Schlumberger

Company: **SHELL**

Well: **DAWSON CREEK 1 25**
Field: **WILLIAMS FORK UNIT**
County: **ROUTT** State: **COLORADO**

ISOLATION SCANNER LOG
CEMENT BOND LOG

County: ROUTT
Field: WILLIAMS FORK UNIT
Location: SHL: 2032' FNL & 1639' FWL
Well: DAWSON CREEK 1 25
Company: SHELL

LOCATION

SHL: 2032' FNL & 1639' FWL
BHL: 971' FNL & 2022' FEL

Elev.: K.B. 6672.50 ft
G.L. 6658.20 ft
D.F. 6672.50 ft

Permanent Datum: GROUND LEVEL Elev.: 6658.20 ft
Log Measured From: KELLY BUSHING 14.30 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
05107062420000	25	6N	88W

	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	45 deg		
CEMENTING DATA			
Primary/Squeeze	Primary		
Casing String No			
Lead Cement Type	LITECRETE		
Volume			
Density			
Water Loss			
Additives			
Tail Cement Type			
Volume			
Density			
Water Loss			
Additives			
Expected Cement Top	1350 ft		

Logging Date		7−Jan−2013				Logging Date		
Run Number		3				Run Number		
Depth Driller		5806 ft				Depth Driller		
Schlumberger Depth		5800 ft				Schlumberger Depth		
Bottom Log Interval		5785 ft				Bottom Log Interval		
Top Log Interval		150 ft				Top Log Interval		
Casing Fluid Type		DRILL PLEX				Casing Fluid Type		
Salinity						Salinity		
Density		10.3 lbm/gal				Density		
Fluid Level		150 ft				Fluid Level		
BIT/CASING/TUBING STRING						BIT/CASING/TUBING STRING		
Bit Size		9.875 in				Bit Size		
From						From		
To						To		
Casing/Tubing Size		7.625 in				Casing/Tubing Size		
Weight		29.7 lbm/ft				Weight		
Grade		P−110				Grade		
From		0 ft				From		
To		6170 ft				To		
Maximum Recorded Temperatures						Maximum Recorded Temperatures		
Logger On Bottom	Time	7−Jan−2013	5:00			Logger On Bottom	Time	
Unit Number	Location	2276	VERNAL			Unit Number	Location	
Recorded By		FOLAKE OGUNBANWO				Recorded By		
Witnessed By		DOUG GARVER				Witnessed By		

Run 3

Run 4

DEPTH SUMMARY LISTING

Date Created: 7−JAN−2013 8:54:35

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−46A−XS
Serial Number:	6568	Serial Number:	8093	Serial Number:	711148
Calibration Date:		Calibration Date:	19−DEC−201	Length:	21839 FT
Calibrator Serial Number:		Calibrator Serial Number:	100518		
Calibration Cable Type:	7−46P	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−6	Calibration RMS:	27	Rig Type:	LAND
Wheel Correction 2:	−7	Calibration Peak Error:	58		

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	SCHLUMBERGER PLATFORM EXPRESS
Reference Log Run Number:	2
Reference Log Date:	25−OCT−2012
Subsequent Trip Down Log Correction:	10.00 FT

Depth Control Remarks

1. All Schlumberger depth control procedures followed as per Schlumberger Depth Control Standard.
2. IDW used as primary depth control system.
3. Z−chart used as secondary depth control.
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
TOOLSTRING RUN AS PER TOOLSKETCH.	
DATA HOWEVER WASN'T REQUESTED AND THUS NOT PRESENTED	
FIRST PASS RUN WITHOUT GEMCOS DUE TO RESTRICTION IN FLANGE SIZE	

SECOND PASS RUN WITH INLINE CENTRALIZERS TO AID CENTRALIZATION

TOP OF CEMENT FOUND AT 1350 ft

RUN 1		RUN 2	
SERVICE ORDER #:	BXV3−00084	SERVICE ORDER #:	
PROGRAM VERSION:	19C1−222	PROGRAM VERSION:	
FLUID LEVEL:	150 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP

LOGGED INTERVAL	START	STOP

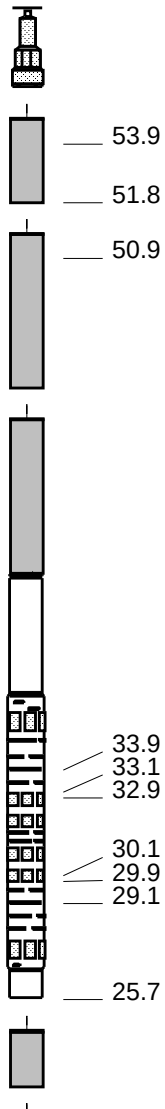
EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

GSR−U/Y
WITM (DTS)−A

DOWNHOLE EQUIPMENT



LEH−QT 57.8
LEH−QT 1936

DTC−H 54.8
ECH−KC 9373
DTCH0−A 8794
DTCH1−A 8794

SGT−N 51.8
SGH−K 3032
SGC−TB 10283
SGD−TAB

DSLT−H 46.3
DSLC−H 8147
ECH−KH 8635
SLS−W 8033

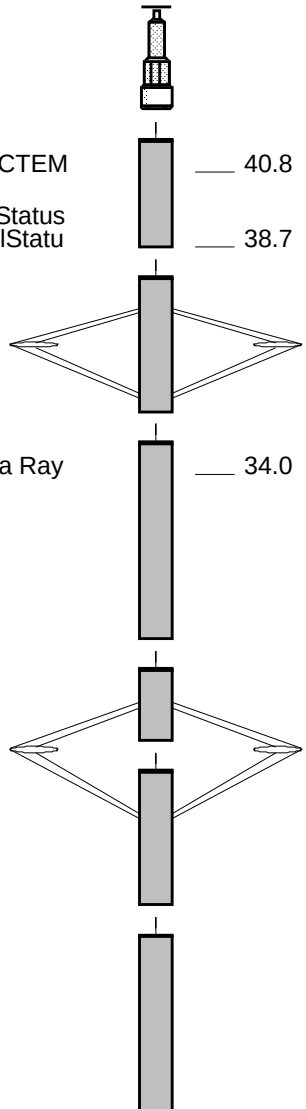
AH−107 25.7
AH−107 2915

RUN 2

SURFACE EQUIPMENT

GSR−U/Y
WITM (DTS)−A

DOWNHOLE EQUIPMENT



LEH−QT 44.6
LEH−QT 1936

DTC−H 41.7
ECH−KC 9373
DTCH0−A 8794
DTCH1−A 8794

AH−XXX 38.7
AH−XXX

SGT−N 35.0
SGH−K 3032
SGC−TB 10283
SGD−TAB
Gamma Ray 34.0

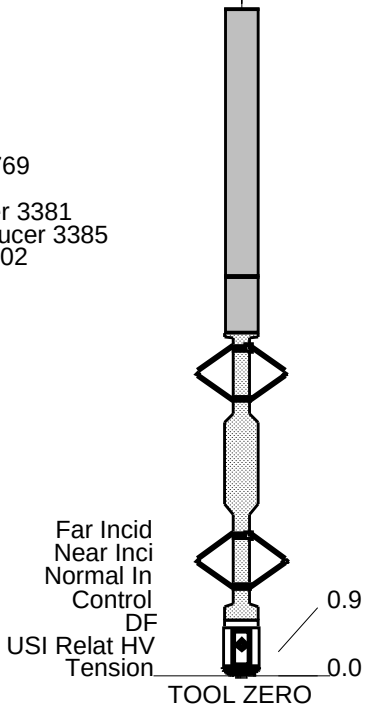
AH−107 29.5
AH−107 2915

AH−XXX 27.5
AH−XXX

USIT−D 23.7
ECH−MRA 5931
USIC−D 1805
AH−107 3918
USIS−A 2755
USSC−B 969
IBCS_B−100158202 769

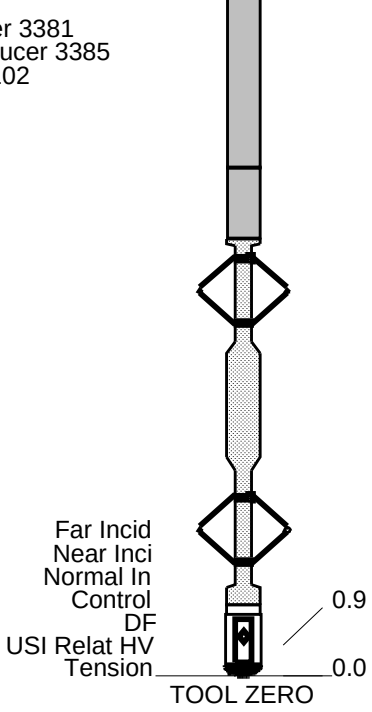
USIT−D
ECH−MRA 5931
USIC−D 1805
AH−107 3918
USIS−A 2755
USSC−B 969
IBCS_B−100158202 769
Top Transducer 3373
Middle Top Transducer 3381
Middle Bottom Transducer 3385
Bottom Transducer 3102

23.7



MAXIMUM STRING DIAMETER 4.48 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Top Transducer 3373
Middle Top Transducer 3381
Middle Bottom Transducer 3385
Bottom Transducer 3102



MAXIMUM STRING DIAMETER 5.18 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

USI IBC SLG COMPOSITE MAIN PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	**USI_SONIC_012LUP**	**FN:15**	**PRODUCER**	**07−Jan−2013 05:40**	**5784.0 FT**	**123.5 FT**

Output DLIS Files

DEFAULT	**USI_SONIC_029PUP**	**FN:38**	**PRODUCER**	**08−Jan−2013 05:00**	**5798.0 FT**	**137.5 FT**

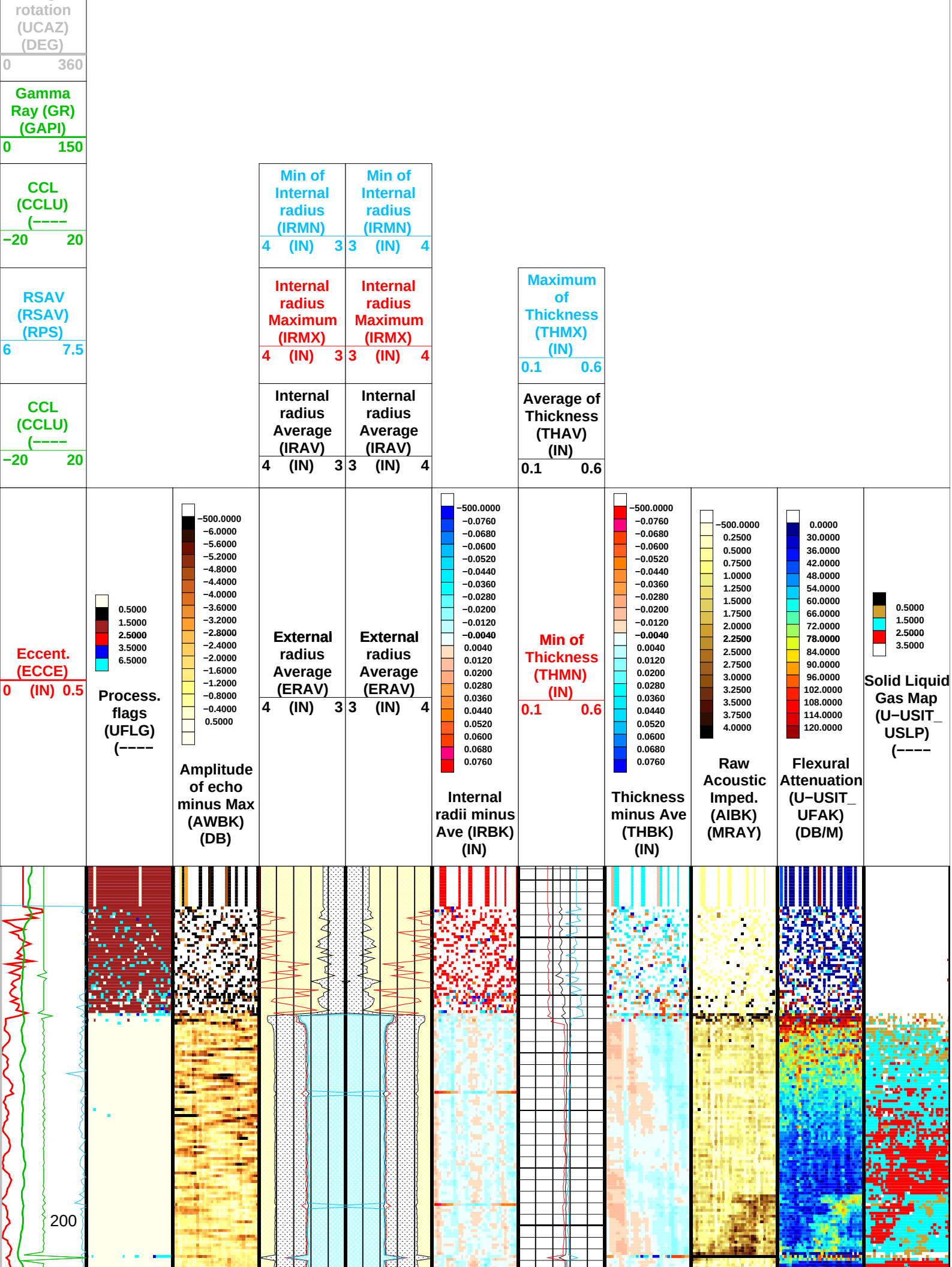
OP System Version: 19C1−222

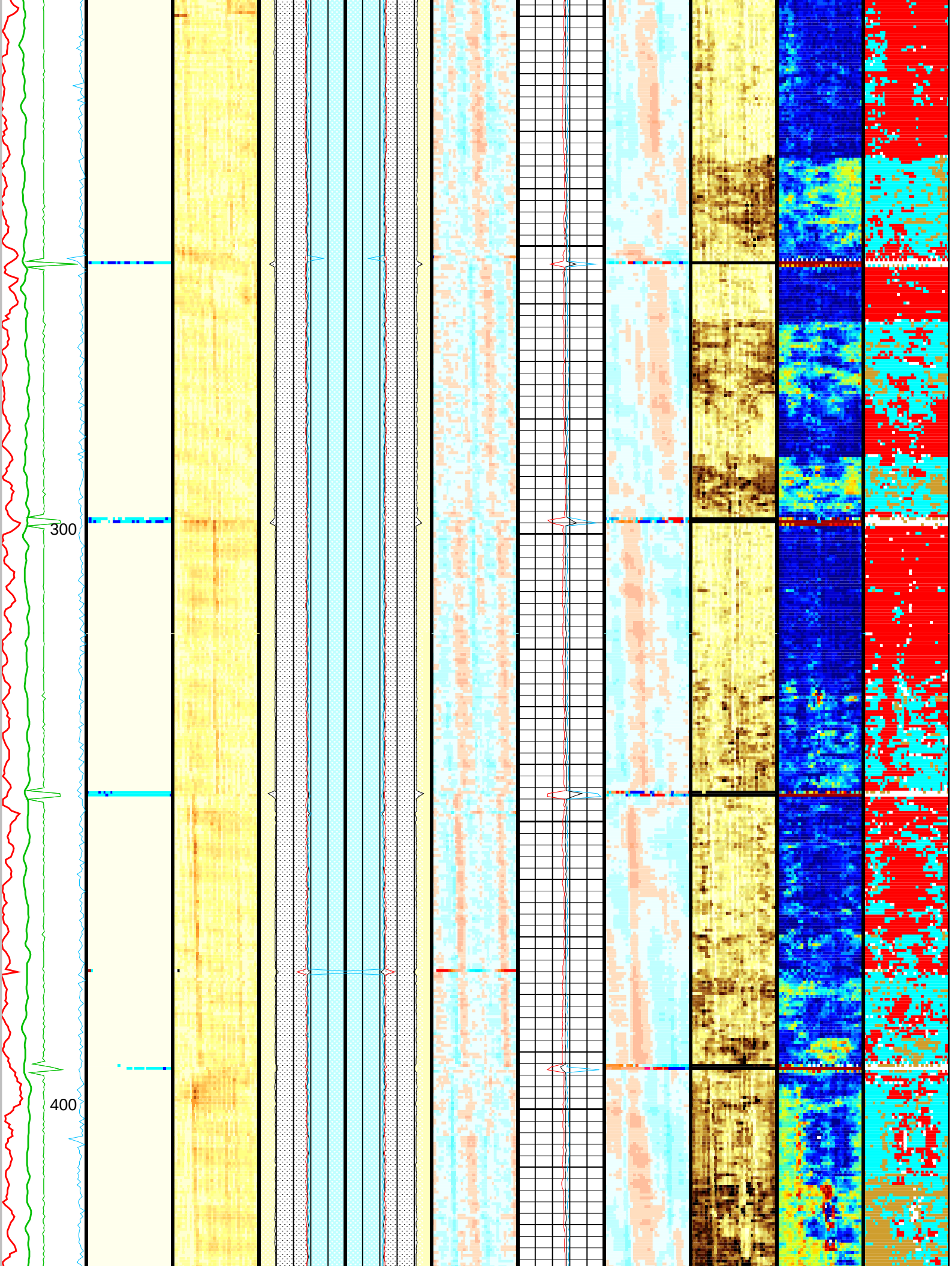
USIT−D	**19C1−222**	**DSLT−H**	**19C1−222**
SGT−N	**19C1−222**	**DTC−H**	**19C1−222**

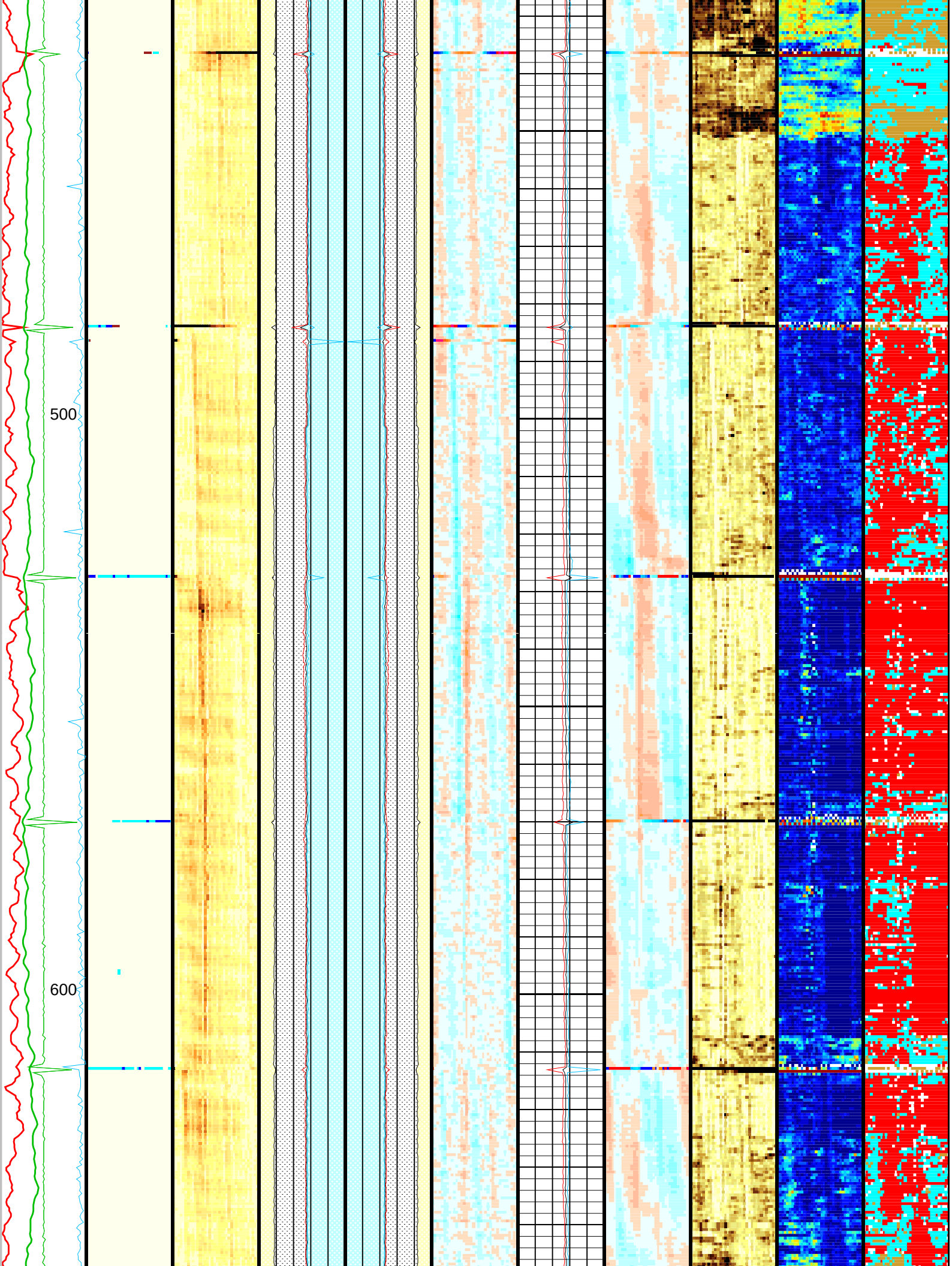
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
DFVL	**205 US/F**	**203 US/F**	**4701.5 05:02:01**
	207 US/F	**205 US/F**	**3801.5 05:02:51**
	209 US/F	**207 US/F**	**3001.5 05:03:55**
	210 US/F	**209 US/F**	**2201.5 05:04:46**
	212 US/F	**210 US/F**	**1901.5 05:05:19**
	214 US/F	**212 US/F**	**1301.5 05:06:47**
	216 US/F	**214 US/F**	**501.5 05:07:43**

Image


rotation (UCAZ) (DEG)
0 360
Gamma Ray (GR) (GAPI)
0 150
CCL (CCLU) (----
−20 20
RSAV (RSAV) (RPS)
6 7.5
CCL (CCLU) (----
−20 20
Eccent. (ECCE)
0 (IN) 0.5
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)
Min of Internal radius (IRMN)
4 (IN) 3
Internal radius Maximum (IRMX)
4 (IN) 3
Internal radius Average (IRAV)
4 (IN) 3
External radius Average (ERAV)
4 (IN) 3
Min of Internal radius (IRMN)
3 (IN) 4
Internal radius Maximum (IRMX)
3 (IN) 4
Internal radius Average (IRAV)
3 (IN) 4
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)
Maximum of Thickness (THMX) (IN)
0.1 0.6
Average of Thickness (THAV) (IN)
0.1 0.6
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
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000
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) (----
200


300
400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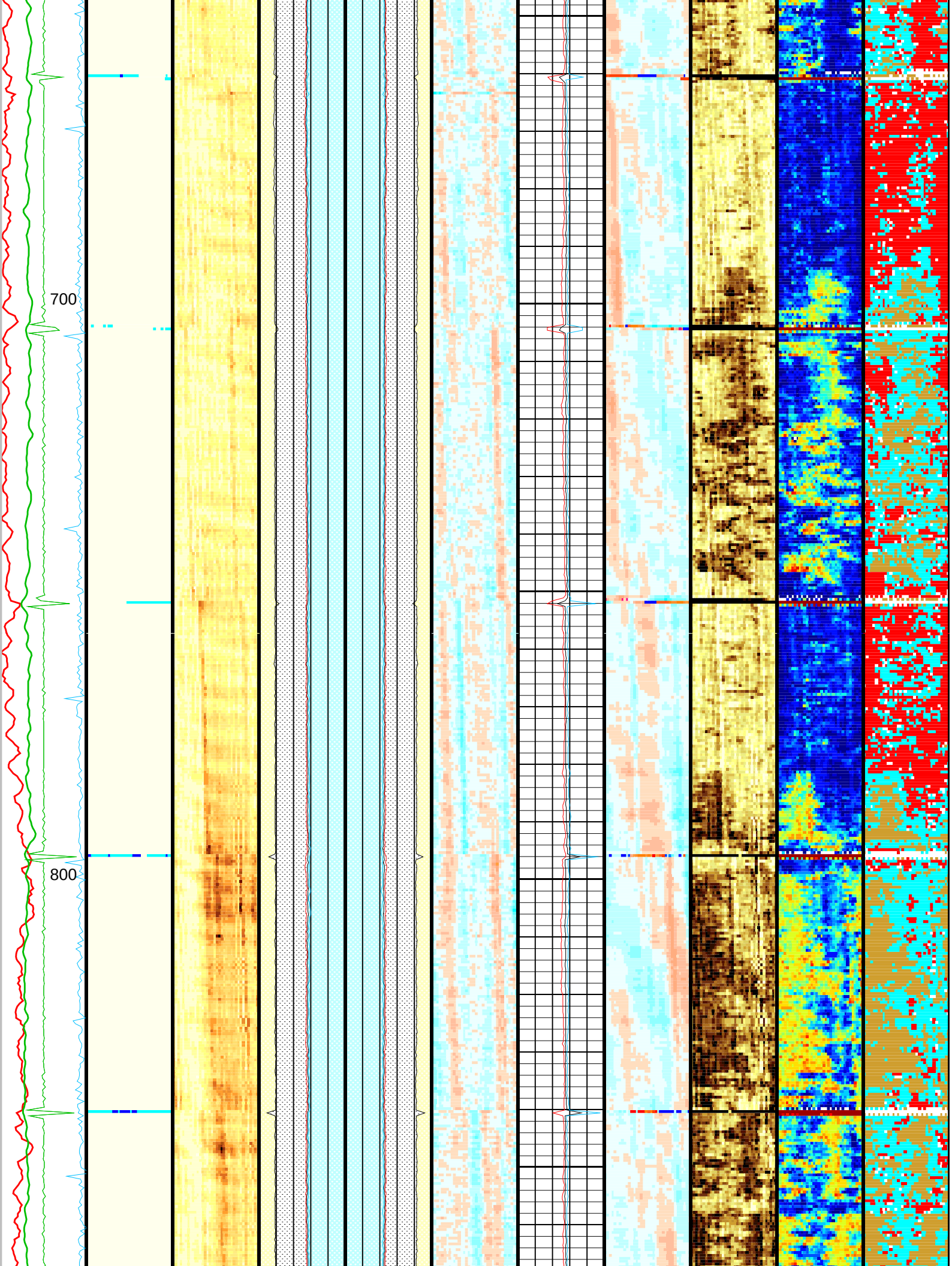
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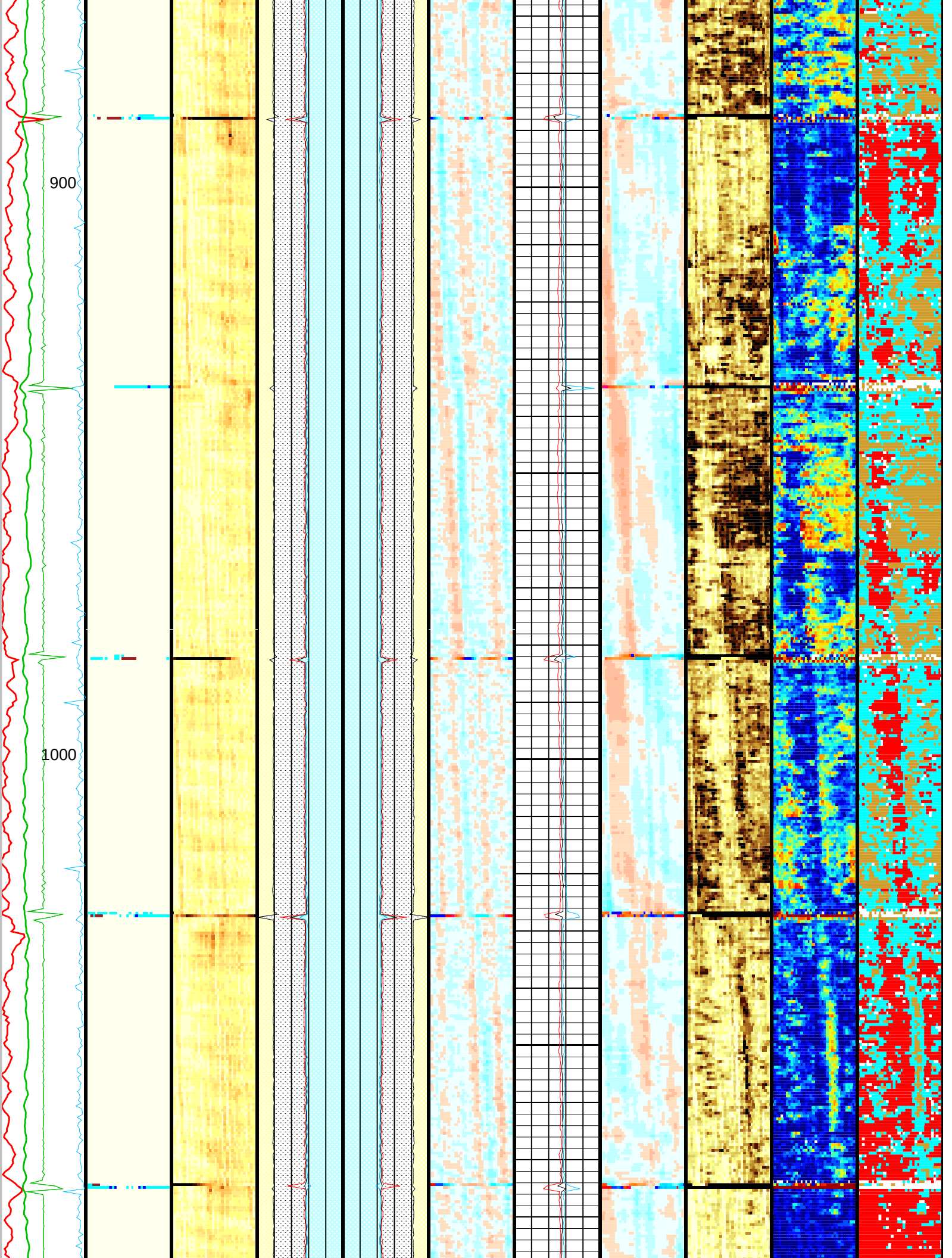
900
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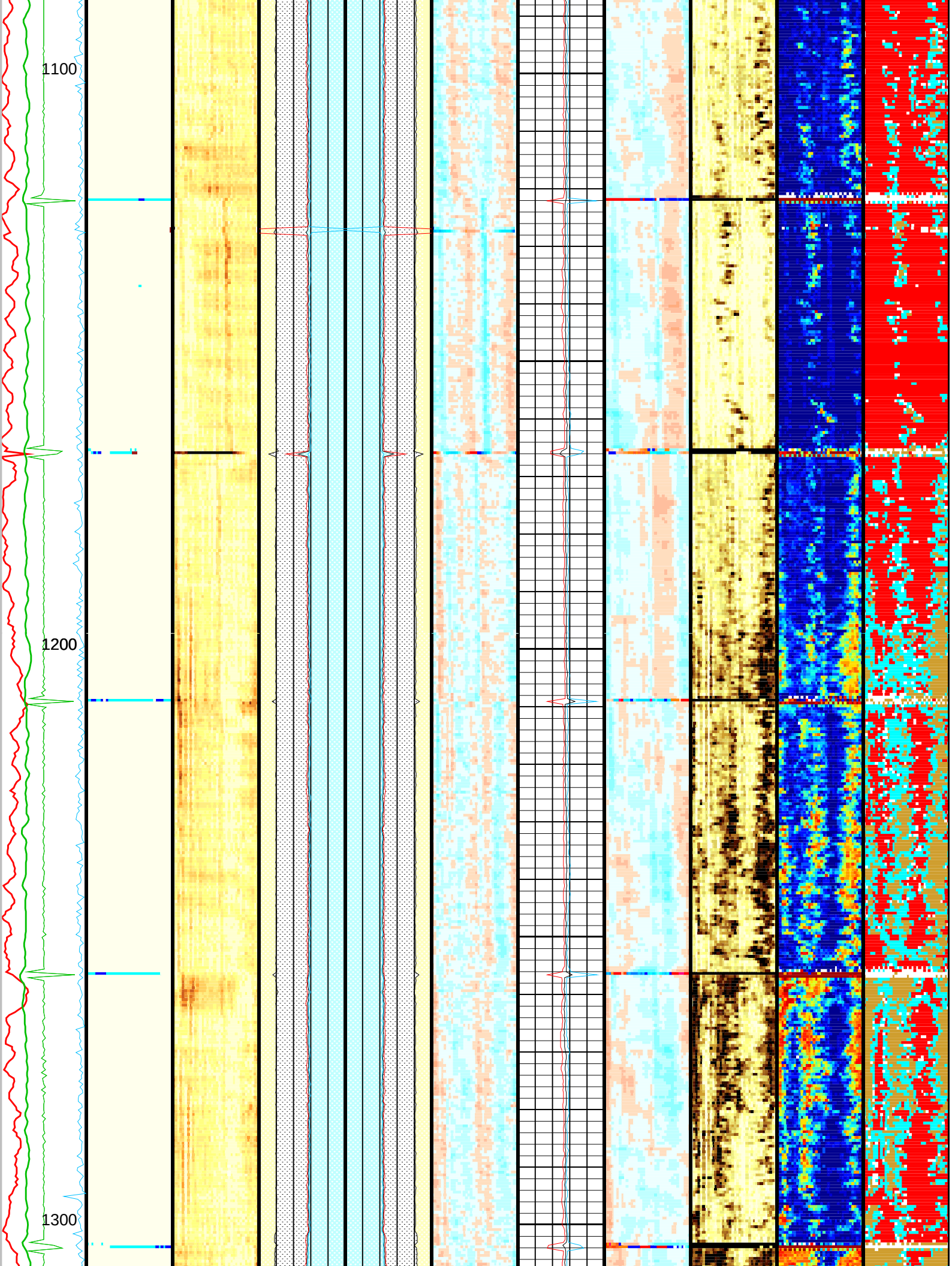
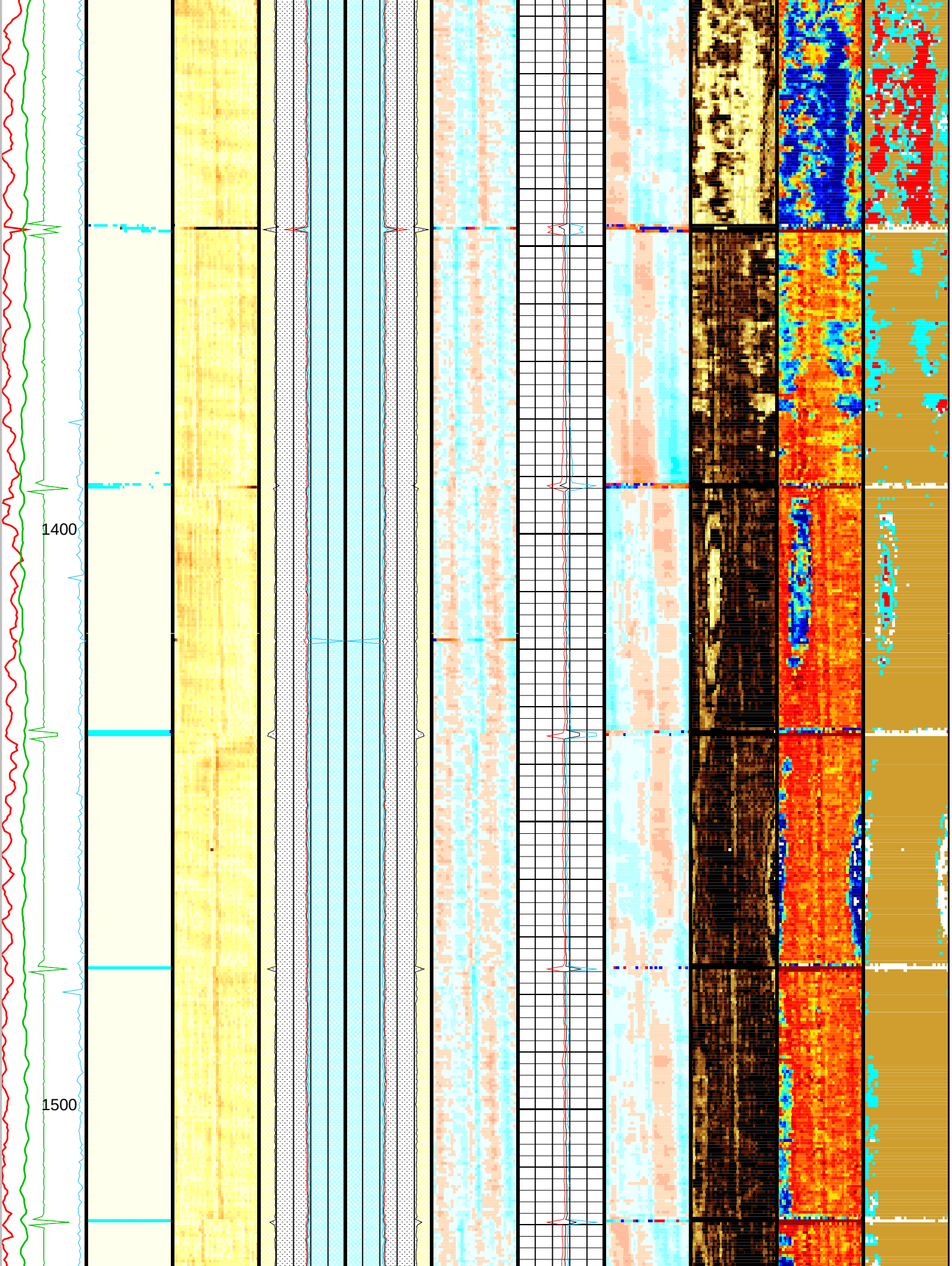

1100
1200
1300


1400
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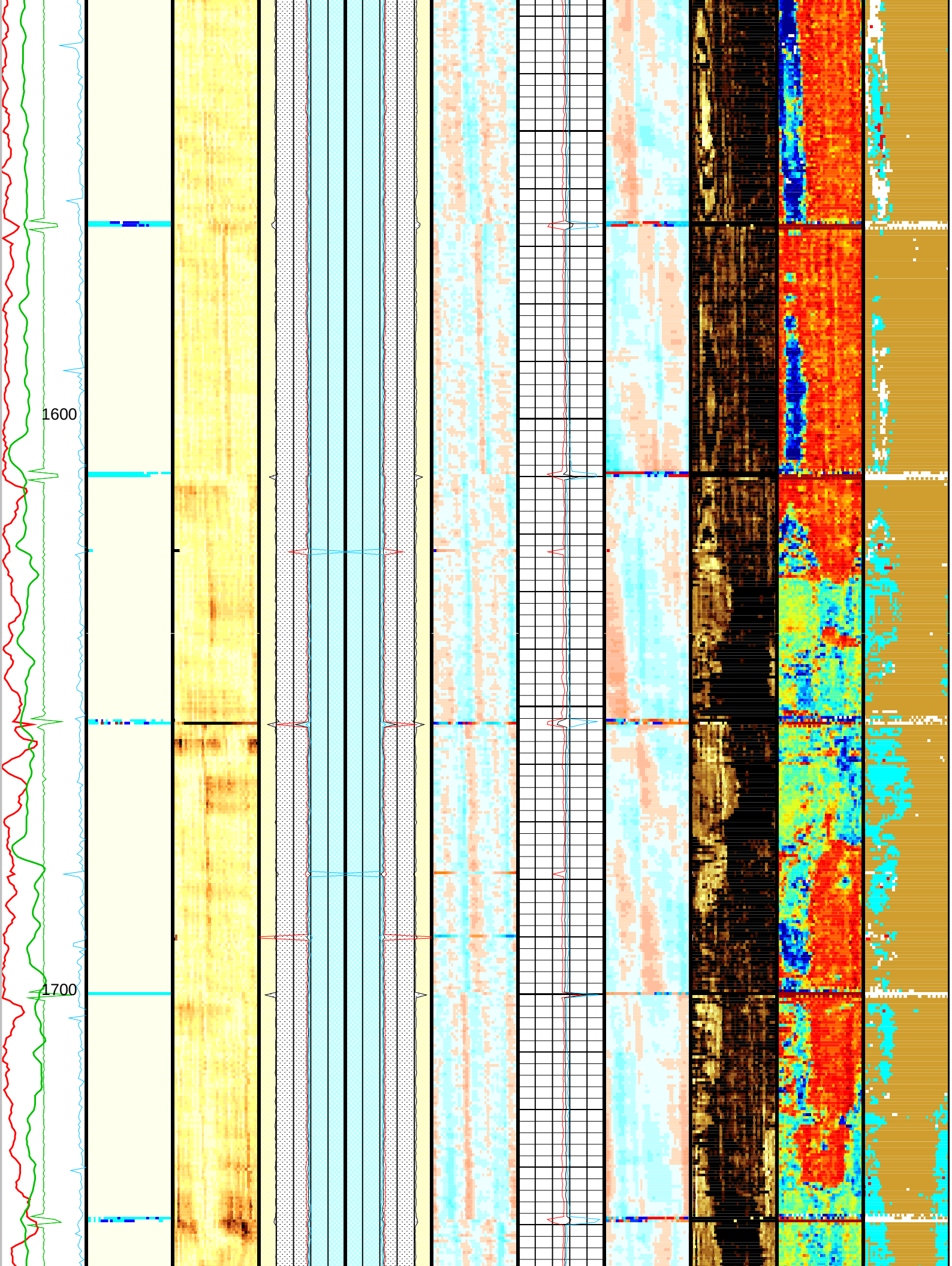
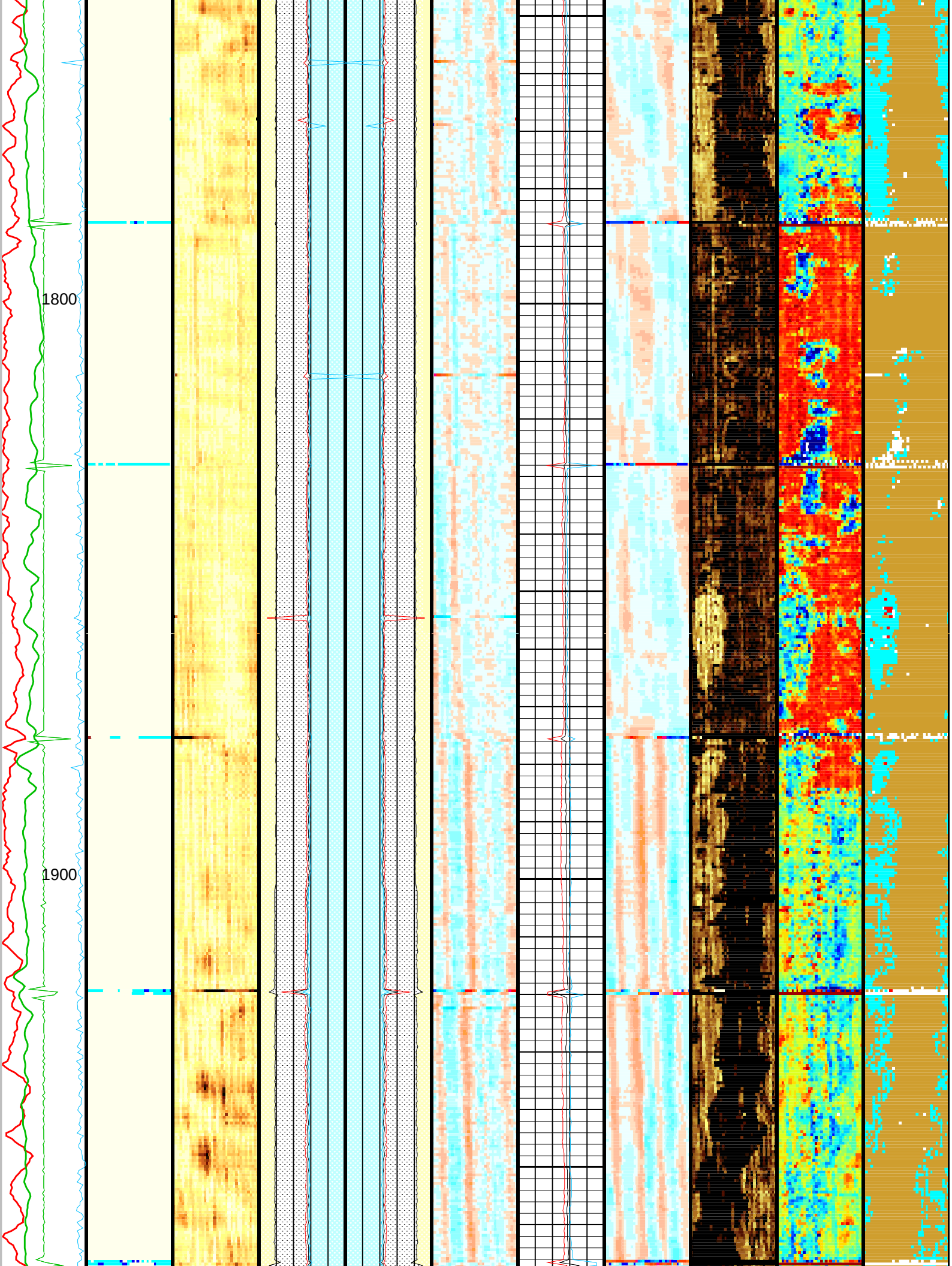

1600
1700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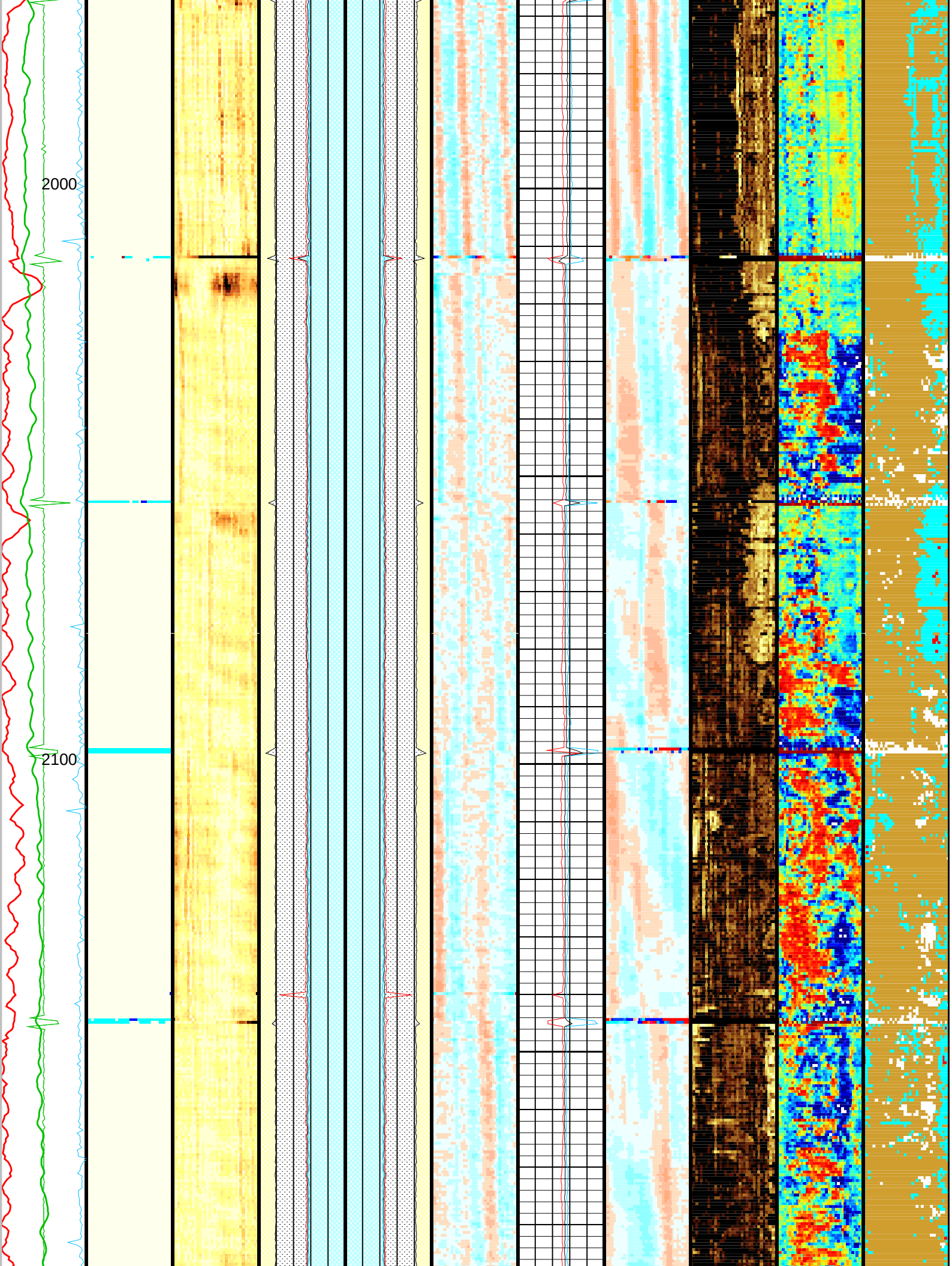
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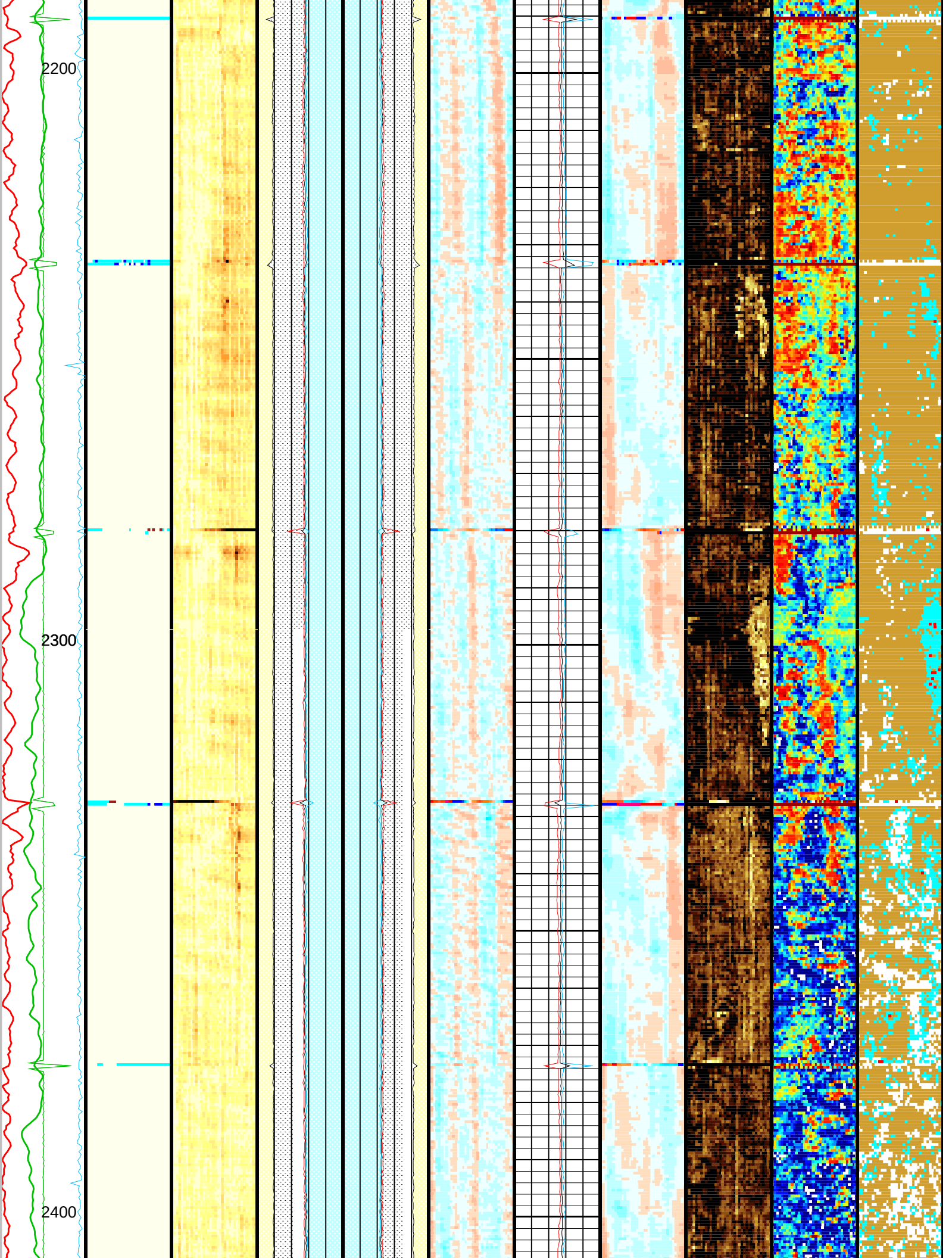
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2300
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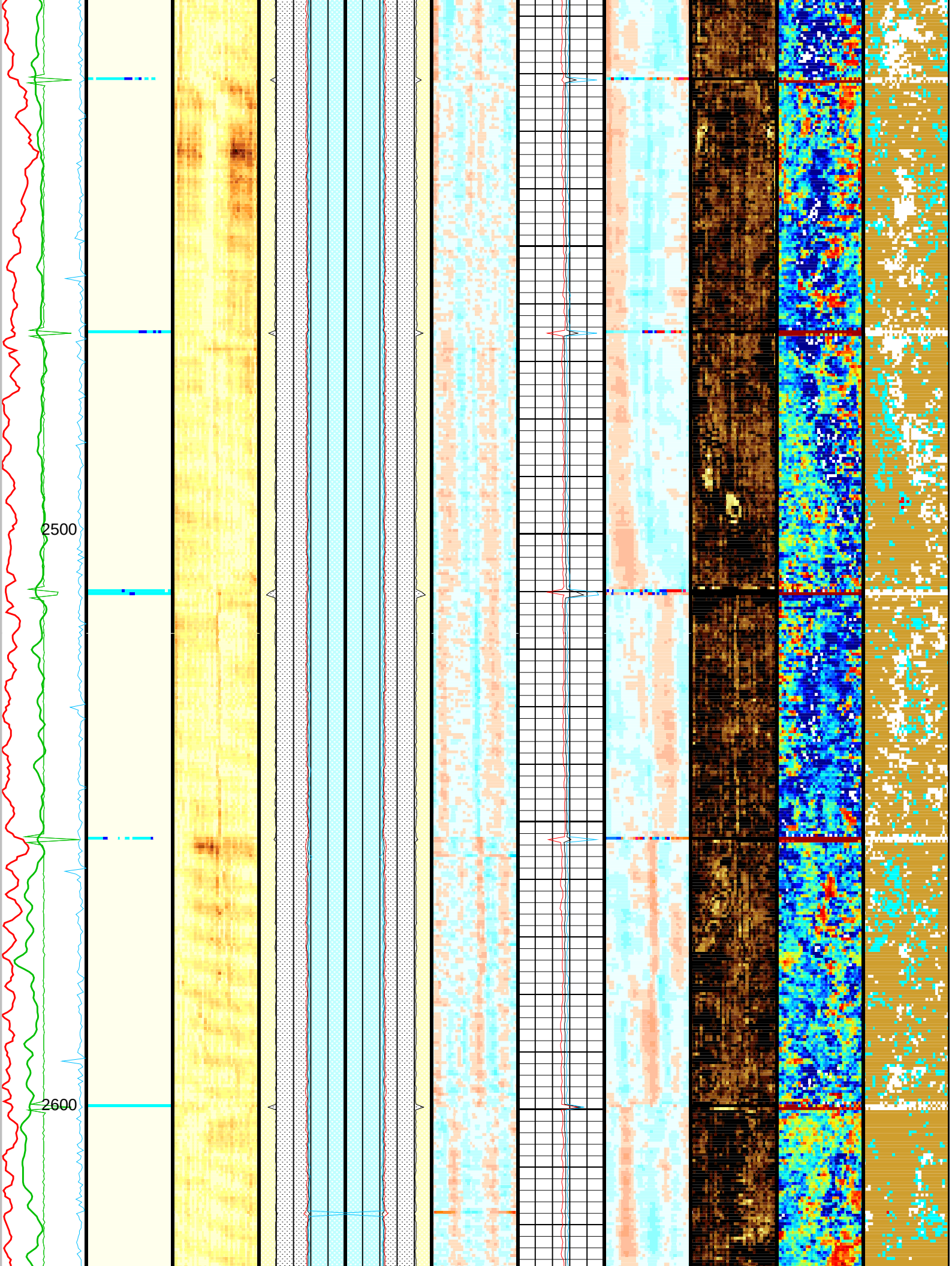
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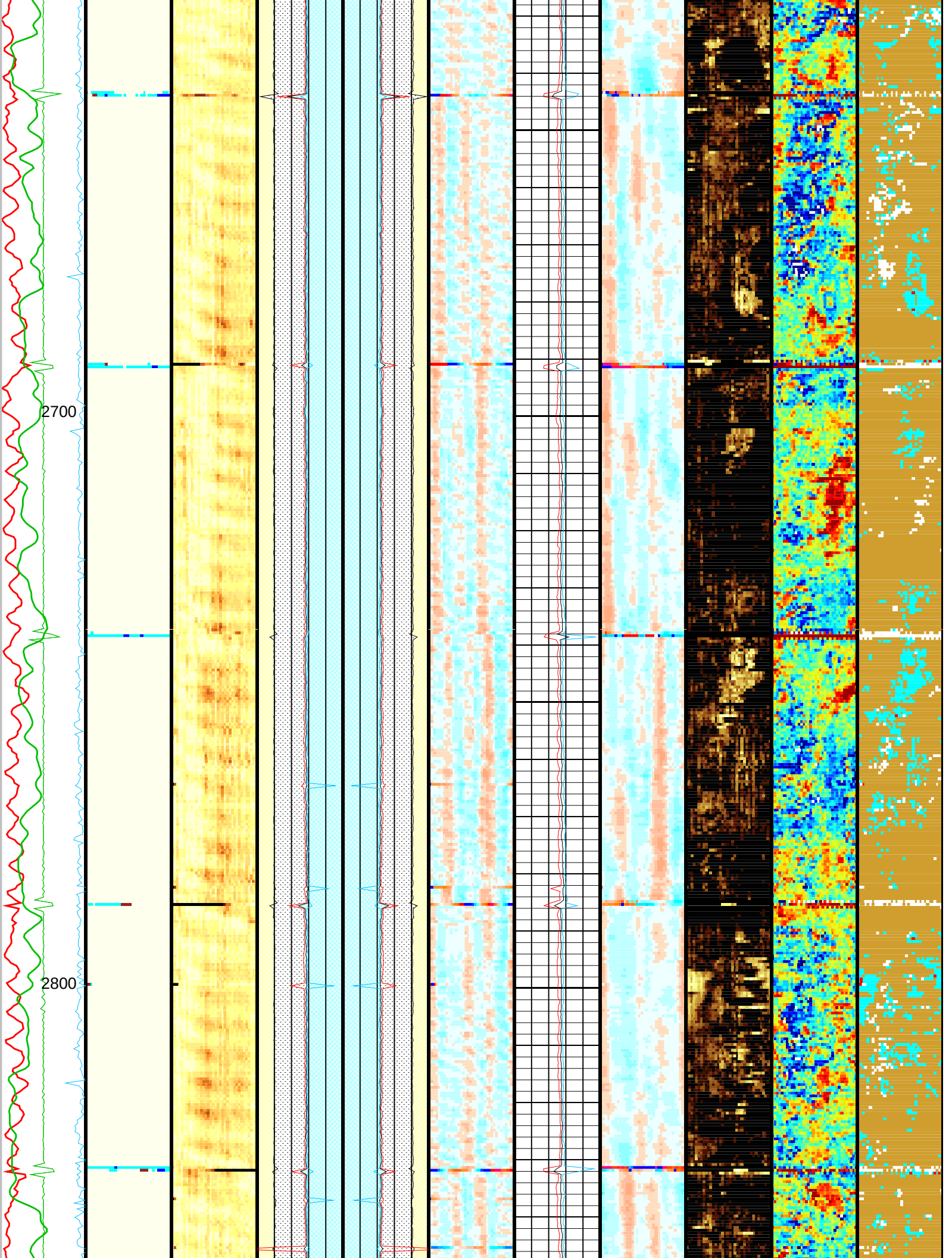
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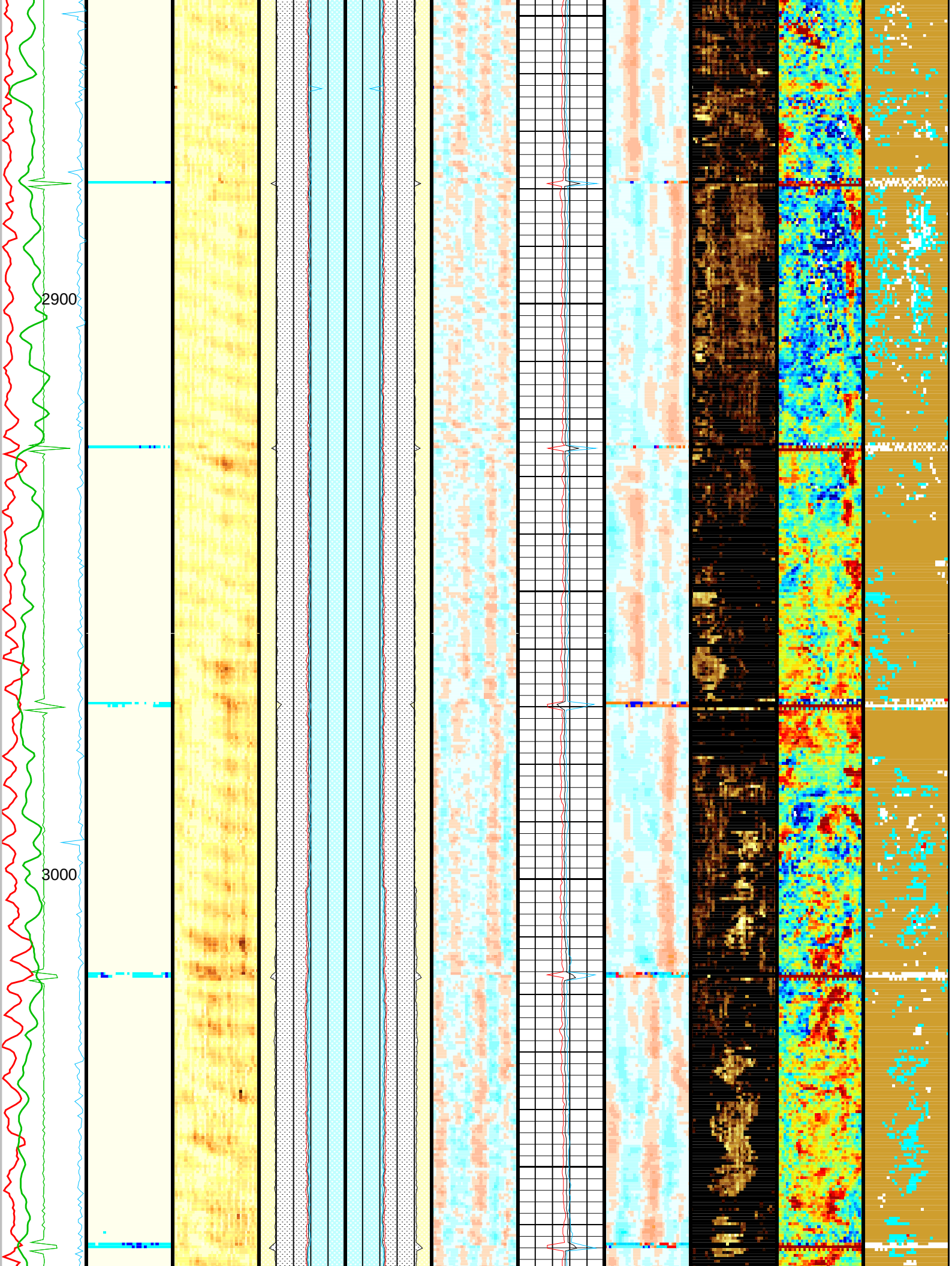
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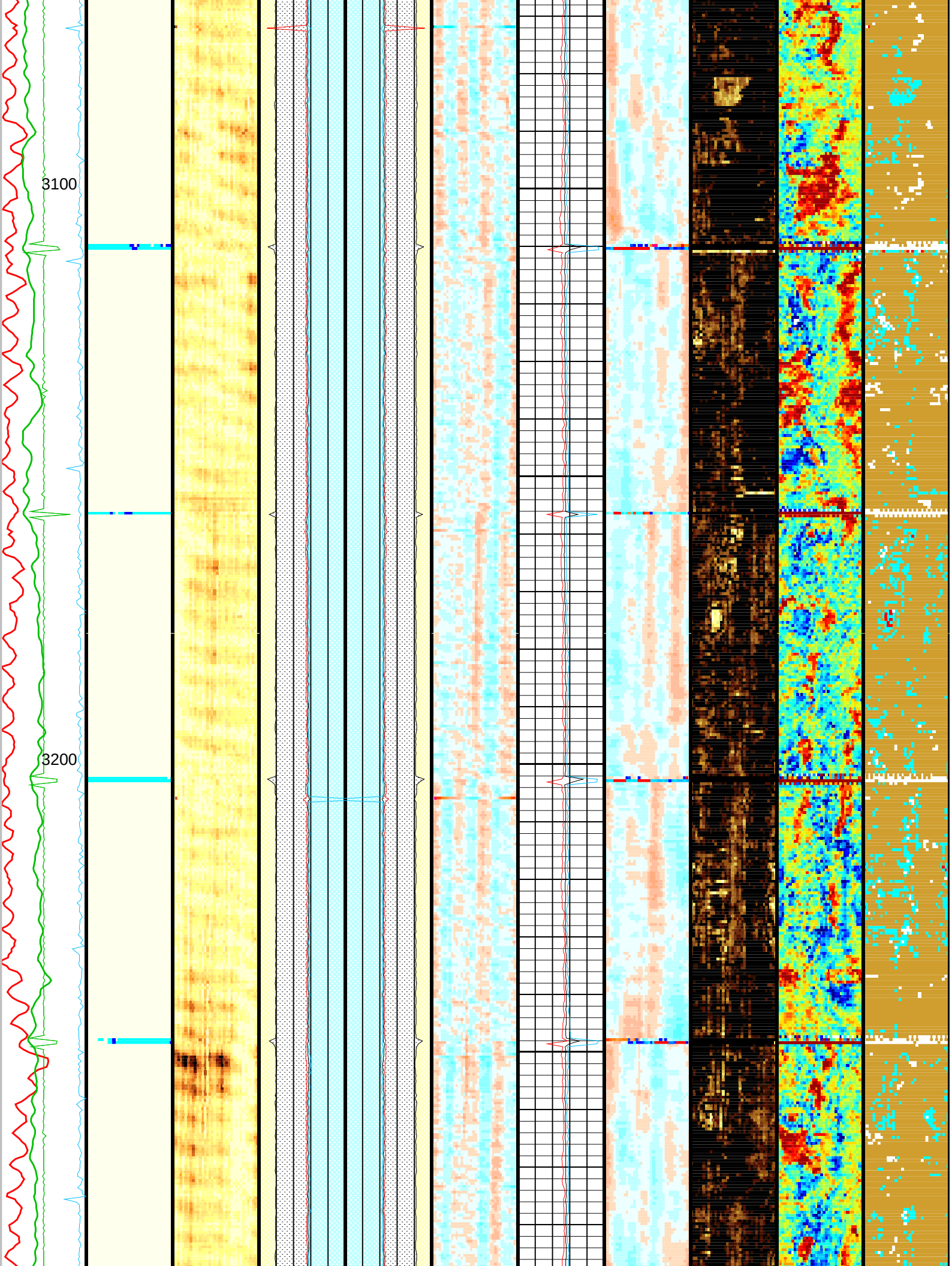
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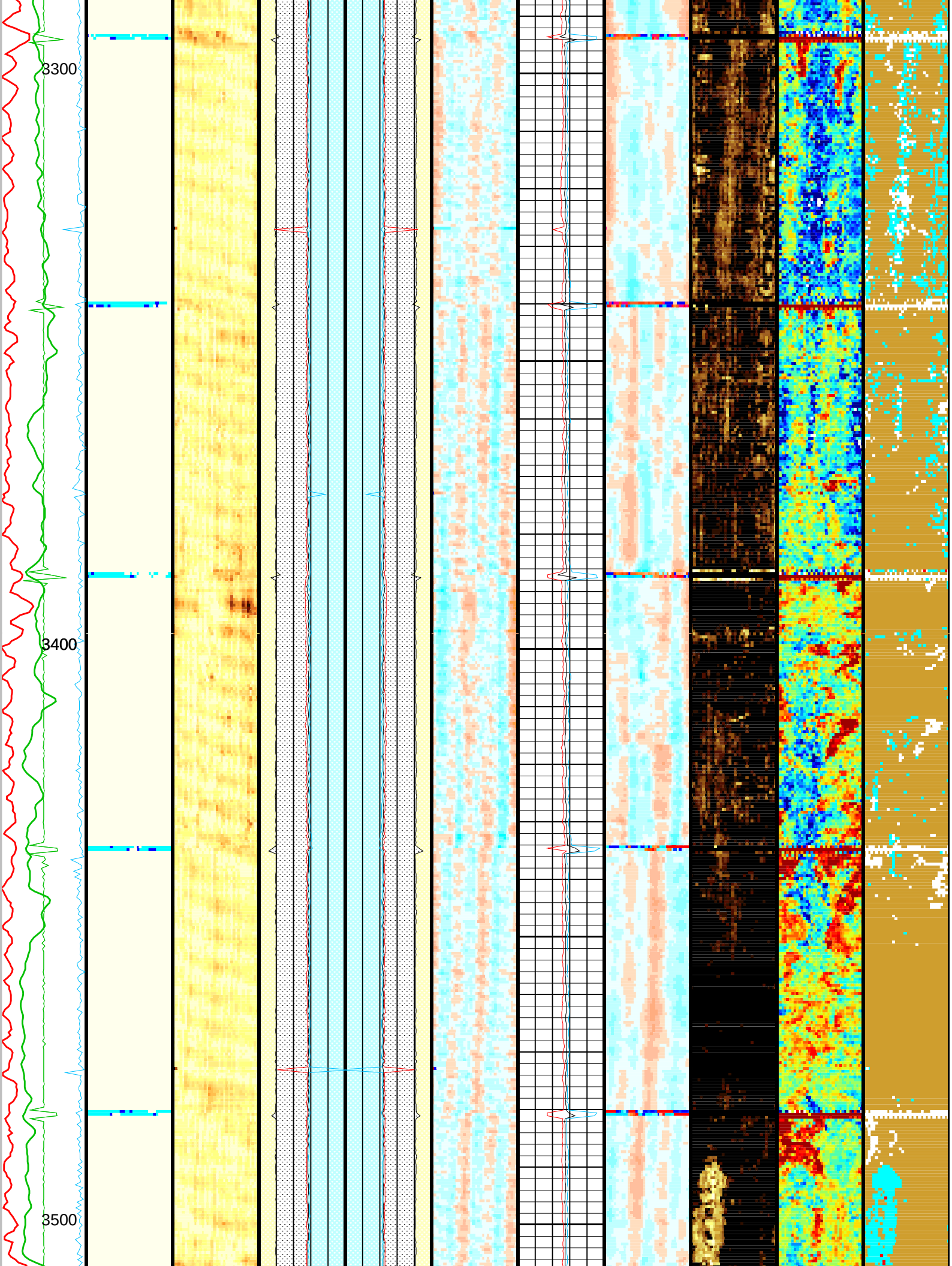
3200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3400
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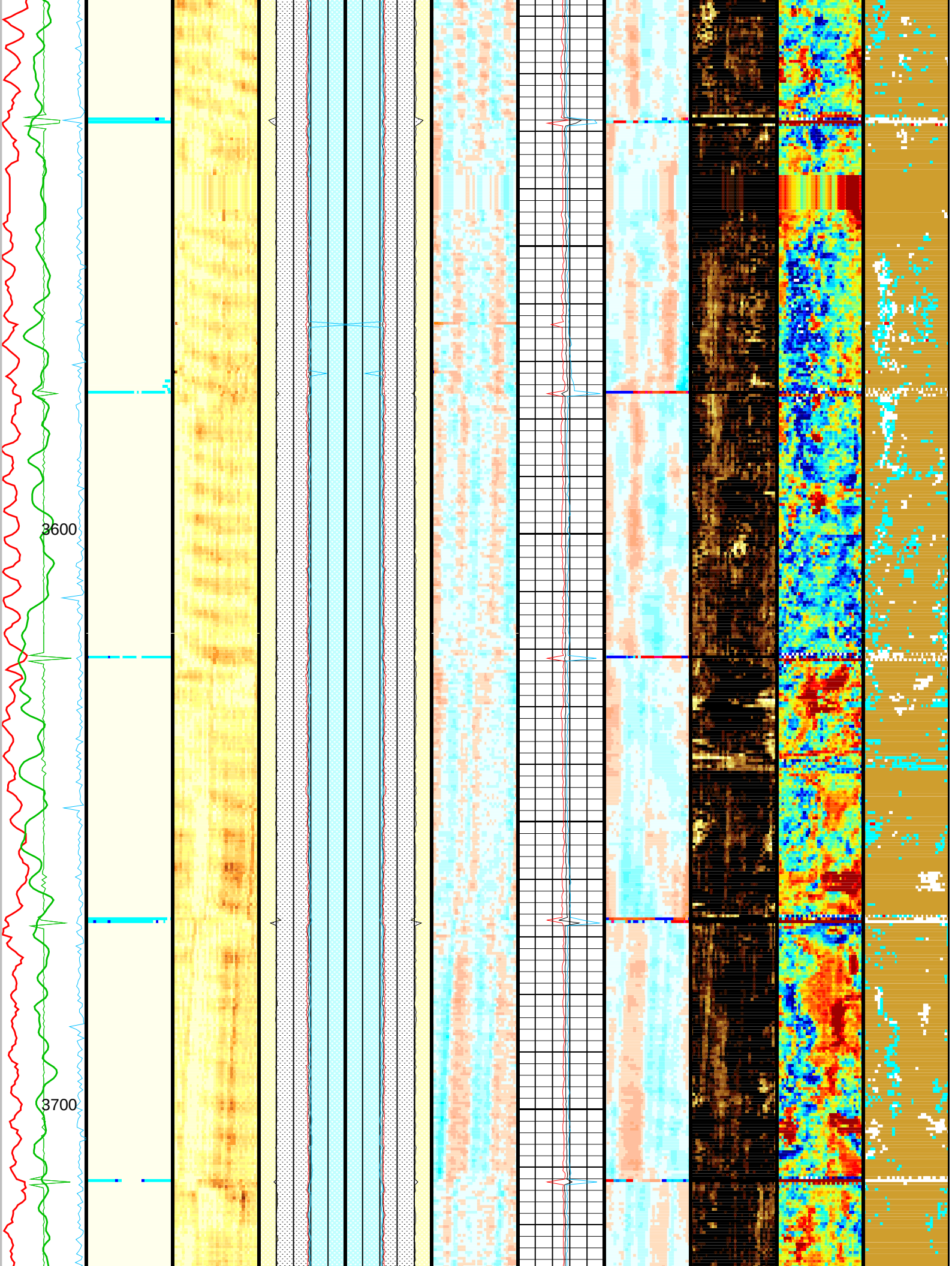
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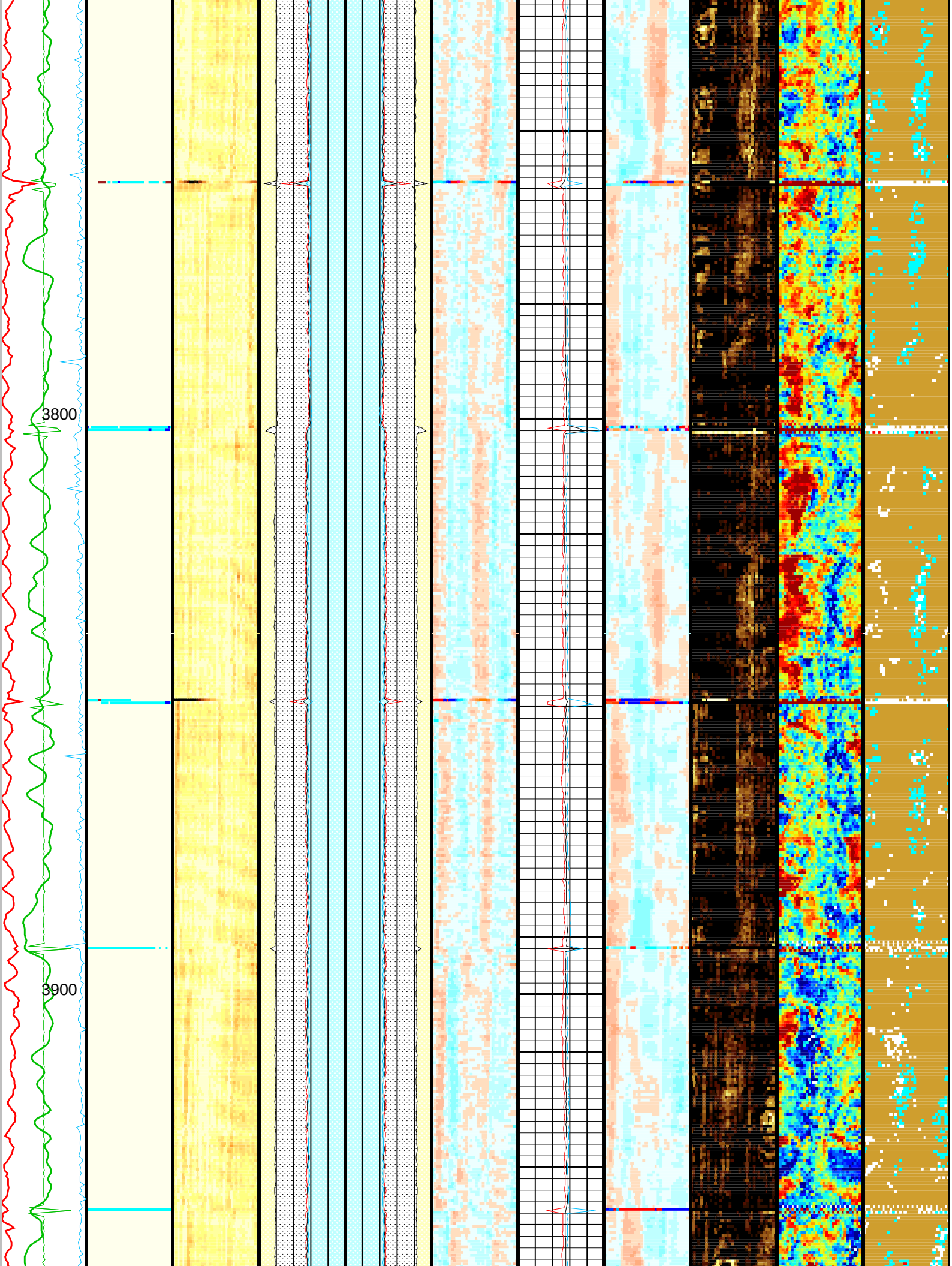
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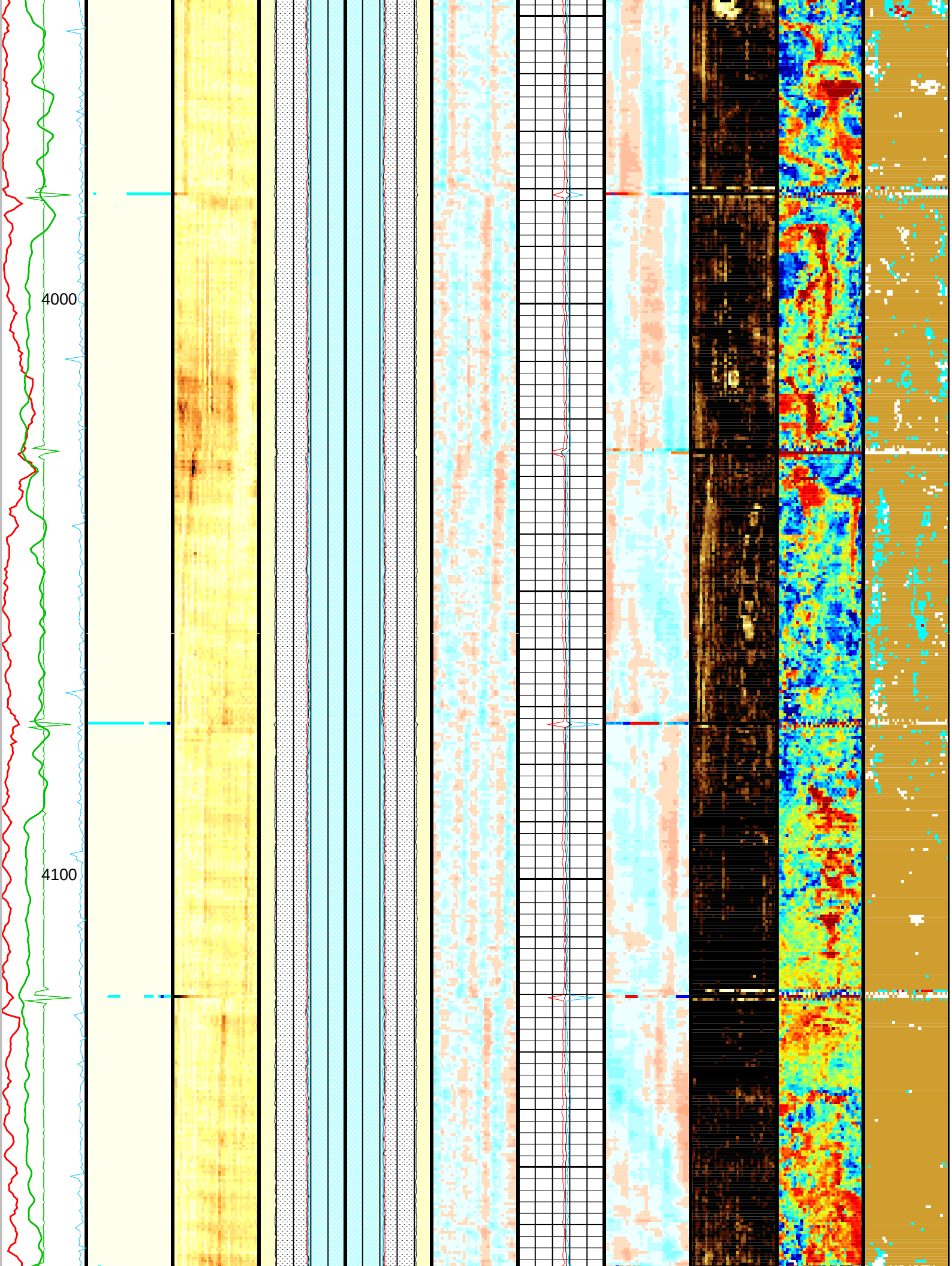
4000
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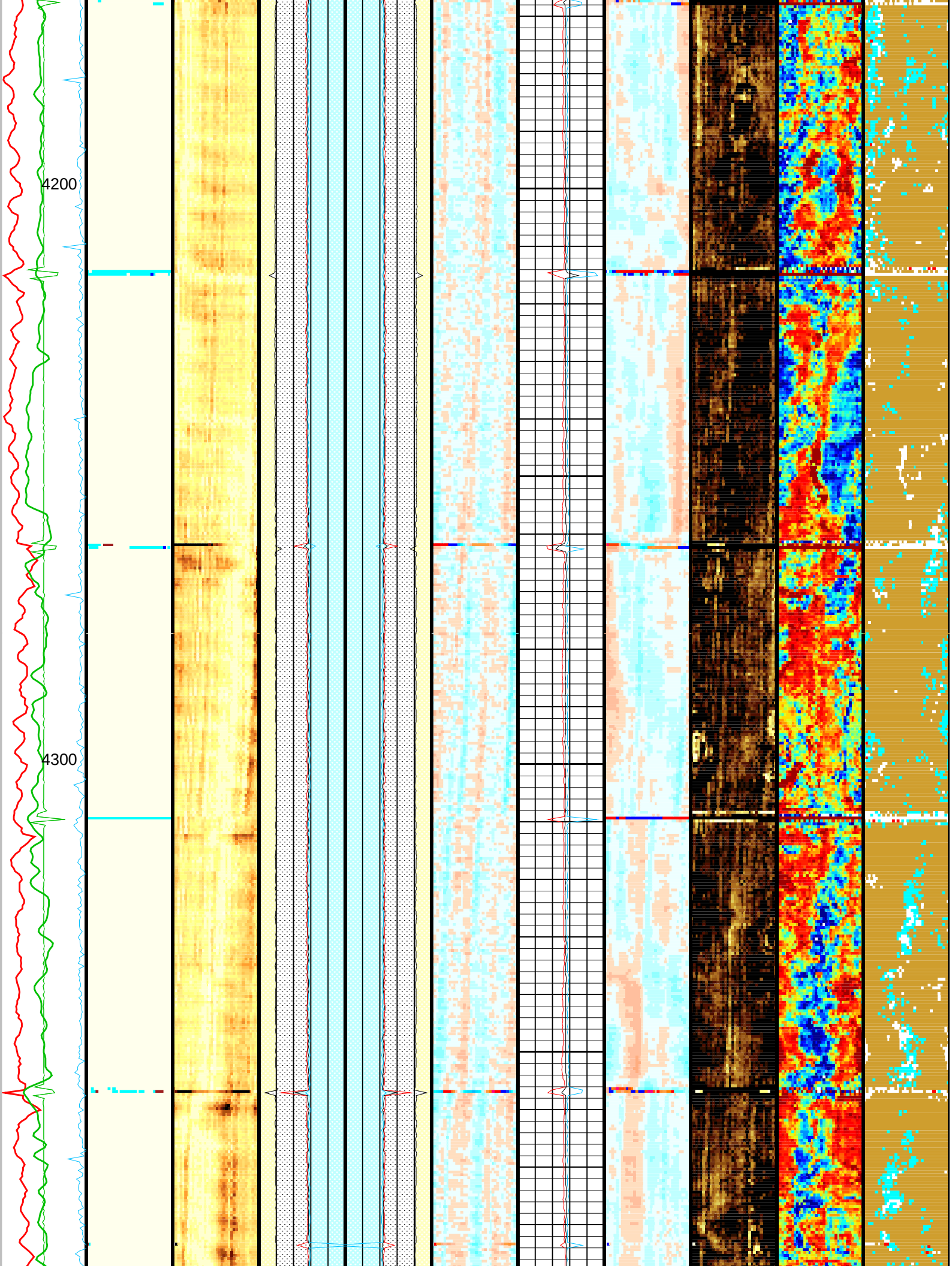
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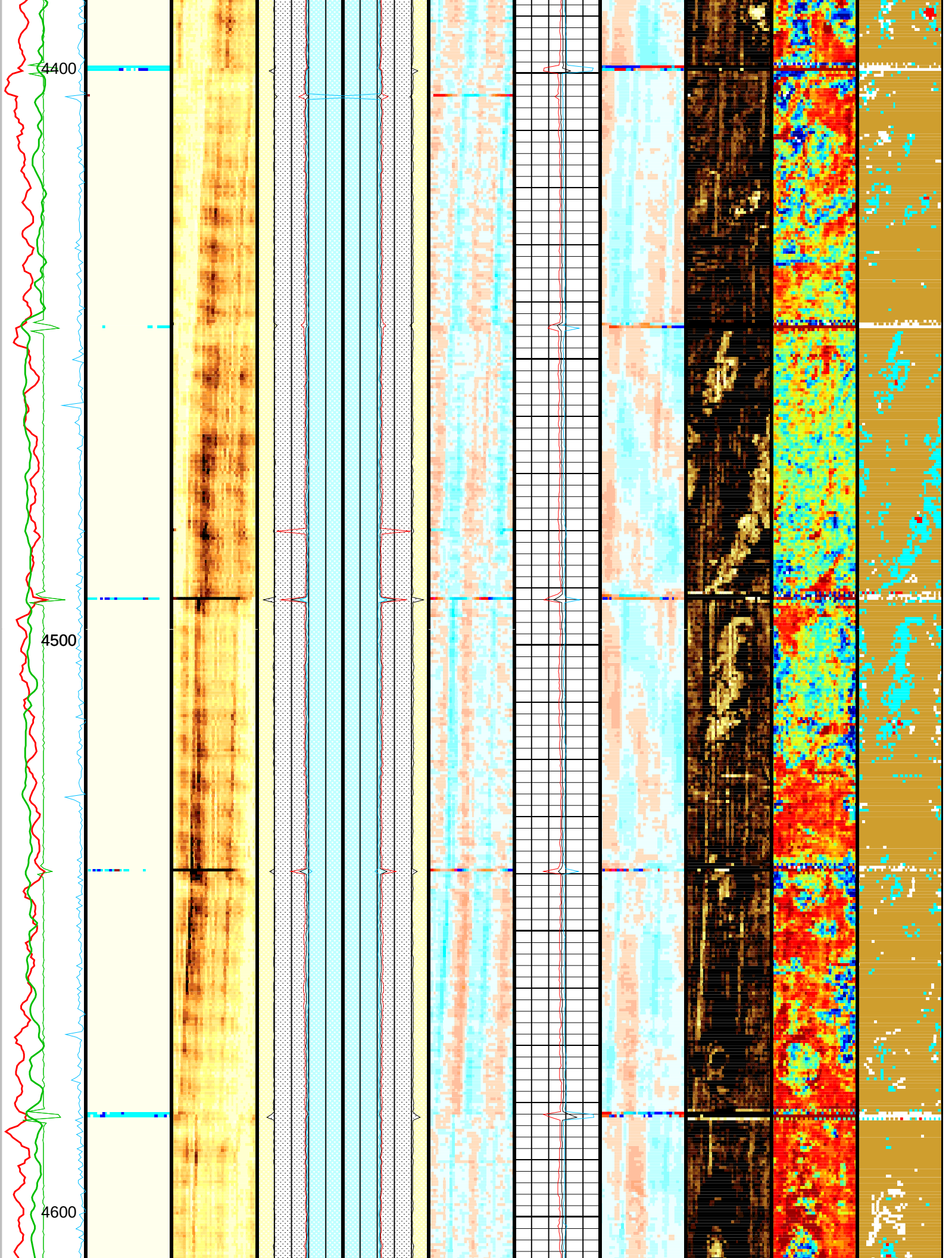
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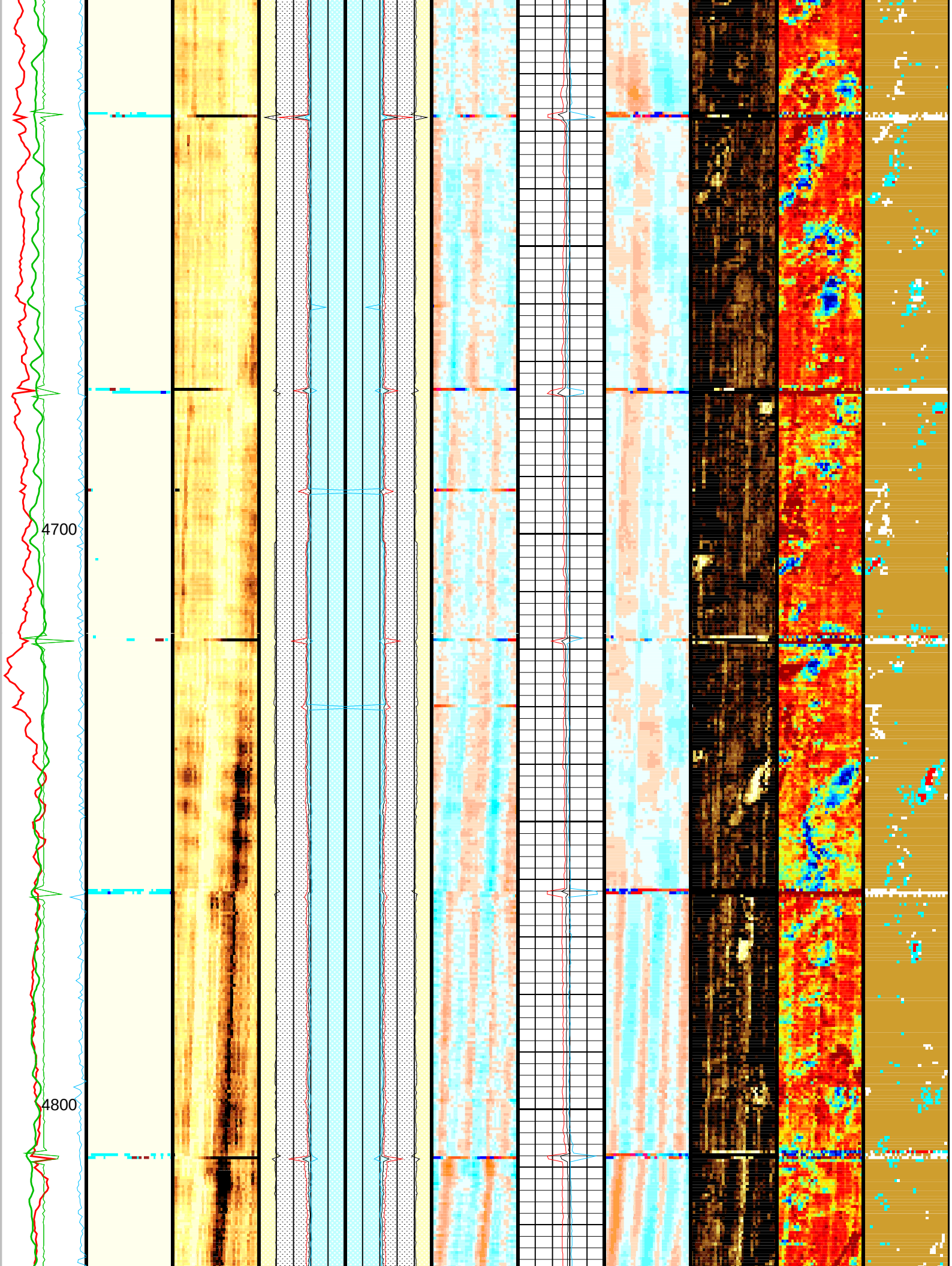
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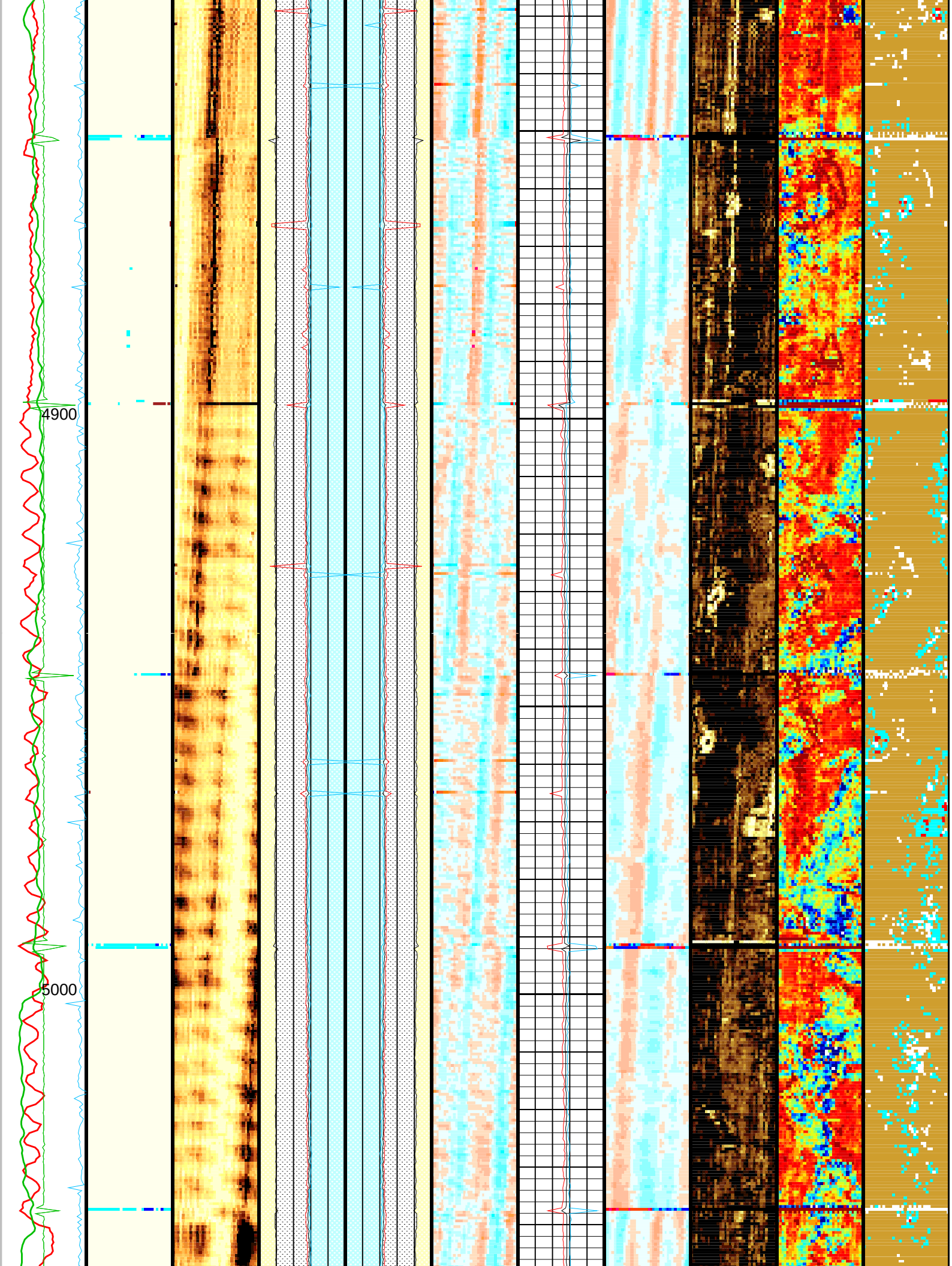
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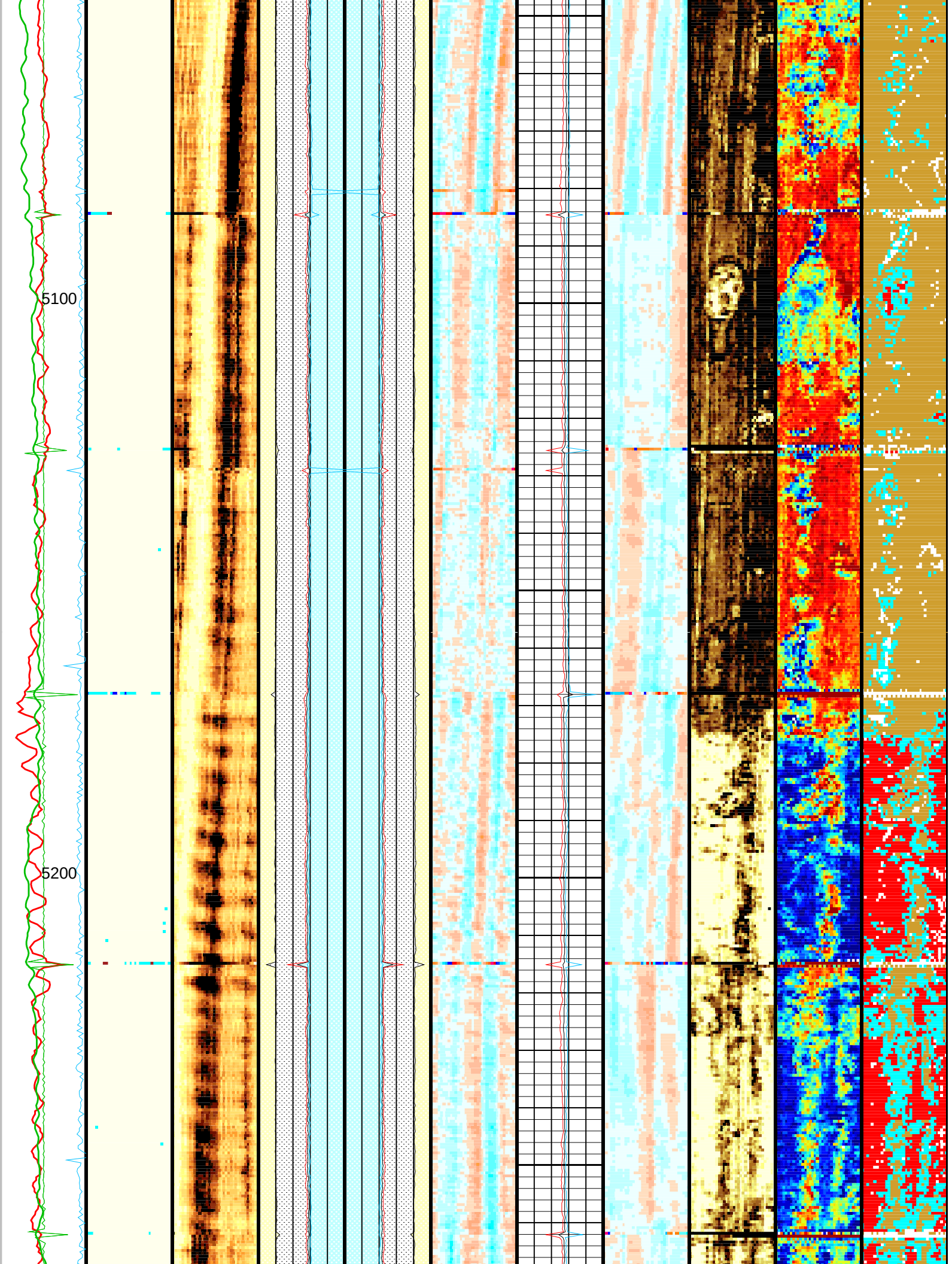
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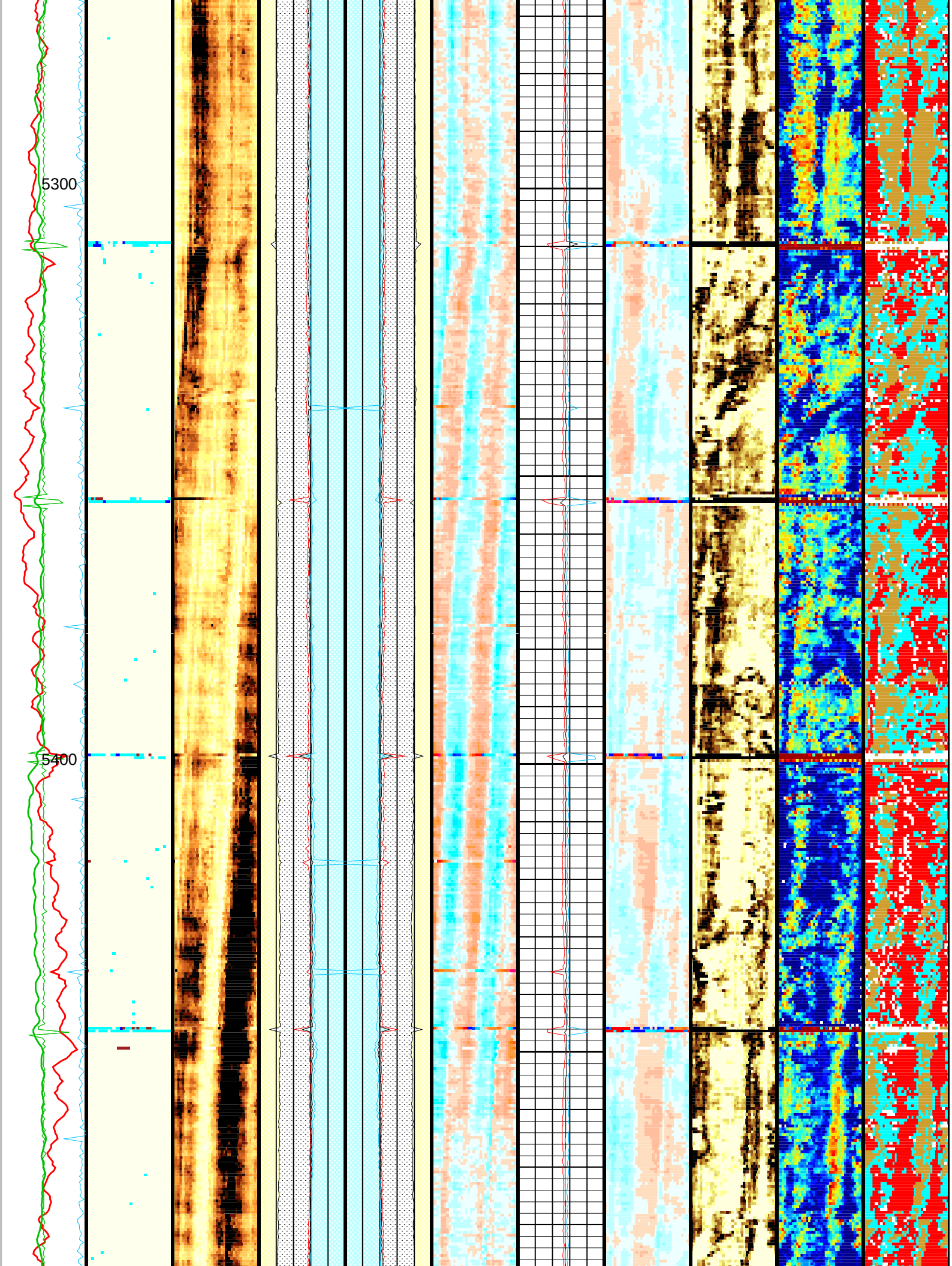
5200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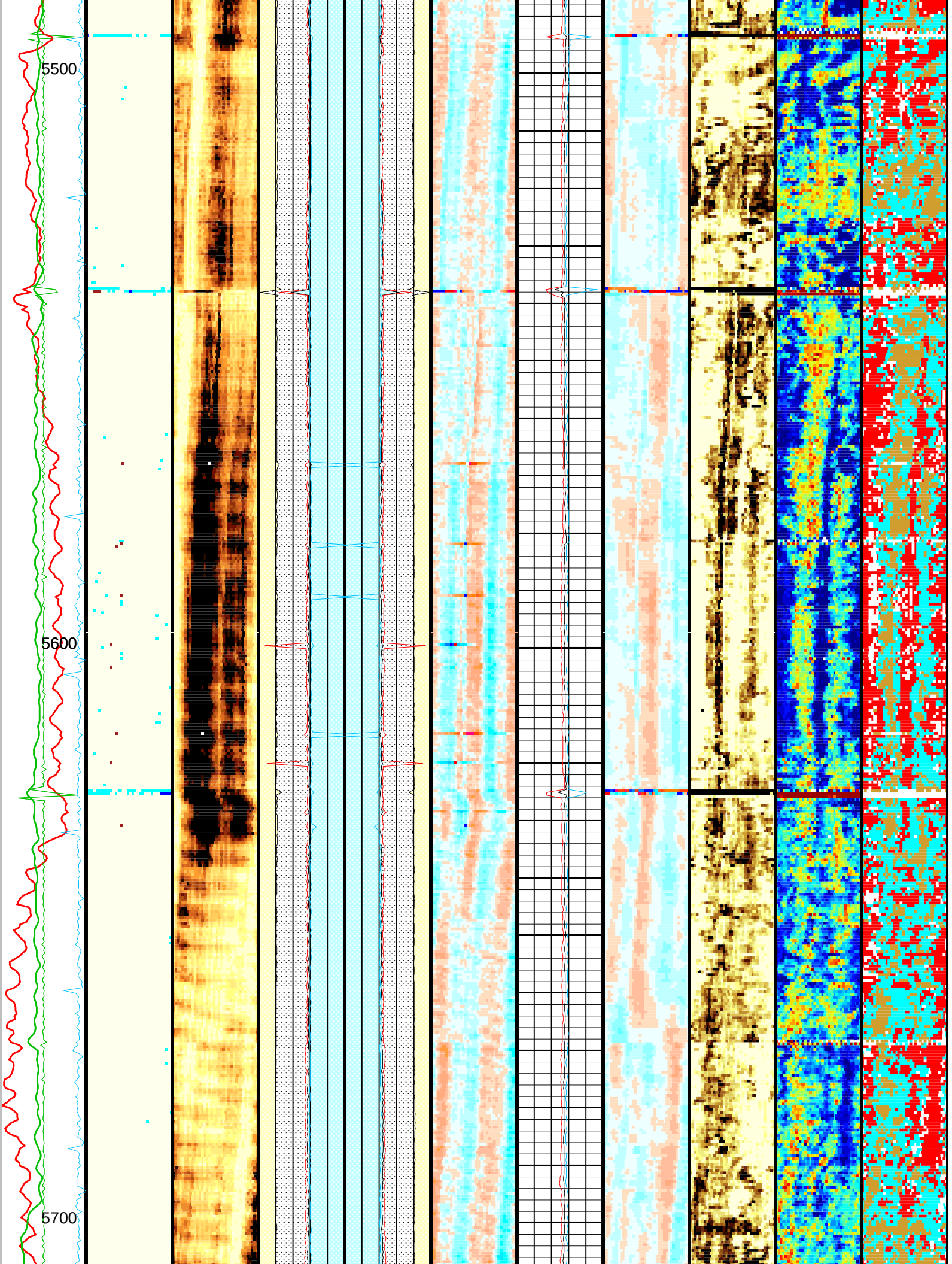
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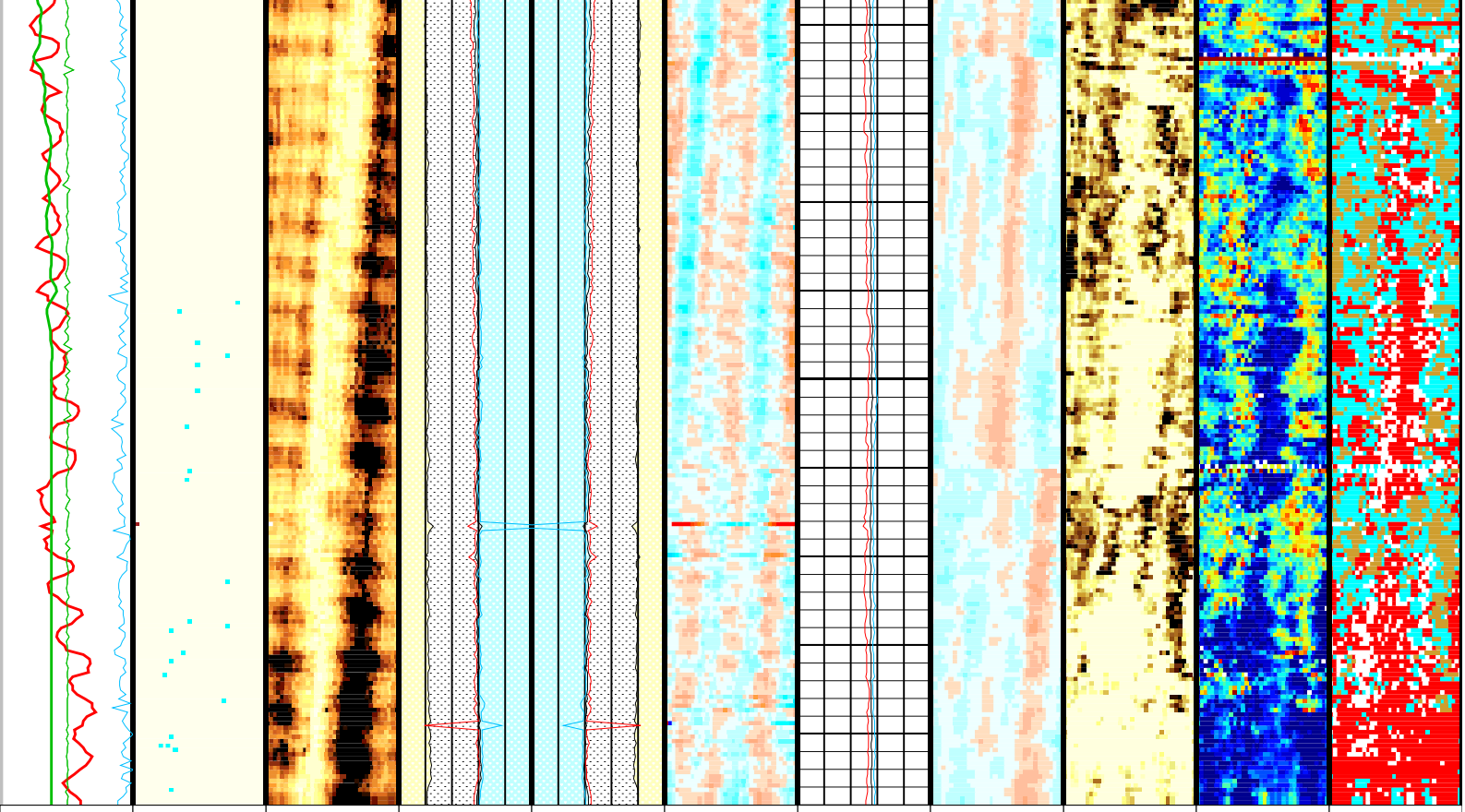
5600
5700



Eccent. (ECCE) 0 (IN) 0.5	Process. flags (UFLG) (---- 0.5000 1.5000 2.5000 3.5000 6.5000	Amplitude of echo minus Max (AWBK) (DB) −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	External radius Average (ERAV) 4 (IN) 3	External radius Average (ERAV) 3 (IN) 4	Internal radii minus Ave (IRBK) (IN) −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	Min of Thickness (THMN) (IN) 0.1 0.6	Thickness minus Ave (THBK) (IN) −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	Raw Acoustic Imped. (AIBK) (MRAY) −500.0000 0.2500 0.5000 0.7500 1.0000 1.2500 1.5000 1.7500 2.0000 2.2500 2.5000 2.7500 3.0000 3.2500 3.5000 3.7500 4.0000	Flexural Attenuation (U−USIT_ UFAK) (DB/M) 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	Solid Liquid Gas Map (U−USIT_ USLP) (---- 0.5000 1.5000 2.5000 3.5000
CCL (CCLU) (---- −20 20			Internal radius Average (IRAV) 4 (IN) 3	Internal radius Average (IRAV) 3 (IN) 4		Average of Thickness (THAV) (IN) 0.1 0.6					
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			Min of Internal radius (IRMN) 4 (IN) 3	Min of Internal radius (IRMN) 3 (IN) 4							
Gamma Ray (GR)											

(GAPI)
0 150

Image rotation (UCAZ) (DEG)
0 360

Format: USI_IBC_SLG_Composite Vertical Scale: 5" per 100' Graphics File Created: 08−Jan−2013 05:00

OP System Version: 19C1−222

USIT−D	19C1−222	DSLT−H	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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	1	MRAY

ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	14.0	FT
PP	Playback Processing	RECOMPUTE	

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00		

Schlumberger

USI IBC SLG
MAIN PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00	5798.0 FT	137.5 FT

OP System Version: 19C1−222

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

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
DFVL	205 US/F	203 US/F	4701.5 05:02:01
	207 US/F	205 US/F	3801.5 05:02:51
	209 US/F	207 US/F	3001.5 05:03:55
	210 US/F	209 US/F	2201.5 05:04:46
	212 US/F	210 US/F	1901.5 05:05:19
	214 US/F	212 US/F	1301.5 05:06:47
	216 US/F	214 US/F	501.5 05:07:43

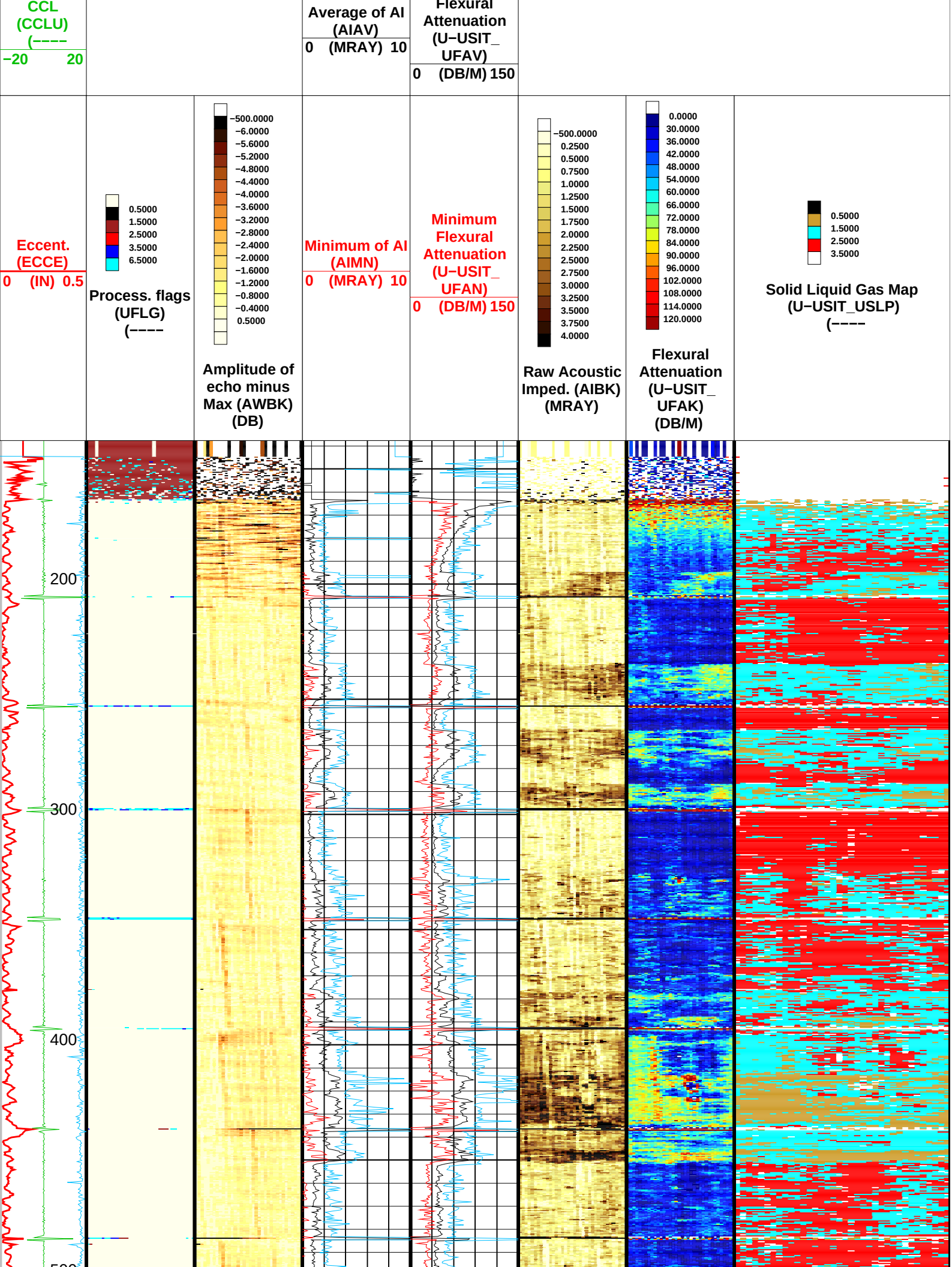
Image rotation (UCAZ) (DEG)
0 360

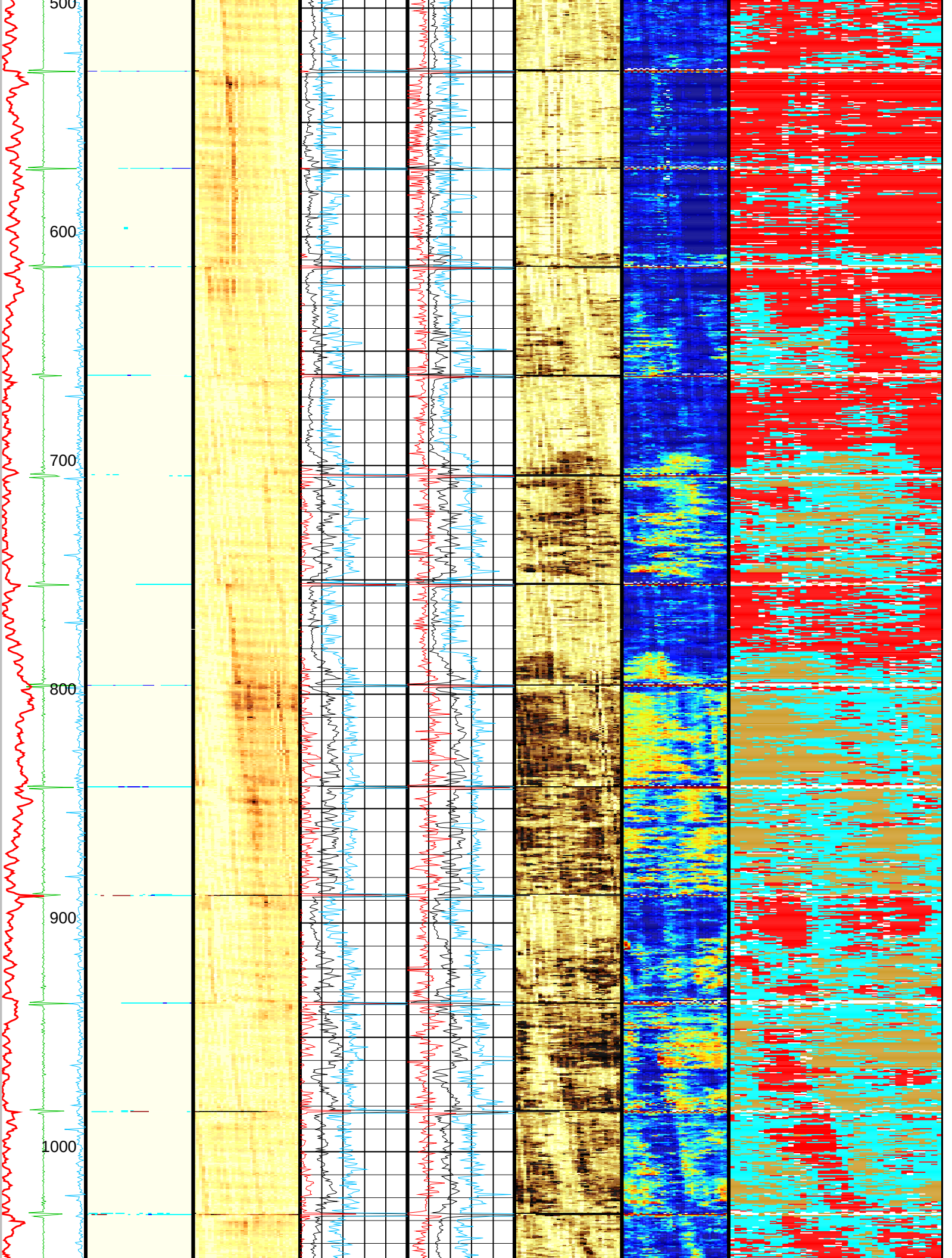
RSAV (RSAV) (RPS)
6 7.5

Maximum of AI (AIMX)
0 (MRAY) 10

Maximum Flexural Attenuation (U−USIT_UFAX)
0 (DB/M) 150

Average


CCL (CCLU) (----
-20 20
Average of AI (AIAV)
0 (MRAY) 10
Flexural Attenuation (U-USIT_ UFAV)
0 (DB/M) 150
Eccent. (ECCE)
0 (IN) 0.5
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)
Minimum of AI (AIMN)
0 (MRAY) 10
Minimum Flexural Attenuation (U-USIT_ UFAN)
0 (DB/M) 150
-500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000
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) (----
200
300
400
500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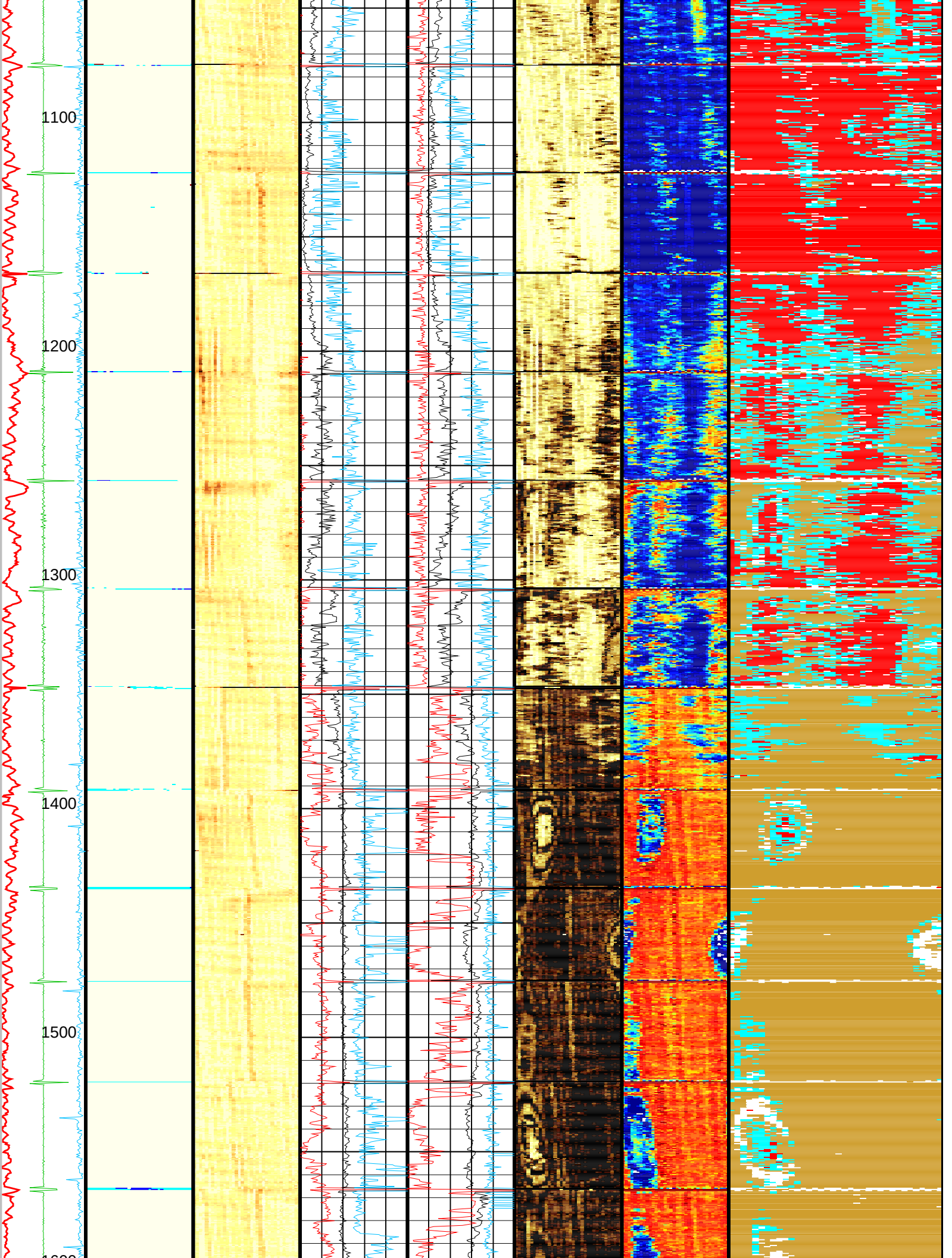
700
800
900
1000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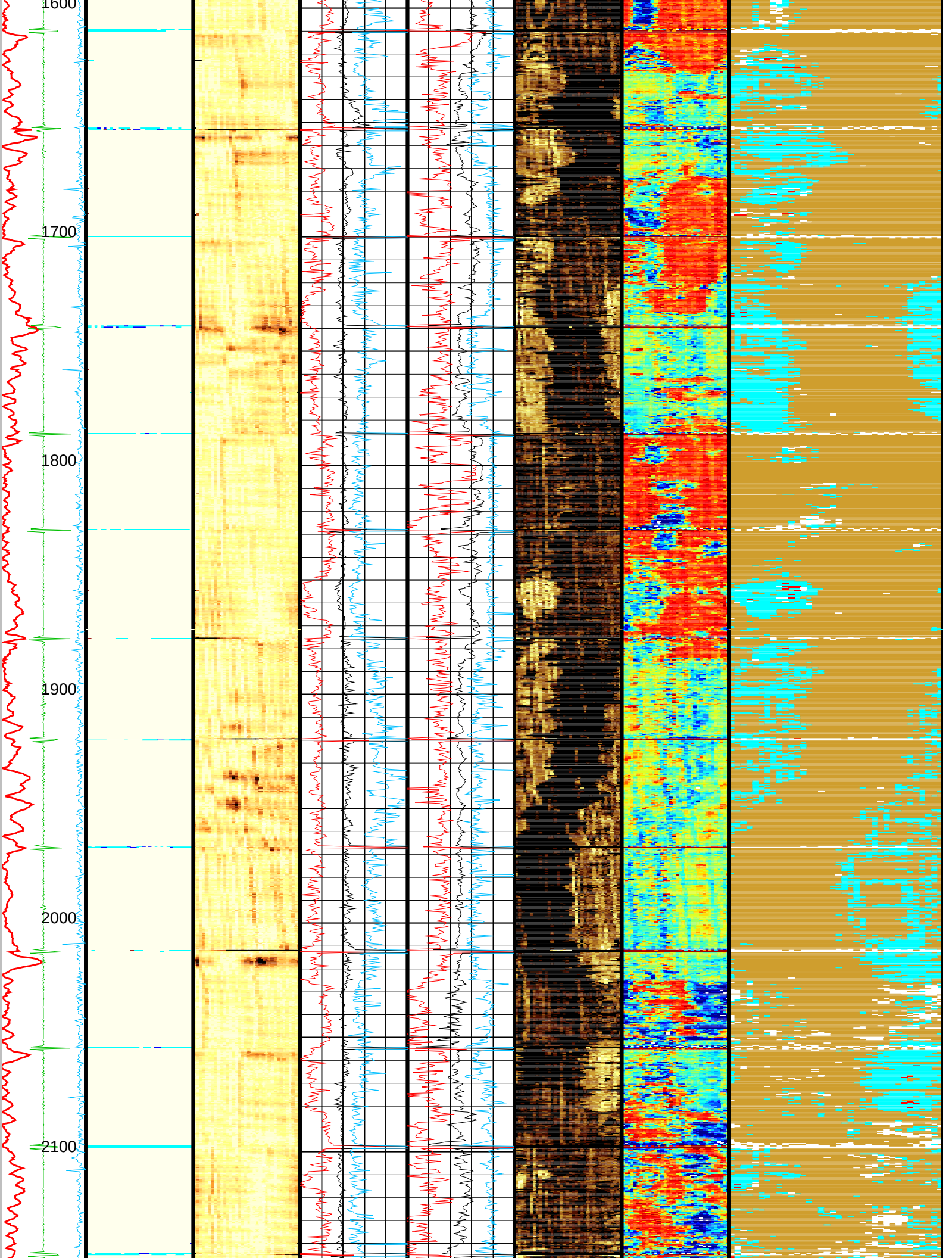
1400
1500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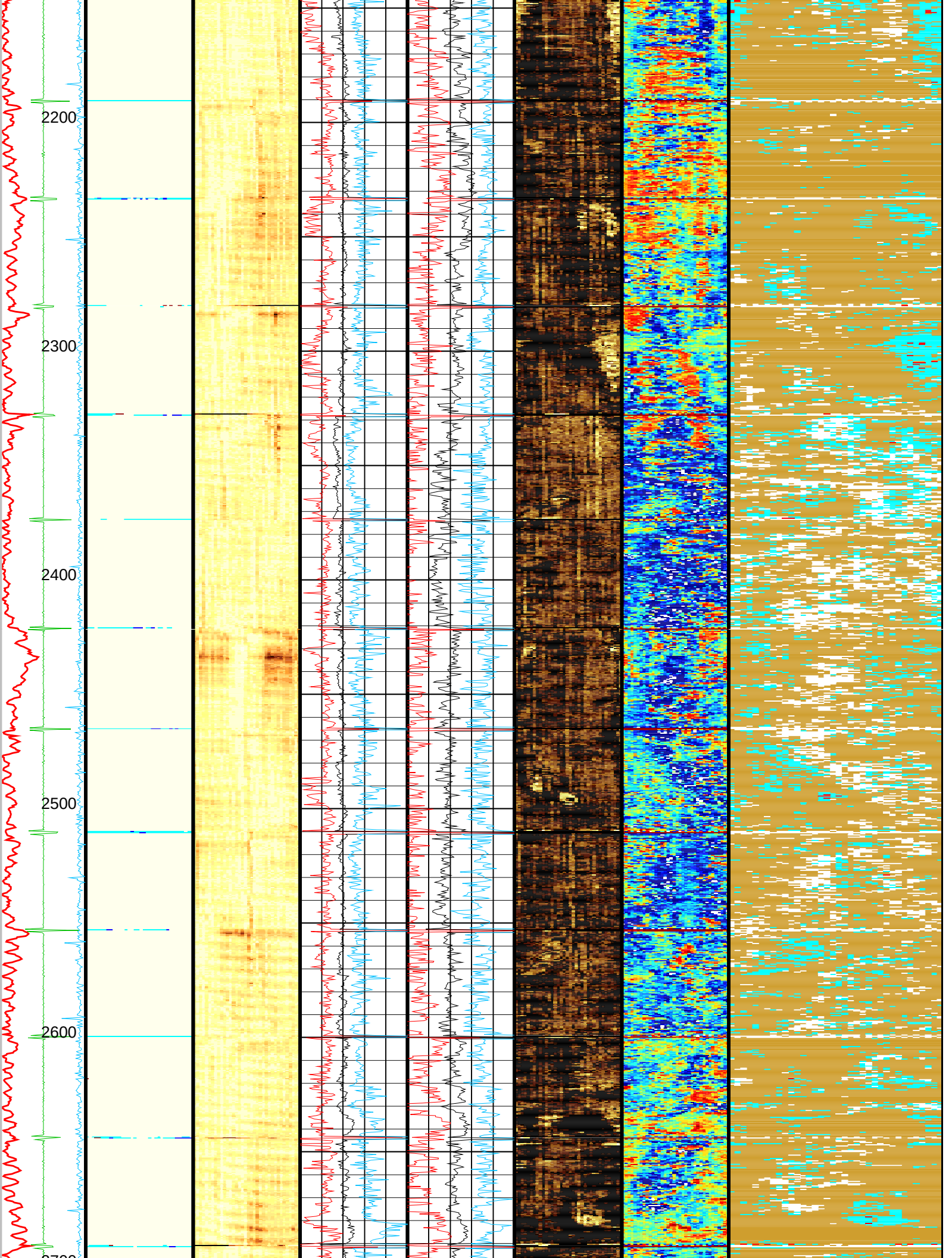
2000
2100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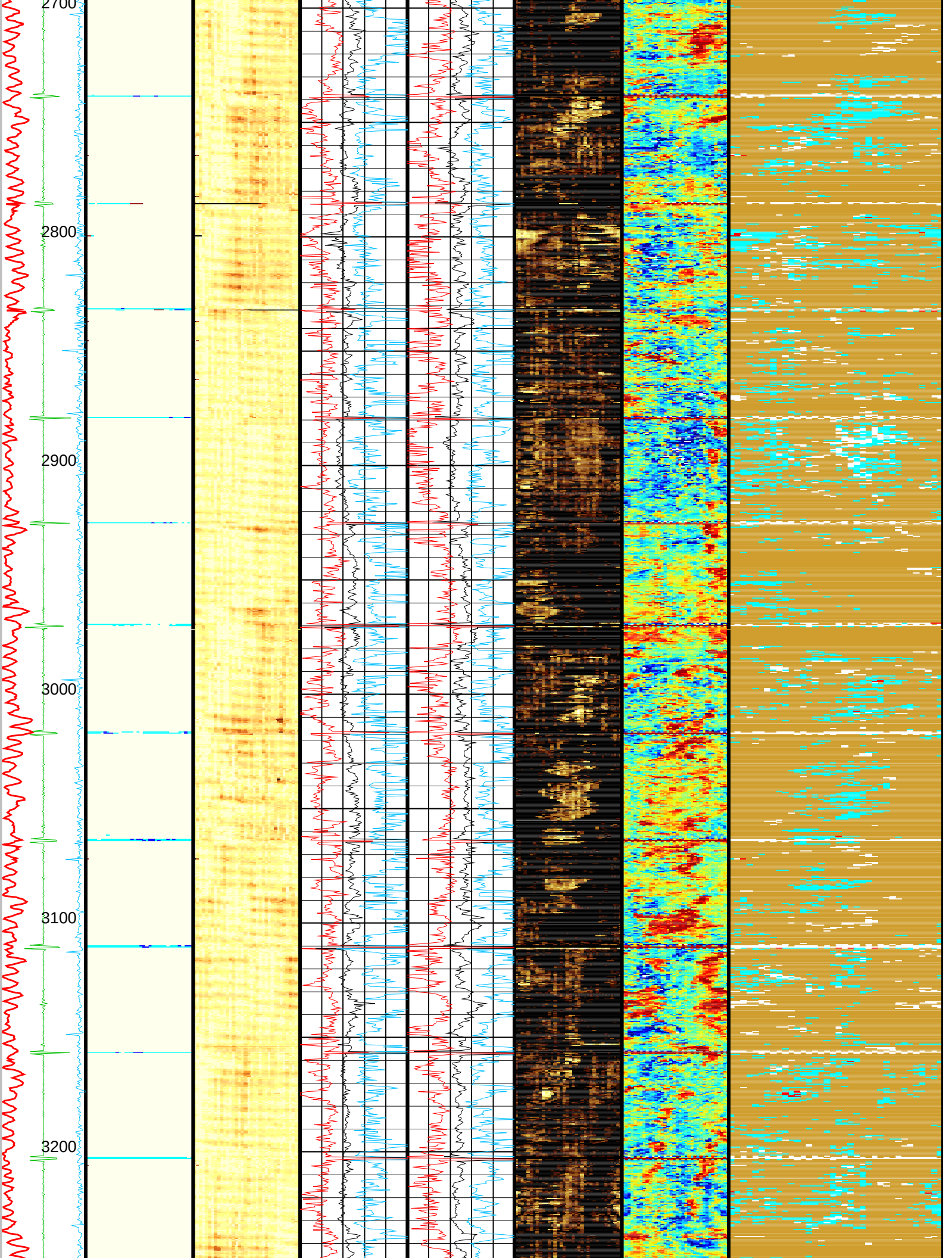
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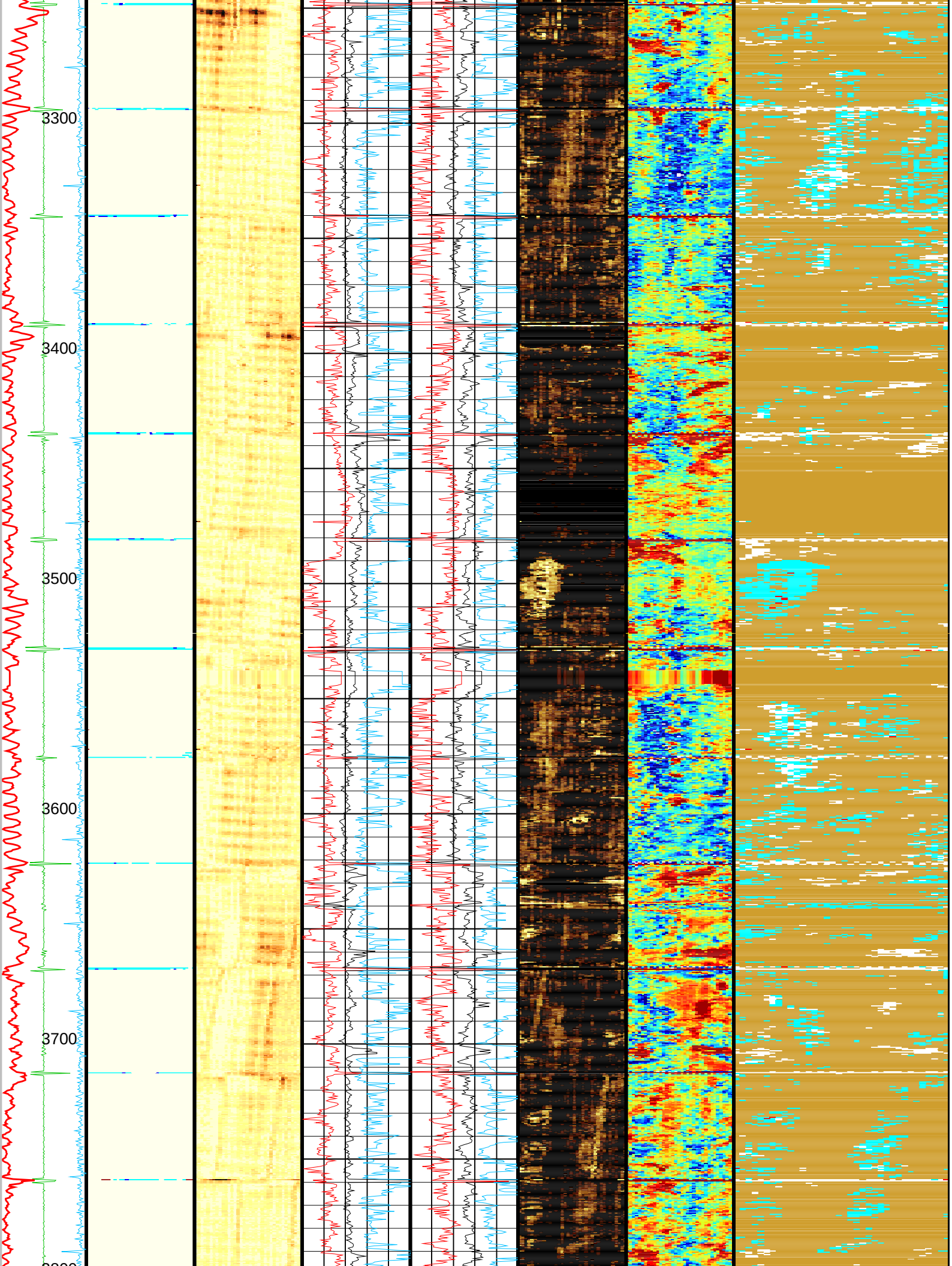
2900
3000
3100
3200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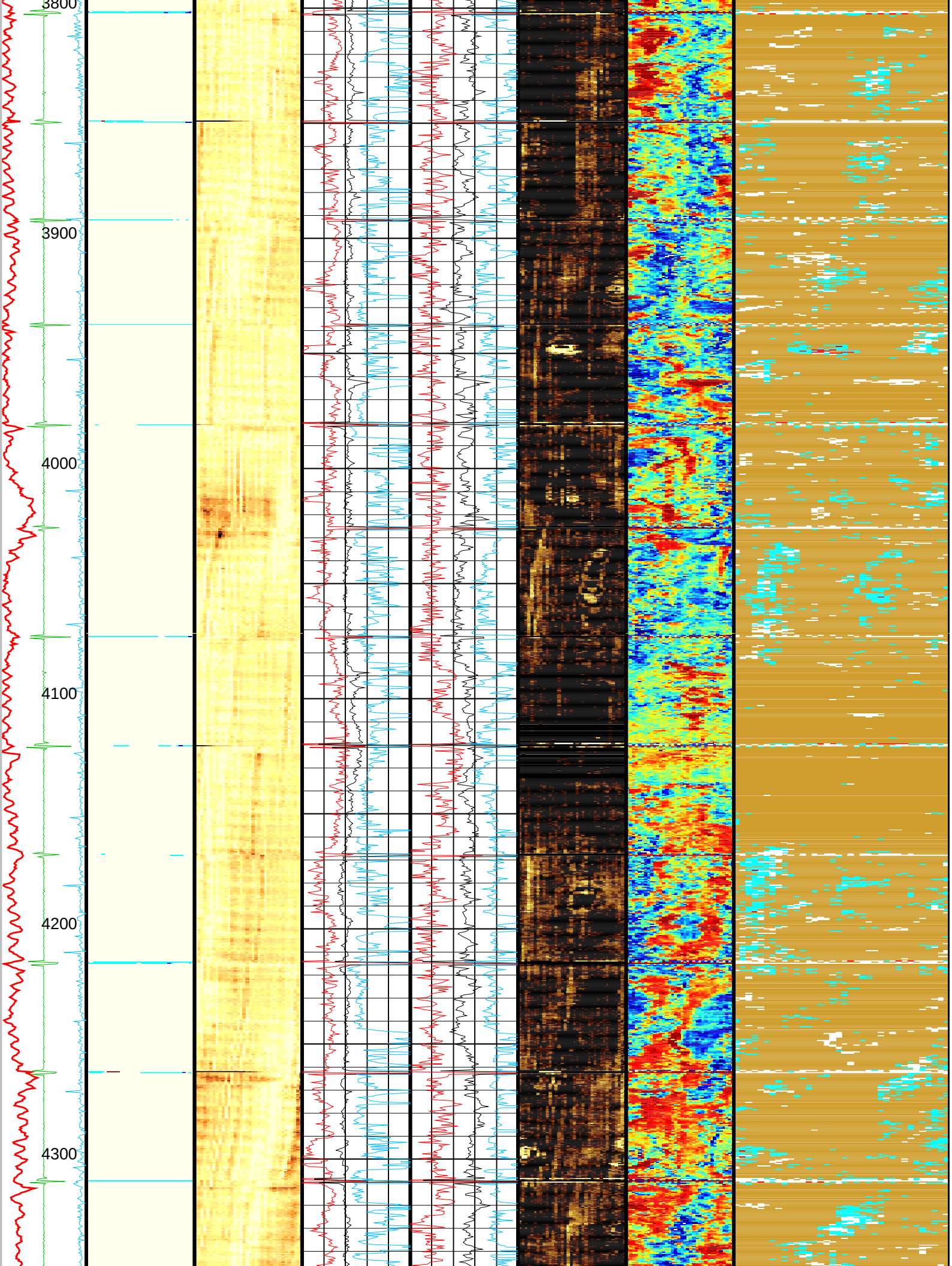
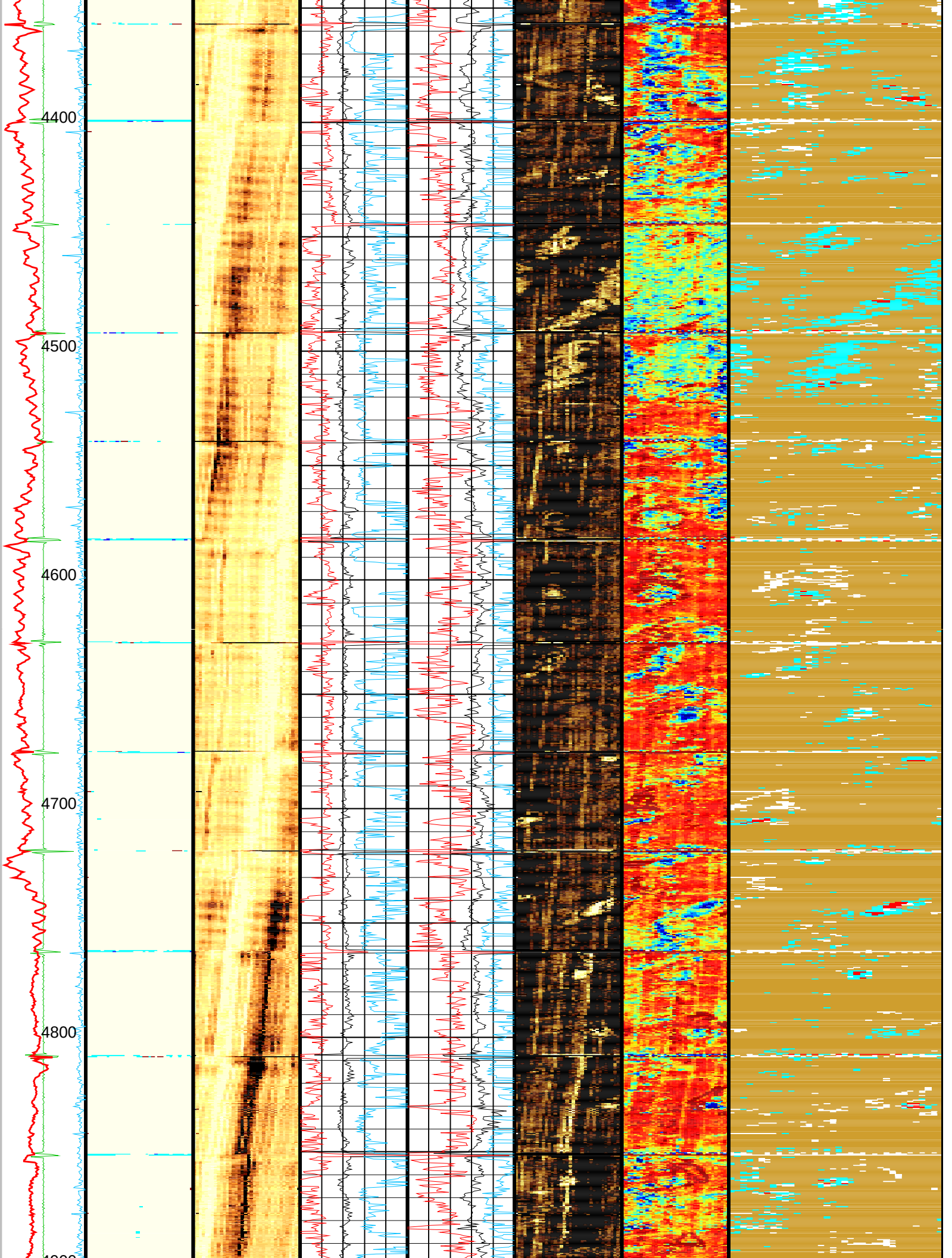
3400
3500
3600
3700


3800
3900
4000
4100
4200
4300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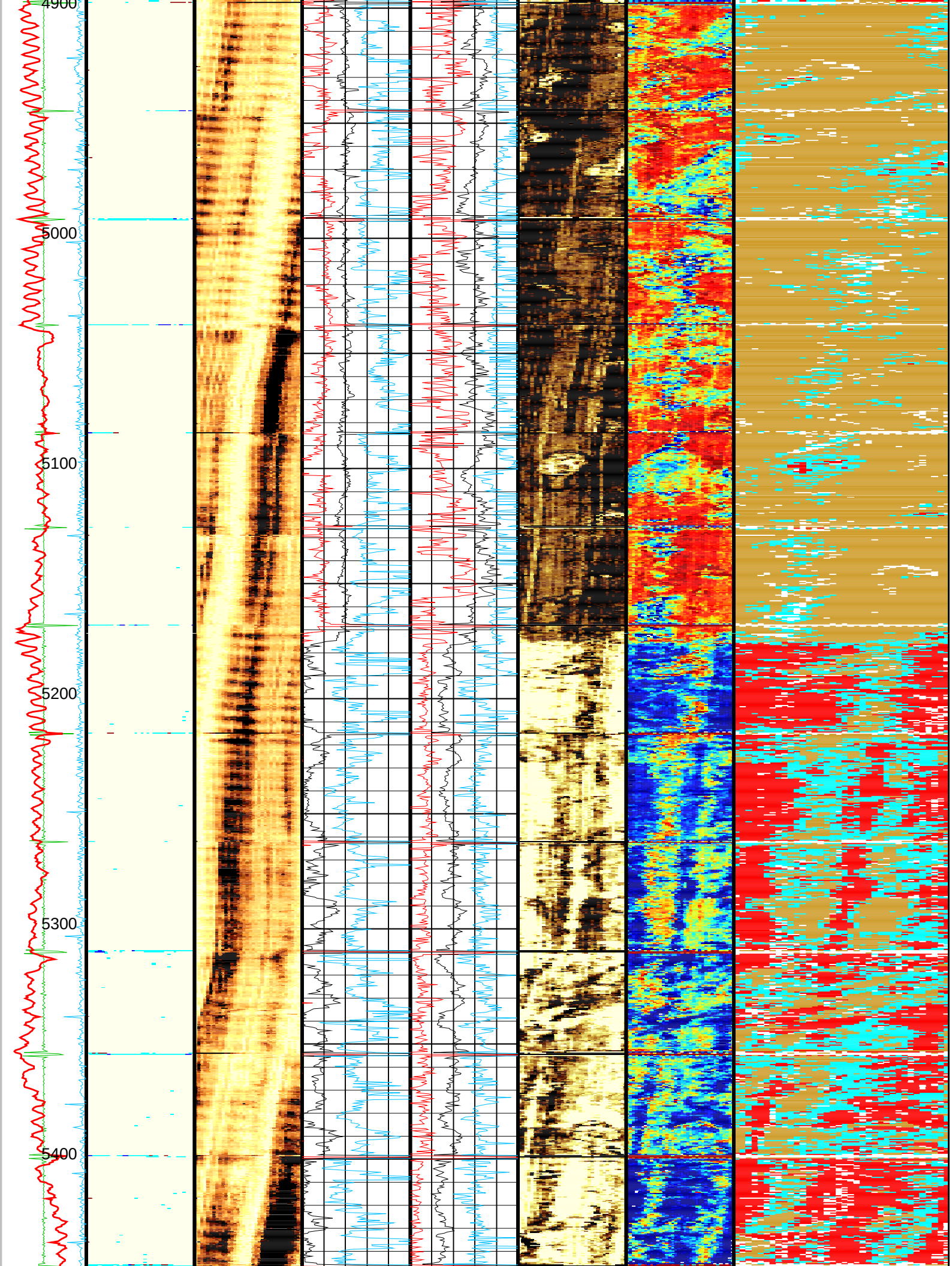
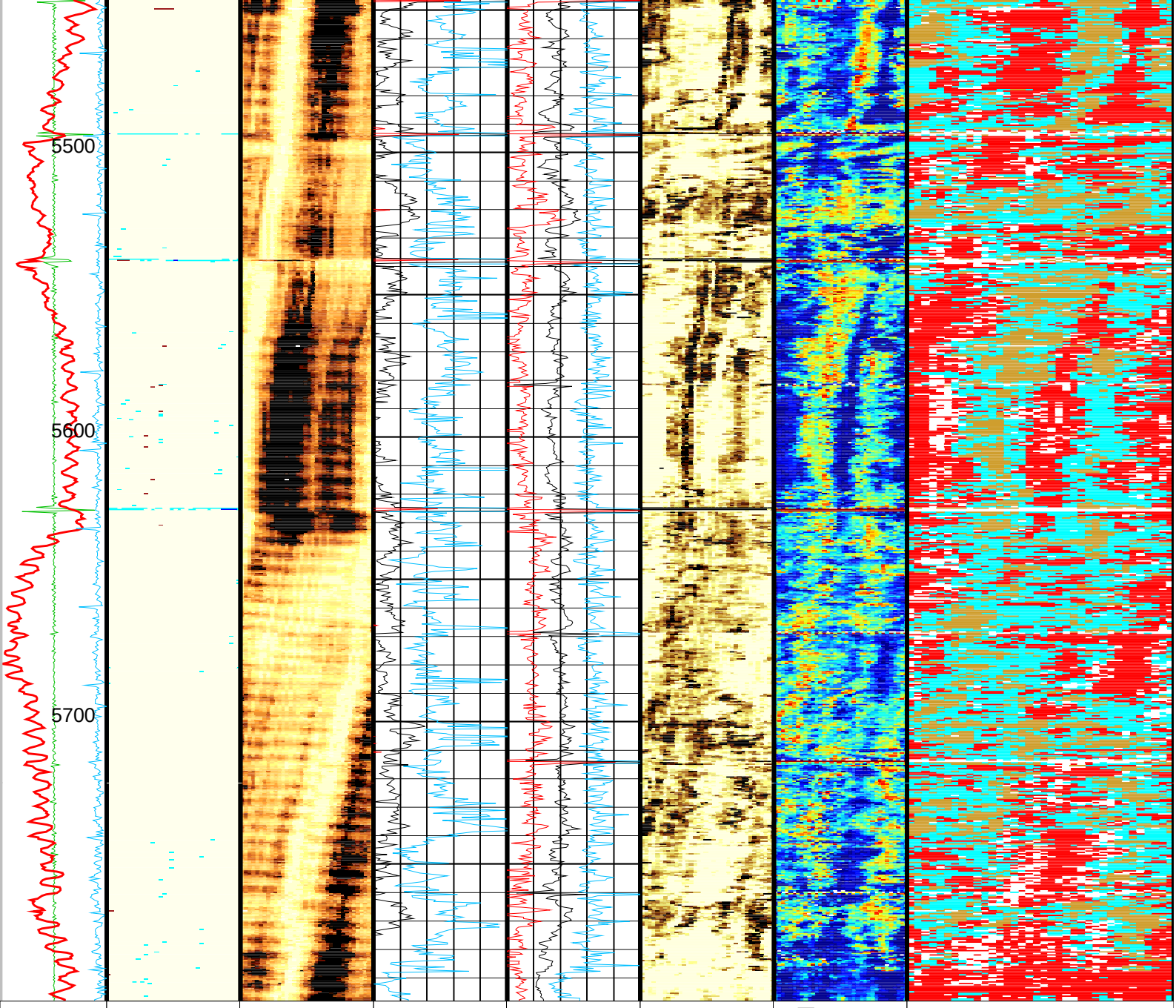

4900
5000
5100
5200
5300
5400



Eccent. (ECCE)
0 (IN) 0.5

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)

Minimum of AI (AIMN)
0 (MRAY) 10

Minimum Flexural Attenuation (U−USIT_ UFAN)
0 (DB/M) 150

−500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000

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) (----

CCL (CCLU) (----
−20 20

Average of AI (AIAV)
0 (MRAY) 10

Average Flexural Attenuation (U−USIT_ UFAV)
0 (DB/M) 150

RSAV (RSAV) (RPS)	Maximum of AI (AIMX)	Maximum Flexural Attenuation (U−USIT_ UFAX)
6 7.5	0 (MRAY) 10	0 (DB/M) 150
Image rotation (UCAZ) (DEG)		
0 360		

Format: USI_IBC_SLG **Vertical Scale: 2" per 100'** **Graphics File Created: 08−Jan−2013 05:00**

OP System Version: 19C1−222

USIT−D	19C1−222	DSLT−H	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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	14.0	FT
PP	Playback Processing	RECOMPUTE	

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00		

Schlumberger

USI IBC VDL WIDE MAIN PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00	5798.0 FT	137.5 FT

OP System Version: 19C1−222

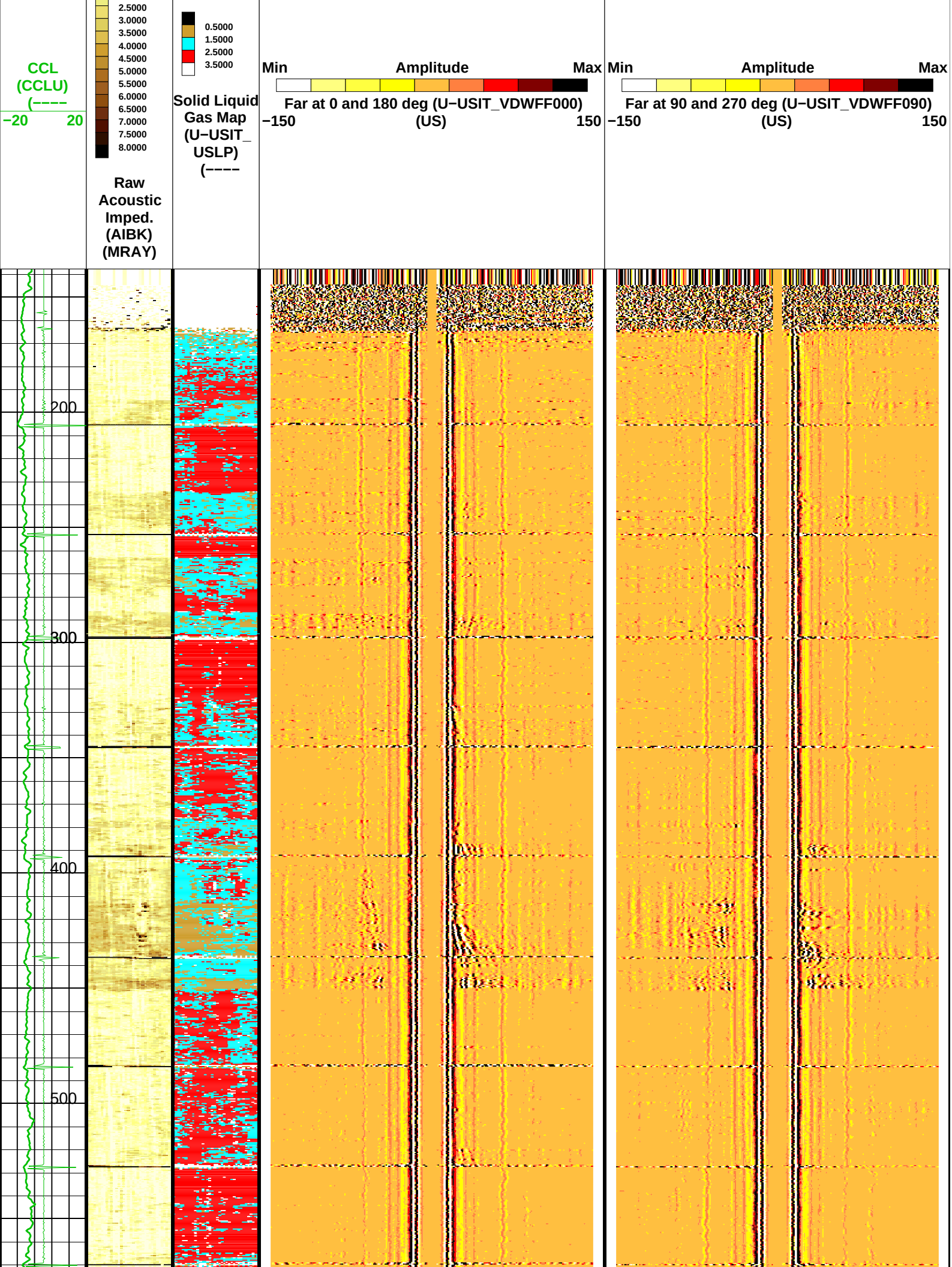
USIT−D	19C1−222	DSLT−H	19C1−222
SGT−N	19C1−222	DTC−H	19C1−222

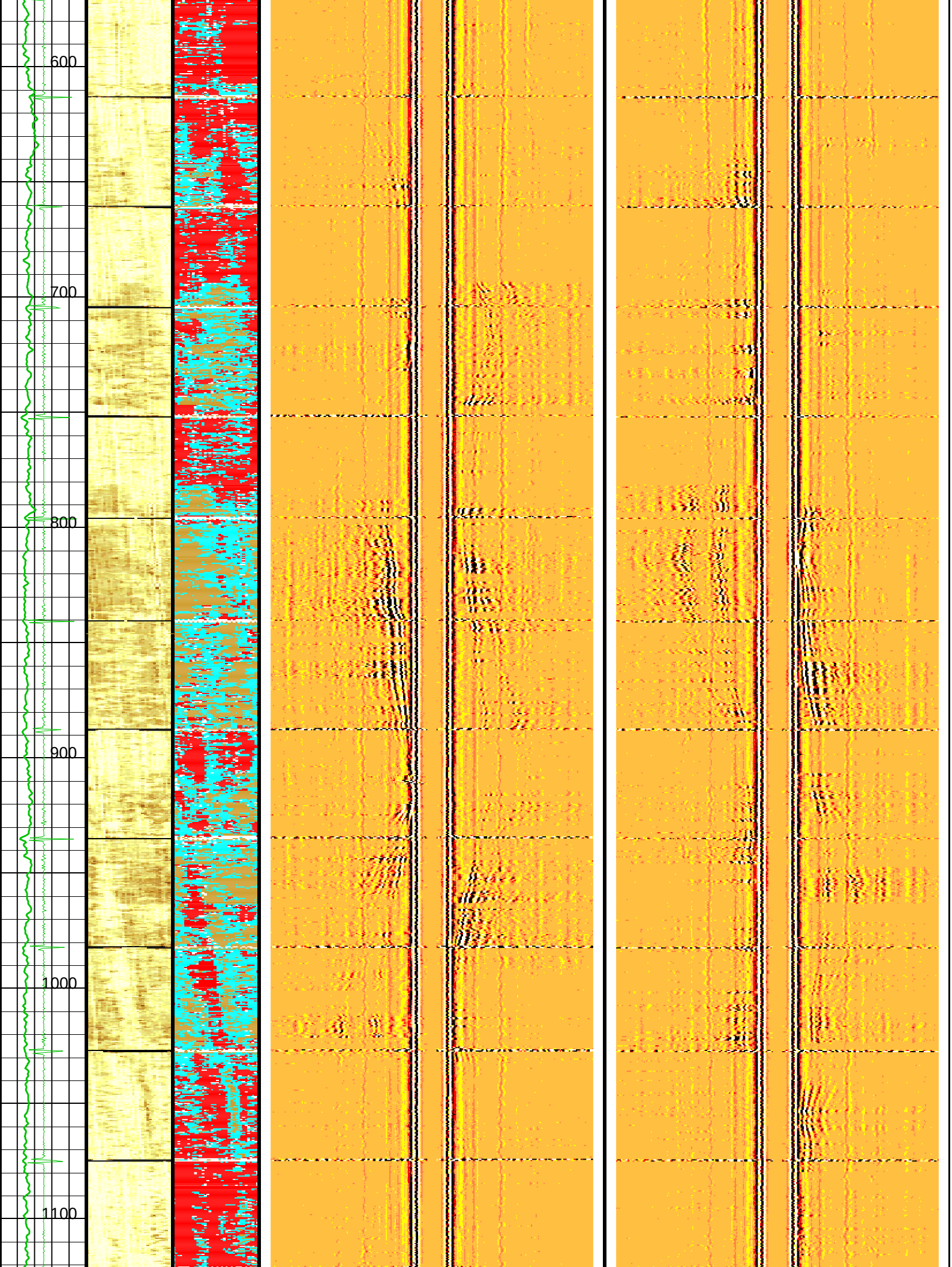
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
DFVL	205 US/F	203 US/F	4701.5 05:02:01
	207 US/F	205 US/F	3801.5 05:02:51
	209 US/F	207 US/F	3001.5 05:03:55
	210 US/F	209 US/F	2201.5 05:04:46
	212 US/F	210 US/F	1901.5 05:05:19
	214 US/F	212 US/F	1301.5 05:06:47
	216 US/F	214 US/F	501.5 05:07:43

Gamma Ray (GR) (GAPI)
0 150

−500.0000
0.5000
1.0000
1.5000
2.0000


CCL
(CCLU)
(----
-20
20
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)
0.5000
1.5000
2.5000
3.5000
Solid Liquid
Gas Map
(U-USIT_
USLP)
(----
Min
Amplitude
Max
Far at 0 and 180 deg (U-USIT_VDWFF000)
-150
(US)
150
Min
Amplitude
Max
Far at 90 and 270 deg (U-USIT_VDWFF090)
-150
(US)
150
200
300
400
500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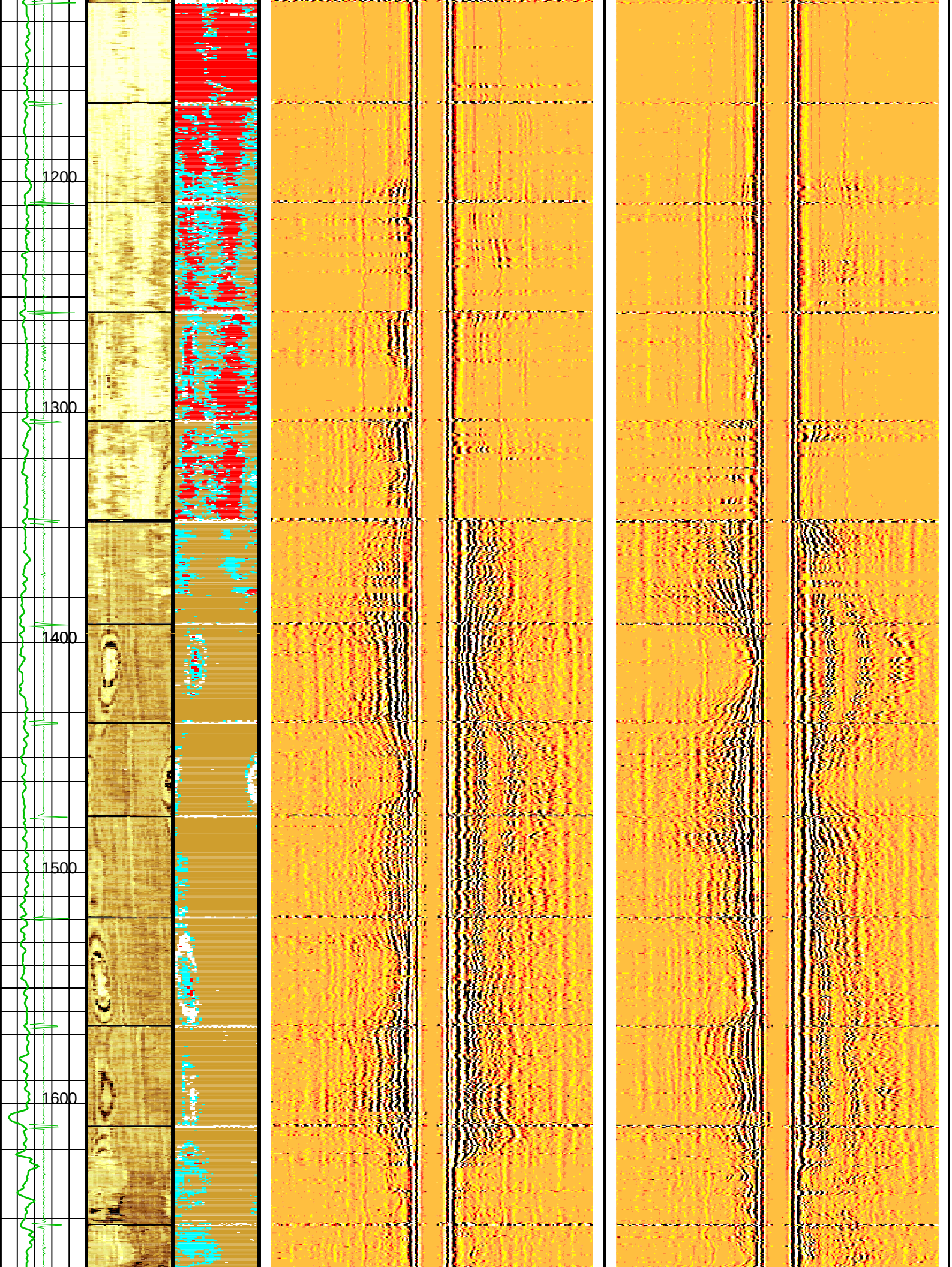
700
800
900
1000
1100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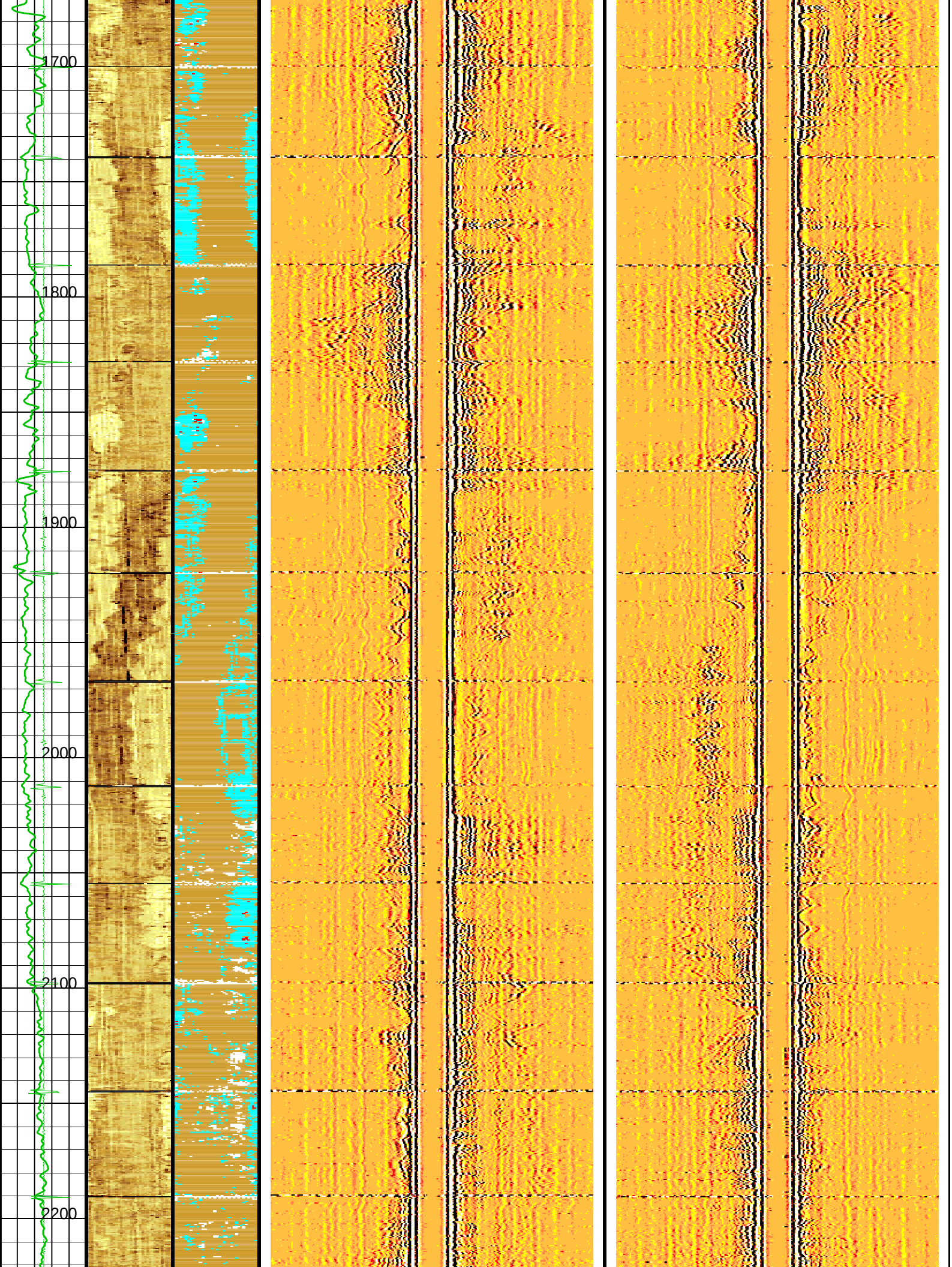
1600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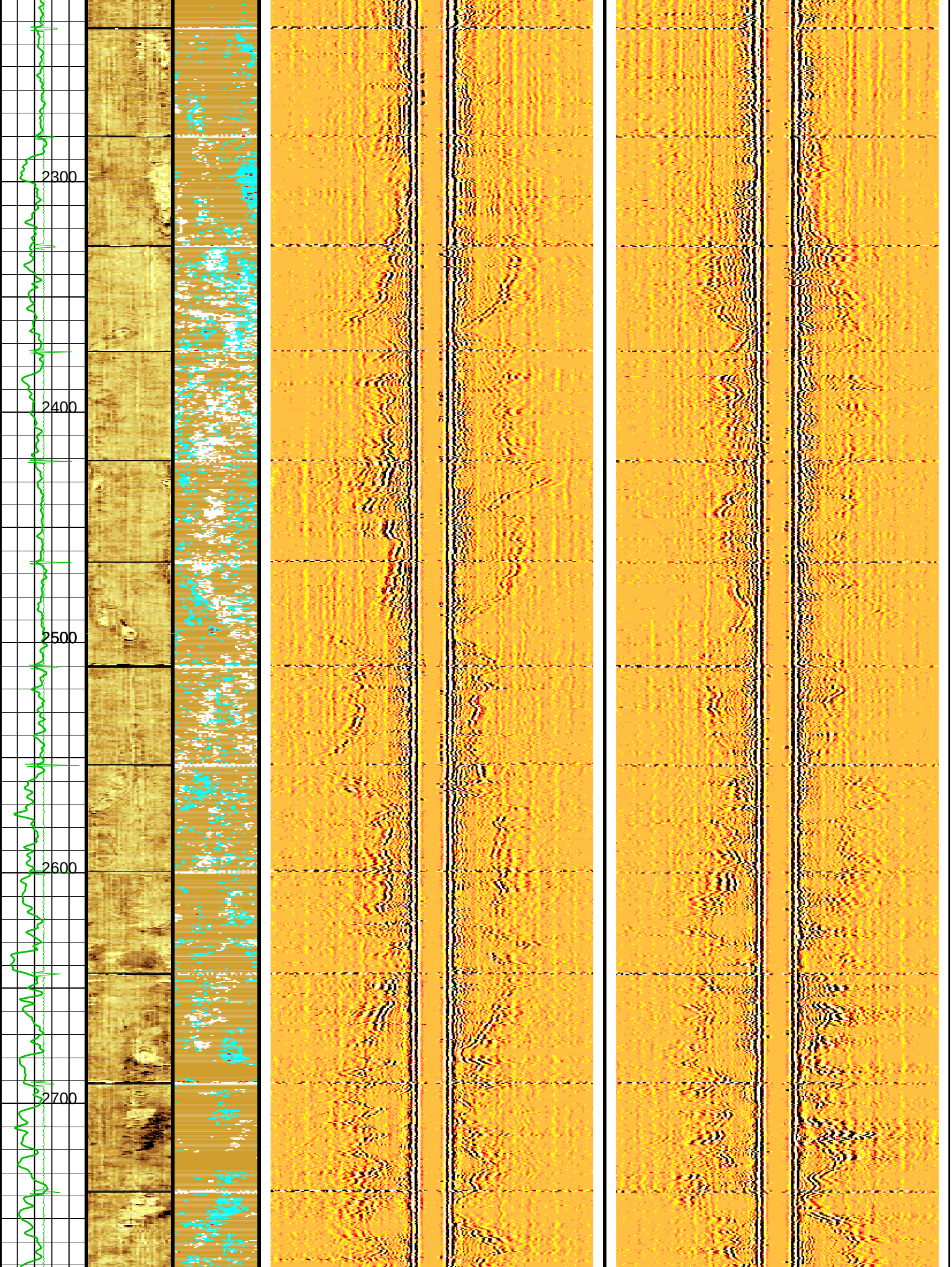
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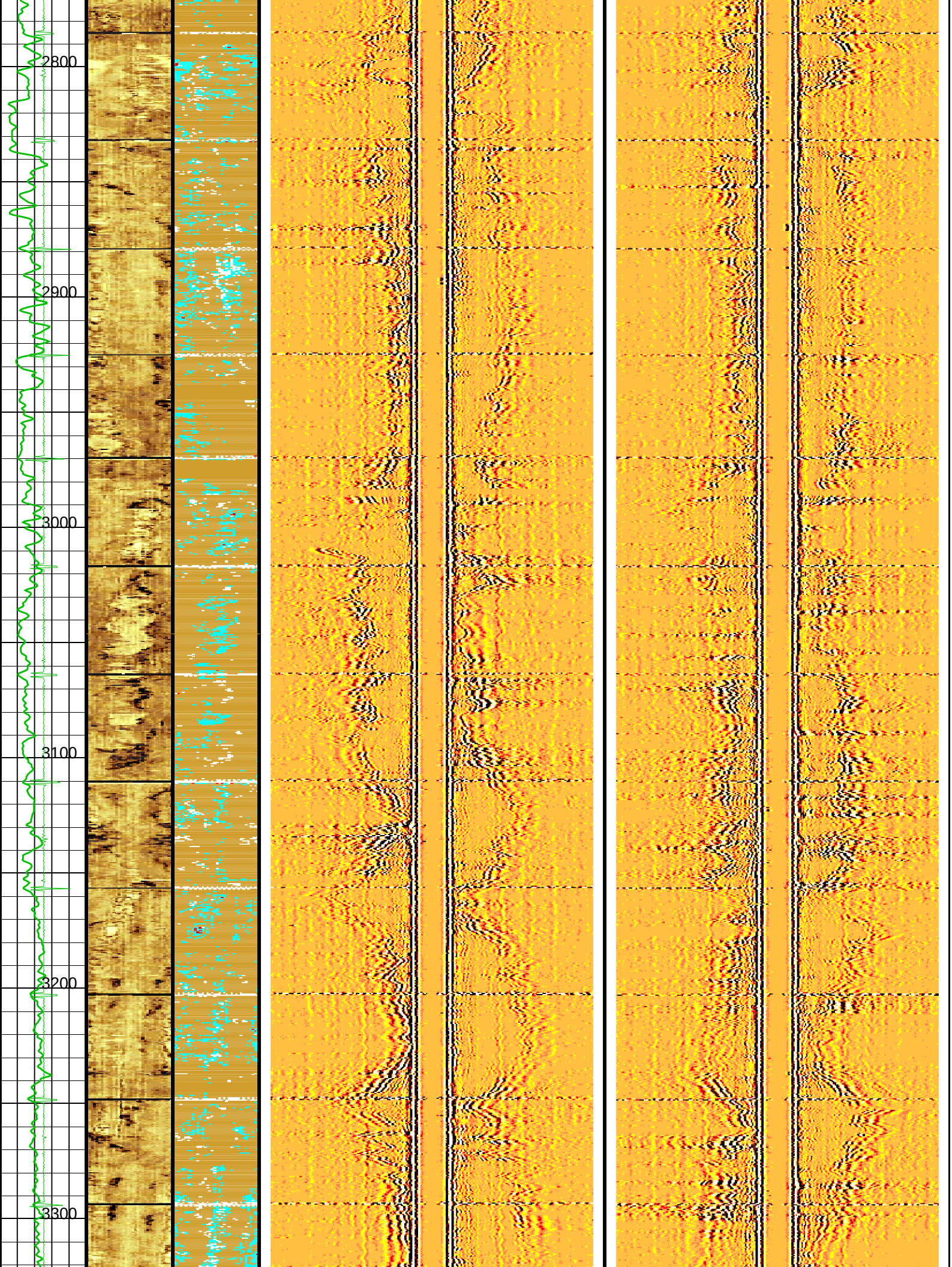
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3100
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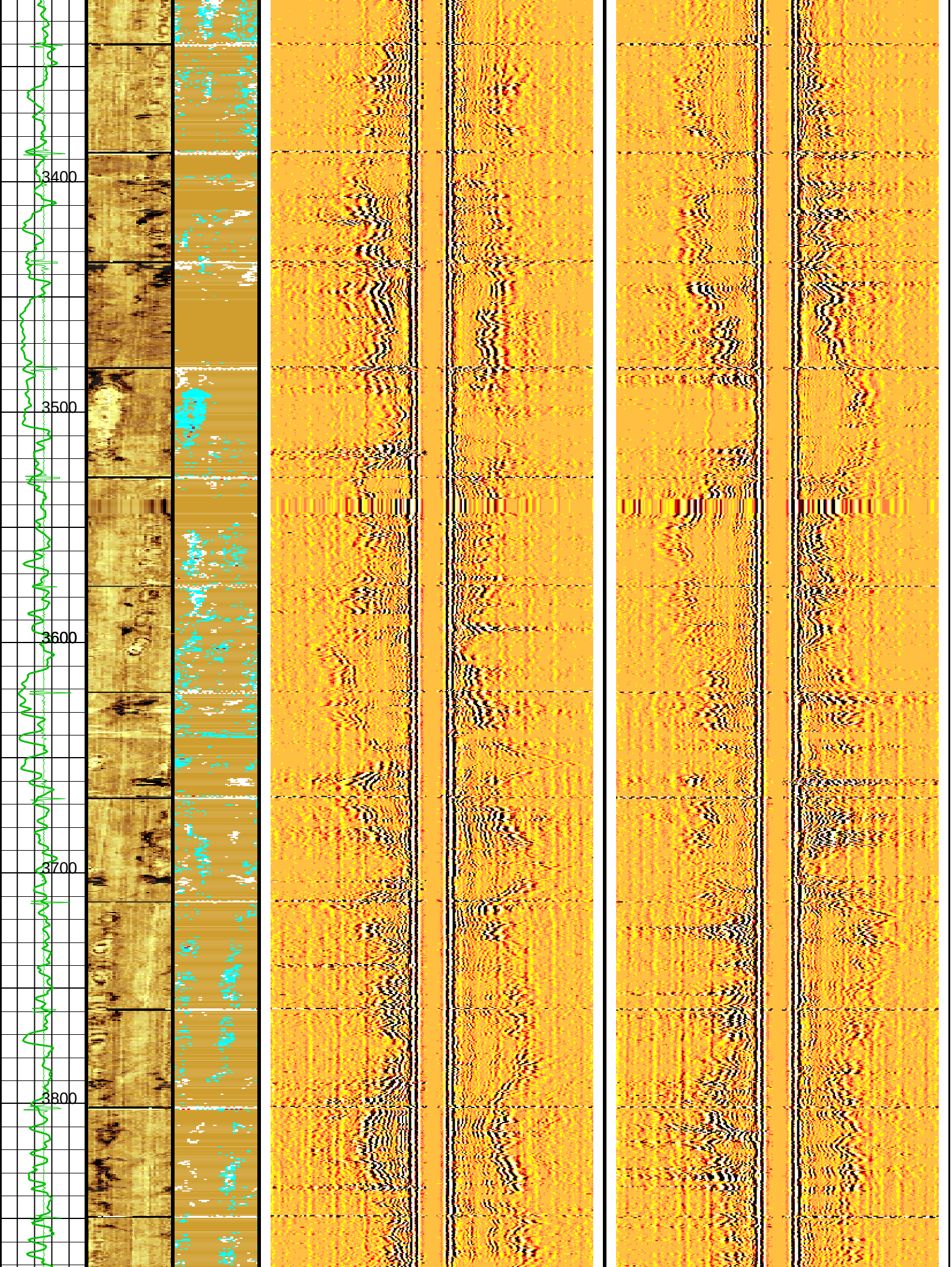
3300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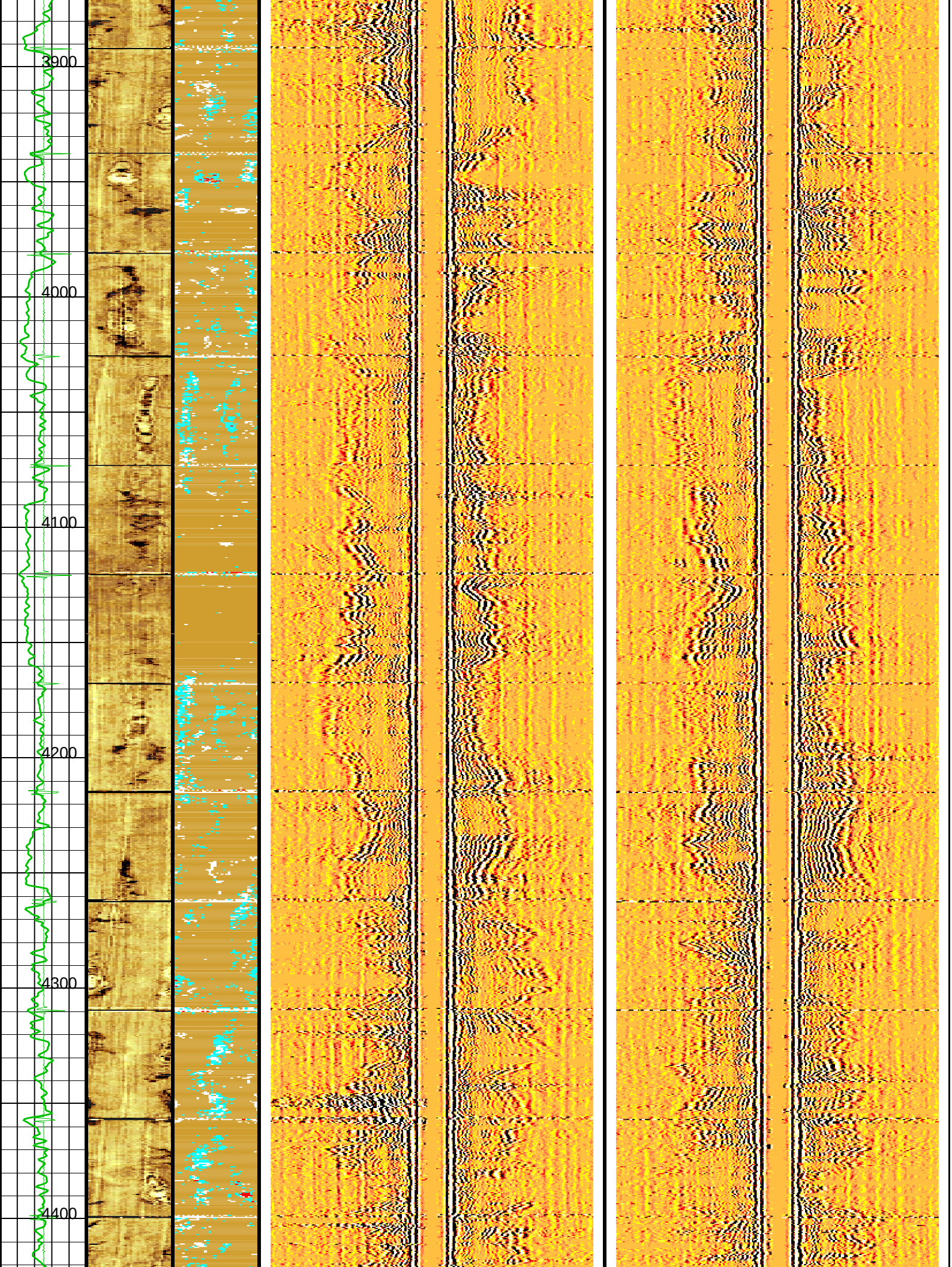
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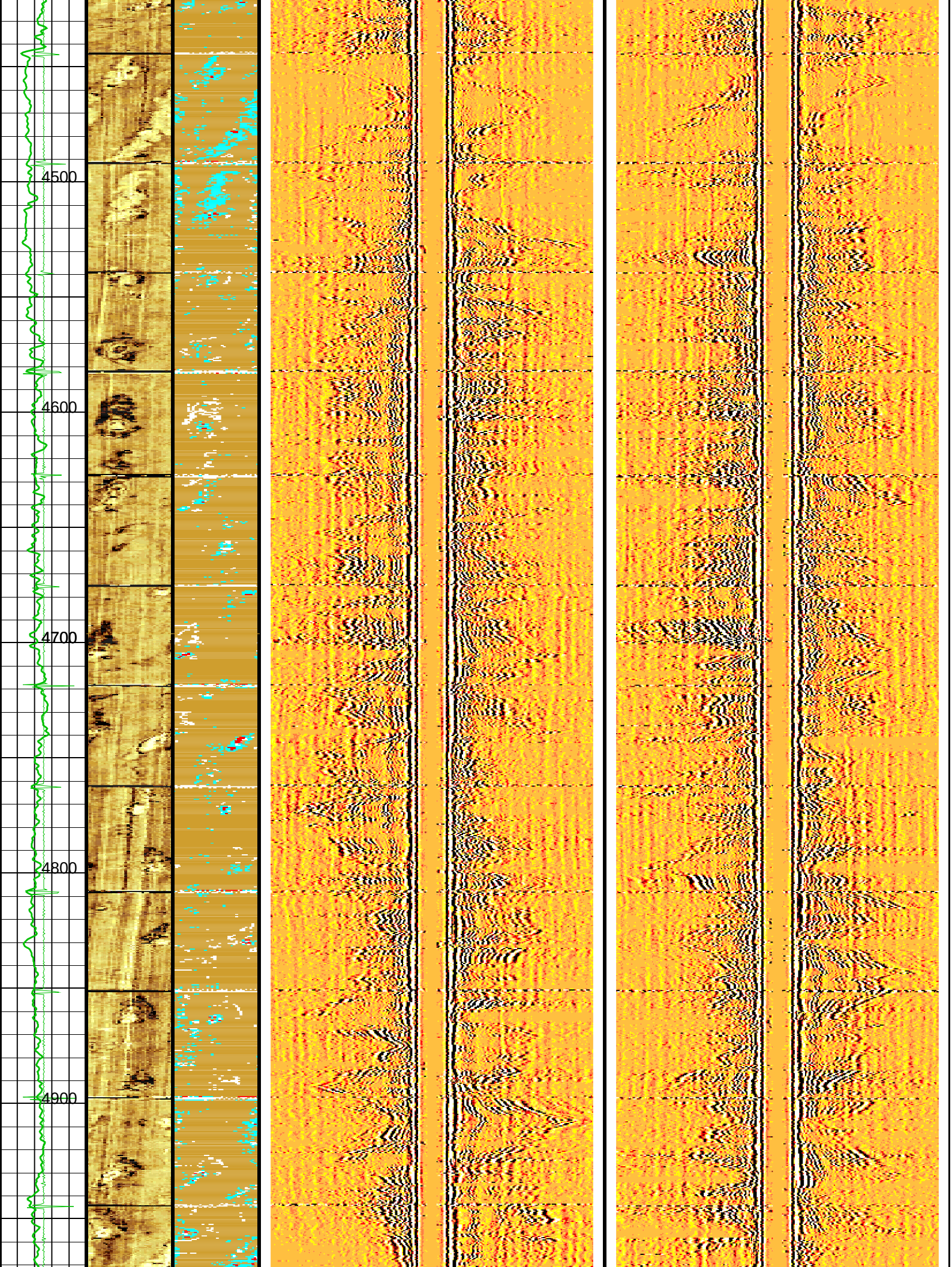
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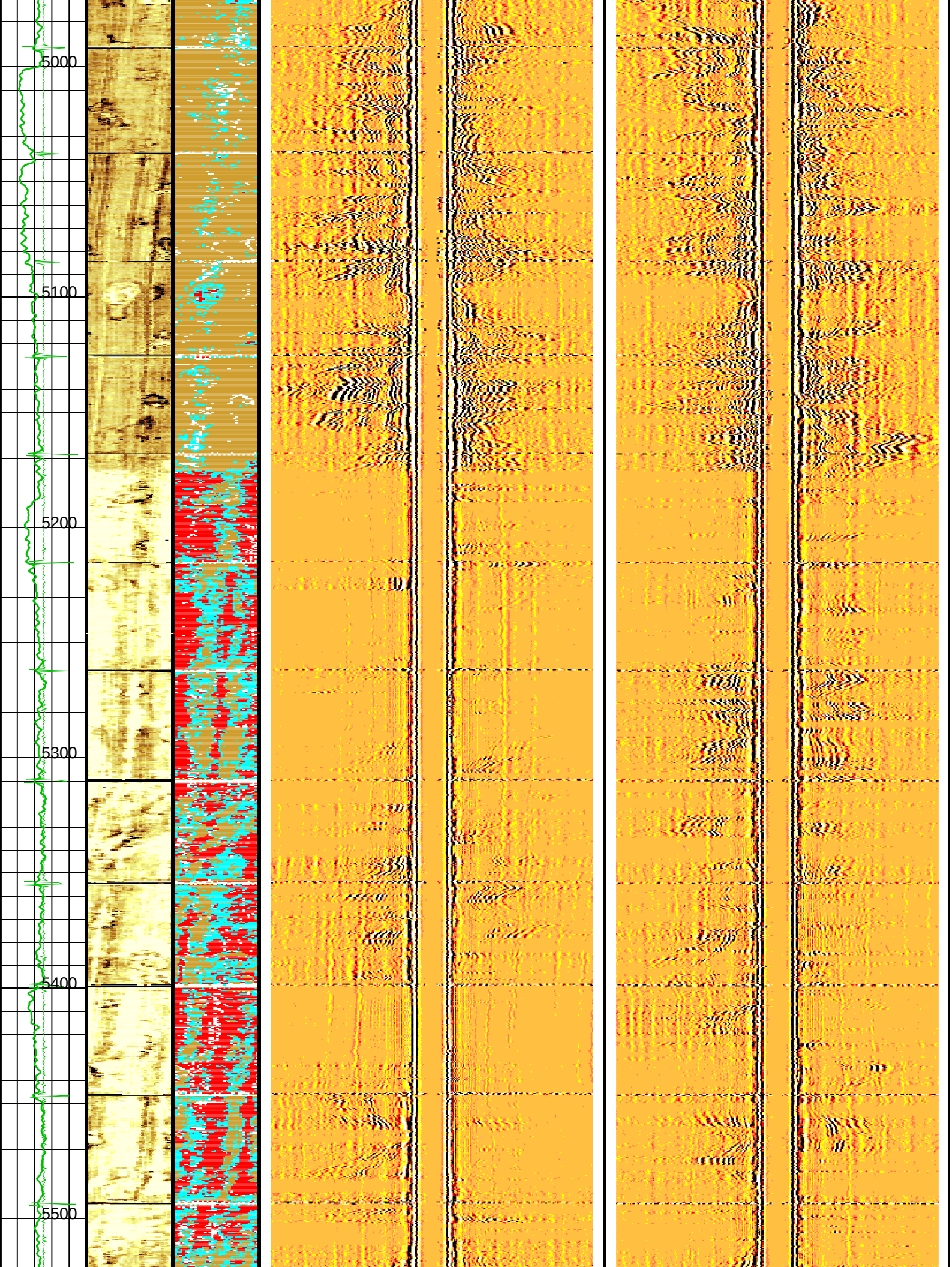
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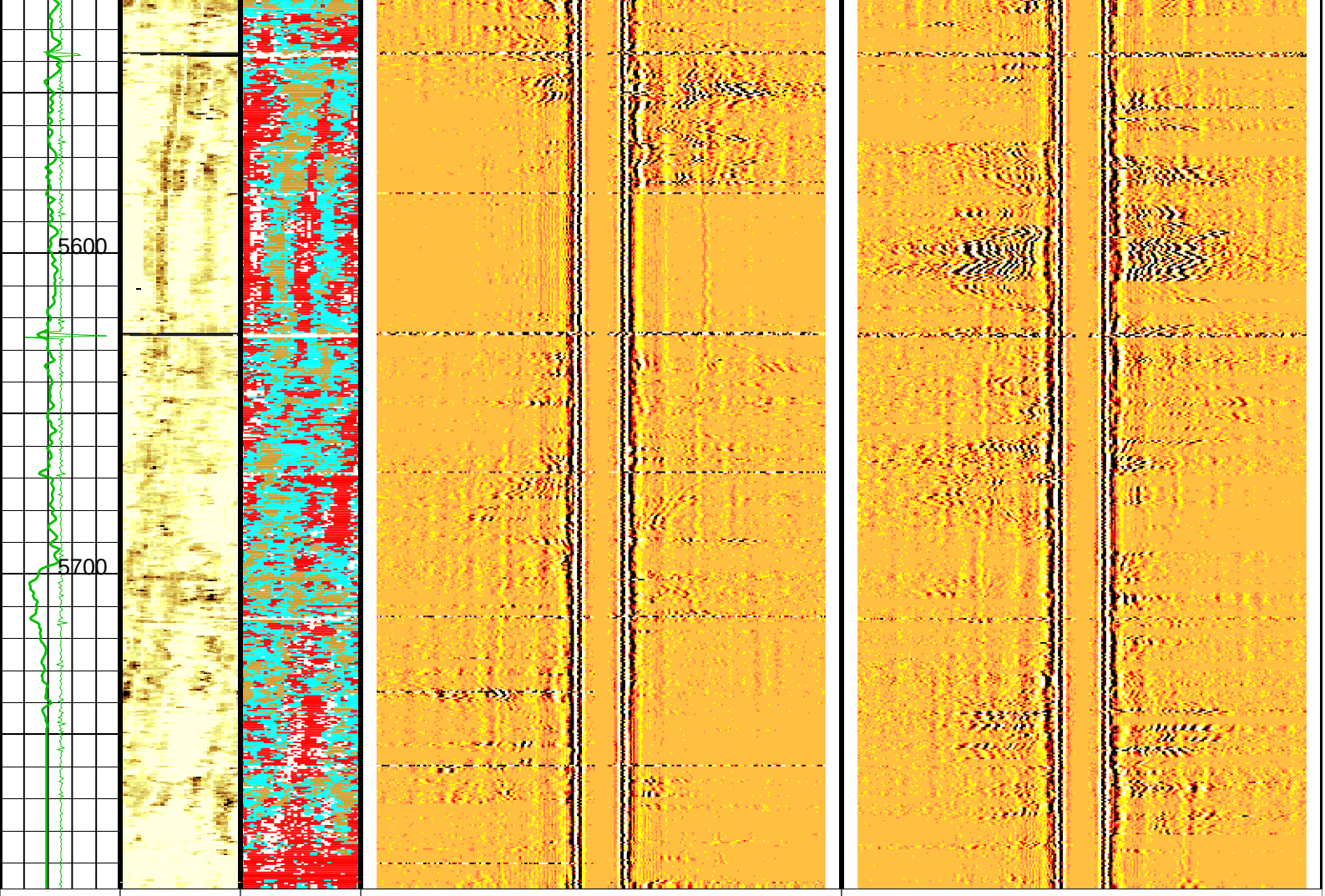

CCL (CCLU) (----
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1.0000
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2.0000
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3.0000
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4.0000
4.5000
5.0000
5.5000
6.0000
6.5000
7.0000
7.5000
8.0000

Raw Acoustic Imped. (AIBK) (MRAY)

0.5000
1.5000
2.5000
3.5000

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

Min Amplitude Max
Far at 0 and 180 deg (U−USIT_VDWFF000)
−150 (US) 150

Min Amplitude Max
Far at 90 and 270 deg (U−USIT_VDWFF090)
−150 (US) 150

Gamma Ray (GR) (GAPI)
0 150

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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F

DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	14.0	FT
PP	Playback Processing	RECOMPUTE	

Format: USI_IBC_VDL_WIDE **Vertical Scale: 2" per 100'** **Graphics File Created: 08−Jan−2013 05:00**

OP System Version: 19C1−222

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

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00

Schlumberger

COMPRESSED GOODWIN MAIN PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1-35**

Input DLIS Files

DEFAULT	USI_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00	5798.0 FT	137.5 FT

OP System Version: 19C1−222

USIT−D	19C1−222	DSLT−H	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) 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) 0 150

Eccent. (ECCE) 0 (IN) 0.5

Average Acoustic Impedance #1 (AV_AI1) (MRAY) 0 15

Average Acoustic Impedance #3 (AV_AI3) (MRAY) 0 15

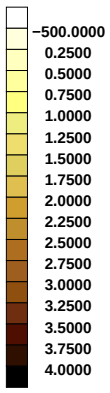
Average Acoustic Impedance #5 (AV_AI5) (MRAY) 0 15

Average Acoustic Impedance #7 (AV_AI7) (MRAY) 0 15

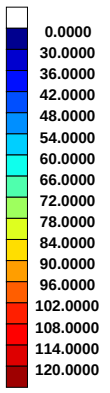
Average Acoustic Impedance #9 (AV_AI9) (MRAY) 0 15

Average of AI (AIAV) (MRAY) 0 7.5

Minimum Flexural Attenuation (U−USIT_UFAN) (DB/M) 0 150

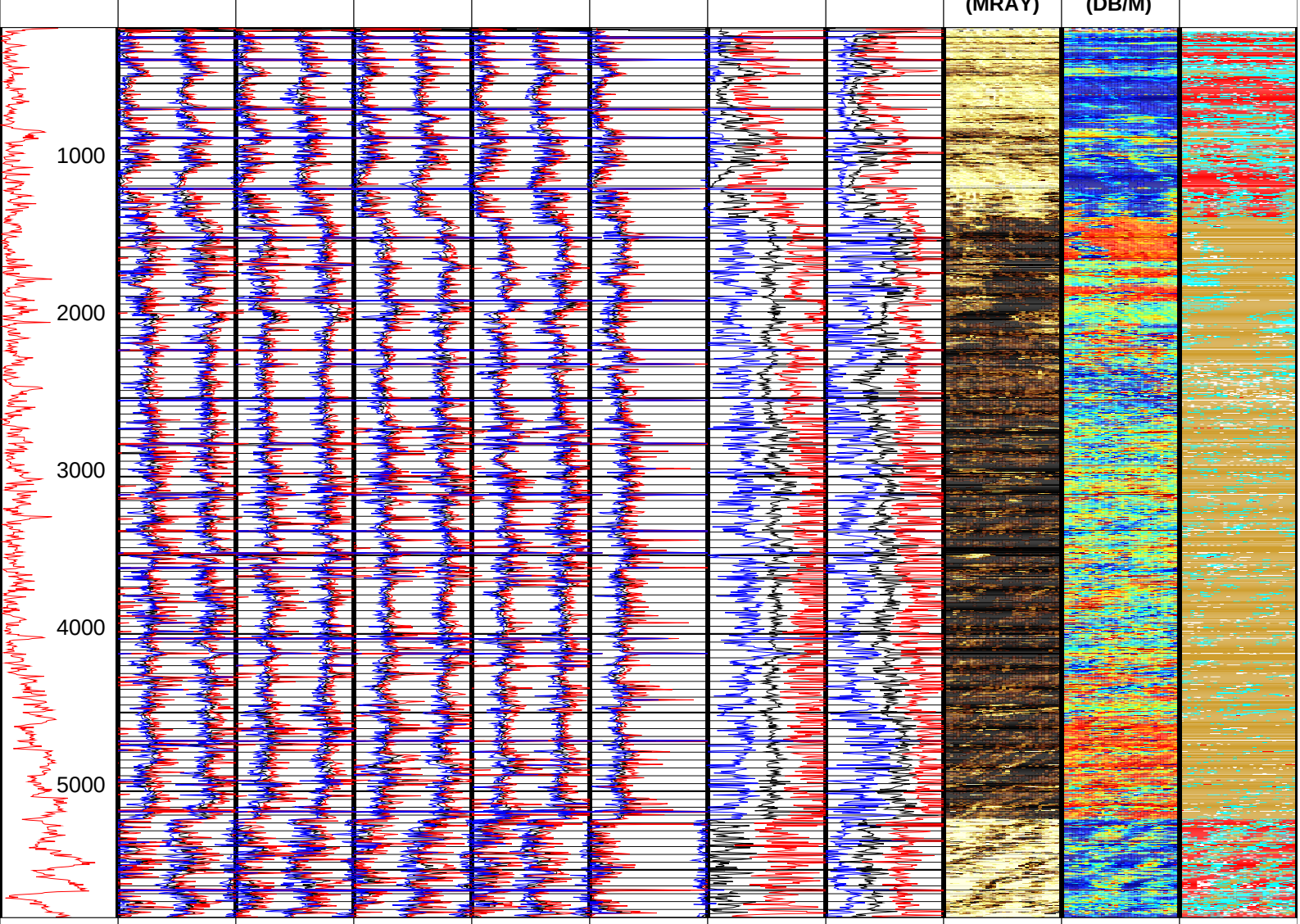


Raw Acoustic Imped. (AIBK) (MRAY)



Flexural Attenuation (U−USIT_UFAK) (DB/M)

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



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)
0 150

−500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000

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) (−−−−

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)
0 150

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)
0 7.5

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

0 15	0 15	0 15	0 15	0 15	0 150

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: M_Goodwin_Compressed **Vertical Scale: 0.1" per 100'** **Graphics File Created: 08−Jan−2013 05:00**

OP System Version: 19C1−222

USIT−D	19C1−222	DSLT−H	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_SONIC_012LUP	FN:15	PRODUCER	07−Jan−2013 05:40	5784.0 FT	123.5 FT

Output DLIS Files

DEFAULT	USI_SONIC_029PUP	FN:38	PRODUCER	08−Jan−2013 05:00

Schlumberger

USI IBC SLG COMPOSITE REPEAT PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21	5793.0 FT	4285.0 FT

OP System Version: 19C1−222

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

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
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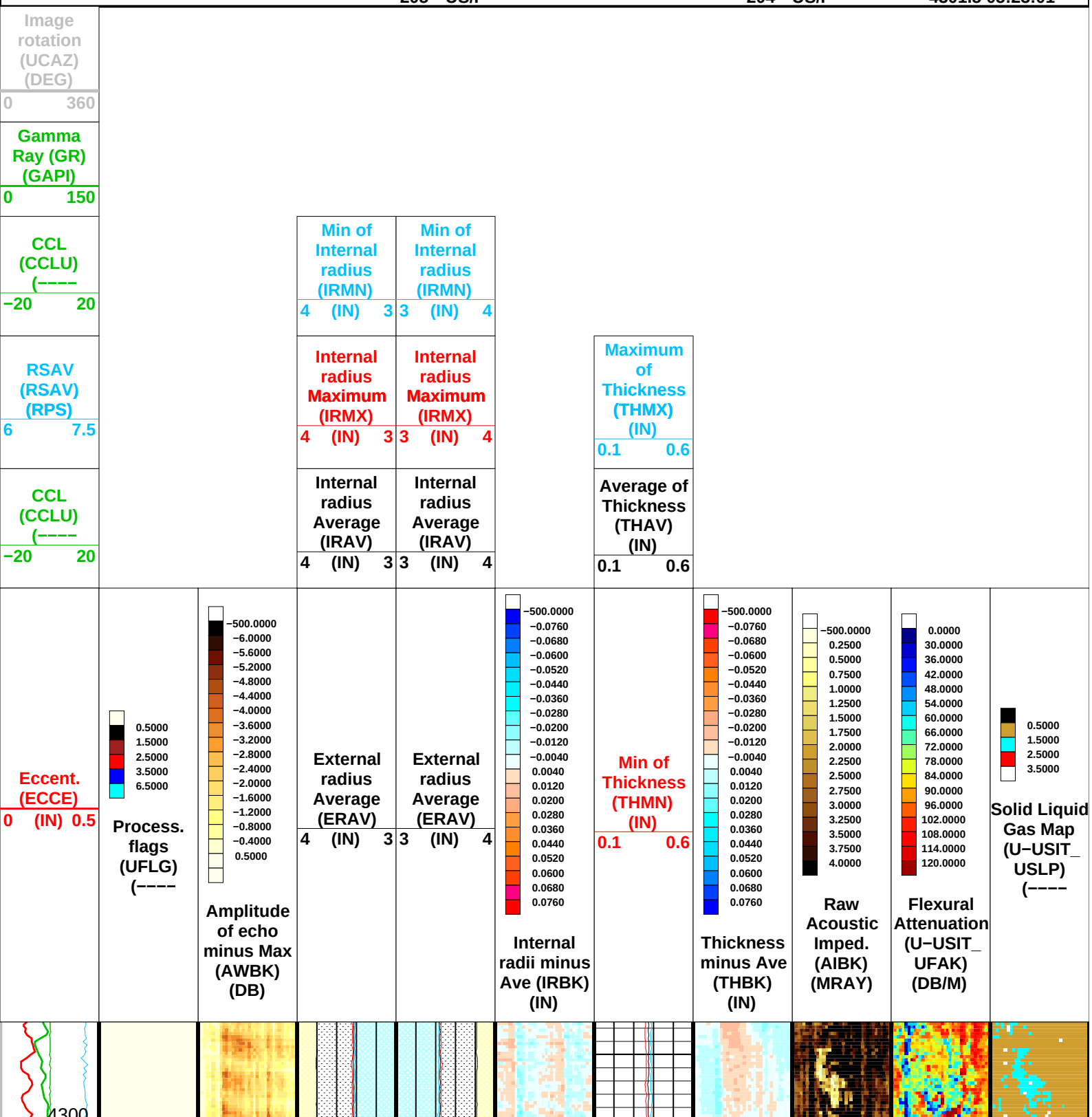
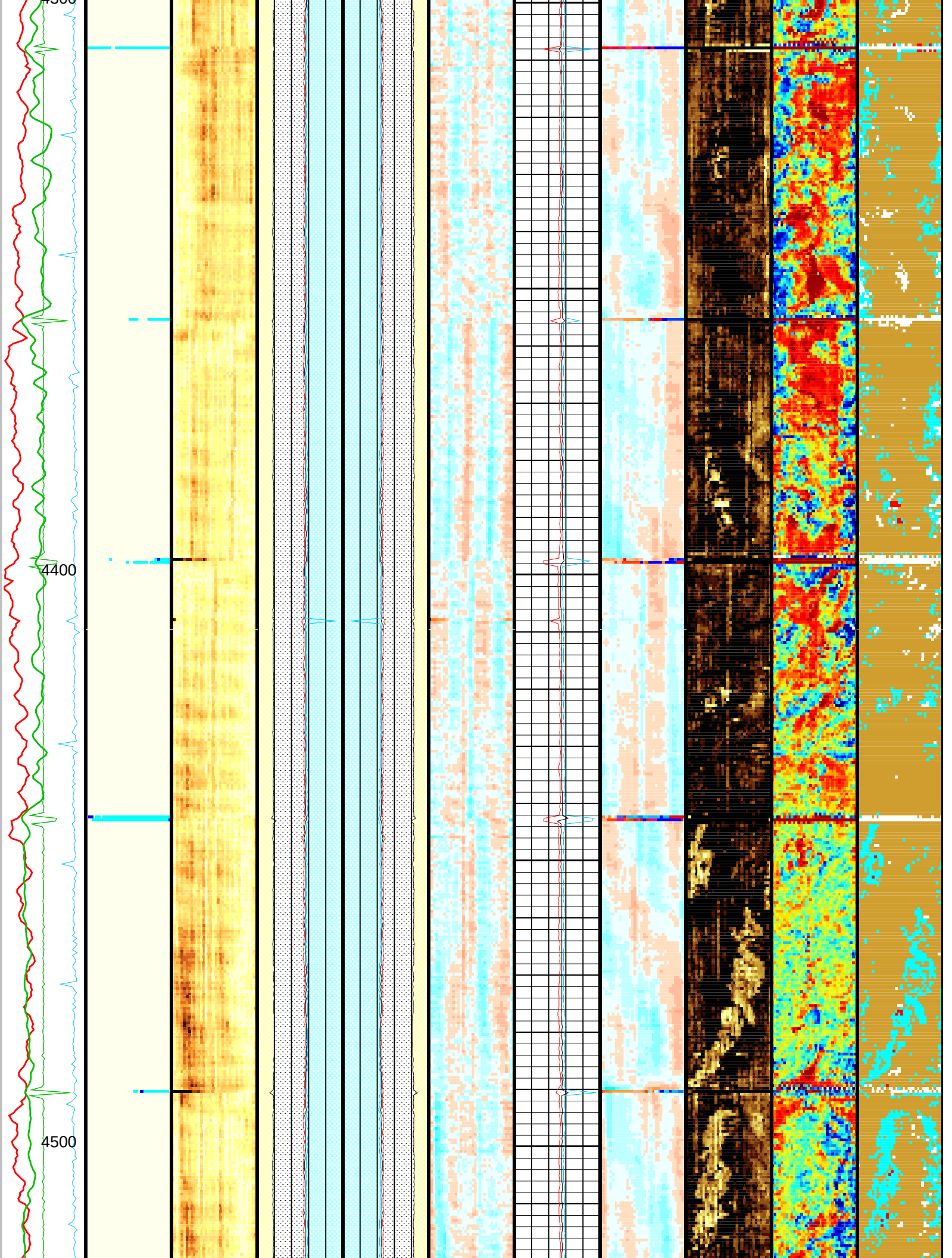
	205 US/F	204 US/F	4301.5 05:23:01

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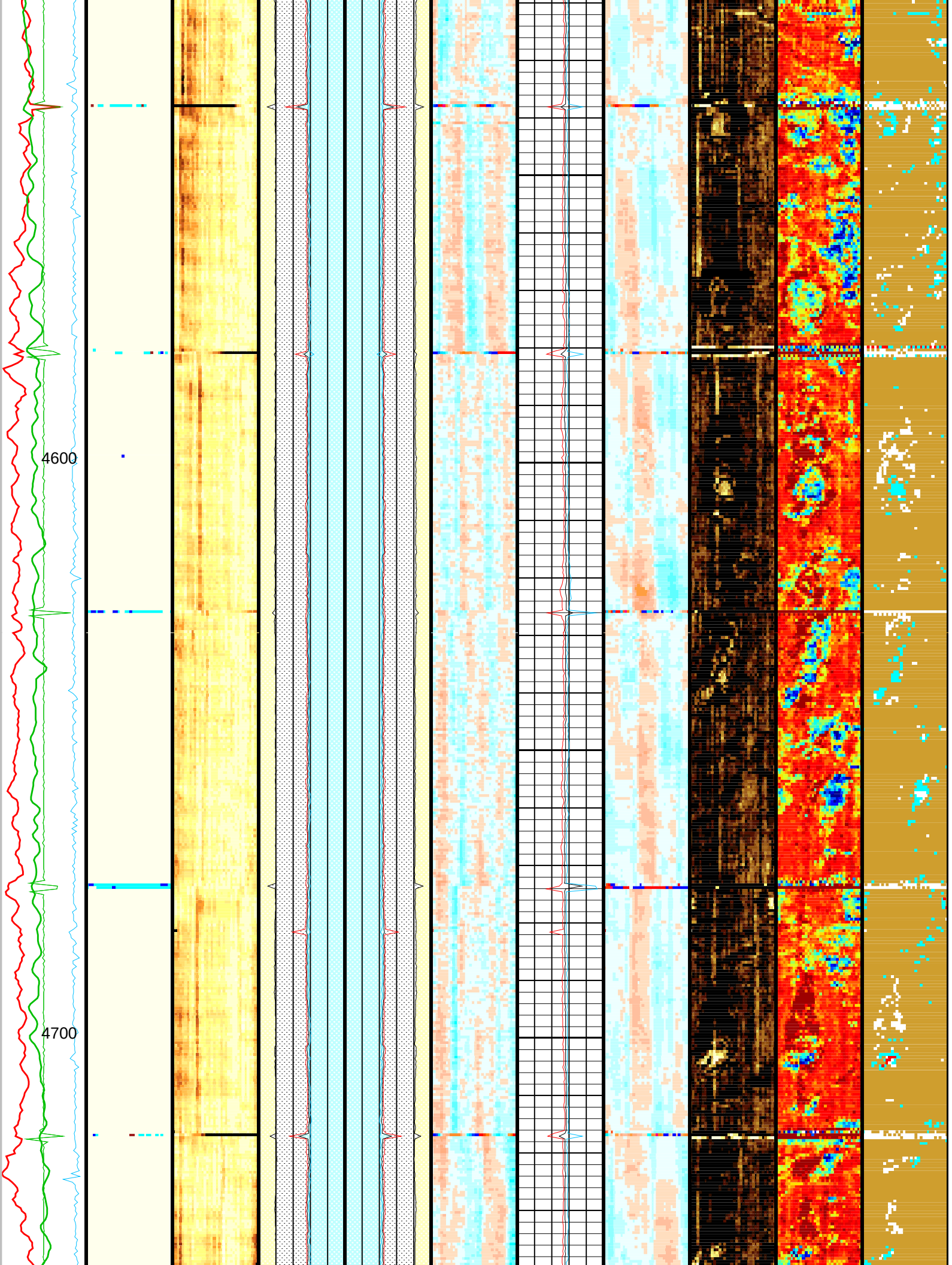
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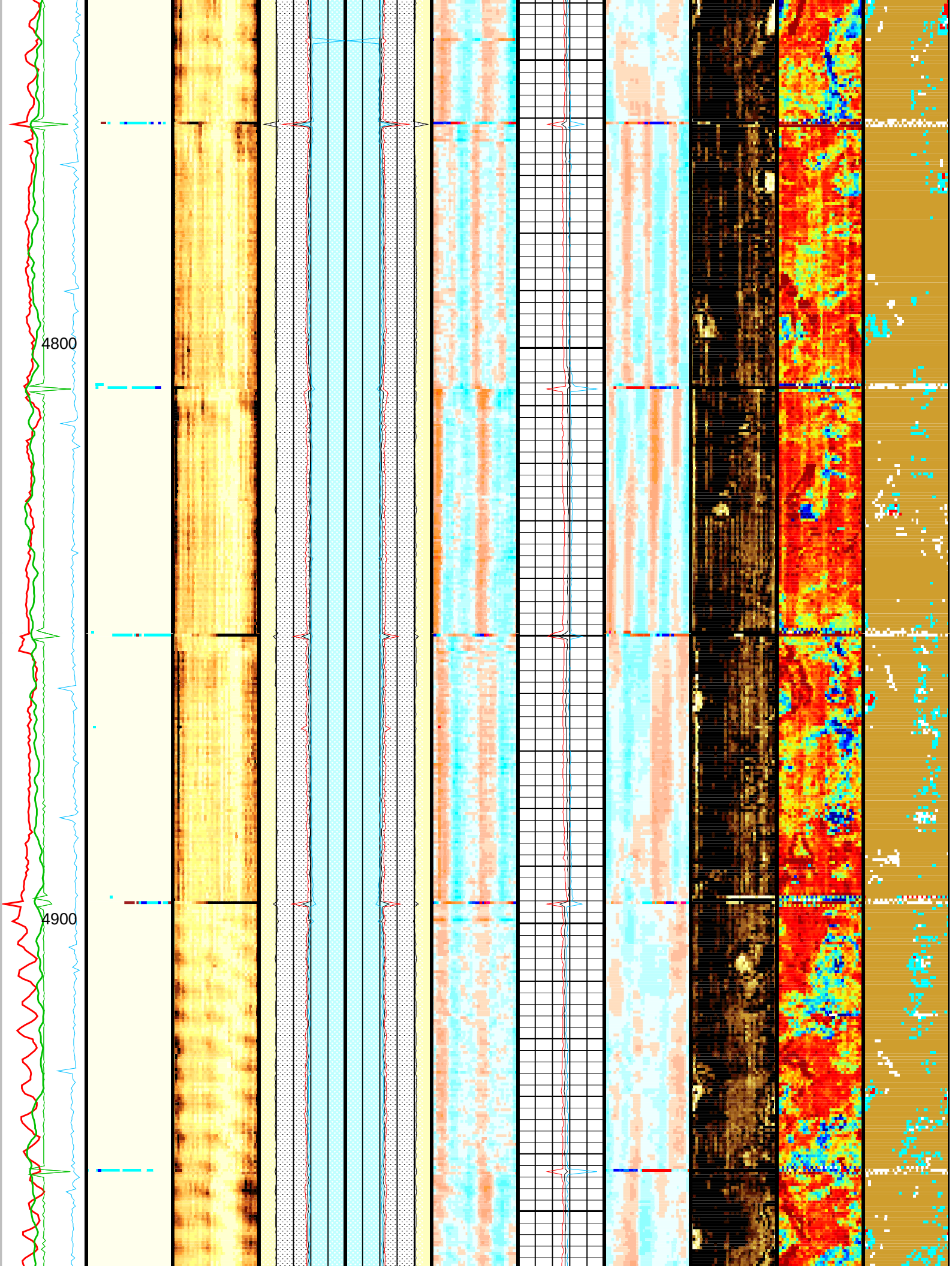
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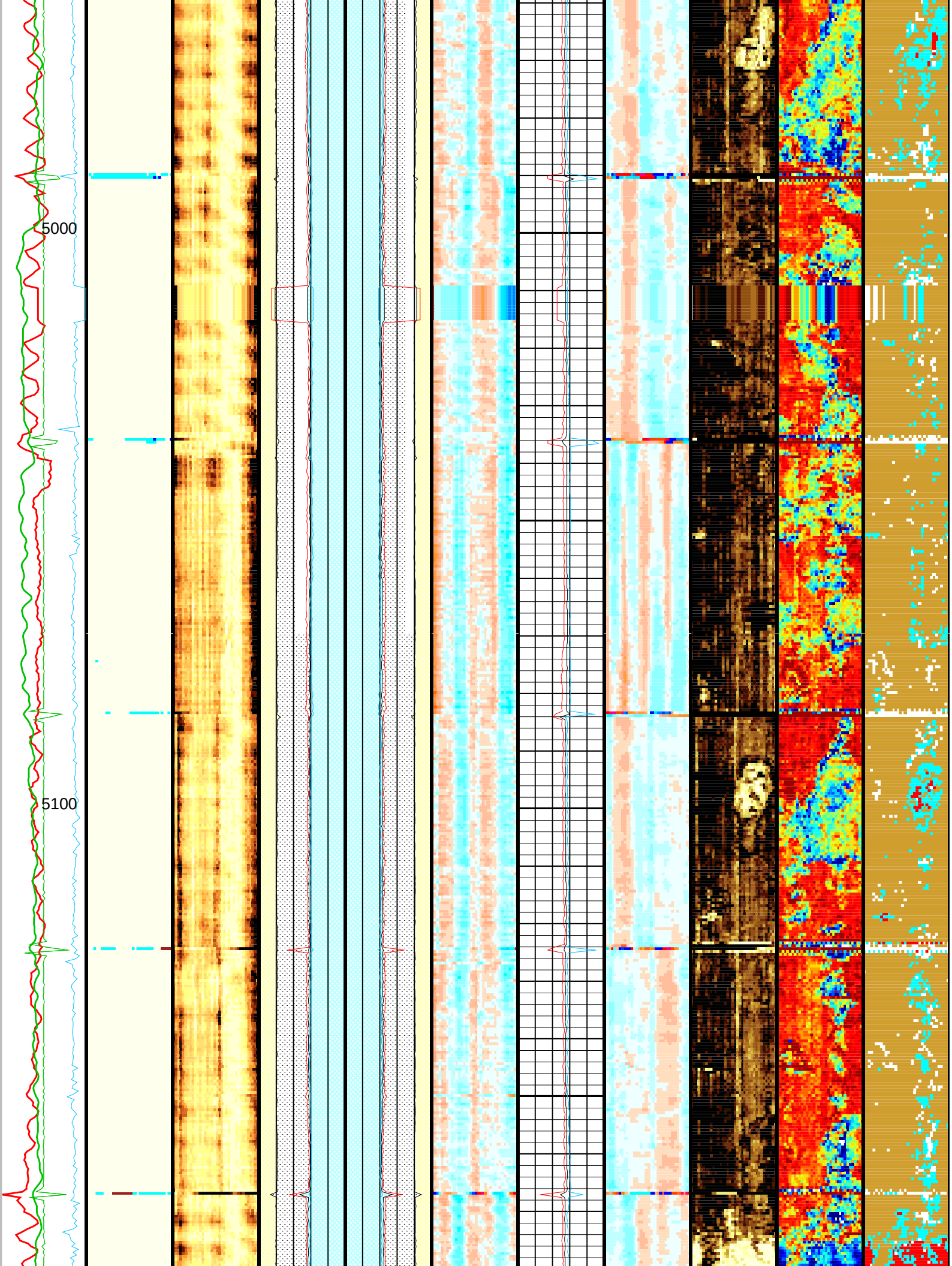
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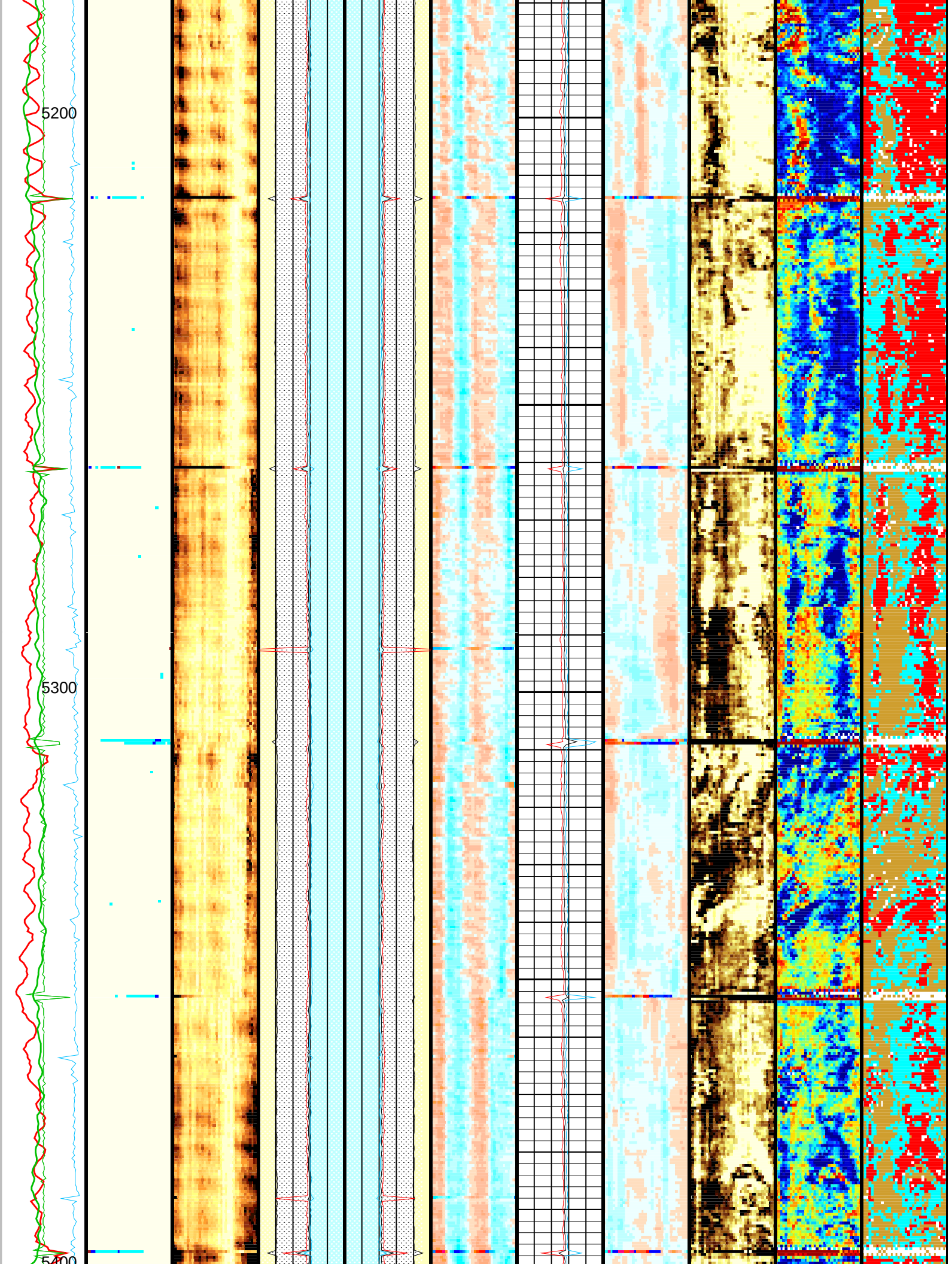
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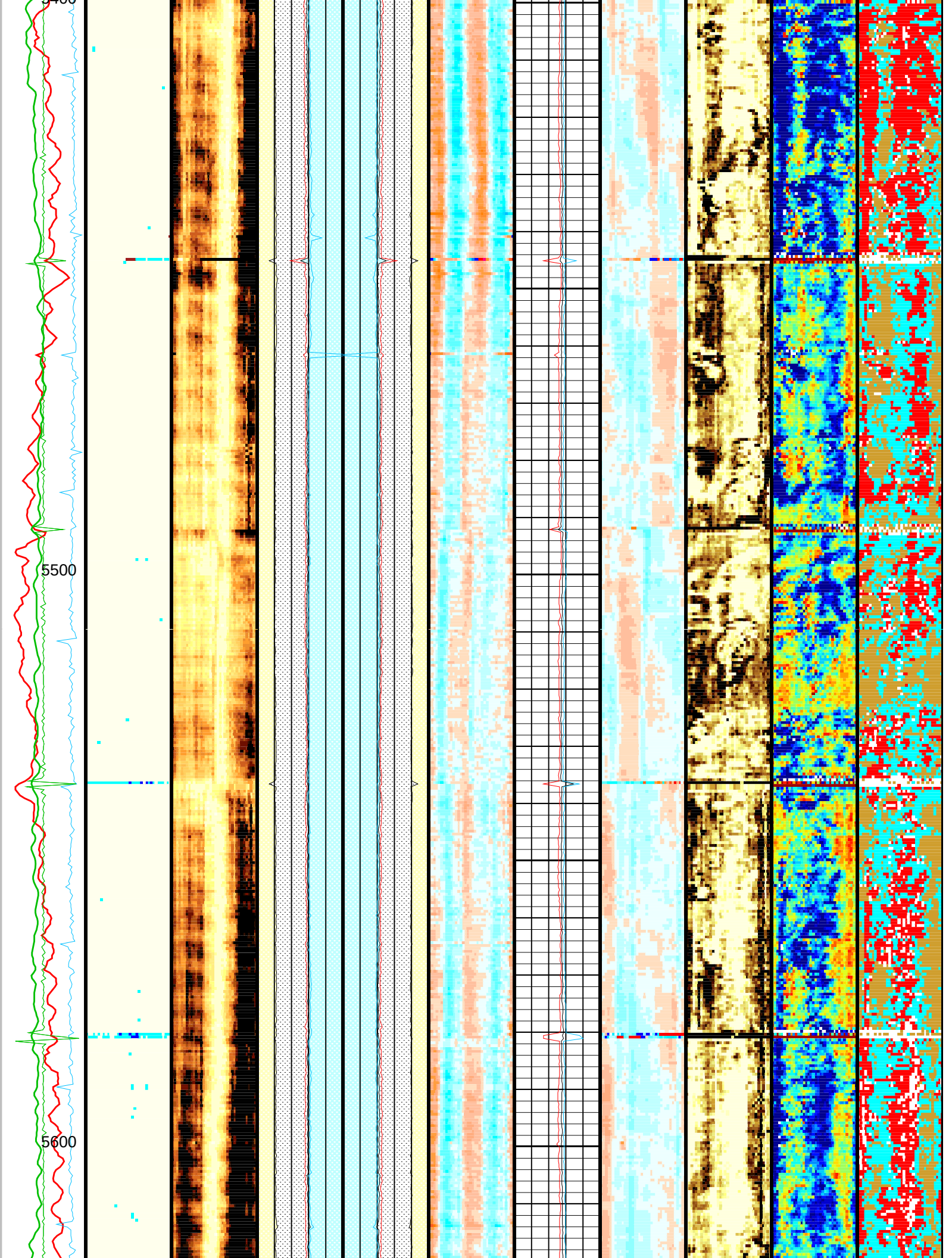
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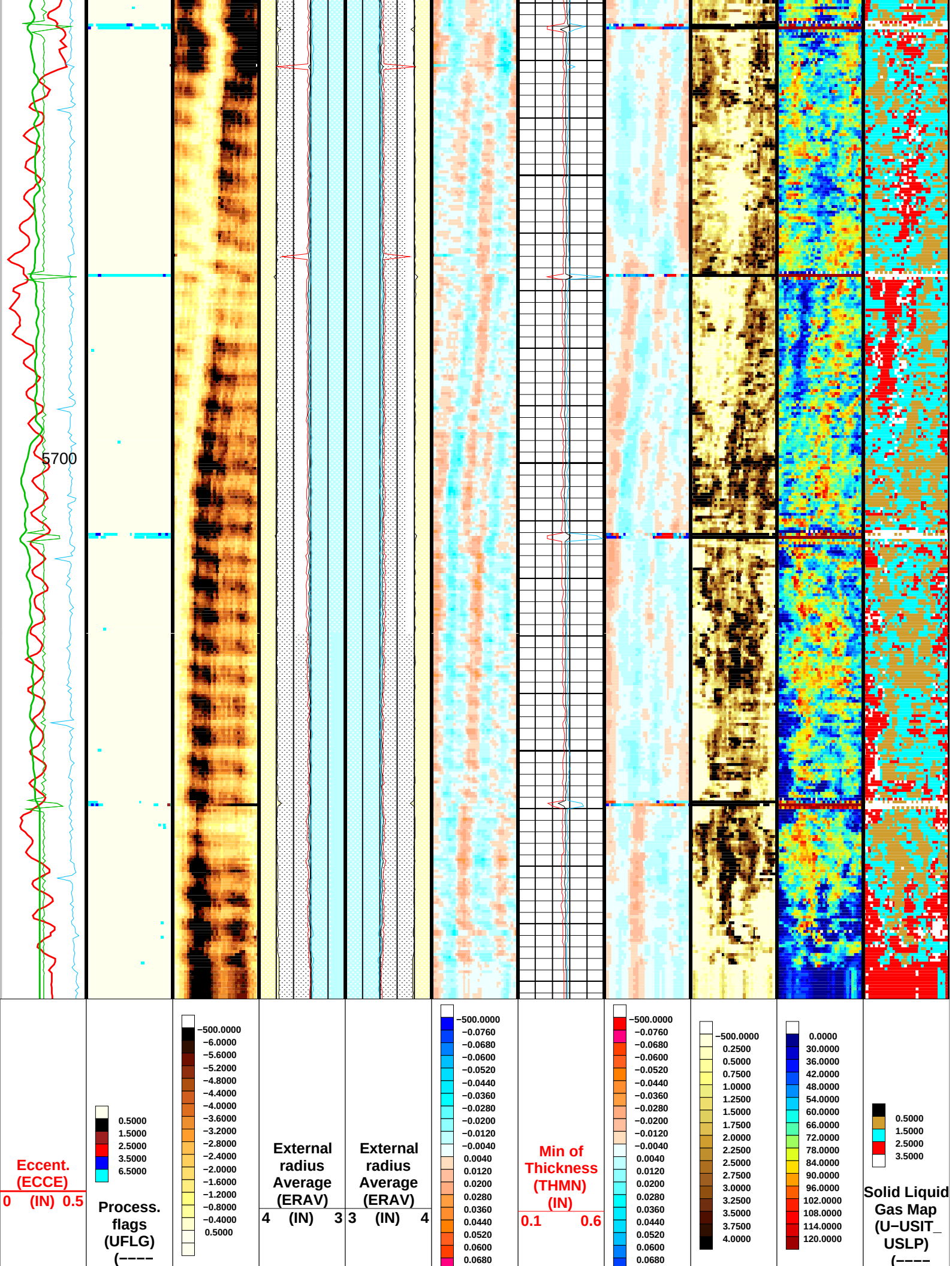
5700
Eccent. (ECCE)
0 (IN) 0.5
0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (----
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−6.0000
−5.6000
−5.2000
−4.8000
−4.4000
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−3.2000
−2.8000
−2.4000
−2.0000
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−0.8000
−0.4000
0.5000
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
Min of Thickness (THMN) (IN)
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−0.0680
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0.0040
0.0120
0.0200
0.0280
0.0360
0.0440
0.0520
0.0600
0.0680
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0.5000
0.7500
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1.2500
1.5000
1.7500
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0.0000
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84.0000
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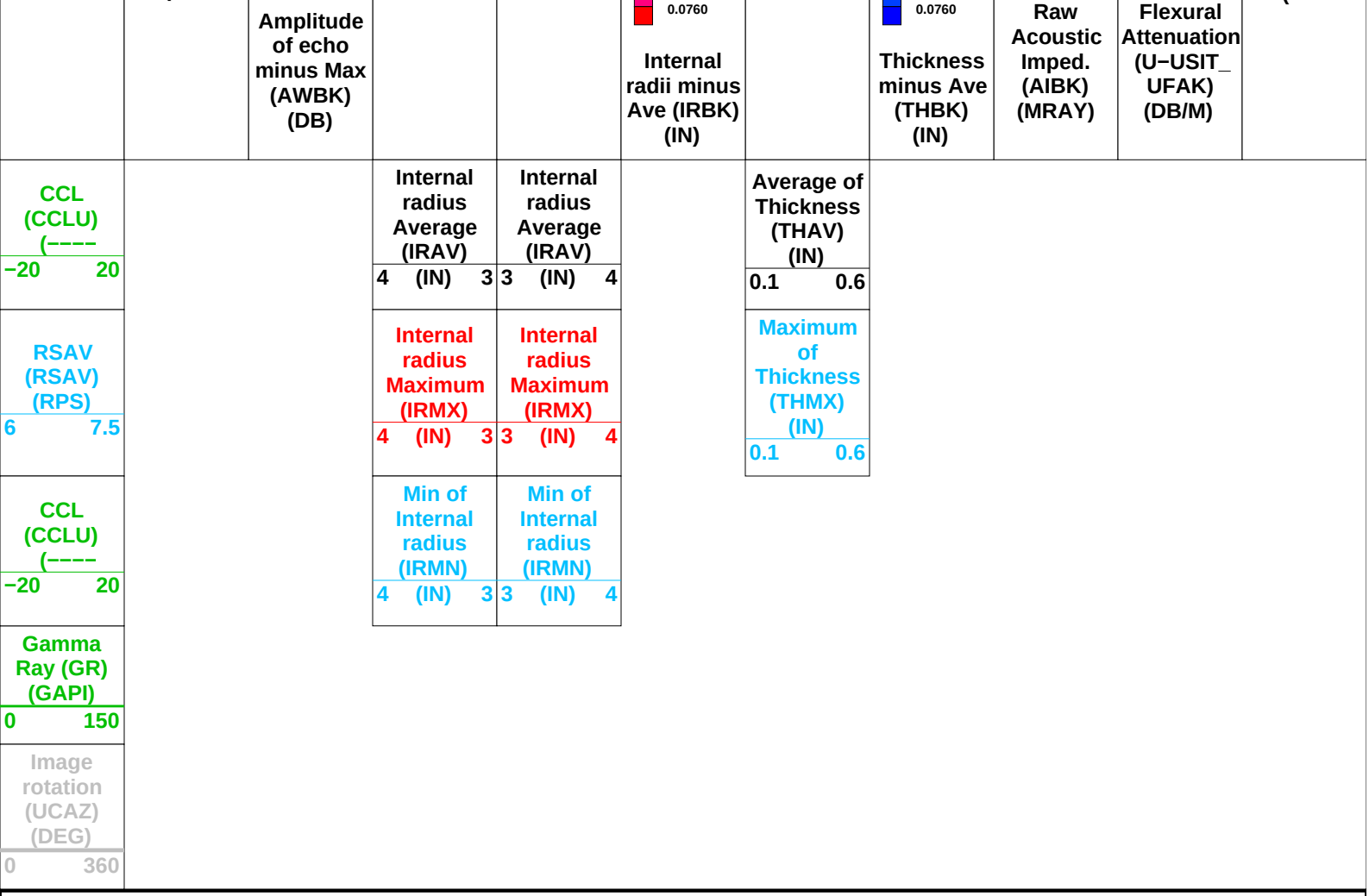
Solid Liquid Gas Map (U−USIT_ USLP) (----



Format: USI_IBC_SLG_Composite **Vertical Scale: 5" per 100'** **Graphics File Created: 08−Jan−2013 05:21**

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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	2.0	FT
PP	Playback Processing	NORMAL	

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21		

Schlumberger

USI IBC SLG
REPEAT PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

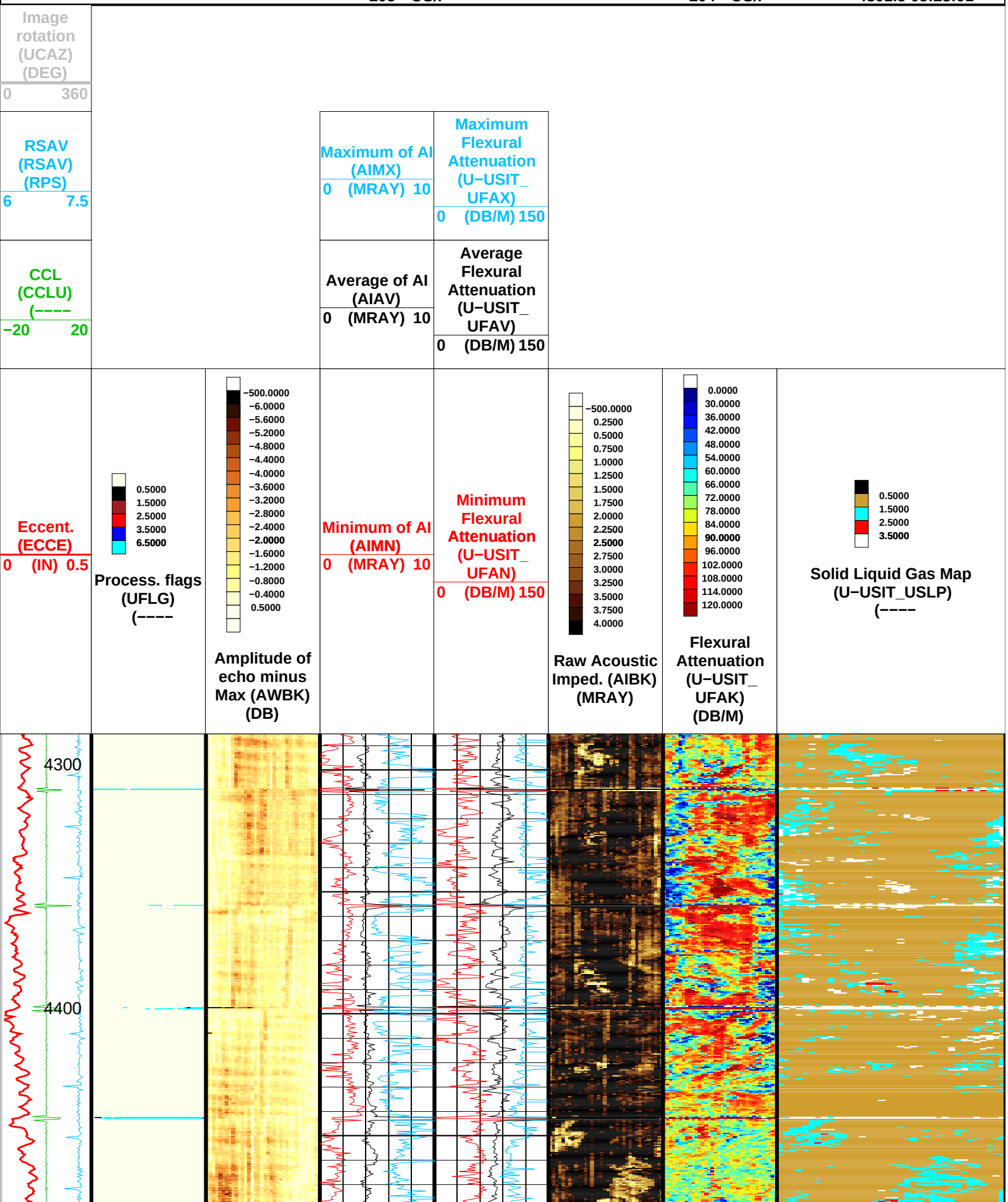
DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21	5793.0 FT	4285.0 FT

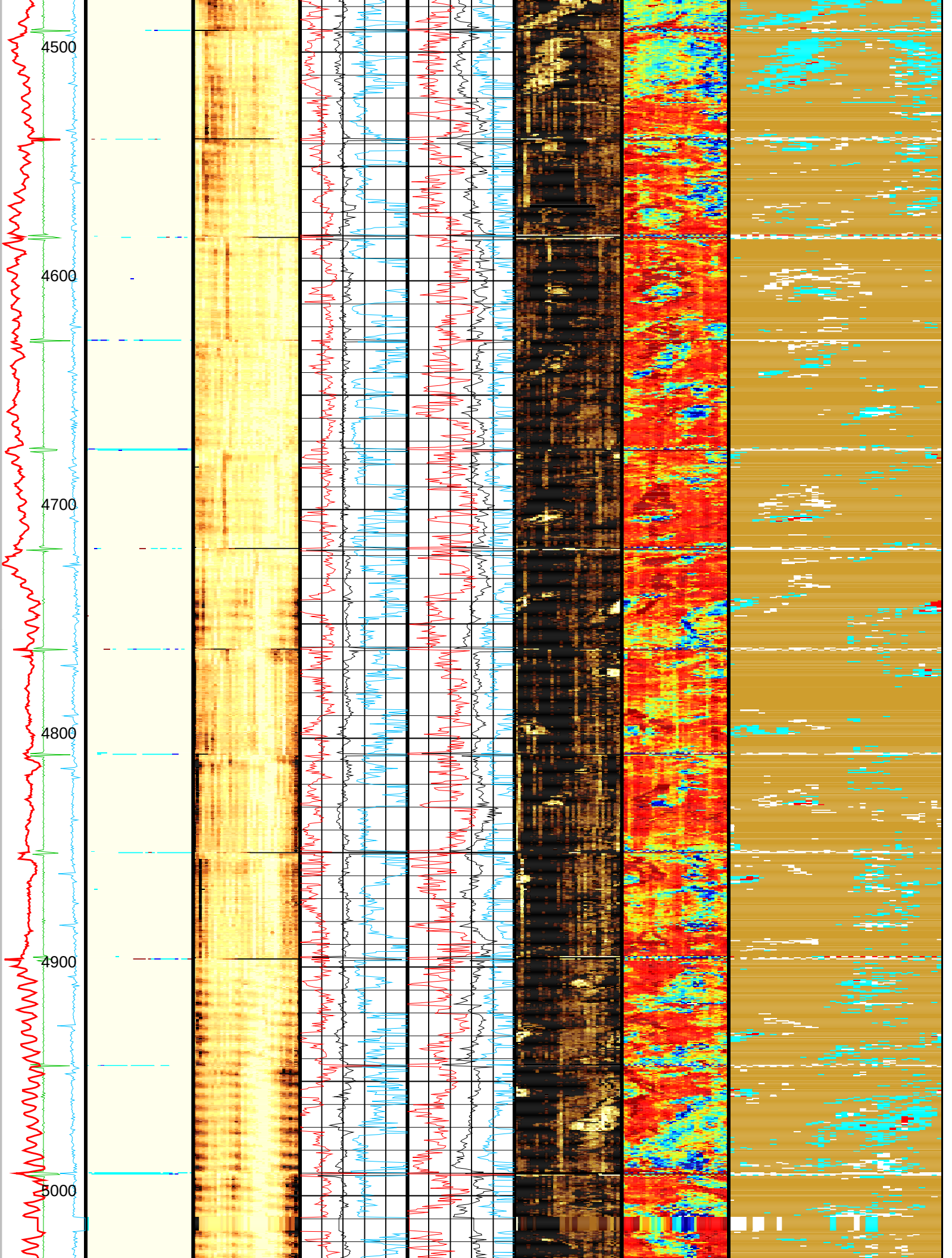
OP System Version: 19C1−222

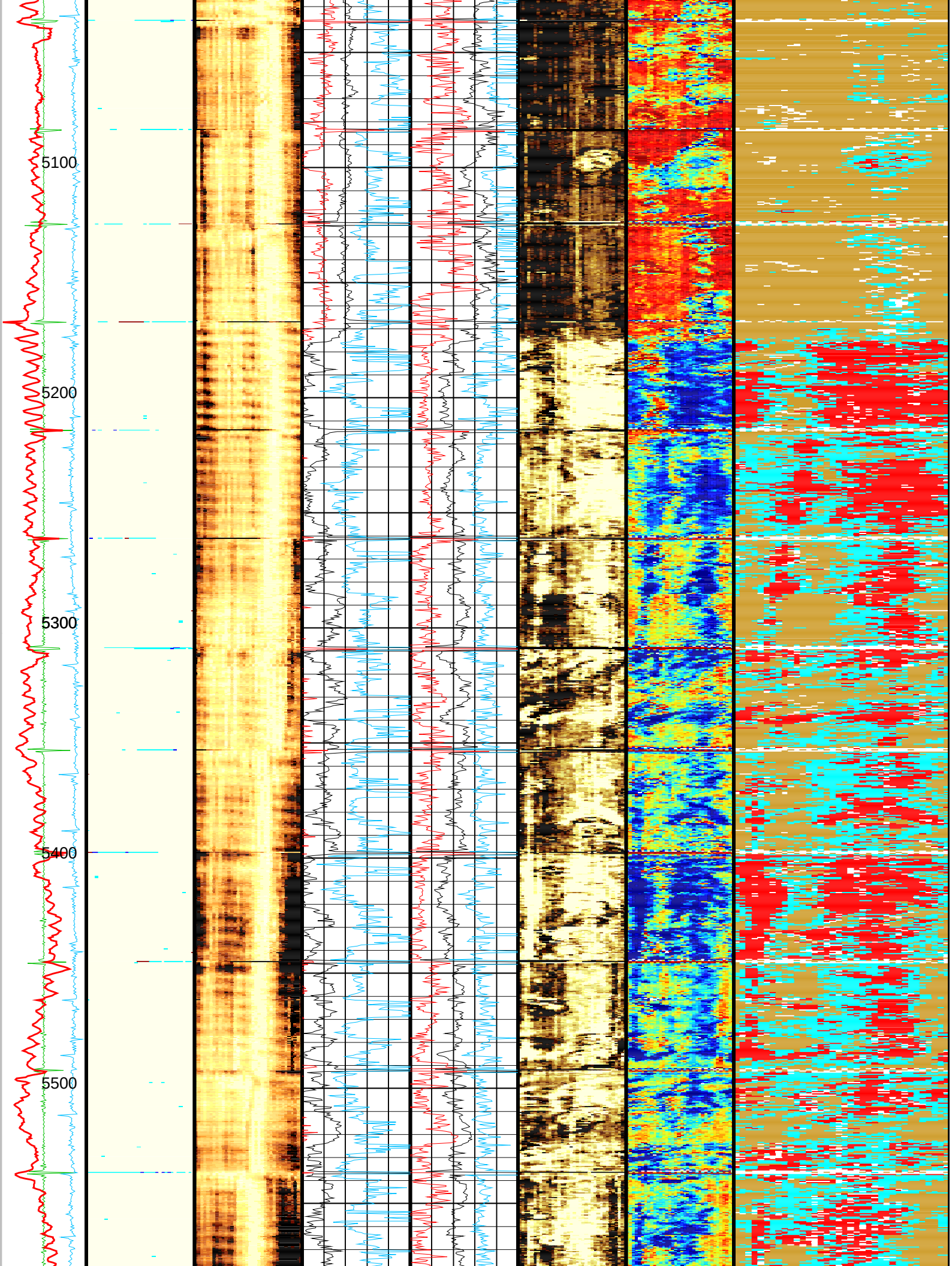
USIT−D	19C1−222	SGT−N	19C1−222

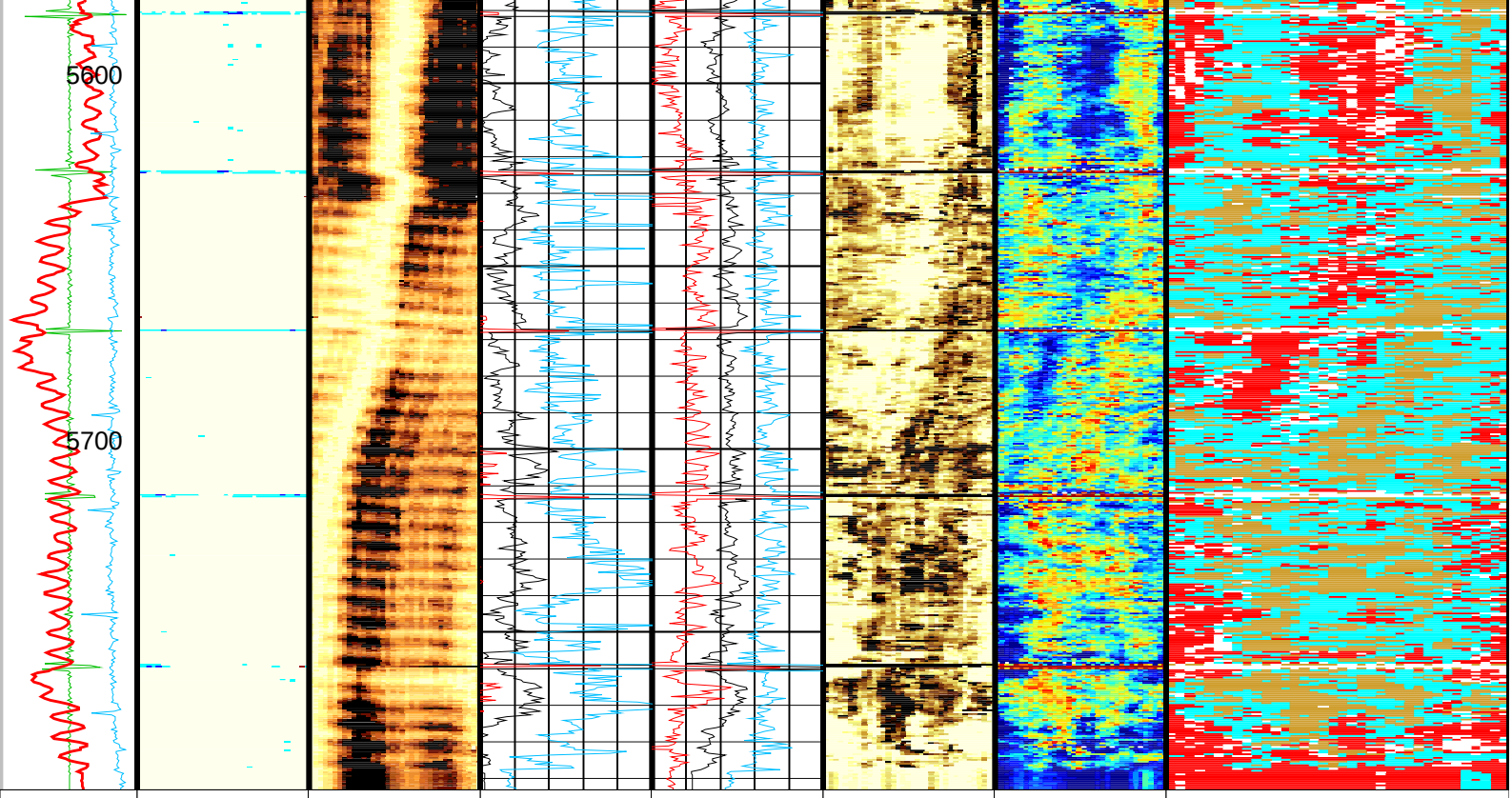
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
DFVL	204 US/F	203 US/F	4701.5 05:22:30
	205 US/F	204 US/F	4301.5 05:23:01




4500
4600
4700
4800
4900
5000


5100
5200
5300
5400
5500



Eccent. (ECCE)
0 (IN) 0.5

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)

Minimum of AI (AIMN)
0 (MRAY) 10

Minimum Flexural Attenuation (U−USIT_ UFAN)
0 (DB/M) 150

−500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000

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) (----

CCL (CCLU) (----
−20 20

Average of AI (AIAV)
0 (MRAY) 10

Average Flexural Attenuation (U−USIT_ UFAV)
0 (DB/M) 150

RSAV (RSAV) (RPS)
6 7.5

Maximum of AI (AIMX)
0 (MRAY) 10

Maximum Flexural Attenuation (U−USIT_ UFAX)
0 (DB/M) 150

Image rotation (UCAZ) (DEG)
0 360

Format: USI_IBC_SLG **Vertical Scale: 2" per 100'** **Graphics File Created: 08−Jan−2013 05:21**

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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	2.0	FT
PP	Playback Processing	NORMAL	

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

Output DLIS Files

DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21		

Schlumberger

USI IBC VDL WIDE REPEAT PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

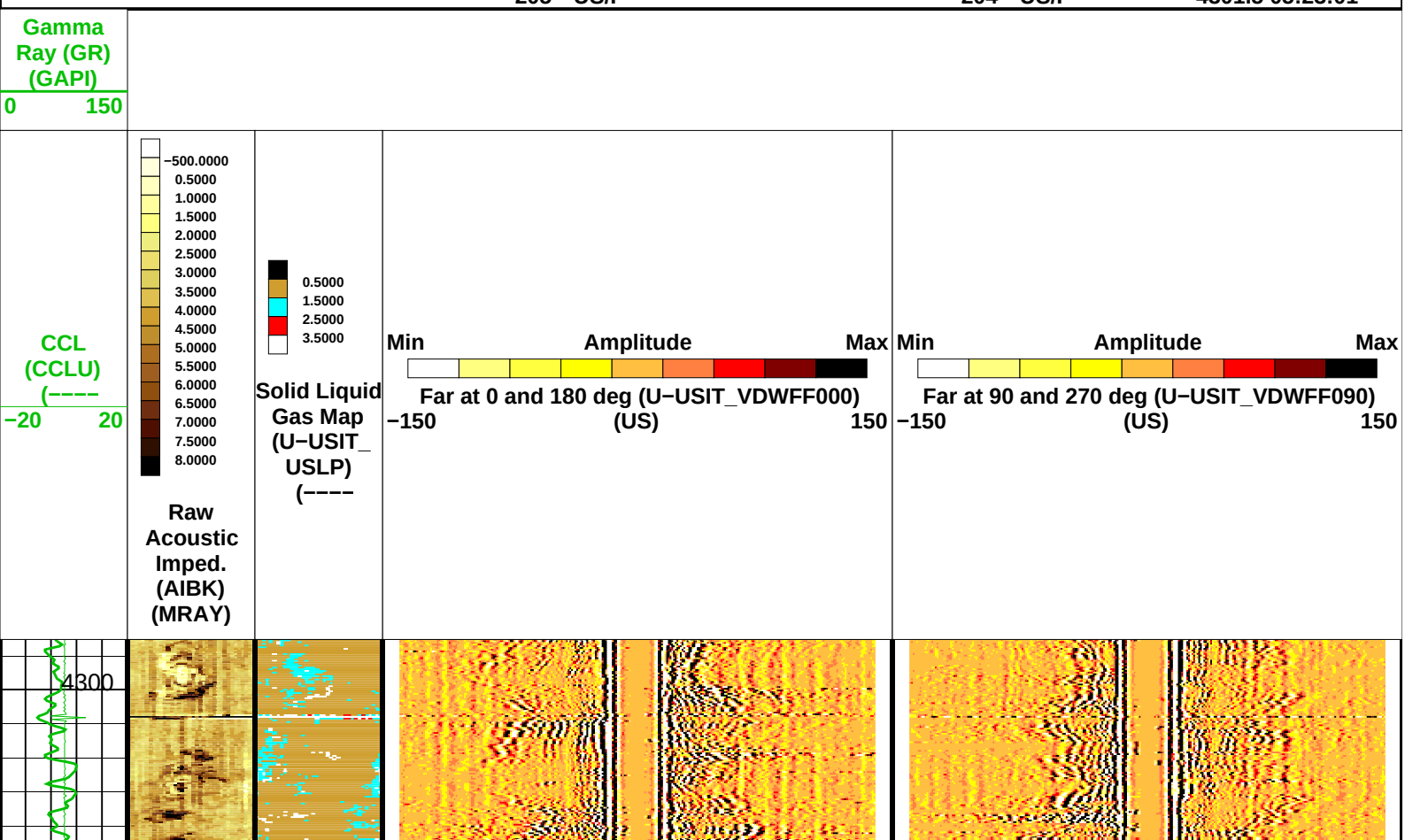
DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21	5793.0 FT	4285.0 FT

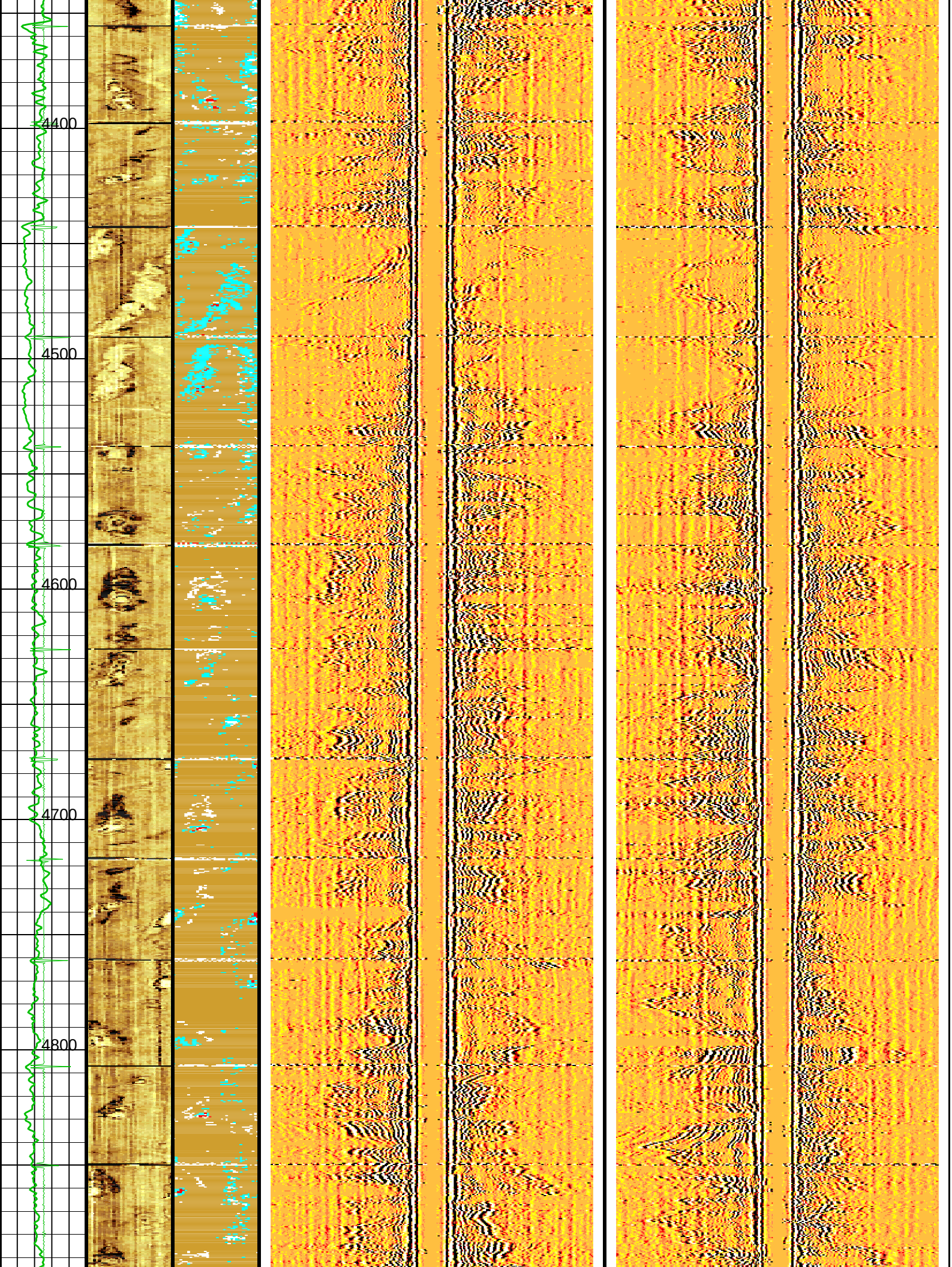
OP System Version: 19C1−222

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

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
DFVL	204 US/F	203 US/F	4701.5 05:22:30
	205 US/F	204 US/F	4301.5 05:23:01

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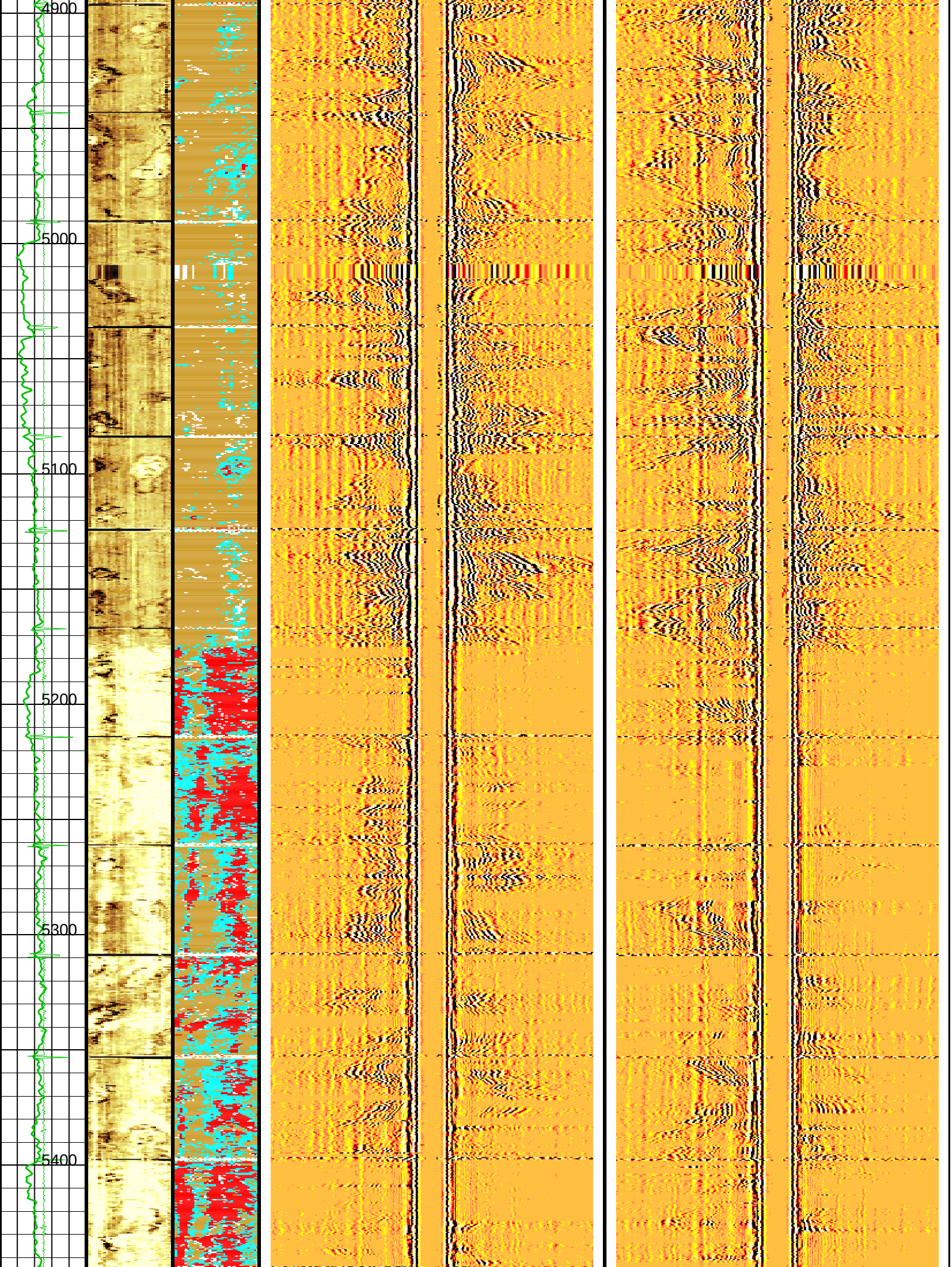
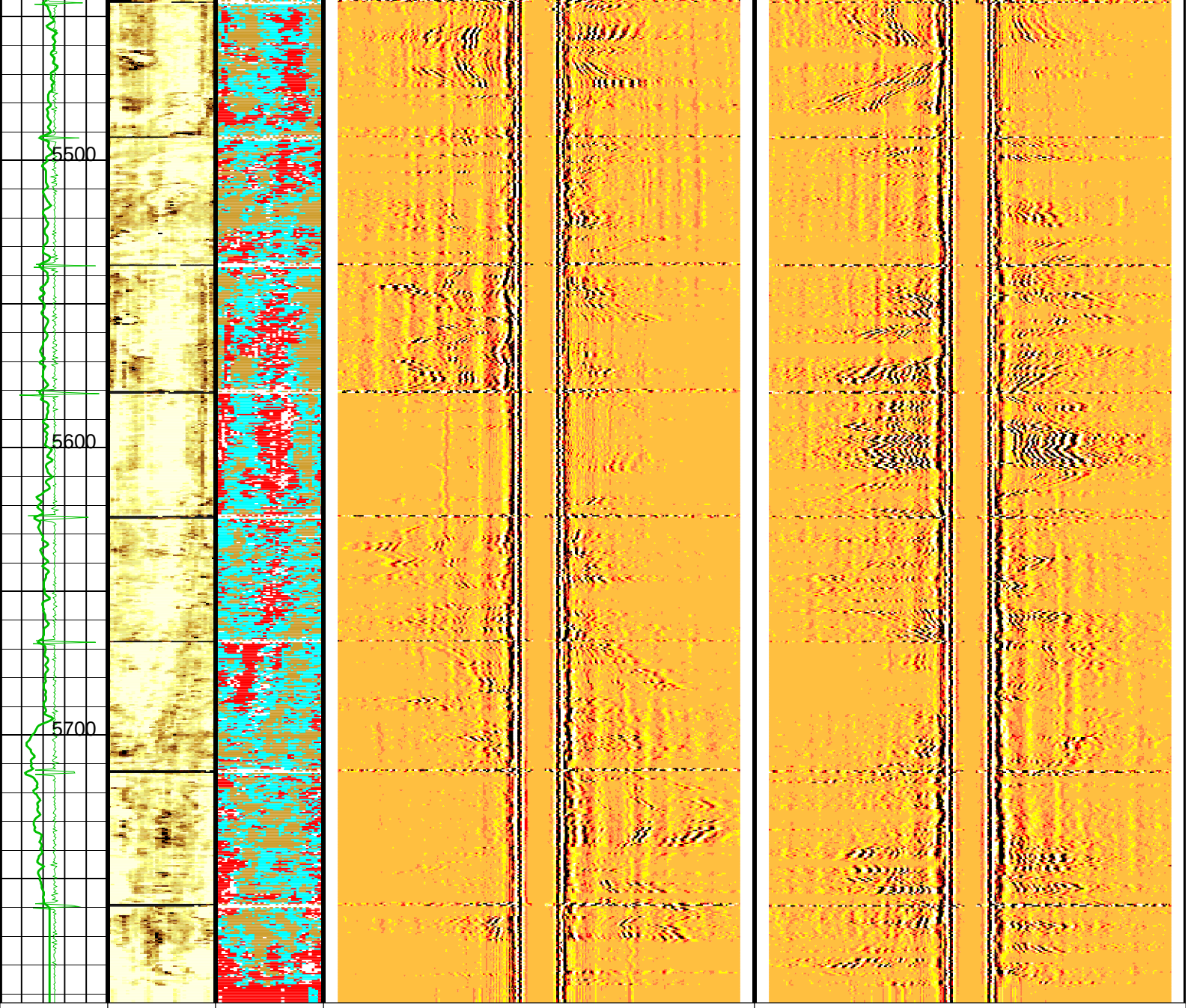
4500
4600
4700
4800


4900
5000
5100
5200
5300
5400



CCL (CCLU) (----
−20 20

−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)

0.5000
1.5000
2.5000
3.5000

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

Min Amplitude Max
Far at 0 and 180 deg (U−USIT_VDWFF000)
−150 (US) 150

Min Amplitude Max
Far at 90 and 270 deg (U−USIT_VDWFF090)
−150 (US) 150

Gamma Ray (GR) (GAPI)
0 150

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	6.875	IN
DFVL	Default Fluid Velocity	203	US/F
DOT	Diameter of Transducer Sensor	2.874	IN
EMXV	EMEX Voltage	125	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	10.3	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	0.375	IN
U−USIT_CEMT	USIT Cement Type	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	33_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	22.4874	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	−1	MRAY
ZMUD	Acoustic Impedance of Mud	1.85	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	29.70	LB/F
DO	Depth Offset for Playback	2.0	FT
PP	Playback Processing	NORMAL	

Format: USI_IBC_VDL_WIDE **Vertical Scale: 2" per 100'** **Graphics File Created: 08−Jan−2013 05:21**

OP System Version: 19C1−222

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

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21

Schlumberger

COMPRESSED GOODWIN
REPEAT PASS

REPEAT PASS

MAXIS Field Log

Company: SHELL **Well: DAWSON CREEK 1 25**

Input DLIS Files

DEFAULT	USI_023LUP	FN:32	PRODUCER	07−Jan−2013 11:10	5791.0 FT	4283.0 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:40	PRODUCER	08−Jan−2013 05:21	5793.0 FT	4285.0 FT

OP System Version: 19C1−222

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

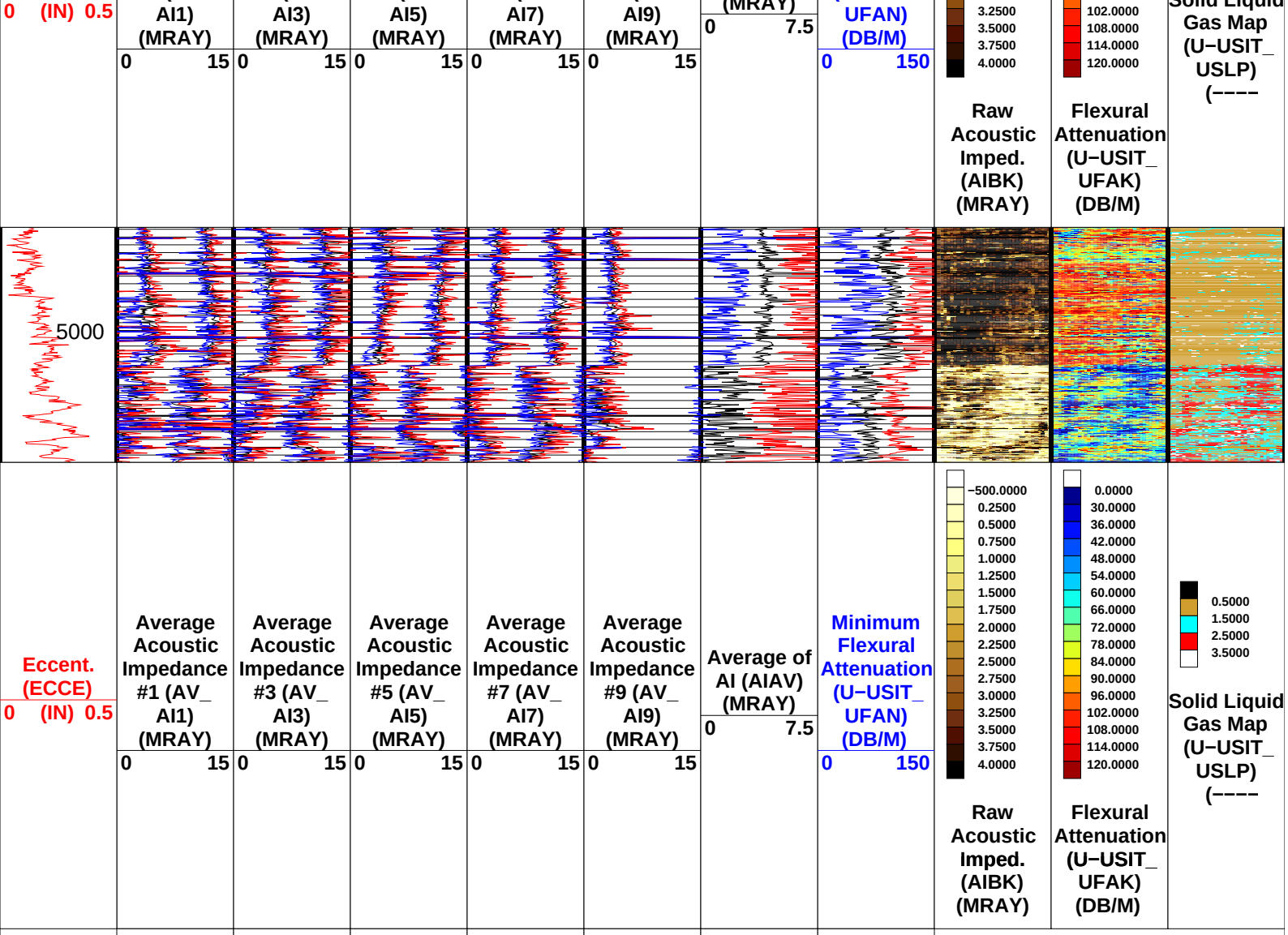
Minimum Acoustic Impedance #2 (MIN_AI2) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #4 (MIN_AI4) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #6 (MIN_AI6) (MRAY) −7.5 7.5	Minimum Acoustic Impedance #8 (MIN_AI8) (MRAY) −7.5 7.5				
Minimum Acoustic Impedance #1 (MIN_AI1) (MRAY) 0 15	Minimum Acoustic Impedance #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) 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) 0 150	
Eccent. (ECCE)	Average Acoustic Impedance #1 (AV_	Average Acoustic Impedance #3 (AV_	Average Acoustic Impedance #5 (AV_	Average Acoustic Impedance #7 (AV_	Average Acoustic Impedance #9 (AV_	Average of AI (AIAV) (MRAY)	Minimum Flexural Attenuation (U−USIT_

−500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000

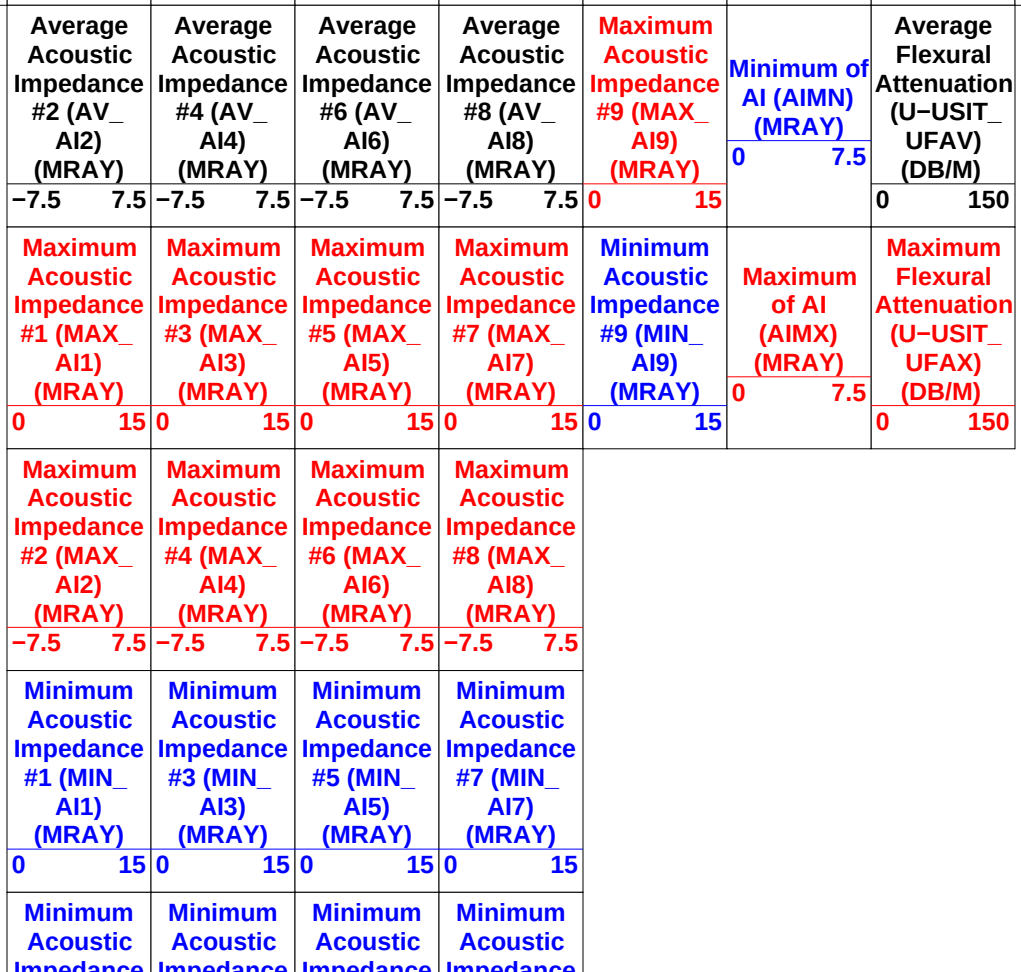
0.0000
30.0000
36.0000
42.0000
48.0000
54.0000
60.0000
66.0000
72.0000
78.0000
84.0000
90.0000
96.0000

0.5000
1.5000
2.5000
3.5000

Solid Liquid


0 (IN) 0.5
AI1) (MRAY)
AI3) (MRAY)
AI5) (MRAY)
AI7) (MRAY)
AI9) (MRAY)
(MRAY)
UFAN) (DB/M)
0 15
0 7.5
0 150
3.2500
3.5000
3.7500
4.0000
102.0000
108.0000
114.0000
120.0000
Raw Acoustic Imped. (AIBK) (MRAY)
Flexural Attenuation (U−USIT_ UFAK) (DB/M)
Solid Liquid Gas Map (U−USIT_ USLP) (−−−−
5000

Eccent. (ECCE)
0 (IN) 0.5
Average Acoustic Impedance #1 (AV_ AI1) (MRAY)
Average Acoustic Impedance #3 (AV_ AI3) (MRAY)
Average Acoustic Impedance #5 (AV_ AI5) (MRAY)
Average Acoustic Impedance #7 (AV_ AI7) (MRAY)
Average Acoustic Impedance #9 (AV_ AI9) (MRAY)
Average of AI (AIAV) (MRAY)
Minimum Flexural Attenuation (U−USIT_ UFAN) (DB/M)
0 15
0 7.5
0 150
−500.0000
0.2500
0.5000
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000
2.2500
2.5000
2.7500
3.0000
3.2500
3.5000
3.7500
4.0000
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
Raw Acoustic Imped. (AIBK) (MRAY)
Flexural Attenuation (U−USIT_ UFAK) (DB/M)
Solid Liquid Gas Map (U−USIT_ USLP) (−−−−


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)
−7.5 7.5
0 15
0 7.5
0 150
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)
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)
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)
Minimum Acoustic

Impedance #2 (MIN_AI2) (MRAY)		Impedance #4 (MIN_AI4) (MRAY)		Impedance #6 (MIN_AI6) (MRAY)		Impedance #8 (MIN_AI8) (MRAY)	
−7.5	7.5	−7.5	7.5	−7.5	7.5	−7.5	7.5

Format: M_Goodwin_Compressed **Vertical Scale: 0.1" per 100'** **Graphics File Created: 08−Jan−2013 05:21**

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_023LUP**	**FN:32**	**PRODUCER**	**07−Jan−2013 11:10**	**5791.0 FT**	**4283.0 FT**

Output DLIS Files

DEFAULT	**USI_031PUP**	**FN:40**	**PRODUCER**	**08−Jan−2013 05:21**

Schlumberger

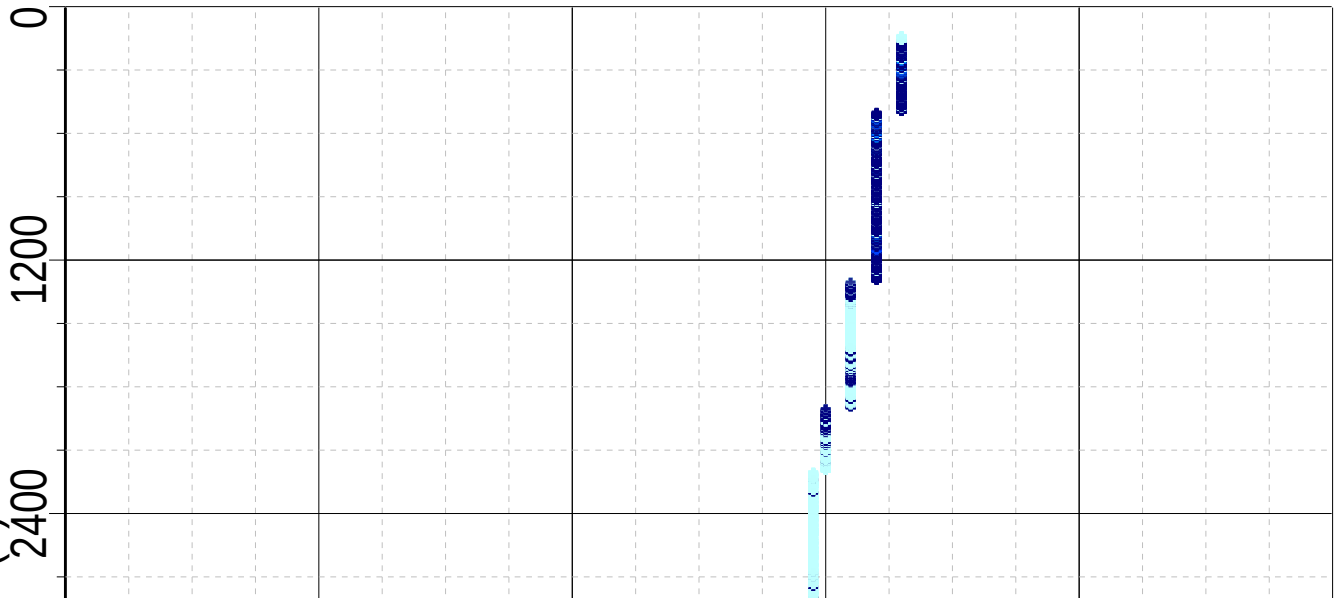
FLUID PROPERTIES
USI IBC FVEL

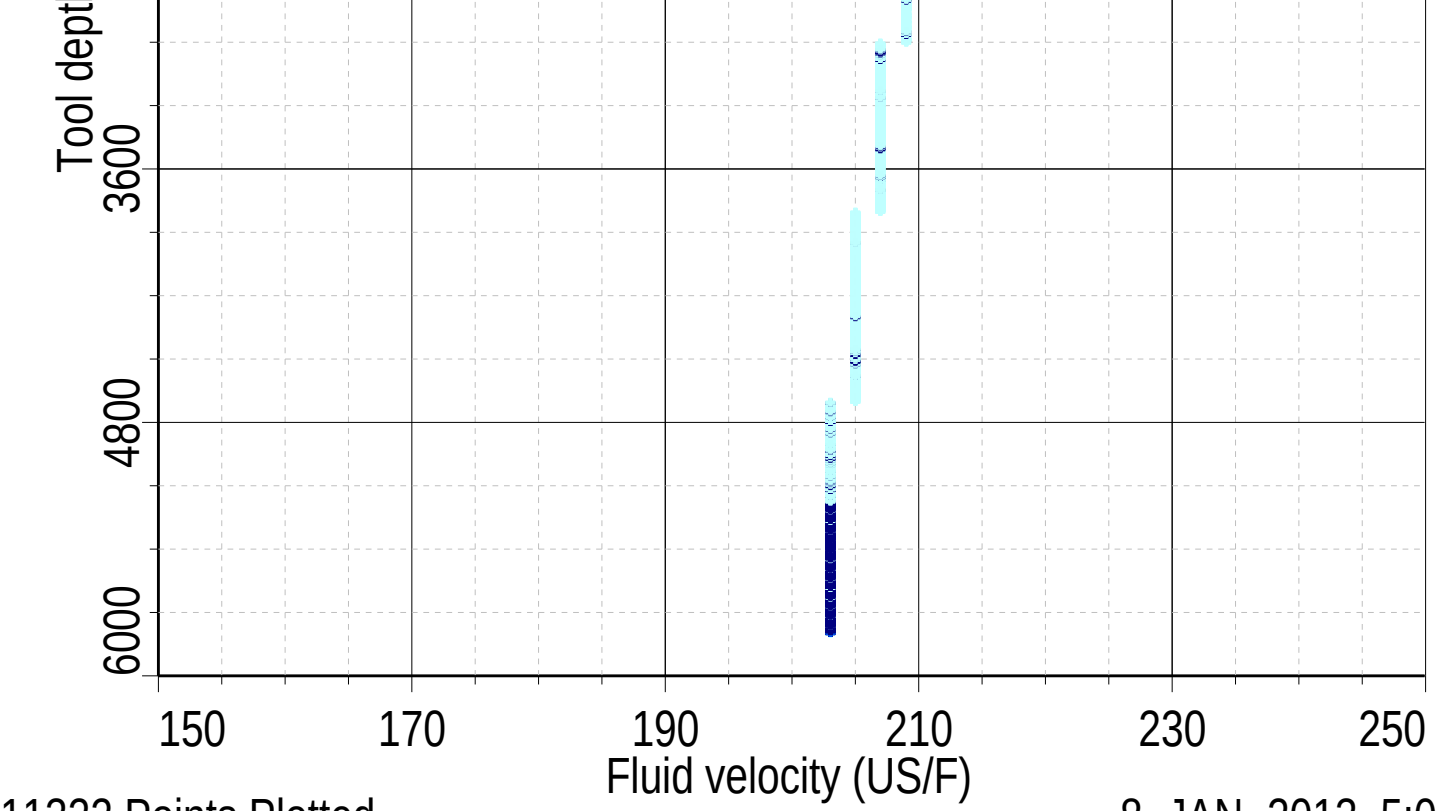
MAXIS Field Log

Index: 5798.0 − 137.5 FT

IBC Inv. Fluid Z QC (−−−−

0. 0.5





11322 Points Plotted

8-JAN-2013 5:08

Schlumberger

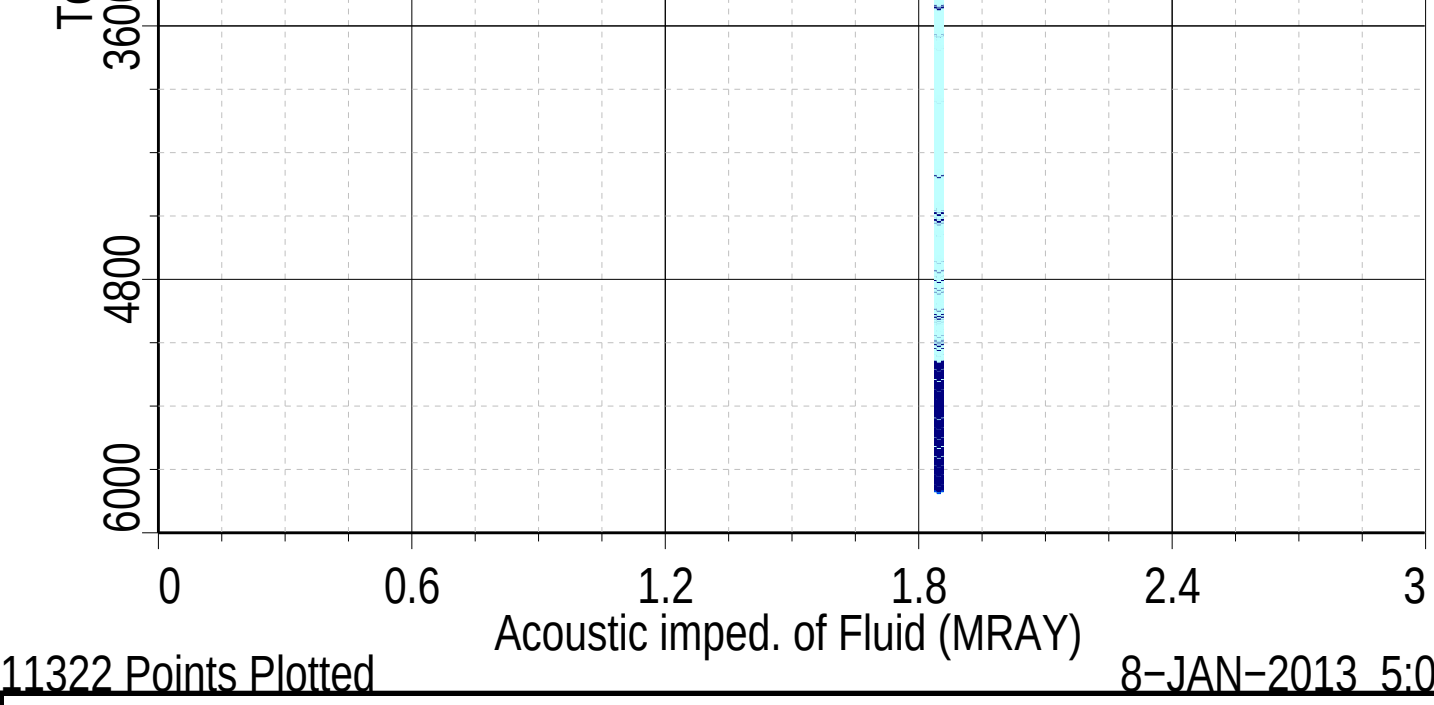
FLUID PROPERTIES
USI IBC ZMUD

MAXIS Field Log

IBC Inv. Fluid Z QC (----

Index: 5798.0 - 137.5 FT

0. 0.5



11322 Points Plotted 8−JAN−2013 5:08

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CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Scintillation Gamma Ray Tool − N Wellsite Calibration − Detector Calibration							
Before: 4−Jan−2013 16:10							
Gamma Ray (Jig − Bkg)	163.2	N/A	163.2	N/A	N/A	14.84	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

Scintillation Gamma Ray Tool − N / Equipment Identification

Primary Equipment:

Scintillation Gamma Cartridge	SGC − TB
Scintillation Gamma Detector	SGD − TAB

Auxiliary Equipment:

Scintillation Gamma Housing	SGH − K
Gamma Source Radioactive	GSR − U/Y

Scintillation Gamma Ray Tool − N Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		40.62
	0 (Minimum) / 30.00 (Nominal) / 120.0 (Maximum)	

Phase	Gamma Ray (Jig − Bkg) GAPI	Value
Before		163.2
	148.4 (Minimum) / 163.2 (Nominal) / 178.0 (Maximum)	

Phase	Gamma Ray (Calibrated) GAPI	Value
Before		165.0
	150.0 (Minimum) / 165.0 (Nominal) / 180.0 (Maximum)	

Before: 4−Jan−2013 16:10

DTS Telemetry Tool / Equipment Identification

Primary Equipment:	
DTC−H Auxiliary Cartridge	DTCH − A
DTC−H Telemetry Cartridge	DTCH − A
Auxiliary Equipment:	
DTCH Telemetry Cartridge Housing	ECH − KC

Company: **SHELL**

Schlumberger

Well: **DAWSON CREEK 1 25**
Field: **WILLIAMS FORK UNIT**
County: **ROUTT**
State: **COLORADO**

ISOLATION SCANNER LOG
CEMENT BOND LOG