Schlumberger

Company: **SWEPI, LP**

Well: **Gnat Hill 1−29**
Field: **BUCK PEAK**
County: **ROUTT** State: **COLORADO**

ISOLATION SCANNER
GAMMA RAY

County: ROUTT
Field: BUCK PEAK
Location: BHL: 1011 FNL & 2461 FEL
Well: Gnat Hill 1−29
Company: SWEPI, LP

LOCATION

BHL: 1011 FNL & 2461 FEL

Elev.: K.B. 6673.30 ft
G.L. 6668.30 ft
D.F.

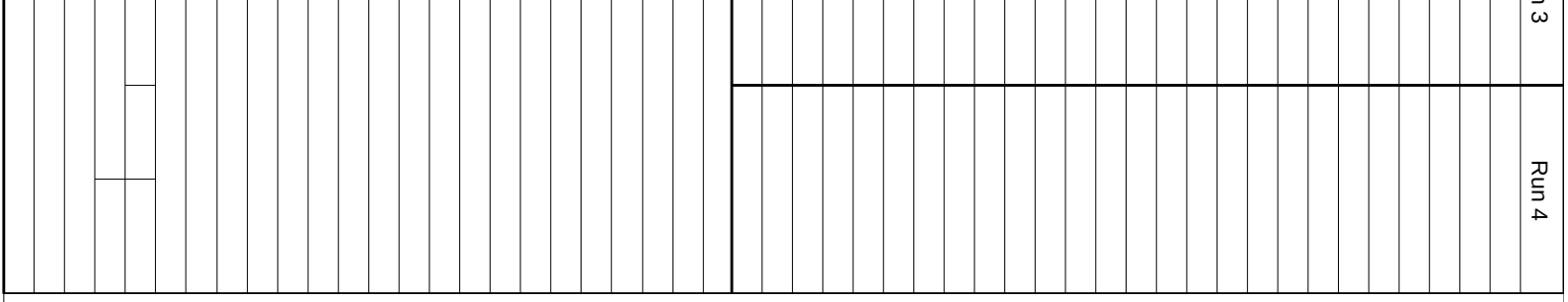
Permanent Datum: GROUND LEVEL Elev.:
Log Measured From: KYLLY BUSHING above Perm. Datum
Drilling Measured From:

API Serial No.	Section	Township	Range
05−107−06243	29	6N	89W

	Run 1	Run 2	Run
PVT DATA			
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation			
CEMENTING DATA			
Primary/Squeeze	Primary		
Casing String No			
Lead Cement Type			
Volume			
Density	9.5 lbm/gal		
Water Loss			
Additives			
Tail Cement Type			
Volume			
Density			
Water Loss			
Additives			
Expected Cement Top			

Logging Date		26−Dec−2012				
Run Number		4				
Depth Driller		9763 ft				
Schlumberger Depth		9760 ft				
Bottom Log Interval		7100 ft				
Top Log Interval		100 ft				
Casing Fluid Type		BRINE				
Salinity						
Density		8.9 lbm/gal				
Fluid Level						
BIT/CASING/TUBING STRING						
Bit Size		9.875 in				
From		0 ft				
To		7385 ft				
Casing/Tubing Size		7.625 in				
Weight		33.7 lbm/ft				
Grade						
From		0 ft				
To		7385 ft				
Maximum Recorded Temperatures		175 degF				
Logger On Bottom	Time	26−Dec−2012				
Unit Number	Location	2276	vernal			
Recorded By		GStamp/WPongtepupathum				
Witnessed By		Jason Morris				

Logging Date						
Run Number						
Depth Driller						
Schlumberger Depth						
Bottom Log Interval						
Top Log Interval						
Casing Fluid Type						
Salinity						
Density						
Fluid Level						
BIT/CASING/TUBING STRING						
Bit Size						
From						
To						
Casing/Tubing Size						
Weight						
Grade						
From						
To						
Maximum Recorded Temperatures						
Logger On Bottom	Time					
Unit Number	Location					
Recorded By						
Witnessed By						



DEPTH SUMMARY LISTING

Date Created: 26−DEC−2012 21:56:44

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−46A−XS
Serial Number:	6094	Serial Number:	8093	Serial Number:	
Calibration Date:	12−AUG−2012	Calibration Date:	19−DEC−2012	Length:	22000 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	100518		
Calibration Cable Type:	7−46A−XS	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−7	Calibration RMS:	27	Rig Type:	LAND
Wheel Correction 2:	−6	Calibration Peak Error:	58		

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	PLATFORM EXPRESS
Reference Log Run Number:	1
Reference Log Date:	24−DEC−2012
Subsequent Trip Down Log Correction:	

Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURE FOLLOWED
2. IDW USED AS PRIMARY DEPTH CONTROL DEVICE
3. Z−CHART USED AS SECONDARY DEPTH CONTROL DEVICE
4.
5.
6.

OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
TOOL RUN PER TOOL SKETCH	
2 GEMCOS AND ONE INLINE CENTRALIZER USED. ONE ON USIC AND ONE ON SGT−N	
SCHLUMBERGER DID NOT TAG TD	
TOP OF PRODUCTION CASING SET AT 7126 FT	
ZMUD = 2.0	
UFAO=−24 DB/M	
TOP OF CEMENT AT 1450 FT	

LOG ABOVE 300 FT MAYE NOT BE ACCURATE DUE TO INSUFFICENT	HYDROSTATIC PRESSURE
REPEATED WAVEFORMS AT 2150 FT	

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		19C1−222	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

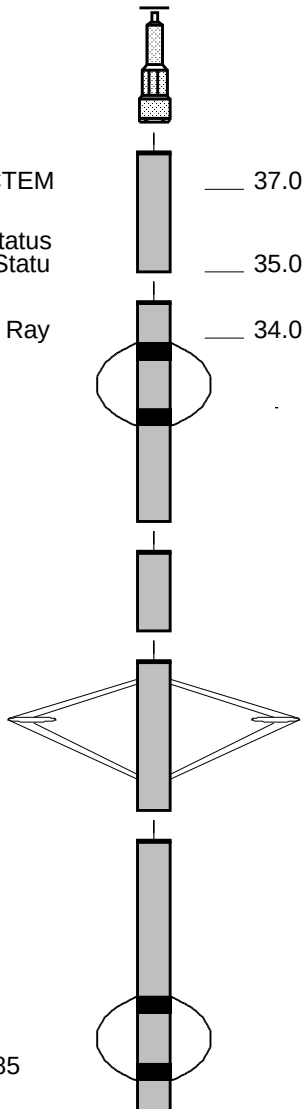
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

GSR−U/Y
WITM (DTS)−A

DOWNHOLE EQUIPMENT



LEH−QT 40.9
LEH−QT

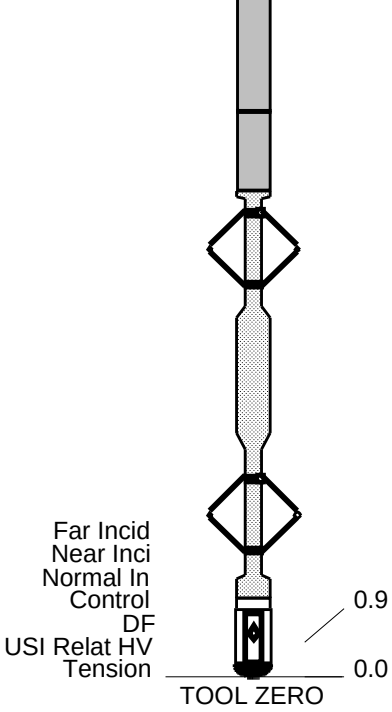
DTC−H 38.0
ECH−KC 9667
DTCH0−A
DTCH1−A

SGT−N 35.0
SGH−K
SGC−TB 10283
SGD−TAB

AH−107 29.5
AH−107

AH−Inline centralizer 27.5
AH−Inline centralizer

USIT−D 23.7
ECH−MRA
USIC−D 1846
AH−107 3855
USIS−A 2755
USSC−B
IBCS_B−100158202 769
Top Transducer 3373
Middle Top Transducer 3381
Middle Bottom Transducer 3385
Bottom Transducer 3120



MAXIMUM STRING DIAMETER 7.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

IBC SLG
MAIN PASS

MAXIS Field Log

Company: SWEPI, LP **Well: Gnat Hill 1−29**

Input DLIS Files

DEFAULT	**USI_006LUP**	**FN:7**	**PRODUCER**	**26−Dec−2012 20:30**	**7106.5 FT**	**122.0 FT**

Output DLIS Files

DEFAULT	**USI_013PUP**	**FN:15**	**PRODUCER**	**27−Dec−2012 00:25**	**7110.5 FT**	**126.0 FT**
RTB	**USI_013PUP**	**FN:16**	**PRODUCER**	**27−Dec−2012 00:25**	**7110.5 FT**	**126.0 FT**

OP System Version: 19C1−222

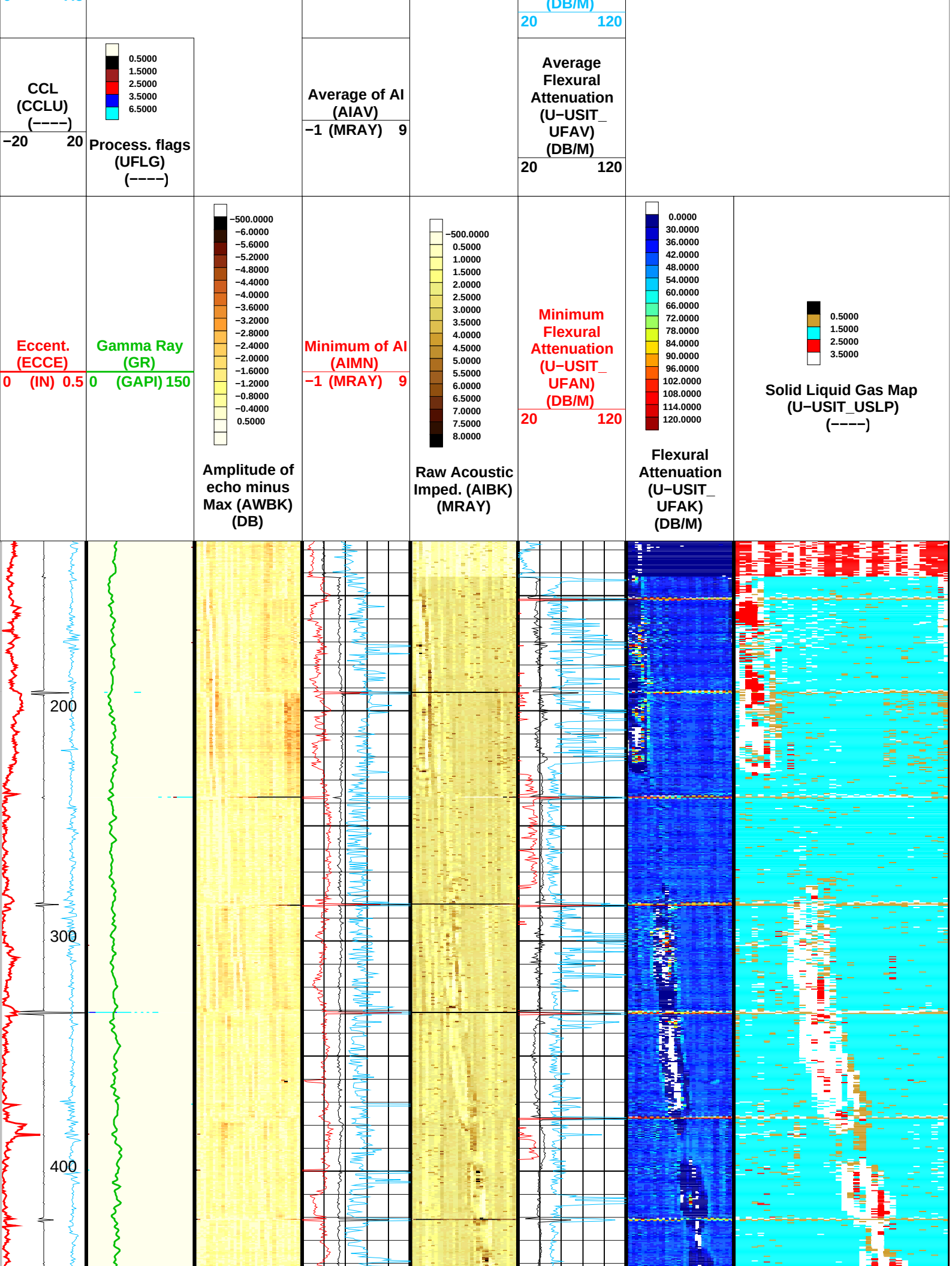
USIT−D	**19C1−222**	**SGT−N**	**19C1−222**
DTC−H	**19C1−222**		

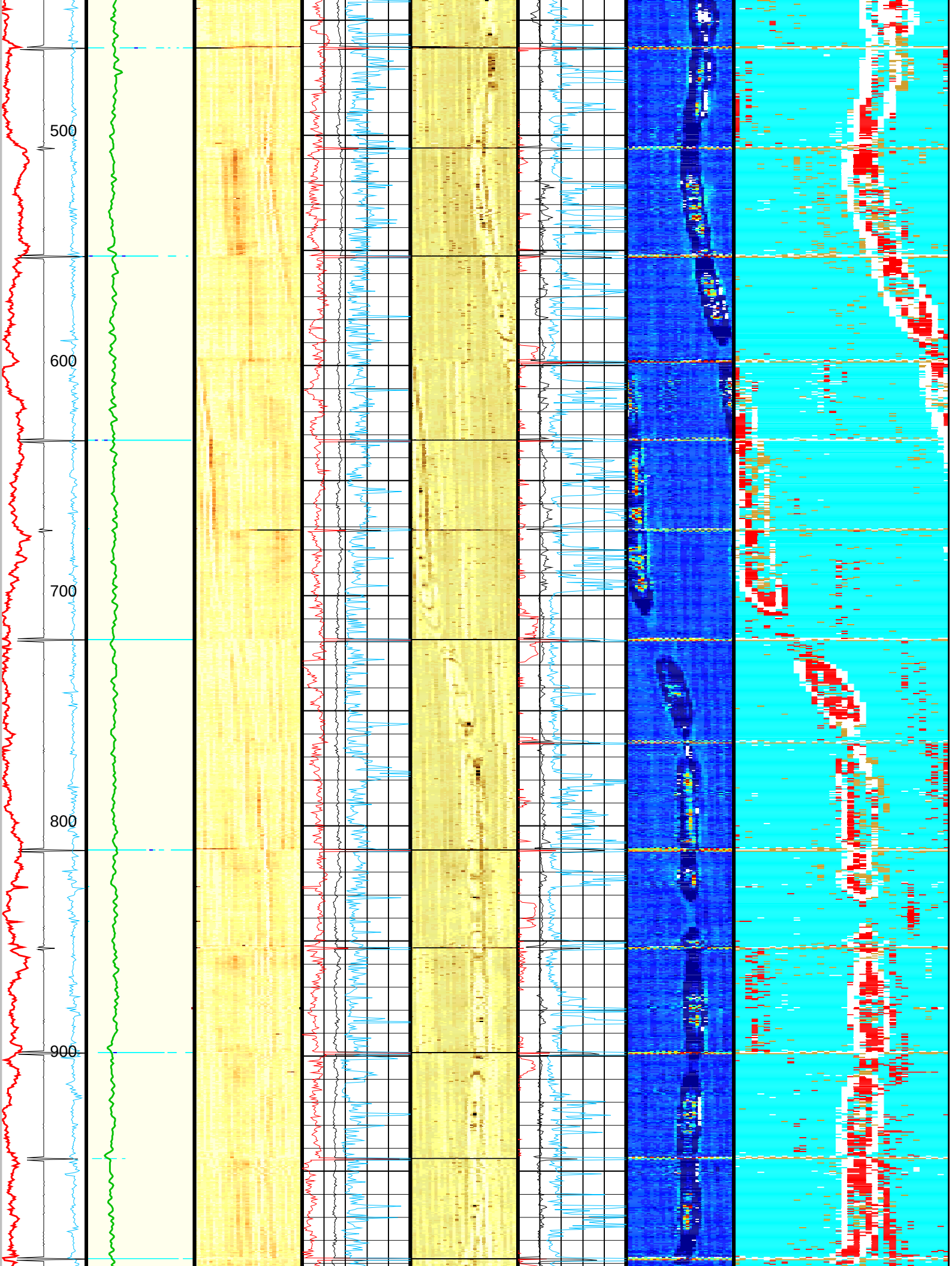
Image rotation (UCAZ) (DEG)
0 360

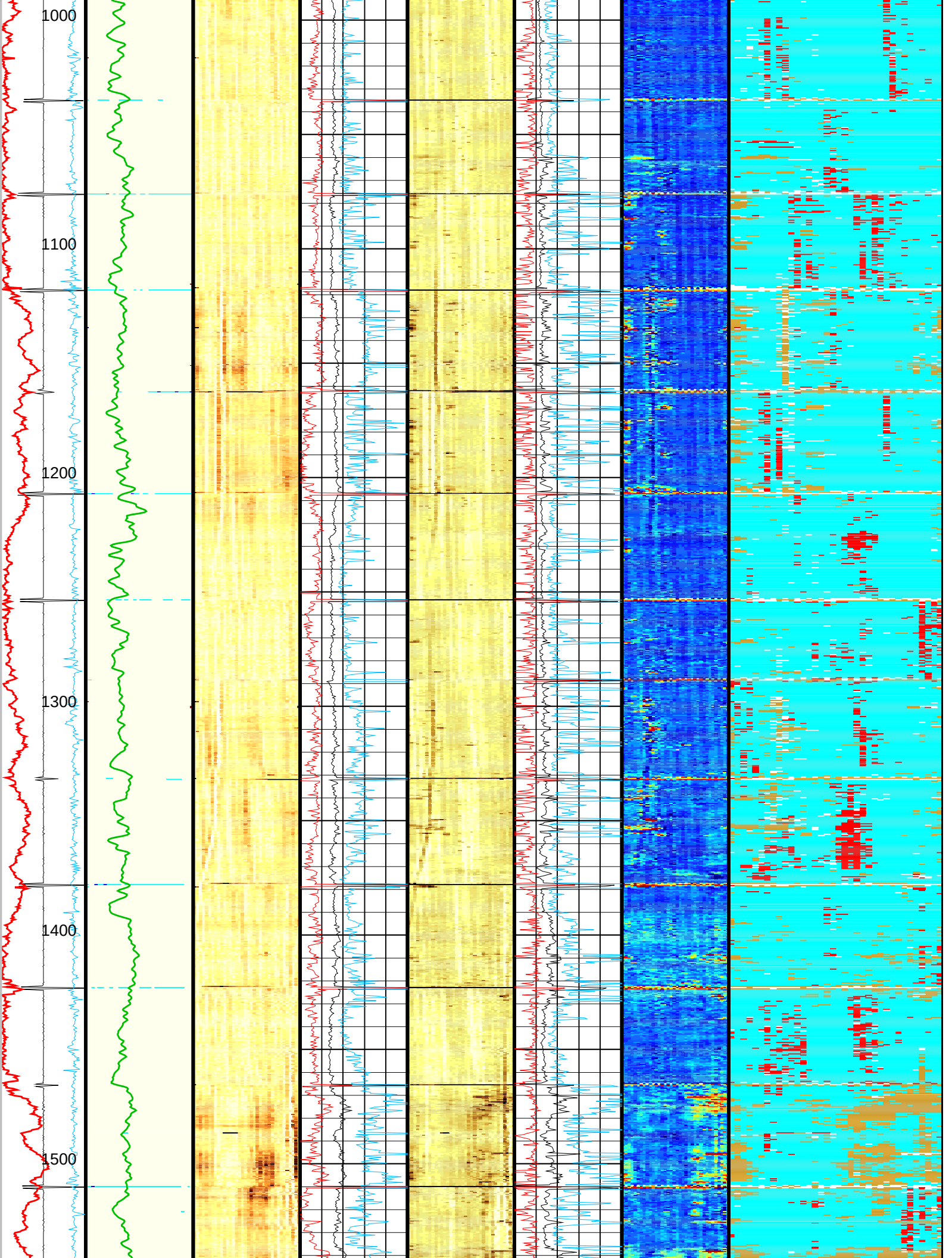
RSAV (RSAV) (RPS)
6 7.5

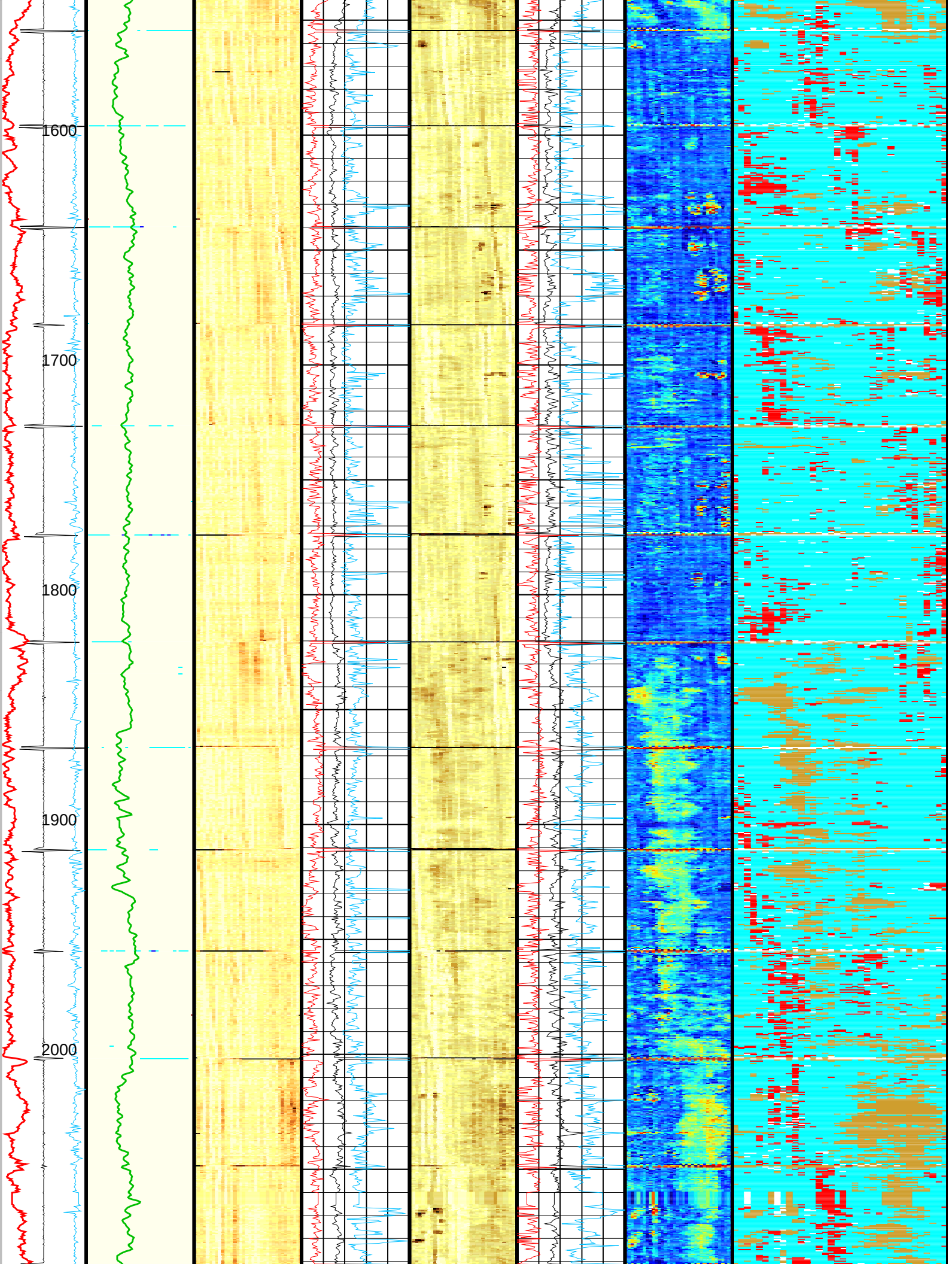
Maximum of AI (AIMX)
−1 (MRAY) 9

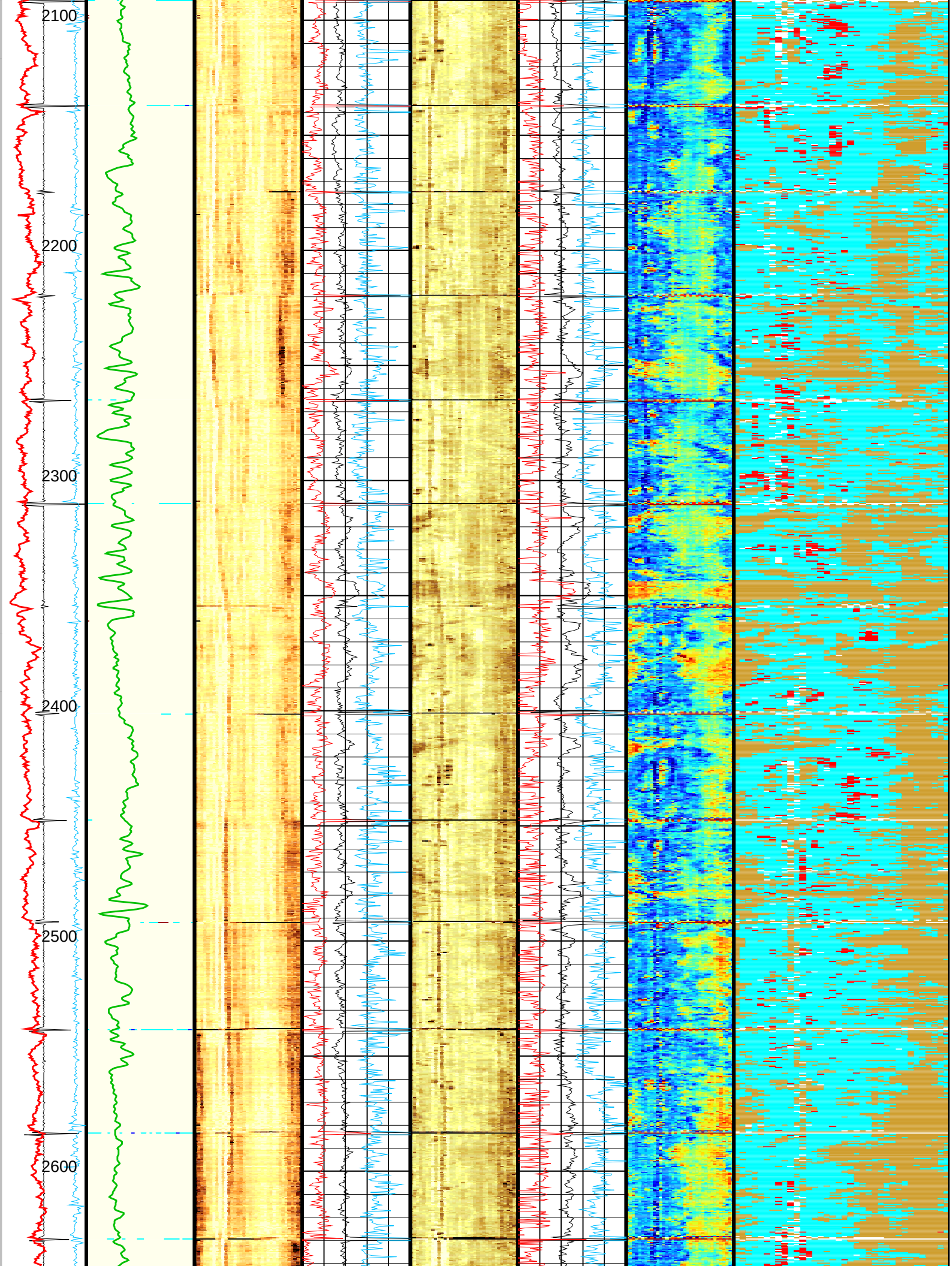
Maximum Flexural Attenuation (U−USIT_UFAX) (DB/M)

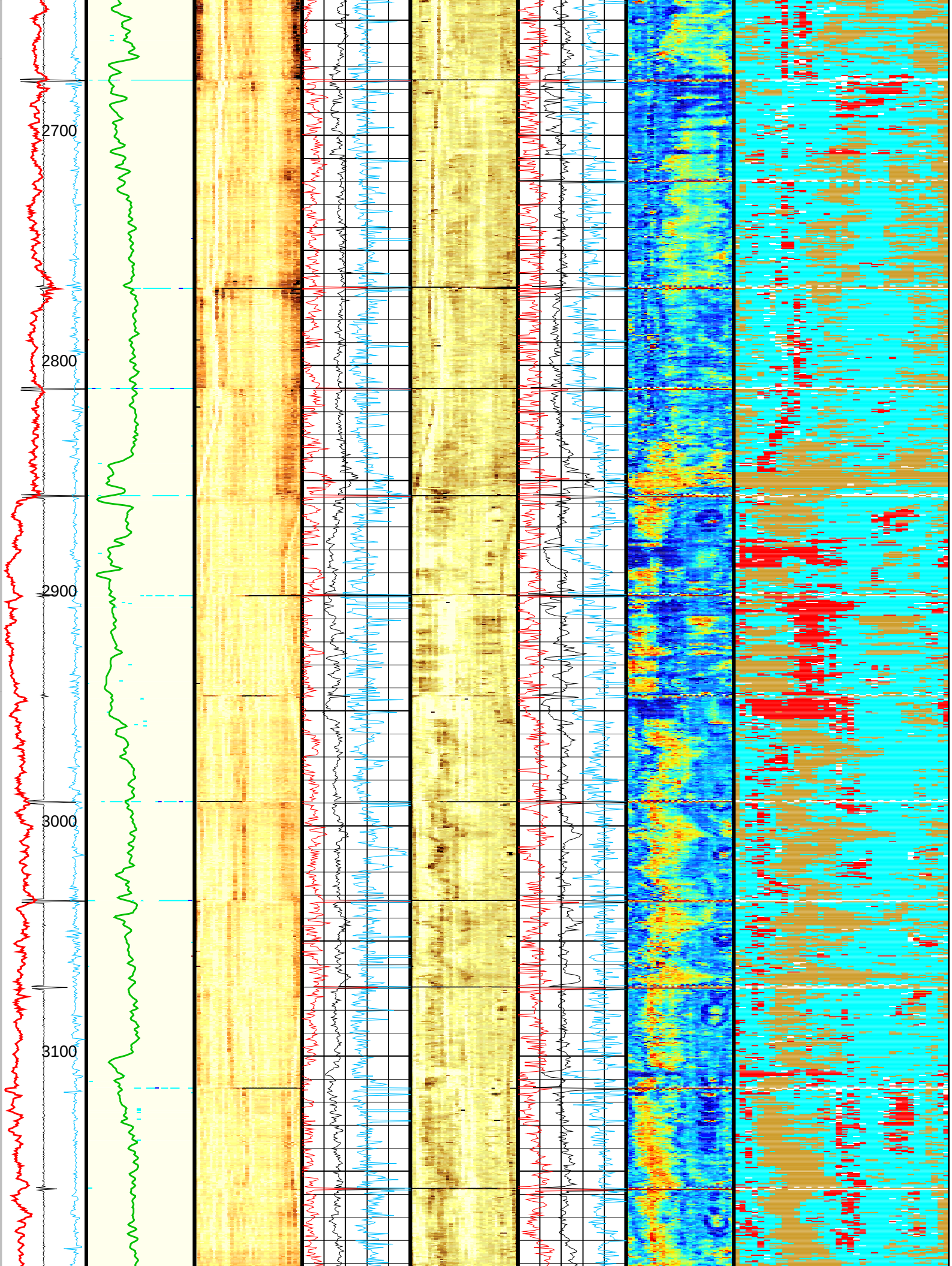

(DB/M)
20 120
CCL (CCLU) (----)
−20 20
0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (----)
Average of AI (AIAV)
−1 (MRAY) 9
Average Flexural Attenuation (U−USIT_ UFAV) (DB/M)
20 120
Eccent. (ECCE)
0 (IN) 0.5
Gamma Ray (GR)
0 (GAPI) 150
−500.0000
−6.0000
−5.6000
−5.2000
−4.8000
−4.4000
−4.0000
−3.6000
−3.2000
−2.8000
−2.4000
−2.0000
−1.6000
−1.2000
−0.8000
−0.4000
0.5000
Amplitude of echo minus Max (AWBK) (DB)
Minimum of AI (AIMN)
−1 (MRAY) 9
−500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000
Raw Acoustic Imped. (AIBK) (MRAY)
Minimum Flexural Attenuation (U−USIT_ UFAN) (DB/M)
20 120
0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
114.0000
120.0000
Flexural Attenuation (U−USIT_ UFAK) (DB/M)
0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map (U−USIT_USLP) (----)
200
300
400

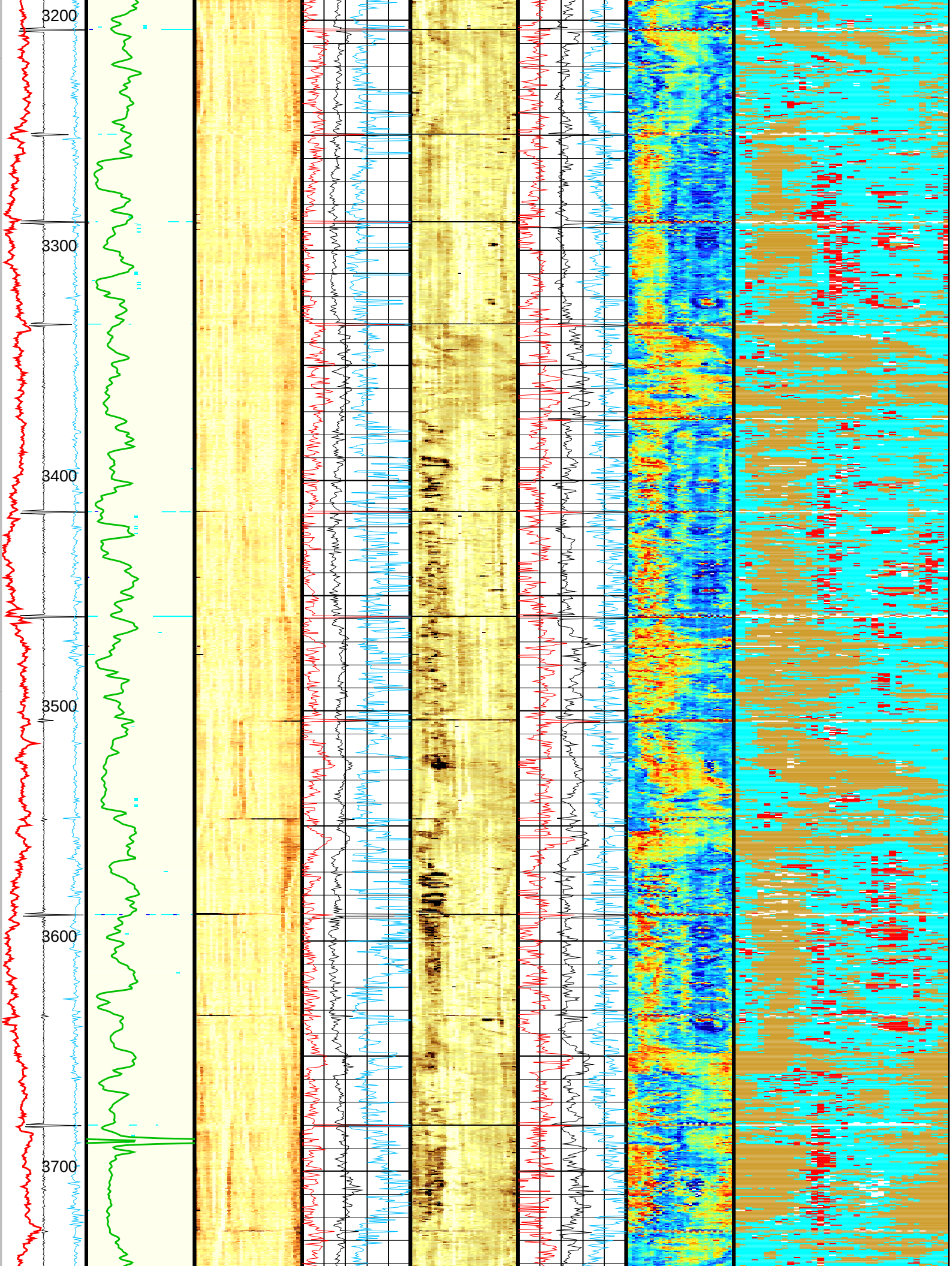

500
600
700
800
900

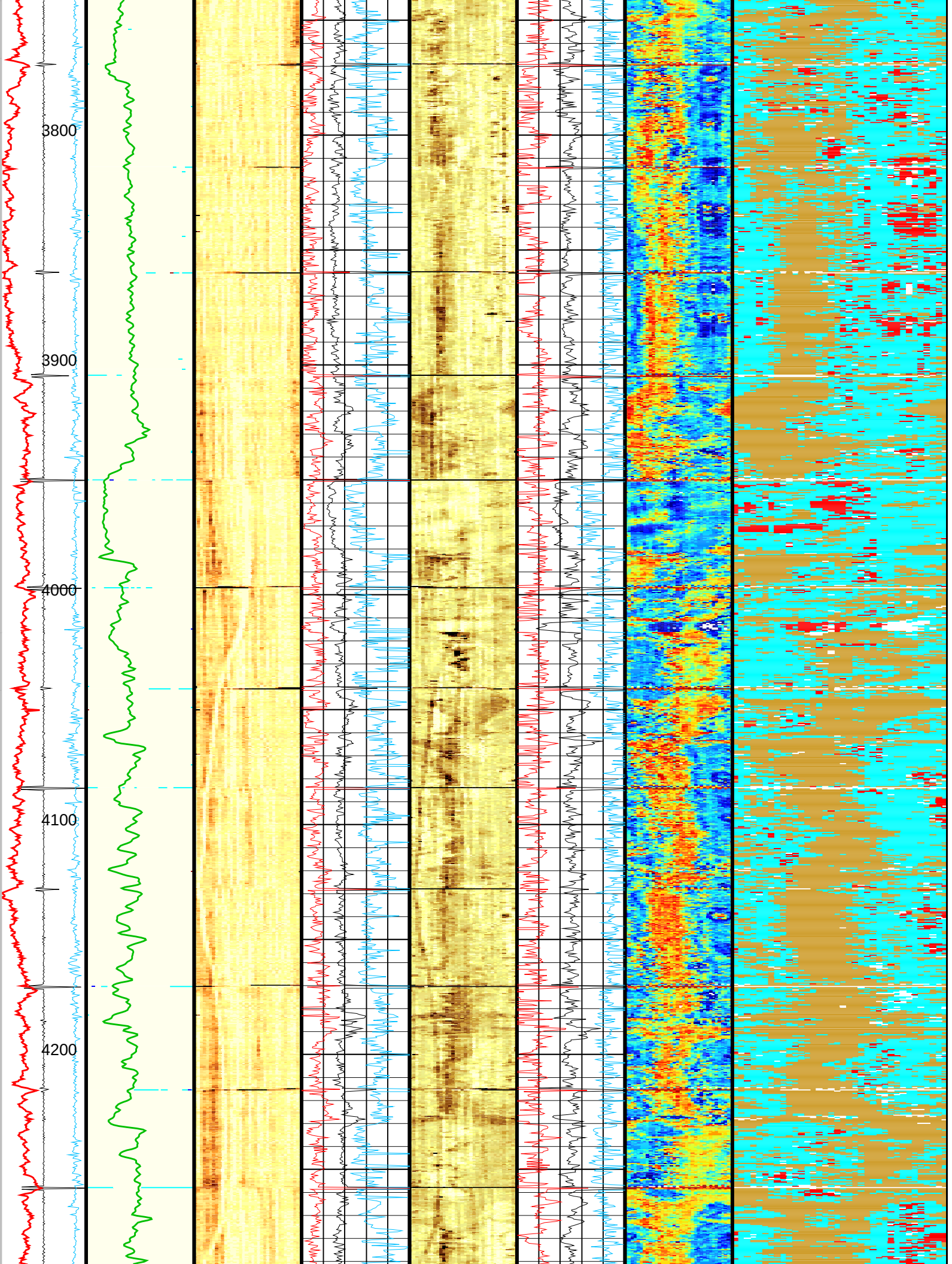

1000
1100
1200
1300
1400
1500

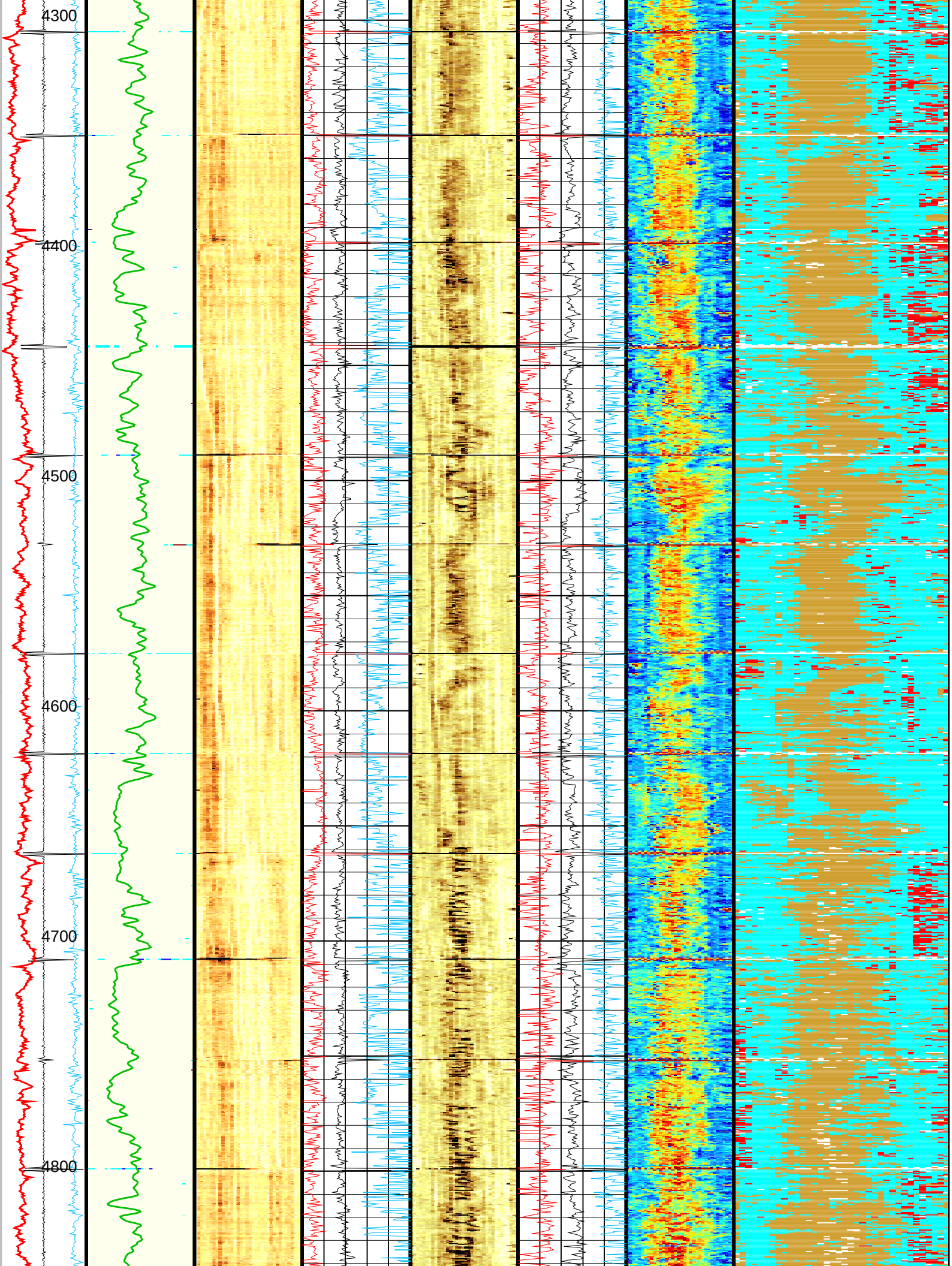

1600
1700
1800
1900
2000

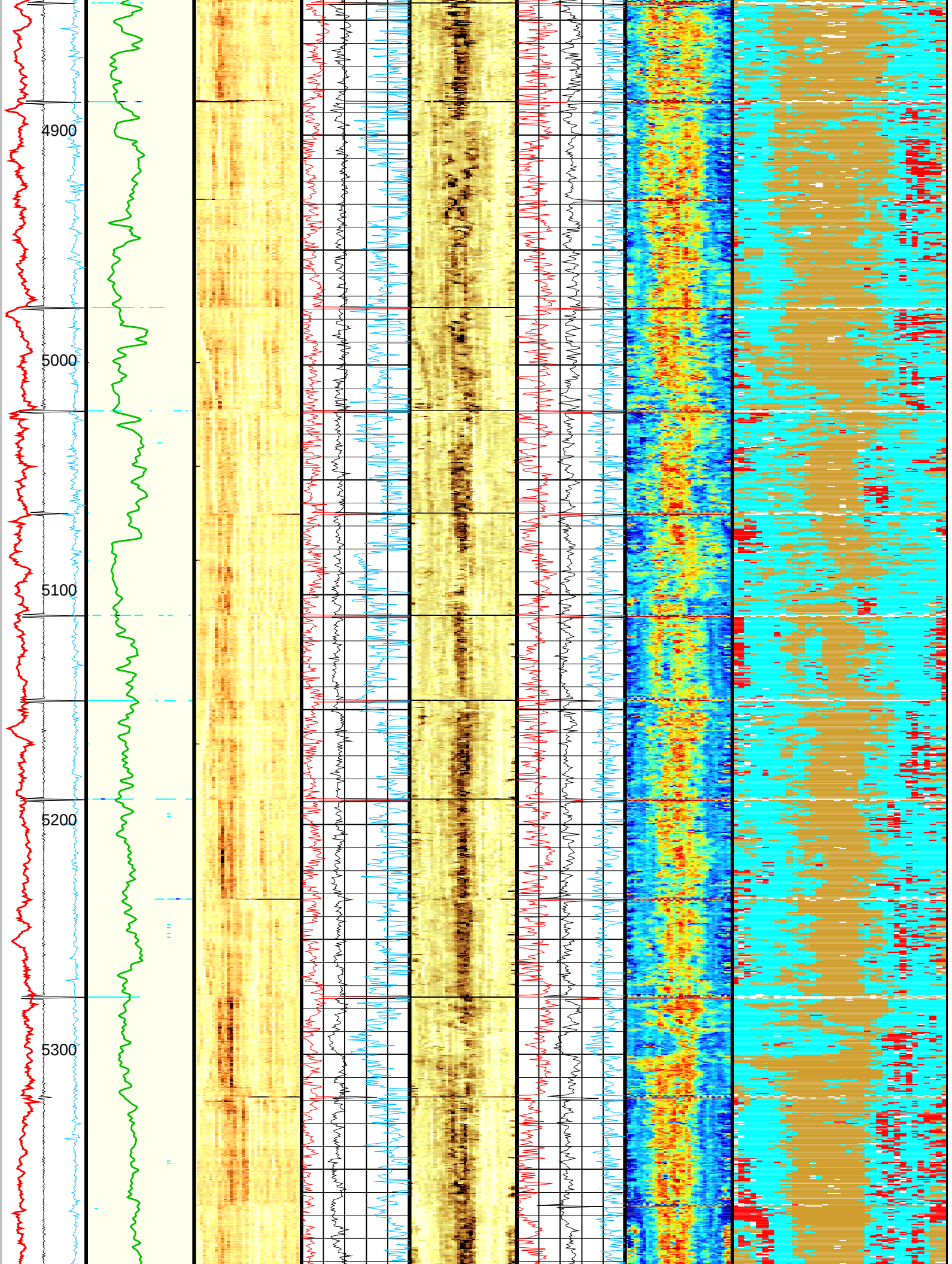

2100
2200
2300
2400
2500
2600

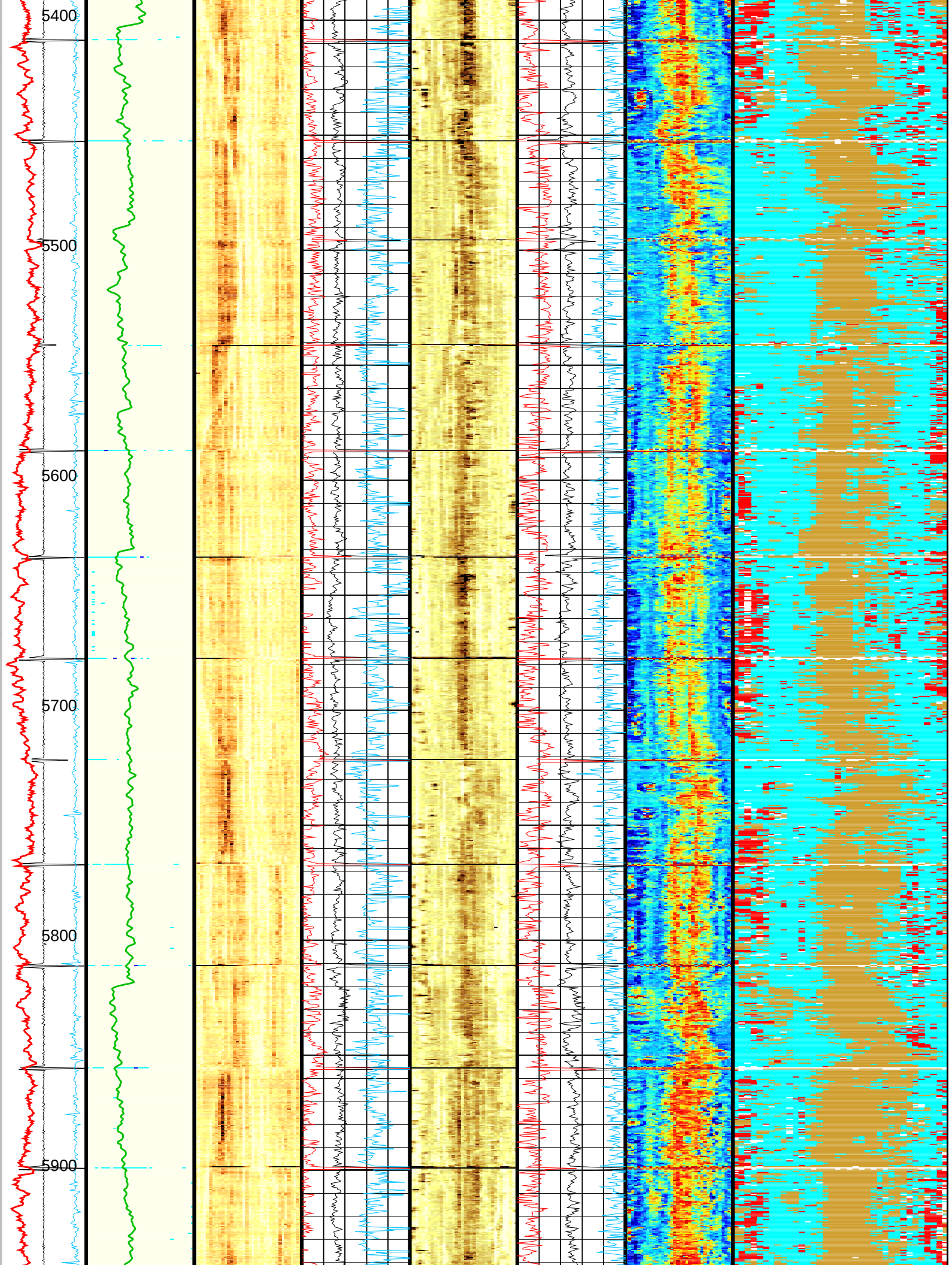

2700
2800
2900
3000
3100

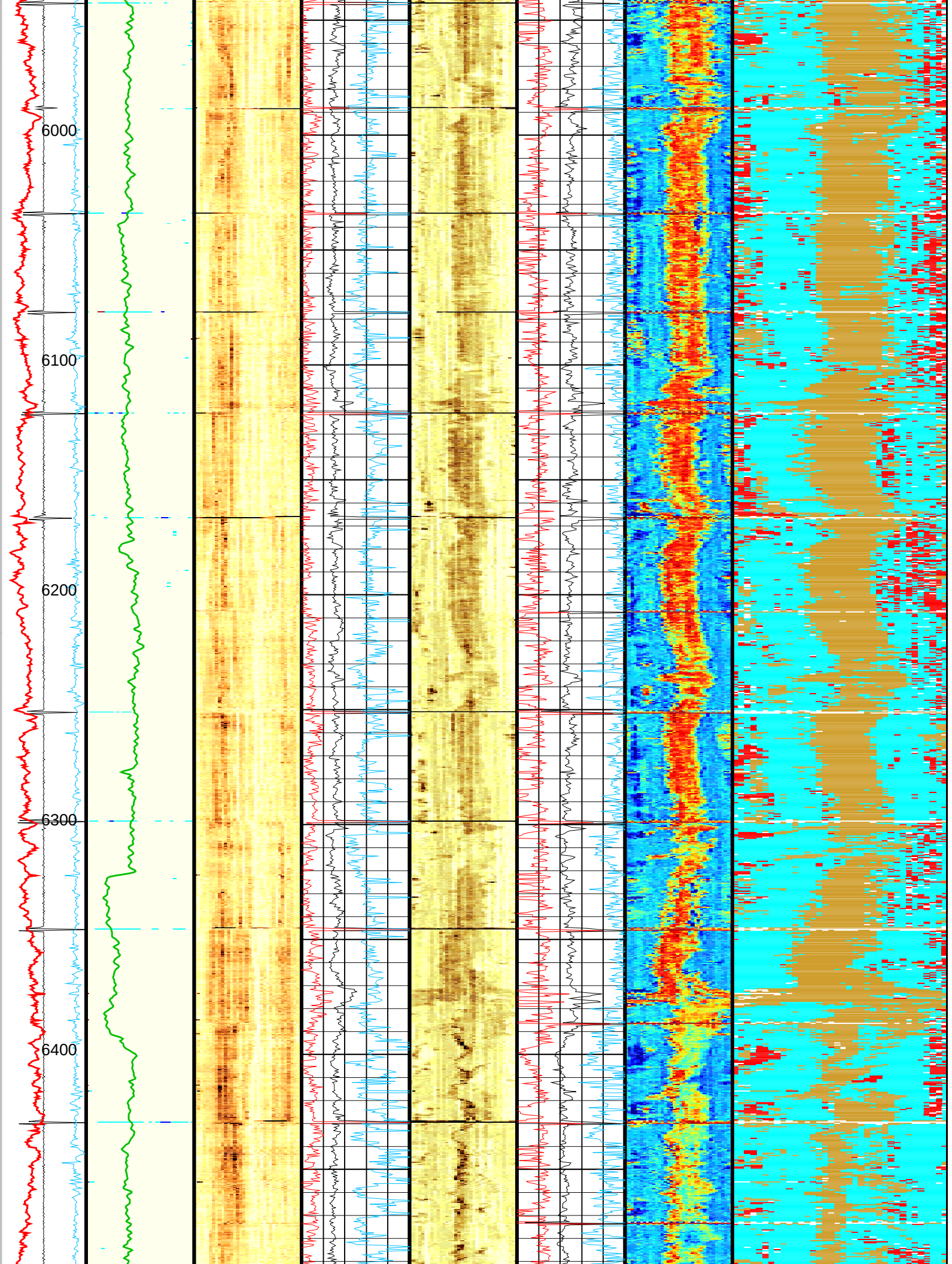

3200
3300
3400
3500
3600
3700

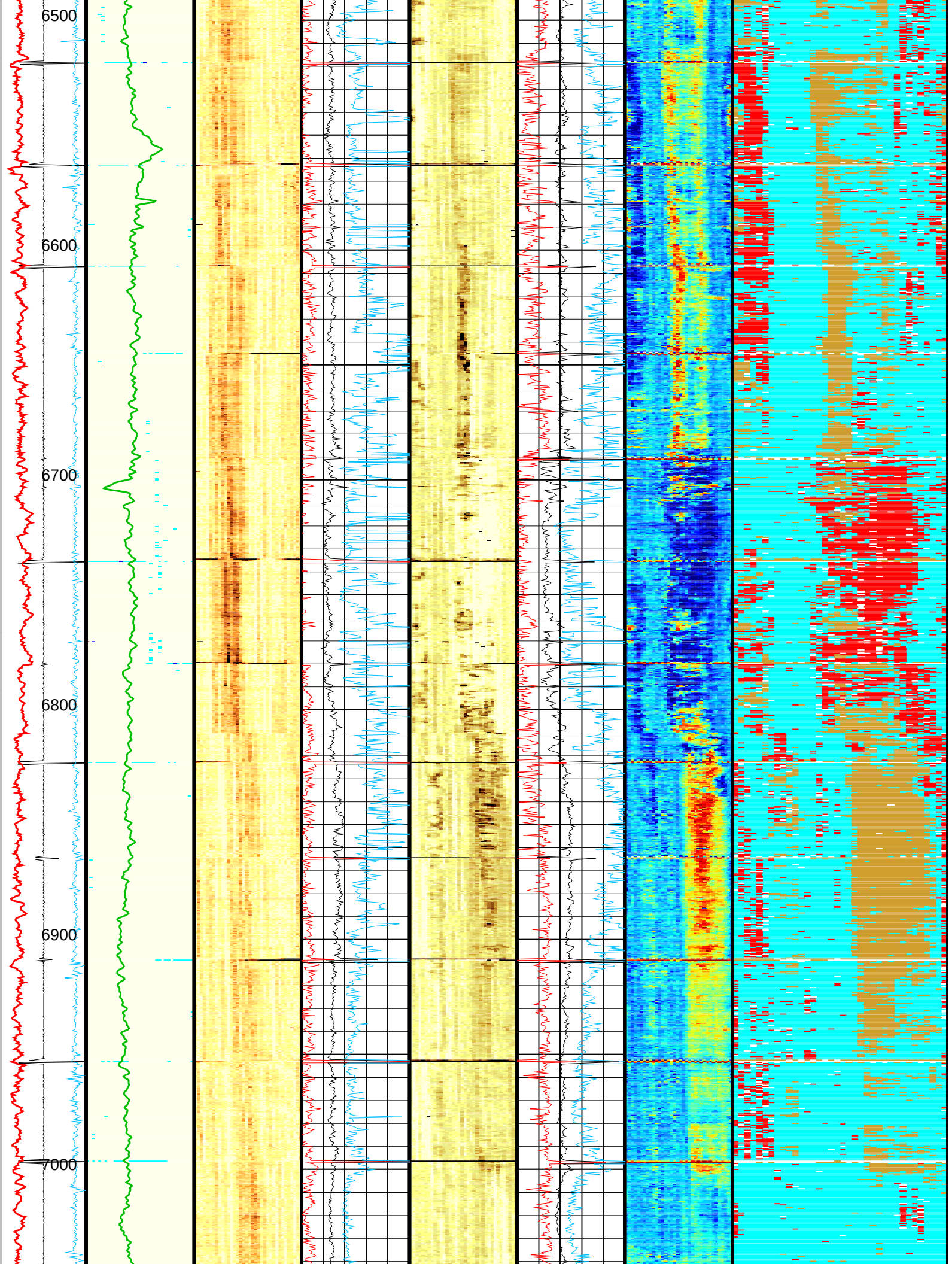

3800
3900
4000
4100
4200

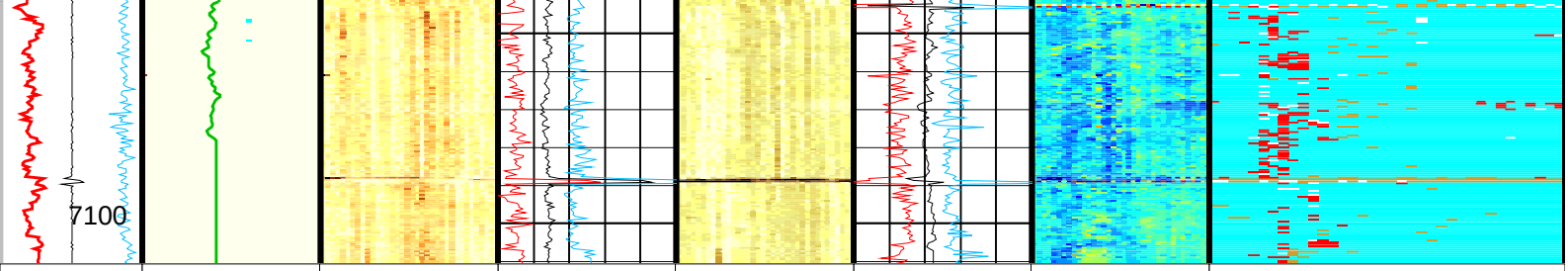

4300
4400
4500
4600
4700
4800


4900
5000
5100
5200
5300


5400
5500
5600
5700
5800
5900


6000
6100
6200
6300
6400


6500
6600
6700
6800
6900
7000



Eccent. (ECCE)
0 (IN) 0.5

Gamma Ray (GR)
0 (GAPI) 150

−500.0000
−6.0000
−5.6000
−5.2000
−4.8000
−4.4000
−4.0000
−3.6000
−3.2000
−2.8000
−2.4000
−2.0000
−1.6000
−1.2000
−0.8000
−0.4000
0.5000

Amplitude of echo minus Max (AWBK) (DB)

Minimum of AI (AIMN)
−1 (MRAY) 9

−500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000

Raw Acoustic Imped. (AIBK) (MRAY)

Minimum Flexural Attenuation (U−USIT_ UFAN) (DB/M)
20 120

0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
114.0000
120.0000

Flexural Attenuation (U−USIT_ UFAK) (DB/M)

0.5000
1.5000
2.5000
3.5000

Solid Liquid Gas Map (U−USIT_USLP) (−−−−)

CCL (CCLU) (−−−−)
−20 20

0.5000
1.5000
2.5000
3.5000
6.5000

Process. flags (UFLG) (−−−−)

Average of AI (AIAV)
−1 (MRAY) 9

Average Flexural Attenuation (U−USIT_ UFAV) (DB/M)
20 120

RSAV (RSAV) (RPS)
6 7.5

Maximum of AI (AIMX)
−1 (MRAY) 9

Maximum Flexural Attenuation (U−USIT_ UFAX) (DB/M)
20 120

Image rotation (UCAZ) (DEG)
0 360

Format: 2 inch IBC SLG **Vertical Scale: 2" per 100'** **Graphics File Created: 27−Dec−2012 00:25**

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Parameters

Parameters

DLIS Name	Description	Value	
	USIT−D: Ultrasonic Imaging − D		
AGMN	Minimum Gain of Cartridge	−4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	7.625	IN
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	6.765	IN
DFVL	Default Fluid Velocity	206	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	45	V
FSOD	Fluid Slowness Fits Casing Outer Diameter	5_UFSL_N_ZMUD	
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.9	LB/G
RCOD	Reference Calibrator Outer Diameter	7	IN
RCSO	Reference Calibrator Standoff	1.1811	IN
RCTH	Reference Calibrator Thickness	0.2952	IN
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THDP	Thickness Detection Policy	Fundamental	
THNO	Nominal Thickness of Casing	0.43	IN
U−USIT_CEMT	USIT Cement Type	ULTRA_LIGHT	
U−USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	0	MRAY
U−USIT_IISR	USIT IBC Inverted Fluid Slowness Resolution	1.0_US_P_FT	
U−USIT_IIZR	USIT IBC Inverted ZMUD Resolution	0.050_MRAY	
U−USIT_OCDI	USIT Outer Casing Diameter	0	IN
U−USIT_OCSH	USIT Outer Casing Shoe	0	FT
U−USIT_OCWE	USIT Outer Casing Weight	0	LB/F
U−USIT_TIEB	IBC Third Interface Echo Bin Processing	YES	
U−USIT_TIEC	IBC Third Interface Echo Cleaning	NONE	
U−USIT_TIEM	IBC Third Interface Echo Multi Tracking	NO	
U−USIT_TIEP	IBC Third Interface Echo Policy	BFEP	
U−USIT_TIER	IBC Third Interface Echo Receivers	BOTH	
U−USIT_U3WE	Third Interface Echo Window End	110	US
U−USIT_UBTP	USIT Bottom Transducer Position	UNKNOWN	
U−USIT_UFAO	USIT Flexural Attenuation Offset	−24	DB/M
U−USIT_UIAP	USIT IBC Answer Product Enabled	SolidLiquidGasMap	
U−USIT_UIST	Ultrasonic IBC Sonde Type	Sub_Ibcs_B	
U−USIT_UTAN	USIT Transducer Angles	38_DEG	
UMAO	USIT Measurement Angular Offset	−10	DEG
USTO	Ultrasonic Time Offset	−2	US
USUB	Ultrasonic Subassembly Identifier	Sub_7_inch	
UWKM	Ultrasonic Working Mode	10DEG_6IN_136UNF_LF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	25.7855	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	2	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	2.6	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
	System and Miscellaneous		
BS	Bit Size	9.875	IN
CWEI	Casing Weight	33.70	LB/F
DO	Depth Offset for Playback	4.0	FT
PP	Playback Processing	NORMAL	

Input DLIS Files

DEFAULT	USI_006LUP	FN:7	PRODUCER	26−Dec−2012 20:30	7106.5 FT	122.0 FT

Output DLIS Files

DEFAULT	USI_013PUP	FN:15	PRODUCER	27−Dec−2012 00:25
RTB	USI_013PUP	FN:16	PRODUCER	27−Dec−2012 00:25

Schlumberger

IBC SLG COMPOSITE
MAIN PASS

Company: SWEPI, LP | Well: Gnat Hill 1−29

Input DLIS Files

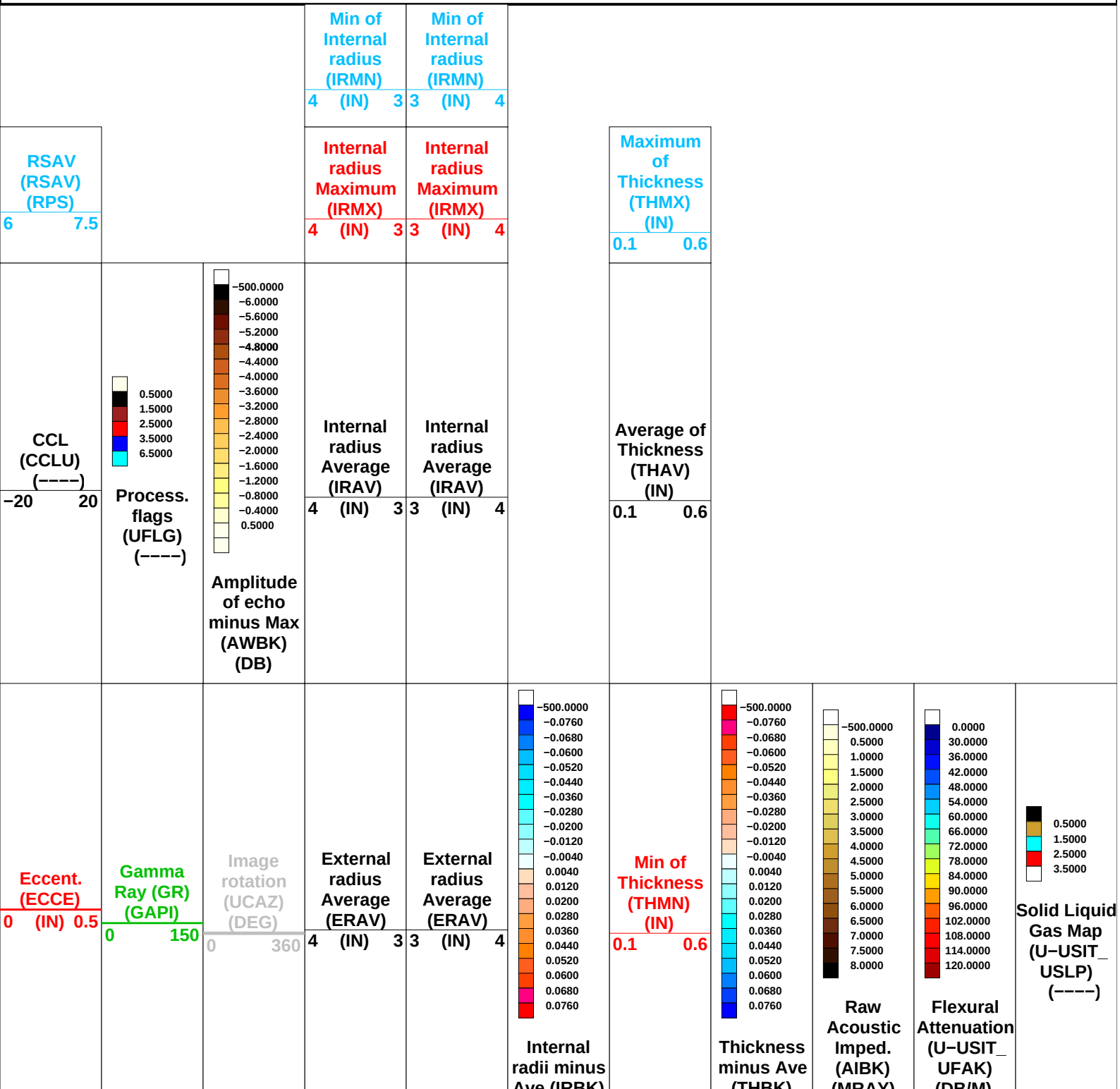
DEFAULT	USI_004LUP	FN:3	PRODUCER	26−Dec−2012 19:56	7099.5 FT	6653.0 FT

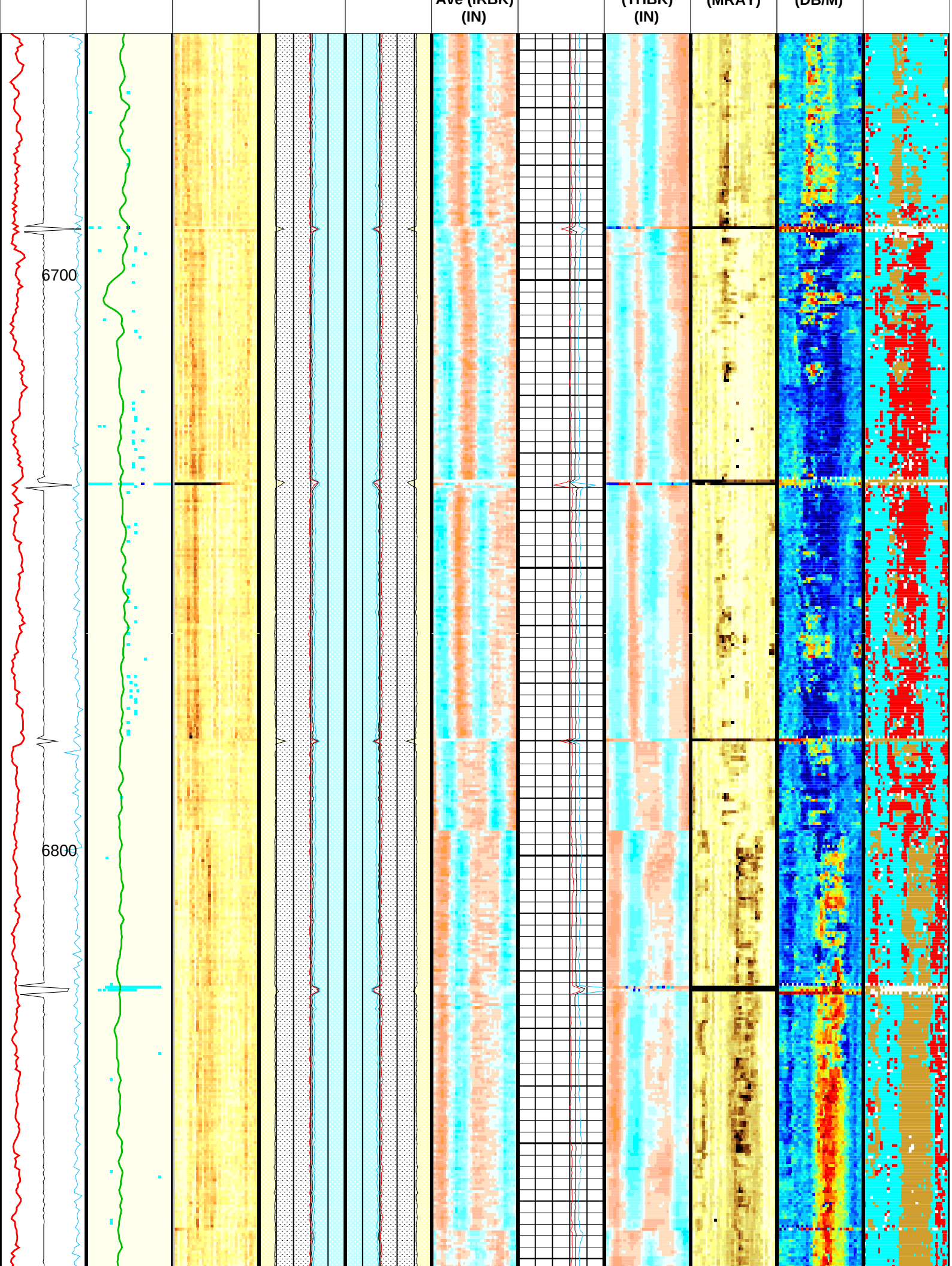
Output DLIS Files

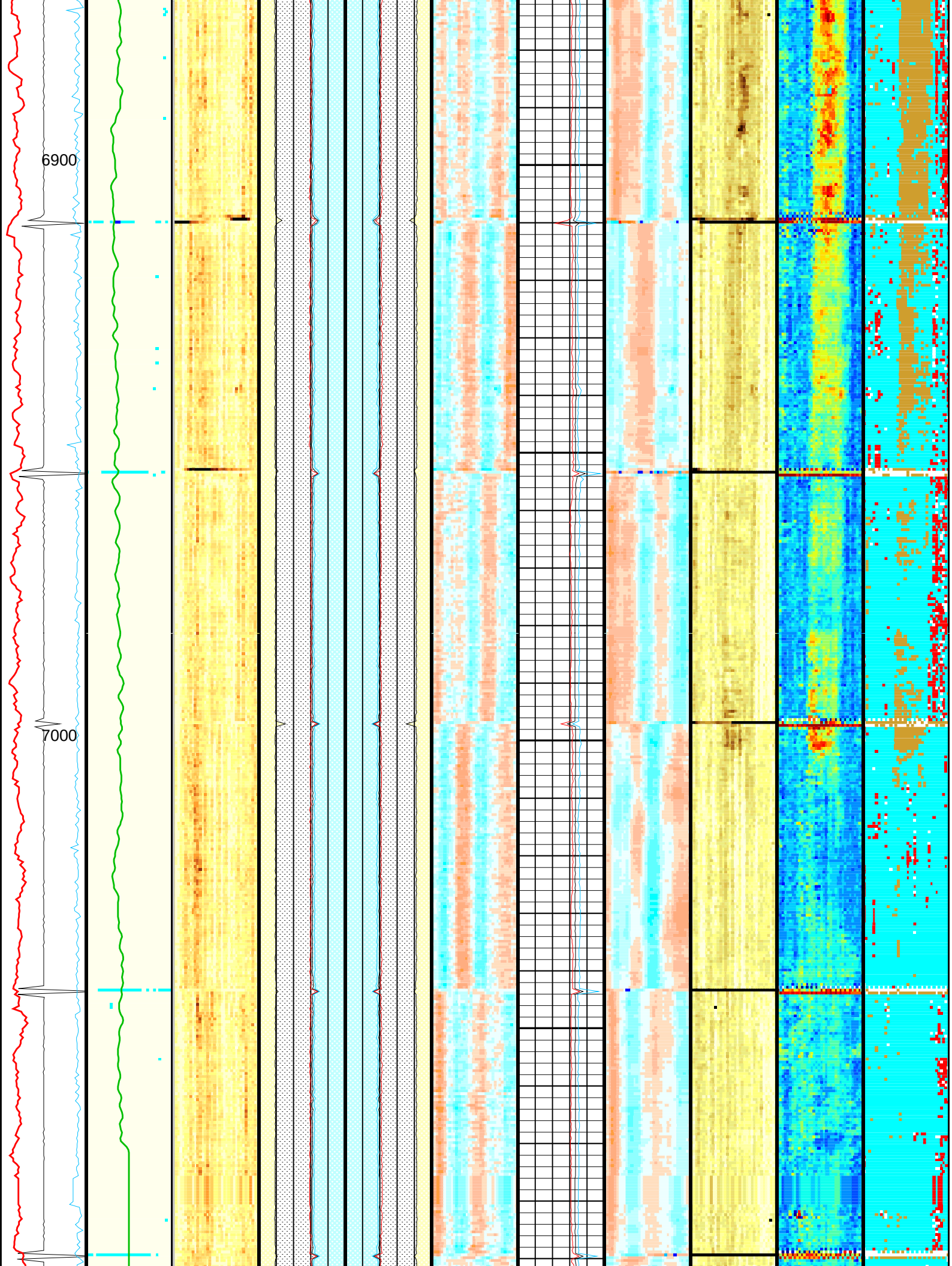
DEFAULT	USI_014PUP	FN:17	PRODUCER	27−Dec−2012 00:47	7103.5 FT	6657.0 FT
RTB	USI_014PUP	FN:18	PRODUCER	27−Dec−2012 00:47	7103.5 FT	6657.0 FT

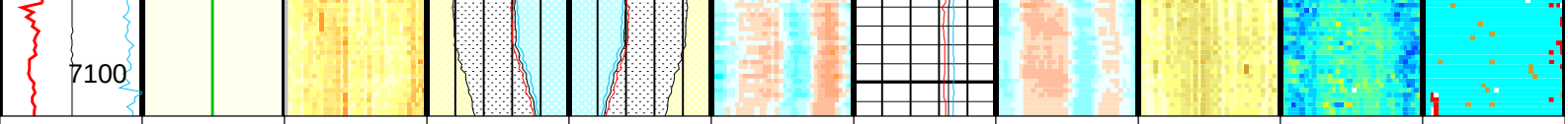
OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		




Ave (IRBK) (IN)
(THBK) (IN)
(MRAT)
(DB/M)
6700
6800


6900
7000



Eccent. (ECCE)	Gamma Ray (GR) (GAPI)	Image rotation (UCAZ) (DEG)	External radius Average (ERAV)	External radius Average (ERAV)	Internal radii minus Ave (IRBK) (IN)	Min of Thickness (THMN) (IN)	Thickness minus Ave (THBK) (IN)	Raw Acoustic Imped. (AIBK) (MRAY)	Flexural Attenuation (U−USIT_ UFAK) (DB/M)	Solid Liquid Gas Map (U−USIT_ USLP) (−−−−)
0 (IN) 0.5	0 150	0 360	4 (IN) 3	3 (IN) 4	−500.0000, −0.0760, −0.0680, −0.0600, −0.0520, −0.0440, −0.0360, −0.0280, −0.0200, −0.0120, −0.0040, 0.0040, 0.0120, 0.0200, 0.0280, 0.0360, 0.0440, 0.0520, 0.0600, 0.0680, 0.0760	0.1 0.6	−500.0000, −0.0760, −0.0680, −0.0600, −0.0520, −0.0440, −0.0360, −0.0280, −0.0200, −0.0120, −0.0040, 0.0040, 0.0120, 0.0200, 0.0280, 0.0360, 0.0440, 0.0520, 0.0600, 0.0680, 0.0760	−500.0000, 0.5000, 1.0000, 1.5000, 2.0000, 2.5000, 3.0000, 3.5000, 4.0000, 4.5000, 5.0000, 5.5000, 6.0000, 6.5000, 7.0000, 7.5000, 8.0000	0.0000, 30.0000, 36.0000, 42.0000, 48.0000, 54.0000, 60.0000, 66.0000, 72.0000, 78.0000, 84.0000, 90.0000, 96.0000, 102.0000, 108.0000, 114.0000, 120.0000	0.5000, 1.5000, 2.5000, 3.5000
CCL (CCLU) (−−−−)	Process. flags (UFLG) (−−−−)	Amplitude of echo minus Max (AWBK) (DB)	Internal radius Average (IRAV)	Internal radius Average (IRAV)		Average of Thickness (THAV) (IN)				
−20 20	0.5000, 1.5000, 2.5000, 3.5000, 6.5000	−500.0000, −6.0000, −5.6000, −5.2000, −4.8000, −4.4000, −4.0000, −3.6000, −3.2000, −2.8000, −2.4000, −2.0000, −1.6000, −1.2000, −0.8000, −0.4000, 0.5000	4 (IN) 3	3 (IN) 4		0.1 0.6				
RSAV (RSAV) (RPS)			Internal radius Maximum (IRMX)	Internal radius Maximum (IRMX)		Maximum of Thickness (THMX) (IN)				
6 7.5			4 (IN) 3	3 (IN) 4		0.1 0.6				
			Min of Internal radius (IRMN)	Min of Internal radius (IRMN)						
			4 (IN) 3	3 (IN) 4						

Format: 5 inch IBC CEMENT COMPOSITE **Vertical Scale: 5" per 100'** **Graphics File Created: 27−Dec−2012 00:47**

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Parameters

DLIS Name	Description	Value	
	USIT−D: Ultrasonic Imaging − D		
	Corrosion range maximum	0.076	IN
	T^3 Processing Length for FPM	26.648	US
	Corrosion range minimum	−0.076	IN
AGMN	Minimum Gain of Cartridge	−4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	7.625	IN
CDUN	Curves Unit Declared in Presentation Manager	IN	
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	6.765	IN
CYST	Casing Yield Strength	0	PSI
DFVL	Default Fluid Velocity	206	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	45	V
FDII	FPM Data Interpolation Interval	0	FT
FSOD	Fluid Slowness Fits Casing Outer Diameter	5_UFSL_N_ZMUD	
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.9	LB/G
OPLEV	USIT Remove Flagged Data Level	level2	
RCOD	Reference Calibrator Outer Diameter	7	IN
RCSO	Reference Calibrator Standoff	1.1811	IN
RCTH	Reference Calibrator Thickness	0.2952	IN
SDNV	Number of Vertical Samples used for Micro−debonding Computation	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro−debonding	0.5	
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro−debonding	0.3	
SUBT	Ultrasonic Subassembly Type	Sub_7_inch_S	
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THDP	Thickness Detection Policy	Fundamental	
THNO	Nominal Thickness of Casing	0.43	IN
TMUC	Type of Mud	BRINE	
U−USIT_CEMT	USIT Cement Type	ULTRA_LIGHT	
U−USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	0	MRAY
U−USIT_IISR	USIT IBC Inverted Fluid Slowness Resolution	1.0_US_P_FT	
U−USIT_IIZR	USIT IBC Inverted ZMUD Resolution	0.050_MRAY	
U−USIT_OCDI	USIT Outer Casing Diameter	0	IN
U−USIT_OCSH	USIT Outer Casing Shoe	0	FT
U−USIT_OCWE	USIT Outer Casing Weight	0	LB/F
U−USIT_RFWB	USIT Remove Flagged Data Window Begin	0	US
U−USIT_RFWE	USIT Remove Flagged Data Window End	511	US
U−USIT_TIEB	IBC Third Interface Echo Bin Processing	YES	
U−USIT_TIEC	IBC Third Interface Echo Cleaning	NONE	
U−USIT_TIEM	IBC Third Interface Echo Multi Tracking	NO	
U−USIT_TIEP	IBC Third Interface Echo Policy	BFEP	
U−USIT_TIER	IBC Third Interface Echo Receivers	BOTH	
U−USIT_U3WE	Third Interface Echo Window End	110	US
U−USIT_UBTP	USIT Bottom Transducer Position	UNKNOWN	
U−USIT_UDFC	USIT Deflector for Casing	NONE	
U−USIT_UFAO	USIT Flexural Attenuation Offset	−24	DB/M
U−USIT_UFGA	Far Receiver Maximum Gain of Cartridge	48	DB
U−USIT_UFGI	Far Receiver Minimum Gain of Cartridge	−12	DB
U−USIT_UHCI	USIT IBC Hydraulic Communication Interval	06FT_02M	
U−USIT_UIAP	USIT IBC Answer Product Enabled	SolidLiquidGasMap	
U−USIT_UIST	Ultrasonic IBC Sonde Type	Sub_Ibcs_B	
U−USIT_UNGA	Near Receiver Maximum Gain of Cartridge	48	DB
U−USIT_UNGI	Near Receiver Minimum Gain of Cartridge	−12	DB
U−USIT_URTP	USIT Radial Transducer Position	UNKNOWN	
U−USIT_UTAN	USIT Transducer Angles	38_DEG	
UMAO	USIT Measurement Angular Offset	−10	DEG
UPAT	Emission Pattern	Pattern_300K	
USIT_USAC_TASK_ALLOW	USIT USAC Allow Task after Power Up	YES	
USIT_USAC_TASK_TIMEOUT	USIT USAC Task Timeout (in seconds) FOR TEST REPORT	600	
USTO	Ultrasonic Time Offset	−2	US
USUB	Ultrasonic Subassembly Identifier	Sub_7_inch	
UWKM	Ultrasonic Working Mode	10DEG_6IN_136UNF_LF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	25.7855	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	2	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	3.6	MRAY

ZTCM	Acoustic Impedance Threshold for Cement	2.6	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
SGT−N: Scintillation Gamma Ray Tool − N			
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	209	DEGF
DPPM	Density Porosity Processing Mode	STAN	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
SOGR	SGT Standoff Distance	0	IN
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	7.625	IN
CWEI	Casing Weight	33.70	LB/F
DFD	Drilling Fluid Density	8.90	LB/G
DO	Depth Offset for Playback	4.0	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	−50000	FT
TDD	Total Depth − Driller	9763.00	FT
TDL	Total Depth − Logger	9760.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Input DLIS Files

DEFAULT	USI_004LUP	FN:3	PRODUCER	26−Dec−2012 19:56	7099.5 FT	6653.0 FT

Output DLIS Files

DEFAULT	USI_014PUP	FN:17	PRODUCER	27−Dec−2012 00:47		
RTB	USI_014PUP	FN:18	PRODUCER	27−Dec−2012 00:47		

Schlumberger

COMPRESSED GOODWIN MAIN PASS

MAXIS Field Log

Company: SWEPI, LP **Well: Gnat Hill 1−29**

Input DLIS Files

DEFAULT	USI_004LUP	FN:3	PRODUCER	26−Dec−2012 19:56	7099.5 FT	6653.0 FT

Output DLIS Files

DEFAULT	USI_014PUP	FN:17	PRODUCER	27−Dec−2012 00:47	7103.5 FT	6657.0 FT
RTB	USI_014PUP	FN:18	PRODUCER	27−Dec−2012 00:47	7103.5 FT	6657.0 FT

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

	Minimum Acoustic	Minimum Acoustic	Minimum Acoustic	Minimum Acoustic

	Minimum Acoustic Impedance #2 (MIN_AI2) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #4 (MIN_AI4) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #6 (MIN_AI6) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #8 (MIN_AI8) (MRAY) −7.5 7.5						
	Minimum Acoustic Impedance #1 (MIN_AI1) (MRAY) 0 15	Minimum Acoustic Impedance #3 (MIN_AI3) (MRAY) 0 15	Minimum Acoustic Impedance #5 (MIN_AI5) (MRAY) 0 15	Minimum Acoustic Impedance #7 (MIN_AI7) (MRAY) 0 15						
	Maximum Acoustic Impedance #2 (MAX_AI2) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #4 (MAX_AI4) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #6 (MAX_AI6) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #8 (MAX_AI8) (MRAY) −7.5 7.5						
	Maximum Acoustic Impedance #1 (MAX_AI1) (MRAY) 0 15	Maximum Acoustic Impedance #3 (MAX_AI3) (MRAY) 0 15	Maximum Acoustic Impedance #5 (MAX_AI5) (MRAY) 0 15	Maximum Acoustic Impedance #7 (MAX_AI7) (MRAY) 0 15	Minimum Acoustic Impedance #9 (MIN_AI9) (MRAY) 0 15	Maximum of AI (AIMX) (MRAY) 0 7.5	Maximum Flexural Attenuation (U−USIT_UFAX) (DB/M) 40 140			
Gamma Ray (GR) (GAPI) 0 150	Average Acoustic Impedance #2 (AV_AI2) (MRAY) −7.5 7.5	Average Acoustic Impedance #4 (AV_AI4) (MRAY) −7.5 7.5	Average Acoustic Impedance #6 (AV_AI6) (MRAY) −7.5 7.5	Average Acoustic Impedance #8 (AV_AI8) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #9 (MAX_AI9) (MRAY) 0 15	Minimum of AI (AIMN) (MRAY) 0 7.5	Average Flexural Attenuation (U−USIT_UFAV) (DB/M) 40 140			
Eccent. (ECCE) 0 (IN) 0.5	Average Acoustic Impedance #1 (AV_AI1) (MRAY) 0 15	Average Acoustic Impedance #3 (AV_AI3) (MRAY) 0 15	Average Acoustic Impedance #5 (AV_AI5) (MRAY) 0 15	Average Acoustic Impedance #7 (AV_AI7) (MRAY) 0 15	Average Acoustic Impedance #9 (AV_AI9) (MRAY) 0 15	Average of AI (AIAV) (MRAY) 0 7.5	Minimum Flexural Attenuation (U−USIT_UFAN) (DB/M) 40 140	−500.0000 0.5000 1.0000 1.5000 2.0000 2.5000 3.0000 3.5000 4.0000 4.5000 5.0000 5.5000 6.0000 6.5000 7.0000 7.5000 8.0000 Raw Acoustic Imped. (AIBK) (MRAY)	0.0000 30.0000 36.0000 42.0000 48.0000 54.0000 60.0000 66.0000 72.0000 78.0000 84.0000 90.0000 96.0000 102.0000 108.0000 114.0000 120.0000 Flexural Attenuation (U−USIT_UFAK) (DB/M)	0.5000 1.5000 2.5000 3.5000 Solid Liquid Gas Map (U−USIT_USLP) (−−−−)
7000										
Eccent. (ECCE) 0 (IN) 0.5	Average Acoustic Impedance #1 (AV_AI1) (MRAY) 0 15	Average Acoustic Impedance #3 (AV_AI3) (MRAY) 0 15	Average Acoustic Impedance #5 (AV_AI5) (MRAY) 0 15	Average Acoustic Impedance #7 (AV_AI7) (MRAY) 0 15	Average Acoustic Impedance #9 (AV_AI9) (MRAY) 0 15	Average of AI (AIAV) (MRAY) 0 7.5	Minimum Flexural Attenuation (U−USIT_UFAN) (DB/M) 40 140	−500.0000 0.5000 1.0000 1.5000 2.0000 2.5000 3.0000 3.5000 4.0000 4.5000 5.0000 5.5000 6.0000 6.5000 7.0000 7.5000 8.0000	0.0000 30.0000 36.0000 42.0000 48.0000 54.0000 60.0000 66.0000 72.0000 78.0000 84.0000 90.0000 96.0000 102.0000 108.0000 114.0000 120.0000	0.5000 1.5000 2.5000 3.5000 Solid Liquid Gas Map (U−USIT_USLP) (−−−−)

								Raw Acoustic Imped. (AIBK) (MRAY)	Flexural Attenuation (U−USIT_ UFAK) (DB/M)

Gamma Ray (GR) (GAPI)	Average Acoustic Impedance #2 (AV_ AI2) (MRAY)	Average Acoustic Impedance #4 (AV_ AI4) (MRAY)	Average Acoustic Impedance #6 (AV_ AI6) (MRAY)	Average Acoustic Impedance #8 (AV_ AI8) (MRAY)	Maximum Acoustic Impedance #9 (MAX_ AI9) (MRAY)	Minimum of AI (AIMN) (MRAY)	Average Flexural Attenuation (U−USIT_ UFAV) (DB/M)
0 150	−7.5 7.5	−7.5 7.5	−7.5 7.5	−7.5 7.5	0 15	0 7.5	40 140

Maximum Acoustic Impedance #1 (MAX_ AI1) (MRAY)	Maximum Acoustic Impedance #3 (MAX_ AI3) (MRAY)	Maximum Acoustic Impedance #5 (MAX_ AI5) (MRAY)	Maximum Acoustic Impedance #7 (MAX_ AI7) (MRAY)	Minimum Acoustic Impedance #9 (MIN_ AI9) (MRAY)	Maximum of AI (AIMX) (MRAY)	Maximum Flexural Attenuation (U−USIT_ UFAX) (DB/M)
0 15	0 15	0 15	0 15	0 15	0 7.5	40 140

Maximum Acoustic Impedance #2 (MAX_ AI2) (MRAY)	Maximum Acoustic Impedance #4 (MAX_ AI4) (MRAY)	Maximum Acoustic Impedance #6 (MAX_ AI6) (MRAY)	Maximum Acoustic Impedance #8 (MAX_ AI8) (MRAY)
−7.5 7.5	−7.5 7.5	−7.5 7.5	−7.5 7.5

Minimum Acoustic Impedance #1 (MIN_ AI1) (MRAY)	Minimum Acoustic Impedance #3 (MIN_ AI3) (MRAY)	Minimum Acoustic Impedance #5 (MIN_ AI5) (MRAY)	Minimum Acoustic Impedance #7 (MIN_ AI7) (MRAY)
0 15	0 15	0 15	0 15

Minimum Acoustic Impedance #2 (MIN_ AI2) (MRAY)	Minimum Acoustic Impedance #4 (MIN_ AI4) (MRAY)	Minimum Acoustic Impedance #6 (MIN_ AI6) (MRAY)	Minimum Acoustic Impedance #8 (MIN_ AI8) (MRAY)
−7.5 7.5	−7.5 7.5	−7.5 7.5	−7.5 7.5

Format: IBC Goodwin Compressed Vertical Scale: 0.1" per 100' Graphics File Created: 27−Dec−2012 00:47

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Input DLIS Files

DEFAULT	USI_004LUP	FN:3	PRODUCER	26−Dec−2012 19:56	7099.5 FT	6653.0 FT

Output DLIS Files

DEFAULT	USI_014PUP	FN:17	PRODUCER	27−Dec−2012 00:47
RTB	USI_014PUP	FN:18	PRODUCER	27−Dec−2012 00:47

RTB USI_014PUP FN:18 PRODUCER 27-Dec-2012 00:47

Schlumberger

IBC SLG
REPEAT PASS

MAXIS Field Log

Company: SWEPI, LP **Well: Gnat Hill 1-29**

Input DLIS Files

DEFAULT	USI_004LUP	FN:3	PRODUCER	26-Dec-2012 19:56	7099.5 FT	6653.0 FT

Output DLIS Files

DEFAULT	USI_014PUP	FN:17	PRODUCER	27-Dec-2012 00:47	7103.5 FT	6657.0 FT
RTB	USI_014PUP	FN:18	PRODUCER	27-Dec-2012 00:47	7103.5 FT	6657.0 FT

OP System Version: 19C1-222

USIT-D	19C1-222	SGT-N	19C1-222
DTC-H	19C1-222		

Image rotation (UCAZ) (DEG)
0 360

RSAV (RSAV) (RPS)
6 7.5

Maximum of AI (AIMX)
-1 (MRAY) 9

Maximum Flexural Attenuation (U-USIT_UFAX) (DB/M)
20 120

CCL (CCLU) (----)
-20 20

0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (----)

Average of AI (AIAV)
-1 (MRAY) 9

Average Flexural Attenuation (U-USIT_UFAV) (DB/M)
20 120

Eccent. (ECCE)
0 (IN) 0.5

Gamma Ray (GR)
0 (GAPI) 150

-500.0000
-6.0000
-5.6000
-5.2000
-4.8000
-4.4000
-4.0000
-3.6000
-3.2000
-2.8000
-2.4000
-2.0000
-1.6000
-1.2000
-0.8000
-0.4000
0.5000
Amplitude of echo minus

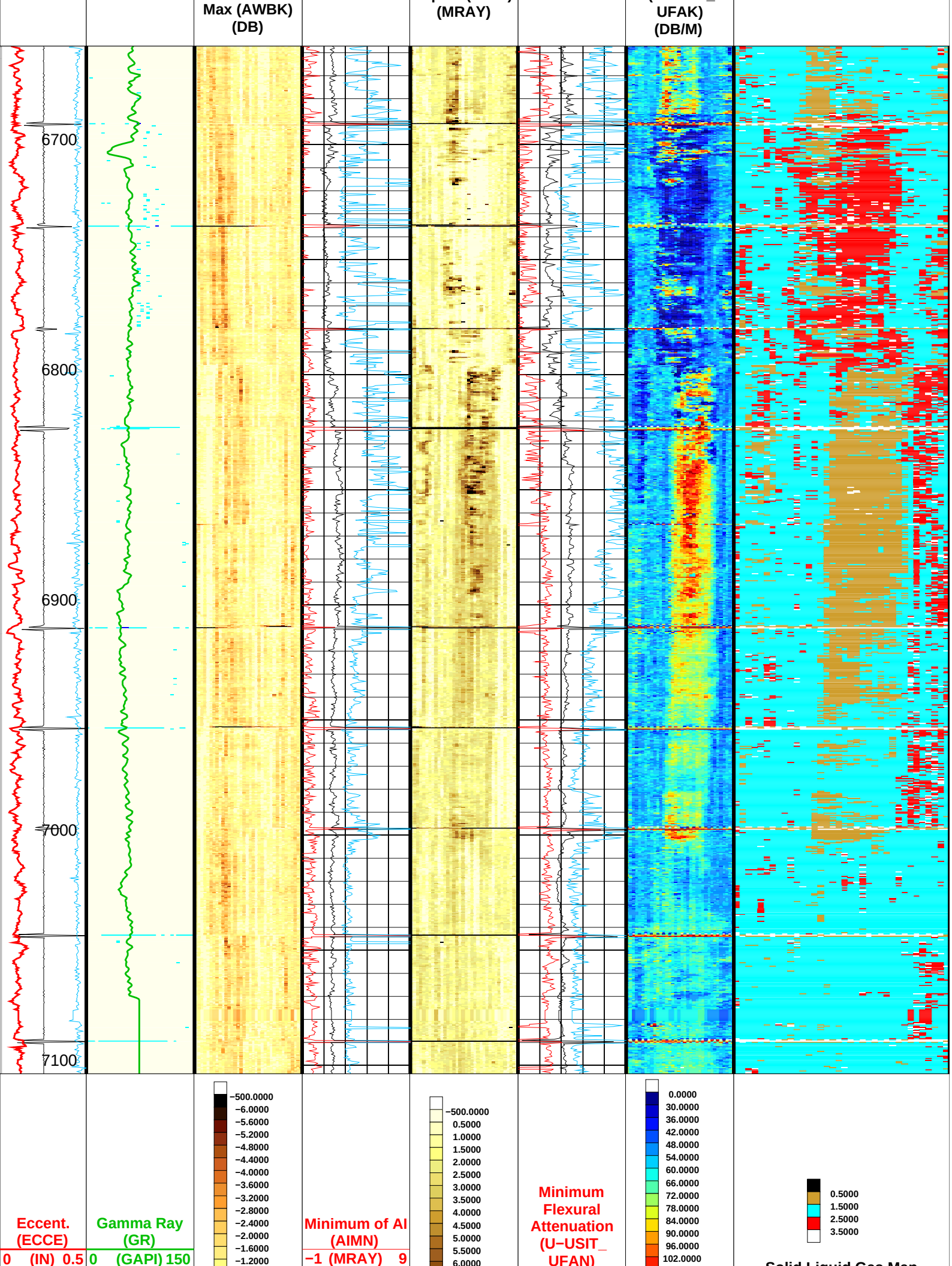
Minimum of AI (AIMN)
-1 (MRAY) 9

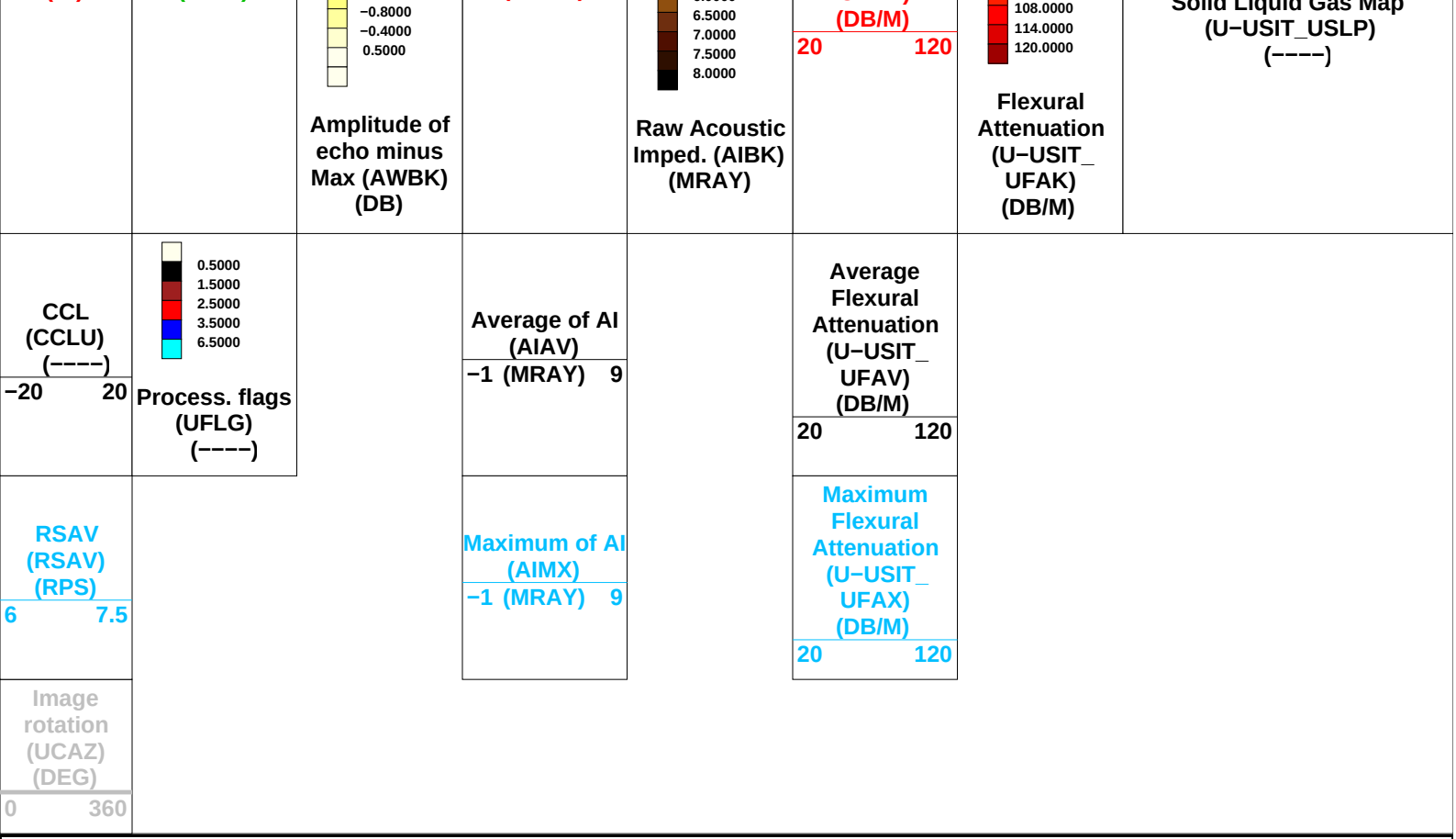
-500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000
Raw Acoustic Imped. (AIBK)

Minimum Flexural Attenuation (U-USIT_UFAN) (DB/M)
20 120

0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
114.0000
120.0000
Flexural Attenuation (U-USIT

0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map (U-USIT_USLP) (----)


Max (AWBK) (DB)
(MRAY)
UFAK) (DB/M)
6700
6800
6900
7000
7100
Eccent. (ECCE)
0 (IN) 0.5
Gamma Ray (GR)
0 (GAPI) 150
−500.0000
−6.0000
−5.6000
−5.2000
−4.8000
−4.4000
−4.0000
−3.6000
−3.2000
−2.8000
−2.4000
−2.0000
−1.6000
−1.2000
Minimum of AI (AIMN)
−1 (MRAY) 9
−500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
Minimum Flexural Attenuation (U−USIT_ UFAN)
0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map



Format: 2 inch IBC SLG **Vertical Scale: 2" per 100'** **Graphics File Created: 27−Dec−2012 00:47**

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Parameters

DLIS Name	Description	Value	
	USIT−D: Ultrasonic Imaging − D		
AGMN	Minimum Gain of Cartridge	−4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	7.625	IN
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	6.765	IN
DFVL	Default Fluid Velocity	206	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	45	V
FSOD	Fluid Slowness Fits Casing Outer Diameter	5_UFSL_N_ZMUD	
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.9	LB/G
RCOD	Reference Calibrator Outer Diameter	7	IN
RCSO	Reference Calibrator Standoff	1.1811	IN
RCTH	Reference Calibrator Thickness	0.2952	IN
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THDP	Thickness Detection Policy	Fundamental	

THNO	Nominal Thickness of Casing	0.43	IN
U−USIT_CEMT	USIT Cement Type	ULTRA_LIGHT	
U−USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	0	MRAY
U−USIT_IISR	USIT IBC Inverted Fluid Slowness Resolution	1.0_US_P_FT	
U−USIT_IIZR	USIT IBC Inverted ZMUD Resolution	0.050_MRAY	
U−USIT_OCDI	USIT Outer Casing Diameter	0	IN
U−USIT_OCSH	USIT Outer Casing Shoe	0	FT
U−USIT_OCWE	USIT Outer Casing Weight	0	LB/F
U−USIT_TIEB	IBC Third Interface Echo Bin Processing	YES	
U−USIT_TIEC	IBC Third Interface Echo Cleaning	NONE	
U−USIT_TIEM	IBC Third Interface Echo Multi Tracking	NO	
U−USIT_TIEP	IBC Third Interface Echo Policy	BFEP	
U−USIT_TIER	IBC Third Interface Echo Receivers	BOTH	
U−USIT_U3WE	Third Interface Echo Window End	110	US
U−USIT_UBTP	USIT Bottom Transducer Position	UNKNOWN	
U−USIT_UFAO	USIT Flexural Attenuation Offset	−24	DB/M
U−USIT_UIAP	USIT IBC Answer Product Enabled	SolidLiquidGasMap	
U−USIT_UIST	Ultrasonic IBC Sonde Type	Sub_Ibcs_B	
U−USIT_UTAN	USIT Transducer Angles	38_DEG	
UMAO	USIT Measurement Angular Offset	−10	DEG
USTO	Ultrasonic Time Offset	−2	US
USUB	Ultrasonic Subassembly Identifier	Sub_7_inch	
UWKM	Ultrasonic Working Mode	10DEG_6IN_136UNF_LF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	25.7855	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	2	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	2.6	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
System and Miscellaneous			
BS	Bit Size	9.875	IN
CWEI	Casing Weight	33.70	LB/F
DO	Depth Offset for Playback	4.0	FT
PP	Playback Processing	NORMAL	

Input DLIS Files

DEFAULT	USI_004LUP	FN:3	PRODUCER	26−Dec−2012 19:56	7099.5 FT	6653.0 FT

Output DLIS Files

DEFAULT	USI_014PUP	FN:17	PRODUCER	27−Dec−2012 00:47		
RTB	USI_014PUP	FN:18	PRODUCER	27−Dec−2012 00:47		

Schlumberger

IBC SLG COMPOSITE REPEAT

MAXIS Field Log

Company: SWEPI, LP **Well: Gnat Hill 1−29**

Input DLIS Files

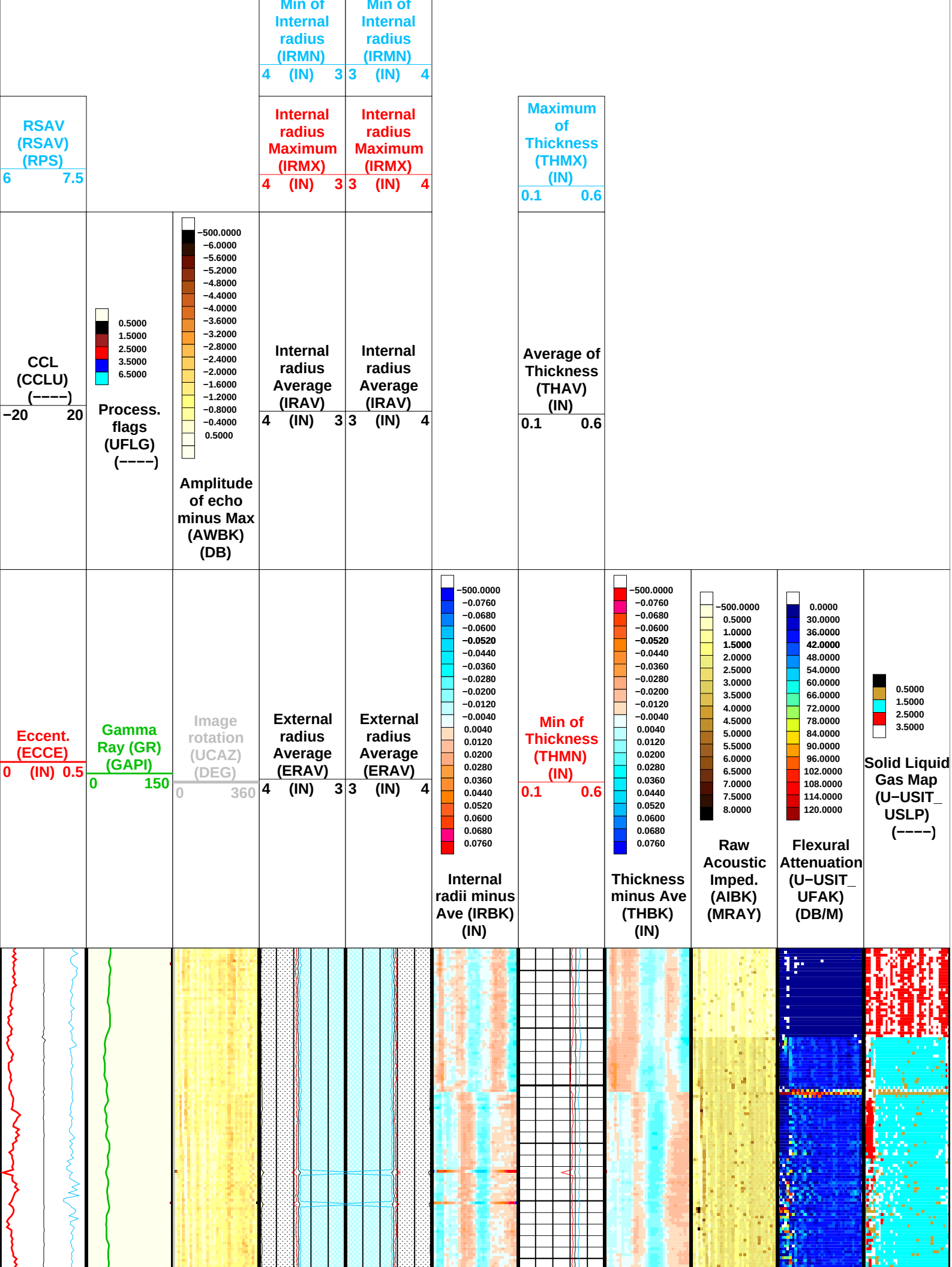
DEFAULT	USI_006LUP	FN:7	PRODUCER	26−Dec−2012 20:30	7106.5 FT	122.0 FT

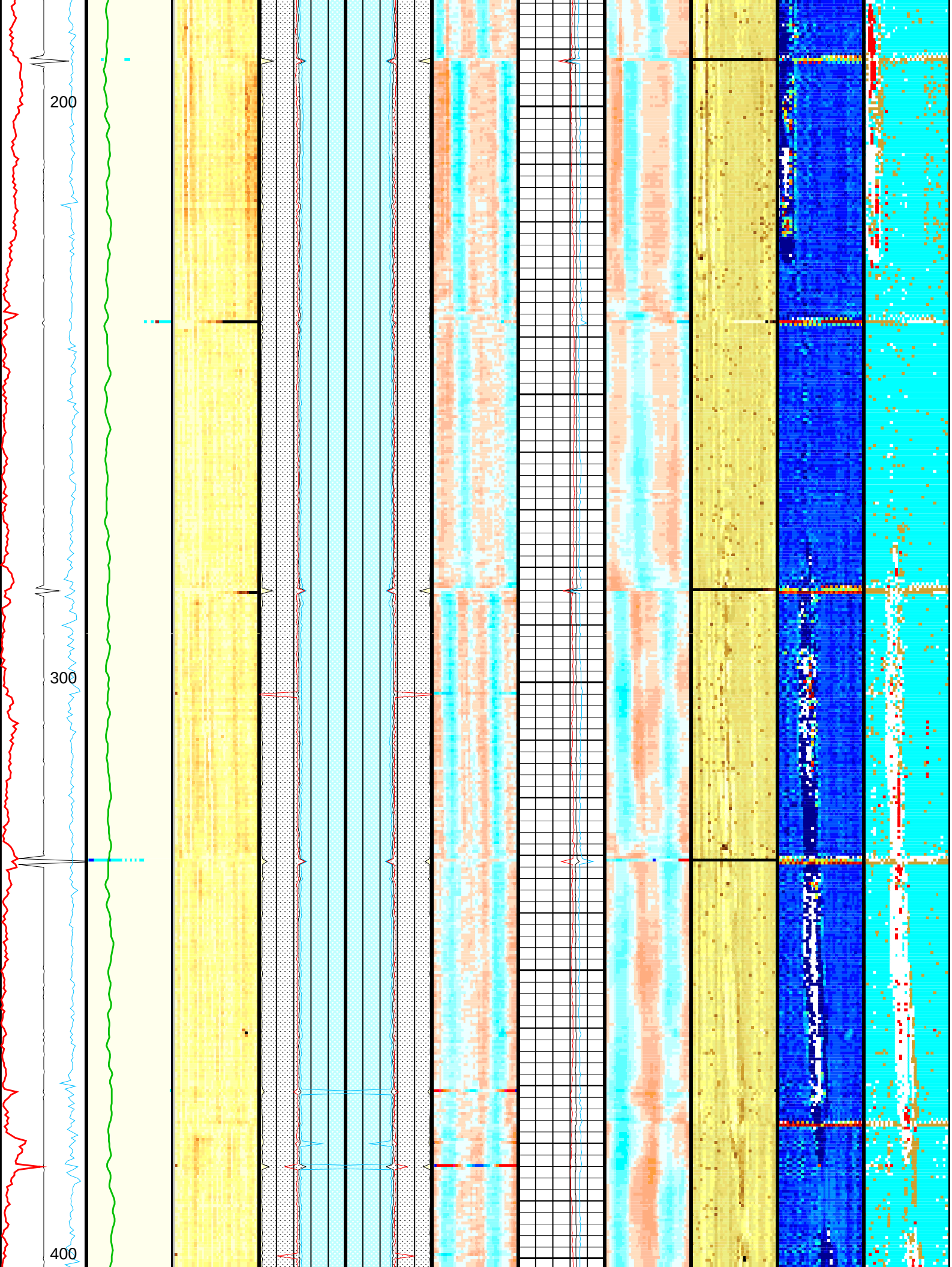
Output DLIS Files

DEFAULT	USI_013PUP	FN:15	PRODUCER	27−Dec−2012 00:25	7110.5 FT	126.0 FT
RTB	USI_013PUP	FN:16	PRODUCER	27−Dec−2012 00:25	7110.5 FT	126.0 FT

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		


Min of Internal radius (IRMN)
4 (IN) 3
Min of Internal radius (IRMN)
3 (IN) 4
RSAV (RSAV) (RPS)
6 7.5
Internal radius Maximum (IRMX)
4 (IN) 3
Internal radius Maximum (IRMX)
3 (IN) 4
Maximum of Thickness (THMX) (IN)
0.1 0.6
CCL (CCLU) (----)
−20 20
0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (----)
−500.0000
−6.0000
−5.6000
−5.2000
−4.8000
−4.4000
−4.0000
−3.6000
−3.2000
−2.8000
−2.4000
−2.0000
−1.6000
−1.2000
−0.8000
−0.4000
0.5000
Amplitude of echo minus Max (AWBK) (DB)
Internal radius Average (IRAV)
4 (IN) 3
Internal radius Average (IRAV)
3 (IN) 4
Average of Thickness (THAV) (IN)
0.1 0.6
Eccent. (ECCE)
0 (IN) 0.5
Gamma Ray (GR) (GAPI)
0 150
Image rotation (UCAZ) (DEG)
0 360
External radius Average (ERAV)
4 (IN) 3
External radius Average (ERAV)
3 (IN) 4
−500.0000
−0.0760
−0.0680
−0.0600
−0.0520
−0.0440
−0.0360
−0.0280
−0.0200
−0.0120
−0.0040
0.0040
0.0120
0.0200
0.0280
0.0360
0.0440
0.0520
0.0600
0.0680
0.0760
Internal radii minus Ave (IRBK) (IN)
Min of Thickness (THMN) (IN)
0.1 0.6
−500.0000
−0.0760
−0.0680
−0.0600
−0.0520
−0.0440
−0.0360
−0.0280
−0.0200
−0.0120
−0.0040
0.0040
0.0120
0.0200
0.0280
0.0360
0.0440
0.0520
0.0600
0.0680
0.0760
Thickness minus Ave (THBK) (IN)
−500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000
Raw Acoustic Imped. (AIBK) (MRAY)
0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
114.0000
120.0000
Flexural Attenuation (U−USIT_ UFAK) (DB/M)
0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map (U−USIT_ USLP) (----)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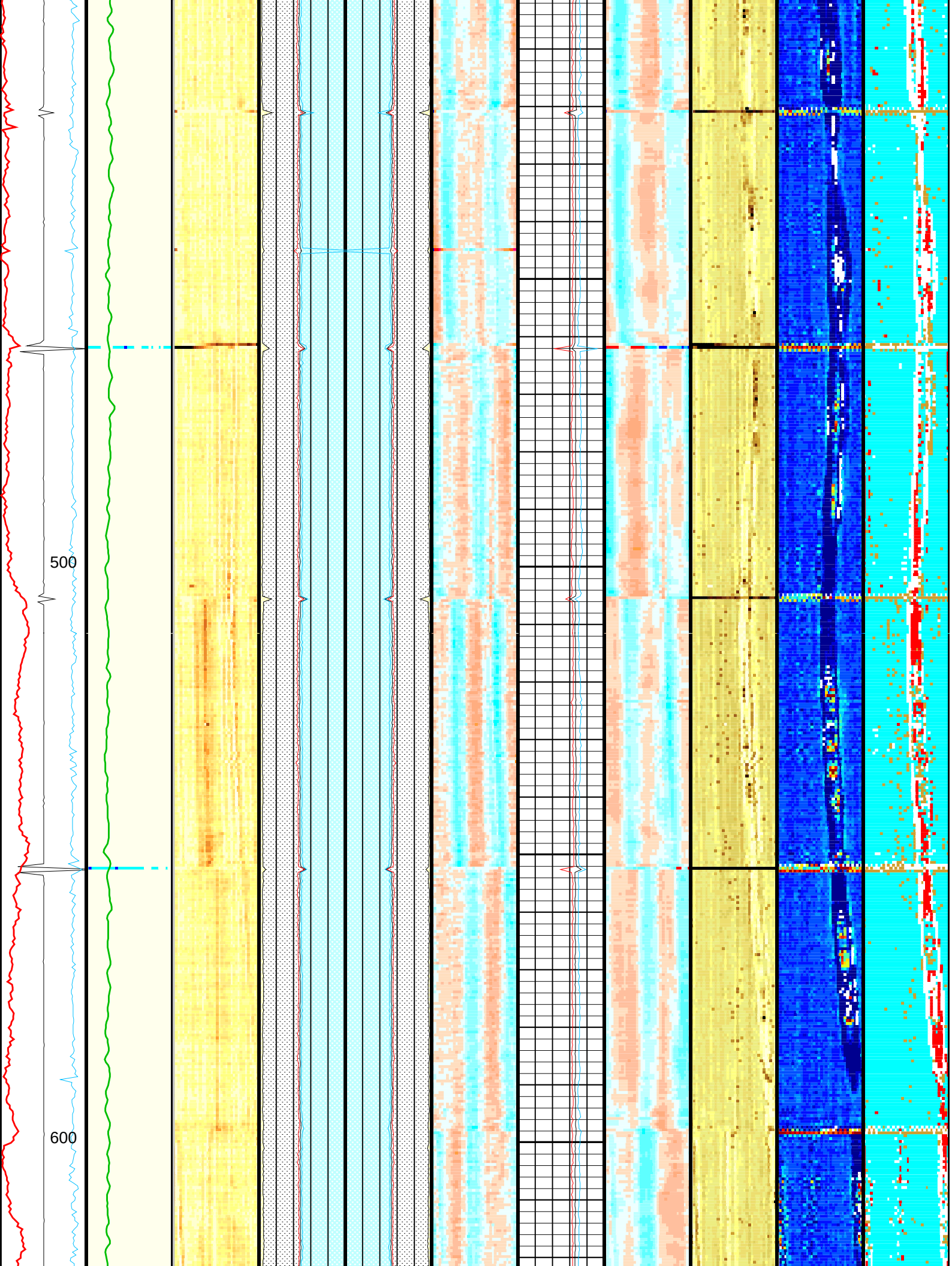
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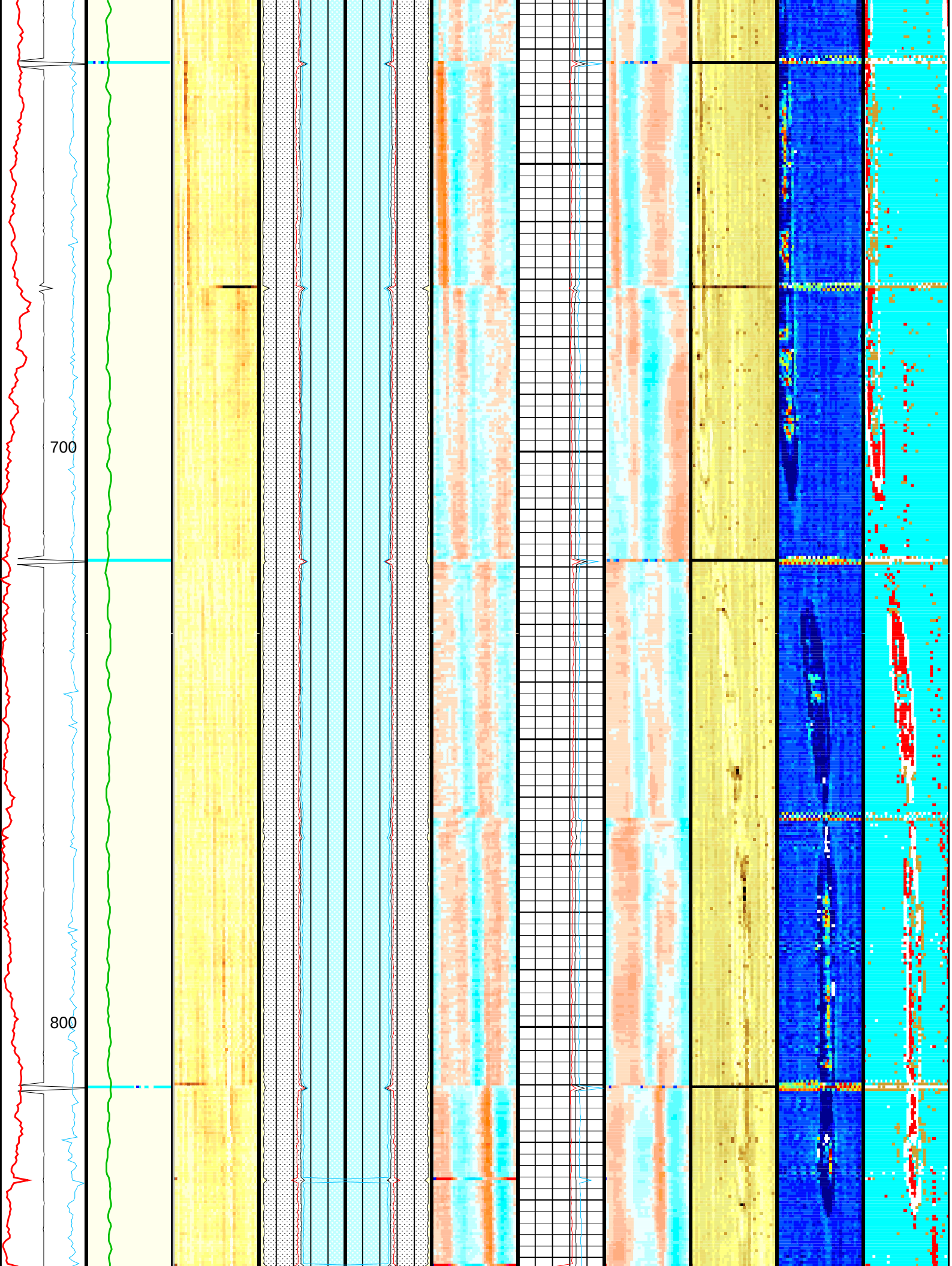
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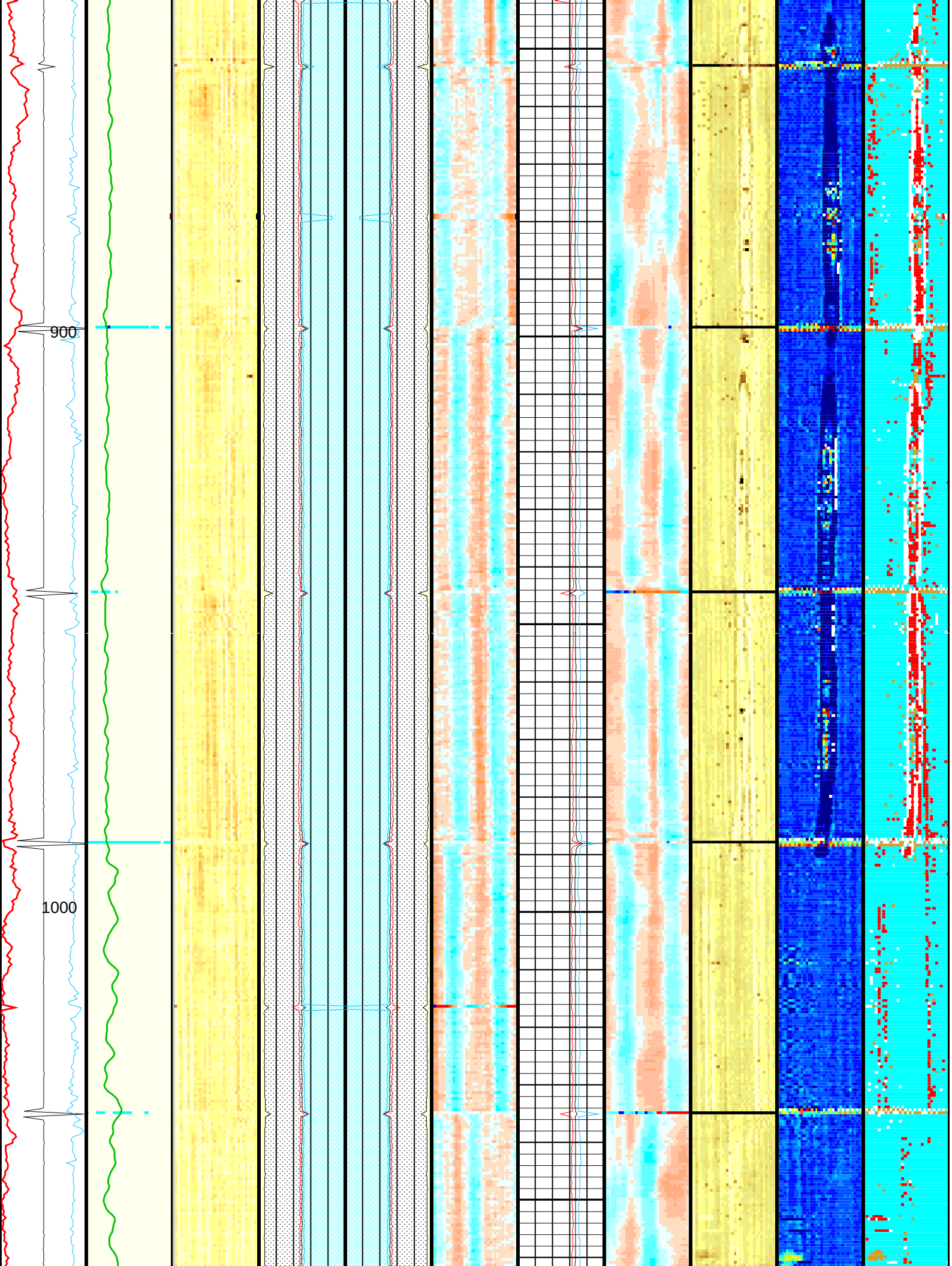
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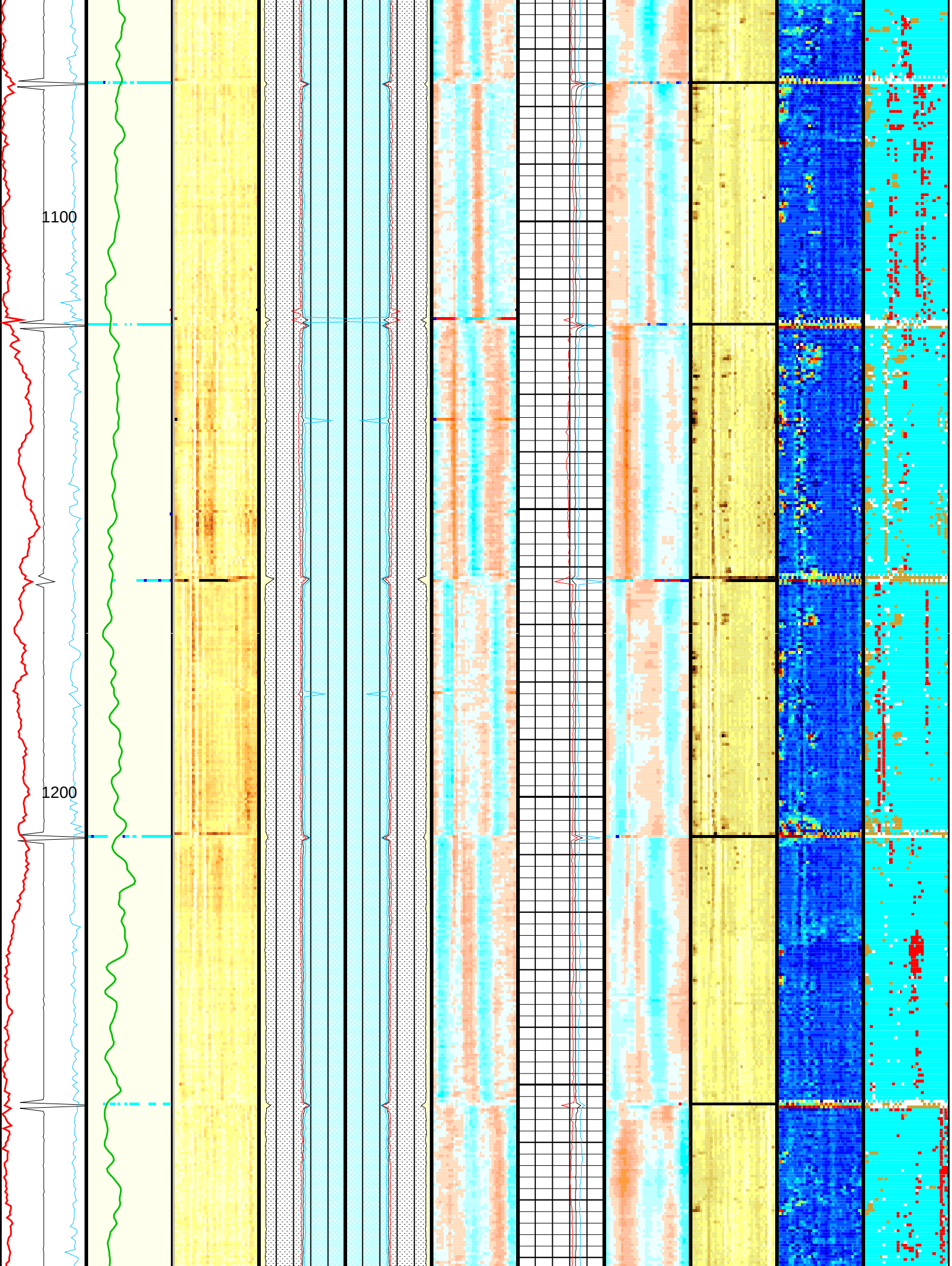
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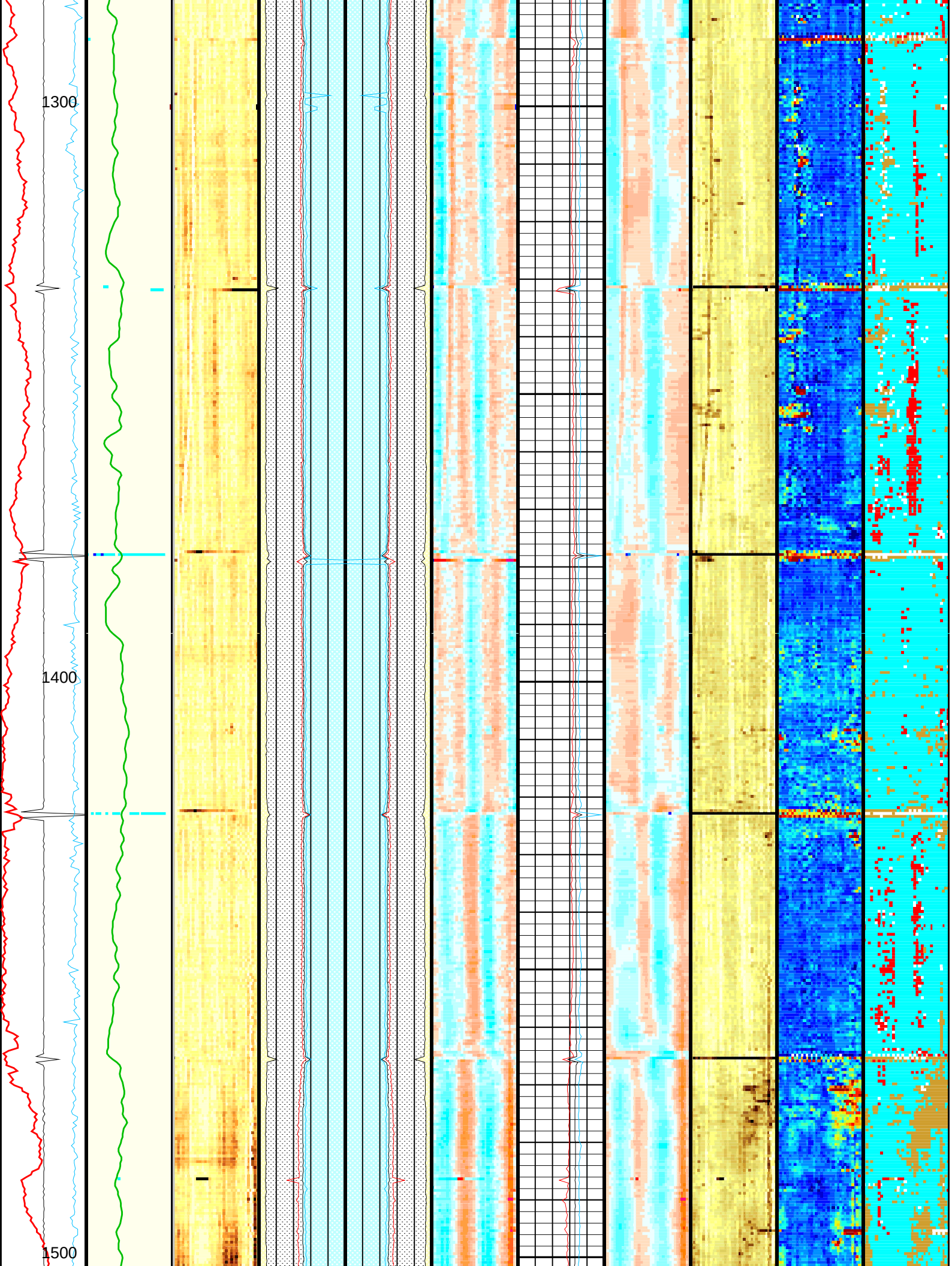
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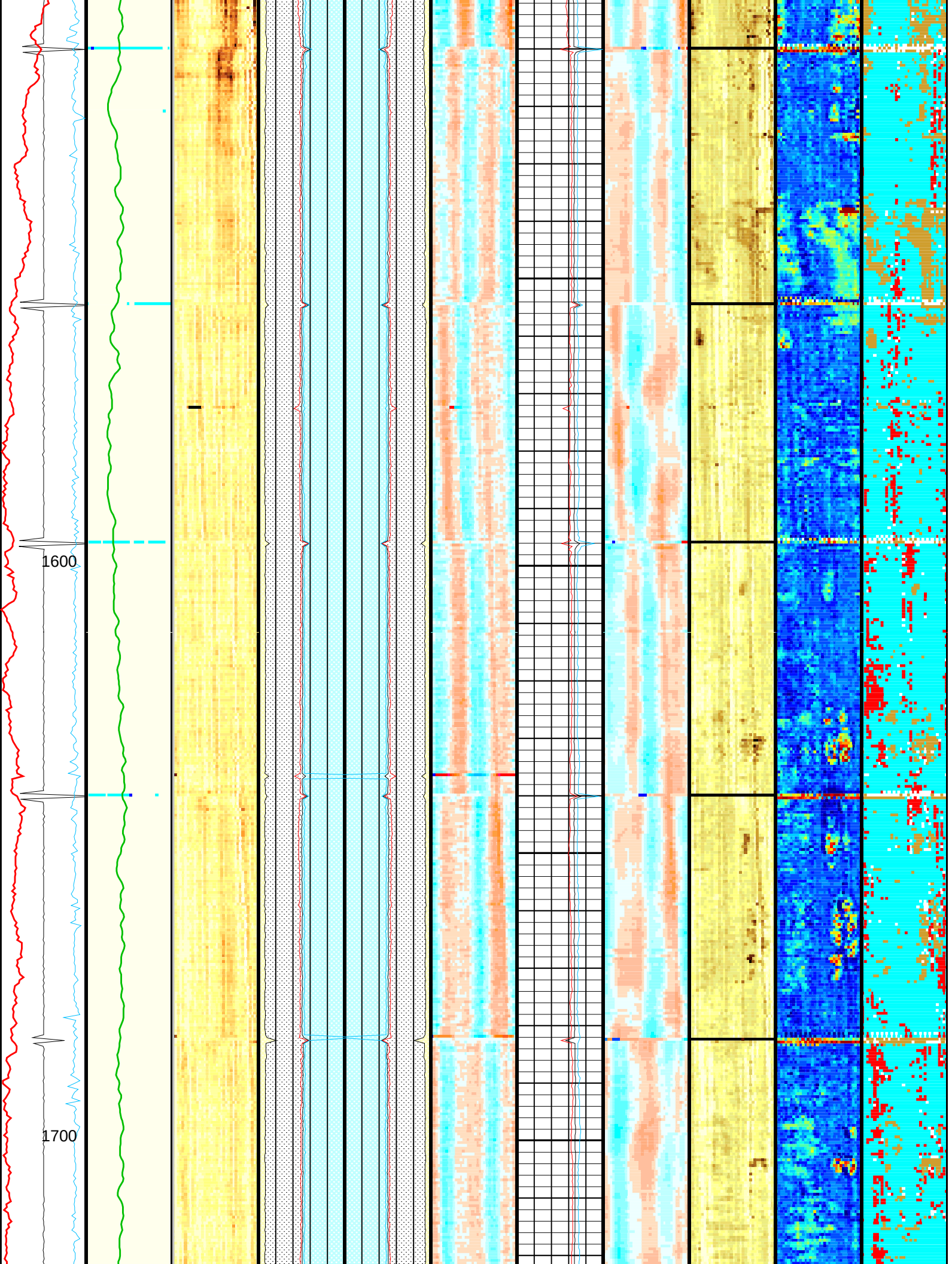
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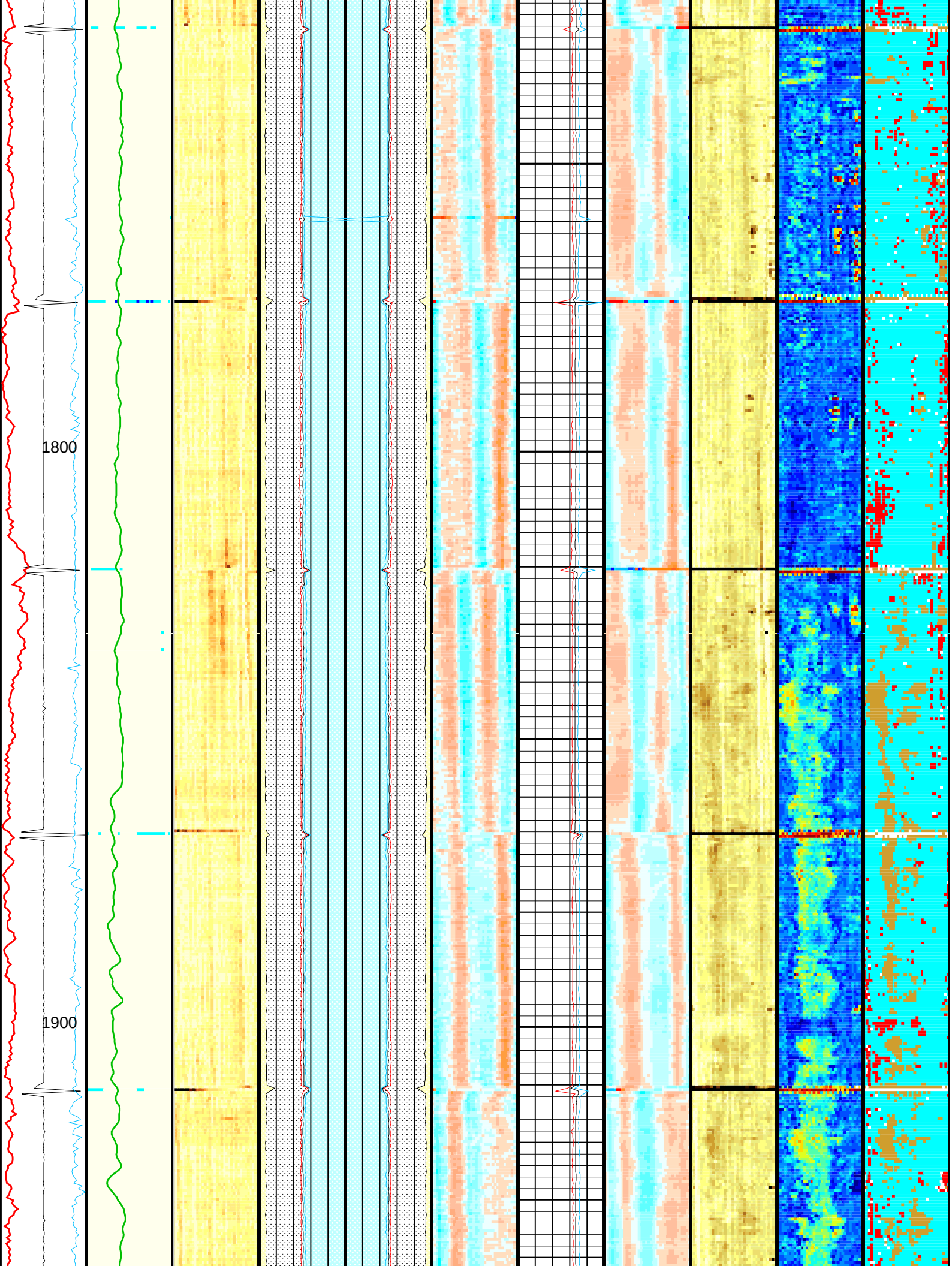
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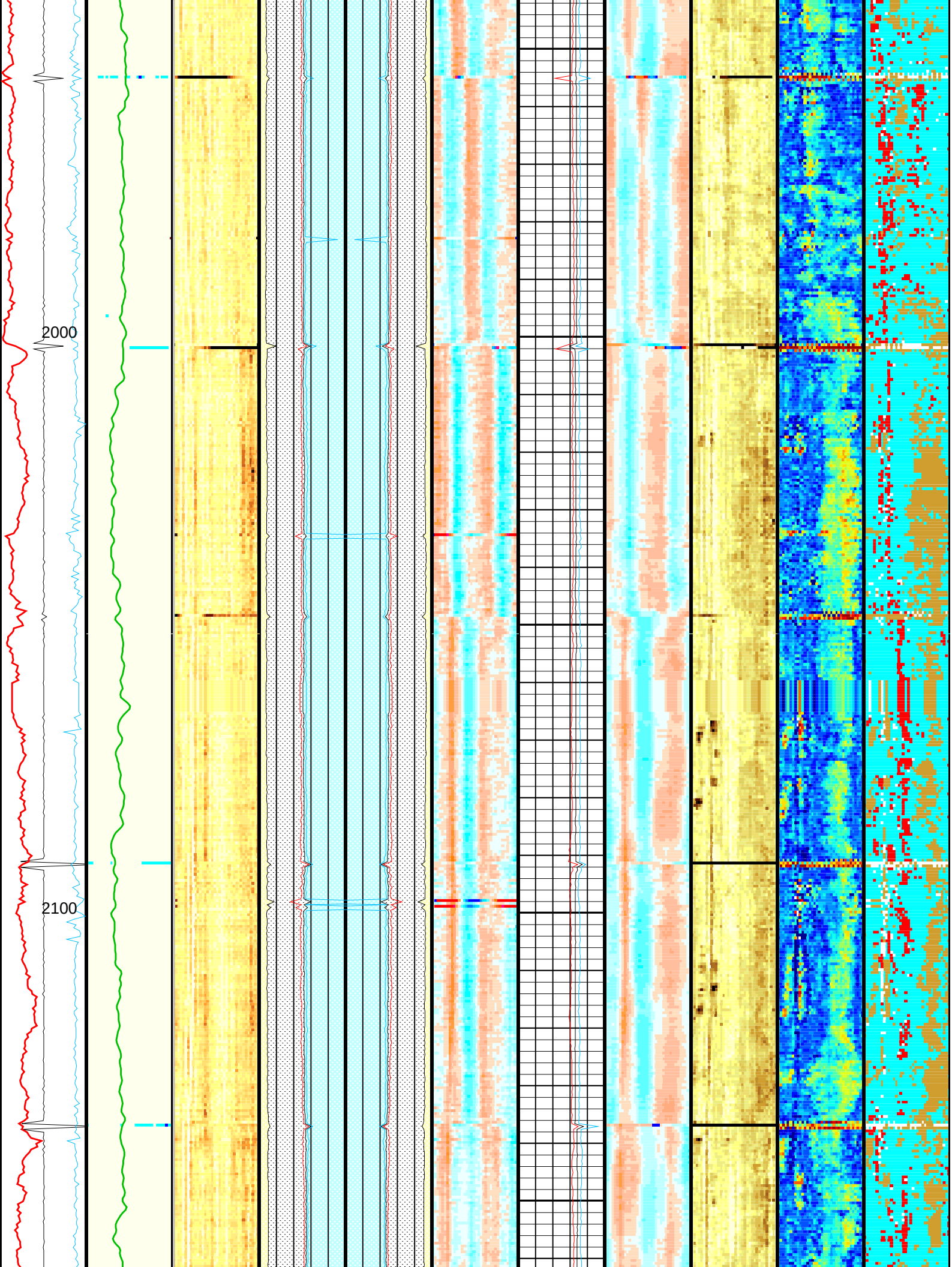
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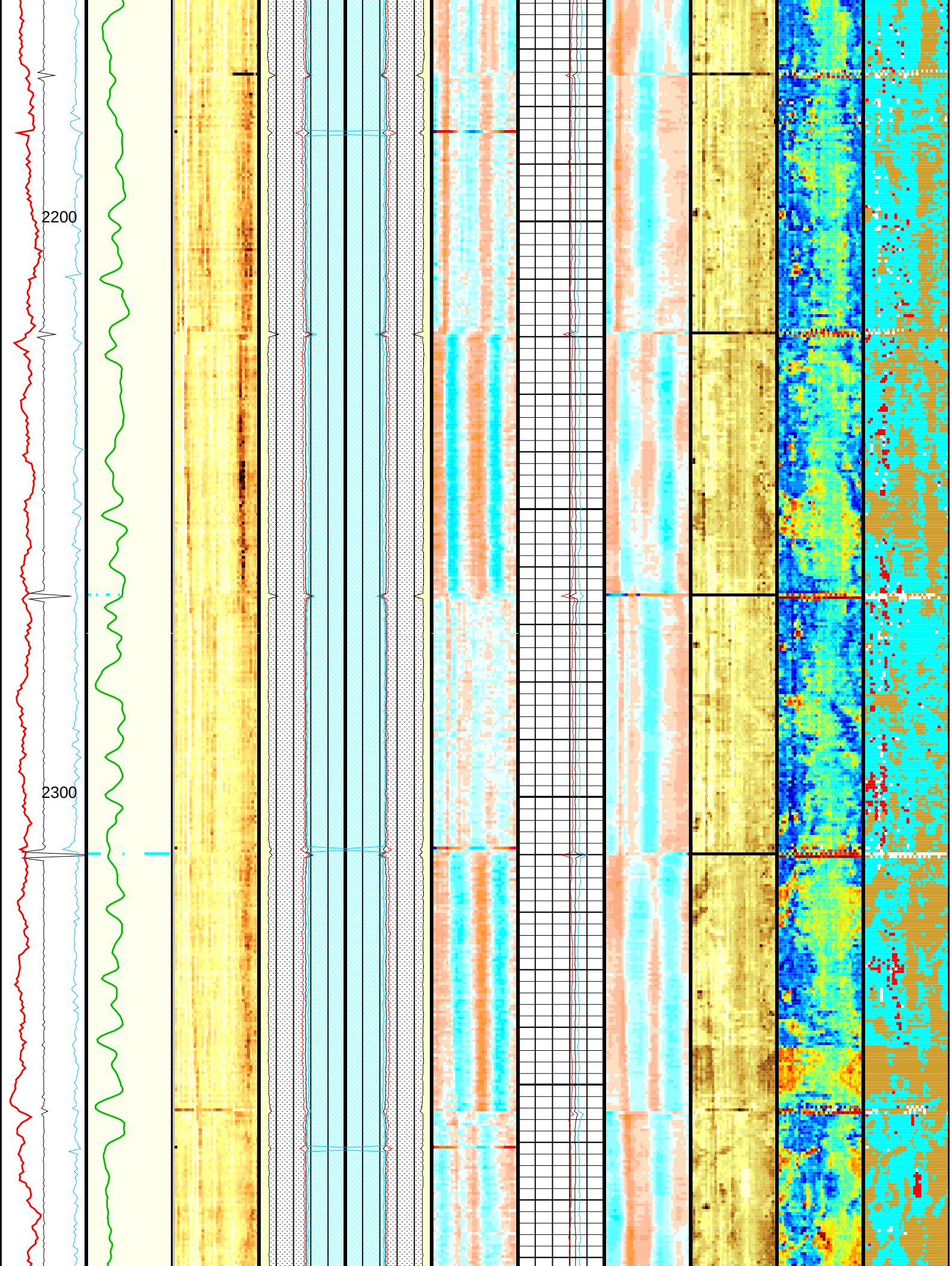
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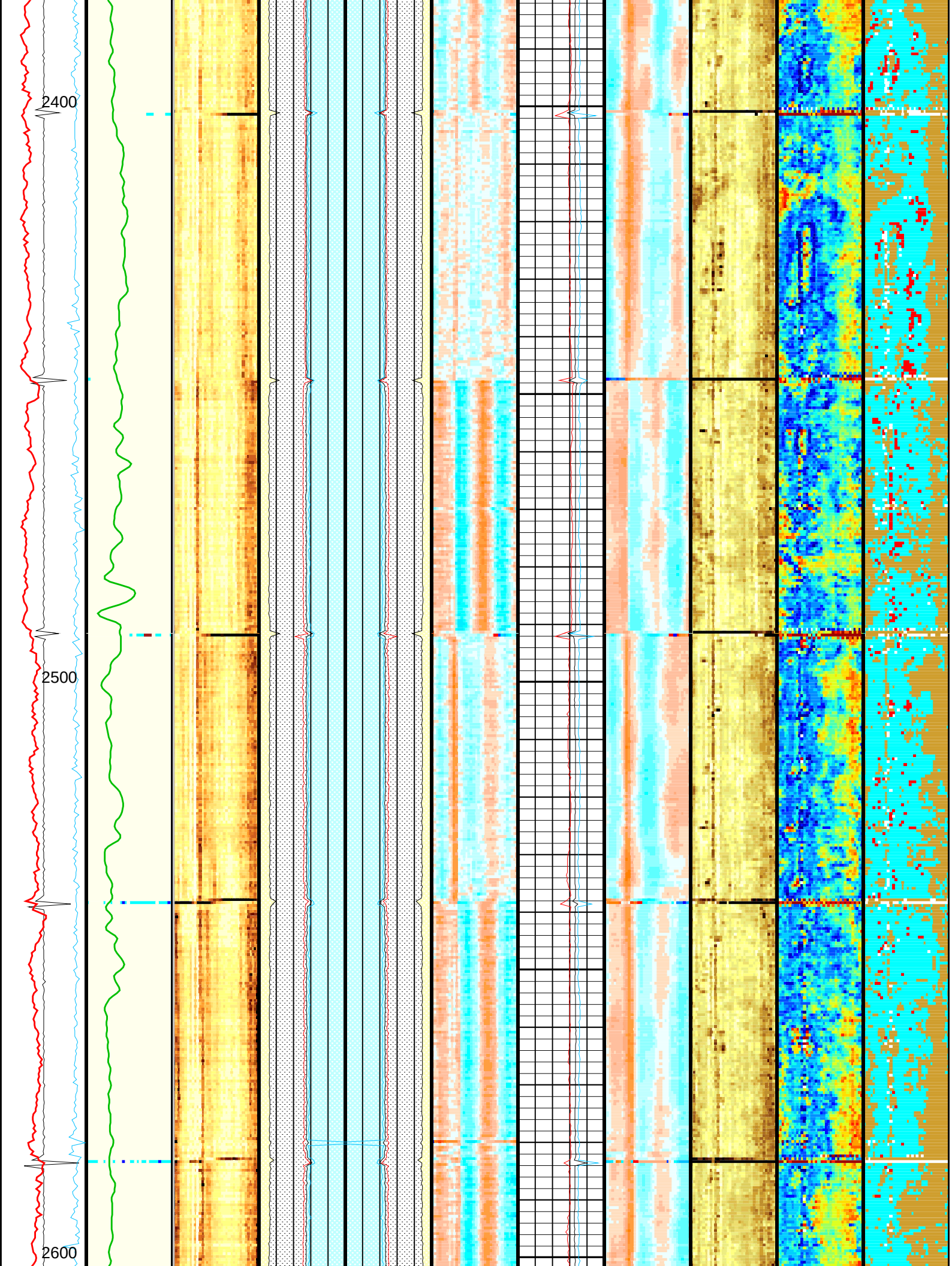
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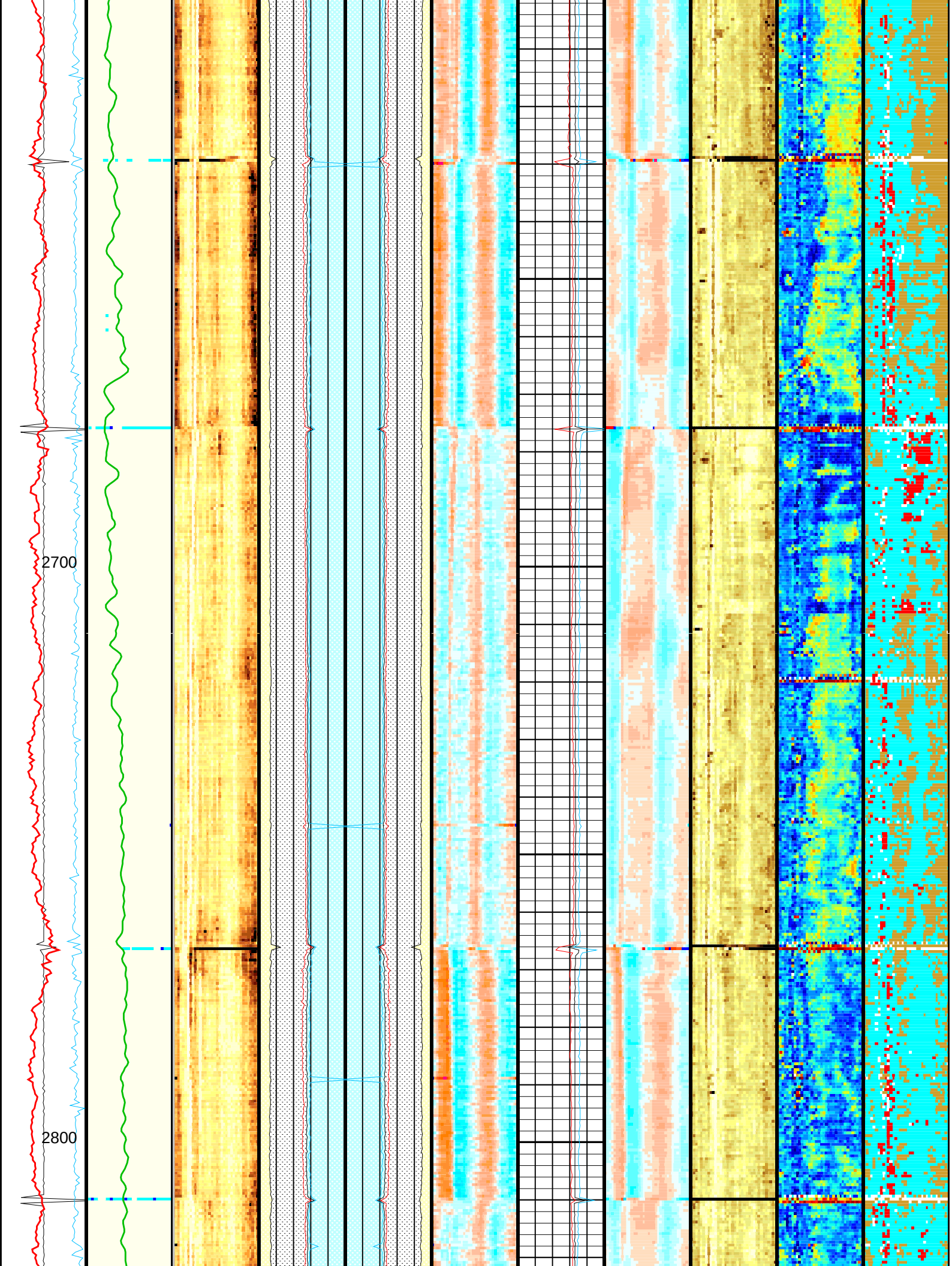
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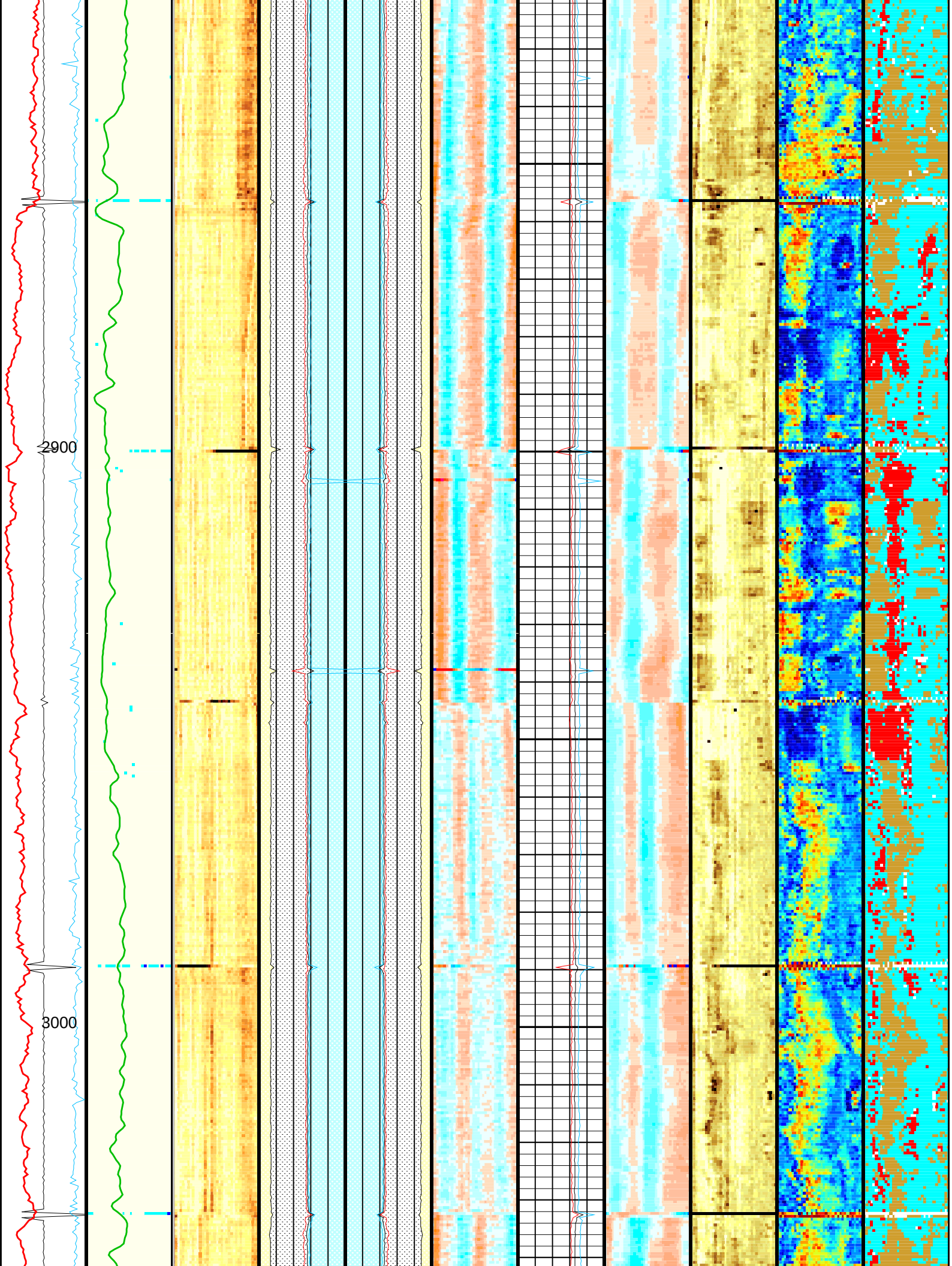
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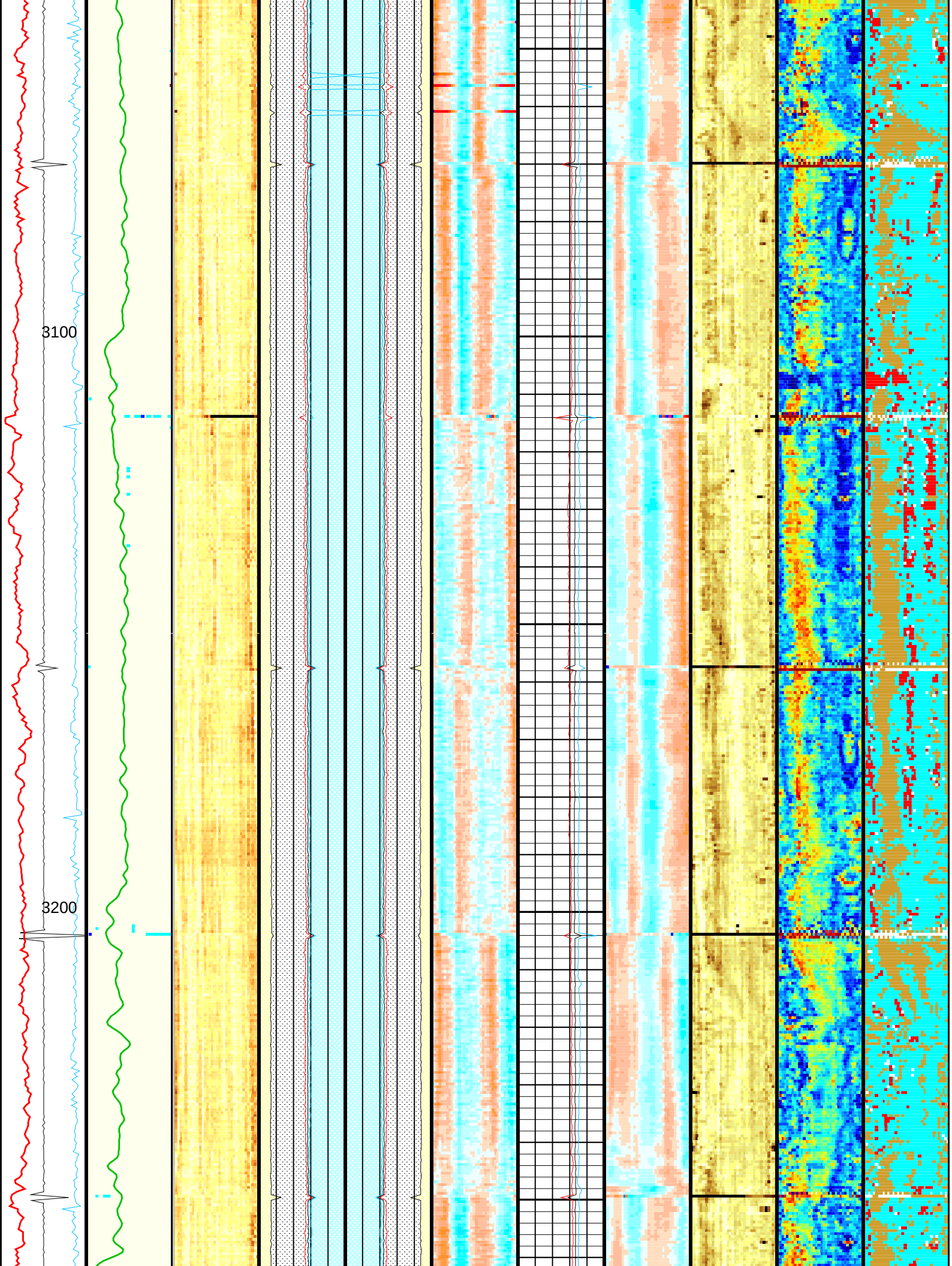
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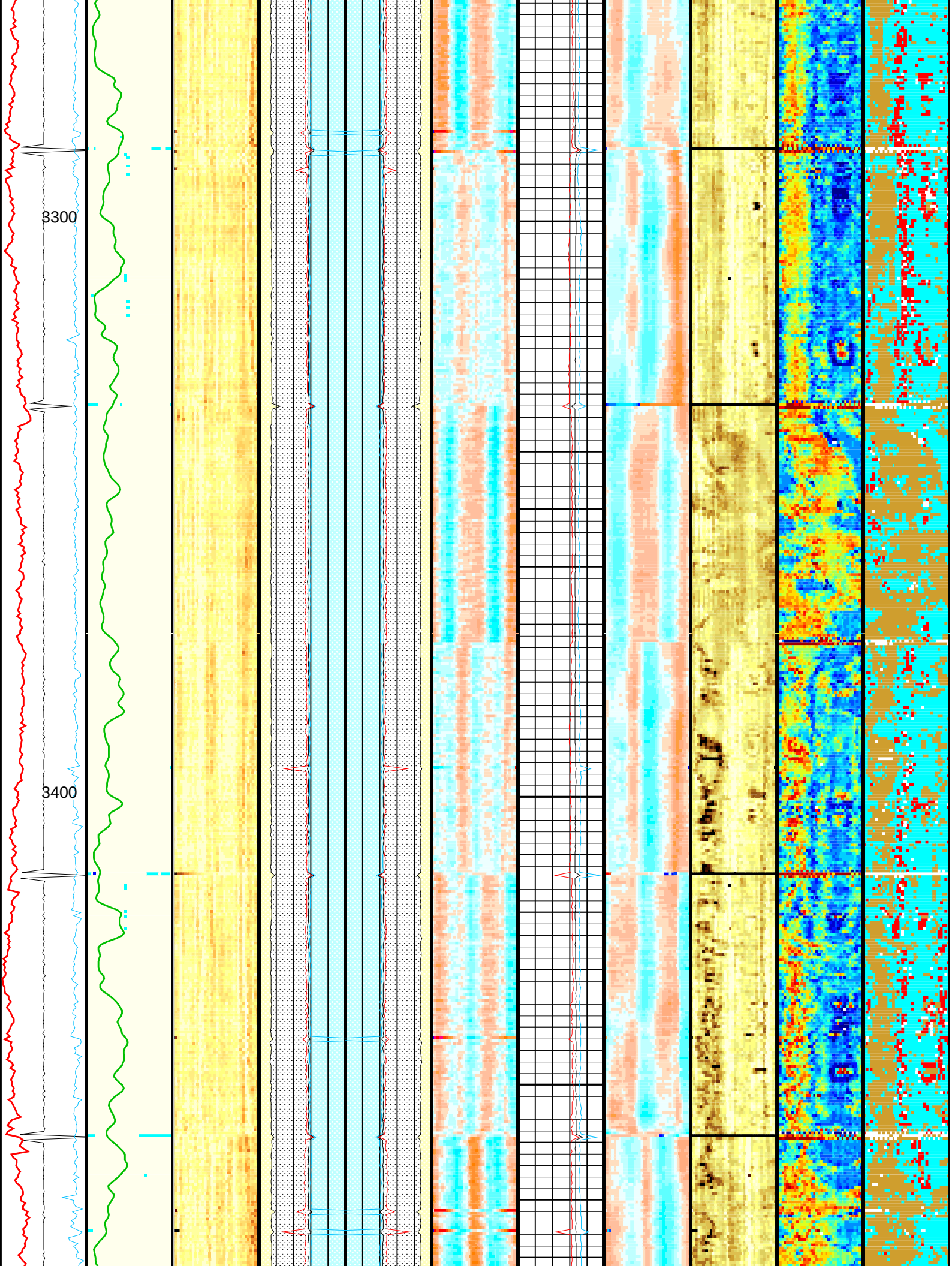
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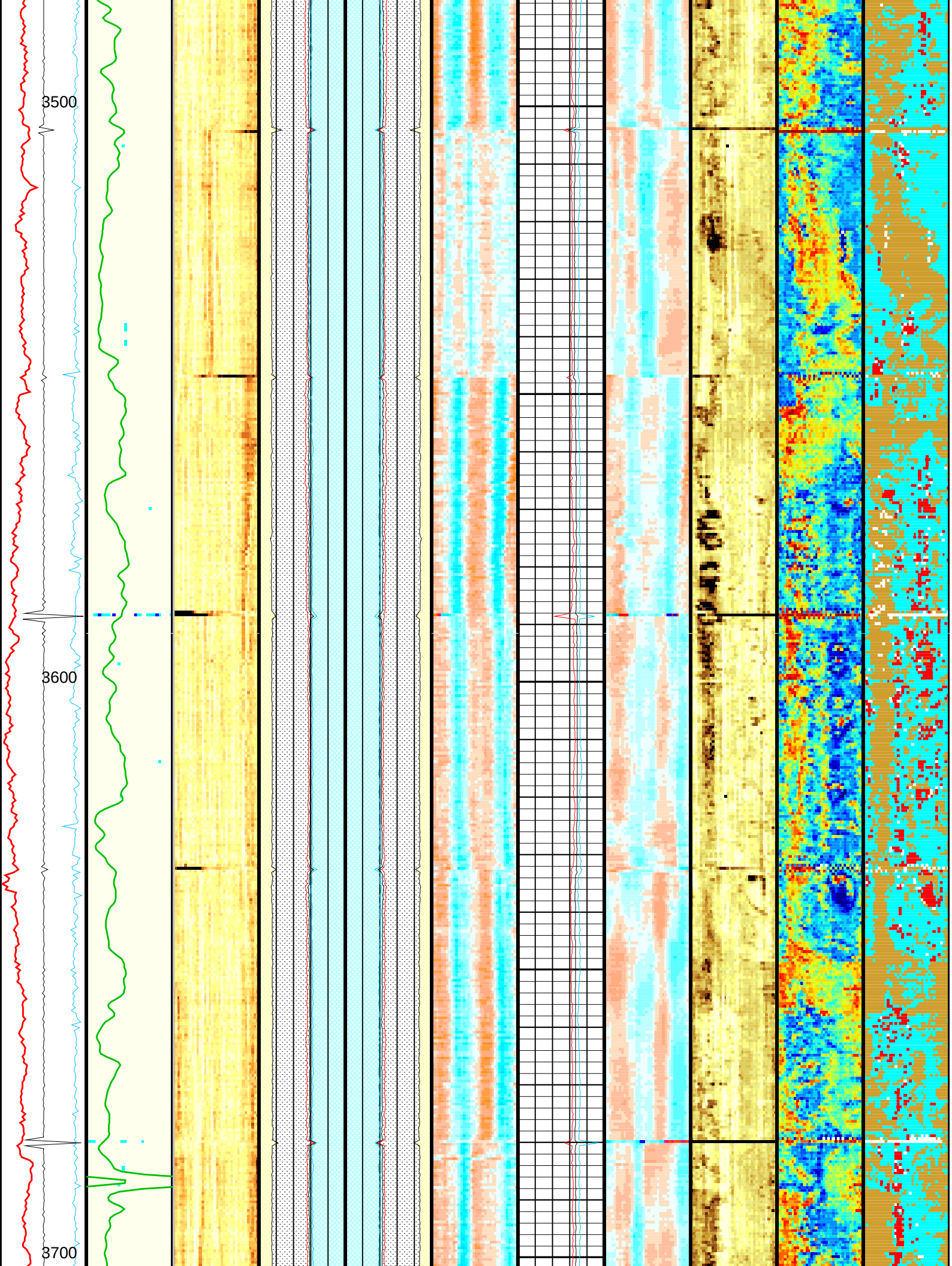
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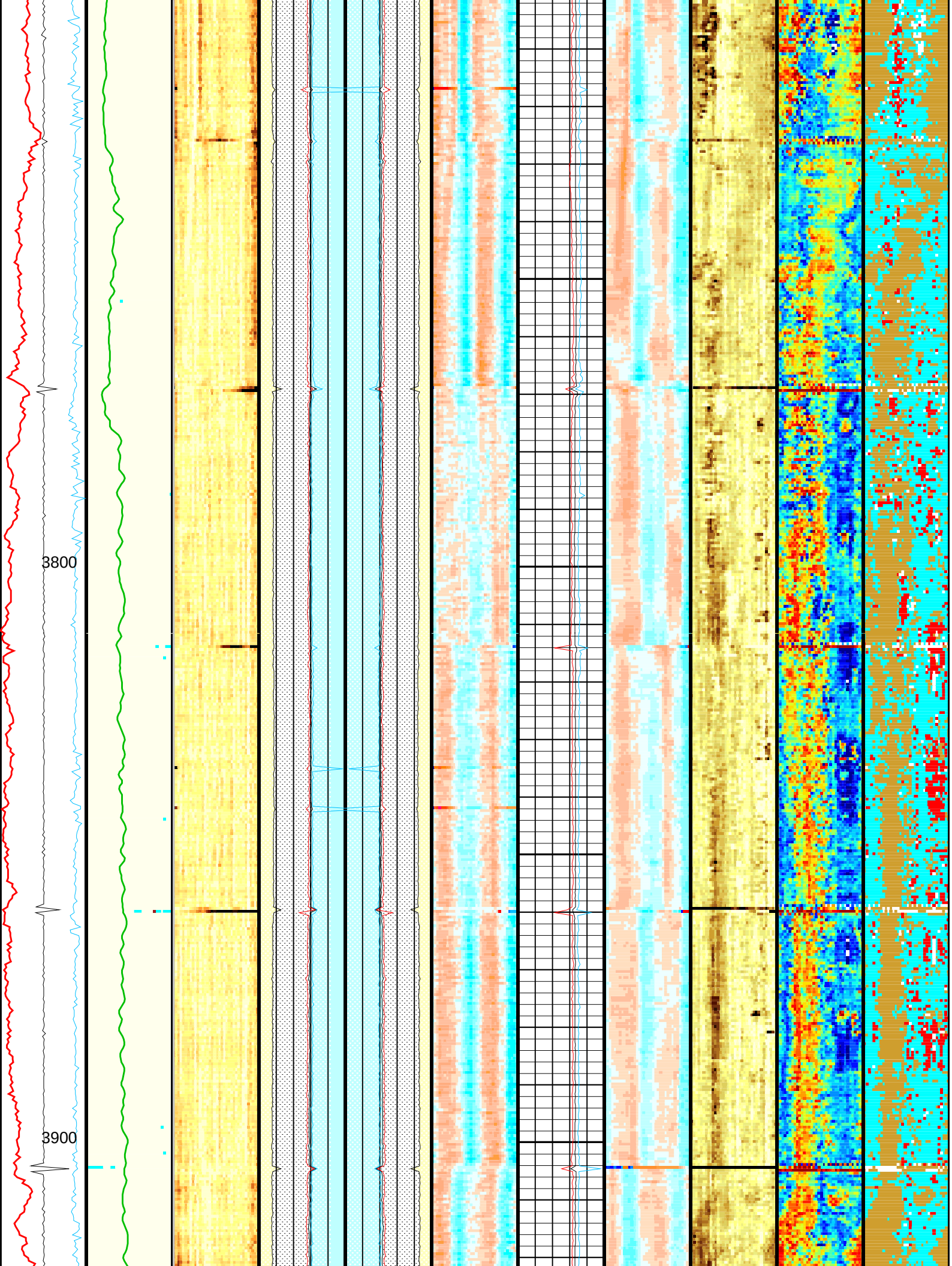
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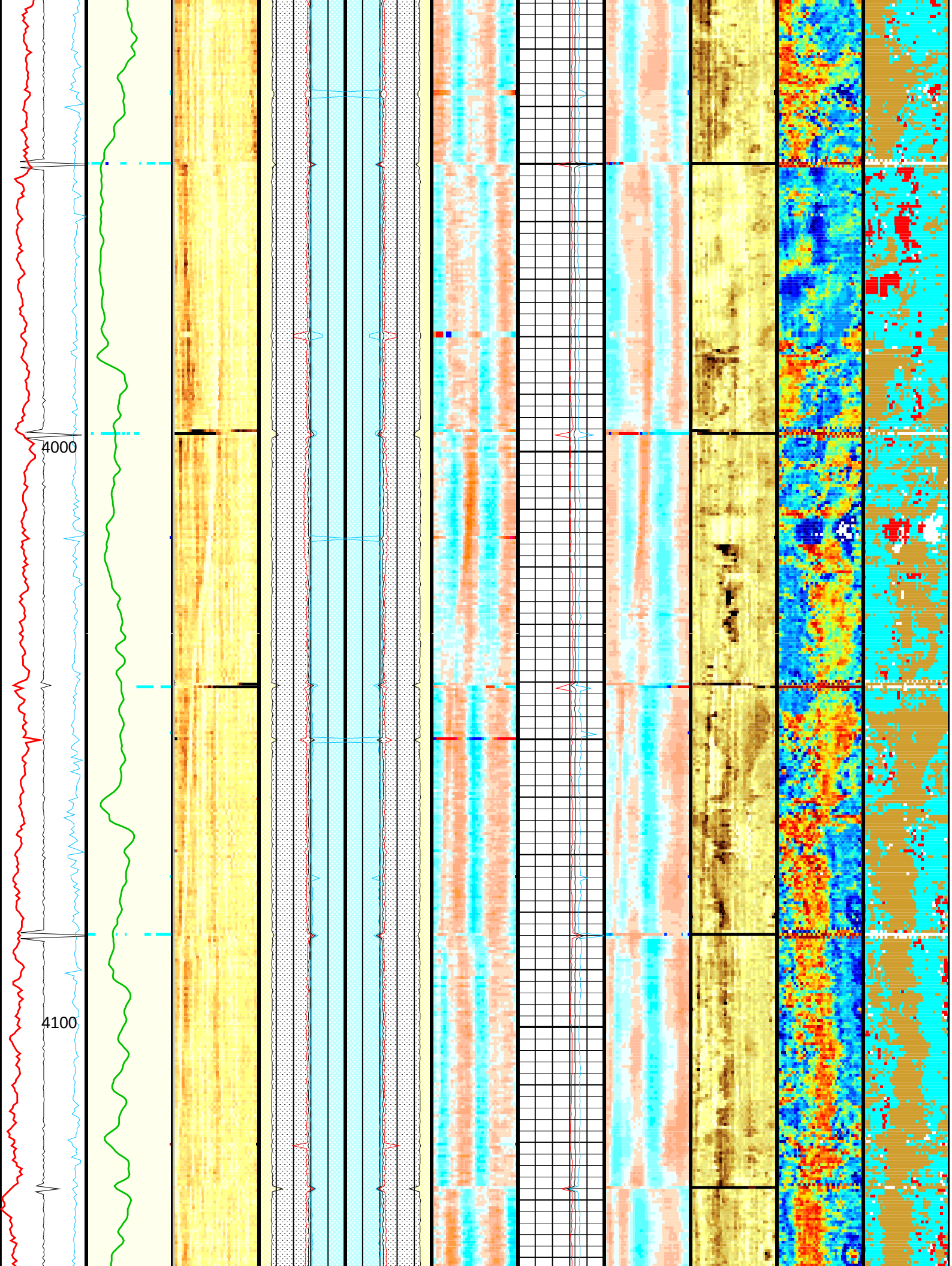
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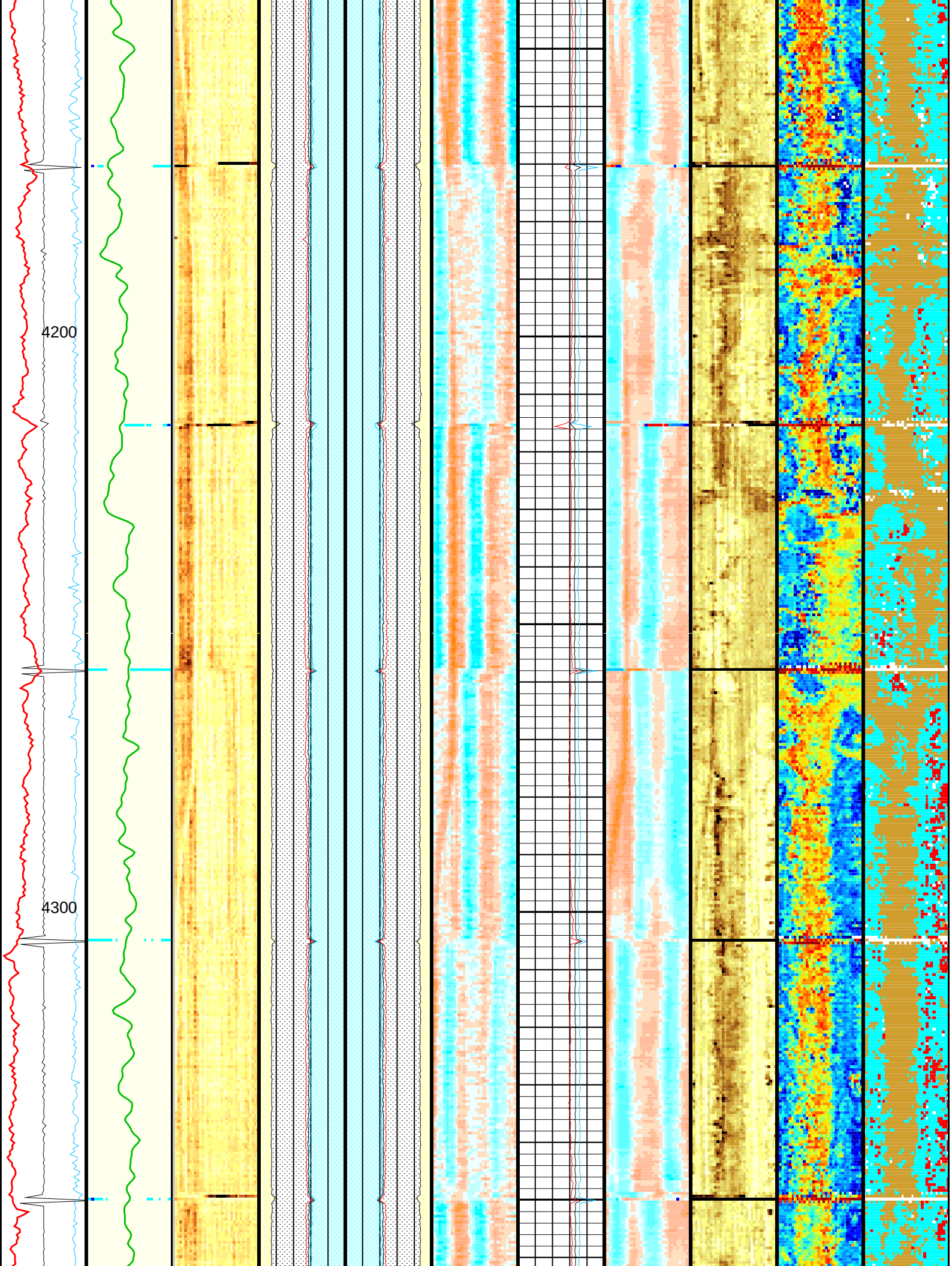
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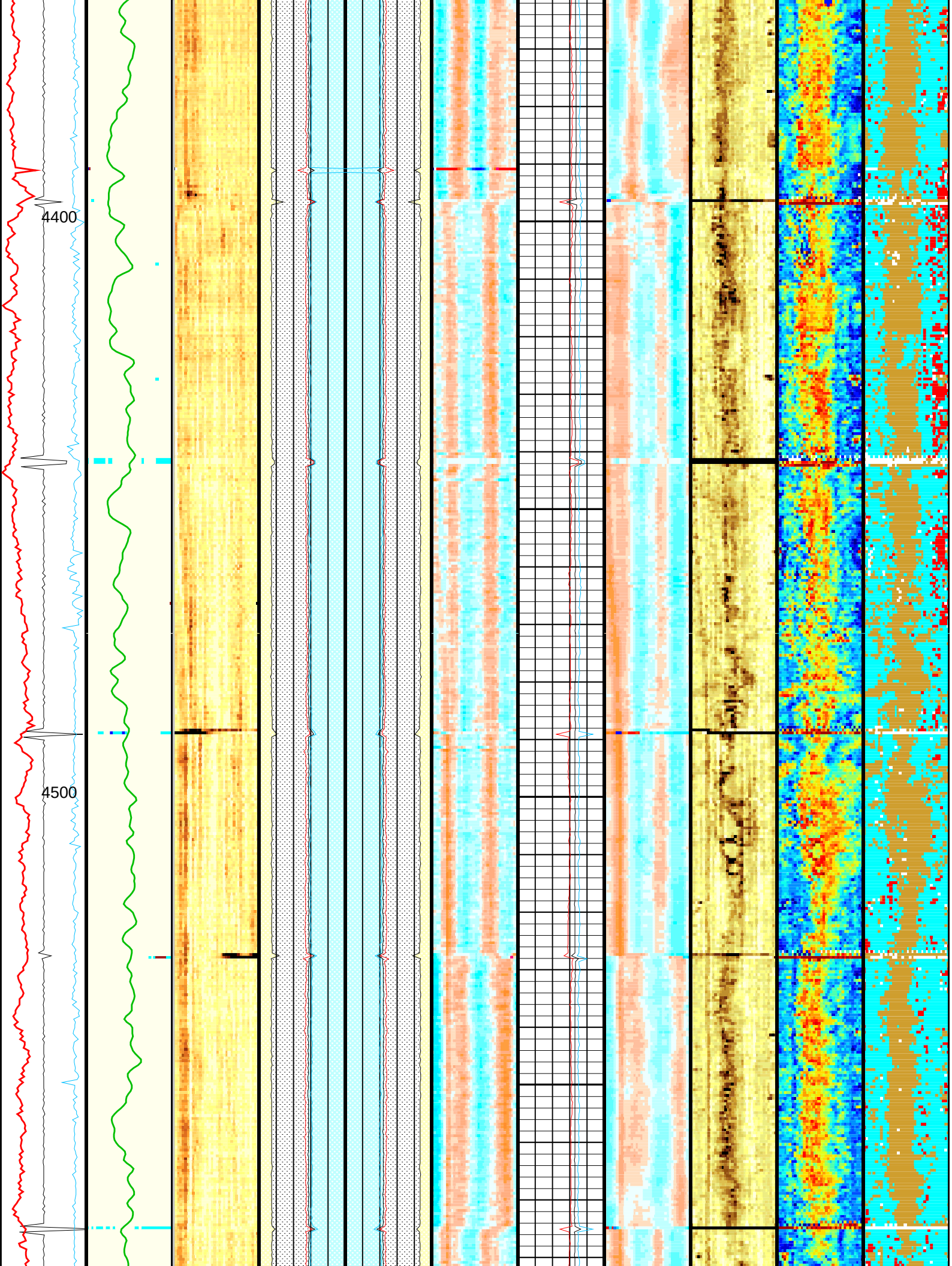
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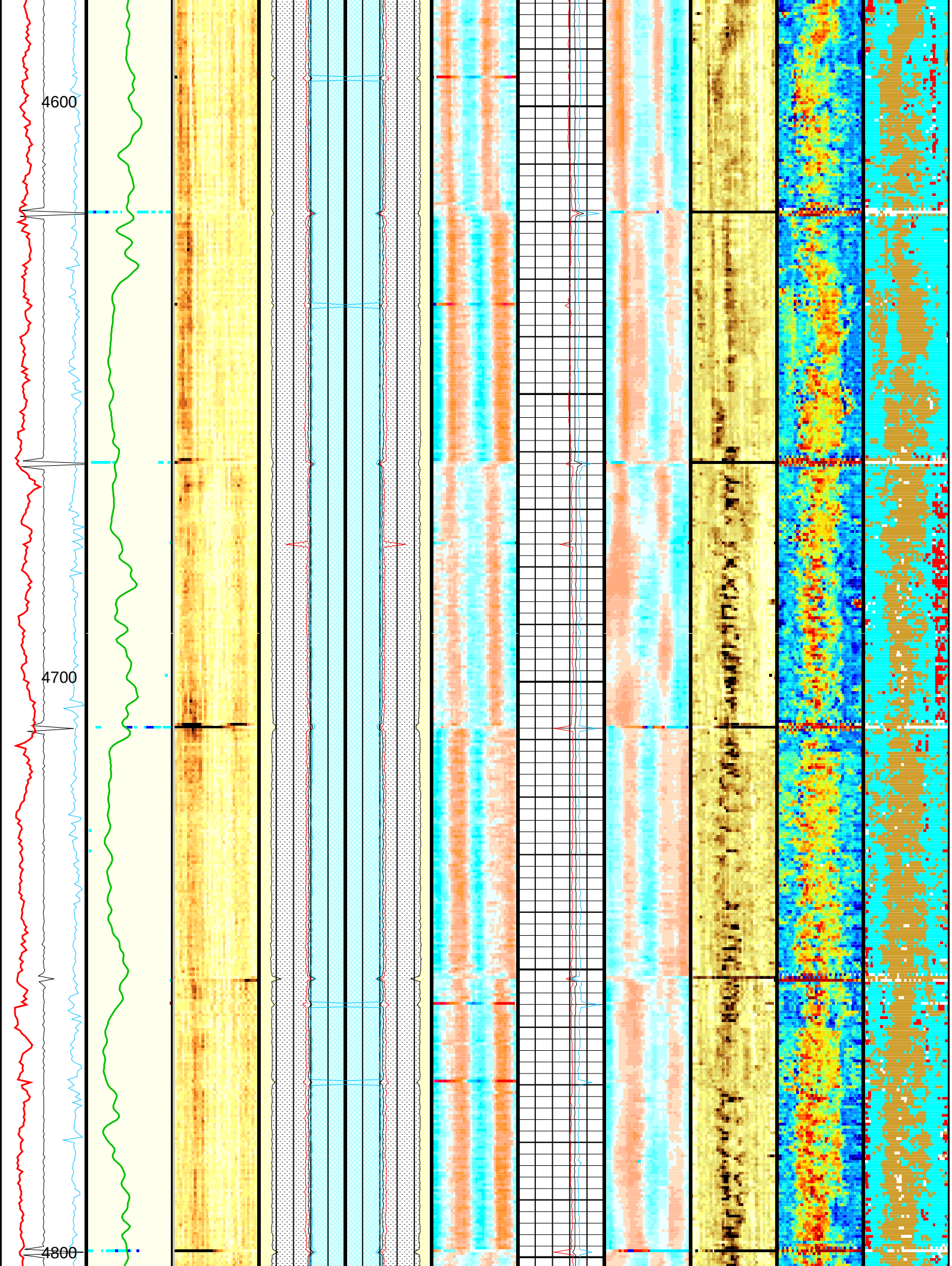
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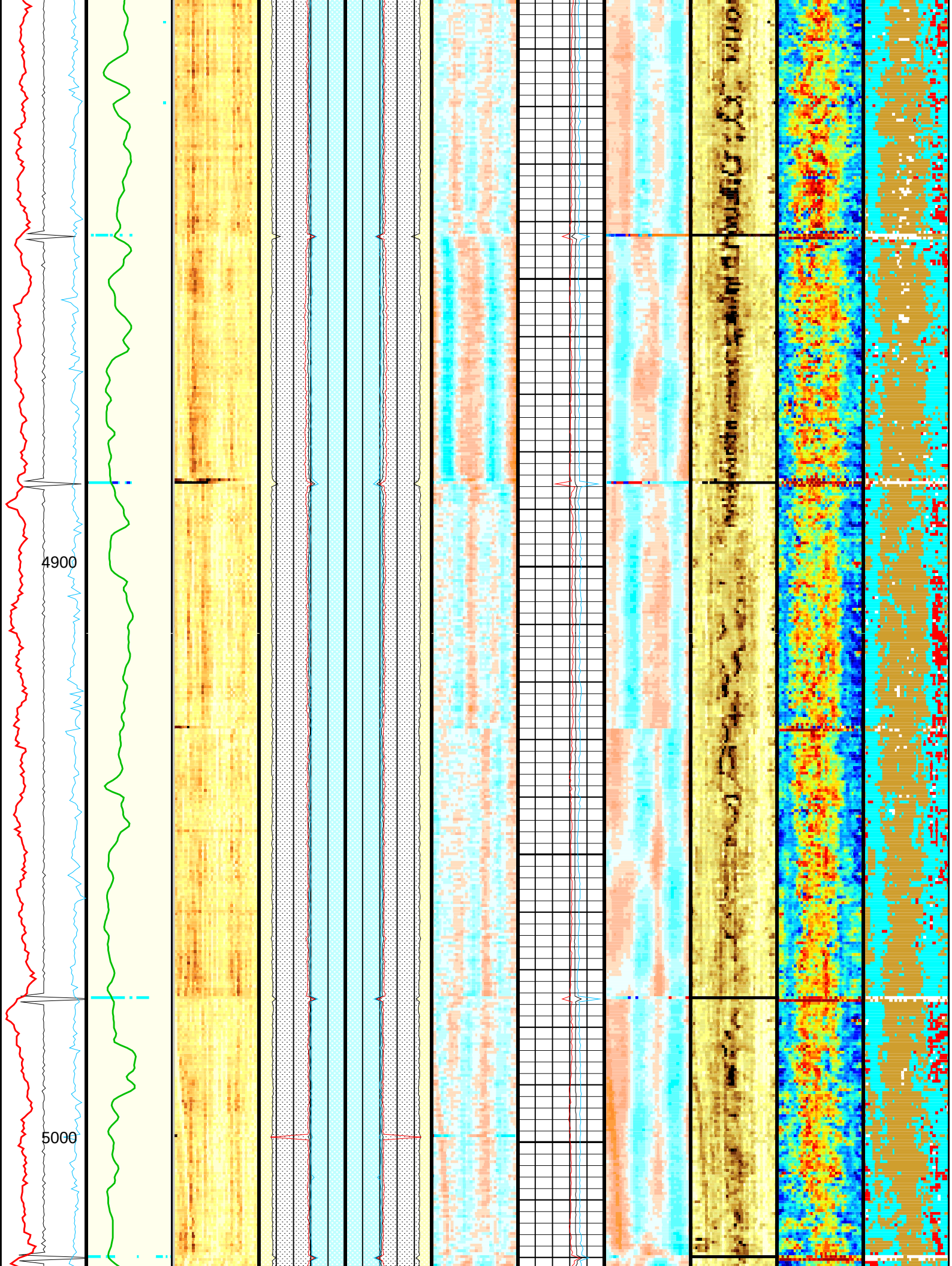
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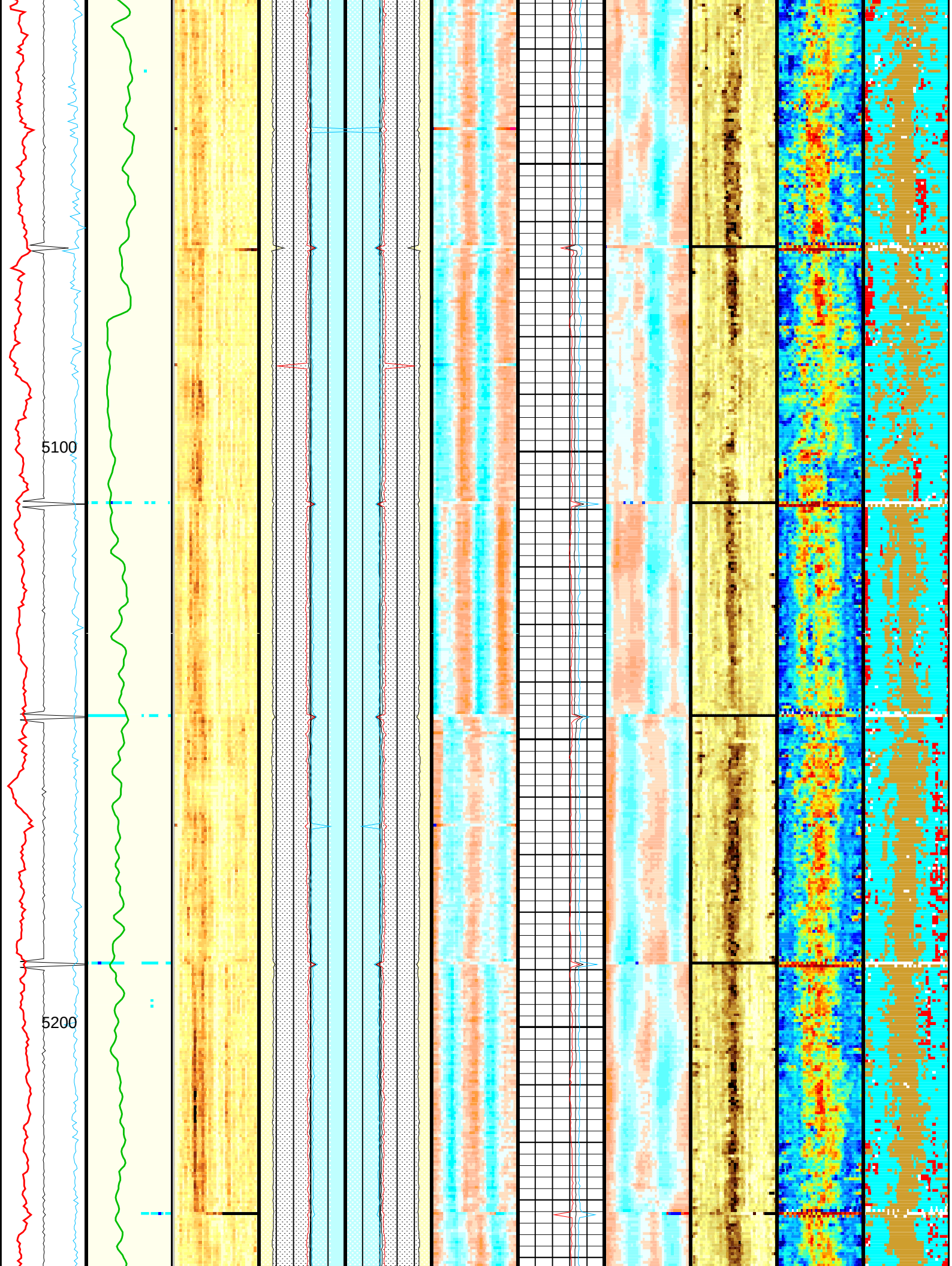
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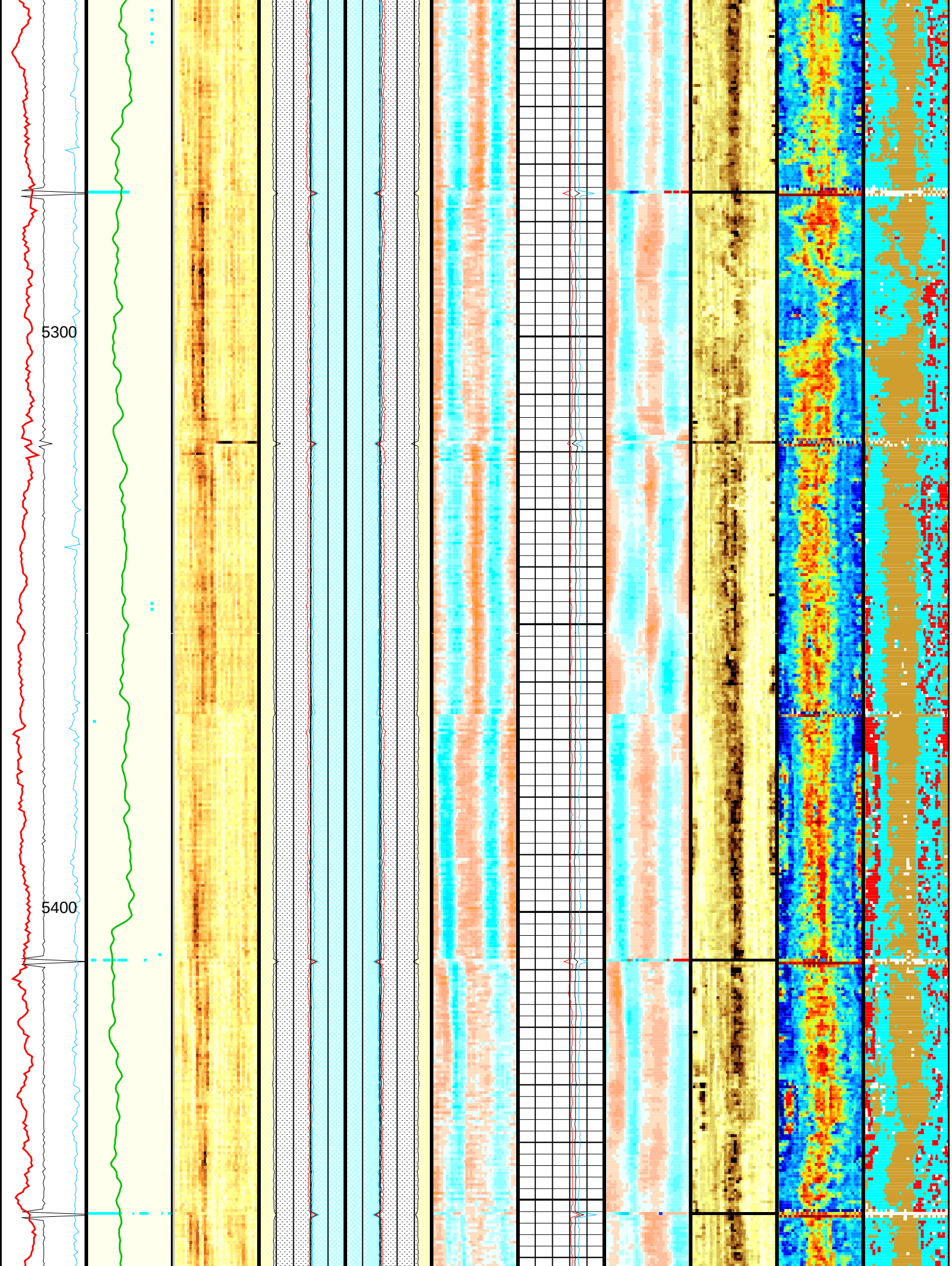
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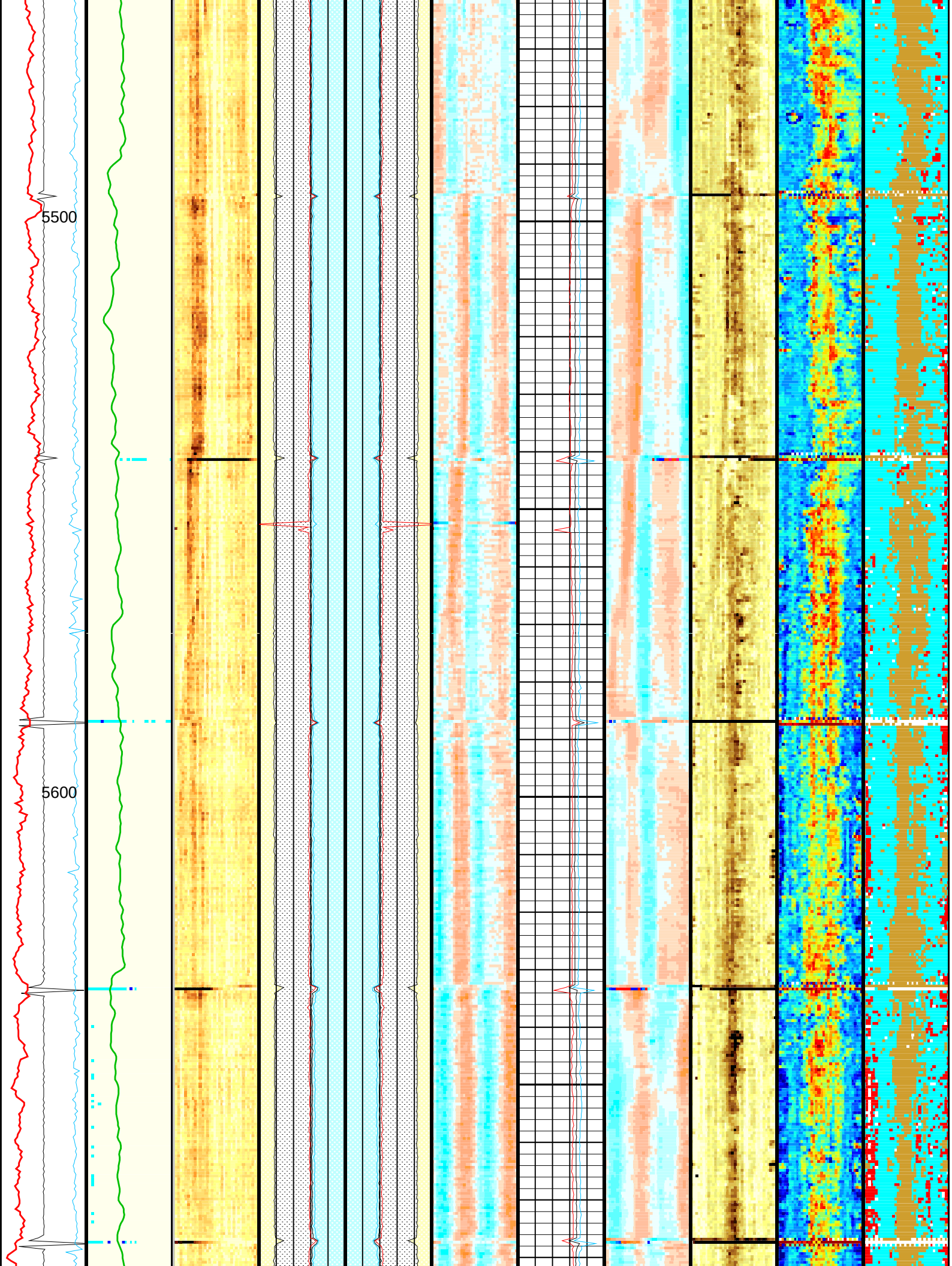
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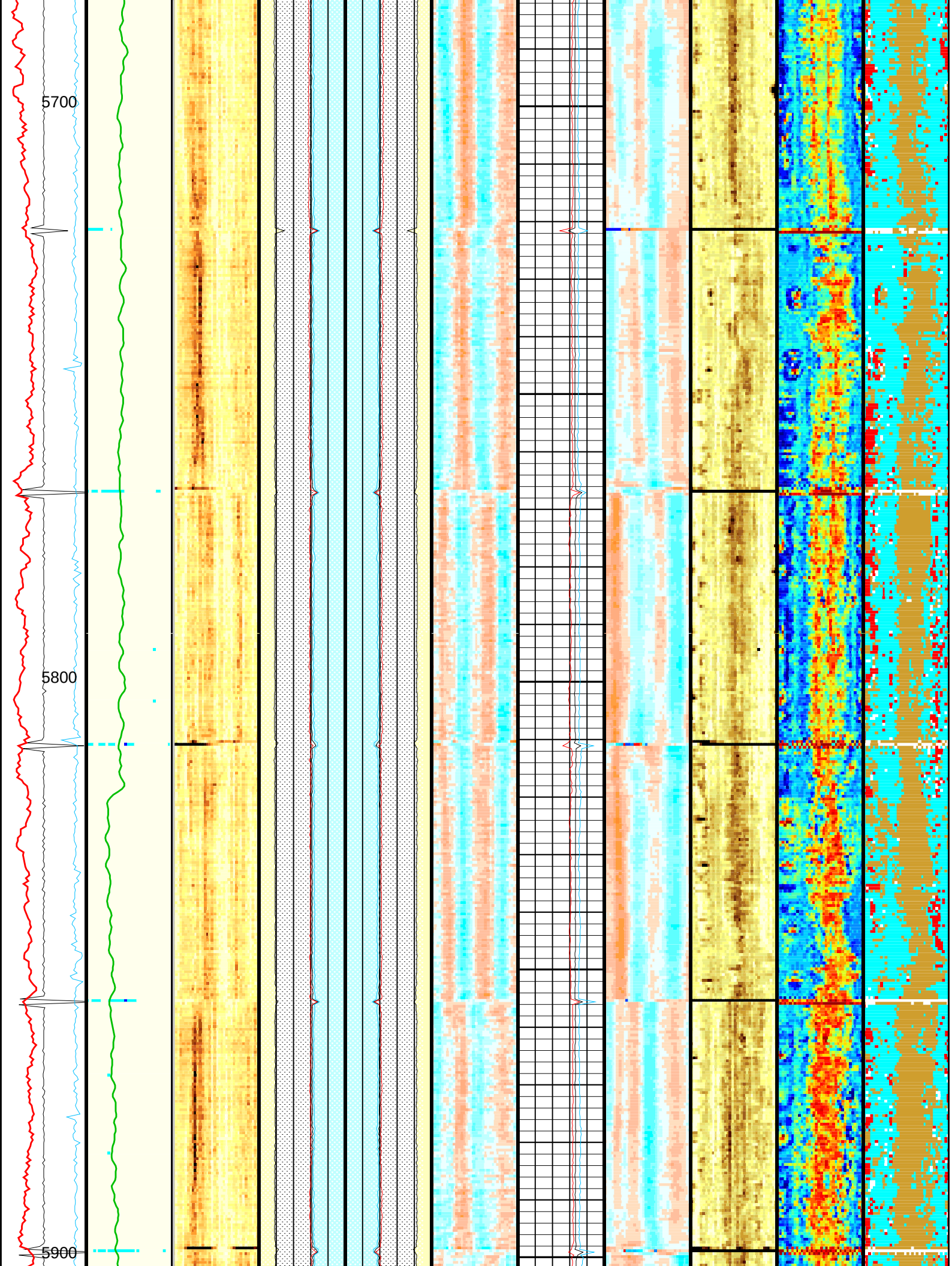
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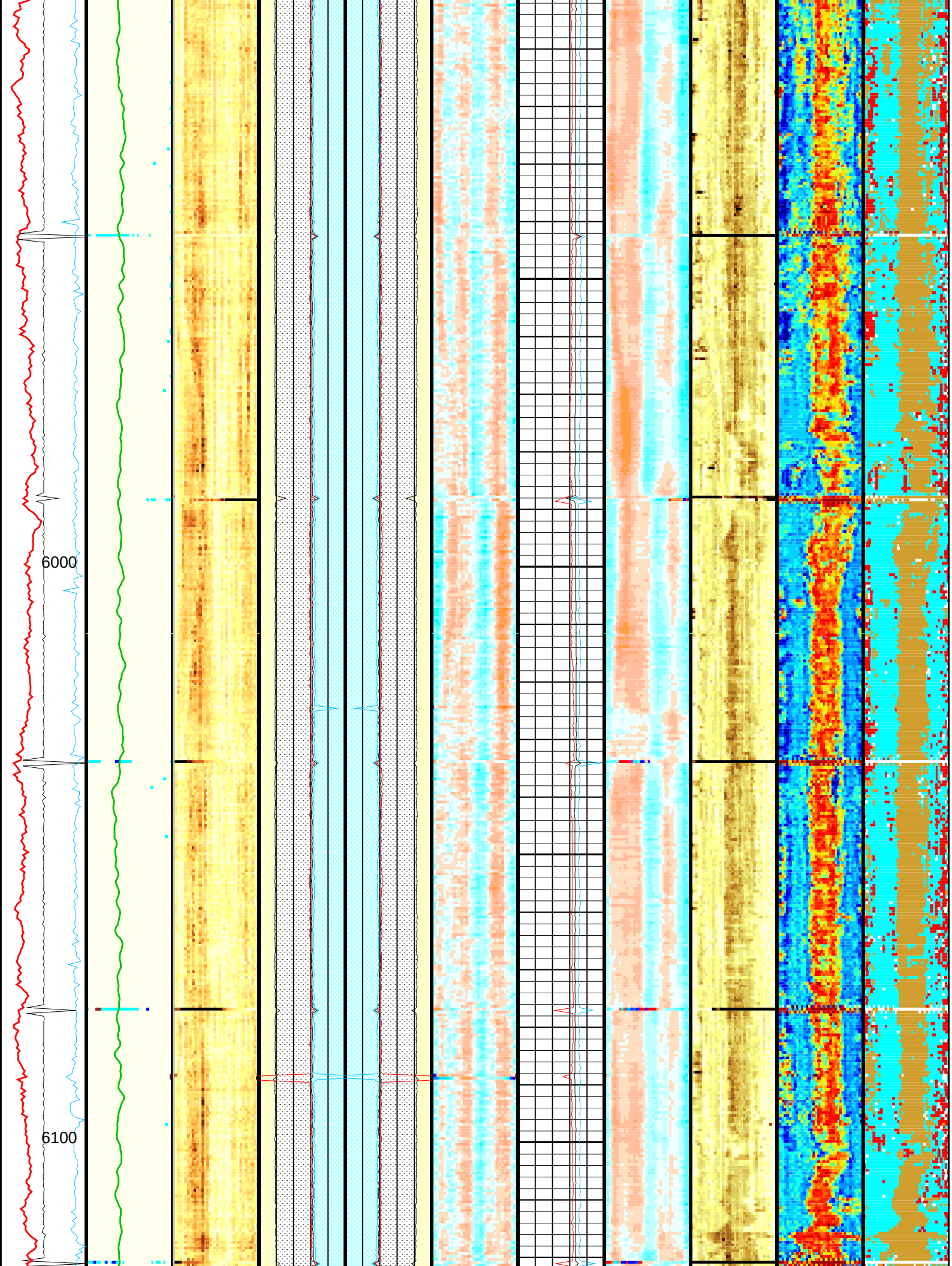
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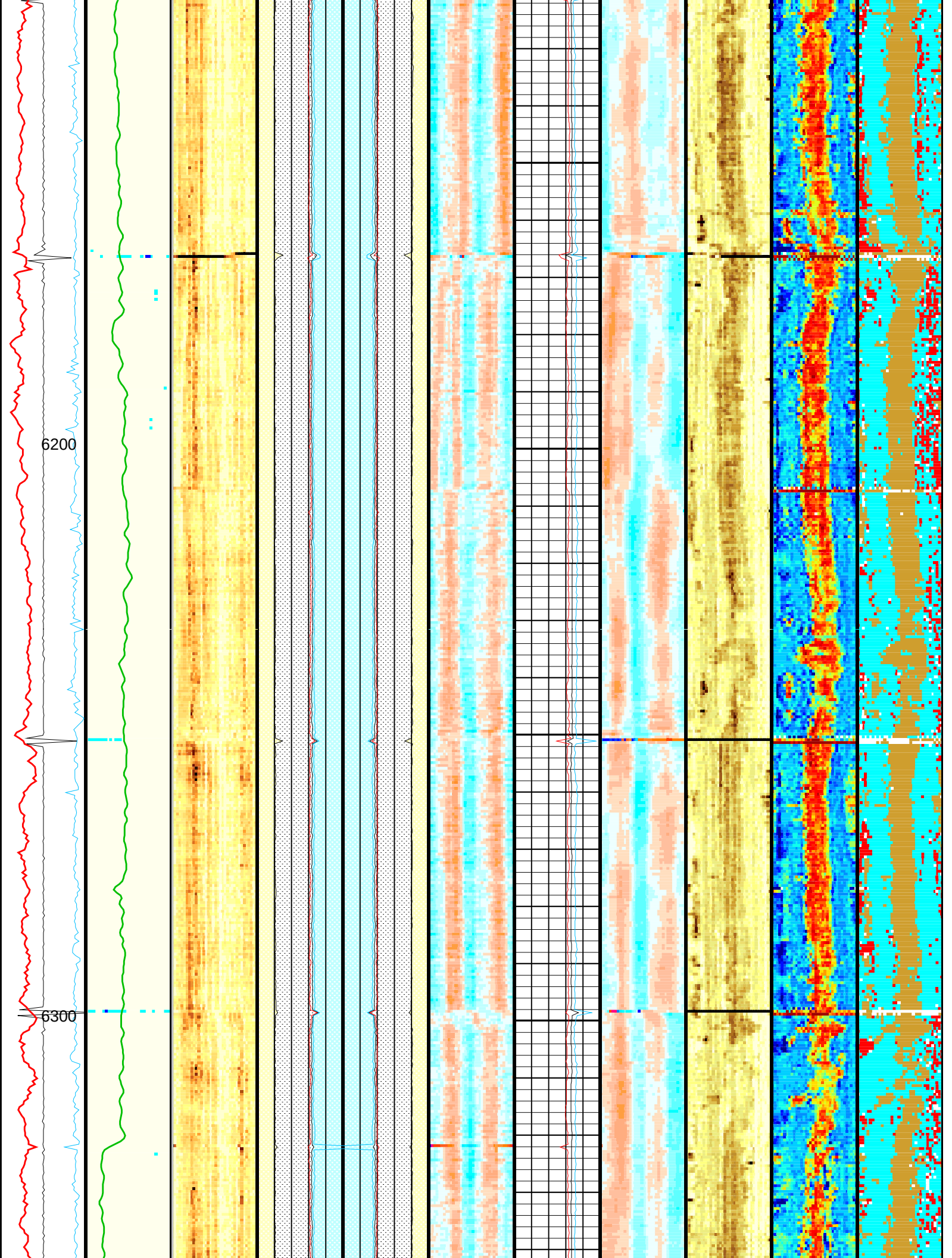
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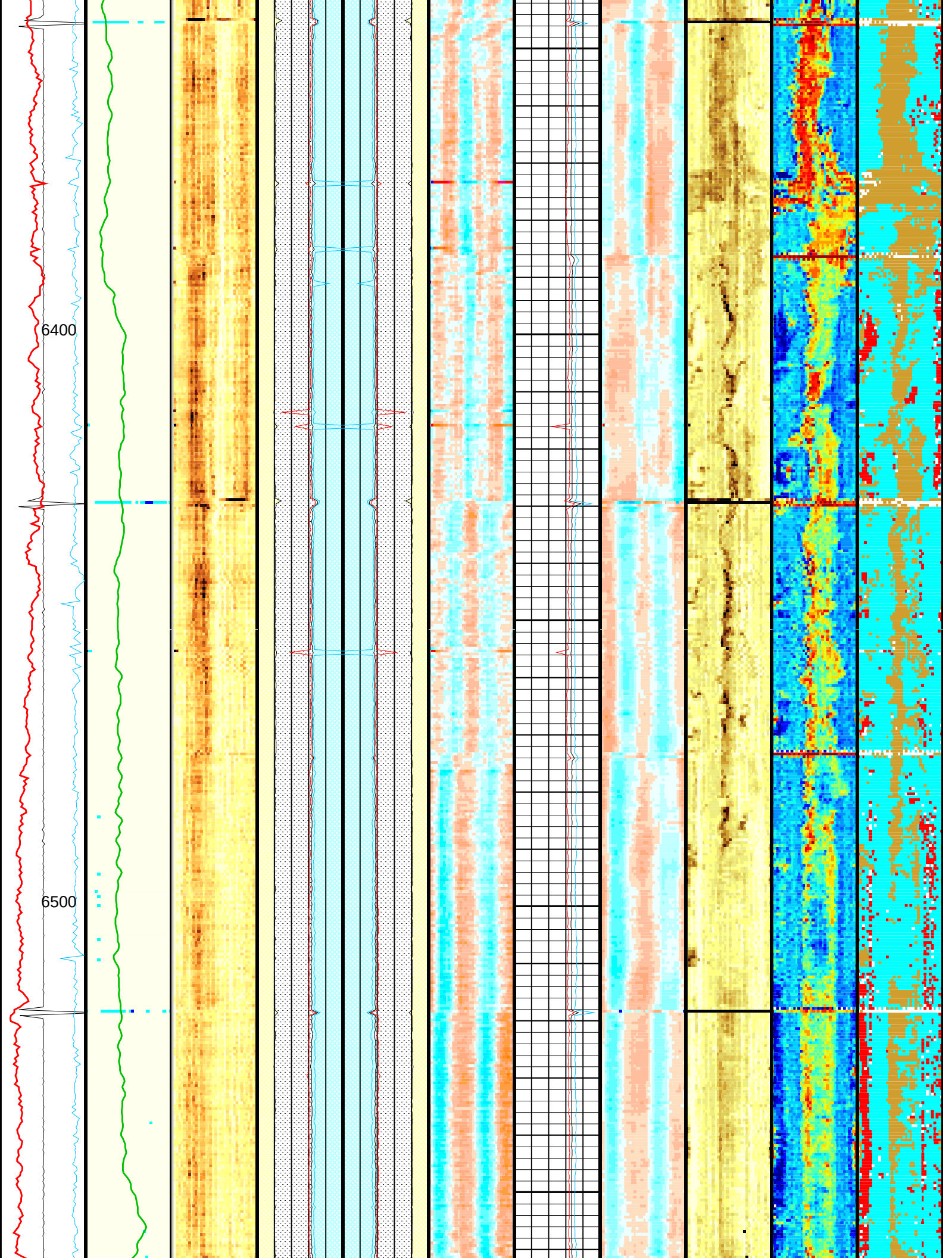
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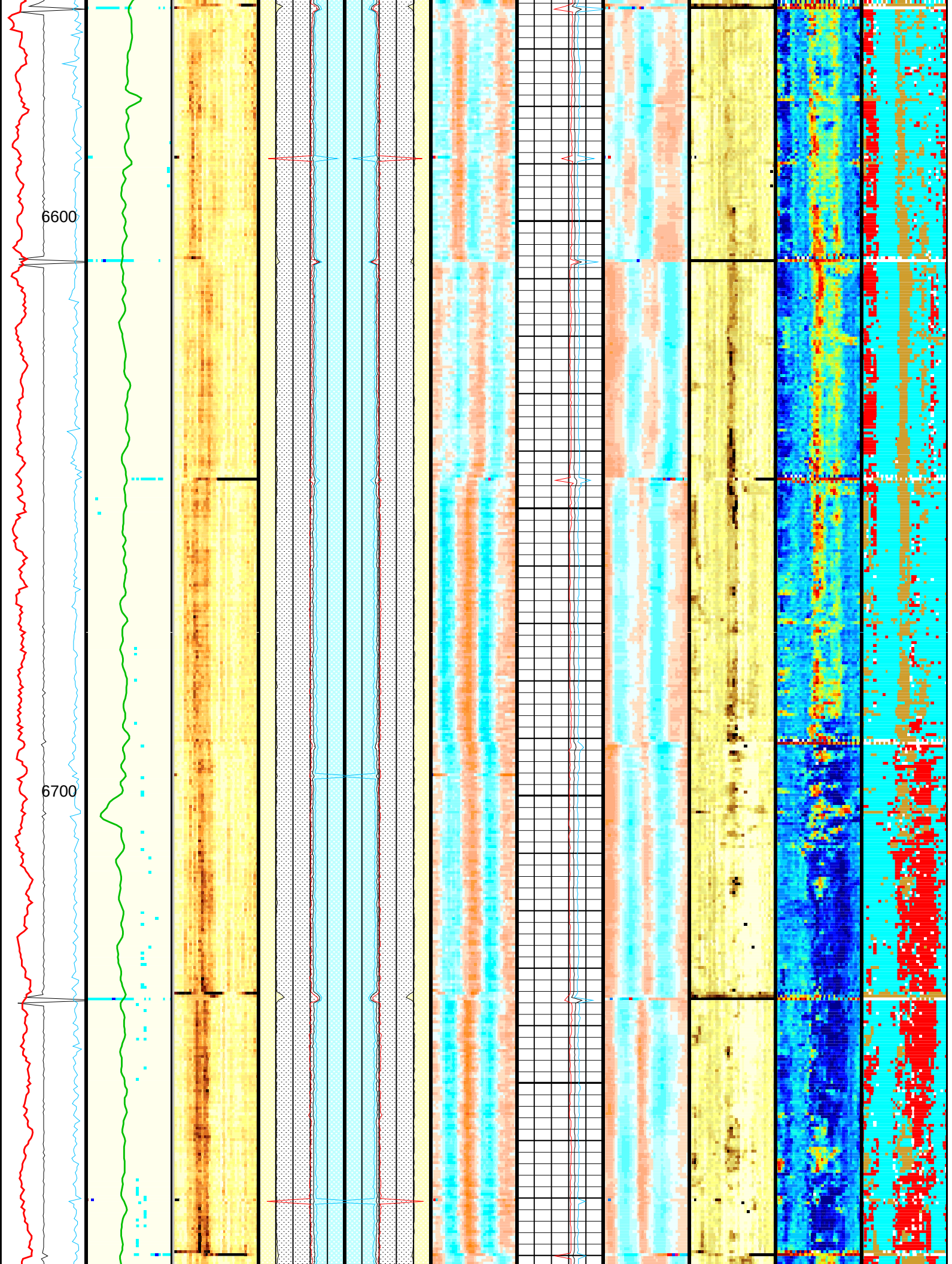
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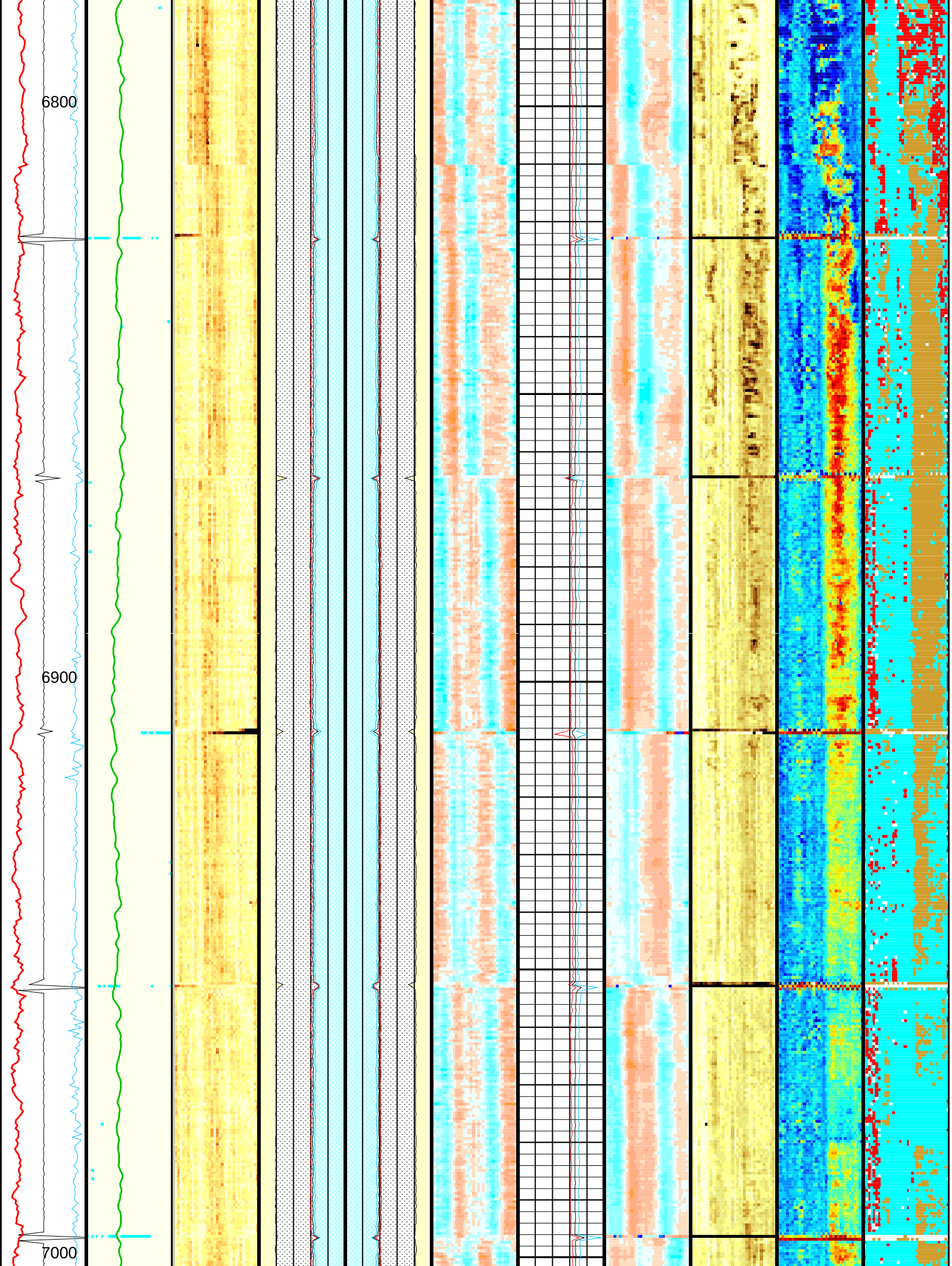
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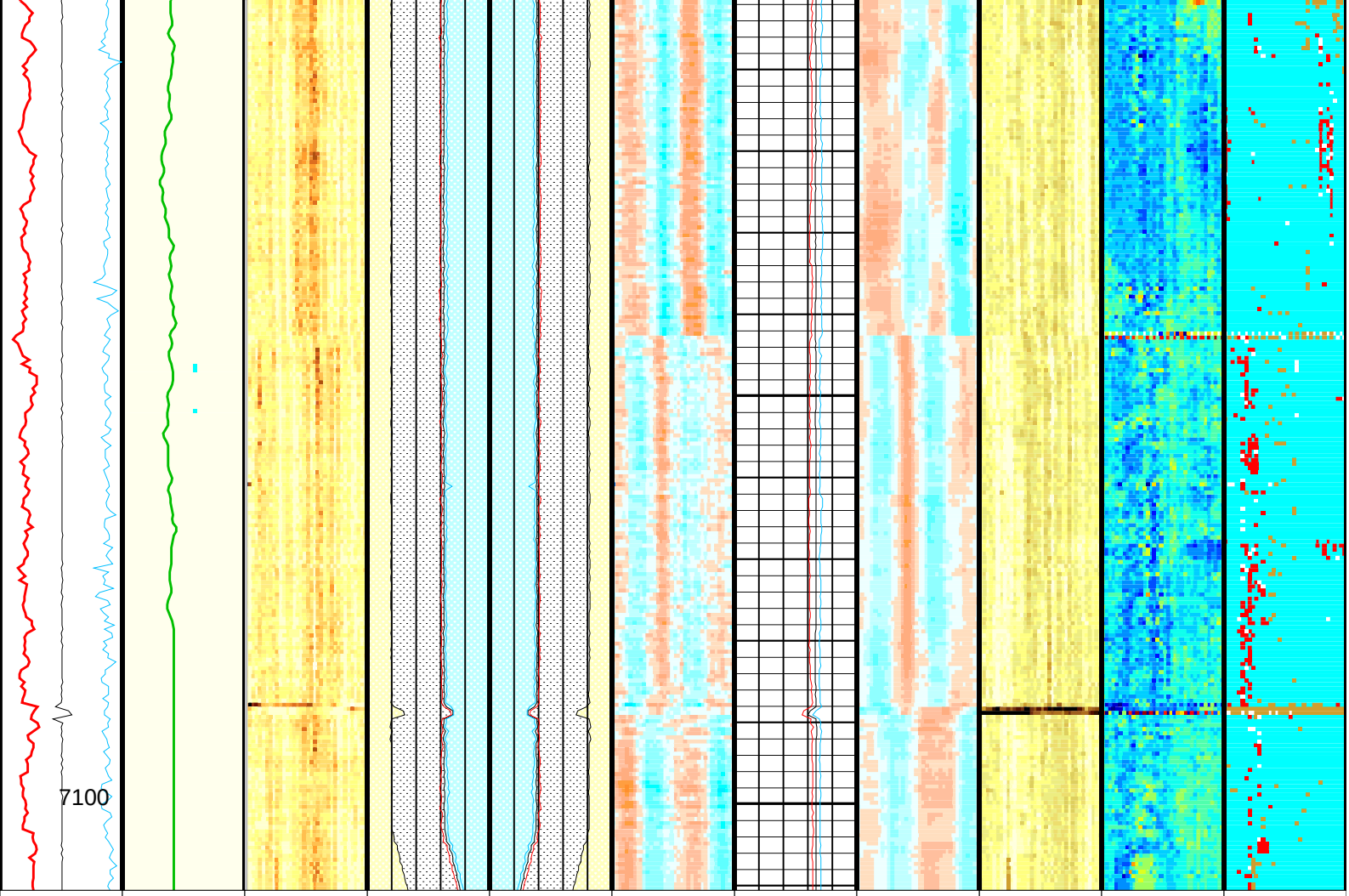


Eccent. (ECCE)	Gamma Ray (GR) (GAPI)	Image rotation (UCAZ) (DEG)	External radius Average (ERAV)	External radius Average (ERAV)	Internal radii minus Ave (IRBK) (IN)	Min of Thickness (THMN) (IN)	Thickness minus Ave (THBK) (IN)	Raw Acoustic Imped. (AIBK) (MRAY)	Flexural Attenuation (U−USIT_UFAK) (DB/M)	Solid Liquid Gas Map (U−USIT_USLP) (−−−−)
0 (IN) 0.5	0 150	0 360	4 (IN) 3	3 (IN) 4	−500.0000 −0.0760 −0.0680 −0.0600 −0.0520 −0.0440 −0.0360 −0.0280 −0.0200 −0.0120 −0.0040 0.0040 0.0120 0.0200 0.0280 0.0360 0.0440 0.0520 0.0600 0.0680 0.0760	0.1 0.6	−500.0000 −0.0760 −0.0680 −0.0600 −0.0520 −0.0440 −0.0360 −0.0280 −0.0200 −0.0120 −0.0040 0.0040 0.0120 0.0200 0.0280 0.0360 0.0440 0.0520 0.0600 0.0680 0.0760	−500.0000 0.5000 1.0000 1.5000 2.0000 2.5000 3.0000 3.5000 4.0000 4.5000 5.0000 5.5000 6.0000 6.5000 7.0000 7.5000 8.0000	0.0000 30.0000 36.0000 42.0000 48.0000 54.0000 60.0000 66.0000 72.0000 78.0000 84.0000 90.0000 96.0000 102.0000 108.0000 114.0000 120.0000	0.5000 1.5000 2.5000 3.5000
CCL (CCLU) (−−−−)	Process. flags (UFLG) (−−−−)		Internal radius Average (IRAV)	Internal radius Average (IRAV)		Average of Thickness (THAV) (IN)				
−20 20	0.5000 1.5000 2.5000 3.5000 6.5000	−500.0000 −6.0000 −5.6000 −5.2000 −4.8000 −4.4000 −4.0000 −3.6000 −3.2000 −2.8000 −2.4000 −2.0000 −1.6000 −1.2000 −0.8000 −0.4000 0.5000	4 (IN) 3	3 (IN) 4		0.1 0.6				

		Amplitude of echo minus Max (AWBK) (DB)				
RSAV (RSAV) (RPS) 6 7.5			Internal radius Maximum (IRMX) 4 (IN) 3	Internal radius Maximum (IRMX) 3 (IN) 4	Maximum of Thickness (THMX) (IN) 0.1 0.6	
			Min of Internal radius (IRMN) 4 (IN) 3	Min of Internal radius (IRMN) 3 (IN) 4		

Format: 5 inch IBC CEMENT COMPOSITE Vertical Scale: 5" per 100' Graphics File Created: 27−Dec−2012 00:25

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Parameters

DLIS Name	Description	Value	
	USIT−D: Ultrasonic Imaging − D		
	Corrosion range maximum	0.076	IN
	T^3 Processing Length for FPM	26.648	US
	Corrosion range minimum	−0.076	IN
AGMN	Minimum Gain of Cartridge	−4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	7.625	IN
CDUN	Curves Unit Declared in Presentation Manager	IN	
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	6.765	IN
CYST	Casing Yield Strength	0	PSI
DFVL	Default Fluid Velocity	206	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	45	V
FDII	FPM Data Interpolation Interval	0	FT
FSOD	Fluid Slowness Fits Casing Outer Diameter	5_UFSL_N_ZMUD	
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.9	LB/G
OPLEV	USIT Remove Flagged Data Level	level2	
RCOD	Reference Calibrator Outer Diameter	7	IN
RCSO	Reference Calibrator Standoff	1.1811	IN
RCTH	Reference Calibrator Thickness	0.2952	IN
SDNV	Number of Vertical Samples used for Micro−debonding Computation	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro−debonding	0.5	
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro−debonding	0.3	
SUBT	Ultrasonic Subassembly Type	Sub_7_inch_S	
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THDP	Thickness Detection Policy	Fundamental	
THNO	Nominal Thickness of Casing	0.43	IN
TMUC	Type of Mud	BRINE	
U−USIT_CEMT	USIT Cement Type	ULTRA_LIGHT	
U−USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	0	MRAY

U−USIT_IISR	USIT IBC Inverted Fluid Slowness Resolution	1.0_US_P_FT	
U−USIT_IIZR	USIT IBC Inverted ZMUD Resolution	0.050_MRAY	
U−USIT_OCDI	USIT Outer Casing Diameter	0	IN
U−USIT_OCSH	USIT Outer Casing Shoe	0	FT
U−USIT_OCWE	USIT Outer Casing Weight	0	LB/F
U−USIT_RFWB	USIT Remove Flagged Data Window Begin	0	US
U−USIT_RFWE	USIT Remove Flagged Data Window End	511	US
U−USIT_TIEB	IBC Third Interface Echo Bin Processing	YES	
U−USIT_TIEC	IBC Third Interface Echo Cleaning	NONE	
U−USIT_TIEM	IBC Third Interface Echo Multi Tracking	NO	
U−USIT_TIEP	IBC Third Interface Echo Policy	BFEP	
U−USIT_TIER	IBC Third Interface Echo Receivers	BOTH	
U−USIT_U3WE	Third Interface Echo Window End	110	US
U−USIT_UBTP	USIT Bottom Transducer Position	UNKNOWN	
U−USIT_UDFC	USIT Deflector for Casing	NONE	
U−USIT_UFAO	USIT Flexural Attenuation Offset	−24	DB/M
U−USIT_UFGA	Far Receiver Maximum Gain of Cartridge	48	DB
U−USIT_UFGI	Far Receiver Minimum Gain of Cartridge	−12	DB
U−USIT_UHCI	USIT IBC Hydraulic Communication Interval	06FT_02M	
U−USIT_UIAP	USIT IBC Answer Product Enabled	SolidLiquidGasMap	
U−USIT_UIST	Ultrasonic IBC Sonde Type	Sub_Ibcs_B	
U−USIT_UNGA	Near Receiver Maximum Gain of Cartridge	48	DB
U−USIT_UNGI	Near Receiver Minimum Gain of Cartridge	−12	DB
U−USIT_URTP	USIT Radial Transducer Position	UNKNOWN	
U−USIT_UTAN	USIT Transducer Angles	38_DEG	
UMAO	USIT Measurement Angular Offset	−10	DEG
UPAT	Emission Pattern	Pattern_300K	
USIT_USAC_TASK_ALLOW	USIT USAC Allow Task after Power Up	YES	
USIT_USAC_TASK_TIMEOUT	USIT USAC Task Timeout (in seconds) FOR TEST REPORT	600	
USTO	Ultrasonic Time Offset	−2	US
USUB	Ultrasonic Subassembly Identifier	Sub_7_inch	
UWKM	Ultrasonic Working Mode	10DEG_6IN_136UNF_LF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	25.7855	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	2	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	2.6	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
SGT−N: Scintillation Gamma Ray Tool − N			
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	209	DEGF
DPPM	Density Porosity Processing Mode	STAN	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
SOGR	SGT Standoff Distance	0	IN
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	7.625	IN
CWEI	Casing Weight	33.70	LB/F
DFD	Drilling Fluid Density	8.90	LB/G
DO	Depth Offset for Playback	4.0	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	−50000	FT
TDD	Total Depth − Driller	9763.00	FT
TDL	Total Depth − Logger	9760.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Input DLIS Files

DEFAULT	USI_006LUP	FN:7	PRODUCER	26−Dec−2012 20:30	7106.5 FT	122.0 FT

Output DLIS Files

DEFAULT	USI_013PUP	FN:15	PRODUCER	27−Dec−2012 00:25
RTB	USI_013PUP	FN:16	PRODUCER	27−Dec−2012 00:25

Schlumberger

COMPRESSED GOODWIN REPEAT PASS

MAXIS Field Log

Company: SWEPI, LP **Well: Gnat Hill 1−29**

Input DLIS Files

DEFAULT	USI_006LUP	FN:7	PRODUCER	26−Dec−2012 20:30	7106.5 FT	122.0 FT

Output DLIS Files

DEFAULT	USI_013PUP	FN:15	PRODUCER	27−Dec−2012 00:25	7110.5 FT	126.0 FT
RTB	USI_013PUP	FN:16	PRODUCER	27−Dec−2012 00:25	7110.5 FT	126.0 FT

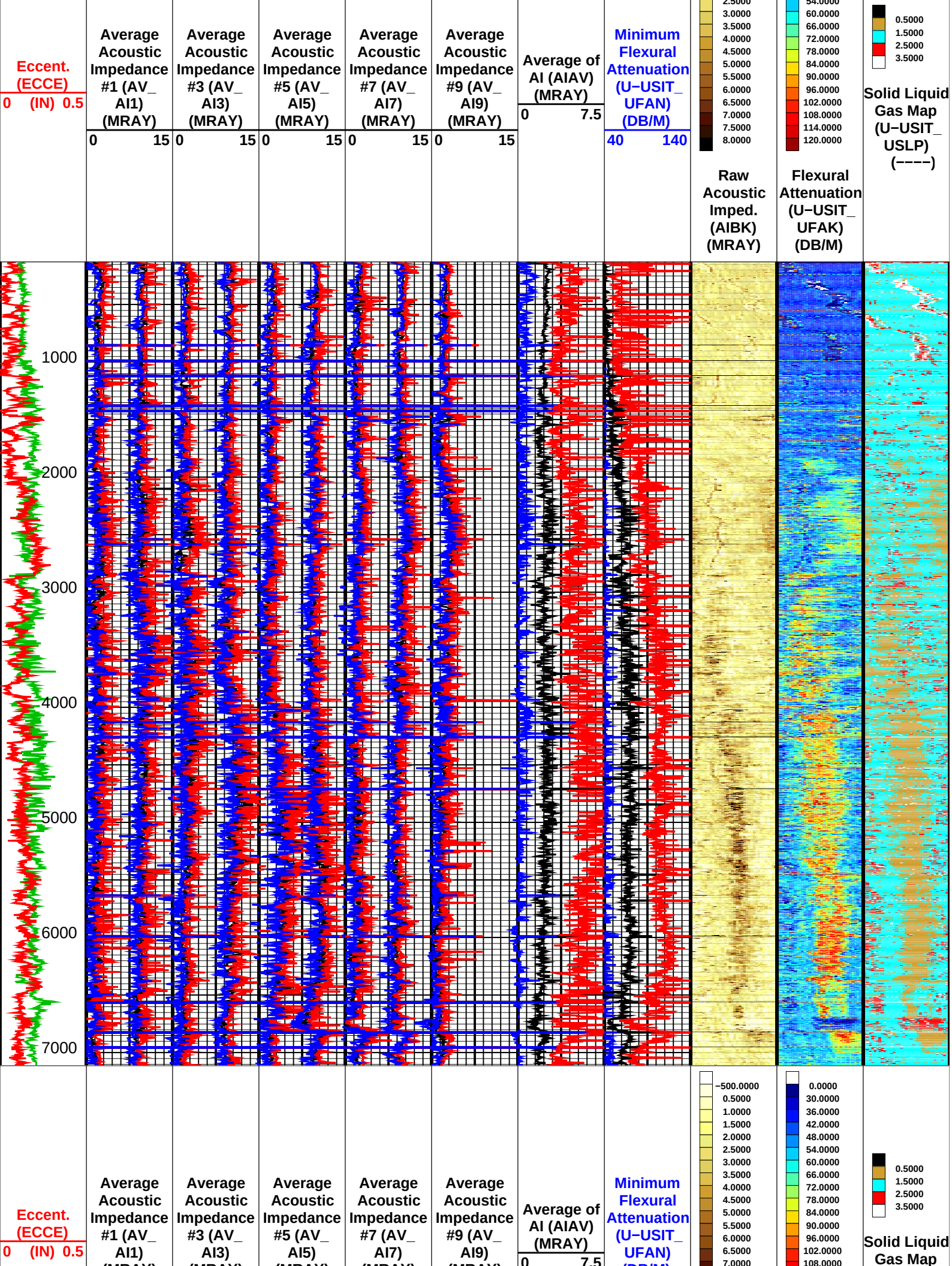
OP System Version: 19C1−222

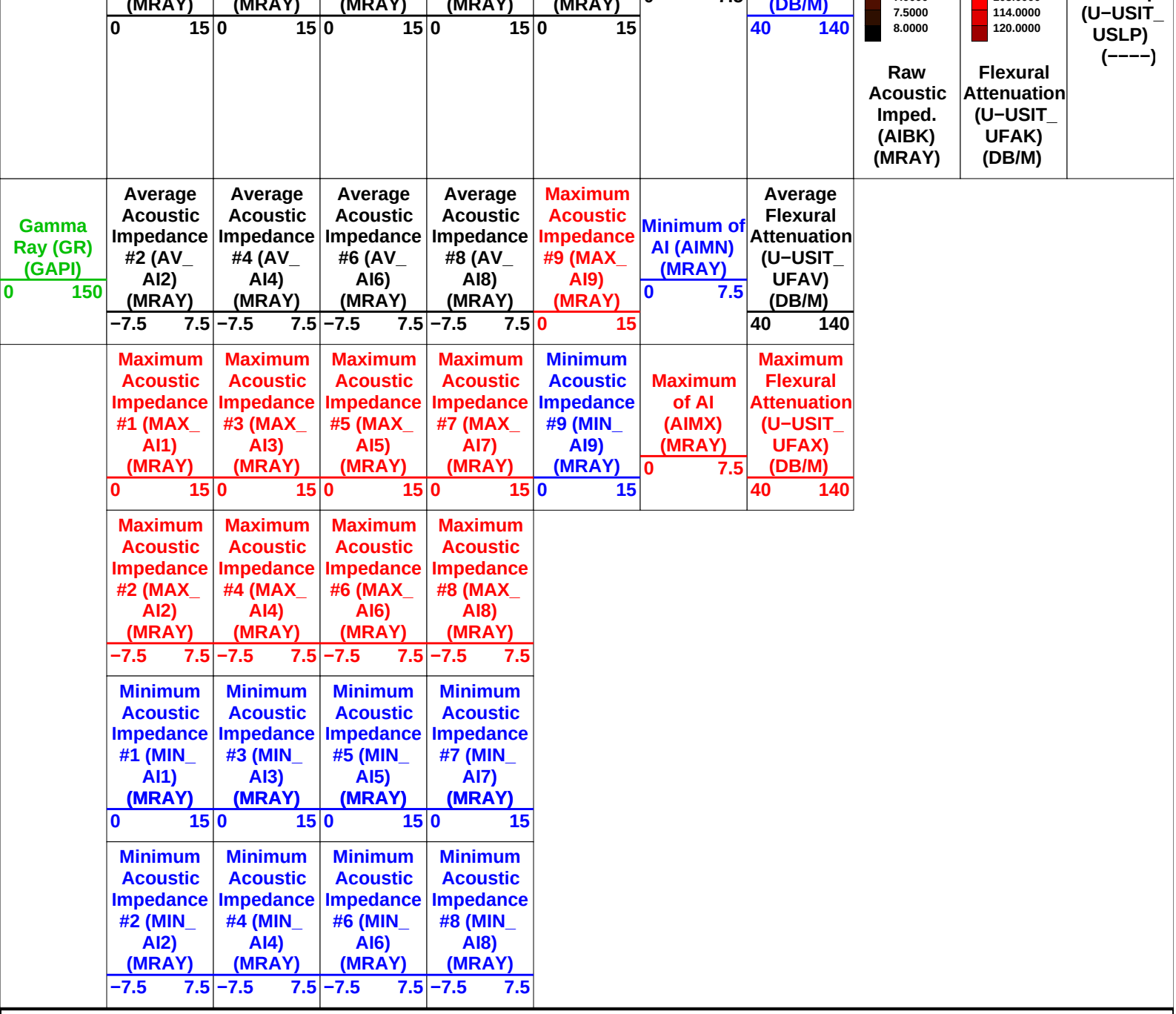
USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

	Minimum Acoustic Impedance #2 (MIN_AI2) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #4 (MIN_AI4) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #6 (MIN_AI6) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #8 (MIN_AI8) (MRAY) −7.5 7.5			
	Minimum Acoustic Impedance #1 (MIN_AI1) (MRAY) 0 15	Minimum Acoustic Impedance #3 (MIN_AI3) (MRAY) 0 15	Minimum Acoustic Impedance #5 (MIN_AI5) (MRAY) 0 15	Minimum Acoustic Impedance #7 (MIN_AI7) (MRAY) 0 15			
	Maximum Acoustic Impedance #2 (MAX_AI2) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #4 (MAX_AI4) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #6 (MAX_AI6) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #8 (MAX_AI8) (MRAY) −7.5 7.5			
	Maximum Acoustic Impedance #1 (MAX_AI1) (MRAY) 0 15	Maximum Acoustic Impedance #3 (MAX_AI3) (MRAY) 0 15	Maximum Acoustic Impedance #5 (MAX_AI5) (MRAY) 0 15	Maximum Acoustic Impedance #7 (MAX_AI7) (MRAY) 0 15	Minimum Acoustic Impedance #9 (MIN_AI9) (MRAY) 0 15	Maximum of AI (AIMX) (MRAY) 0 7.5	Maximum Flexural Attenuation (U−USIT_UFAX) (DB/M) 40 140
Gamma Ray (GR) (GAPI) 0 150	Average Acoustic Impedance #2 (AV_AI2) (MRAY) −7.5 7.5	Average Acoustic Impedance #4 (AV_AI4) (MRAY) −7.5 7.5	Average Acoustic Impedance #6 (AV_AI6) (MRAY) −7.5 7.5	Average Acoustic Impedance #8 (AV_AI8) (MRAY) −7.5 7.5	Maximum Acoustic Impedance #9 (MAX_AI9) (MRAY) 0 15	Minimum of AI (AIMN) (MRAY) 0 7.5	Average Flexural Attenuation (U−USIT_UFAV) (DB/M) 40 140

−500.0000
0.5000
1.0000
1.5000
2.0000

0.0000
30.0000
36.0000
42.0000
48.0000


Eccent. (ECCE)
0 (IN) 0.5
Average Acoustic Impedance #1 (AV_AI1) (MRAY)
0 15
Average Acoustic Impedance #3 (AV_AI3) (MRAY)
0 15
Average Acoustic Impedance #5 (AV_AI5) (MRAY)
0 15
Average Acoustic Impedance #7 (AV_AI7) (MRAY)
0 15
Average Acoustic Impedance #9 (AV_AI9) (MRAY)
0 15
Average of AI (AIAV) (MRAY)
0 7.5
Minimum Flexural Attenuation (U−USIT_UFAN) (DB/M)
40 140
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000
Raw Acoustic Imped. (AIBK) (MRAY)
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
114.0000
120.0000
Flexural Attenuation (U−USIT_UFAK) (DB/M)
0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map (U−USIT_USLP) (−−−−)
1000
2000
3000
4000
5000
6000
7000
−500.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
3.5000
4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000
102.0000
108.0000
Eccent. (ECCE)
0 (IN) 0.5
Average Acoustic Impedance #1 (AV_AI1) (MRAY)
Average Acoustic Impedance #3 (AV_AI3)
Average Acoustic Impedance #5 (AV_AI5)
Average Acoustic Impedance #7 (AV_AI7)
Average Acoustic Impedance #9 (AV_AI9)
Average of AI (AIAV) (MRAY)
0 7.5
Minimum Flexural Attenuation (U−USIT_UFAN) (DB/M)
0.5000
1.5000
2.5000
3.5000
Solid Liquid Gas Map



Format: IBC Goodwin Compressed **Vertical Scale: 0.1" per 100'** **Graphics File Created: 27−Dec−2012 00:25**

OP System Version: 19C1−222

USIT−D	19C1−222	SGT−N	19C1−222
DTC−H	19C1−222		

All USI Images are outside views

USI : LOW Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.

Input DLIS Files

DEFAULT	USI_006LUP	FN:7	PRODUCER	26−Dec−2012 20:30	7106.5 FT	122.0 FT

Output DLIS Files

DEFAULT	**USI_013PUP**	**FN:15**	**PRODUCER**	**27−Dec−2012 00:25**
RTB	**USI_013PUP**	**FN:16**	**PRODUCER**	**27−Dec−2012 00:25**

Company: **SWEPI, LP**

Schlumberger

Well: **Gnat Hill 1−29**
Field: **BUCK PEAK**
County: **ROUTT**
State: **COLORADO**

ISOLATION SCANNER
GAMMA RAY