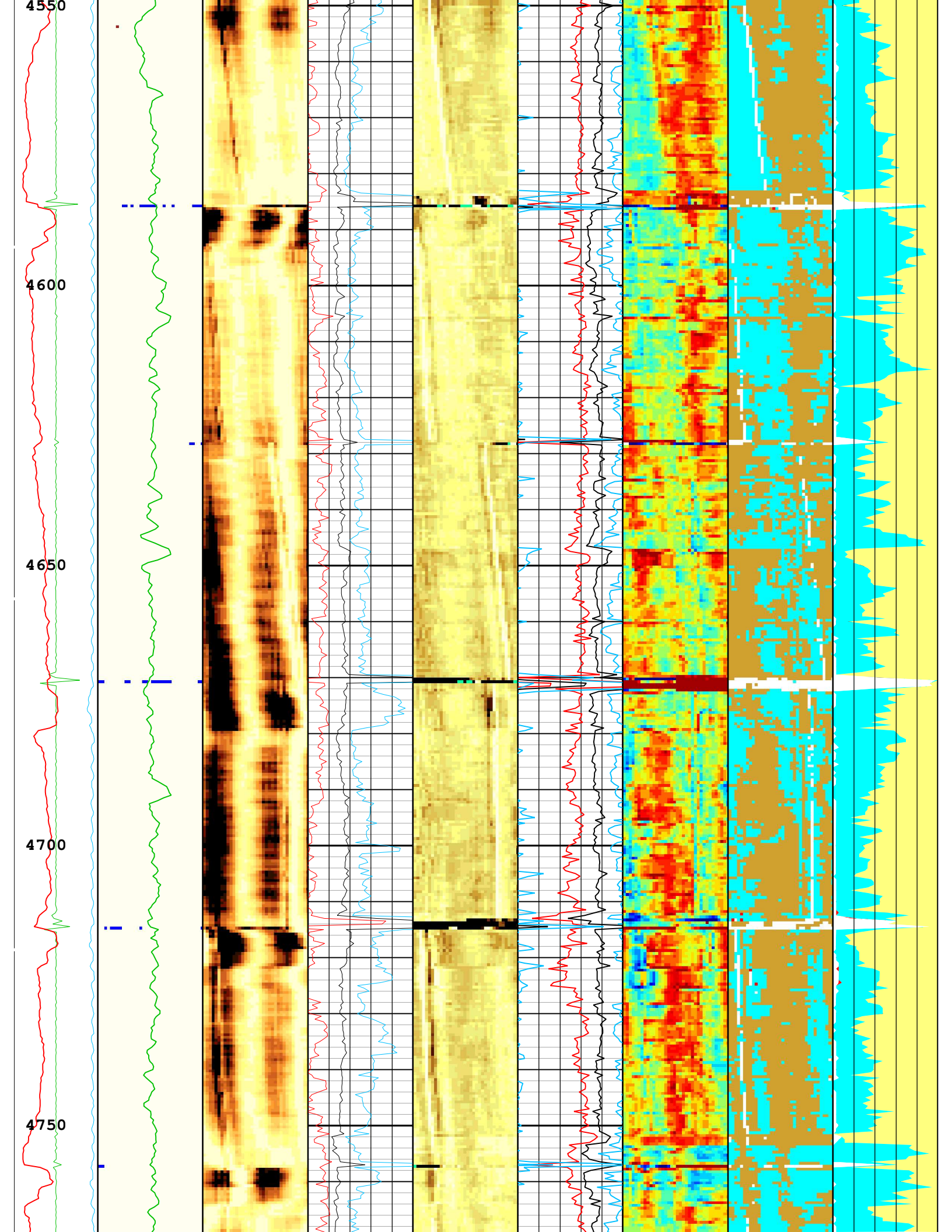
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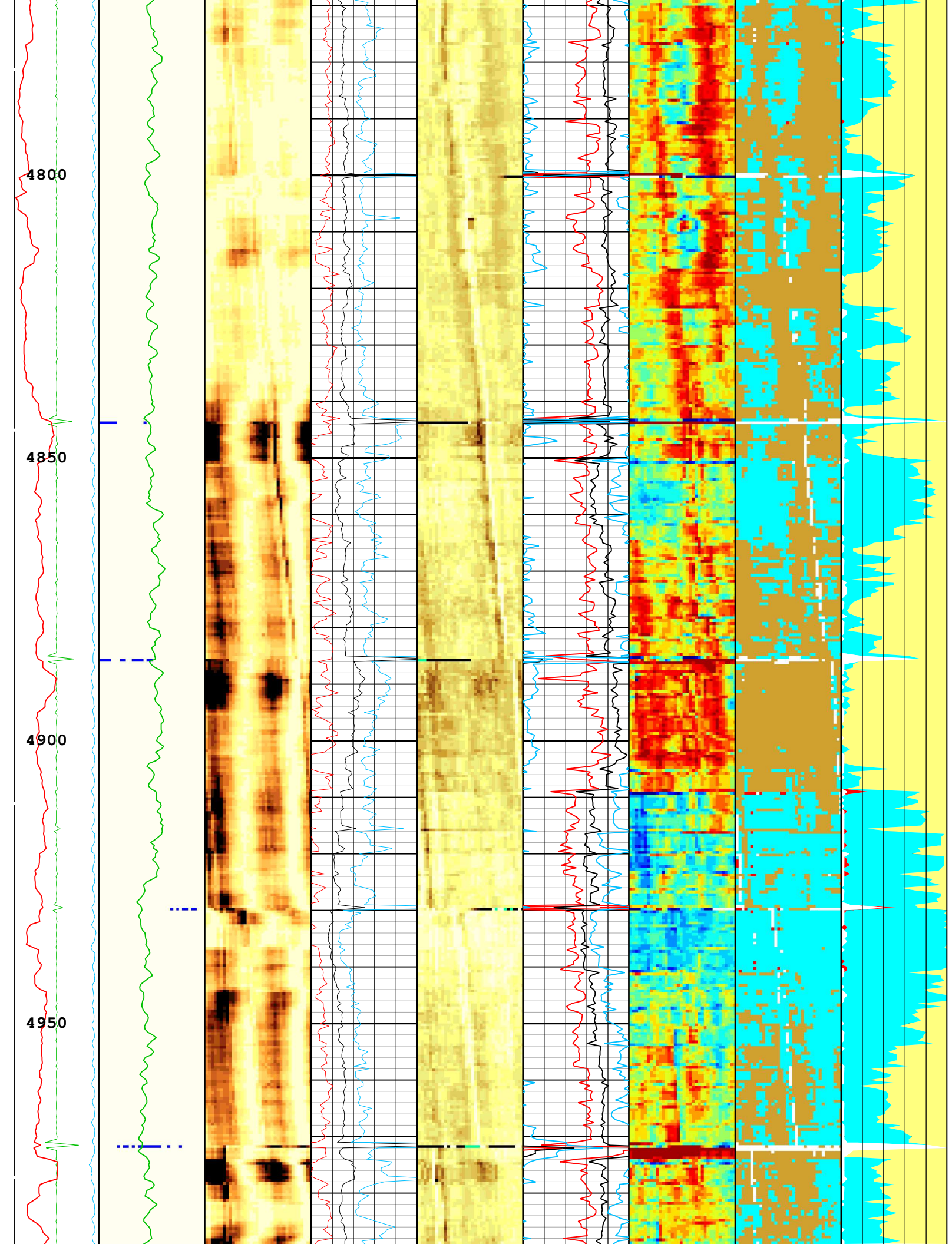
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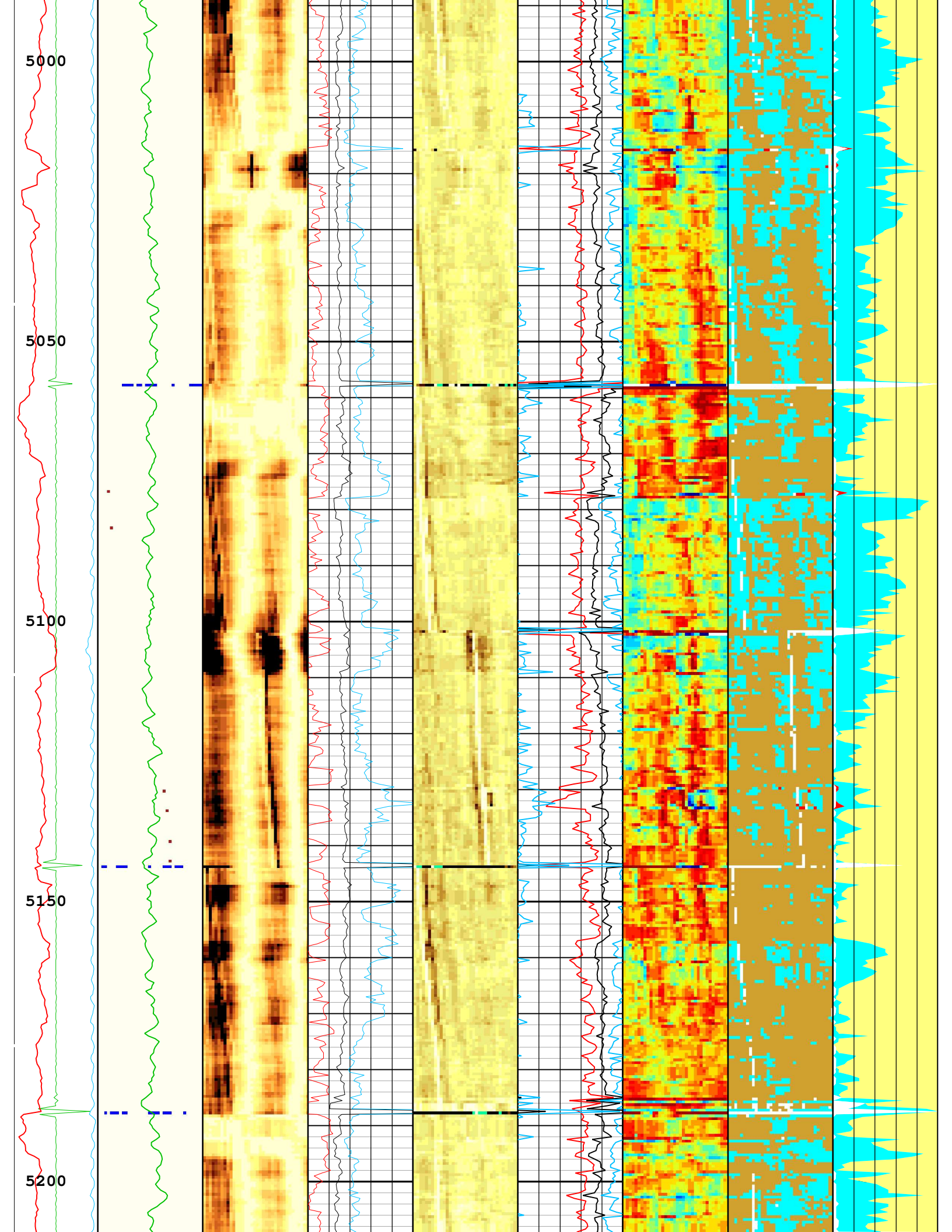
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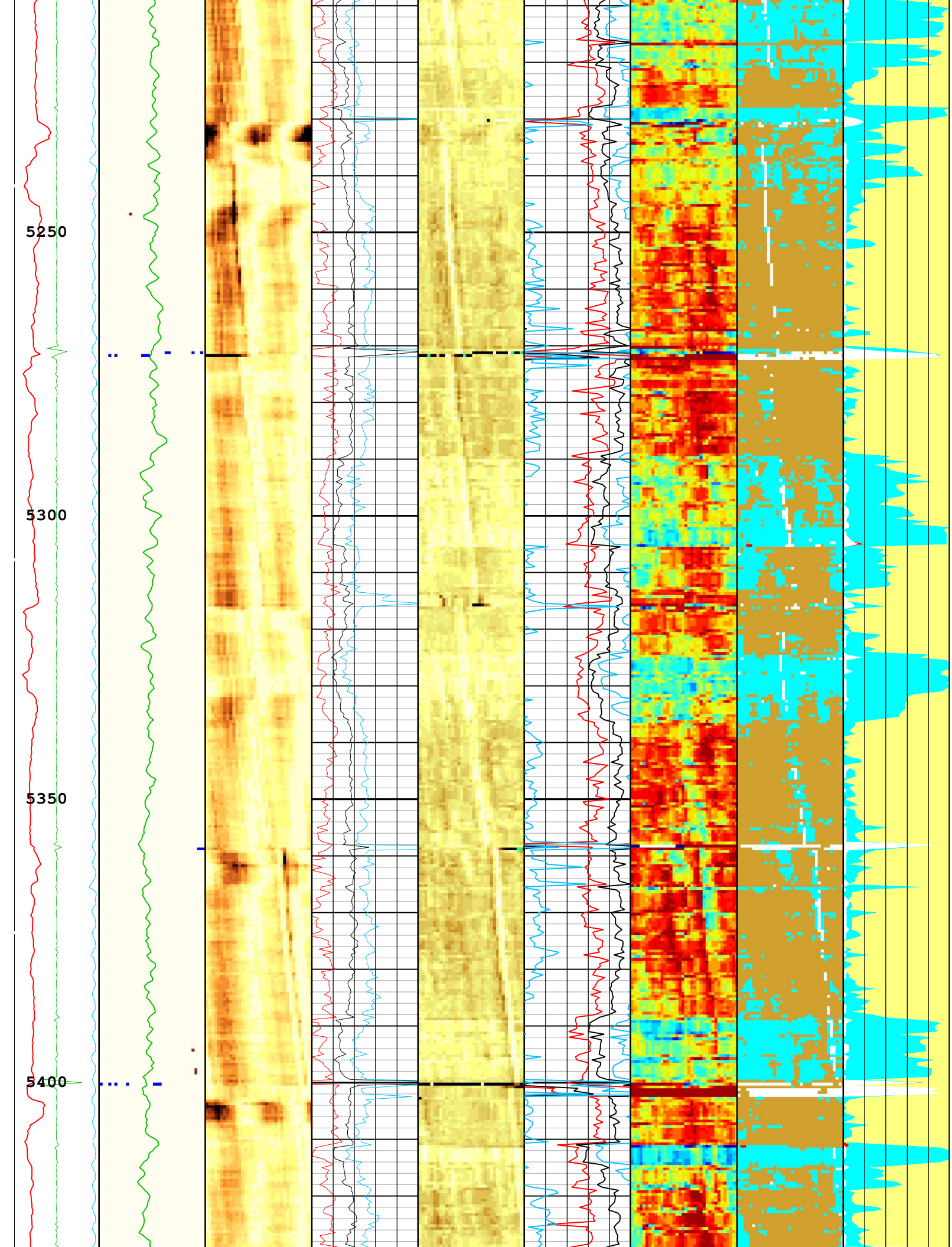
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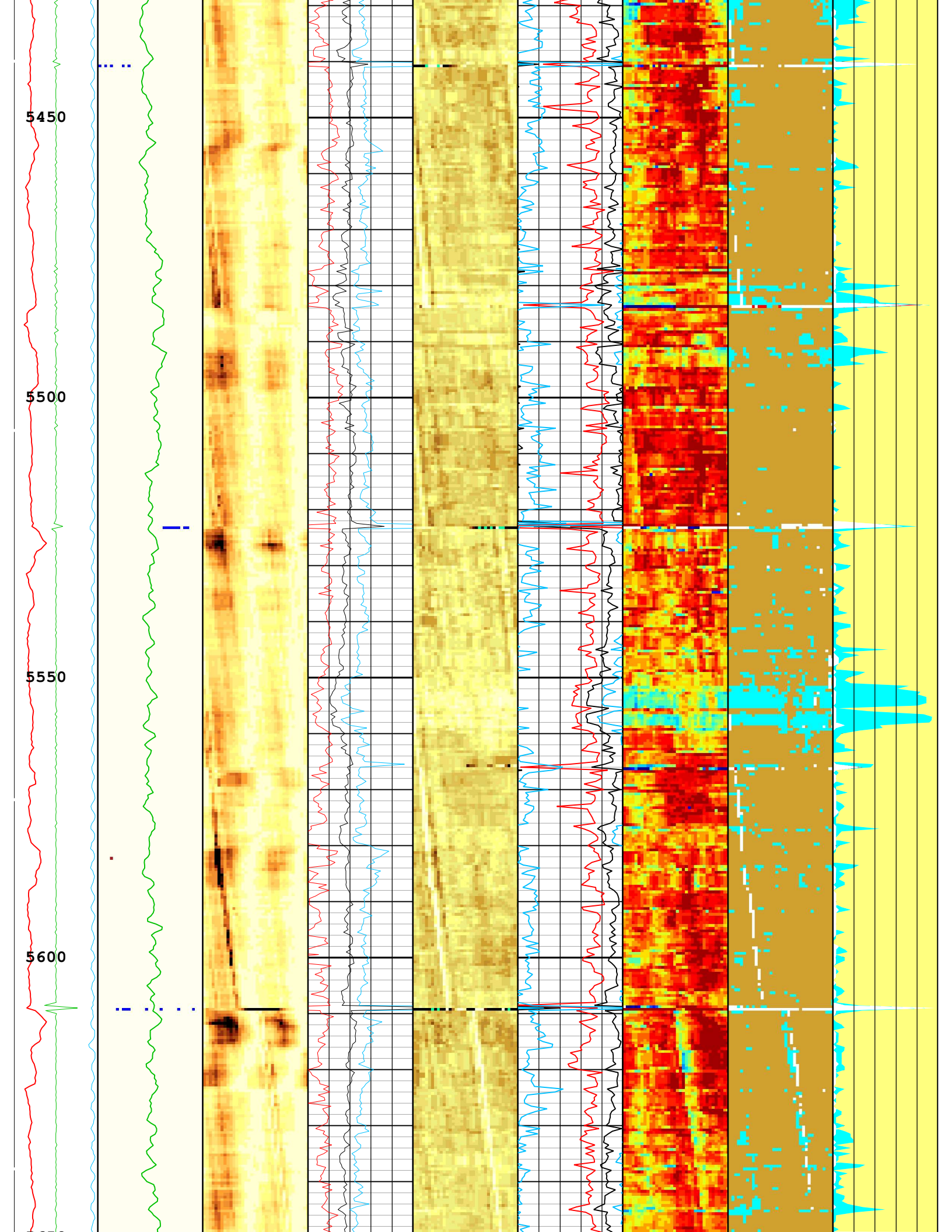
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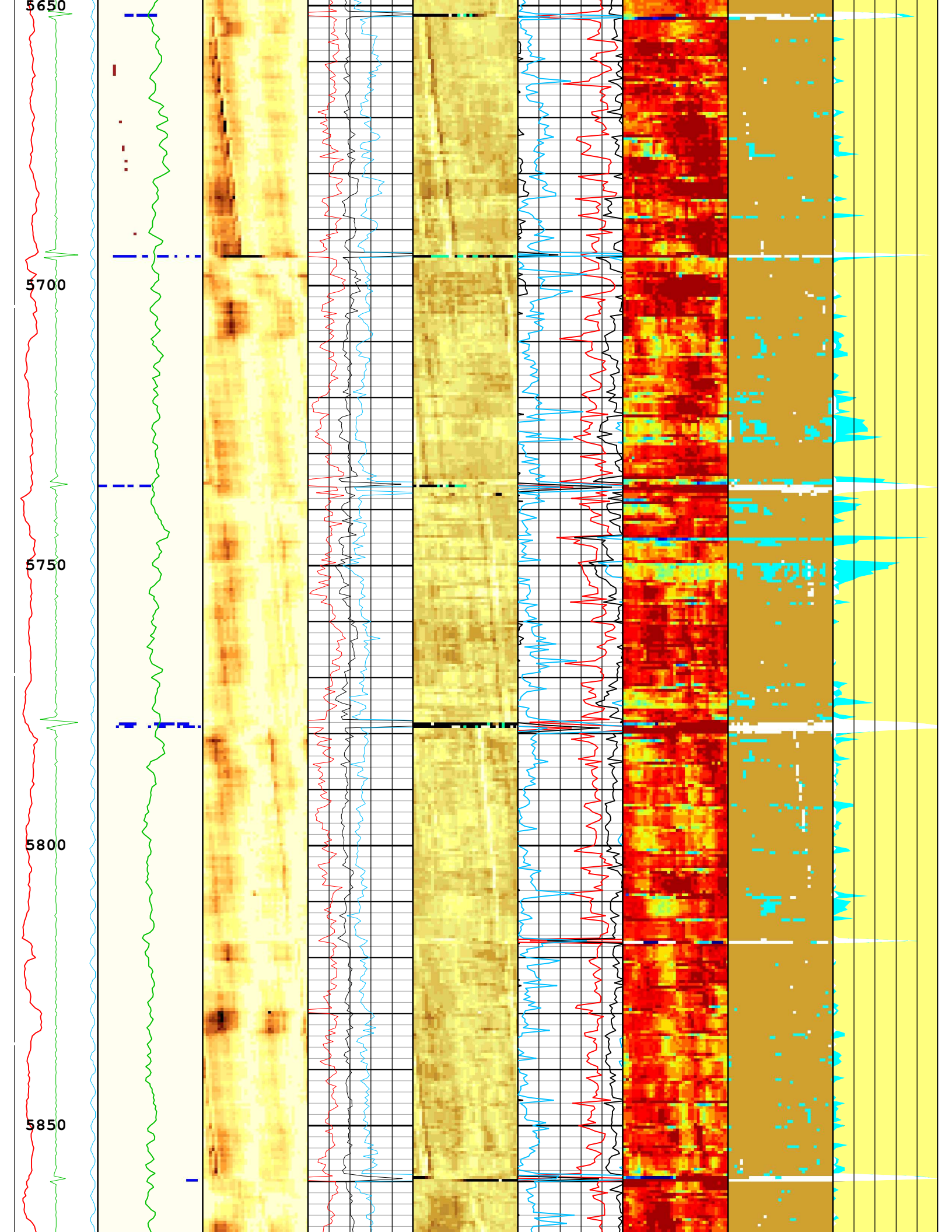
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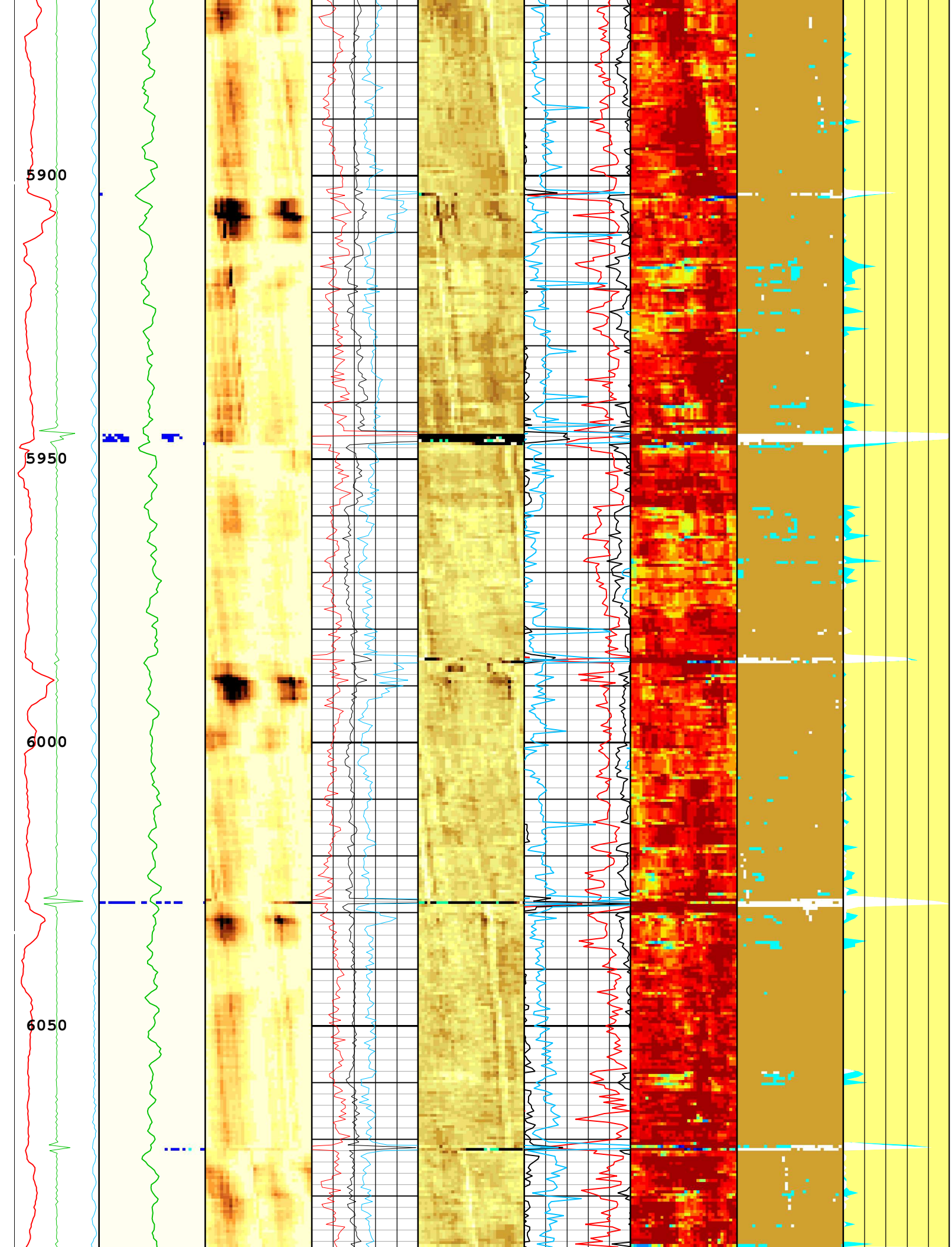
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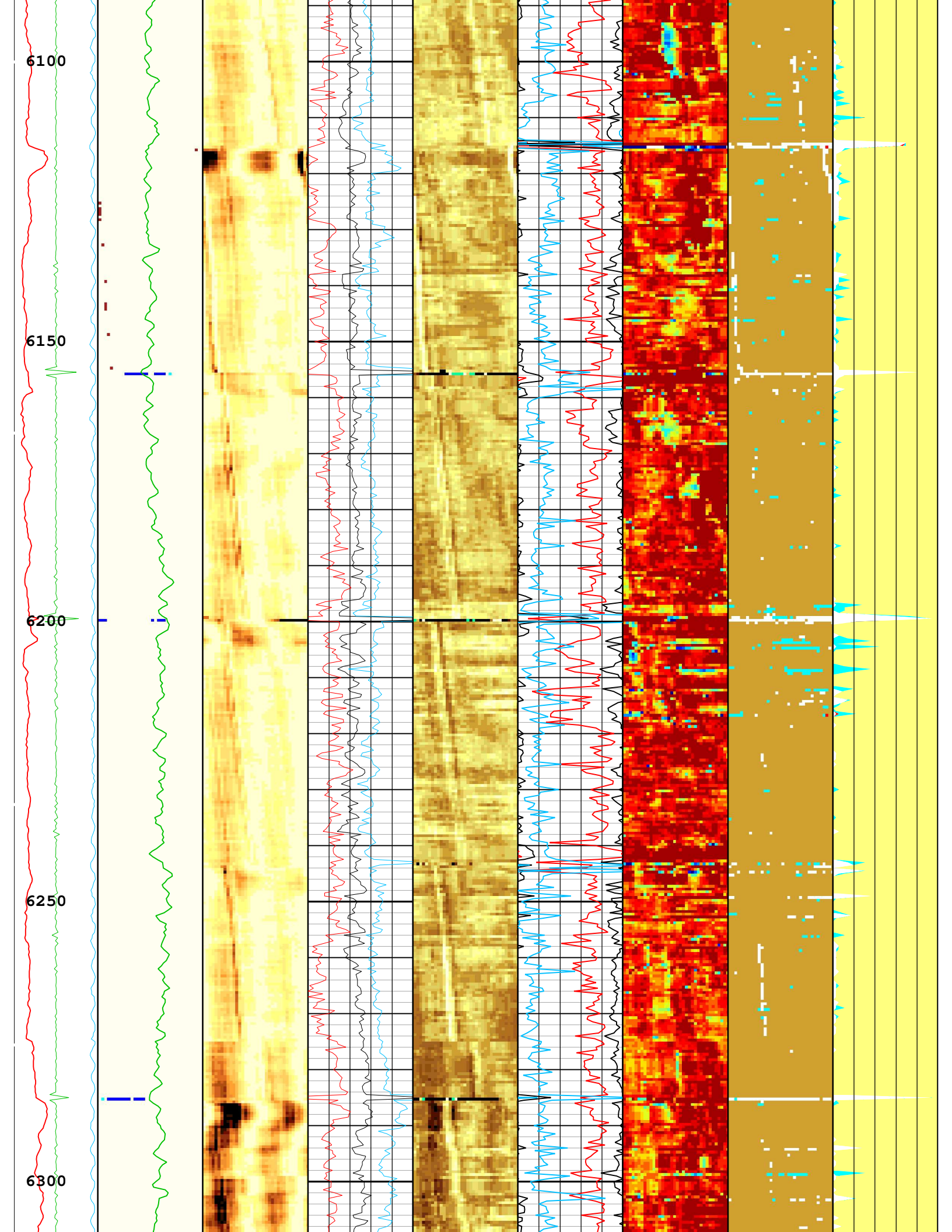
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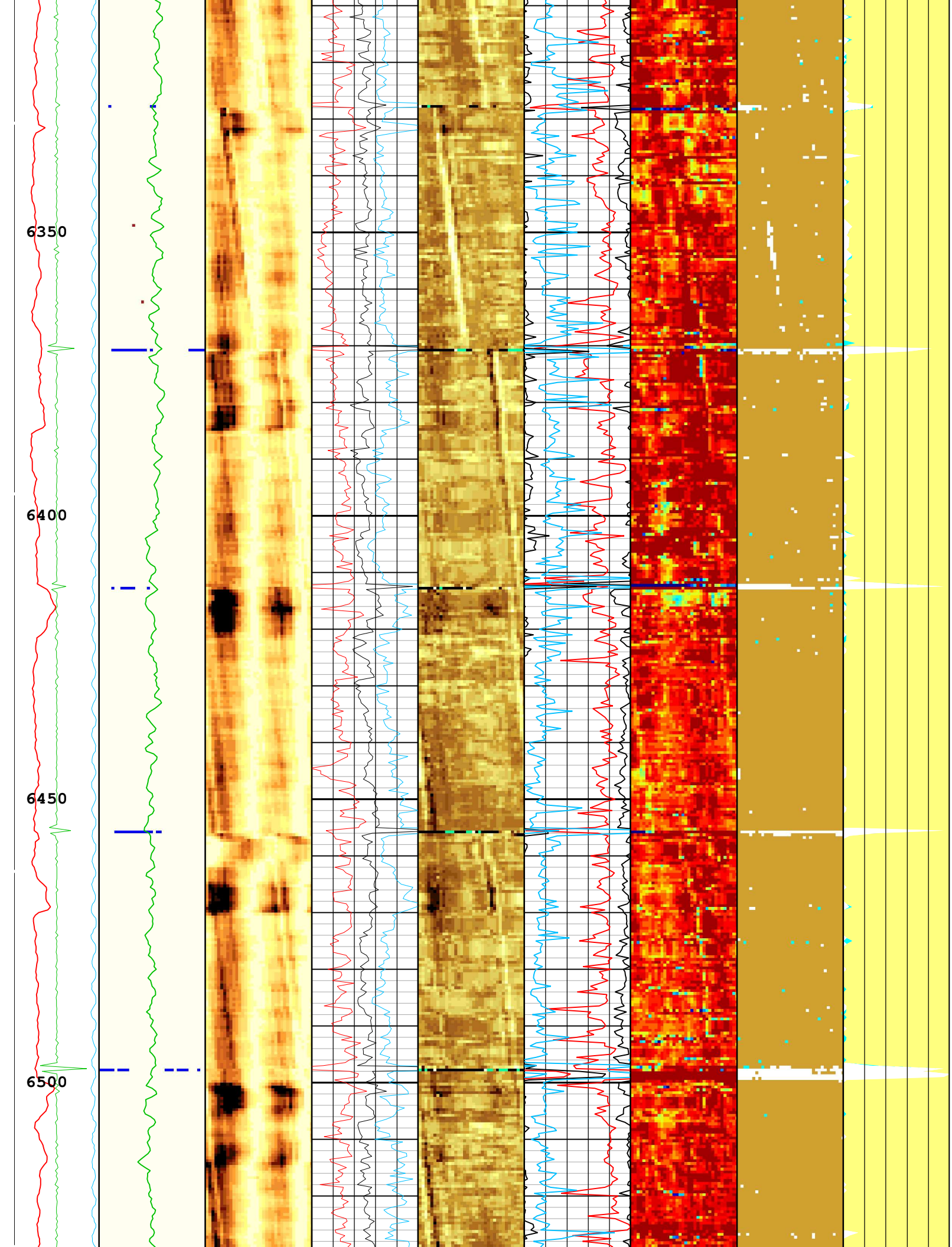
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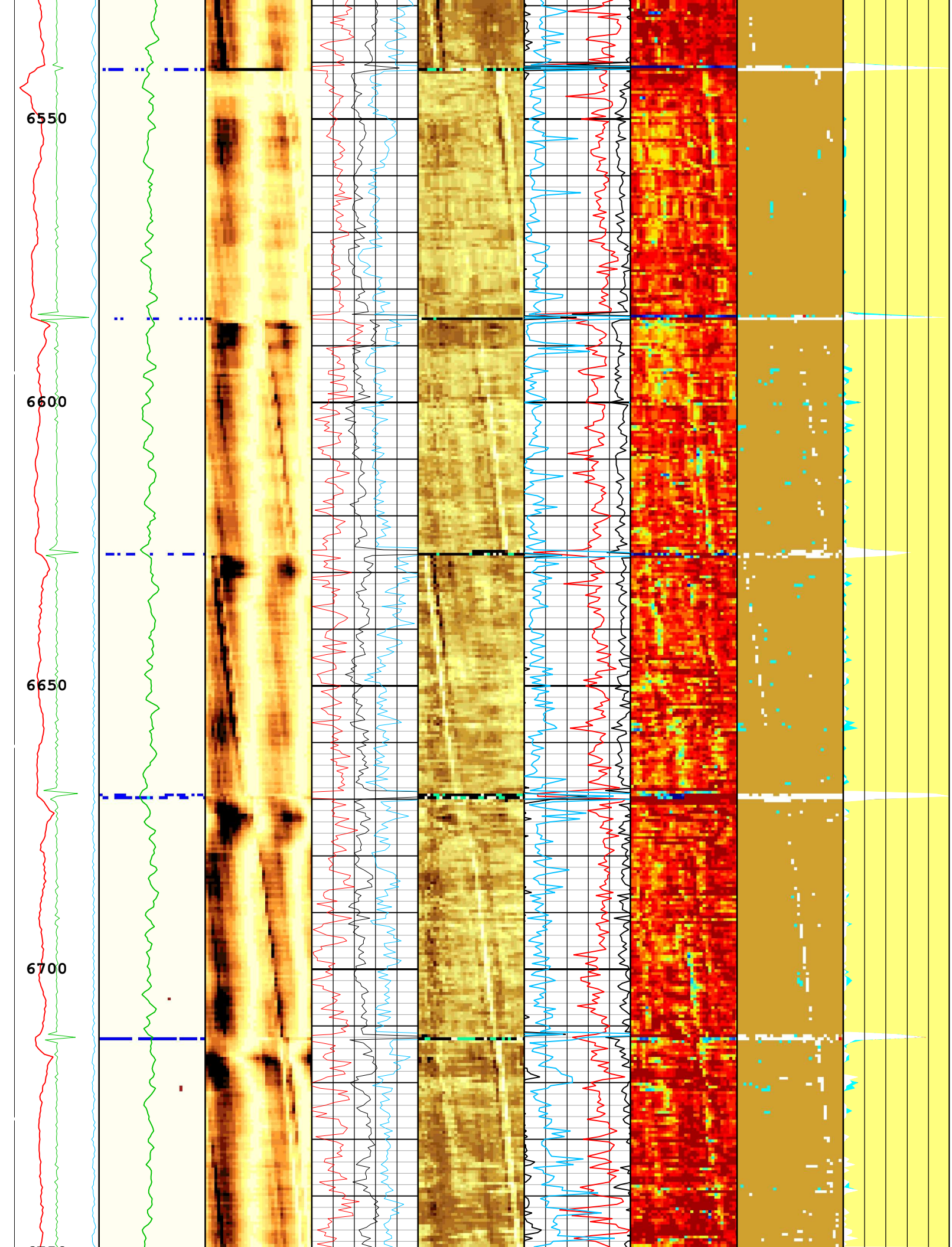
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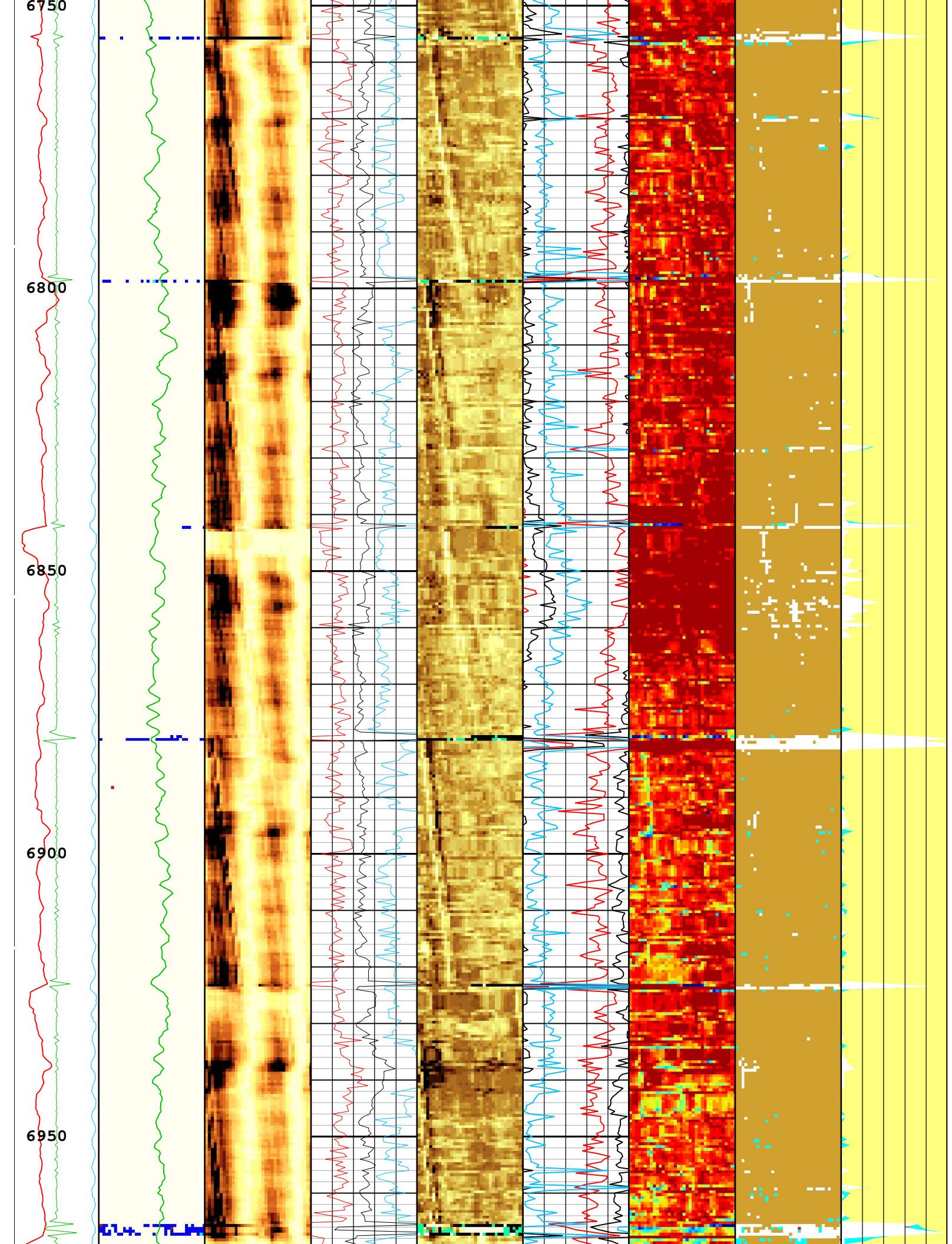
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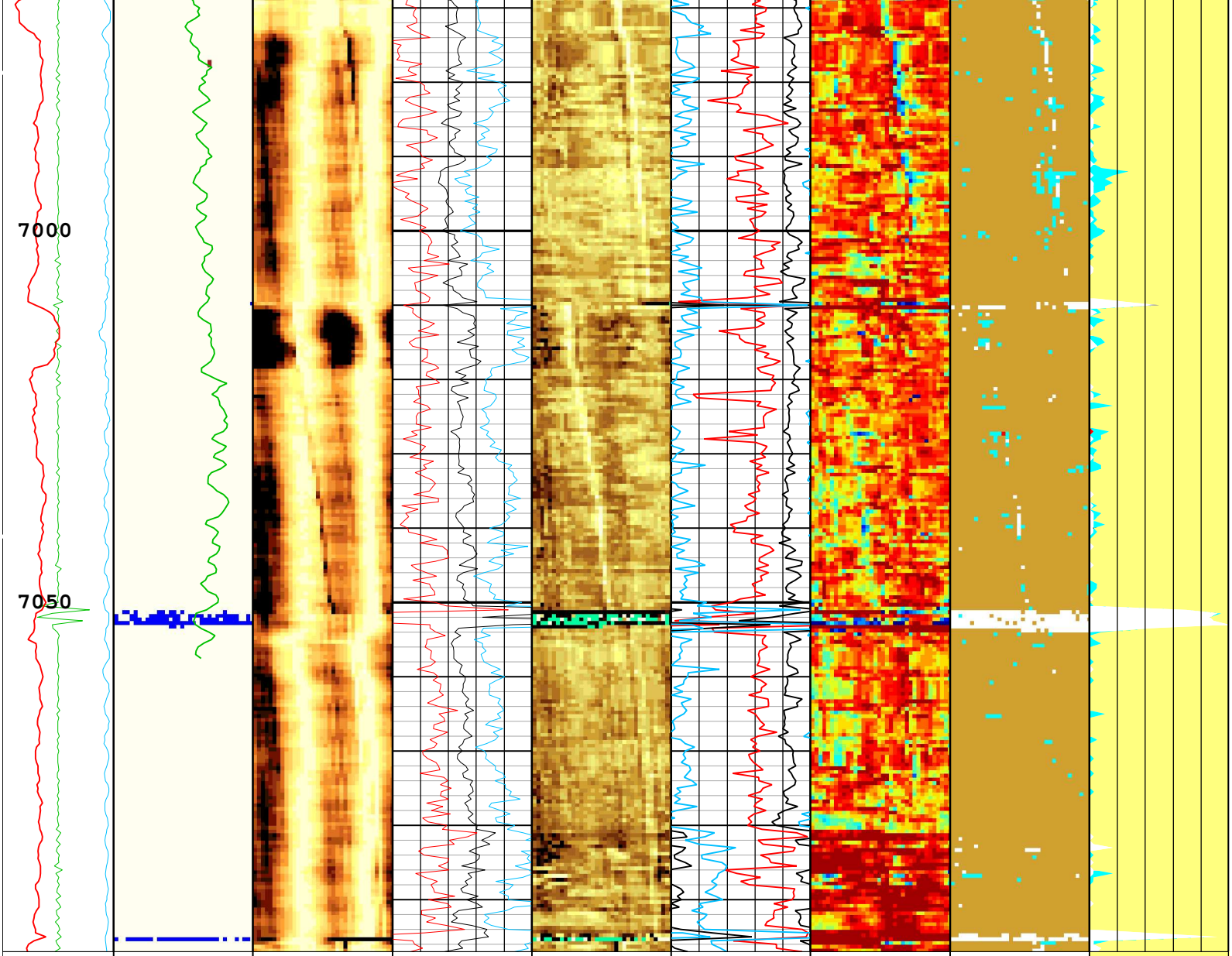



Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-20 in 20

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

Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 7.5

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

Gamma Ray (ECGR_EDTC) EDTC-B[1]
0 gAPI 150

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

Acoustic Impedance Minimum (AIMN) USIT-E[1]
-1 Mrayl 9

Acoustic Impedance Average (AIAV) USIT-E[1]
-1 Mrayl 9

Acoustic Impedance Maximum (AIMX) USIT-E[1]
-1 Mrayl 9

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

Minimum Flexural Attenuation (U-USIT_UFAN) USIT-E[1]
0 dB/m 150

Average Flexural Attenuation (U-USIT_UFAV) USIT-E[1]
0 dB/m 150

Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E[1]
0 dB/m 150

Absent 64.000 92.000 120.000 148.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E[1]
(dB/m)

Absent 0.500 1.500 2.500 3.500
Explicit Normalization
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]

SLG Solid Index
SLG Liquid Index
SLG Gas Index
SLG White Point Index

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 IBC SLG Format: Log ( IBC SLG ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2022 20:49:04

# Channel Processing Parameters

## ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| BARI(ISSBAR) | Barite Mud Presence Flag | Borehole | No | |
| BERJ | Bad Echo Rejection | USIT-E | On | |
| BHS | Borehole Status (Open or Cased Hole) | Borehole | Cased | |
| BS | Bit Size | WLSESSION | Depth Zoned | in |
| CASING_PRATIO | Casing Poisson Ratio | USIT-E | Standard Poisson Ratio | |
| CBLO | Casing Bottom (Logger) | WLSESSION | 8083 | ft |
| CDEN | Cement Density | USIT-E | 0 | g/cm3 |
| CDEN | Cement Density | EDTC-B | 2 | g/cm3 |
| CMTY(U-USIT_CEMT) | Cement Type | USIT-E | Regular Cement | |
| DFD | Drilling Fluid Density | Borehole | 8.4 | lbm/gal |
| DFT_CATEGORY | Drilling Fluid Type | Borehole | Water | |
| DTMD | Borehole Fluid Slowness | Borehole | 203 | us/ft |
| FD | Fluid Density | USIT-E | 1.2 | g/cm3 |
| FDII | FPM Data Interpolation Interval | USIT-E | 0 | ft |
| GCSE_DOWN_PASS | Generalized Caliper Selection for WL Log Down Passes | Borehole | BS(RT) | |
| GCSE_UP_PASS | Generalized Caliper Selection for WL Log Up Passes | Borehole | BS(RT) | |
| GR_MULTIPLIER | Gamma Ray Multiplier | EDTC-B | 1 | |
| HEMA | Hematite Presence Flag | Borehole | No | |
| IBC_FRP_OFFSET | IBC Flexural Offset from Free Pipe | USIT-E | 0 | dB/m |
| IBC_FVEL_SEL | IBC Fluid Velocity Selection | USIT-E | Automatic | |
| IBC_OFFSET_SEL | IBC Flexural Offset Selector | USIT-E | UFAO | |
| IBC_ZMUD_SEL | IBC Mud Impedance Selection | USIT-E | Theoretical | |
| IMAR | Image Rotation | USIT-E | Off | |
| MEAS_WLEN | Tcube Processing Window Length in Measurement Mode | USIT-E | 15.37 | us |
| MUD_N_INV | IBC Inversion Mud Normalization Factor | USIT-E | 1.13 | |
| MUD_N_THE | Theoretical Mud Normalization Factor | USIT-E | 1.13 | |
| RCOD | Reference Calibrator Outer Diameter | USIT-E | 4.5 | in |
| RCSO | Reference Calibrator Standoff | USIT-E | 0.842 | in |
| RCTH | Reference Calibrator Thickness | USIT-E | 0.216 | in |
| RPLUS_PROCESS | Ultrasonic R+ Processing | USIT-E | No | |
| SOCN | Standoff Distance | EDTC-B | 0.125 | in |
| SOCO | Standoff Correction Option | EDTC-B | No | |
| THDH | Maximum Search Thickness (percentage of nominal) | USIT-E | 125 | % |
| THDL | Minimum Search Thickness (percentage of nominal) | USIT-E | 85 | % |
| TPOS_EDTC | Tool Position: Centered or Eccentered | EDTC-B | Eccentered | |
| U-USIT_DFSZ | Drilling Fluid Specific Acoustic Impedance | USIT-E | 1.6 | Mrayl |
| U-USIT_UFAO | USIT Flexural Attenuation Offset | USIT-E | -14 | dB/m |
| UFSFILT | Ultrasonic Flexural Surface Filter | USIT-E | LPF 250k | |
| U-USIT_UIAP | IBC Answer Product Enabled | USIT-E | SLG - TIE Picking | |
| THDP | Thickness Detection Policy | USIT-E | Fundamental | |
| VCAS | Ultrasonic Transversal Velocity in Casing | USIT-E | 51.4 | us/ft |
| ZCAS | Acoustic Impedance of Casing | USIT-E | 46.25 | Mrayl |
| ZINI | Initial Estimate of Cement Impedance | USIT-E | -1 | Mrayl |

| | | | | |
|---|---|---|---|---|
| ZMUD | Acoustic Impedance of Mud | Borehole | 1.51 | Mrayl |
| ZTCM | Acoustic Impedance Threshold for Cement | USIT-E | 2.6 | Mrayl |
| ZTGS | Acoustic Impedance Threshold for Gas | USIT-E | 0.3 | Mrayl |

### ONEDepth Zoned Parameters

| Parameter | Value | Start ( ft ) | Stop ( ft ) |
|---|---|---|---|
| BS | 12.25 | 28 | 618 |
| BS | 7.875 | 618 | 7097 |

All depth are actual.

## Tool Control Parameters

### ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| AGMN | Minimum Gain of Cartridge | USIT-E | -12 | dB |
| AGMX | Maximum Gain of Cartridge | USIT-E | 54 | dB |
| U-USIT_DDT5 | USIC Downhole Decimation for T5 only | USIT-E | 0_NONE | |
| DOT(DOS) | Distance between Opposite Transducer Faces | USIT-E | 1.756 | in |
| EMXV | EMEX Voltage | USIT-E | Time Zoned | V |
| HRES | Horizontal Resolution | USIT-E | 10 deg | |
| IBC_ACQTYPE | IBC Acquisition type | USIT-E | 1 MHz | |
| IBC_FLEXDBP | IBC Flex Duration Before Peak | USIT-E | 30 | us |
| ICE2_ACQ | Ultrasonic ICE2 Acquisition | USIT-E | Yes | |
| MOTOR_PROTECT | Motor Protection | USIT-E | On | |
| UACLV_PERM | Ultrasonic ACLV Permanent | USIT-E | Yes | |
| USFR | Ultrasonic Sampling Frequency | USIT-E | 666667 | Hz |
| UPAT | USIT Emission Pattern | USIT-E | Pattern 750 KHz | |
| UWKM | USIT Working Mode | USIT-E | 10 deg at 6.0 in | |
| USSP | Ultrasonic Service | USIT-E | IBC | |
| U-USIT_UTAN | Transducer Angles | USIT-E | 33_DEG | |
| VRES | Vertical Resolution | USIT-E | 6.0 in | |

### ONETime Zoned Parameters

### Pass Log[3]:Up

| Parameter | Value | Start Time | Stop Time | Start Depth ( ft ) | Stop Depth ( ft ) |
|---|---|---|---|---|---|
| EMXV | 90 | 15-Nov-2022 22:06:56 | 15-Nov-2022 22:10:50 | 7097.84 | 6864.84 |
| EMXV | 100 | 15-Nov-2022 22:10:50 | 15-Nov-2022 22:34:39 | 6864.84 | 6275.64 |

### Pass Log[4]:Up

| | | | | | |
|---|---|---|---|---|---|
| EMXV | 100 | 15-Nov-2022 22:40:21 | 16-Nov-2022 00:14:08 | 6275.63 | 55.84 |

All depth are at tool zero.

# Composite 1

## Software Version

| Acquisition System | Version |
|---|---|
| Maxwell 2022.1 | 12.1.217729.3100 |
| Application Patch | Wireline_Hotfix-Mandatory-2022.1_12.1.220972 |
| | Wireline_NPD-ThruBit-2022.1_12.1.220135 |

## Composite Summary

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Parallel Data |
| ONE | Log[3]:Up | Up | 5436.73 ft | 7107.90 ft | 15-Nov-2022 10:06:56 PM | 15-Nov-2022 10:34:39 PM | ON | 9.90 ft | Yes |
| ONE | Log[4]:Up | Up | 67.82 ft | 6315.28 ft | 15-Nov-2022 10:37:21 PM | 16-Nov-2022 12:14:08 AM | ON | 12.11 ft | Yes |

All depths are referenced to toolstring zero

# Log

Company:Occidental Petroleum Corporation  Well:Sherwood L Federal #30-29D

Composite 1:S017

Description: USI IBC SLG Composite  Format: Log ( IBC SLG Composite 4.5IN )  Index Scale: 2 in per 100 ft  Index Unit: ft  Index Type: Measured Depth

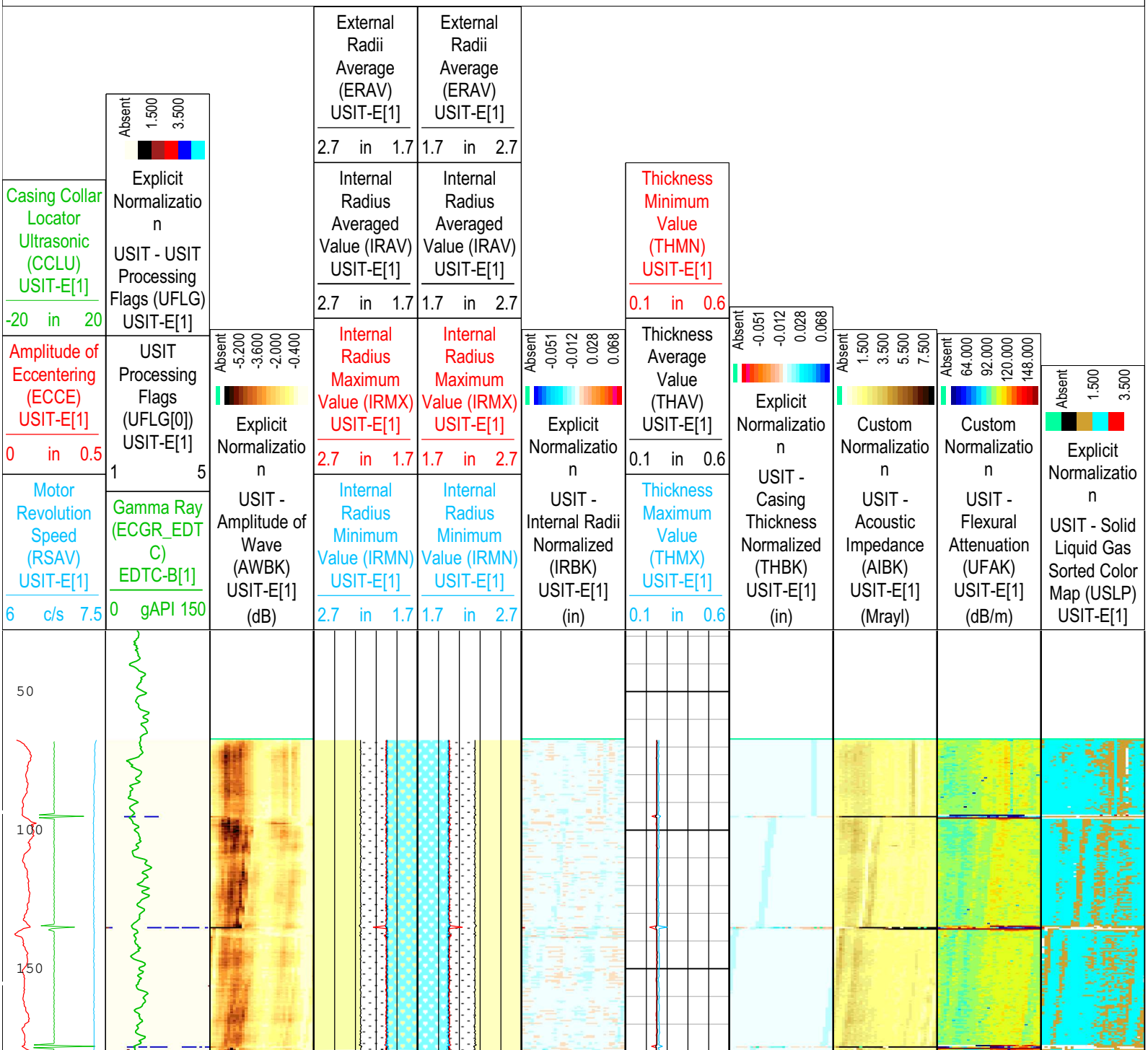
Creation Date: 15-Nov-2022 20:49:35

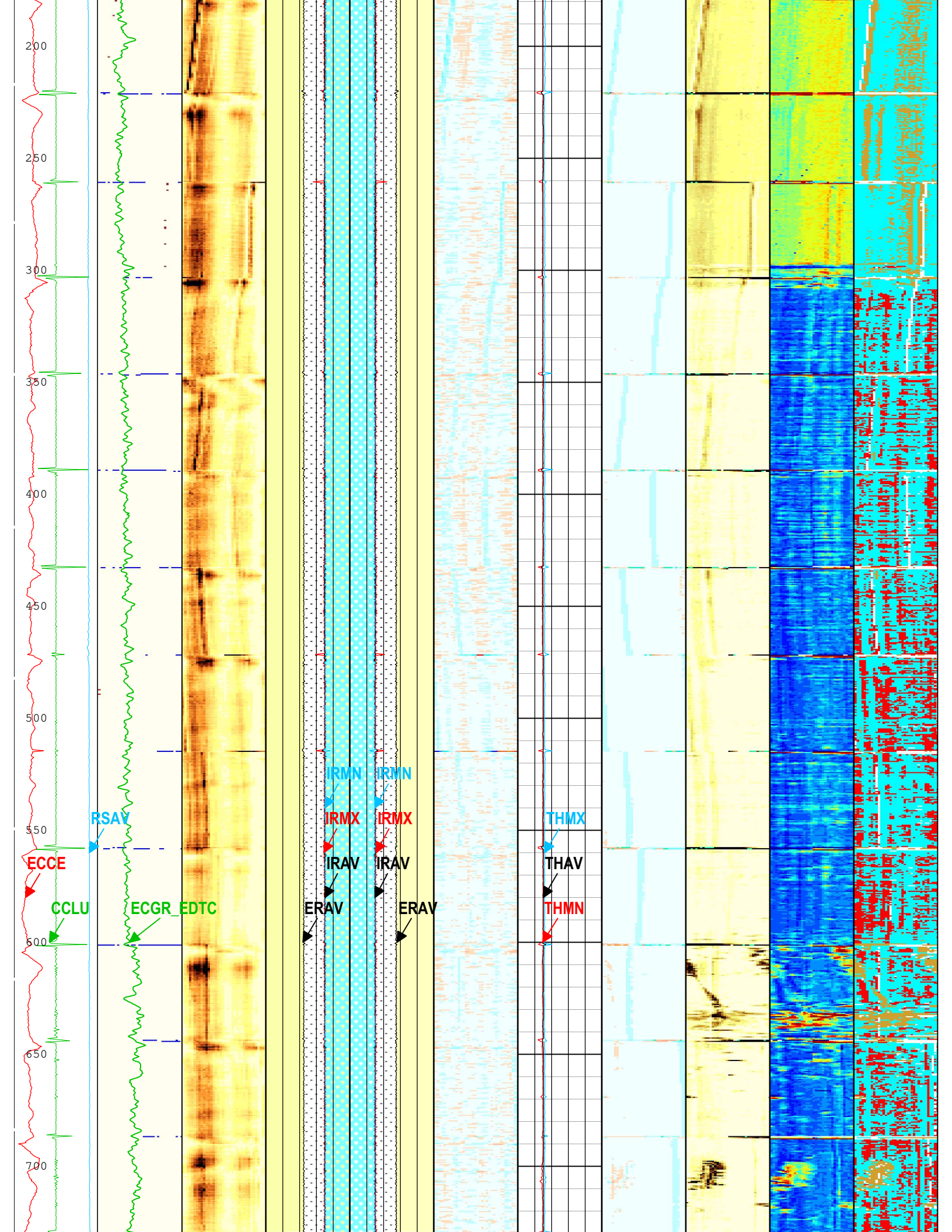
TIME_1900 - Time Marked every 60.00 (s)

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

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400
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500
550
600
650
700
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RSAV
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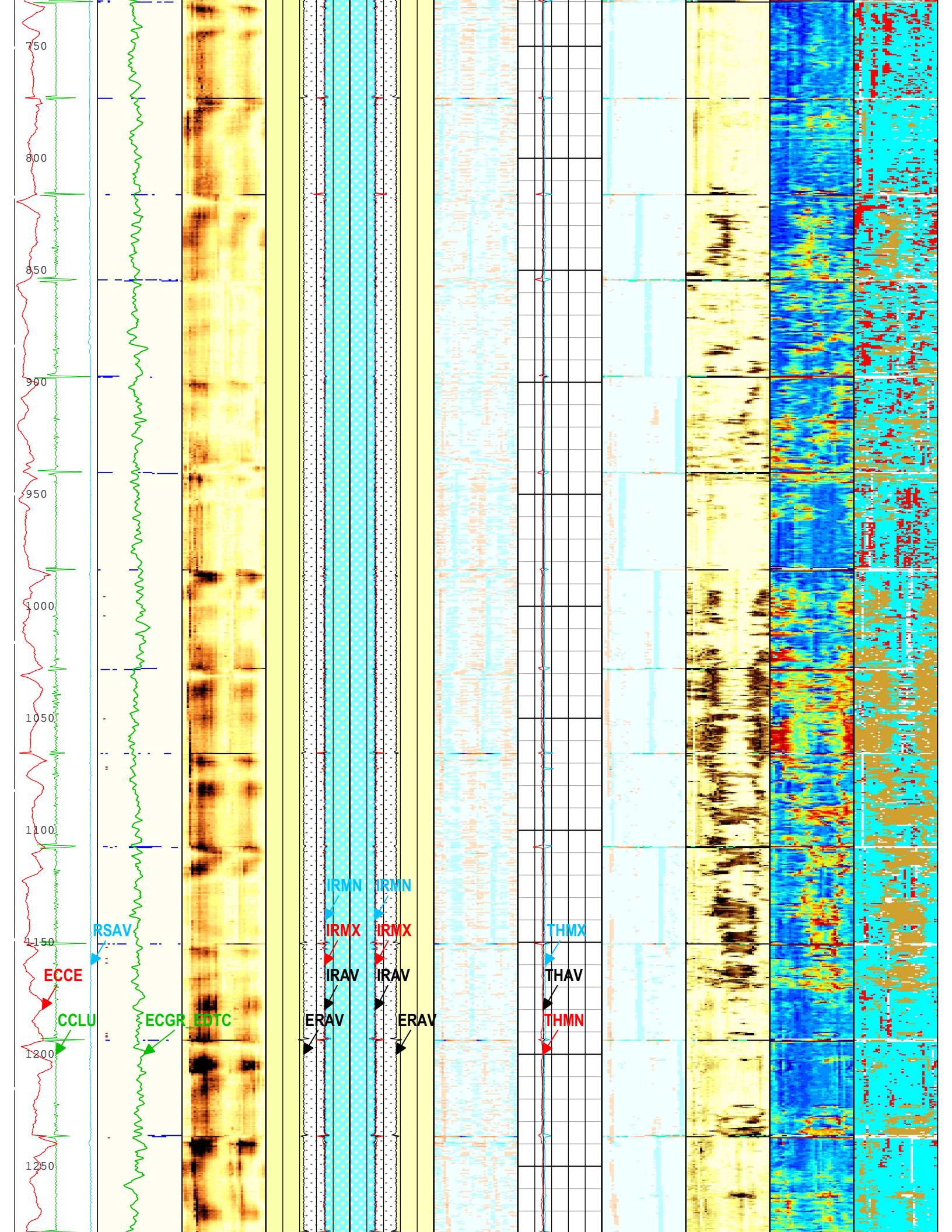
ECCE
IRAV
IRAV
THAV
CCLU
ECGR_EDTC
ERAV
ERAV
THMN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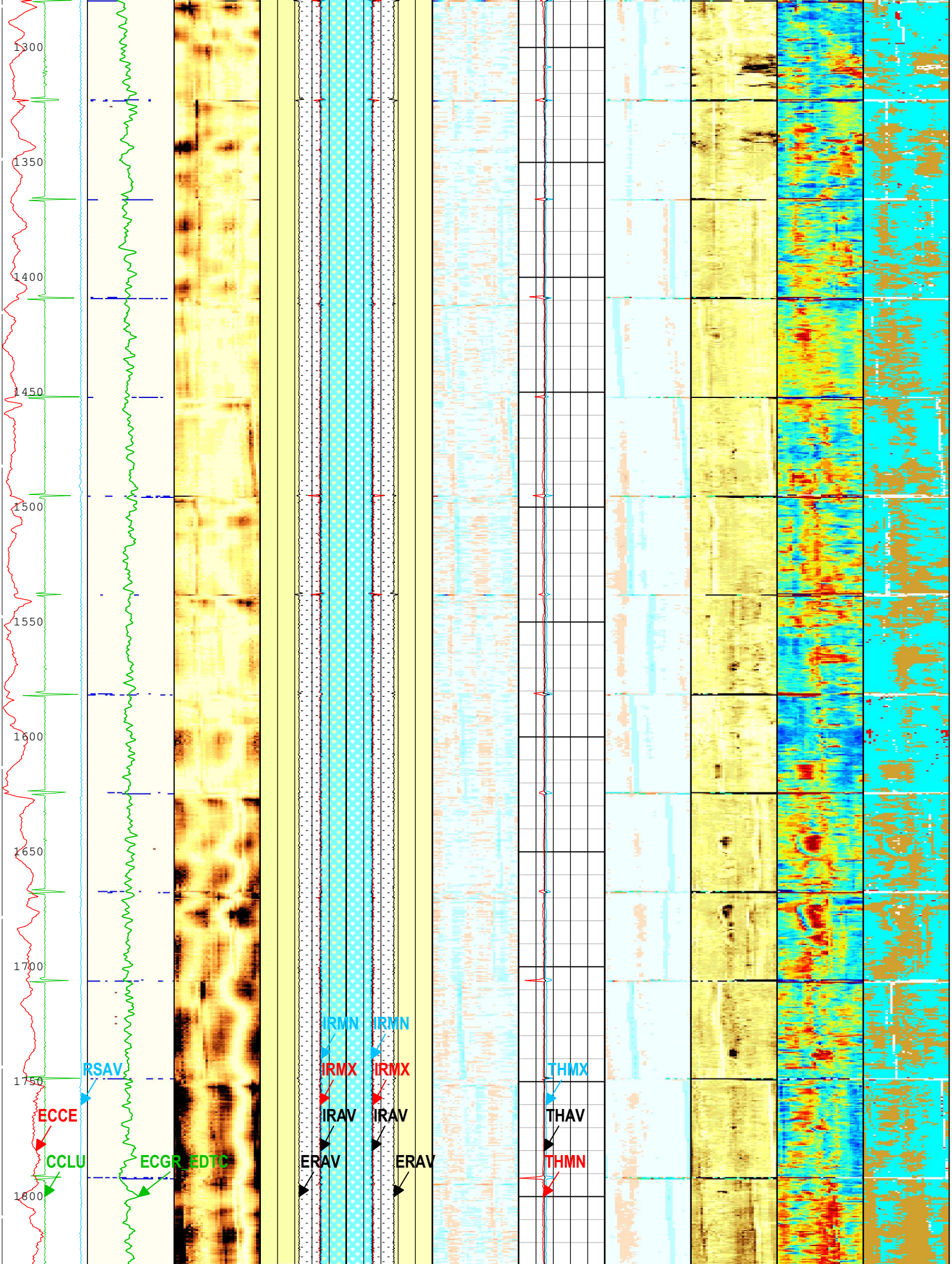
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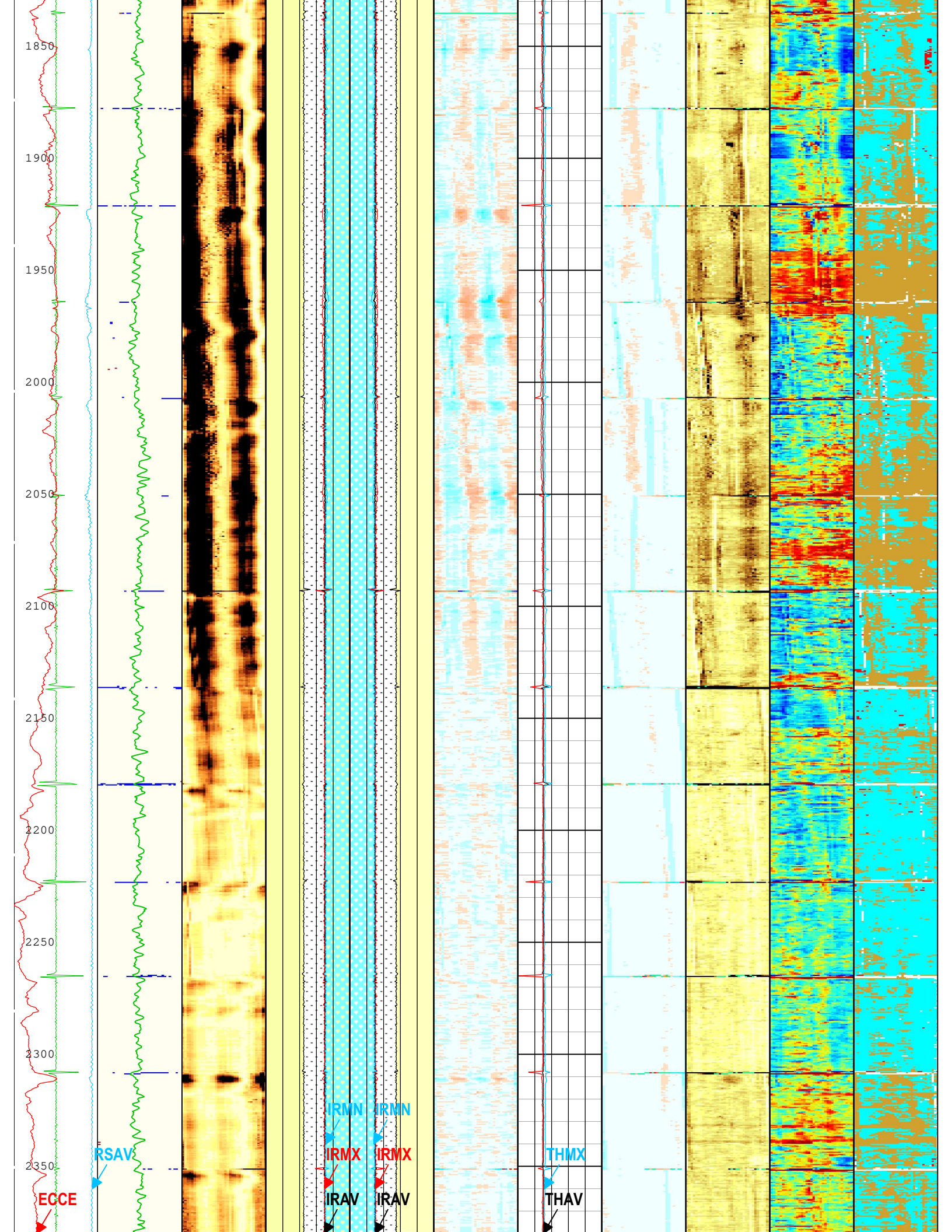
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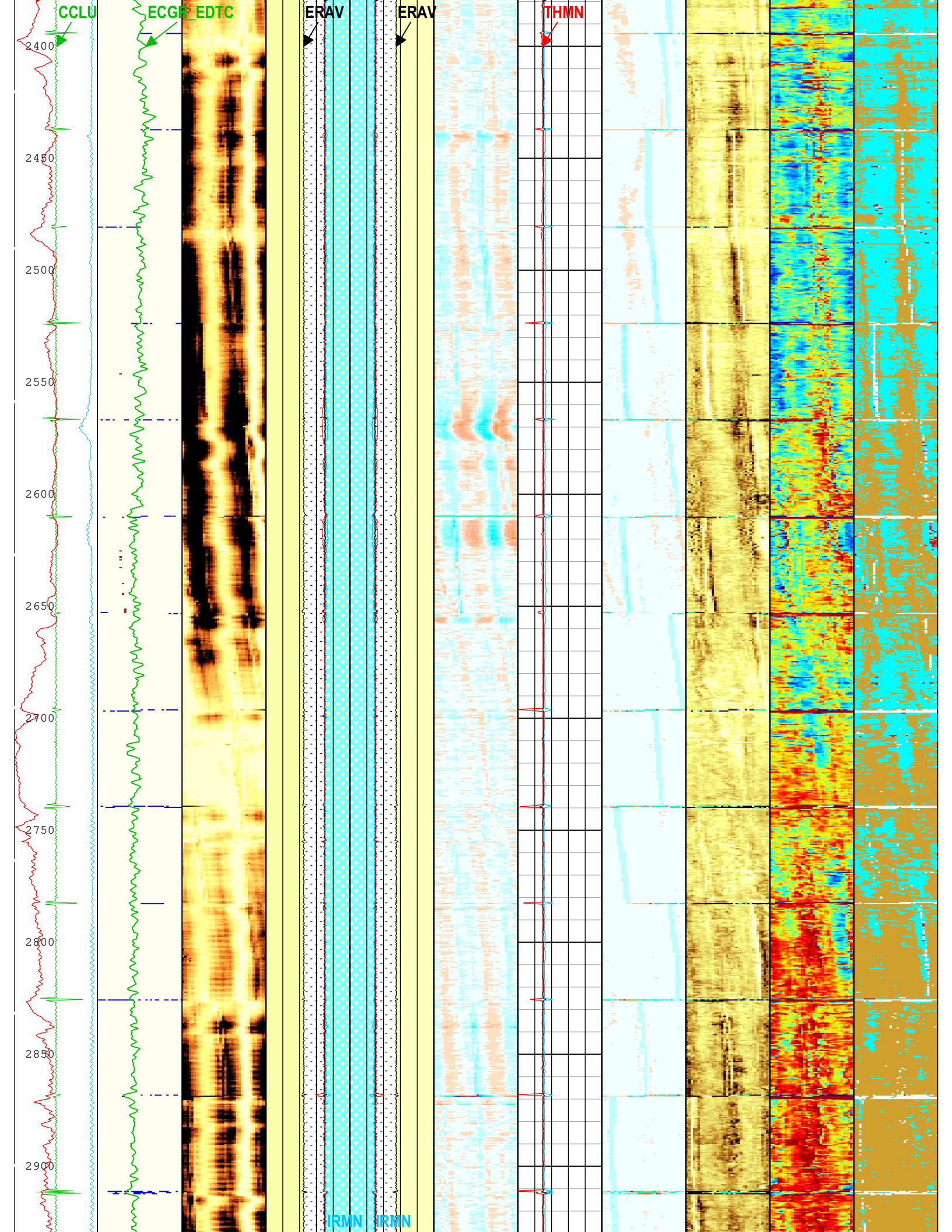
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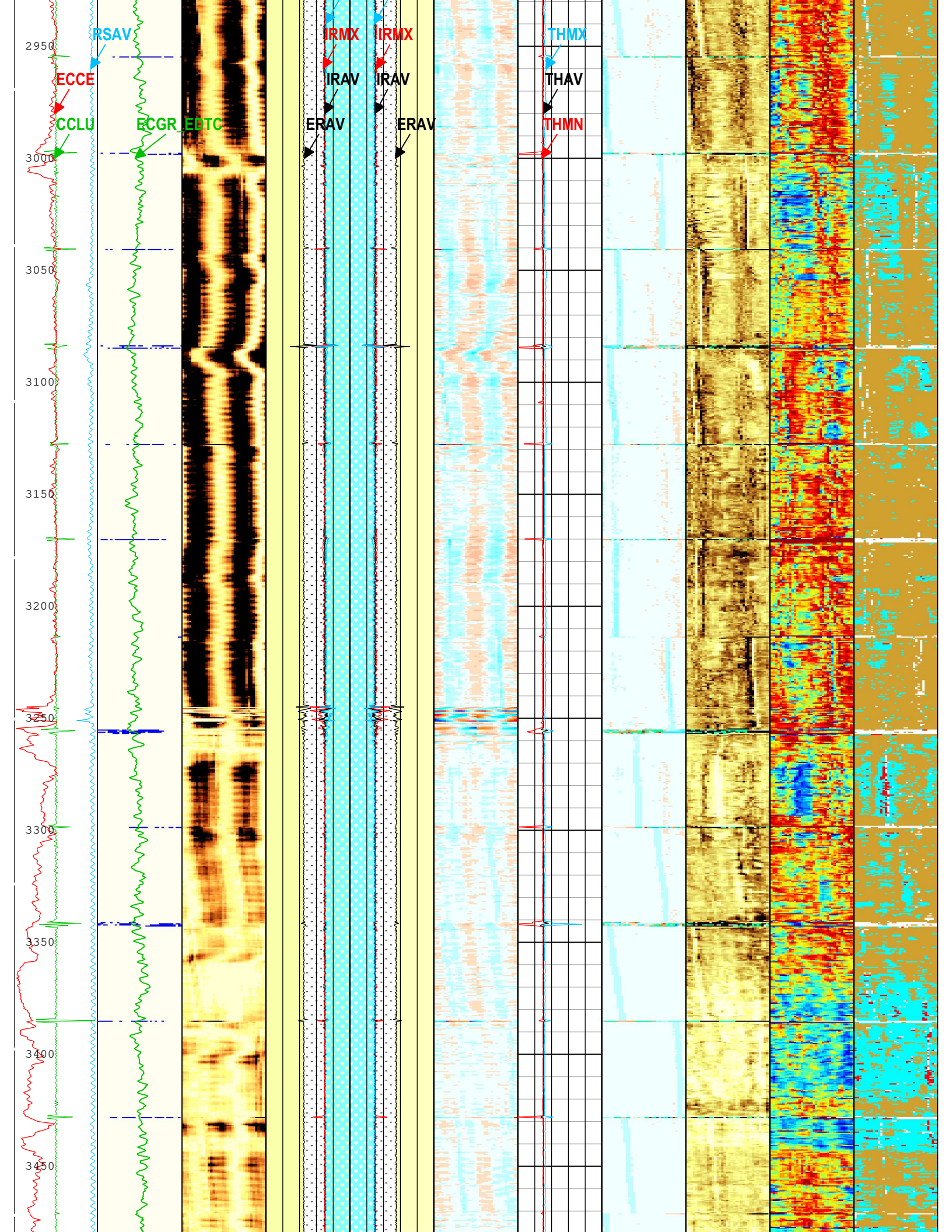
IRMN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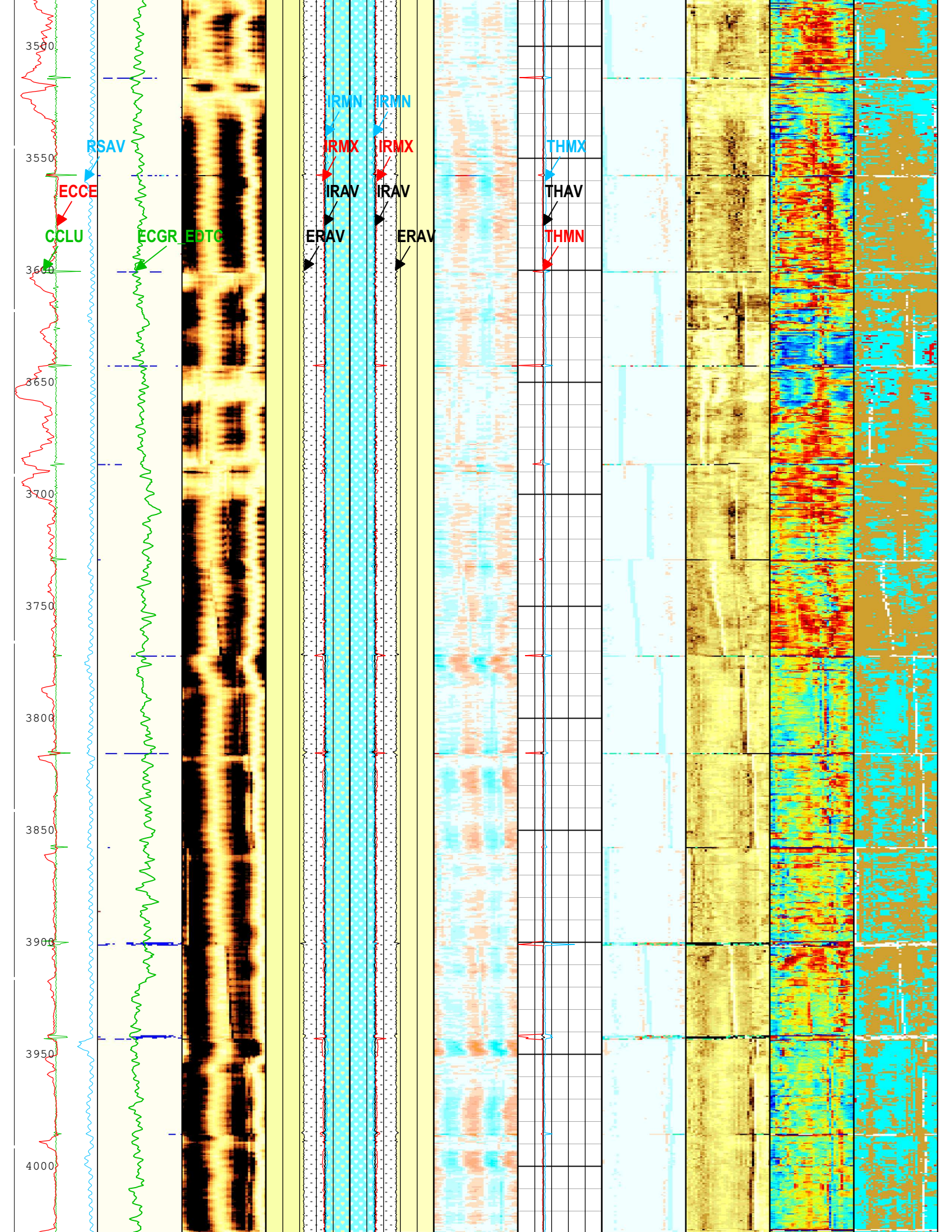
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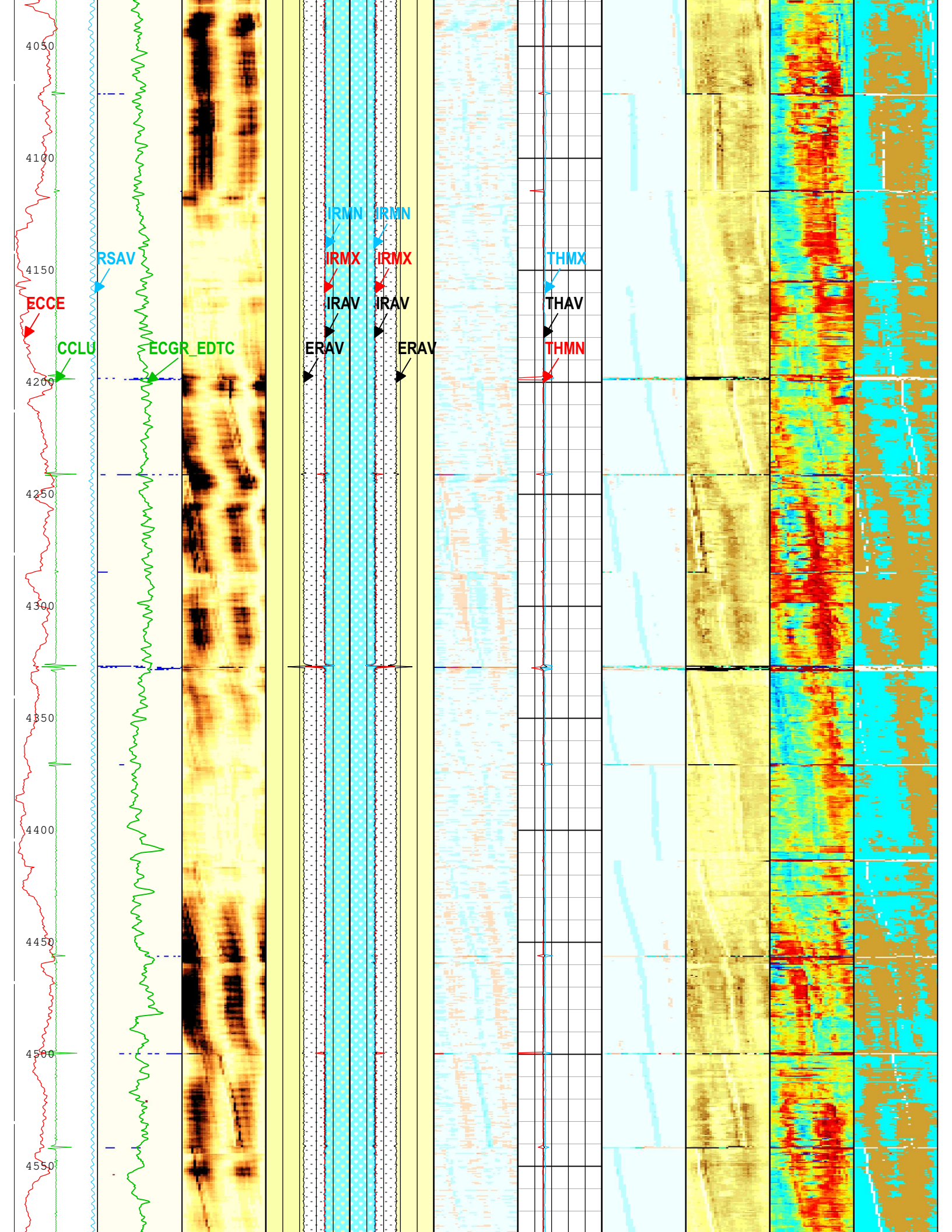
THMN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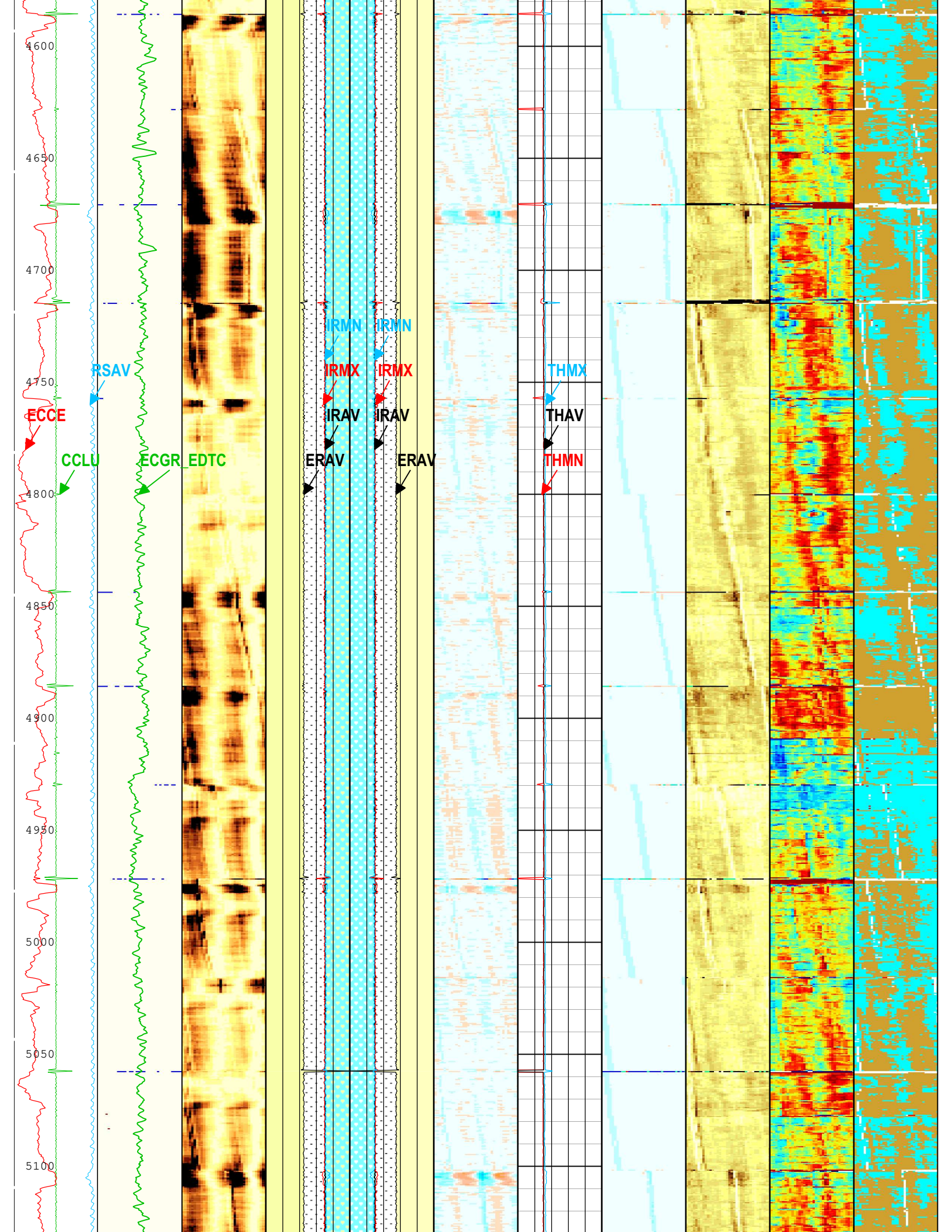
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ERAV
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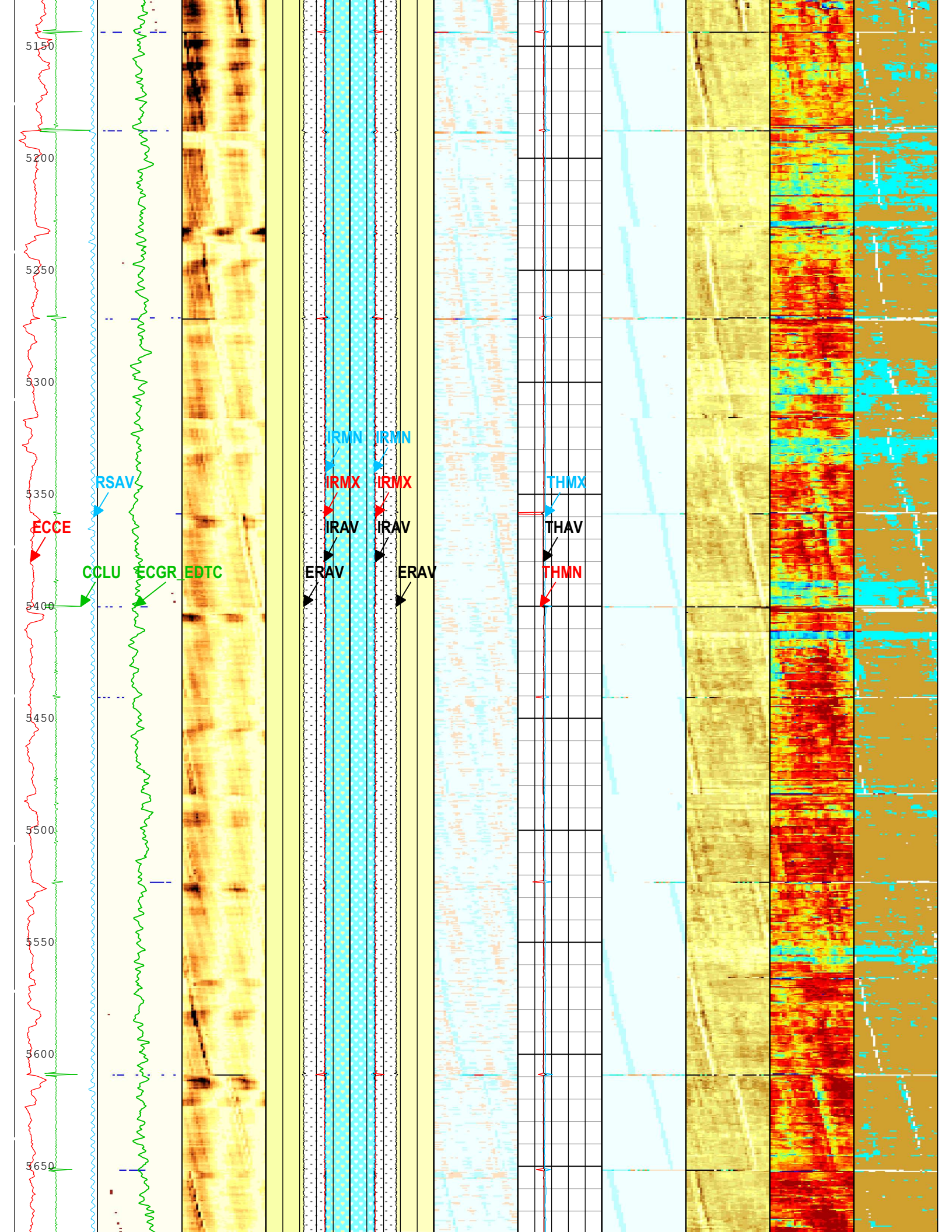
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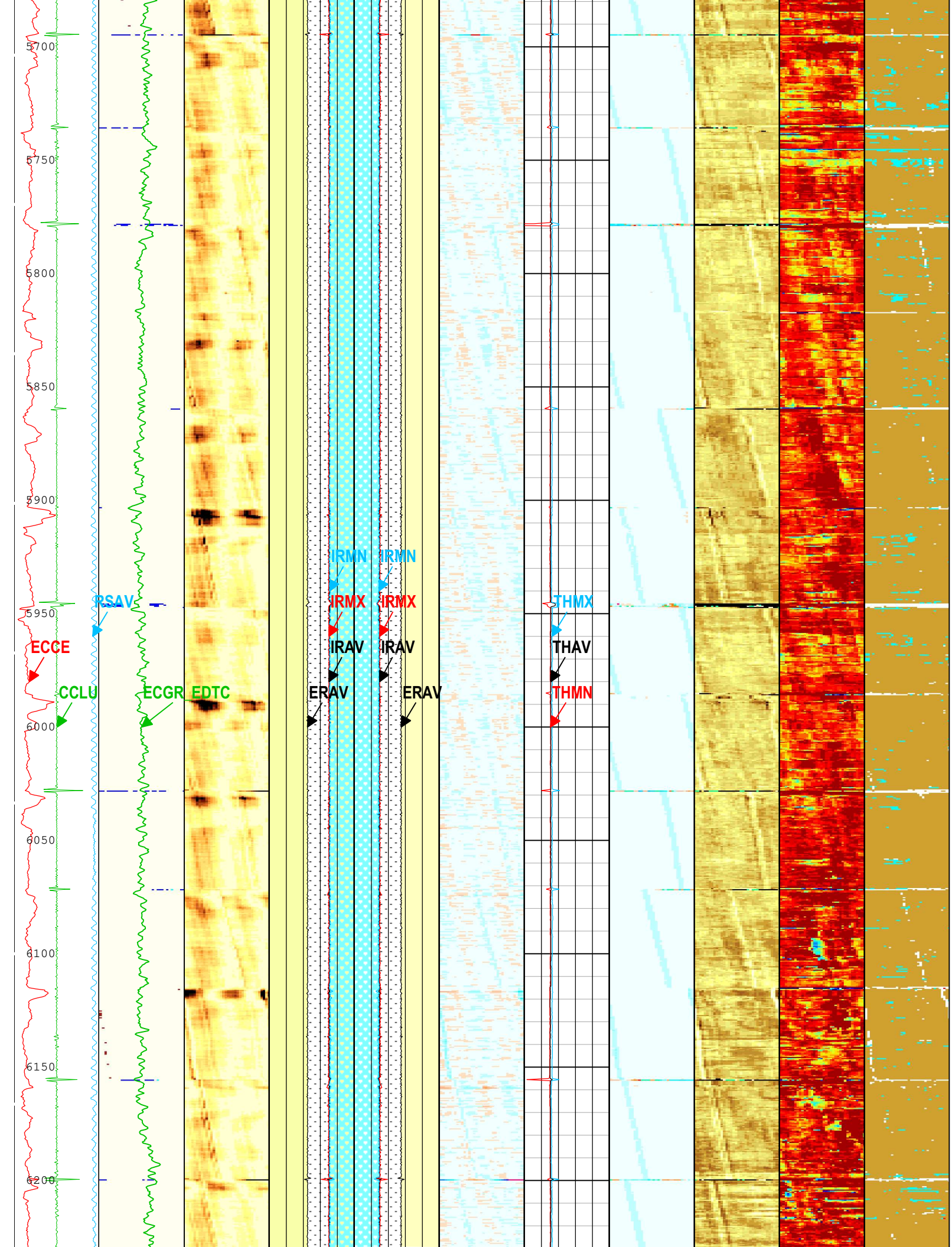
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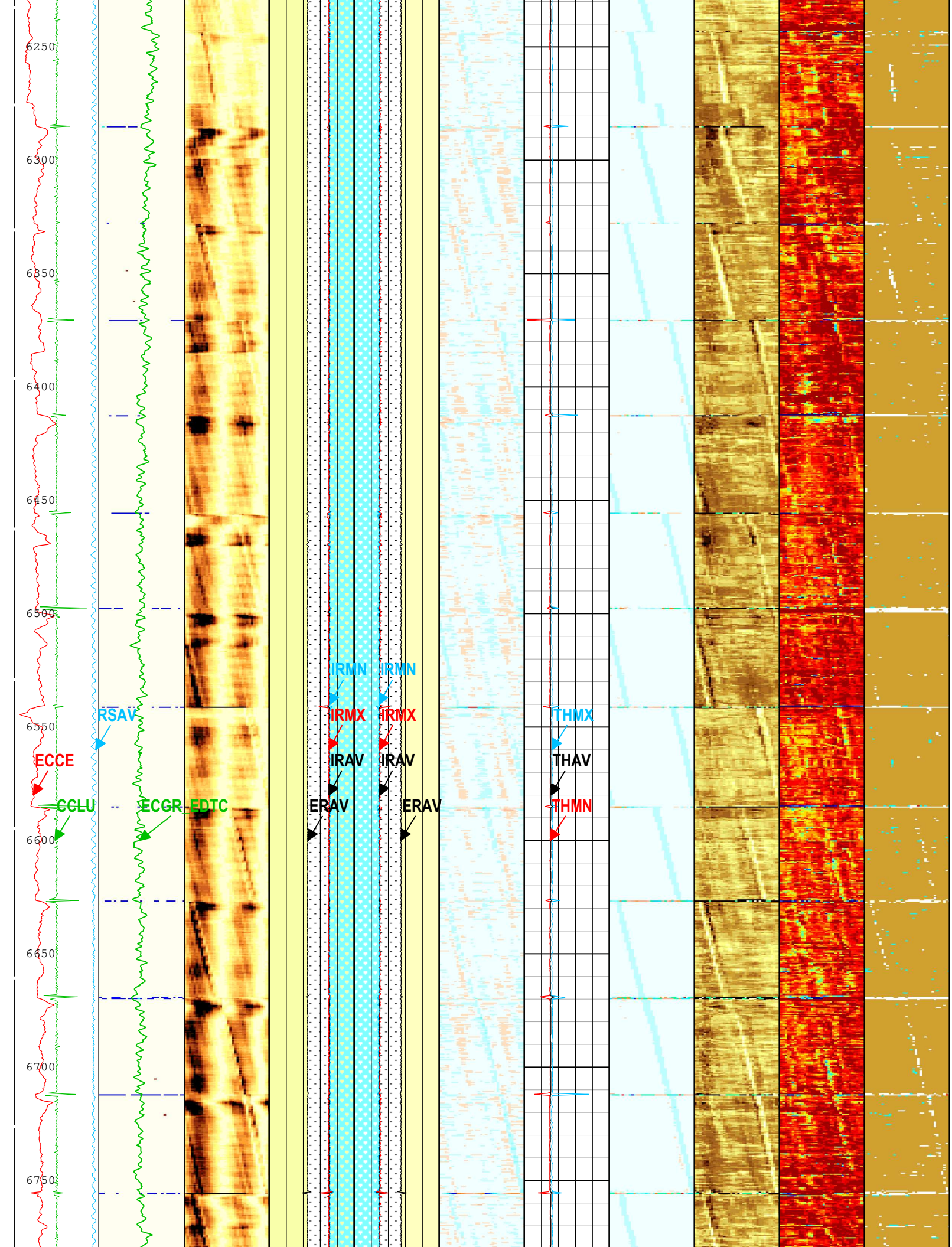
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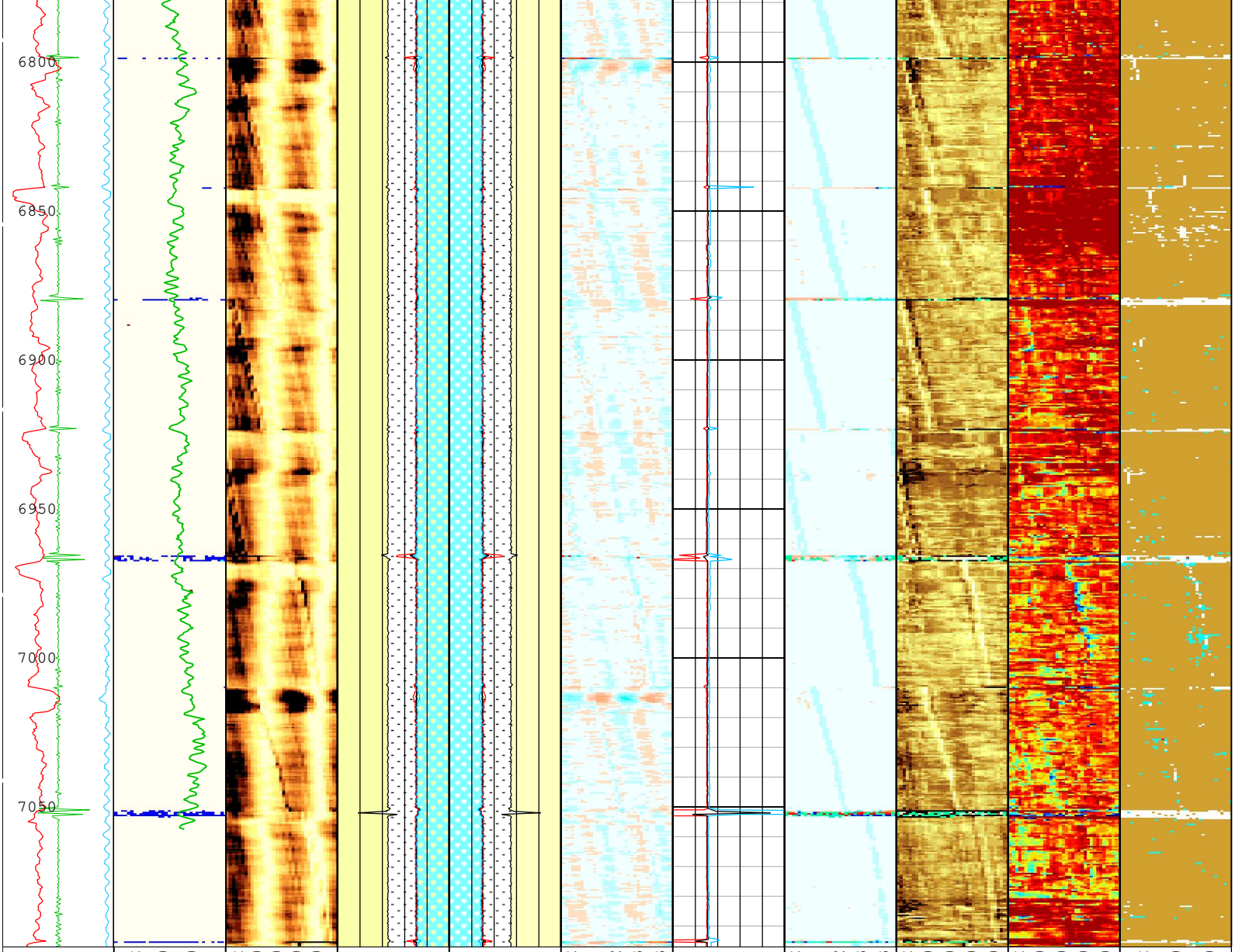



Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]
-20 in 20

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

Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 7.5

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

Gamma Ray (ECGR_EDTC) EDTC-B[1]
0 gAPI 150

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

External Radii Average (ERAV) USIT-E[1]
2.7 in 1.7

Internal Radius Averaged Value (IRAV) USIT-E[1]
2.7 in 1.7

Internal Radius Maximum Value (IRMX) USIT-E[1]
2.7 in 1.7

Internal Radius Minimum Value (IRMN) USIT-E[1]
2.7 in 1.7

External Radii Average (ERAV) USIT-E[1]
1.7 in 2.7

Internal Radius Averaged Value (IRAV) USIT-E[1]
1.7 in 2.7

Internal Radius Maximum Value (IRMX) USIT-E[1]
1.7 in 2.7

Internal Radius Minimum Value (IRMN) USIT-E[1]
1.7 in 2.7

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Internal Radii Normalized (IRBK) USIT-E[1]
(in)

Thickness Minimum Value (THMN) USIT-E[1]
0.1 in 0.6

Thickness Average Value (THAV) USIT-E[1]
0.1 in 0.6

Thickness Maximum Value (THMX) USIT-E[1]
0.1 in 0.6

Absent -0.051 -0.012 0.028 0.068
Explicit Normalization
USIT - Casing Thickness Normalized (THBK) USIT-E[1]
(in)

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

Absent 64.000 92.000 120.000 148.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E[1]
(dB/m)

Absent 1.500 3.500
Explicit Normalization
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]

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

USIT Processing Flags (USIT_E[1])

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

TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC SLG Composite Format: Log ( IBC SLG Composite 4.5IN ) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 15-Nov-2022 20:49:35

# Channel Processing Parameters

## ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| BARI(ISSBAR) | Barite Mud Presence Flag | Borehole | No | |
| BHS | Borehole Status (Open or Cased Hole) | Borehole | Cased | |
| BS | Bit Size | WLSESSION | Depth Zoned | in |
| CBLO | Casing Bottom (Logger) | WLSESSION | 8083 | ft |
| CDEN | Cement Density | USIT-E | 0 | g/cm3 |
| CDEN | Cement Density | EDTC-B | 2 | g/cm3 |
| CMTY(U-USIT_CEMT) | Cement Type | USIT-E | Regular Cement | |
| DFD | Drilling Fluid Density | Borehole | 8.4 | lbm/gal |
| DFT_CATEGORY | Drilling Fluid Type | Borehole | Water | |
| DTMD | Borehole Fluid Slowness | Borehole | 203 | us/ft |
| FD | Fluid Density | USIT-E | 1.2 | g/cm3 |
| GCSE_DOWN_PASS | Generalized Caliper Selection for WL Log Down Passes | Borehole | BS(RT) | |
| GCSE_UP_PASS | Generalized Caliper Selection for WL Log Up Passes | Borehole | BS(RT) | |
| HEMA | Hematite Presence Flag | Borehole | No | |
| IBC_FVEL_SEL | IBC Fluid Velocity Selection | USIT-E | Automatic | |
| IBC_OFFSET_SEL | IBC Flexural Offset Selector | USIT-E | UFAO | |
| IBC_ZMUD_SEL | IBC Mud Impedance Selection | USIT-E | Theoretical | |
| IMAR | Image Rotation | USIT-E | Off | |
| MEAS_WLEN | Tcube Processing Window Length in Measurement Mode | USIT-E | 15.37 | us |
| MUD_N_INV | IBC Inversion Mud Normalization Factor | USIT-E | 1.13 | |
| MUD_N_THE | Theoretical Mud Normalization Factor | USIT-E | 1.13 | |
| THDH | Maximum Search Thickness (percentage of nominal) | USIT-E | 125 | % |
| THDL | Minimum Search Thickness (percentage of nominal) | USIT-E | 85 | % |
| U-USIT_DFSZ | Drilling Fluid Specific Acoustic Impedance | USIT-E | 1.6 | Mrayl |
| U-USIT_UFAO | USIT Flexural Attenuation Offset | USIT-E | -14 | dB/m |
| UFSFILT | Ultrasonic Flexural Surface Filter | USIT-E | LPF 250k | |
| U-USIT_UIAP | IBC Answer Product Enabled | USIT-E | SLG - TIE Picking | |
| ZMUD | Acoustic Impedance of Mud | Borehole | 1.51 | Mrayl |
| ZTCM | Acoustic Impedance Threshold for Cement | USIT-E | 2.6 | Mrayl |
| ZTGS | Acoustic Impedance Threshold for Gas | USIT-E | 0.3 | Mrayl |

## ONEDepth Zoned Parameters

| Parameter | Value | Start ( ft ) | Stop ( ft ) |
|---|---|---|---|
| BS | 12.25 | 28 | 618 |
| BS | 7.875 | 618 | 7097 |

All depth are actual.

# Tool Control Parameters

## ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| AGMN | Minimum Gain of Cartridge | USIT-E | -12 | dB |
| AGMX | Maximum Gain of Cartridge | USIT-E | 54 | dB |
| EMXV | EMEX Voltage | USIT-E | Time Zoned | V |
| IBC_ACQTYPE | IBC Acquisition type | USIT-E | 1 MHz | |
| IBC_FLEXDBP | IBC Flex Duration Before Peak | USIT-E | 30 | us |
| ICE2_ACQ | Ultrasonic ICE2 Acquisition | USIT-E | Yes | |
| UPAT | USIT Emission Pattern | USIT-E | Pattern 750 KHz | |
| UWKM | USIT Working Mode | USIT-E | 10 deg at 6.0 in | |
| U-USIT_UTAN | Transducer Angles | USIT-E | 33_DEG | |
| VRES | Vertical Resolution | USIT-E | 6.0 in | |

## ONETime Zoned Parameters

## Pass Log[3]:Up

| Parameter | Value | Start Time | Stop Time | Start Depth ( ft ) | Stop Depth ( ft ) |
|---|---|---|---|---|---|
| EMXV | 90 | 15-Nov-2022 22:06:56 | 15-Nov-2022 22:10:50 | 7097.84 | 6864.84 |
| EMXV | 100 | 15-Nov-2022 22:10:50 | 15-Nov-2022 22:34:39 | 6864.84 | 6275.64 |

## Pass Log[4]:Up

| | | | | | |
|---|---|---|---|---|---|
| EMXV | 100 | 15-Nov-2022 22:40:21 | 16-Nov-2022 00:14:08 | 6275.63 | 55.84 |

All depth are at tool zero.

# Composite 1

## Software Version

| Acquisition System | Version |
|---|---|
| Maxwell 2022.1 | 12.1.217729.3100 |
| Application Patch | Wireline_Hotfix-Mandatory-2022.1_12.1.220972 |
| | Wireline_NPD-ThruBit-2022.1_12.1.220135 |

## Composite Summary

| Run Name | Pass Objective | Direction | Top | Bottom | Start | Stop | DSC Mode | Depth Shift | Include Parallel Data |
|---|---|---|---|---|---|---|---|---|---|
| ONE | Log[3]:Up | Up | 5436.73 ft | 7107.90 ft | 15-Nov-2022 10:06:56 PM | 15-Nov-2022 10:34:39 PM | ON | 9.90 ft | Yes |
| ONE | Log[4]:Up | Up | 67.82 ft | 6315.28 ft | 15-Nov-2022 10:37:21 PM | 16-Nov-2022 12:14:08 AM | ON | 12.11 ft | Yes |

All depths are referenced to toolstring zero

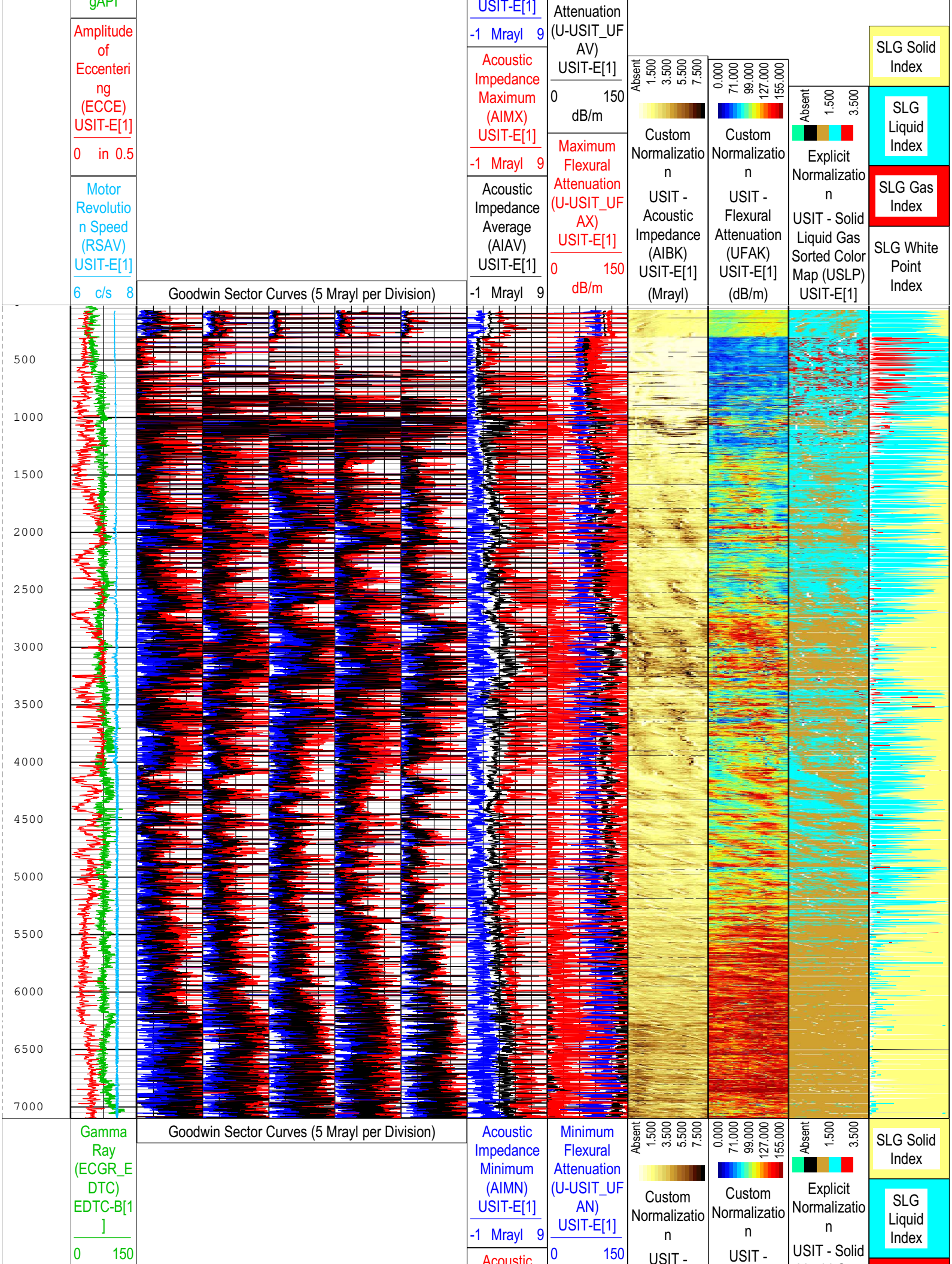
## Log

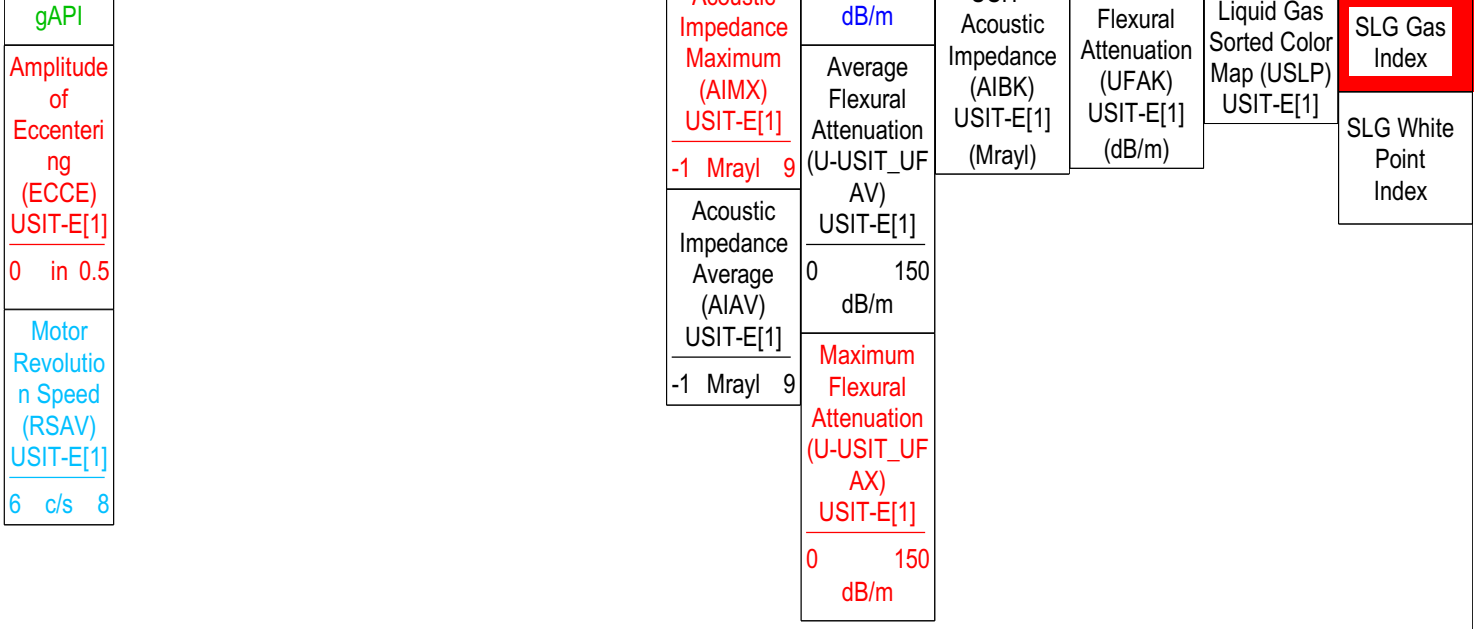
Company:Occidental Petroleum Corporation Well:Sherwood L Federal #30-29D

Composite 1:S017

Description: USI Goodwin Format: Log ( IBC Goodwin ) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2022 20:49:58

TIME_1900 - Time Marked every 60.00 (s)


gAPI
Amplitude of Eccentering (ECCE) USIT-E[1]
0 in 0.5
Motor Revolution Speed (RSAV) USIT-E[1]
6 c/s 8
Goodwin Sector Curves (5 Mrayl per Division)
USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Maximum (AIMX) USIT-E[1]
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-E[1]
-1 Mrayl 9
Attenuation (U-USIT_UFAV) USIT-E[1]
0 150 dB/m
Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E[1]
0 150 dB/m
Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)
0.000 71.000 99.000 127.000 155.000
Custom Normalization
USIT - Flexural Attenuation (UFAK) USIT-E[1] (dB/m)
Absent 1.500 3.500
Explicit Normalization
USIT - Solid Liquid Gas Sorted Color Map (USLP) USIT-E[1]
SLG Solid Index
SLG Liquid Index
SLG Gas Index
SLG White Point Index
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
Goodwin Sector Curves (5 Mrayl per Division)
Gamma Ray (ECGR_EDTC) EDTC-B[1]
0 150
Acoustic Impedance Minimum (AIMN) USIT-E[1]
-1 Mrayl 9
Minimum Flexural Attenuation (U-USIT_UFAN) USIT-E[1]
0 150
Absent 1.500 3.500 5.500 7.500
Custom Normalization
USIT -
0.000 71.000 99.000 127.000 155.000
Custom Normalization
USIT -
Absent 1.500 3.500
Explicit Normalization
USIT - Solid
SLG Solid Index
SLG Liquid Index




TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log ( IBC Goodwin ) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2022 20:49:58

# Channel Processing Parameters

## ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| BARI(ISSBAR) | Barite Mud Presence Flag | Borehole | No | |
| BHS | Borehole Status (Open or Cased Hole) | Borehole | Cased | |
| BS | Bit Size | WLSESSION | Depth Zoned | in |
| CBLO | Casing Bottom (Logger) | WLSESSION | 8083 | ft |
| CDEN | Cement Density | USIT-E | 0 | g/cm3 |
| CDEN | Cement Density | EDTC-B | 2 | g/cm3 |
| CMTY(U-USIT_CEMT) | Cement Type | USIT-E | Regular Cement | |
| DFD | Drilling Fluid Density | Borehole | 8.4 | lbm/gal |
| DFT_CATEGORY | Drilling Fluid Type | Borehole | Water | |
| DTMD | Borehole Fluid Slowness | Borehole | 203 | us/ft |
| FD | Fluid Density | USIT-E | 1.2 | g/cm3 |
| GCSE_DOWN_PASS | Generalized Caliper Selection for WL Log Down Passes | Borehole | BS(RT) | |
| GCSE_UP_PASS | Generalized Caliper Selection for WL Log Up Passes | Borehole | BS(RT) | |
| HEMA | Hematite Presence Flag | Borehole | No | |
| IBC_FVEL_SEL | IBC Fluid Velocity Selection | USIT-E | Automatic | |
| IBC_OFFSET_SEL | IBC Flexural Offset Selector | USIT-E | UFAO | |
| IBC_ZMUD_SEL | IBC Mud Impedance Selection | USIT-E | Theoretical | |
| IMAR | Image Rotation | USIT-E | Off | |
| MEAS_WLEN | Tcube Processing Window Length in Measurement Mode | USIT-E | 15.37 | us |
| MUD_N_INV | IBC Inversion Mud Normalization Factor | USIT-E | 1.13 | |
| MUD_N_THE | Theoretical Mud Normalization Factor | USIT-E | 1.13 | |
| THDH | Maximum Search Thickness (percentage of nominal) | USIT-E | 125 | % |
| THDL | Minimum Search Thickness (percentage of nominal) | USIT-E | 85 | % |
| U-USIT_DFSZ | Drilling Fluid Specific Acoustic Impedance | USIT-E | 1.6 | Mrayl |
| U-USIT_UFAO | USIT Flexural Attenuation Offset | USIT-E | -14 | dB/m |
| UFSFILT | Ultrasonic Flexural Surface Filter | USIT-E | LPF 250k | |
| U-USIT_UIAP | IBC Answer Product Enabled | USIT-E | SLG - TIE Picking | |
| ZMUD | Acoustic Impedance of Mud | Borehole | 1.51 | Mrayl |
| ZTCM | Acoustic Impedance Threshold for Cement | USIT-E | 2.6 | Mrayl |

| | | | | |
|---|---|---|---|---|
| ZTGS | Acoustic Impedance Threshold for Gas | USIT-E | 0.3 | Mrayl |

## ONEDepth Zoned Parameters

| Parameter | Value | Start ( ft ) | Stop ( ft ) |
|---|---|---|---|
| BS | 12.25 | 28 | 618 |
| BS | 7.875 | 618 | 7097 |

All depth are actual.

# Tool Control Parameters

## ONE: Parameters

| Parameter | Description | Tool | Value | Unit |
|---|---|---|---|---|
| AGMN | Minimum Gain of Cartridge | USIT-E | -12 | dB |
| AGMX | Maximum Gain of Cartridge | USIT-E | 54 | dB |
| EMXV | EMEX Voltage | USIT-E | Time Zoned | V |
| IBC_ACQTYPE | IBC Acquisition type | USIT-E | 1 MHz | |
| IBC_FLEXDBP | IBC Flex Duration Before Peak | USIT-E | 30 | us |
| ICE2_ACQ | Ultrasonic ICE2 Acquisition | USIT-E | Yes | |
| UPAT | USIT Emission Pattern | USIT-E | Pattern 750 KHz | |
| UWKM | USIT Working Mode | USIT-E | 10 deg at 6.0 in | |
| U-USIT_UTAN | Transducer Angles | USIT-E | 33_DEG | |
| VRES | Vertical Resolution | USIT-E | 6.0 in | |

## ONETime Zoned Parameters

### Pass Log[3]:Up

| Parameter | Value | Start Time | Stop Time | Start Depth ( ft ) | Stop Depth ( ft ) |
|---|---|---|---|---|---|
| EMXV | 90 | 15-Nov-2022 22:06:56 | 15-Nov-2022 22:10:50 | 7097.84 | 6864.84 |
| EMXV | 100 | 15-Nov-2022 22:10:50 | 15-Nov-2022 22:34:39 | 6864.84 | 6275.64 |

### Pass Log[4]:Up

| | | | | | |
|---|---|---|---|---|---|
| EMXV | 100 | 15-Nov-2022 22:40:21 | 16-Nov-2022 00:14:08 | 6275.63 | 55.84 |

All depth are at tool zero.

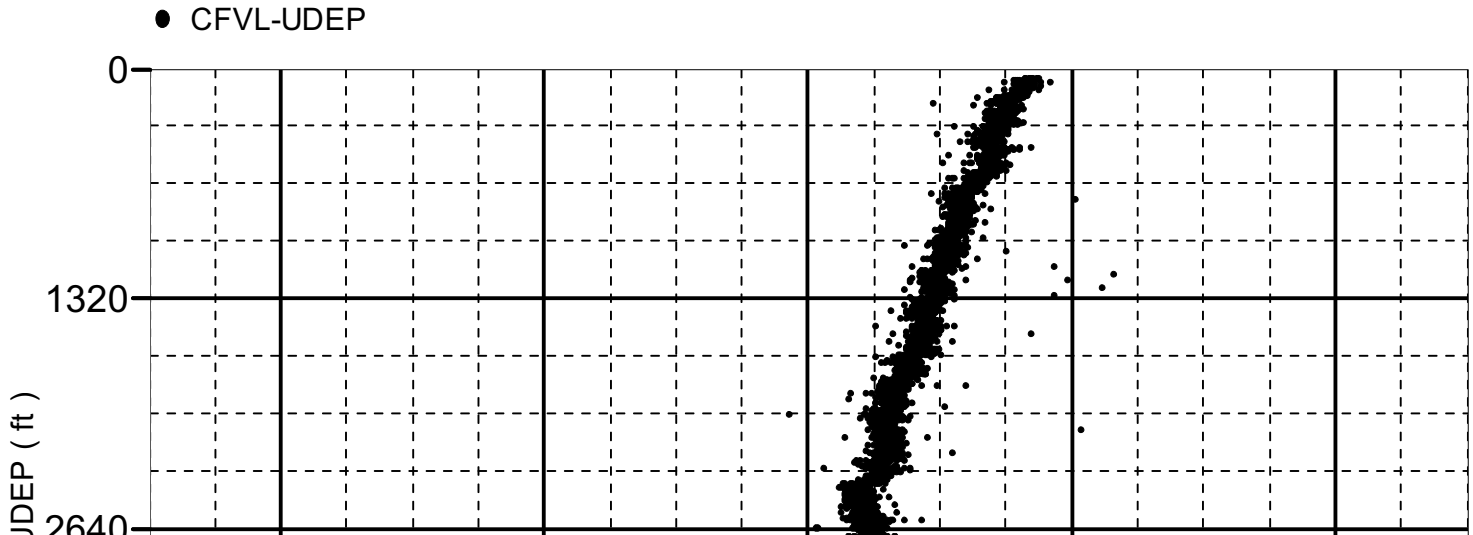
XYZ

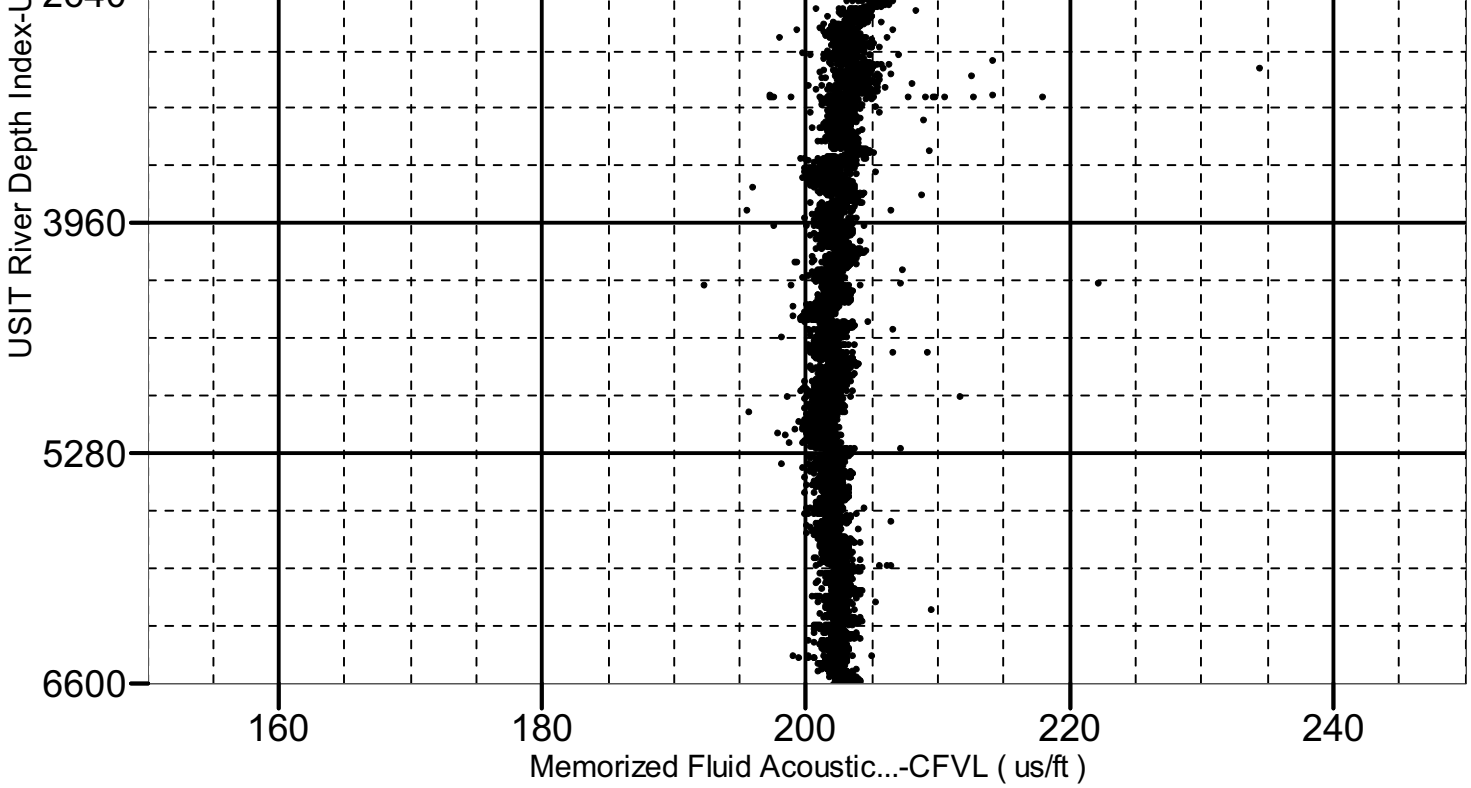
Company:Occidental Petroleum Corporation Well:Sherwood L Federal #30-29D
Composite 1:S017

# Fluid Acoustic Slowness vs Depth

## 2D Cross Plot

Index Range: From 67.00 to 7097.00 ft





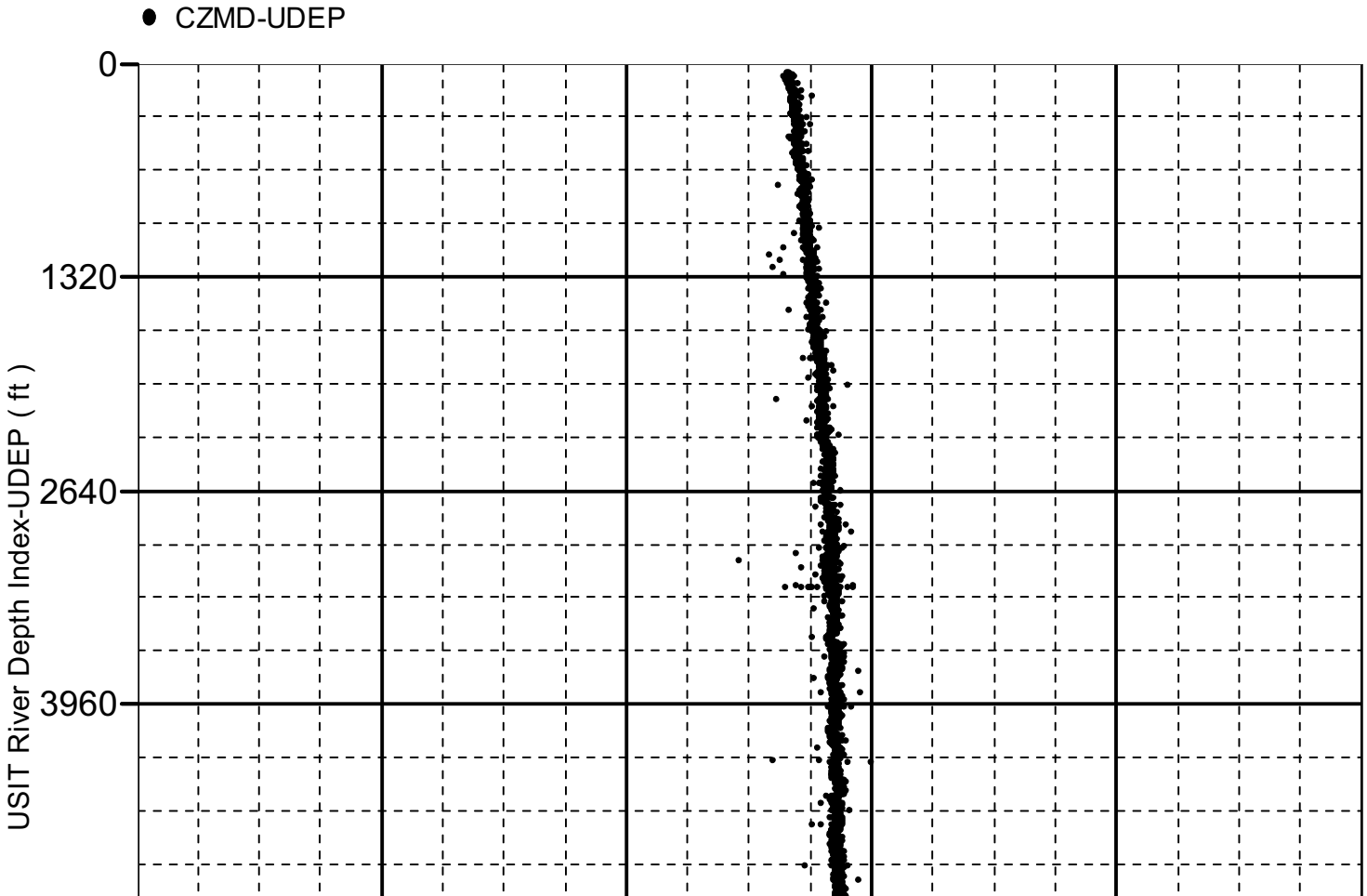

XYZ

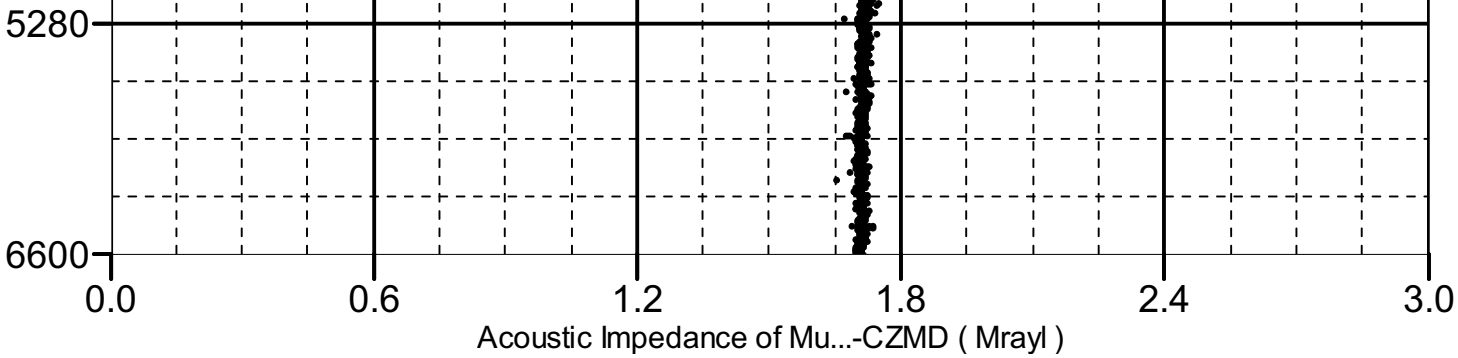
Company:Occidental Petroleum Corporation Well:Sherwood L Federal #30-29D
Composite 1:S017

# Acoustic Impedance of Mud vs Depth

## 2D Cross Plot

Index Range: From 67.00 to 7097.00 ft




5280
6600
0.0
0.6
1.2
1.8
2.4
3.0
Acoustic Impedance of Mu...-CZMD ( Mrayl )

| | |
|---|---|
| Company: | Occidental Petroleum Corporation |
| Well: | Sherwood L Federal #30-29D |
| Field: | Wattenberg |
| County: | Weld |
| Country: | United States |

Schlumberger

# Isolation Scanner
# Cement Evaluation
# Gamma Ray - CCL Log