01283570

Schlumberger

Company: ENCANA OIL AND GAS (USA) INC

Well: WIEBEN 2-13 (M2SW)
Field: MAMM CREEK
County: GARFIELD State: COLORADO

ULTRASONIC IMAGER
CEMENT BOND MODE
GR-CCL

S

County: GARFIELD
Field: MAMM CREEK
Location: SHL: 871' FSL, X 728' FWL
Well: WIEBEN 2-13 (M2SW)
Company: ENCANA OIL AND GAS (USA) I

LOCATION

SHL: 871' FSL, X 728' FWL

Elev.: K.B. 7779 ft
G.L. 7763 ft
D.F. 7778 ft

Permanent Datum: GROUND LEVEL Elev.: 7763 ft
Log Measured From: KELLY BUSHING 16.0 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
05 045 09363 0000	2	8S	93W

Logging Date		19-Dec-2003	
Run Number		ONE	
Depth Driller		9508 ft	
Schlumberger Depth		9508 ft	
Bottom Log Interval		9400 ft	
Top Log Interval		1500 ft	
Casing Fluid Type		FRESHWATER	
Salinity			
Density		8.35 lbm/gal	
Fluid Level		16 ft	
BIT/CASING/TUBING STRING			
Bit Size		7.875 in	
From		16 ft	
To		9508 ft	
Casing/Tubing Size		5.500 in	
Weight		15.5 lbm/ft	
Grade		J55	
From		1193 ft	
To		9508 ft	
Maximum Recorded Temperatures		215 degF	
Logger On Bottom	Time	19-Dec-2003	13:00
Unit Number	Location	3190 VERNAL, UT	
Recorded By		MARISSA EBERT/ JOHN BYARS	
Witnessed By		UNATTENDED	

		Run 1	Run 2	F
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	11.5 lbm/gal		
	Water Loss			
	Additives			
	Tail Cement Type			
	Volume			
	Density			
	Water Loss			
	Additives			
	Expected Cement Top			
	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			

RECEIVED
SEP 27 2004
00500

Run 3

Run 4

DEPTH SUMMARY LISTING

Date Created: 19-DEC-2003 16:41:58

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-39Z
Serial Number:	47	Serial Number:	2054	Serial Number:	2195
Calibration Date:	02-Jul-2003	Calibration Date:	14-Dec-2003	Length:	14200.00 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	100518	Conveyance Method:	Wireline
Calibration Cable Type:	7-39Z	Calibration Gain:	1.04	Rig Type:	LAND
Wheel Correction 1:	-5	Calibration Offset:	406.00		
Wheel Correction 2:	-2				

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	PEX-AIT
Reference Log Run Number:	one
Reference Log Date:	07-Dec-2003
Subsequent Trip Down Log Correction:	5.00 FT

Depth Control Remarks

1.
2.
3.
4.
5.
6.

DISCLAIMER
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OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This log is a subsequent log into the hole correlated	
to log (PEX-AIT) run 7-Dec-2003	
Toolstring run as per toolsketch	
Gamma ray used for correlation only	

Gamma ray used for correlation only

Cement Density changes:

TD-6900ft: 13.7lb/gal

6900ft to 3550ft: 11.5lb/gal

3550ft to TOC: 10.5 lb/gal

TOC: 1500ft per Well Services

Rig: SLB Mast

Crew: Issac Hatch, Tony Payne, Jason Shawcroft, Isaac Silvernail

Thank you for letting Schlumberger service your well!!

RUN 1			RUN 2		
SERVICE ORDER #:		10594226	SERVICE ORDER #:		
PROGRAM VERSION:		11C0-305	PROGRAM VERSION:		
FLUID LEVEL:		16 ft	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 — 36.0
LEH-QT

DTC-H — 33.1
ECH-KC
DTCH0-A
DTCH1-A

CTEM — 32.1

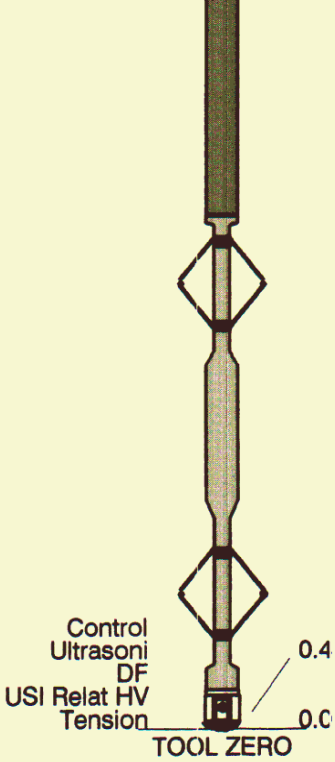
TelStatus
ToolStatu — 30.1

DTA-A — 30.1
ECH-KE
DTA-A

SGT-N — 26.1
SGH-K
SGC-TB
SGD-TAA

Gamma Ray — 25.1

USIT-A — 20.6
ECH-MRA
USIC-A
USIS-A
USRS-A/AB



MAXIMUM STRING DIAMETER 3.56 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

Main Pass

MAXIS Field Log

Input DLIS Files

DEFAULT	USI_009LUP	FN:8	PRODUCER	19-Dec-2003 13:31	9406.0 FT	1076.5 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:28	PRODUCER	19-Dec-2003 17:28	9406.0 FT	1078.0 FT

OP System Version: 11C0-305

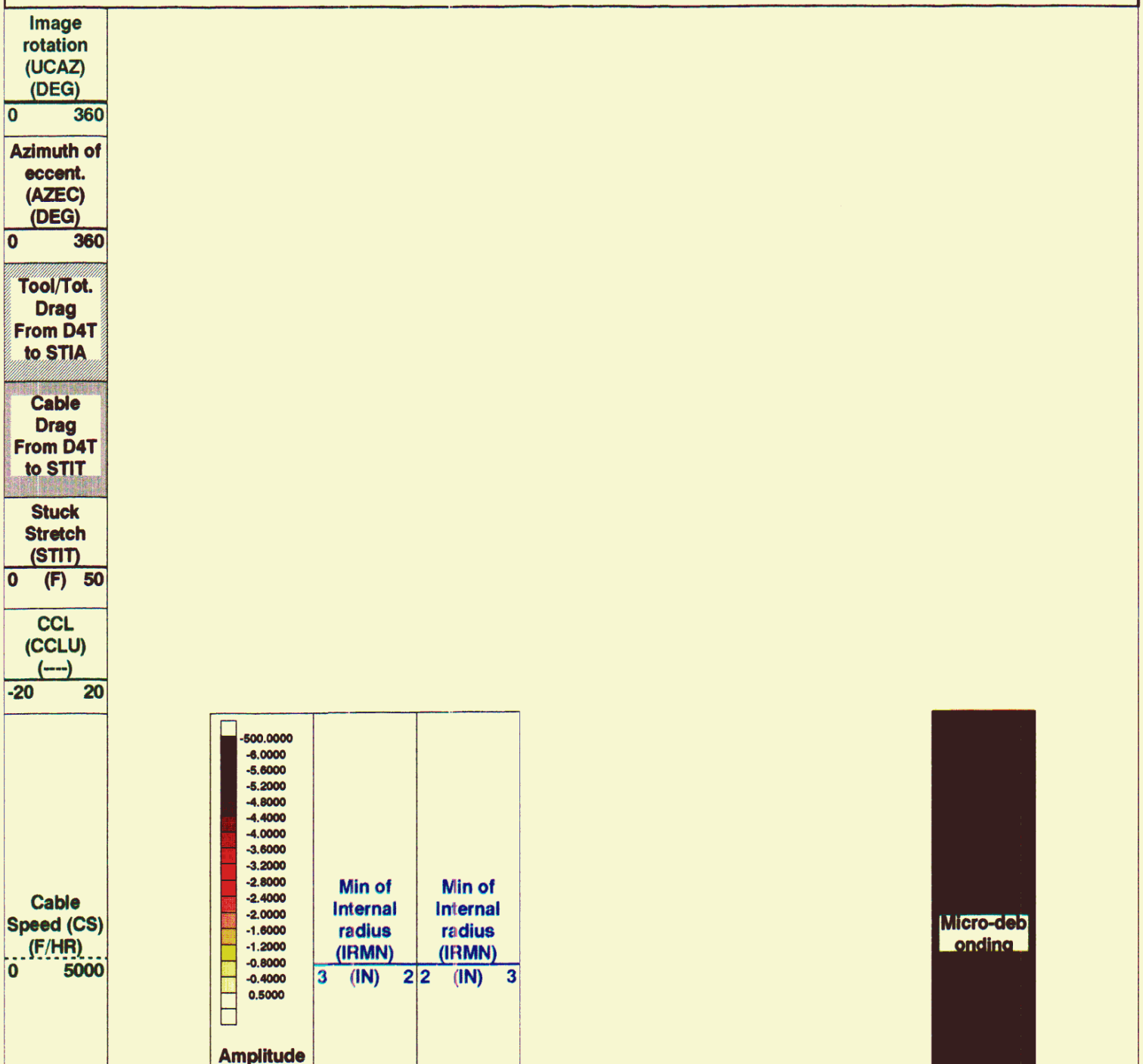
MCM

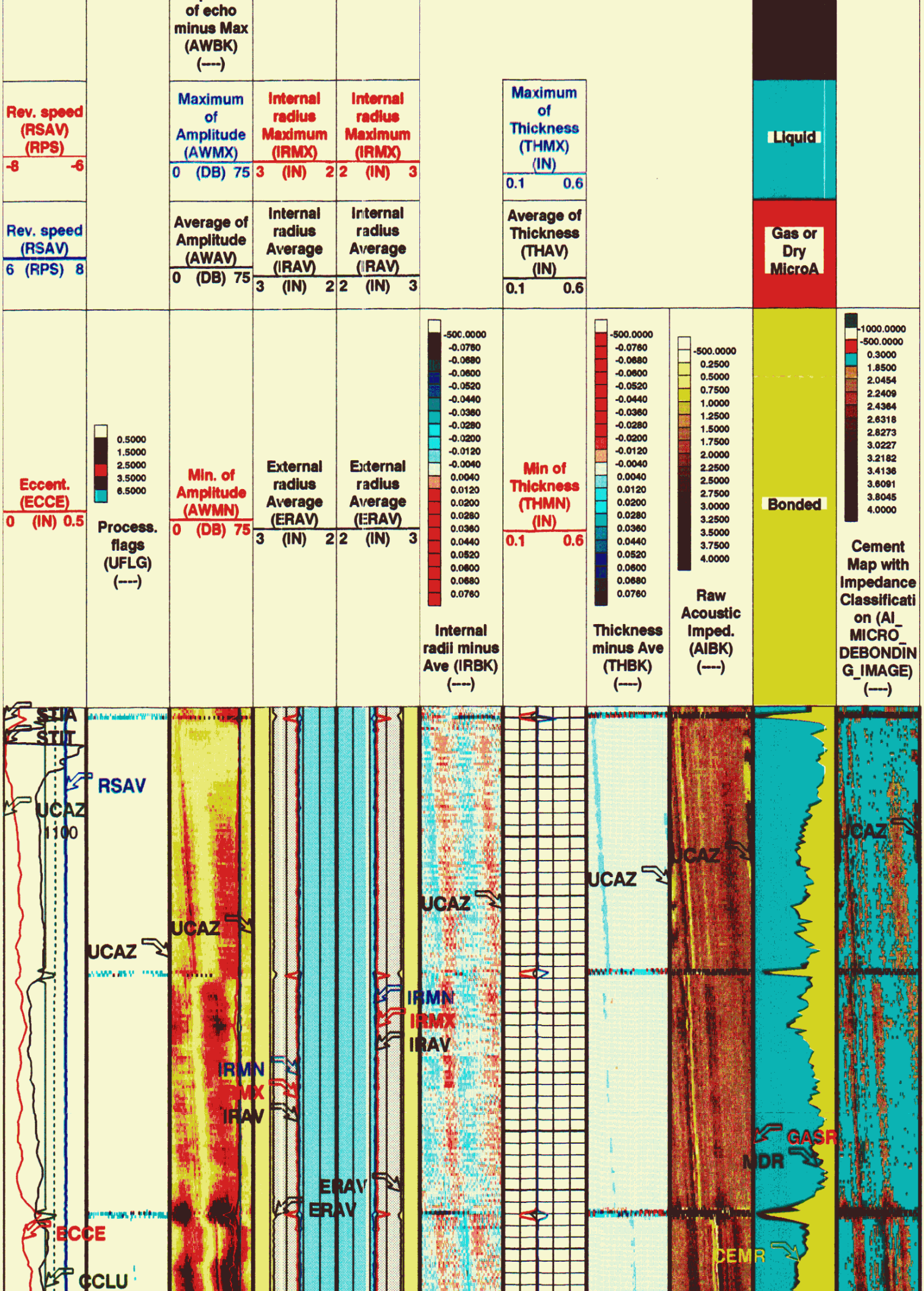
USIT-A	11C0-305	SGT-N	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

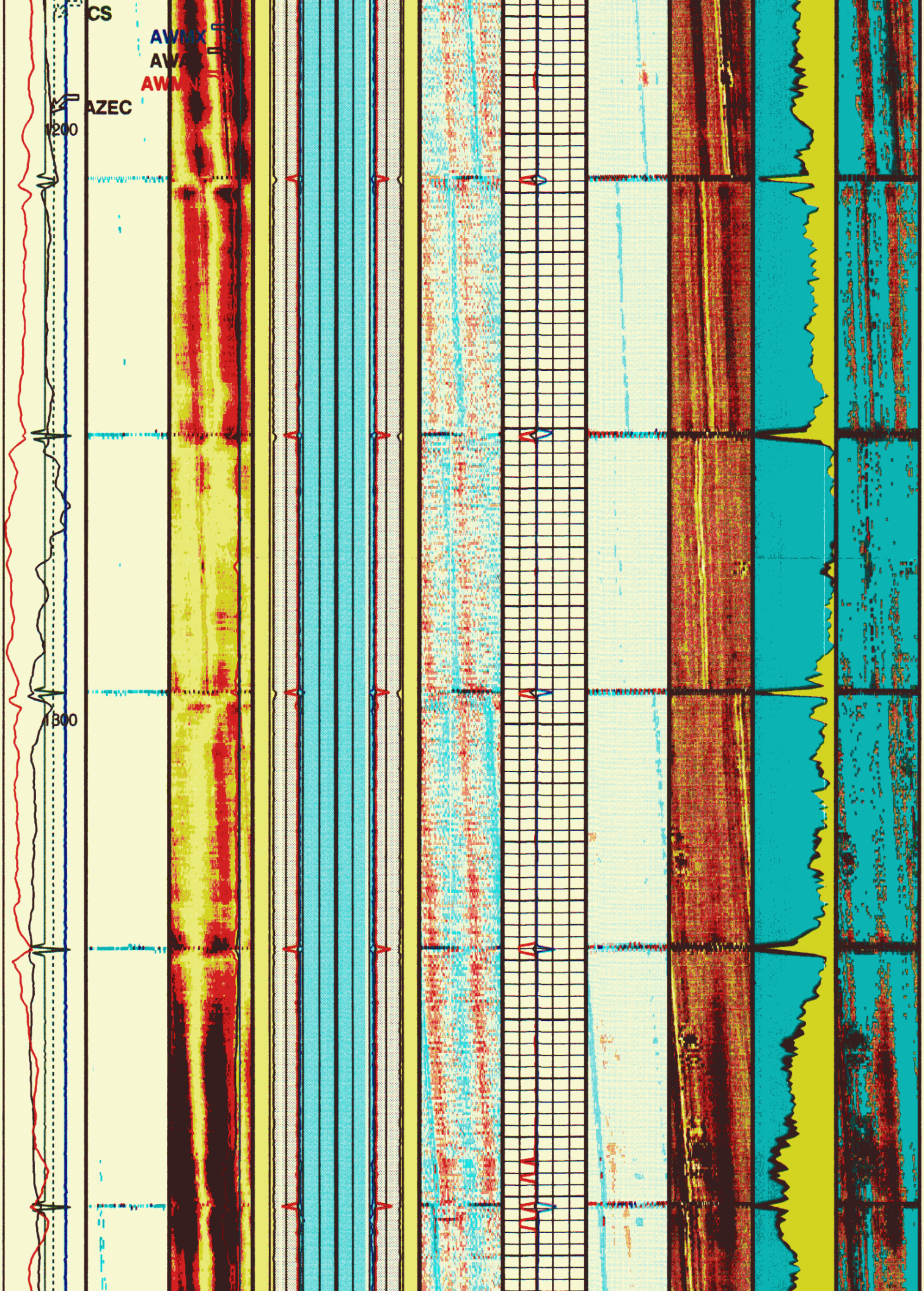
Zoning of Mud Parameters

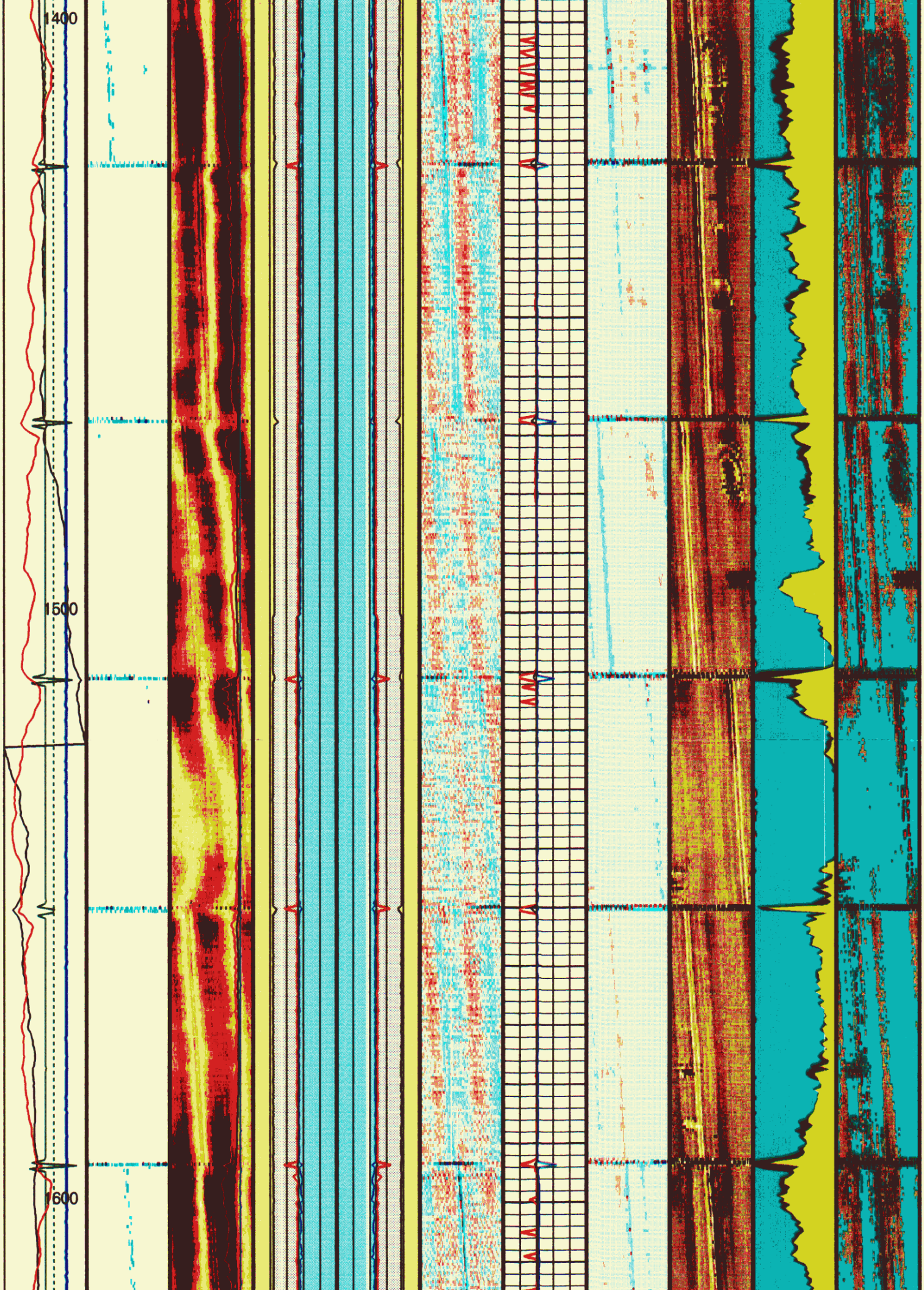
Depth	Fluid Velocity (DFVL)	Acoustic Impedance (ZMUD)

9350.00	199.40	1.39
9000.00	198.28	1.43
8500.00	197.40	1.43
8000.00	197.42	1.42
7500.00	197.42	1.42
7000.00	196.71	1.56
6500.00	196.99	1.51
6000.00	197.00	1.45
5500.00	197.20	1.48
5000.00	197.44	1.52




of echo minus Max (AWBK) (----)
Rev. speed (RSAV) (RPS)
-8 -6
Maximum of Amplitude (AWMX)
0 (DB) 75
Internal radius Maximum (IRMX)
3 (IN) 2
Internal radius Maximum (IRMX)
2 (IN) 3
Maximum of Thickness (THMX) (IN)
0.1 0.6
Liquid
Rev. speed (RSAV)
6 (RPS) 8
Average of Amplitude (AWAV)
0 (DB) 75
Internal radius Average (IRAV)
3 (IN) 2
Internal radius Average (IRAV)
2 (IN) 3
Average of Thickness (THAV) (IN)
0.1 0.6
Gas or Dry MicroA
Eccent. (ECCE)
0 (IN) 0.5
0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (----)
Min. of Amplitude (AWMN)
0 (DB) 75
External radius Average (ERAV)
3 (IN) 2
External radius Average (ERAV)
2 (IN) 3
-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) (----)
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) (----)
-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) (----)
Bonded
-1000.0000
-500.0000
0.3000
1.8500
2.0454
2.2409
2.4364
2.6318
2.8273
3.0227
3.2182
3.4136
3.6091
3.8045
4.0000
Cement Map with Impedance Classification (AI_MICRO_DEBONDING_IMAGE) (----)
STIA
STIT
RSAV
UCAZ
1100
UCAZ
UCAZ
UCAZ
UCAZ
UCAZ
UCAZ
IRMN
IRMX
IRAV
IRMN
MX
IRAV
ERAV
ERAV
GASR
NDR
ECCE
CCLU
CEMR


CS
AWMX
AWZ
AWMN
AZEC
1200
1300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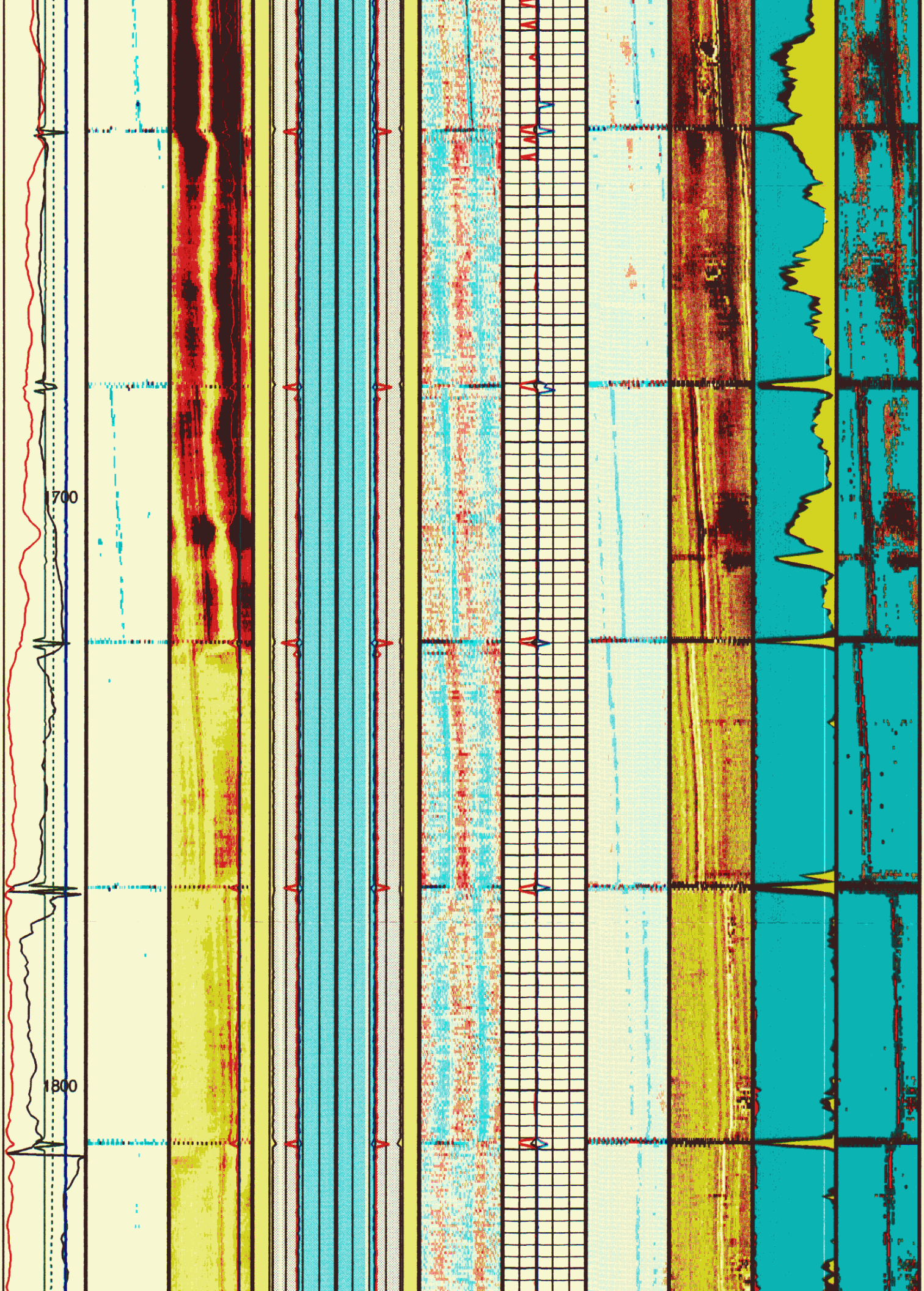
1500
1600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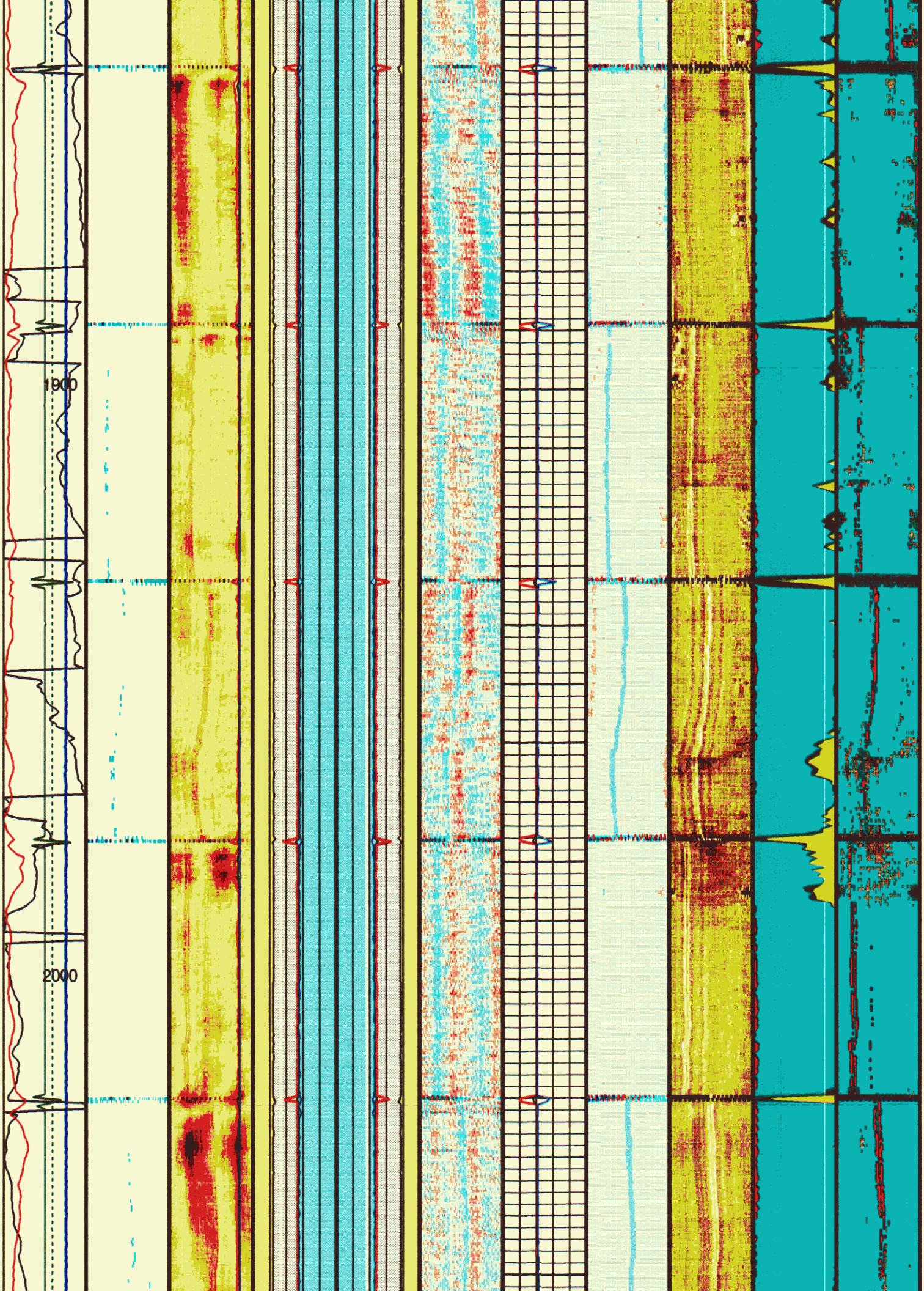
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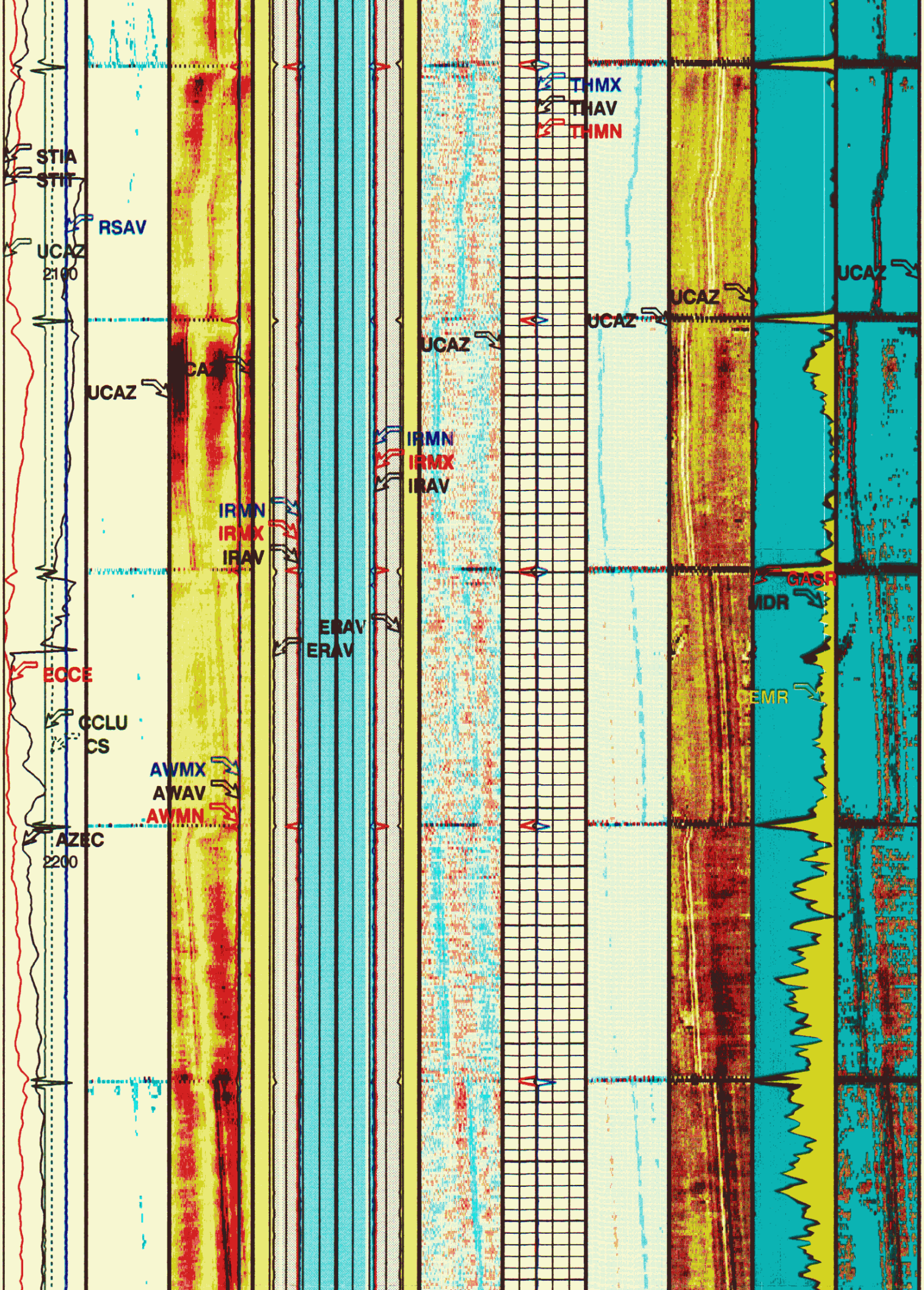
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STIT
RSAV
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2100
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IRMN
IRMX
IRAV
IRMN
IRMX
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ERAV
ERAV
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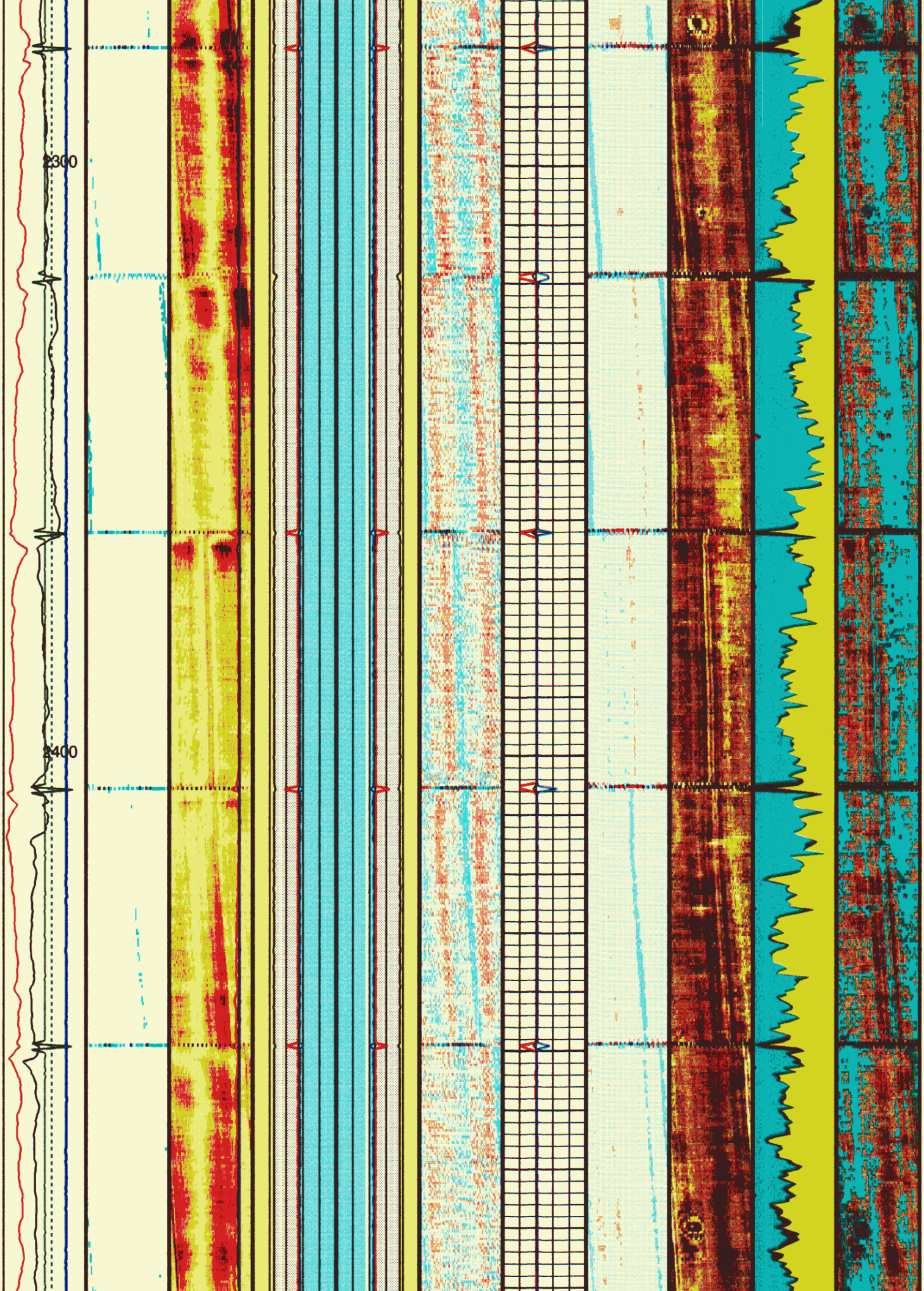
CEMR
CCLU
CS
AWMX
AWAV
AWMN
AZEC
2200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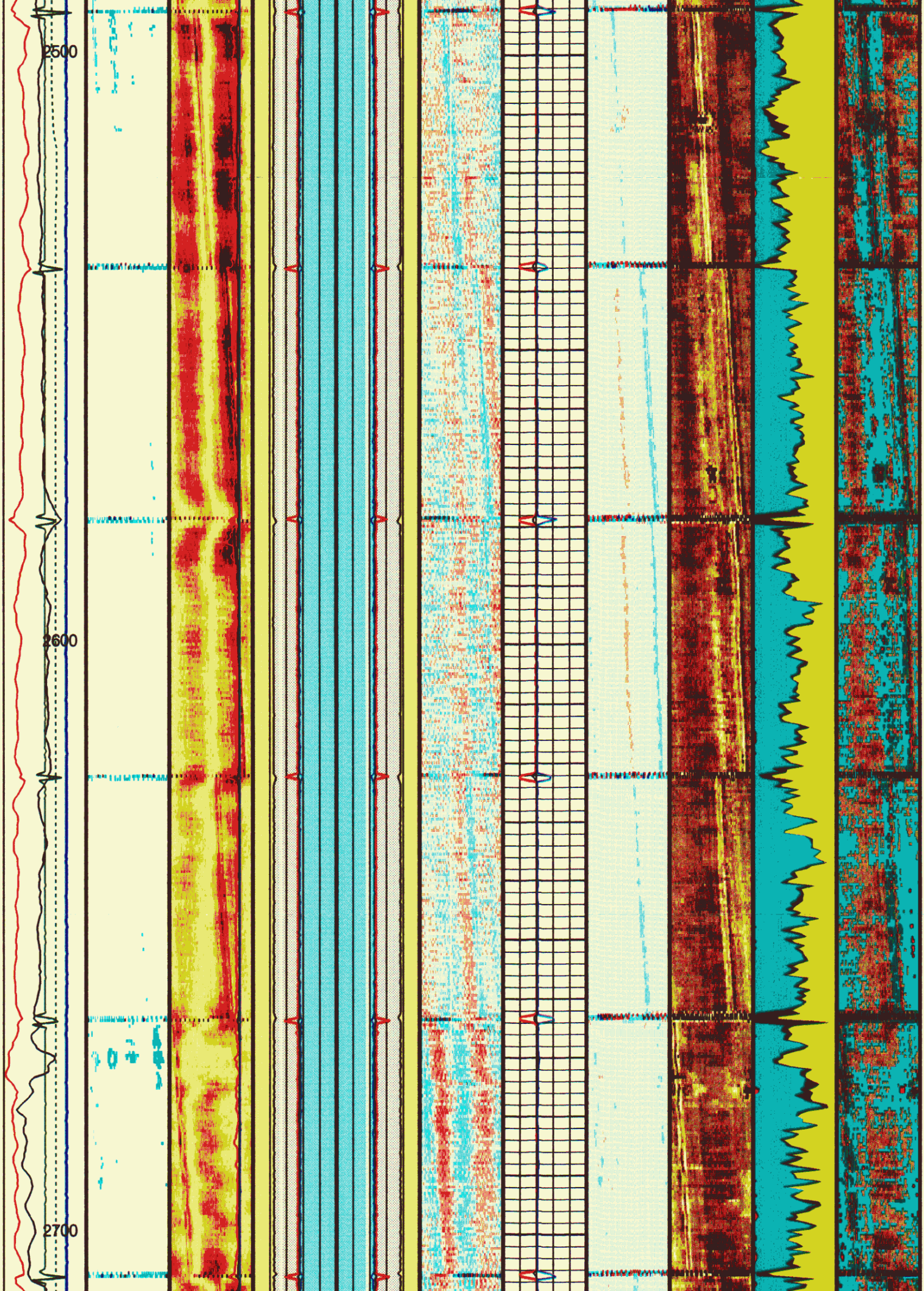
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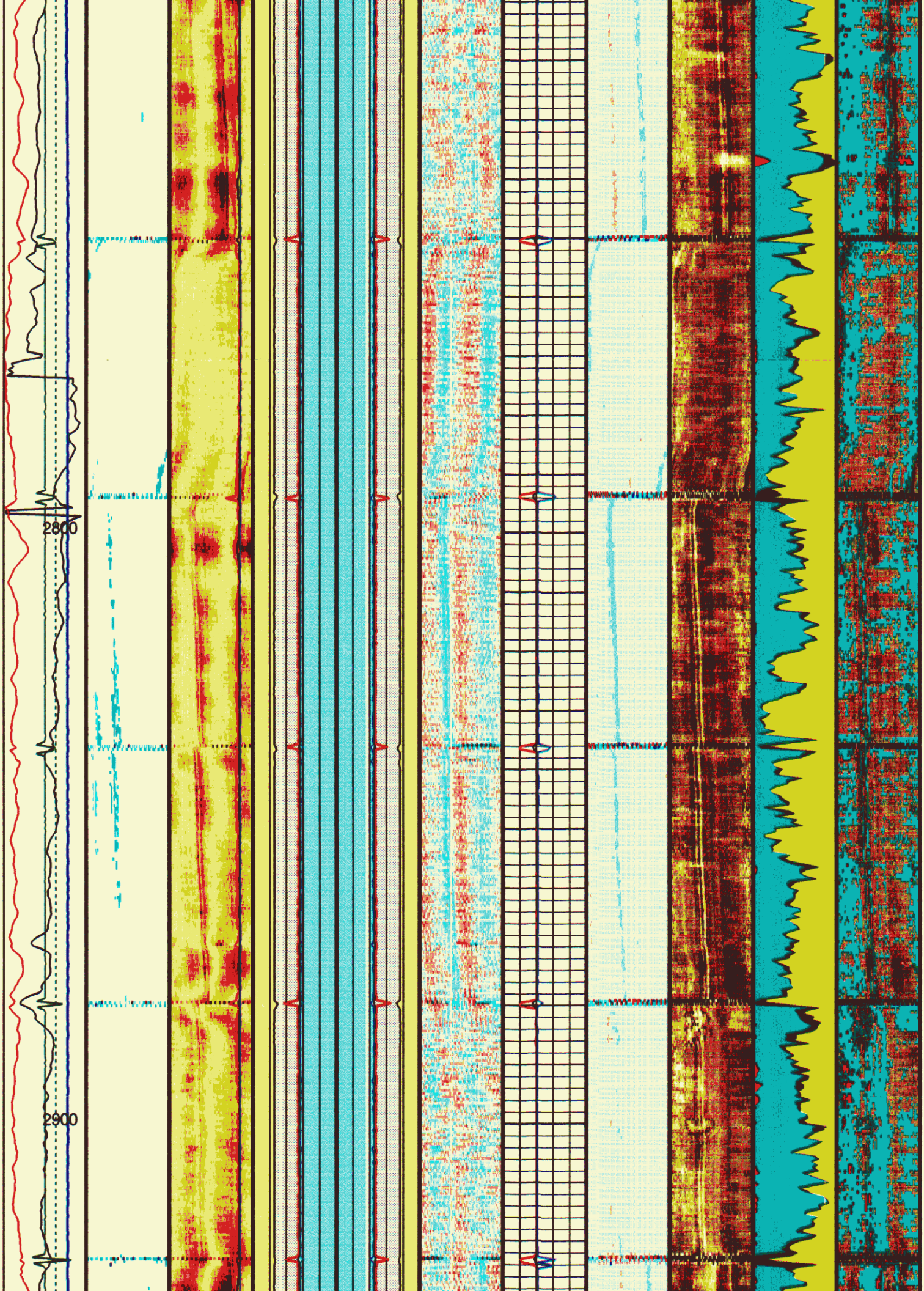
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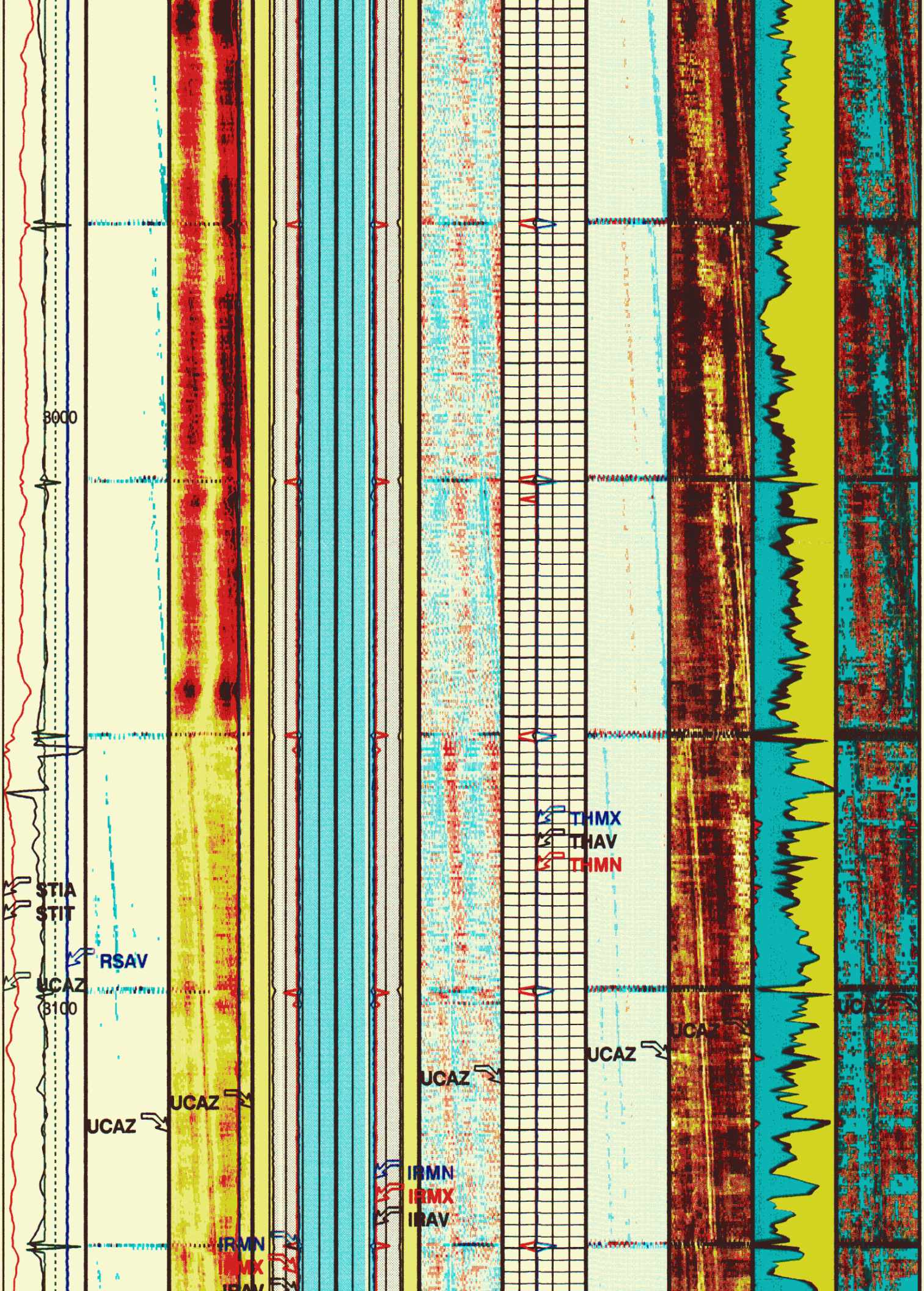
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RSAV
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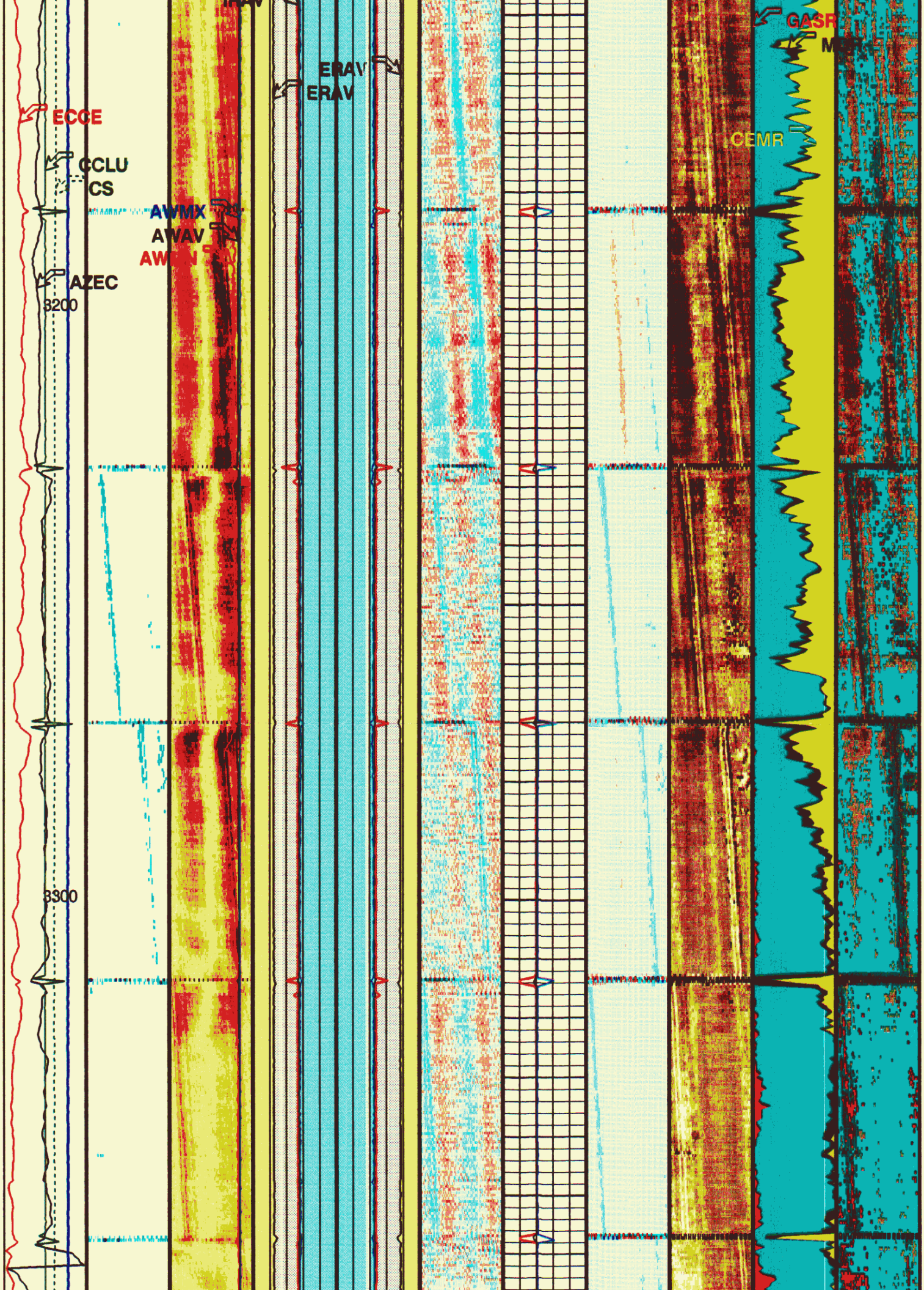
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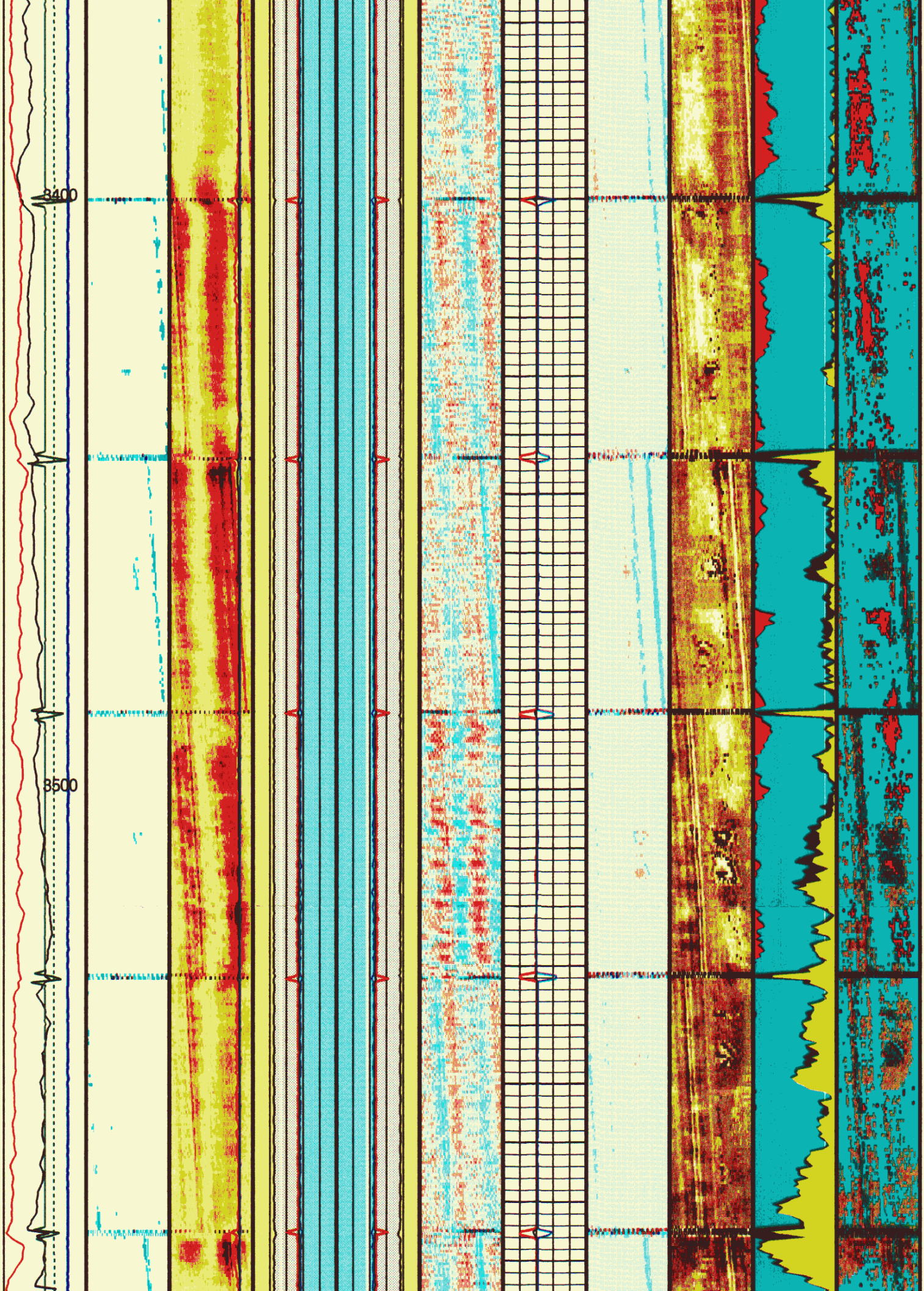
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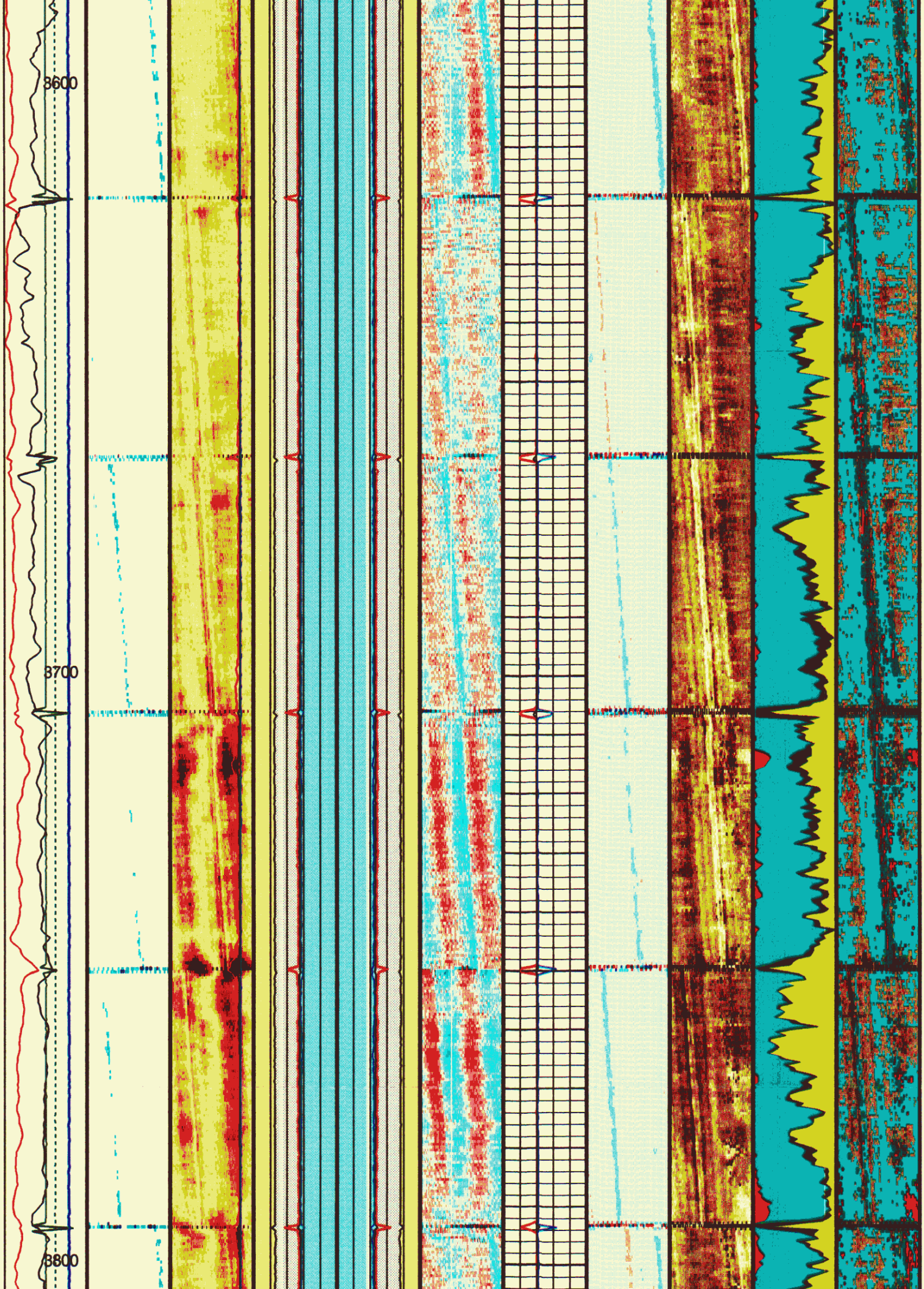
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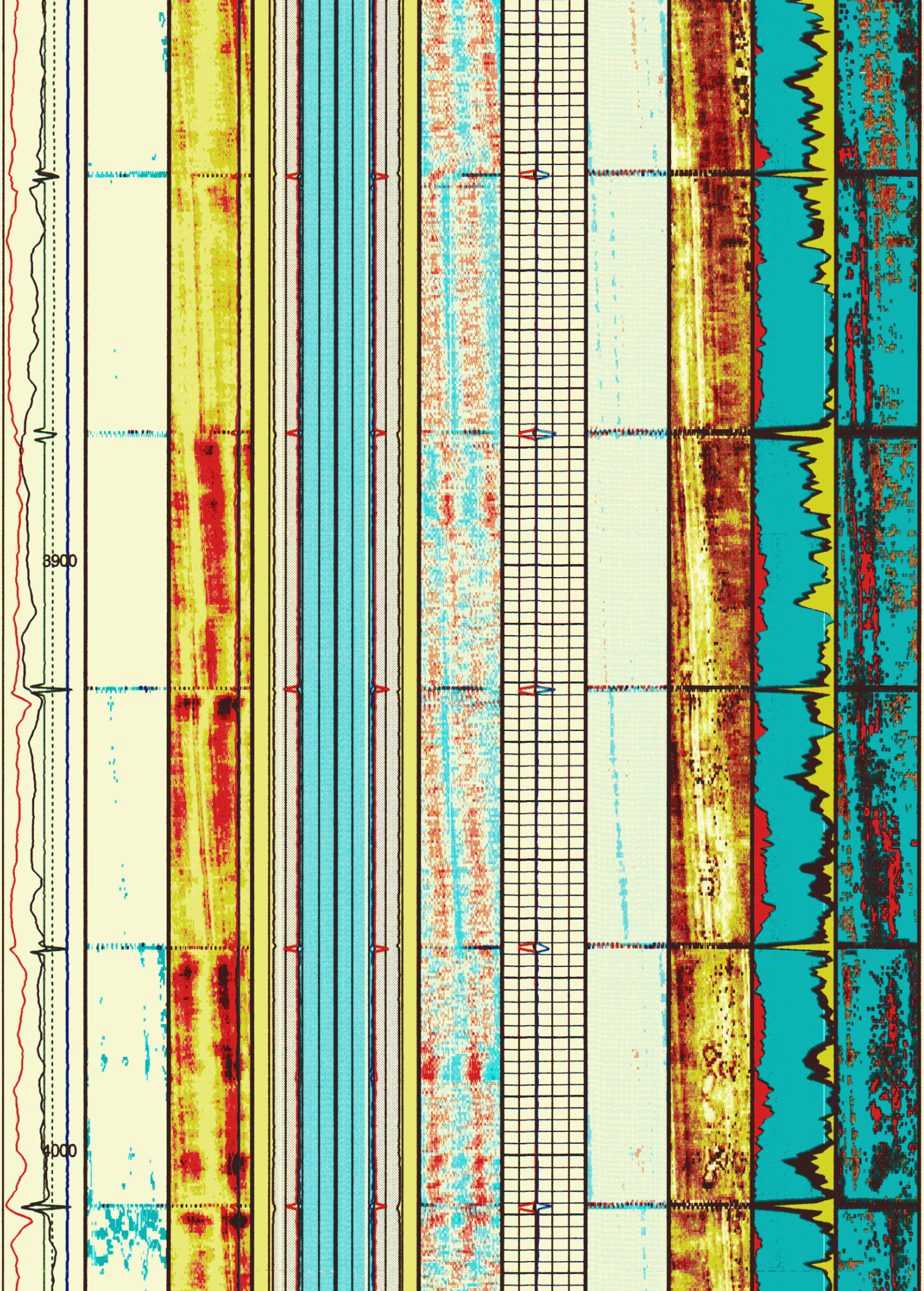
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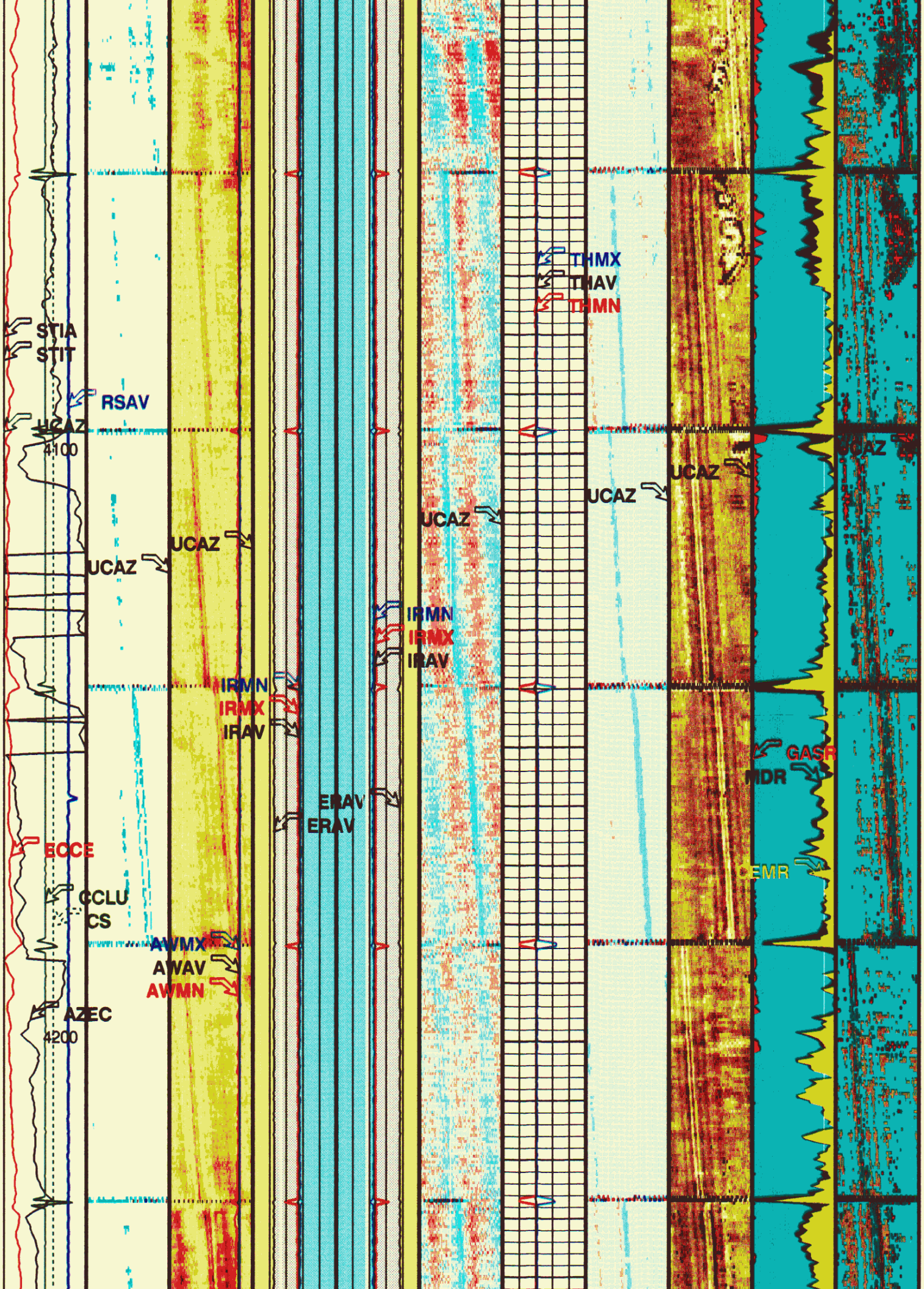
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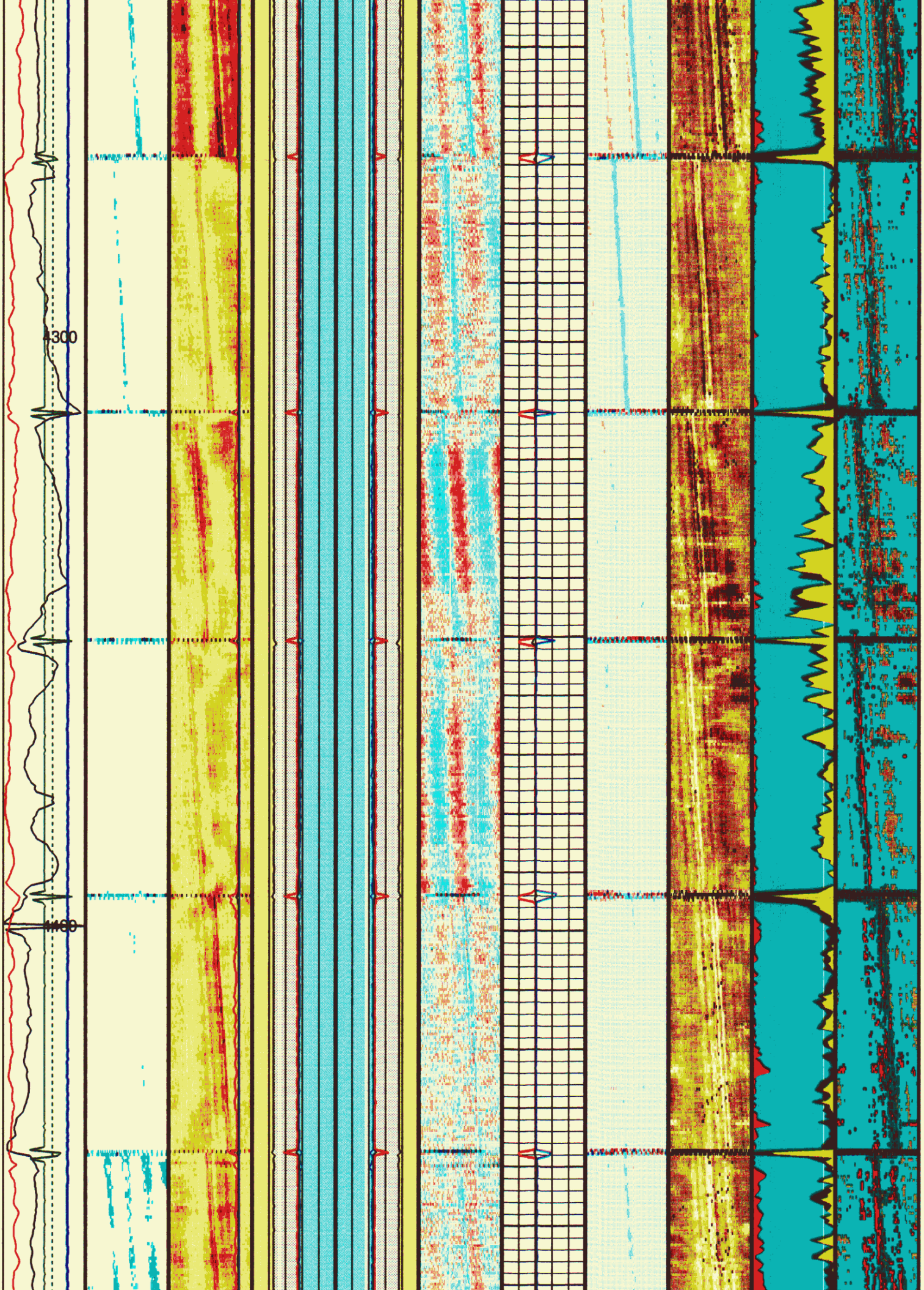
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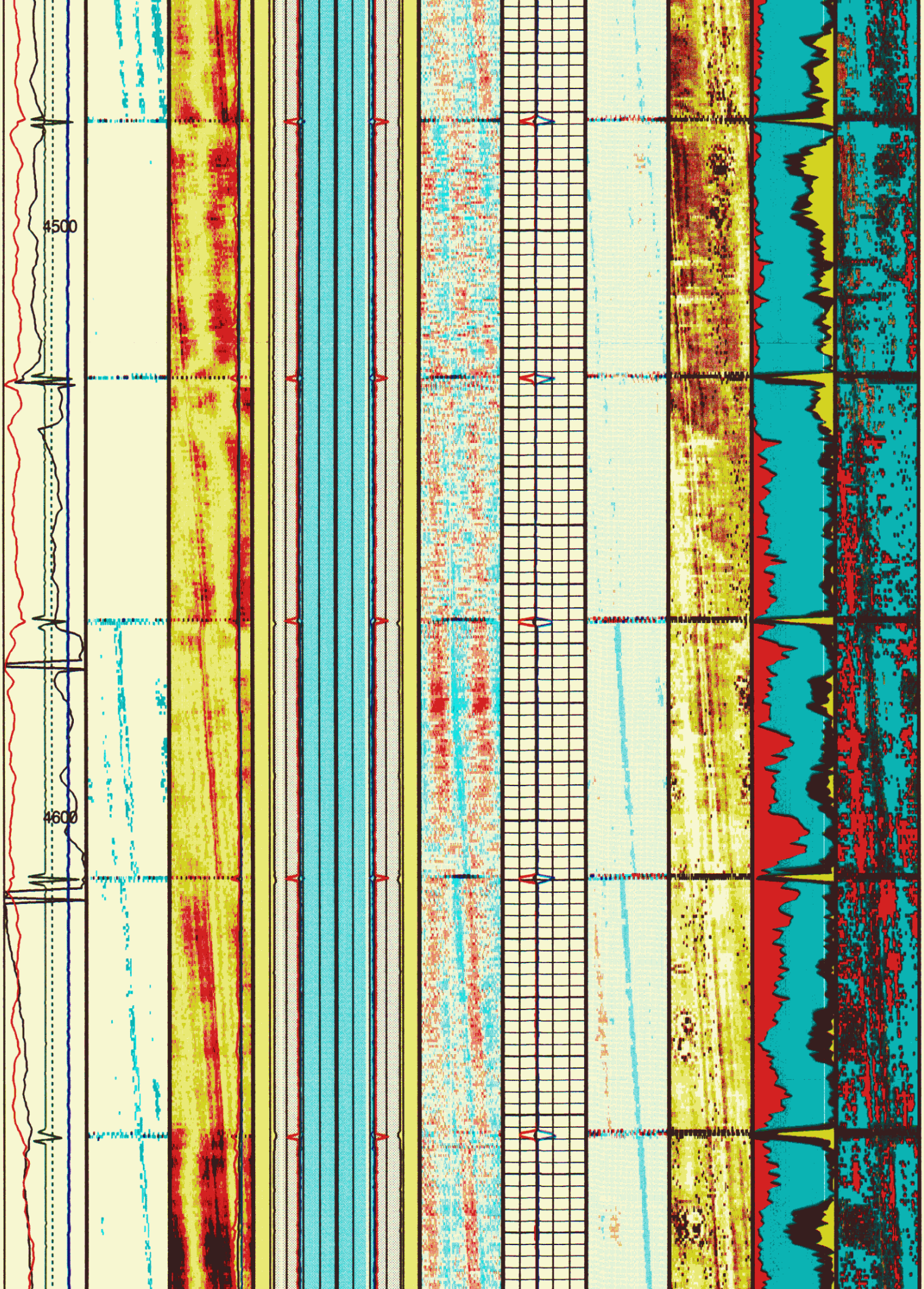
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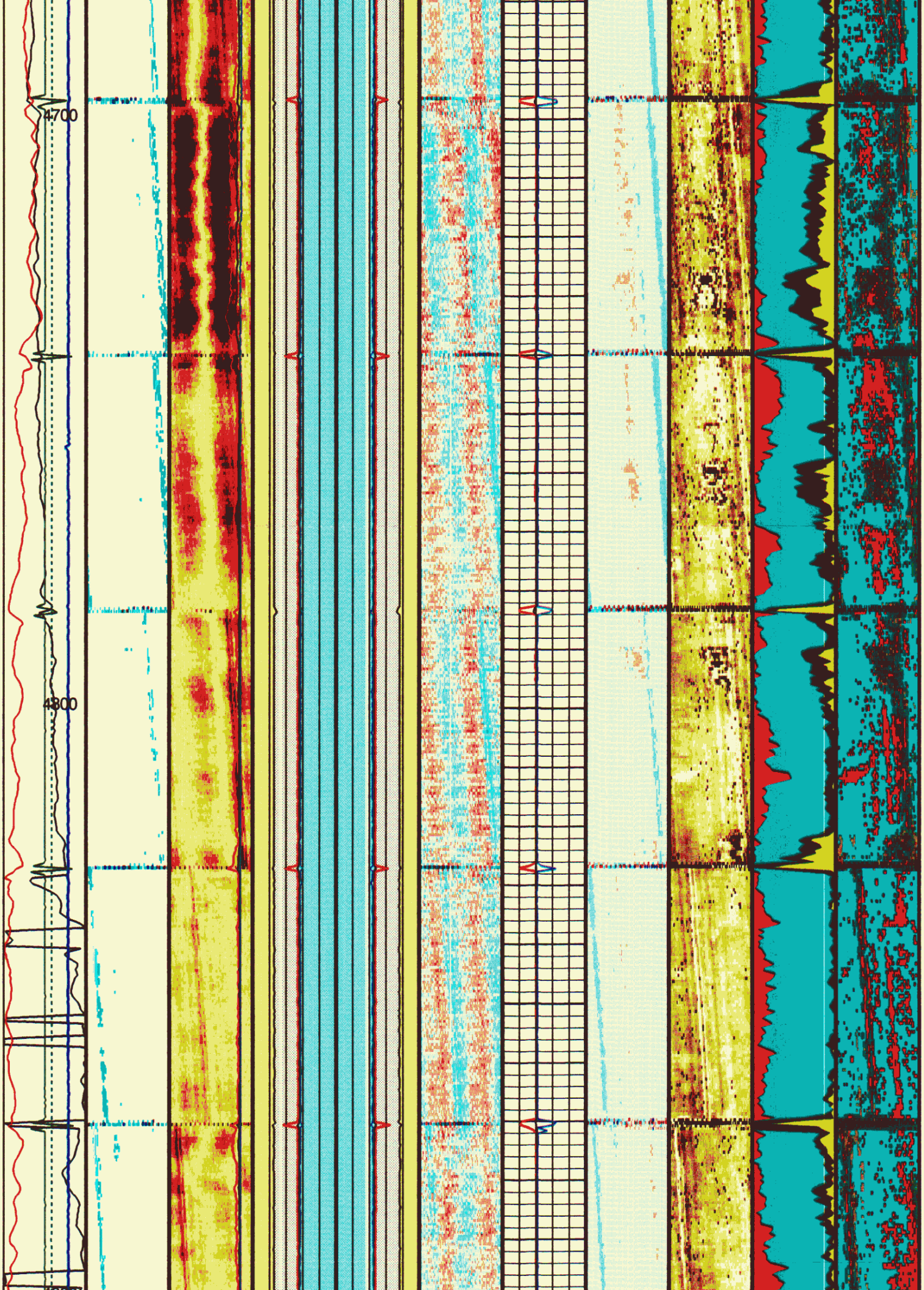
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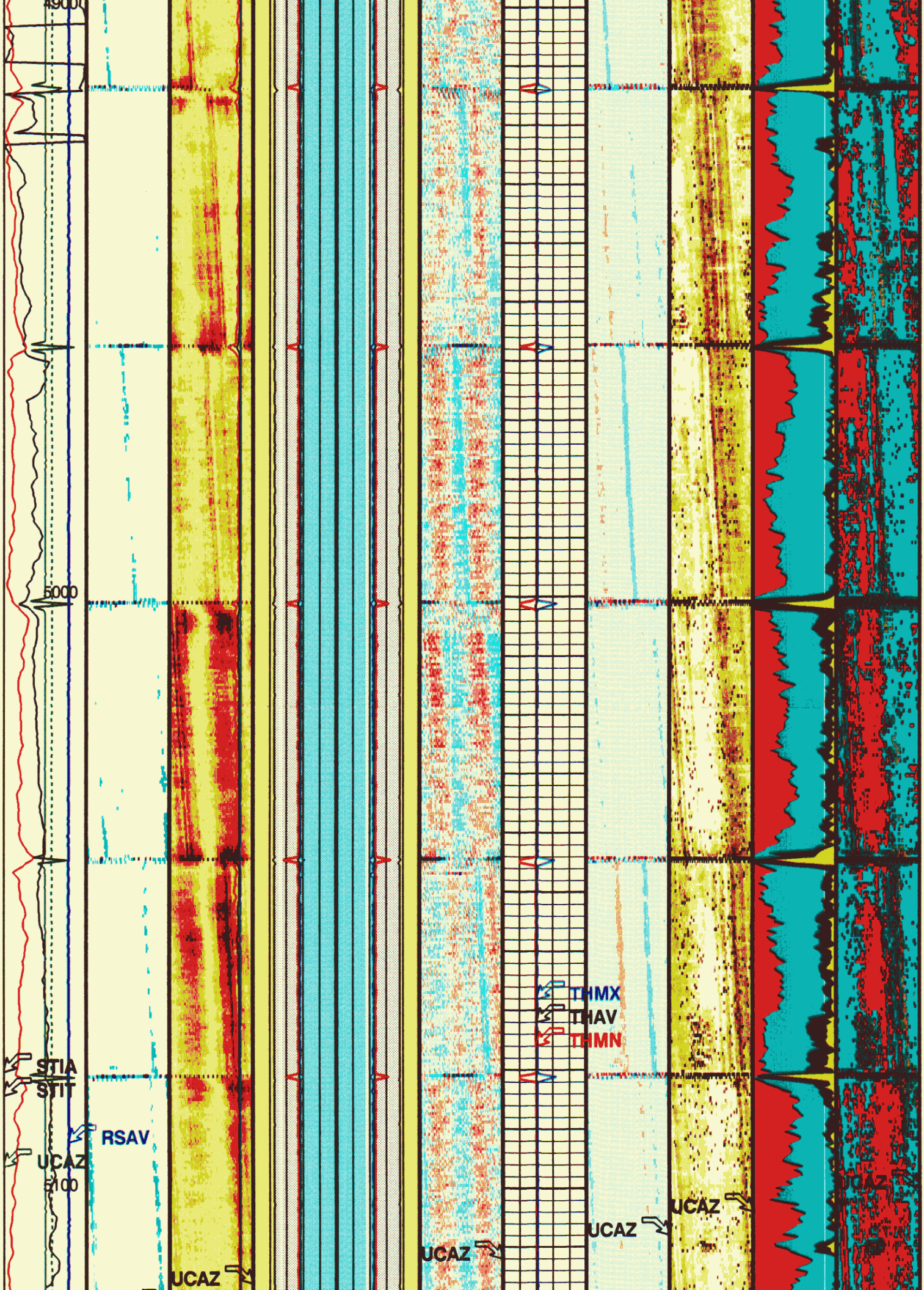
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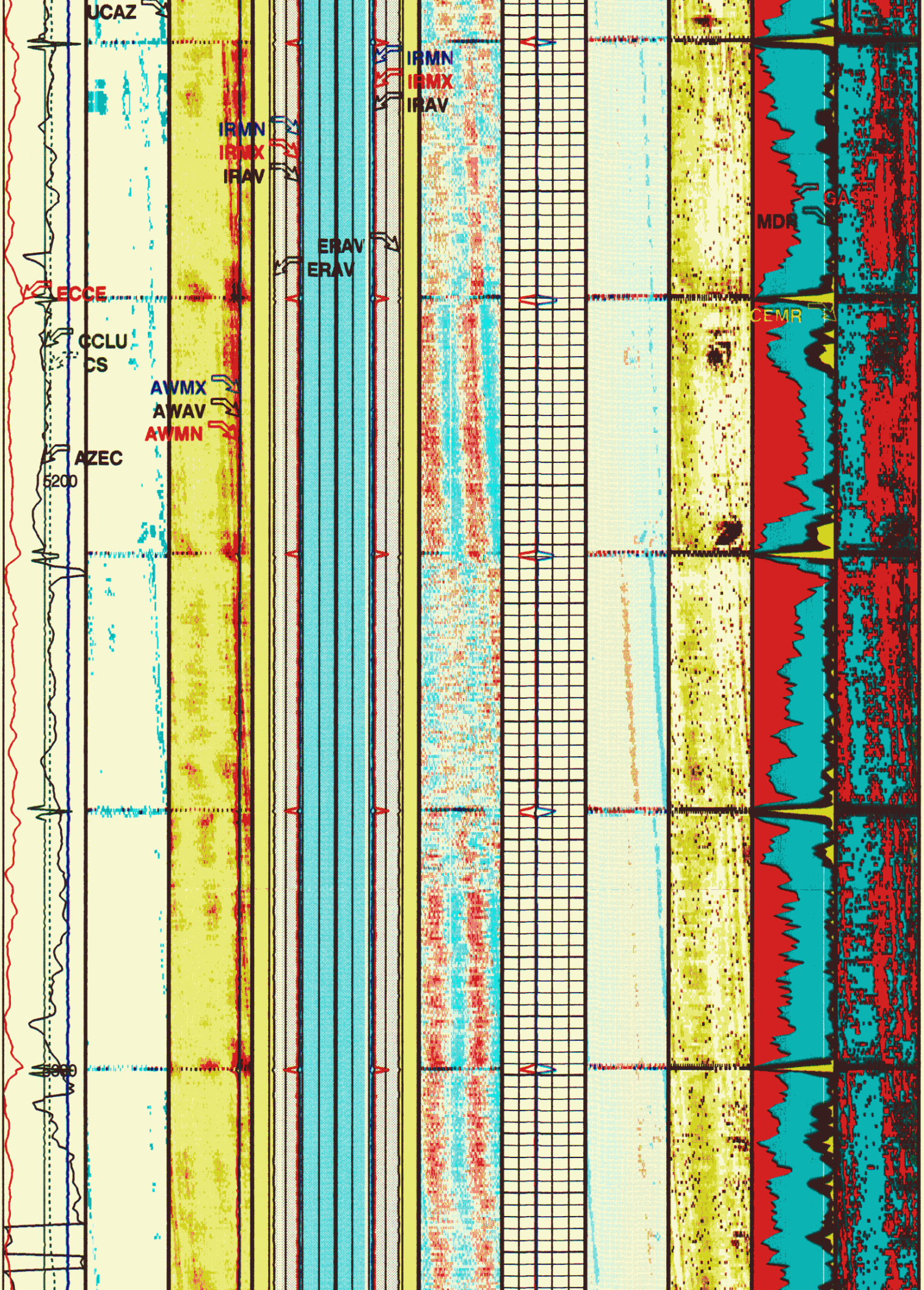
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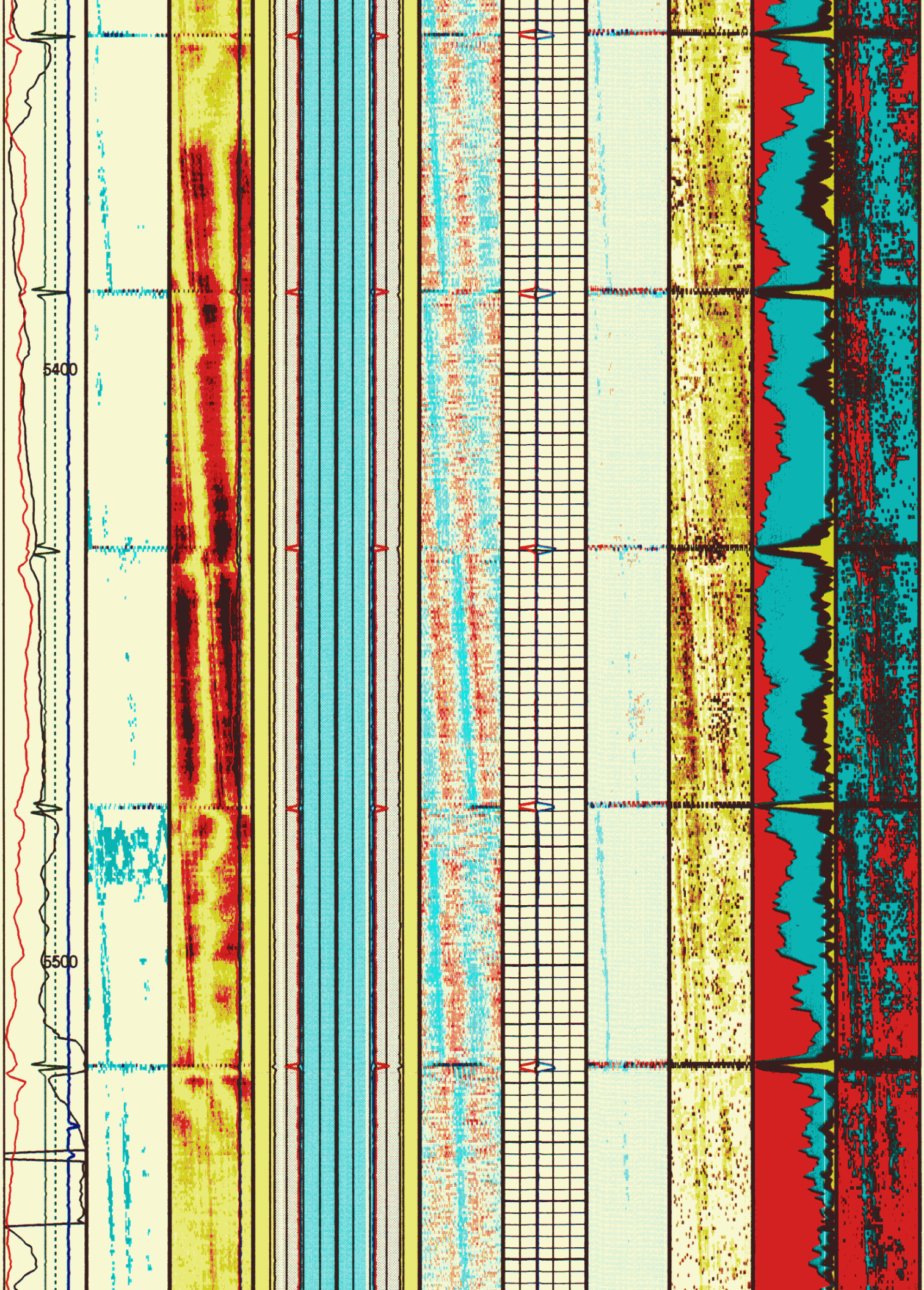
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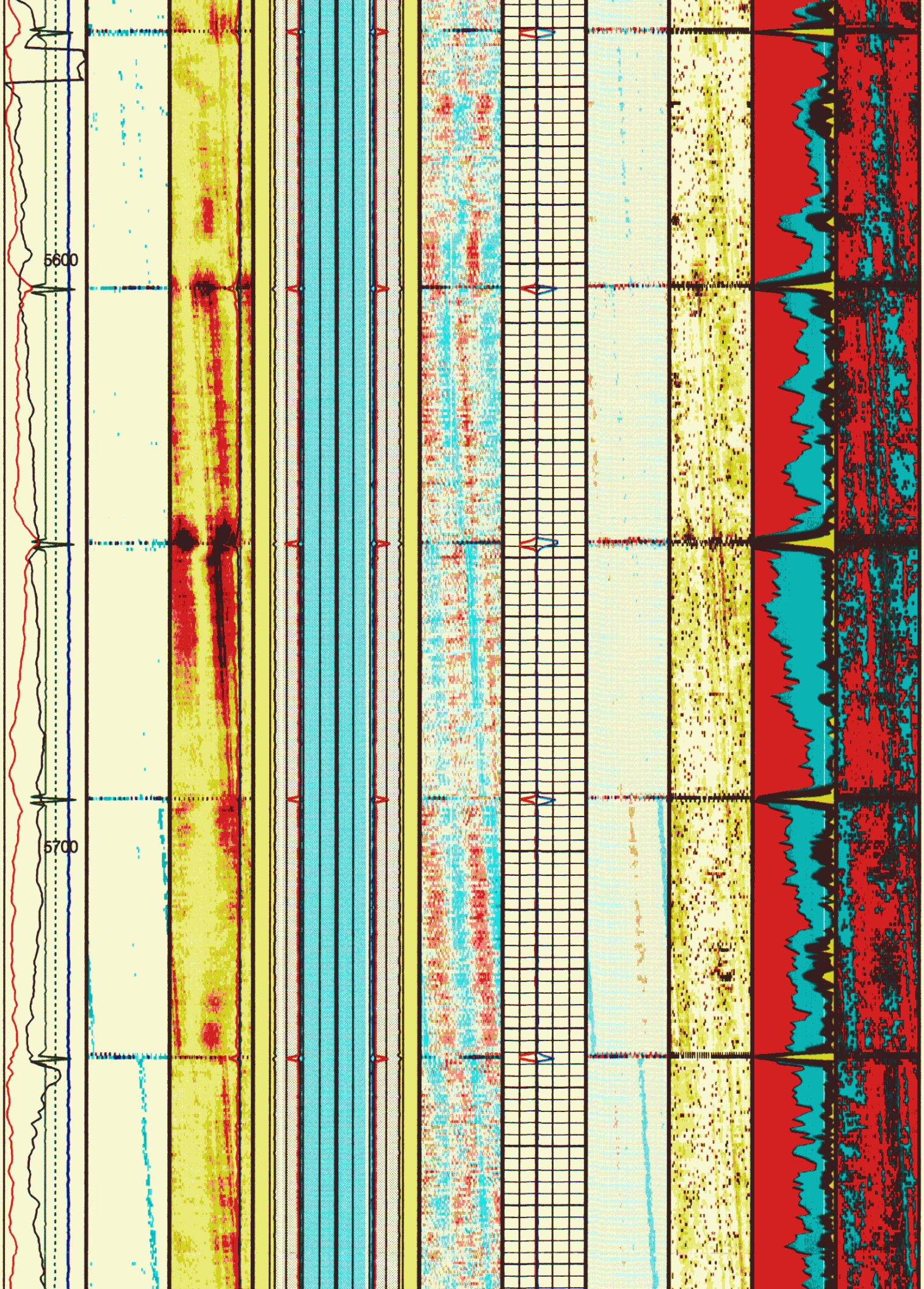
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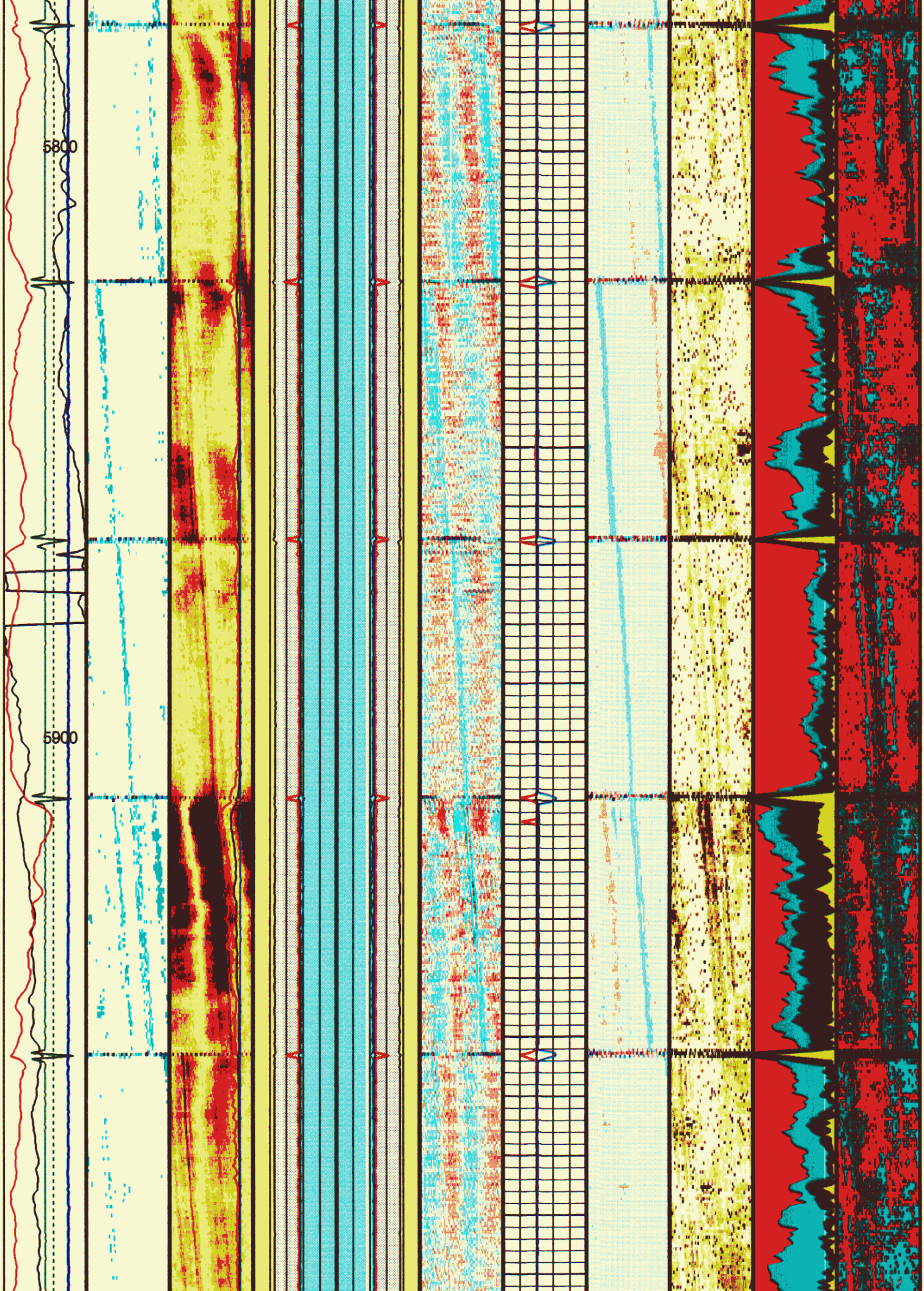
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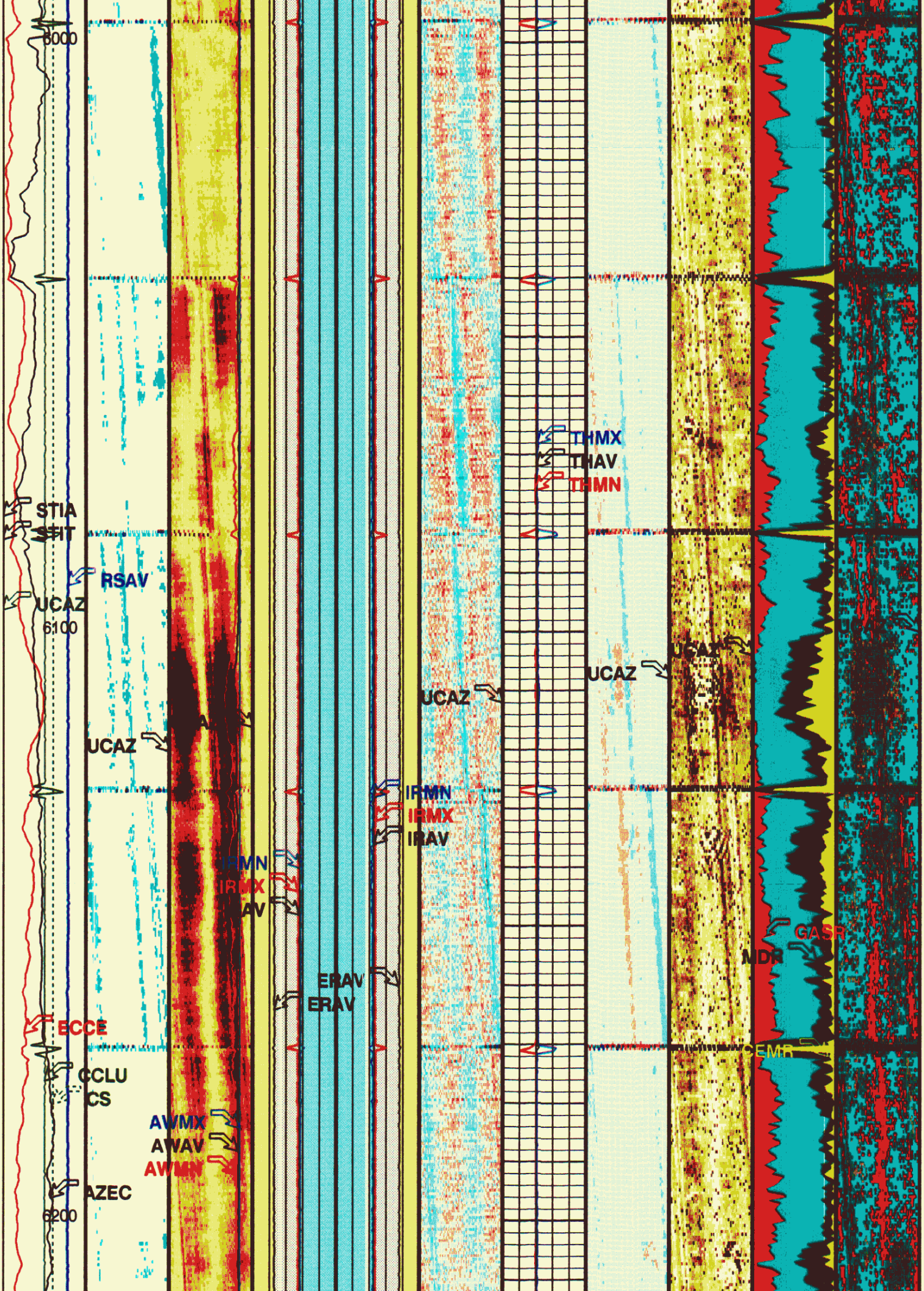
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IRAV
IRMN
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CS
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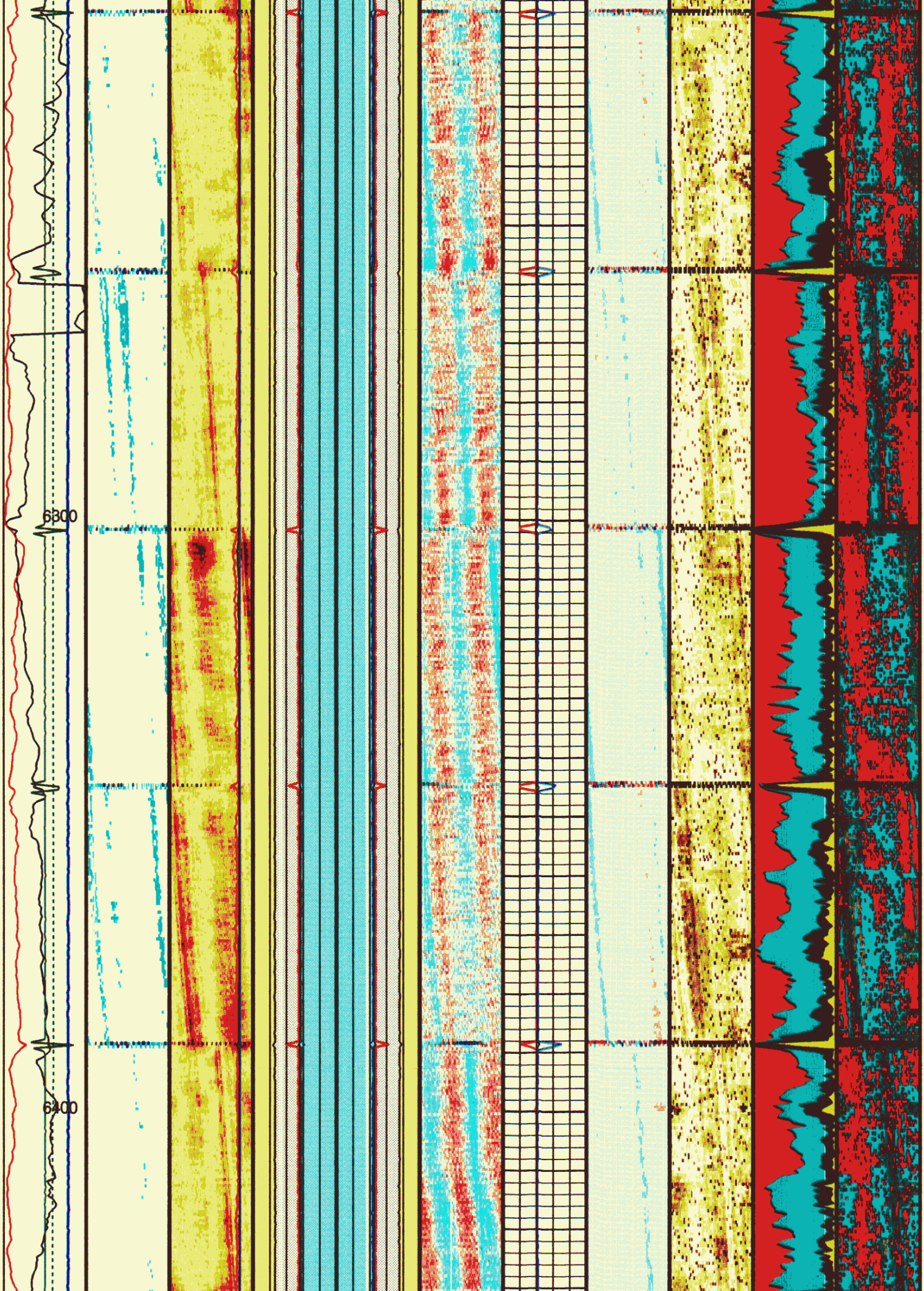
AWMN
AZEC
6200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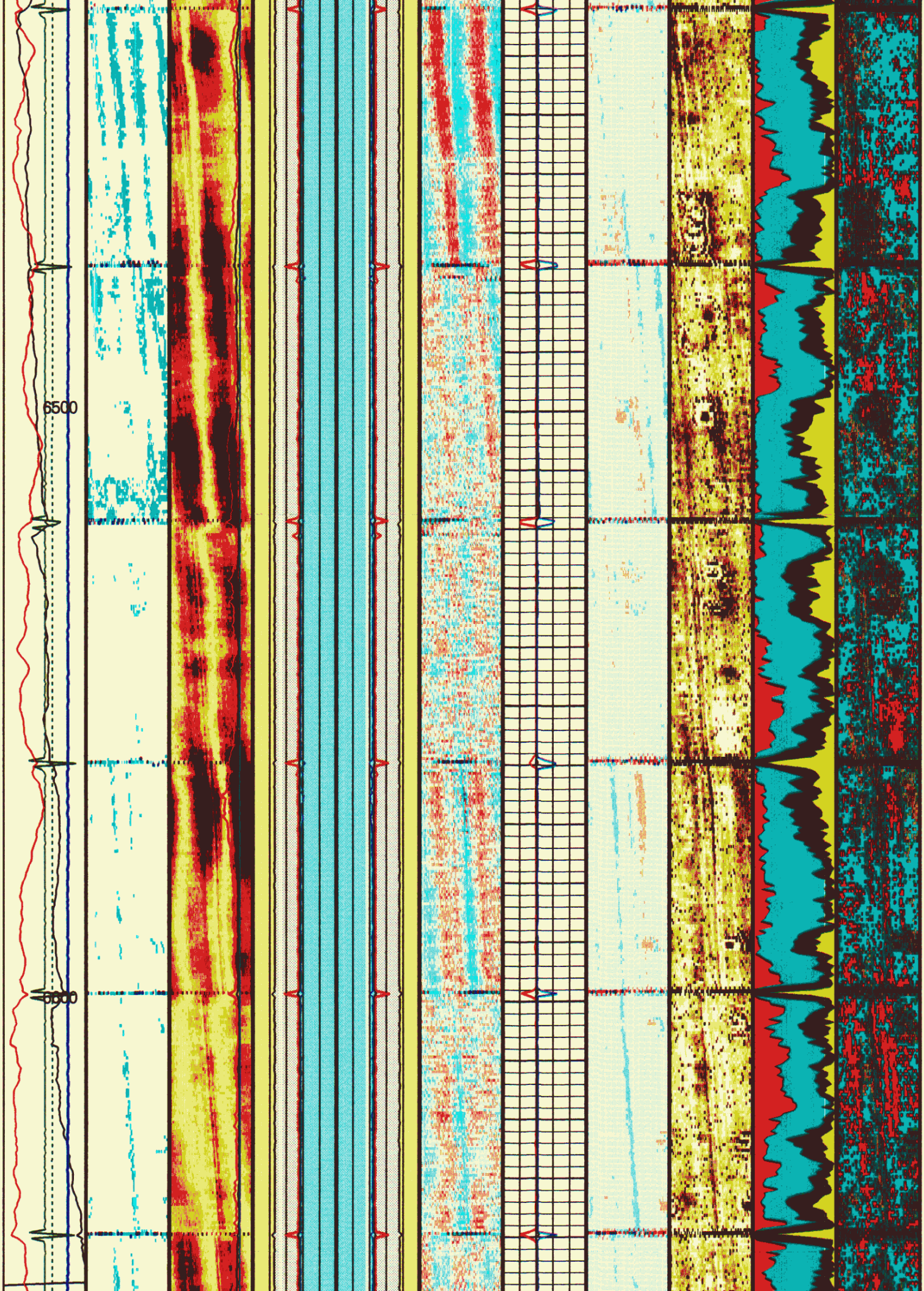
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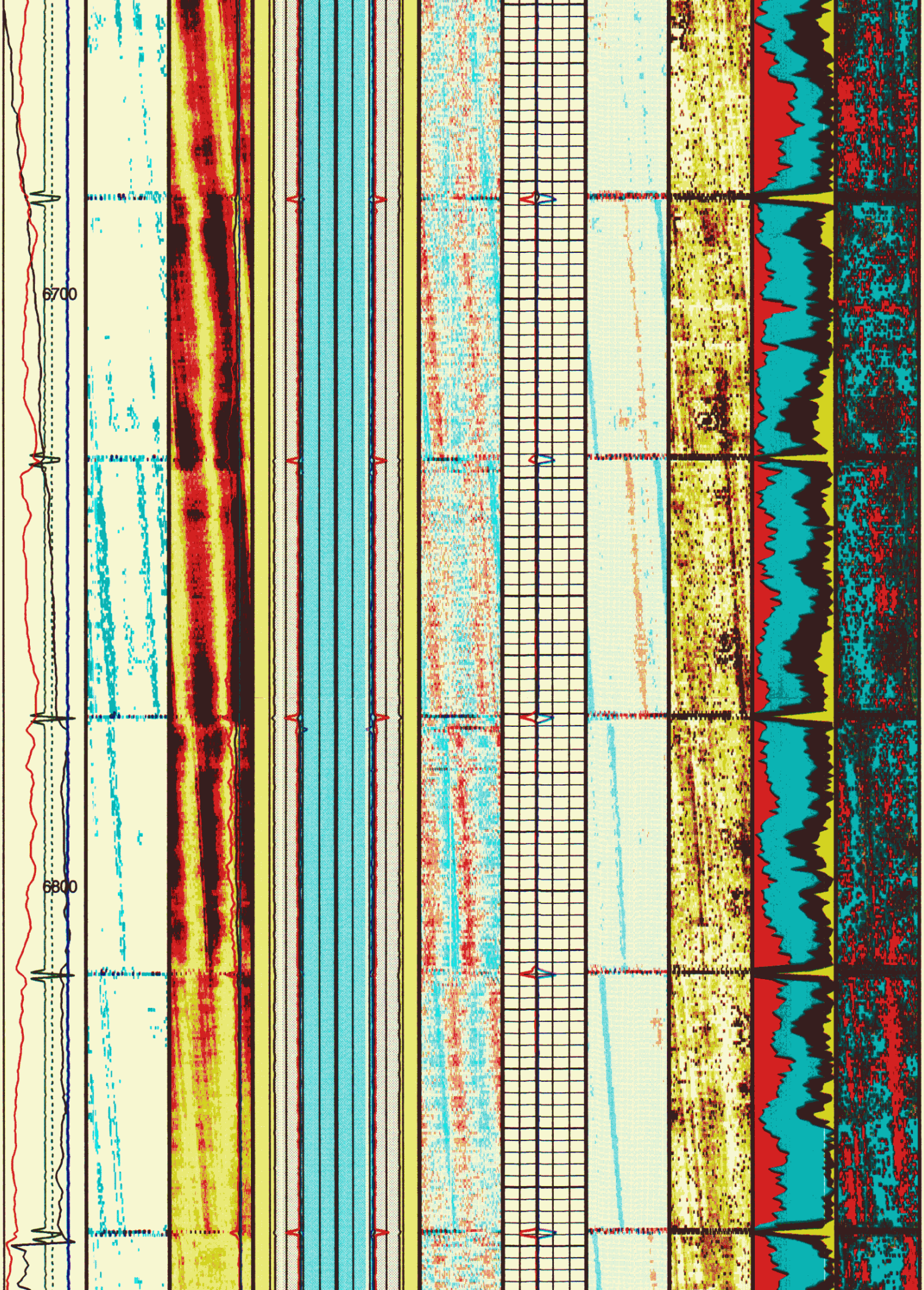
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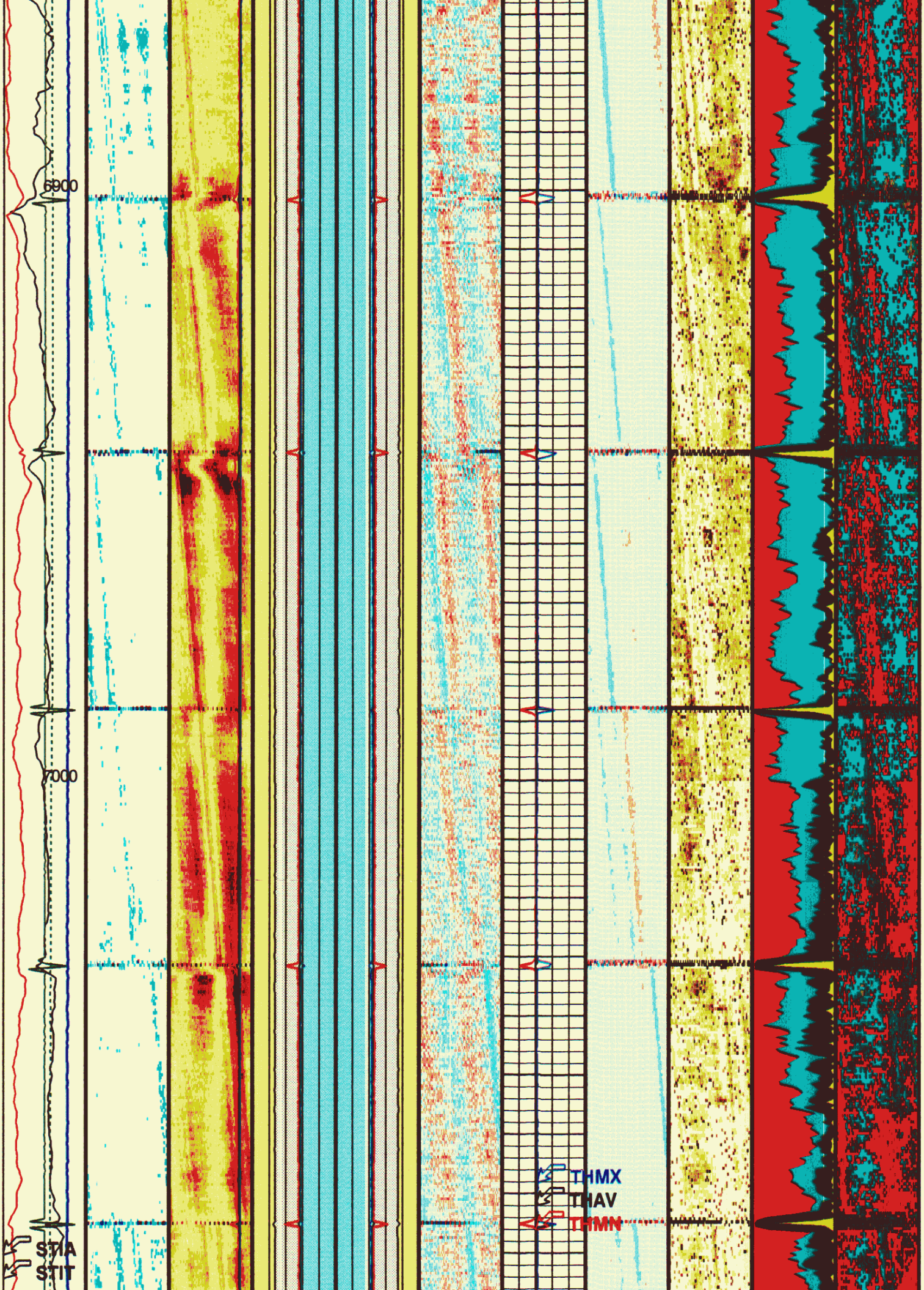
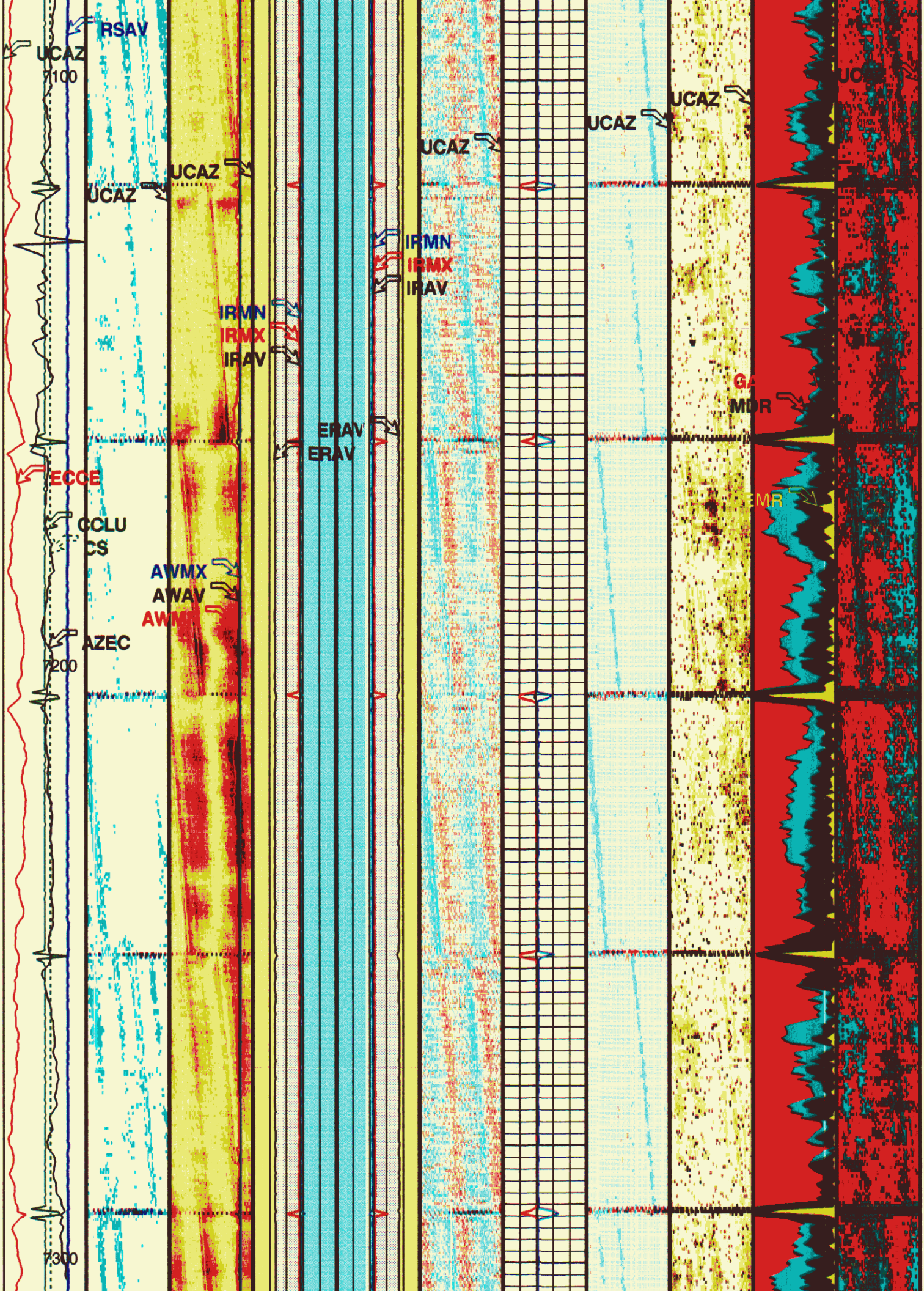
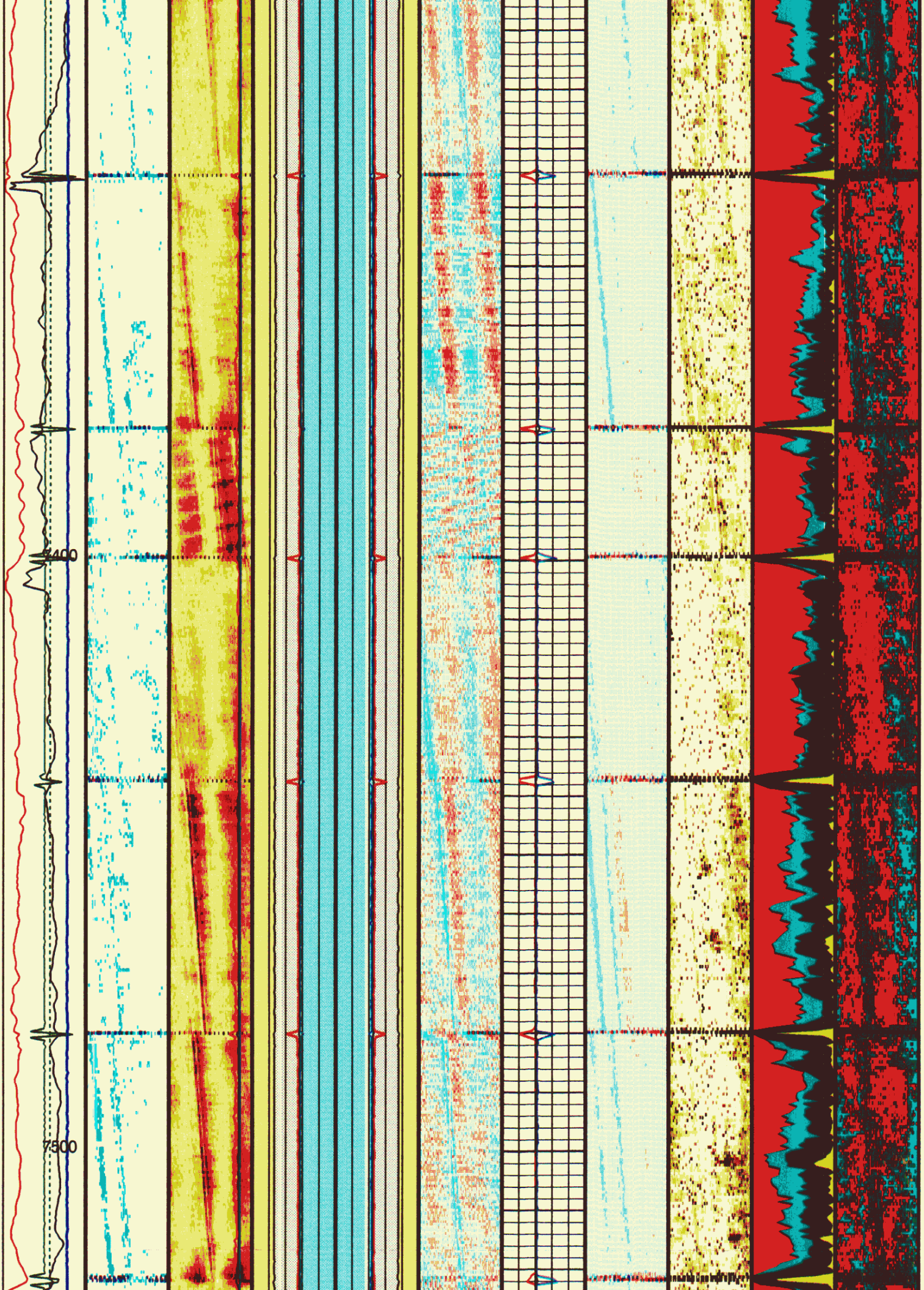

6900
7000
THMX
THAV
THMN
STIA
STIT


RSAV
UCAZ
7100
UCAZ
UCAZ
UCAZ
UCAZ
UCAZ
UCAZ
IRMN
IRMX
IRAV
IRMN
IRMX
IRAV
MDR
ERAV
ERAV
ECCE
EMR
CCLU
CS
AWMX
AWAV
AWM
AZEC
7200
7300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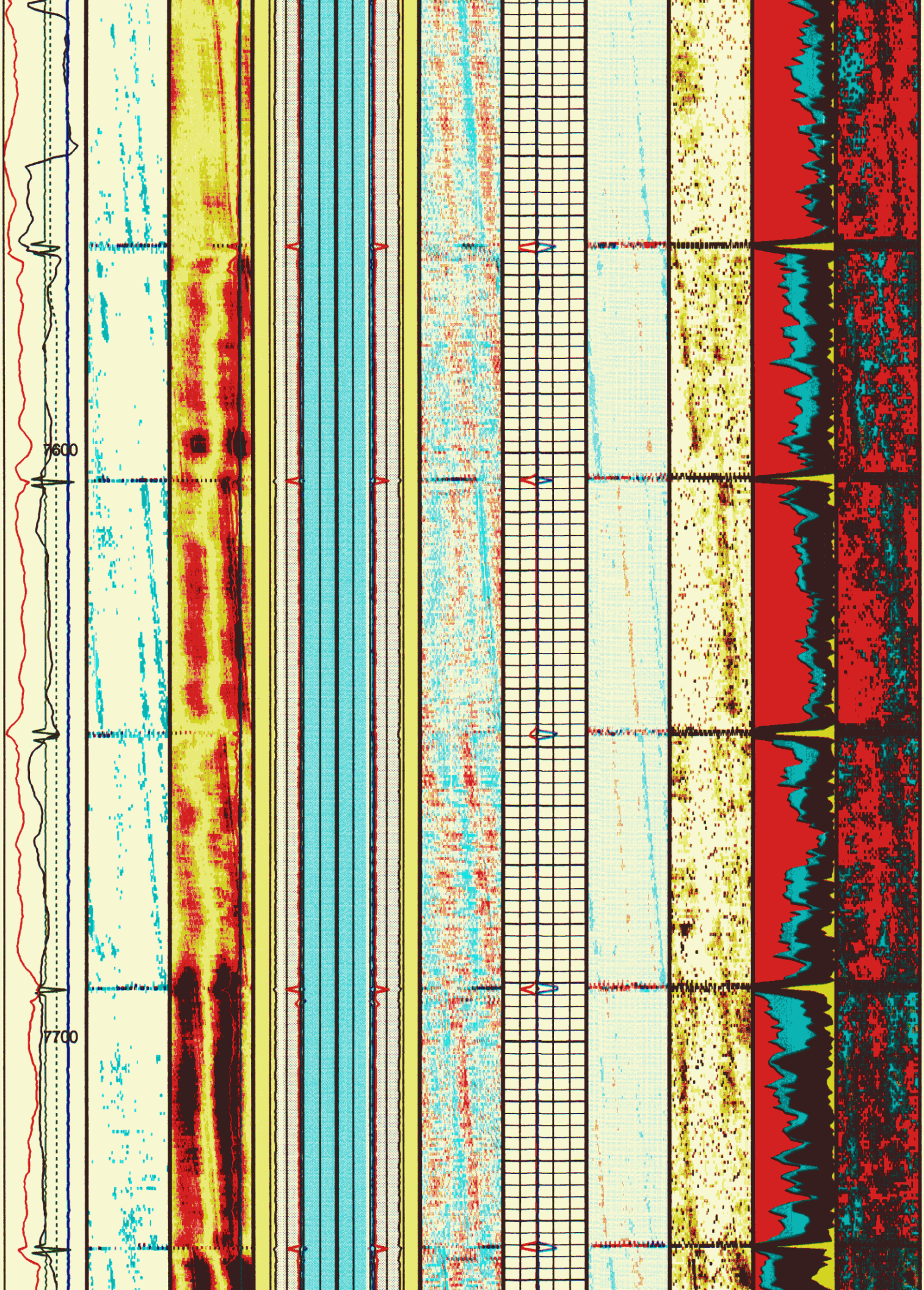
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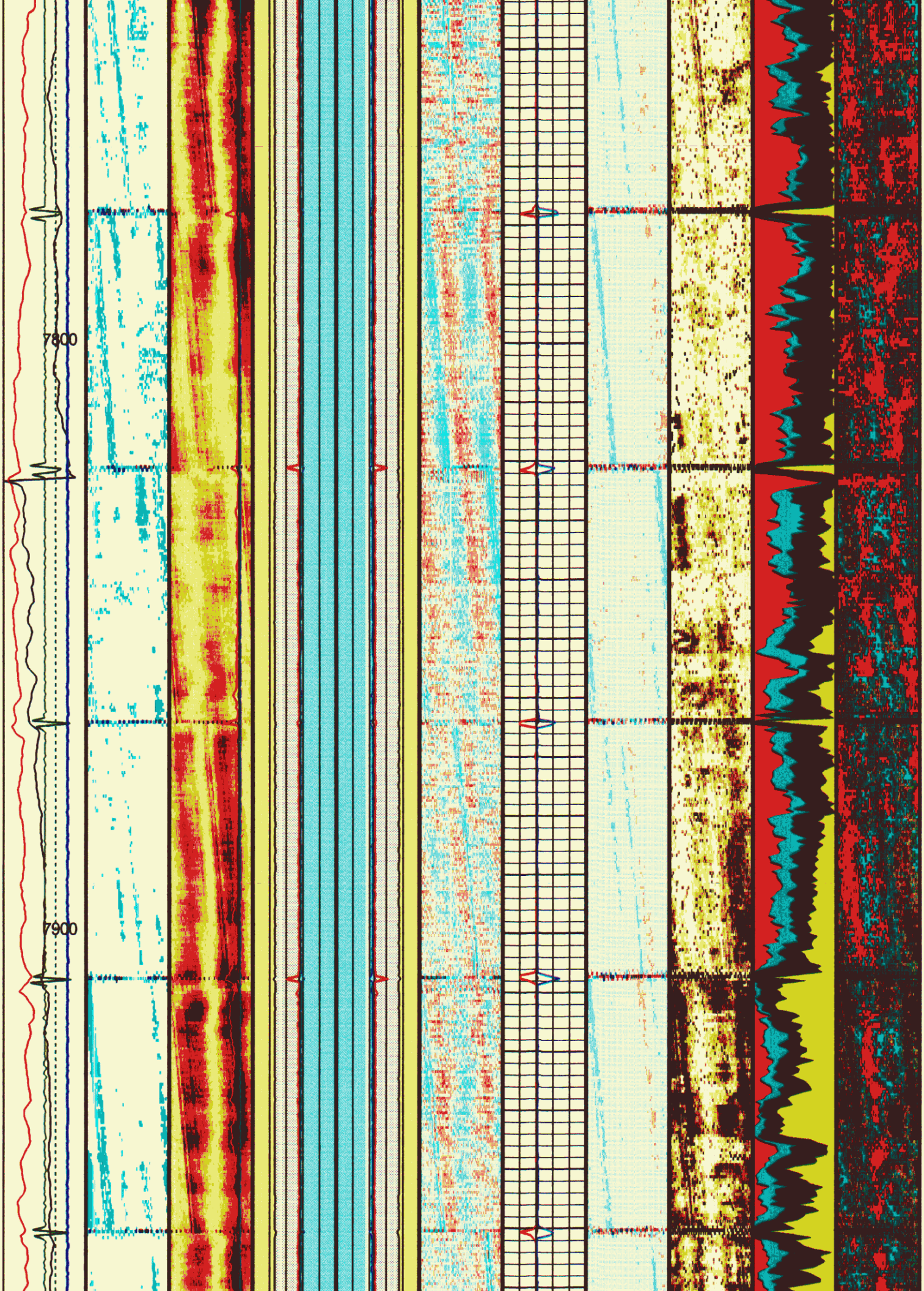
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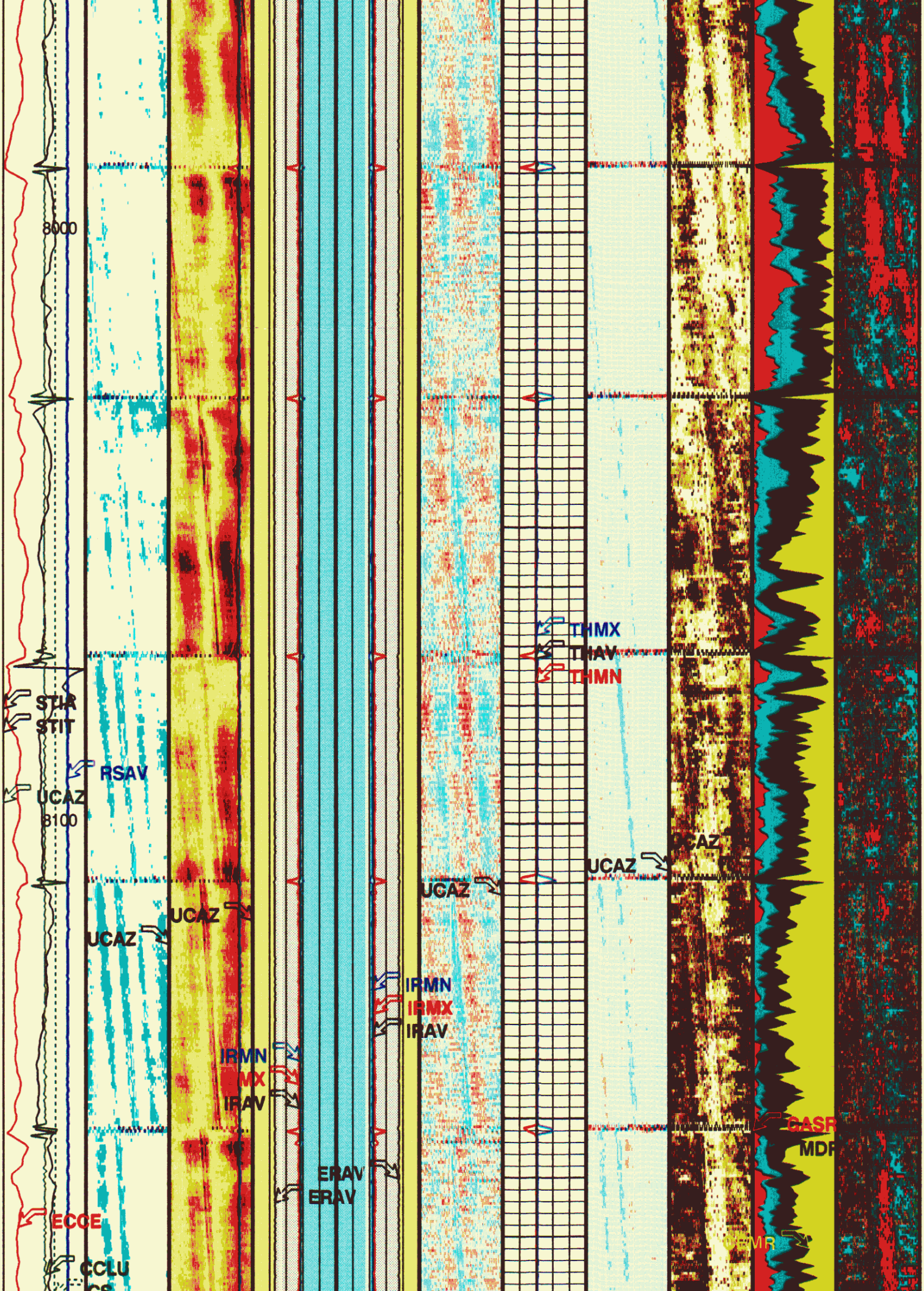
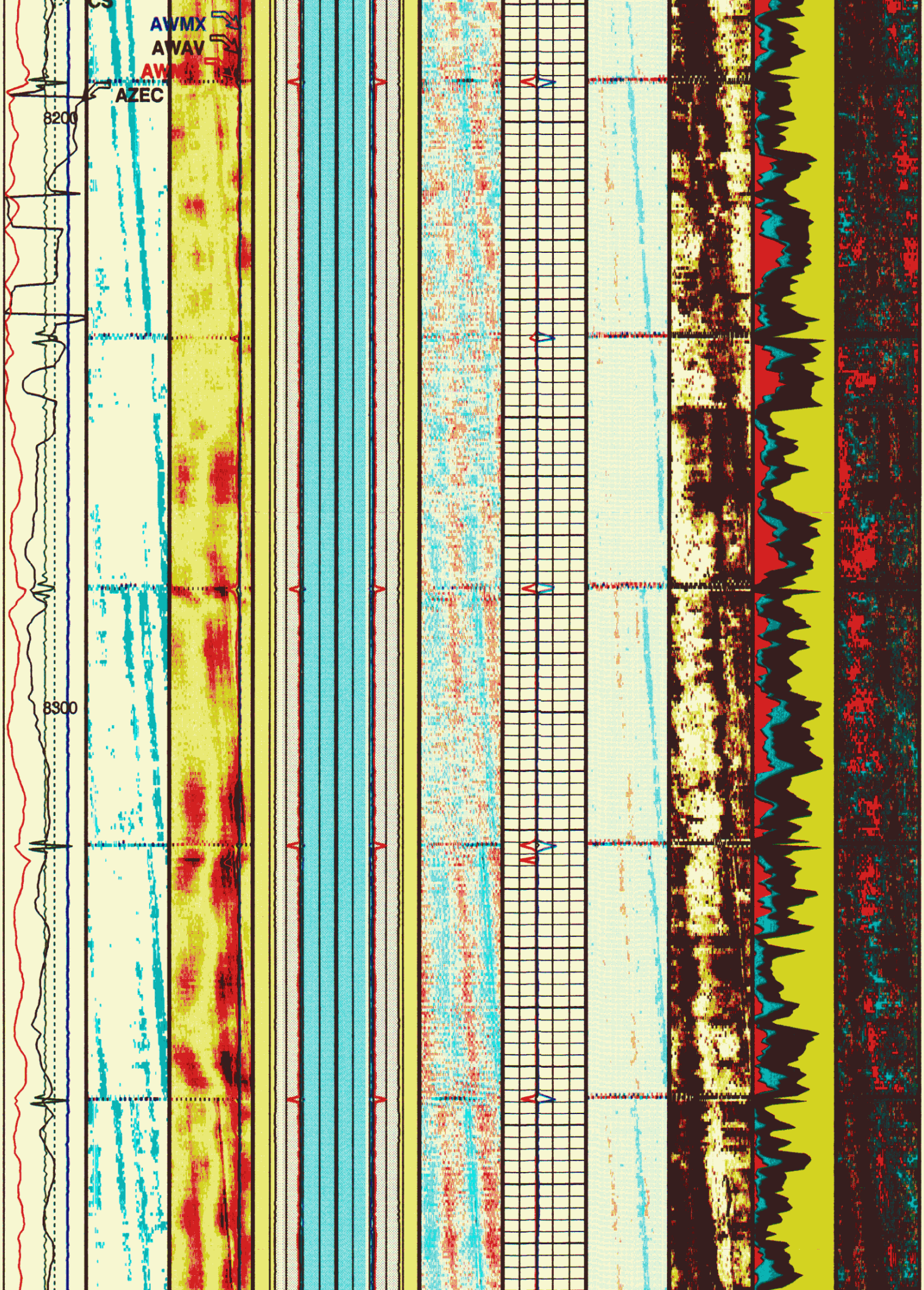
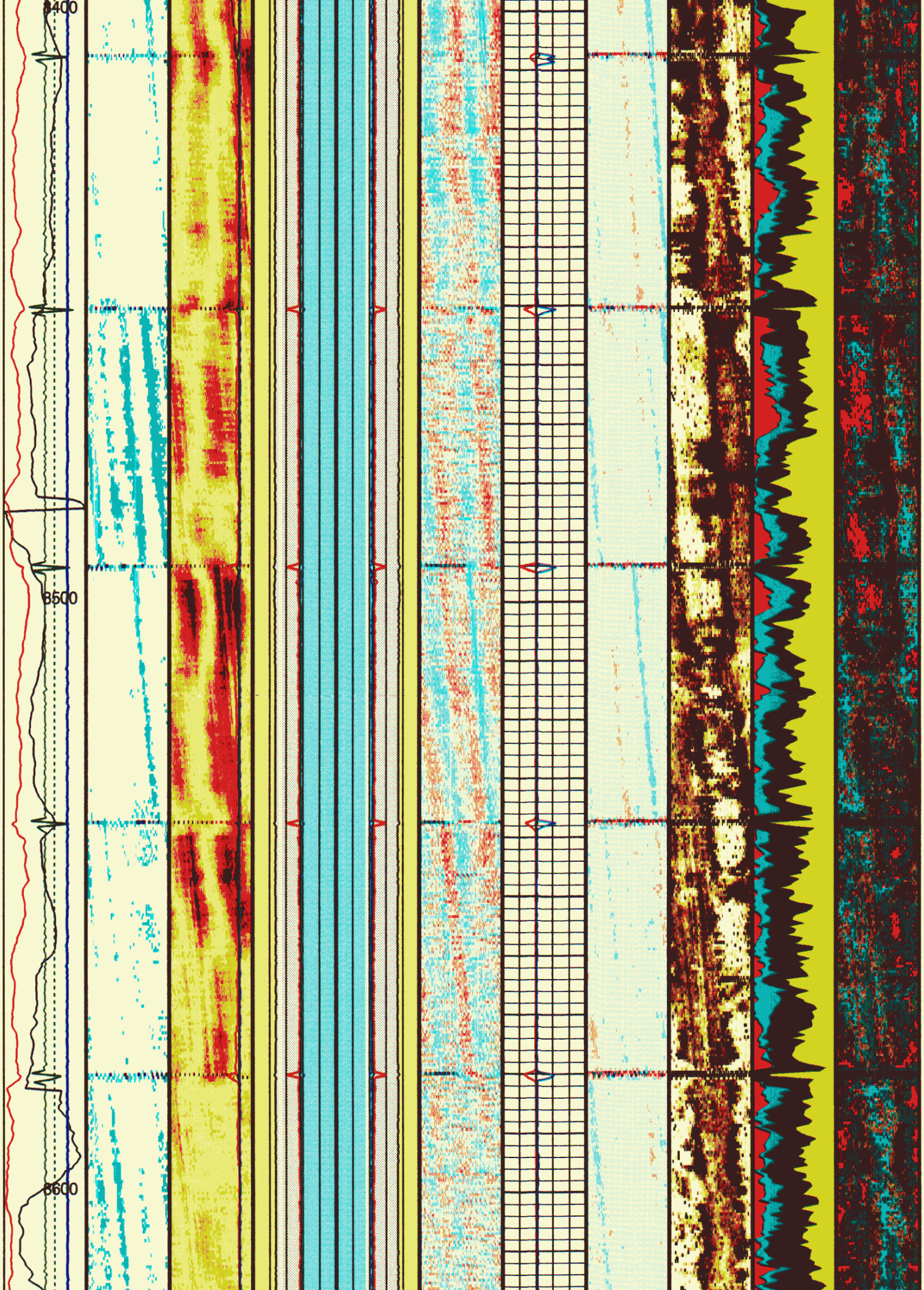
7900


8000
THMX
THAV
THMN
STIR
STIT
RSAV
UCAZ
8100
UCAZ
UCAZ
UCAZ
UCAZ
UCAZ
IRMN
IRMX
IRAV
IRMN
MX
IRAV
GASR
MDF
ERAV
ERAV
ECCE
CCLU


AWMX
AWAV
AZEC
8200
8300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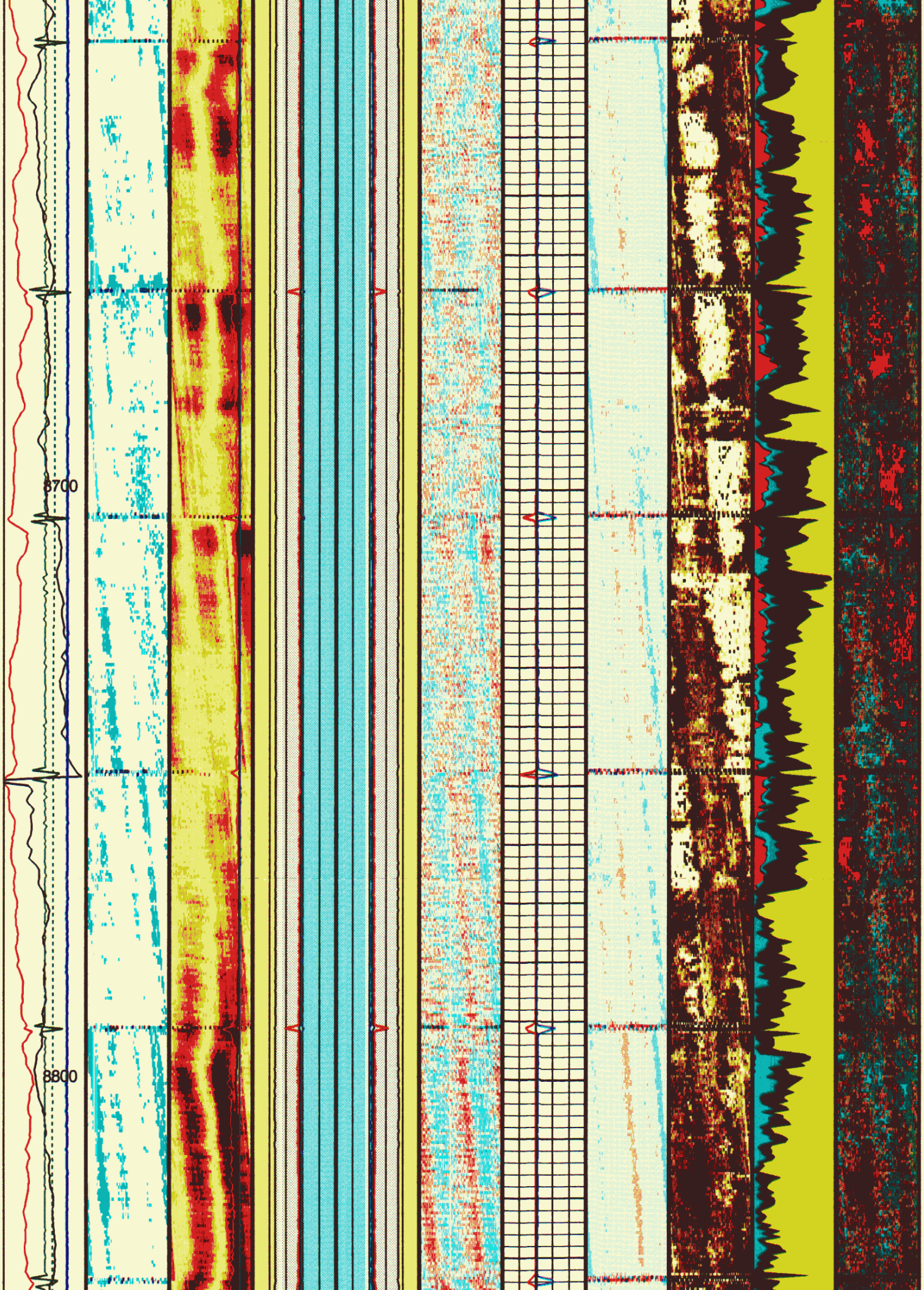
8500
8600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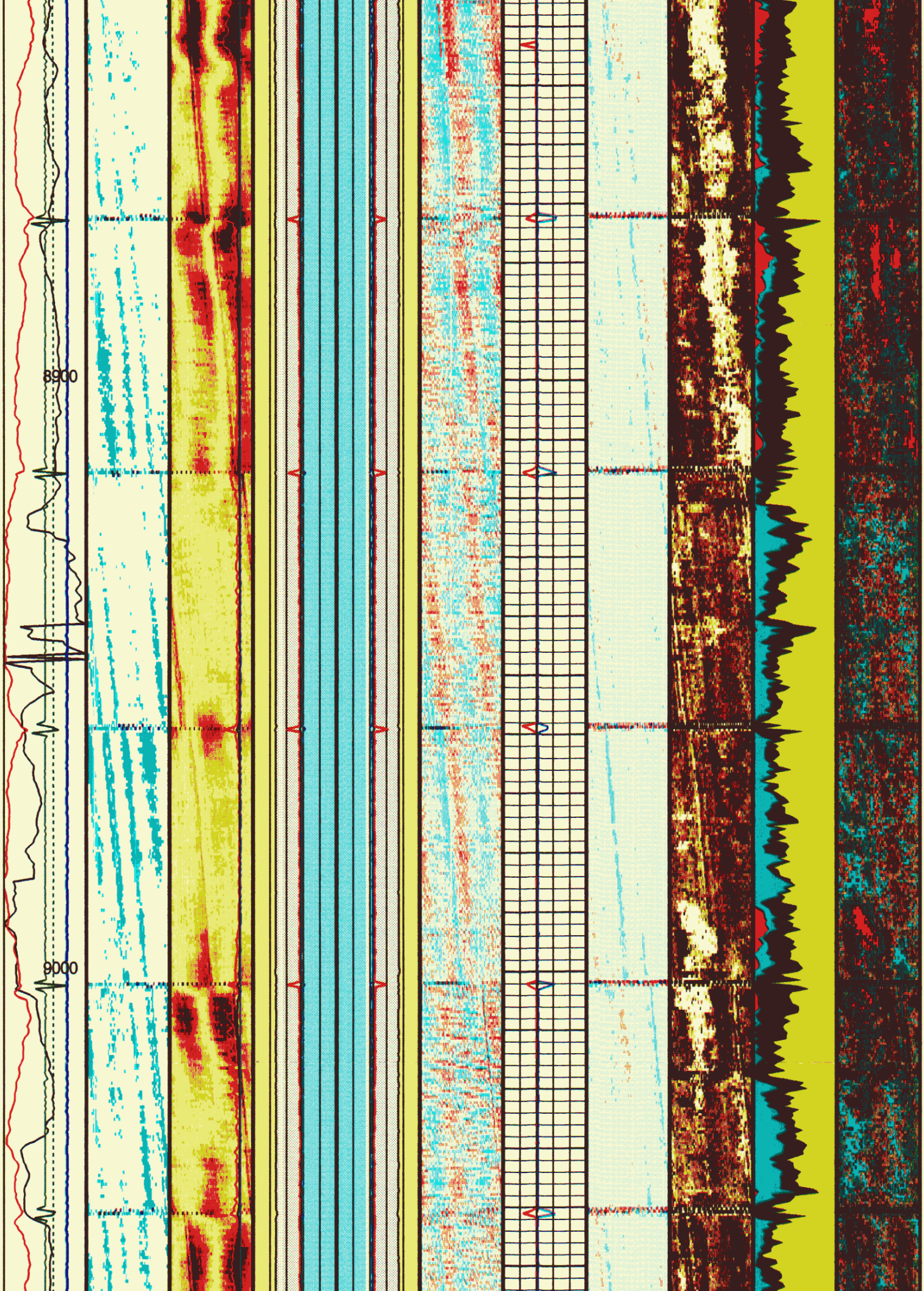
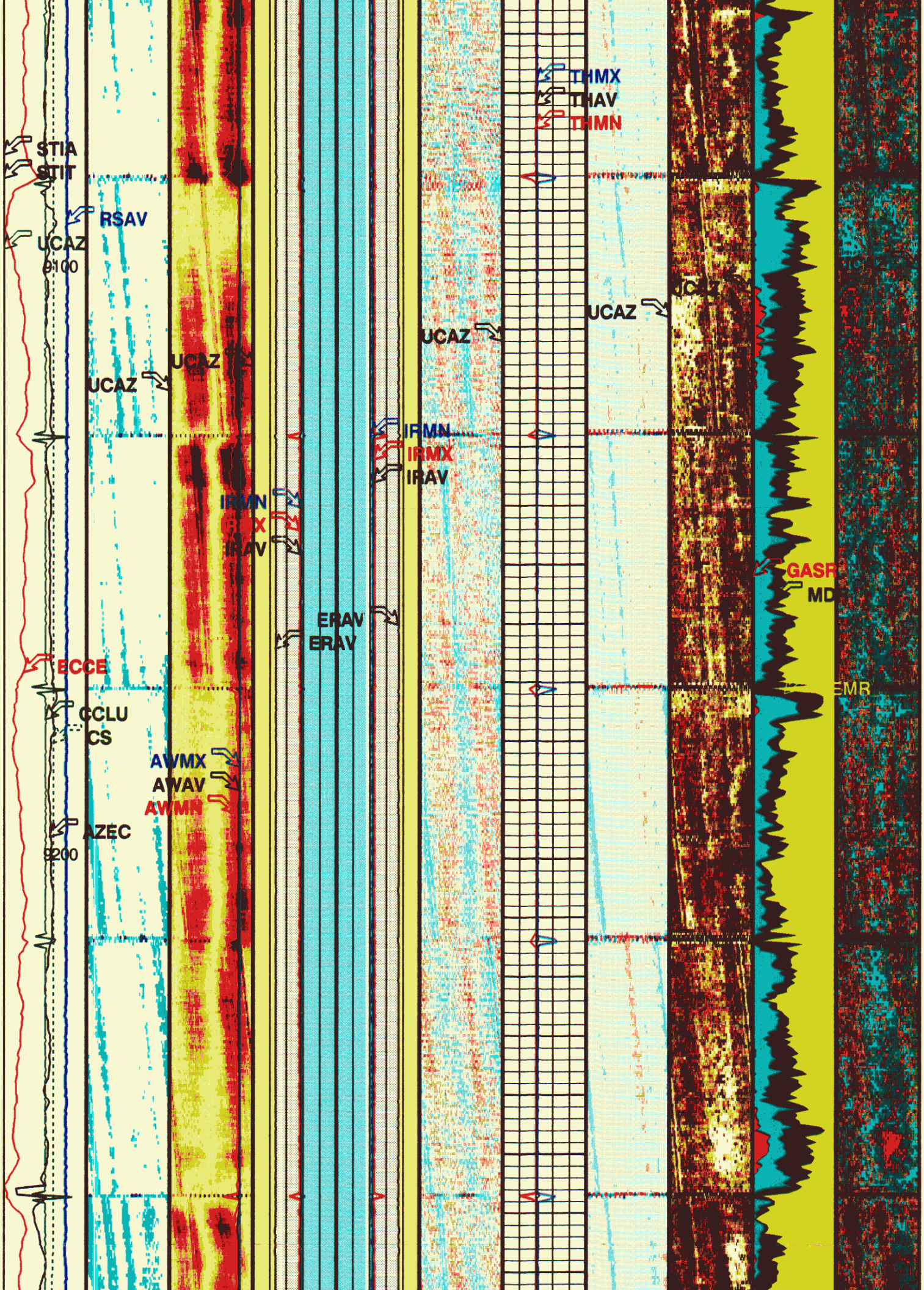
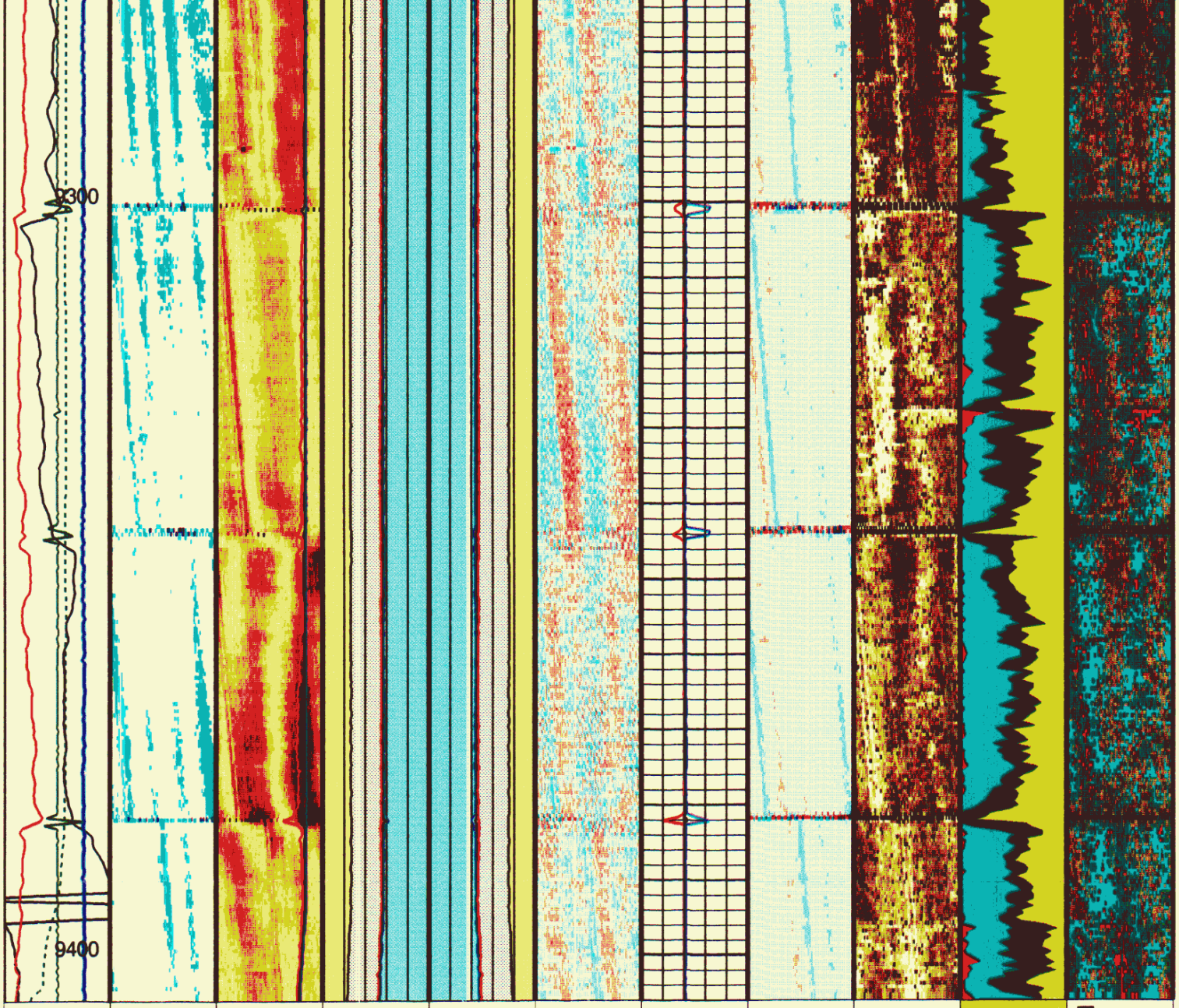

8900
9000


THMX
THAV
THMN
STIA
STIT
RSAV
UCAZ
9100
UCAZ
UCAZ
UCAZ
UCAZ
IRMN
IRMX
IRAV
IRMN
IRAV
GASR
MD
ERAV
ERAV
ECCE
EMR
CCLU
CS
AWMX
AWAV
AWMN
AZEC
9200



Eccent. (ECCE)
0 (IN) 0.5

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

Min. of Amplitude (AWMN)
0 (DB) 75

External radius Average (ERAV)
3 (IN) 2

External radius Average (ERAV)
2 (IN) 3

Internal radii minus Ave (IRBK) (----)
-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) (----)
-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) (----)
-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

Bonded

Cement Map with Impedance Classification (AI_MICRO_DEBONDING_IMAGE) (----)
-1000.0000
-500.0000
0.3000
1.8500
2.0454
2.2409
2.4364
2.6318
2.8273
3.0227
3.2182
3.4136
3.6091
3.8045
4.0000

Rev. speed (RSAV)
6 (RPS) 8

Average of Amplitude (AWAV)
0 (DB) 75

Internal radius Average (IRAV)
3 (IN) 2

Internal radius Average (IRAV)
2 (IN) 3

Average of Thickness (THAV) (IN)
0.1 0.6

Gas or Dry MicroA

Rev. speed (RSAV) (RPS)	Maximum of Amplitude (AWMX)	Internal radius Maximum (IRMX)	Internal radius Maximum (IRMX)	Maximum of Thickness (THMX) (IN)
-8 -6	0 (DB) 75	3 (IN) 2	2 (IN) 3	0.1 0.6
Cable Speed (CS) (F/HR)	-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) (----)	Min of Internal radius (IRMN)	Min of Internal radius (IRMN)	
0 5000		3 (IN) 2	2 (IN) 3	
CCL (CCLU) (----)				
-20 20				
Stuck Stretch (STIT)				
0 (F) 50				
Cable Drag From D4T to STIT				
Tool/Tot. Drag From D4T to STIA				
Azimuth of eccent. (AZEC) (DEG)				
0 360				
Image rotation (UCAZ) (DEG)				
0 360				

Liquid

Micro-debonding

Format: USI_Composite Vertical Scale: 5" per 100' Graphics File Created: 19-Dec-2003 17:28

OP System Version: 11C0-305

MCM

USIT-A	11C0-305	SGT-N	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

COMPUTATION FLAGS LABELLING

(0 - 1.5) UFLG 1 UTIM error

(1.5 - 2.5)	UFLG 2	Pulse origin not detected
(2.5 - 3.5)	UFLG 3	WINLEN error
(3.5 - 6.5)	UFLG 4 UFLG 5 UFLG 6	CASING THICKNESS error
(6.5 - 10)	UFLG 7 UFLG 8 UFLG 9	LOOP PROCESSING error

USI : HIGH Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.18 to 0.31 IN.

Parameters

DLIS Name	Description	Value	
	USIT-A: Ultrasonic Imaging		
AGMN	Minimum Gain of Cartridge	-4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	5.5	IN
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	4.95	IN
DFVL	Default Fluid Velocity	195	US/F
DOT	Diameter of Transducer Sensor	1.756	IN
EMXV	EMEX Voltage	20	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.4	LB/G
RCOD	Reference Calibrator Outer Diameter	4.5	IN
RCSO	Reference Calibrator Standoff	0.8425	IN
RCTH	Reference Calibrator Thickness	0.2165	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	
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THNO	Nominal Thickness of Casing	0.275	IN
UMAO	USIT Measurement Angular Offset	-10	DEG
USTO	Ultrasonic Time Offset	-2	US
USUB	Ultrasonic Subassembly Identifier	Sub_5_inch	
UWKM	Ultrasonic Working Mode	5DEG_6IN_HF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	16.4907	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	-1	MRAY
ZMUD	Acoustic Impedance of Mud	1.4	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	1.85	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	9508.00	FT
TDL	Total Depth - Logger	9508.00	FT
	System and Miscellaneous		
CWEI	Casing Weight	15.50	LB/F
DO	Depth Offset for Playback	0.0	FT
PP	Playback Processing	RECOMPUTE	

Input DLIS Files

DEFAULT	USI_009LUP	FN:8	PRODUCER	19-Dec-2003 13:31	9406.0 FT	1076.5 FT

Output DLIS Files

DEFAULT	USI_031PUP	FN:28	PRODUCER	19-Dec-2003 17:28

Schlumberger

Repeat Section

MAXIS Field Log

Input DLIS Files

DEFAULT	USI_008LUP	FN:7	PRODUCER	19-Dec-2003 13:13	9399.0 FT	9024.0 FT

Output DLIS Files

DEFAULT	USI_019PUP	FN:17	PRODUCER	19-Dec-2003 16:45	9404.0 FT	9030.5 FT

OP System Version: 11C0-305

MCM

USIT-A	11C0-305	SGT-N	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

Zoning of Mud Parameters

Depth	Fluid Velocity (DFVL)	Acoustic Impedance (ZMUD)
9350.00	199.40	1.39
9000.00	198.28	1.43
8500.00	197.40	1.43
8000.00	197.42	1.42
7500.00	197.42	1.42
7000.00	196.71	1.56
6500.00	196.99	1.51
6000.00	197.00	1.45
5500.00	197.20	1.48
5000.00	197.44	1.52

Image rotation (UCAZ) (DEG)
0 360
Azimuth of eccent. (AZEC) (DEG)
0 360

Tool/Tot. Drag From D4T to STIA

Cable Drag From D4T to STIT

Stuck Stretch (STIT)
0 (F) 50

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

Cable Speed (CS) (F/HR)
0 5000

Rev. speed (RSAV) (RPS)
-8 -6

Rev. speed (RSAV)
6 (RPS) 8

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) (---)

Min of Internal radius (IRMN)
3 (IN) 2

Min of Internal radius (IRMN)
2 (IN) 3

Maximum of Amplitude (AWMX)
0 (DB) 75

Internal radius Maximum (IRMX)
3 (IN) 2

Internal radius Maximum (IRMX)
2 (IN) 3

Average of Amplitude (AWAV)
0 (DB) 75

Internal radius Average (IRAV)
3 (IN) 2

Internal radius Average (IRAV)
2 (IN) 3

Min. of Amplitude (AWMN)
0 (DB) 75

External radius Average (ERAV)
3 (IN) 2

External radius Average (ERAV)
2 (IN) 3

-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

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

-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)

Micro-debonding

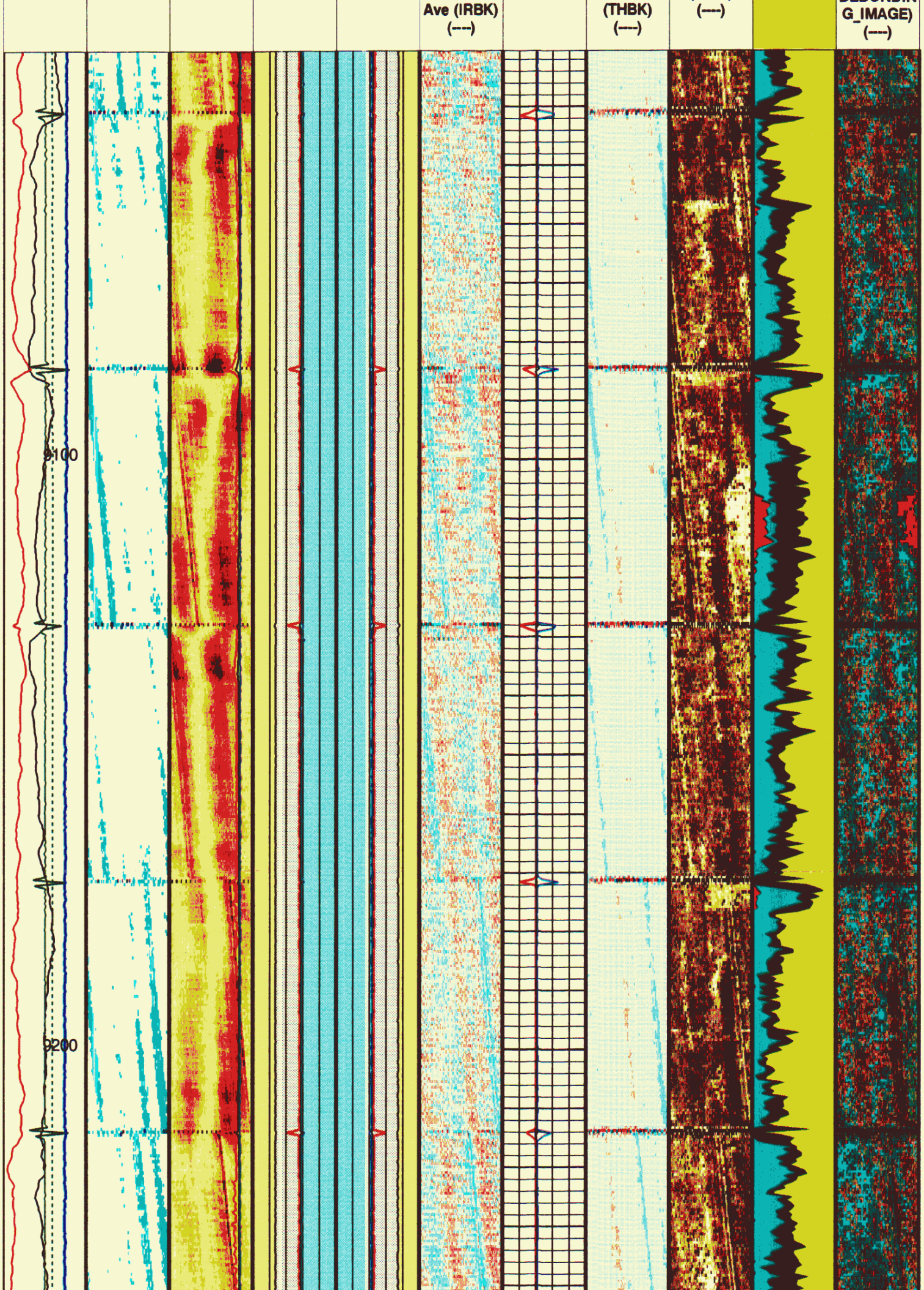
Liquid

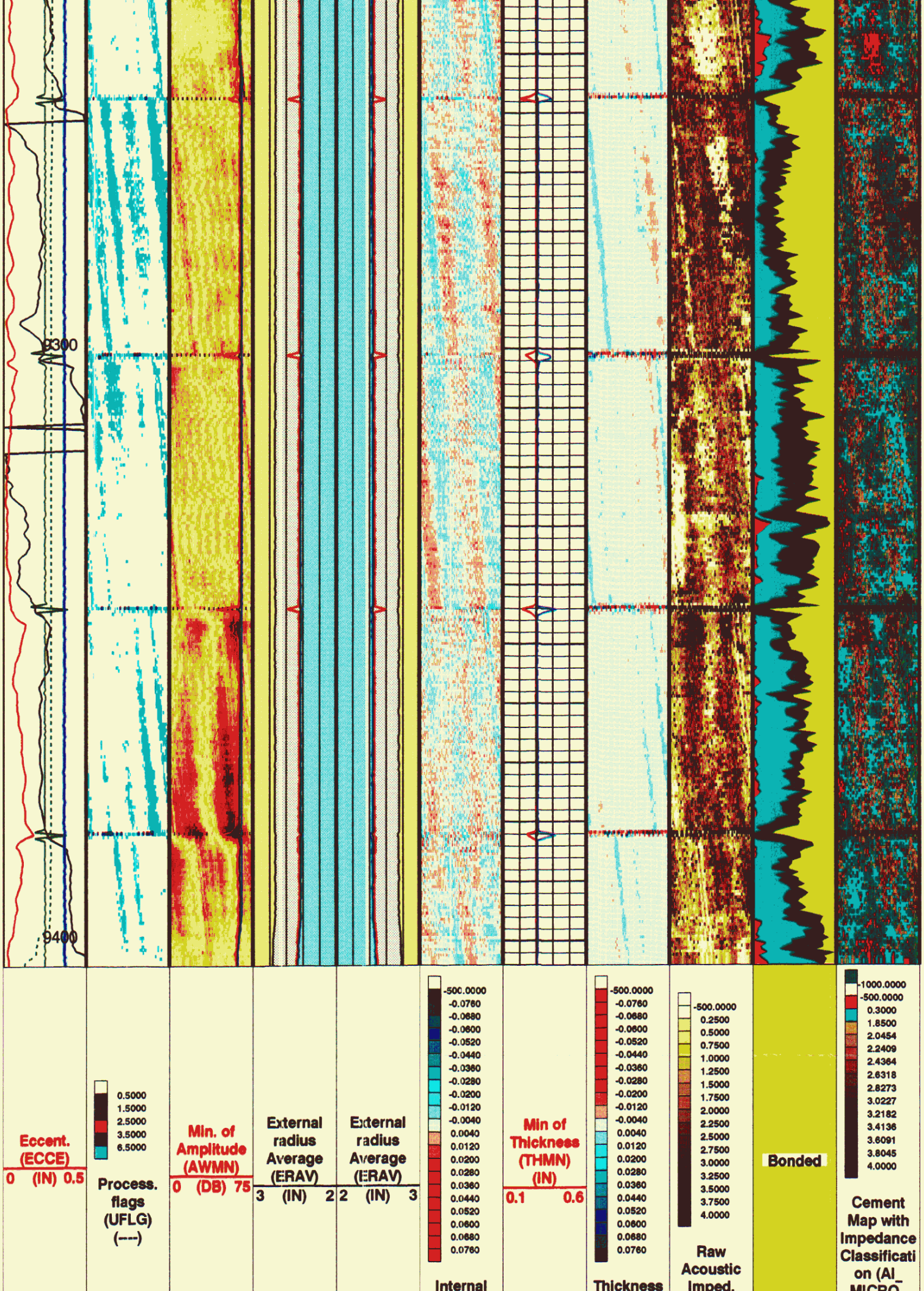
Gas or Dry MicroA

Bonded

-1000.0000
-500.0000
0.3000
1.8500
2.0454
2.2409
2.4364
2.6318
2.8273
3.0227
3.2182
3.4136
3.6091
3.8045
4.0000

Cement Map with Impedance Classification (AI_MICRO_DEBONDIN


Ave (IRBK)
(----)
(THBK)
(----)
(----)
G_IMAGE)
(----)
9100
9200


9300
9400
Eccent. (ECCE)
0 (IN) 0.5
0.5000
1.5000
2.5000
3.5000
6.5000
Process. flags (UFLG) (---)
Min. of Amplitude (AWMN)
0 (DB) 75
External radius Average (ERAV)
3 (IN) 2
External radius Average (ERAV)
2 (IN) 3
-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
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
-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.
Bonded
-1000.0000
-500.0000
0.3000
1.8500
2.0454
2.2409
2.4364
2.6318
2.8273
3.0227
3.2182
3.4136
3.6091
3.8045
4.0000
Cement Map with Impedance Classificati on (AI_ MICRO

radii minus Ave (IRBK) (----)

minus Ave (THBK) (----)

(AIBK) (----)

MICRO_ DEBONDIN G_IMAGE) (----)

Rev. speed (RSAV)
6 (RPS) 8

Average of Amplitude (AWAV)
0 (DB) 75

Internal radius Average (IRAV)
3 (IN) 2

Internal radius Average (IRAV)
2 (IN) 3

Average of Thickness (THAV) (IN)
0.1 0.6

Gas or Dry MicroA

Rev. speed (RSAV) (RPS)
-8 -6

Maximum of Amplitude (AWMX)
0 (DB) 75

Internal radius Maximum (IRMX)
3 (IN) 2

Internal radius Maximum (IRMX)
2 (IN) 3

Maximum of Thickness (THMX) (IN)
0.1 0.6

Liquid

Cable Speed (CS) (F/HR)
0 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

Amplitude of echo minus Max (AWBK) (----)

Min of Internal radius (IRMN)
3 (IN) 2

Min of Internal radius (IRMN)
2 (IN) 3

Micro-deb onding

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

Stuck Stretch (STIT)
0 (F) 50

Cable Drag From D4T to STIT

Tool/Tot. Drag From D4T to STIA

Azimuth of eccent. (AZEC) (DEG)
0 360

Image rotation (UCAZ) (DEG)
0 360

Format: USI_Composite Vertical Scale: 5" per 100' Graphics File Created: 19-Dec-2003 16:45

OP System Version: 11C0-305

MCM

USIT-A	11C0-305	SGT-N	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

COMPUTATION FLAGS LABELLING

(0 - 1.5)	UFLG 1	UTIM error
(1.5 - 2.5)	UFLG 2	Pulse origin not detected
(2.5 - 3.5)	UFLG 3	WINLEN error
(3.5 - 6.5)	UFLG 4 UFLG 5 UFLG 6	CASING THICKNESS error
(6.5 - 10)	UFLG 7 UFLG 8 UFLG 9	LOOP PROCESSING error

USI : HIGH Frequency Compression Mode Used For Logging.

Recommended casing thickness range for optimum cement impedance measurement : 0.18 to 0.31 IN.

Parameters

DLIS Name	Description	Value	
	USIT-A: Ultrasonic Imaging		
AGMN	Minimum Gain of Cartridge	-4	DB
AGMX	Maximum Gain of Cartridge	20	DB
BERJ	Bad Echo Rejection	ON	
CDIA	Casing Outer Diameter	5.5	IN
CSDE	Casing Density	486.94	LBCF
CSID	Casing Inner Diameter	4.95	IN
DFVL	Default Fluid Velocity	195	US/F
DOT	Diameter of Transducer Sensor	1.756	IN
EMXV	EMEX Voltage	20	V
FDII	FPM Data Interpolation Interval	0	FT
IMAR	Image Rotation	OFF	
MW	Mud Weight	8.4	LB/G
RCOD	Reference Calibrator Outer Diameter	4.5	IN
RCSO	Reference Calibrator Standoff	0.8425	IN
RCTH	Reference Calibrator Thickness	0.2165	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	
TCUB	T^3 Processing Level	Vax_Loop	
THDH	Maximum Search Thickness (percentage of nominal)	130	
THDL	Minimum Search Thickness (percentage of nominal)	70	
THNO	Nominal Thickness of Casing	0.275	IN
UMAO	USIT Measurement Angular Offset	-10	DEG
USTO	Ultrasonic Time Offset	-2	US
USUB	Ultrasonic Subassembly Identifier	Sub_5_inch	
UWKM	Ultrasonic Working Mode	5DEG_6IN_HF	
VCAS	Ultrasonic Transversal Velocity in Casing	51.4	US/F
WLEN	T^3 Processing Length	16.4907	US
ZCAS	Acoustic Impedance of Casing	46.25	MRAY
ZINI	Initial Estimate of Cement Impedance	-1	MRAY
ZMUD	Acoustic Impedance of Mud	1.4	MRAY
ZTCM	Acoustic Impedance Threshold for Cement	1.85	MRAY
ZTGS	Acoustic Impedance Threshold for Gas	0.3	MRAY
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	9508.00	FT
TDL	Total Depth - Logger	9508.00	FT
	System and Miscellaneous		
CWEI	Casing Weight	15.50	LB/F
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	RECOMPUTE	

Input DLIS Files

Input DLIS Files

DEFAULT	USI_008LUP	FN:7	PRODUCER	19-Dec-2003 13:13	9399.0 FT	9024.0 FT

Output DLIS Files

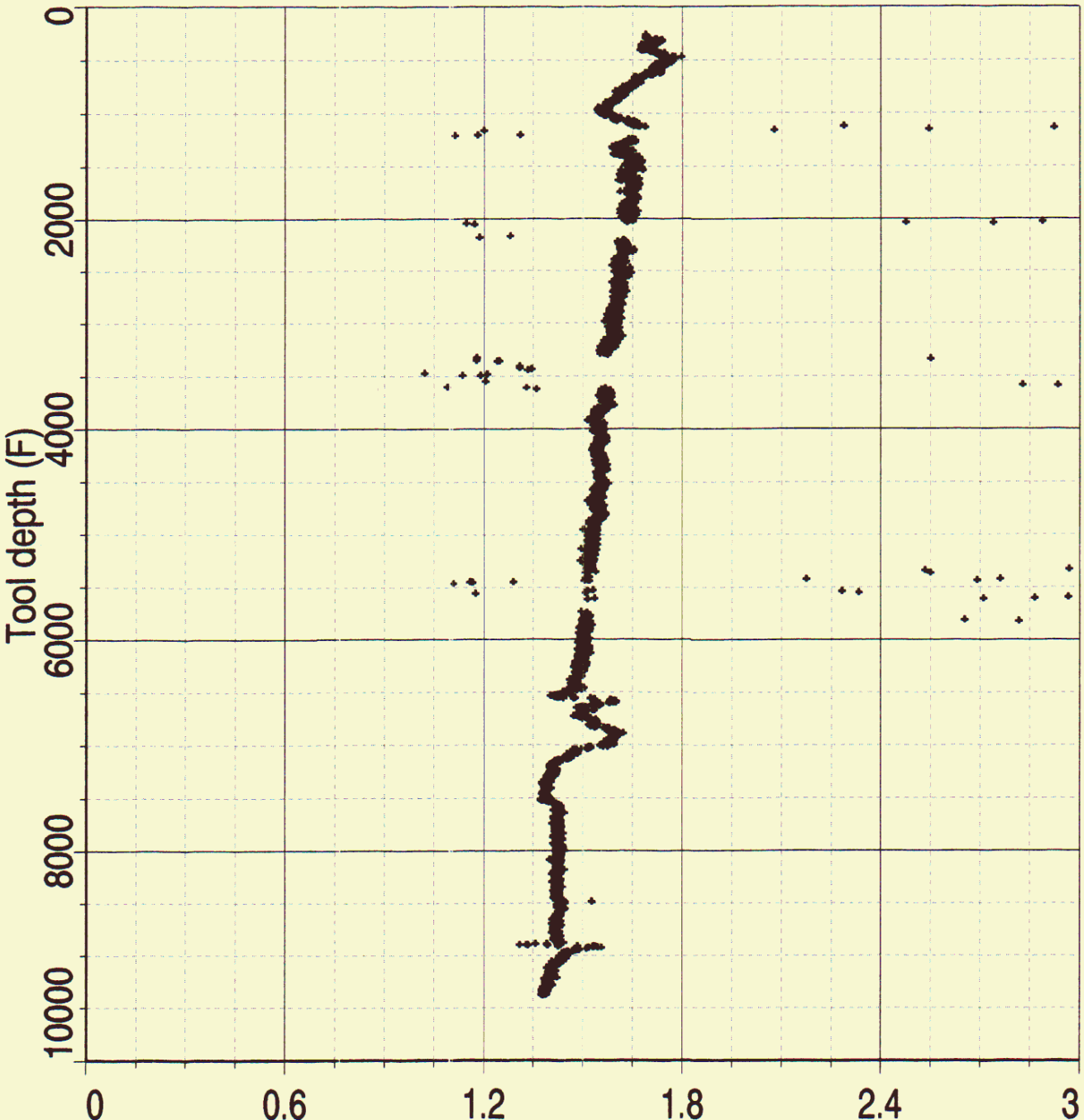
DEFAULT	USI_019PUP	FN:17	PRODUCER	19-Dec-2003 16:45

Schlumberger

Fluid Properties Measurement
Fluid Impedance vs Depth

MAXIS Field Log

Index: 261.0 - 9378.0 FT

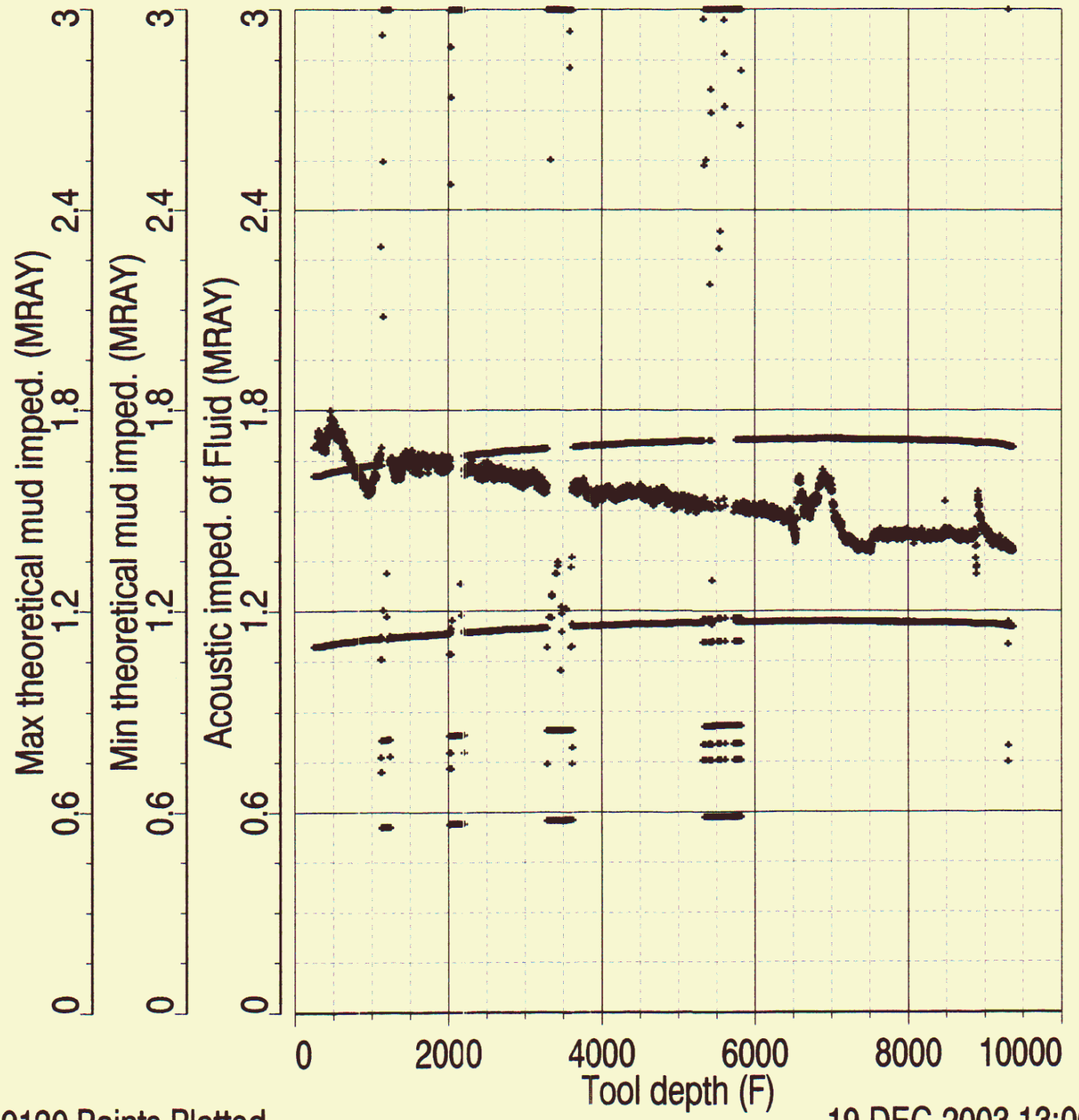


Acoustic imped. of Fluid (MRAY)

2752 Points Plotted

19-DEC-2003 13:06

Index: 261.0 - 9378.0 FT



9120 Points Plotted

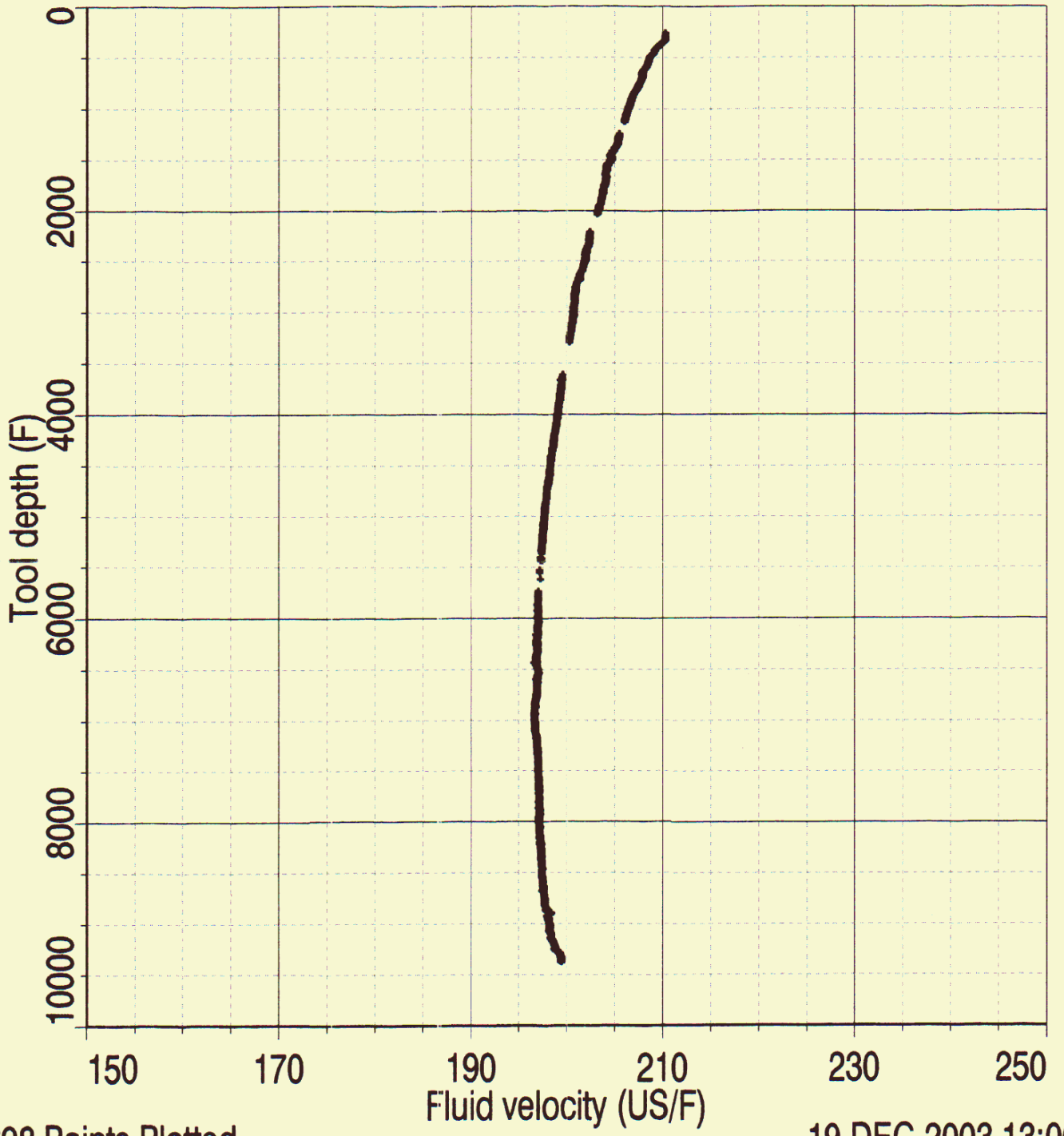
19-DEC-2003 13:06

Schlumberger

Fluid Properties Measurement
Fluid Velocity vs Depth

MAXIS Field Log

Index: 261.0 - 9378.0 FT



2698 Points Plotted

19-DEC-2003 13:06

Schlumberger

Company:	ENCANA OIL AND GAS (USA) INC
Well:	WIEBEN 2-13 (M2SW)
Field:	MAMM CREEK
County:	GARFIELD
State:	COLORADO

ULTRASONIC IMAGER
CEMENT BOND MODE
GR-CCL