Schlumberger

Company: **International Ocean Discovery Program**

Well: **Expedition 356, Site U1459 C**
Field: **Indonesian Throughflow**
Rig: **JOIDES Resolution** Ocean: **Indian**

Rig: JOIDES Resolution
Field: Indonesian Throughflow
Location: Latitude: S 28.67066 Deg
Well: Expedition 356, Site U1459 C
Company: International Ocean Discovery Pr

Formation Micro Scanner (FMS)
Dipole Shear Sonic (DSST) Compressional
Natural Gamma Ray

LOCATION

Latitude: S 28.67066 Deg
Longitude: E 113.558941 Deg

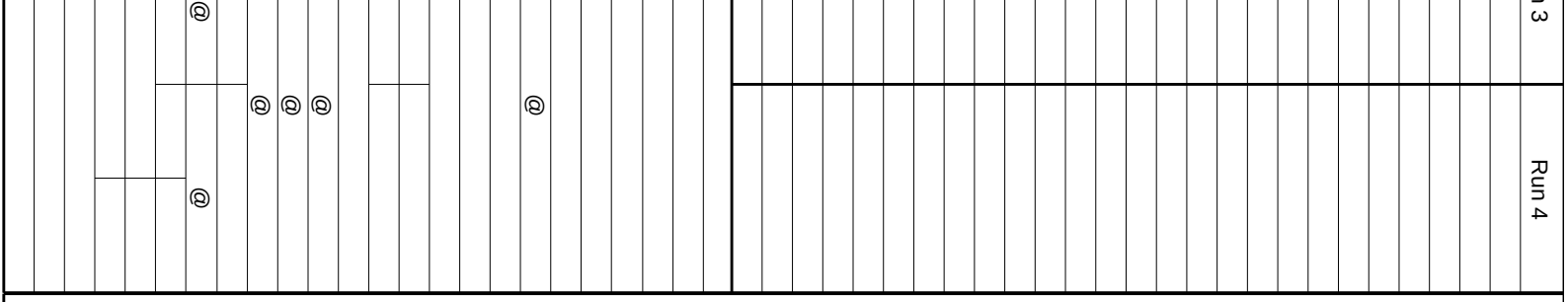
Elev.: K.B. −203.00 m
G.L. 0.00 m
D.F. −203.00 m

Permanent Datum: Sea Floor — Elev.: 0.00 m
Log Measured From: Sea Floor — 0.00 m above Perm. Datum
Drilling Measured From: Sea Floor

API Serial No.	Max. Hole Devi. 0 deg	Longitude E 113.5778	Latitude S 28.6641

	Run 1	Run 2	Run
Logging Date	12−Aug−2015		
Run Number	1		
Depth Driller	400 m		
Schlumberger Depth	387 m		
Bottom Log Interval	387 m		
Top Log Interval	0 m		
Casing Driller Size @ Depth	5.500 in @ 72 m	@	@
Casing Schlumberger	68 m		
Bit Size	9.875 in		
Type Fluid In Hole	Sepiolite with Barite		
MUD Density / Viscosity	1.318 g/cm3 /	/	/
MUD Fluid Loss / PH	/ 8.07	/	/
MUD Source Of Sample	Mudpit		
RM @ Measured Temperature	0.220 ohm.m @ 23 degC	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC	N/A / N/A	/	/
RM @ MRT / RMF @ MRT	0.211 @ 25 / @ 25	@ / @	@ / @
Maximum Recorded Temperatures	25 degC		
Circulation Stopped / Time	10−Aug−2015 / 10:30		
Logger On Bottom / Time	11−Aug−2015 / 0:50		
Unit Number / Location	627314 / Houma, LA		
Recorded By	K. Swain		
Witnessed By	M. Gurnis, Z. Mateo, E. Garrett		

	Run 1	Run 2	Run
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	OTHER SERVICES2
OS1: MSS/Caliper	OS1:
OS2:	OS2:
OS3:	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 7/8" BS	
Drill pipe set at 72 mbsf for wireline logging.	
Downlog run with corrections computed using bit size; uplogs corrected for actual hole size using caliper.	
Dipole Sonic run in Sam 4 Compressional (P&S) mode only per scientific request.	
Fluid type was sepiolite+barite at 11 lbs/gal. Corrections for this applied.	
Depth originally recorded from drill floor; played back with sea floor as reference zero.	
All logs presented in measured depth below sea floor (MDBSF).	
Maximum observed temperature on the MSS temperature was 25 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

SURFACE EQUIPMENT

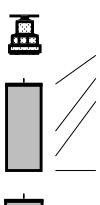
GSR−U 616008
WITM (EDTS)−A 1

DOWNHOLE EQUIPMENT

LEH−QT
LEH−QT 301

EDTC−B
EDTH−B 8303
EDTC−B 8317
EDTG−A/B 8305

MDSB_EDTC
Mud Tempe
CTEM
Gamma Ray
EFTB DIAG
TelStatus
EDTCB Ele



35.44
34.55

RUN 2

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−MCD2
AH−MCD2 2

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−MCD1
AH−MCD1 1

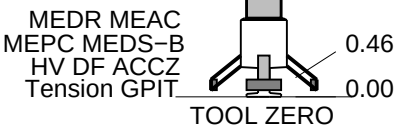
11.18

DTA−A
ECH−KE 8456

8.90

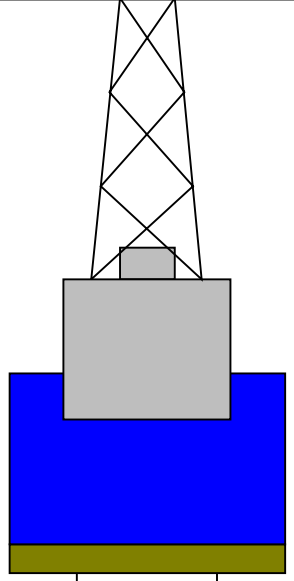
MEST−B
MEAH−B 726
MEAC−A 804
MEPH−A 701
GPIC−AC 840
MEPC−AB 807
MEDS−B 770

7.68



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		−203				
Derrick Floor Elevation		−203				
Mean Sea Level		−192				
					4.1	
				0	4.1	Sea Floor
				72	9.875	Open Hole
				400		Total Depth

Company: Integrated Ocean Discovery Program | Well: Expedition 356, Site U1459 C

Input DLIS Files

	FMS_DSI_NGS_026PUP	FN:39		12−Aug−2015 05:19	493.8 M	193.2 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_038PUP	FN:50	PRODUCER	17−Aug−2015 20:01	288.8 M	−11.7 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)	100

Waveform Data Copy Indicator 4 − Monopole P&S (WCI4)		
0	(−−−−)	10

Peak Coherence / RA − P & S Shear (CHRS)		
−1	(−−−−)	9

Peak Coherence / RA − P & S Comp (CHRP)
0 (−−−−) 10

Gamma Ray (GR_EDTC)
0 (GAPI) 100

Poisson's Ratio (PR)
0 (−−−−) 0.5

Sonic Velocity (SVEL)
1000 (M/S) 6000

Sonde Deviation (SDEVM)
0 (DEG) 10

Poisson's Ratio (PR)
0 (−−−−) 0.5

Caliper 1 (C1)
0 (IN) 20

Min Amplitude Max

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

Caliper 2 (C2)
0 (IN) 20

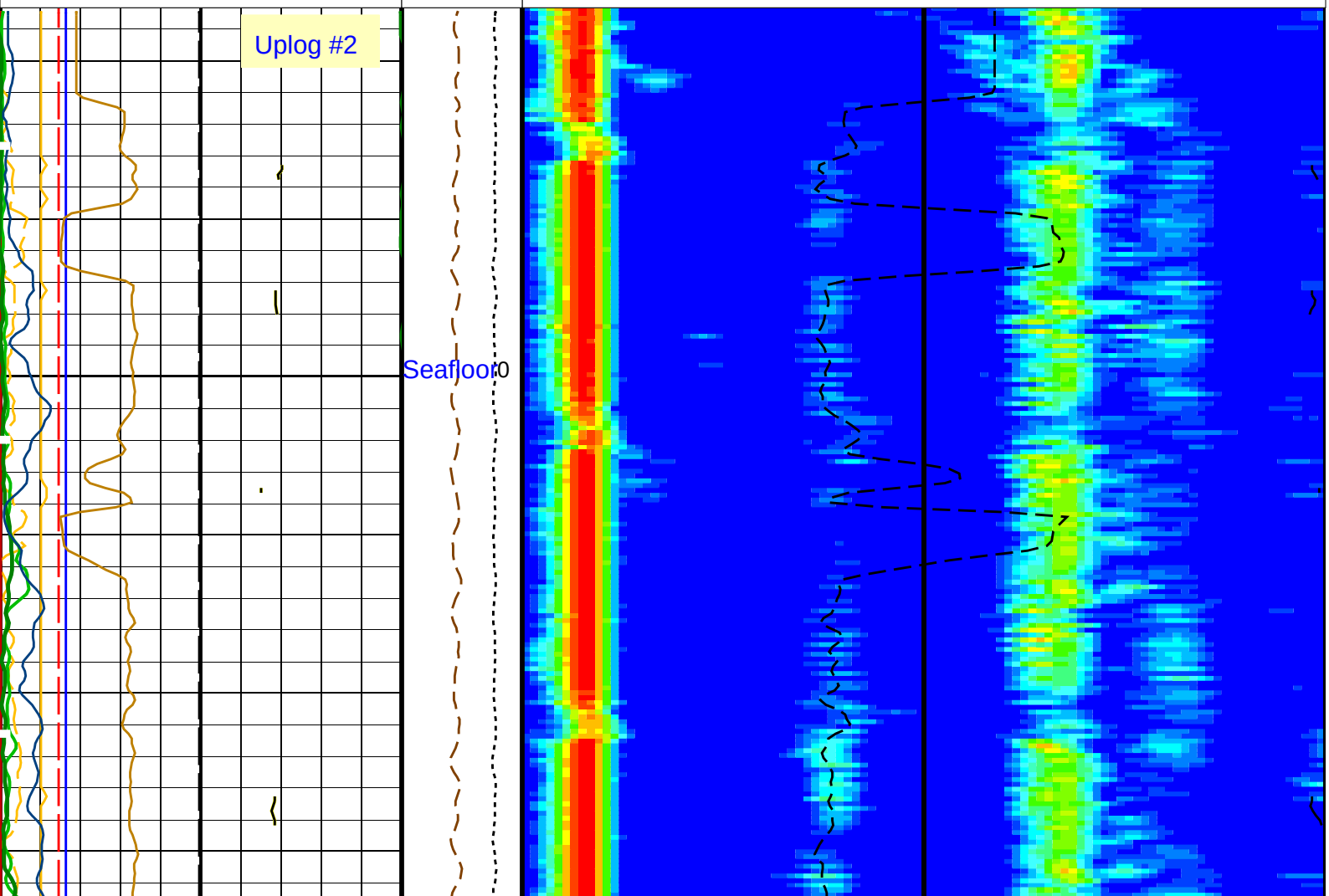
Calibrated Downhole Force (CDF) (LBF)
3000 0

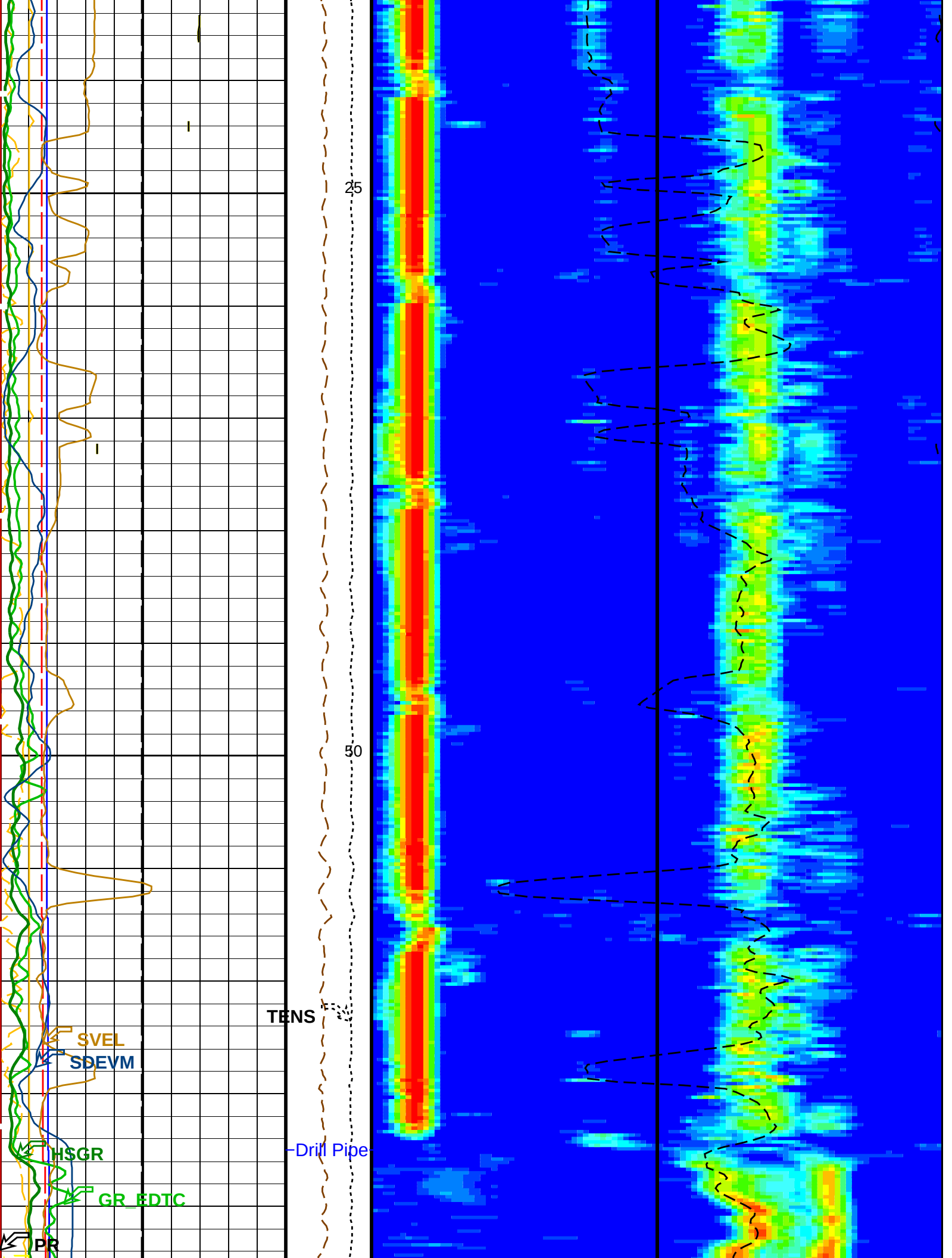
Delta−T Shear / RA − P & S (DTRS)
40 (US/F) 240

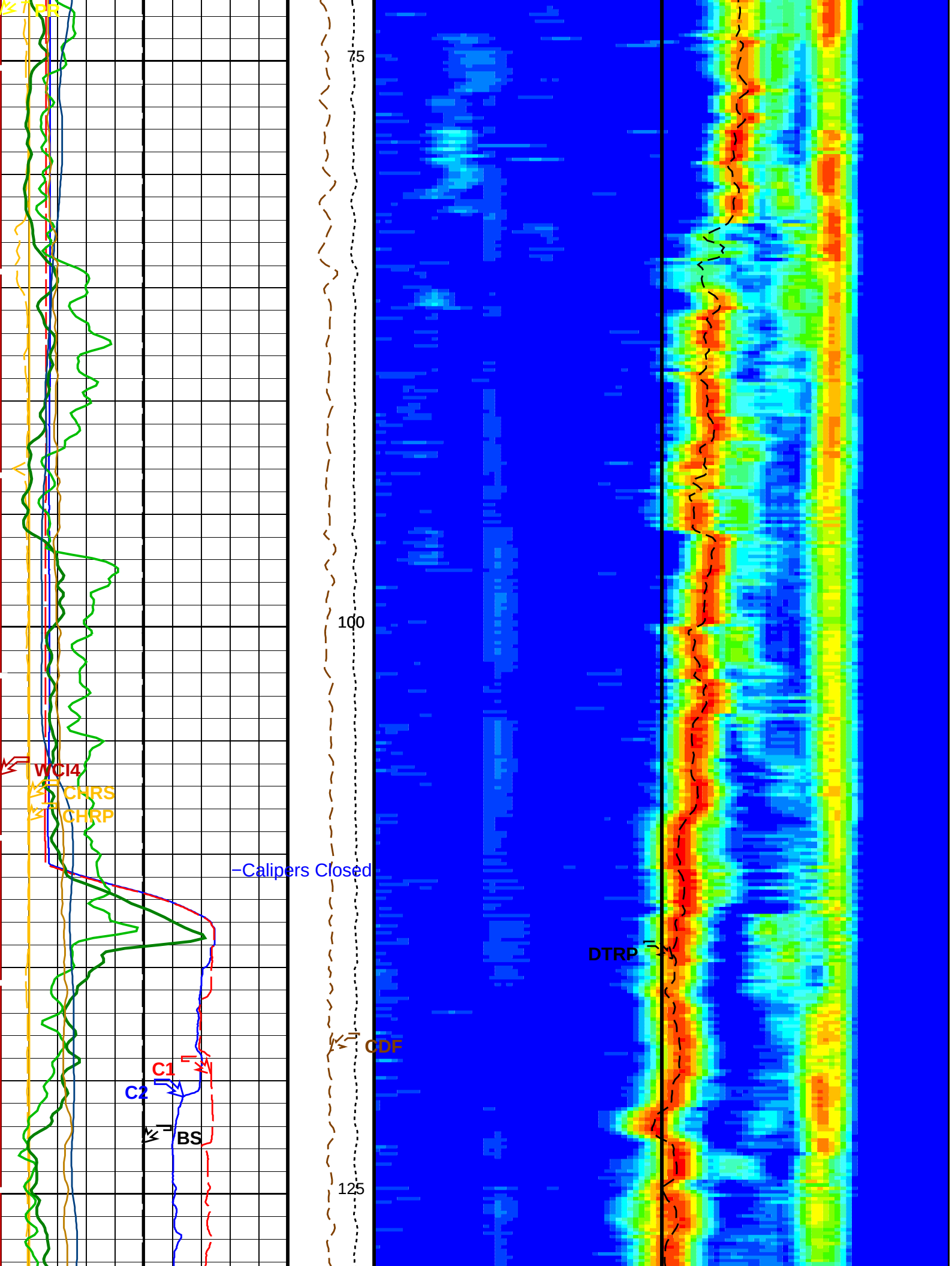
Bit Size (BS)
0 (IN) 20

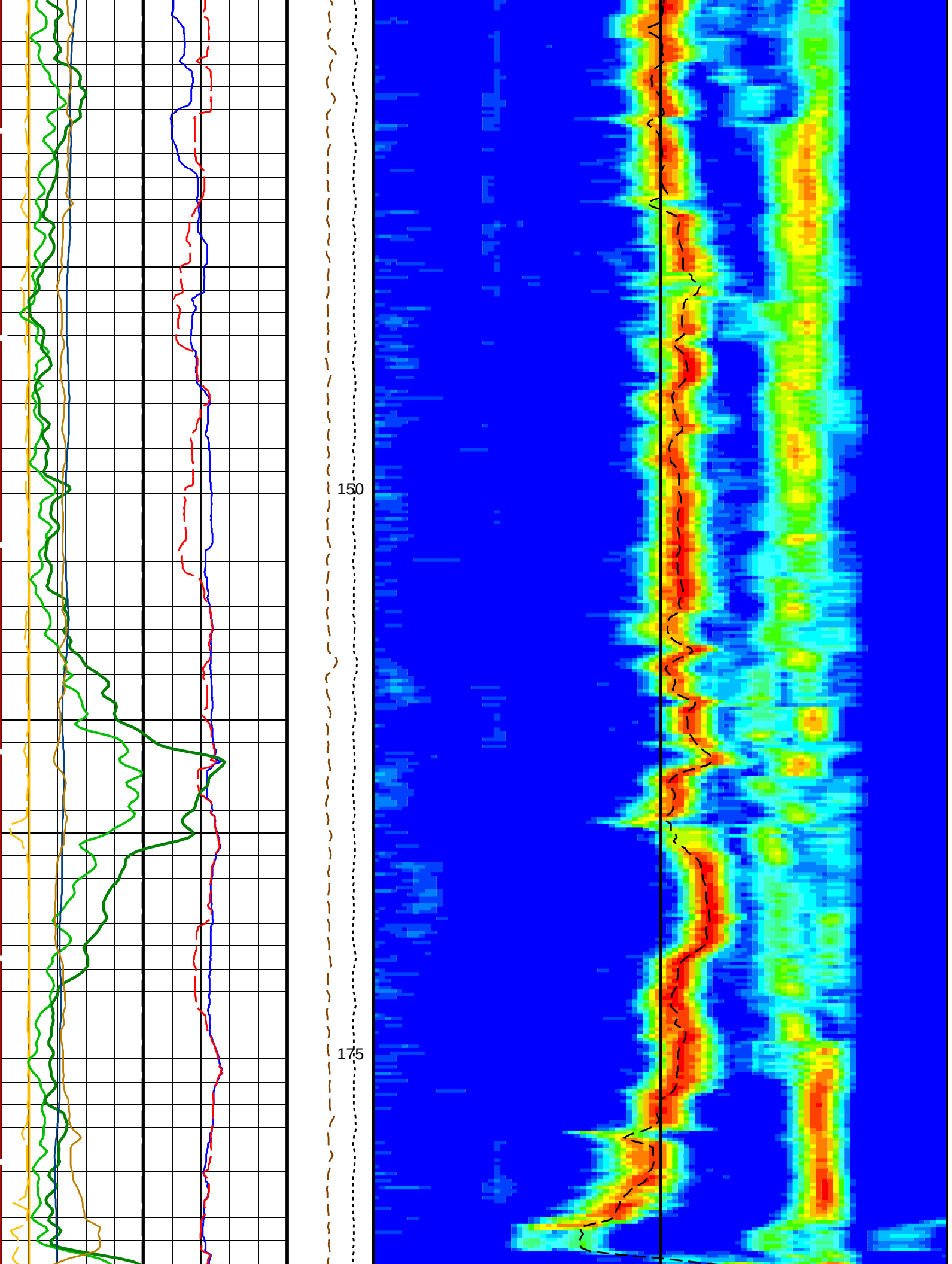
Tension (TENS) (LBF)
10000 0

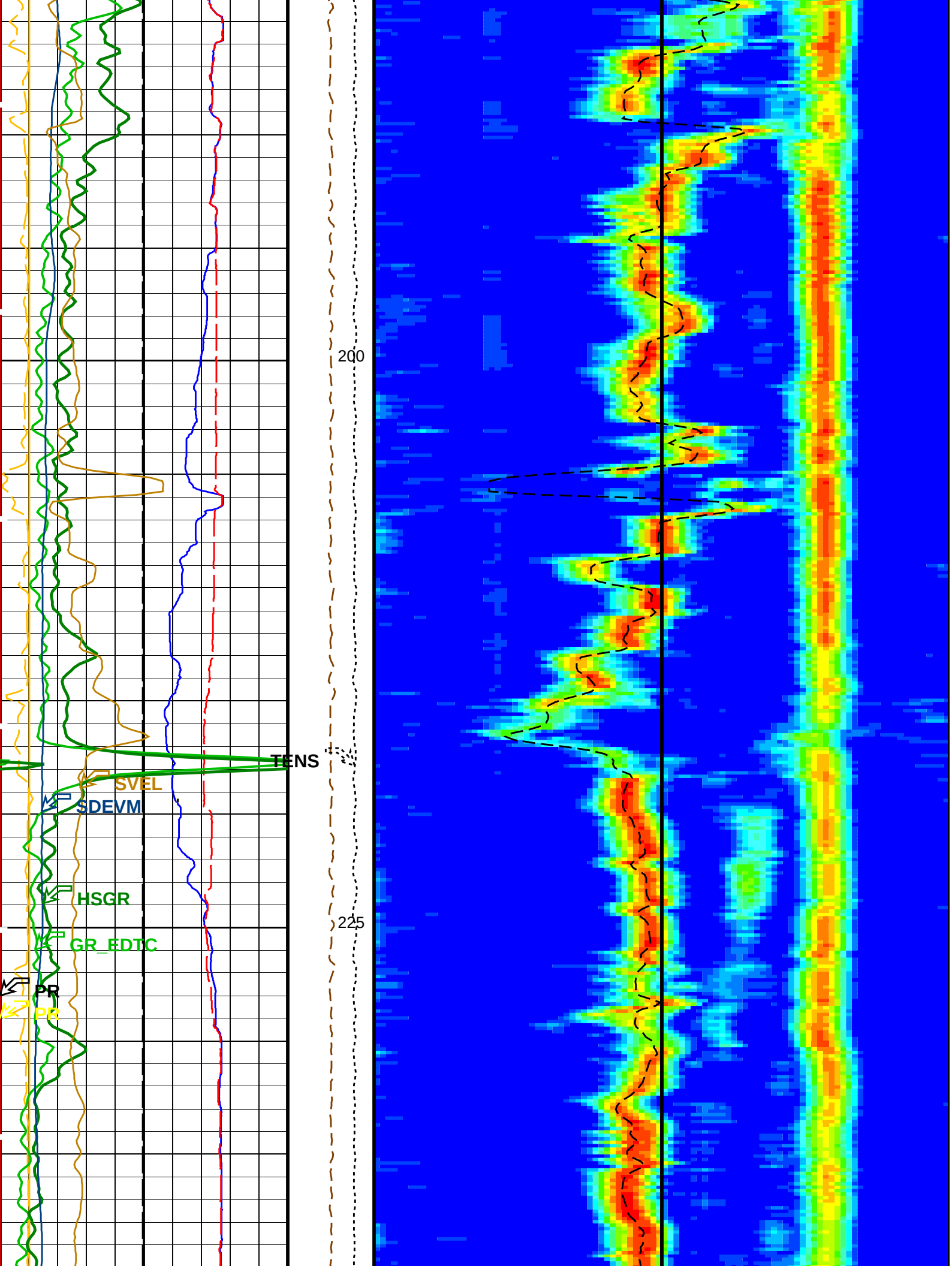
Delta−T Comp / RA − P & S (DTRP)
40 (US/F) 240

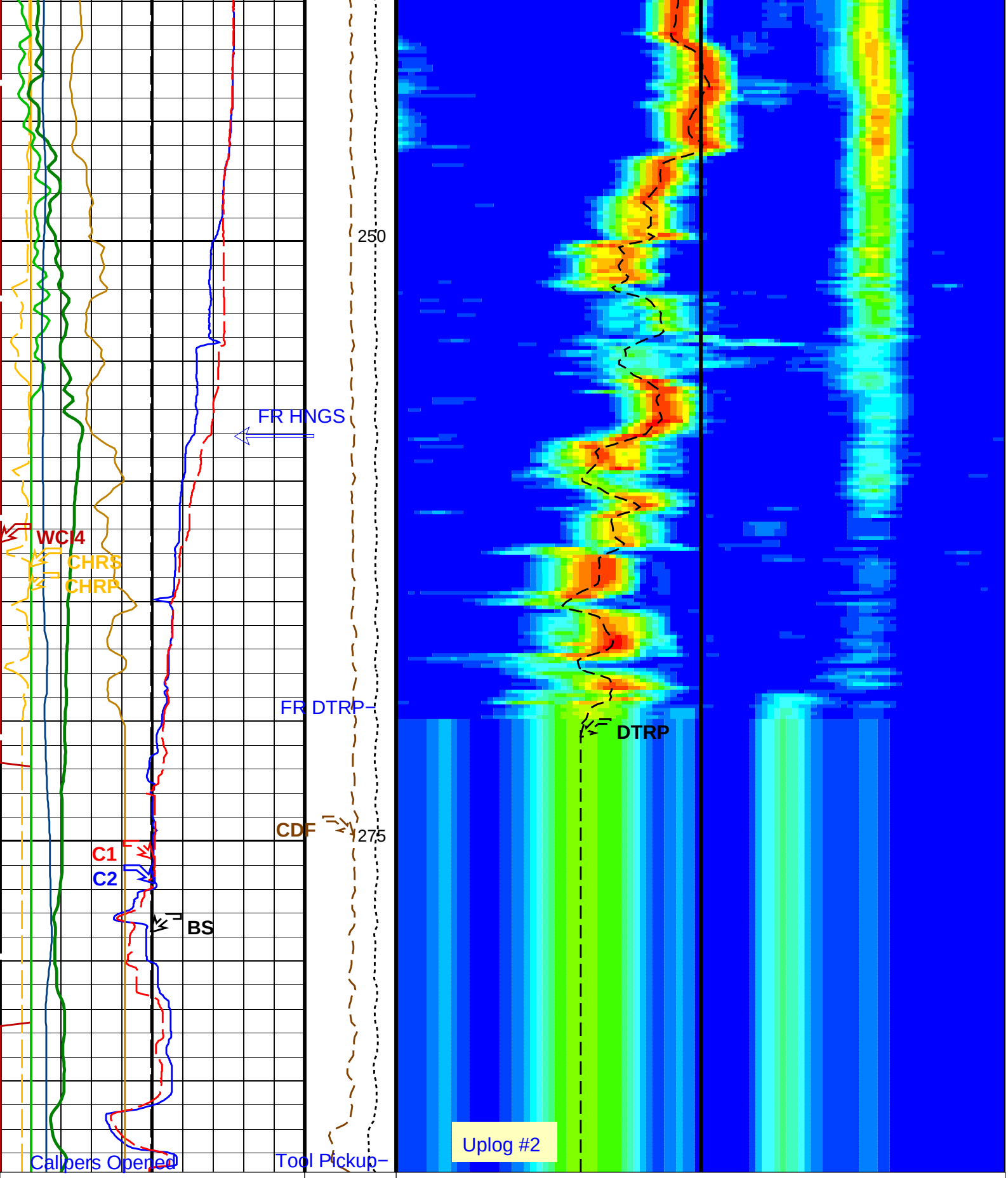



25
50
TENS
SVEL
SDEVM
HSGR
GR_EDTC
PR
Drill Pipe


75
100
125
WCI4
CHRS
CHRP
−Calipers Closed
DTRP
CDF
C1
C2
BS


150
175


200
225
TENS
SVEL
SDEVM
HSGR
GR_EDTC
PR
PR



Bit Size (BS)	Tension (TENS)	Delta−T Comp / RA − P & S (DTRP)
0 (IN) 20	10000 (LBF) 0	40 (US/F) 240
Caliper 2 (C2)	**Calibrated Downhole Force (CDF)**	**Delta−T Shear / RA − P & S (DTRS)**
0 (IN) 20		40 (US/F) 240

(LBF)
3000 0

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

Caliper 1 (C1)
0 (IN) 20

Poisson's Ratio (PR)
0 (----) 0.5

Sonde Deviation (SDEVM)
0 (DEG) 10

Sonic Velocity (SVEL)
1000 (M/S) 6000

Poisson's Ratio (PR)
0 (----) 0.5

Gamma Ray (GR_EDTC)
0 (GAPI) 100

Peak Coherence / RA – P & S Comp (CHRP)
0 (----) 10

Peak Coherence / RA – P & S Shear (CHRS)
–1 (----) 9

Waveform Data Copy Indicator 4 – Monopole P&S (WCI4)
0 (----) 10

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 100

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	–1.53266	DEG
	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	75	US/F
COUL	Label Slowness Upper Limit – Monopole P&S Compressional	190	US/F
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	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	195	US/F
DTSS	Shear Delta–T Source for DTSM Channel	PS_SHEAR	
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
NWI4	Number Waveform Items 4	8	
NWIX	Number Waveform Items X	0	
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
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	OFF	
SAS4	STC Sonic Array Status − Monopole P&S	255	
SBO4	STC Search Band Offset − Monopole P&S	500	US
SBR4	STC Baseline Removal − Monopole P&S	ON	
SBW4	STC Search Bandwidth − Monopole P&S	2000	US
SFC4	STC Formation Character − Monopole P&S	SELECTABLE	
SFM4	STC Filter − Monopole P&S	B3−20K	
SHLL	Label Slowness Lower Limit − Monopole P&S Shear	235	US/F
SHUL	Label Slowness Upper Limit − Monopole P&S Shear	240	US/F
SLL4	STC Slowness Lower Limit − Monopole P&S	40	US/F
SST4	STC Slowness Step − Monopole P&S	2	US/F
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	780	US/F
SUL4	STC Slowness Upper Limit − Monopole P&S	240	US/F
SWD4	STC Slowness Width − Monopole P&S	10	US/F
TBF4	STC Time for Baseline Fill − Monopole P&S	300	US
TLL4	STC Time Lower Limit − Monopole P&S	150	US
TST4	STC Time Step − Monopole P&S	50	US
TUL4	STC Time Upper Limit − Monopole P&S	3660	US
TWD4	STC Time Width − Monopole P&S	1000	US
TWI4	STC Integration Time Window − Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
WFM4	Waveform Mode 4	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	−0.000527145	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
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	1.00988	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.99385	
	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	1.32	G/C3
DO	Depth Offset for Playback	−205.0	M
PP	Playback Processing	RECOMPUTE	

Format: DSST_P_S_Only **Vertical Scale: 1:200** **Graphics File Created: 17−Aug−2015 20:01**

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

Input DLIS Files

	FMS_DSI_NGS_026PUP	FN:39	12−Aug−2015 05:19	493.8 M	193.2 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_038PUP	FN:50	PRODUCER	17−Aug−2015 20:01

Company: Integrated Ocean Discovery Program | Well: Expedition 356, Site U1459 C

Input DLIS Files

	FMS_DSI_NGS_026PUP	FN:39	12−Aug−2015 05:19	493.8 M	193.2 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_038PUP	FN:50	PRODUCER	17−Aug−2015 20:01	288.8 M	−11.7 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) 100

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 100

Gamma Ray (GR_EDTC)
0 (GAPI) 100

Bit Size (BS)
0 (IN) 20

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) (−−−−)

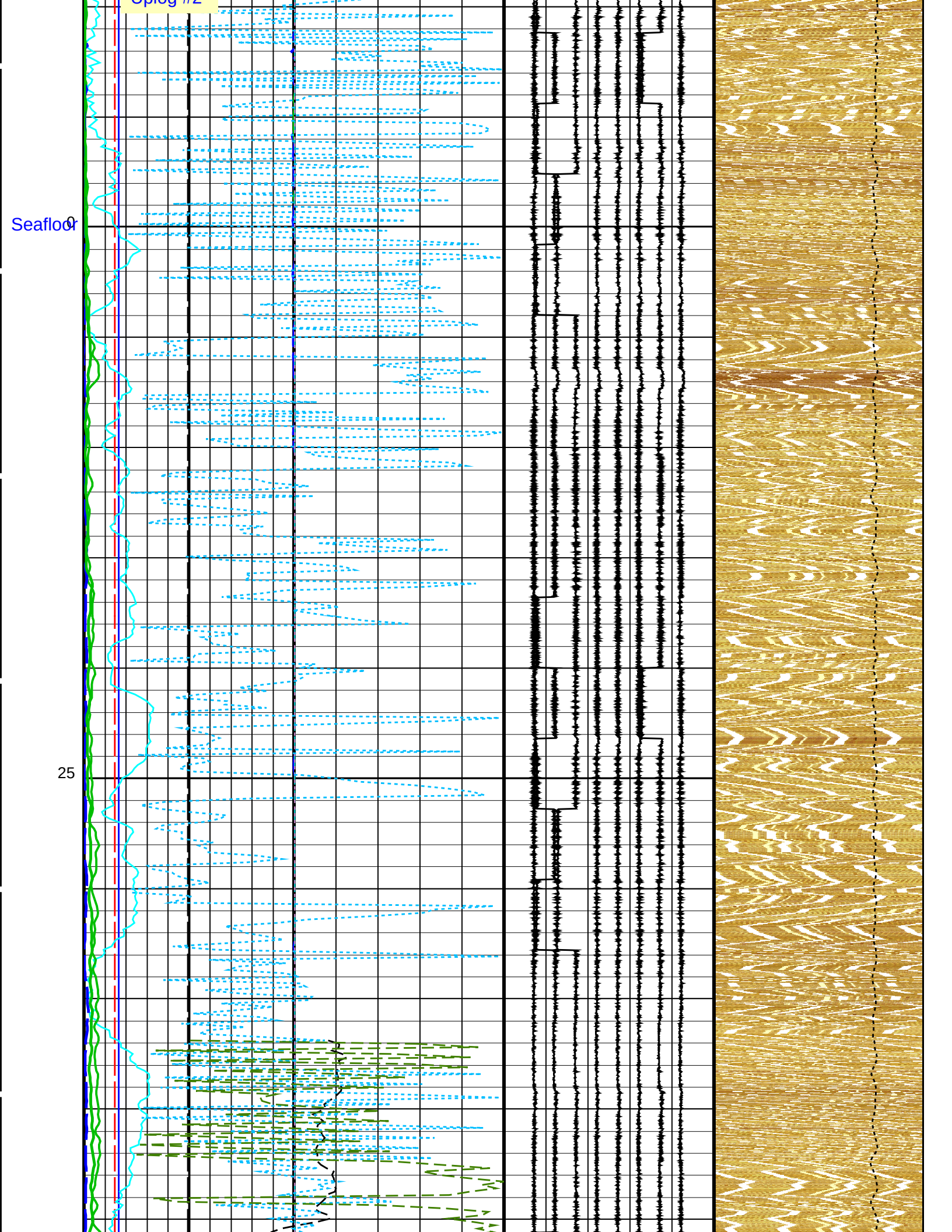
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)

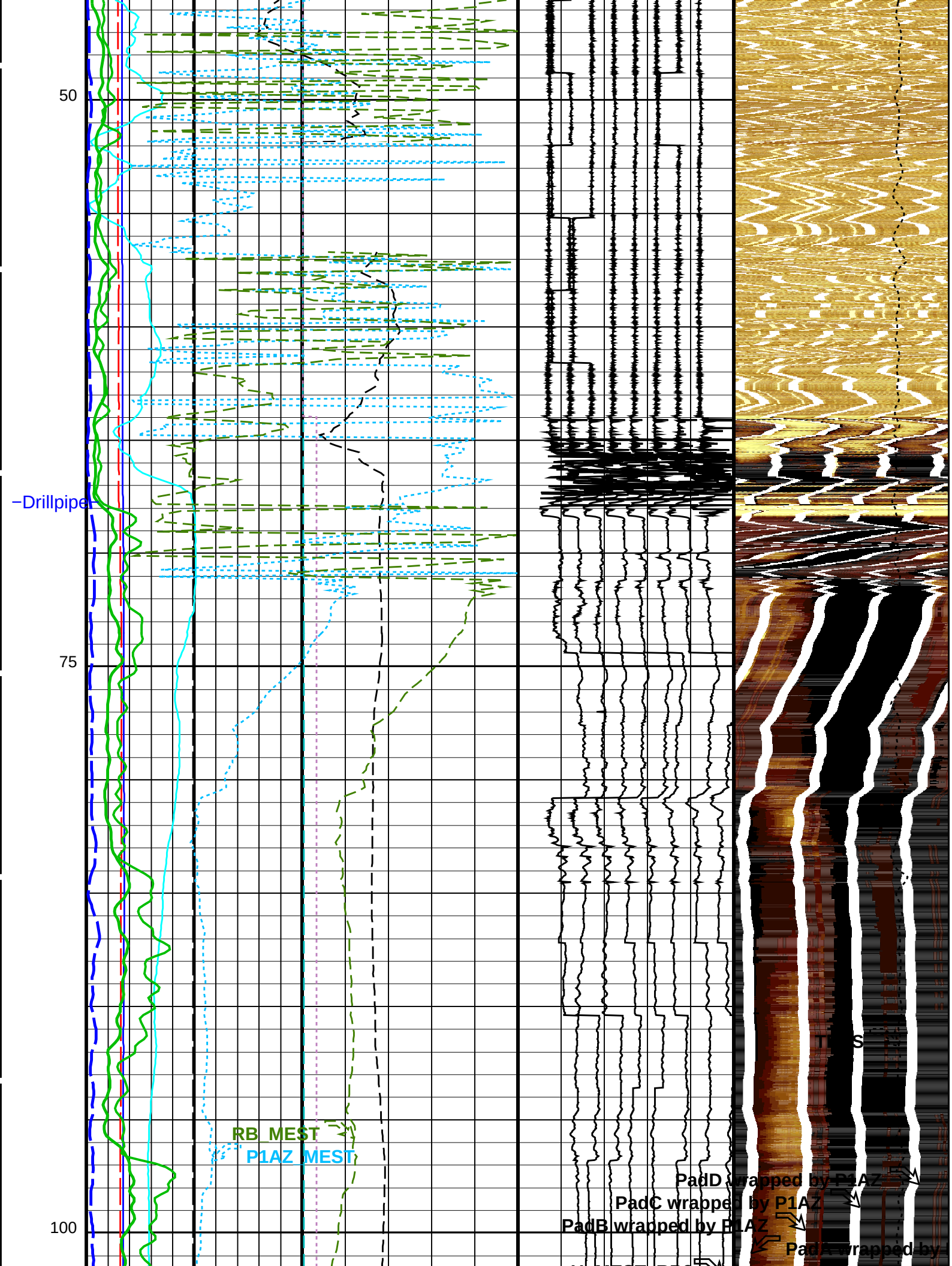
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)

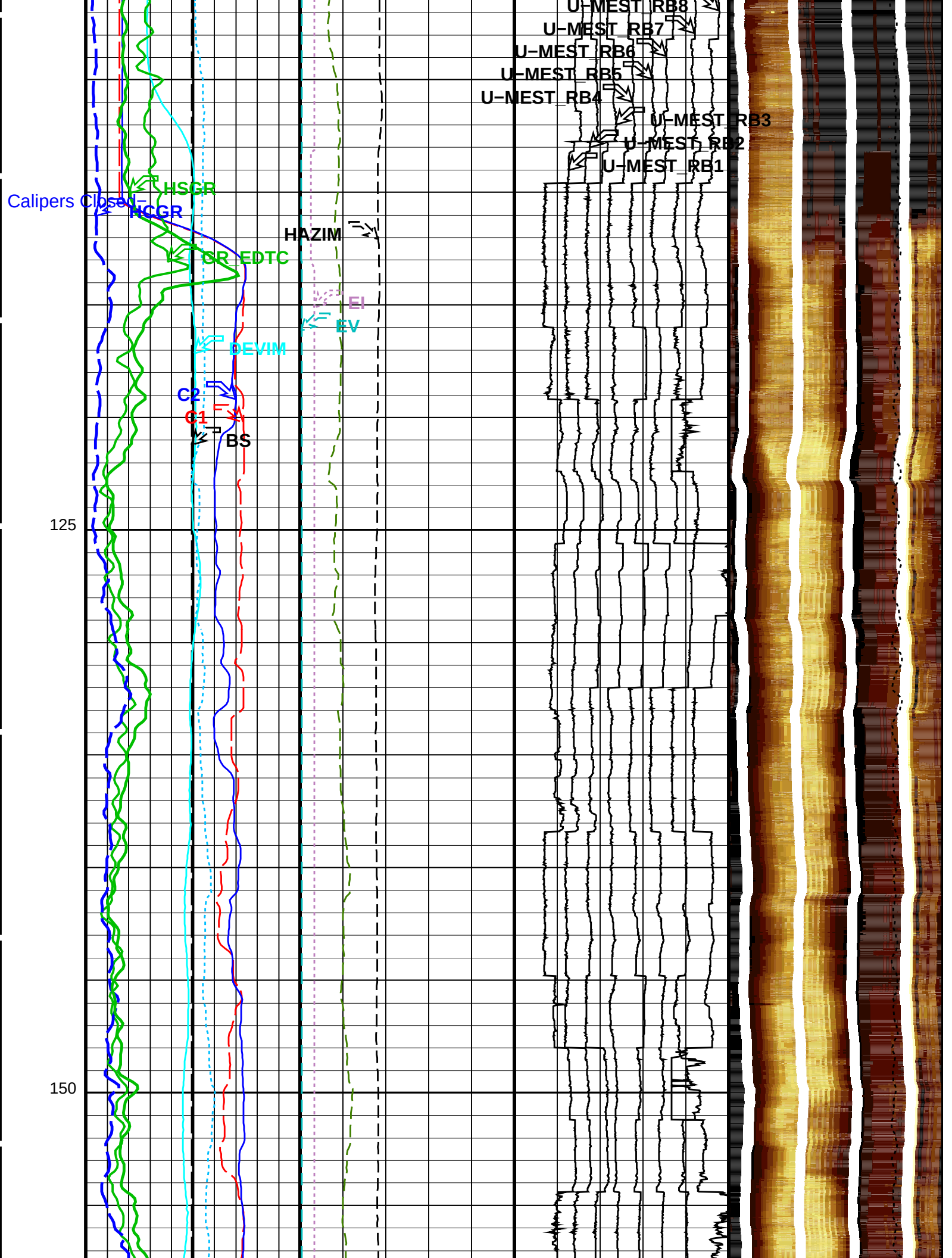
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086
MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)

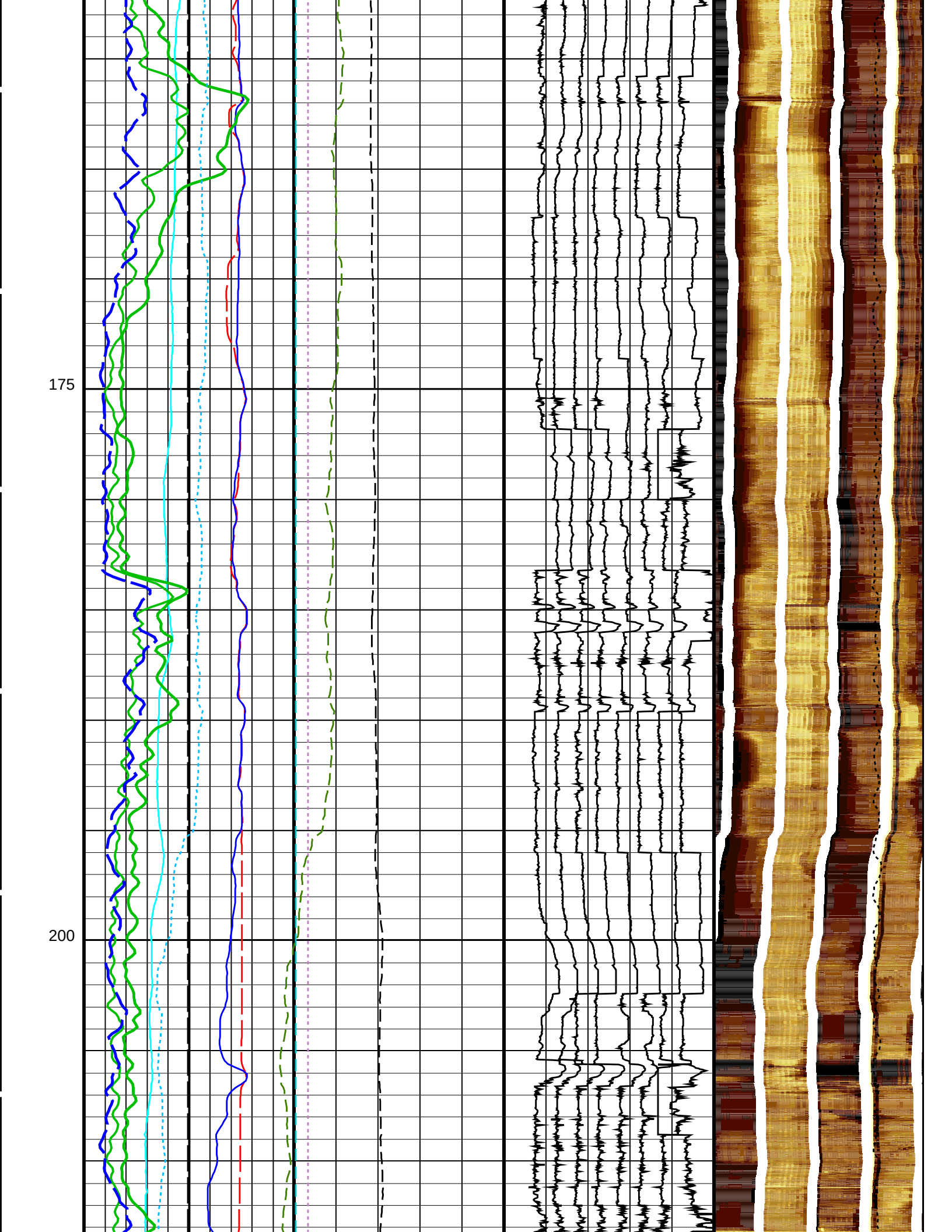
Tension (TENS)
10000 (LBF) 0

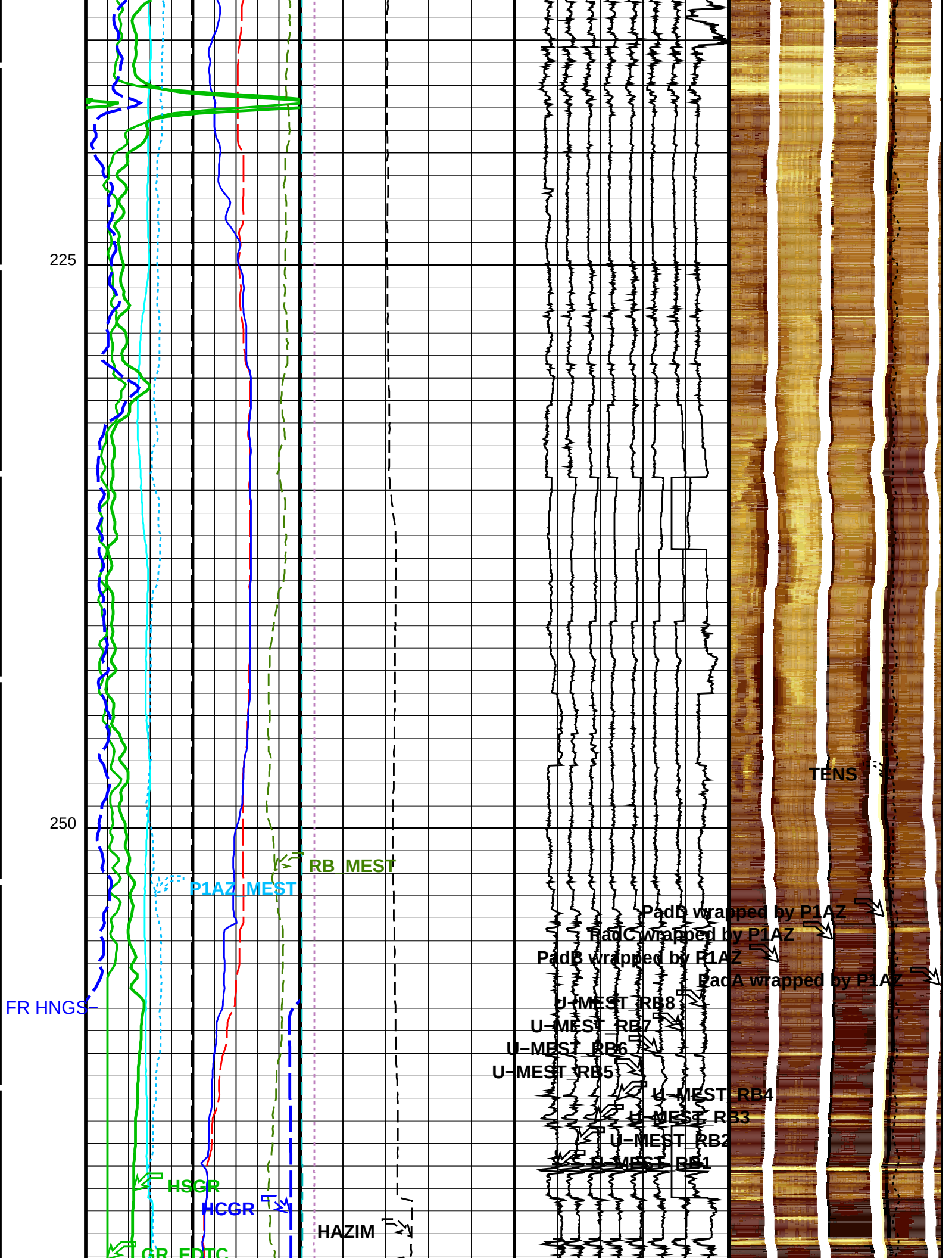
Uplog #2

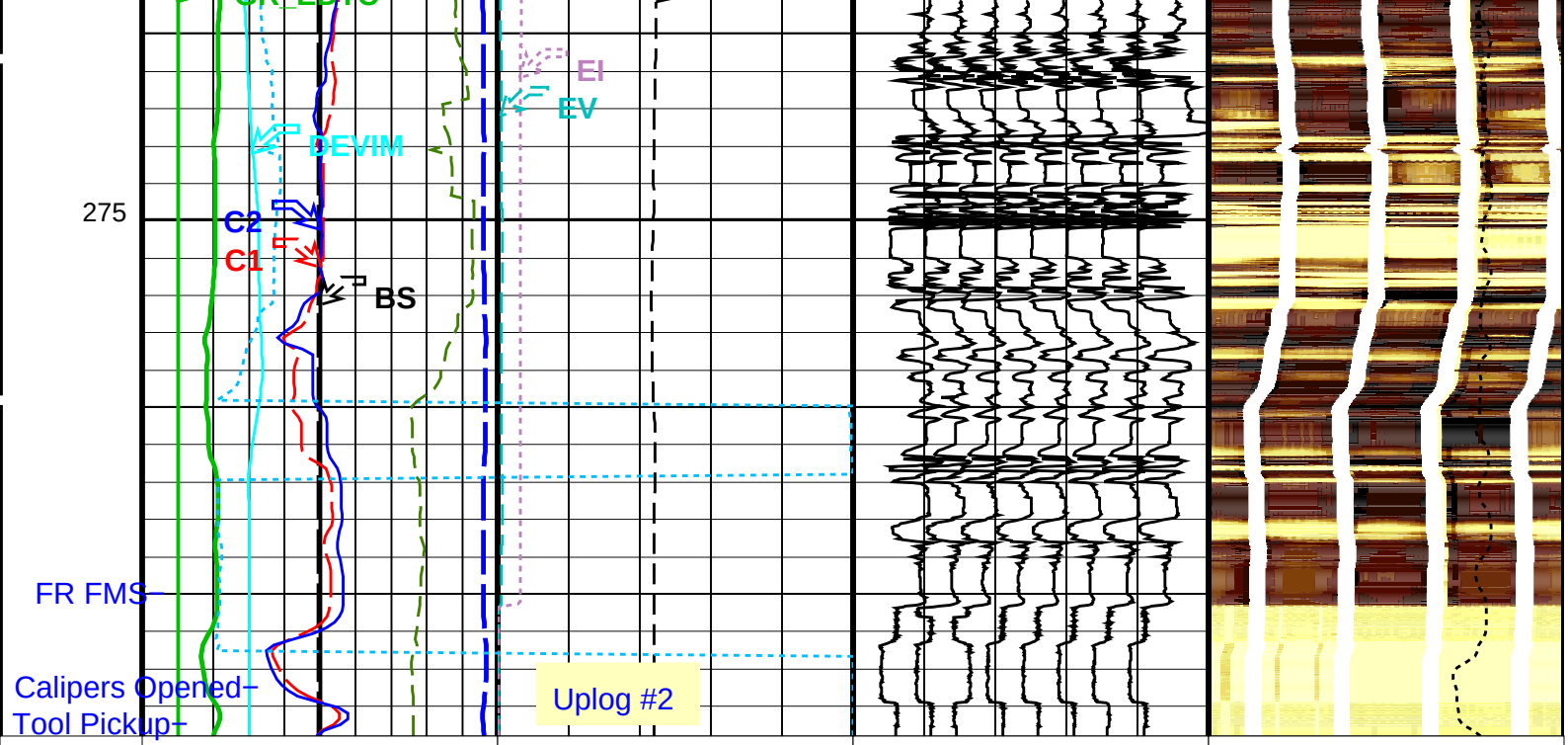

Seafloor
0
25


50
Drillpipe
75
RB_MEST
P1AZ_MEST
100
PadD wrapped by P1AZ
PadC wrapped by P1AZ
PadB 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
Calipers Closed
HSGR
HCGR
HAZIM
GR_EDTC
EI
EV
DEVIM
C2
C1
BS
125
150


175
200


225
250
FR HNGS
RB_MEST
P1AZ_MEST
HSGR
HCGR
HAZIM
GR_EDTC
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



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		Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30	
Gamma Ray (GR_EDTC) 0 (GAPI) 100		Data Button 8 − Varies with RBS (U−MEST_RB8) −80 (−−−−) 20	
HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 100			

HNGS Spectroscopy Gamma Ray (HSGR)		
0	(GAPI)	100

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	−1.53266	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	−0.000527145	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
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	1.00988	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.99385	
	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	1.32	G/C3
DO	Depth Offset for Playback	−205.0	M
PP	Playback Processing	RECOMPUTE	

Format: MEST_C_WRAP_BY_P1AZ Vertical Scale: 1:200 Graphics File Created: 17−Aug−2015 20:01

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

Input DLIS Files

	FMS_DSI_NGS_026PUP	FN:39	12−Aug−2015 05:19	493.8 M	193.2 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_038PUP	FN:50	PRODUCER	17−Aug−2015 20:01

Company: Integrated Ocean Discovery Program Well: Expedition 356, Site U1459 C

Input DLIS Files

FMS_DSI_NGS_025PUP	FN:38	12−Aug−2015 05:19	505.2 M	317.9 M

Output DLIS Files

DEFAULT FMS_DSI_NGS_036PUP FN:48 PRODUCER 17−Aug−2015 19:31 300.2 M 112.9 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) 100

Waveform Data Copy Indicator 4 − Monopole P&S (WCI4)
0 (−−−−) 10

Peak Coherence / RA − P & S Shear (CHRS)
−1 (−−−−) 9

Peak Coherence / RA − P & S Comp (CHRP)
0 (−−−−) 10

Gamma Ray (GR_EDTC)
0 (GAPI) 100

Poisson's Ratio (PR)
0 (−−−−) 0.5

Sonic Velocity (SVEL)
1000 (M/S) 6000

Sonde Deviation (SDEVM)
0 (DEG) 10

Poisson's Ratio (PR)
0 (−−−−) 0.5

Caliper 1 (C1)
0 (IN) 20

Min Amplitude Max

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

Caliper 2 (C2)
0 (IN) 20

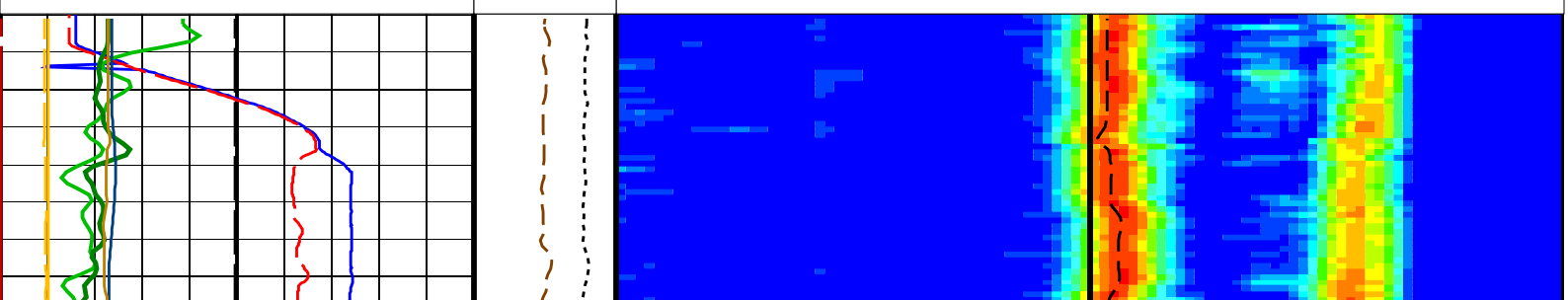
Calibrated Downhole Force (CDF) (LBF)
3000 0

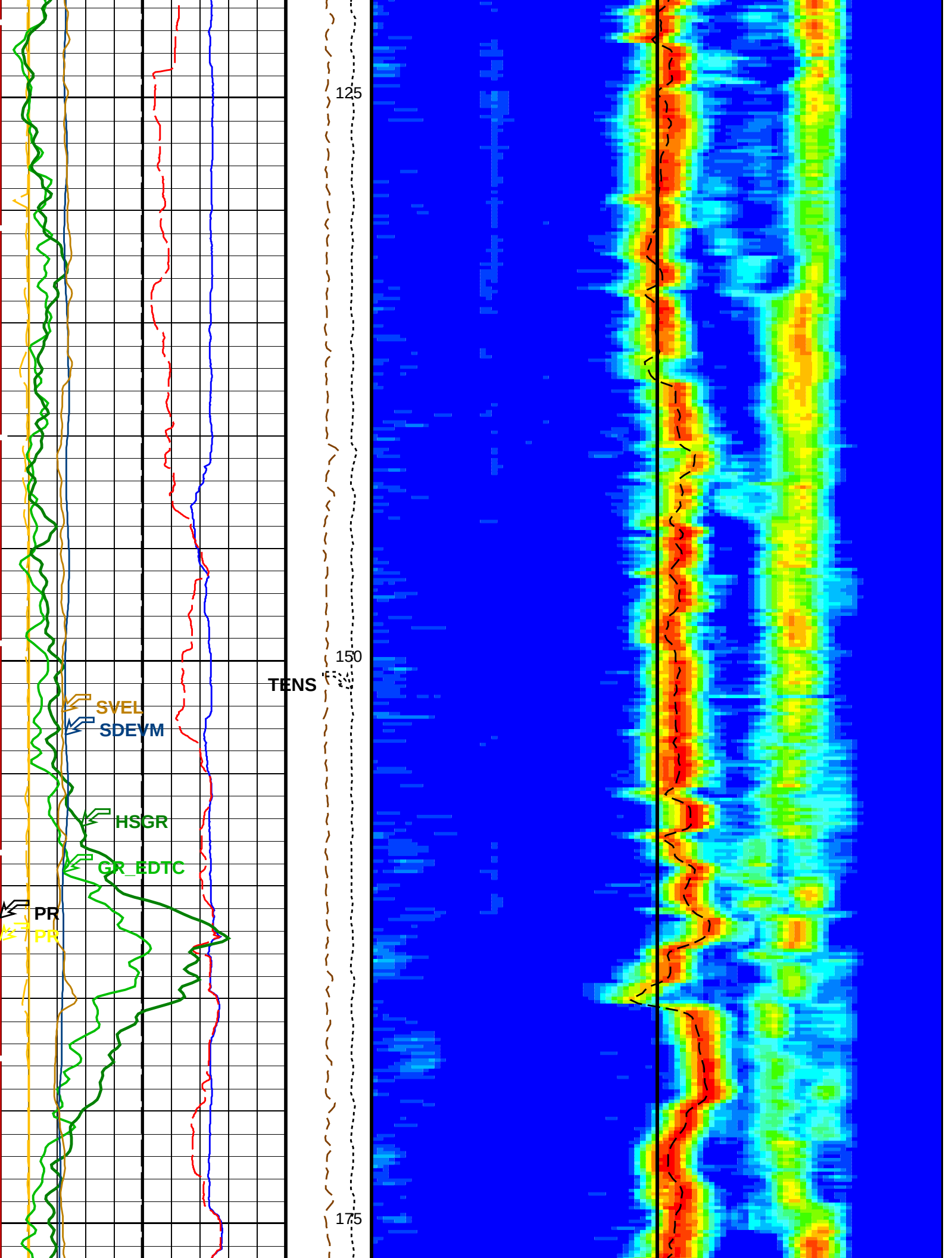
Delta−T Shear / RA − P & S (DTRS)
40 (US/F) 240

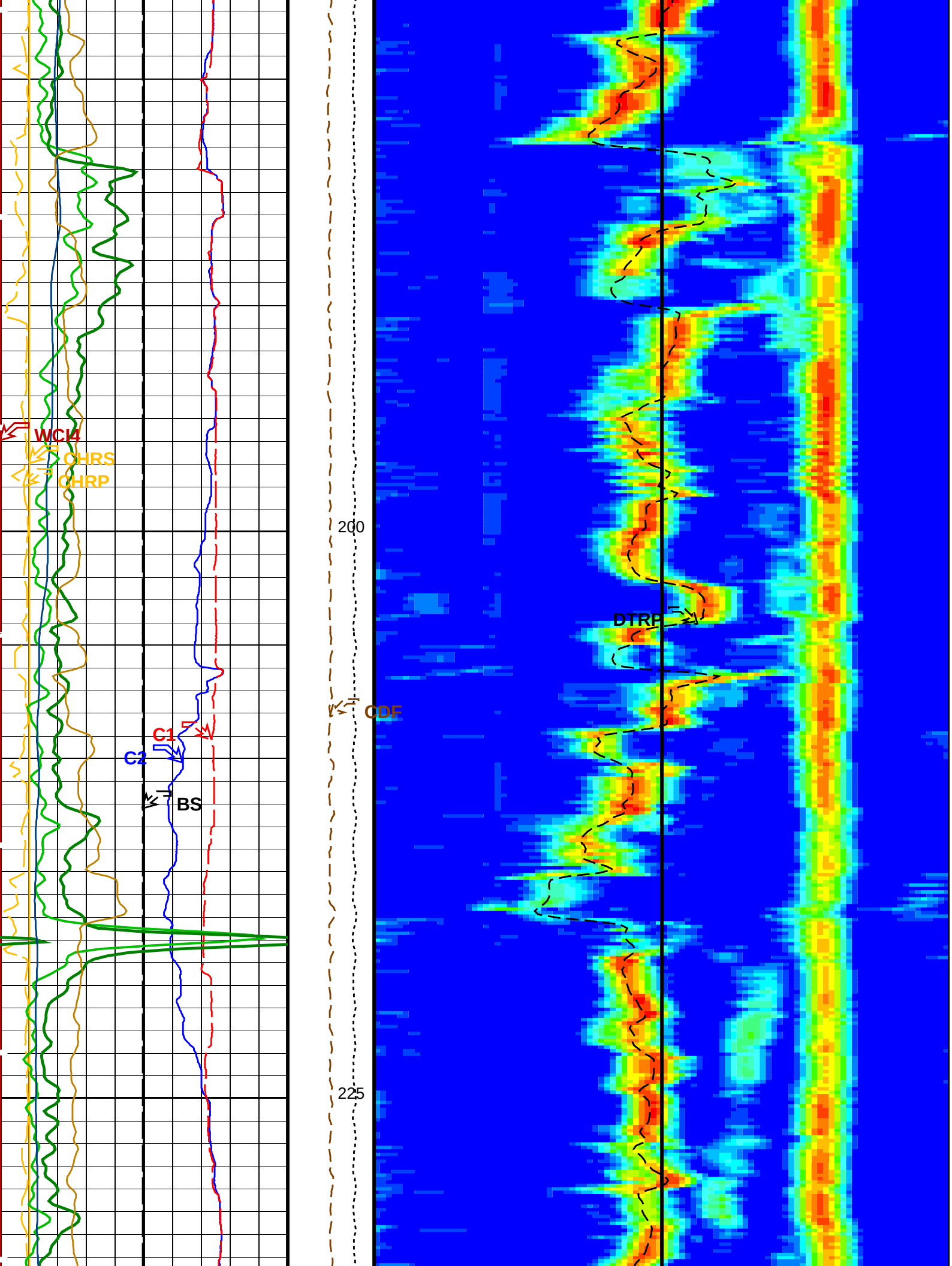
Bit Size (BS)
0 (IN) 20

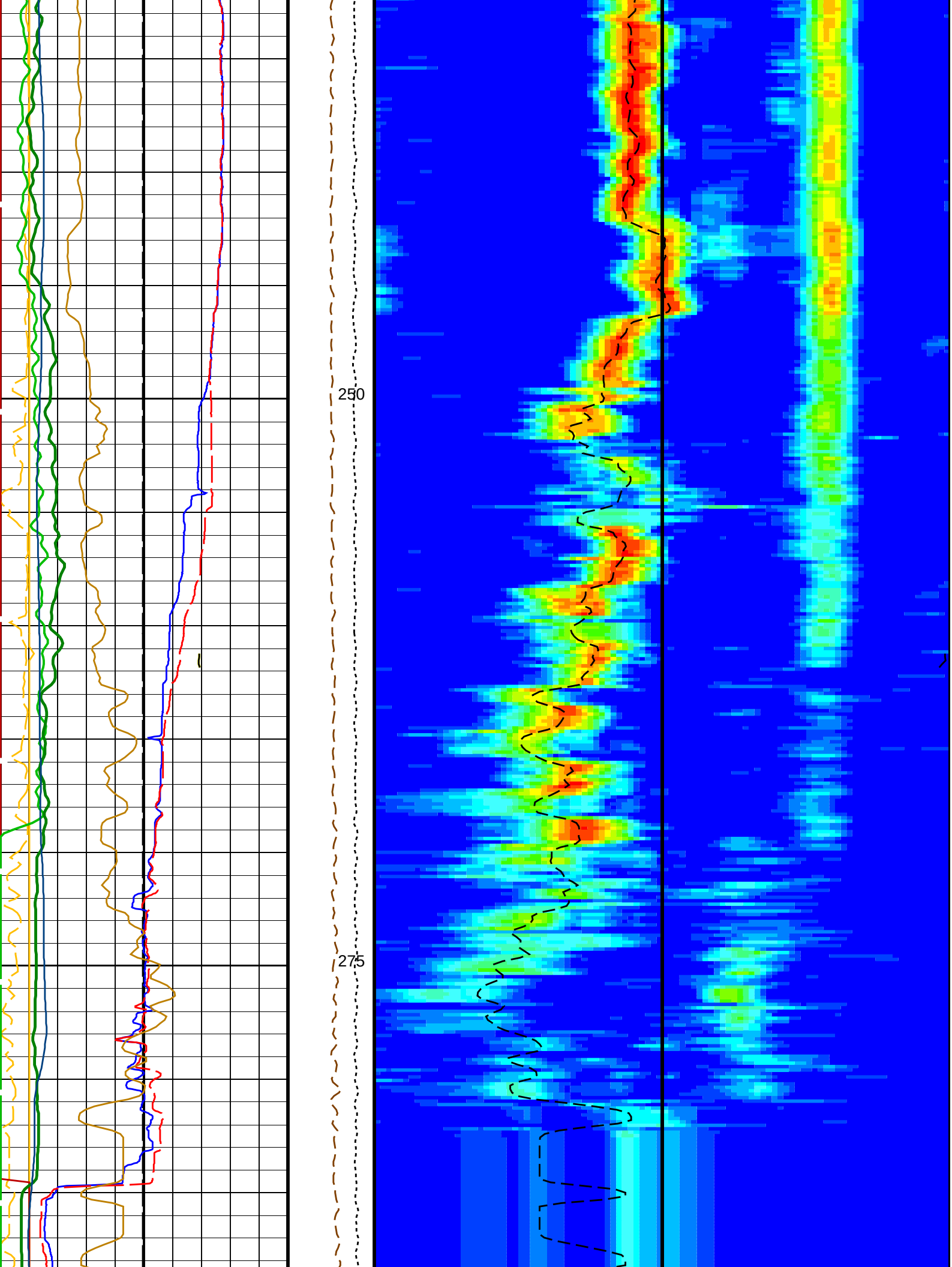
Tension (TENS) (LBF)
10000 0

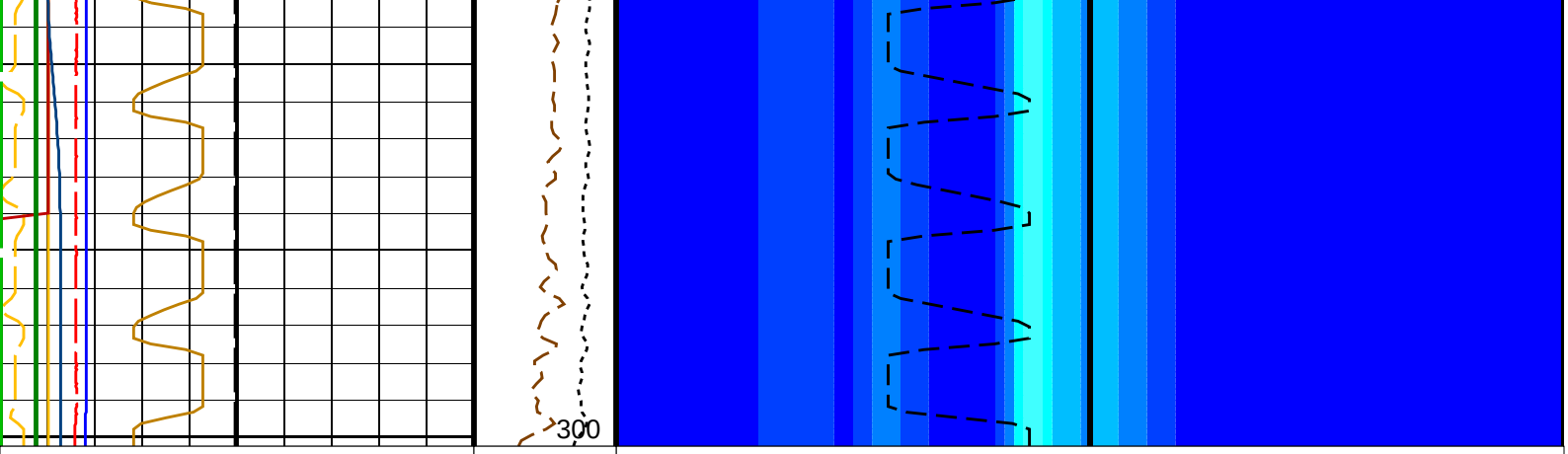
Delta−T Comp / RA − P & S (DTRP)
40 (US/F) 240




125
150
TENS
SVEL
SDEVM
HSGR
GR_EDTC
PR
PR
175


WCI4
CHRS
CHRP
200
DTRP
CDF
C1
C2
BS
225


250
275



Bit Size (BS) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	Delta−T Comp / RA − P & S (DTRP) 40 (US/F) 240
Caliper 2 (C2) 0 (IN) 20	Calibrated Downhole Force (CDF) (LBF) 3000 0	Delta−T Shear / RA − P & S (DTRS) 40 (US/F) 240
Caliper 1 (C1) 0 (IN) 20		Min Amplitude Max Rec.Array P&S Slow Proj. CVDL (SPR4) 40 (US/F) 240
Poisson's Ratio (PR) 0 (−−−−) 0.5		
Sonde Deviation (SDEVM) 0 (DEG) 10		
Sonic Velocity (SVEL) 1000 (M/S) 6000		
Poisson's Ratio (PR) 0 (−−−−) 0.5		
Gamma Ray (GR_EDTC) 0 (GAPI) 100		
Peak Coherence / RA − P & S Comp (CHRP) 0 (−−−−) 10		
Peak Coherence / RA − P & S Shear (CHRS) −1 (−−−−) 9		
Waveform Data Copy Indicator 4 − Monopole P&S (WCI4) 0 (−−−−) 10		
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100		

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	−1.53266	DEG
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	75	US/F
COUL	Label Slowness Upper Limit − Monopole P&S Compressional	190	US/F
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	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	195	US/F
DTSS	Shear Delta−T Source for DTSM Channel	PS_SHEAR	
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
NWI4	Number Waveform Items 4	8	
NWIX	Number Waveform Items X	0	
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
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	OFF	
SAS4	STC Sonic Array Status − Monopole P&S	255	
SBO4	STC Search Band Offset − Monopole P&S	500	US
SBR4	STC Baseline Removal − Monopole P&S	ON	
SBW4	STC Search Bandwidth − Monopole P&S	2000	US
SFC4	STC Formation Character − Monopole P&S	SELECTABLE	
SFM4	STC Filter − Monopole P&S	B3−20K	
SHLL	Label Slowness Lower Limit − Monopole P&S Shear	235	US/F
SHUL	Label Slowness Upper Limit − Monopole P&S Shear	240	US/F
SLL4	STC Slowness Lower Limit − Monopole P&S	40	US/F
SST4	STC Slowness Step − Monopole P&S	2	US/F
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	780	US/F
SUL4	STC Slowness Upper Limit − Monopole P&S	240	US/F
SWD4	STC Slowness Width − Monopole P&S	10	US/F
TBF4	STC Time for Baseline Fill − Monopole P&S	300	US
TLL4	STC Time Lower Limit − Monopole P&S	150	US
TST4	STC Time Step − Monopole P&S	50	US
TUL4	STC Time Upper Limit − Monopole P&S	3660	US
TWD4	STC Time Width − Monopole P&S	1000	US
TWI4	STC Integration Time Window − Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
WFM4	Waveform Mode 4	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	−0.00205451	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
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	1.05199	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.995216	
EDTC−B: Enhanced DTS Cartridge			
BHS	Borehole Status	OPEN	

BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	C1	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.32	G/C3
DO	Depth Offset for Playback	−205.0	M
PP	Playback Processing	RECOMPUTE	

Format: DSST_P_S_Only Vertical Scale: 1:200 Graphics File Created: 17−Aug−2015 19:31

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

Input DLIS Files

	FMS_DSI_NGS_025PUP	FN:38	12−Aug−2015 05:19	505.2 M	317.9 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_036PUP	FN:48	PRODUCER	17−Aug−2015 19:31	

Company: Integrated Ocean Discovery Program Well: Expedition 356, Site U1459 C

Input DLIS Files

	FMS_DSI_NGS_025PUP	FN:38	12−Aug−2015 05:19	505.2 M	317.9 M

Output DLIS Files

DEFAULT	FMS_DSI_NGS_036PUP	FN:48	PRODUCER	17−Aug−2015 19:31	300.2 M	112.9 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) 100

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 100

Gamma Ray (GR_EDTC)
0 (GAPI) 100

Bit Size (BS)
0 (IN) 20

Relative Bearing (RB_MEST)
−40 (DEG) 360

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

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

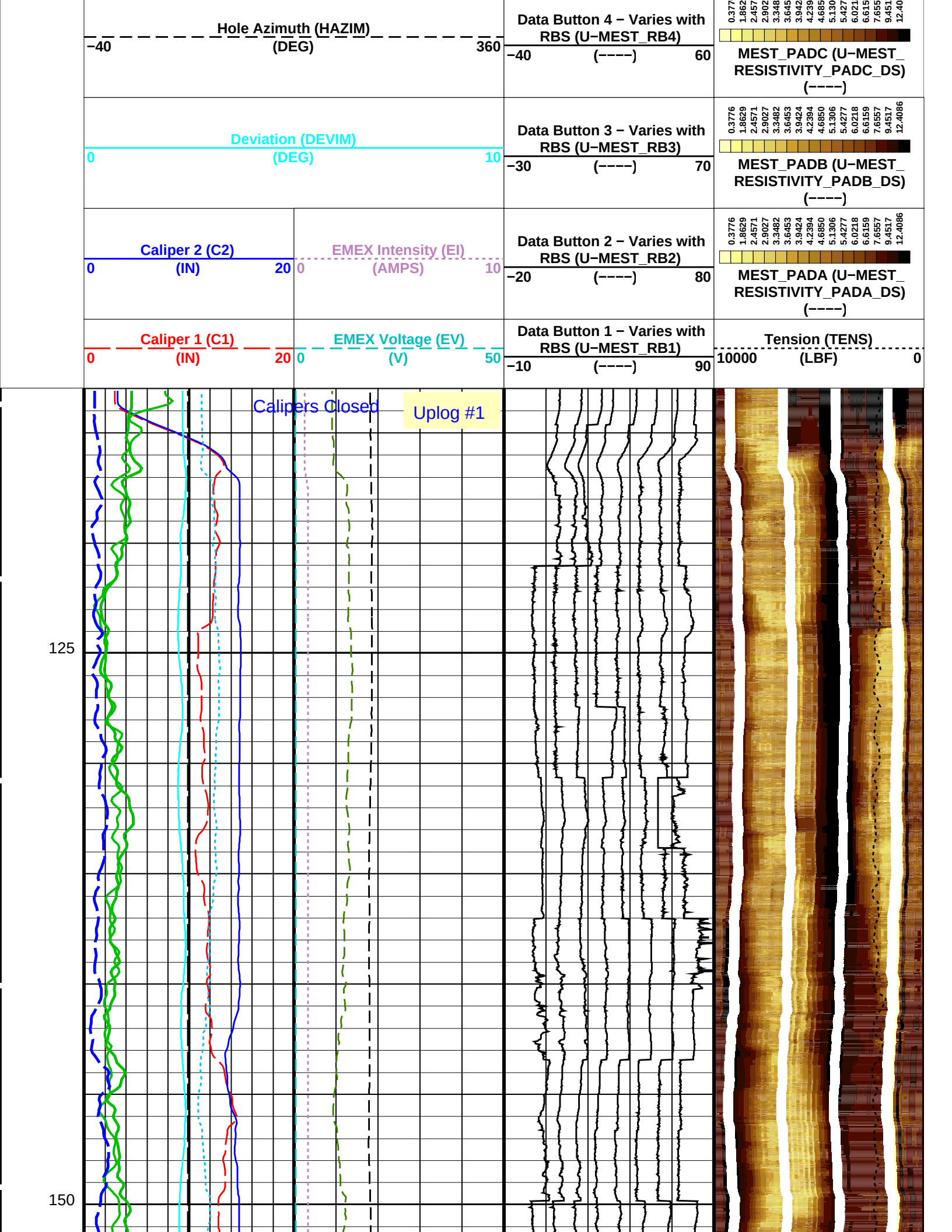
Data Button 7 − Varies with RBS (U−MEST_RB7)
−70 (−−−−) 30

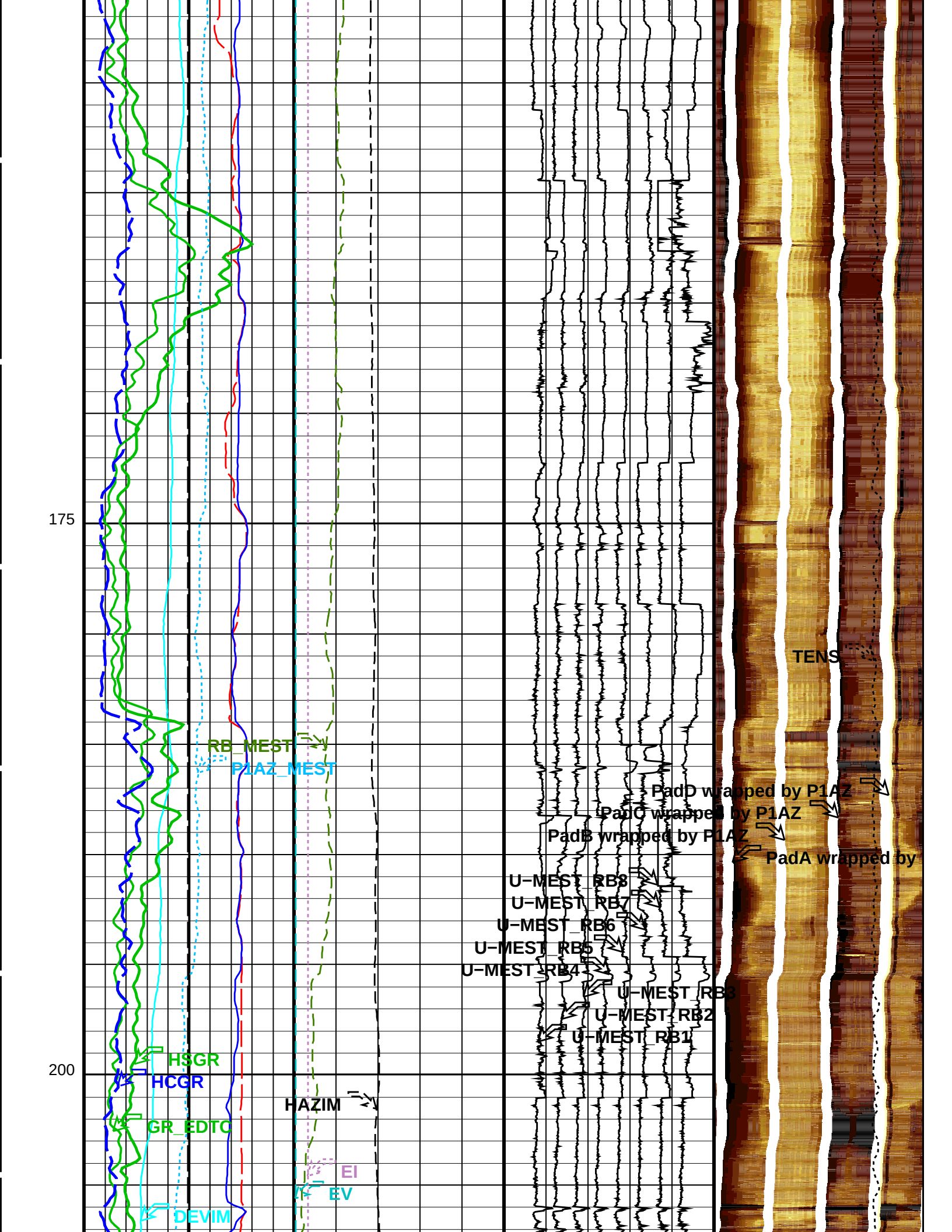
Data Button 6 − Varies with RBS (U−MEST_RB6)
−60 (−−−−) 40

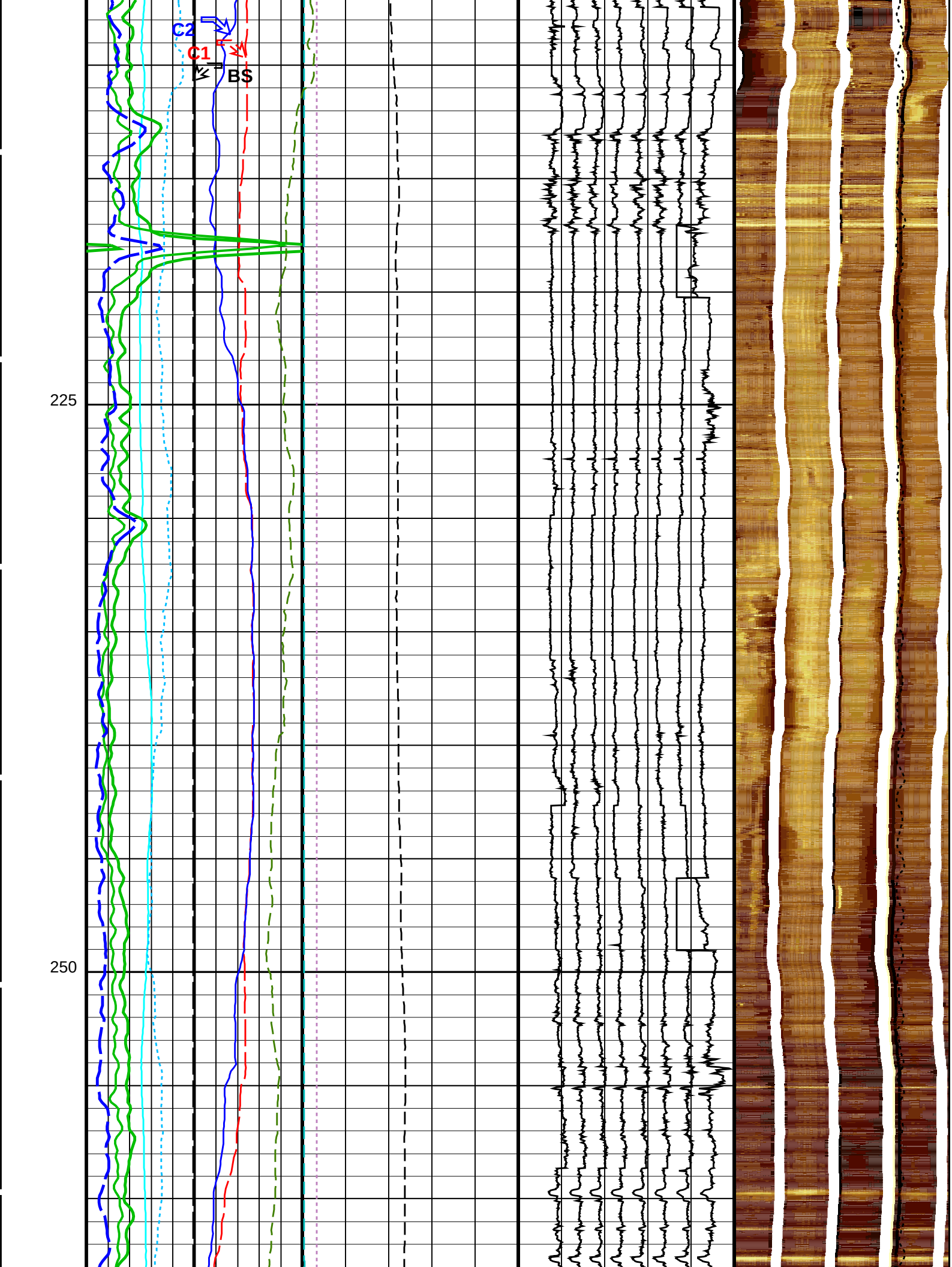
Data Button 5 − Varies with RBS (U−MEST_RB5)
−50 (−−−−) 50

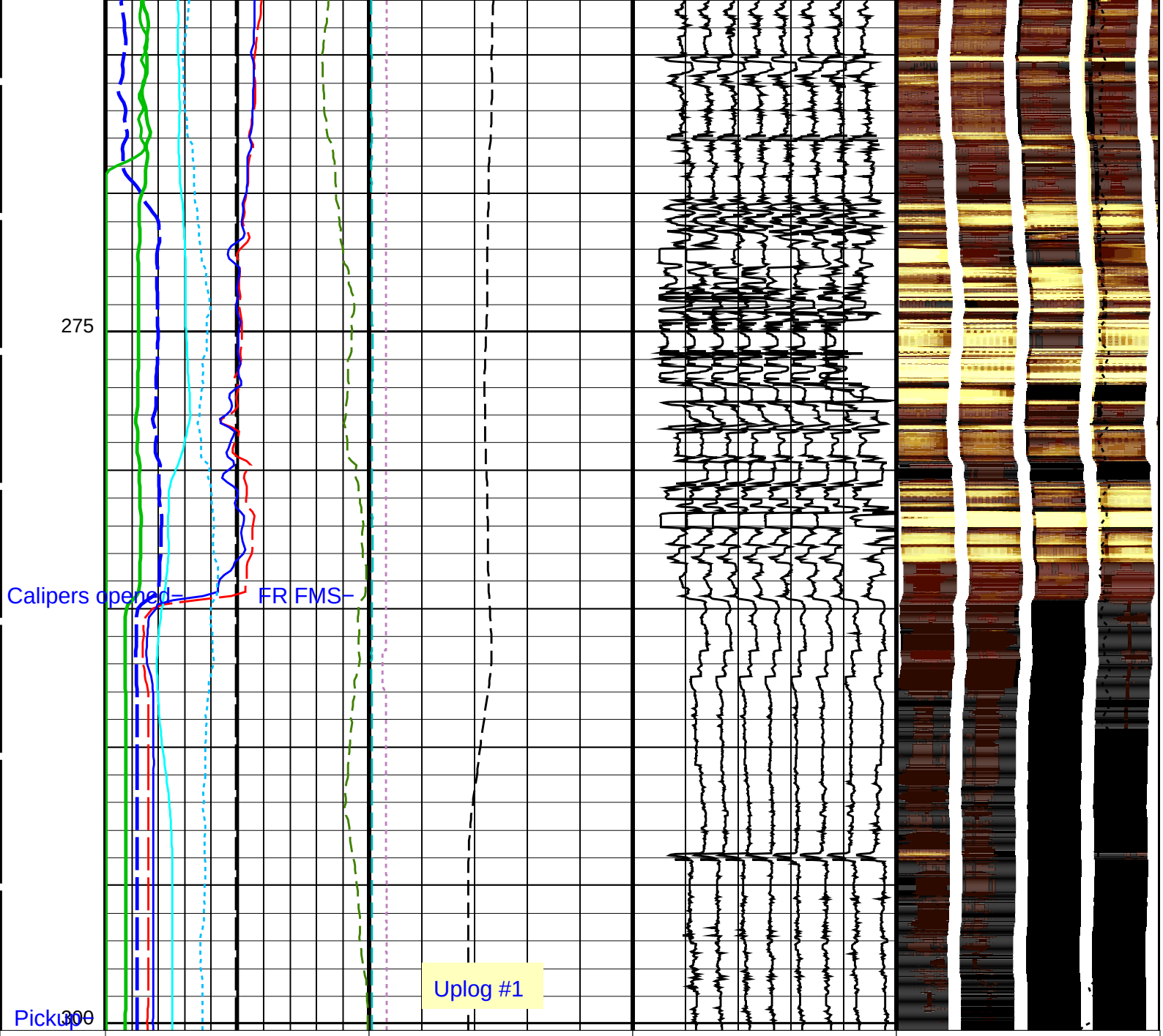
0.3776 1.8629 2.4571 2.9027 3.3482 3.6453 3.9424 4.2394 4.6850 5.1306 5.4277 6.0218 6.6159 7.6557 9.4517 12.4086

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

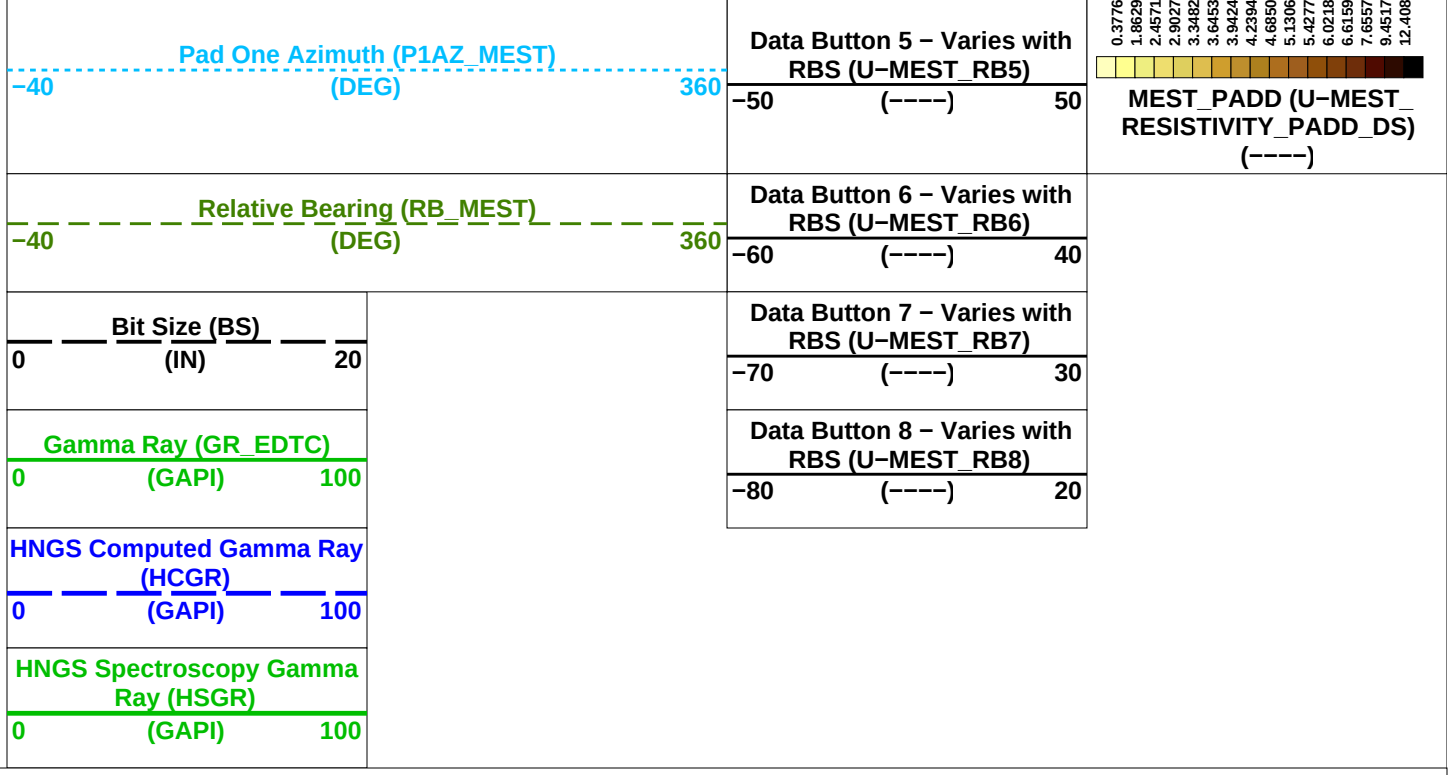

Hole Azimuth (HAZIM)
−40 (DEG) 360
Deviation (DEVIM)
0 (DEG) 10
Caliper 2 (C2)
0 (IN) 20
EMEX Intensity (EI)
0 (AMPS) 10
Caliper 1 (C1)
0 (IN) 20
EMEX Voltage (EV)
0 (V) 50
Data Button 4 − Varies with RBS (U−MEST_RB4)
−40 (−−−−) 60
Data Button 3 − Varies with RBS (U−MEST_RB3)
−30 (−−−−) 70
Data Button 2 − Varies with RBS (U−MEST_RB2)
−20 (−−−−) 80
Data Button 1 − Varies with RBS (U−MEST_RB1)
−10 (−−−−) 90
MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)
MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)
MEST_PADA (U−MEST_RESISTIVITY_PADA_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
Tension (TENS)
10000 (LBF) 0
Calipers Closed
Uplog #1
125
150


175
200
RB_MEST
P1AZ_MEST
HSGR
HCGR
GR_EDTC
DEVIM
HAZIM
EI
EV
U-MEST_RB8
U-MEST_RB7
U-MEST_RB6
U-MEST_RB5
U-MEST_RB4
U-MEST_RB3
U-MEST_RB2
U-MEST_RB1
TENS
PadD wrapped by P1AZ
PadC wrapped by P1AZ
PadB wrapped by P1AZ
PadA wrapped by


C2
C1
BS
225
250



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) (–––)



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	−1.53266	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	−0.00205451	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
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	1.05199	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.995216	
	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	1.32	G/C3
DO	Depth Offset for Playback	−205.0	M
PP	Playback Processing	RECOMPUTE	

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**

Input DLIS Files

FMS_DSI_NGS_025PUP **FN:38** **12−Aug−2015 05:19** **505.2 M** **317.9 M**

Output DLIS Files

DEFAULT **FMS_DSI_NGS_036PUP** **FN:48** **PRODUCER** **17−Aug−2015 19:31**

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner − B (Slim) Wellsite Calibration − Caliper Calibration							
Before: 5−Aug−2015 16:41							
Caliper 1 Zero Measurement	12.00	N/A	12.07	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	12.00	N/A	11.92	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.13	N/A	15.36	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.13	N/A	15.29	N/A	N/A	N/A	IN
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 11−Aug−2015 23:30							
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: 11−Aug−2015 23:30							
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: 31−Jul−2015 10:01 Before: 5−Aug−2015 7:59 After: 5−Aug−2015 9:23							
Na 511 Peak Loc	40.00	37.71	37.63	37.62	−0.01348	1.000	
Na 511 Peak Res	15.50	16.11	15.42	15.72	0.3043	2.000	%
High Voltage	1150	1211	1201	1204	2.856	N/A	V
Na 1785 Peak Loc	142.6	136.7	136.8	136.3	−0.4773	7.000	
Na 1785 Peak Res	8.500	10.13	8.646	8.654	0.007848	2.000	%
Temperature	15.50	22.16	22.65	22.78	0.1236	N/A	DEGC
Na Count Rate	45.00	43.96	43.37	42.72	−0.6500	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check							
Master: 31−Jul−2015 10:01 Before: 5−Aug−2015 7:59 After: 5−Aug−2015 9:23							
Na 511 Peak Loc	40.00	39.69	39.55	39.58	0.02773	1.000	
Na 511 Peak Res	15.50	15.27	16.42	15.01	−1.409	2.000	%
High Voltage	1150	1084	1083	1085	2.161	N/A	V
Na 1785 Peak Loc	142.6	143.4	143.2	142.7	−0.5449	7.000	
Na 1785 Peak Res	8.500	8.457	8.664	8.451	−0.2128	2.000	%
Temperature	15.50	21.65	22.00	22.57	0.5625	N/A	DEGC
Na Count Rate	45.00	44.18	43.52	42.99	−0.5368	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2							
Master: 31−Jul−2015 10:01 Before: 5−Aug−2015 7:59 After: 5−Aug−2015 9:23							
Coincidence Count Rate Ratio	1.000	0.9887	0.9903	0.9926	0.002269	0.05000	
Hostile Natural Gamma Ray Sonde Master Calibration − Detector 1 Calibration							
Master: 31−Jul−2015 9:56							
Na 511 Peak Set Point	40.00	39.00	−−	−−	−−	−−	
Th Peak Loc	209.6	206.7	−−	−−	−−	−−	
Th Peak Res	7.000	8.351	−−	−−	−−	−−	%
Background Count Rate	142.5	37.67	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.042	−−	−−	−−	−−	
Hostile Natural Gamma Ray Sonde Master Calibration − Detector 2 Calibration							

Master: 31−Jul−2015 9:56							
Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	
Th Peak Loc	209.6	211.5	−−	−−	−−	−−	
Th Peak Res	7.000	6.877	−−	−−	−−	−−	%
Background Count Rate	142.5	39.84	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.014	−−	−−	−−	−−	
Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration							
Before: 11−Aug−2015 23:33							
EDTC Z−Axis Acceleration	9.810	N/A	9.856	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration							
Before: 5−Aug−2015 7:56 After: 5−Aug−2015 9:33							
Gamma Ray (Jig − Bkg)	152.3	N/A	152.3	152.9	0.5175	13.85	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	164.6	0.5571	15.00	GAPI

Micro Electrical Scanner − B (Slim) / Equipment Identification

Primary Equipment:		
MEST Sonde − B	MEDS − B	770
MEST Preamplifier Cartridge − AB	MEPC − AB	807
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		37.71
Before		37.63
After		37.62
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.11
Before		15.42
After		15.72
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1211
Before		1201
After		1204
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		136.7
Before		136.8
After		136.3
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		10.13
Before		8.646
After		8.654
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		22.16
Before		22.65
After		22.78
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		43.96
Before		43.37

After		42.72
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 31−Jul−2015 10:01 Before: 5−Aug−2015 7:59 After: 5−Aug−2015 9:23

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.69
Before		39.55
After		39.58
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		15.27
Before		16.42
After		15.01
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1084
Before		1083
After		1085
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		143.4
Before		143.2
After		142.7
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.457
Before		8.664
After		8.451
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		21.65
Before		22.00
After		22.57
	−28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		44.18
Before		43.52
After		42.99
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 31−Jul−2015 10:01 Before: 5−Aug−2015 7:59 After: 5−Aug−2015 9:23

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9887
Before		0.9903
After		0.9926
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 31−Jul−2015 10:01
Before: 5−Aug−2015 7:59
After: 5−Aug−2015 9:23

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 Calibration

Phase	Na 511 Peak Set Point	Value
Master		39.00
	38.00 (Minimum) 40.00 (Nominal) 43.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		206.7
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		8.351
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		37.67
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.042
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 31−Jul−2015 9:56

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		211.5
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		6.877
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		39.84
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.014
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 31−Jul−2015 9:56

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG − A/B	8305
Enhanced DTS Cartridge	EDTC − B	8317
Auxiliary Equipment:		
EDTC Housing	EDTH − B	8303

Enhanced DTS Cartridge Wellsite Calibration

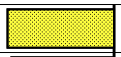
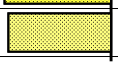
EDTC Accelerometer Calibration

Phase	EDTC Z−Axis Acceleration M/S2	Value
Before		9.856
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 11−Aug−2015 23:33

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		9.594	Before		152.3	Before		164.0
After		10.26	After		152.9	After		164.6
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			138.5 (Minimum) 152.3 (Nominal) 166.2 (Maximum)			149.0 (Minimum) 164.0 (Nominal) 179.0 (Maximum)	

Before: 5−Aug−2015 7:56 After: 5−Aug−2015 9:33

Company: **International Ocean Discovery Program**

Schlumberger

Well: **Expedition 356, Site U1459 C**
Field: **Indonesian Throughflow**
Rig: **JOIDES Resolution**
Ocean: **Indian**

Formation Micro Scanner (FMS)
Dipole Shear Sonic (DSST) Compressional
Natural Gamma Ray