Schlumberger

Company: **International Ocean Discovery Program**

Well: **Expedition 360, Site U1473A**
Field: **SW Indian Ridge Lower Crust and Moho**
Rig: **JOIDES Resolution** Ocean: **Indian**

Rig: JOIDES Resolution
Field: SW Indian Ridge Lower Crust an
Location: Latitude: S 32.706036 Deg
Well: Expedition 360, Site U1473A
Company: International Ocean Discovery Pr

Formation Micro Scanner (FMS)
Dipole Shear Sonic Imager (DSI)
Natural Gamma Ray

LOCATION

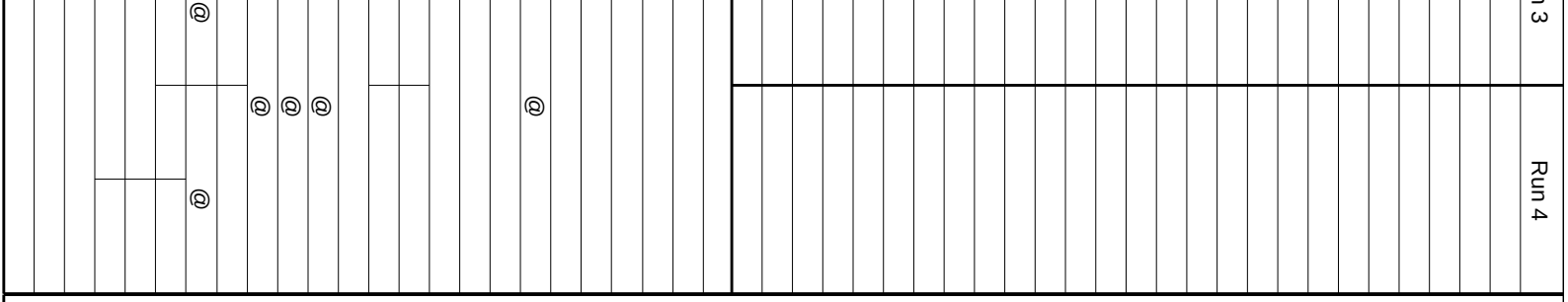
Latitude: S 32.706036 Deg
Longitude: E 57.27813 Deg

Elev.: K.B. 11.00 m
G.L. −721.00 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

API Serial No.	S32.706036*	E57.27813*	

	Run 1	Run 2	Run 3
Logging Date	24−Jan−2016		
Run Number	1		
Depth Driller	1511 m		
Schlumberger Depth	1509 m		
Bottom Log Interval	1509 m		
Top Log Interval	721 m		
Casing Driller Size @ Depth	5.500 in @ 751.38 m	@	@
Casing Schlumberger	748 m		
Bit Size	9.875 in		
Type Fluid In Hole	Fresh Water		
MUD Density / Viscosity	1 g/cm3		
MUD Fluid Loss / PH	8.07		
MUD Source Of Sample	Mudpit		
RM @ Measured Temperature	@ 23 degC	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC	N/A / N/A		
RM @ MRT / RMF @ MRT	@ 18 / @ 18	@ / @	@ / @
Maximum Recorded Temperatures	18 degC		
Circulation Stopped / Time	23−Jan−2016 / 12:00		
Logger On Bottom / Time	24−Jan−2016 / 10:45		
Unit Number / Location	627314 / Houma, LA		
Recorded By	K. Swain		
Witnessed By	Z. Mateo, D. Blackman		



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OTHER SERVICES1	OTHER SERVICES2
OS1: MSS/HRLA/HLDS/HNGS	OS1:
OS2:	OS2:
OS3: UBI	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Hole drilled with RCB coring bit and bottom hole assembly (BHA). 9.875" BS	
EMEX at 120v for hard rock/	
Drill pipe set at 751.38 mbrf for wireline logging, 15m higher for FMS.	
Centralizers used to centralize DSI for optimum data.	
FMS tool insulated with duct tape to ensure correct ground path for EMEX.	
Pass #1 and #3 presented as pass #2 had difficulty opening calipers.	
Fluid type was water at 1.0 g/cc	
Depth recorded at drill floor.	
All logs presented in measured depth below drill floor (MBRF).	
Maximum observed temperature was 18 degC.	

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		19C0−187	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 (EDTS)−A 1	
DOWNHOLE EQUIPMENT	
LEH−MT_101 LEH−MT_101 101 EDTC−B EDTH−B 8528 EDTC−B 8529 EDTG−A/B 77693	MDSB_EDTC 35.51 Mud Tempe 34.55 CTEM 33.49 Gamma Ray 32.92 34.55 EFTB DIAG TelStatus EDTCB Ele 32.57 HNGS−BA Upper 1 31.87 32.57

HNGS−BA
HNGS−BA 177
HNSH−BA 174

Upper_1 31.87
Lower_2 31.66

32.57

HNGC−B
HNGH−A 380

HNGC Stat 29.54

30.07

AH−MCD
AH−MCD 1663

29.01

DSST−B
SPAC−B 8194
ECH−SD 8183
SMDR−BD 8232
SSIJ−BA 8192
SMDX−AA 8131

26.73

PWF 11.18

AH−MCD
AH−MCD 82

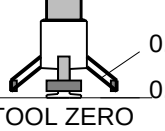
11.18

DTA−A
ECH−KE 8451

8.90

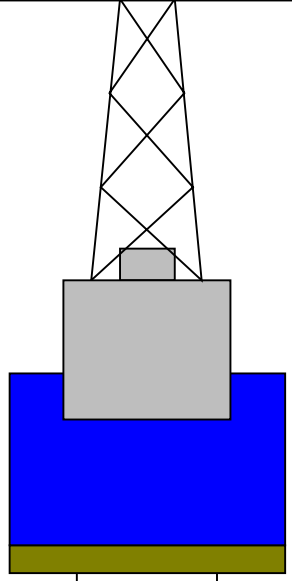
MEST−B
MEAH−B 726
MEAC−A 804
MEPH−A 701
GPIC−AC 840
MEPC−AB 806
MEDS−B 770

7.68



MAXIMUM STRING DIAMETER 4.50 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		0				
Derrick Floor Elevation		0				
Mean Sea Level		11				
				4.1		
				721	4.1	Sea Floor
				766.51	11.4375	Open Hole
				1510.2		Total Depth

Company: International Ocean Discovery Program | Well: Expedition 360, Site U1473A

Output DLIS Files

DEFAULT	FMS_DSI_NGS_053LUP	FN:70	PRODUCER	24−Jan−2016 13:19	1504.2 M	707.2 M
BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24−Jan−2016 13:19	1504.2 M	707.2 M

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

PIP SUMMARY

Time Mark Every 60 S

Deviation at DSST Waveform Depth (DVWD)		
0	(DEG)	100

Relative Bearing at DSST Waveform Depth (RBWD)		
0	(DEG)	400

Azimuth at DSST Waveform Depth (AZWD)		
0	(DEG)	400

Waveform Data Copy Indicator X − Expert (WCIX)

0 (----) 10

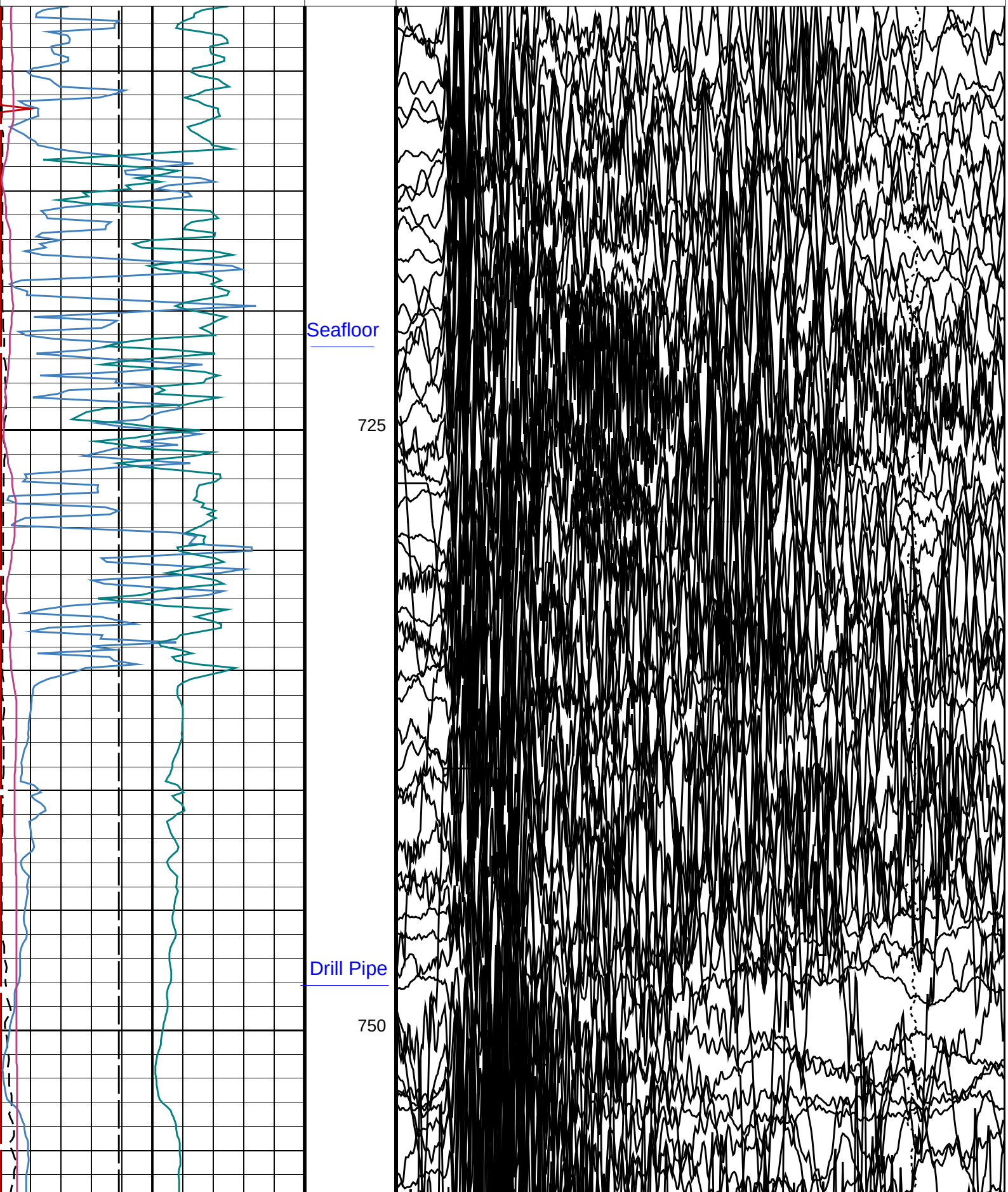
Uplog #3

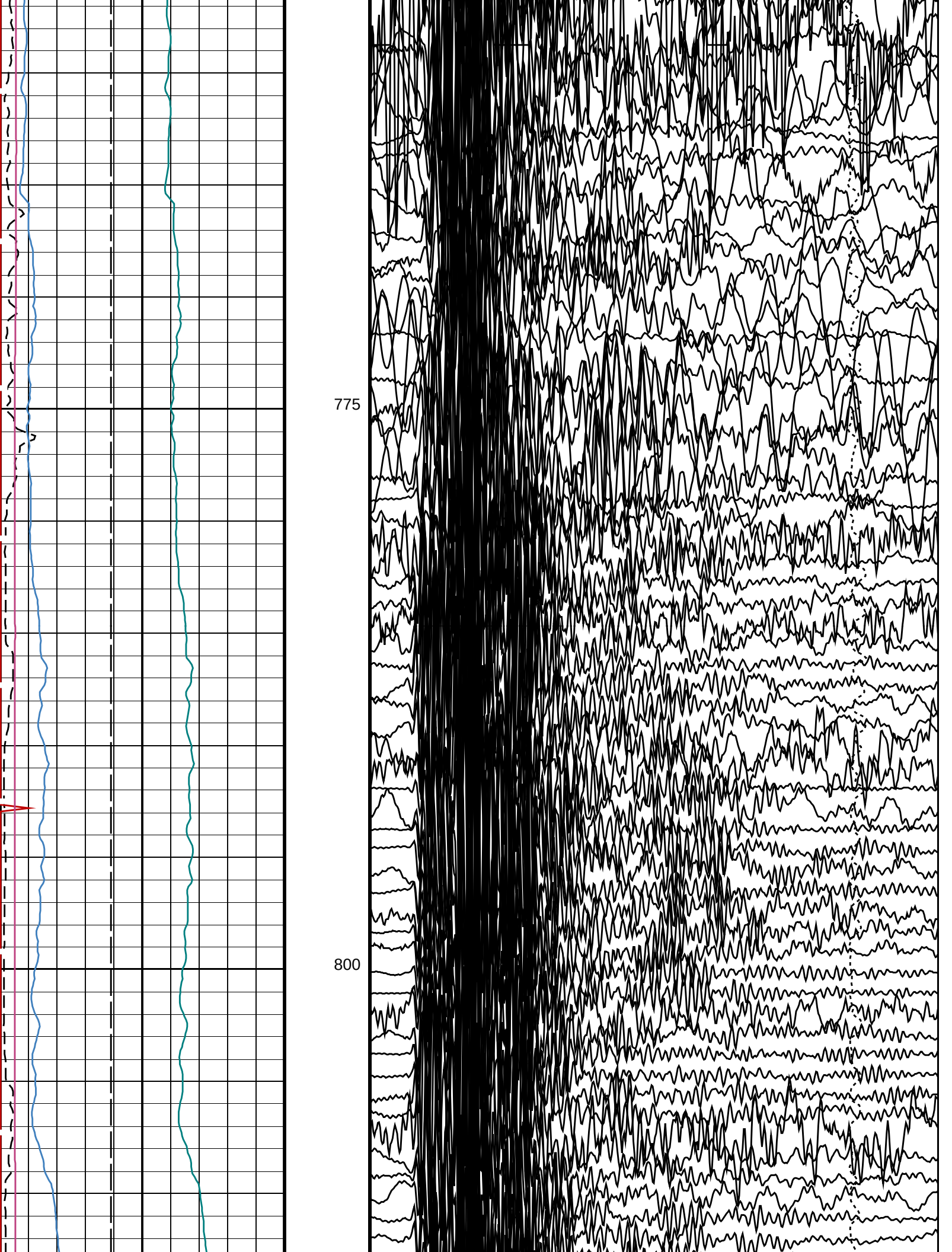
SAMX Waveform Gain (WFGX)
0 (----) 1000

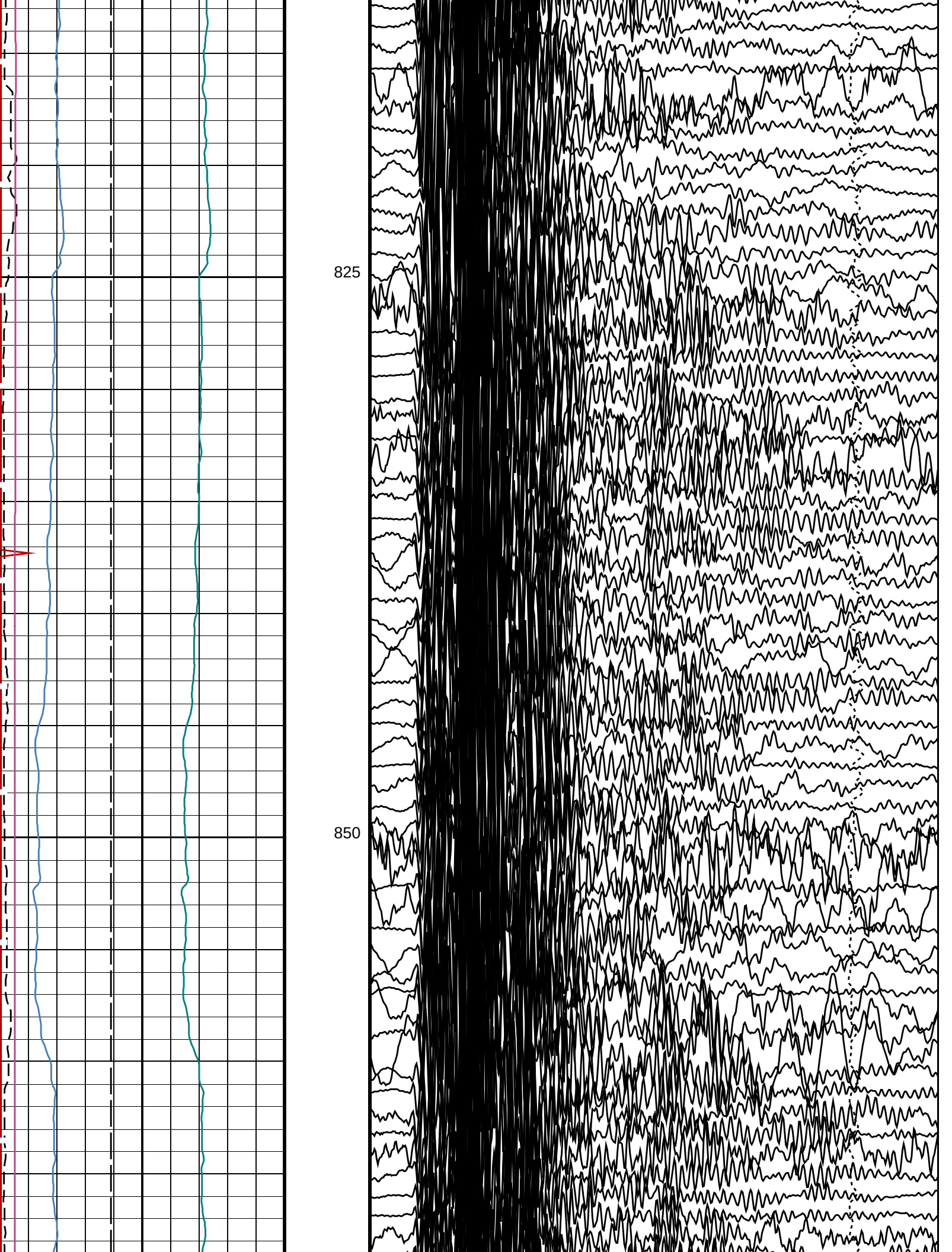
Tension (TENS)
10000 (LBF) 0

Bit Size (BS)
6 (IN) 16

SAMX Waveforms (WFX)
0 (US) 20000




775
800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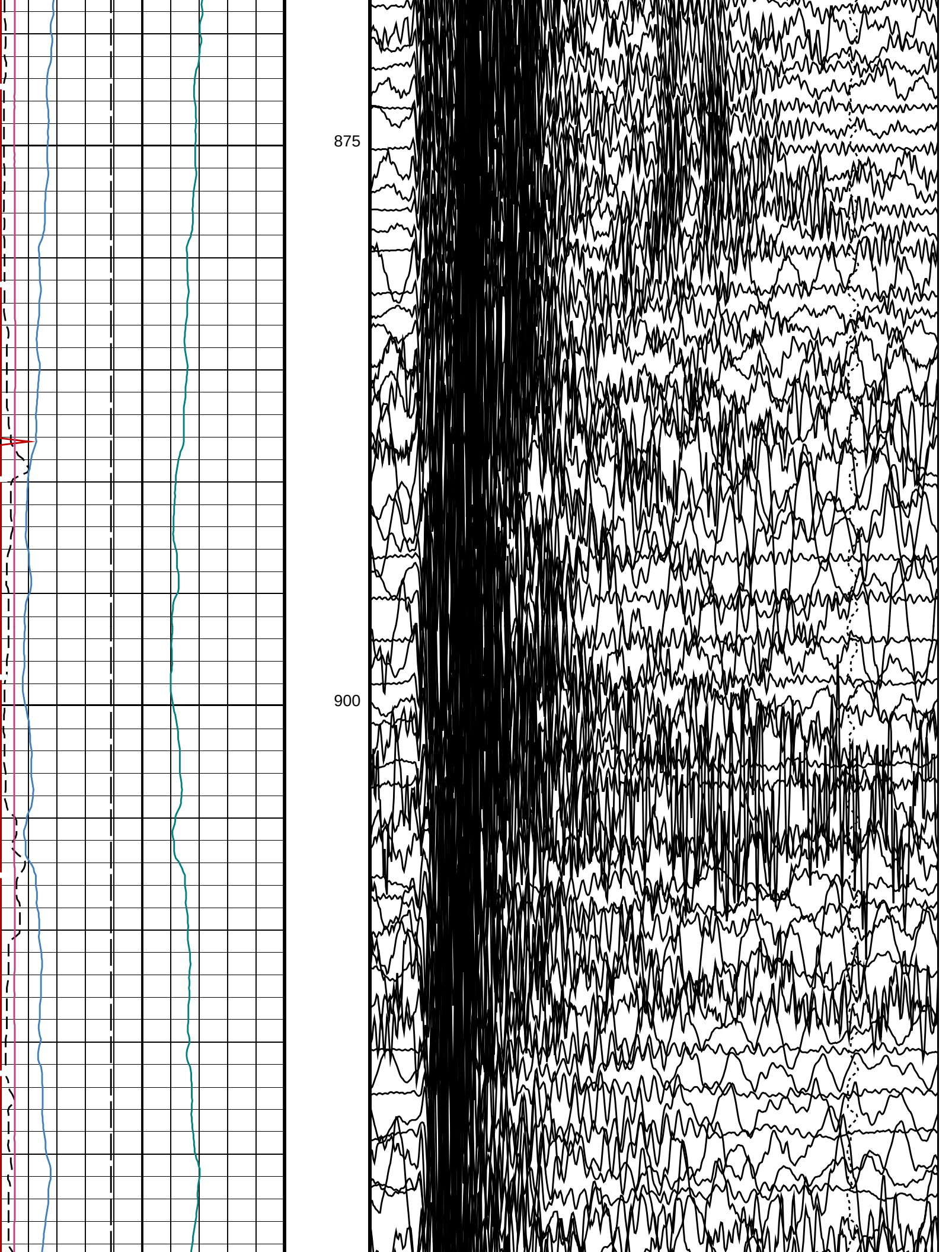
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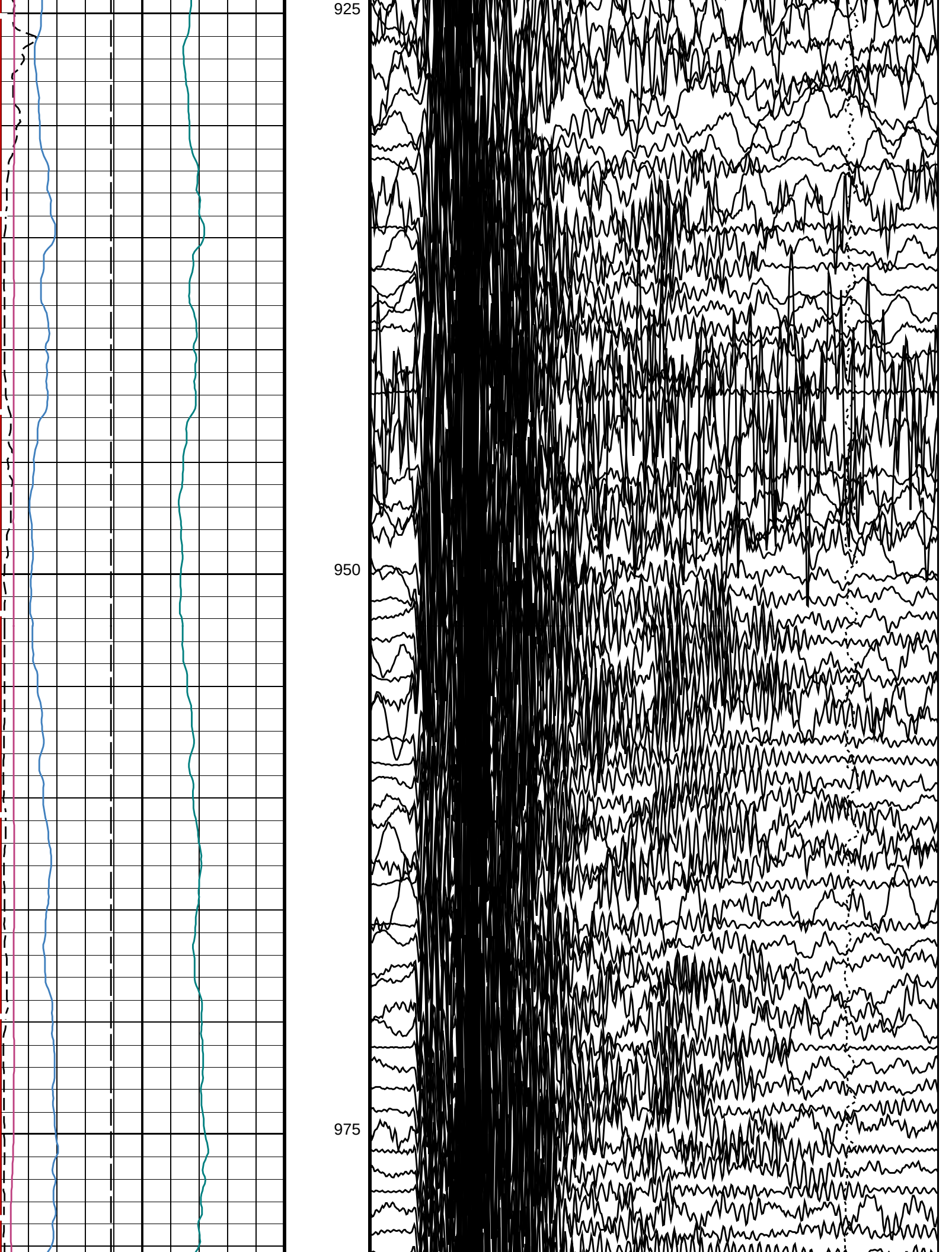
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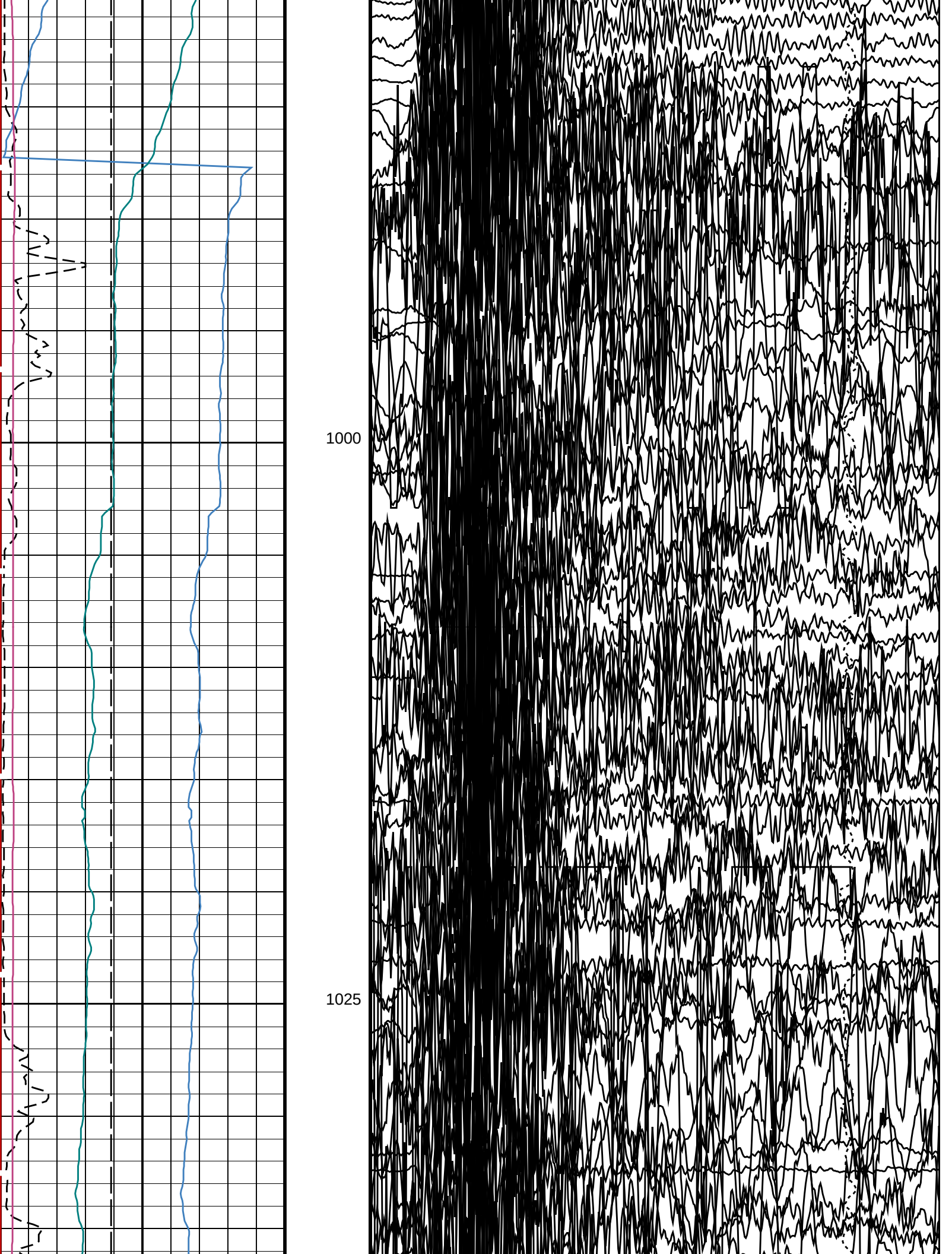
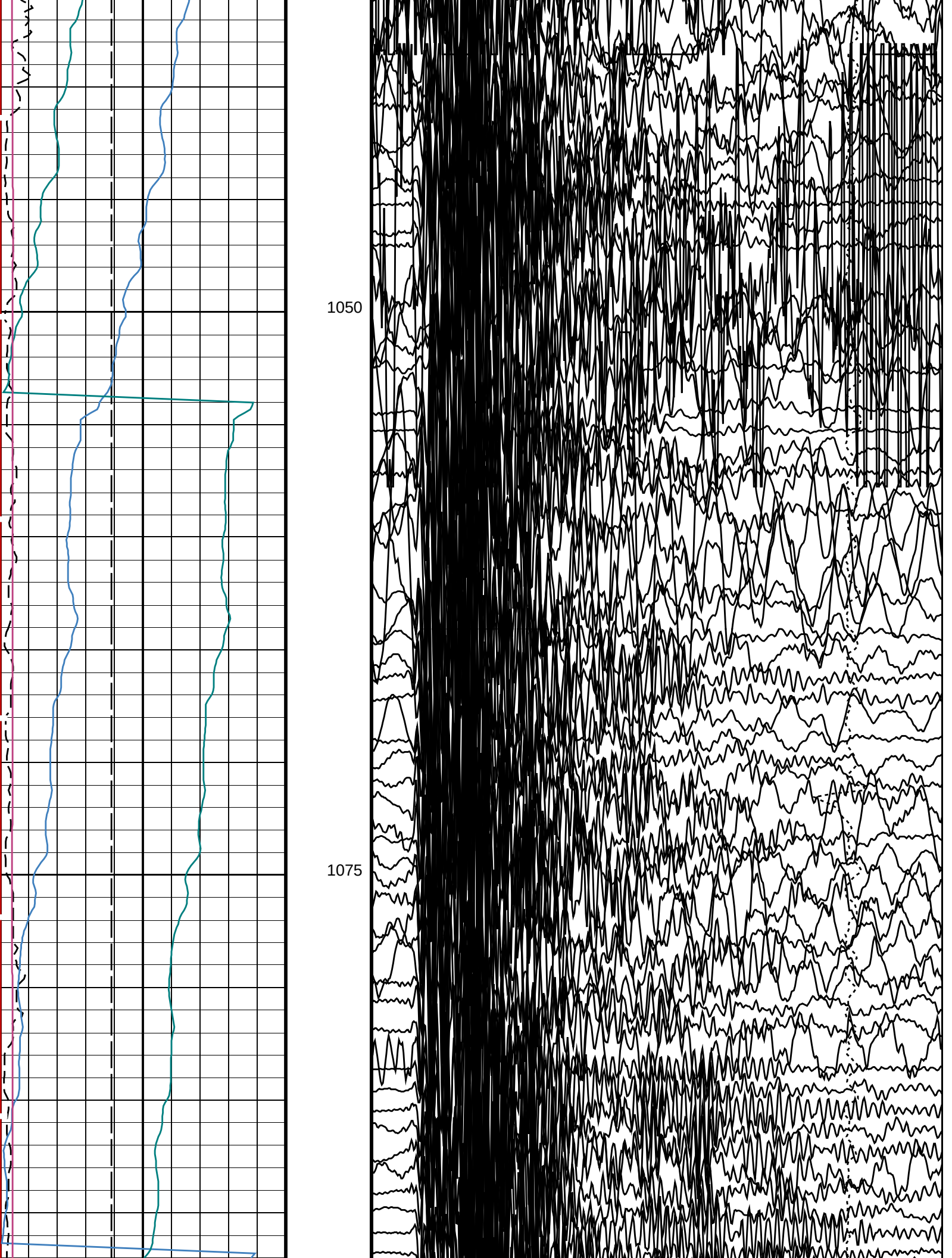
950
975


1000
1025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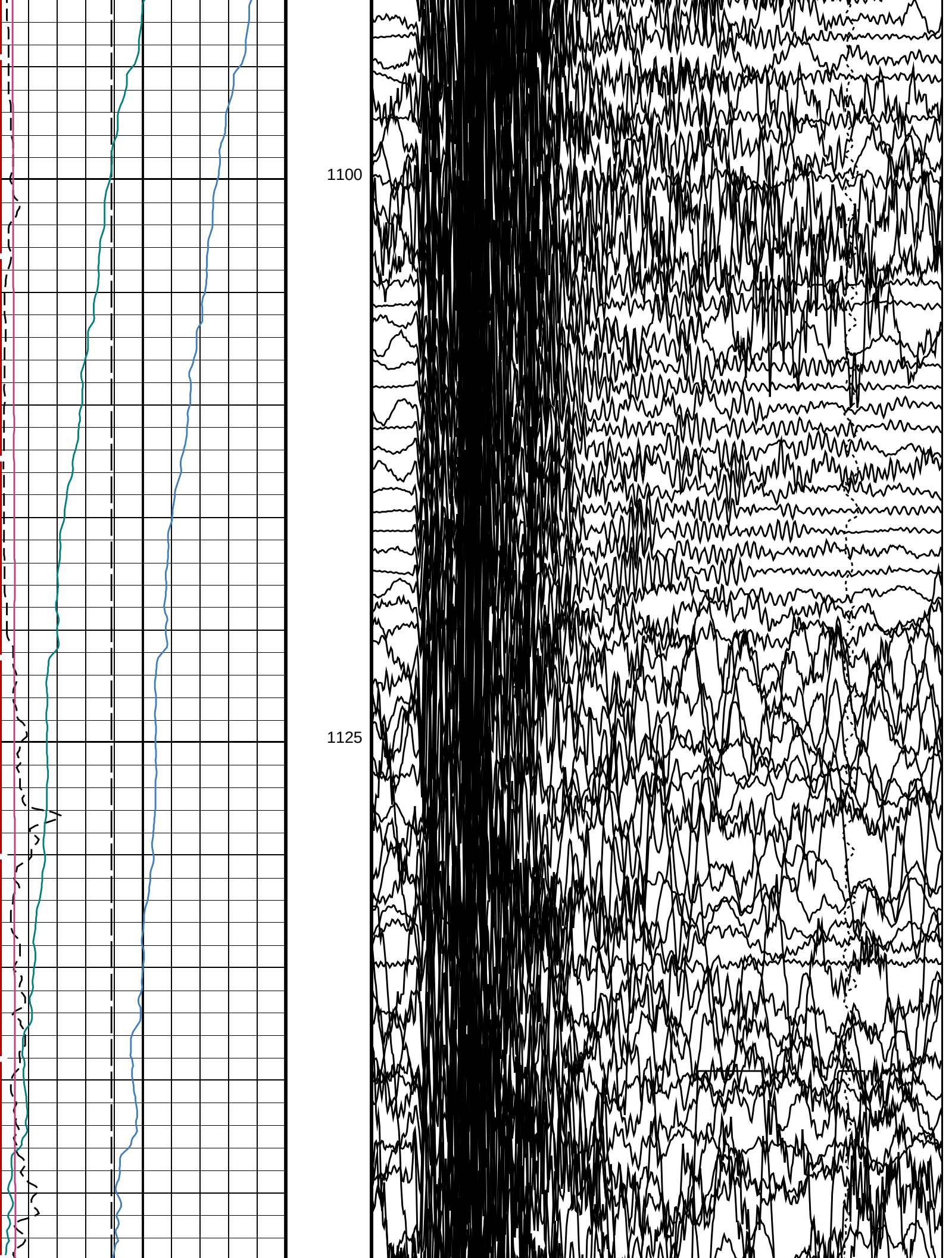
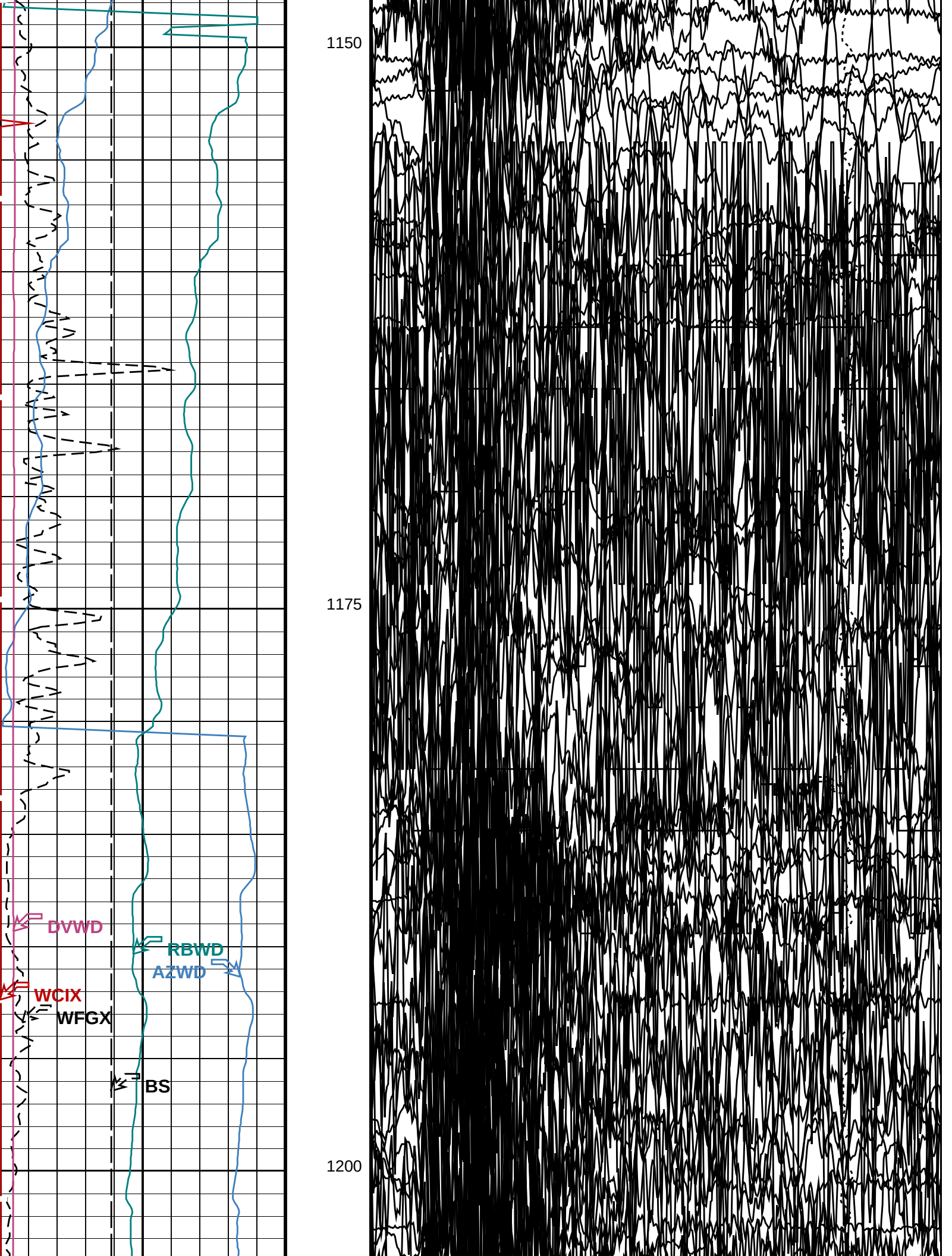
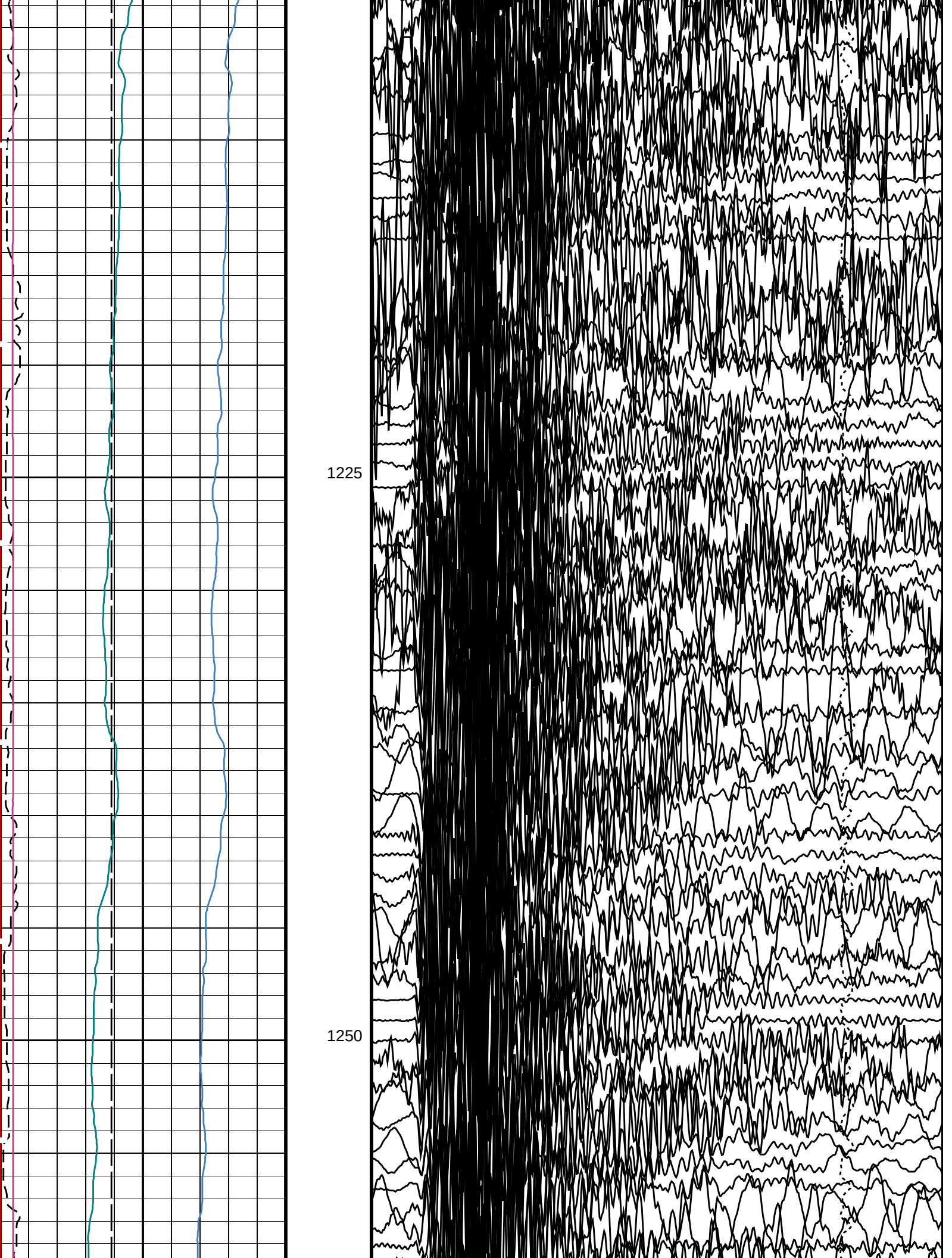

1100
1125


1150
1175
1200
DVWD
RBWD
AZWD
WCIX
WFGX
BS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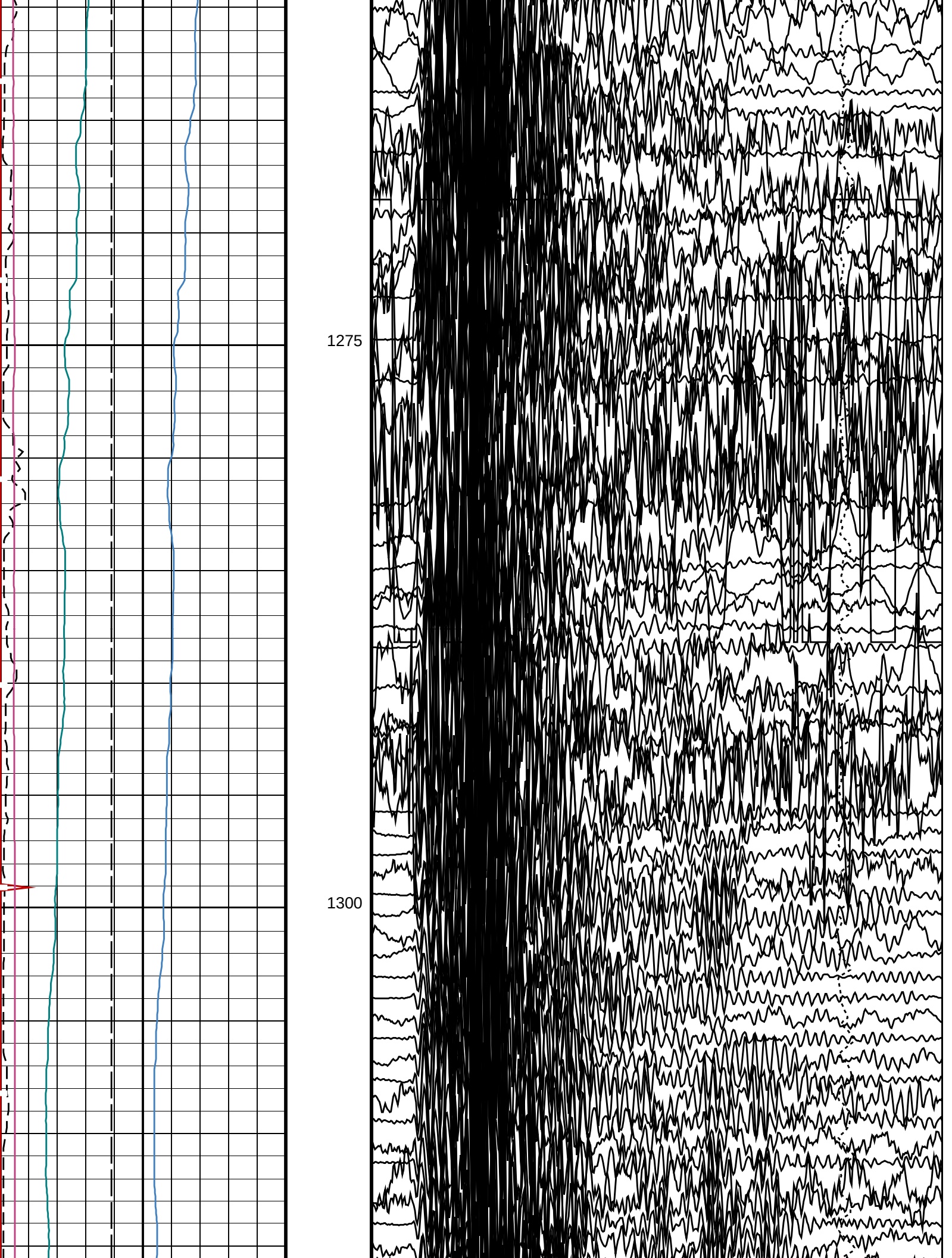
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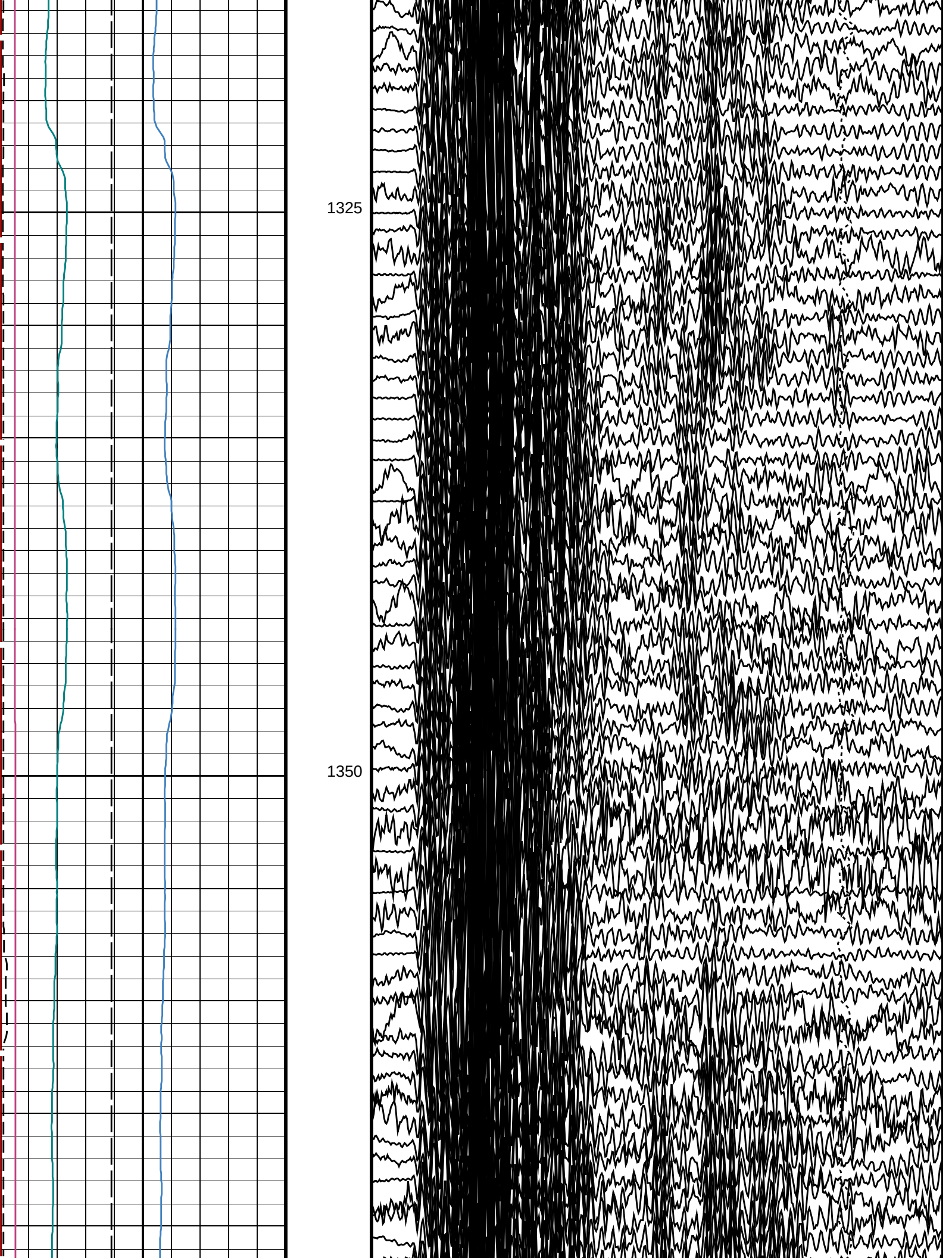
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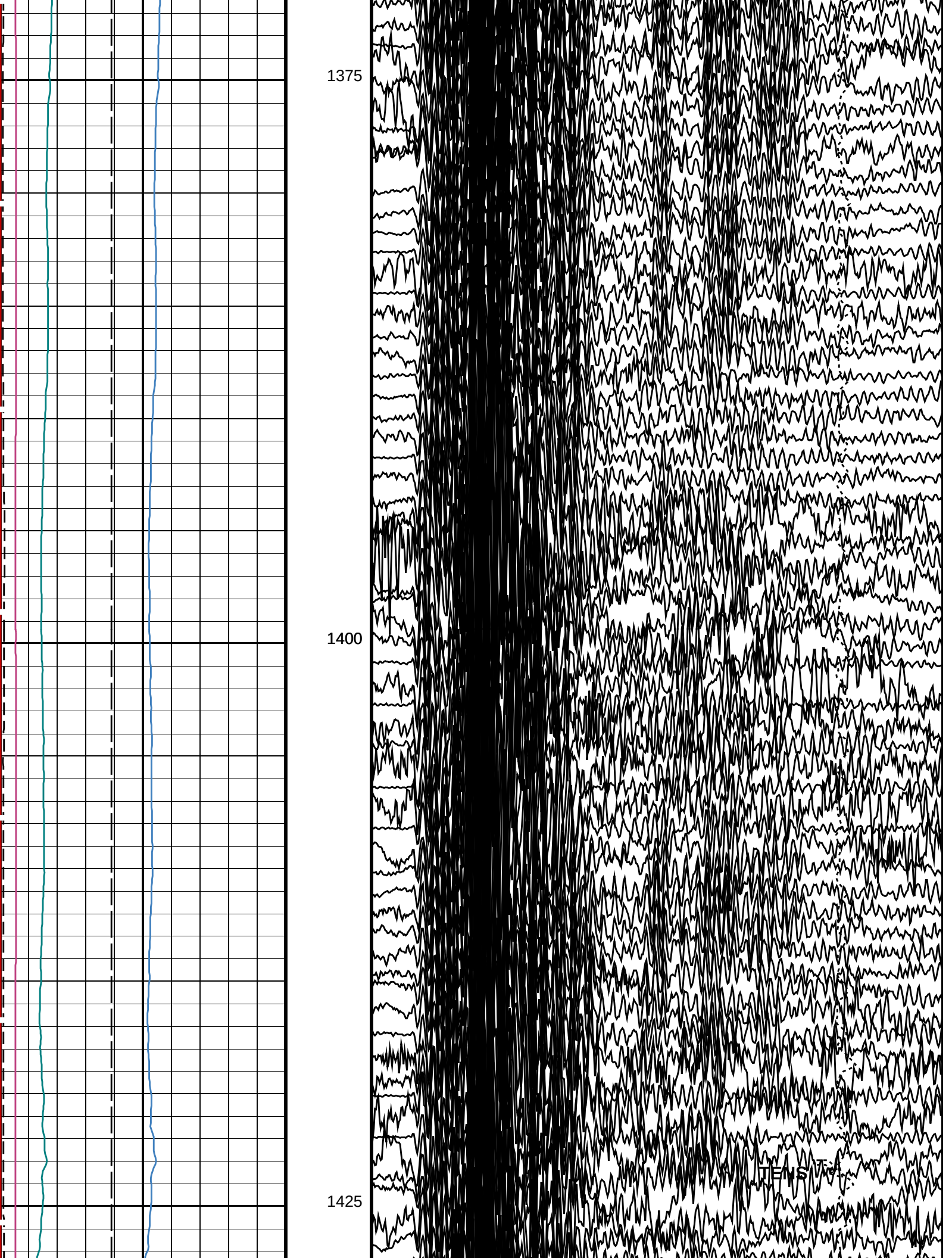
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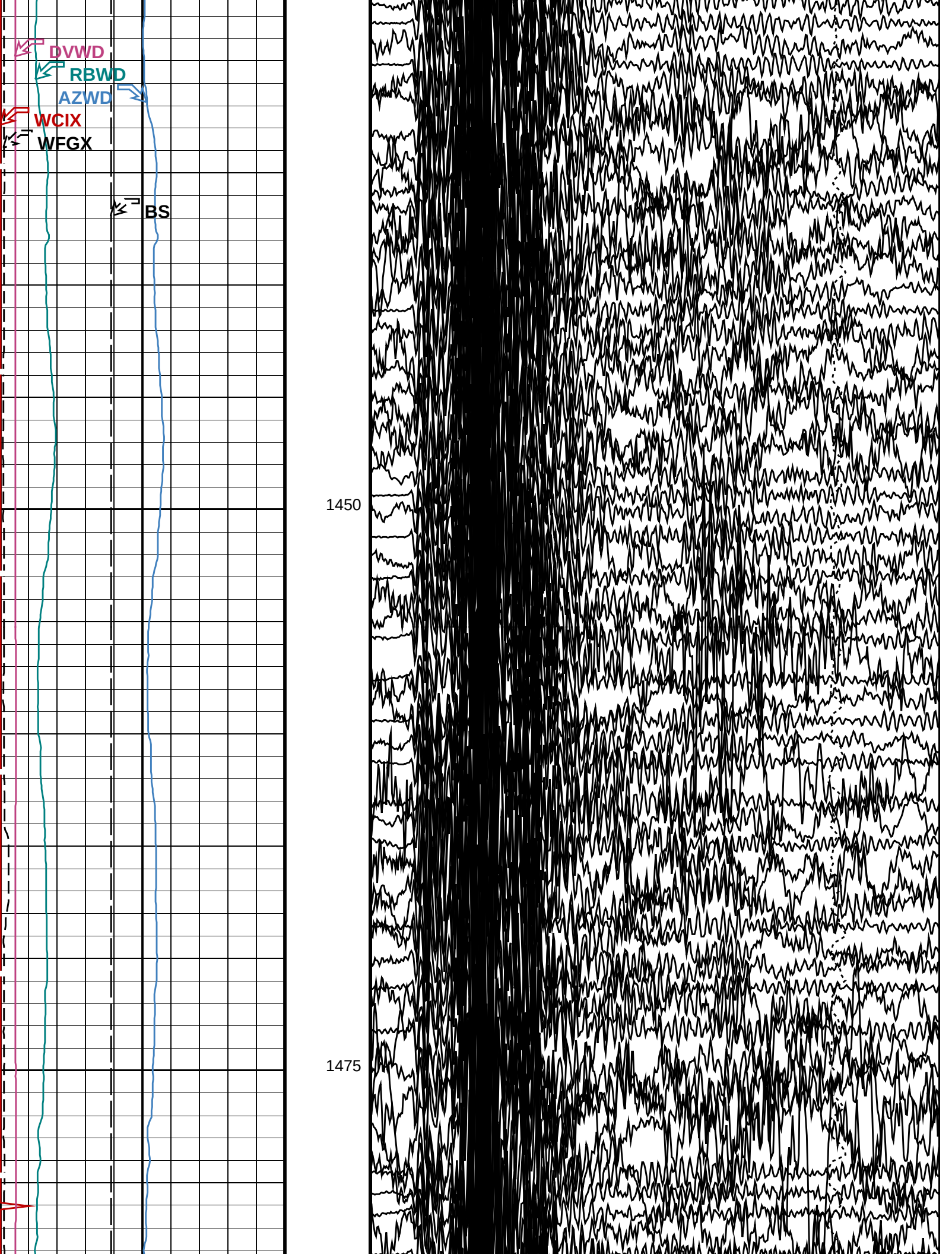
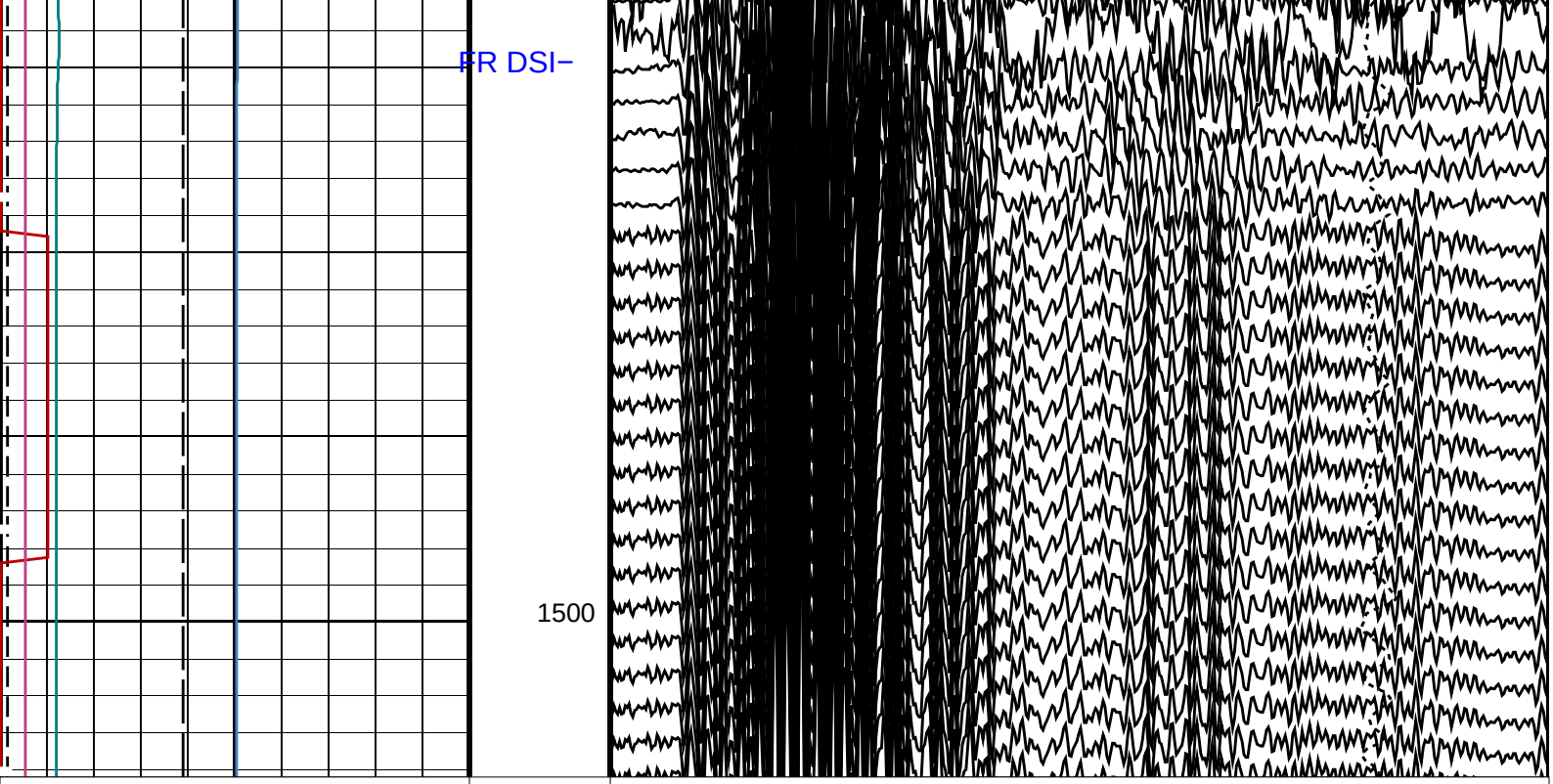

DVWD
RBWD
AZWD
WCIX
WFGX
BS
1450
1475



Bit Size (BS)		
6	(IN)	16

SAMX Waveforms (WFX)		
0	(US)	20000

SAMX Waveform Gain (WFGX)		
0	(−−−−)	1000

Tension (TENS)		
10000	(LBF)	0

Uplog #3

Waveform Data Copy Indicator X − Expert (WCIX)		
0	(−−−−)	10

Azimuth at DSST Waveform Depth (AZWD)		
0	(DEG)	400

Relative Bearing at DSST Waveform Depth (RBWD)		
0	(DEG)	400

Deviation at DSST Waveform Depth (DVWD)		
0	(DEG)	100

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST−B: Dipole Shear Imager − B		
DWCX	Digitizer Word Count X	512	
LTXG	Lower Dipole Transmitter Geometry	156	IN
MTXG	Monopole Transmitter Geometry	186	IN
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
SAMX	DSST Sonic Acquisition Mode X − Both Dipoles or Monopole Mode for Expert BCR		
UTXG	Upper Dipole Transmitter Geometry	162	IN
WFMX	Waveform Mode X	W1	

System and Miscellaneous

BS	Bit Size	9.875	IN

Format: DSST_WFX_WAVES Vertical Scale: 1:200 Graphics File Created: 24-Jan-2016 13:19

OP System Version: 19C0-187

MEST-B	19C0-187	DTA-A	19C0-187
DSST-B	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Output DLIS Files

DEFAULT	FMS_DSI_NGS_053LUP	FN:70	PRODUCER	24-Jan-2016 13:19		
BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24-Jan-2016 13:19		

Company: International Ocean Discovery Program Well: Expedition 360, Site U1473A

Output DLIS Files

DEFAULT	FMS_DSI_NGS_053LUP	FN:70	PRODUCER	24-Jan-2016 13:19	1504.2 M	707.3 M
BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24-Jan-2016 13:19	1504.2 M	707.3 M

OP System Version: 19C0-187

MEST-B	19C0-187	DTA-A	19C0-187
DSST-B	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

Waveform Data Copy Indicator 3 - Monopole Stoneley (WCI3)
0 (----) 10

Tension (TENS)
10000 (LBF) 0

SAM3 Waveform Gain (WFG3)
0 (----) 1000

Caliper 2 (C2)
0 (IN) 20

Caliper 1 (C1)
0 (IN) 20

Bit Size (BS)
0 (IN) 20

Uplog #3

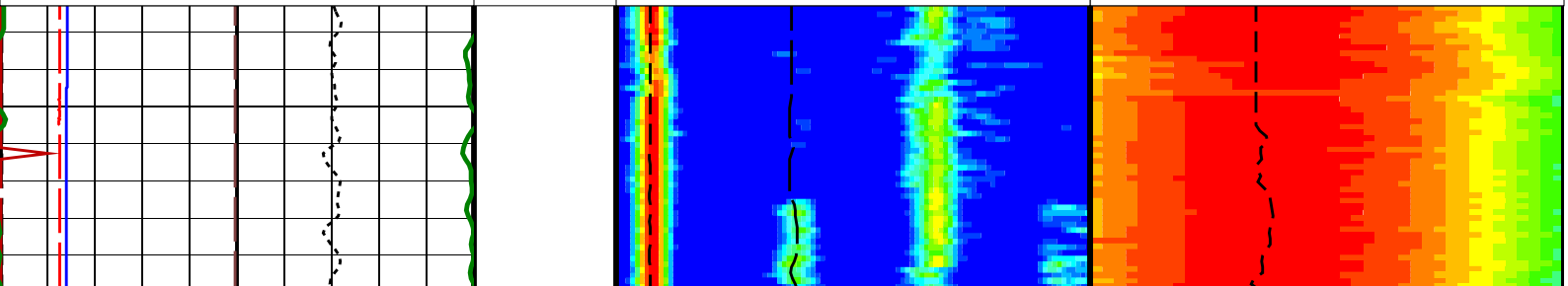
Min Amplitude Max
Rec.Array P&S Slow Proj. CVDL (SPR4)
40 (US/F) 240

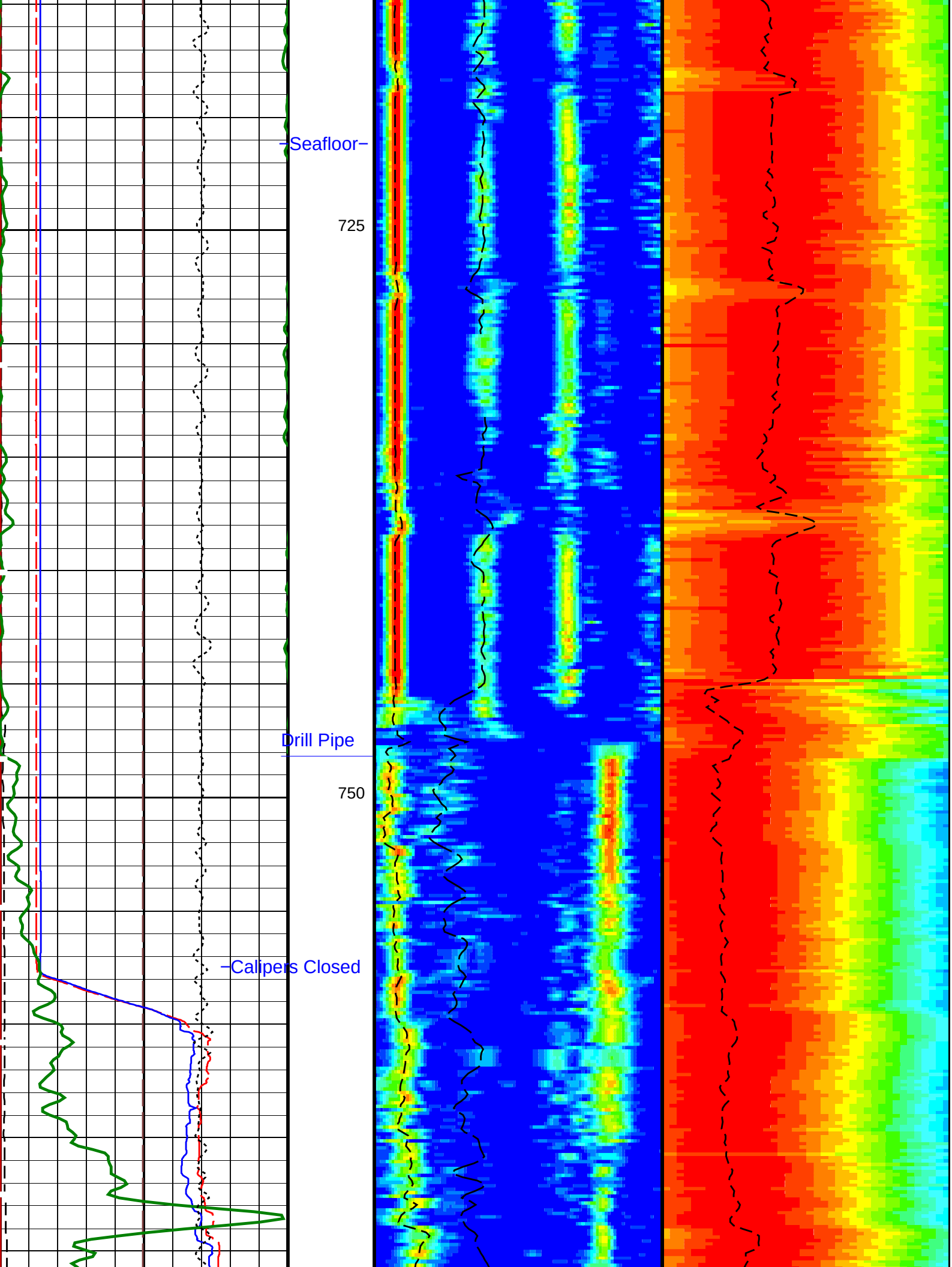
Delta-T Shear / RA - P & S (DTRS)
40 (US/F) 240

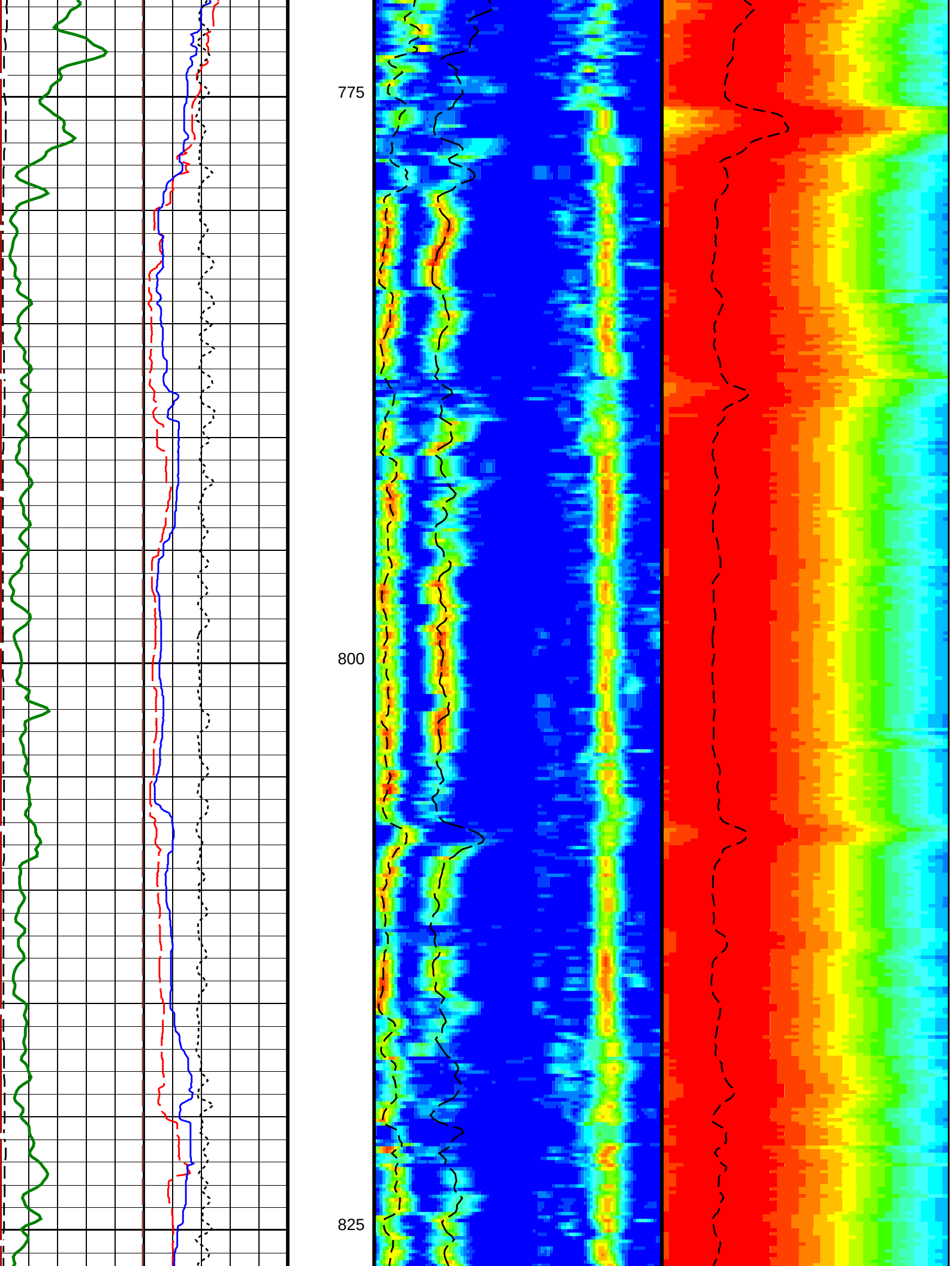
Min Amplitude Max
Rec.Array Stoneley Slow Proj. CVDL (SPR3)
180 (US/F) 340

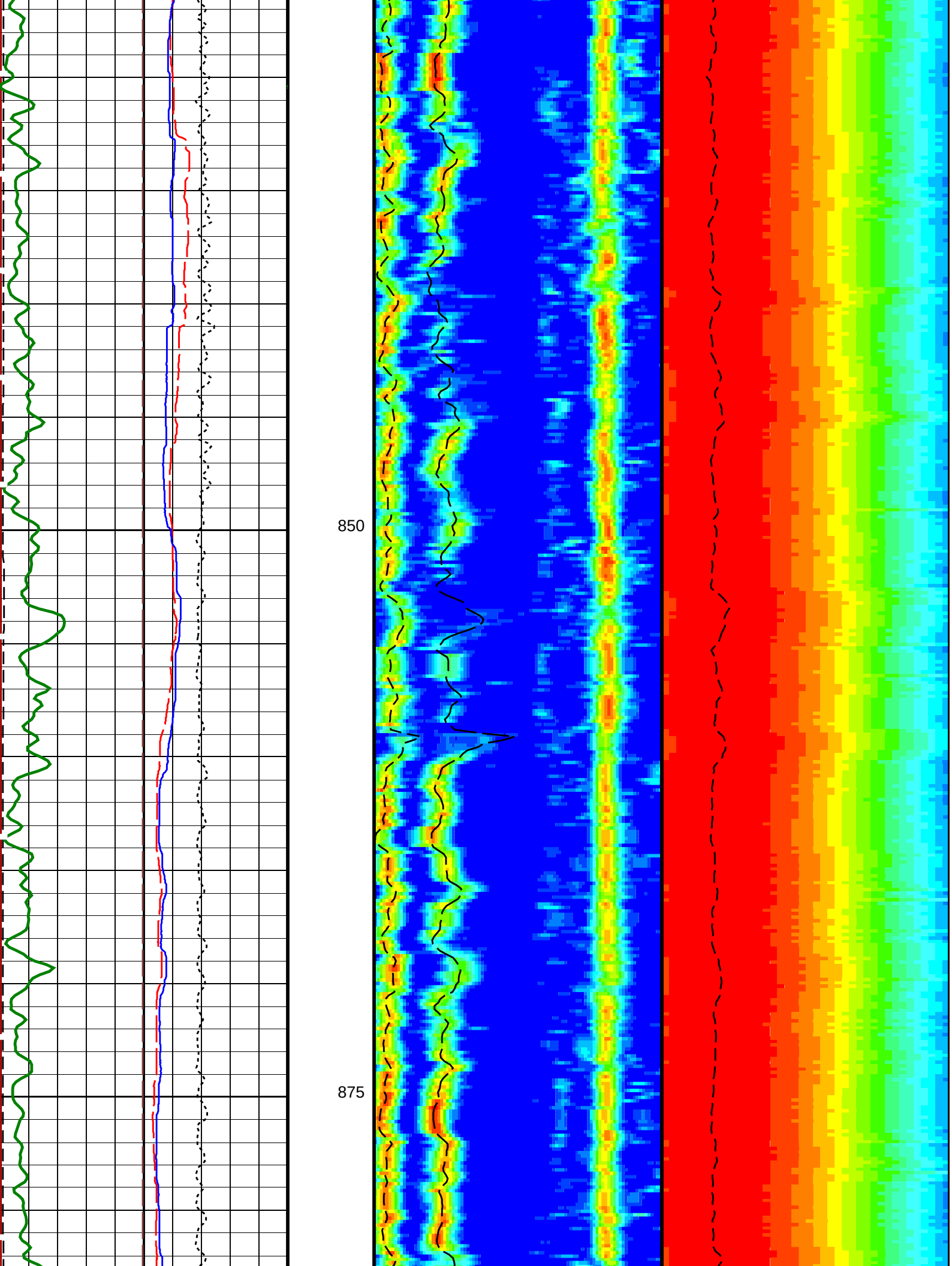
Delta-T Comp / RA - P & S (DTRP)
40 (US/F) 240

Delta-T Stoneley / RA (DT3R)
180 (US/F) 340




Seafloor
725
Drill Pipe
750
Calipers Closed


775
800
825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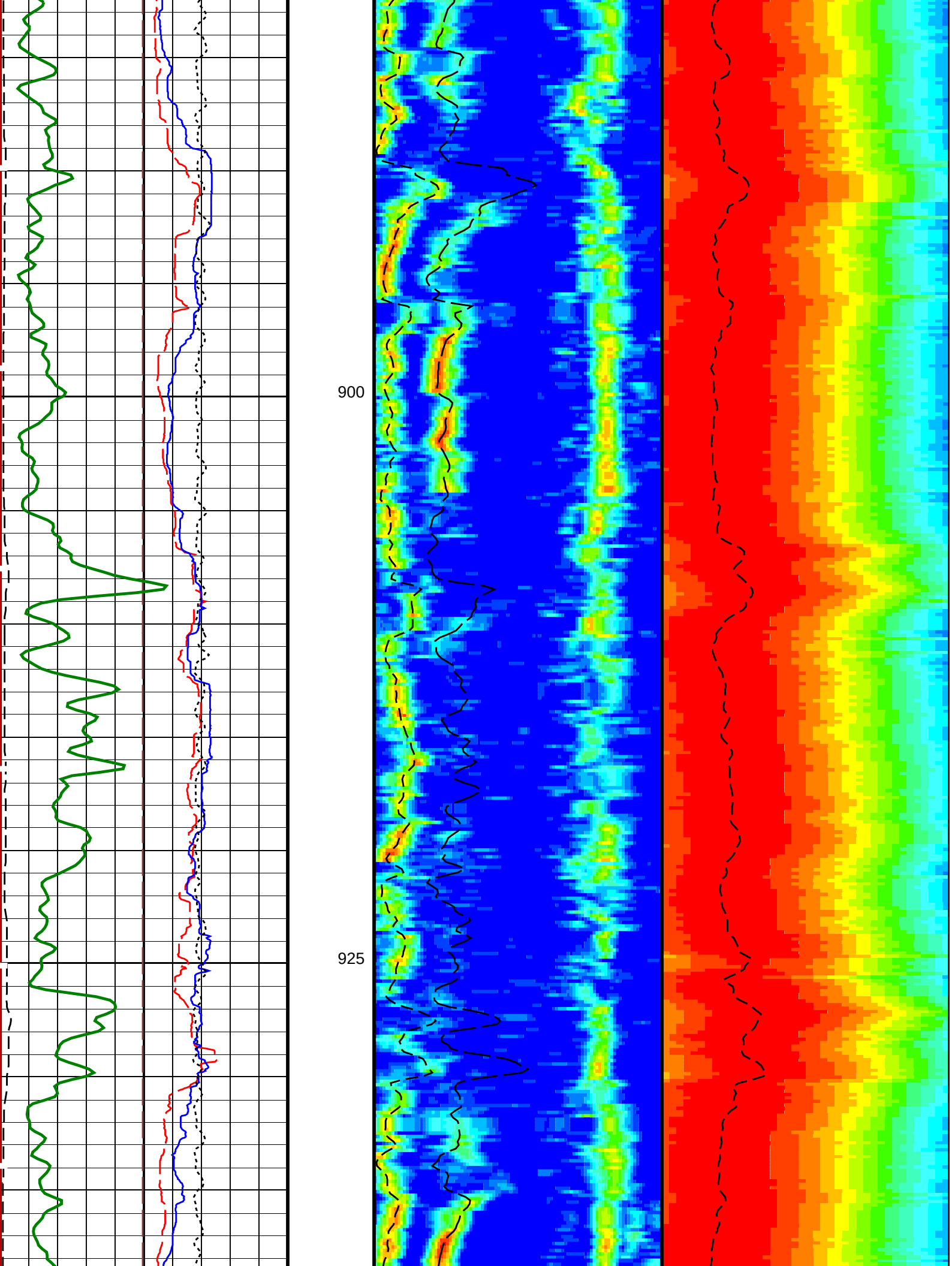
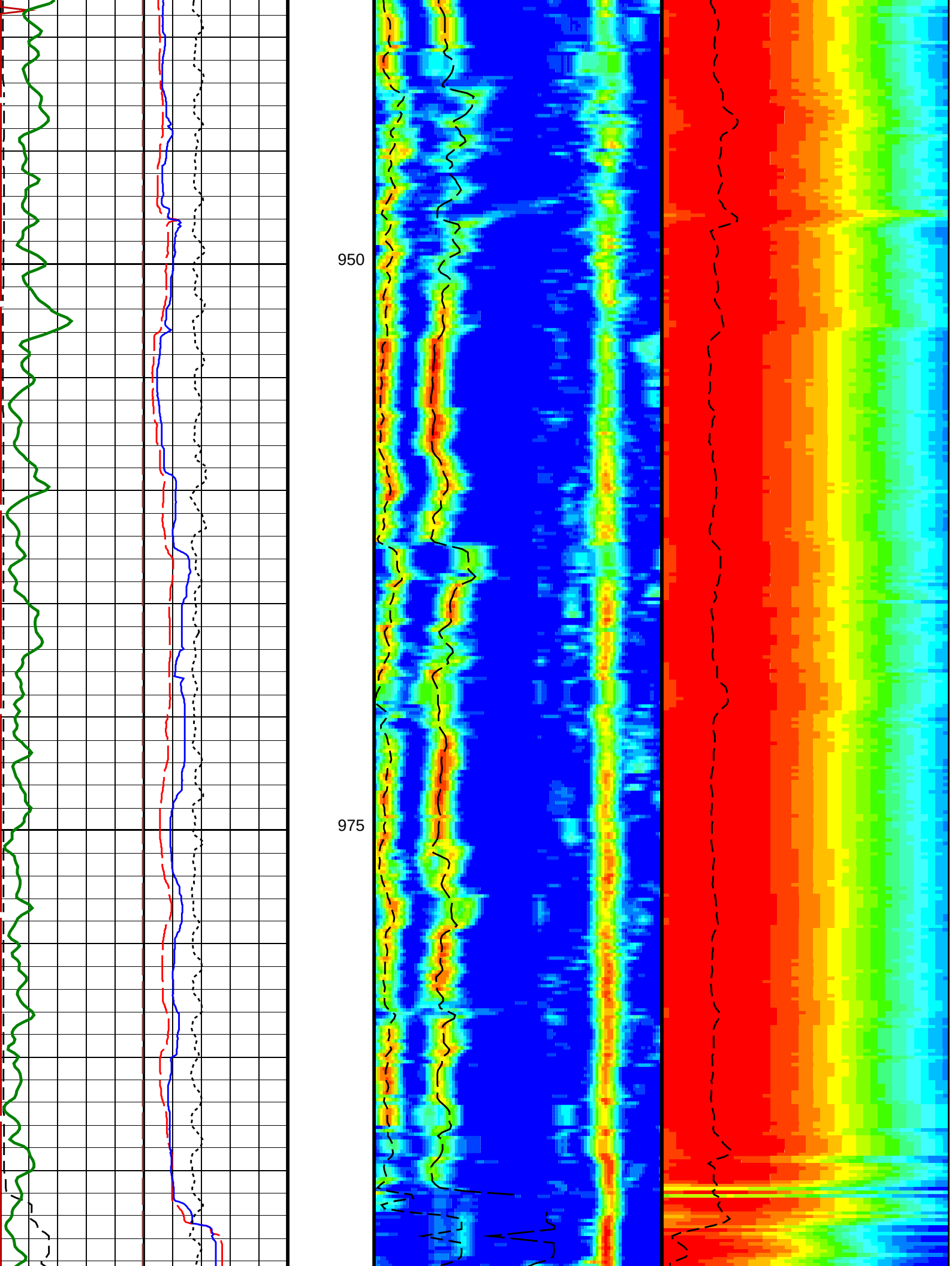

900
925


950
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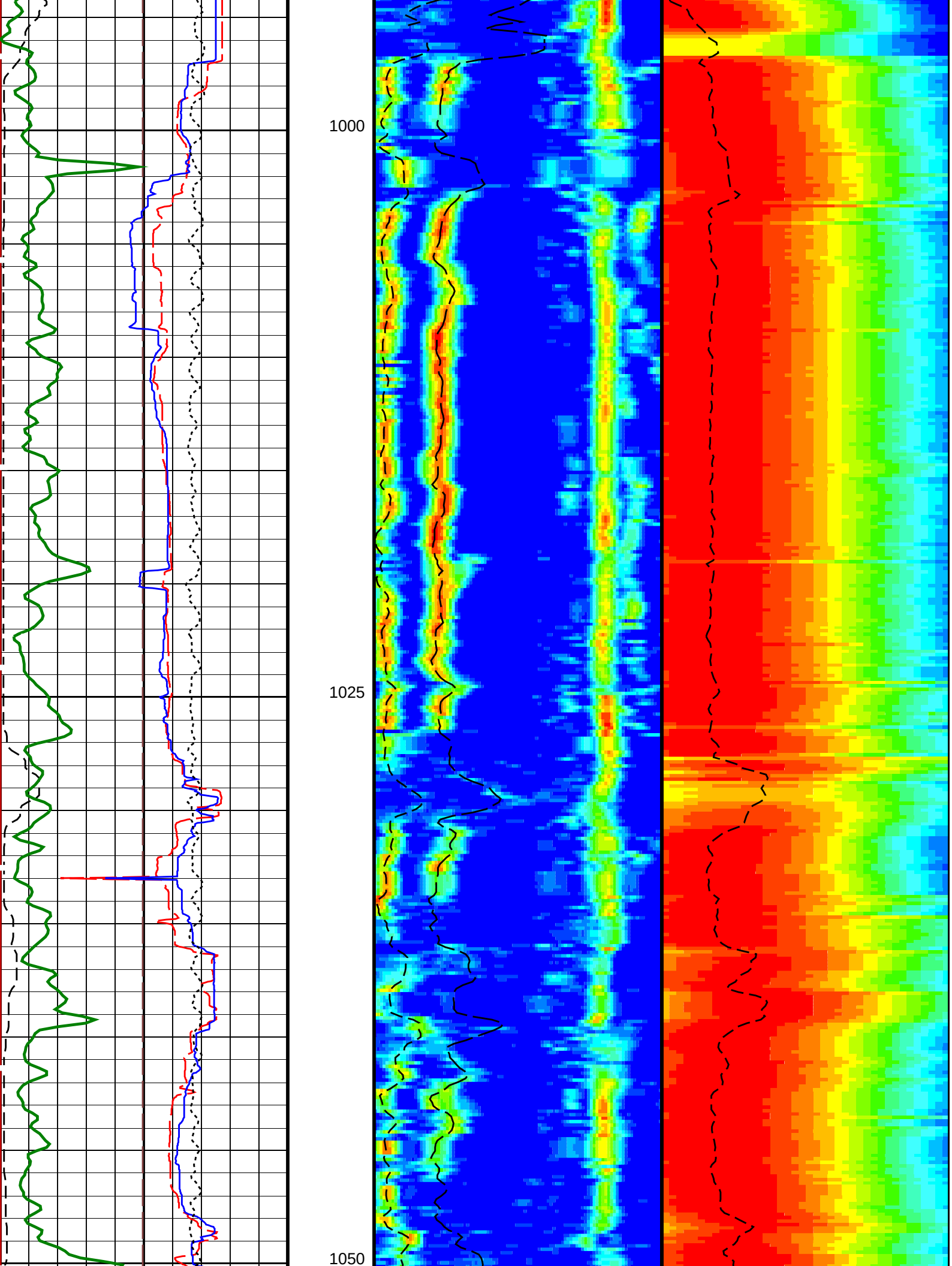
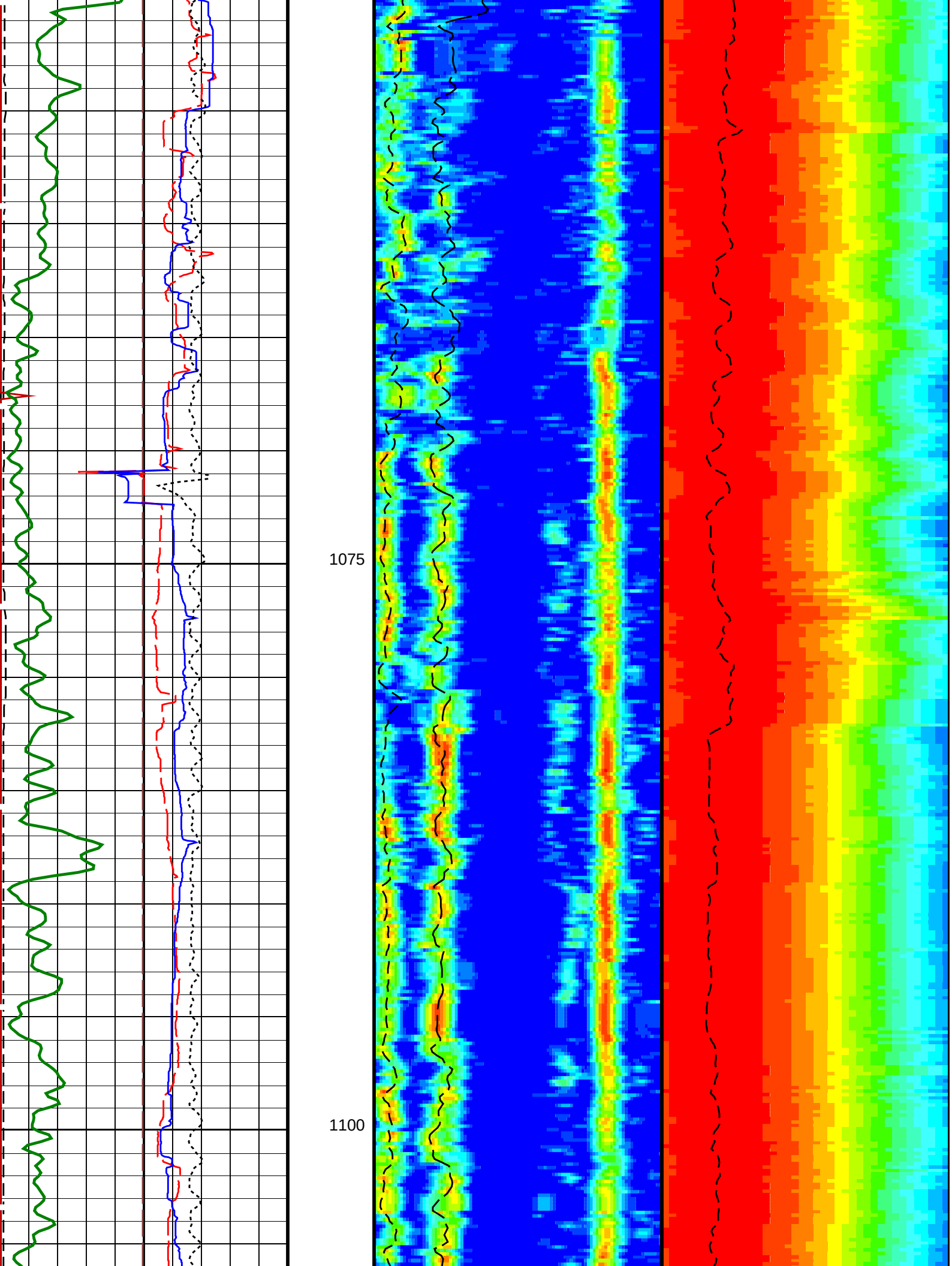

1000
1025
1050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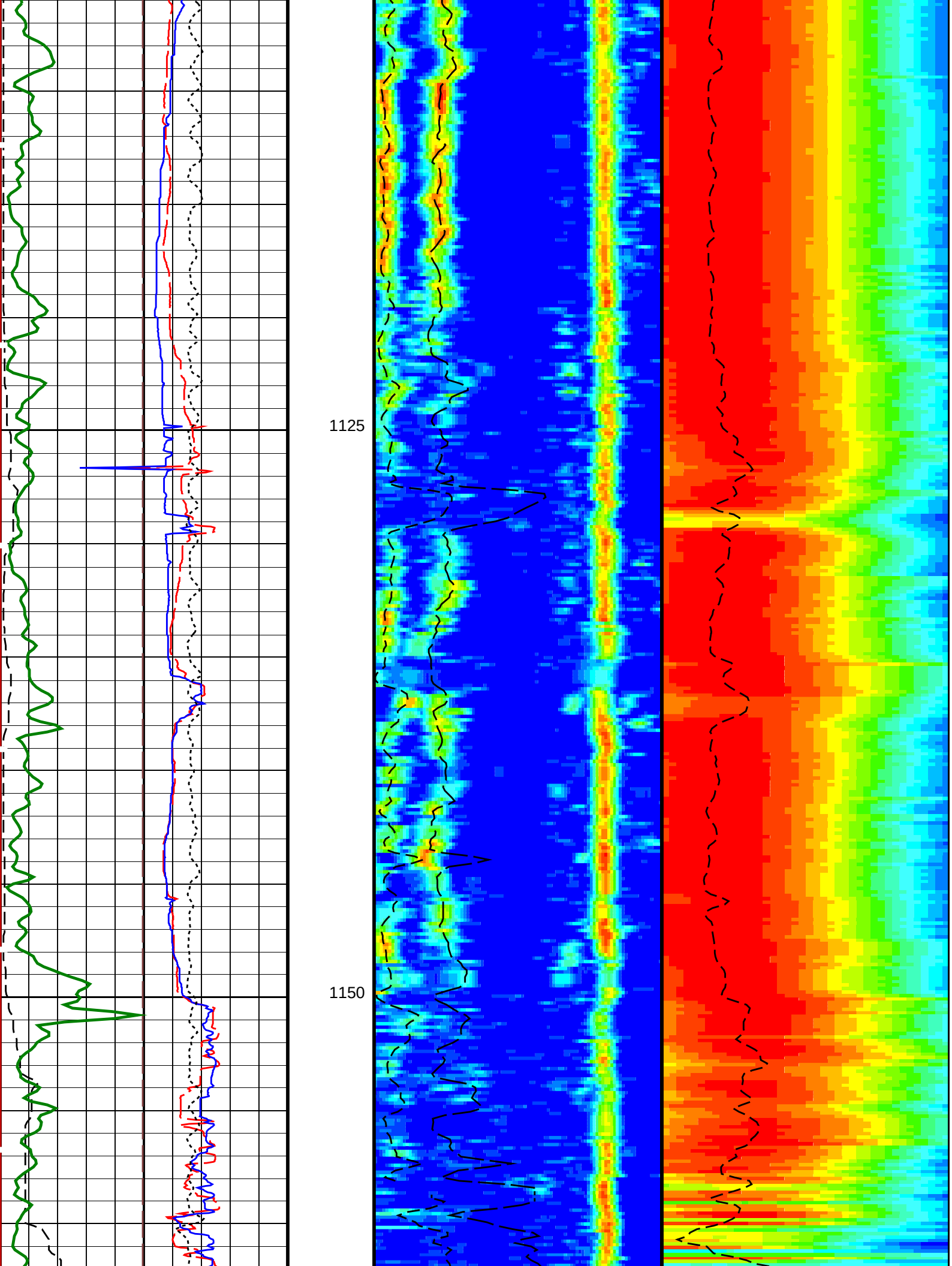
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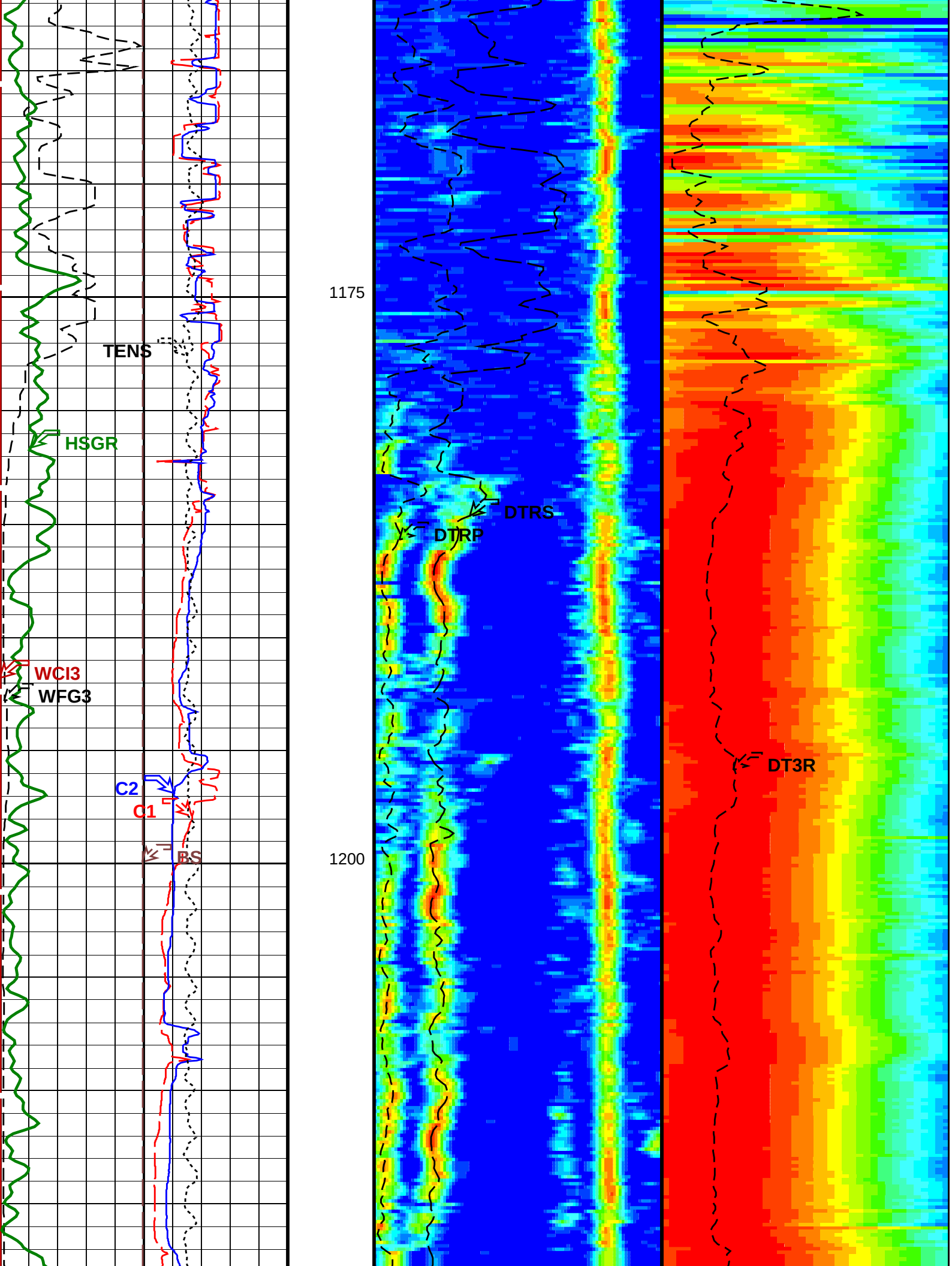
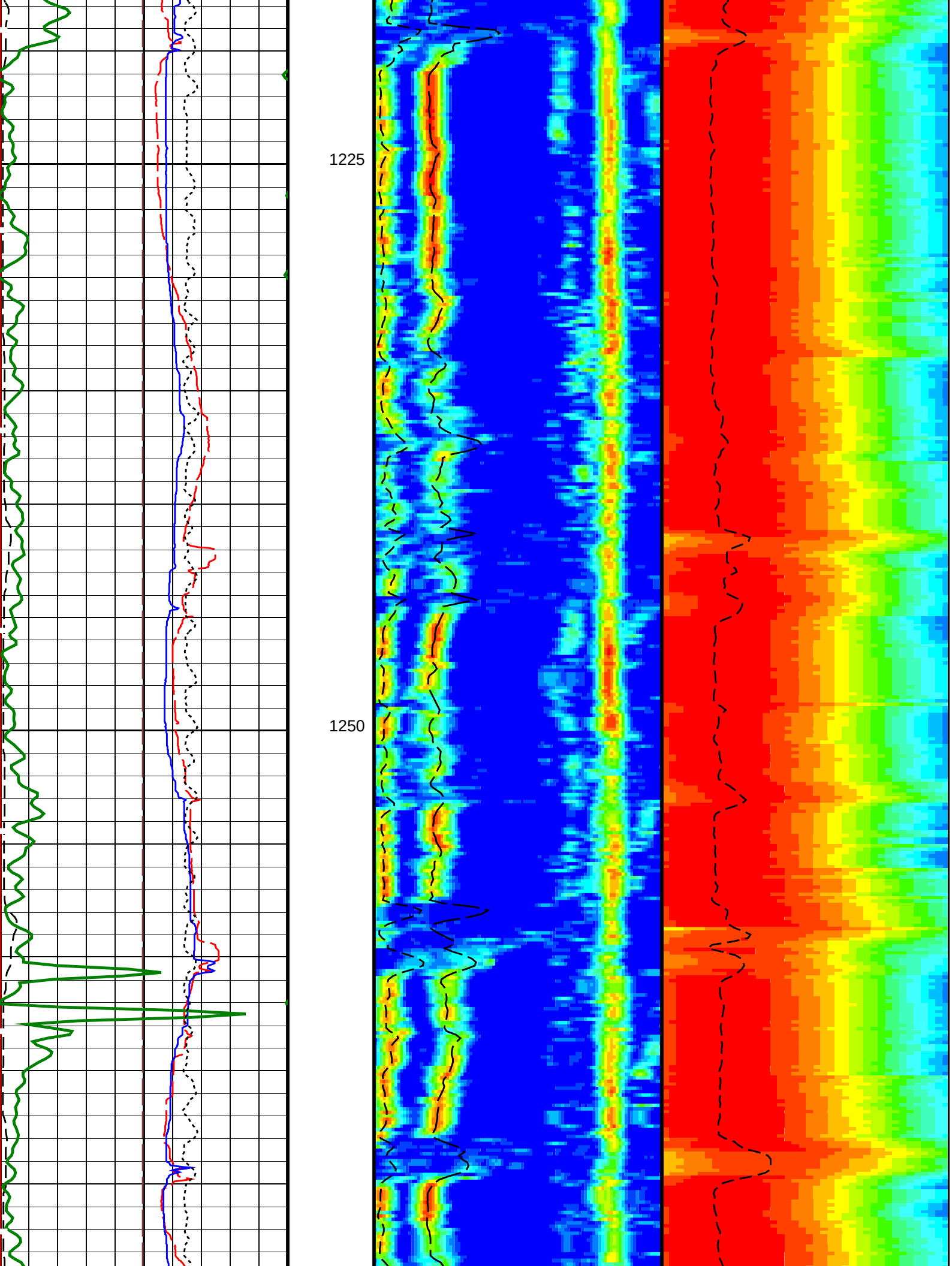
1150


TENS
HSGR
WCI3
WFG3
C2
C1
BS
1175
1200
DTRS
DTRP
DT3R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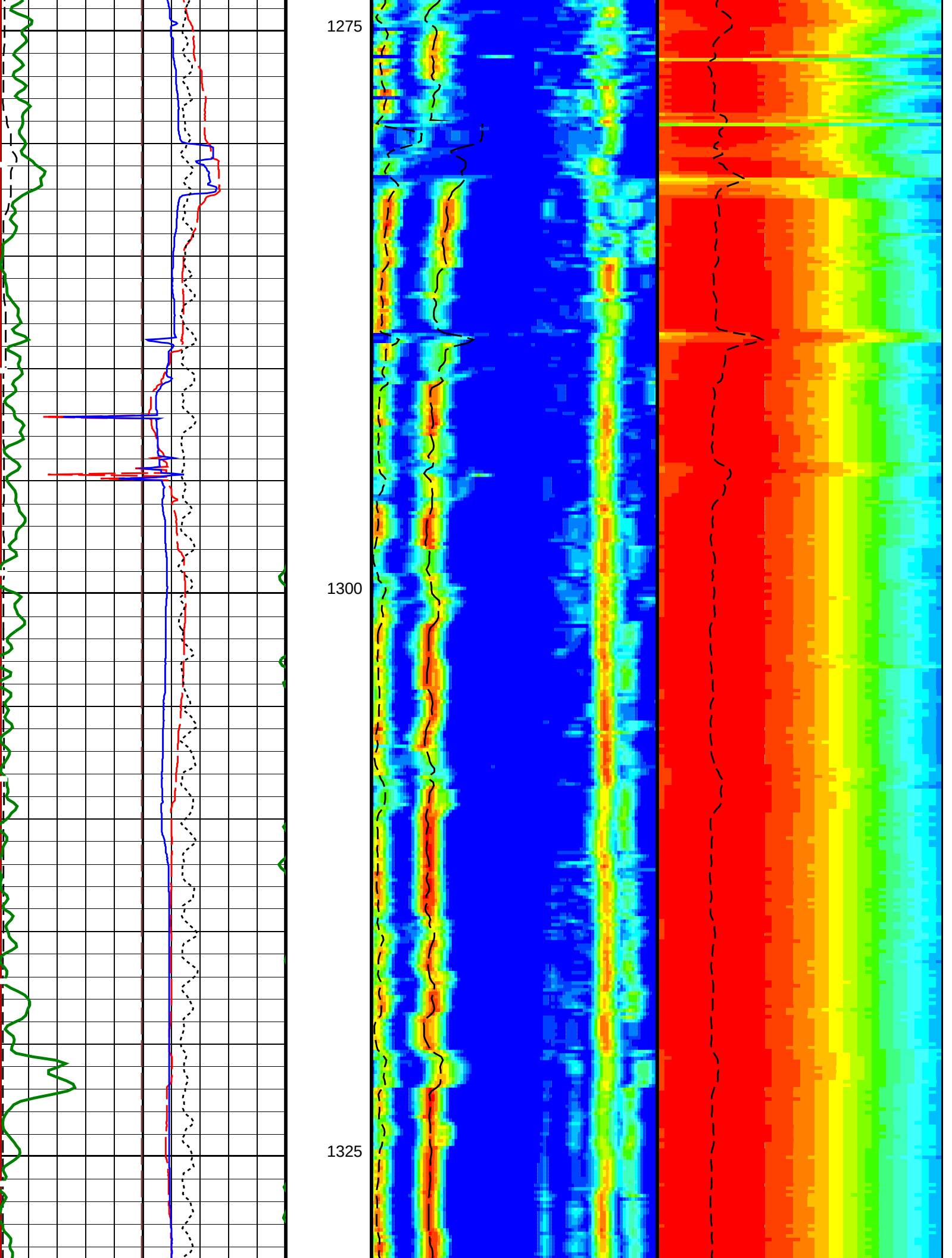
1250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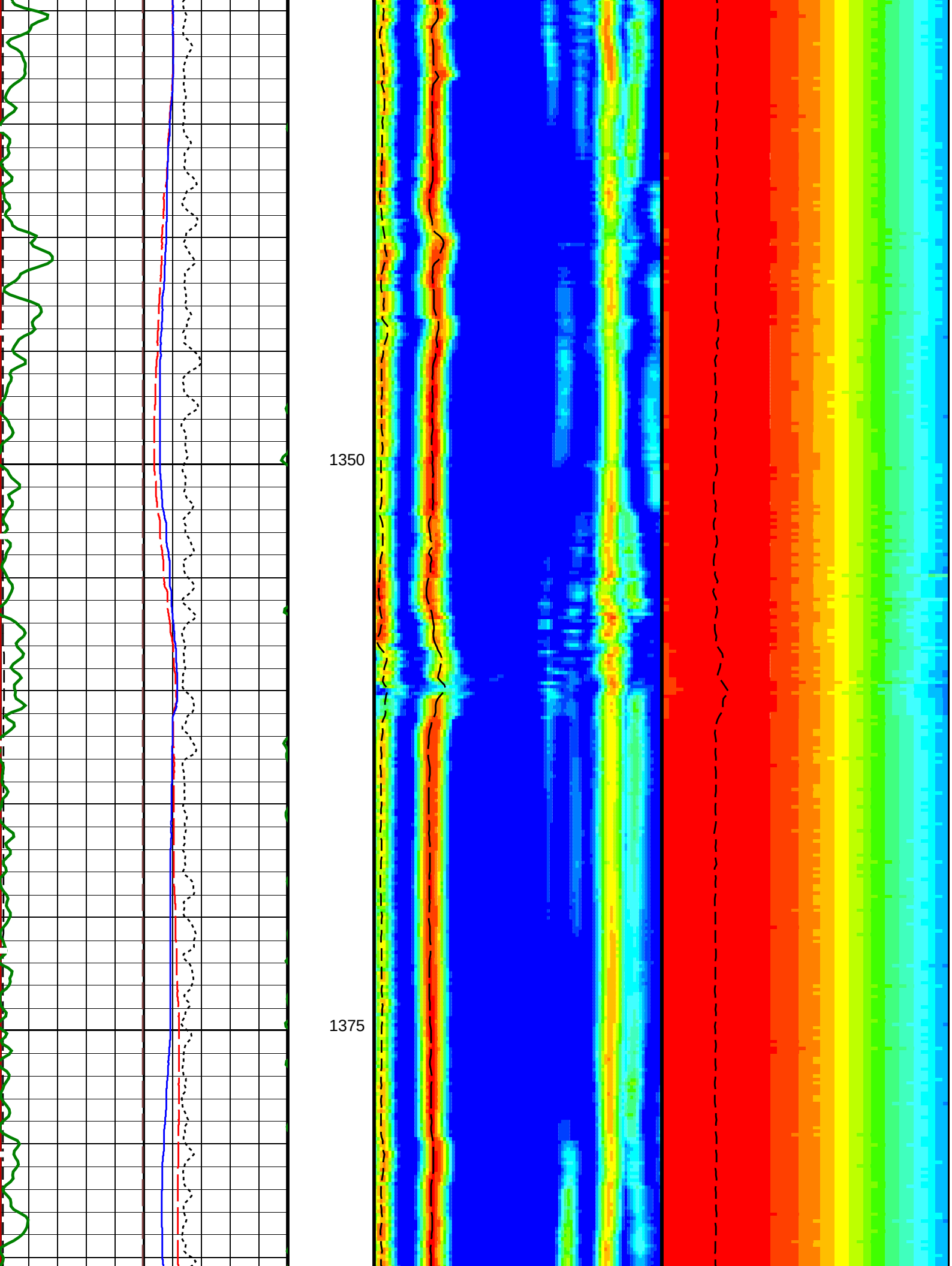
1300
1325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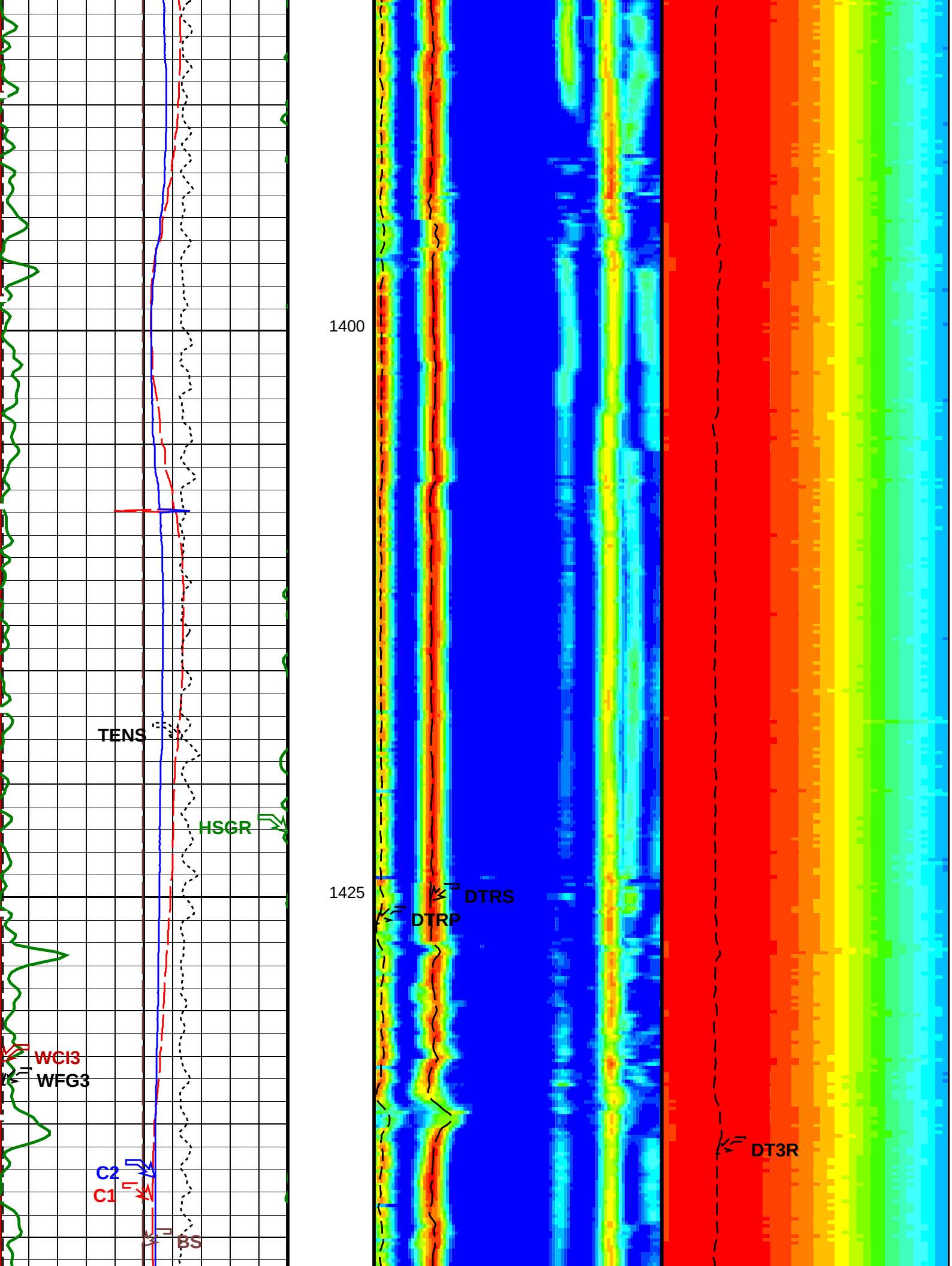
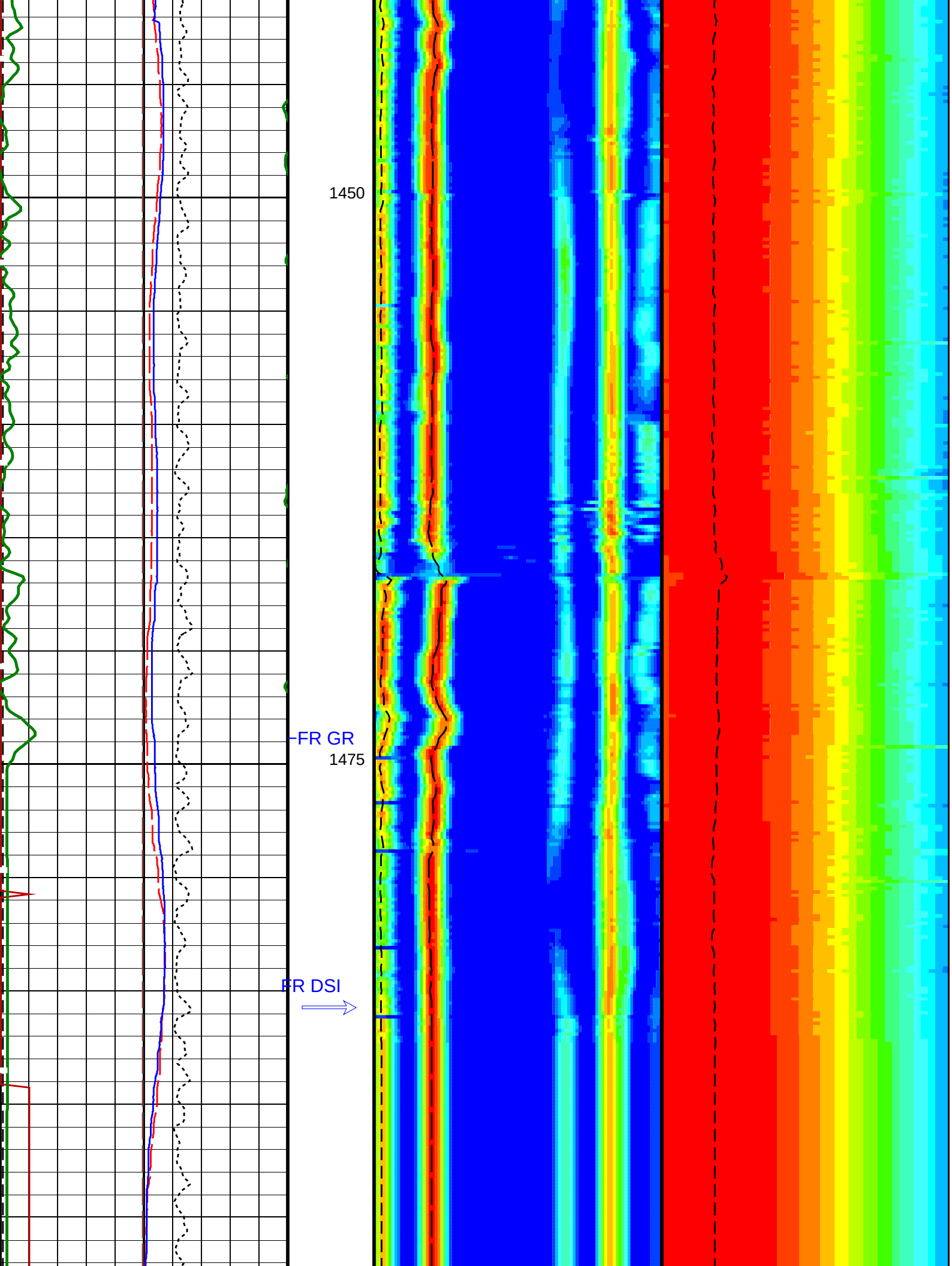
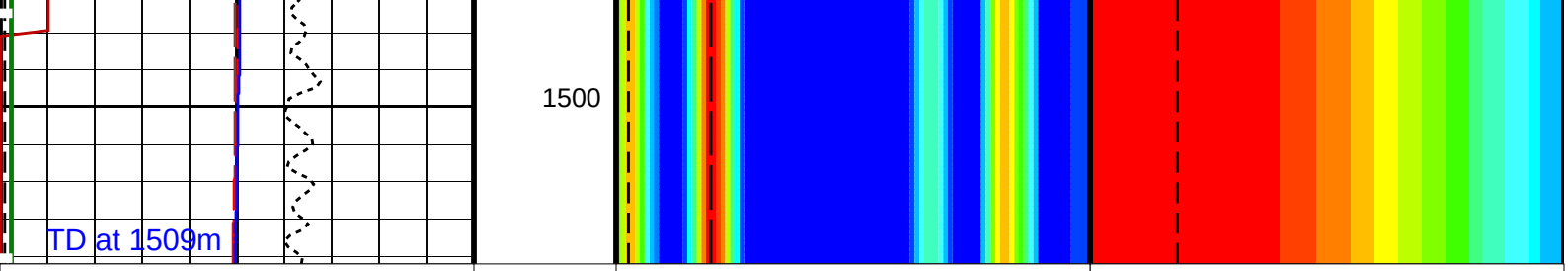
1375


1400
1425
TENS
HSGR
WCI3
WFG3
C2
C1
BS
DTRS
DTRP
DT3R


1450
FR GR
1475
FR DSI



Bit Size (BS)
0 (IN) 20

Caliper 1 (C1)
0 (IN) 20

Caliper 2 (C2)
0 (IN) 20

SAM3 Waveform Gain (WFG3)
0 (----) 1000

Tension (TENS)
10000 (LBF) 0

Waveform Data Copy Indicator 3 − Monopole Stoneley (WCI3)
0 (----) 10

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

Delta−T Comp / RA − P & S (DTRP)
40 (US/F) 240

Delta−T Shear / RA − P & S (DTRS)
40 (US/F) 240

Min Amplitude Max
Rec.Array P&S Slow Proj. CVDL (SPR4)
40 (US/F) 240

Delta−T Stoneley / RA (DT3R)
180 (US/F) 340

Min Amplitude Max
Rec.Array Stoneley Slow Proj. CVDL (SPR3)
180 (US/F) 340

Uplog #3

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST−B: Dipole Shear Imager − B		
BHS	Borehole Status	OPEN	
CASF	Label Casing Function − Monopole P&S	50	
COLL	Label Slowness Lower Limit − Monopole P&S Compressional	40	US/F
COUL	Label Slowness Upper Limit − Monopole P&S Compressional	180	US/F
DDE3	Digitizing Delay 3	0	US
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	US
DSI3	Digitizer Sample Interval 3	40	US
DSI4	Digitizer Sample Interval 4	10	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta−T Source for DTCO Channel	PS_COMP	
DTF	Delta−T Fluid	189	US/F
DWC3	Digitizer Word Count 3	512	
DWC4	Digitizer Word Count 4	512	
DWCX	Digitizer Word Count X	512	
FILG	Label Fill Gap Control − Monopole P&S	COMP_SHEAR	
GCSE	Generalized Caliper Selection	C1	
LFC	Label Formation Character − Monopole P&S	DYNAMIC	
MCS	Mean Casing Slowness	57	US/F
MTXG	Monopole Transmitter Geometry	186	IN
NWI3	Number Waveform Items 3	8	
NWI4	Number Waveform Items 4	8	
NWIX	Number Waveform Items X	32	
RSMN	Label Shear/Compressional Minimum Ratio − Monopole P&S	1.4	
RSMX	Label Shear/Compressional Maximum Ratio − Monopole P&S	2.12	
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
SAM3	DSST Sonic Acquisition Mode 3 − Monopole Mode for Stoneley	ODD	
SAM4	DSST Sonic Acquisition Mode 4 − Monopole Mode for P&S	EVEN	
SAMX	DSST Sonic Acquisition Mode X − Both Dipoles or Monopole Mode for Expert	BCR	
SAS3	STC Sonic Array Status − Monopole Stoneley	255	
SAS4	STC Sonic Array Status − Monopole P&S	255	
SBO3	STC Search Band Offset − Monopole Stoneley	2000	US
SBO4	STC Search Band Offset − Monopole P&S	500	US
SBR4	STC Baseline Removal − Monopole P&S	ON	
SBW3	STC Search Bandwidth − Monopole Stoneley	6000	US
SBW4	STC Search Bandwidth − Monopole P&S	2000	US
SFC3	STC Formation Character − Monopole Stoneley	FAST	
SFC4	STC Formation Character − Monopole P&S	FAST	
SFM3	STC Filter − Monopole Stoneley	B.5−1.5K	
SFM4	STC Filter − Monopole P&S	B3−20K	
SHLL	Label Slowness Lower Limit − Monopole P&S Shear	75	US/F
SHUL	Label Slowness Upper Limit − Monopole P&S Shear	180	US/F
SLL3	STC Slowness Lower Limit − Monopole Stoneley	180	US/F
SLL4	STC Slowness Lower Limit − Monopole P&S	40	US/F
SST3	STC Slowness Step − Monopole Stoneley	4	US/F
SST4	STC Slowness Step − Monopole P&S	2	US/F
SSW3	STC Source Waveform − Monopole Stoneley	WF_SAM3	
SSW4	STC Source Waveform − Monopole P&S	WF_SAM4	
STLL	Label Slowness Lower Limit − Monopole Stoneley	180	US/F
STUL	Label Slowness Upper Limit − Monopole Stoneley	340	US/F
SUL3	STC Slowness Upper Limit − Monopole Stoneley	340	US/F
SUL4	STC Slowness Upper Limit − Monopole P&S	240	US/F
SWD3	STC Slowness Width − Monopole Stoneley	40	US/F
SWD4	STC Slowness Width − Monopole P&S	10	US/F
TBF3	STC Time for Baseline Fill − Monopole Stoneley	0	US
TBF4	STC Time for Baseline Fill − Monopole P&S	300	US
TLL3	STC Time Lower Limit − Monopole Stoneley	620	US
TLL4	STC Time Lower Limit − Monopole P&S	150	US
TST3	STC Time Step − Monopole Stoneley	200	US
TST4	STC Time Step − Monopole P&S	50	US
TUL3	STC Time Upper Limit − Monopole Stoneley	8060	US
TUL4	STC Time Upper Limit − Monopole P&S	3660	US
TWD3	STC Time Width − Monopole Stoneley	2000	US
TWD4	STC Time Width − Monopole P&S	1000	US
TWI3	STC Integration Time Window − Monopole Stoneley	1600	US
TWI4	STC Integration Time Window − Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
WFM3	Waveform Mode 3	W1	
	HNGS−BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	C1	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00101725	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
TPOS	Tool Position	CENT	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	3.95903	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.1569	
	EDTC−B: Enhanced DTS Cartridge		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.00	G/C3

Format: Stonely180_780_P&S40_240 Vertical Scale: 1:200 Graphics File Created: 24−Jan−2016 13:19

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

Output DLIS Files

DEFAULT	FMS_DSI_NGS_053LUP	FN:70	PRODUCER	24−Jan−2016 13:19	
BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24−Jan−2016 13:19	

Company: International Ocean Discovery Program — Well: Expedition 360, Site U1473A

Output DLIS Files

DEFAULT	FMS_DSI_NGS_053LUP	FN:70	PRODUCER	24−Jan−2016 13:19	1504.2 M	707.3 M
BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24−Jan−2016 13:19	1504.2 M	707.3 M

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 25

Gamma Ray (GR_EDTC)
0 (GAPI) 25

Bit Size (BS)
0 (IN) 20

Uplog #3

Relative Bearing (RB_MEST)
−40 (DEG) 360

Pad One Azimuth (P1AZ_MEST)
−40 (DEG) 360

Hole Azimuth (HAZIM)
−40 (DEG) 360

Deviation (DEVIM)
0 (DEG) 10

Caliper 2 (C2)
0 (IN) 20

EMEX Intensity (EI)
0 (AMPS) 10

Caliper 1 (C1)

EMEX Voltage (EV)

Data Button 8 − Varies with RBS (U−MEST_RB8)
−80 (−−−−) 20

Data Button 7 − Varies with RBS (U−MEST_RB7)
−70 (−−−−) 30

Data Button 6 − Varies with RBS (U−MEST_RB6)
−60 (−−−−) 40

Data Button 5 − Varies with RBS (U−MEST_RB5)
−50 (−−−−) 50

Data Button 4 − Varies with RBS (U−MEST_RB4)
−40 (−−−−) 60

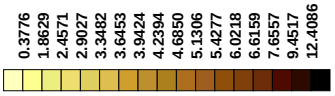
Data Button 3 − Varies with RBS (U−MEST_RB3)
−30 (−−−−) 70

Data Button 2 − Varies with RBS (U−MEST_RB2)
−20 (−−−−) 80

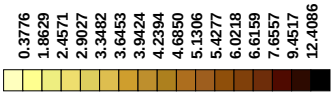
Data Button 1 − Varies with

MEST_PADD (U−MEST_RESISTIVITY_PADD_DS) (−−−−)

MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)

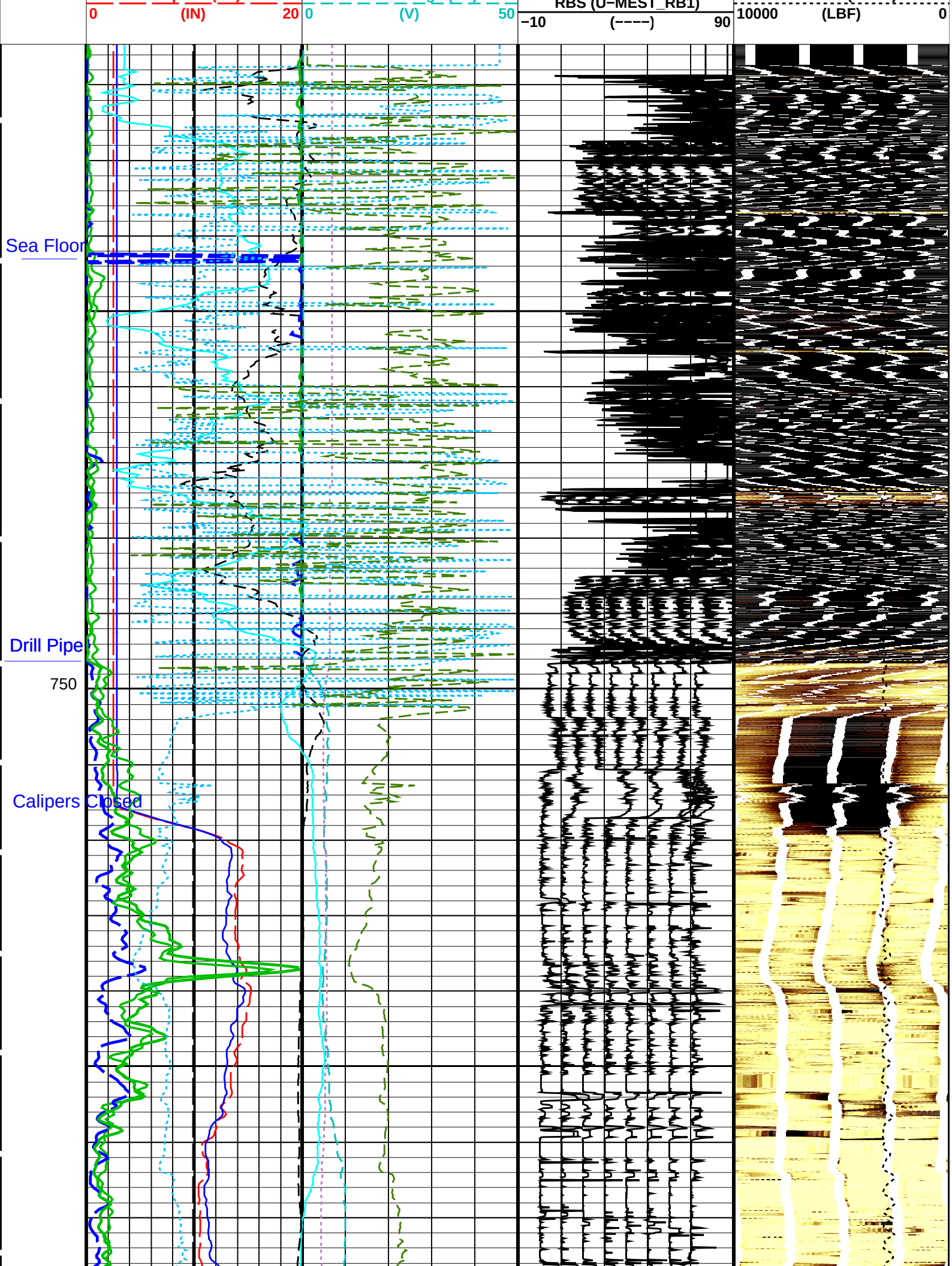


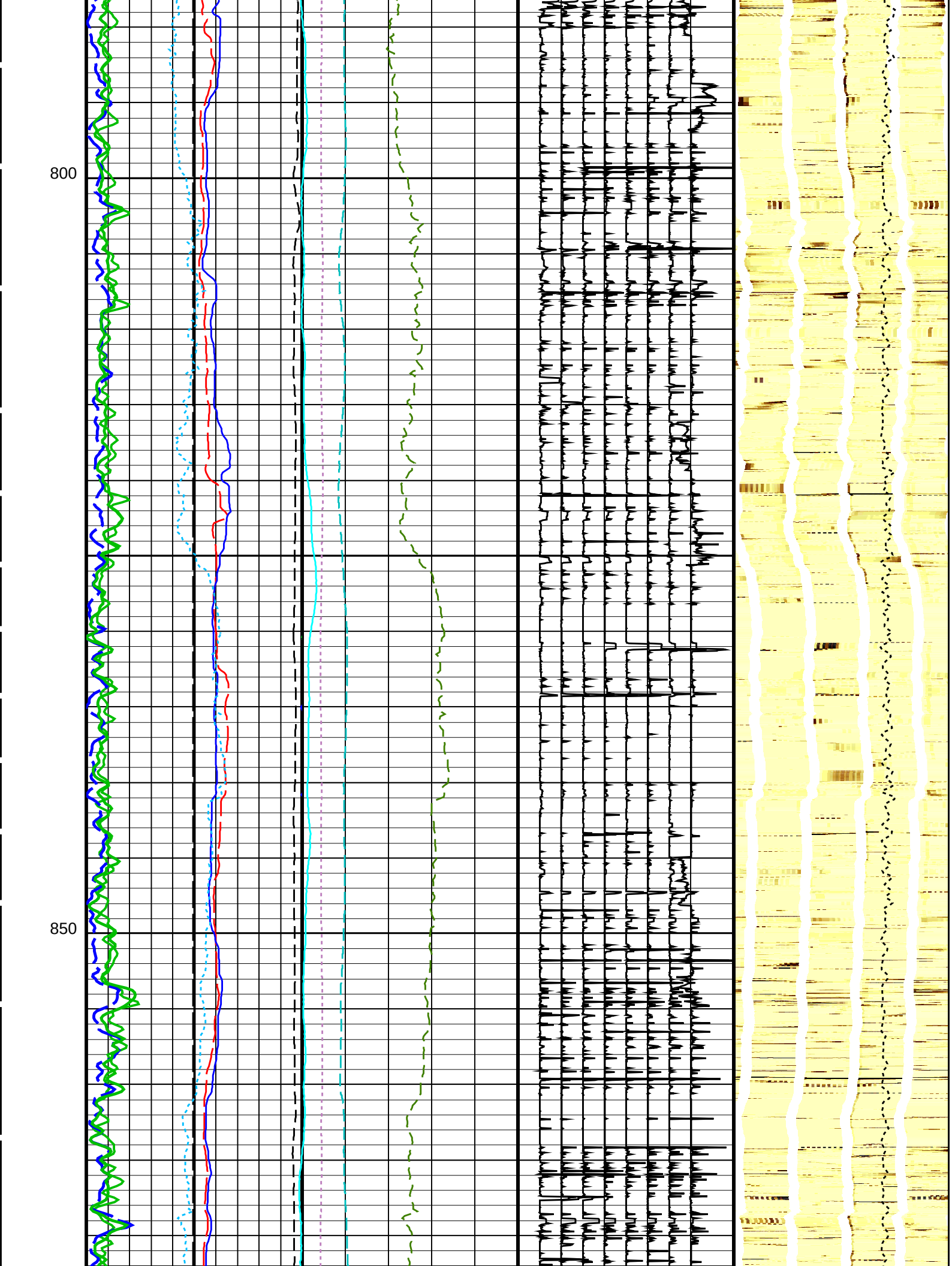
MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)

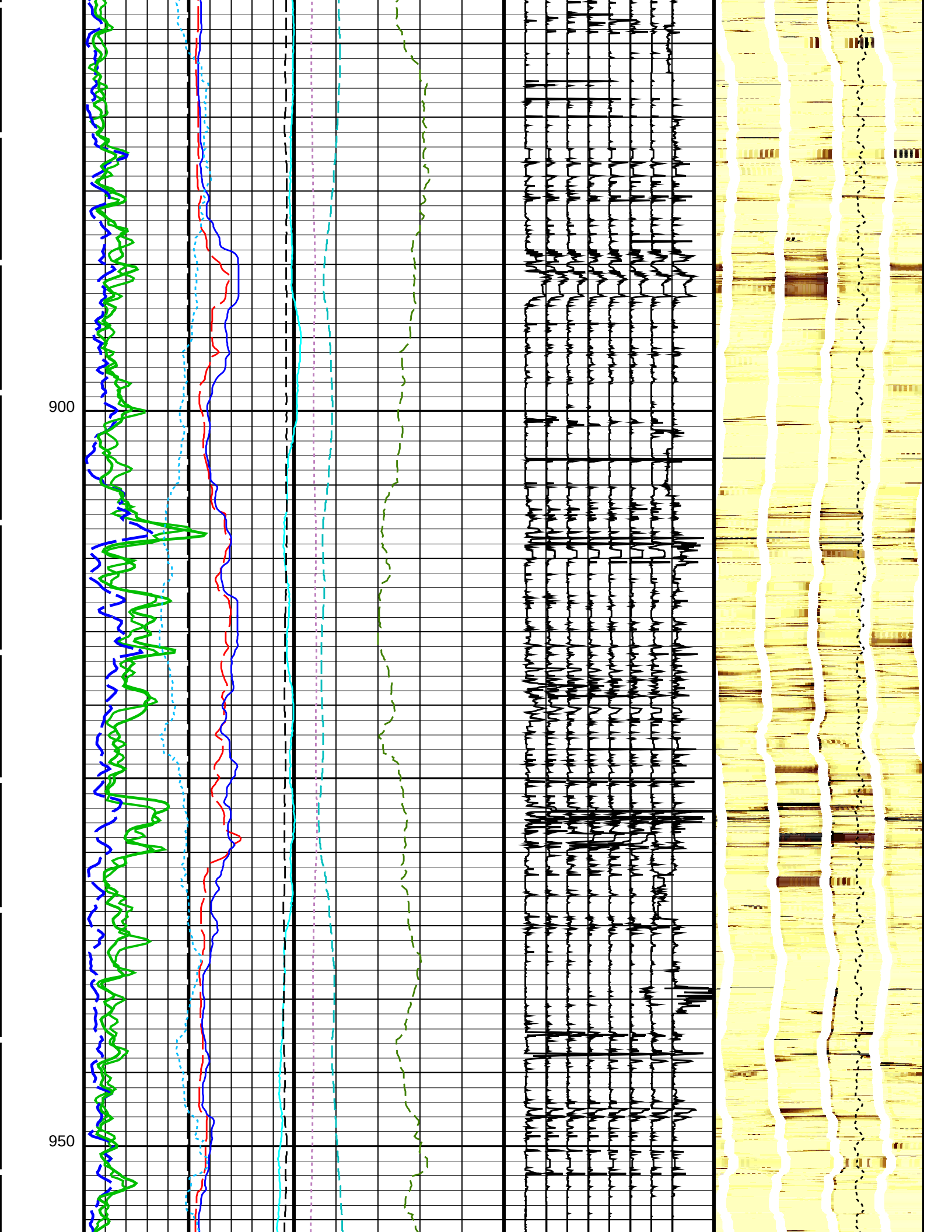


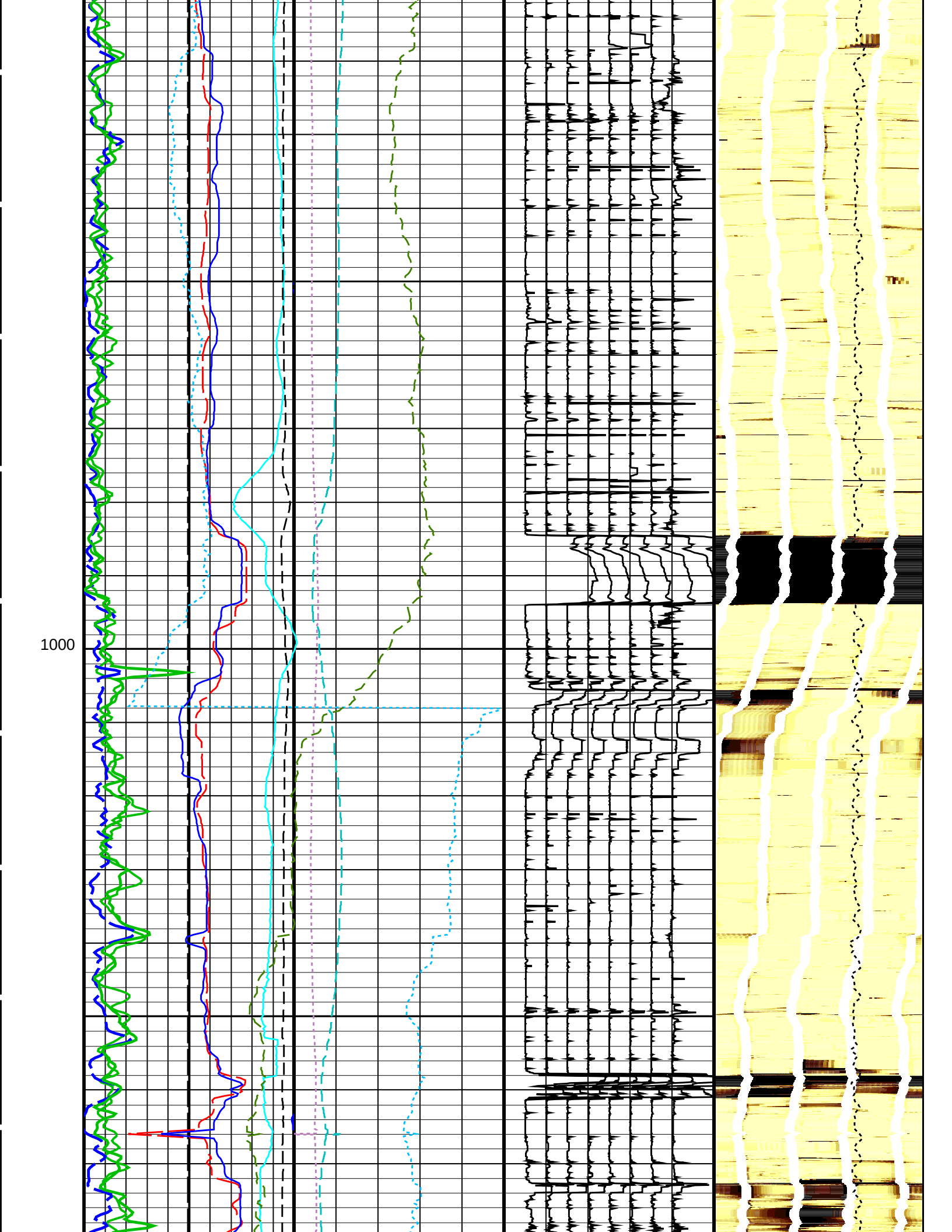
MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)

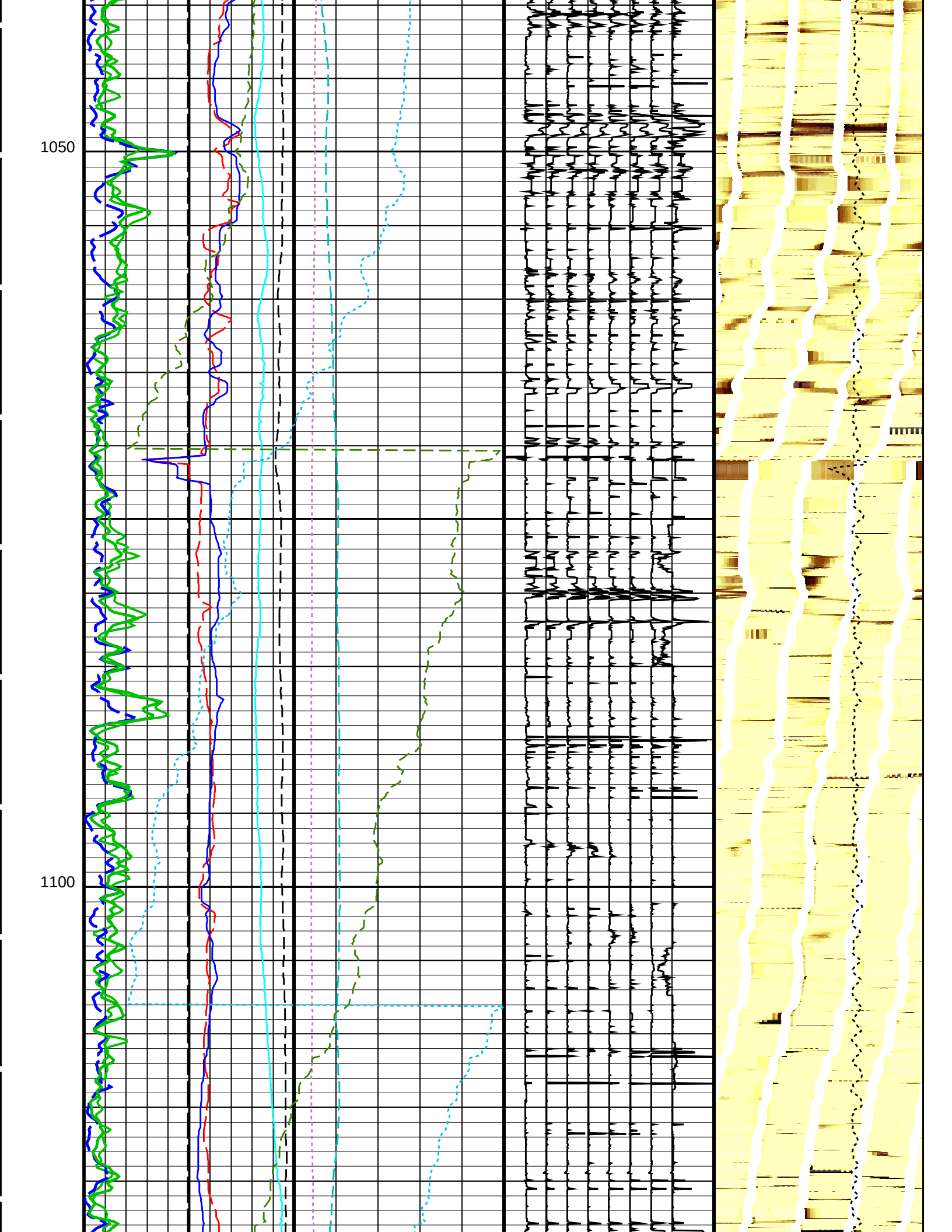
Tension (TENS)

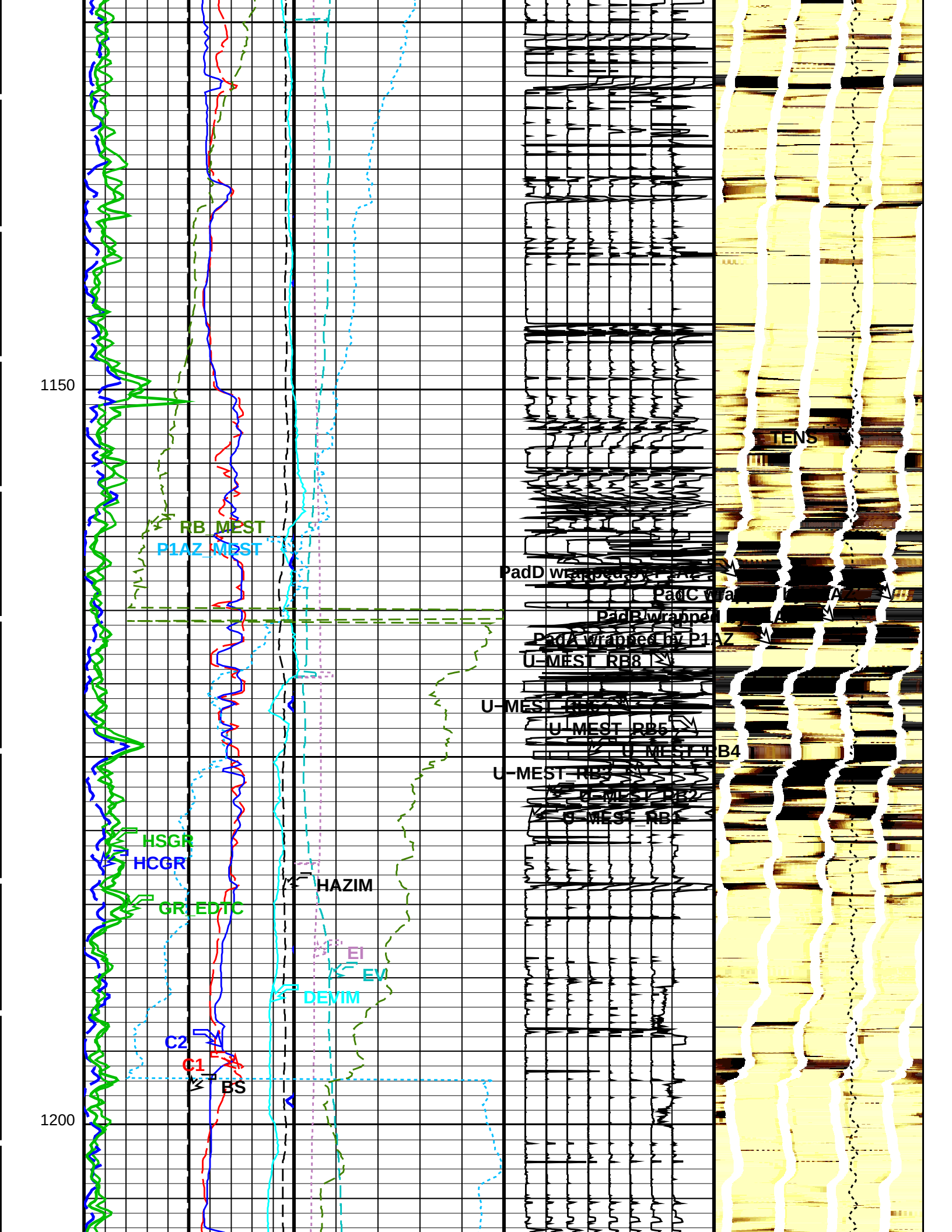

0
(IN)
20
0
(V)
50
RBS (U-MEST_RB1)
-10
(----)
90
10000
(LBF)
0
Sea Floor
Drill Pipe
750
Calipers Closed

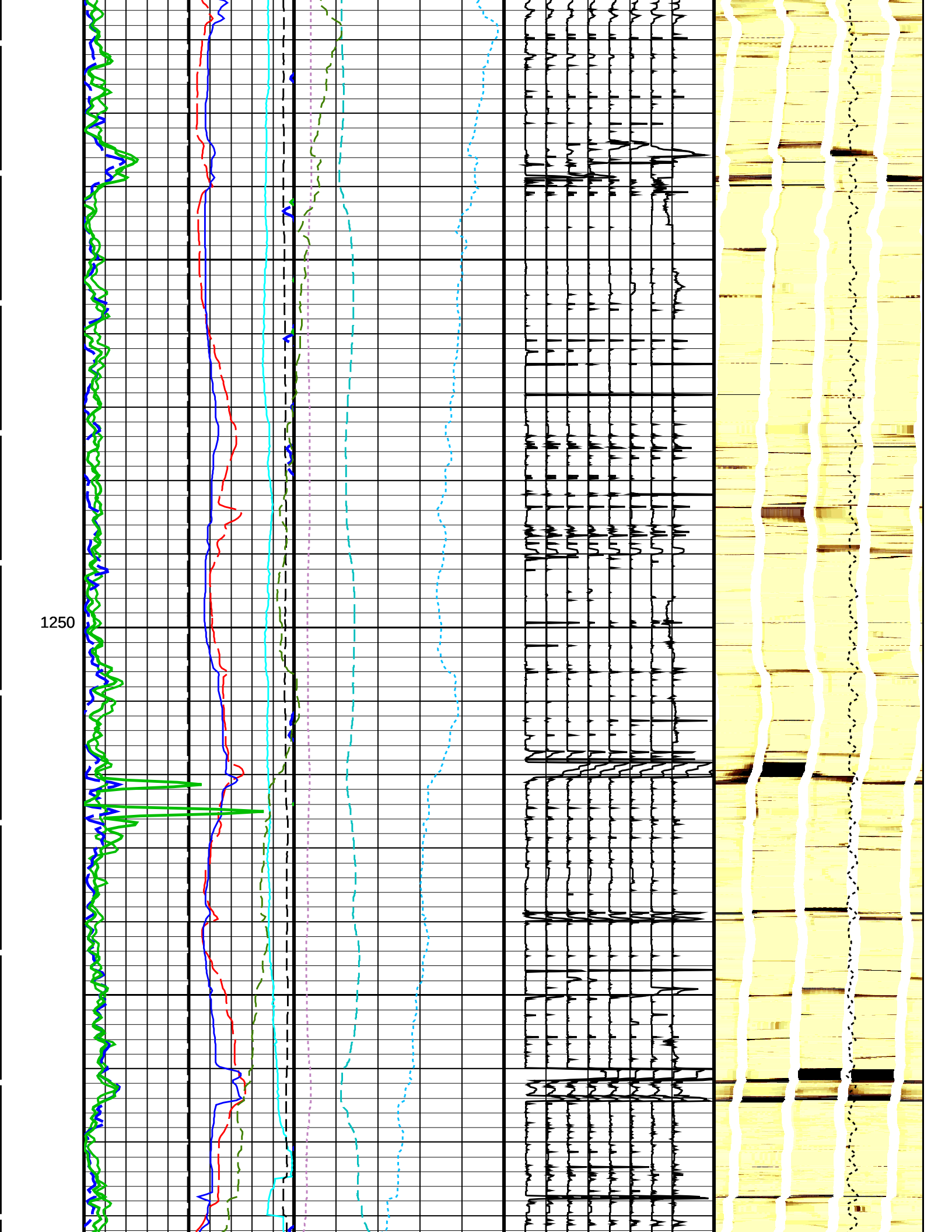

800
850

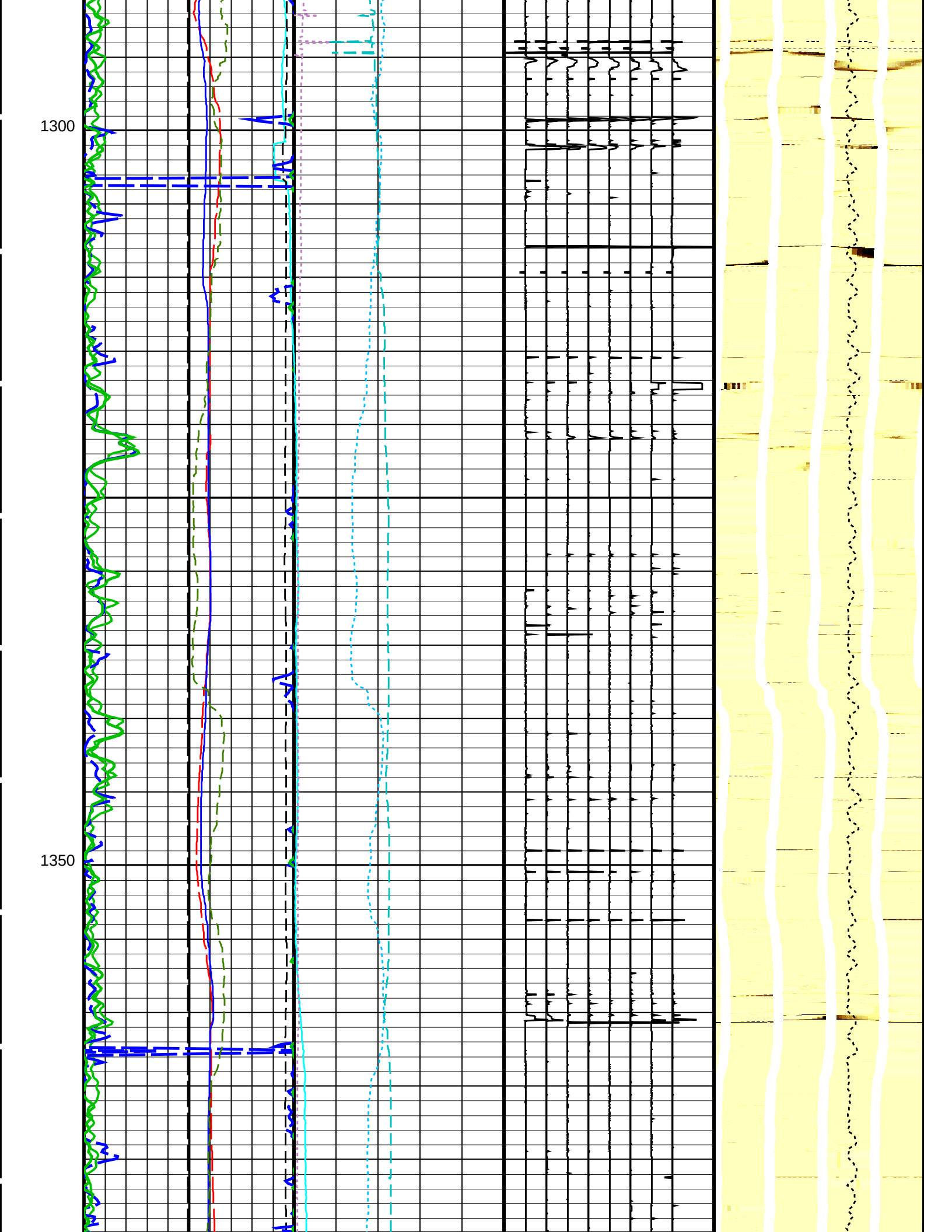

900
950

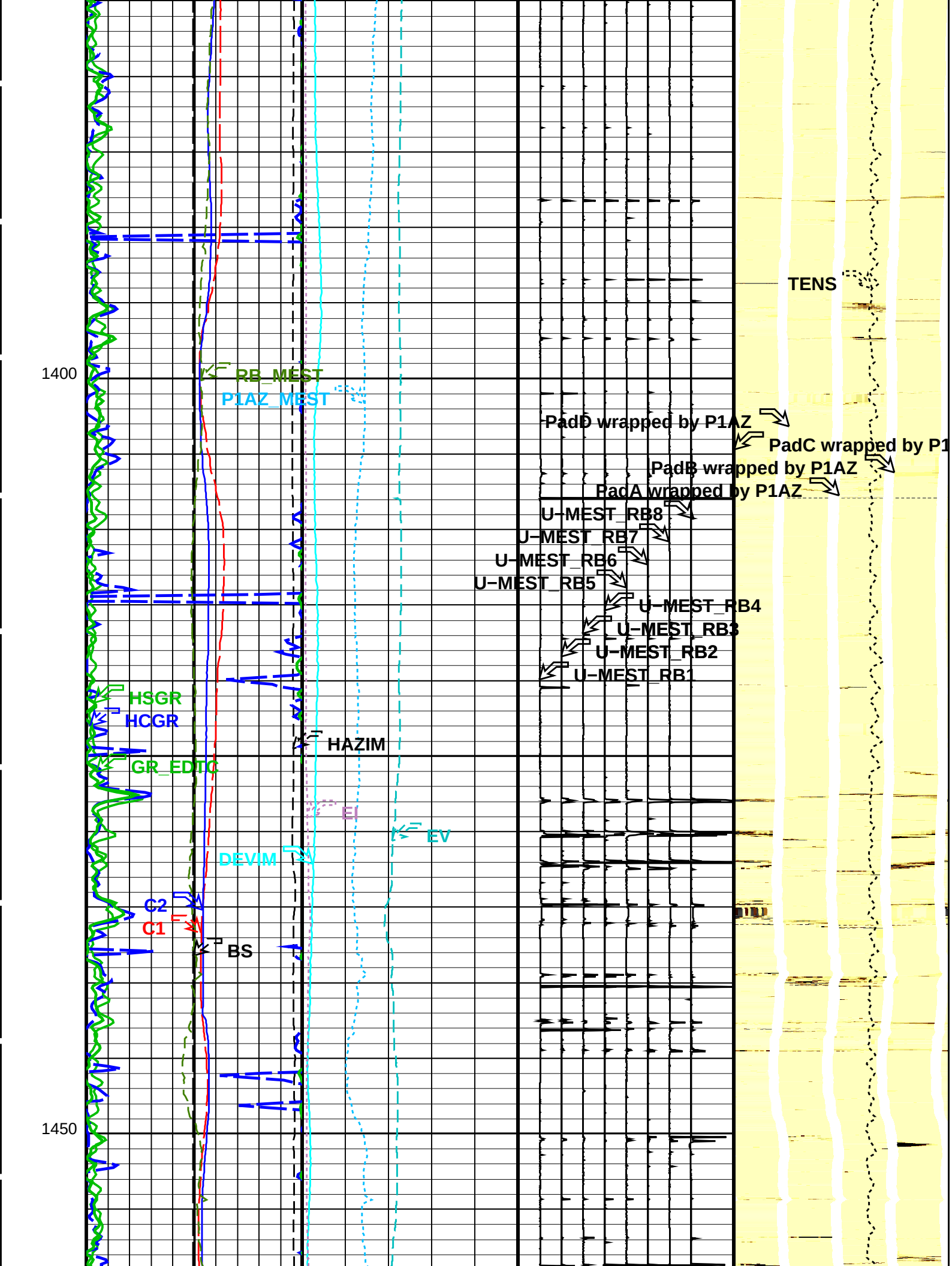

1000

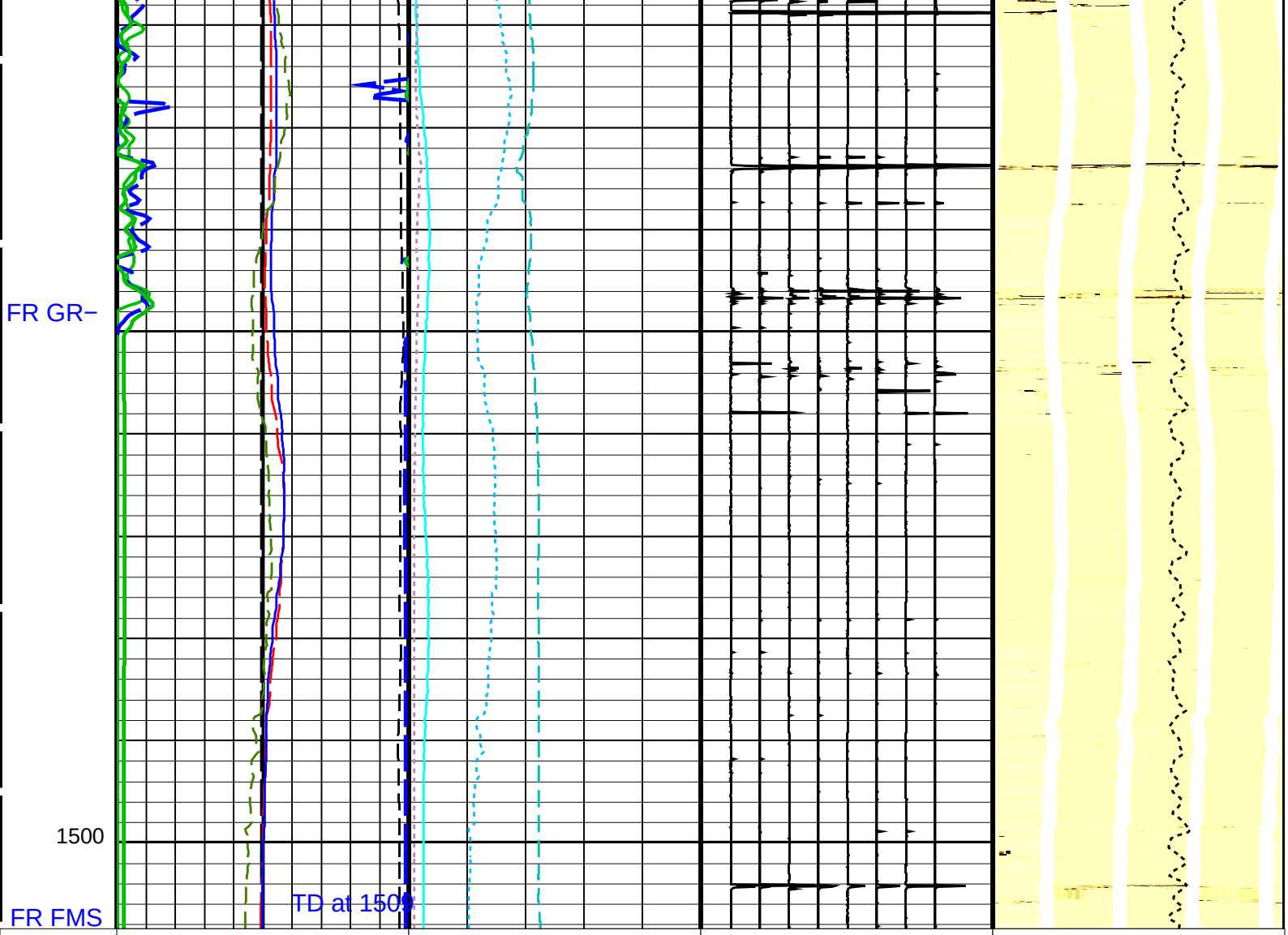

1050
1100


1150
1200
RB_MEST
P1AZ_MEST
HSGR
HCGR
GR_EDTC
HAZIM
EI
EV
DEVIM
C2
C1
BS
TENS
PadA wrapped by P1AZ
U-MEST_RB8
U-MEST_RB6
U-MEST_RB5
U-MEST_RB4
U-MEST_RB3
U-MEST_RB2
U-MEST_RB1


1250


1300
1350


1400
1450
RB_MEST
P1AZ_MEST
HSGR
HCGR
GR_EDTC
HAZIM
EI
EV
DEVIM
C2
C1
BS
TENS
PadD wrapped by P1AZ
PadC wrapped by P1
PadB wrapped by P1AZ
PadA wrapped by P1AZ
U-MEST_RB8
U-MEST_RB7
U-MEST_RB6
U-MEST_RB5
U-MEST_RB4
U-MEST_RB3
U-MEST_RB2
U-MEST_RB1



Caliper 1 (C1) 0 (IN) 20	EMEX Voltage (EV) 0 (V) 50	Data Button 1 − Varies with RBS (U−MEST_RB1) −10 (−−−−) 90	Tension (TENS) 10000 (LBF) 0
Caliper 2 (C2) 0 (IN) 20	EMEX Intensity (EI) 0 (AMPS) 10	Data Button 2 − Varies with RBS (U−MEST_RB2) −20 (−−−−) 80	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADA (U−MEST_ RESISTIVITY_PADA_DS) (−−−−)
Deviation (DEVIM) 0 (DEG) 10		Data Button 3 − Varies with RBS (U−MEST_RB3) −30 (−−−−) 70	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADB (U−MEST_ RESISTIVITY_PADB_DS) (−−−−)
Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 4 − Varies with RBS (U−MEST_RB4) −40 (−−−−) 60	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADC (U−MEST_ RESISTIVITY_PADC_DS) (−−−−)
Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADD (U−MEST_ RESISTIVITY_PADD_DS) (−−−−)
Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40	

Bit Size (BS)		
0	(IN)	20

Uplog #3

Gamma Ray (GR_EDTC)		
0	(GAPI)	25

HNGS Computed Gamma Ray (HCGR)		
0	(GAPI)	25

HNGS Spectroscopy Gamma Ray (HSGR)		
0	(GAPI)	25

Data Button 7 − Varies with RBS (U−MEST_RB7)		
−70	(−−−−)	30

Data Button 8 − Varies with RBS (U−MEST_RB8)		
−80	(−−−−)	20

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	MEST−B: Micro Electrical Scanner − B (Slim)		
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MDEC	Magnetic Field Declination	−35.7696	DEG
MLM	MEST Logging Mode	SCAN1800	
RBS	Resistivity Button Selection	AUTO	
XGAI	Gain	GAIN_2	
XOFF	Offset	OFFSET_0	
	DSST−B: Dipole Shear Imager − B		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	HNGS−BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	C1	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00101725	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
TPOS	Tool Position	CENT	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	3.95903	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.1569	
	EDTC−B: Enhanced DTS Cartridge		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.00	G/C3

Format: MEST_C_WRAP_BY_P1AZ Vertical Scale: 1:300 Graphics File Created: 24−Jan−2016 13:19

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

Output DLIS Files

DEFAULT	EMS_DSL_NGS_053LUP	FN:70	PRODUCER	24−Jan−2016 13:19	

BACKUP	FMS_DSI_NGS_053LUP	FN:71	PRODUCER	24−Jan−2016 13:19		

Company: International Ocean Discovery Program — Well: Expedition 360, Site U1473A

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24−Jan−2016 10:45	1506.5 M	810.0 M
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24−Jan−2016 10:45	1506.5 M	810.0 M

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

PIP SUMMARY

Time Mark Every 60 S

Deviation at DSST Waveform Depth (DVWD)
0 (DEG) 100

Relative Bearing at DSST Waveform Depth (RBWD)
0 (DEG) 400

Azimuth at DSST Waveform Depth (AZWD)
0 (DEG) 400

Waveform Data Copy Indicator X − Expert (WCIX)
0 (−−−−) 10

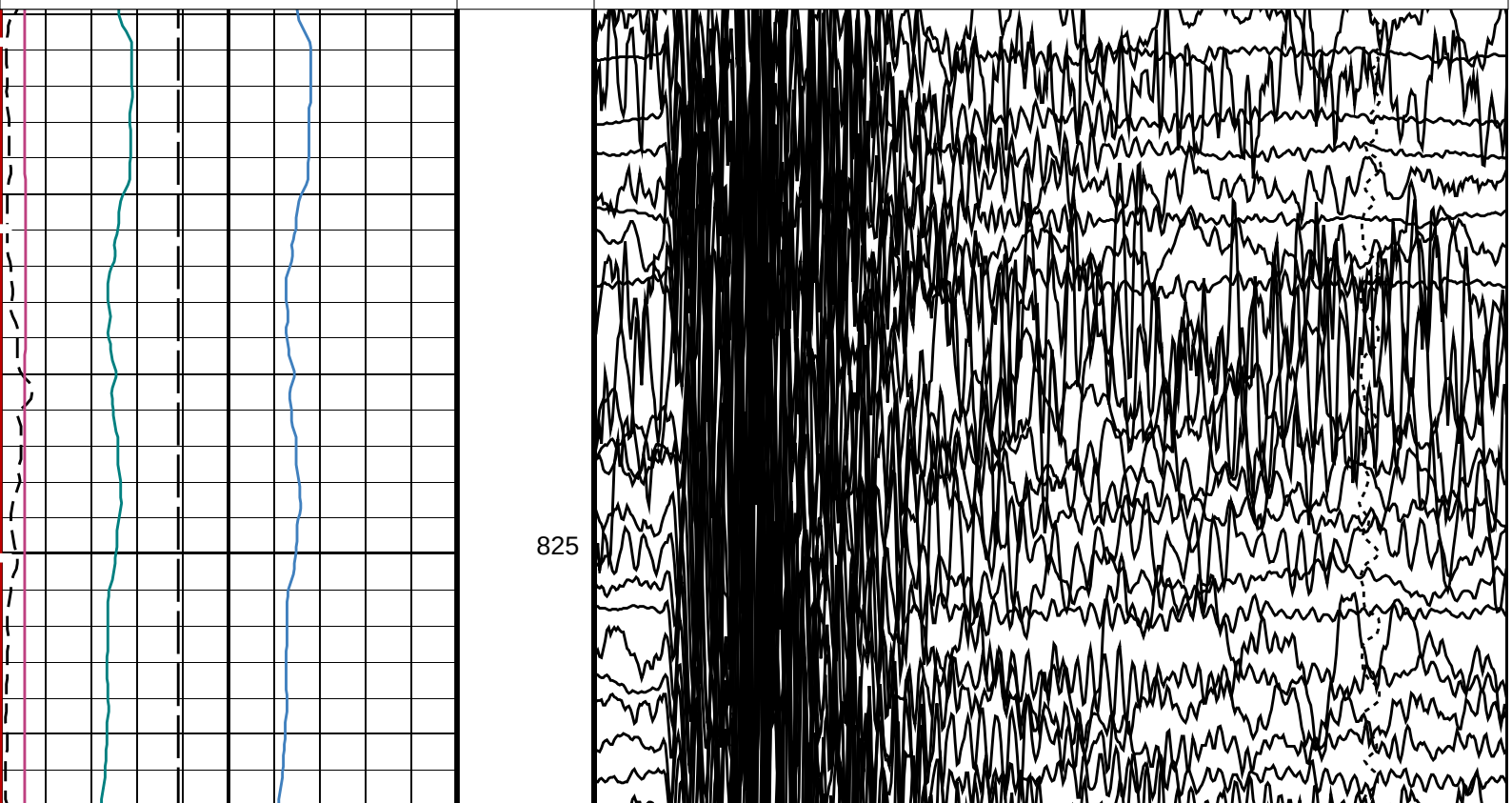
SAMX Waveform Gain (WFGX)
0 (−−−−) 1000

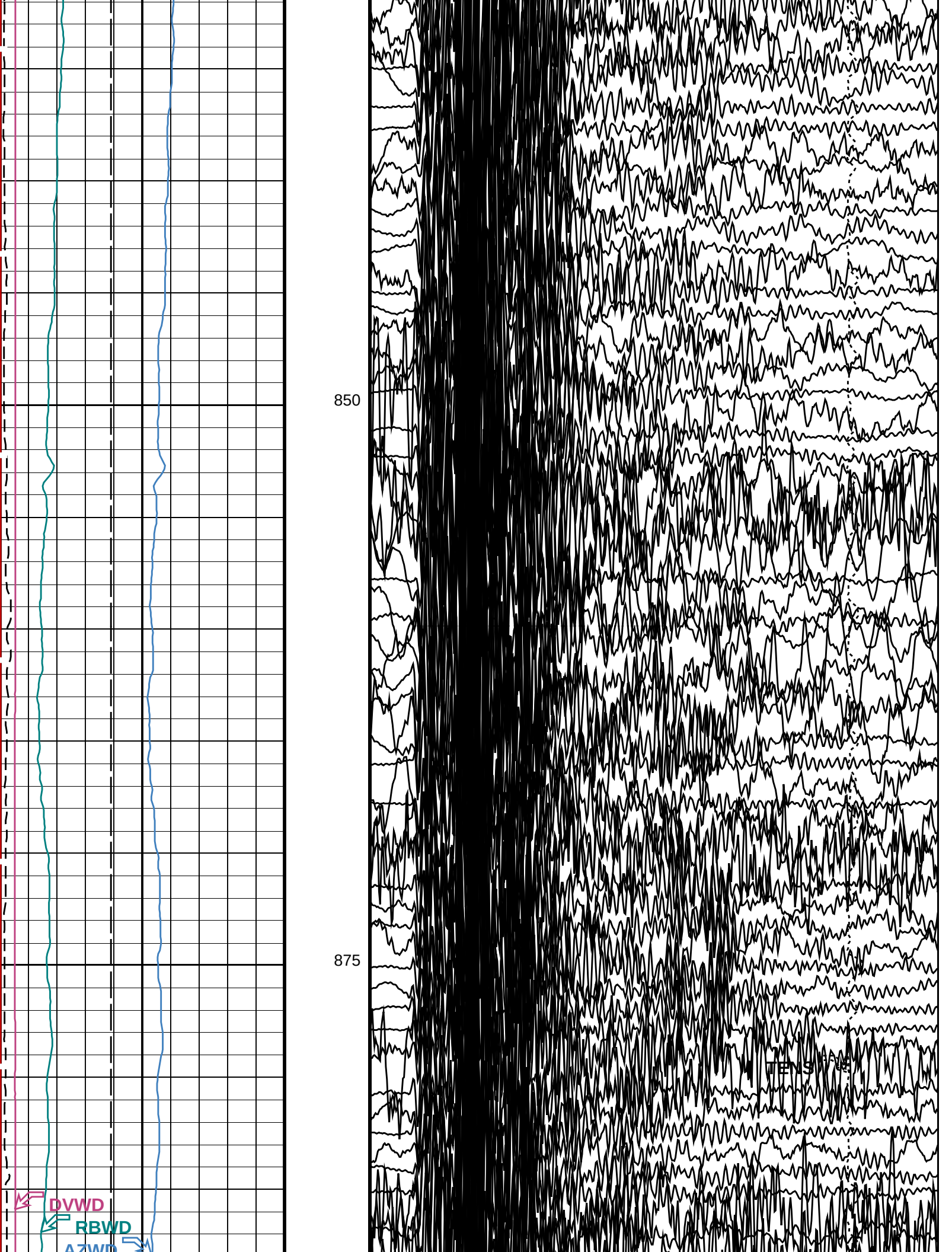
Bit Size (BS)
6 (IN) 16

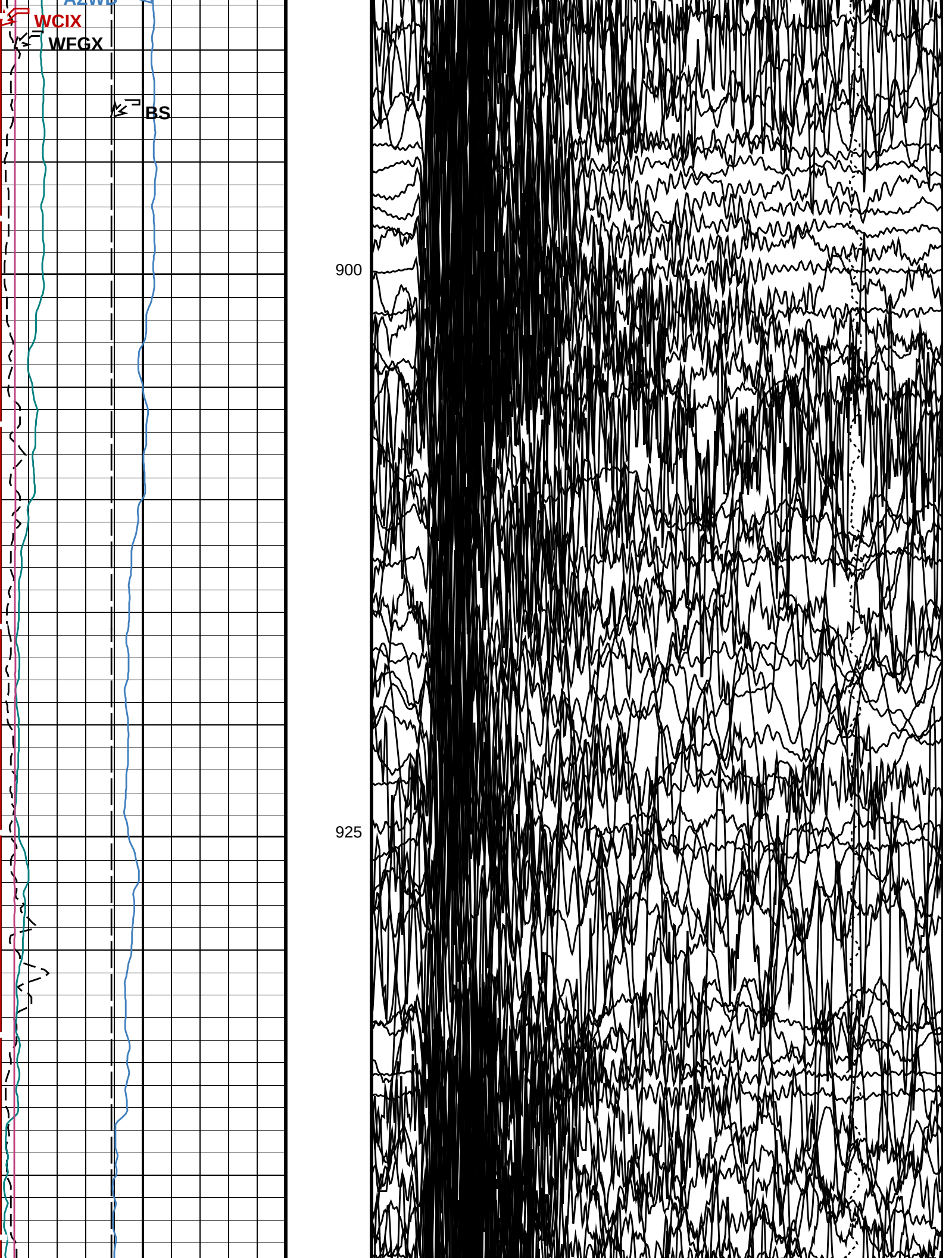
Uplog #1

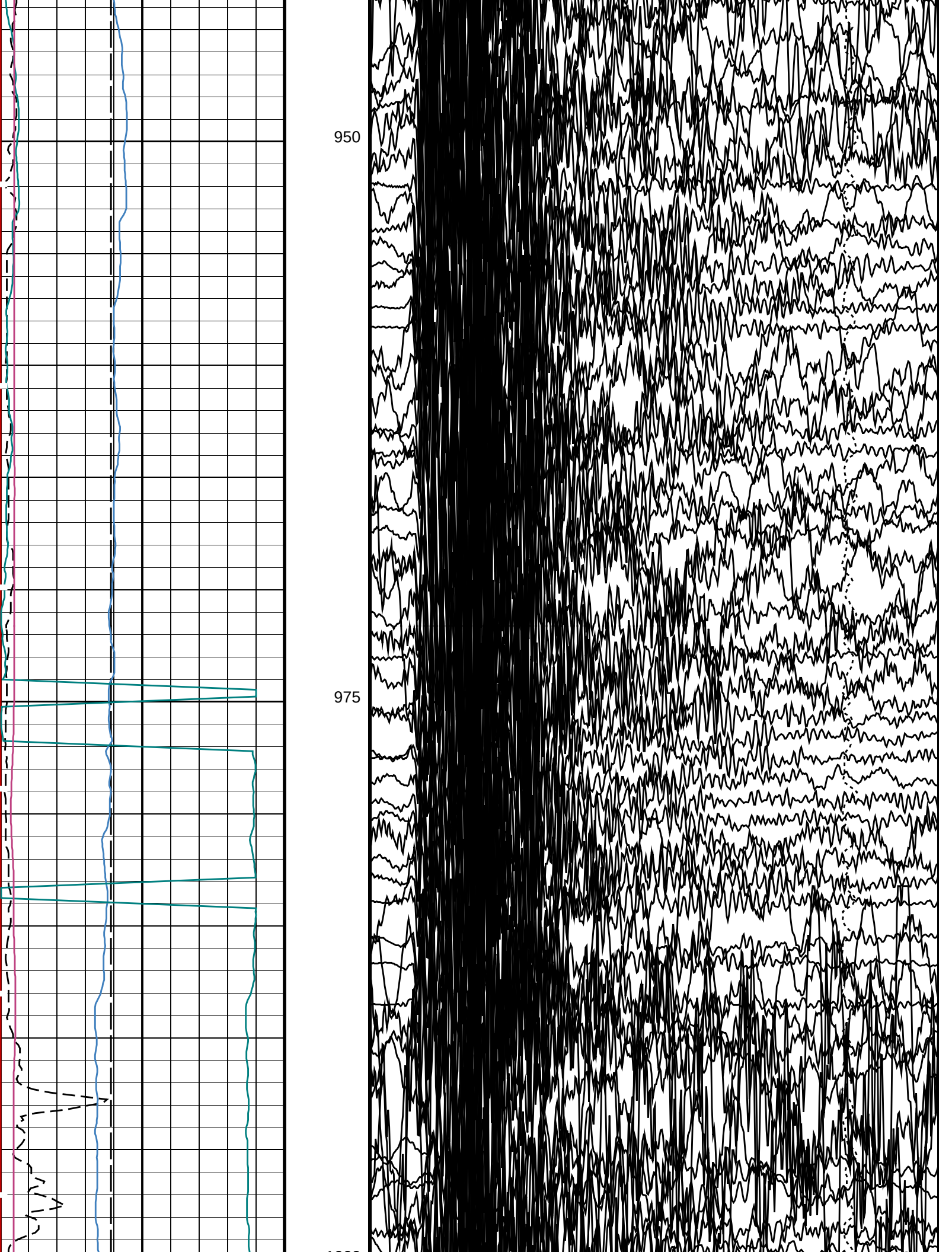
Tension (TENS)
10000 (LBF) 0

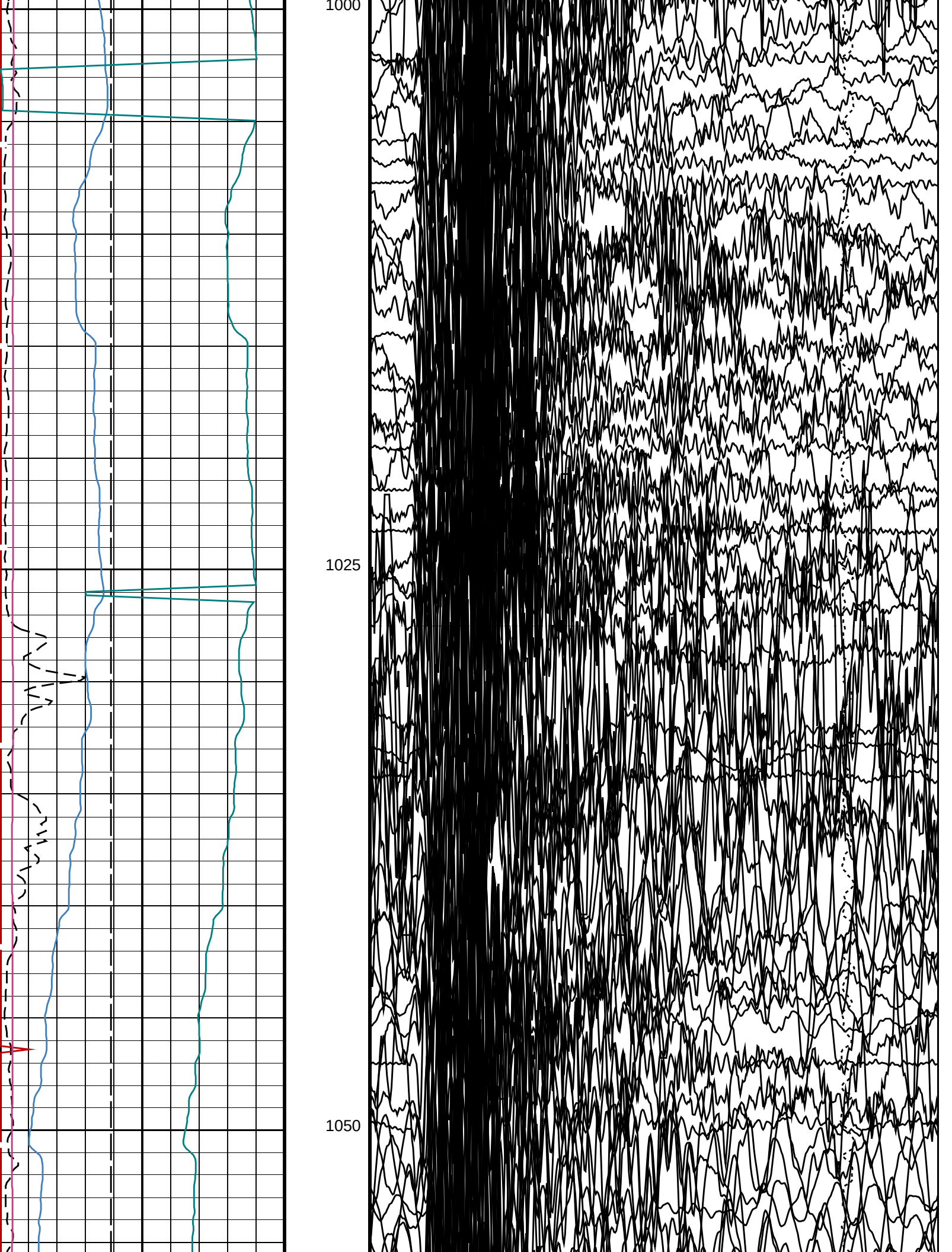
SAMX Waveforms (WFX)
0 (US) 20000

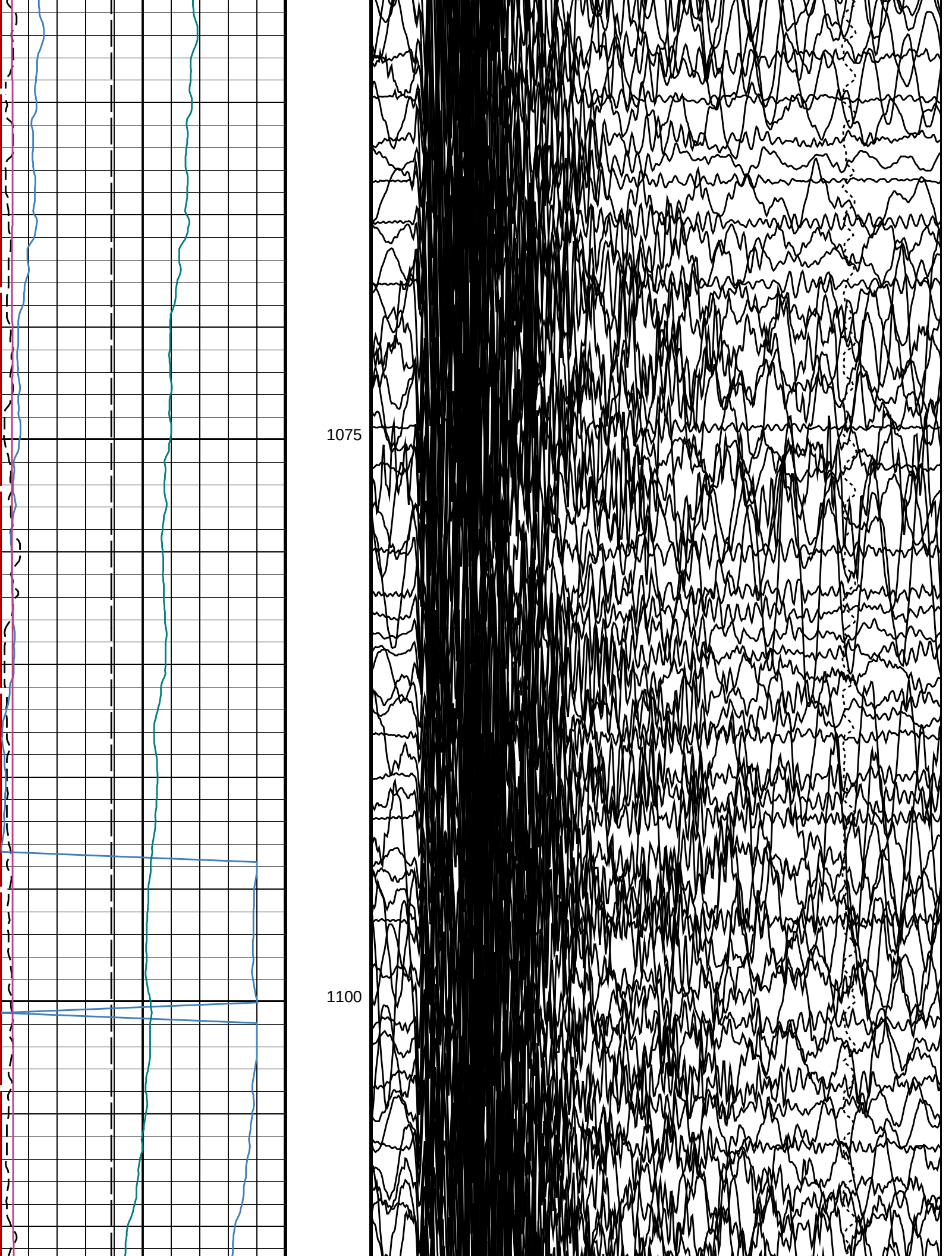


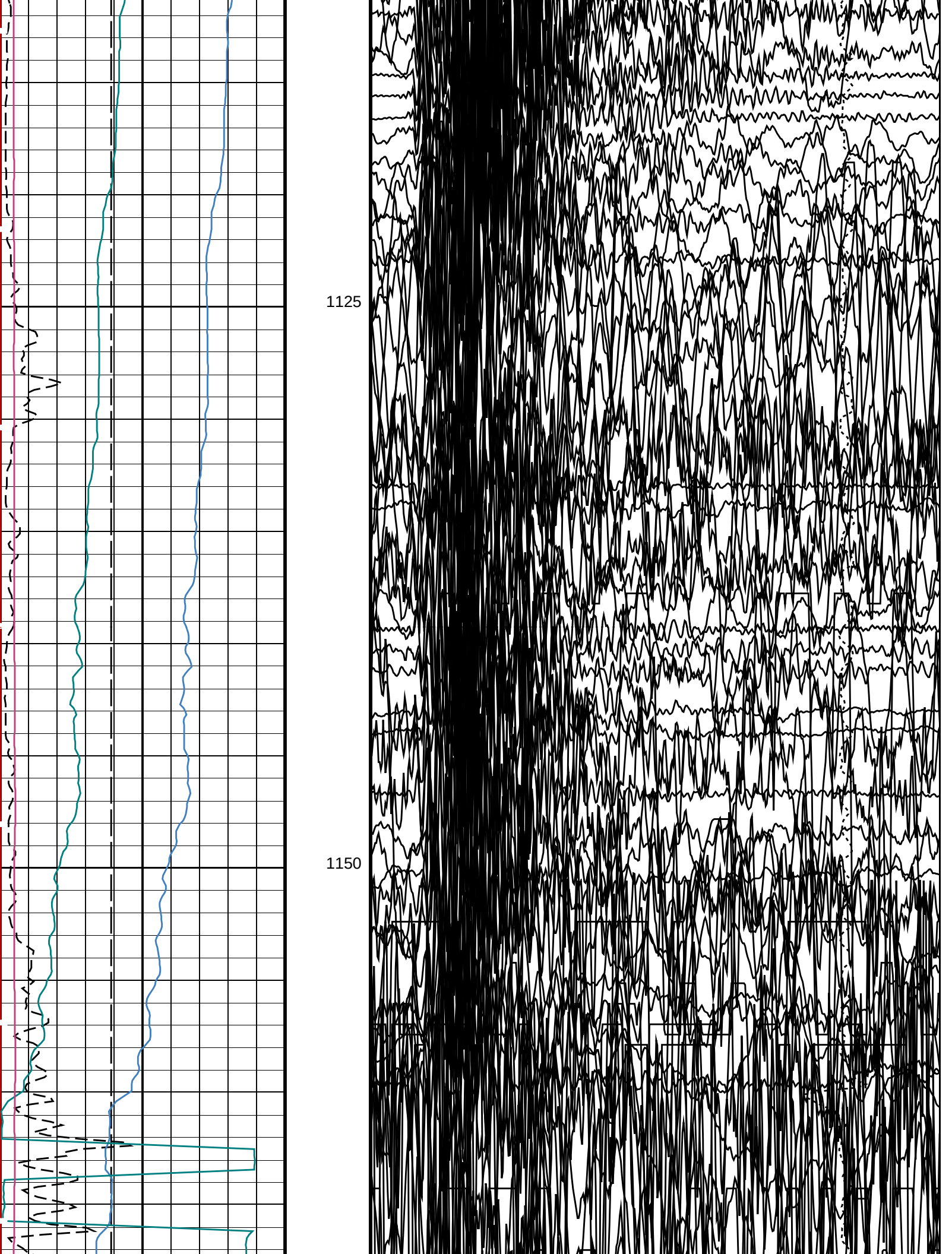

850
875
DVWD
RBWD
AZWD
TENS

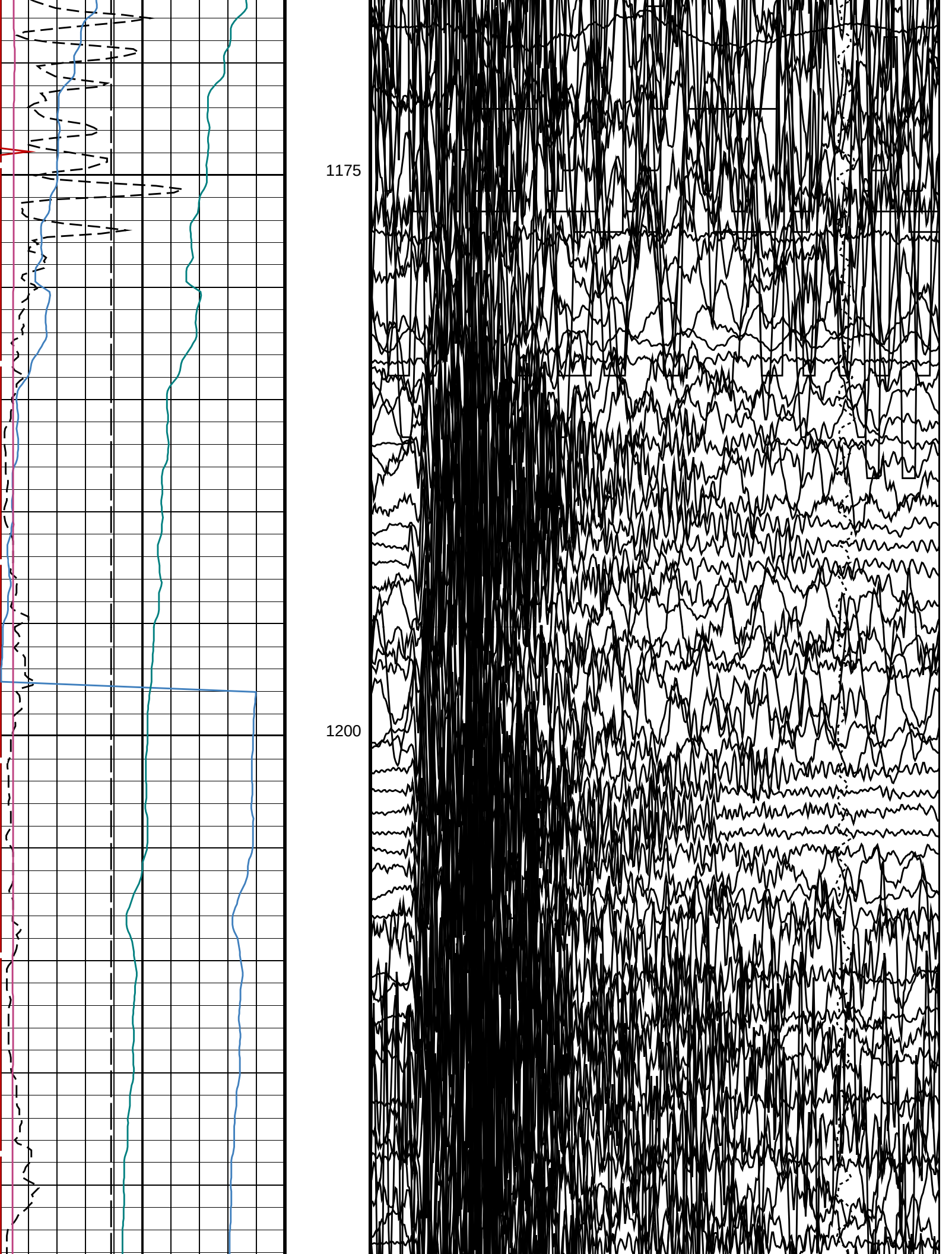

A2WD
WCIX
WFGX
BS
900
925

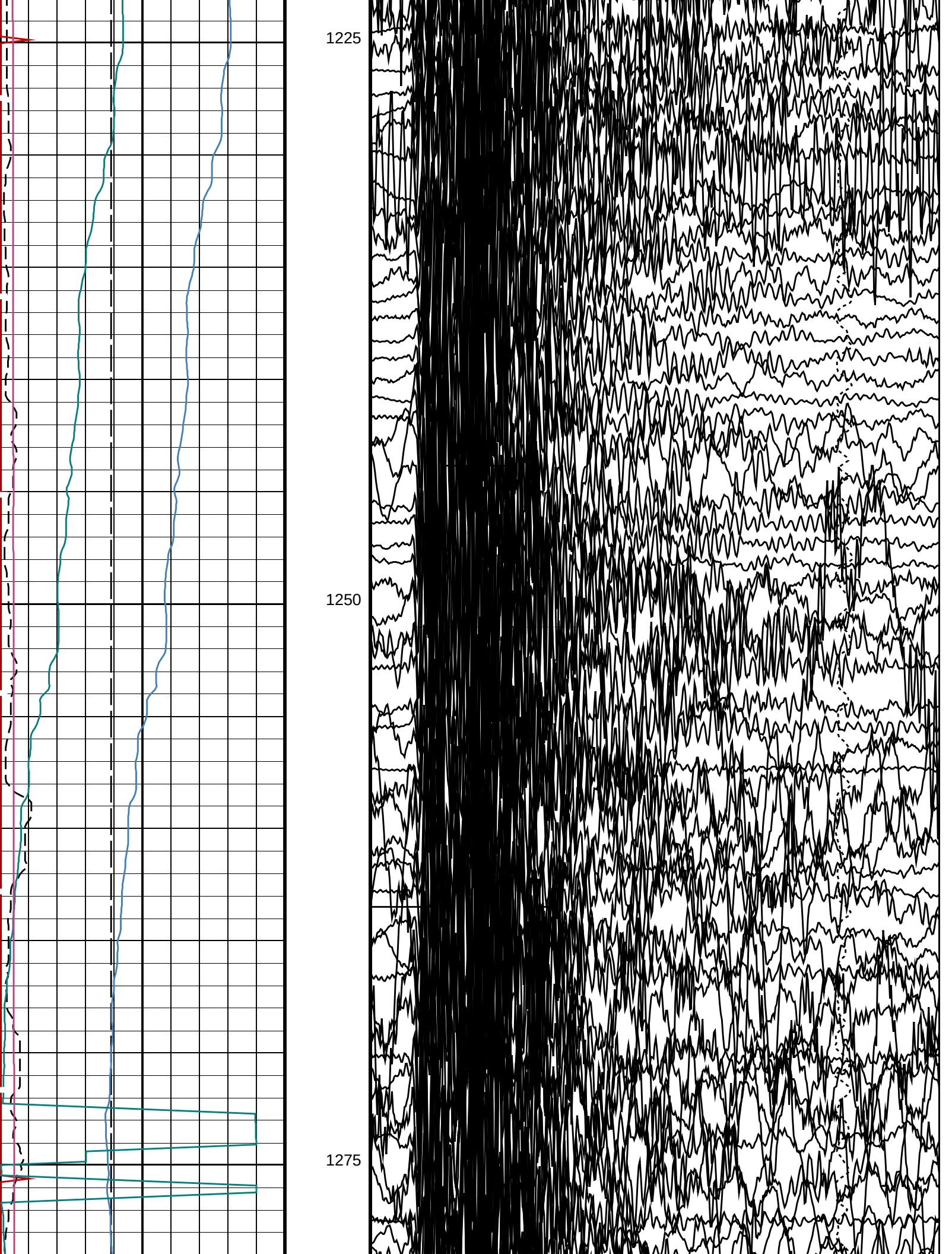

950
975


1000
1025
1050


1075
1100


1125
1150


1175
1200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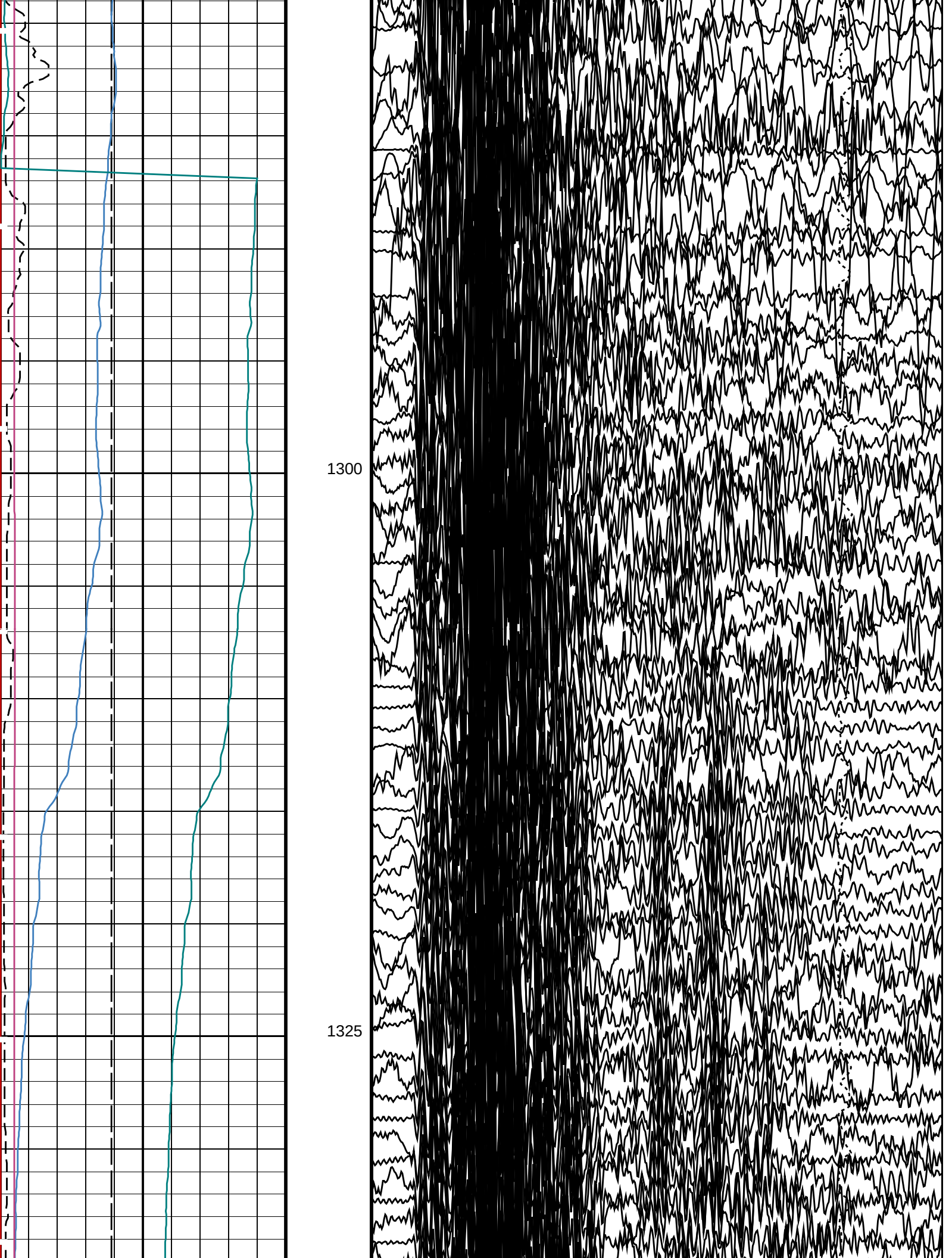
1250
1275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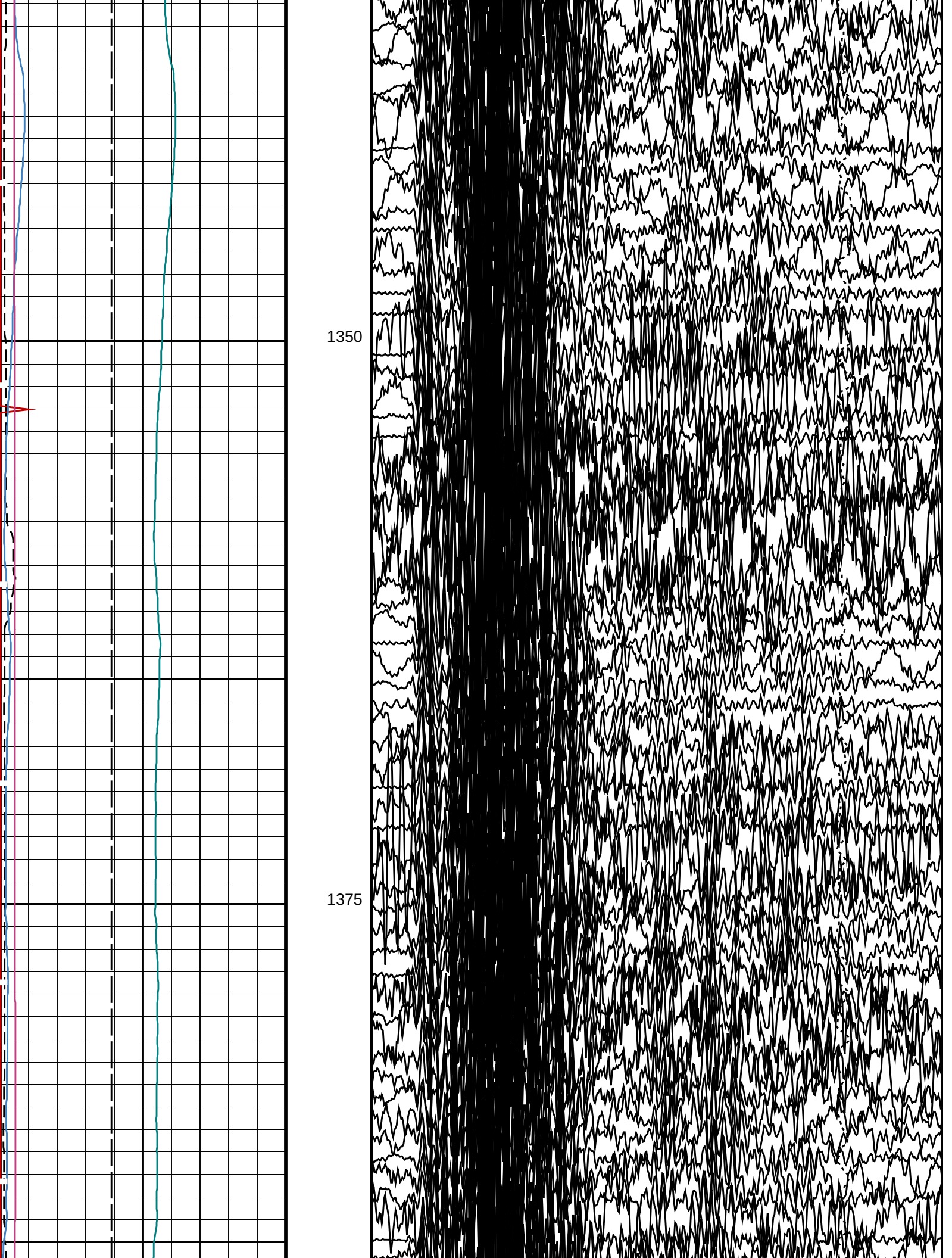
1350
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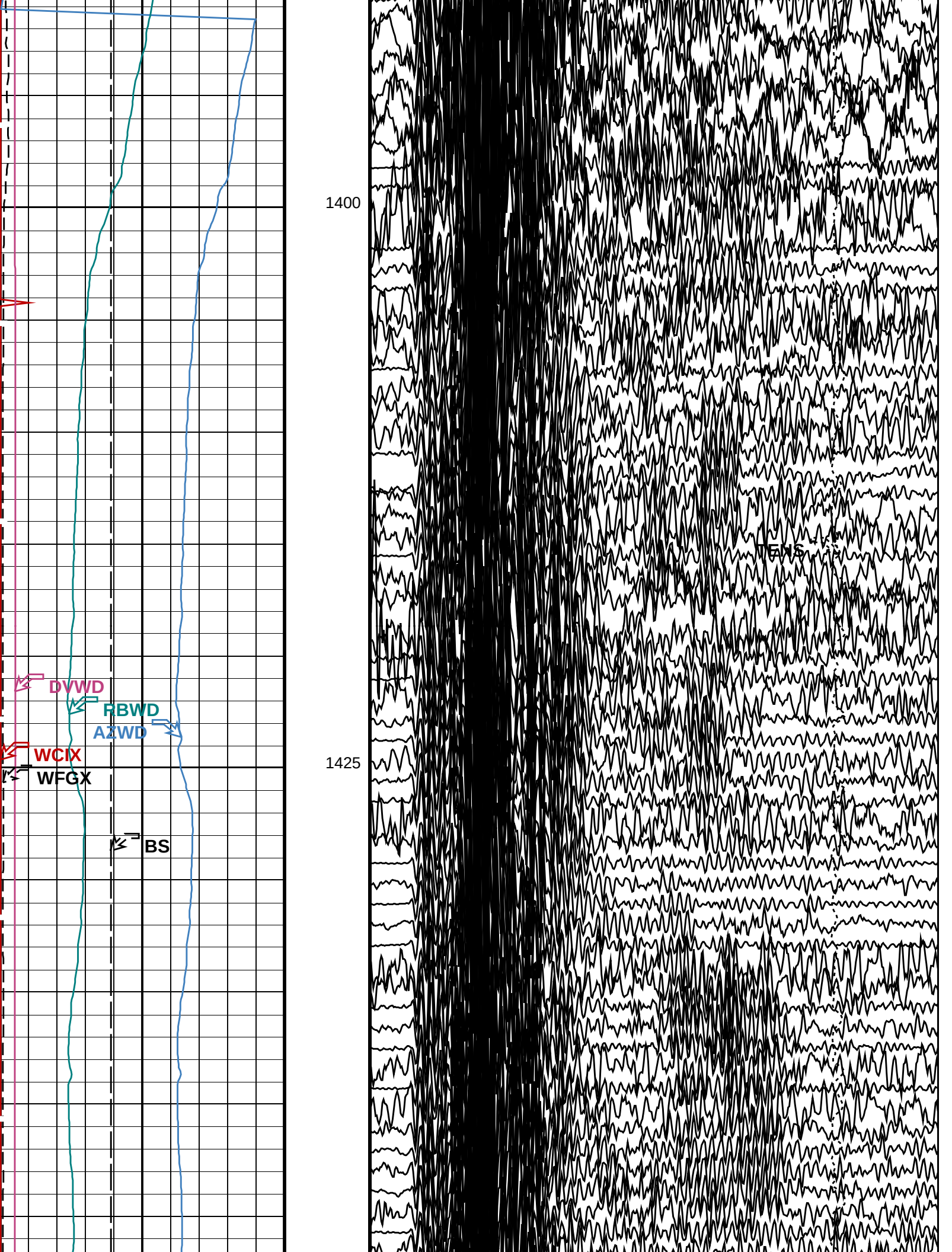
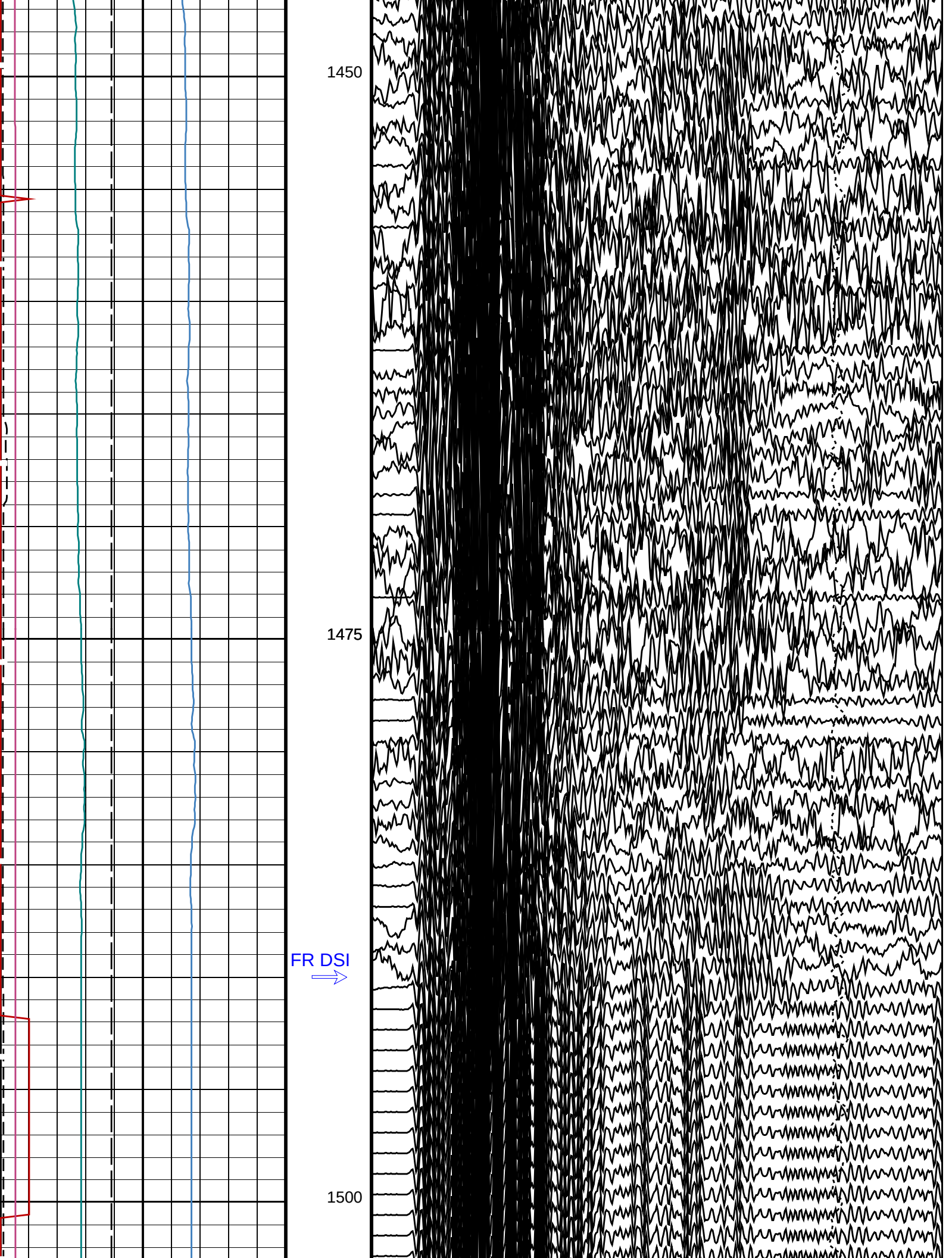
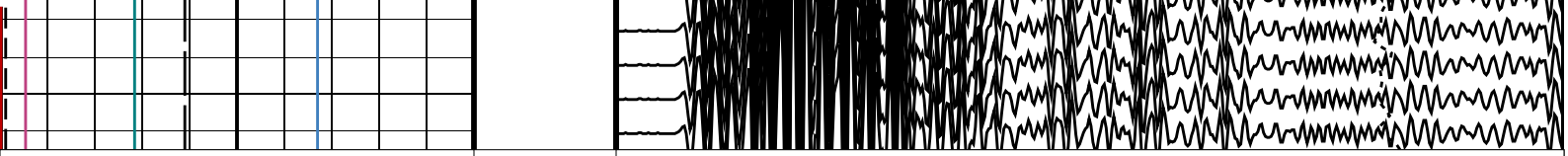

1400
1425
TENS
DVWD
RBWD
AZWD
WCIX
WFGX
BS


1450
1475
FR DSI
1500



Bit Size (BS)		
6	(IN)	16

SAMX Waveforms (WFX)		
0	(US)	20000

SAMX Waveform Gain (WFGX)		
0	(----)	1000

Tension (TENS)		
10000	(LBF)	0

Uplog #1

Waveform Data Copy Indicator X – Expert (WCIX)		
0	(----)	10

Azimuth at DSST Waveform Depth (AZWD)		
0	(DEG)	400

Relative Bearing at DSST Waveform Depth (RBWD)		
0	(DEG)	400

Deviation at DSST Waveform Depth (DVWD)		
0	(DEG)	100

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST-B: Dipole Shear Imager - B		
DWCX	Digitizer Word Count X	512	
LTXG	Lower Dipole Transmitter Geometry	156	IN
MTXG	Monopole Transmitter Geometry	186	IN
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
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	BCR	
UTXG	Upper Dipole Transmitter Geometry	162	IN
WFMX	Waveform Mode X	W1	
	System and Miscellaneous		
BS	Bit Size	9.875	IN

Format: DSST_WFX_WAVES Vertical Scale: 1:200 Graphics File Created: 24-Jan-2016 10:45

OP System Version: 19C0-187

MEST-B	19C0-187	DTA-A	19C0-187
DSST-B	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24-Jan-2016 10:45
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24-Jan-2016 10:45

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24-Jan-2016 10:45	1506.5 M	809.9 M
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24-Jan-2016 10:45	1506.5 M	809.9 M

OP System Version: 19C0-187

MEST-B	19C0-187	DTA-A	19C0-187
DSST-B	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

Waveform Data Copy Indicator 3 - Monopole Stoneley (WCI3)
0 (----) 10

Tension (TENS)
10000 (LBF) 0

SAM3 Waveform Gain (WFG3)
0 (----) 1000

Caliper 2 (C2)
0 (IN) 20

Caliper 1 (C1)
0 (IN) 20

Bit Size (BS)
0 (IN) 20

Uplog #1

Min Amplitude Max
Rec.Array P&S Slow Proj. CVDL (SPR4)
40 (US/F) 240

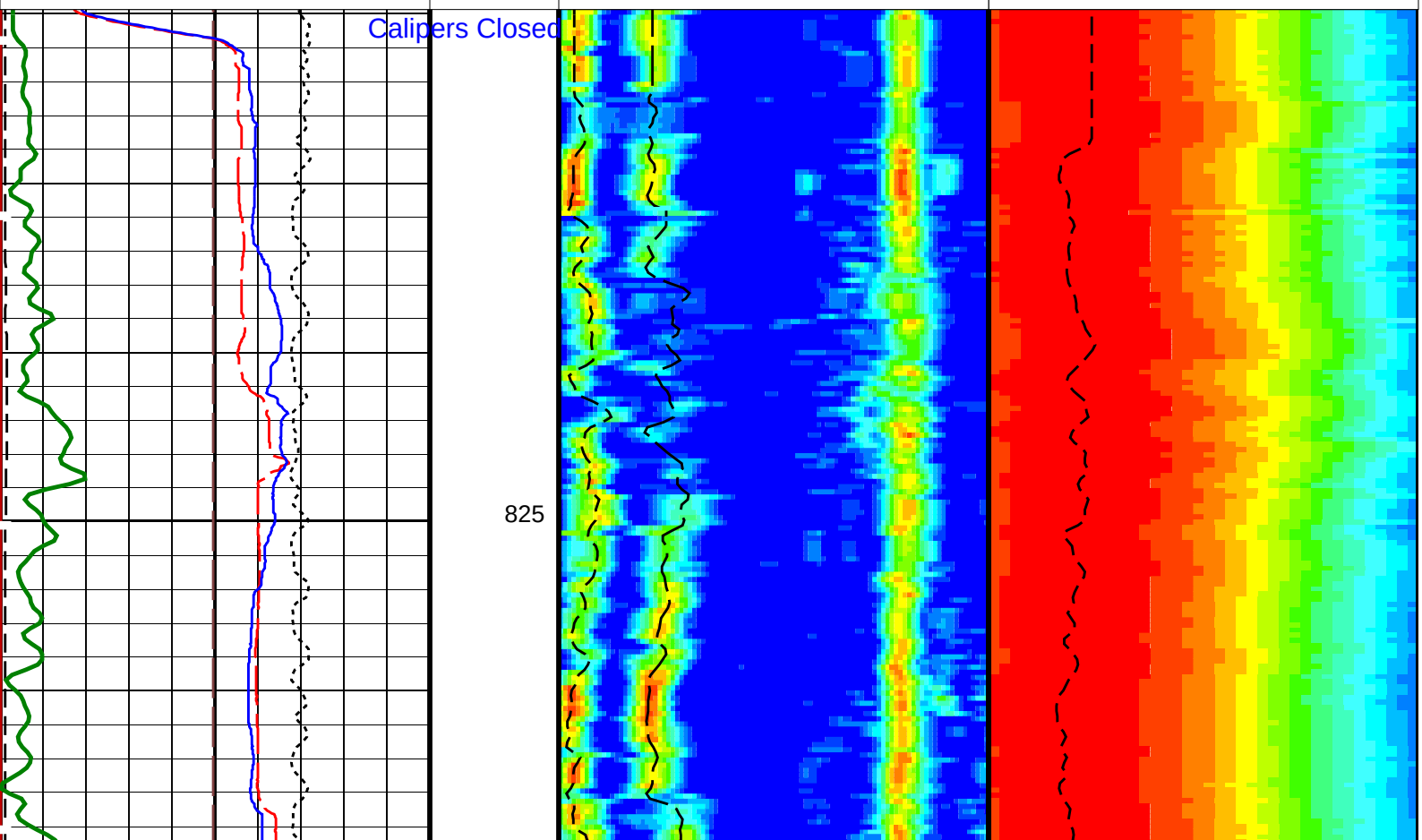
Delta-T Shear / RA - P & S (DTRS)
40 (US/F) 240

Min Amplitude Max
Rec.Array Stoneley Slow Proj. CVDL (SPR3)
180 (US/F) 340

Delta-T Comp / RA - P & S (DTRP)
40 (US/F) 240

Delta-T Stoneley / RA (DT3R)
180 (US/F) 340

Calipers Closed



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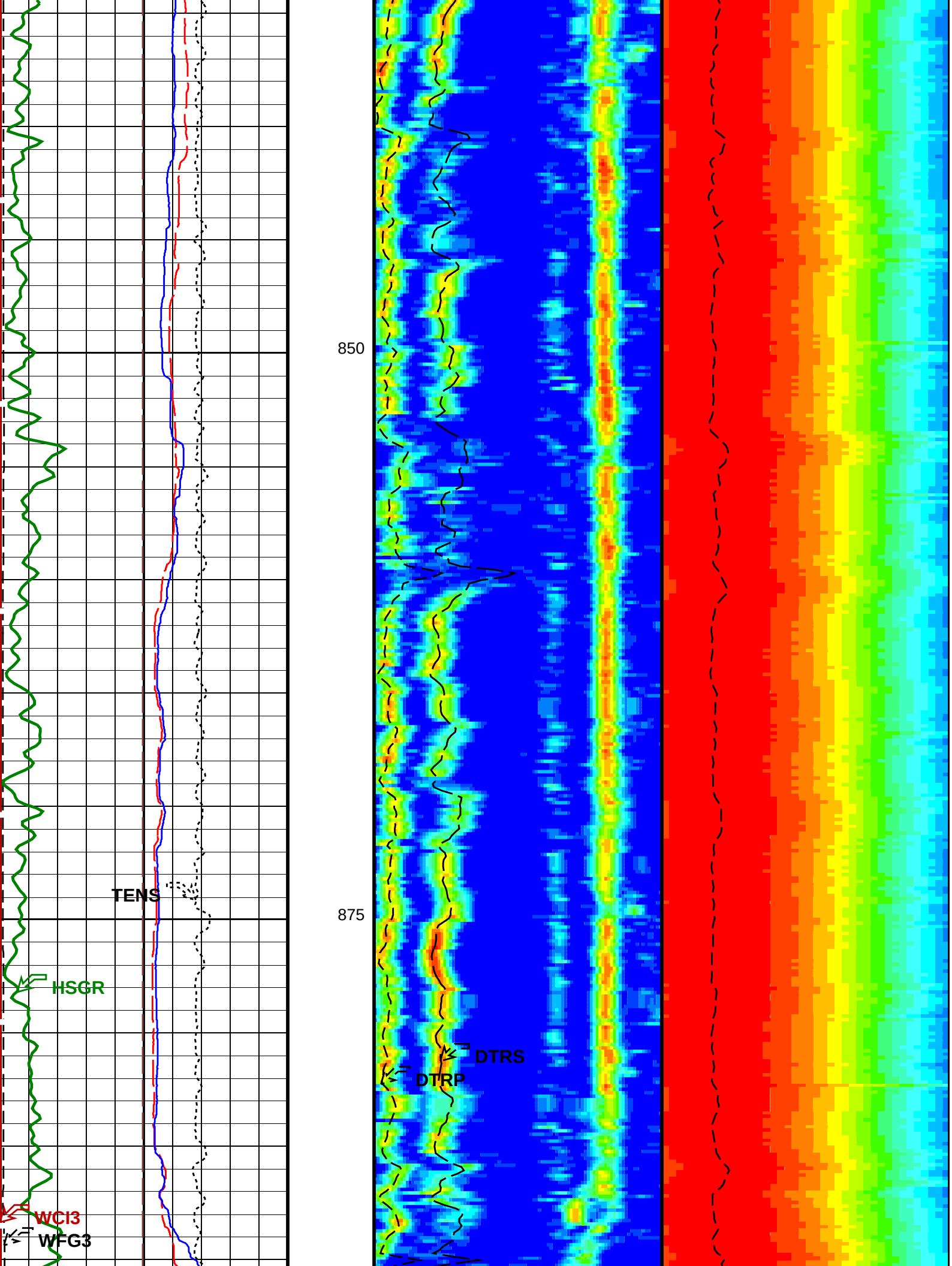
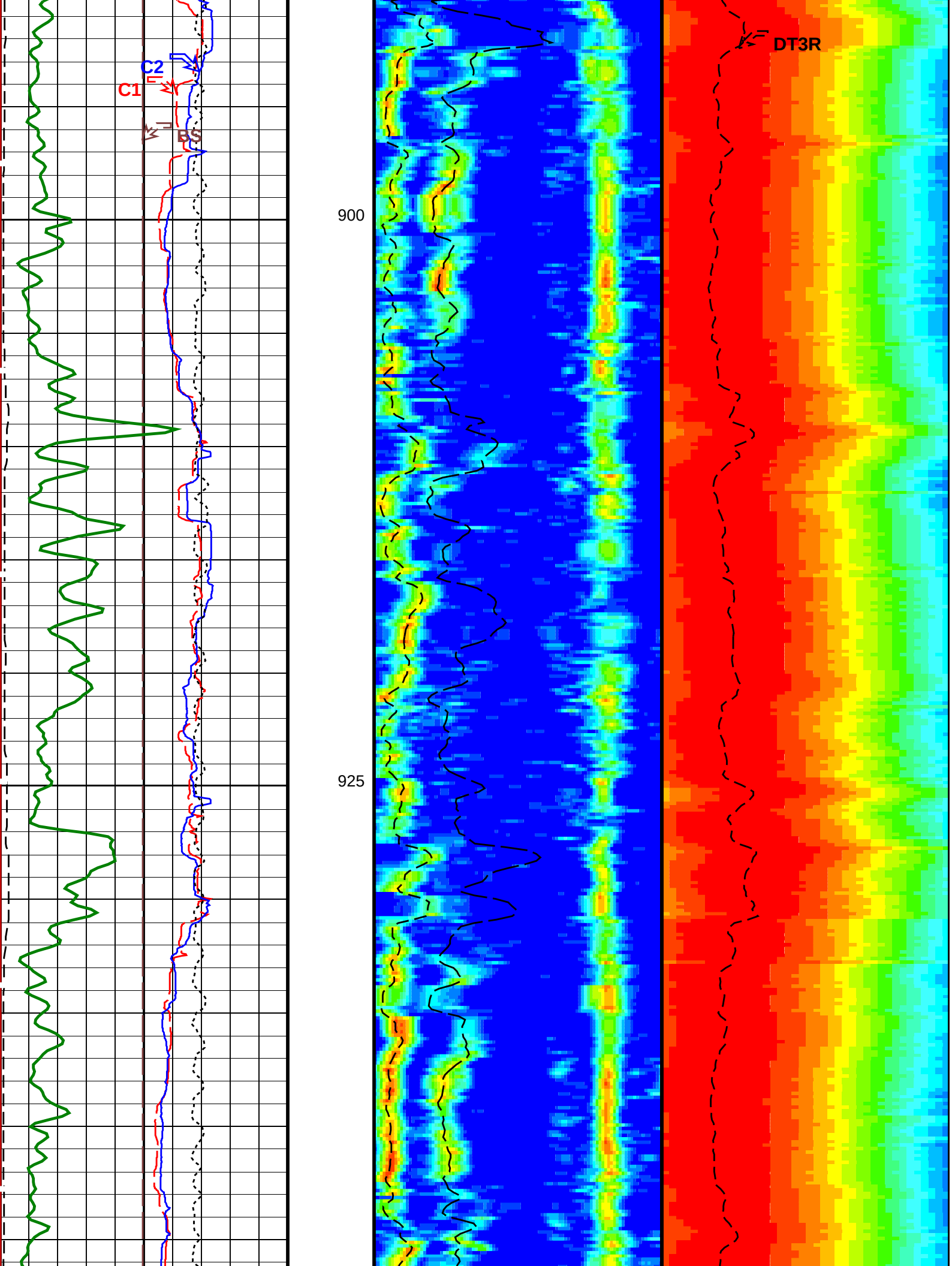
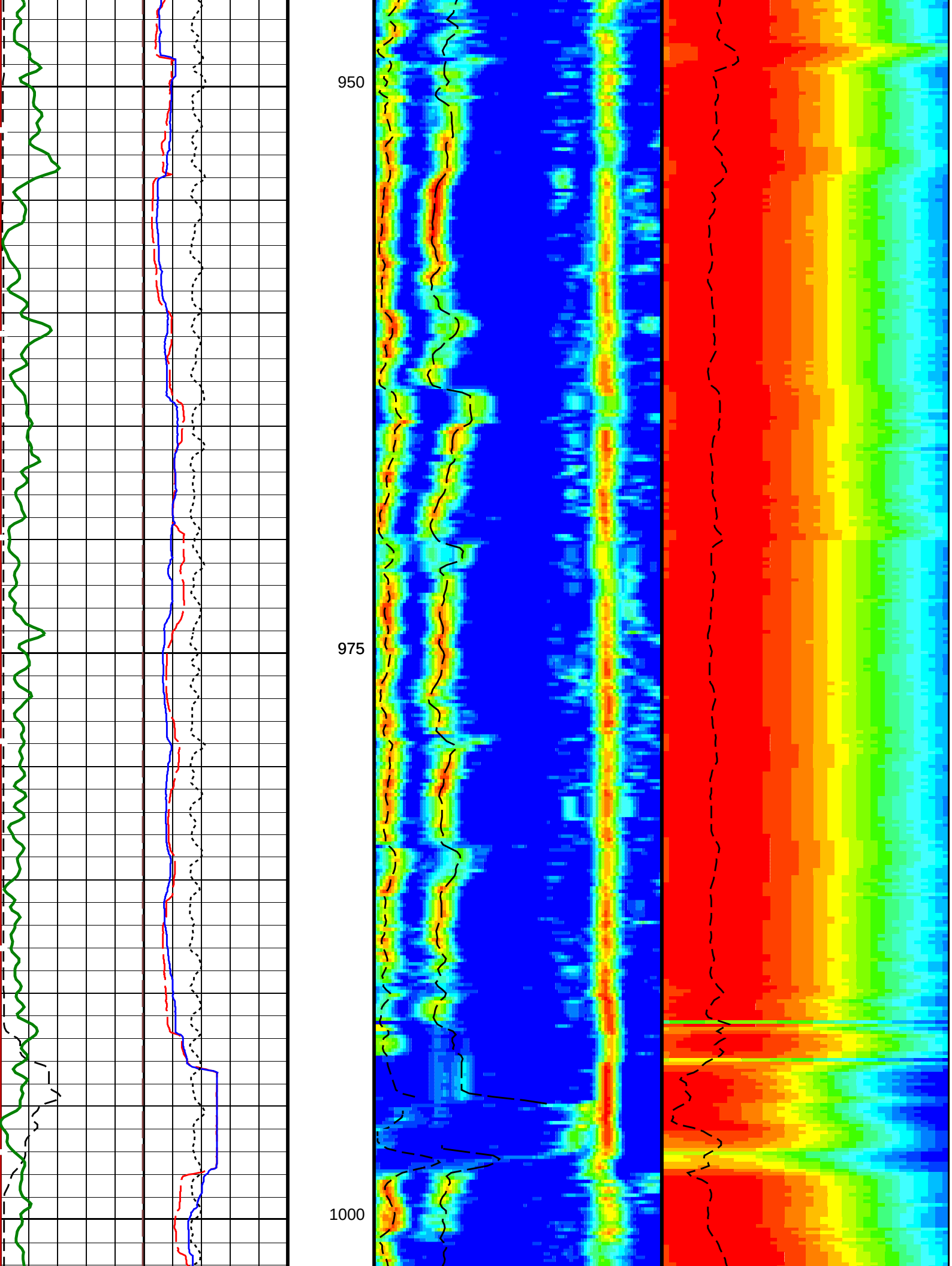
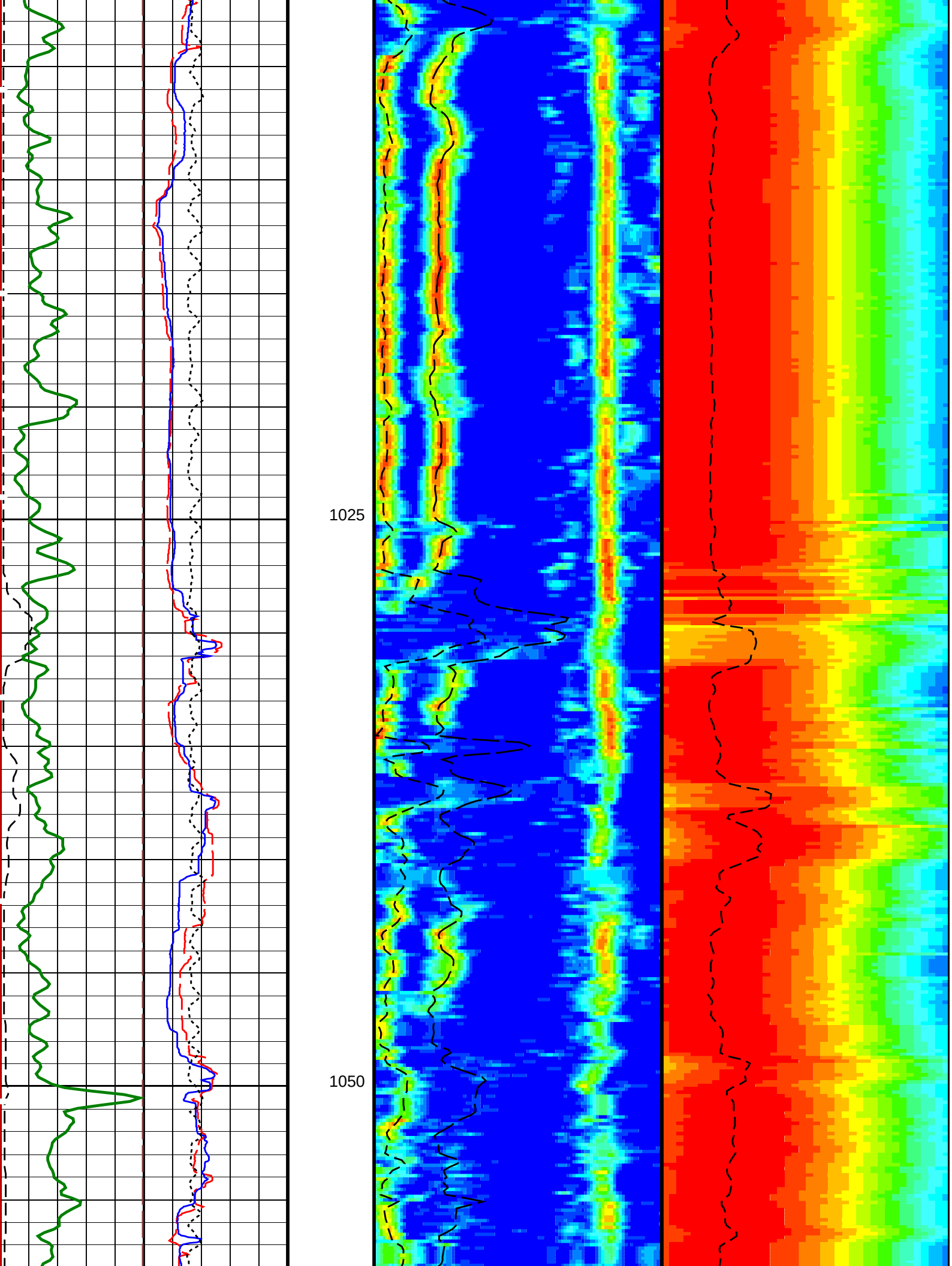

850
875
TENS
HSGR
DTRS
DTRP
WCI3
WFG3


C2
C1
BS
900
925
DT3R


950
975
1000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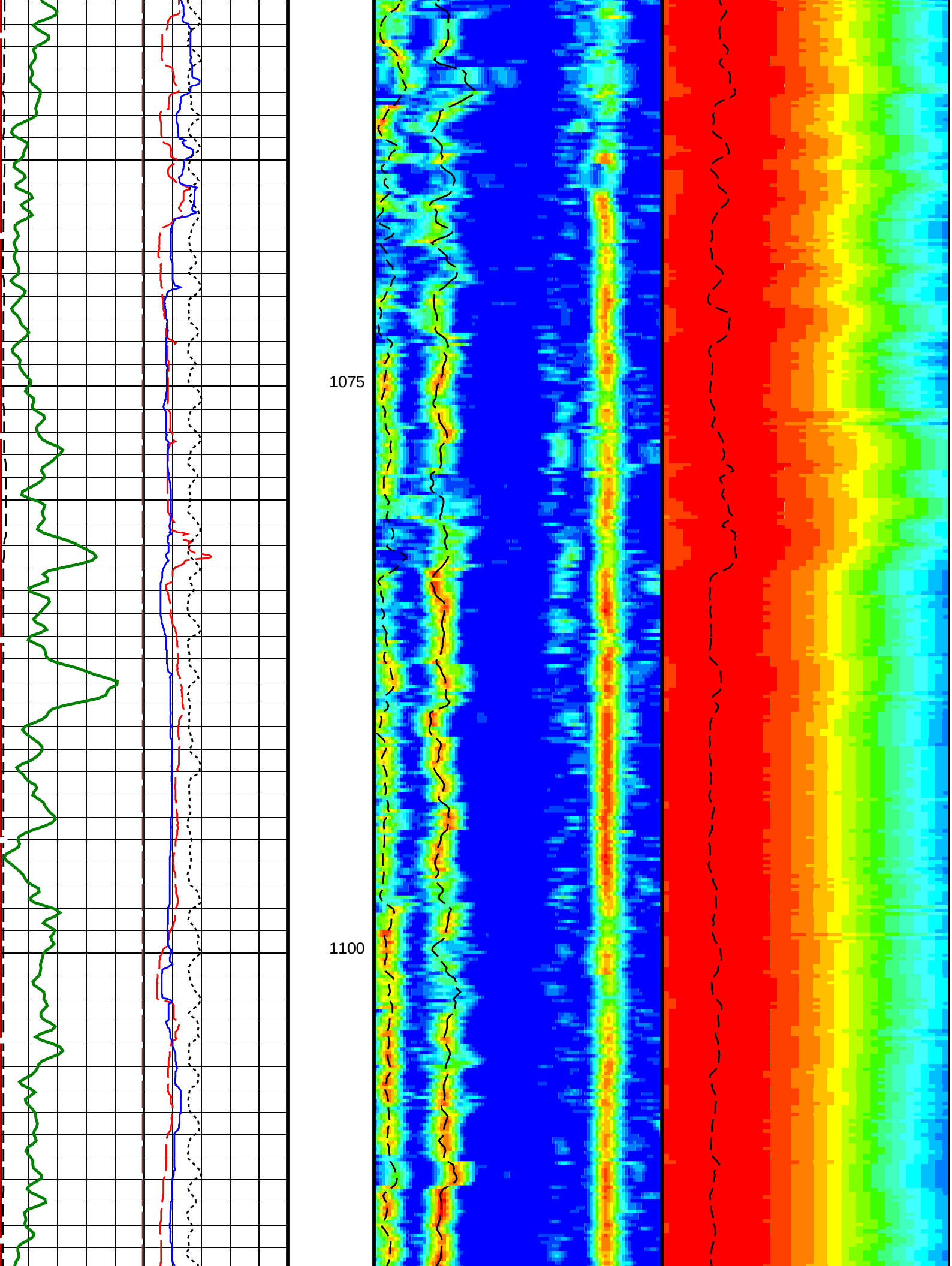
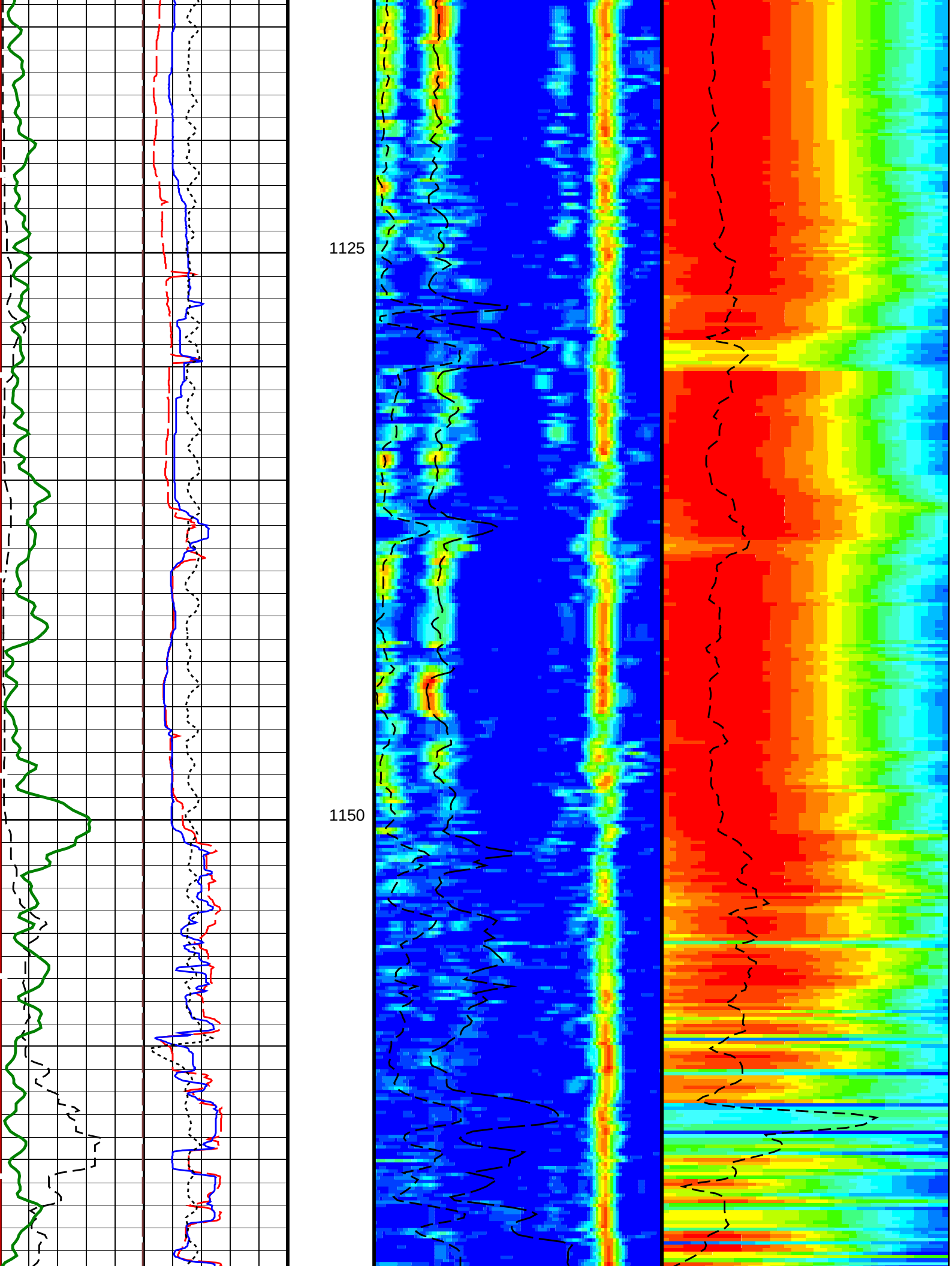
1050


1075
1100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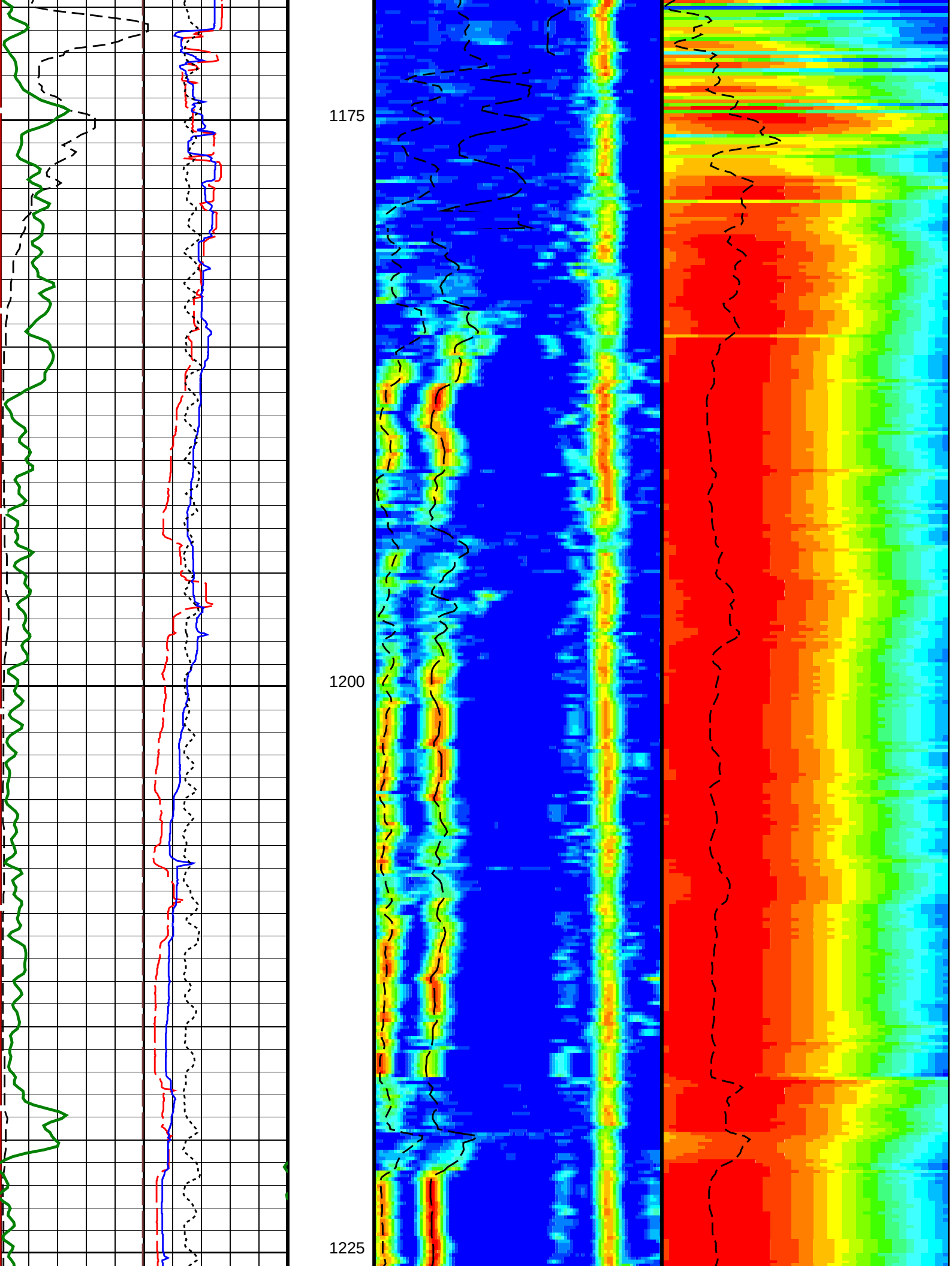
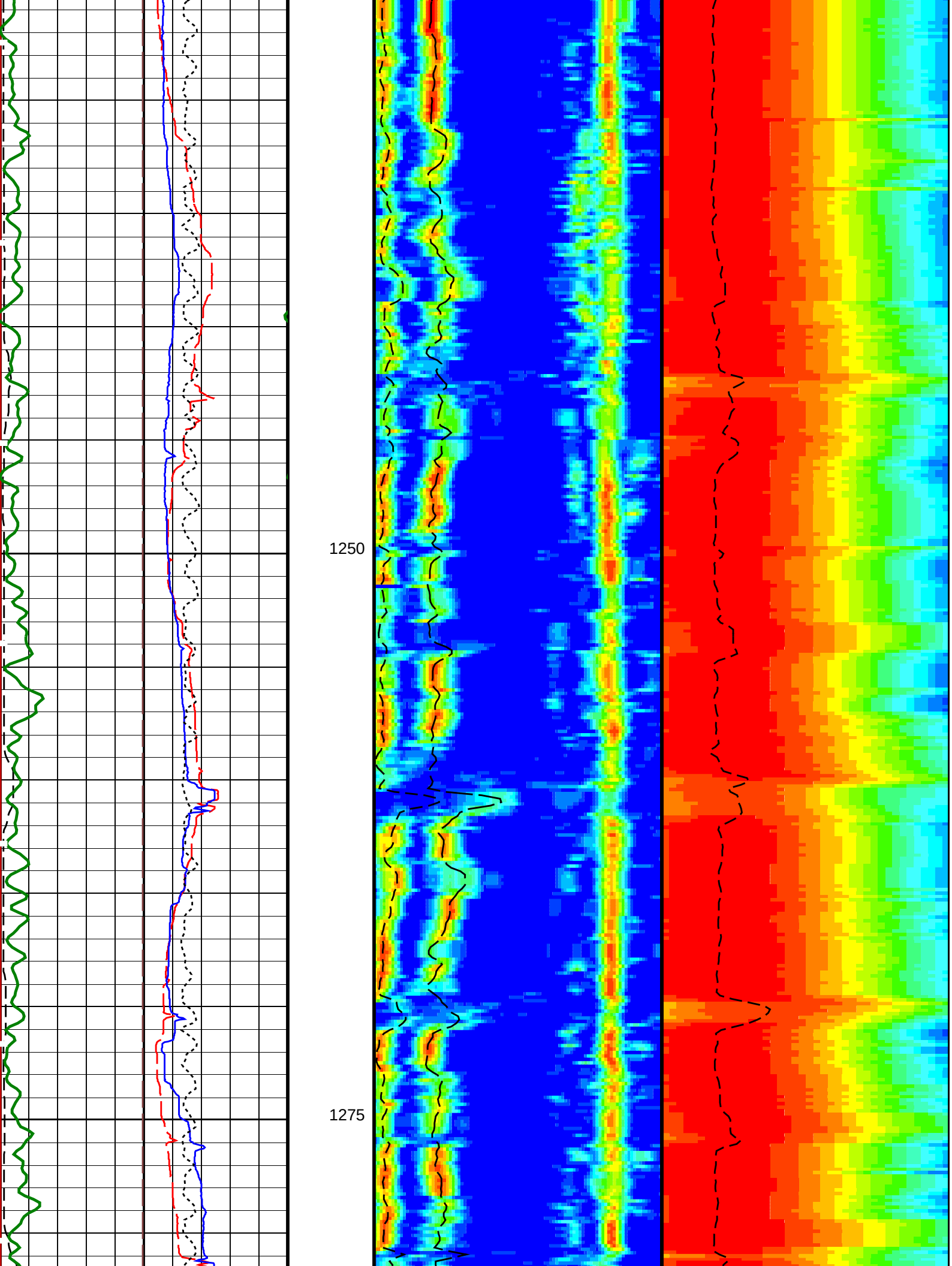
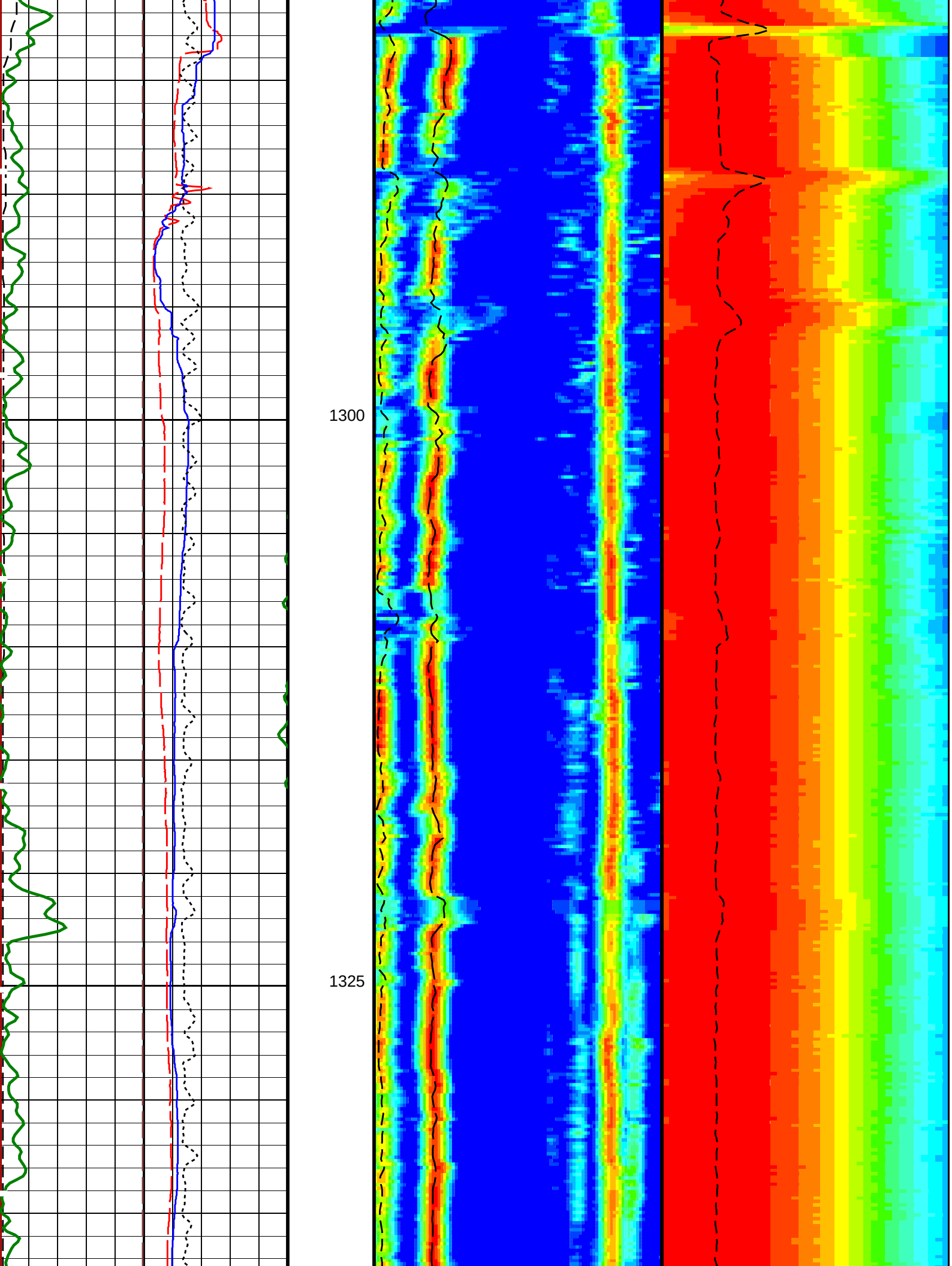
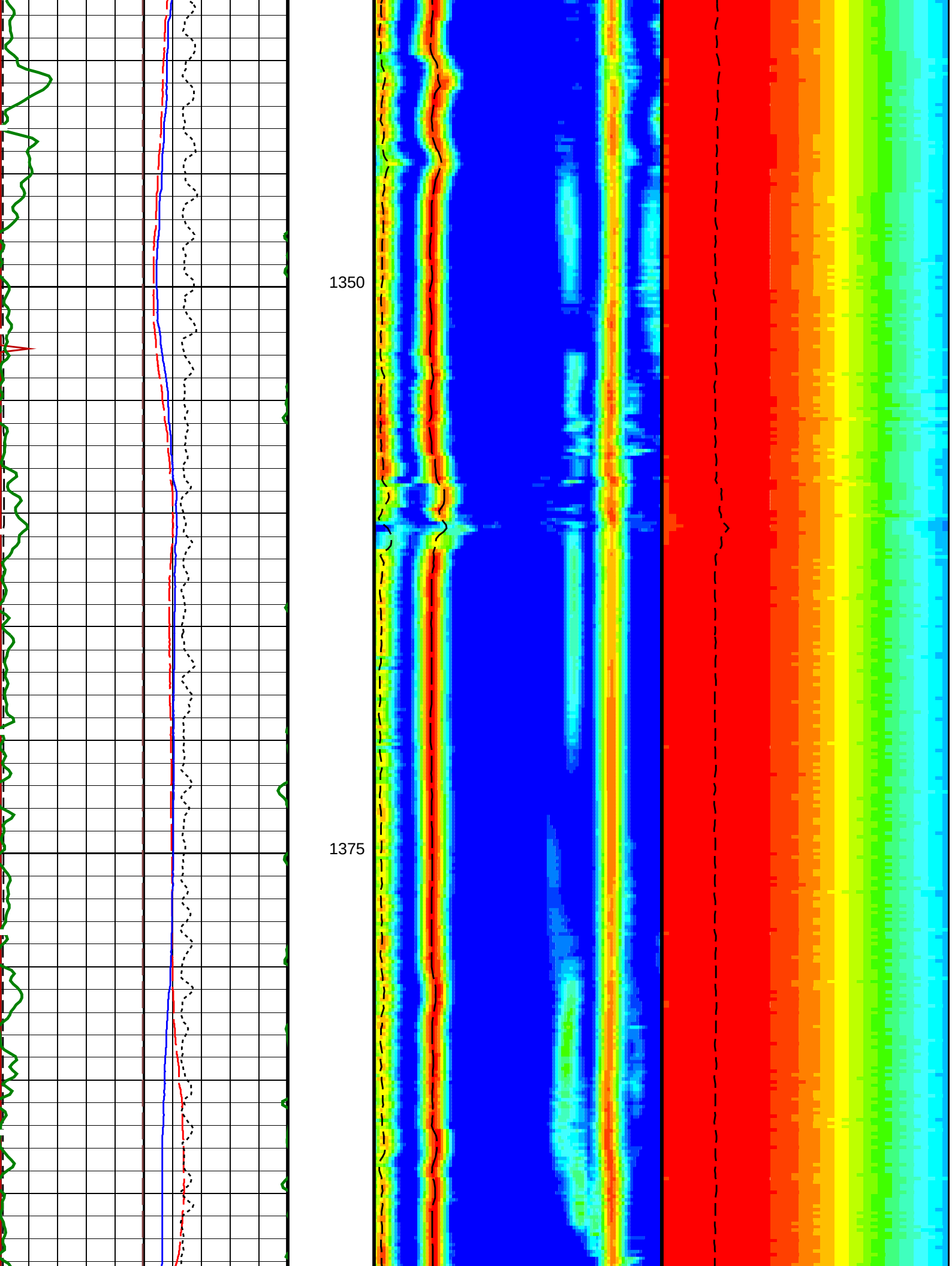
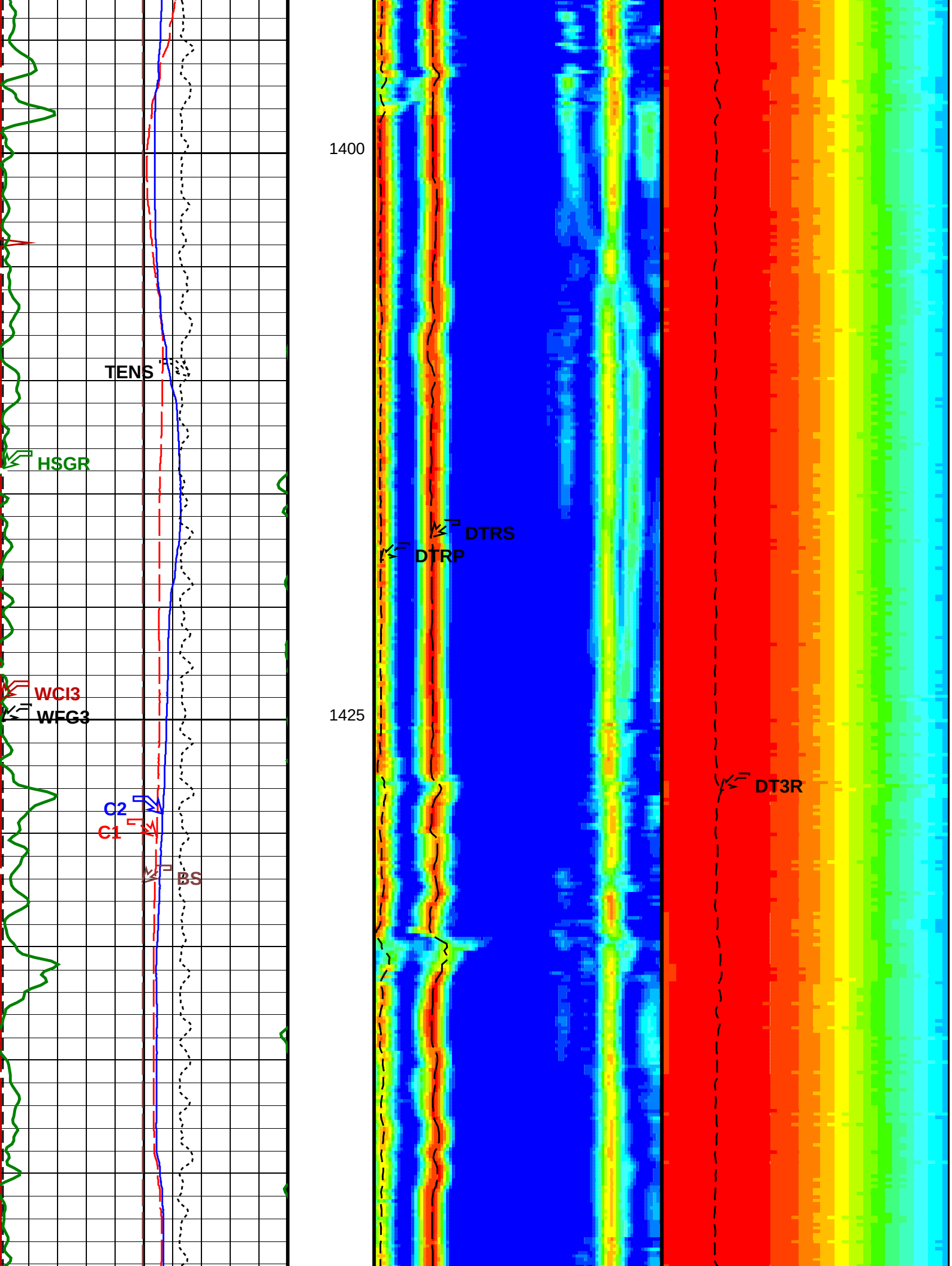
1150

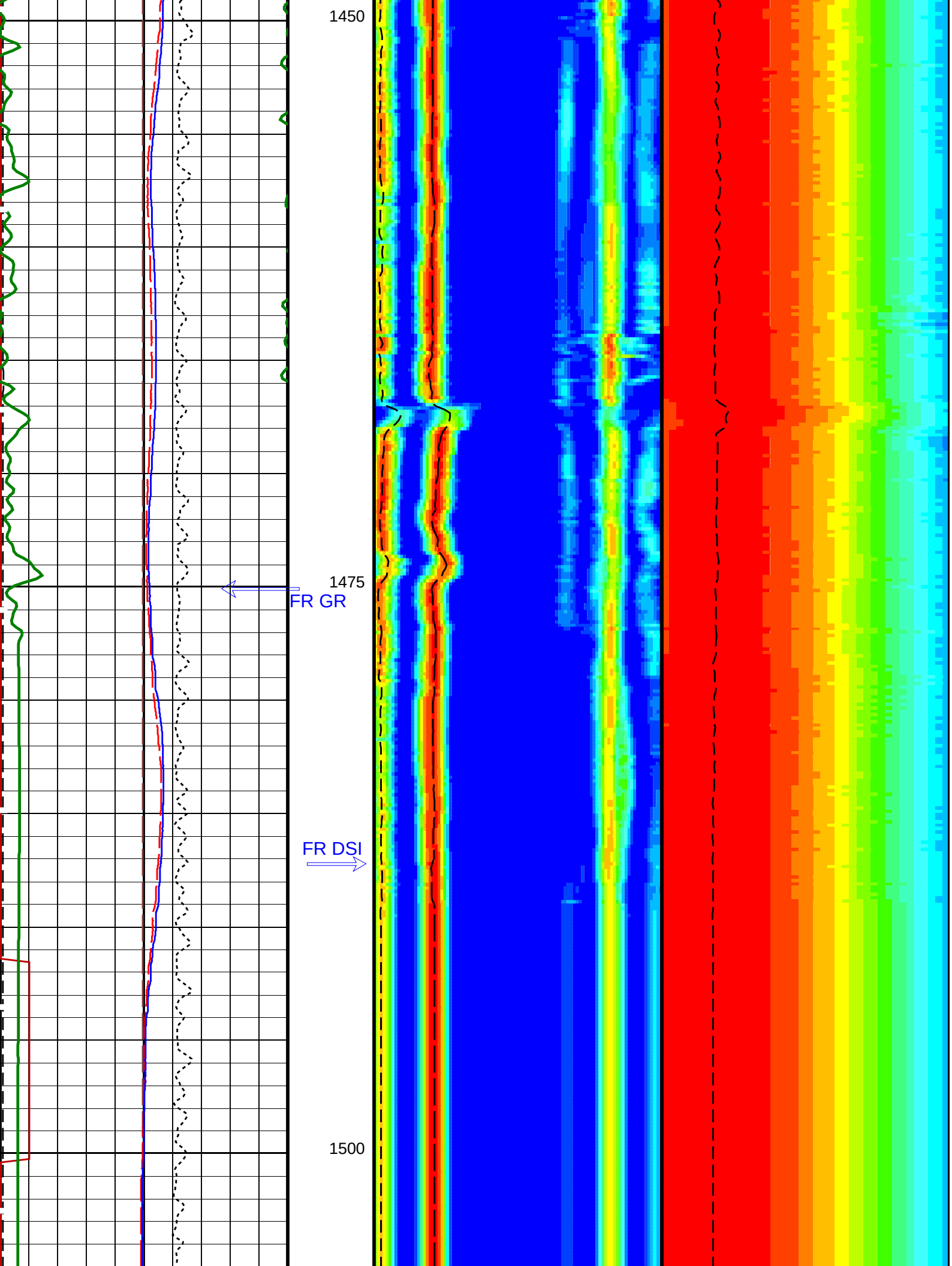

1175
1200
1225


1250
1275


1300
1325


1350
1375


1400
1425
TENS
HSGR
DTRS
DTRP
WCI3
WFG3
C2
C1
BS
DT3R


1450
1475
FR GR
FR DSI
1500

Bit Size (BS)
0 (IN) 20

Caliper 1 (C1)
0 (IN) 20

Caliper 2 (C2)
0 (IN) 20

SAM3 Waveform Gain (WFG3)
0 (----) 1000

Tension (TENS)
10000 (LBF) 0

Waveform Data Copy Indicator 3 − Monopole Stoneley (WCI3)
0 (----) 10

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

Delta−T Comp / RA − P & S (DTRP)
40 (US/F) 240

Delta−T Stoneley / RA (DT3R)
180 (US/F) 340

Delta−T Shear / RA − P & S (DTRS)
40 (US/F) 240

Min Amplitude Max
Rec.Array Stoneley Slow Proj. CVDL (SPR3)
180 (US/F) 340

Min Amplitude Max
Rec.Array P&S Slow Proj. CVDL (SPR4)
40 (US/F) 240

Uplog #1

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DSST−B: Dipole Shear Imager − B		
BHS	Borehole Status	OPEN	
CASF	Label Casing Function − Monopole P&S	50	
COLL	Label Slowness Lower Limit − Monopole P&S Compressional	40	US/F
COUL	Label Slowness Upper Limit − Monopole P&S Compressional	180	US/F
DDE3	Digitizing Delay 3	0	US
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	US
DSI3	Digitizer Sample Interval 3	40	US
DSI4	Digitizer Sample Interval 4	10	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta−T Source for DTCO Channel	PS_COMP	
DTF	Delta−T Fluid	189	US/F
DWC3	Digitizer Word Count 3	512	
DWC4	Digitizer Word Count 4	512	
DWCX	Digitizer Word Count X	512	
FILG	Label Fill Gap Control − Monopole P&S	COMP_SHEAR	
GCSE	Generalized Caliper Selection	C1	
LFC	Label Formation Character − Monopole P&S	DYNAMIC	
MCS	Mean Casing Slowness	57	US/F
MTXG	Monopole Transmitter Geometry	186	IN
NWI3	Number Waveform Items 3	8	
NWI4	Number Waveform Items 4	8	
NWIX	Number Waveform Items X	32	
RSMN	Label Shear/Compressional Minimum Ratio − Monopole P&S	1.4	
RSMX	Label Shear/Compressional Maximum Ratio − Monopole P&S	2.12	
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
SAM3	DSST Sonic Acquisition Mode 3 − Monopole Mode for Stoneley	ODD	
SAM4	DSST Sonic Acquisition Mode 4 − Monopole Mode for P&S	EVEN	
SAMX	DSST Sonic Acquisition Mode X − Both Dipoles or Monopole Mode for Expert BCR		
SAS3	STC Sonic Array Status − Monopole Stoneley	255	
SAS4	STC Sonic Array Status − Monopole P&S	255	
SBO3	STC Search Band Offset − Monopole Stoneley	2000	US

SBO4	STC Search Band Offset − Monopole P&S	500	US
SBR4	STC Baseline Removal − Monopole P&S	ON	
SBW3	STC Search Bandwidth − Monopole Stoneley	6000	US
SBW4	STC Search Bandwidth − Monopole P&S	2000	US
SFC3	STC Formation Character − Monopole Stoneley	FAST	
SFC4	STC Formation Character − Monopole P&S	FAST	
SFM3	STC Filter − Monopole Stoneley	B.5−1.5K	
SFM4	STC Filter − Monopole P&S	B3−20K	
SHLL	Label Slowness Lower Limit − Monopole P&S Shear	75	US/F
SHUL	Label Slowness Upper Limit − Monopole P&S Shear	180	US/F
SLL3	STC Slowness Lower Limit − Monopole Stoneley	180	US/F
SLL4	STC Slowness Lower Limit − Monopole P&S	40	US/F
SST3	STC Slowness Step − Monopole Stoneley	4	US/F
SST4	STC Slowness Step − Monopole P&S	2	US/F
SSW3	STC Source Waveform − Monopole Stoneley	WF_SAM3	
SSW4	STC Source Waveform − Monopole P&S	WF_SAM4	
STLL	Label Slowness Lower Limit − Monopole Stoneley	180	US/F
STUL	Label Slowness Upper Limit − Monopole Stoneley	340	US/F
SUL3	STC Slowness Upper Limit − Monopole Stoneley	340	US/F
SUL4	STC Slowness Upper Limit − Monopole P&S	240	US/F
SWD3	STC Slowness Width − Monopole Stoneley	40	US/F
SWD4	STC Slowness Width − Monopole P&S	10	US/F
TBF3	STC Time for Baseline Fill − Monopole Stoneley	0	US
TBF4	STC Time for Baseline Fill − Monopole P&S	300	US
TLL3	STC Time Lower Limit − Monopole Stoneley	620	US
TLL4	STC Time Lower Limit − Monopole P&S	150	US
TST3	STC Time Step − Monopole Stoneley	200	US
TST4	STC Time Step − Monopole P&S	50	US
TUL3	STC Time Upper Limit − Monopole Stoneley	8060	US
TUL4	STC Time Upper Limit − Monopole P&S	3660	US
TWD3	STC Time Width − Monopole Stoneley	2000	US
TWD4	STC Time Width − Monopole P&S	1000	US
TWI3	STC Integration Time Window − Monopole Stoneley	1600	US
TWI4	STC Integration Time Window − Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
WFM3	Waveform Mode 3	W1	
HNGS−BA: Hostile Natural Gamma Ray Sonde			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	C1	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00154641	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
TPOS	Tool Position	CENT	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.45354	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.4815	
EDTC−B: Enhanced DTS Cartridge			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.00	G/C3

Format: Stonely180_780_P&S40_240 Vertical Scale: 1:200 Graphics File Created: 24−Jan−2016 10:45

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24−Jan−2016 10:45
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24−Jan−2016 10:45

Company: International Ocean Discovery Program | Well: Expedition 360, Site U1473A

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24−Jan−2016 10:45	1506.5 M	809.9 M
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24−Jan−2016 10:45	1506.5 M	809.9 M

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 25

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 25

Gamma Ray (GR_EDTC)
0 (GAPI) 25

Bit Size (BS)
0 (IN) 20

Uplog #1

Relative Bearing (RB_MEST)
−40 (DEG) 360

Pad One Azimuth (P1AZ_MEST)
−40 (DEG) 360

Hole Azimuth (HAZIM)
−40 (DEG) 360

Deviation (DEVIM)
0 (DEG) 10

Caliper 2 (C2)
0 (IN) 20

EMEX Intensity (EI)
0 (AMPS) 10

Caliper 1 (C1)
0 (IN) 20

EMEX Voltage (EV)
0 (V) 50

Data Button 8 − Varies with RBS (U−MEST_RB8)
−80 (−−−−) 20

Data Button 7 − Varies with RBS (U−MEST_RB7)
−70 (−−−−) 30

Data Button 6 − Varies with RBS (U−MEST_RB6)
−60 (−−−−) 40

Data Button 5 − Varies with RBS (U−MEST_RB5)
−50 (−−−−) 50

Data Button 4 − Varies with RBS (U−MEST_RB4)
−40 (−−−−) 60

Data Button 3 − Varies with RBS (U−MEST_RB3)
−30 (−−−−) 70

Data Button 2 − Varies with RBS (U−MEST_RB2)
−20 (−−−−) 80

Data Button 1 − Varies with RBS (U−MEST_RB1)
−10 (−−−−) 90

0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADD (U−MEST_RESISTIVITY_PADD_DS) (−−−−)

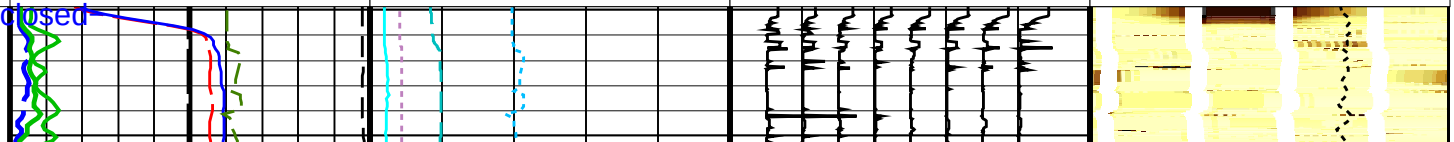
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)

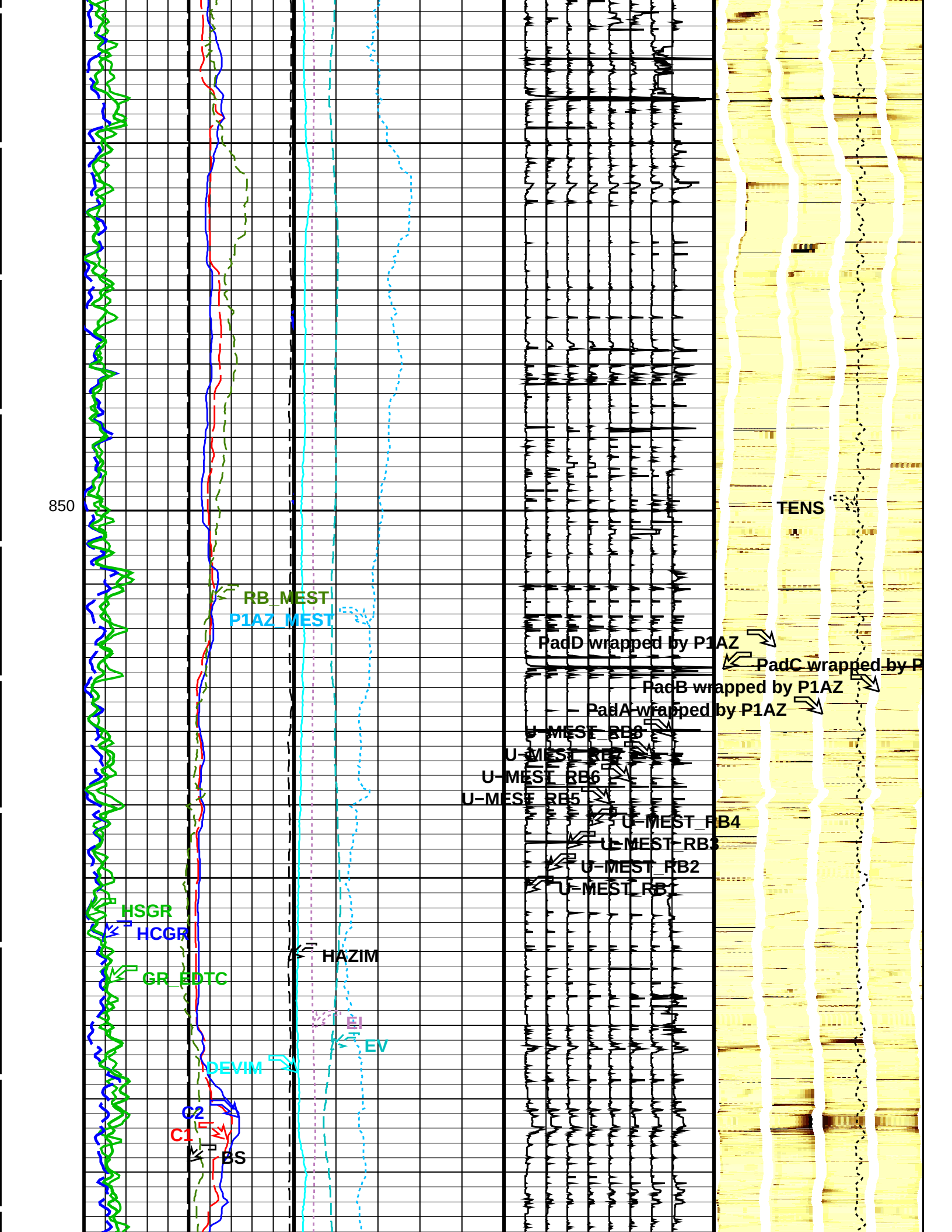
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)

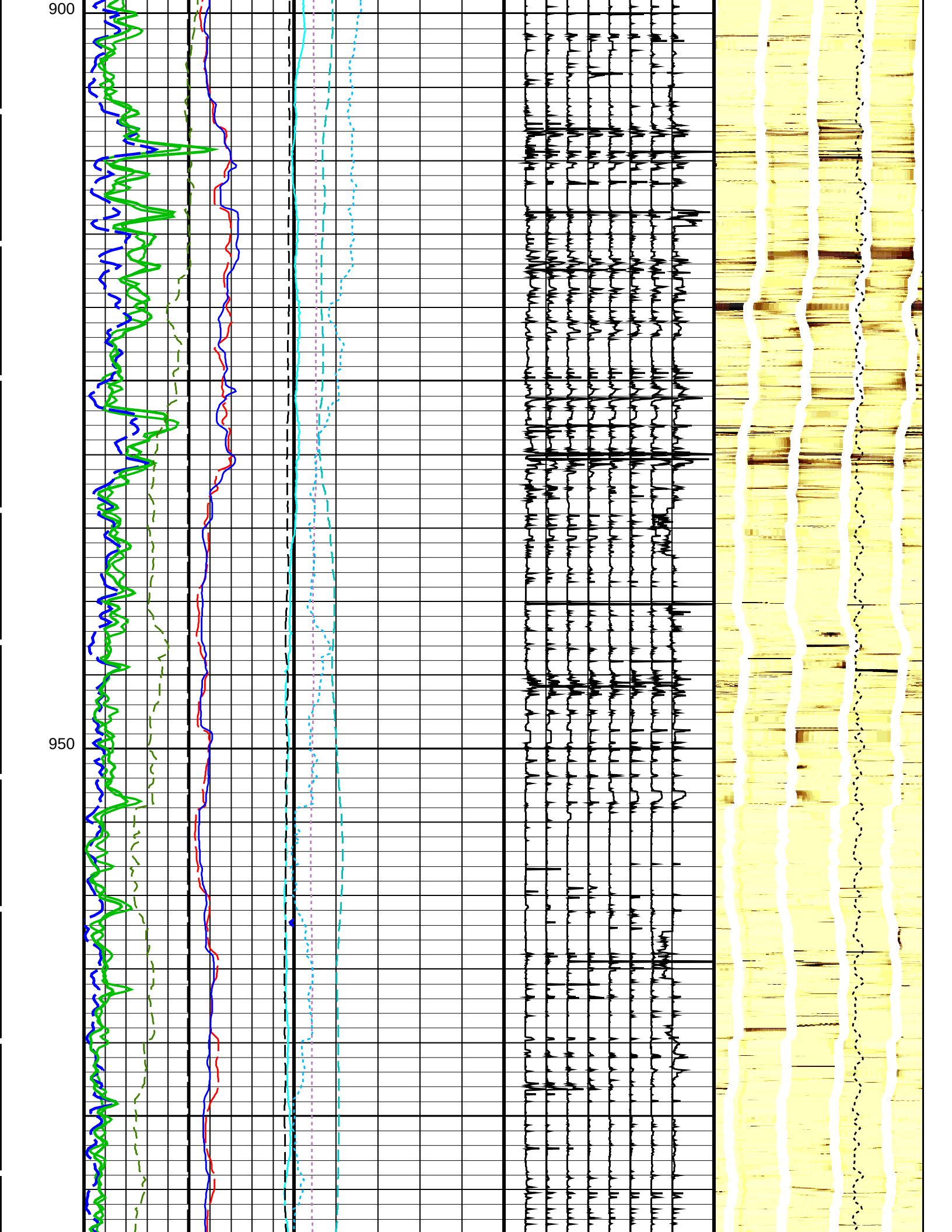
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)

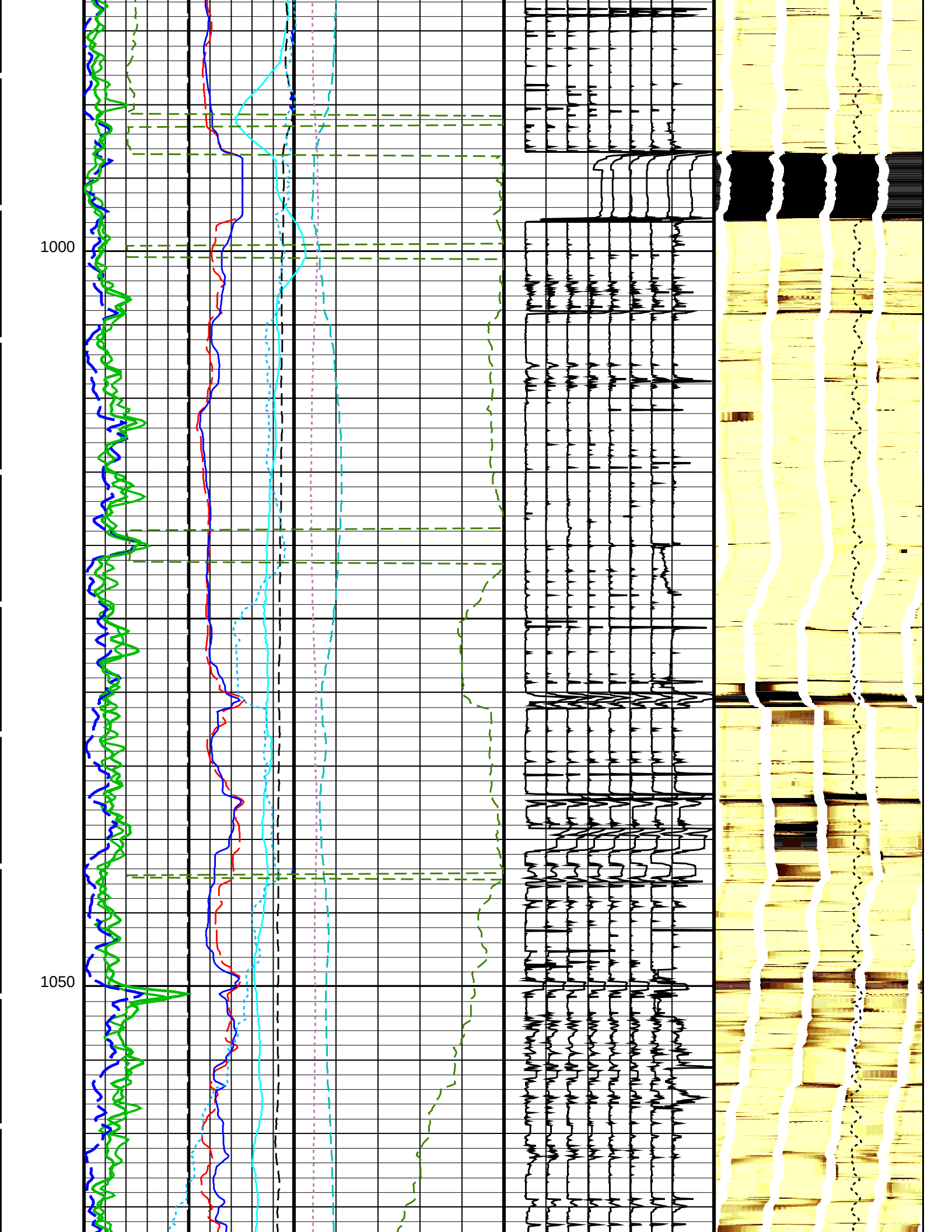
Tension (TENS)
10000 (LBF) 0

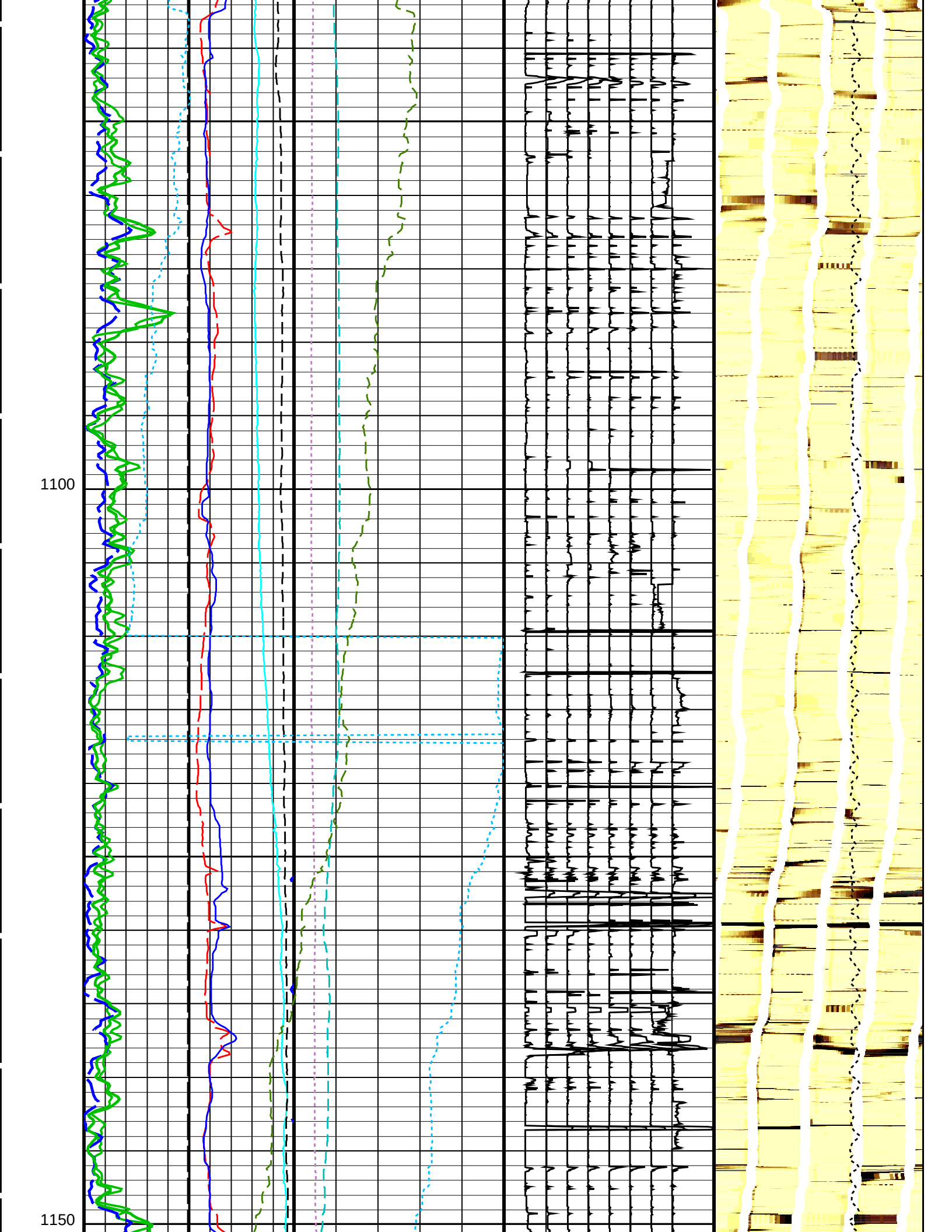
Calipers closed

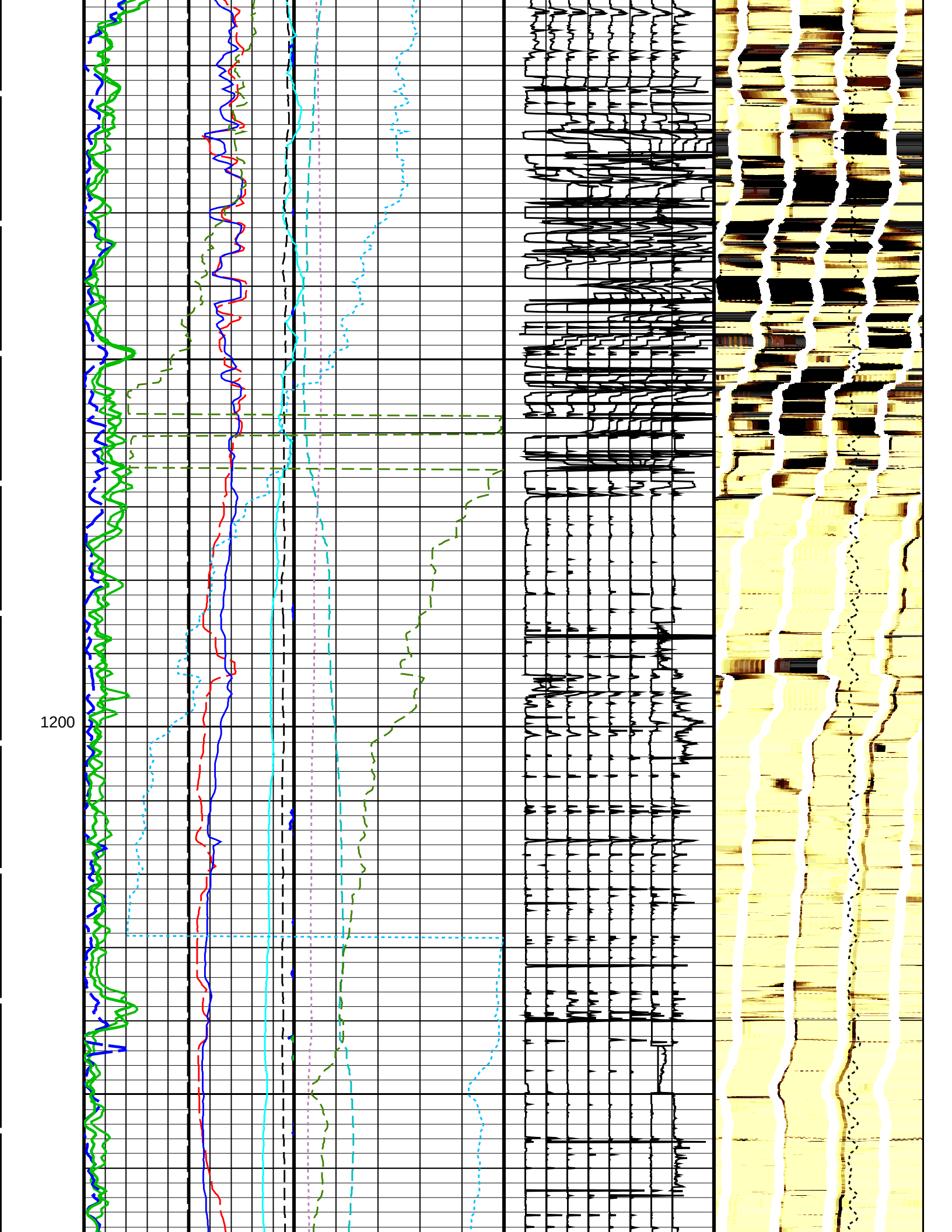


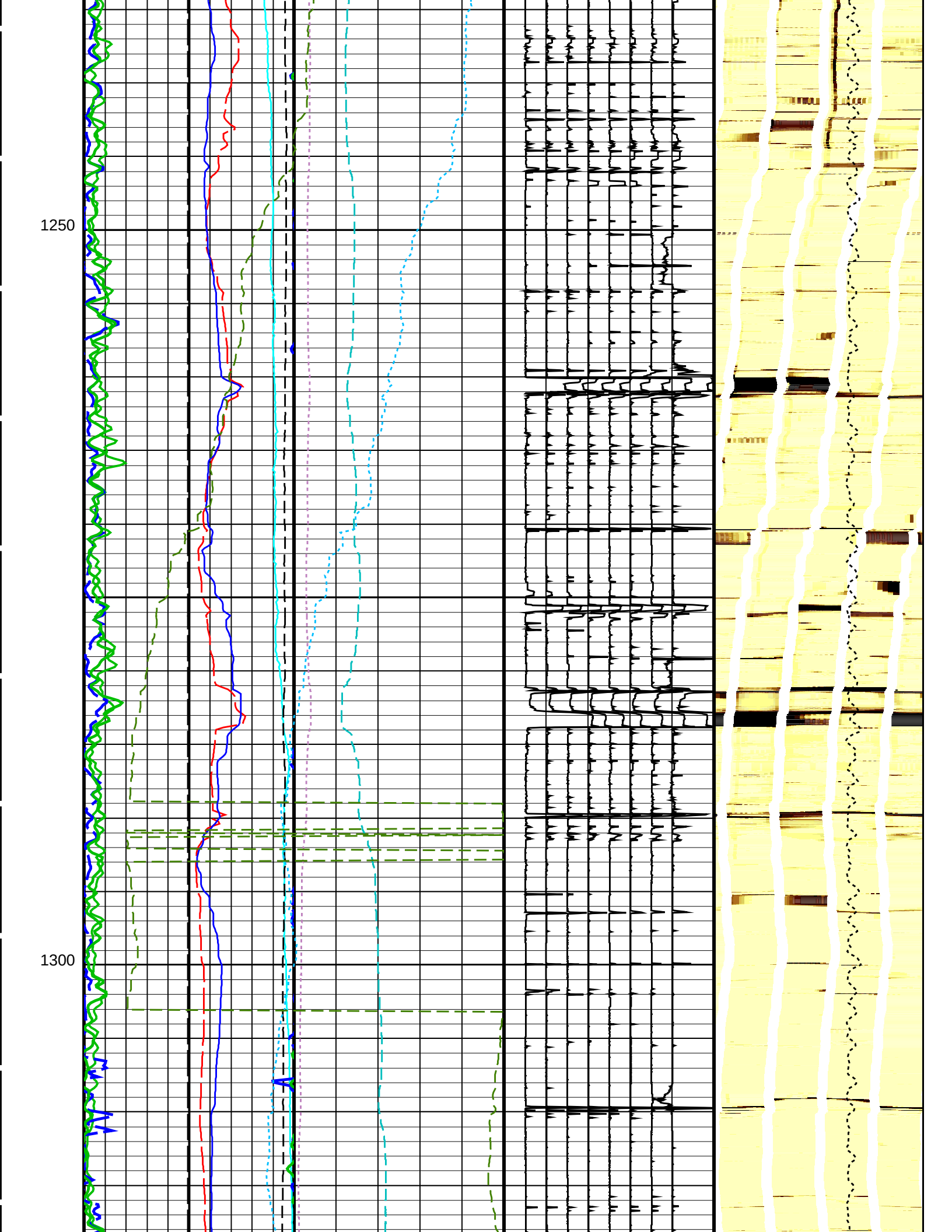

850
TENS
RB_MEST
P1AZ_MEST
PadD wrapped by P1AZ
PadC wrapped by P
PadB wrapped by P1AZ
PadA wrapped by P1AZ
U-MEST_RB8
U-MEST_RB7
U-MEST_RB6
U-MEST_RB5
U-MEST_RB4
U-MEST_RB3
U-MEST_RB2
U-MEST_RB1
HSGR
HCGR
GR_EDTC
HAZIM
EI
EV
DEVIM
C2
C1
BS

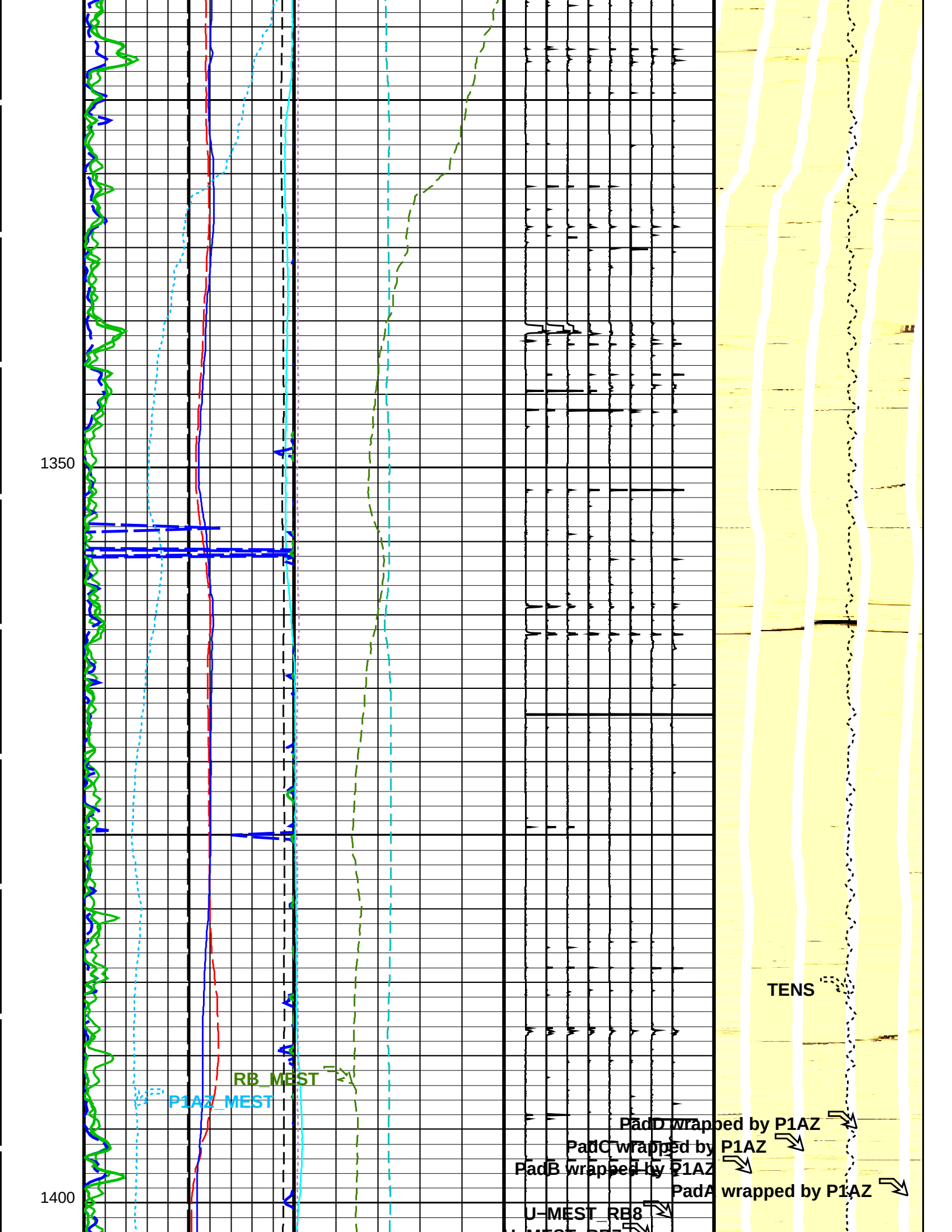

900
950

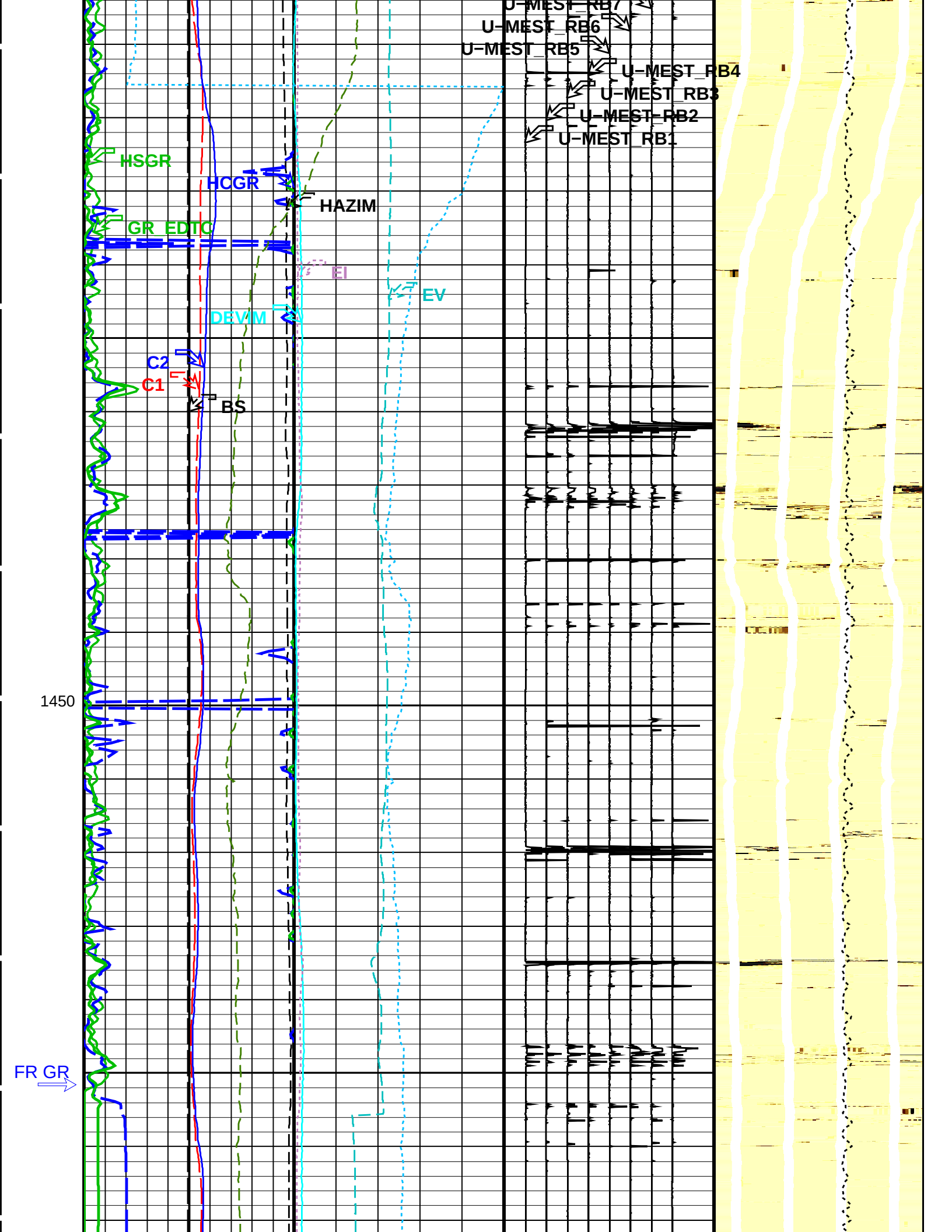

1000
1050

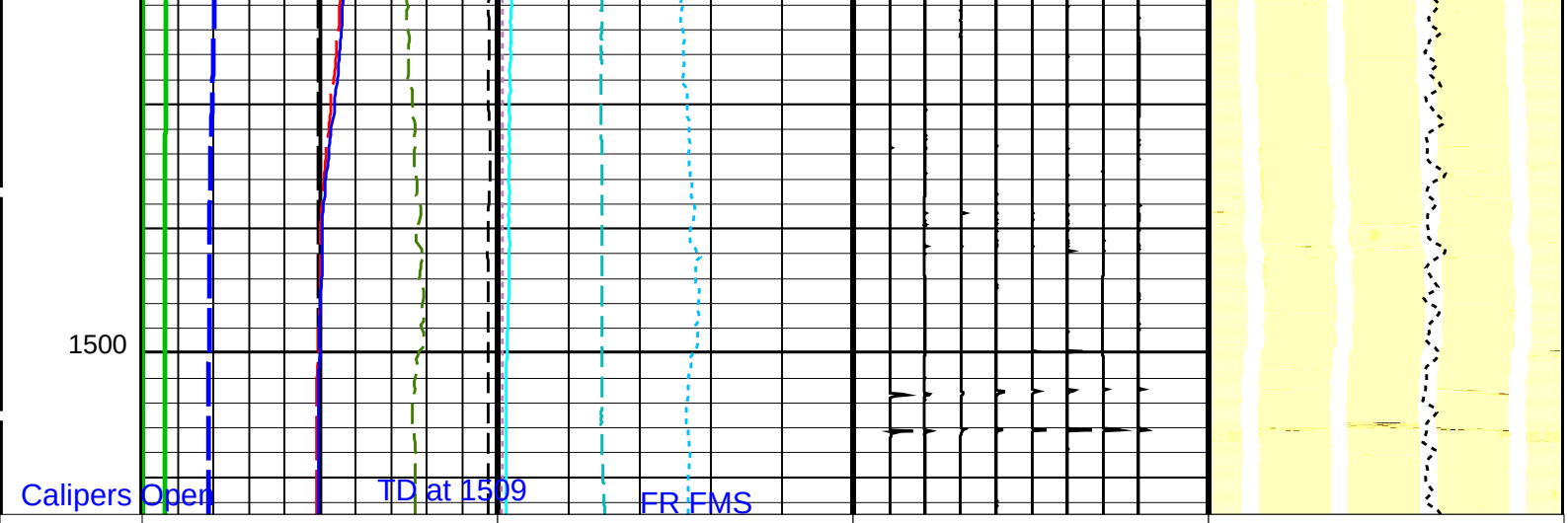

1100
1150


1200


1250
1300


1350
1400
RB_MEST
P1AZ_MEST
TENS
PadD wrapped by P1AZ
PadC wrapped by P1AZ
PadB wrapped by P1AZ
PadA wrapped by P1AZ
U-MEST_RB8


U-MEST_RB7
U-MEST_RB6
U-MEST_RB5
U-MEST_RB4
U-MEST_RB3
U-MEST_RB2
U-MEST_RB1
HSGR
HCGR
HAZIM
GR_EDTC
EI
EV
DEVIM
C2
C1
BS
1450
FR GR



Caliper 1 (C1) 0 (IN) 20	EMEX Voltage (EV) 0 (V) 50	Data Button 1 − Varies with RBS (U−MEST_RB1) −10 (−−−−) 90	Tension (TENS) 10000 (LBF) 0
Caliper 2 (C2) 0 (IN) 20	EMEX Intensity (EI) 0 (AMPS) 10	Data Button 2 − Varies with RBS (U−MEST_RB2) −20 (−−−−) 80	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)
Deviation (DEVIM) 0 (DEG) 10		Data Button 3 − Varies with RBS (U−MEST_RB3) −30 (−−−−) 70	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)
Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 4 − Varies with RBS (U−MEST_RB4) −40 (−−−−) 60	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)
Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50	0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086 MEST_PADD (U−MEST_RESISTIVITY_PADD_DS) (−−−−)
Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40	
Bit Size (BS) 0 (IN) 20	Uplog #1	Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30	
Gamma Ray (GR_EDTC) 0 (GAPI) 25		Data Button 8 − Varies with RBS (U−MEST_RB8) −80 (−−−−) 20	
HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 25			
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 25			

PIP SUMMARY

Time Mark Every 60 S

Parameters

Parameters

DLIS Name	Description	Value	
	MEST−B: Micro Electrical Scanner − B (Slim)		
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MDEC	Magnetic Field Declination	−35.7696	DEG
MLM	MEST Logging Mode	SCAN1800	
RBS	Resistivity Button Selection	AUTO	
XGAI	Gain	GAIN_2	
XOFF	Offset	OFFSET_0	
	DSST−B: Dipole Shear Imager − B		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	HNGS−BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	C1	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00154641	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
TPOS	Tool Position	CENT	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.45354	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.4815	
	EDTC−B: Enhanced DTS Cartridge		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.00	G/C3

Format: MEST_C_WRAP_BY_P1AZ Vertical Scale: 1:300 Graphics File Created: 24−Jan−2016 10:45

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

Output DLIS Files

DEFAULT	FMS_DSI_NGS_051LUP	FN:66	PRODUCER	24−Jan−2016 10:45
BACKUP	FMS_DSI_NGS_051LUP	FN:67	PRODUCER	24−Jan−2016 10:45

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner − B (Slim) Wellsite Calibration − Caliper Calibration							
Before: 21−Jan−2016 6:11							
Caliper 1 Zero Measurement	12.00	N/A	12.15	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	12.00	N/A	11.88	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.19	N/A	15.39	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.19	N/A	15.22	N/A	N/A	N/A	IN
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 24−Jan−2016 7:58							
TEMPERATURE REFERENCE :	N/A	N/A	20	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	3	N/A	N/A	N/A	

SERIAL NUMBER :	N/A	N/A	743	N/A	N/A	N/A	

Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY
Before: 24−Jan−2016 7:58

TEMPERATURE REFERENCE :	N/A	N/A	23	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	9	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	507	N/A	N/A	N/A	

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 12−Jan−2016 5:26 Before: 12−Jan−2016 5:40 After: 12−Jan−2016 5:59

Na 511 Peak Loc	40.00	38.59	38.75	38.59	−0.1653	1.000	
Na 511 Peak Res	15.50	16.84	16.24	17.57	1.331	2.000	%
High Voltage	1150	1233	1233	1233	−0.2458	N/A	V
Na 1785 Peak Loc	142.6	140.5	140.0	140.6	0.6059	7.000	
Na 1785 Peak Res	8.500	8.705	9.174	9.118	−0.05565	2.000	%
Temperature	15.50	33.02	32.90	32.78	−0.1249	N/A	DEGC
Na Count Rate	45.00	38.61	39.06	39.55	0.4917	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 12−Jan−2016 5:26 Before: 12−Jan−2016 5:40 After: 12−Jan−2016 5:59

Na 511 Peak Loc	40.00	39.61	39.56	39.57	0.01316	1.000	
Na 511 Peak Res	15.50	16.54	16.68	16.75	0.06909	2.000	%
High Voltage	1150	1109	1109	1109	−0.0002441	N/A	V
Na 1785 Peak Loc	142.6	143.6	143.4	142.9	−0.5370	7.000	
Na 1785 Peak Res	8.500	9.385	9.834	9.283	−0.5511	2.000	%
Temperature	15.50	32.68	32.68	32.68	−0.001621	N/A	DEGC
Na Count Rate	45.00	38.61	39.32	39.56	0.2372	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 12−Jan−2016 5:26 Before: 12−Jan−2016 5:40 After: 12−Jan−2016 5:59

Coincidence Count Rate Ratio	1.000	0.9981	0.9913	0.9969	0.005584	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration − Detector 1 Calibration
Master: 12−Jan−2016 5:21

Na 511 Peak Set Point	40.00	40.00	−−	−−	−−	−−	
Th Peak Loc	209.6	211.3	−−	−−	−−	−−	
Th Peak Res	7.000	8.531	−−	−−	−−	−−	%
Background Count Rate	142.5	29.22	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.040	−−	−−	−−	−−	

Hostile Natural Gamma Ray Sonde Master Calibration − Detector 2 Calibration
Master: 12−Jan−2016 5:21

Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	
Th Peak Loc	209.6	210.7	−−	−−	−−	−−	
Th Peak Res	7.000	7.393	−−	−−	−−	−−	%
Background Count Rate	142.5	29.42	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.011	−−	−−	−−	−−	

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 24−Jan−2016 8:12

EDTC Z−Axis Acceleration	9.810	N/A	9.835	N/A	N/A	N/A	M/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: 12−Jan−2016 5:47 After: 12−Jan−2016 5:56

Gamma Ray (Jig − Bkg)	154.5	N/A	154.5	153.6	−0.9230	14.04	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	163.0	−0.9799	15.00	GAPI

Micro Electrical Scanner − B (Slim) / Equipment Identification

Primary Equipment:

MEST Sonde − B	MEDS − B	770
MEST Preamplifier Cartridge − AB	MEPC − AB	806
GPIT Cartridge − AC	GPIC − AC	840
MEST Acquisition Cartridge − A	MEAC − A	804

Auxiliary Equipment:

MEST−B Preamplifier Cartridge Housing	MEPH − A	701
MEST Acquisition Cartridge Housing (Slim	MEAH − B	726

Hostile Natural Gamma Ray Cartridge − B / Equipment Identification

Primary Equipment:

HNGC Cartridge	HNGC − B	439

Auxiliary Equipment:		
HNGC Housing	HNGH − A	380

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	177
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	174
Gamma Source Radioactive	GSR − U	616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		38.59
Before		38.75
After		38.59
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.84
Before		16.24
After		17.57
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1233
Before		1233
After		1233
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		140.5
Before		140.0
After		140.6
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.705
Before		9.174
After		9.118
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		33.02
Before		32.90
After		32.78
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		38.61
Before		39.06
After		39.55
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 12−Jan−2016 5:26 Before: 12−Jan−2016 5:40 After: 12−Jan−2016 5:59

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.61
Before		39.56
After		39.57
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.54
Before		16.68
After		16.75
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1109
Before		1109
After		1109
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		143.6
Before		143.4
After		142.9
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		9.385
Before		9.834
After		9.283
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		32.68
Before		32.68
After		32.68
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		38.61
Before		39.32
After		39.56
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 12−Jan−2016 5:26 Before: 12−Jan−2016 5:40 After: 12−Jan−2016 5:59

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9981
Before		0.9913
After		0.9969
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 12−Jan−2016 5:26
Before: 12−Jan−2016 5:40
After: 12−Jan−2016 5:59

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 Calibration

Phase	Na 511 Peak Set Point	Value
Master		40.00
	38.00 (Minimum) 40.00 (Nominal) 43.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		211.3
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		8.531
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		29.22
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.040
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 12−Jan−2016 5:21

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 2 Calibration

Phase	Na 511 Peak Set Point	Value
Master		41.00
	38.00 (Minimum) 40.00 (Nominal) 43.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		210.7
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		7.393
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		29.42
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.011
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 12−Jan−2016 5:21

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		9.835
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 24−Jan−2016 8:12

Enhanced DTS Cartridge Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		7.668
After		7.153
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)	

Phase	Gamma Ray (Jig − Bkg) GAPI	Value
Before		154.5
After		153.6
	140.4 (Minimum) 154.5 (Nominal) 168.5 (Maximum)	

Phase	Gamma Ray (Calibrated) GAPI	Value
Before		164.0
After		163.0
	149.0 (Minimum) 164.0 (Nominal) 179.0 (Maximum)	

Before: 12−Jan−2016 5:47 After: 12−Jan−2016 5:56

Company:	**International Ocean Discovery Program**
Well:	**Expedition 360, Site U1473A**
Field:	**SW Indian Ridge Lower Crust and Moho**
Rig:	**JOIDES Resolution**
Ocean:	**Indian**

Schlumberger

Formation Micro Scanner (FMS)
Dipole Shear Sonic Imager (DSI)
Natural Gamma Ray