Schlumberger

Company: **Lamont Doherty Earth Observatory**

Well: **Expedition 340T, Site U1309D**
Field: **Atlantis Massif**
Rig: **JOIDES Resolution** Country: **USA**

Rig: JOIDES Resolution
Field: Atlantis Massif
Location: Latitude: N 30* 10.1195'
Well: Expedition 340T, Site U1309D
Company: Lamont Doherty Earth Observato

Dipole Shear Sonic Tool
Lower Dipole

LOCATION

Latitude: N 30* 10.1195'
Longitude: W 42* 7.1131'

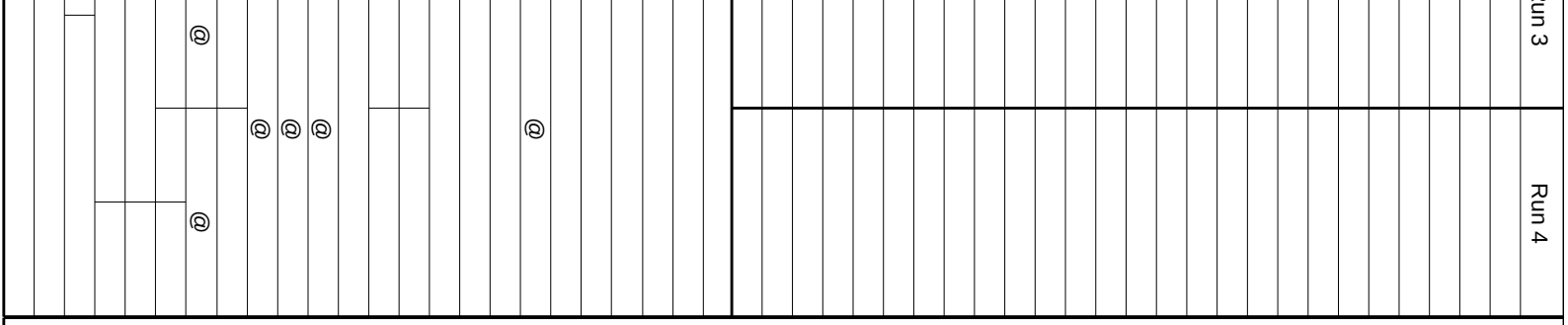
Elev.: K.B. 11.00 m
G.L. −1656.00 m
D.F. 11.00 m

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: Atlantic	Max. Well Deviation 0 deg	Longitude N 30* 10.1195'	Latitude W 42* 7.1131'

Logging Date			25−Feb−2012						
Run Number			5						
Depth Driller			3071.5 m						
Schlumberger Depth			3043 m						
Bottom Log Interval			3032 m						
Top Log Interval			2354.2 m						
Casing Driller Size @ Depth			11.750 in	@	2356 m		@		
Casing Schlumberger			2354.2 m						
Bit Size			9.875 in						
Type Fluid In Hole			Seawater						
MUD	Density	Viscosity	1.05 g/cm3						
	Fluid Loss	PH							
	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		@ 149	@ 149		@		@	
Maximum Recorded Temperatures			149 degC						
Circulation Stopped		Time	31−Jan−2005		12:00				
Logger On Bottom		Time	25−Feb−2012		0:30				
Unit Number	Location		625003	Houston					
Recorded By			C. Furman						
Witnessed By			A. Slagle, G. Guerrin						

	Run 1	Run 2	R
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			



DISCLAIMER

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OTHER SERVICES1

OS1: HRLA
OS2: HLDS
OS3: MTT
OS4: MSS
OS5: VSI

REMARKS: RUN NUMBER 1

Hole U1309D was originally drilled during ODP Leg 304 in 2004 and deepened during Leg 305 in 2005.
Log data recorded on expeditions 304 and 305 provides sonic measurements to approximately 2450mbrf.
After the first run in hole on this expedition, it was discovered that the MCD centralizer arms suffered
extreme wear, so to avoid this problem on the DSI run, the pipe was lowered to 2356mbrf and only the
lower section of the hole where sonic data had not previously been recorded was logged.
Logs were correlated to the "Dual−Laterolog Tool" log recorded by Schlumberger on 31 JAN 05.
The DSI was run with the following modes:
Upper Dipole in Standard Frequency (Odd Receiver Array)
Lower Dipole in Standard Frequency (Even Receiver Array)
Stoneley (Even)
Monopole P&S in Standard Frequency (Odd array, DDBHC mode)
Both Cross Dipole (BCR)
Tools hung up on an apparent ledge at 3043m; up log was recorded from that depth.
Dipole STC processing windows adjusted to 60uS to 360uS range at client request based on down−log observations.
Downlog flipped and reprocessed using same processing parameters as uplog in lieu of a repeat pass to prevent centralizer wear.

RUN 1

SERVICE ORDER #:
PROGRAM VERSION: 19C0−187
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

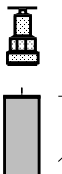
WITM (EDTS)−A

DOWNHOLE EQUIPMENT

LEH−MT
LEH−MT 101

EDTC−B
EDTH−B 8528
EDTC−B 8529

MDSB_EDTC
Mud Tempe
CTEM
Gamma Ray
EFTB DIAG

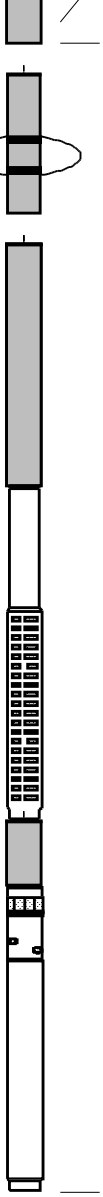


EDTG−A/B 77693

TelStatus
EDTCB Ele 22.68

AH−MCD_D 22.68
AH−MCD_D 1663

DSST−B 20.40
SPAC−B 16
ECH−SD 16
SMDR−BD 8070
SSIJ−BA 8204
SMDX−AA 8147



PWF 4.86

AH−MCD_G 4.86
AH−MCD_G 22

DTA−A 2.58
ECH−KE 8456
DTA−A 8259

GPIT−A/B 1.36
GPIC−A 840
GPIH−A 2864

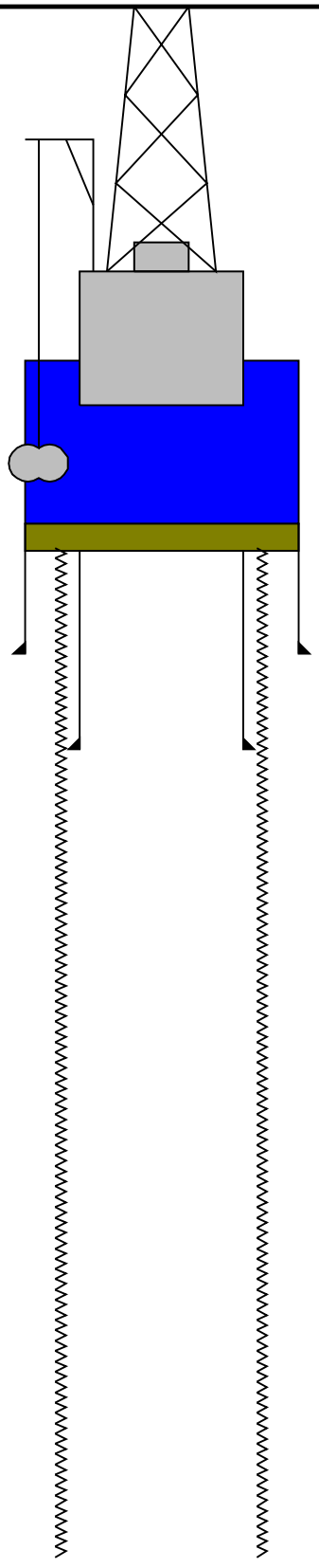
HV DF ACCZ
Tension GPIT 0.00

BNS−CCS 0.14

TOOL ZERO

MAXIMUM STRING DIAMETER 4.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

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

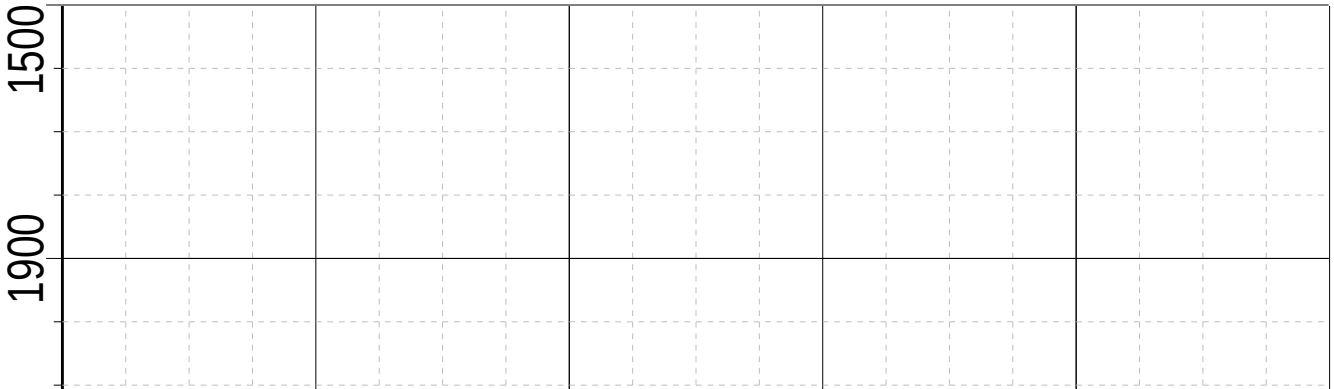
	OD	ID	MD		MD	OD	ID	
Kelly Bushing Elevation			0.0					
Derrick Floor Elevation			0.0					
Mean Sea Level			11.0					
Seismic Gun depth below MSL			7.0					
					1650.0			Top of Re−entry Cone
					1656.0	9.875		Sea Bed
					1676.0	13.375		Casing Shoe
					1711.0	8.000		Drill Pipe (Driller's Depth) 1711mbrf for Triple−Combo 1759mbrf for VSI & MSS 2356mbrf for DSI
					3071.5	9.875		Driller's Total Depth

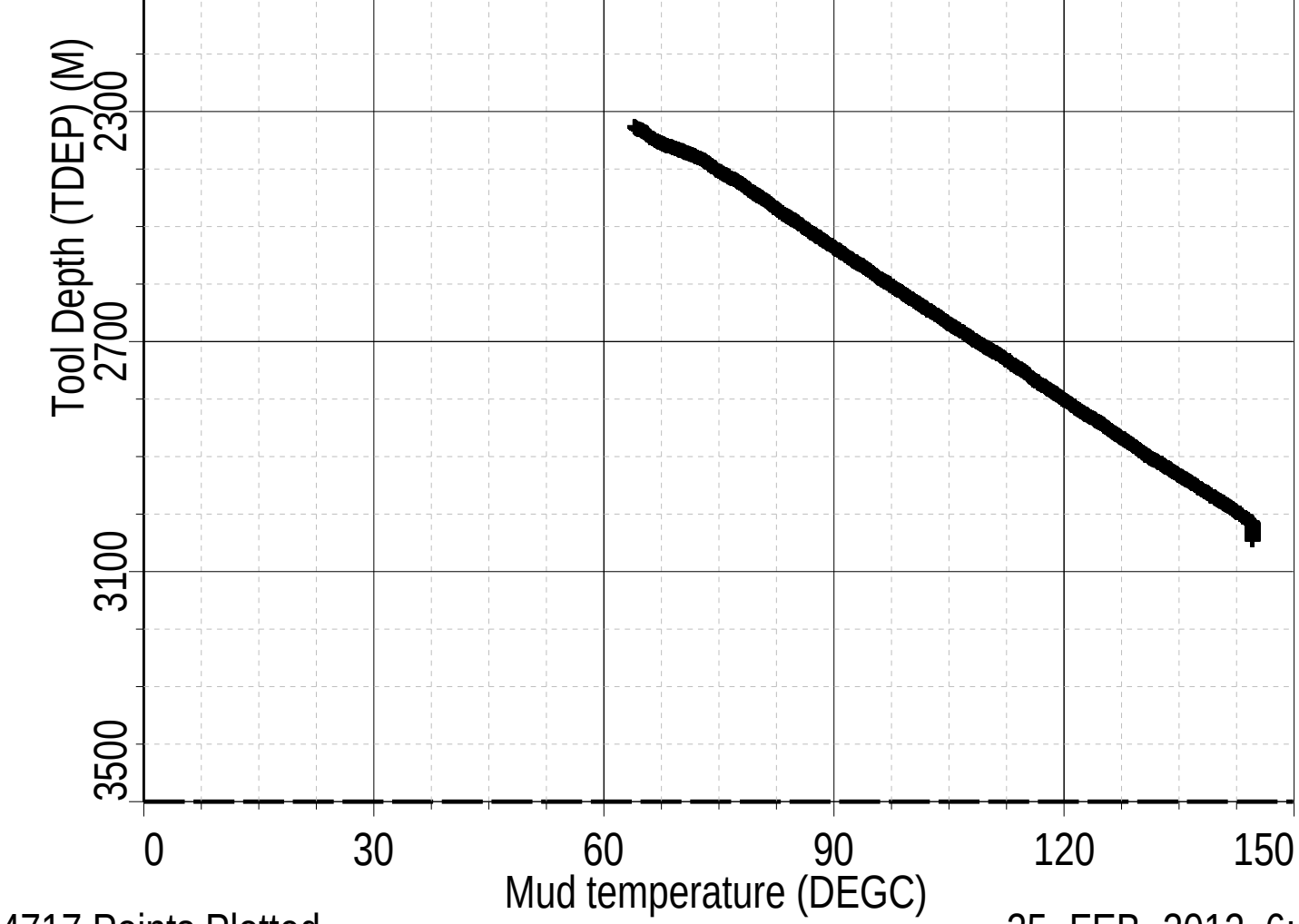
Schlumberger

LEH−MT Mud Temperature

MAXIS Field Log

Index: 3045.0 − 2326.2 M





4717 Points Plotted

25−FEB−2012 6:19

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Down Log

MAXIS Field Log

Company: Lamont Doherty	**Well: Expedition 340T, Site U1309D**

Input DLIS Files

DEFAULT	**Flip_DSI_026LUP**		**PRODUCER**	**25−Feb−2012 06:12**	**3040.5 M**	**2308.7 M**

Output DLIS Files

DEFAULT	**DSI_027PUP**	**FN:14**	**PRODUCER**	**25−Feb−2012 06:14**	**3043.6 M**	**2311.8 M**

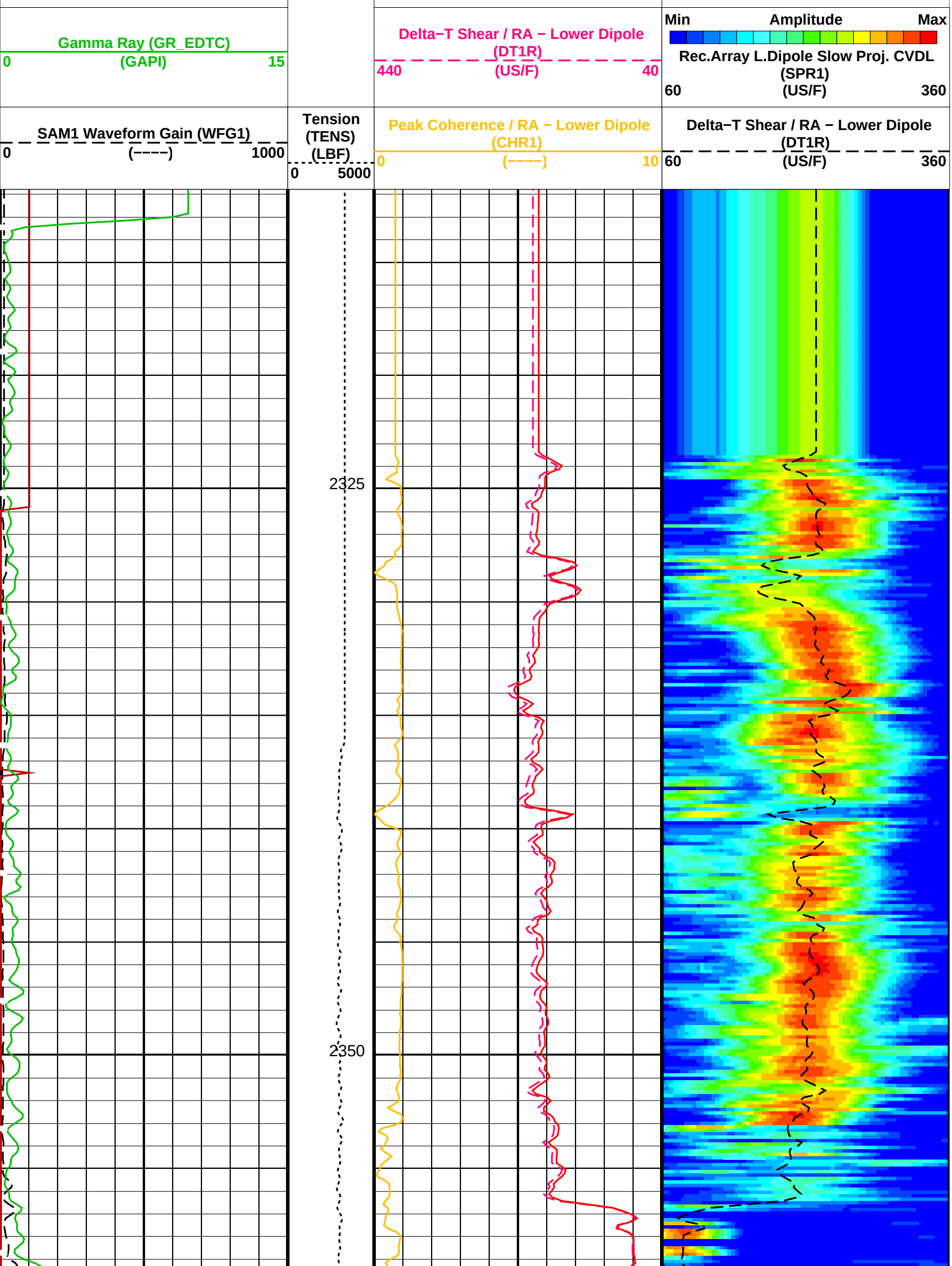
OP System Version: 19C0−187

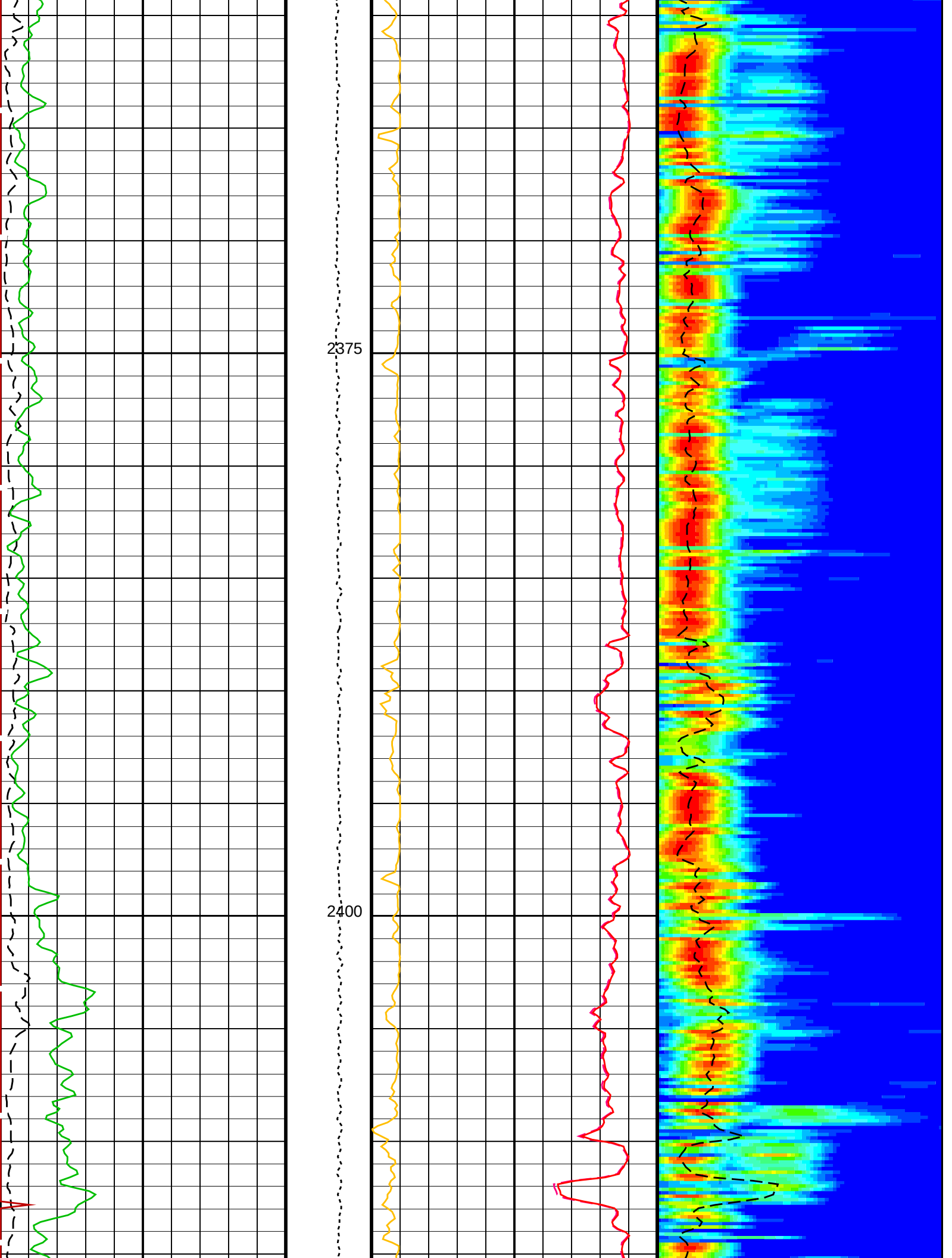
GPIT−A/B	**19C0−187**	**DTA−A**	**19C0−187**
DSST−B	**19C0−187**	**EDTC−B**	**19C0−187**

PIP SUMMARY

Time Mark Every 60 S

Waveform Data Copy Indicator 1 − Lower Dipole (WCI1)			Delta−T Shear − Lower Dipole (DT1)		
0	(−−−−)	10	440	(US/F)	40


Gamma Ray (GR_EDTC)
0
(GAPI)
15
Delta−T Shear / RA − Lower Dipole (DT1R)
440
(US/F)
40
Min
Amplitude
Max
Rec.Array L.Dipole Slow Proj. CVDL (SPR1)
60
(US/F)
360
SAM1 Waveform Gain (WFG1)
0
(−−−−)
1000
Tension (TENS)
(LBF)
0
5000
Peak Coherence / RA − Lower Dipole (CHR1)
0
(−−−−)
10
Delta−T Shear / RA − Lower Dipole (DT1R)
60
(US/F)
360
2325
2350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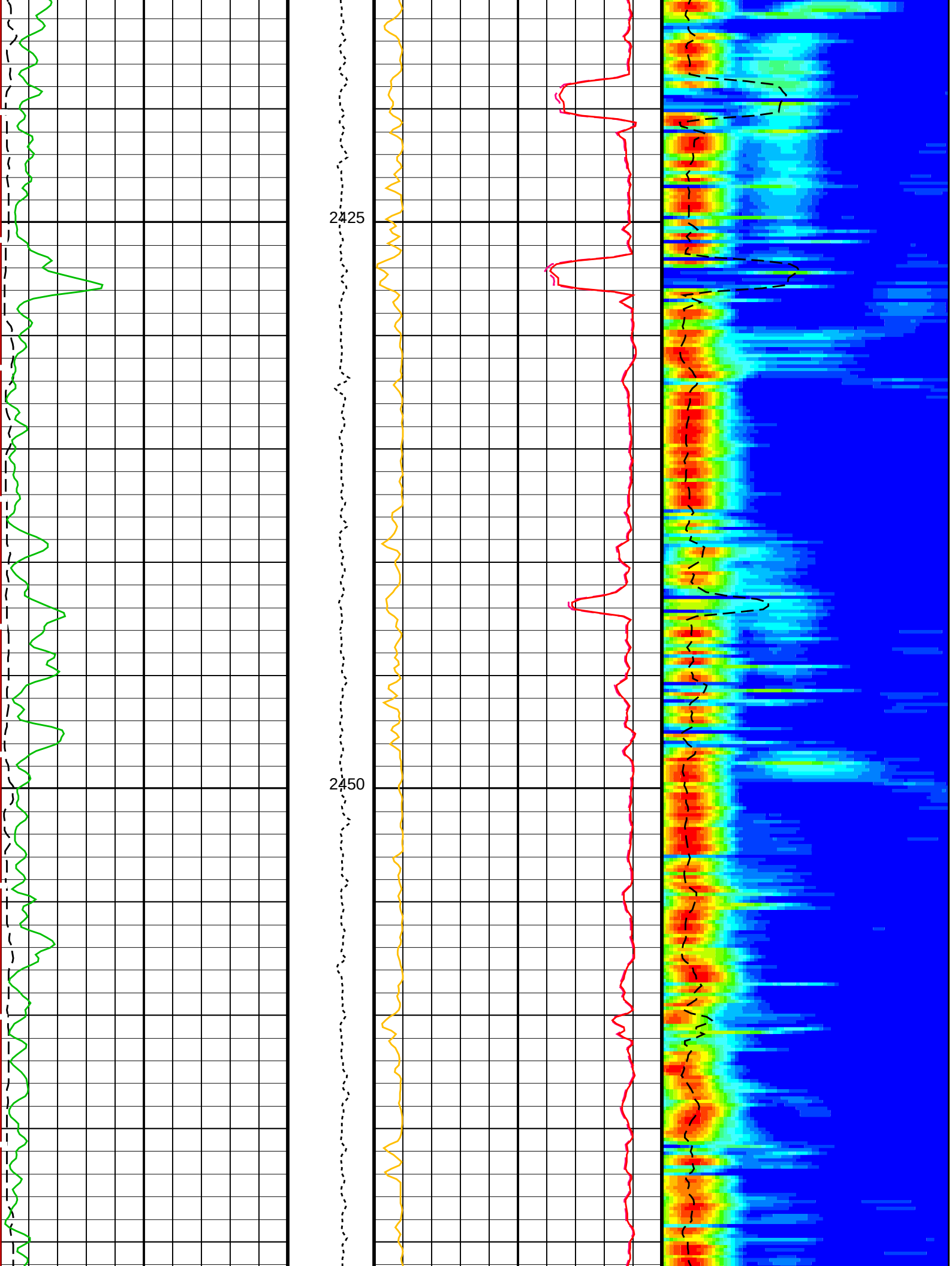
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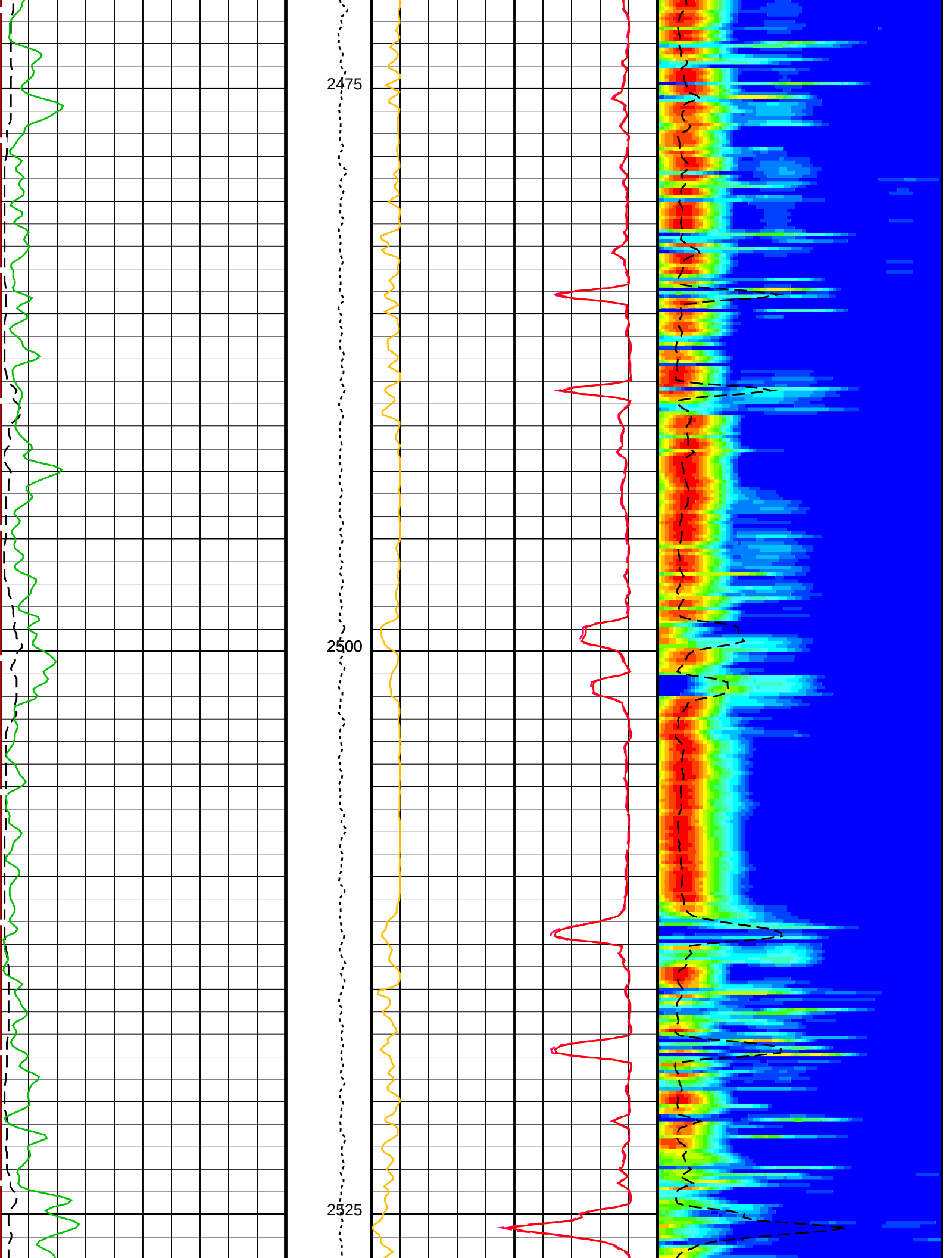
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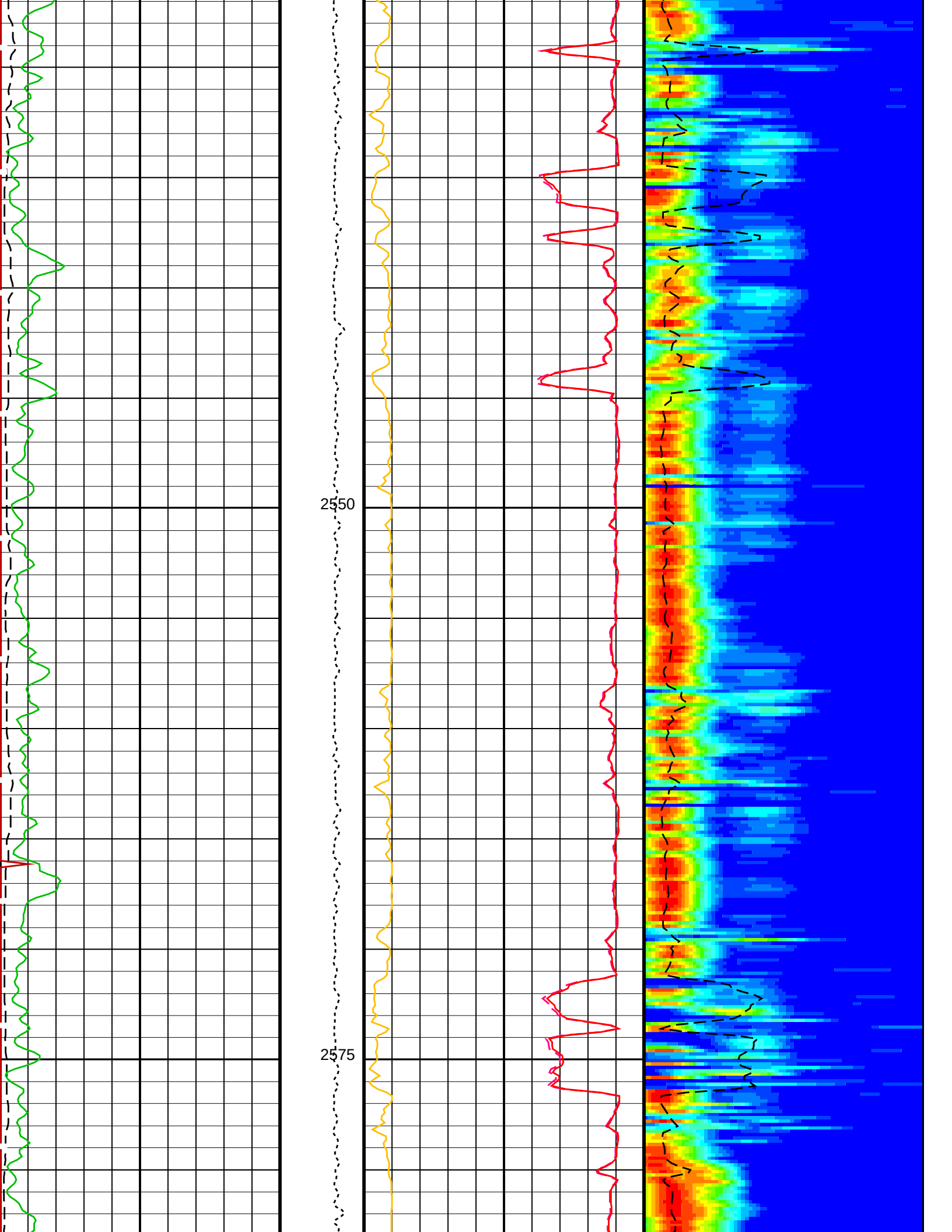
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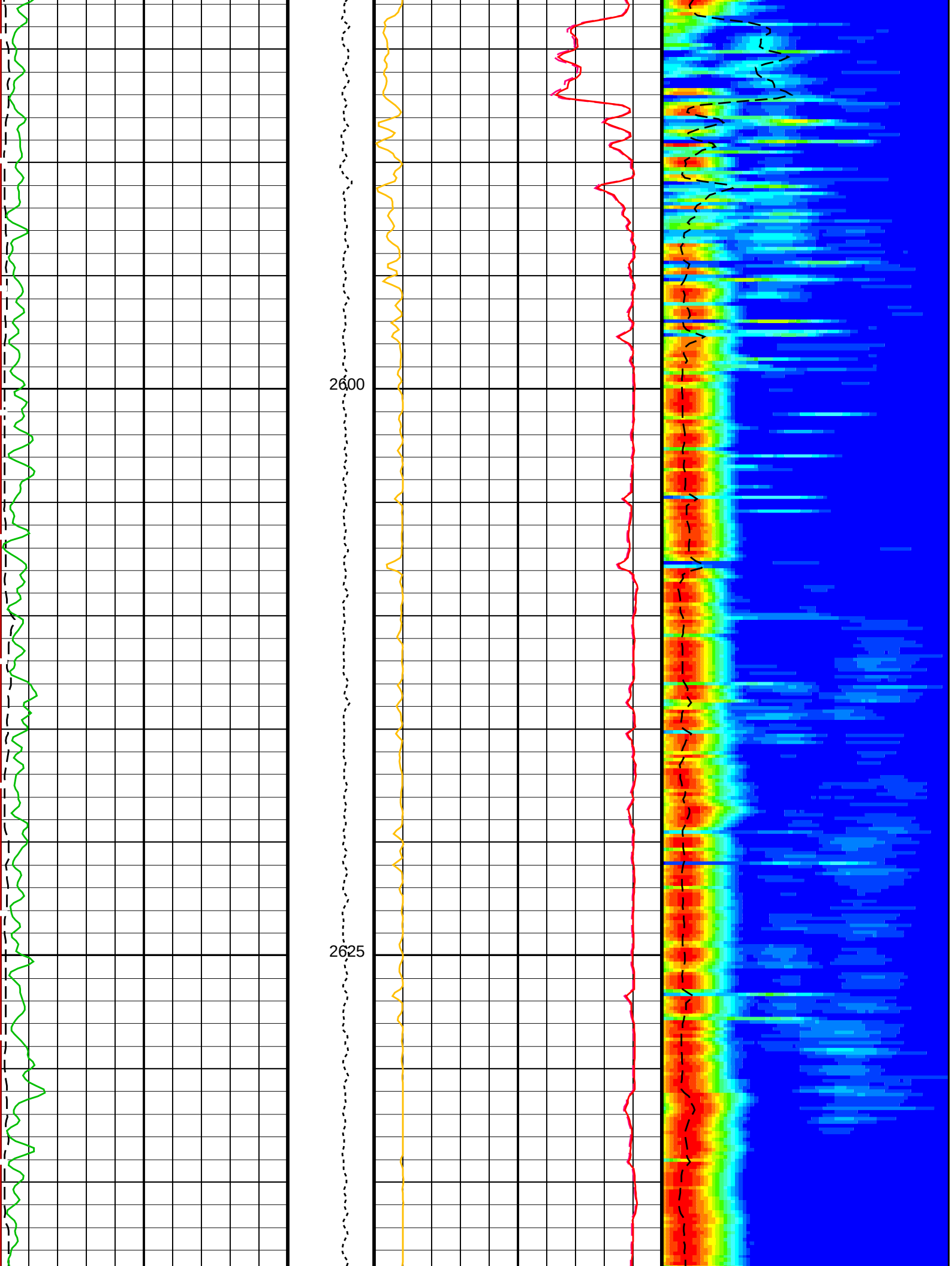
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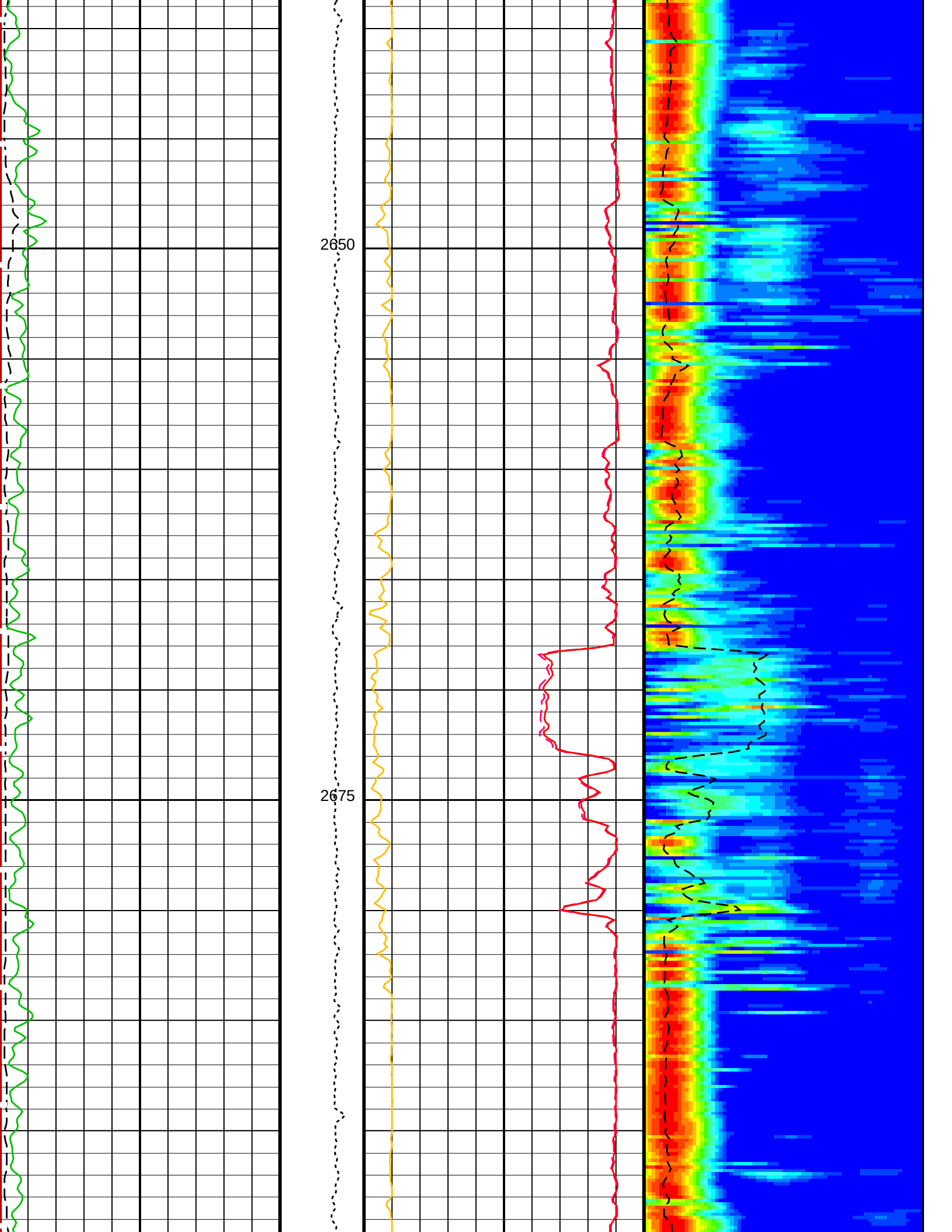
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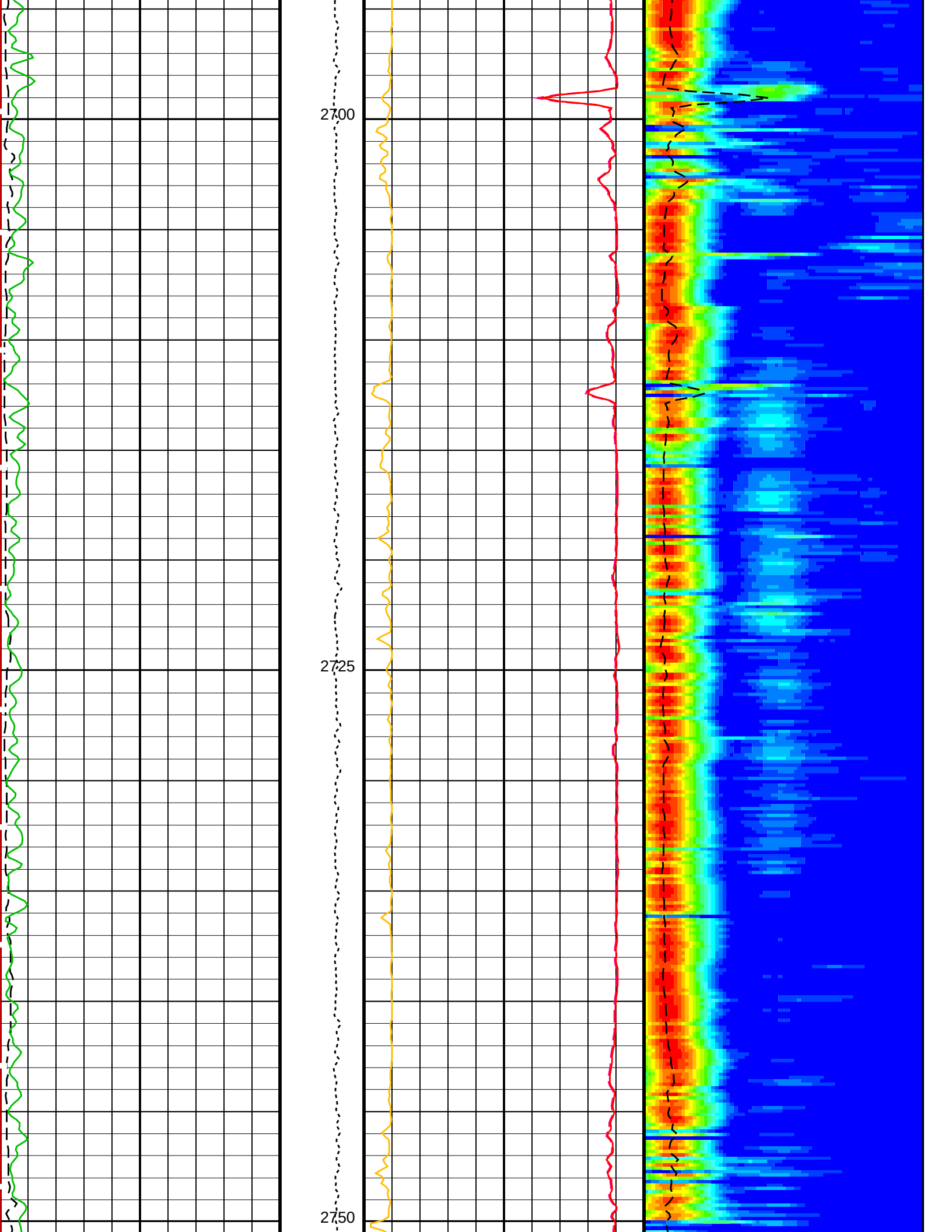
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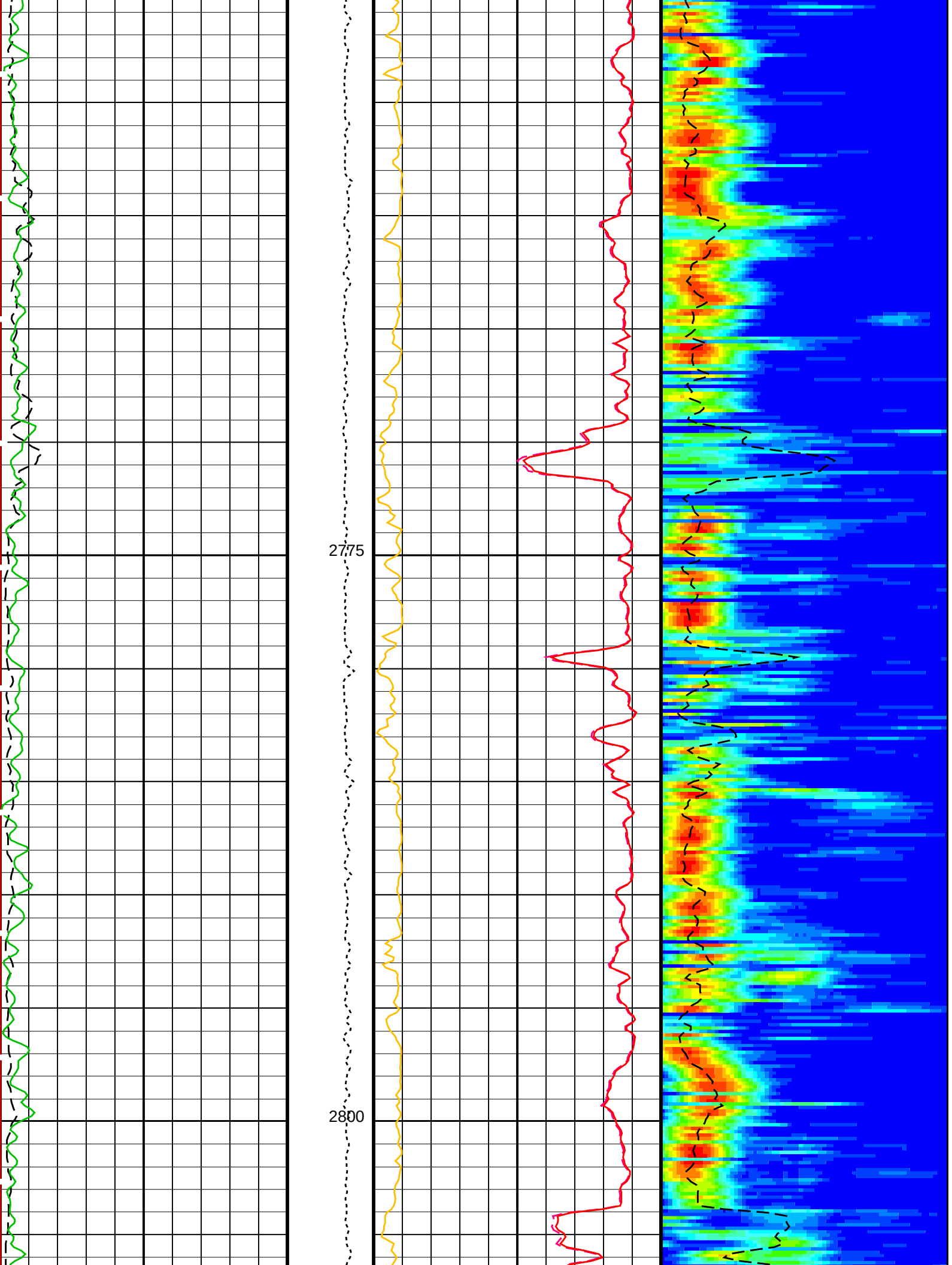
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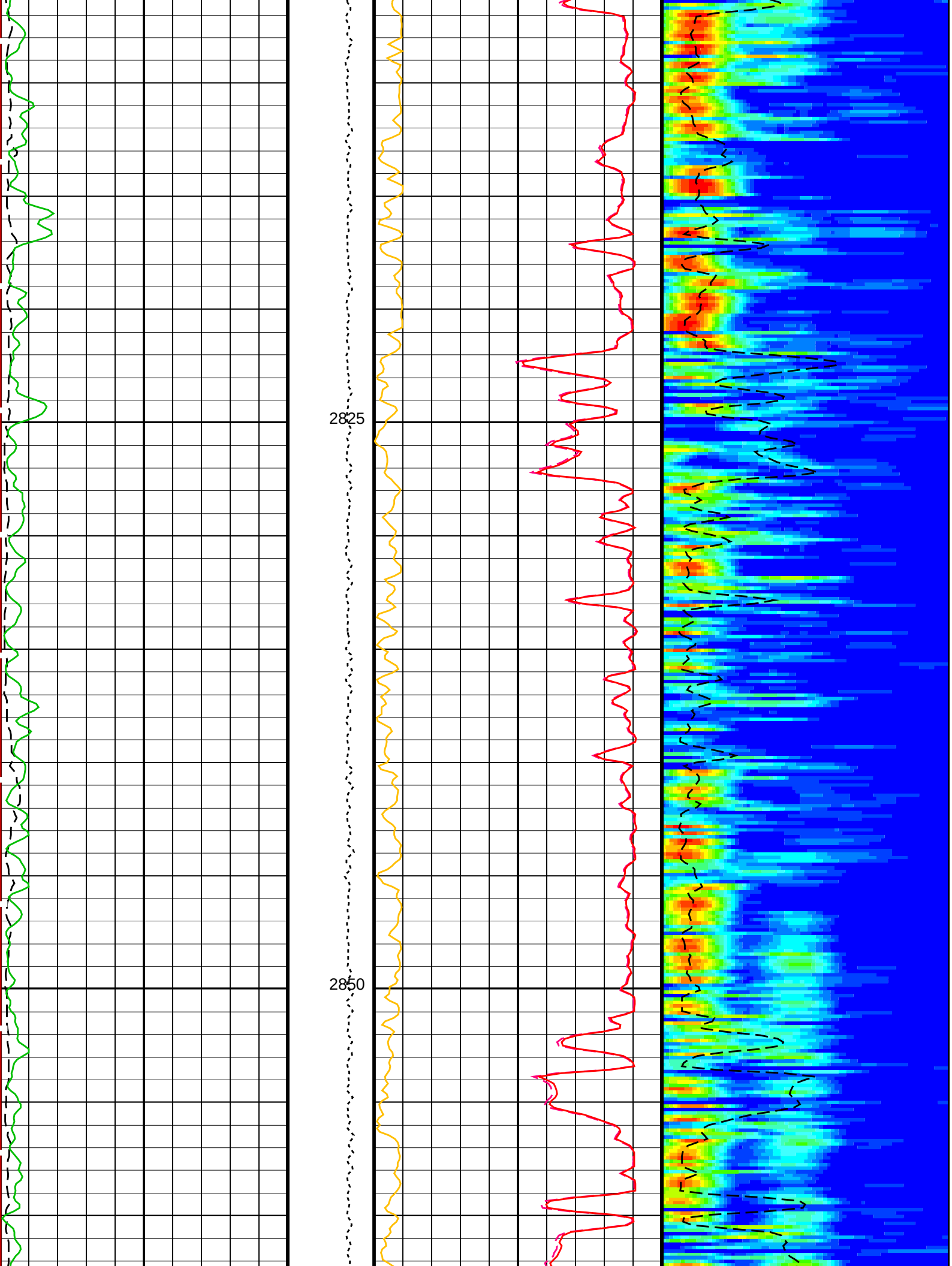
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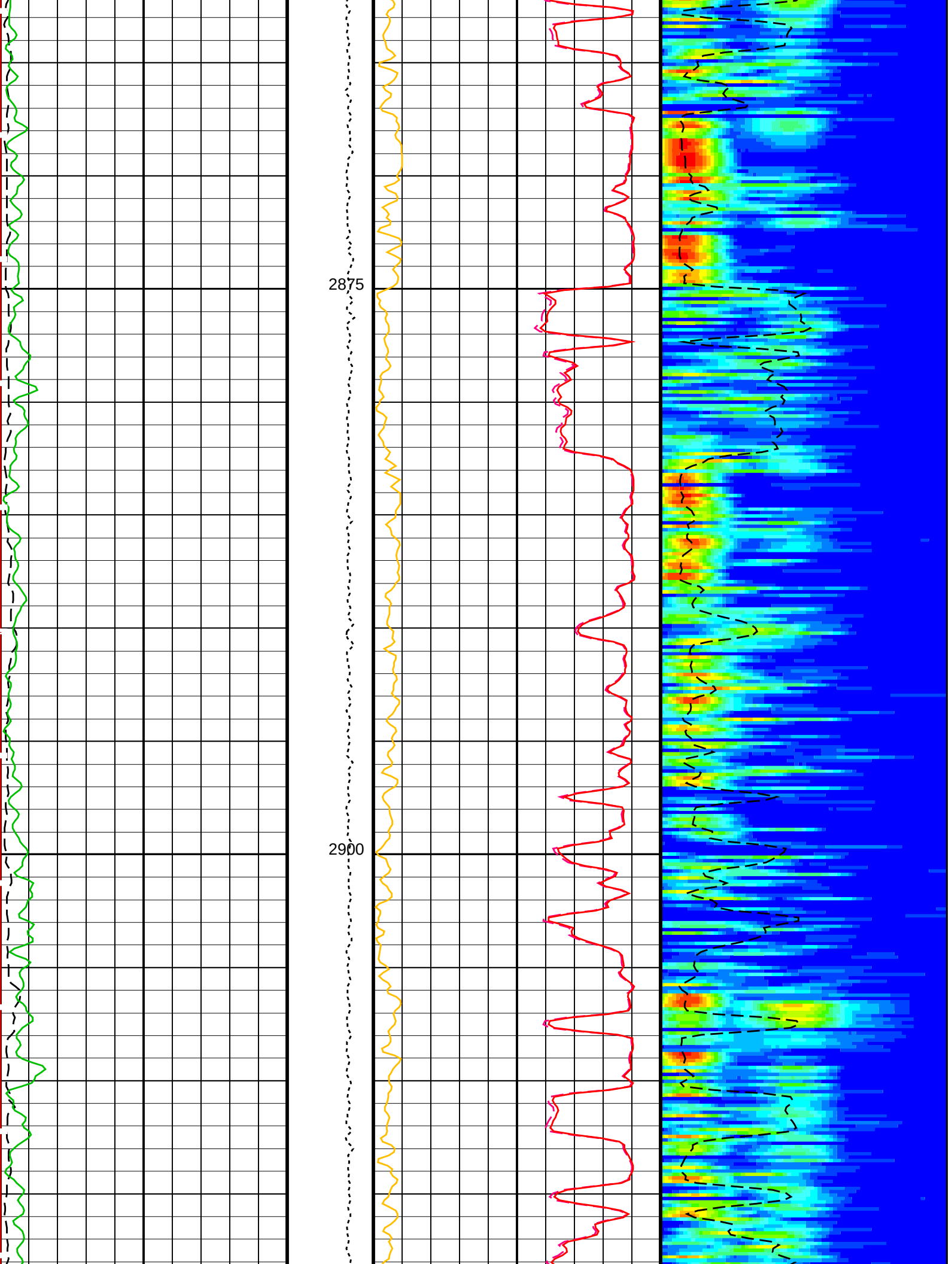
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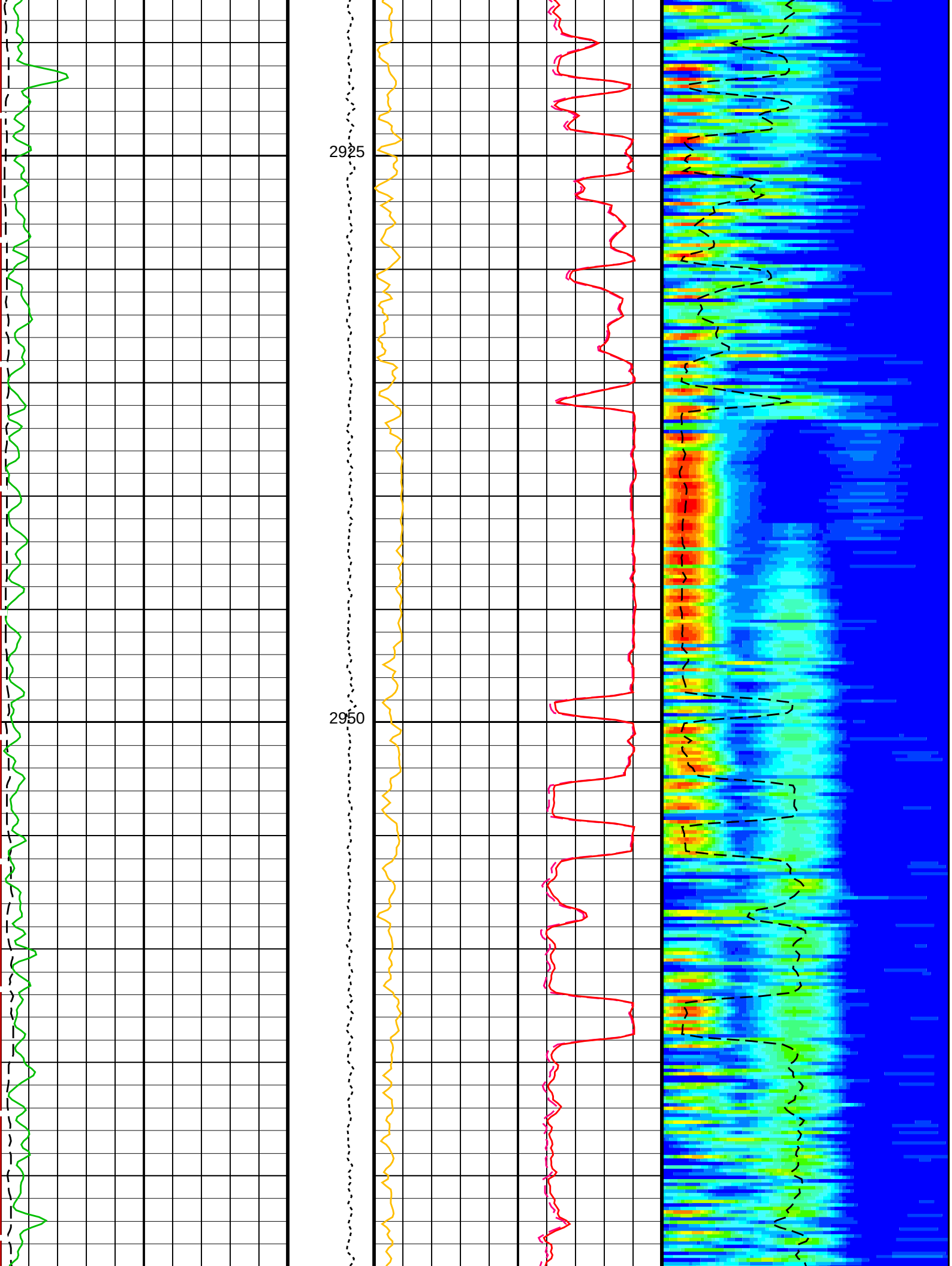
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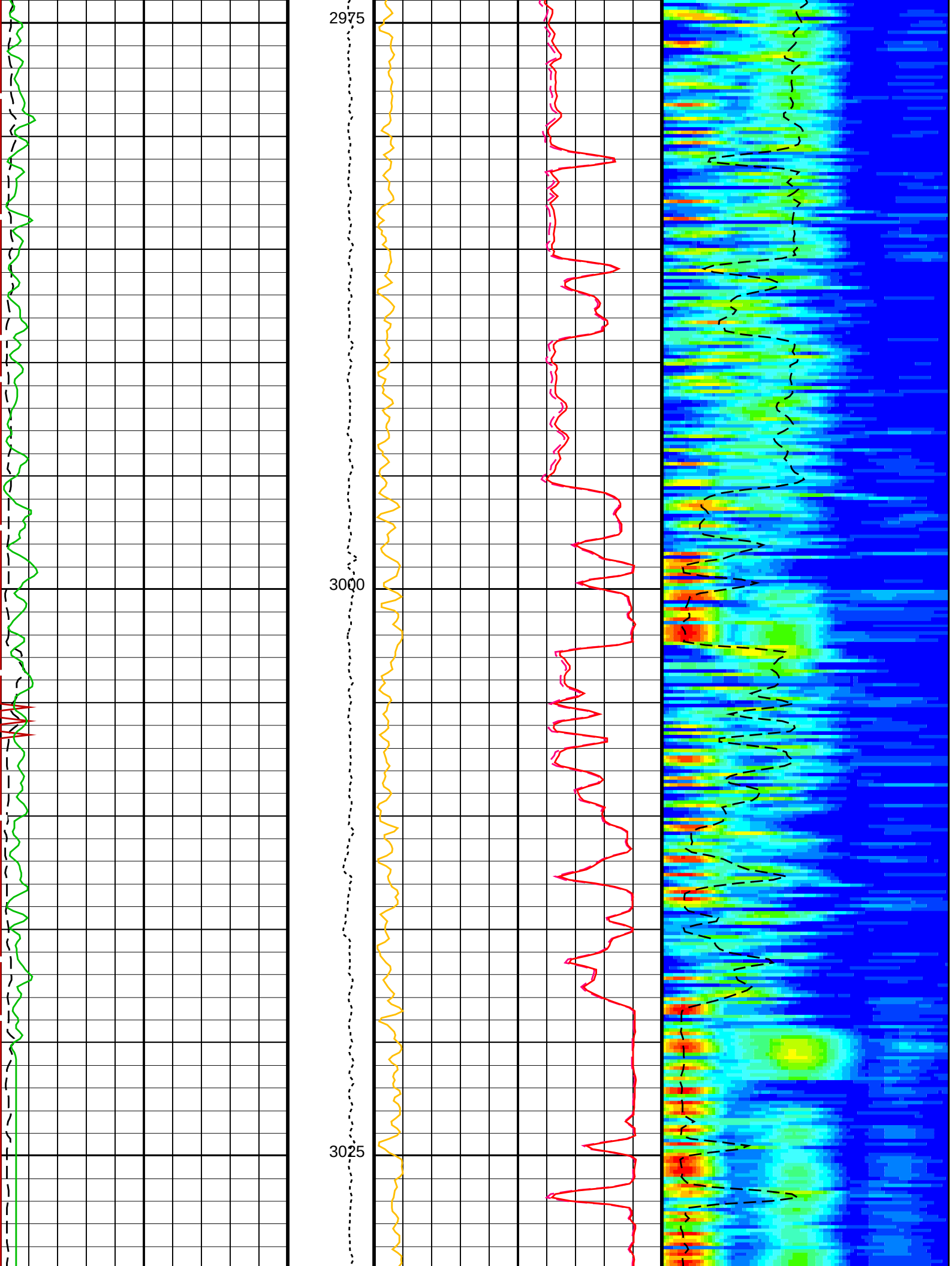
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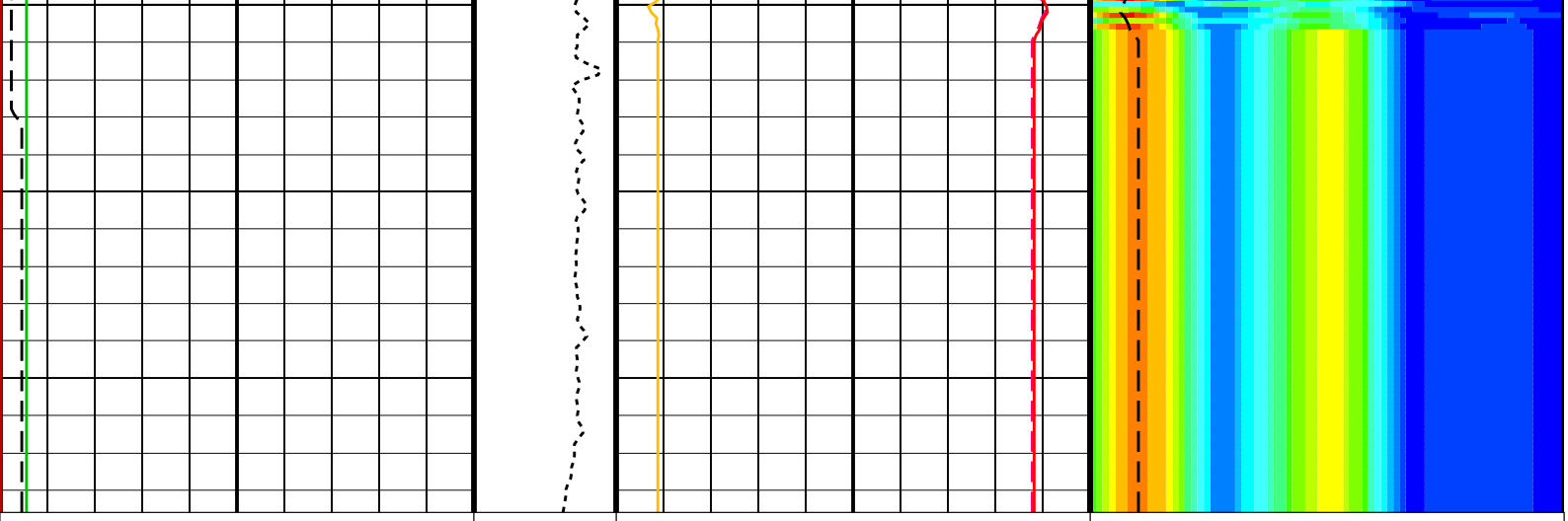
3000
3025



SAM1 Waveform Gain (WFG1)	Tension (TENS) (LBF)	Peak Coherence / RA − Lower Dipole (CHR1)	Delta−T Shear / RA − Lower Dipole (DT1R)
0 (−−−−) 1000	0 5000	0 (−−−−) 10	60 (US/F) 360
Gamma Ray (GR_EDTC)		Delta−T Shear / RA − Lower Dipole (DT1R)	Min Amplitude Max Rec.Array L.Dipole Slow Proj. CVDL (SPR1)
0 (GAPI) 15		440 (US/F) 40	60 (US/F) 360
Waveform Data Copy Indicator 1 − Lower Dipole (WCI1)		Delta−T Shear − Lower Dipole (DT1)	
0 (−−−−) 10		440 (US/F) 40	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST−B: Dipole Shear Imager − B		
DDE1	Digitizing Delay 1	0	US
DDEX	Digitizing Delay X	0	US
DLCS	Label Compressional Source − Dipole Shear	USE	
DSHL	Label Slowness Lower Limit − Dipole Shear	75	US/F
DSHU	Label Slowness Upper Limit − Dipole Shear	360	US/F
DSI1	Digitizer Sample Interval 1	40	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta−T Source for DTCO Channel	PS_COMP	
DWC1	Digitizer Word Count 1	512	
DWCX	Digitizer Word Count X	512	
LTXG	Lower Dipole Transmitter Geometry	156	IN
NWI1	Number Waveform Items 1	8	
NWIX	Number Waveform Items X	32	
RX1G	Receiver 1 Geometry	294	IN
RX2G	Receiver 2 Geometry	300	IN
RX3G	Receiver 3 Geometry	306	IN
RX4G	Receiver 4 Geometry	312	IN
RX5G	Receiver 5 Geometry	318	IN
RX6G	Receiver 6 Geometry	324	IN
RX7G	Receiver 7 Geometry	330	IN
RX8G	Receiver 8 Geometry	336	IN
SAM1	DSST Sonic Acquisition Mode 1 − Lower Dipole Mode	EVEN	
SAMX	DSST Sonic Acquisition Mode X − Both Dipoles or Monopole Mode for Expert BCR		
SAS1	STC Sonic Array Status − Lower Dipole	255	
SBO1	STC Search Band Offset − Lower Dipole	3000	US
SBW1	STC Search Bandwidth − Lower Dipole	8000	US
SFC1	STC Formation Character − Lower Dipole	SELECTABLE	
SFM1	STC Filter − Lower Dipole	B1−3K	
SLL1	STC Slowness Lower Limit − Lower Dipole	60	US/F
SST1	STC Slowness Step − Lower Dipole	4	US/F
SSW1	STC Source Waveform − Lower Dipole	WF_SAM1	
SUL1	STC Slowness Upper Limit − Lower Dipole	360	US/F
SWD1	STC Slowness Width − Lower Dipole	40	US/F
TBF1	STC Time for Baseline Fill − Lower Dipole	0	US
TLL1	STC Time Lower Limit − Lower Dipole	600	US
TST1	STC Time Step − Lower Dipole	200	US

TUL1	STC Time Upper Limit − Lower Dipole	11140	US
TWD1	STC Time Width − Lower Dipole	2000	US
TWI1	STC Integration Time Window − Lower Dipole	1600	US
TWSX	Transmitter Waveform Select X	0	
WFM1	Waveform Mode 1	W1	
	System and Miscellaneous		
DO	Depth Offset for Playback	3.0	M
PP	Playback Processing	RECOMPUTE	

Format: DSST_LOWER_DIPOLE_VDL_COLOR Vertical Scale: 1:200 Graphics File Created: 25−Feb−2012 06:14

OP System Version: 19C0−187

GPIT−A/B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

Input DLIS Files

DEFAULT	Flip_DSI_026LUP	PRODUCER	25−Feb−2012 06:12	3040.5 M	2308.7 M

Output DLIS Files

DEFAULT	DSI_027PUP	FN:14	PRODUCER	25−Feb−2012 06:14	

Schlumberger

Up Log

MAXIS Field Log

Company: Lamont Doherty Well: Expedition 340T, Site U1309D

Input DLIS Files

DEFAULT	DSI_037LUP	FN:36	PRODUCER	25−Feb−2012 05:42	3040.5 M	2321.8 M

Output DLIS Files

DEFAULT	DSI_028PUP	FN:15	PRODUCER	25−Feb−2012 06:18	3045.0 M	2326.2 M

OP System Version: 19C0−187

GPIT−A/B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

PIP SUMMARY

Time Mark Every 60 S

Waveform Data Copy Indicator 1 − Lower Dipole (WCI1)
0 (−−−−) 10

Delta−T Shear − Lower Dipole (DT1)
440 (US/F) 40

Gamma Ray (GR_EDTC)
0 (GAPI) 15

Delta−T Shear / RA − Lower Dipole (DT1R)
440 (US/F) 40

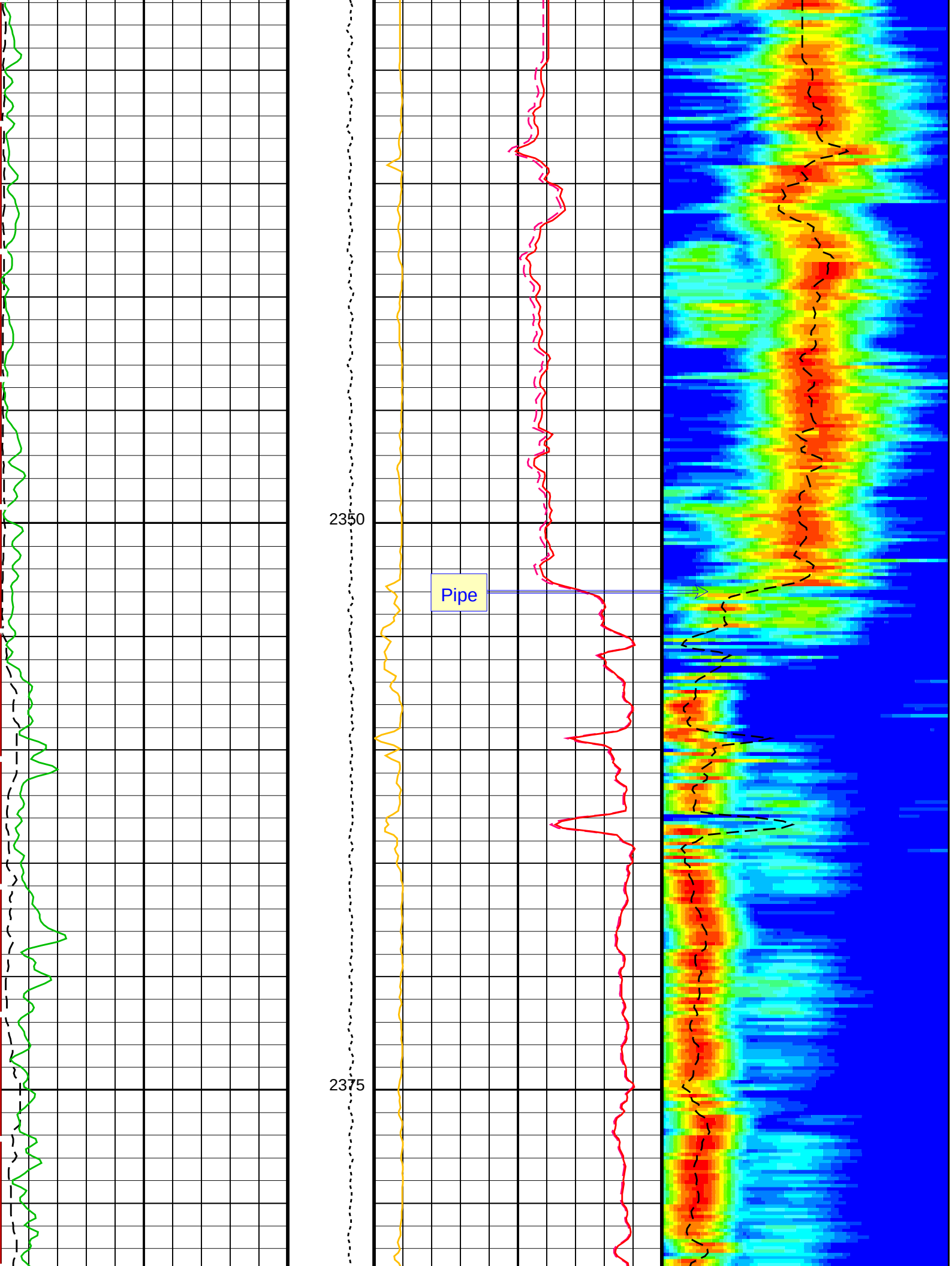
Min Amplitude Max
Rec.Array L.Dipole Slow Proj. CVDL (SPR1)
60 (US/F) 360

SAM1 Waveform Gain (WFG1)
0 (−−−−) 1000

Tension (TENS) (LBF)
0 5000

Peak Coherence / RA − Lower Dipole (CHR1)
0 (−−−−) 10

Delta−T Shear / RA − Lower Dipole (DT1R)
60 (US/F) 360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Pipe
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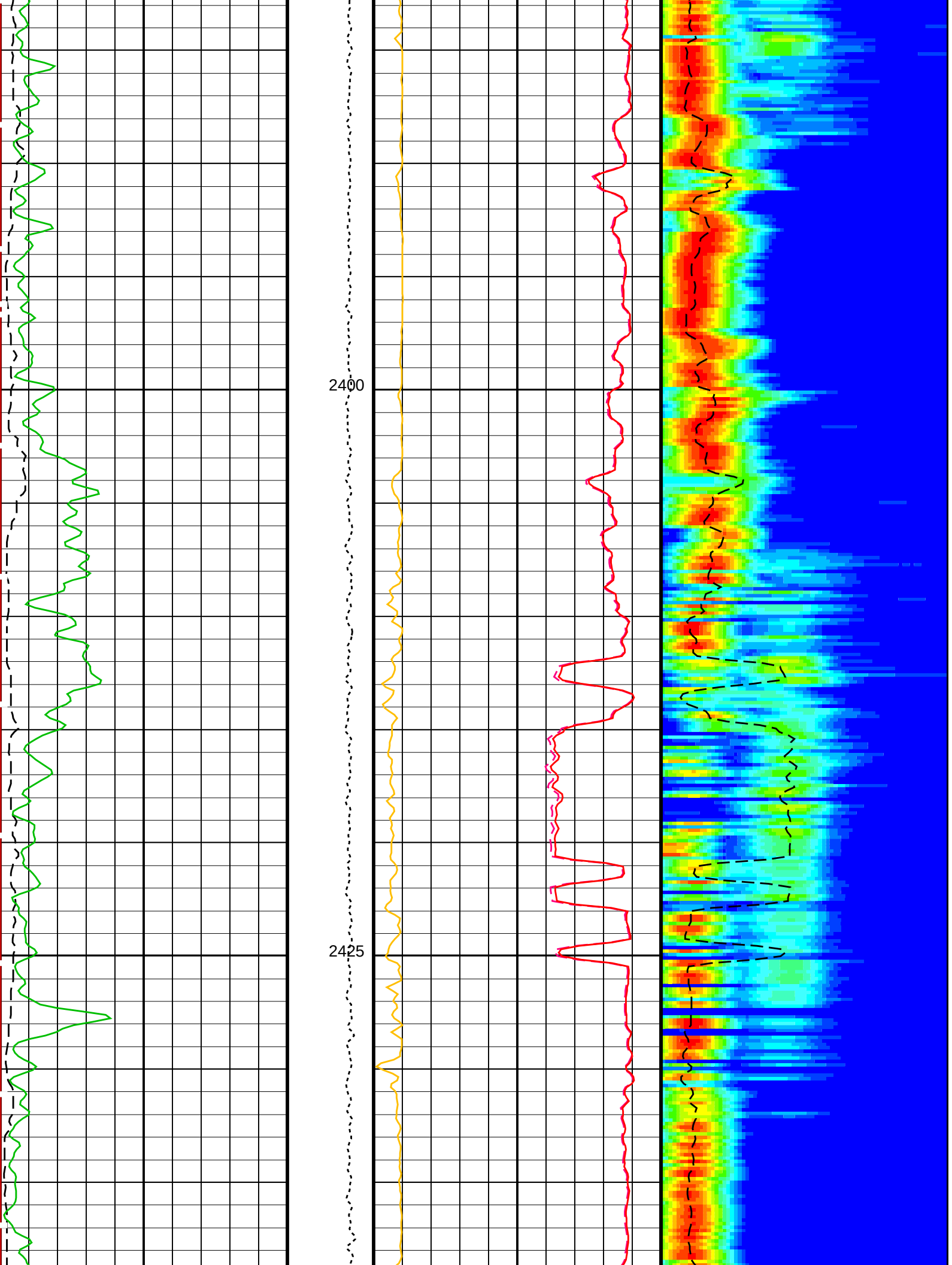
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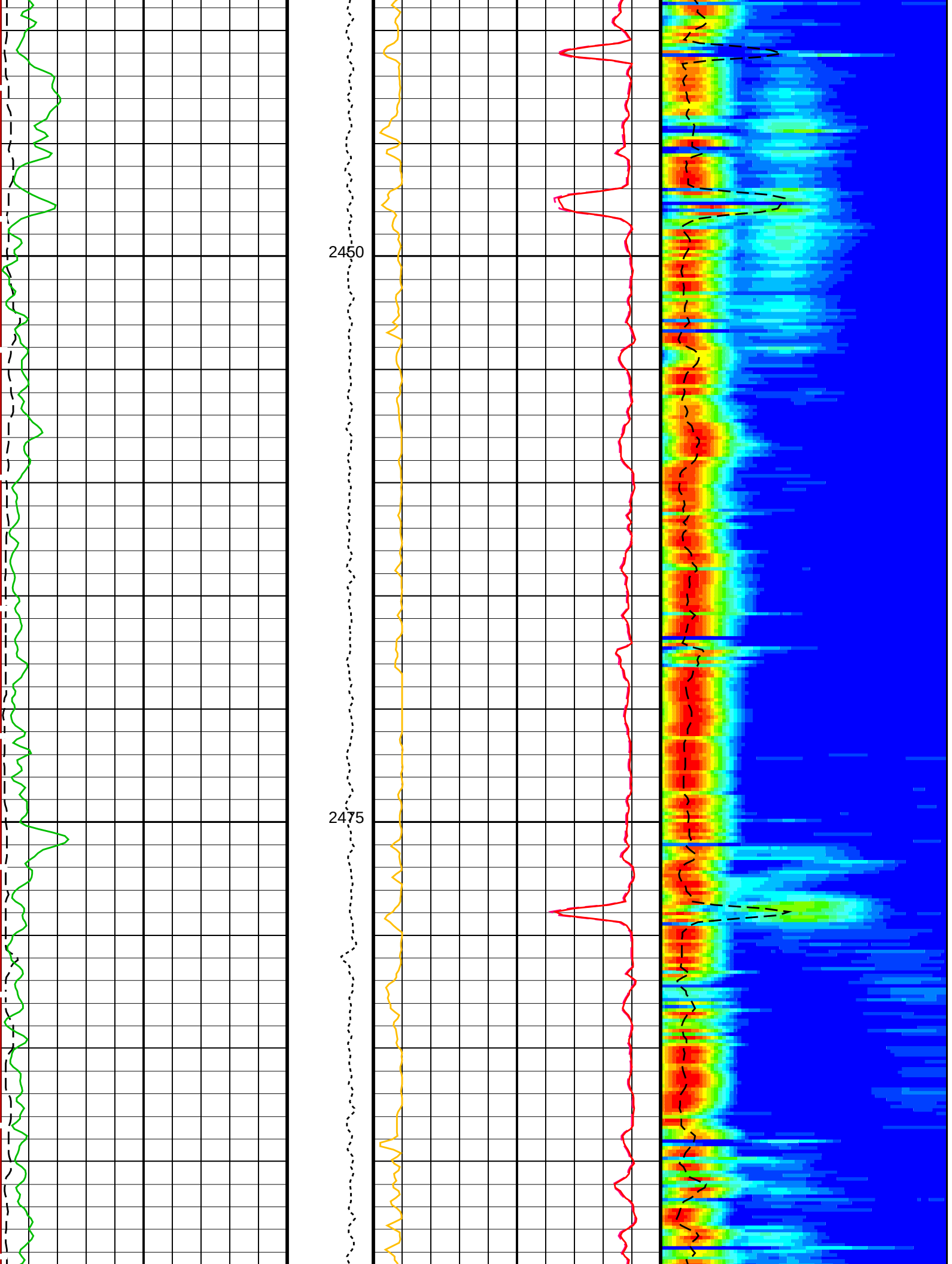
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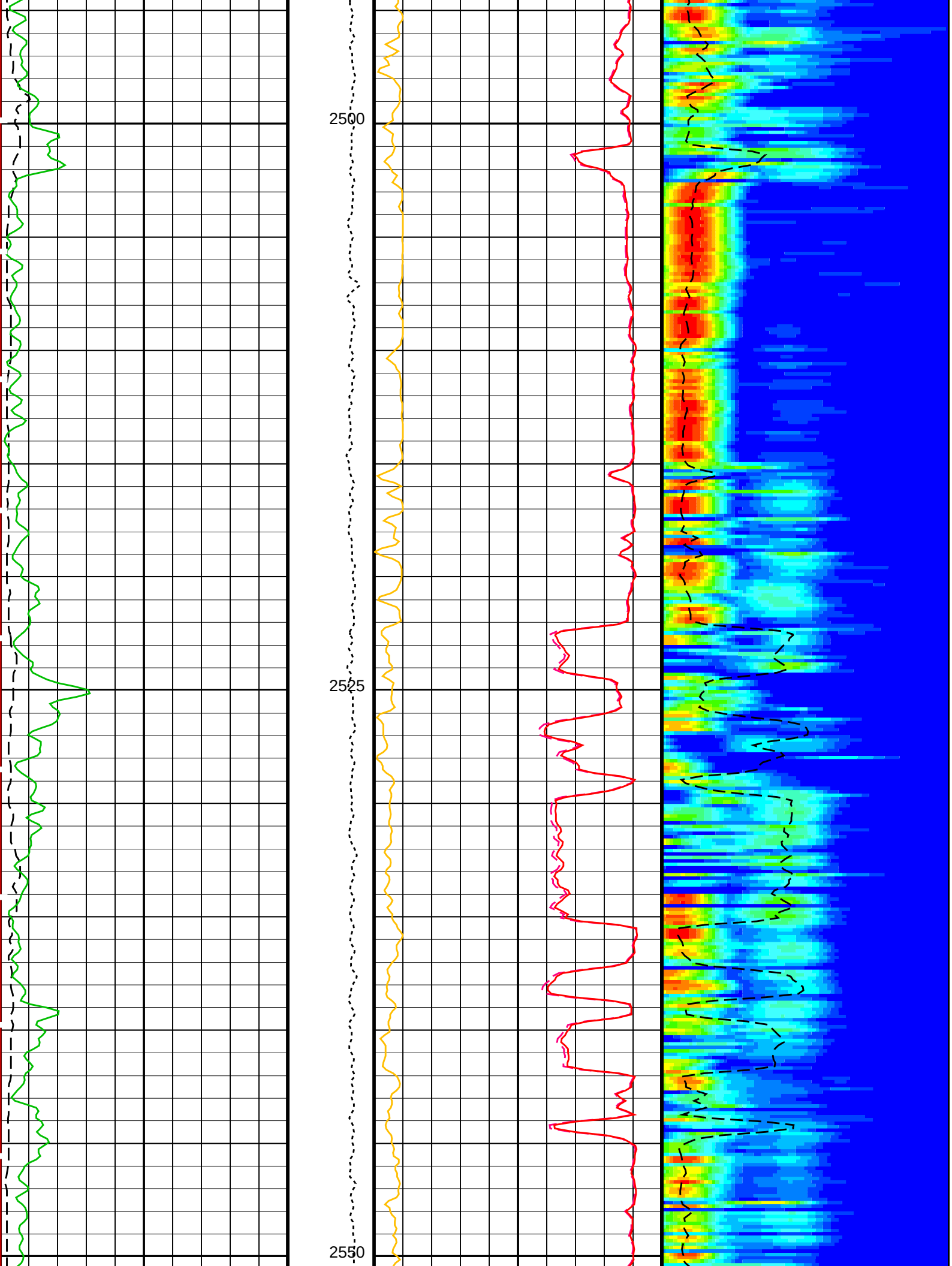
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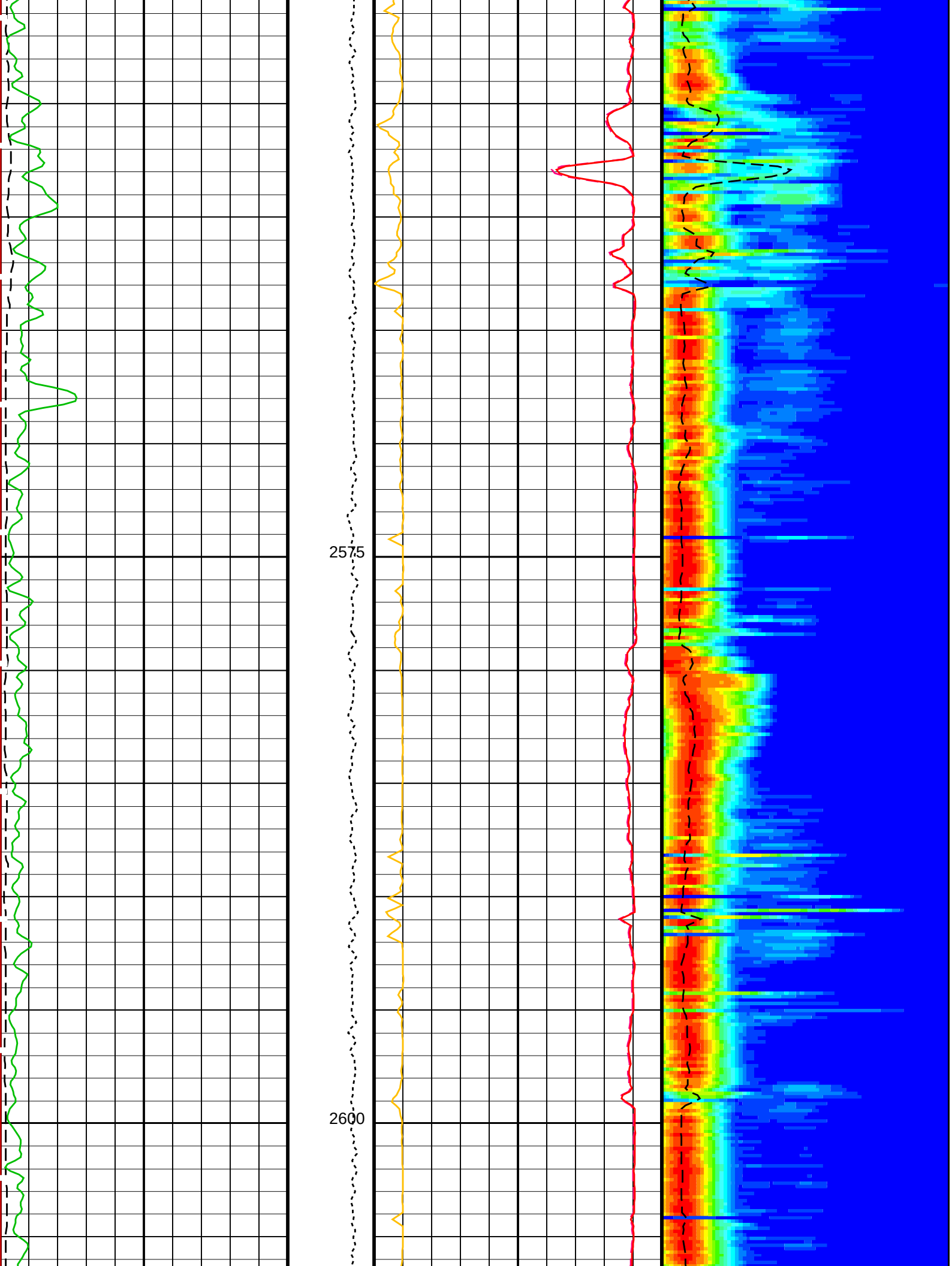
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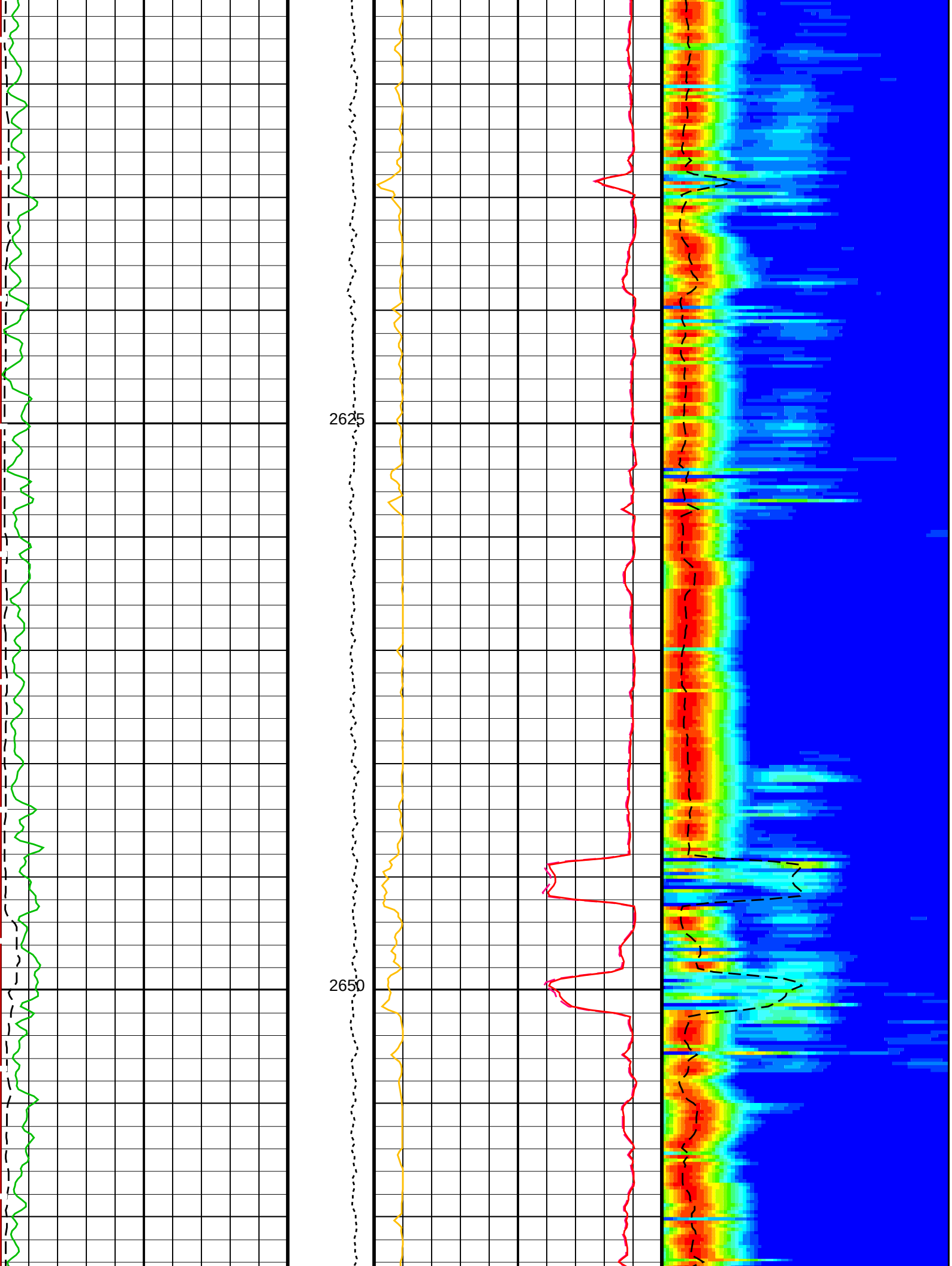
2600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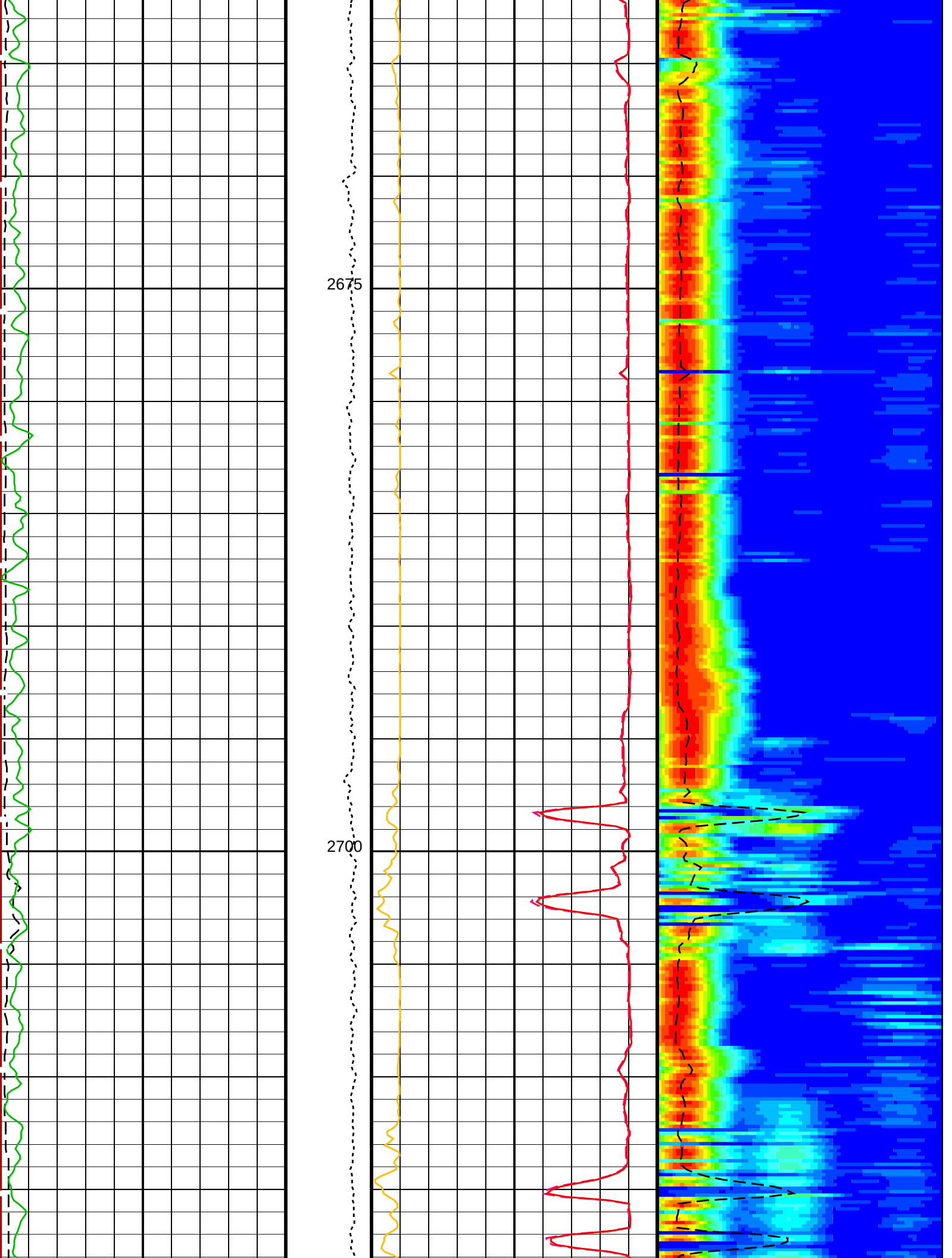
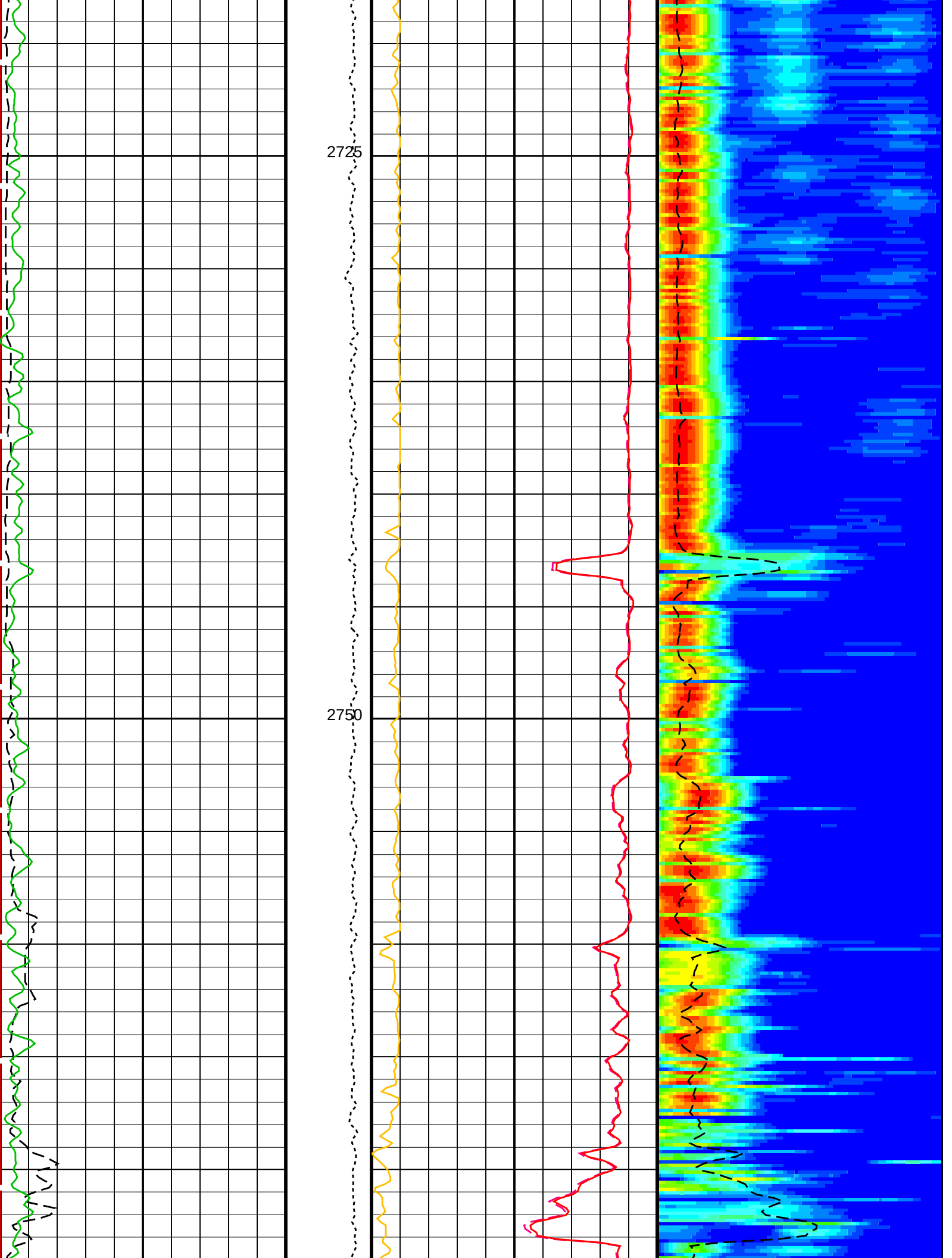
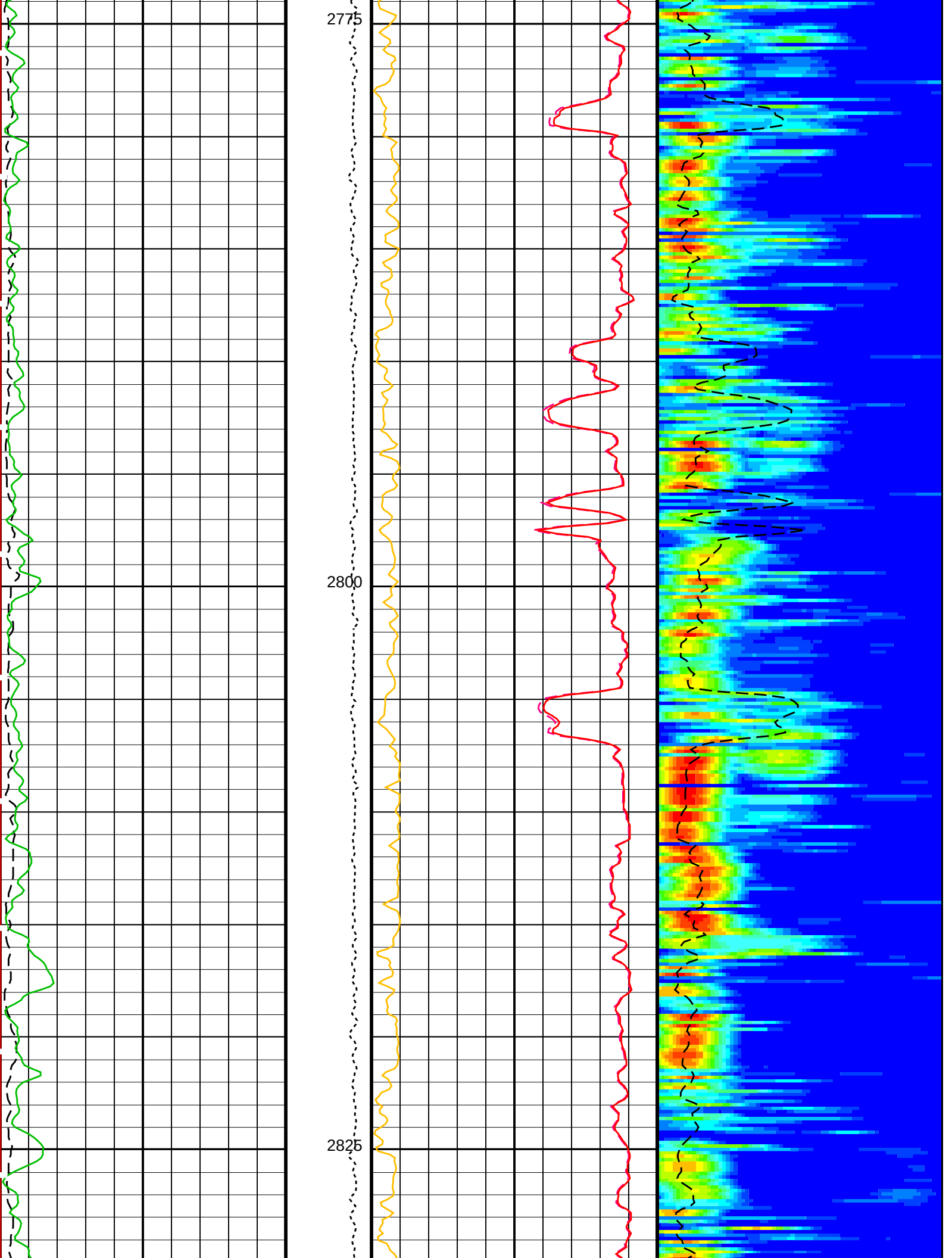

2675
2700


2725
2750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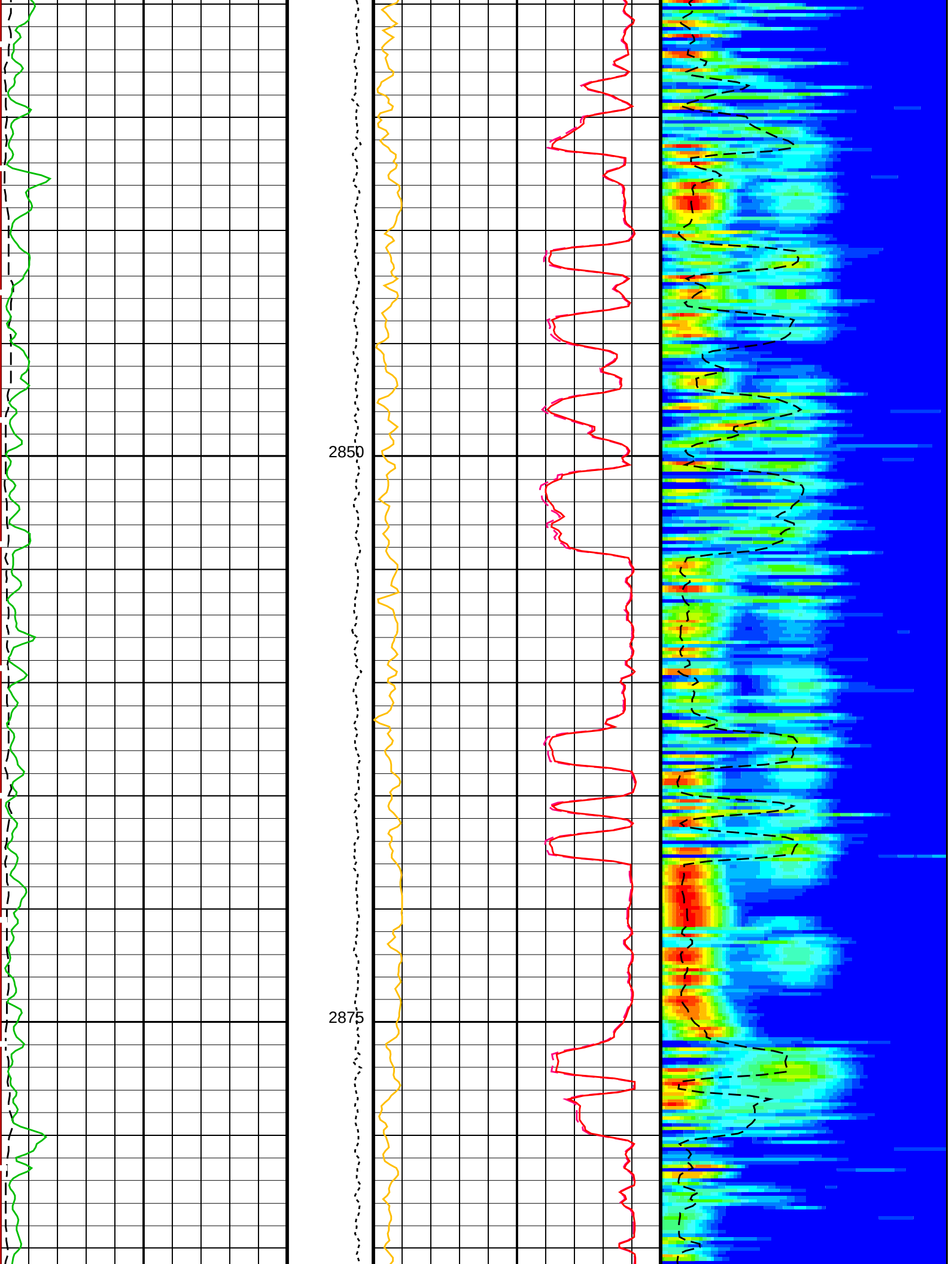
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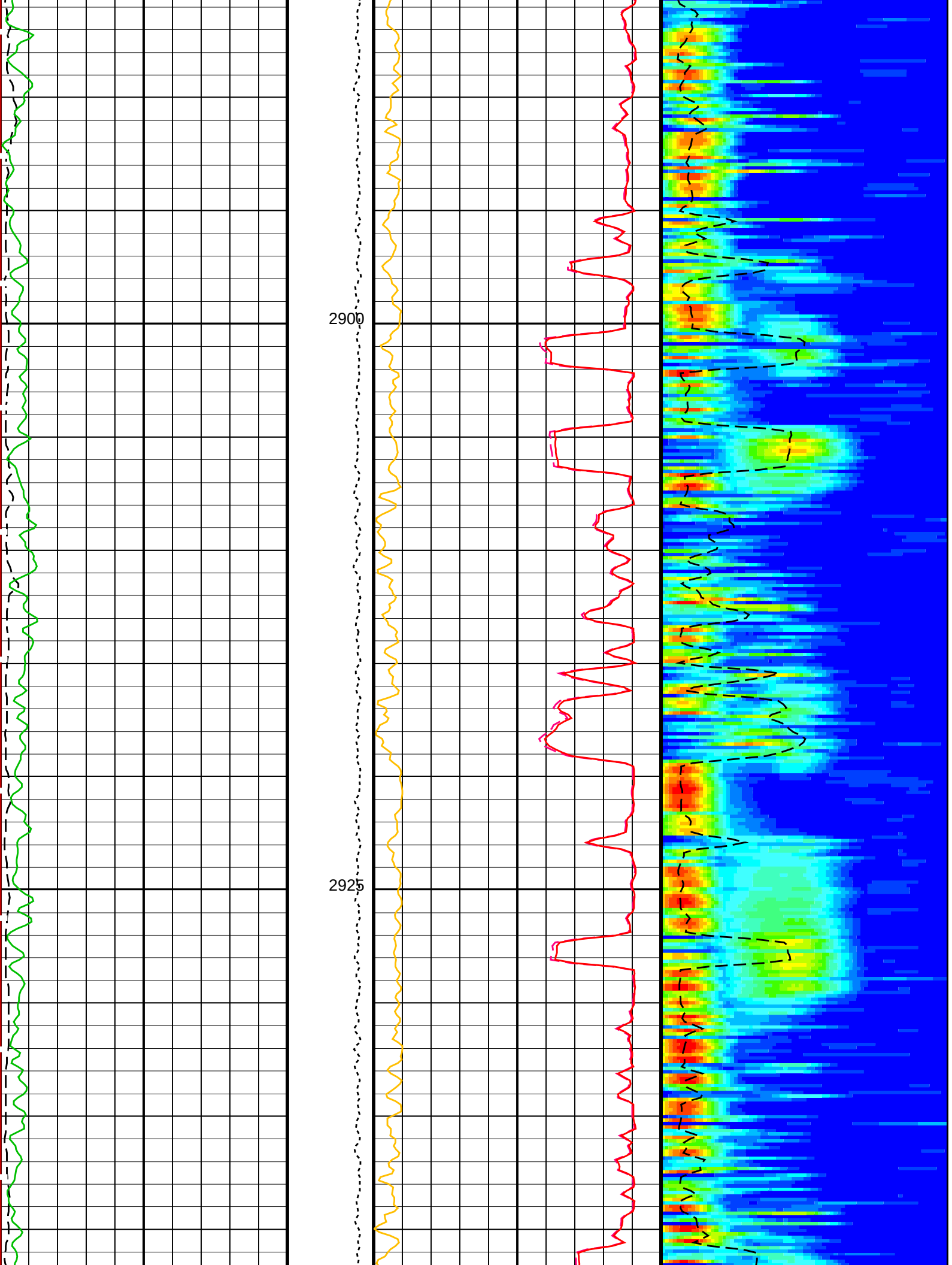
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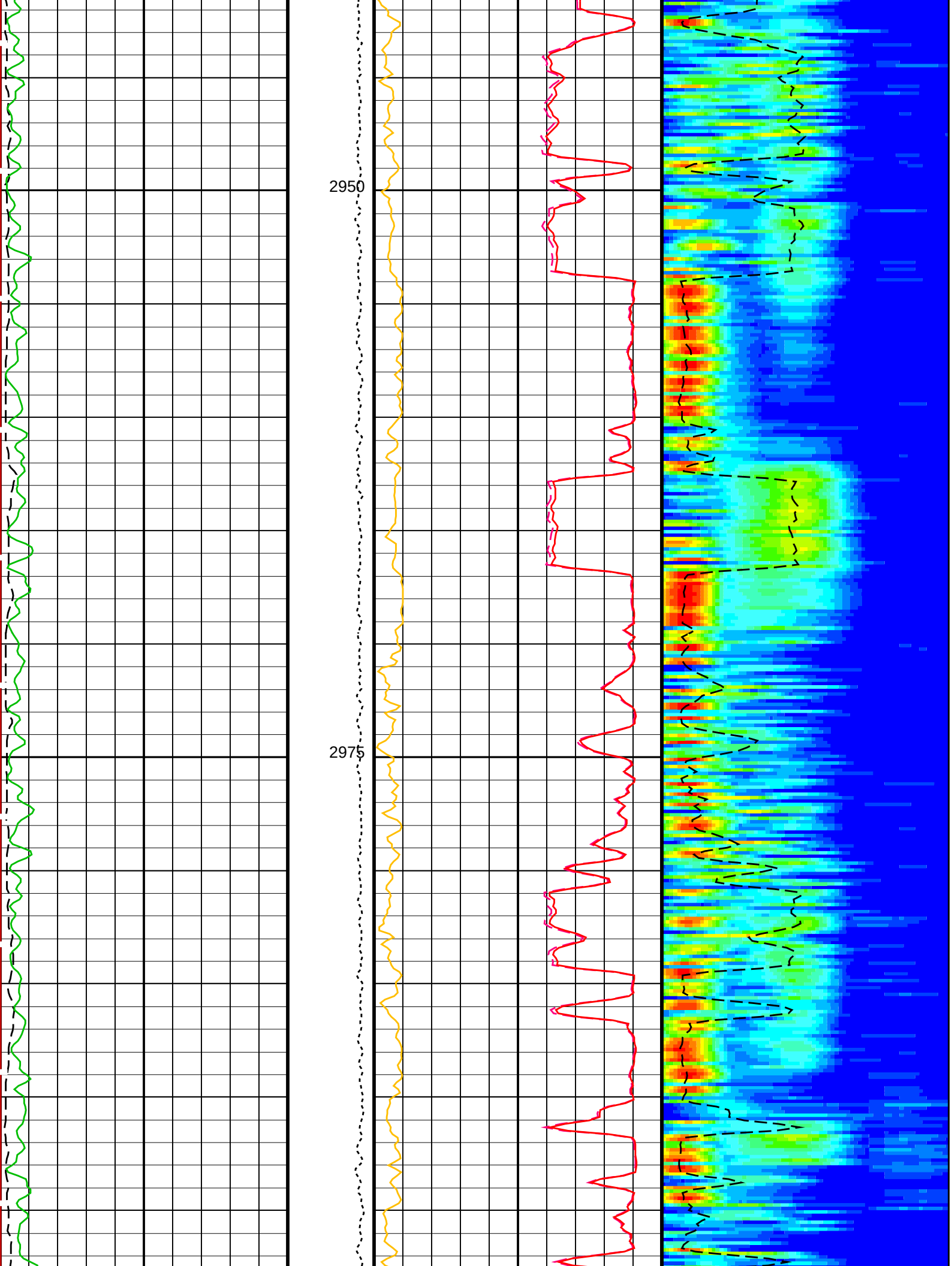
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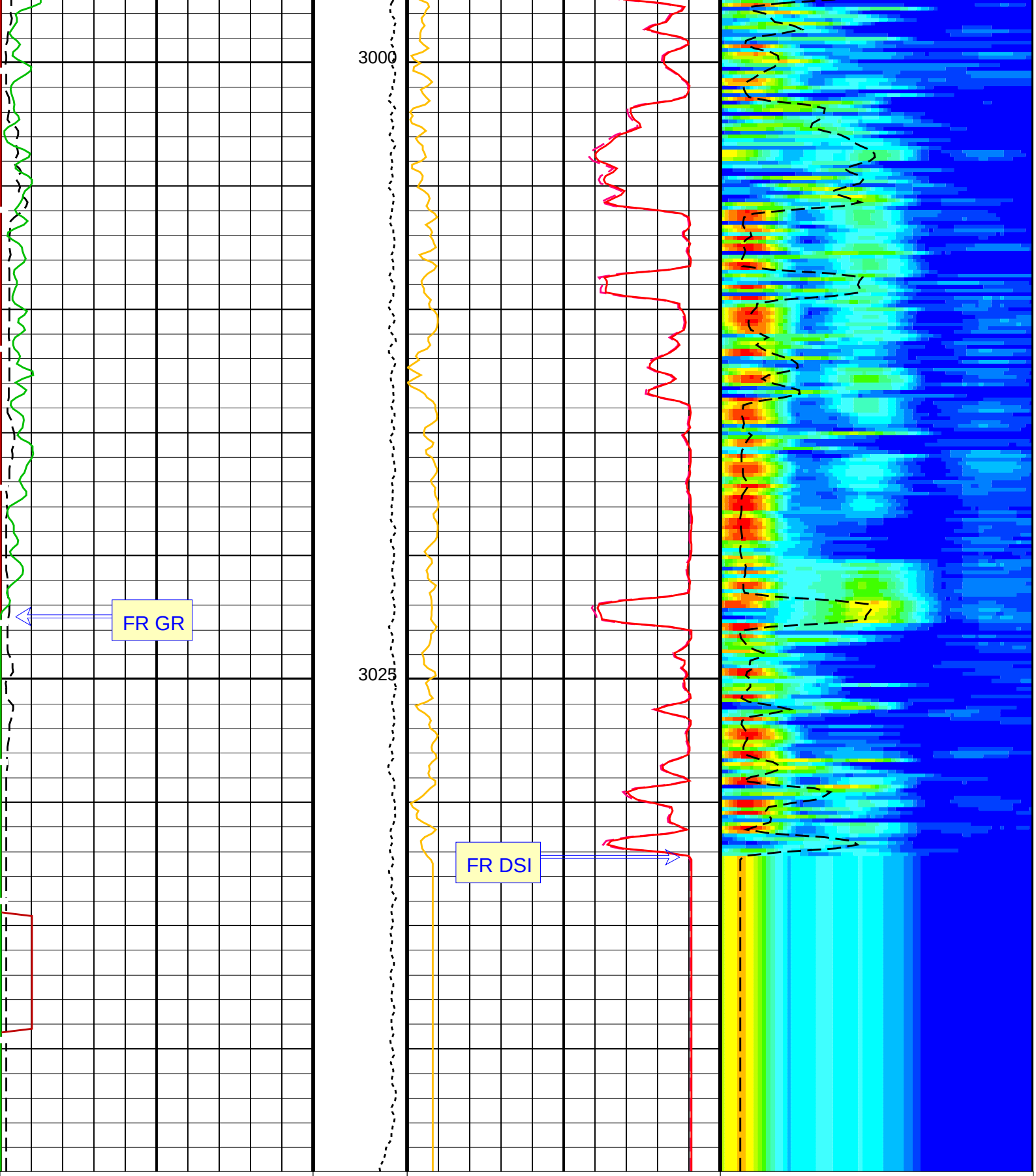

SAM1 Waveform Gain (WFG1)	Tension (TENS) (LBF)	Peak Coherence / RA − Lower Dipole (CHR1)	Delta−T Shear / RA − Lower Dipole (DT1R)
0 (−−−−) 1000	0 5000	0 (−−−−) 10	60 (US/F) 360

Gamma Ray (GR_EDTC)		Delta−T Shear / RA − Lower Dipole (DT1R)	Min Amplitude Max Rec.Array L.Dipole Slow Proj. CVDL (SPR1)
0 (GAPI) 15		440 (US/F) 40	60 (US/F) 360

Waveform Data Copy Indicator 1 − Lower Dipole (WCI1)		
0	(−−−−)	10

Delta−T Shear − Lower Dipole (DT1)		
440	(US/F)	40

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST−B: Dipole Shear Imager − B		
DDE1	Digitizing Delay 1	0	US
DDEX	Digitizing Delay X	0	US
DLCS	Label Compressional Source − Dipole Shear	USE	
DSHL	Label Slowness Lower Limit − Dipole Shear	75	US/F
DSHU	Label Slowness Upper Limit − Dipole Shear	360	US/F
DSI1	Digitizer Sample Interval 1	40	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta−T Source for DTCO Channel	PS_COMP	
DWC1	Digitizer Word Count 1	512	
DWCX	Digitizer Word Count X	512	
LTXG	Lower Dipole Transmitter Geometry	156	IN
NWI1	Number Waveform Items 1	8	
NWIX	Number Waveform Items X	32	
RX1G	Receiver 1 Geometry	294	IN
RX2G	Receiver 2 Geometry	300	IN
RX3G	Receiver 3 Geometry	306	IN
RX4G	Receiver 4 Geometry	312	IN
RX5G	Receiver 5 Geometry	318	IN
RX6G	Receiver 6 Geometry	324	IN
RX7G	Receiver 7 Geometry	330	IN
RX8G	Receiver 8 Geometry	336	IN
SAM1	DSST Sonic Acquisition Mode 1 − Lower Dipole Mode	EVEN	
SAMX	DSST Sonic Acquisition Mode X − Both Dipoles or Monopole Mode for Expert BCR		
SAS1	STC Sonic Array Status − Lower Dipole	255	
SBO1	STC Search Band Offset − Lower Dipole	3000	US
SBW1	STC Search Bandwidth − Lower Dipole	8000	US
SFC1	STC Formation Character − Lower Dipole	SELECTABLE	
SFM1	STC Filter − Lower Dipole	B1−3K	
SLL1	STC Slowness Lower Limit − Lower Dipole	60	US/F
SST1	STC Slowness Step − Lower Dipole	4	US/F
SSW1	STC Source Waveform − Lower Dipole	WF_SAM1	
SUL1	STC Slowness Upper Limit − Lower Dipole	360	US/F
SWD1	STC Slowness Width − Lower Dipole	40	US/F
TBF1	STC Time for Baseline Fill − Lower Dipole	0	US
TLL1	STC Time Lower Limit − Lower Dipole	600	US
TST1	STC Time Step − Lower Dipole	200	US
TUL1	STC Time Upper Limit − Lower Dipole	11140	US
TWD1	STC Time Width − Lower Dipole	2000	US
TWI1	STC Integration Time Window − Lower Dipole	1600	US
TWSX	Transmitter Waveform Select X	0	
WFM1	Waveform Mode 1	W1	
	System and Miscellaneous		
DO	Depth Offset for Playback	4.4	M
PP	Playback Processing	NORMAL	

Format: DSST_LOWER_DIPOLE_VDL_COLOR Vertical Scale: 1:200 Graphics File Created: 25−Feb−2012 06:18

OP System Version: 19C0−187

GPIT−A/B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

Input DLIS Files

DEFAULT	DSI_037LUP	FN:36	PRODUCER	25−Feb−2012 05:42	3040.5 M	2321.8 M

Output DLIS Files

DEFAULT	DSI_028PUP	FN:15	PRODUCER	25−Feb−2012 06:18

Schlumberger

Calibrations

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration							
Before: 23−Feb−2012 11:41							
EDTC Z−Axis Acceleration	9.810	N/A	9.784	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration							
Before: 23−Feb−2012 11:36 After: 25−Feb−2012 12:59							
Gamma Ray (Jig − Bkg)	156.5	N/A	156.5	158.5	2.013	14.23	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	167.1	2.122	15.00	GAPI

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG − A/B	77693
Enhanced DTS Cartridge	EDTC − B	8529
Auxiliary Equipment:		
EDTC Housing	EDTH − B	8528

Enhanced DTS Cartridge Wellsite Calibration

EDTC Accelerometer Calibration

Phase	EDTC Z−Axis Acceleration M/S2	Value
Before		9.784

9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)

Before: 23−Feb−2012 11:41

Enhanced DTS Cartridge Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		3.372	Before		156.5	Before		165.0
After		2.808	After		158.5	After		167.1

0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)

142.3 (Minimum) 156.5 (Nominal) 170.8 (Maximum)

150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)

Before: 23−Feb−2012 11:36 After: 25−Feb−2012 12:59

Company: **Lamont Doherty Earth Observatory**

Schlumberger

Well: **Expedition 340T, Site U1309D**

Field: **Atlantis Massif**

Rig: **JOIDES Resolution**

Rig:	**JOIDES Resolution**
Country:	**USA**

Dipole Shear Sonic Tool
Lower Dipole