Schlumberger

Company: **International Ocean Discovery Program**

Well: **Expedition 374, Site U1523D**
Field: **Ross Sea W. Antarctic Ice Sheet History**
Rig: **JOIDES Resolution** Ocean: **Southern**

Rig: JOIDES Resolution
Field: Ross Sea W. Antarctic Ice Sheet
Location: Latitude: S 74.15048*
Well: Expedition 374, Site U1523D
Company: International Ocean Discovery Pr

Formation Micro Scanner (FMS)

Hostile Natural Gamma Ray (HNGS)

LOCATION

Latitude: S 74.15048*
Longitude: W 176.795145*

Elev.: K.B. 0.00 m
G.L. −839.00 m
D.F. 0.00 m

Permanent Datum: Sea Floor
Log Measured From: Rig Floor
Drilling Measured From: Rig Floor

Elev.: −839.00 m
839.00 m above Perm. Datum

API Serial No.	Max. Hole Devi. 4 deg	Longitude W 176.795145	Latitude S 74.15048

	Run 1	Run 2	R
Logging Date	2−Feb−2018		
Run Number	1		
Depth Driller	1270.3 m		
Schlumberger Depth	1131 m		
Bottom Log Interval	1131 m		
Top Log Interval	840 m		
Casing Driller Size @ Depth	5.500 in @ 906.1 m	@	
Casing Schlumberger	905 m		
Bit Size	9.875 in		
Type Fluid In Hole	Sepiolite		
MUD Density / Viscosity	1.26 g/cm3		
MUD Fluid Loss / PH	8.07		
MUD Source Of Sample	N/A		
RM @ Measured Temperature	@	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC	N/a / N/A		
RM @ MRT / RMF @ MRT	@ 6 / @ 6	@ / @	
Maximum Recorded Temperatures	6 degC		
Circulation Stopped / Time	2−Feb−2018 / 20:00		
Logger On Bottom / Time	2−Feb−2018 / 3:09		
Unit Number / Location	627314 / Larose, LA		
Recorded By	K. Swain		
Witnessed By	J. Gales, B. Romans, L. De Santis		

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

Run 3	Run 4

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED−DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED−DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED−DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED−DATA.

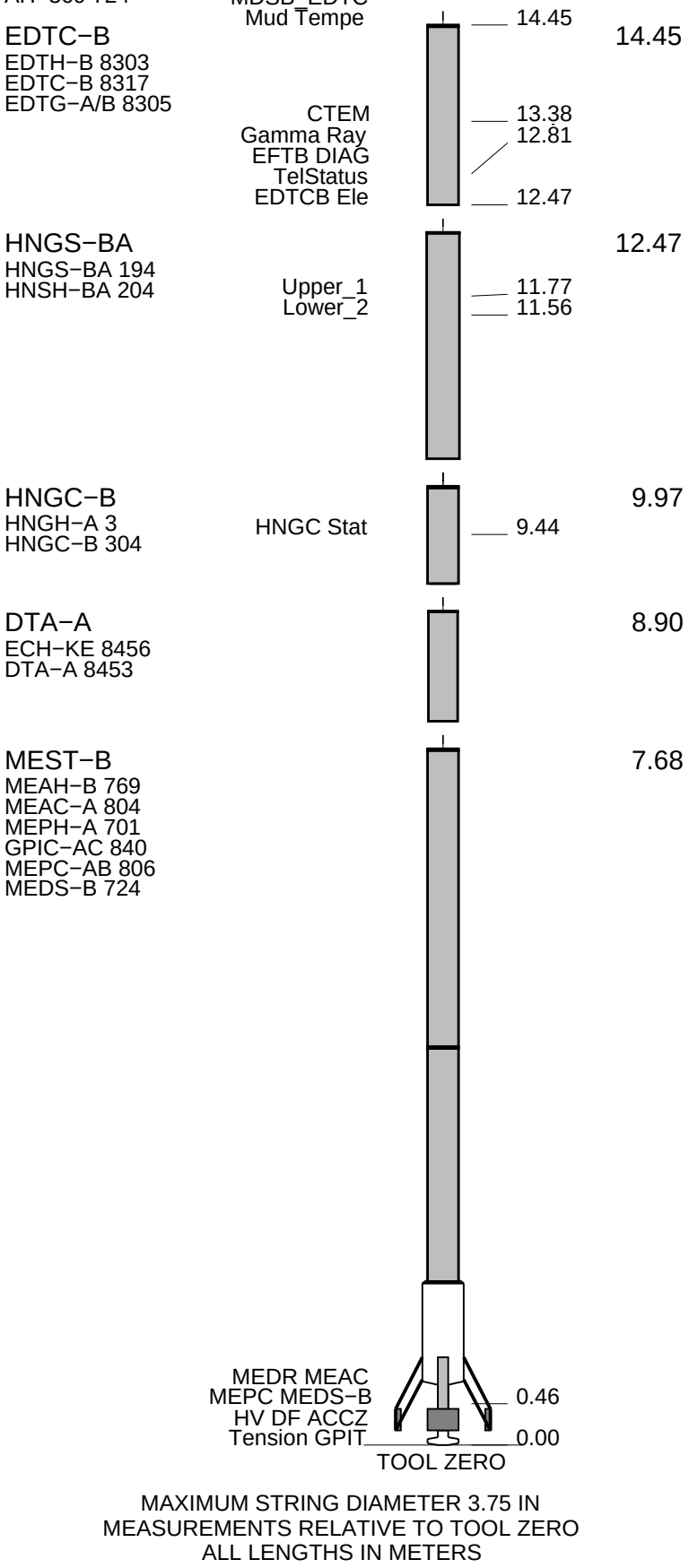
OTHER SERVICES1	OTHER SERVICES2
OS1: MSS/DSI/HRLA/Cali	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Hole drilled with RCB bottom hole assembly (BHA) at 9−7/8" BS	
Bit dropped using Mechanical Bit Release (MBR) prior to logging.	
Drilled TD was 1146.8mbrf.	
Drill pipe set at 921.3 and 906.1mbrf.	
Fluid type was Sepeolite mud weighted with Barite to a density of 10.5ppg	
Depth recorded from drill floor; logs presented as−logged without depth corrections or shifts, as per client instructions.	
All logs presented in wireline measured depth below rig floor (MDBRF).	
Caliper opened during upward passes; closed inside pipe.	
Hole size corrections made using caliper measurements for upward passes.	
AHC used from TD then switched off to facilitate pipe entry.	
10.5 lb/gal mud pumped in hole prior to logging.	

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

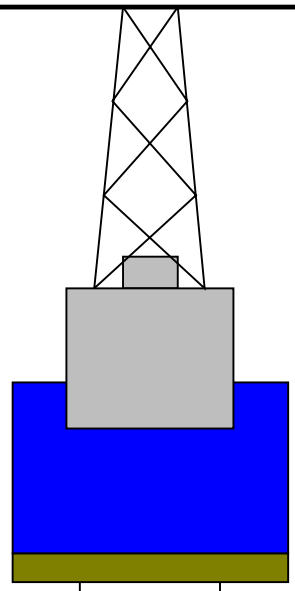
EQUIPMENT DESCRIPTION

RUN 1	RUN 2
SURFACE EQUIPMENT	
GSR−U 6098	
WITM (EDTS)−A 1	
DOWNHOLE EQUIPMENT	
LEH−QT 15.77	
LEH−QT 301	
AH−369 14.88	
AH−369 724 MDSB, EDTC	



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

	OD	ID	MD		MD	OD	ID	
Kelly Bushing Elevation			0					
Derrick Floor Elevation			0					
Mean Sea Level			11			4.1		
					839	4.1		Sea Floor
					921.3	9.875		Open Hole
					1146.8			Total Depth

Input DLIS Files

DEFAULT	Flip_FMS_NGS_020LUP		PRODUCER	02−Feb−2018 19:04	1128.2 M	811.5 M

Output DLIS Files

DEFAULT	FMS_NGS_039PUP	FN:47	PRODUCER	04−Feb−2018 01:49	1128.2 M	811.5 M

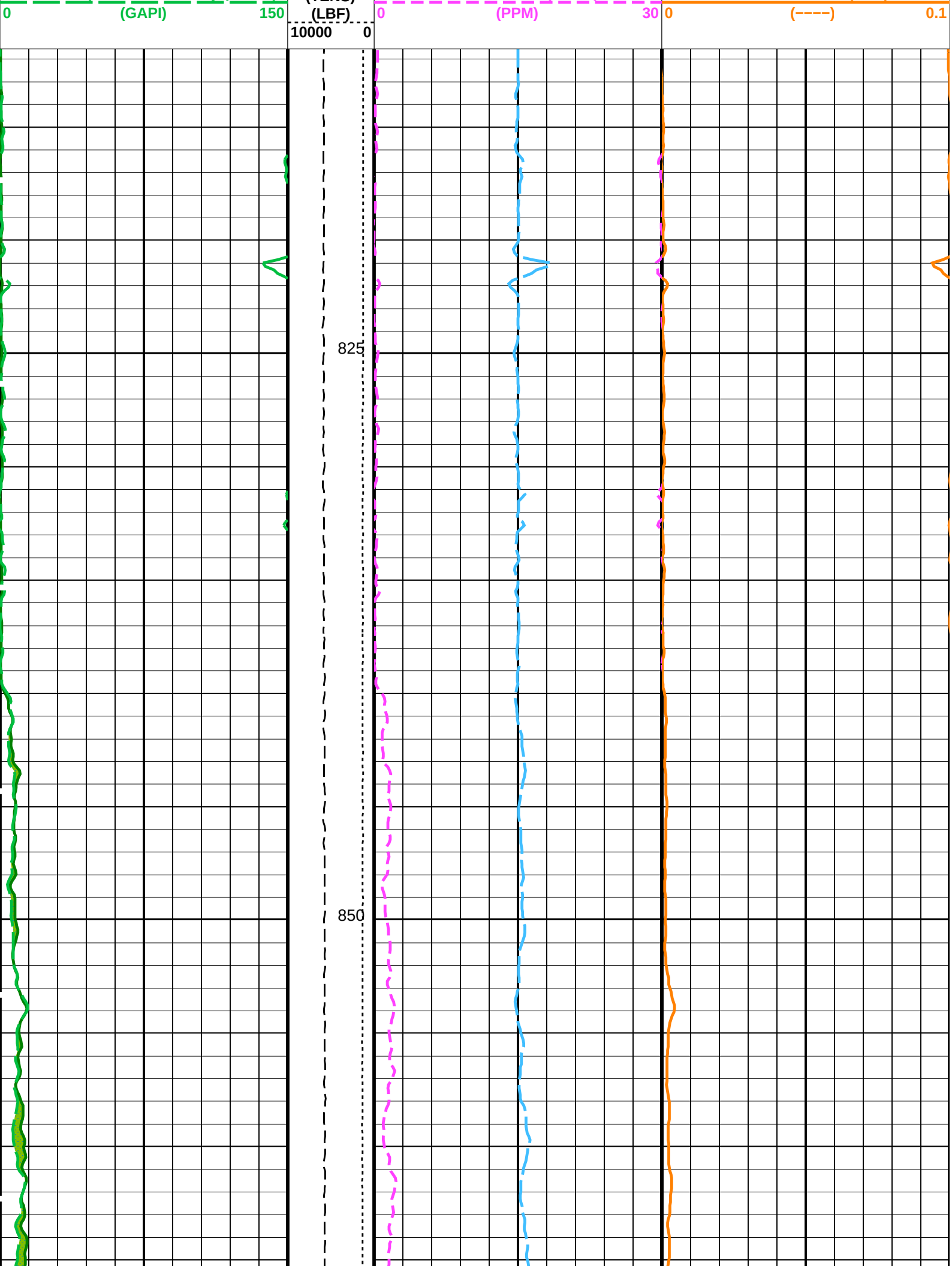
OP System Version: 19C0−187

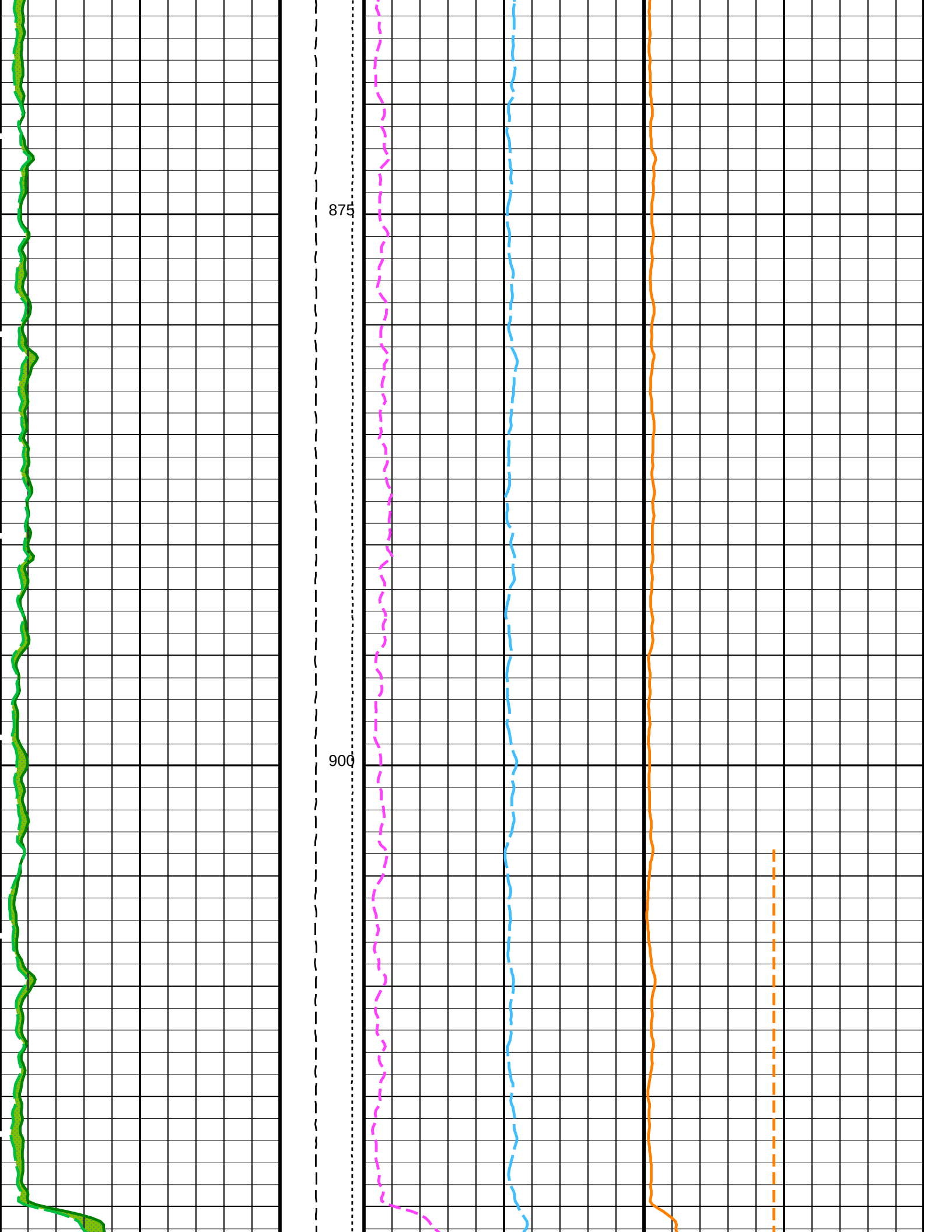
MEST−B	19C0−187	DTA−A	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
EDTC−B	SKK−5169−EDTCB		

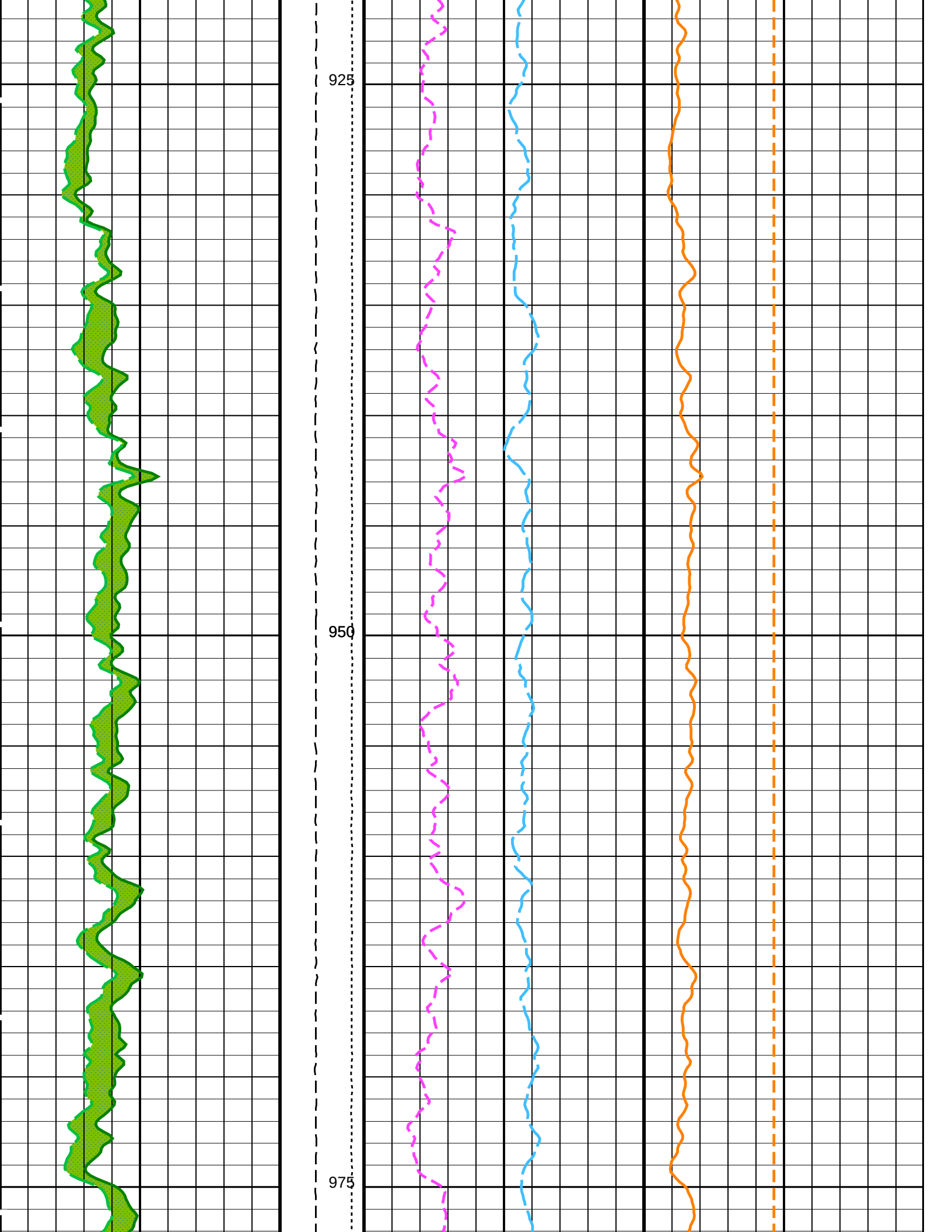
PIP SUMMARY

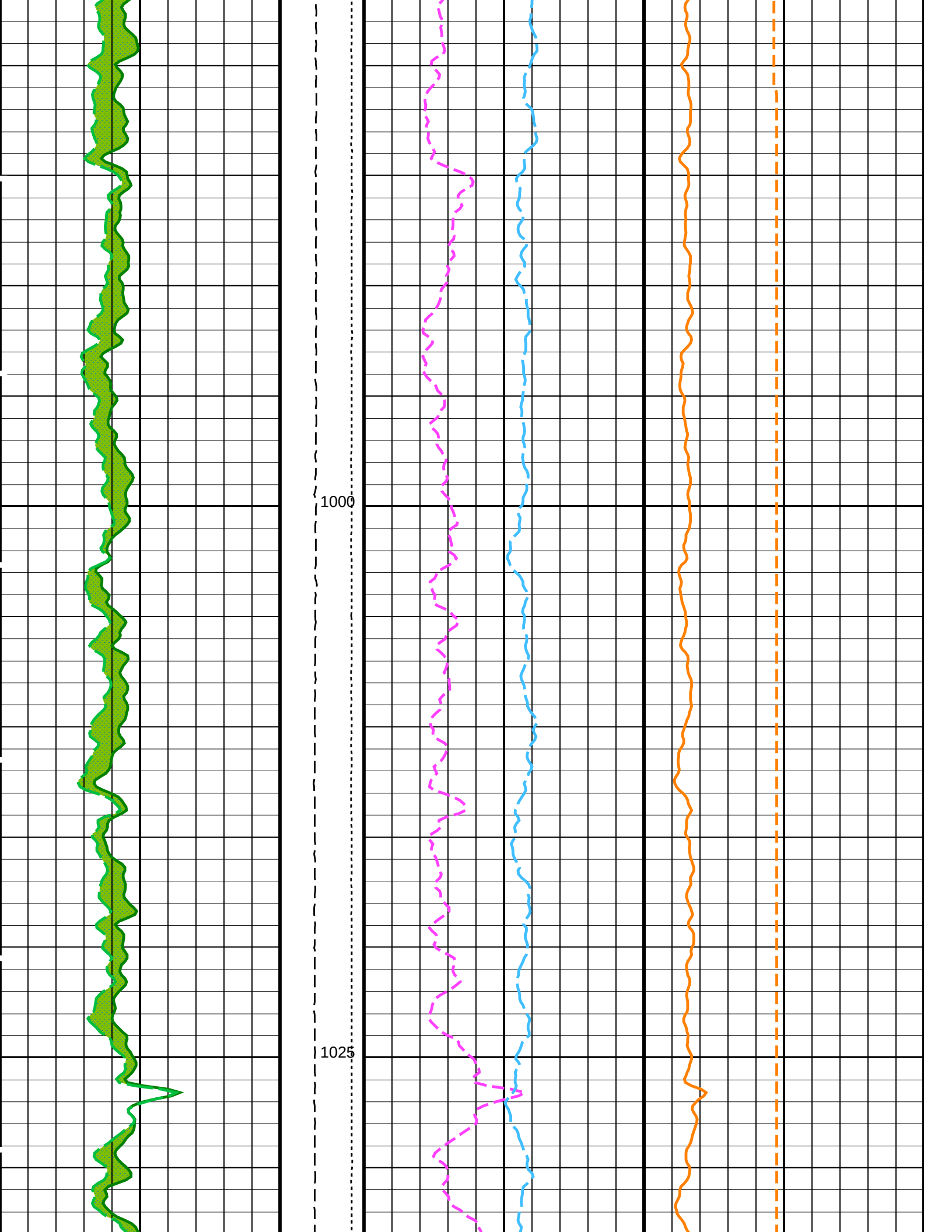
Time Mark Every 60 S

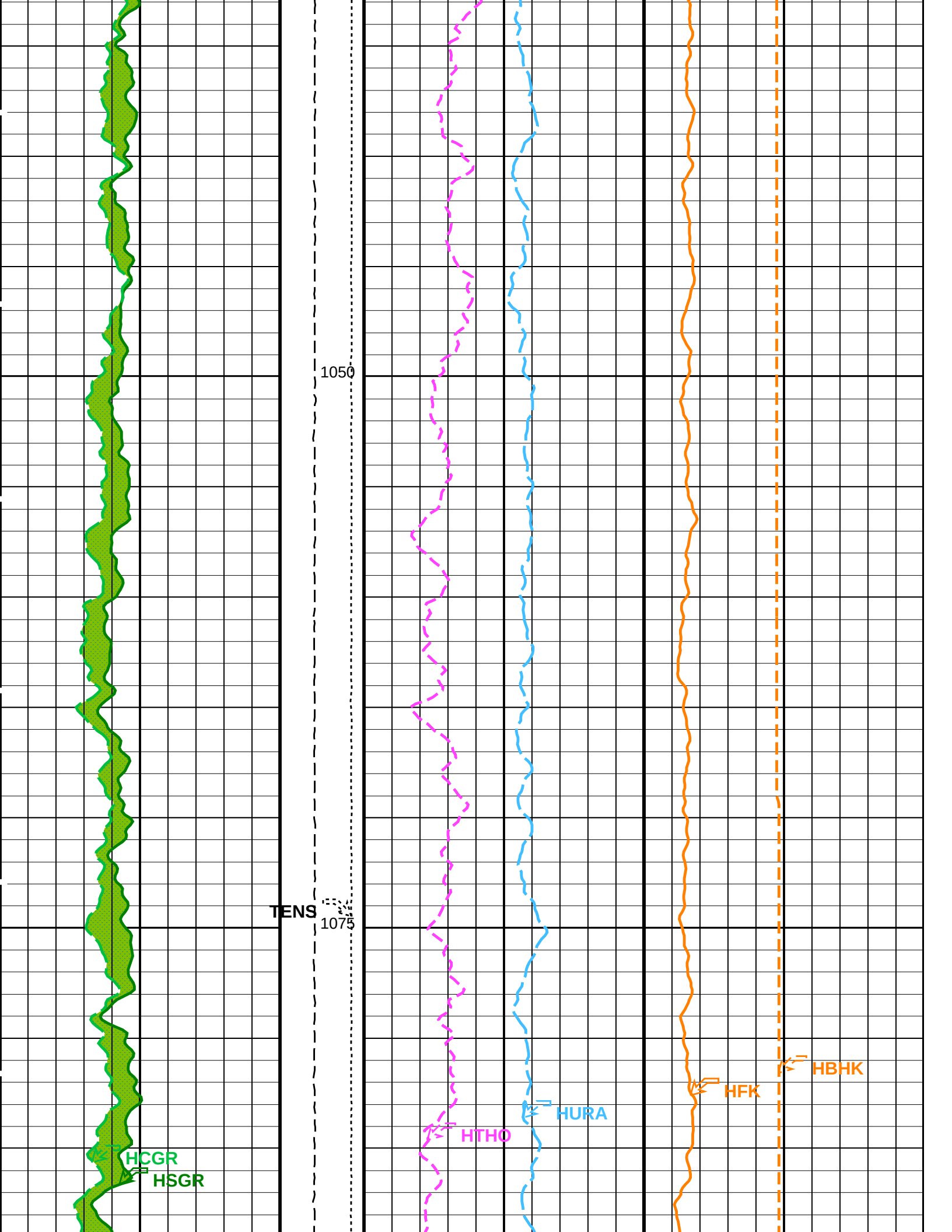
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 150	Flipped Downlog	HNGS Borehole Potassium (HBHK) −0.05 (−−−−) 0.05
Area1 From HCGR to HSGR	Calibrated Downhole Force (CDF) (LBF) −200 1800	HNGS Uranium (HURA) −10 (PPM) 30
HNGS Computed Gamma Ray (HCGR)	Tension (TENS)	HNGS Thorium (HTHO) / HNGS Potassium (HFK)

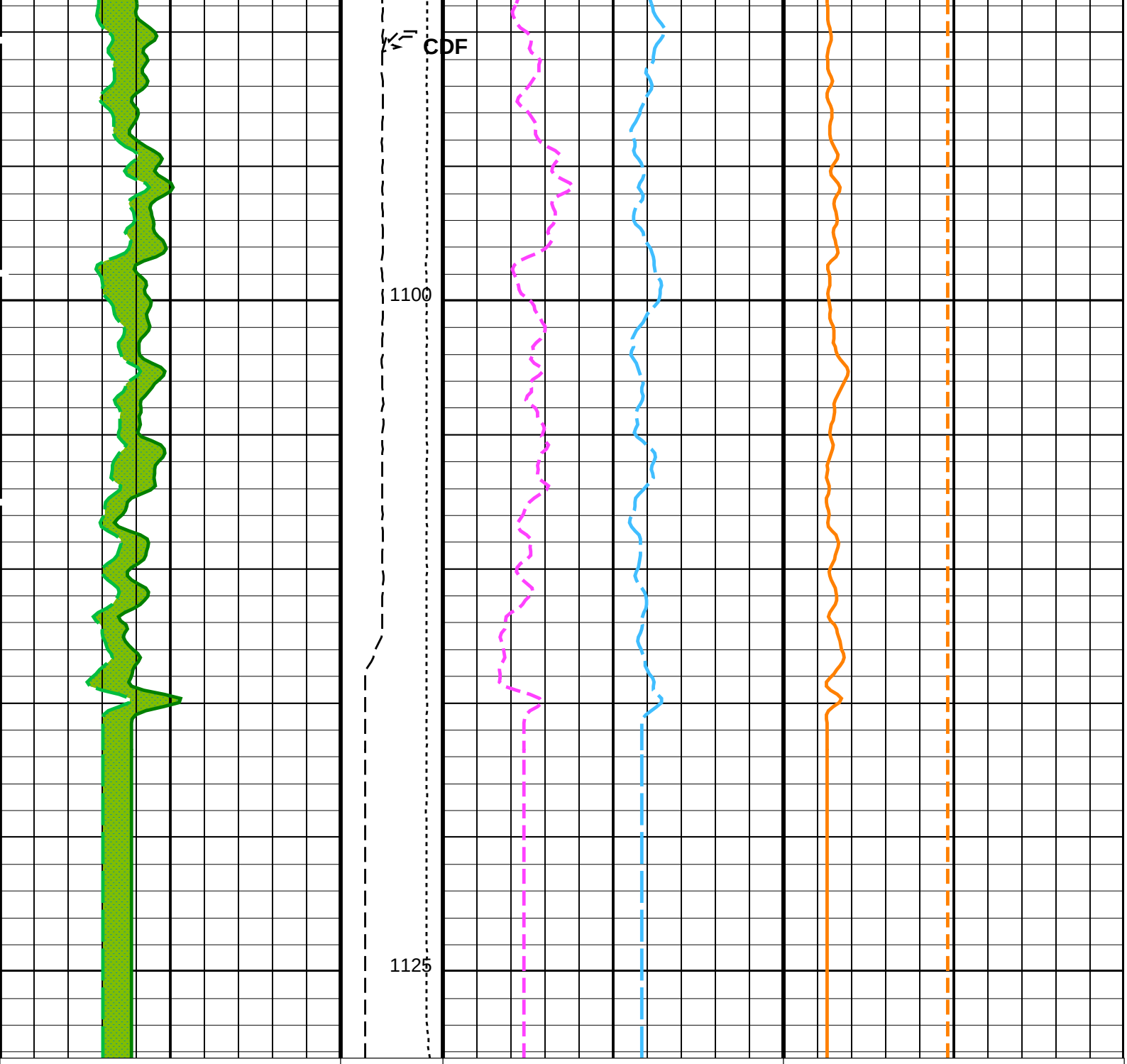

0
(GAPI)
150
(LBF)
10000
0
0
(PPM)
30
0
(----)
0.1
825
850


875
900


925
950
975


1000
1025


1050
TENS
1075
HCGR
HSGR
HTHO
HURA
HFK
HBHK



HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 150	Tension (TENS) (LBF) 10000 0	HNGS Thorium (HTHO) 0 (PPM) 30	HNGS Potassium (HFK) 0 (----) 0.1
Area1 From HCGR to HSGR	Calibrated Downhole Force (CDF) (LBF) −200 1800	HNGS Uranium (HURA) −10 (PPM) 30	
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 150	Flipped Downlog		HNGS Borehole Potassium (HBHK) −0.05 (----) 0.05

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	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	BS	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00253581	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.973899	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.976907	
	EDTC−B: Enhanced DTS Cartridge		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.26	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 04−Feb−2018 01:49

OP System Version: 19C0−187

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

Input DLIS Files

DEFAULT	Flip_FMS_NGS_020LUP	PRODUCER	02−Feb−2018 19:04	1128.2 M	811.5 M

Output DLIS Files

DEFAULT	FMS_NGS_039PUP	FN:47	PRODUCER	04−Feb−2018 01:49

Output DLIS Files

DEFAULT	FMS_NGS_019LUP	FN:30	PRODUCER	02−Feb−2018 18:19	1127.0 M	830.6 M
BACKUP	FMS_NGS_019LUP	FN:31	PRODUCER	02−Feb−2018 18:19	1127.0 M	830.6 M

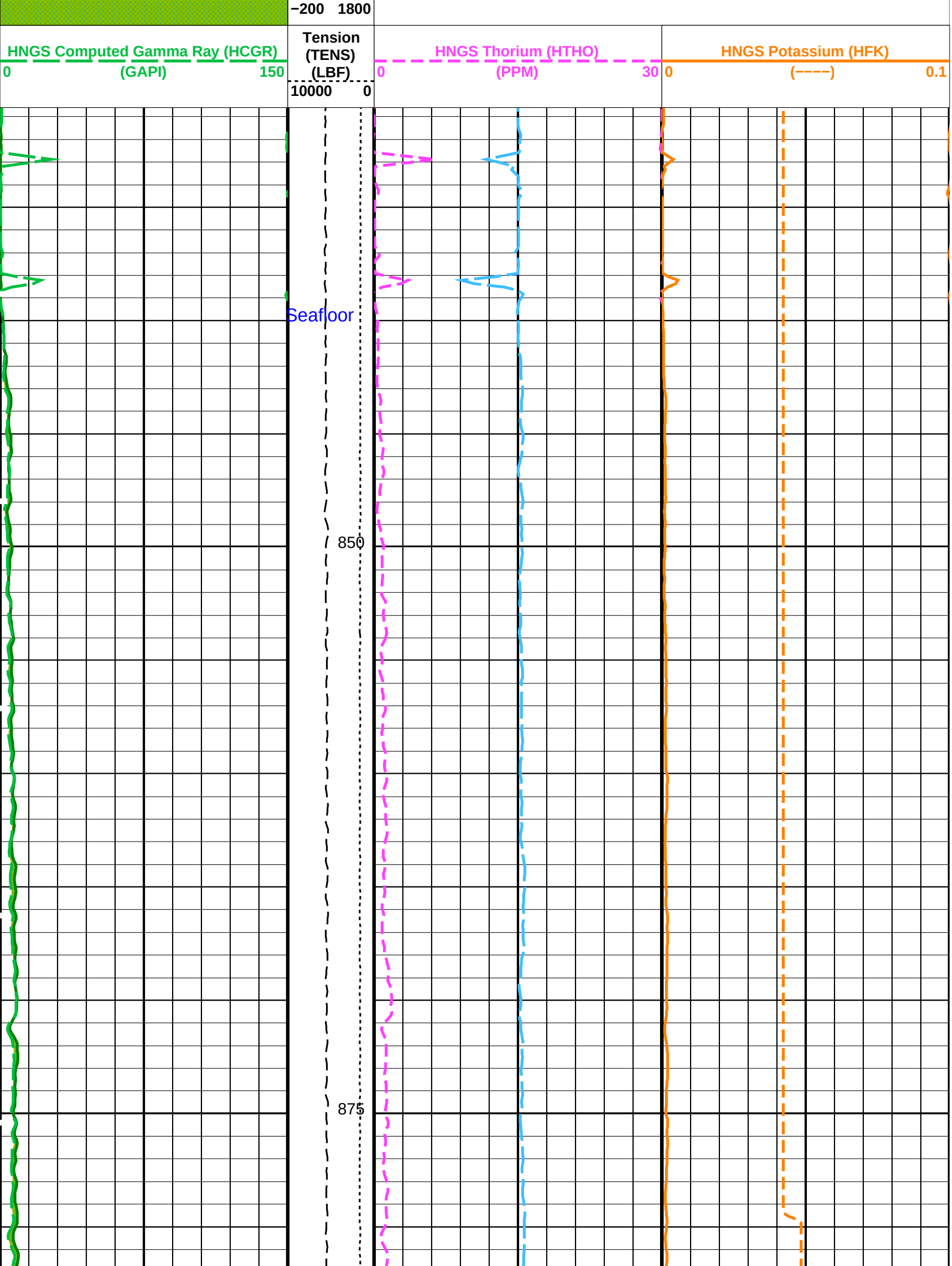
OP System Version: 19C0−187

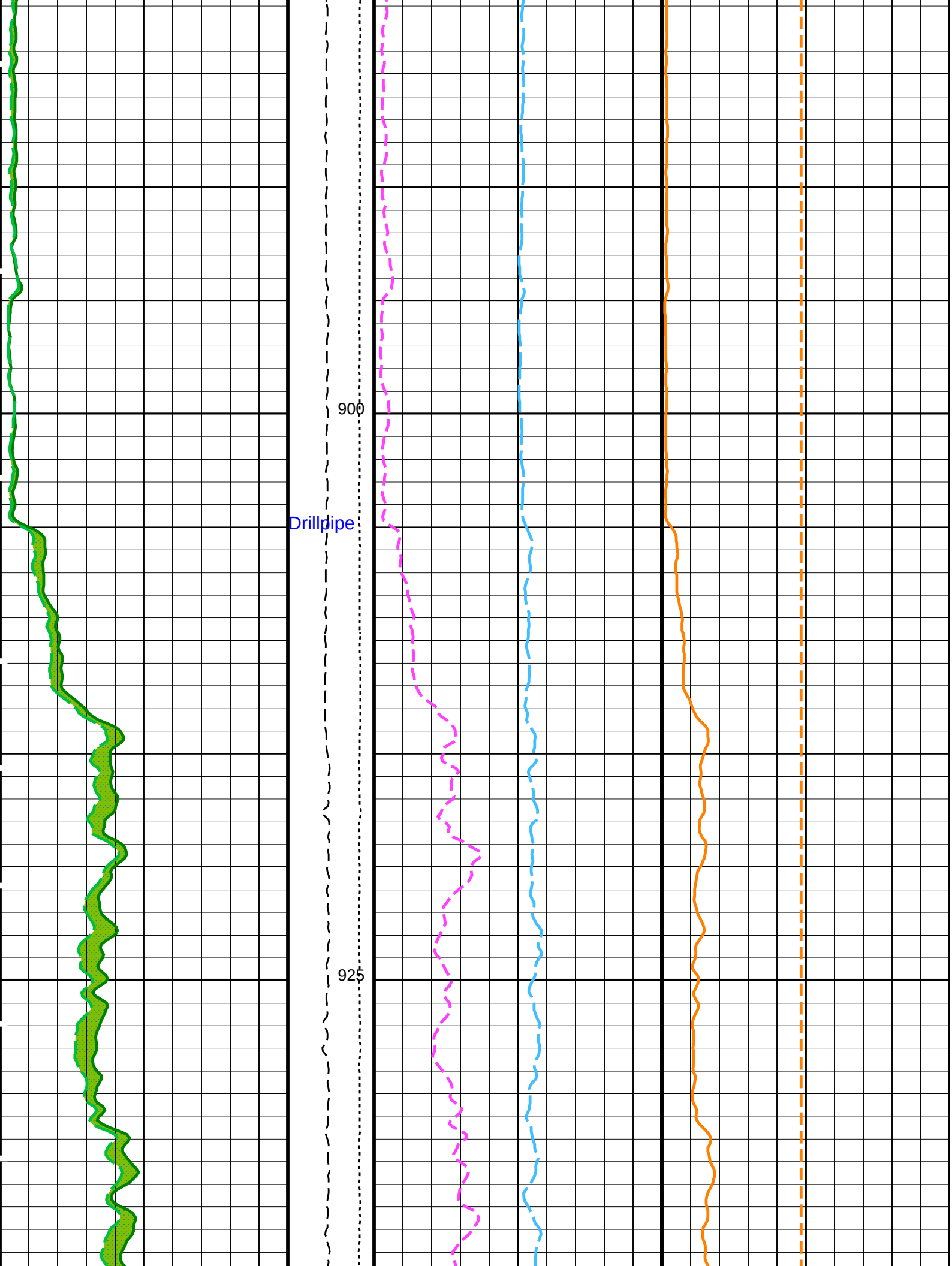
MEST−B	19C0−187	DTA−A	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
EDTC−B	SKK−5169−EDTCB		

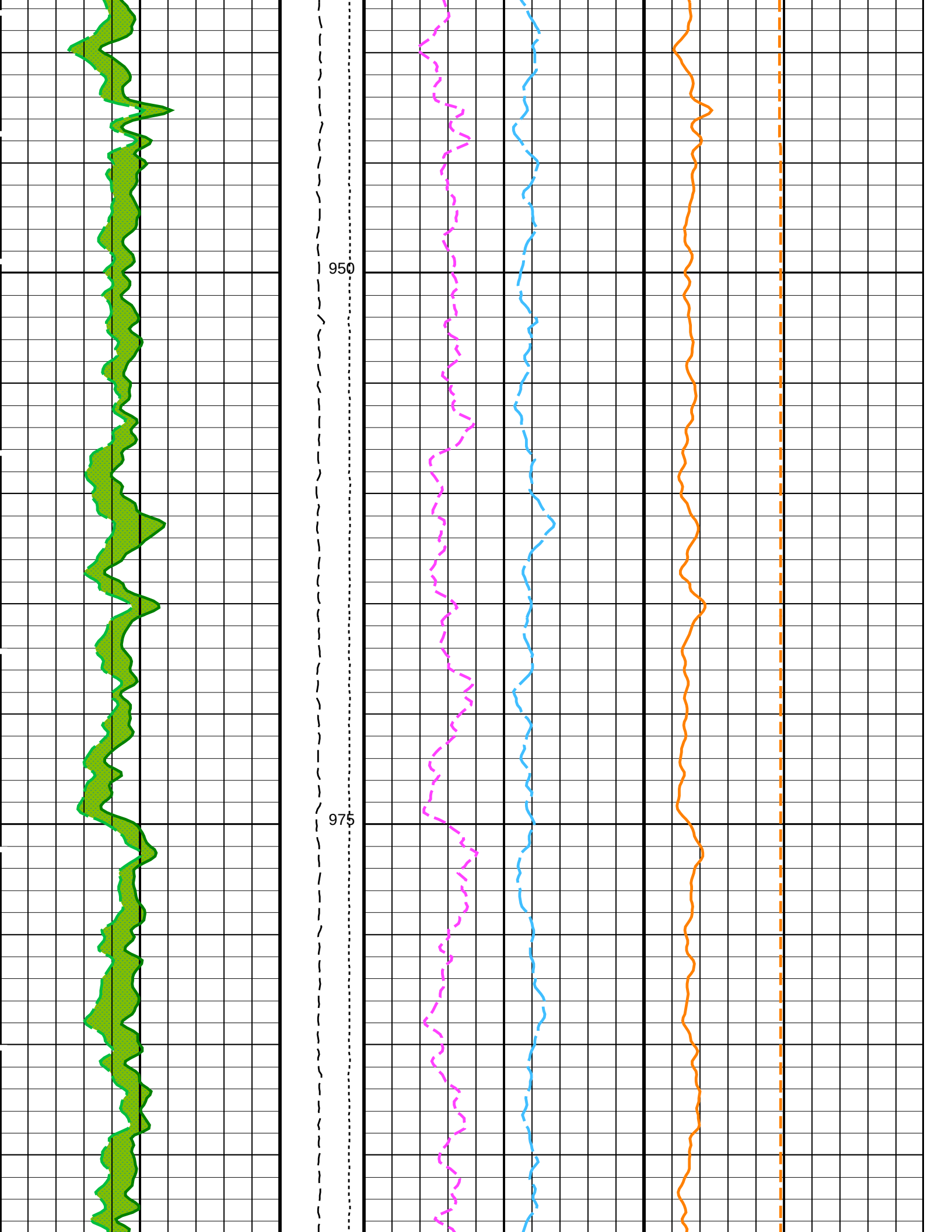
PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)			Main Uplog 2	HNGS Borehole Potassium (HBHK)		
0	(GAPI)	150		−0.05	(−−−−)	0.05
Area1 From HCGR to HSGR	Calibrated Downhole Force (CDF) (LBF)	HNGS Uranium (HURA)				
		−10	(PPM)	30		


−200 1800
HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 150
Tension
(TENS)
(LBF)
10000 0
HNGS Thorium (HTHO)
0 (PPM) 30
HNGS Potassium (HFK)
0 (−−−−) 0.1
Seafloor
850
875


900
Drillpipe
925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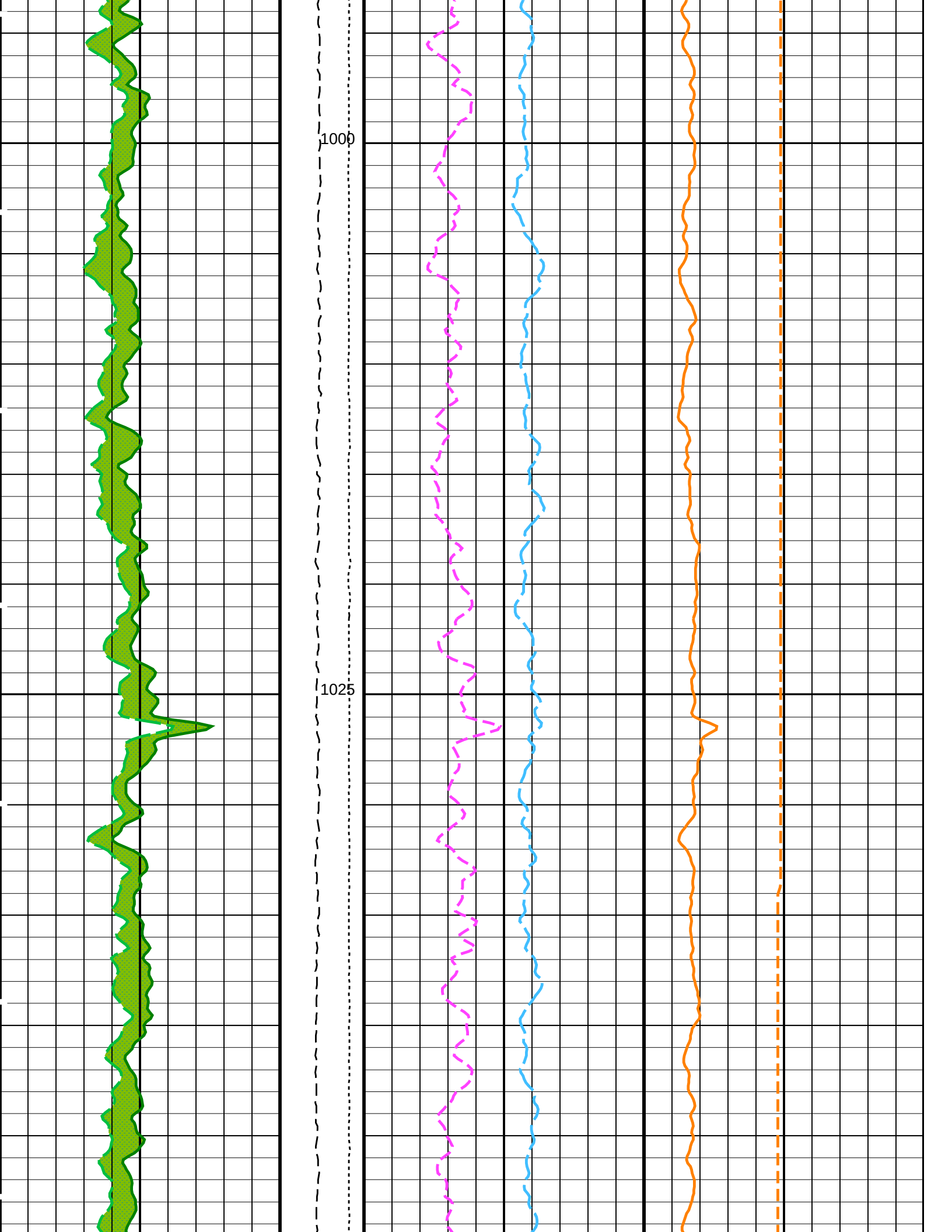
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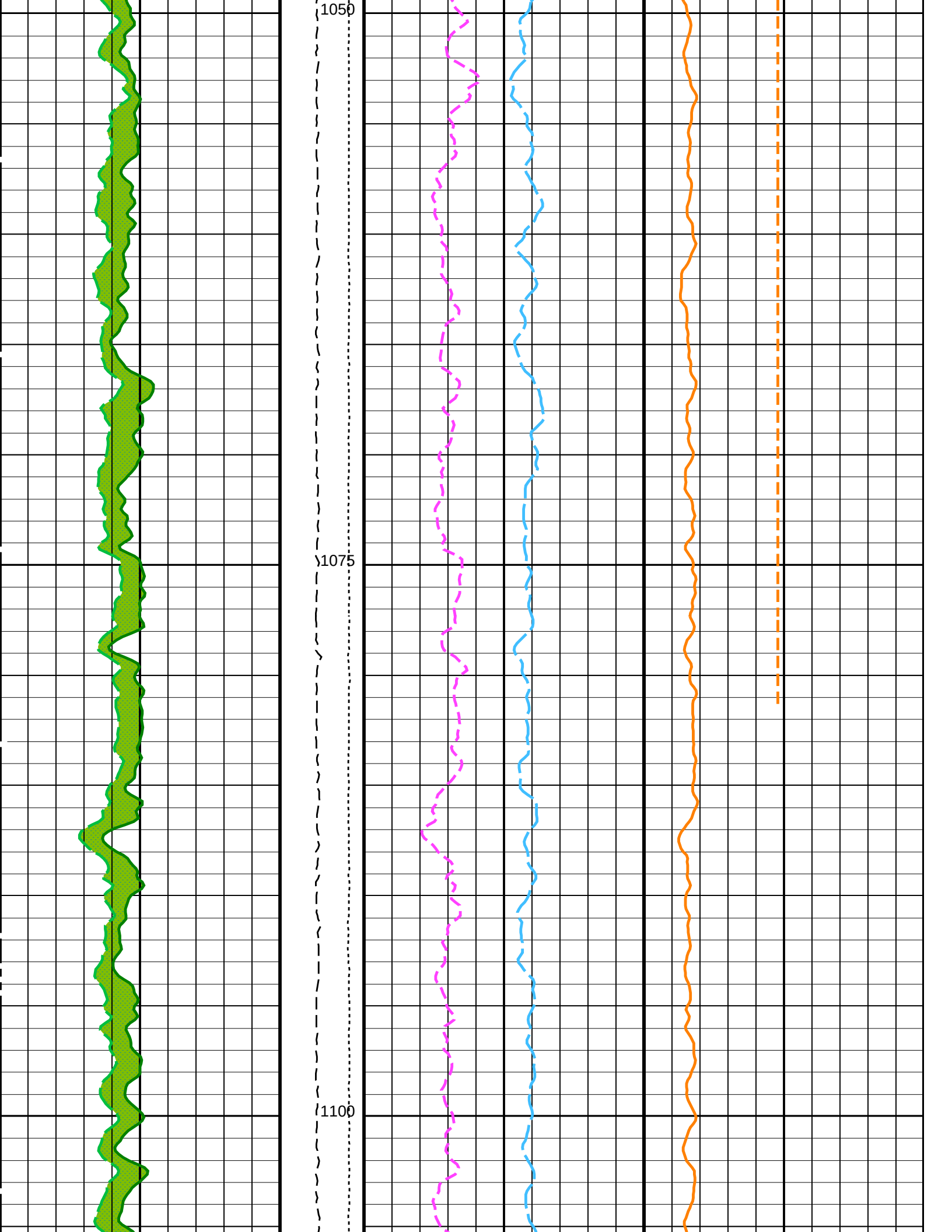
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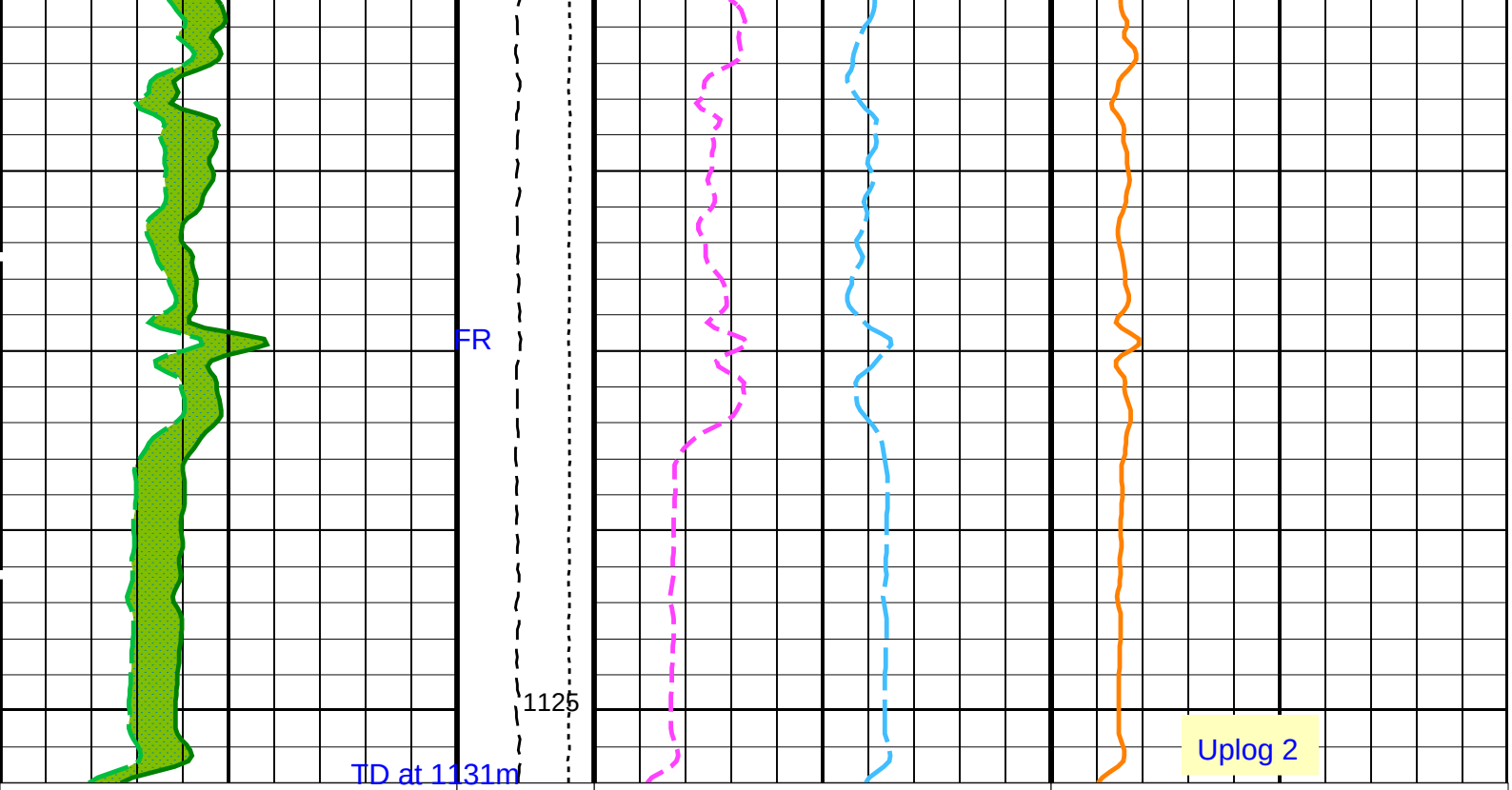


HNGS Computed Gamma Ray (HCGR)	Tension (TENS) (LBF)	HNGS Thorium (HTHO)	HNGS Potassium (HFK)
0 (GAPI) 150	10000 0	0 (PPM) 30	0 (----) 0.1

Area1 From HCGR to HSGR	Calibrated Downhole Force (CDF) (LBF)	HNGS Uranium (HURA)
	−200 1800	−10 (PPM) 30

HNGS Spectroscopy Gamma Ray (HSGR)	HNGS Borehole Potassium (HBHK)
0 (GAPI) 150	−0.05 (----) 0.05

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	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	−0.00253581	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.973899	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.976907	
	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	1.26	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 02−Feb−2018 18:19

OP System Version: 19C0−187

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

Output DLIS Files

DEFAULT	FMS_NGS_019LUP	FN:30	PRODUCER	02−Feb−2018 18:19
BACKUP	FMS_NGS_019LUP	FN:31	PRODUCER	02−Feb−2018 18:19

Output DLIS Files

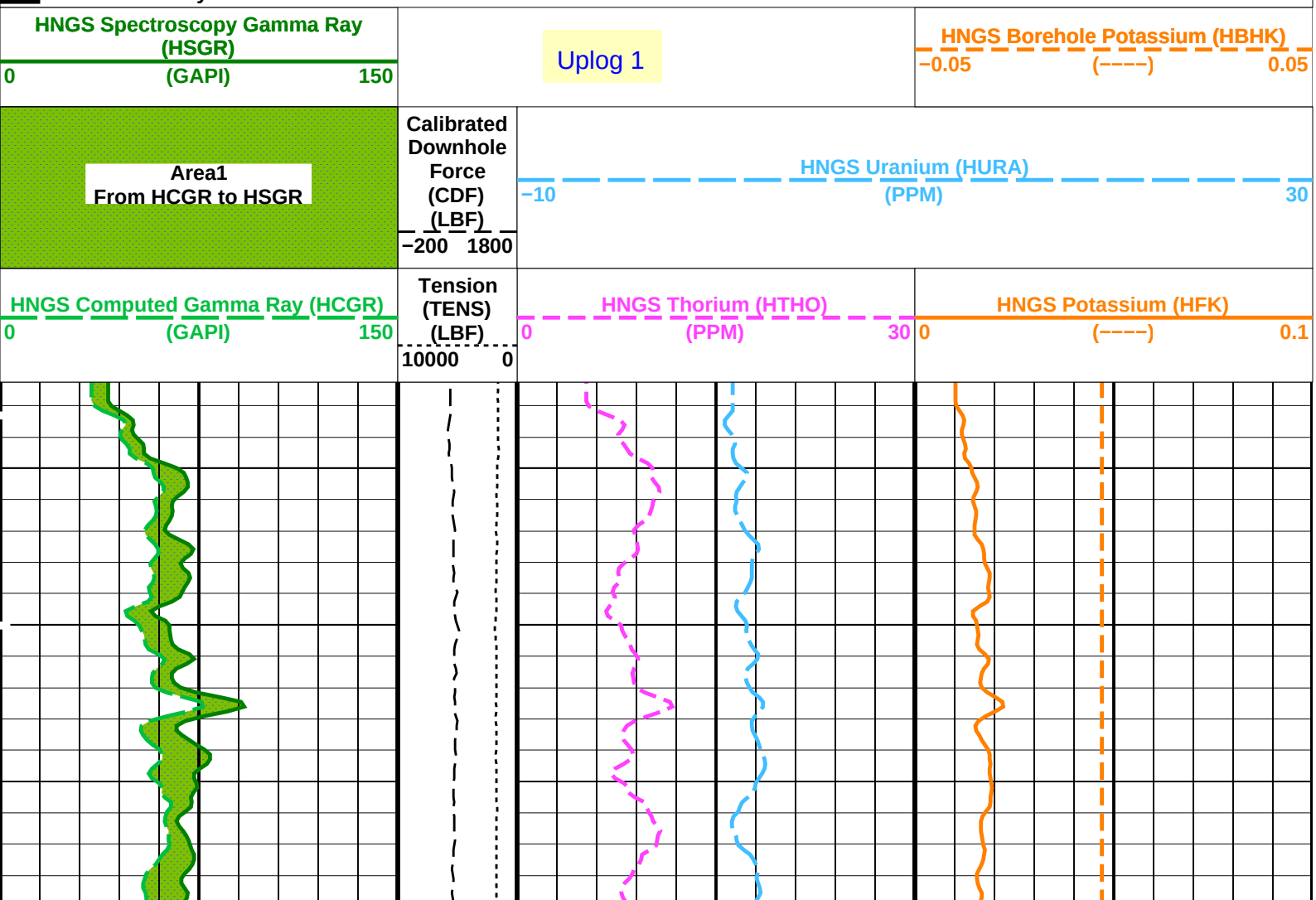
DEFAULT	FMS_NGS_018LUP	FN:28	PRODUCER	02−Feb−2018 17:44	1127.0 M	932.3 M
BACKUP	FMS_NGS_018LUP	FN:29	PRODUCER	02−Feb−2018 17:44	1127.0 M	932.3 M

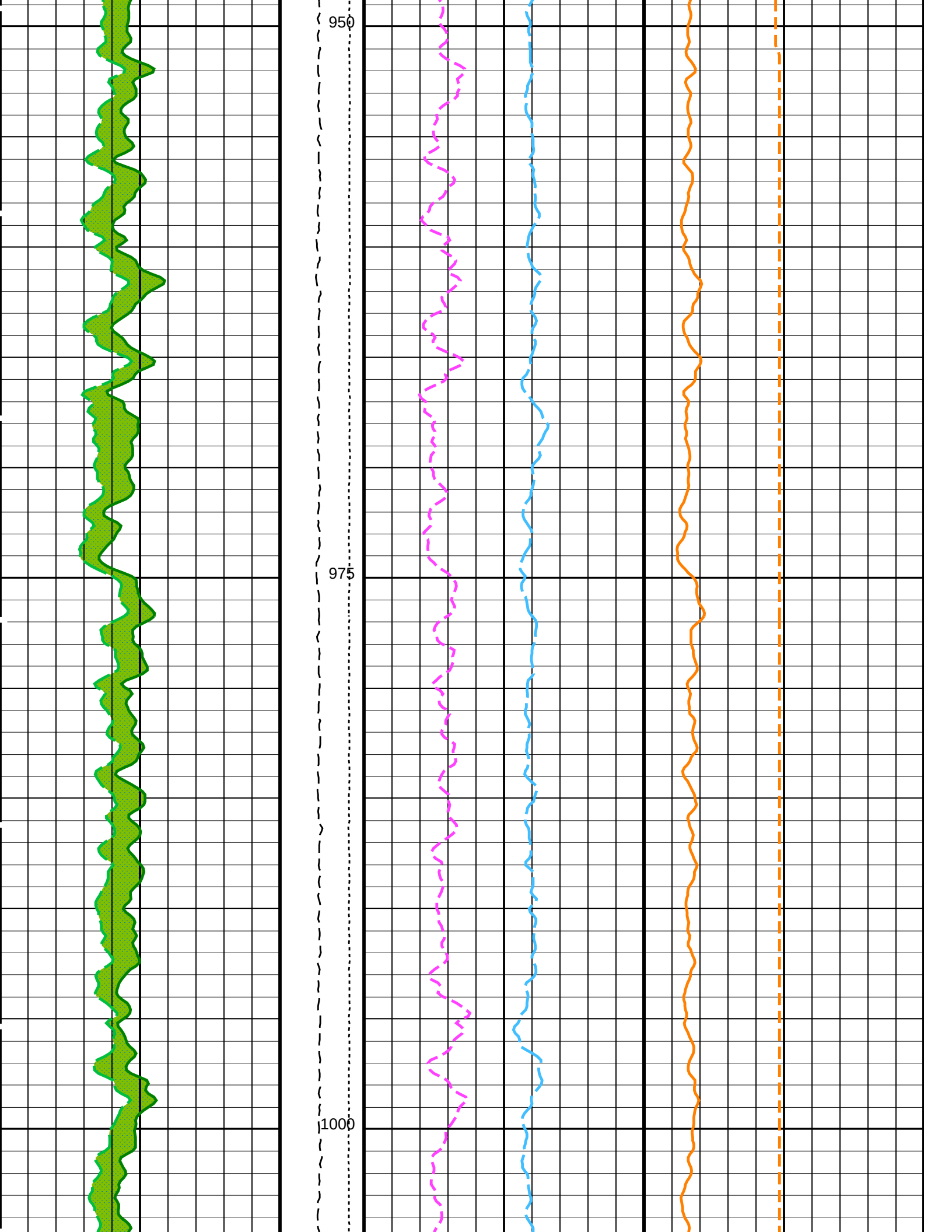
OP System Version: 19C0−187

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

PIP SUMMARY

Time Mark Every 60 S

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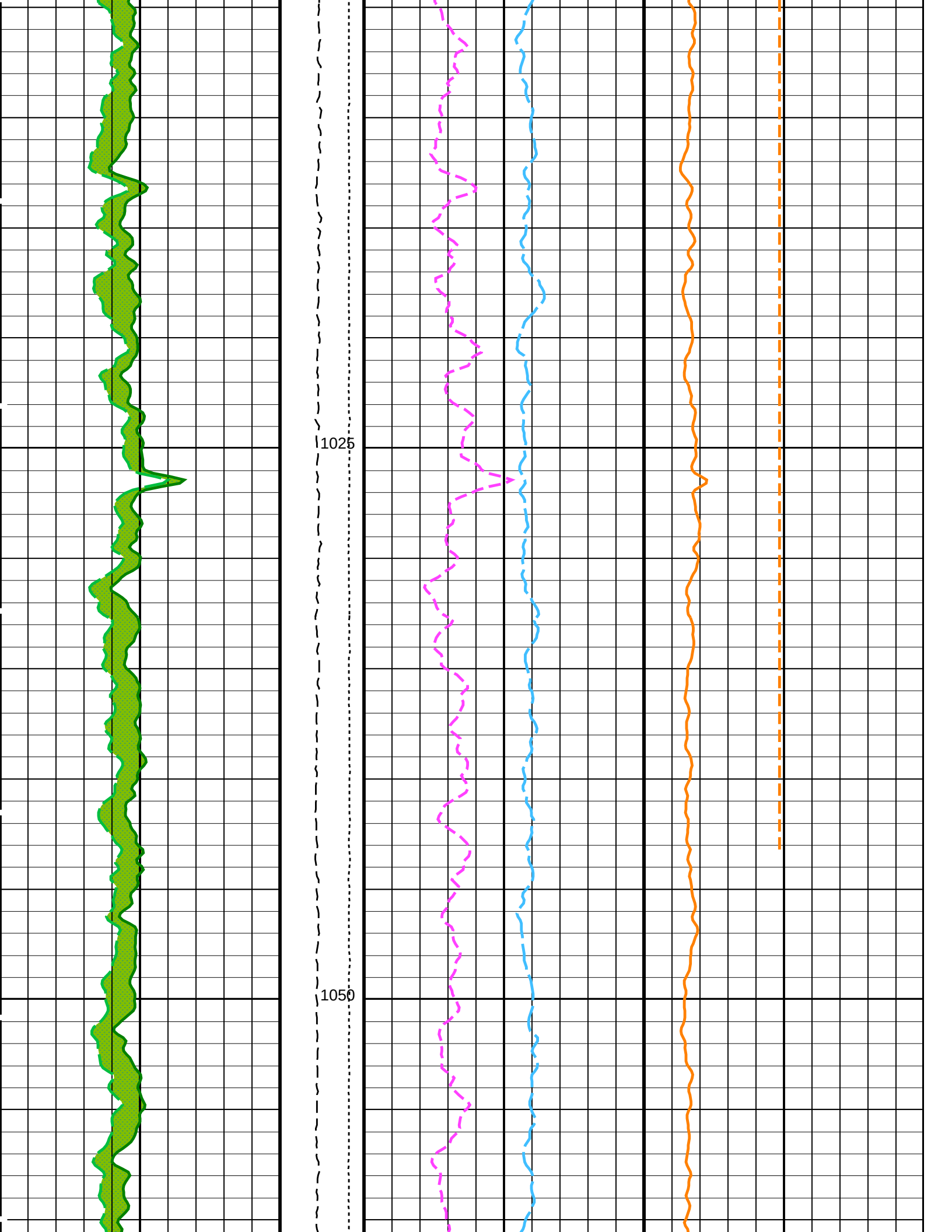
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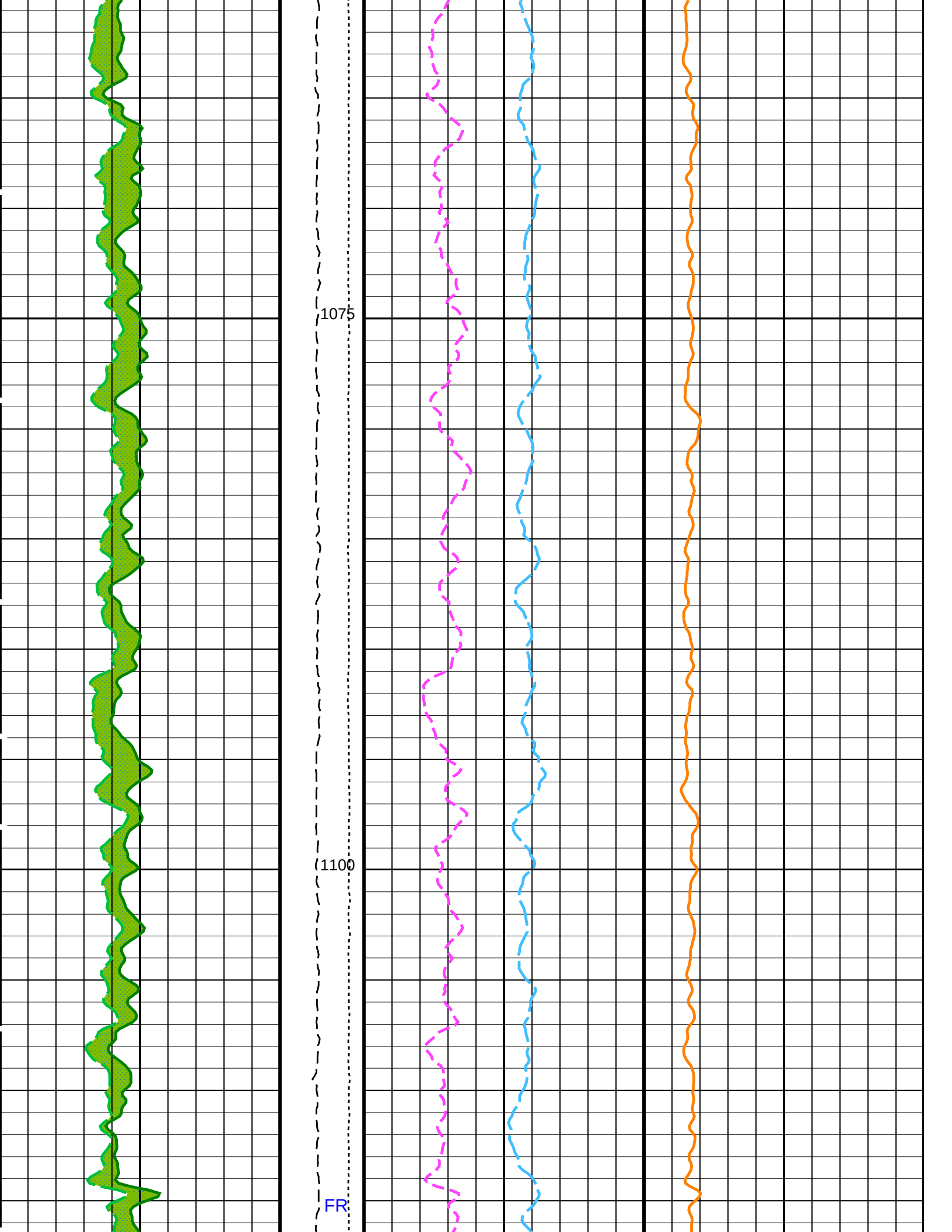
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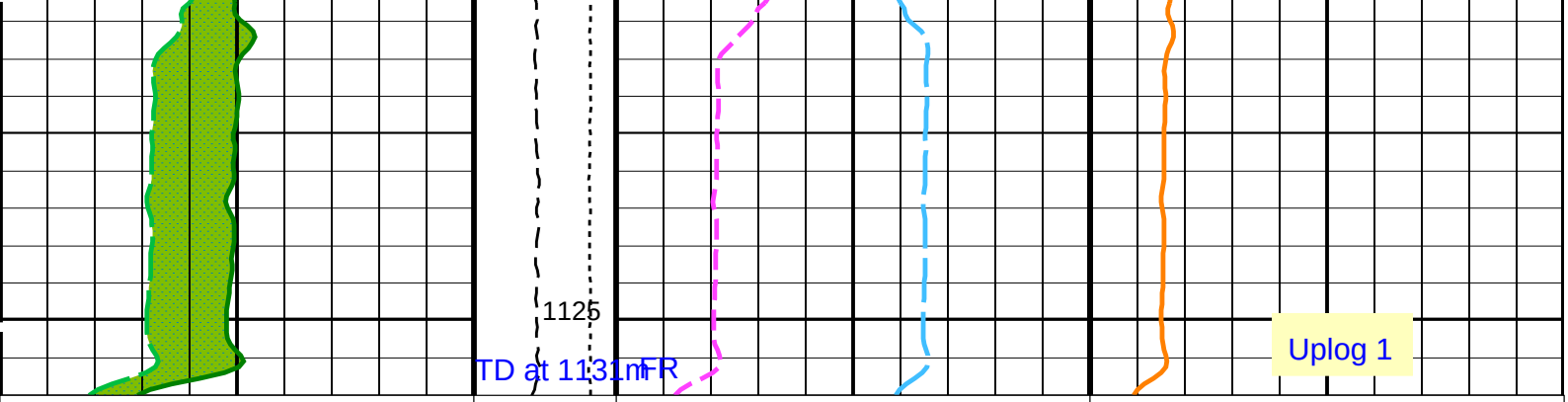


HNGS Computed Gamma Ray (HCGR)	Tension (TENS) (LBF)	HNGS Thorium (HTHO)	HNGS Potassium (HFK)
0 (GAPI) 150	10000 0	0 (PPM) 30	0 (----) 0.1
Area1 From HCGR to HSGR	Calibrated Downhole Force (CDF) (LBF) −200 1800	HNGS Uranium (HURA) −10 (PPM) 30	
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 150			HNGS Borehole Potassium (HBHK) −0.05 (----) 0.05

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	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	−0.00284892	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.951812	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.975888	
	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	1.26	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 02−Feb−2018 17:44

OP System Version: 19C0−187

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

Output DLIS Files

Output DLIS Files

DEFAULT	FMS_NGS_018LUP	FN:28	PRODUCER	02−Feb−2018 17:44
BACKUP	FMS_NGS_018LUP	FN:29	PRODUCER	02−Feb−2018 17:44

Company: International Ocean Discovery Program — **Well: Expedition 374, Site U1523D**

Output DLIS Files

DEFAULT	FMS_NGS_019LUP	FN:30	PRODUCER	02−Feb−2018 18:19	1127.0 M	830.6 M
BACKUP	FMS_NGS_019LUP	FN:31	PRODUCER	02−Feb−2018 18:19	1127.0 M	830.6 M

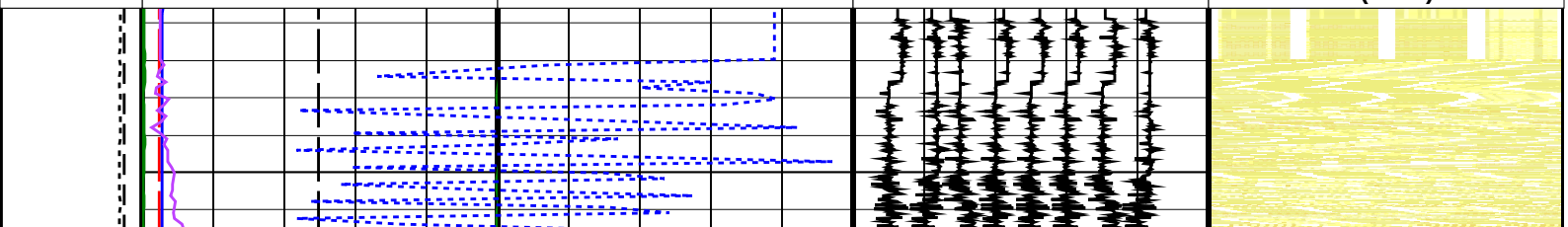
OP System Version: 19C0−187

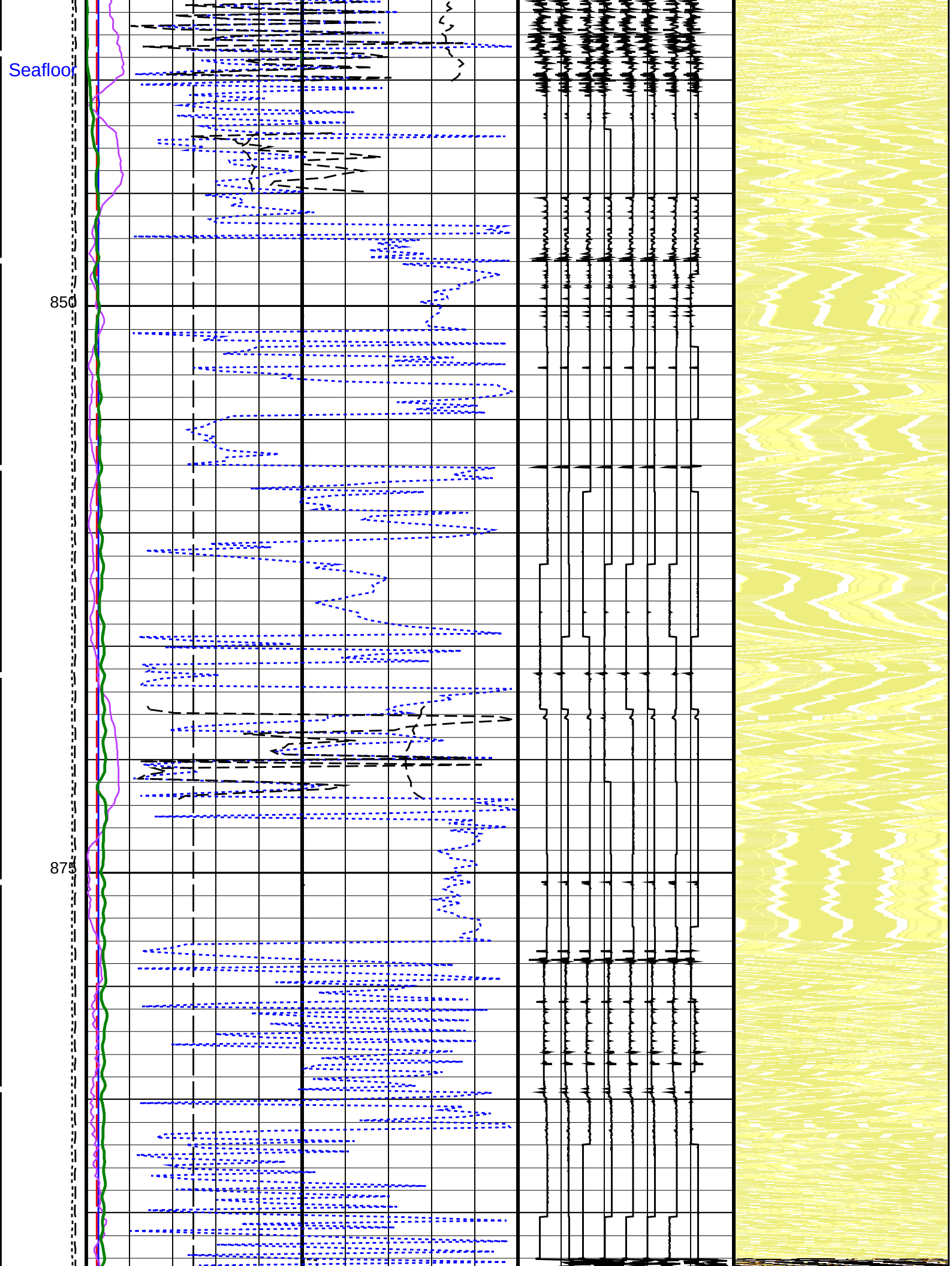
MEST−B	19C0−187	DTA−A	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
EDTC−B	SKK−5169−EDTCB		

PIP SUMMARY

Time Mark Every 60 S

	HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100		Data Button 8 − Varies with RBS (U−MEST_RB8) −80 (−−−−) 20	
	Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30	
	Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40	
	Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50	
	Deviation (DEVIM) 0 (DEG) 10		Data Button 4 − Varies with RBS (U−MEST_RB4) −40 (−−−−) 60	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADD (U−MEST_RESISTIVITY_PADD_DS) (−−−−)
	Caliper 2 (C2) 0 (IN) 20	Main Uplog 2	Data Button 3 − Varies with RBS (U−MEST_RB3) −30 (−−−−) 70	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)
Calibrated Downhole Force (CDF) (LBF) 5000 0	Caliper 1 (C1) 0 (IN) 20	EMEX Intensity (EI) 0 (AMPS) 10	Data Button 2 − Varies with RBS (U−MEST_RB2) −20 (−−−−) 80	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)
Tension (TENS) (LBF) 10000 0	Bit Size (BS) 0 (IN) 20	EMEX Voltage (EV) 0 (V) 50	Data Button 1 − Varies with RBS (U−MEST_RB1) −10 (−−−−) 90	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)

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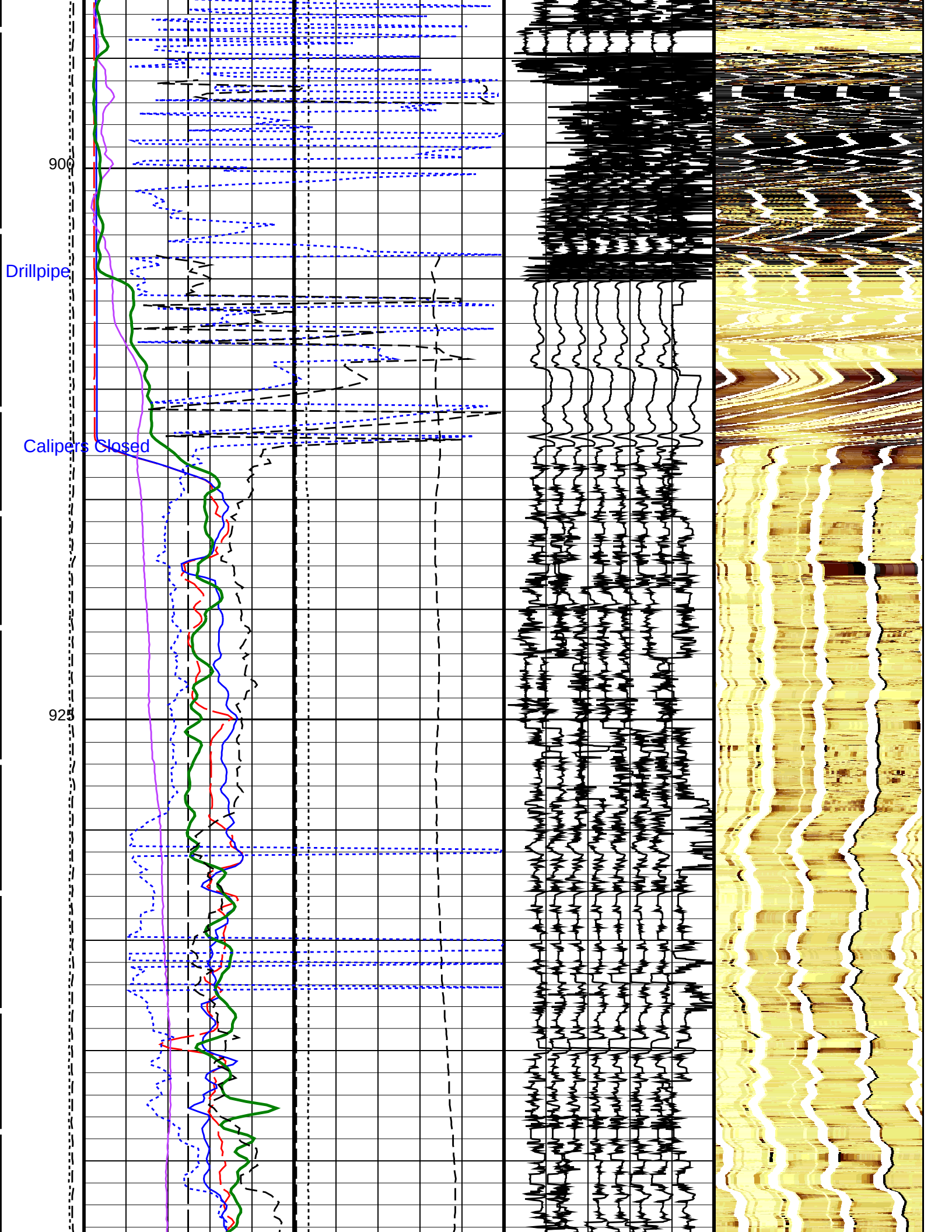
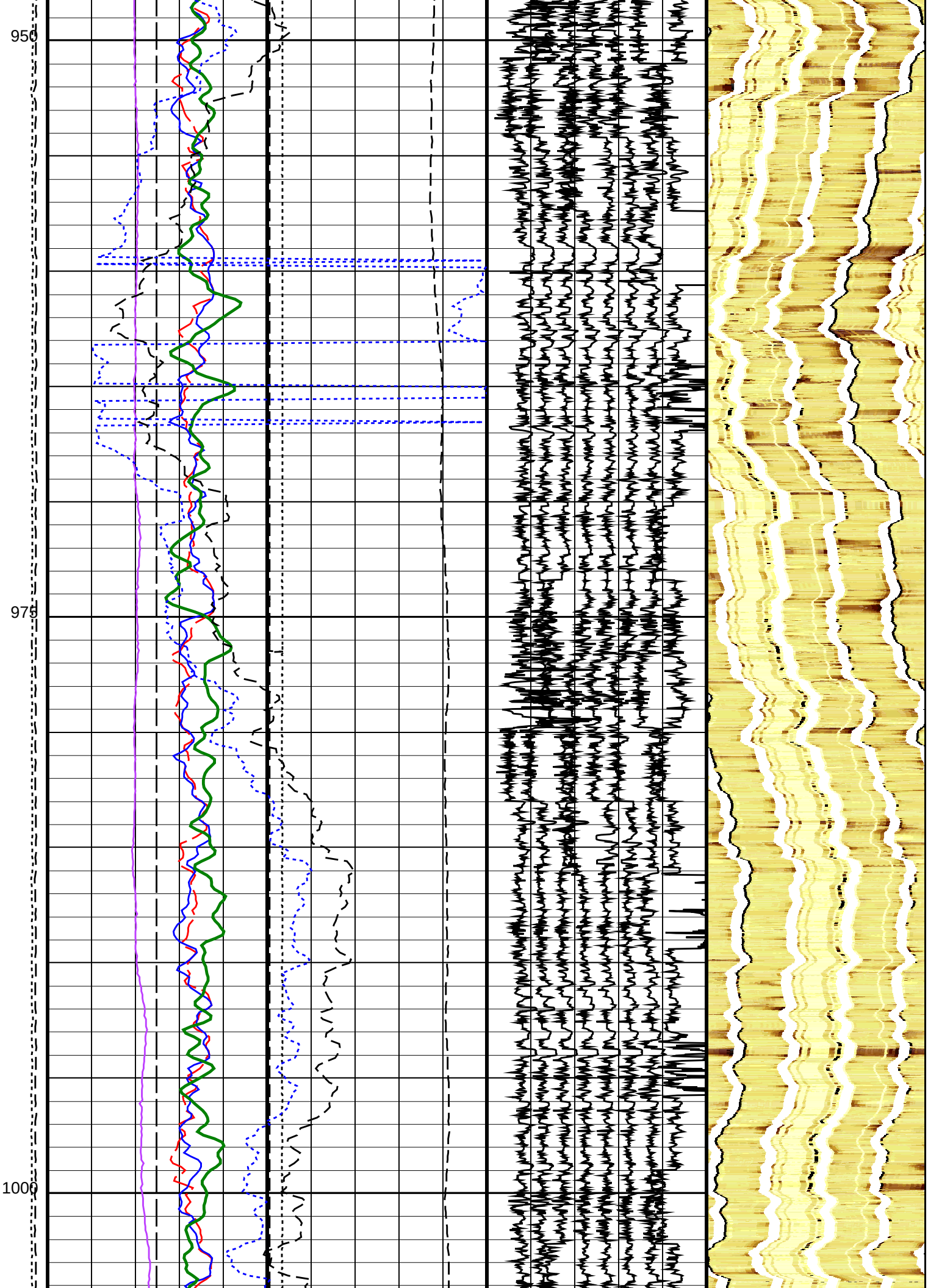
875


900
Drillpipe
Calipers Closed
925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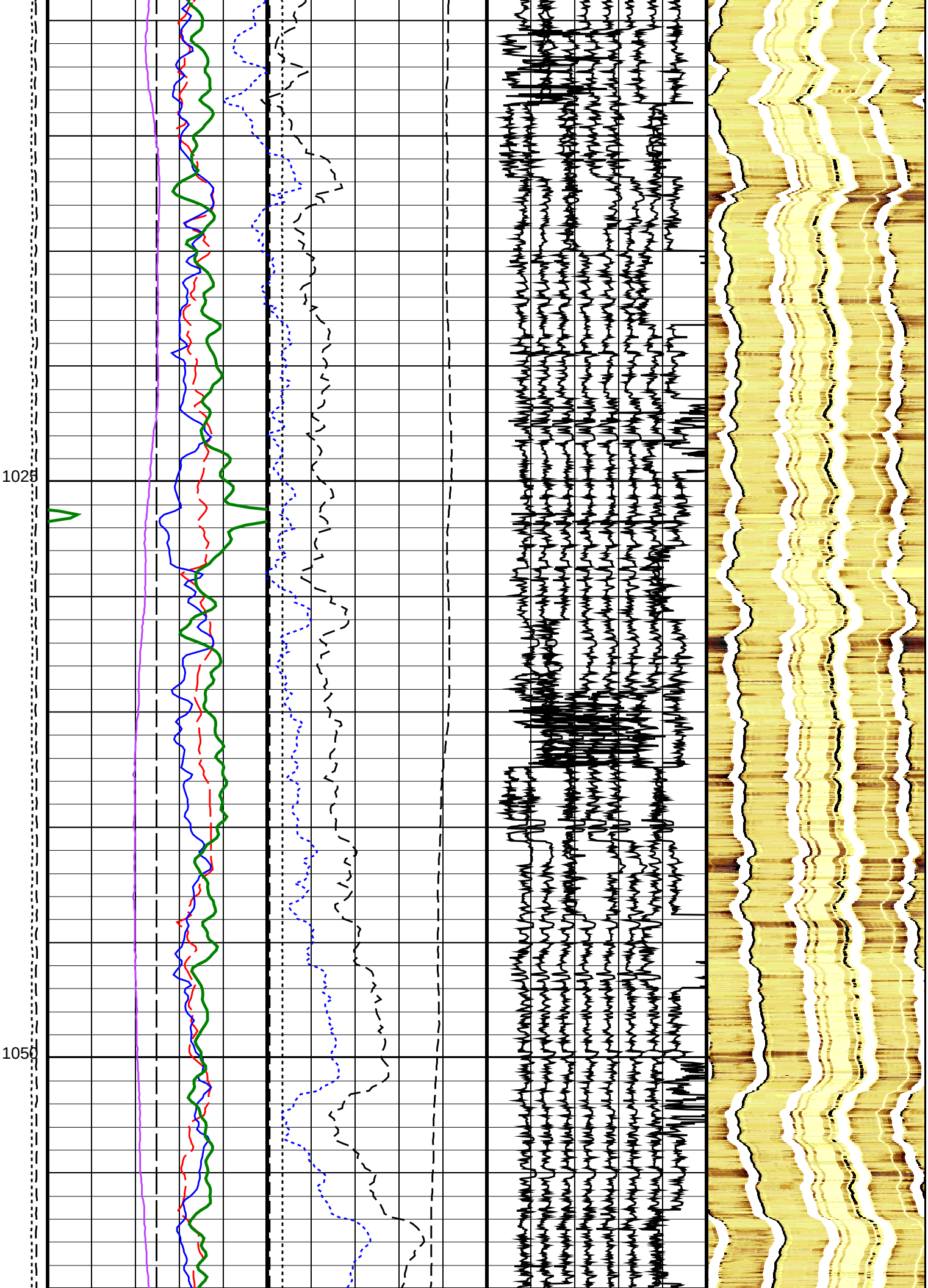
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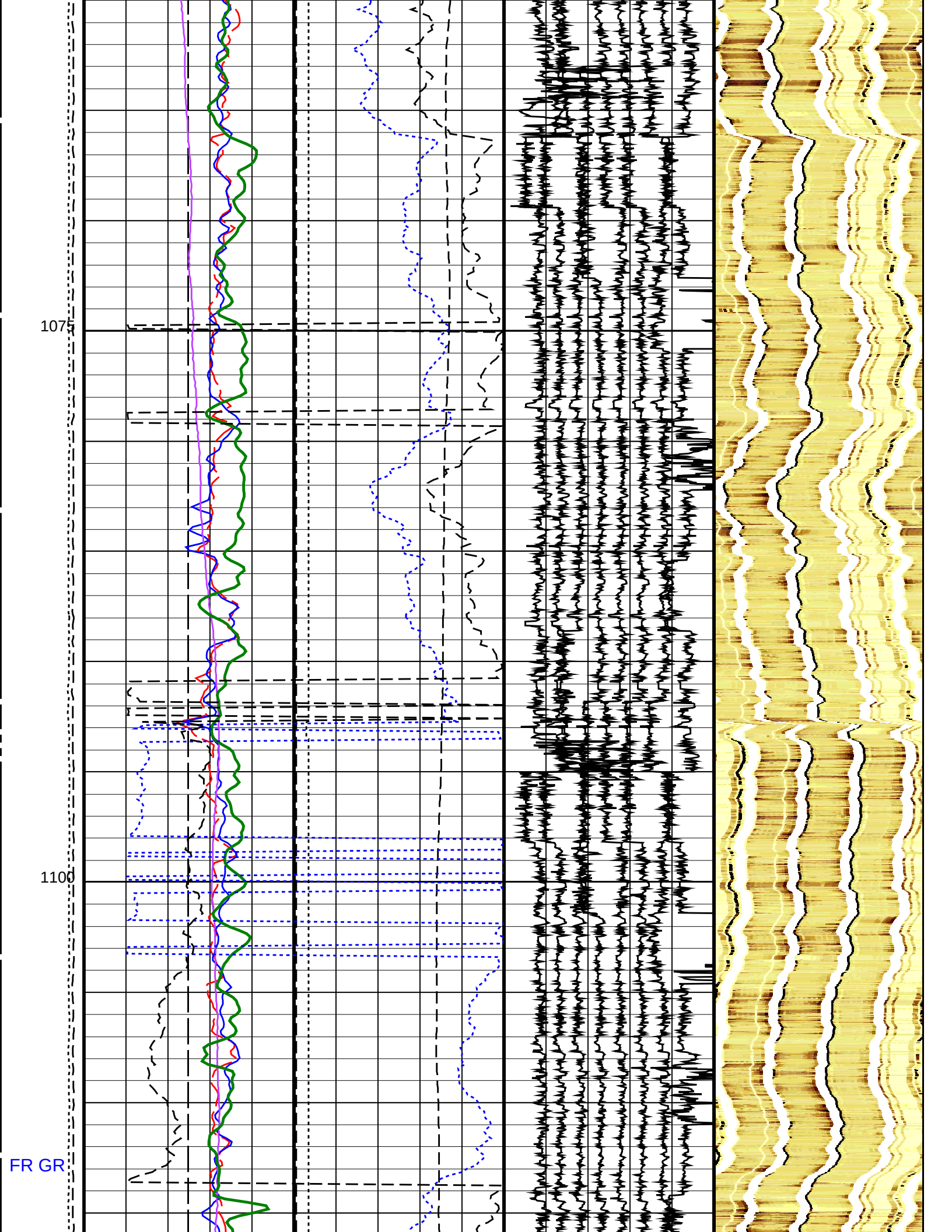
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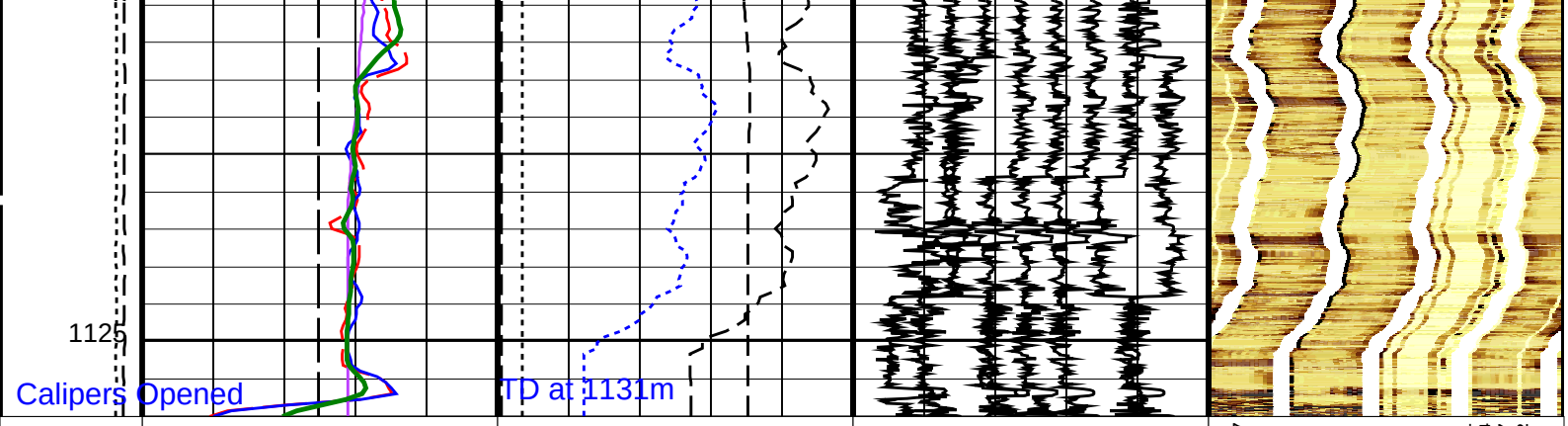
1100
FR GR



Tension (TENS) (LBF) 10000 0	Bit Size (BS) 0 (IN) 20	EMEX Voltage (EV) 0 (V) 50	Data Button 1 − Varies with RBS (U−MEST_RB1) −10 (−−−−) 90	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)
Calibrated Downhole Force (CDF) (LBF) 5000 0	Caliper 1 (C1) 0 (IN) 20	EMEX Intensity (EI) 0 (AMPS) 10	Data Button 2 − Varies with RBS (U−MEST_RB2) −20 (−−−−) 80	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADB (U−MEST_RESISTIVITY_PADB_DS) (−−−−)
	Caliper 2 (C2) 0 (IN) 20	Main Uplog 2	Data Button 3 − Varies with RBS (U−MEST_RB3) −30 (−−−−) 70	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADC (U−MEST_RESISTIVITY_PADC_DS) (−−−−)
	Deviation (DEVIM) 0 (DEG) 10		Data Button 4 − Varies with RBS (U−MEST_RB4) −40 (−−−−) 60	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADD (U−MEST_RESISTIVITY_PADD_DS) (−−−−)
	Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50	
	Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40	
	Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30	
	HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100		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	103.229	DEG
MLM	MEST Logging Mode	SCAN1800	
RBS	Resistivity Button Selection	AUTO	
XGAI	Gain	GAIN_2	
XOFF	Offset	OFFSET_0	
	HNGS−BA: Hostile Natural Gamma Ray Sonde		
PAR1	HNGS Detector 1 Barite Constant	1	

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	−0.00253581	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.973899	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.976907	
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	1.26	G/C3

Format: MEST_C_WRAP_BY_P1AZ Vertical Scale: 1:200 Graphics File Created: 02−Feb−2018 18:19

OP System Version: 19C0−187

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

Output DLIS Files

DEFAULT	FMS_NGS_019LUP	FN:30	PRODUCER	02−Feb−2018 18:19
BACKUP	FMS_NGS_019LUP	FN:31	PRODUCER	02−Feb−2018 18:19

Company: International Ocean Discovery Program Well: Expedition 374, Site U1523D

Output DLIS Files

DEFAULT	FMS_NGS_018LUP	FN:28	PRODUCER	02−Feb−2018 17:44	1127.0 M	932.1 M
BACKUP	FMS_NGS_018LUP	FN:29	PRODUCER	02−Feb−2018 17:44	1127.0 M	932.1 M

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	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		Data Button 8 − Varies with RBS (U−MEST_RB8) −80 (−−−−) 20
Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30
Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40
Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50

Deviation (DEVIM)
0 (DEG) 10

Caliper 2 (C2)
0 (IN) 20

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

−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322

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) (−−−−)

Calibrated Downhole Force (CDF) (LBF)
5000 0

Caliper 1 (C1)
0 (IN) 20

EMEX Intensity (EI)
0 (AMPS) 10

Tension (TENS) (LBF)
10000 0

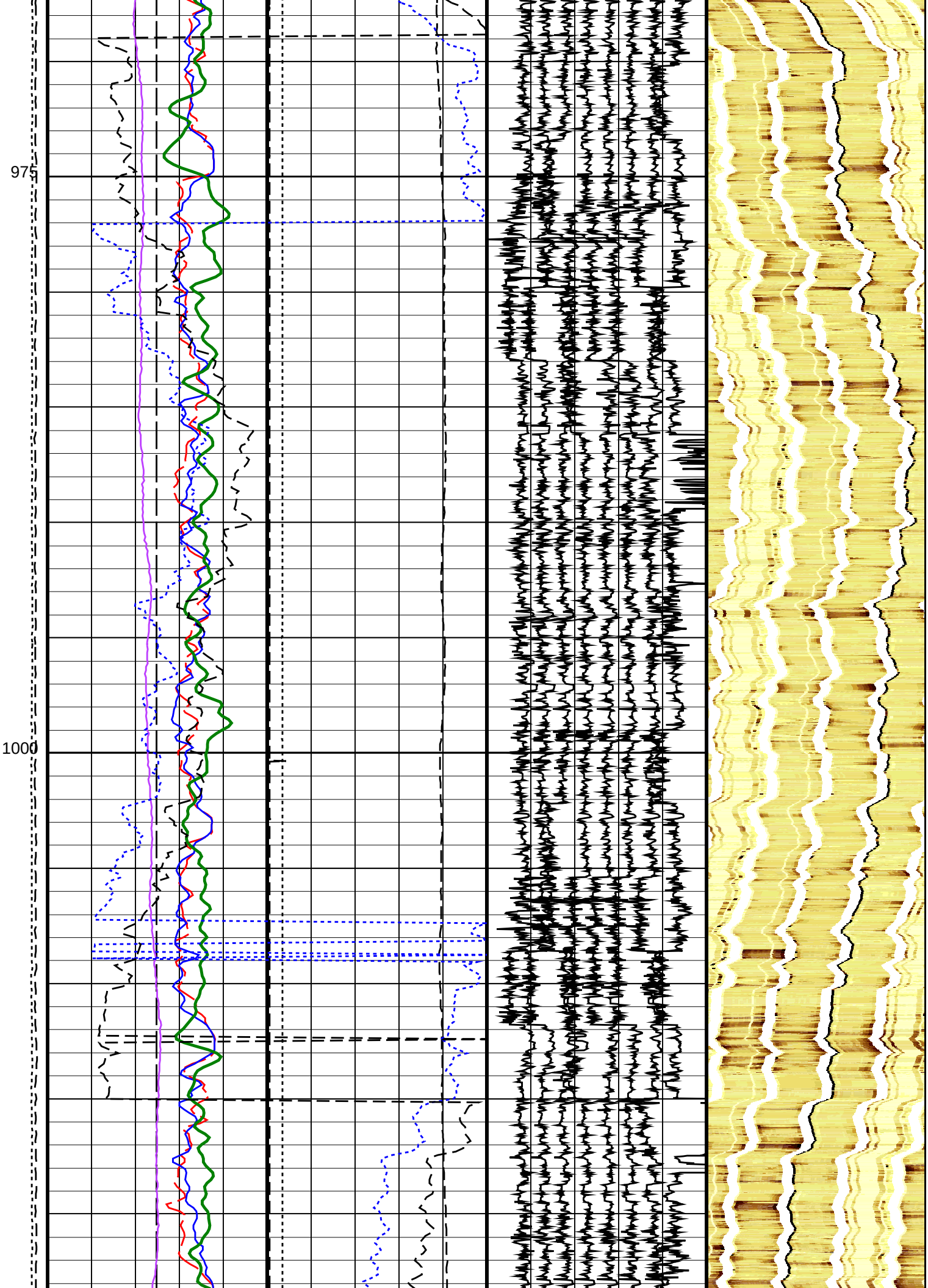
Bit Size (BS)
0 (IN) 20

EMEX Voltage (EV)
0 (V) 50

Calipers Closed

Uplog 1

950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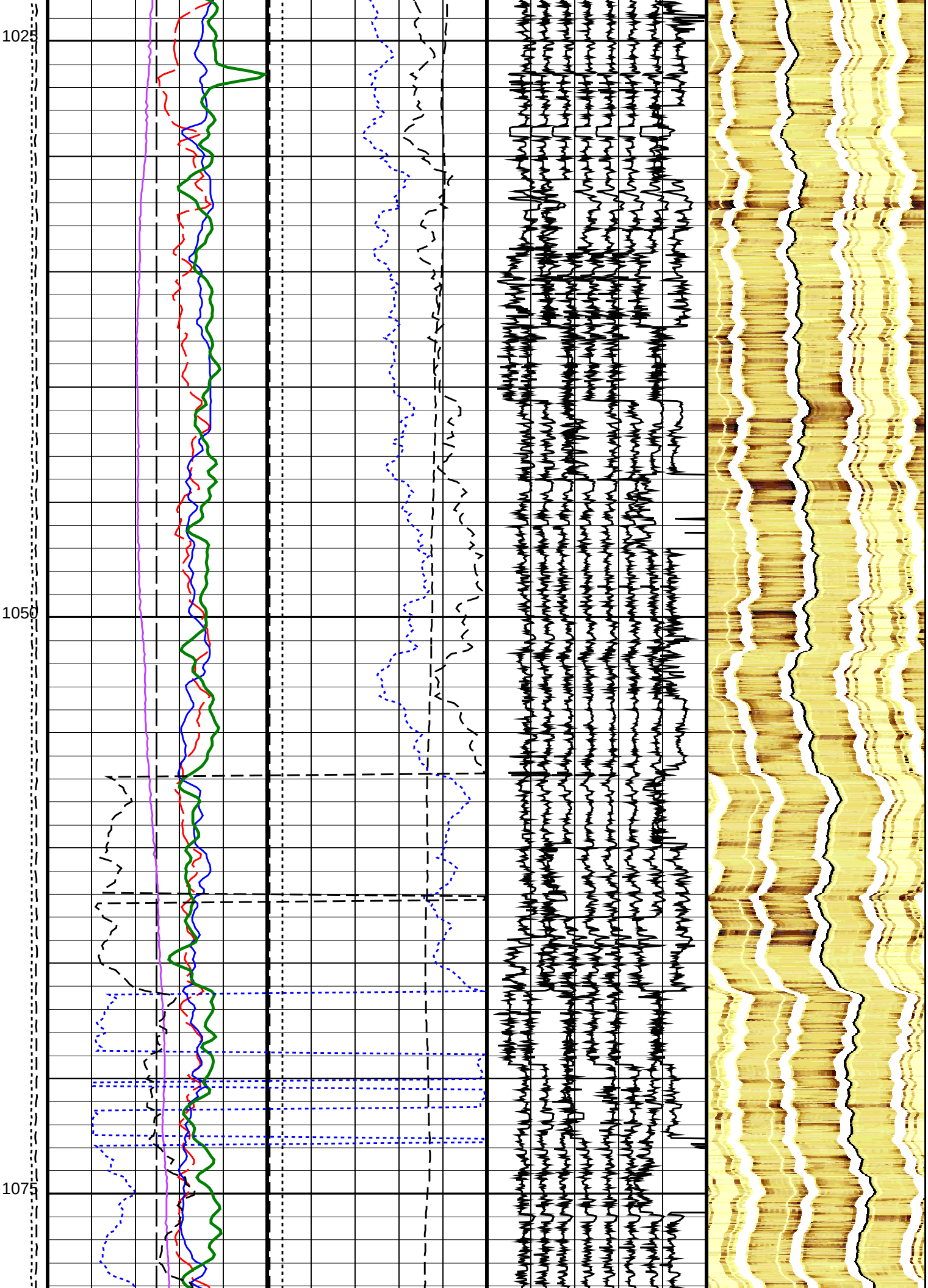
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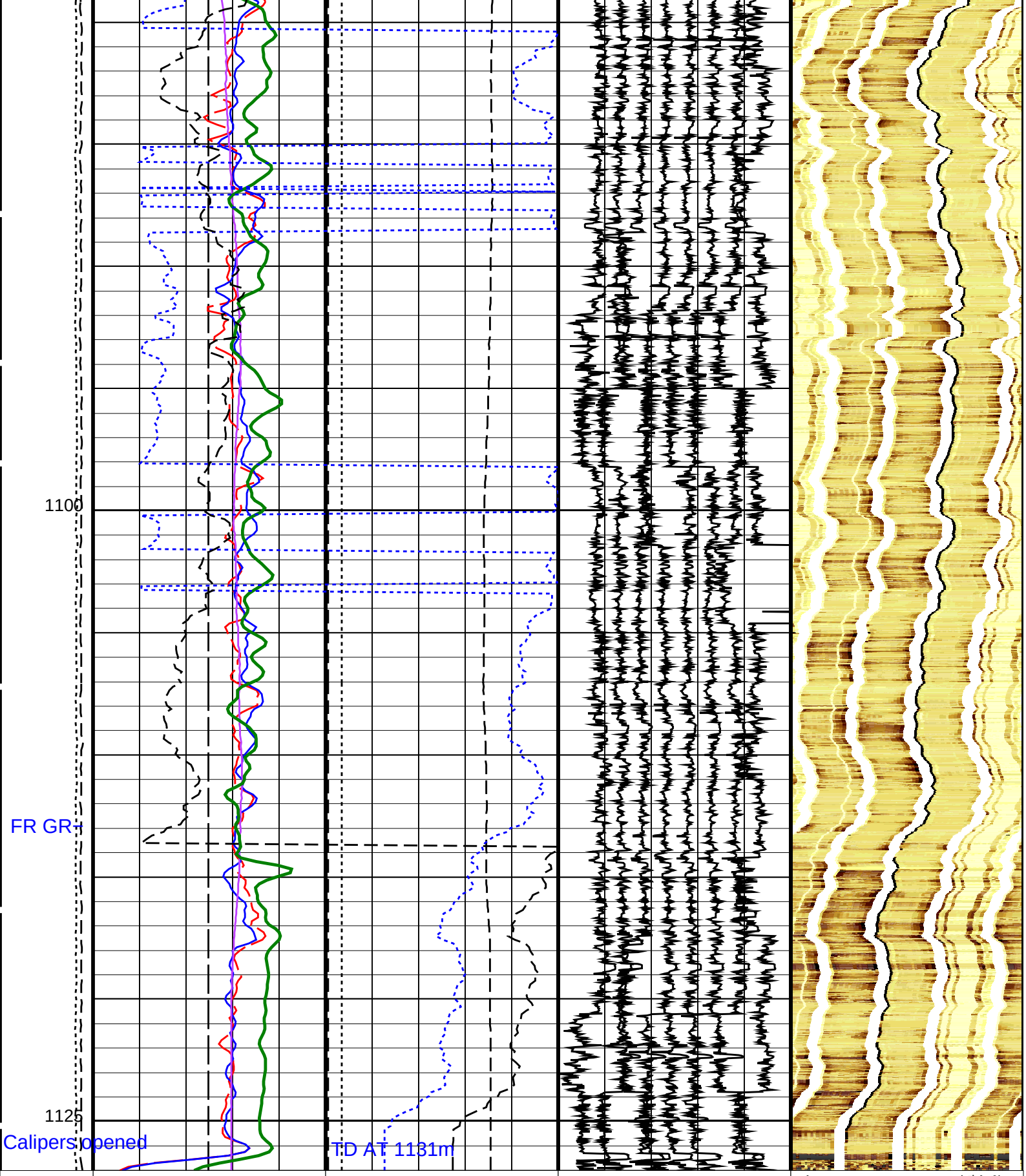

Tension (TENS) (LBF)	Bit Size (BS)	EMEX Voltage (EV)	Data Button 1 − Varies with RBS (U−MEST_RB1)	MEST_PADA (U−MEST_RESISTIVITY_PADA_DS) (−−−−)
10000 0	0 (IN) 20	0 (V) 50	−10 (−−−−) 90	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322
Calibrated Downhole Force (CDF)	Caliper 1 (C1)	EMEX Intensity (EI)	Data Button 2 − Varies with RBS (U−MEST_RB2)	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322
	0 (IN) 20	0 (AMPS) 10		

Uplog 1

(LBF) 5000 0	0 (IN) 20	0 (AMPS) 10	−20 (−−−−) 80	MEST_PADB (U−MEST_ RESISTIVITY_PADB_DS) (−−−−)
	Caliper 2 (C2) 0 (IN) 20		Data Button 3 − Varies with RBS (U−MEST_RB3) −30 (−−−−) 70	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADC (U−MEST_ RESISTIVITY_PADC_DS) (−−−−)
	Deviation (DEVIM) 0 (DEG) 10		Data Button 4 − Varies with RBS (U−MEST_RB4) −40 (−−−−) 60	−0.3367 0.8877 4.1529 6.3977 7.2140 7.6222 8.0303 8.4385 8.6426 9.0507 9.4588 9.8670 10.2751 10.8874 11.9077 13.1322 MEST_PADD (U−MEST_ RESISTIVITY_PADD_DS) (−−−−)
	Hole Azimuth (HAZIM) −40 (DEG) 360		Data Button 5 − Varies with RBS (U−MEST_RB5) −50 (−−−−) 50	
	Pad One Azimuth (P1AZ_MEST) −40 (DEG) 360		Data Button 6 − Varies with RBS (U−MEST_RB6) −60 (−−−−) 40	
	Relative Bearing (RB_MEST) −40 (DEG) 360		Data Button 7 − Varies with RBS (U−MEST_RB7) −70 (−−−−) 30	
	HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100		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	103.229	DEG
MLM	MEST Logging Mode	SCAN1800	
RBS	Resistivity Button Selection	AUTO	
XGAI	Gain	GAIN_2	
XOFF	Offset	OFFSET_0	
	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	−0.00284892	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.951812	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.975888	
	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	1.26	G/C3

Format: MEST_C_WRAP_BY_P1AZ Vertical Scale: 1:200 Graphics File Created: 02−Feb−2018 17:44

OP System Version: 19C0−187

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

Output DLIS Files

DEFAULT	FMS_NGS_018LUP	FN:28	PRODUCER	02−Feb−2018 17:44
BACKUP	FMS_NGS_018LUP	FN:29	PRODUCER	02−Feb−2018 17:44

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner − B (Slim) Wellsite Calibration − Caliper Calibration							
Before: 6−Jan−2018 12:36							
Caliper 1 Zero Measurement	12.00	N/A	12.80	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	12.00	N/A	12.57	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.30	N/A	15.71	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.30	N/A	15.56	N/A	N/A	N/A	IN
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 2−Feb−2018 16:14							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	448	N/A	N/A	N/A	
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 2−Feb−2018 16:14							
TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	
Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check							
Master: 8−Jan−2018 8:17 Before: 18−Jan−2018 15:02 After: 8−Jan−2018 8:28							
Na 511 Peak Loc	40.00	39.59	39.55	39.53	−0.01984	1.000	
Na 511 Peak Res	15.50	15.64	14.43	15.55	1.119	2.000	%
High Voltage	1150	1167	1135	1167	32.27	N/A	V
Na 1785 Peak Loc	142.6	142.6	142.3	141.4	−0.9036	7.000	
Na 1785 Peak Res	8.500	7.971	7.766	8.609	0.8427	2.000	%
Temperature	15.50	23.45	6.172	23.47	17.30	N/A	DEGC
Na Count Rate	45.00	25.59	25.18	25.12	−0.06201	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check							
Master: 8−Jan−2018 8:17 Before: 18−Jan−2018 15:02 After: 8−Jan−2018 8:28							
Na 511 Peak Loc	40.00	39.56	39.62	39.54	−0.08187	1.000	
Na 511 Peak Res	15.50	15.96	14.71	16.21	1.496	2.000	%
High Voltage	1150	1099	1064	1099	34.71	N/A	V
Na 1785 Peak Loc	142.6	141.9	140.7	141.4	0.6870	7.000	
Na 1785 Peak Res	8.500	8.488	8.077	8.675	0.5976	2.000	%
Temperature	15.50	24.00	6.628	24.04	17.41	N/A	DEGC
Na Count Rate	45.00	25.29	25.36	24.99	−0.3764	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2							
Master: 8−Jan−2018 8:17 Before: 18−Jan−2018 15:02 After: 8−Jan−2018 8:28							
Coincidence Count Rate Ratio	1.000	1.012	0.9949	1.005	0.01014	0.05000	
Hostile Natural Gamma Ray Sonde Master Calibration − Detector 1 Calibration							
Master: 8−Jan−2018 8:08							
Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	
Th Peak Loc	209.6	209.5	−−	−−	−−	−−	
Th Peak Res	7.000	6.944	−−	−−	−−	−−	%
Background Count Rate	142.5	28.74	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.006	−−	−−	−−	−−	
Hostile Natural Gamma Ray Sonde Master Calibration − Detector 2 Calibration							
Master: 8−Jan−2018 8:08							
Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	

Th Peak Loc	209.6	209.2	−−	−−	−−	−−	
Th Peak Res	7.000	6.965	−−	−−	−−	−−	%
Background Count Rate	142.5	27.70	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.006	−−	−−	−−	−−	

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 2−Feb−2018 16:14

EDTC Z−Axis Acceleration	9.810	N/A	9.799	N/A	N/A	N/A	M/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: 8−Jan−2018 7:48 After: 8−Jan−2018 8:26

Gamma Ray (Jig − Bkg)	139.2	N/A	139.2	139.5	0.3707	12.65	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	164.4	0.4368	15.00	GAPI

Micro Electrical Scanner − B (Slim) / Equipment Identification

Primary Equipment:		
MEST Sonde − B	MEDS − B	724
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	769

Hostile Natural Gamma Ray Cartridge − B / Equipment Identification

Primary Equipment:		
HNGC Cartridge	HNGC − B	304
Auxiliary Equipment:		
HNGC Housing	HNGH − A	3

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	194
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	204
Gamma Source Radioactive	GSR − U	6098

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		39.59
Before		39.55
After		39.53
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.64
Before		14.43
After		15.55
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1167
Before		1135
After		1167
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		142.6
Before		142.3
After		141.4
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		7.971
Before		7.766
After		8.609
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		23.45
Before		6.172
After		23.47
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		25.59
Before		25.18
After		25.12
10.00	45.00	100.0

(Minimum) (Nominal) (Maximum)

Master: 8−Jan−2018 8:17 Before: 18−Jan−2018 15:02 After: 8−Jan−2018 8:28

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.56
Before		39.62
After		39.54
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.96
Before		14.71
After		16.21
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1099
Before		1064
After		1099
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		141.9
Before		140.7
After		141.4
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.488
Before		8.077
After		8.675
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		24.00
Before		6.628
After		24.04
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		25.29
Before		25.36
After		24.99
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 8−Jan−2018 8:17 Before: 18−Jan−2018 15:02 After: 8−Jan−2018 8:28

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		1.012
Before		0.9949
After		1.005
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Master: 8−Jan−2018 8:17
Before: 18−Jan−2018 15:02
After: 8−Jan−2018 8:28

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 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		209.5
201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)

Phase	Th Peak Res %	Value
Master		6.944
5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)

Phase	Background Count Rate CPS	Value
Master		28.74
10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)

Phase	Gain Ratio	Value
Master		1.006
0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)

Master: 8−Jan−2018 8:08

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		209.2
201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)

Phase	Th Peak Res %	Value
Master		6.965
5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)

Phase	Background Count Rate CPS	Value
Master		27.70
10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)

Phase	Gain Ratio	Value
Master		1.006
0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)

Master: 8−Jan−2018 8:08

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		9.799

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

Before: 2−Feb−2018 16:14

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		8.772	Before		139.2	Before		164.0
After		8.903	After		139.5	After		164.4

Gamma Ray Background GAPI			Gamma Ray (Jig − Bkg) GAPI			Gamma Ray (Calibrated) GAPI		
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	126.5 (Minimum)	139.2 (Nominal)	151.8 (Maximum)	149.0 (Minimum)	164.0 (Nominal)	179.0 (Maximum)

Before: 8−Jan−2018 7:48 After: 8−Jan−2018 8:26

Company: **International Ocean Discovery Program**

Schlumberger

Well: **Expedition 374, Site U1523D**
Field: **Ross Sea W. Antarctic Ice Sheet History**
Rig: **JOIDES Resolution**
Ocean: **Southern**

Formation Micro Scanner (FMS)

Hostile Natural Gamma Ray (HNGS)