Schlumberger

Company: Lamont Doherty

Well: Expedition 323 Site U1339D
Field: Bering Sea
Rig: JOIDES Resolution Country: USA

Formation Micro-Scanner
Natural Gamma Spectroscopy

Rig: JOIDES Resolution
Field: Bering Sea
Location: Latitude: N 54* 40.471'
Well: Expedition 323 Site U1339D
Company: Lamont Doherty

LOCATION

Latitude: N 54* 40.471'
Longitude: W 169* 58.453'

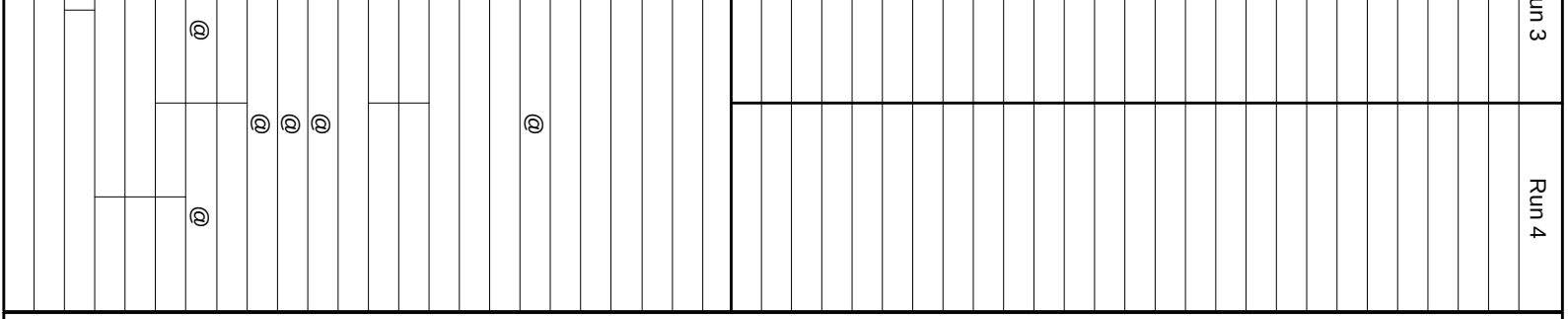
Elev.: K.B. 11.00 m
G.L. -1879.40 m
D.F. 11.00 m

Permanent Datum: Mean Sea Level Elev.: 0.00 m
Log Measured From: Drill Floor 11.00 m above Perm. Datum
Drilling Measured From: Drill Floor

Ocean: Pacific	Max. Well Deviation 0 deg	Longitude	Latitude

	Run 1	Run 2	Run 3
Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@	@	@
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density / Viscosity	/	/	/
MUD Fluid Loss / PH	/	/	/
MUD Source Of Sample			
RM @ Measured Temperature	@	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC	/	/	/
RM @ MRT / RMF @ MRT	@ / @	@ / @	@ / @
Maximum Recorded Temperatures			
Circulation Stopped / Time	/	/	/
Logger On Bottom / Time	/	/	/
Unit Number / Location	/	/	/
Recorded By			
Witnessed By			

Logging Date	20-Jul-2009		
Run Number	2		
Depth Driller	2079.4 m		
Schlumberger Depth	2080 m		
Bottom Log Interval	2080 m		
Top Log Interval	2005 m		
Casing Driller Size @ Depth	4.500 in @ 1962 m	@	
Casing Schlumberger	1962 m		
Bit Size	11.438 in		
Type Fluid In Hole	Seawater Gel		
MUD Density / Viscosity	1.258 g/cm3 /	/	/
MUD Fluid Loss / PH	/	/	/
MUD Source Of Sample	N/A		
RM @ Measured Temperature	@	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC	N/A / N/A	/	/
RM @ MRT / RMF @ MRT	@ 15 / @ 15	@ / @	@ / @
Maximum Recorded Temperatures	15 degC		
Circulation Stopped / Time	20-Jul-2009 / 11:00		
Logger On Bottom / Time	20-Jul-2009 / 22:00		
Unit Number / Location	625003 / Houston	/	
Recorded By	C. Furman		
Witnessed By	T. Liu, G. Guerin		



DISCLAIMER

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OTHER SERVICES1

OS1: DSI
OS2: DIT
OS3: APS/HLDS
OS4: HNGS

REMARKS: RUN NUMBER 1

Logs run in fourth hole ("D" hole) of drilling site U1339 to aid in depth correlation of core data collected in surface labs.
Average heave during the run was only 0.3m; Active Heave Compensator used.
TD was found to be 2080mBRF with the pipe (bit) at 1962mBRF. Sea bed given as 1879.4mBRF.
FMS run with EMEX Mode set to "Automatic"
FMS Calipers open from TD to 2005m. Closed at 2005m for safe entry into drill pipe.
EMEX disabled prior to entering drill pipe on Pass #2.

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		17C0-154	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

GSR-U 616008
WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT LEH-QT 301			34.39
DTC-H ECH-KC 2304	CTEM TelStatus ToolStatu	33.22 32.59	33.50
HNGS-BA 194	Upper_1 Lower_2	31.89 31.67	32.59

HNGS-BA 194
HNSH-BA 205

Lower_2 — 31.67

HNGC-B 300
HNGH-A 115

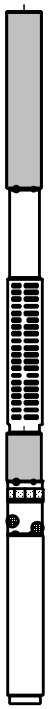
HNGC Stat — 29.55 — 30.09

AH-MCD_TOP
AH-MCD_TOP 1

29.02

DSST-B
SPAC-B 16
ECH-SD 16
SMDR-BD 8070
SSIJ-BA 8127
SMDX-AA 8147

26.73



PWF — 11.19

AH-MCD_LOWER
AH-MCD_LOWER 2

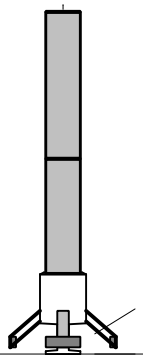
11.19

DTA-A
ECH-KE 8451

8.90

MEST-B
MEAH-B 769
MEAC-A 875
MEPH-A 702
GPIC-A 719
MEPC-AB 806
MEDS-B 702

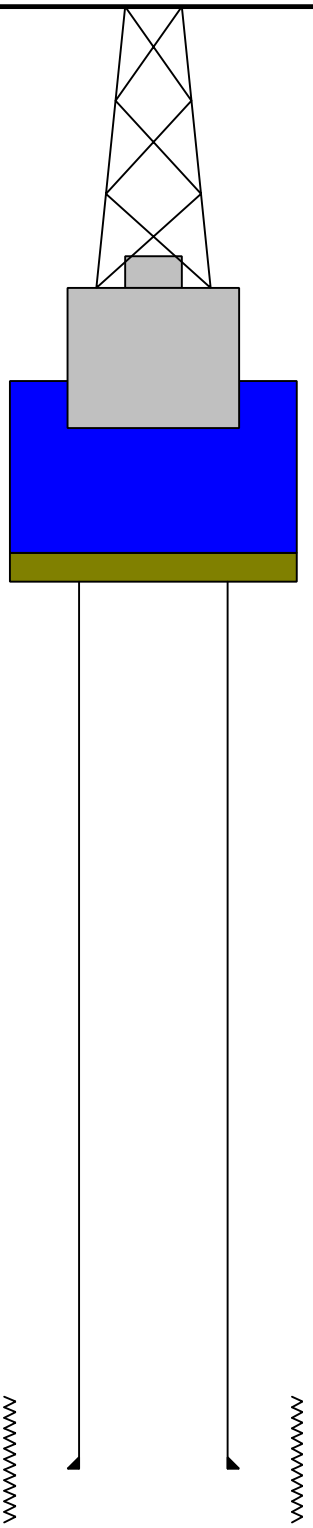
7.68

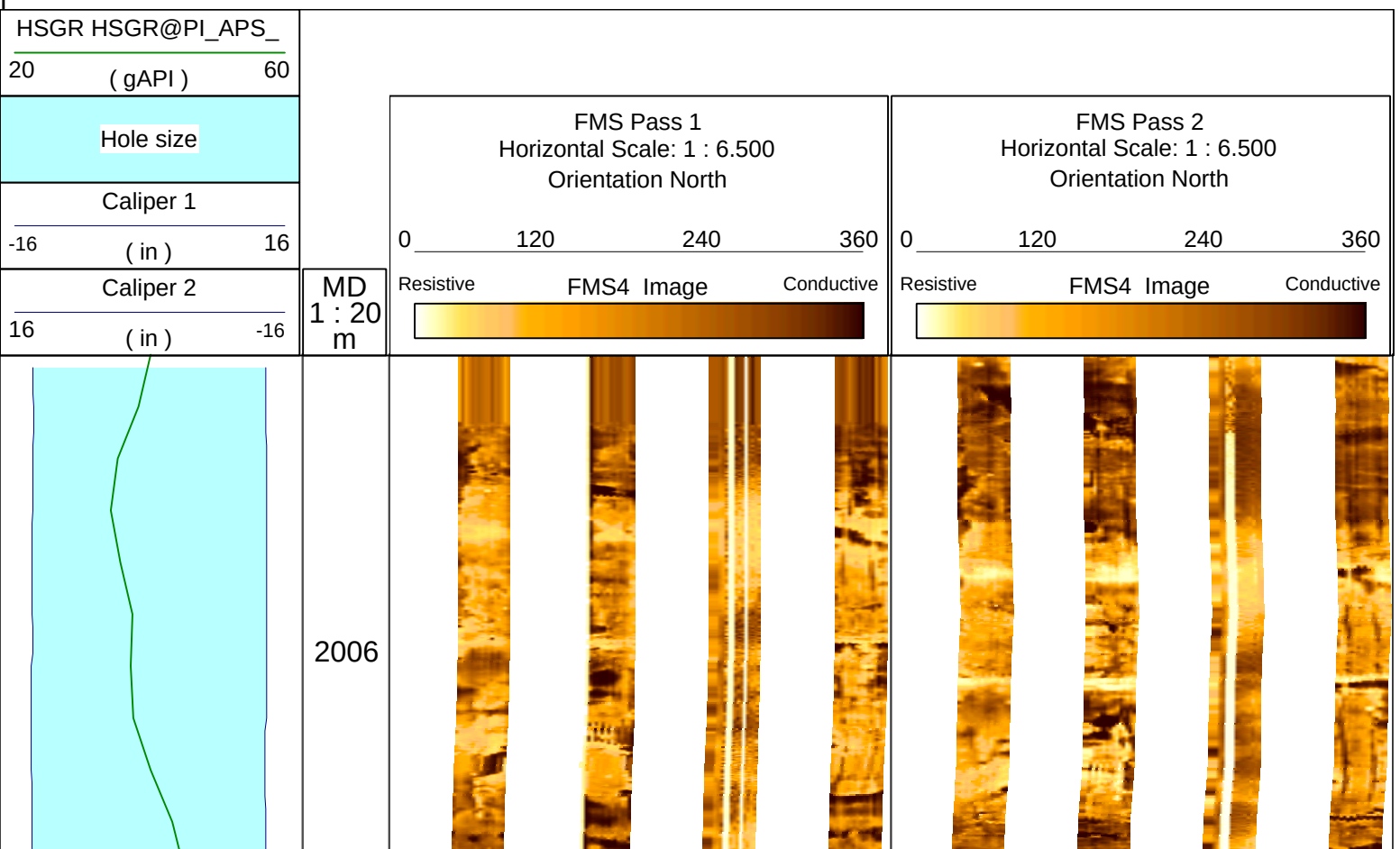


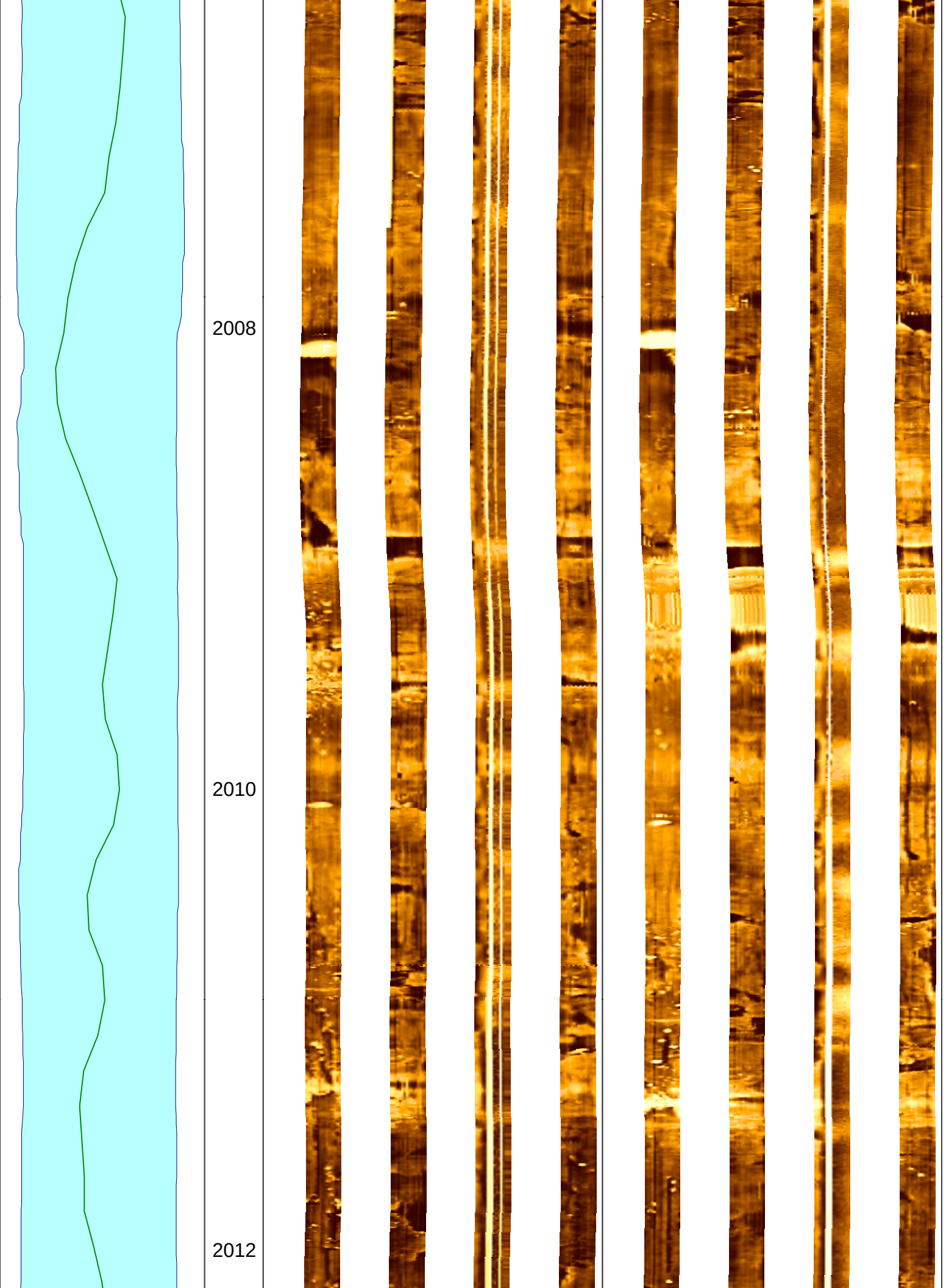
MEDR MEAC
MEPC MEDS-B — 0.46
HV DF
Tension GPIT — 0.00
TOOL ZERO

MAXIMUM STRING DIAMETER 3.75 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String

Kelly Bushing Elevation			11.0					
Derrick Floor Elevation			11.0					
Mean Sea Level			0.0					
					0.0	5.875		Drill Pipe
					1879.4	11.340		Sea Bed
					1962.0	5.875		Bit Depth
					2079.4	11.340		Total Depth


HSGR HSGR@PI_APS_
20
(gAPI)
60
Hole size
Caliper 1
-16
(in)
16
Caliper 2
16
(in)
-16
MD
1 : 20
m
2006
FMS Pass 1
Horizontal Scale: 1 : 6.500
Orientation North
0
120
240
360
Resistive
FMS4 Image
Conductive
FMS Pass 2
Horizontal Scale: 1 : 6.500
Orientation North
0
120
240
360
Resistive
FMS4 Image
Conductive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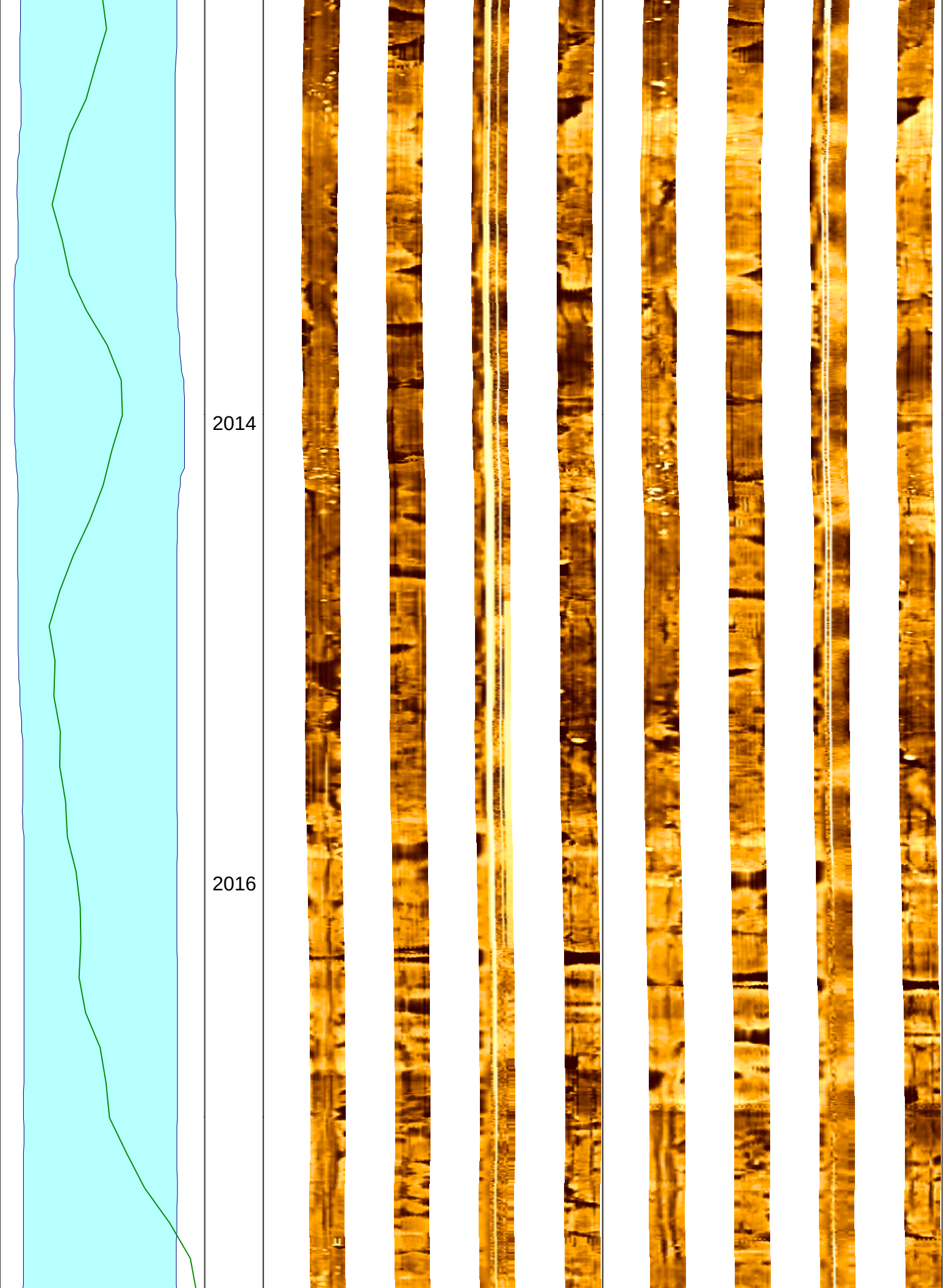
2010
2012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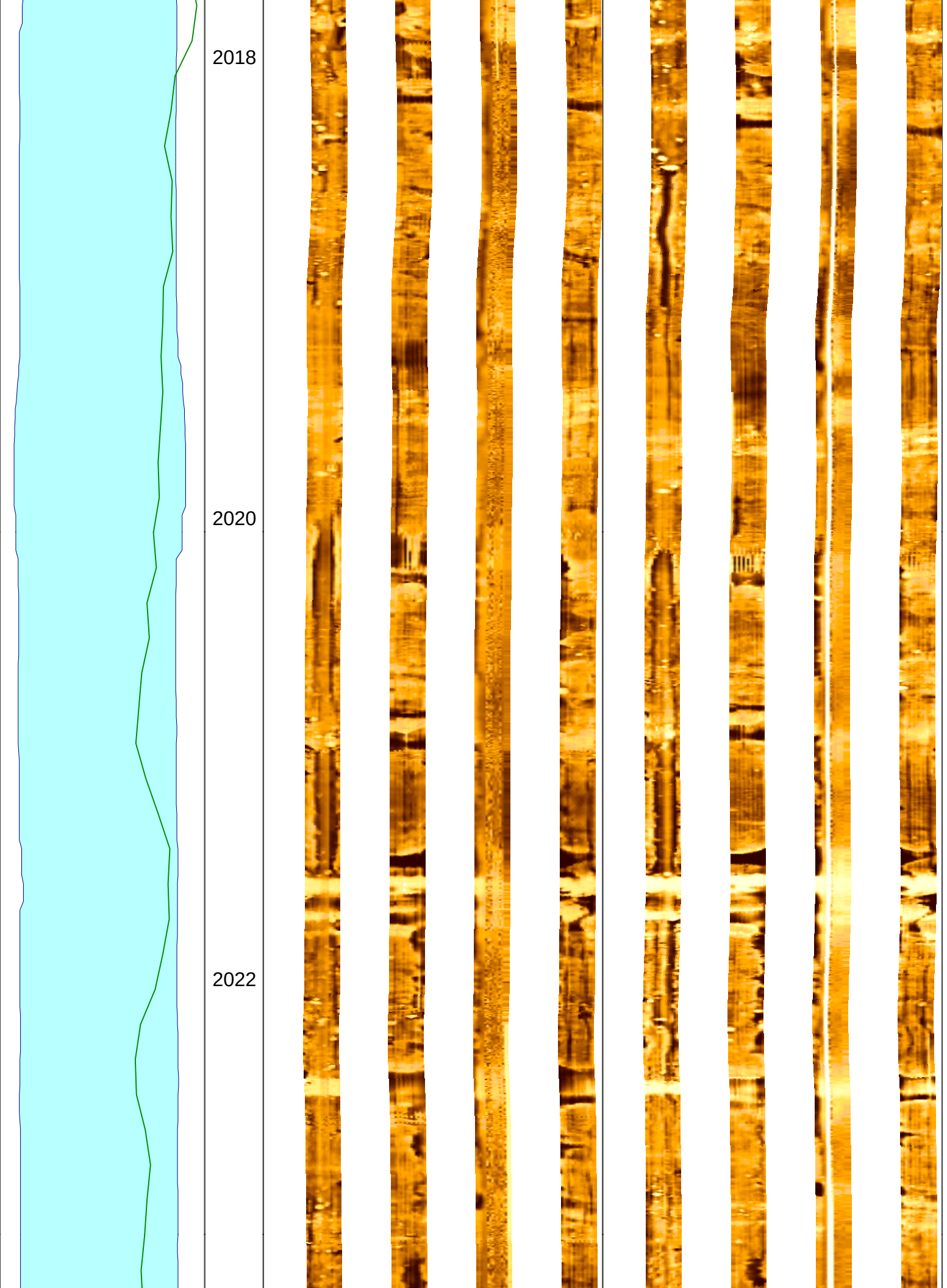
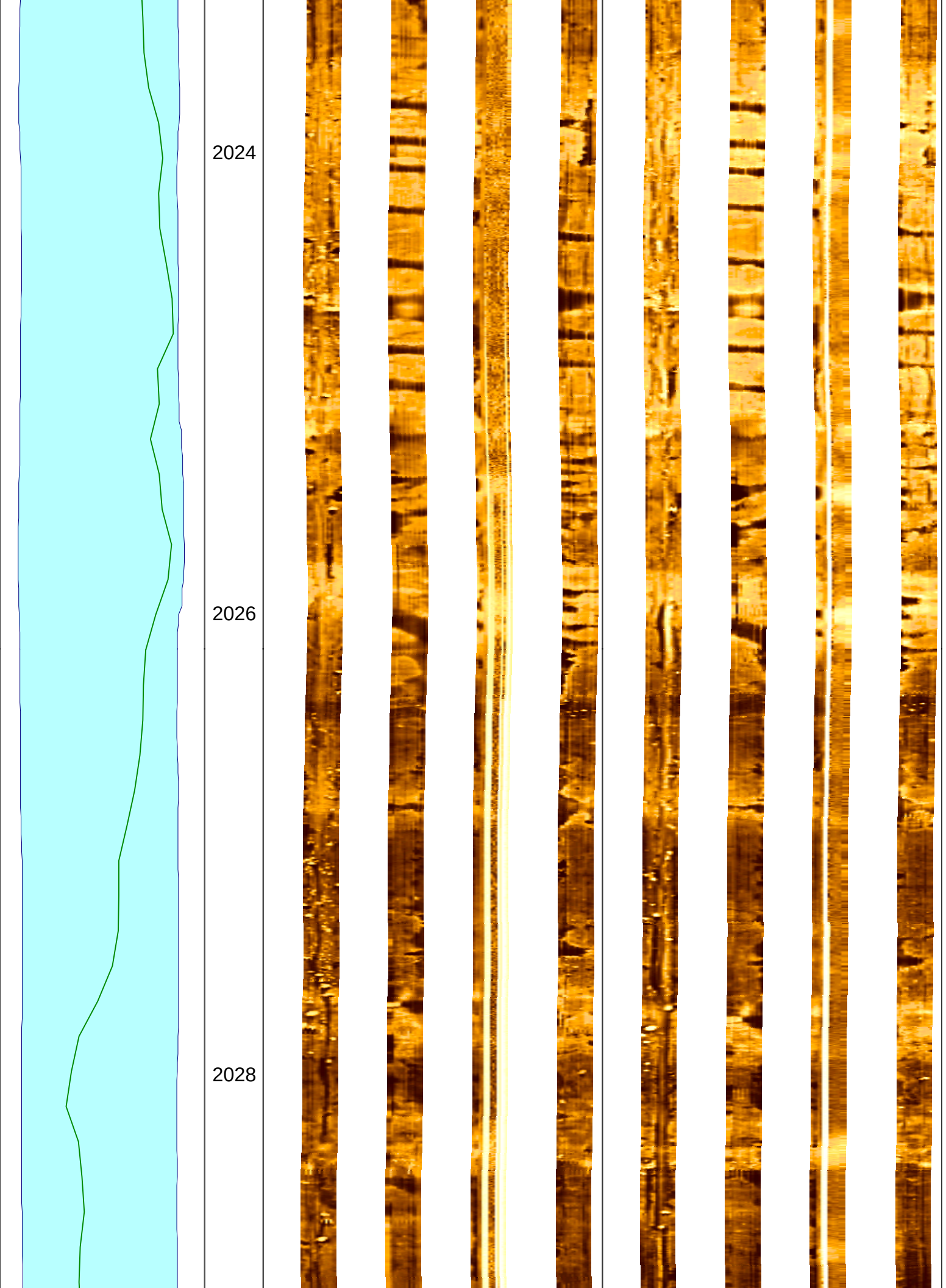
2016


2018
2020
2022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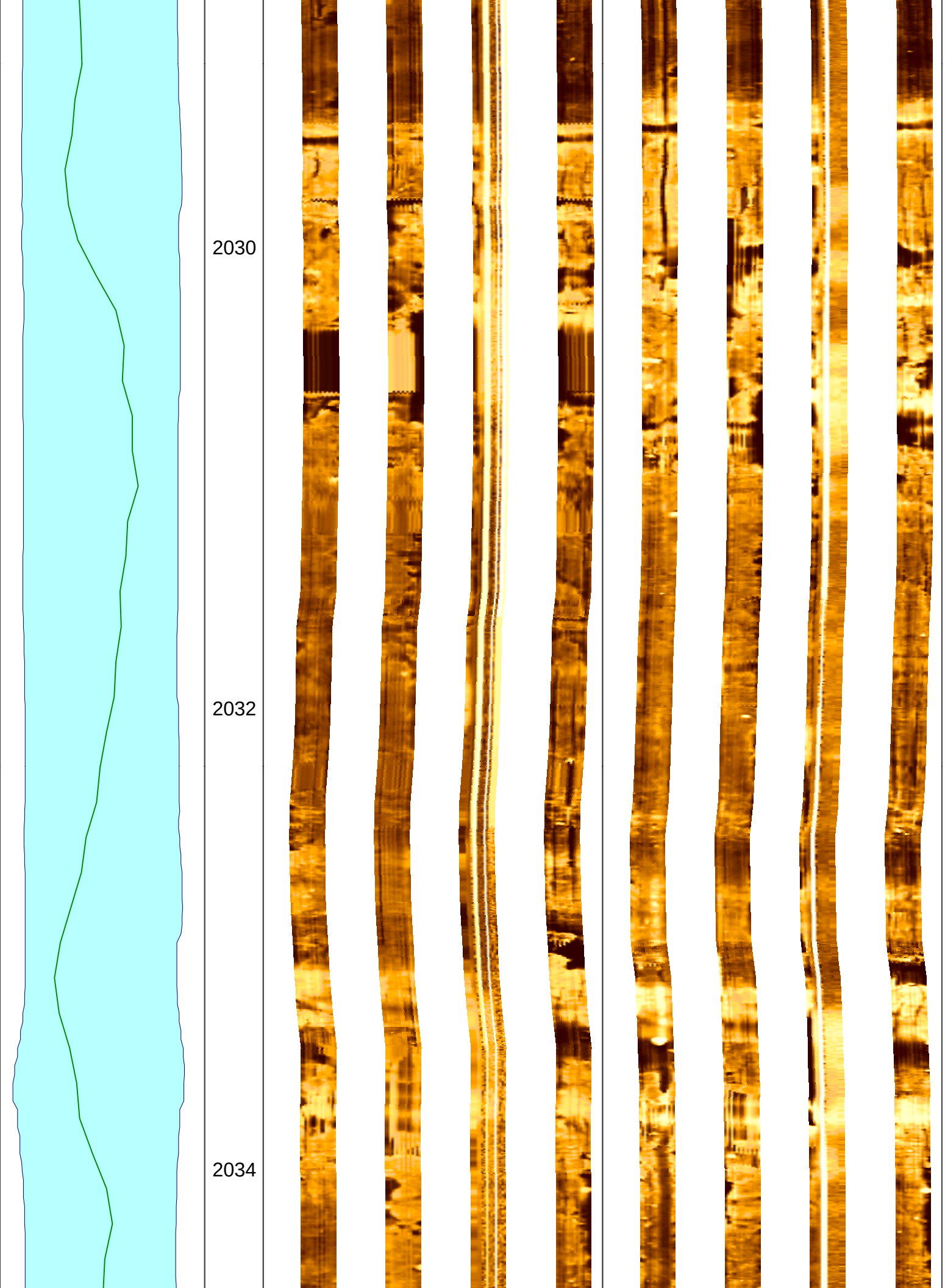
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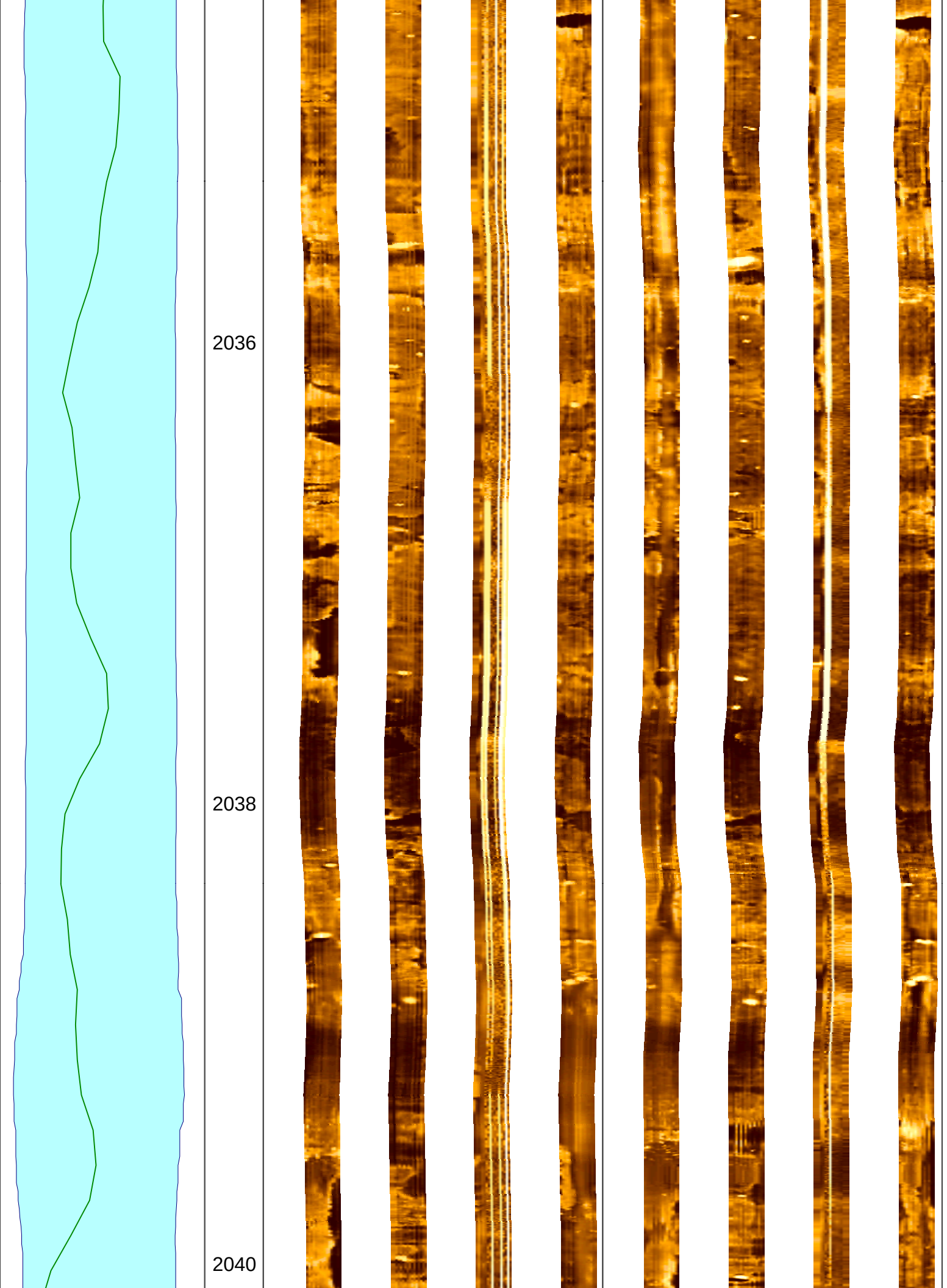
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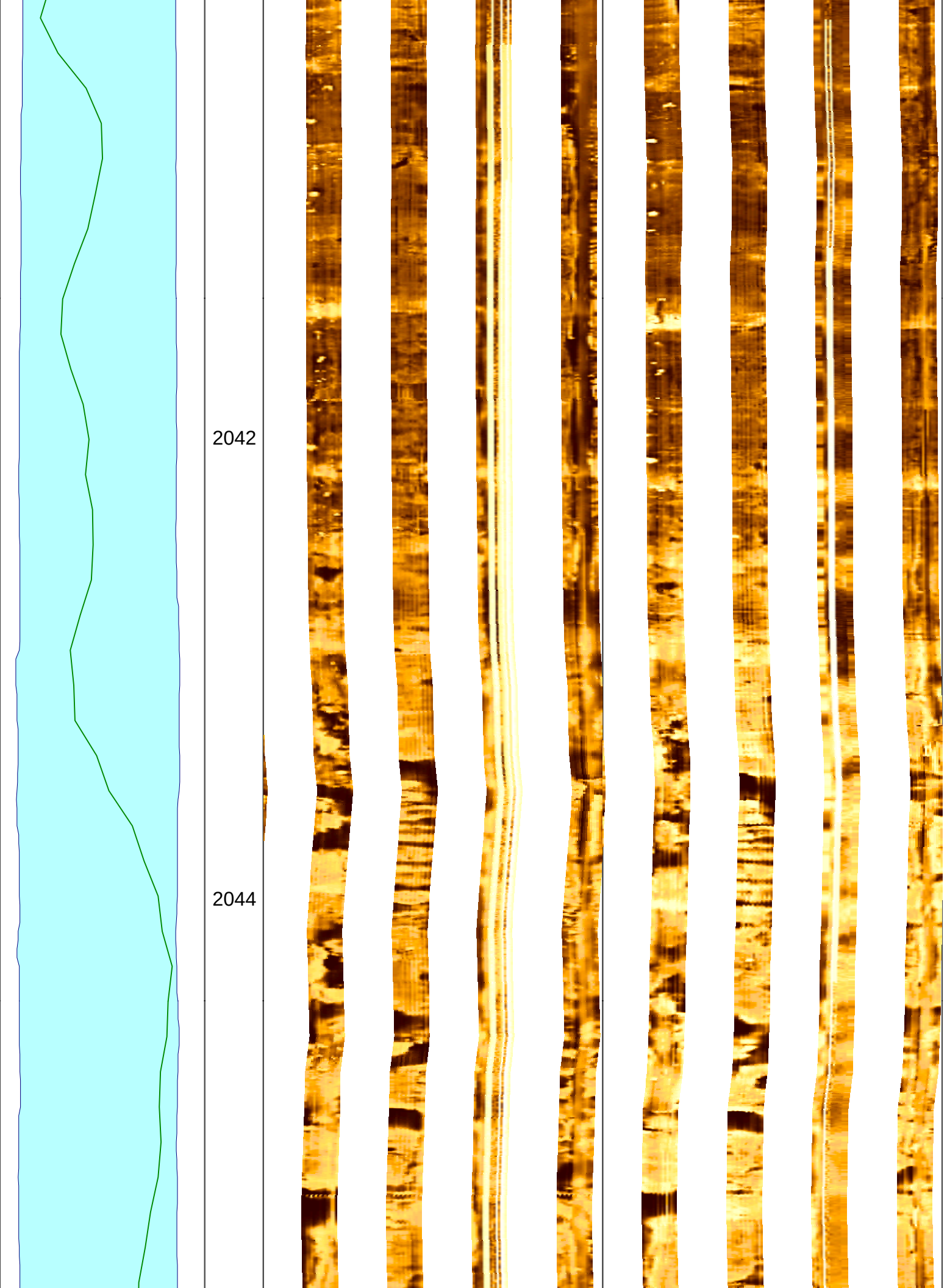
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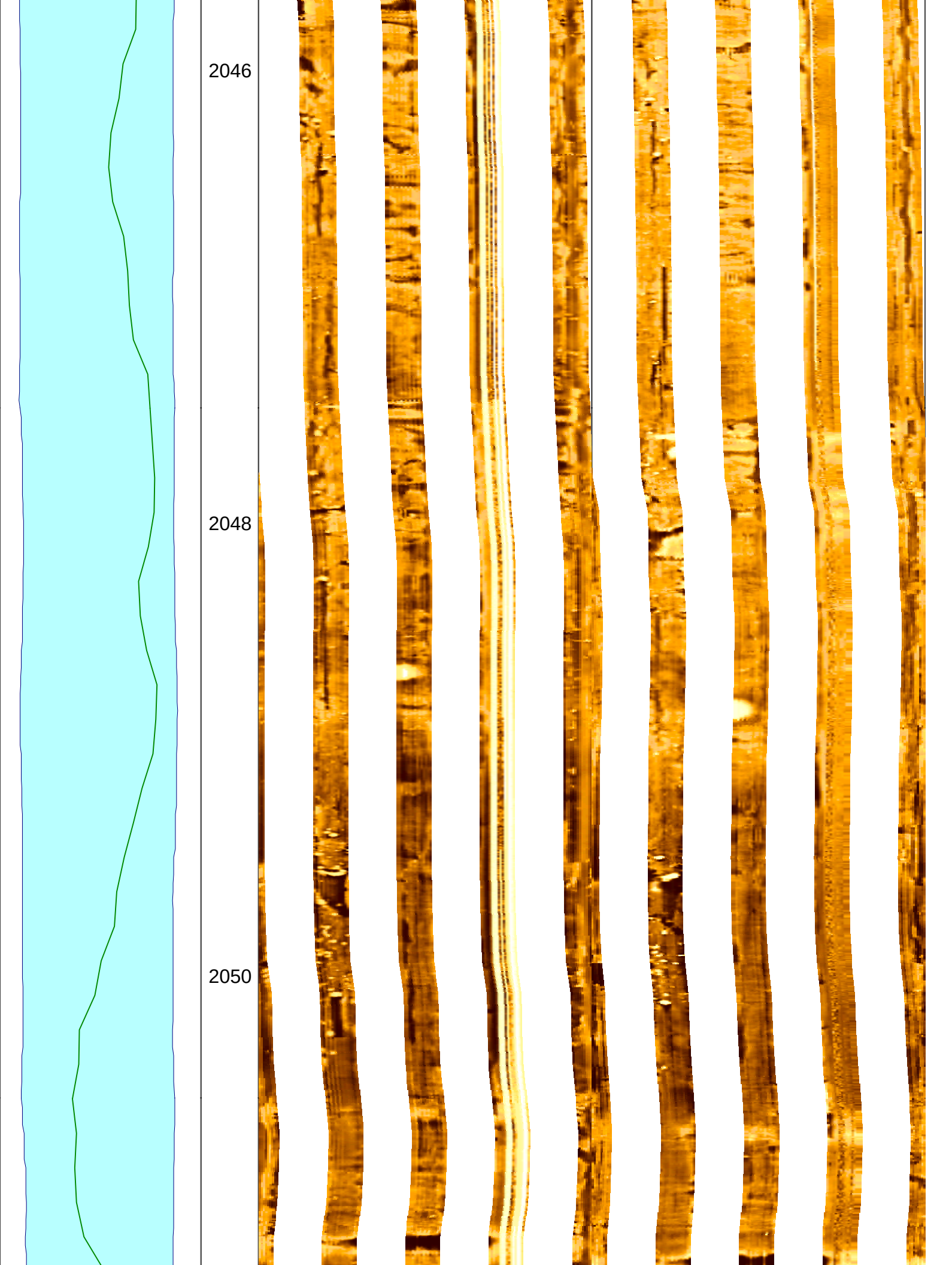
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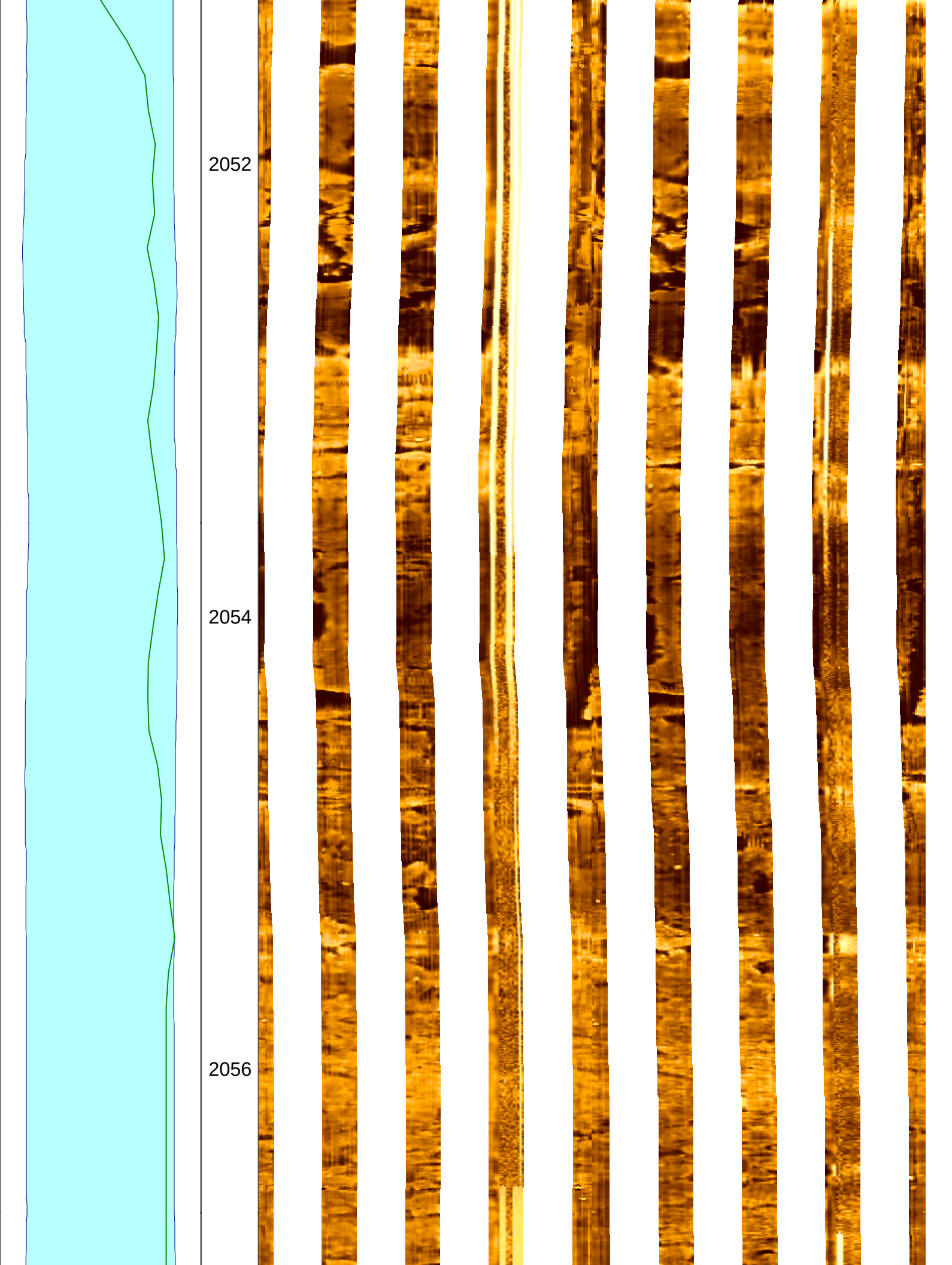
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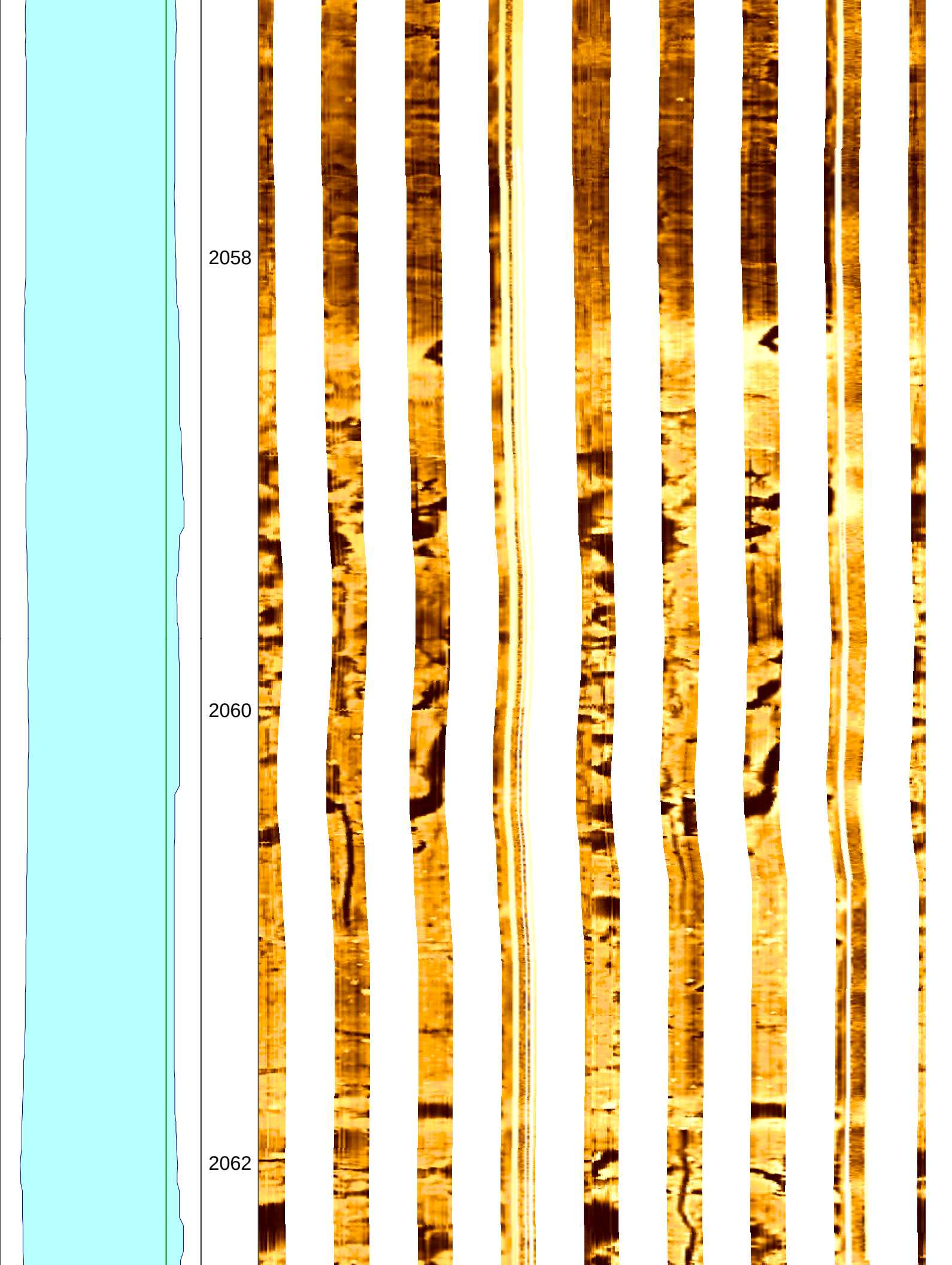
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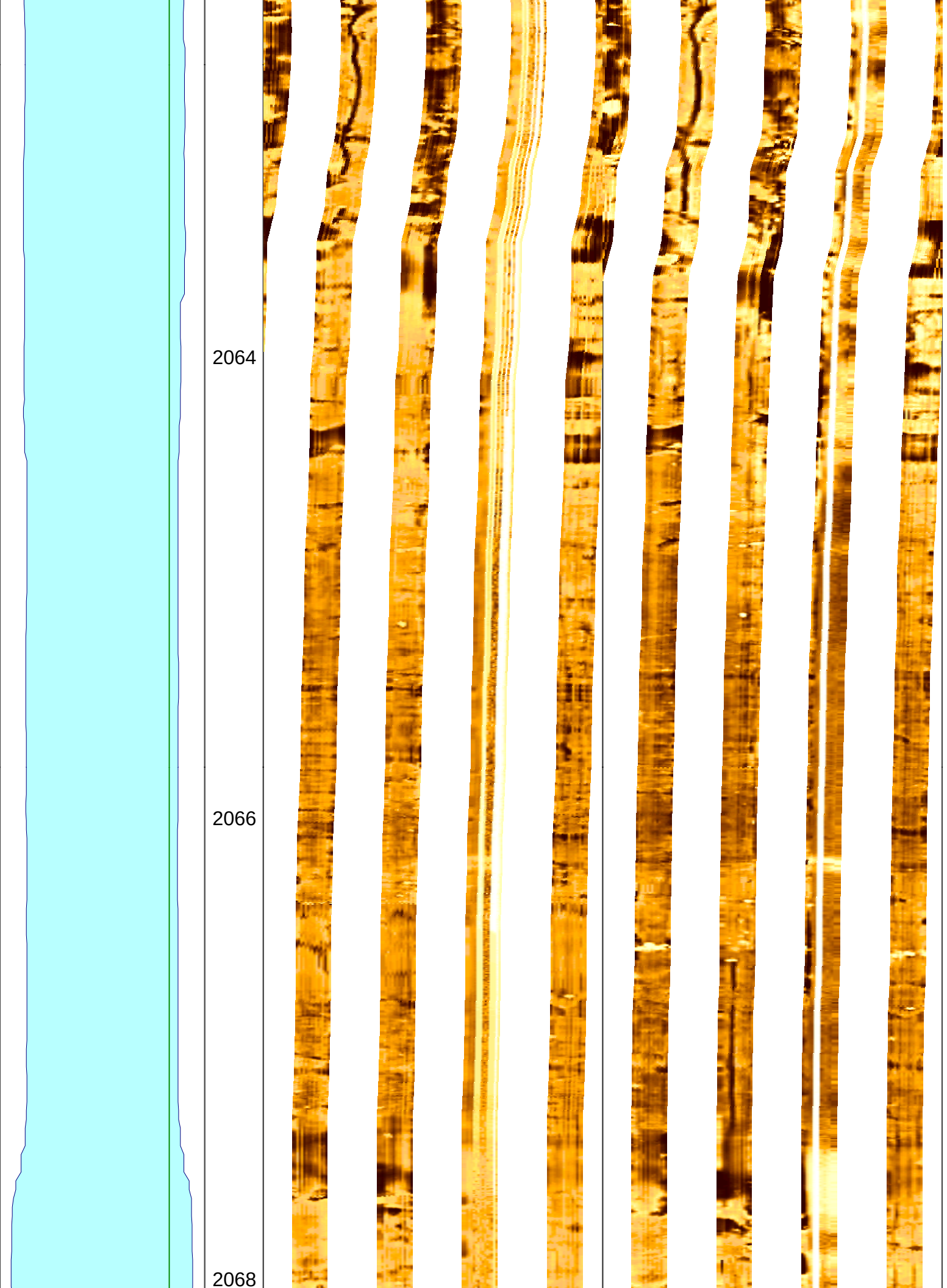
2062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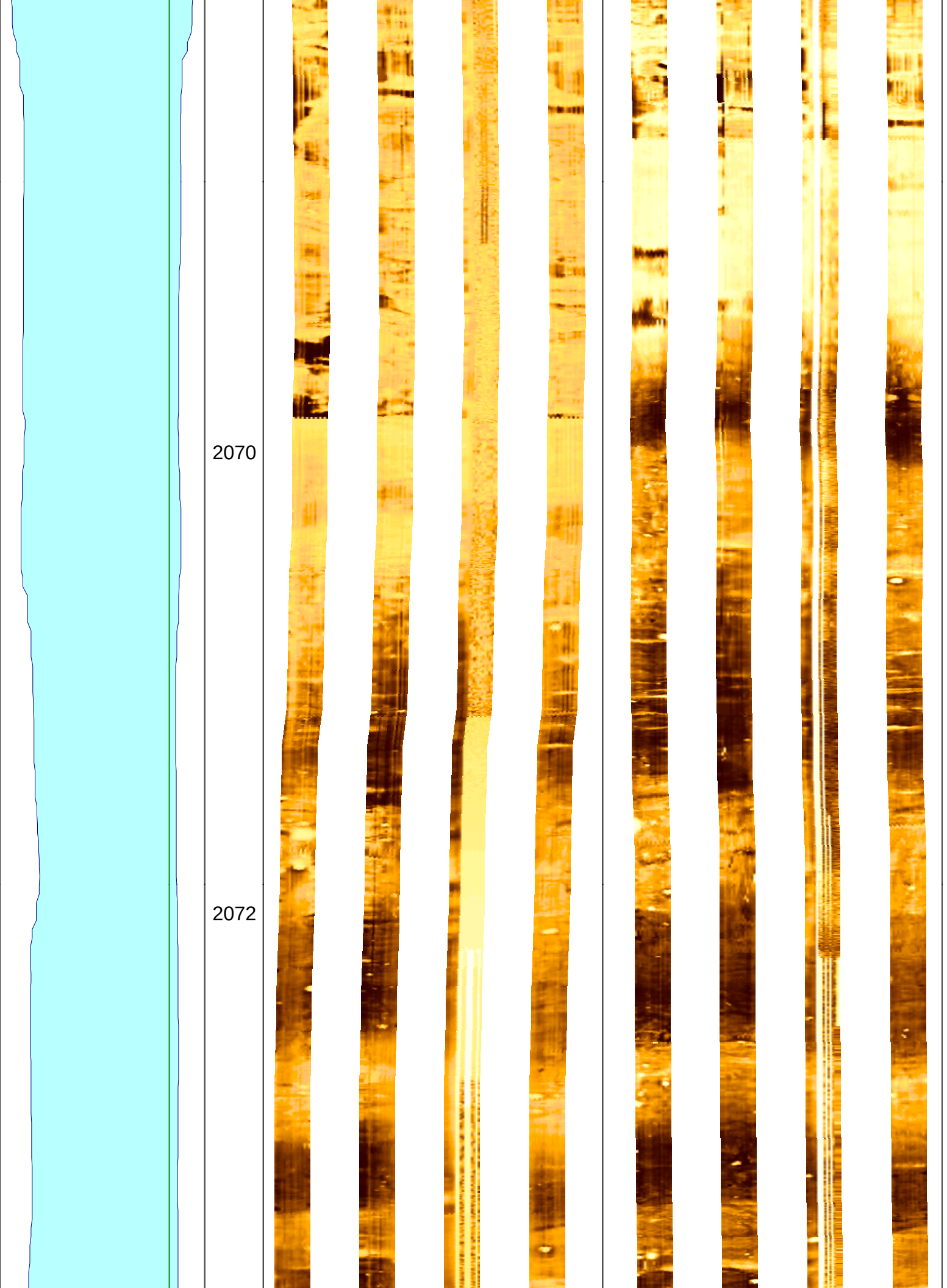
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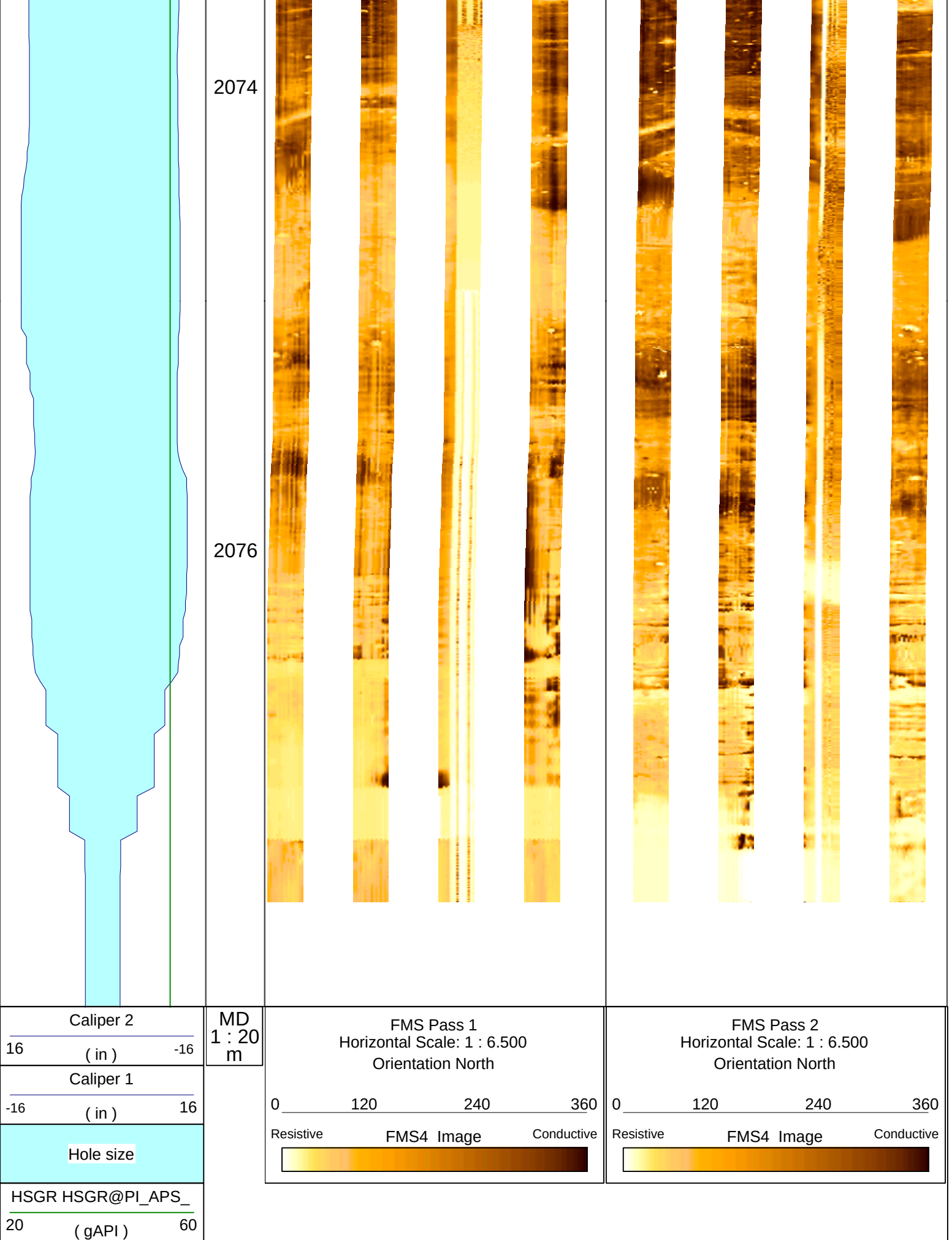

2074
2076
Caliper 2
16
(in)
-16
Caliper 1
-16
(in)
16
Hole size
HSGR HSGR@PI_APS_
20
(gAPI)
60
MD
1 : 20
m
FMS Pass 1
Horizontal Scale: 1 : 6.500
Orientation North
0
120
240
360
Resistive
FMS4 Image
Conductive
FMS Pass 2
Horizontal Scale: 1 : 6.500
Orientation North
0
120
240
360
Resistive
FMS4 Image
Conductive

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner - B (Slim) Wellsite Calibration - Caliper Calibration							
Before: Calibration out of date 4-Jun-2009 2:47							
Caliper 1 Zero Measurement	12.00	N/A	12.57	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	12.00	N/A	12.44	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.19	N/A	15.77	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.19	N/A	15.68	N/A	N/A	N/A	IN
Micro Electrical Scanner - B (Slim) Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 20-Jul-2009 20:16							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	448	N/A	N/A	N/A	
Micro Electrical Scanner - B (Slim) Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 20-Jul-2009 20:16							
TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 19-Jun-2009 23:49 Before: 16-May-2009 19:11 After: 21-Jul-2009 0:09							
Na 511 Peak Loc	40.00	39.80	39.53	39.66	0.1310	1.000	
Na 511 Peak Res	15.50	15.76	16.37	14.66	-1.708	2.000	%
High Voltage	1150	1181	1179	1144	-34.77	N/A	V
Na 1785 Peak Loc	142.6	142.6	141.7	142.3	0.5753	7.000	
Na 1785 Peak Res	8.500	8.553	9.055	7.980	-1.075	2.000	%
Temperature	15.50	32.22	32.56	13.35	-19.20	N/A	DEGC
Na Count Rate	45.00	37.08	38.79	35.91	-2.883	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check							
Master: 19-Jun-2009 23:49 Before: 16-May-2009 19:11 After: 21-Jul-2009 0:09							
Na 511 Peak Loc	40.00	39.62	39.75	39.73	-0.02171	1.000	
Na 511 Peak Res	15.50	16.69	15.15	15.28	0.1299	2.000	%
High Voltage	1150	1114	1113	1080	-33.24	N/A	V
Na 1785 Peak Loc	142.6	142.4	142.3	142.2	-0.1297	7.000	
Na 1785 Peak Res	8.500	8.478	8.759	9.067	0.3081	2.000	%
Temperature	15.50	32.71	33.15	14.96	-18.19	N/A	DEGC
Na Count Rate	45.00	38.14	39.43	35.97	-3.462	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2							
Master: 19-Jun-2009 23:49 Before: 16-May-2009 19:11 After: 21-Jul-2009 0:09							
Coincidence Count Rate Ratio	1.000	0.9751	0.9835	0.9990	0.01556	0.05000	

Micro Electrical Scanner - B (Slim) / Equipment Identification

Primary Equipment:		
MEST Sonde - B	MEDS - B	702
MEST Preamplifier Cartridge - AB	MEPC - AB	806
GPIT Cartridge - A	GPIC - A	719
MEST Acquisition Cartridge - A	MEAC - A	875
Auxiliary Equipment:		
MEST-B Preamplifier Cartridge Housing	MEPH - A	702
MEST Acquisition Cartridge Housing (Slim	MEAH - B	769

Hostile Natural Gamma Ray Cartridge - B / Equipment Identification

Primary Equipment:		
HNGC Cartridge	HNGC - B	300
Auxiliary Equipment:		
HNGC Housing	HNGH - A	115

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS - BA	194
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH - BA	205
Gamma Source Radioactive	GSR - U	616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		39.80
Before		39.53
After		39.66
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.76
Before		16.37
After		14.66
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1181
Before		1179
After		1144
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		142.6
Before		141.7
After		142.3
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.553
Before		9.055
After		7.980
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		32.22
Before		32.56
After		13.35
-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		37.08
Before		38.79
After		35.91
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 19-Jun-2009 23:49 Before: 16-May-2009 19:11 After: 21-Jul-2009 0:09

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.62
Before		39.75
After		39.73
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.69
Before		15.15
After		15.28
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

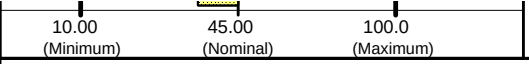
Phase	High Voltage V	Value
Master		1114
Before		1113
After		1080
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		142.4
Before		142.3
After		142.2
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.478
Before		8.759
After		9.067
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		32.71
Before		33.15
After		14.96
-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		38.14
Before		39.43
After		35.97



Master: 19-Jun-2009 23:49 Before: 16-May-2009 19:11 After: 21-Jul-2009 0:09

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9751
Before		0.9835
After		0.9990

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Master: 19-Jun-2009 23:49

Before: 16-May-2009 19:11

After: 21-Jul-2009 0:09

DTS Telemetry Tool / Equipment Identification

Primary Equipment:		
DTC-H Auxiliary Cartridge	DTCH - A	
DTC-H Telemetry Cartridge	DTCH - A	8753
Auxiliary Equipment:		
DTCH Telemetry Cartridge Housing	ECH - KC	2304

Company: Lamont Doherty

Schlumberger

Well: Expedition 323 Site U1339D

Field: Bering Sea

Rig: JOIDES Resolution

Country: USA

Formation Micro-Scanner

Natural Gamma Spectroscopy