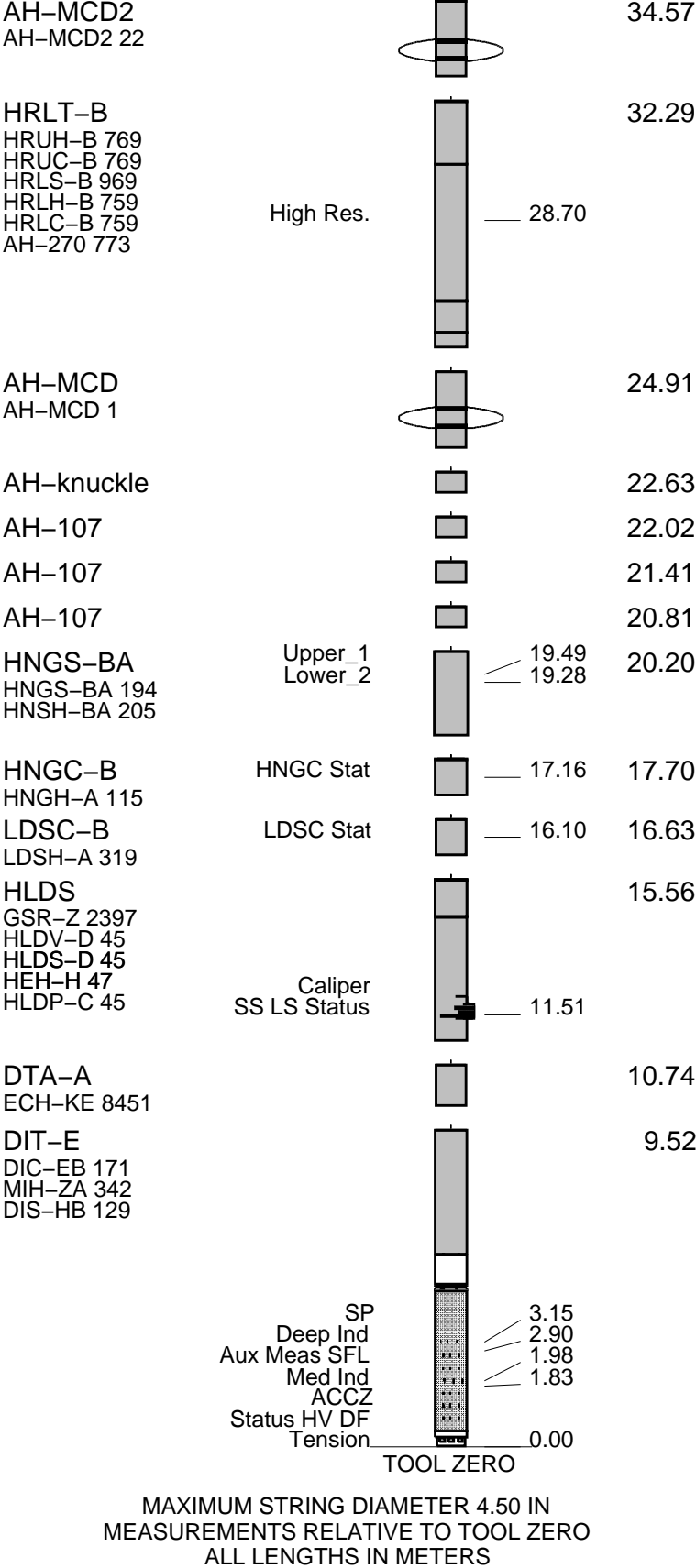


DISCLAIMER

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.

RUN 1 SERVICE ORDER #: PROGRAM VERSION: 19C0-187 FLUID LEVEL:			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

GSR-U 616008 WITM (EDTS)-A	SURFACE EQUIPMENT
-------------------------------	-------------------



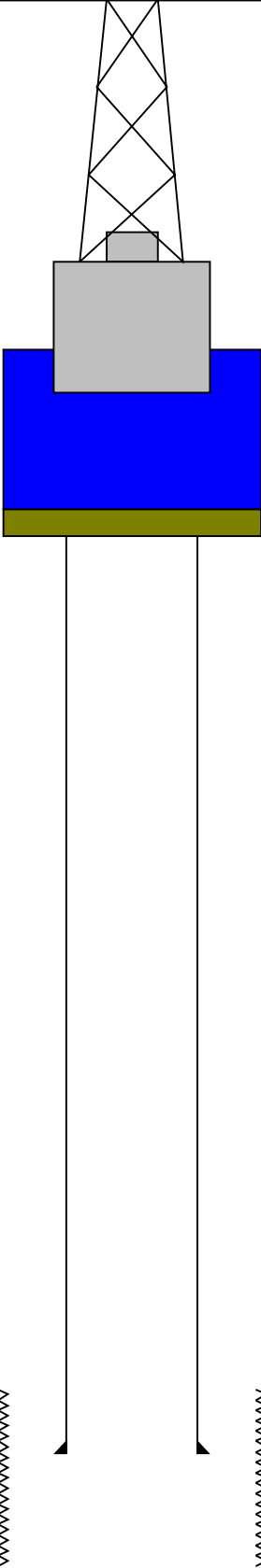
Production String	(in)	(M)	Well Schematic	(M)	(in)	Casing String
	OD	ID		MD	OD	

Kelly Bushing Elevation
Derrick Floor Elevation

Mean Sea Level

-573.2
-573.2

-562.2



4.1

0
102

526

3.80
9.875


Sea Floor
Open Hole

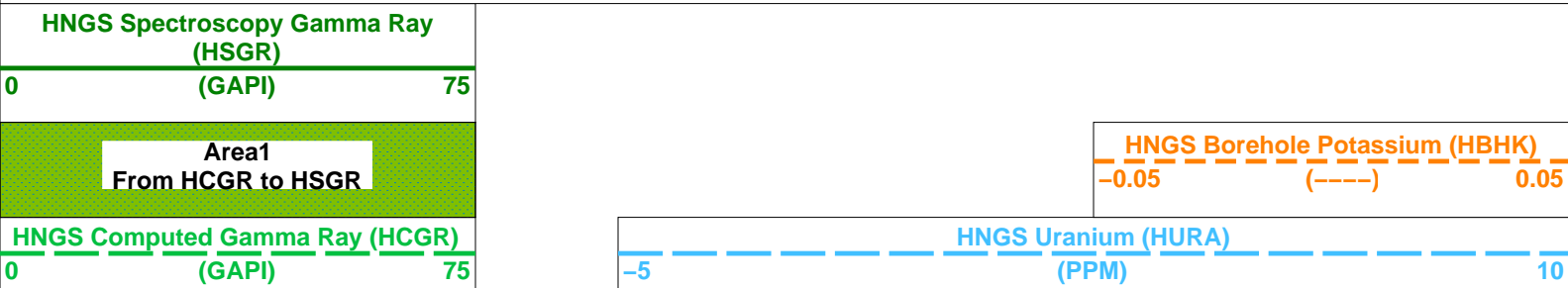
Total Depth



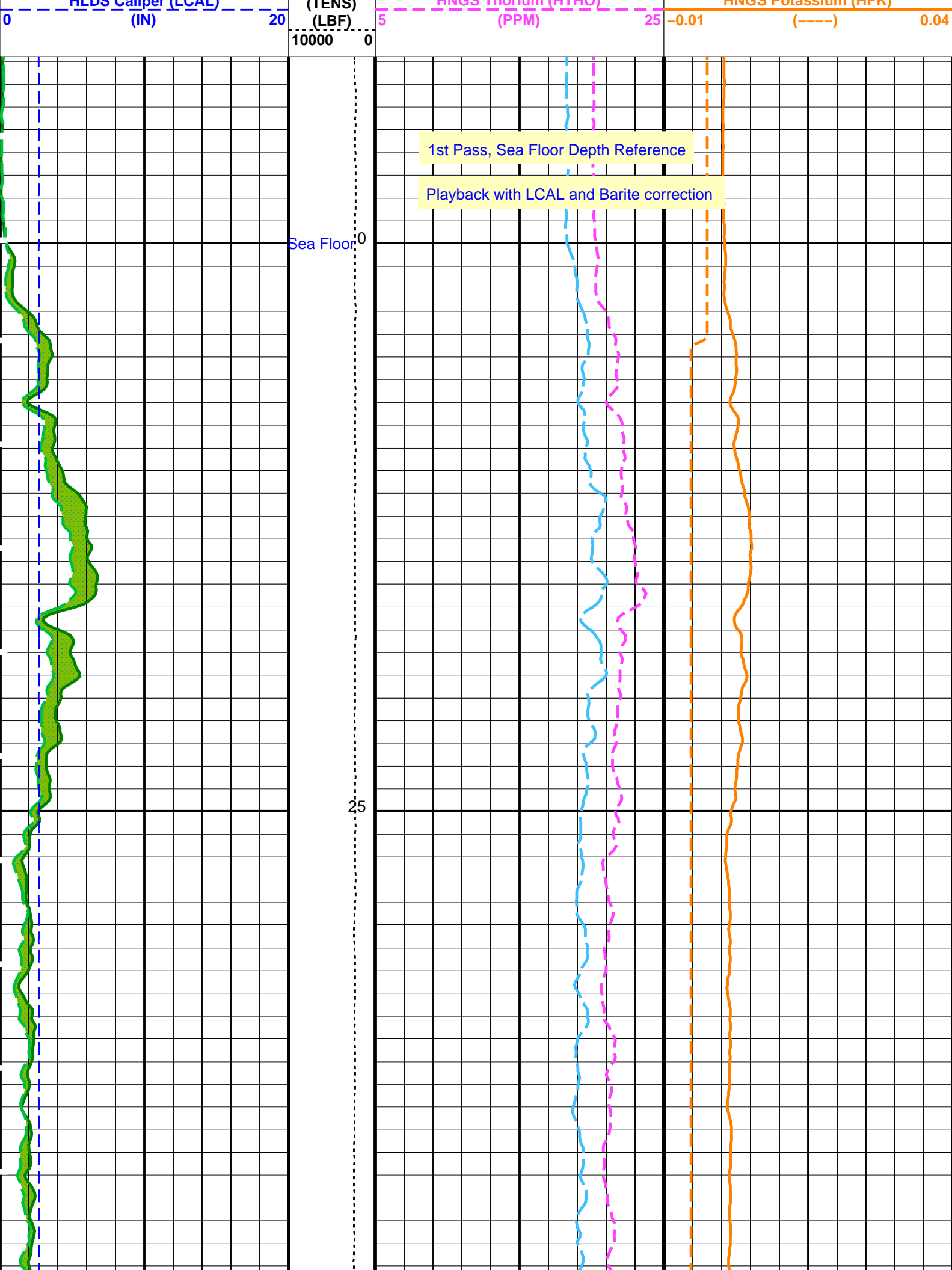
Input DLIS Files						
DEFAULT	PI_LDL_NGS_HRLA_038PUP	FN:5	PRODUCER	31-Dec-2011 05:10	524.3 M	-8.2 M
Output DLIS Files						
DEFAULT	PI_LDL_NGS_HRLA_045PUP	FN:11	PRODUCER	31-Dec-2011 07:57	524.3 M	-8.2 M

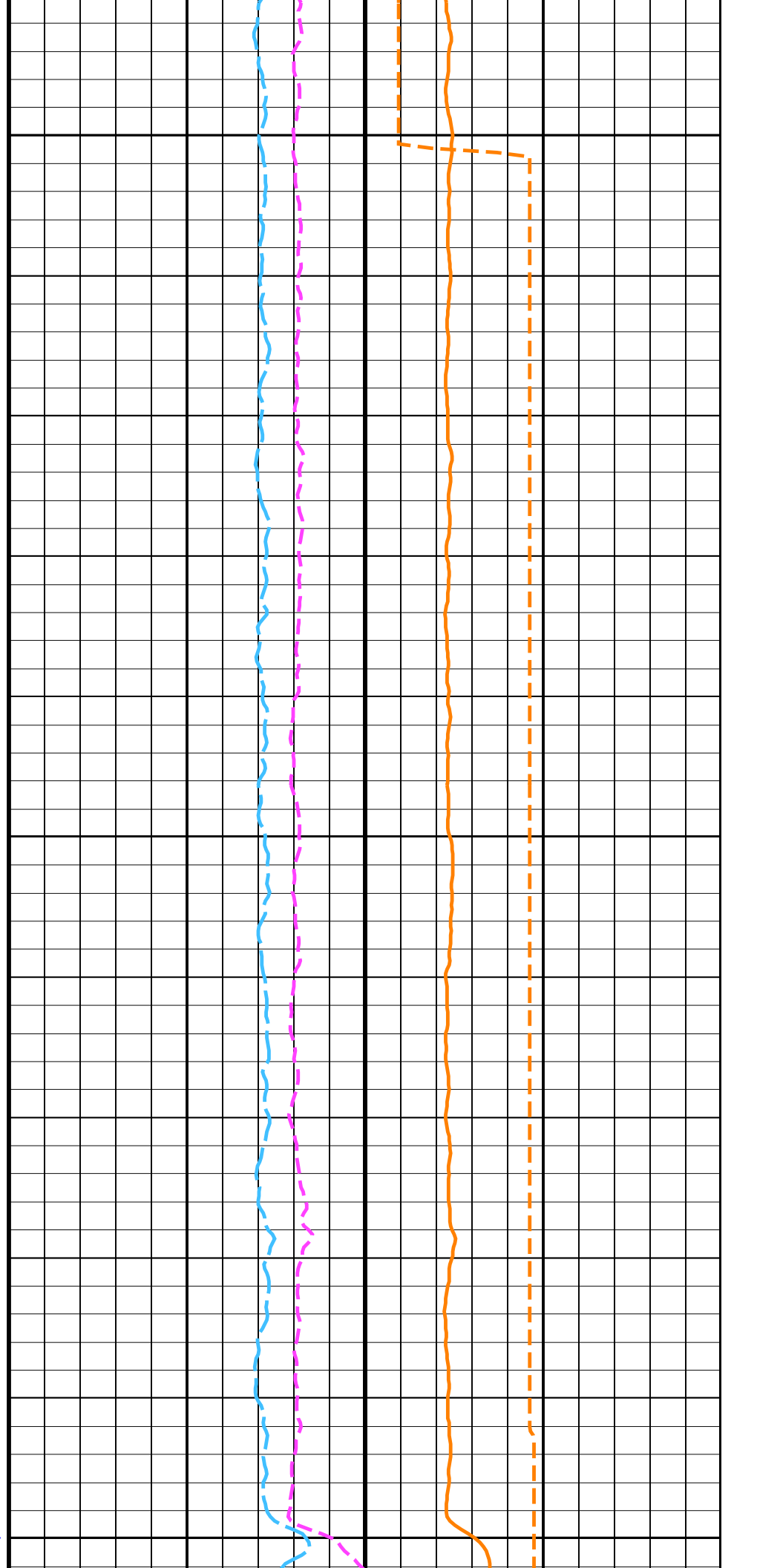
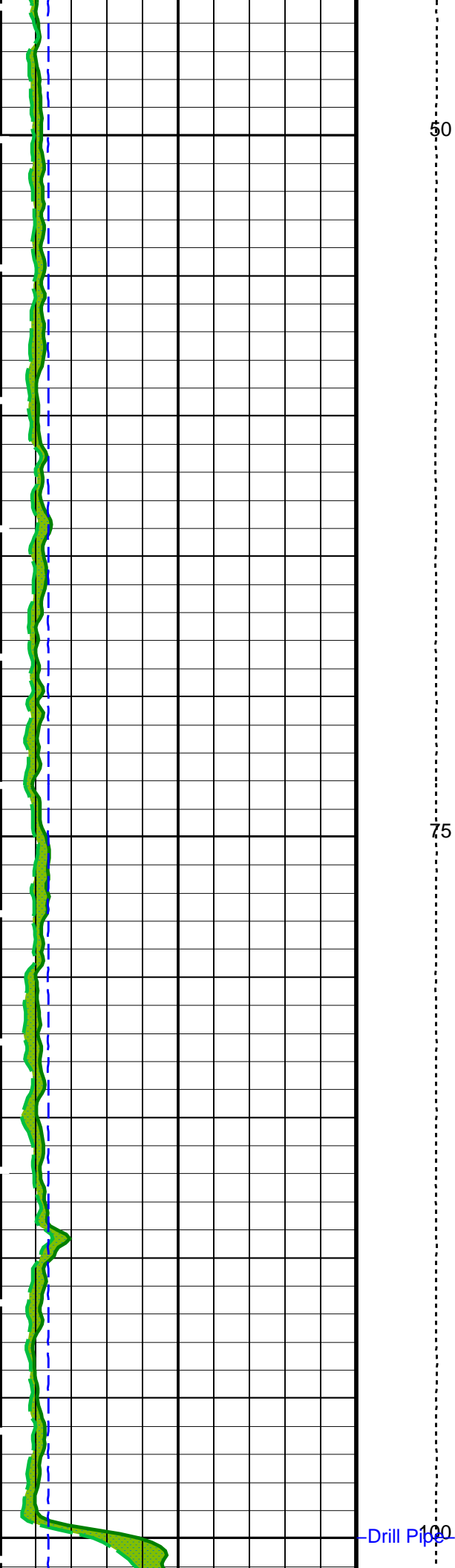
OP System Version: 19C0-187					
DIT-E	19C0-187	DTA-A	19C0-187		
HLDS	19C0-187	LDSC-B	19C0-187		
HNGC-B	19C0-187	HNGS-BA	19C0-187		
HRLT-B	19C0-187	EDTC-B	19C0-187		

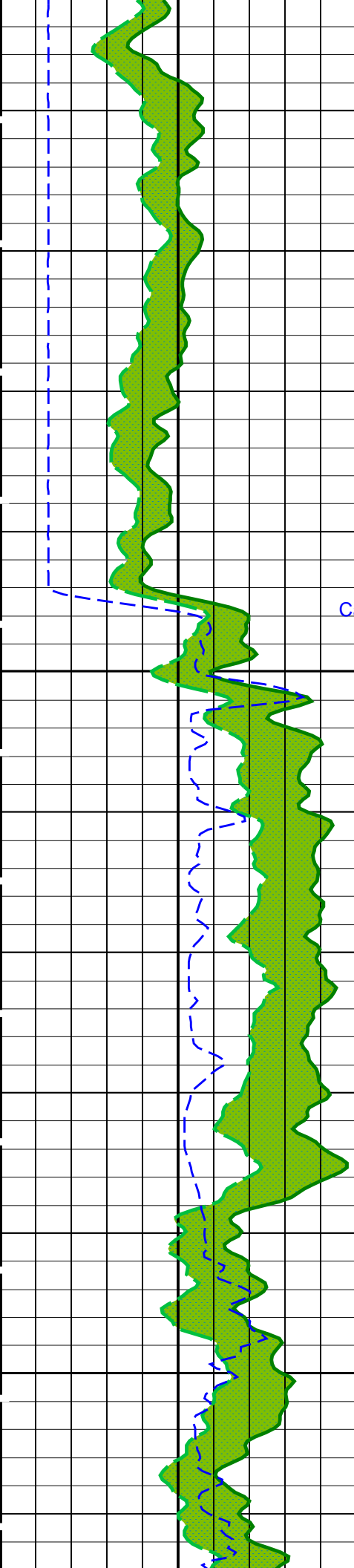
PIP SUMMARY	
 Time Mark Every 60 S	



HLDS Caliper (LCAL)	Tension (TENS)	HNGS Thorium (HTHO)	HNGS Potassium (HEK)
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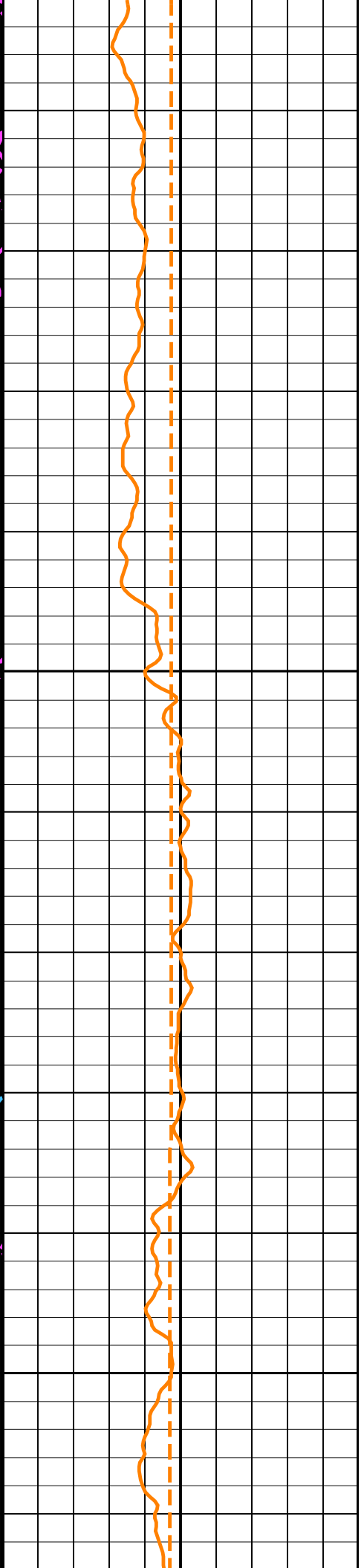
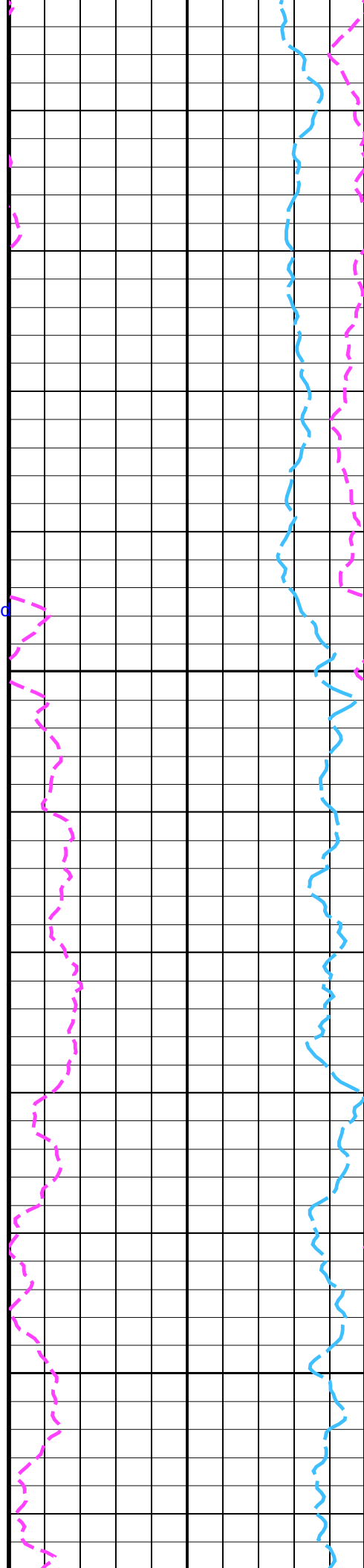


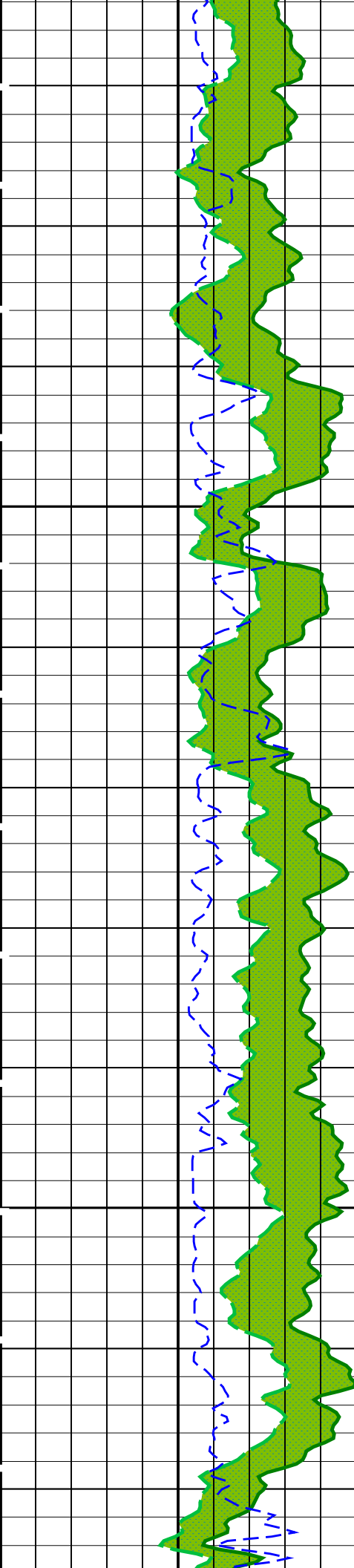


Caliper Closed

125

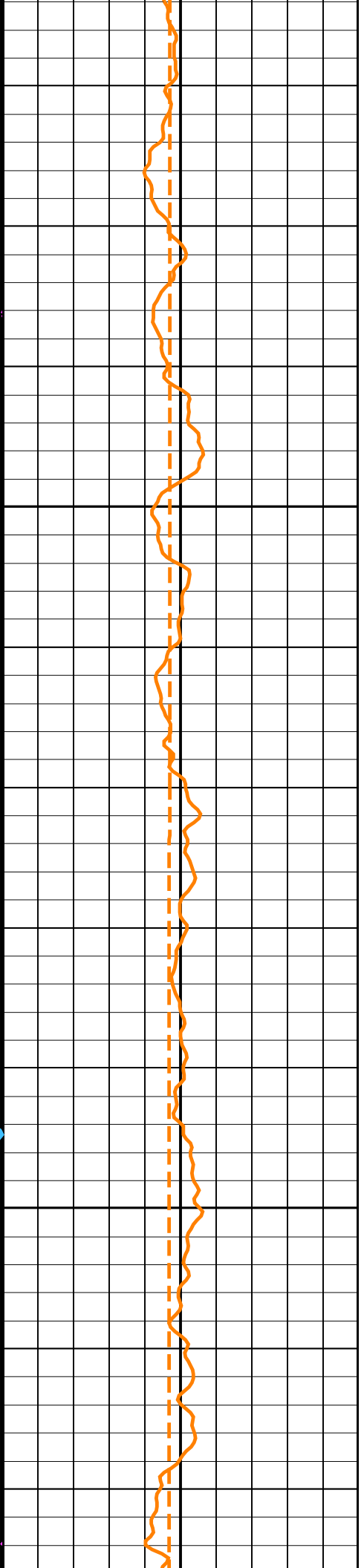
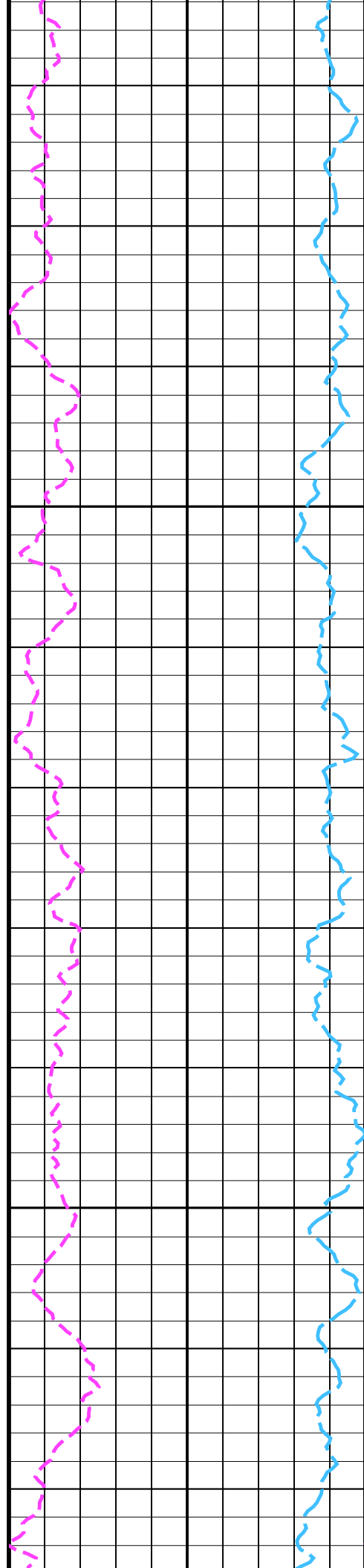
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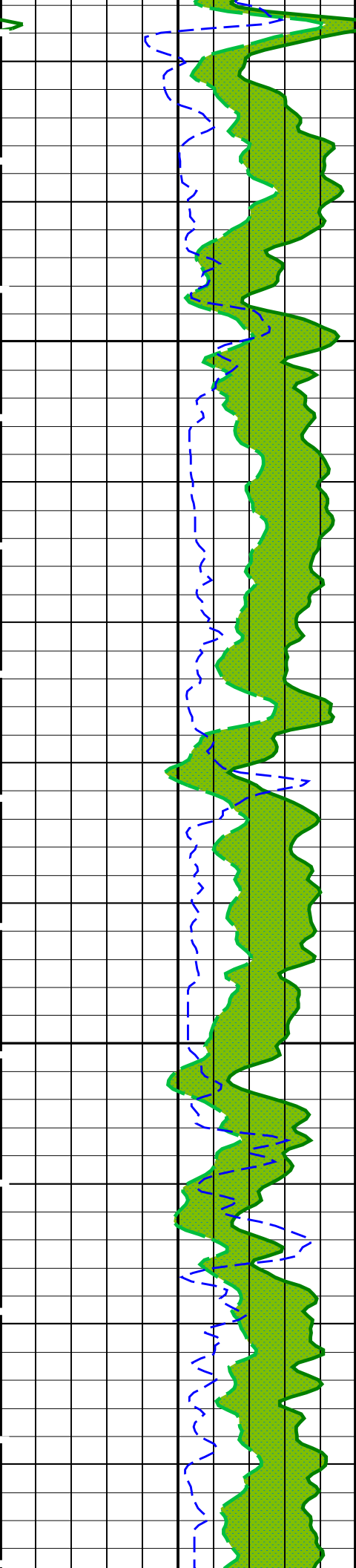




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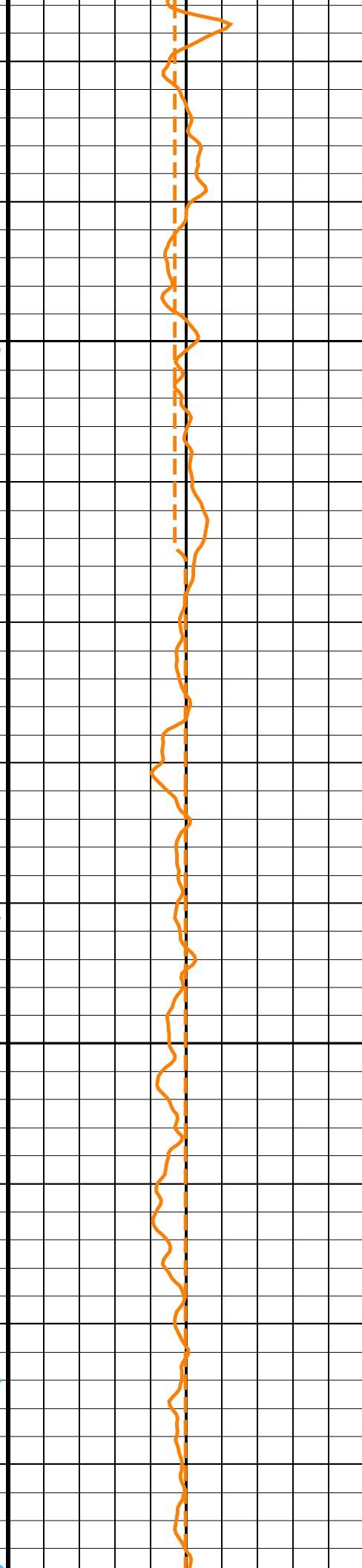
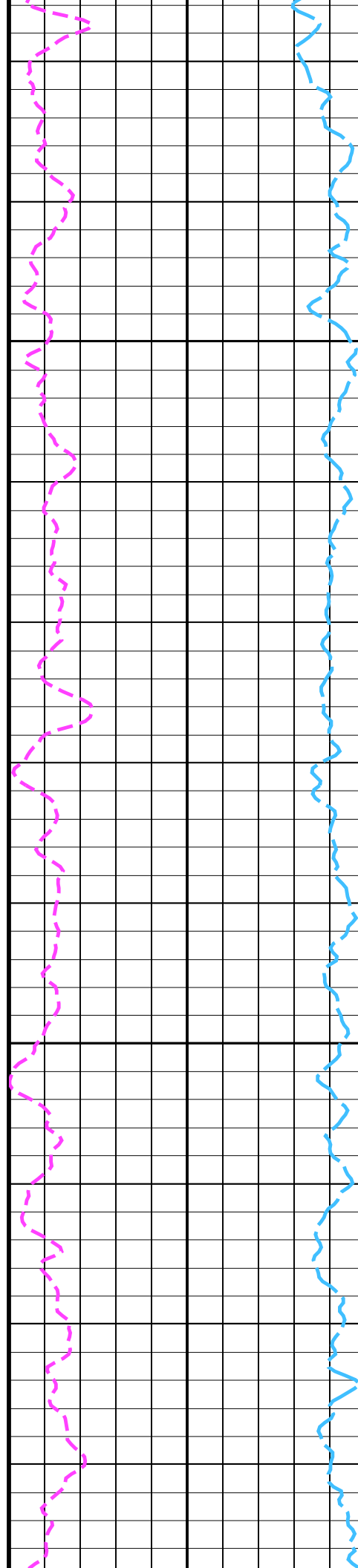
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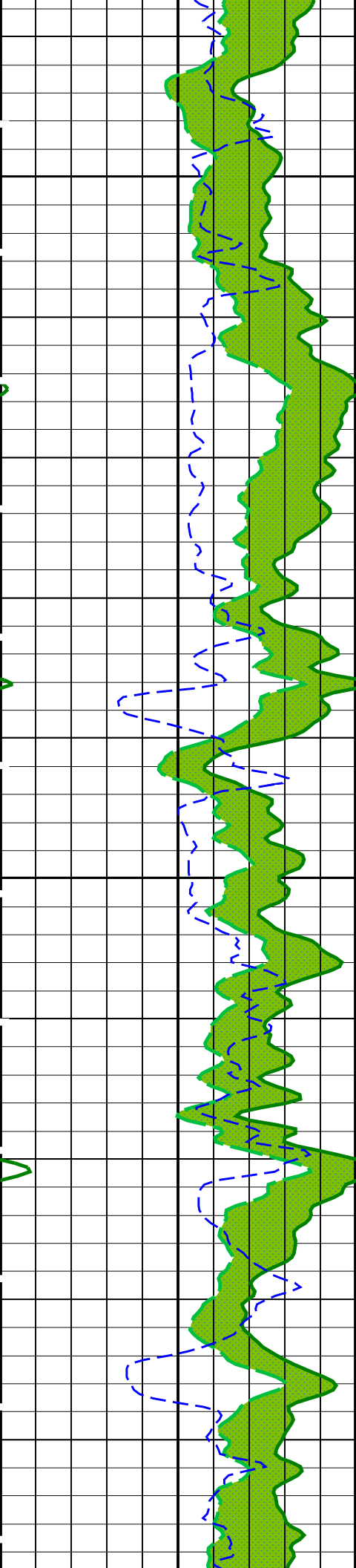




225

250

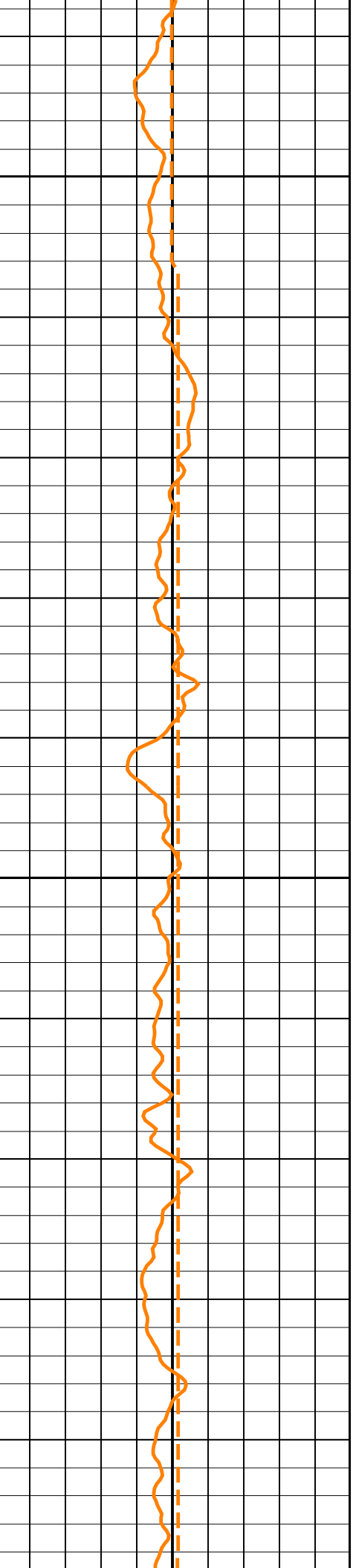
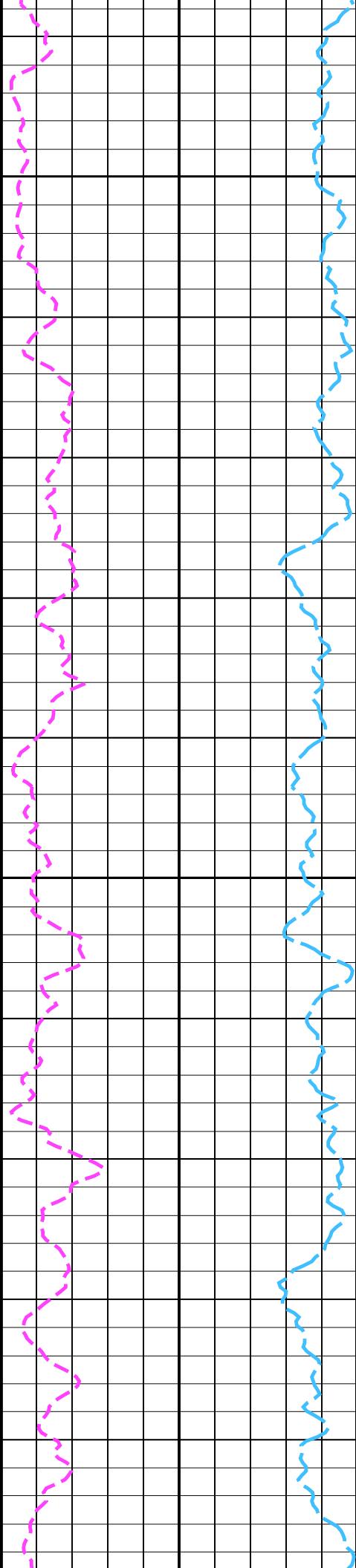


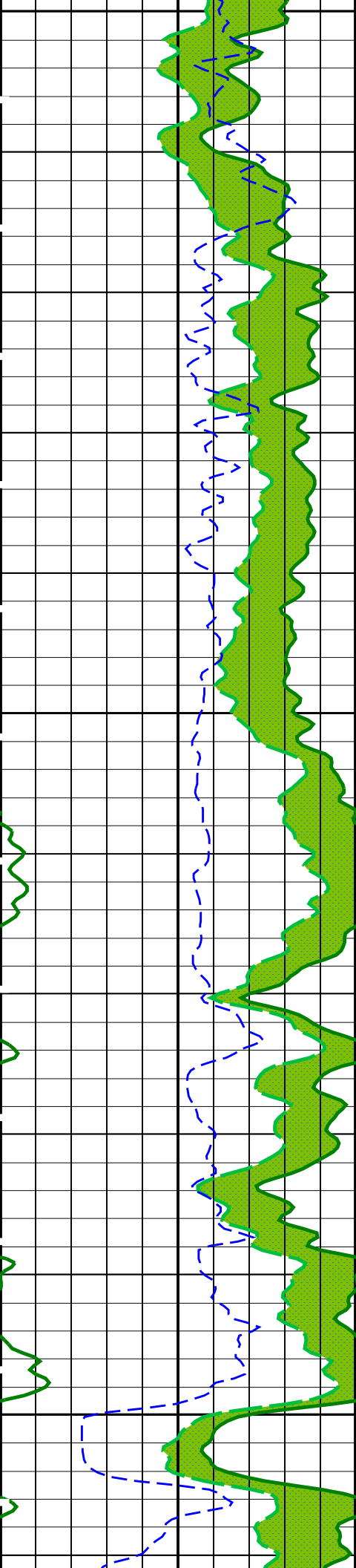


275

300

325

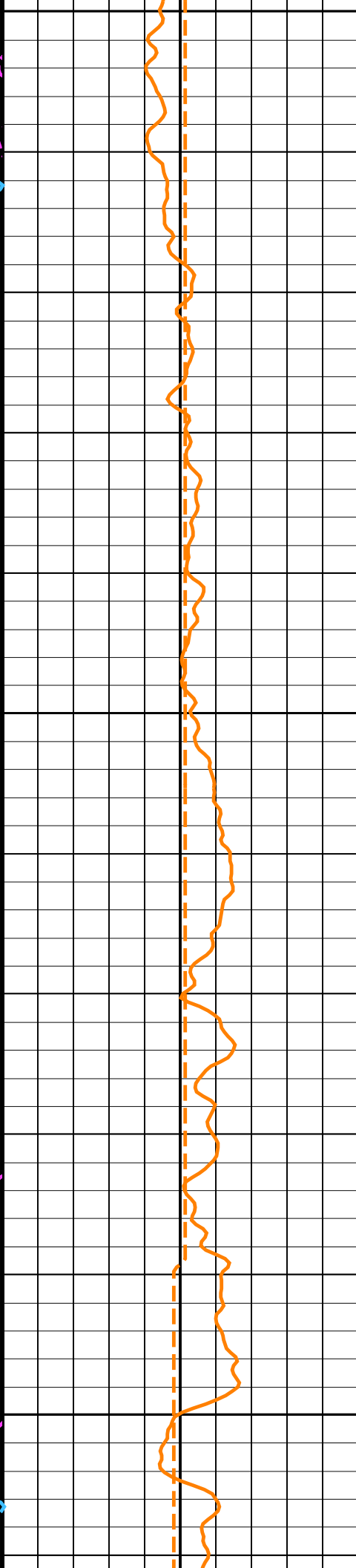
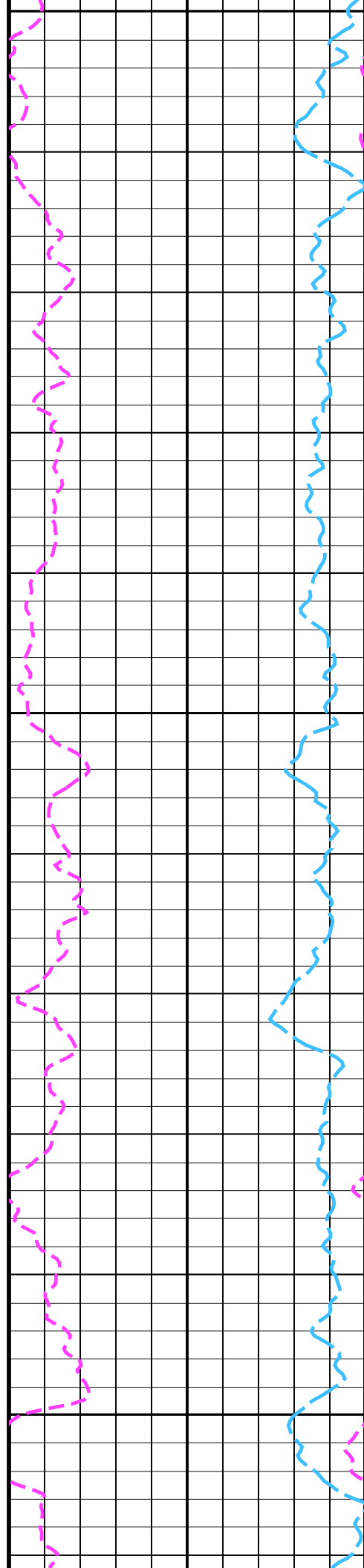


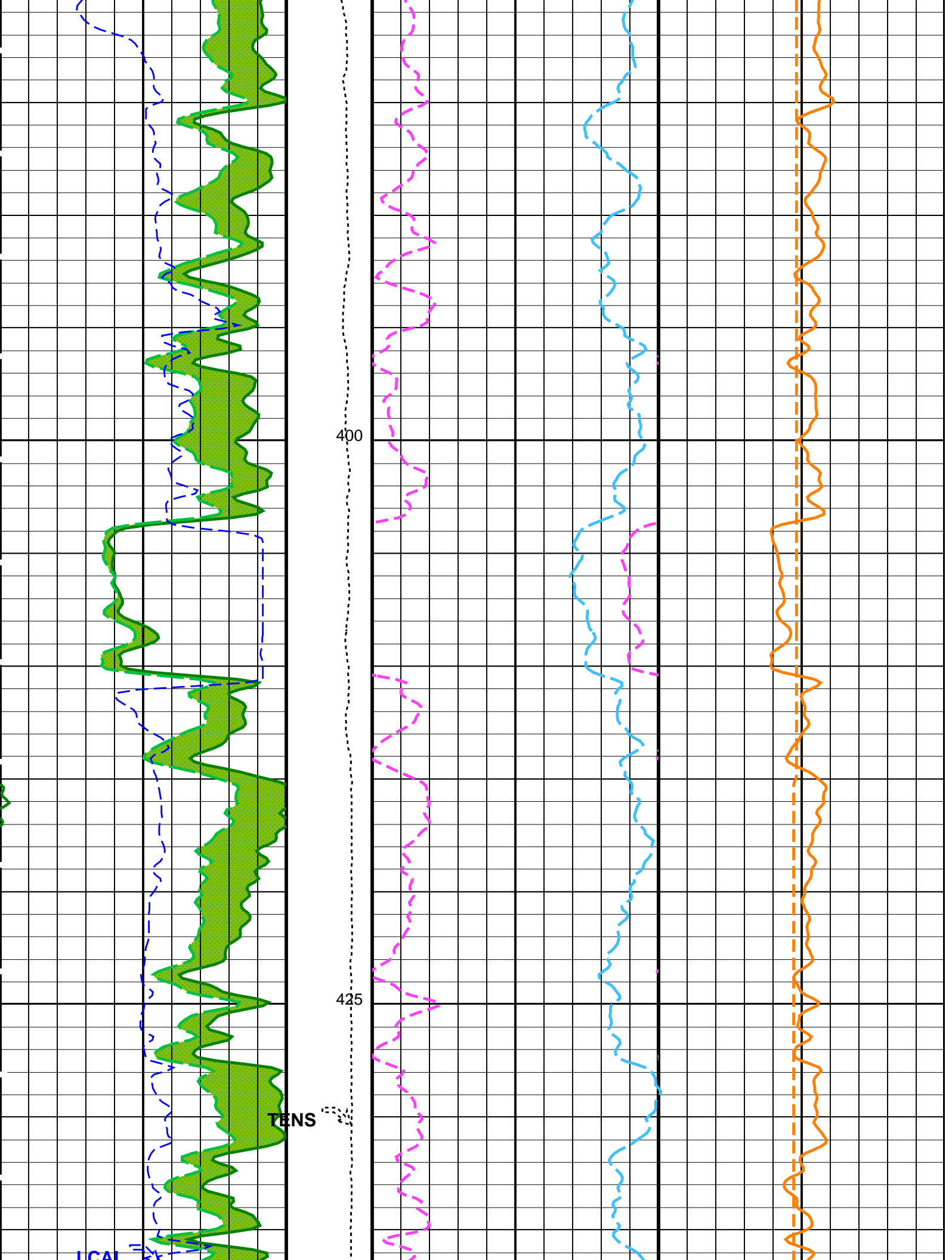


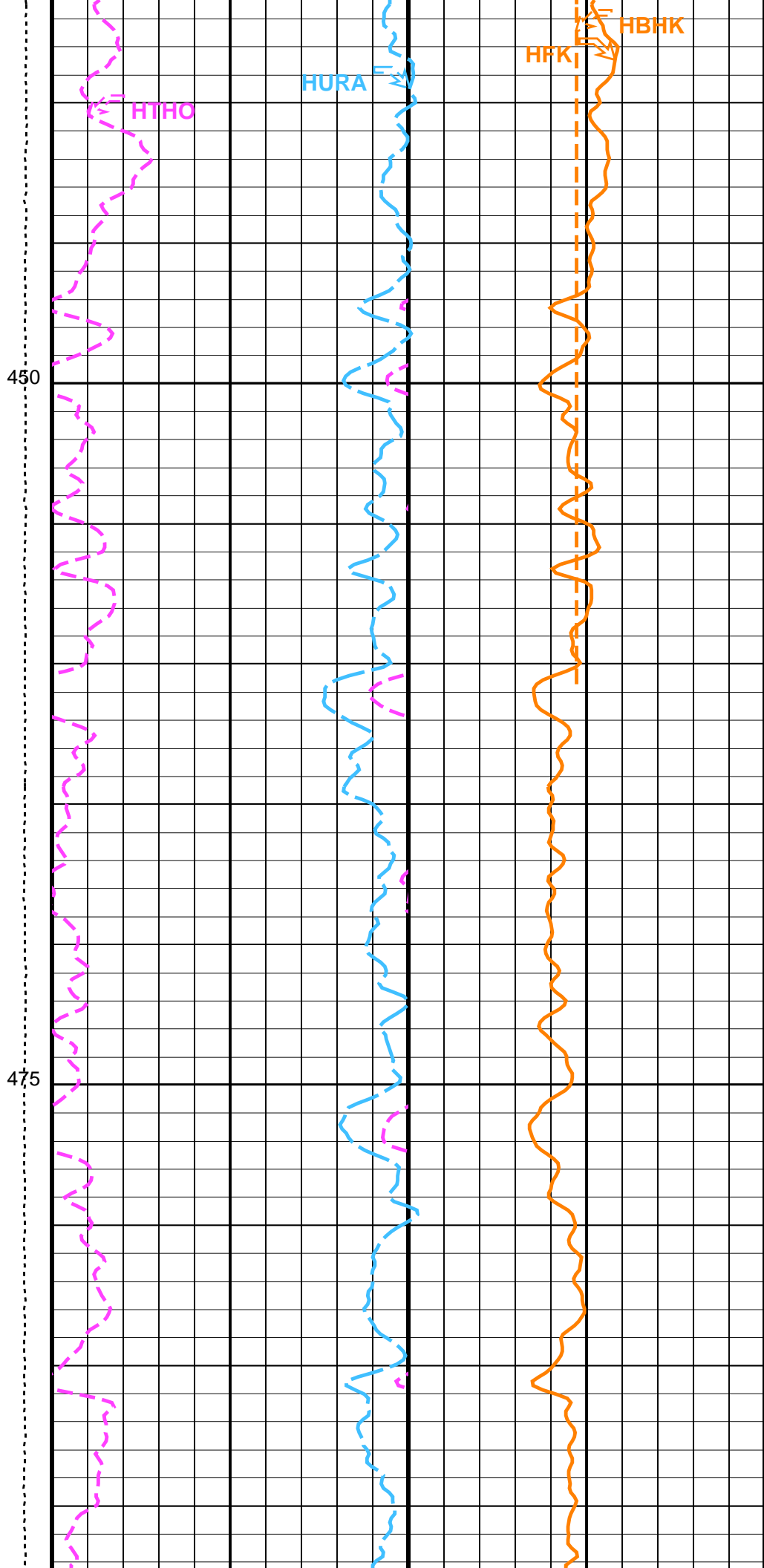
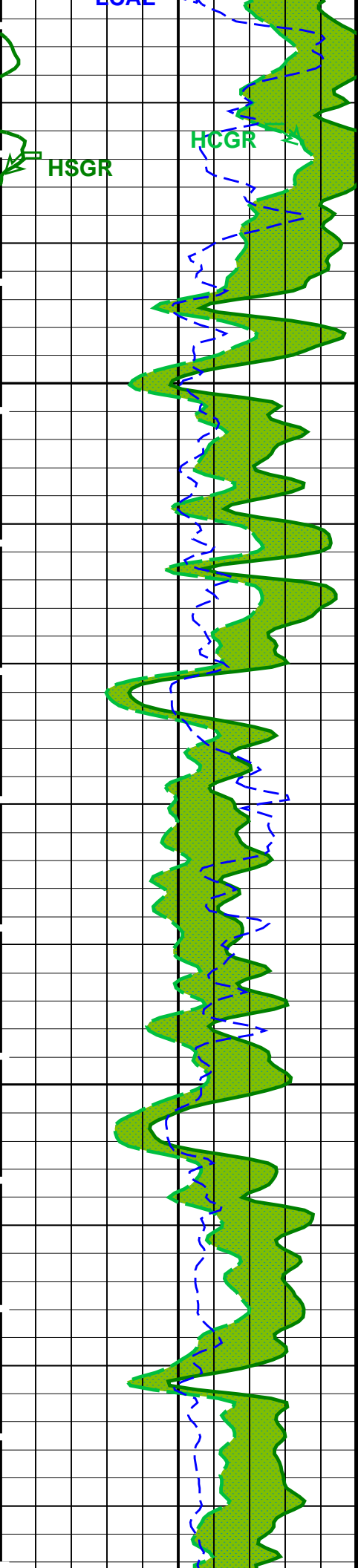
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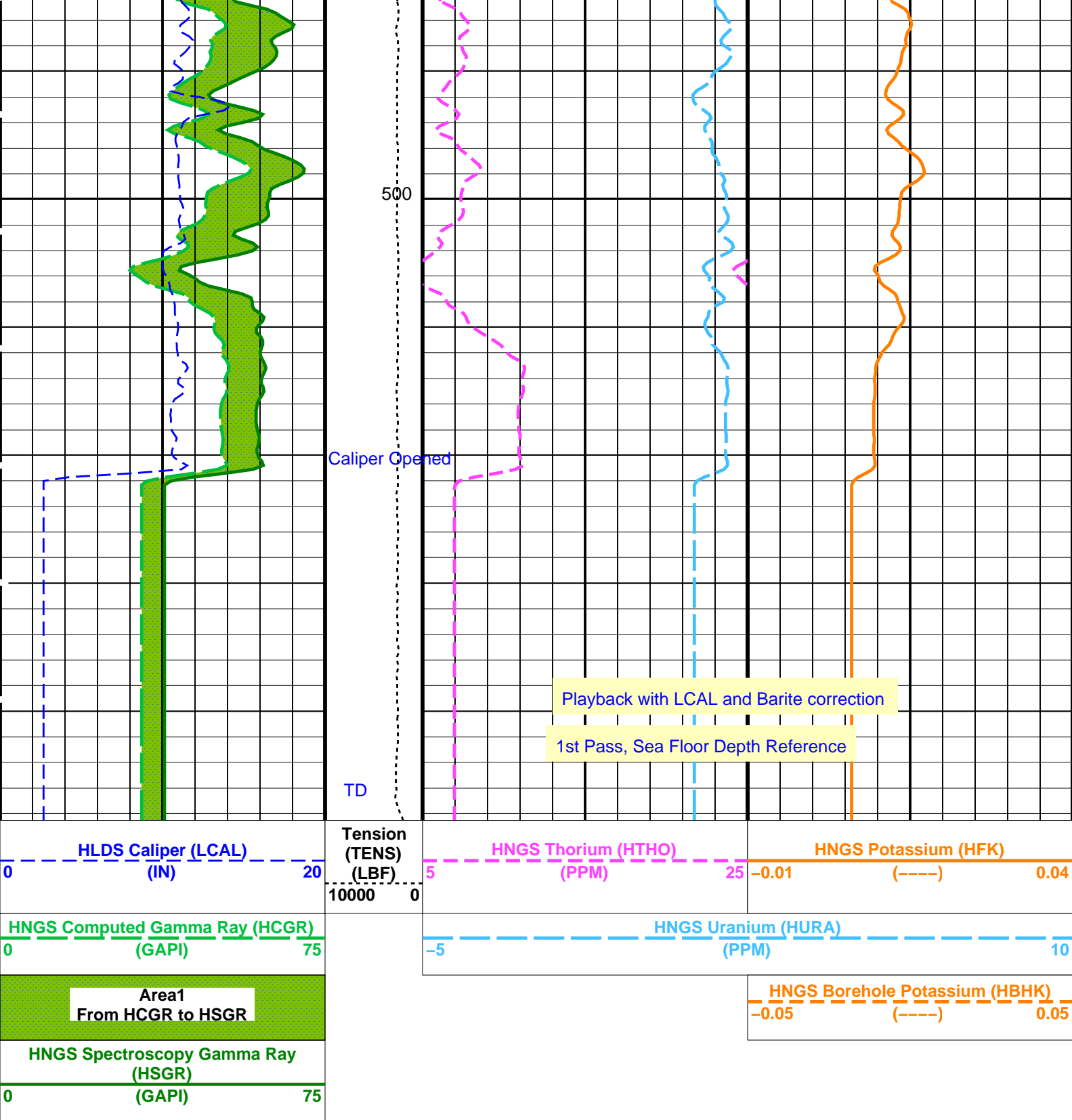
350

375









PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
BHS	DIT-E: Dual Induction - E	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	LCAL
	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

CSW2	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	LCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00489121	
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	1.28118	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.991398	
HRLT-B: High Resolution Laterolog Array - B			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	LCAL	
EDTC-B: Enhanced DTS Cartridge			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	LCAL	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.25	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	RECOMPUTE	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 31-Dec-2011 07:57

OP System Version: 19C0-187

DIT-E	19C0-187	DTA-A	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
HRLT-B	19C0-187	EDTC-B	19C0-187

Input DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_038PUP	FN:5	PRODUCER	31-Dec-2011 05:10	524.3 M	-8.2 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_045PUP	FN:11	PRODUCER	31-Dec-2011 07:57		
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Input DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_011LUP	FN:13	PRODUCER	07-Dec-2011 21:40	1099.6 M	566.6 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_038PUP	FN:5	PRODUCER	31-Dec-2011 05:10	524.3 M	-8.2 M
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OP System Version: 19C0-187

DIT-E	19C0-187	DTA-A	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
HRLT-B	19C0-187	EDTC-B	19C0-187

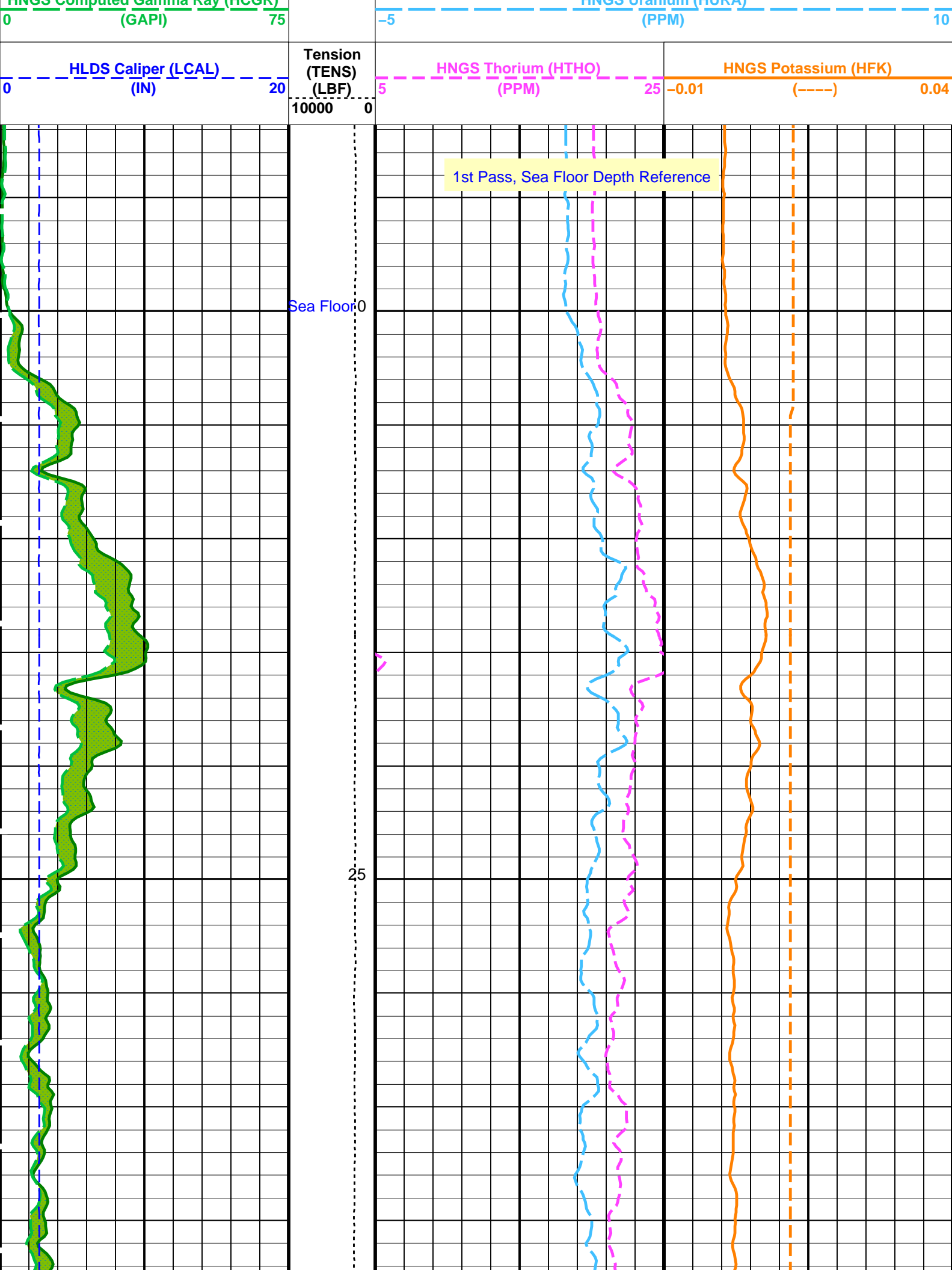
PIP SUMMARY

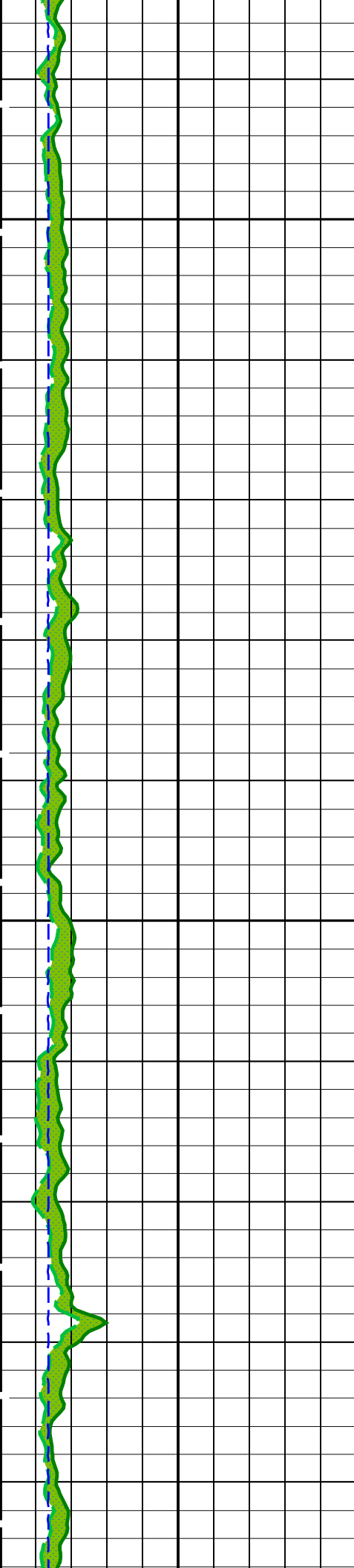
Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)		
0	(GAPI)	75

Area1 From HCGR to HSGR		
HNGS Computed Gamma Ray (HCGR)		

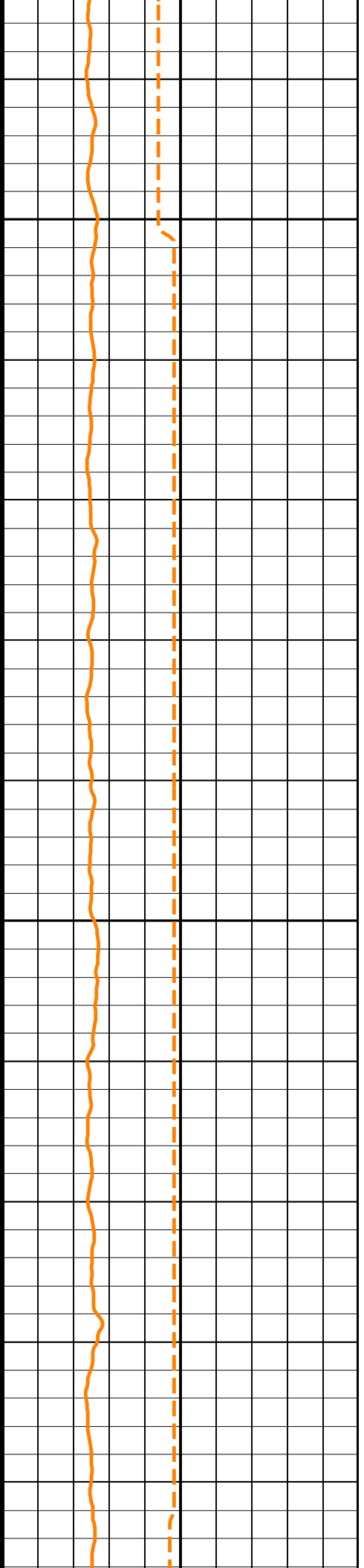
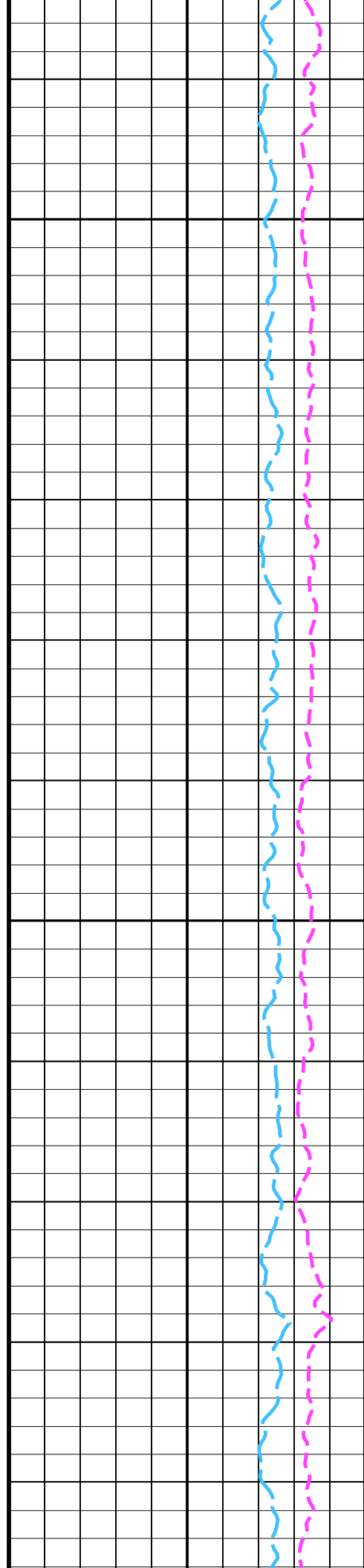
HNGS Borehole Potassium (HBHK)		
-0.05	(----)	0.05
HNGS Uranium (HURA)		

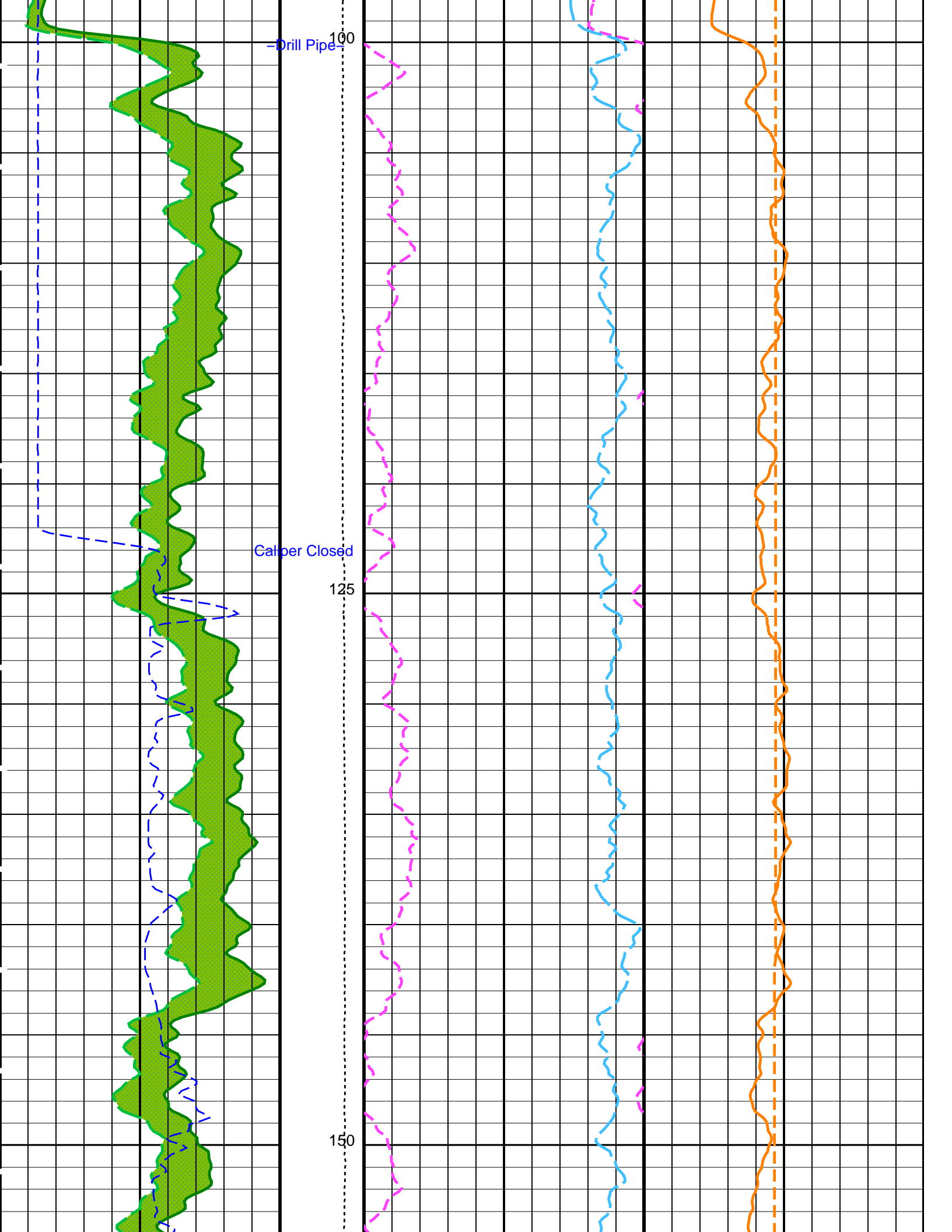


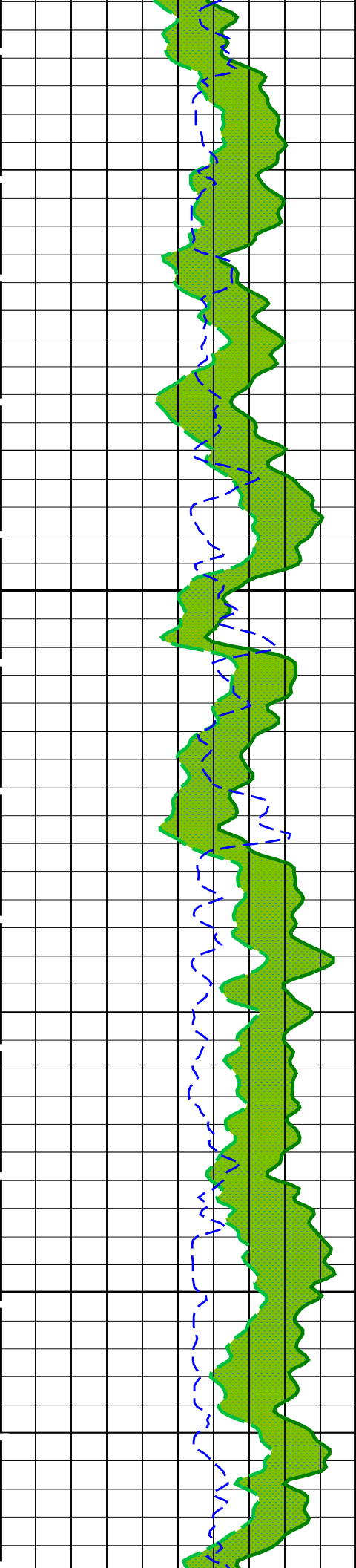


50

75

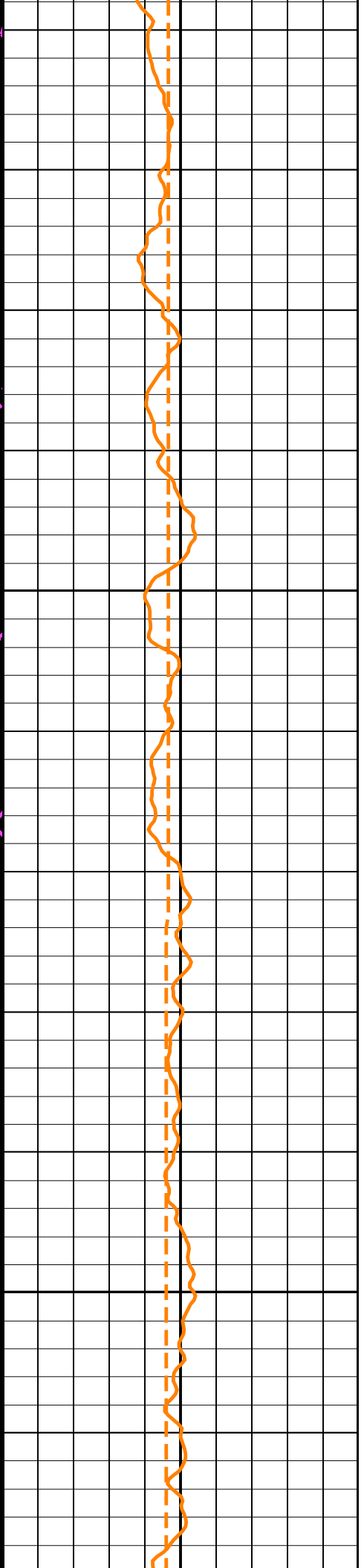
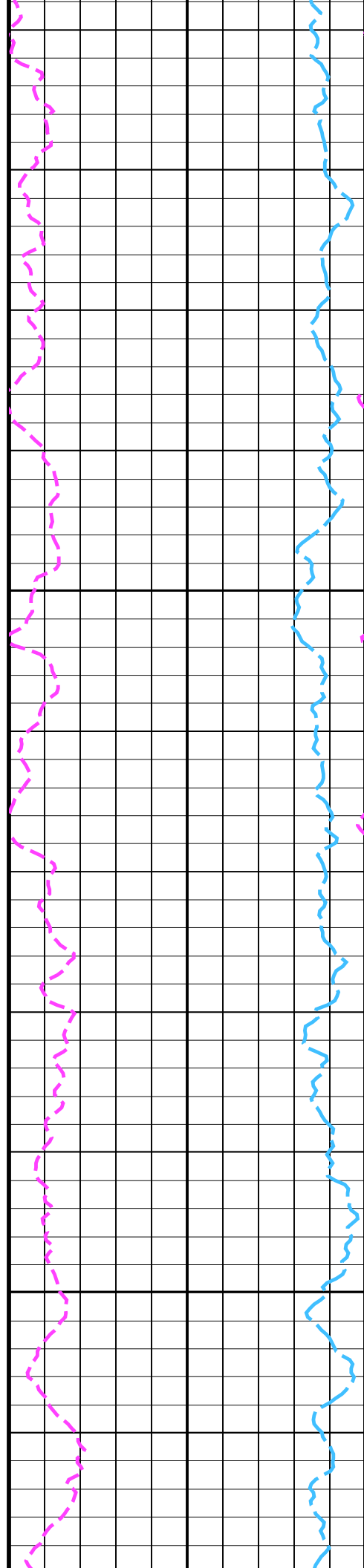


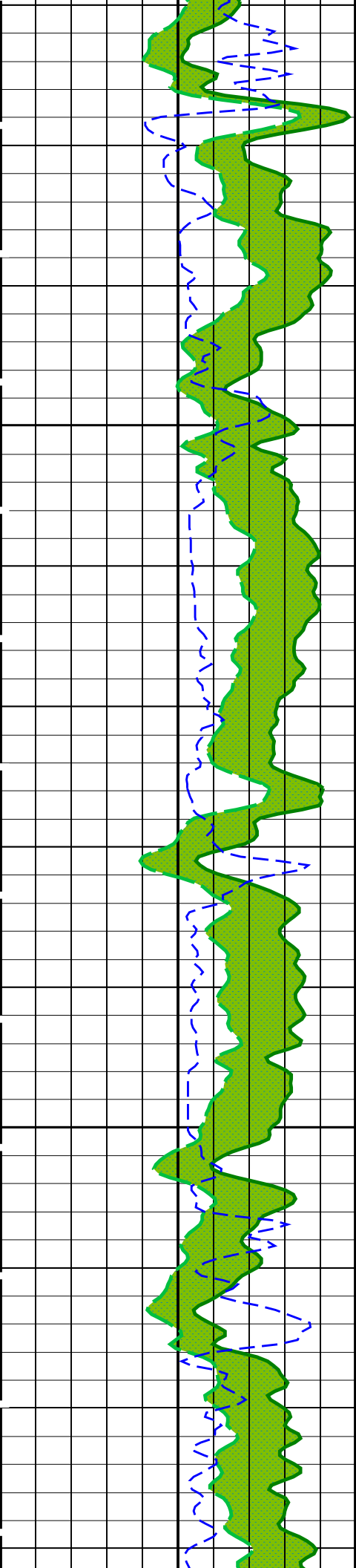




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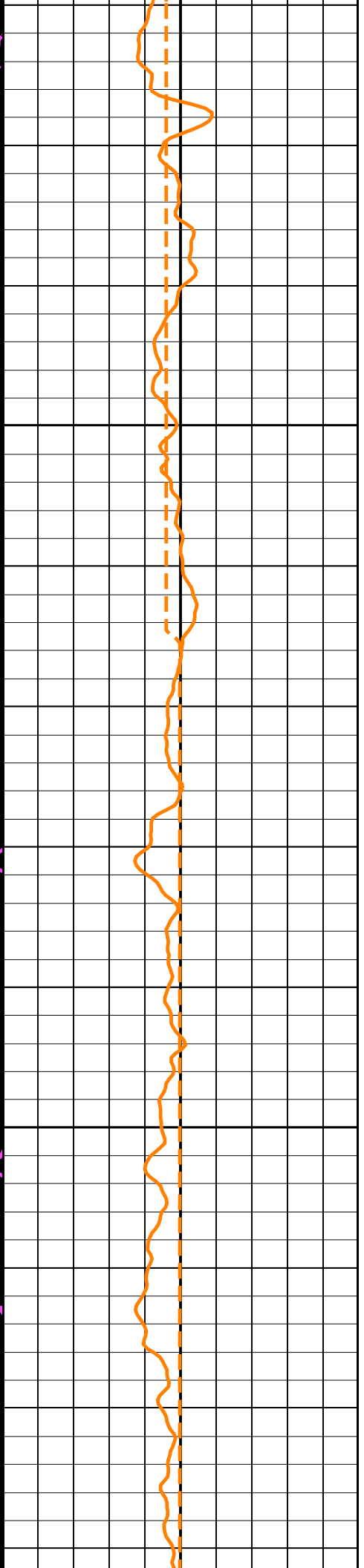
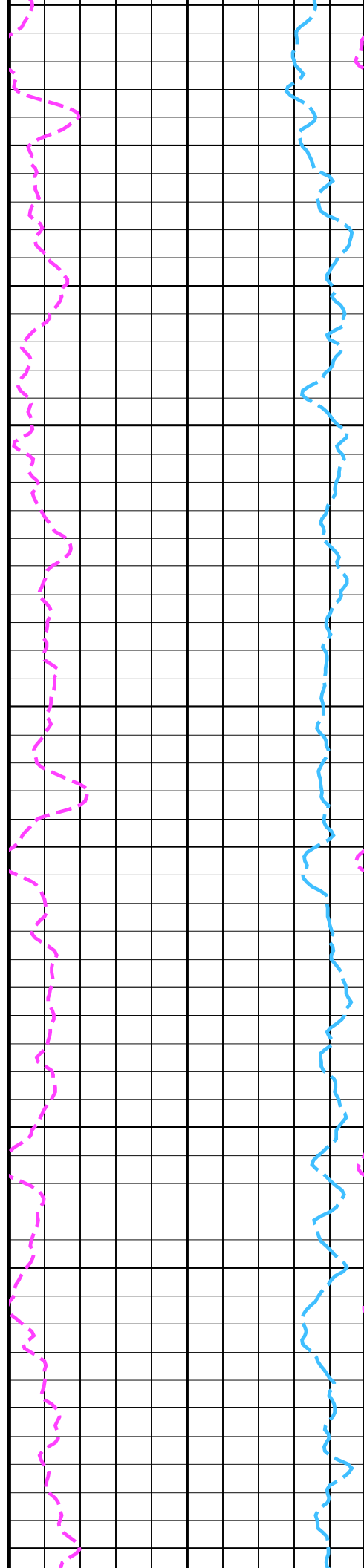
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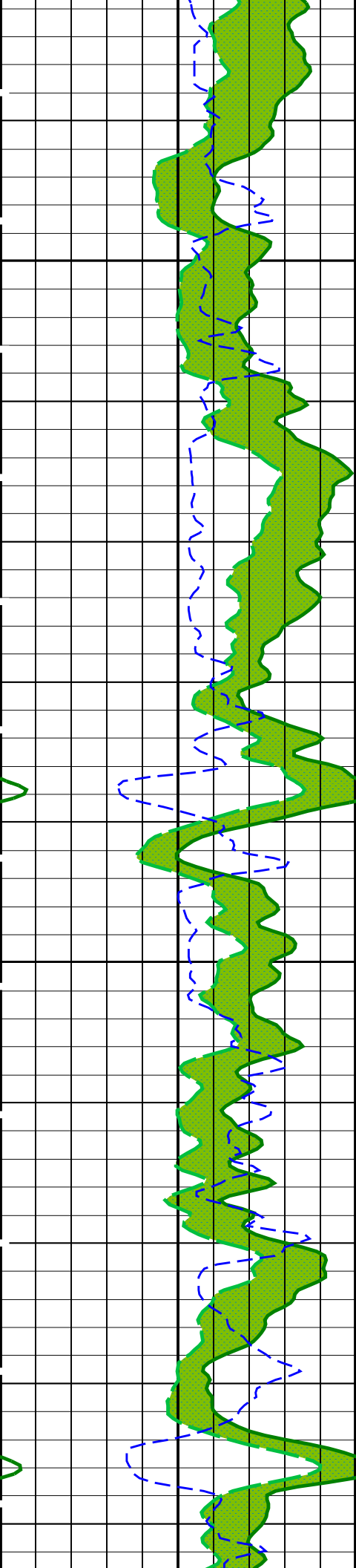




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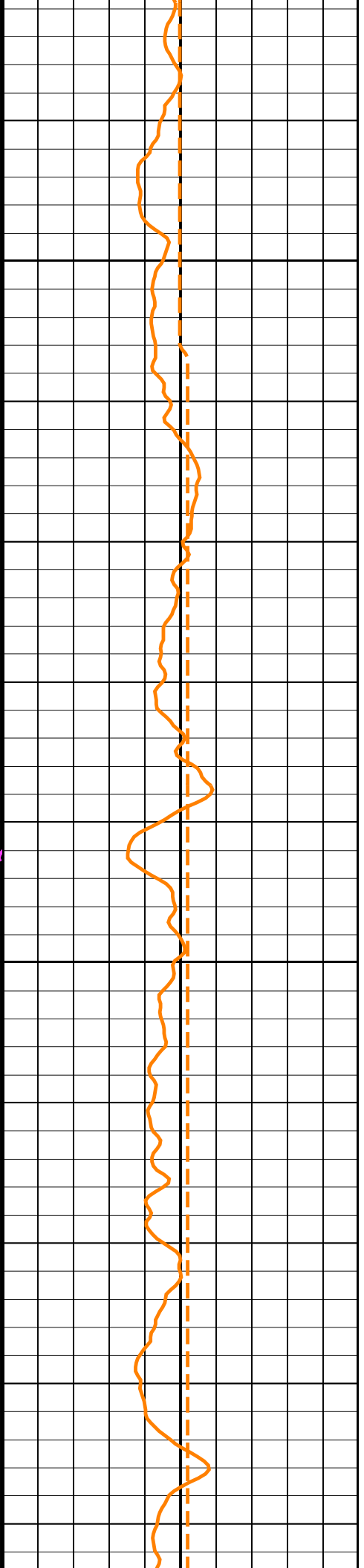
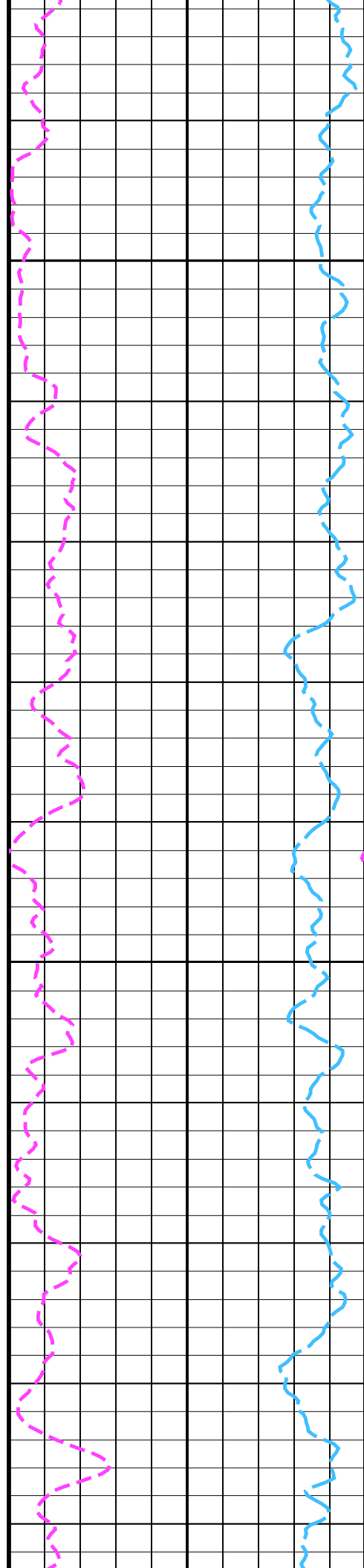
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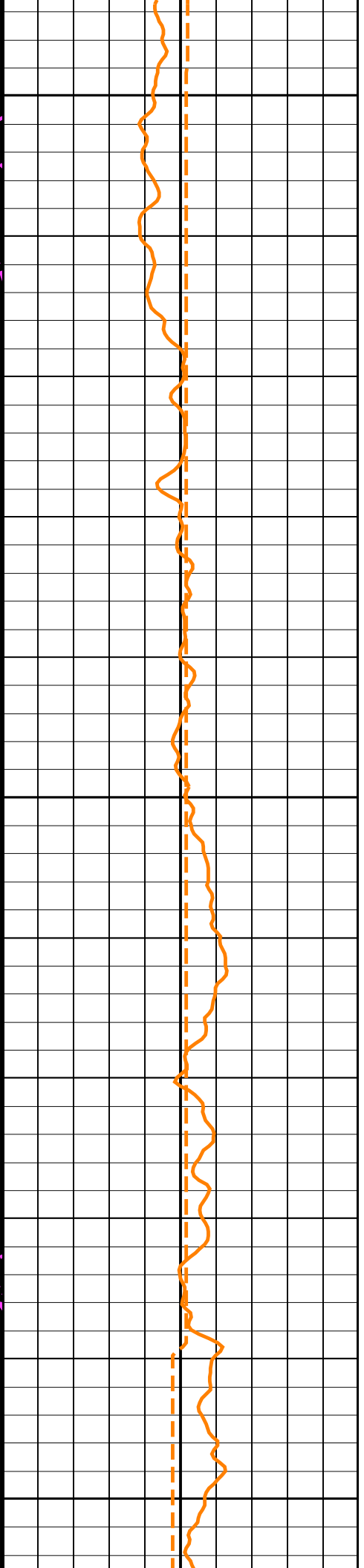
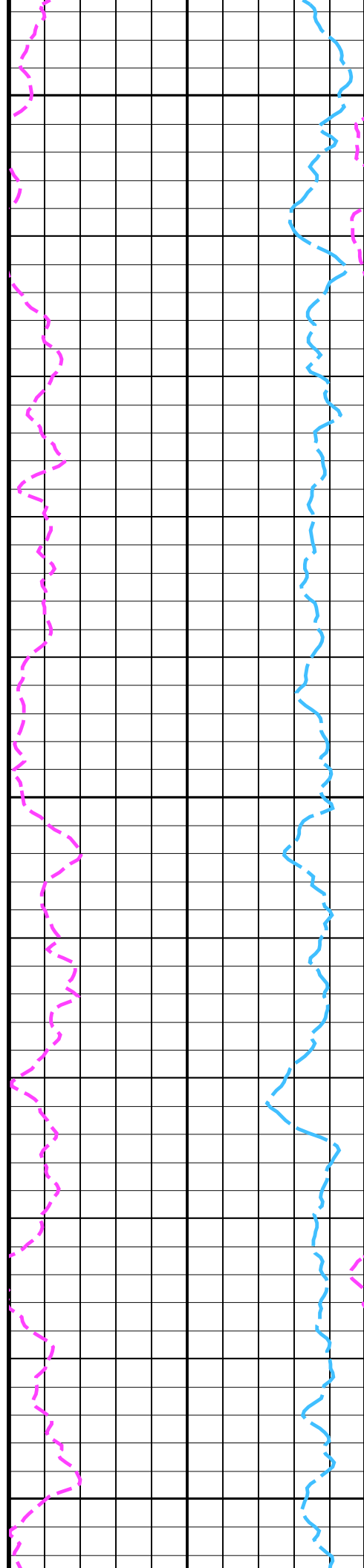
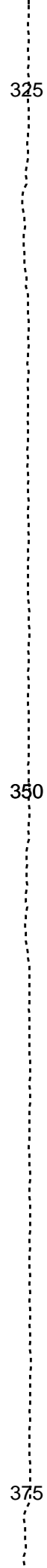
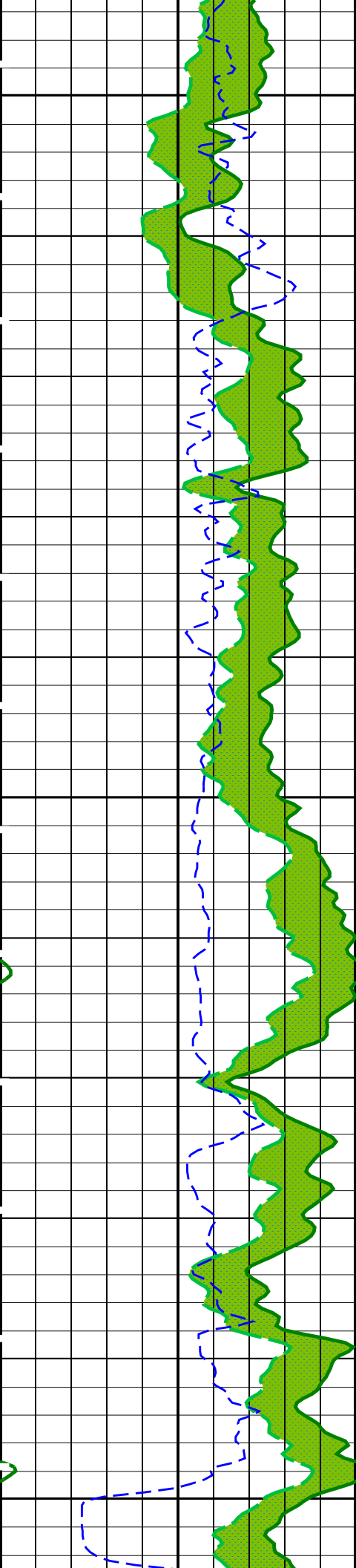


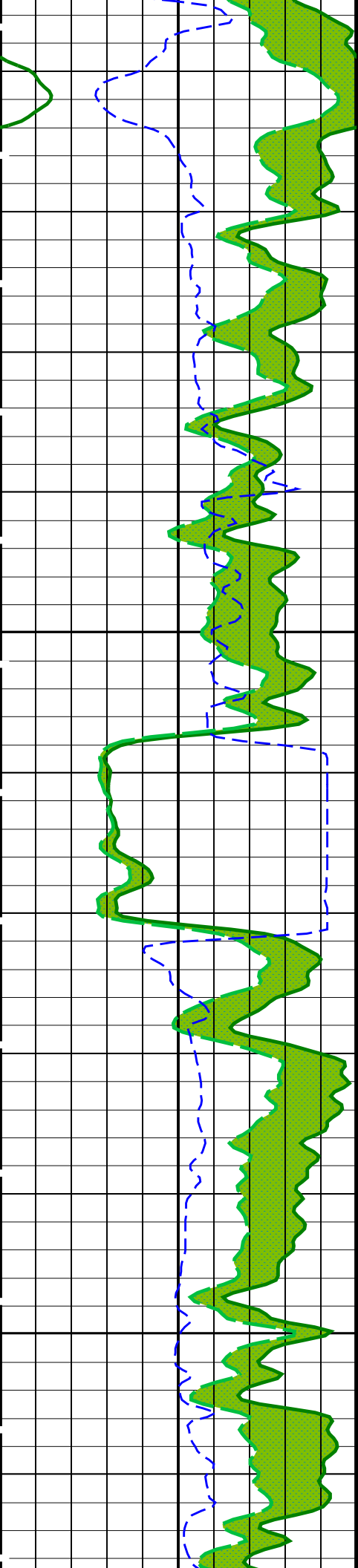


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300

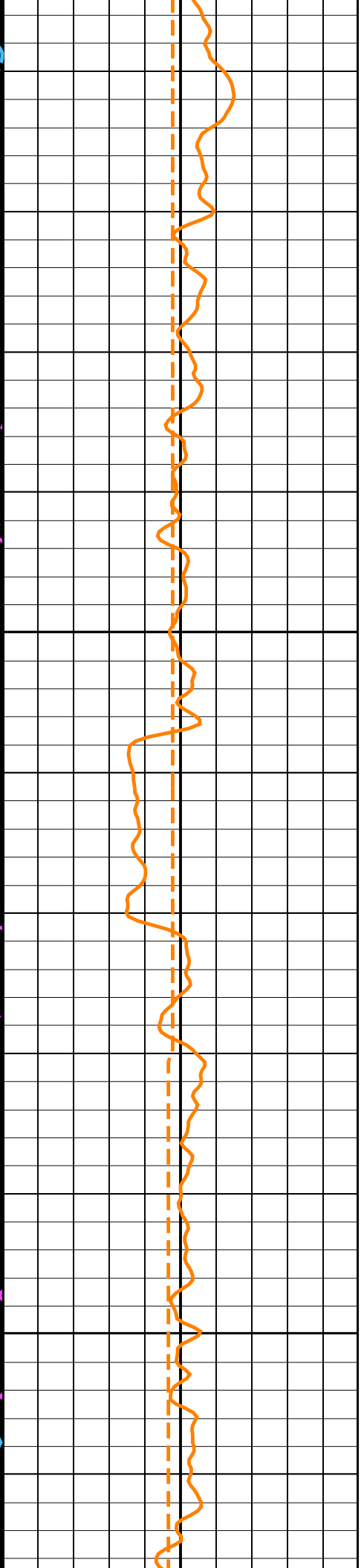
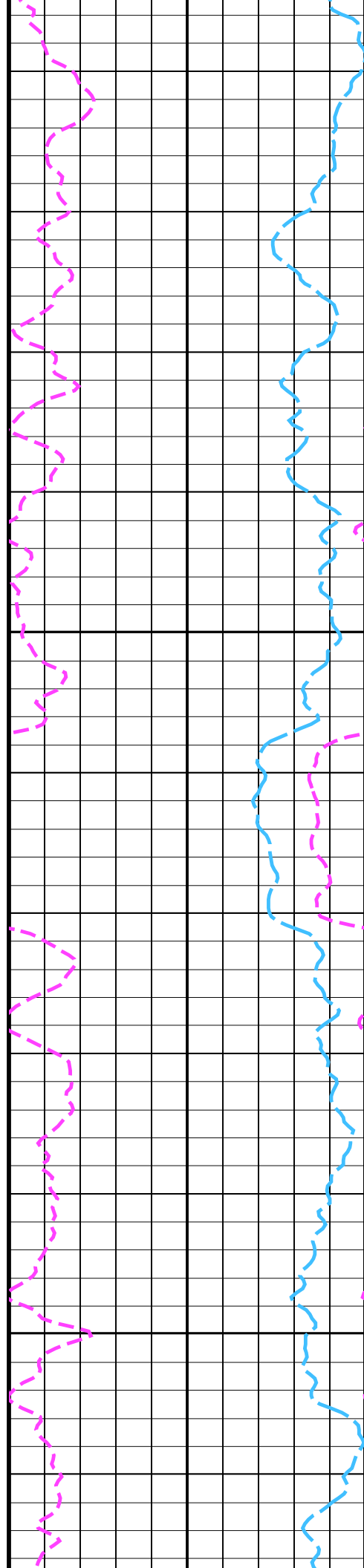


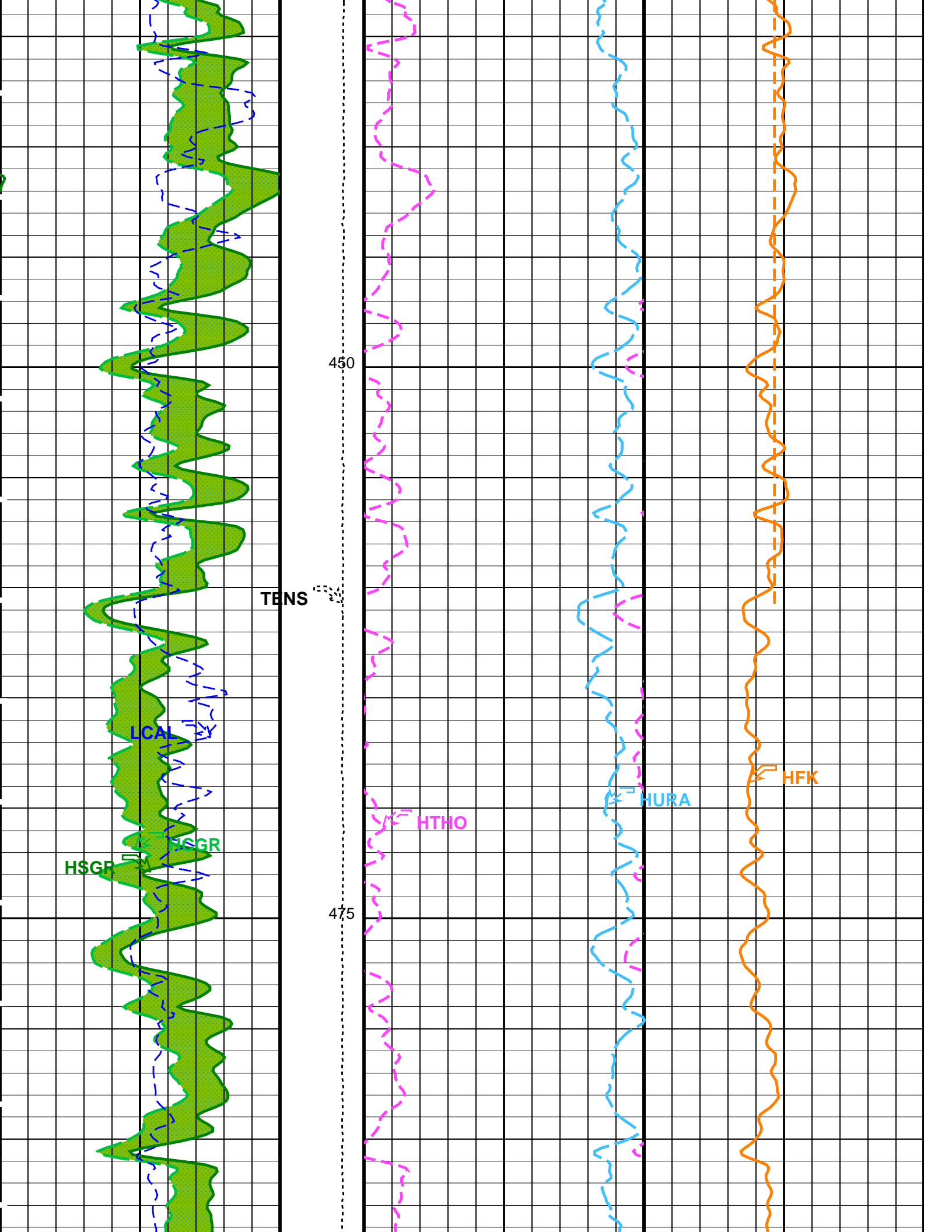


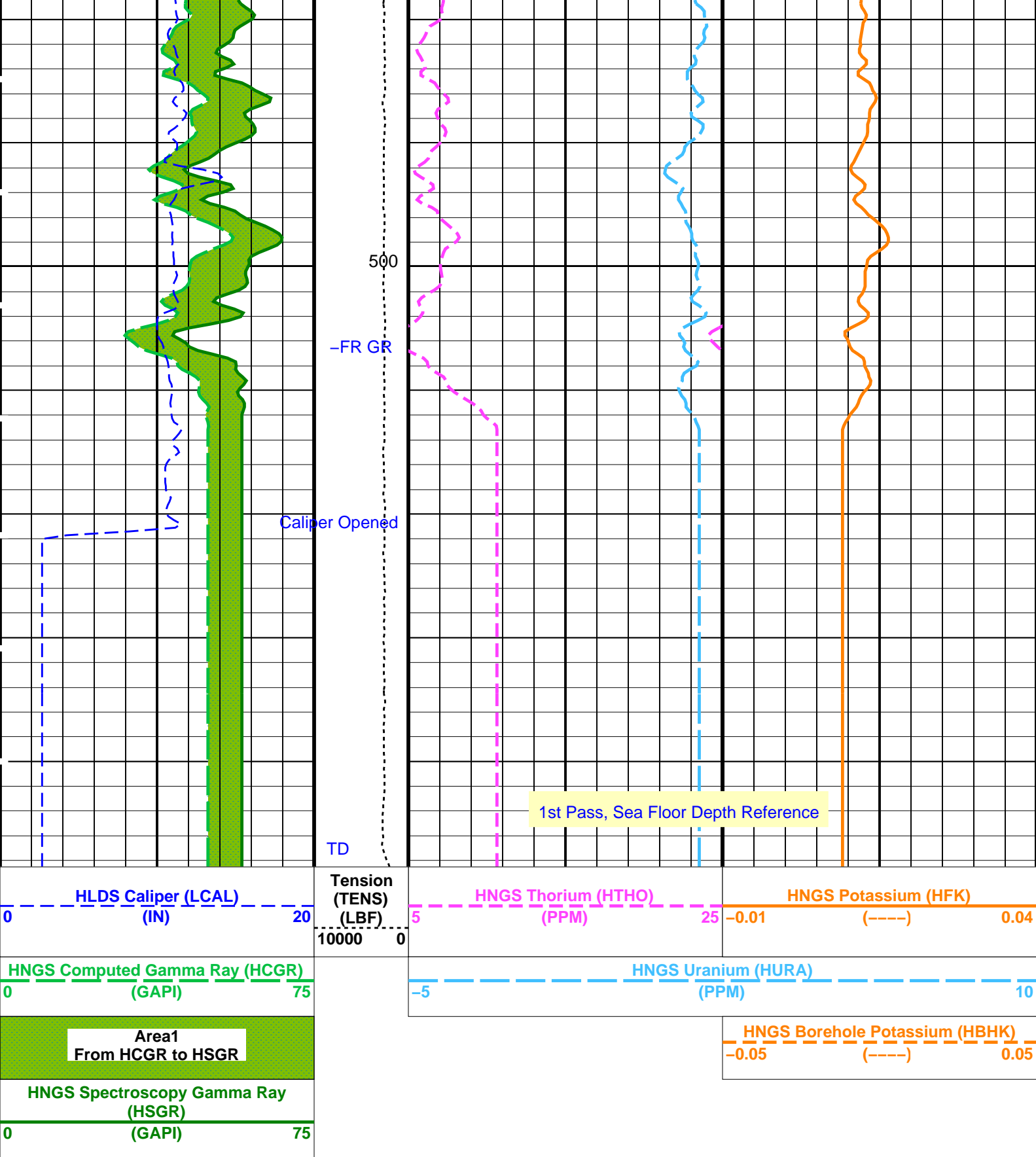


400

425







PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
BHS	DIT-E: Dual Induction - E	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
BAR1	HNGS-BA: Hostile Natural Gamma Ray Sonde	
	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	-0.00489121	
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	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.28118	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.991398	
HRLT-B: High Resolution Laterolog Array - B			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
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	1.25	G/C3
DO	Depth Offset for Playback	-575.0	M
PP	Playback Processing	NORMAL	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 31-Dec-2011 05:10

OP System Version: 19C0-187

DIT-E	19C0-187	DTA-A	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
HRLT-B	19C0-187	EDTC-B	19C0-187

Input DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_011LUP	FN:13	PRODUCER	07-Dec-2011 21:40	1099.6 M	566.6 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_038PUP	FN:5	PRODUCER	31-Dec-2011 05:10		
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Input DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_012LUP	FN:15	PRODUCER	07-Dec-2011 23:47	811.5 M	656.7 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_HRLA_039PUP	FN:6	PRODUCER	31-Dec-2011 06:32	236.2 M	81.8 M
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OP System Version: 19C0-187

DIT-E	19C0-187	DTA-A	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
HRLT-B	19C0-187	EDTC-B	19C0-187

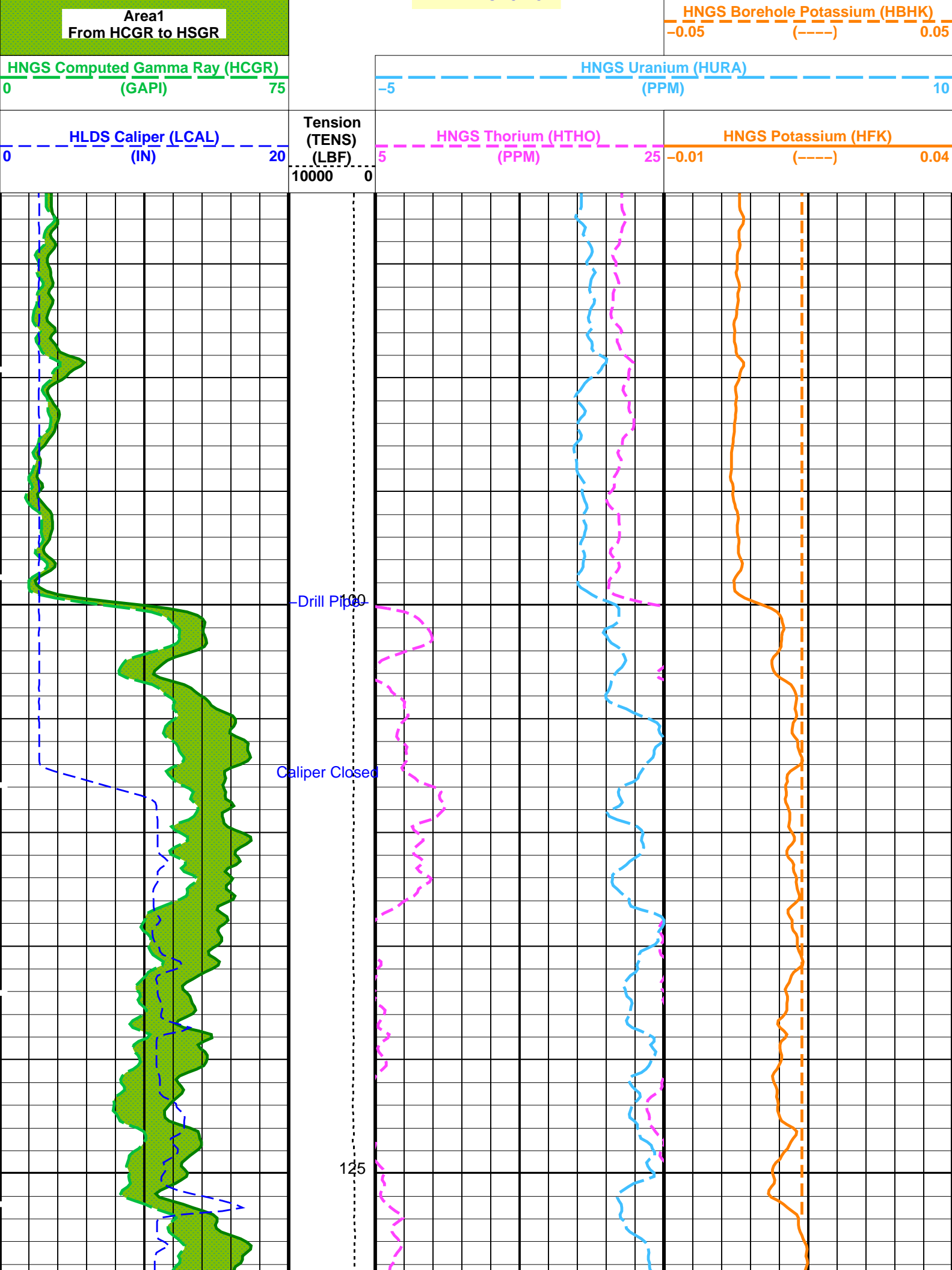
PIP SUMMARY

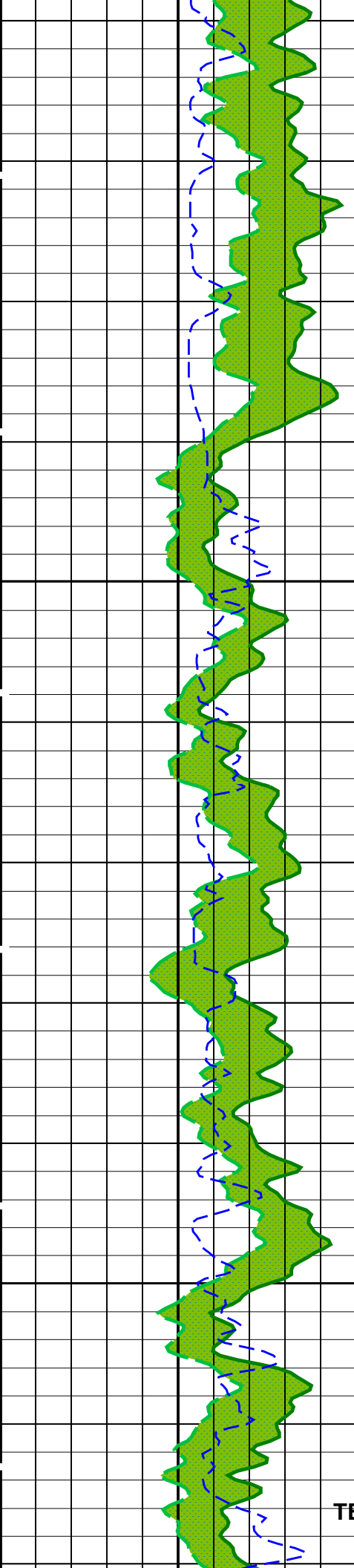
 Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)		
0	(GAPI)	75

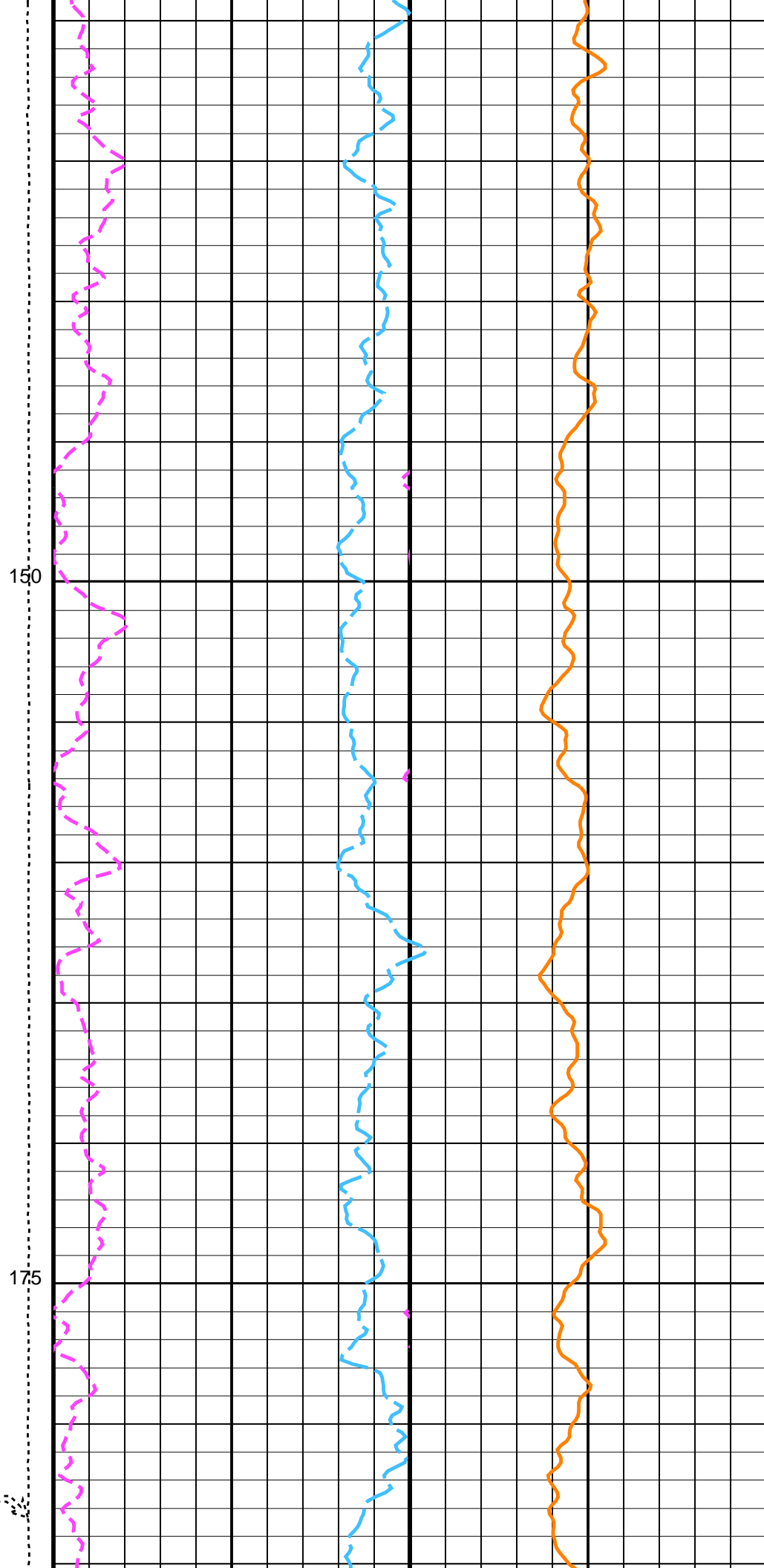
Sea Floor Depth Reference

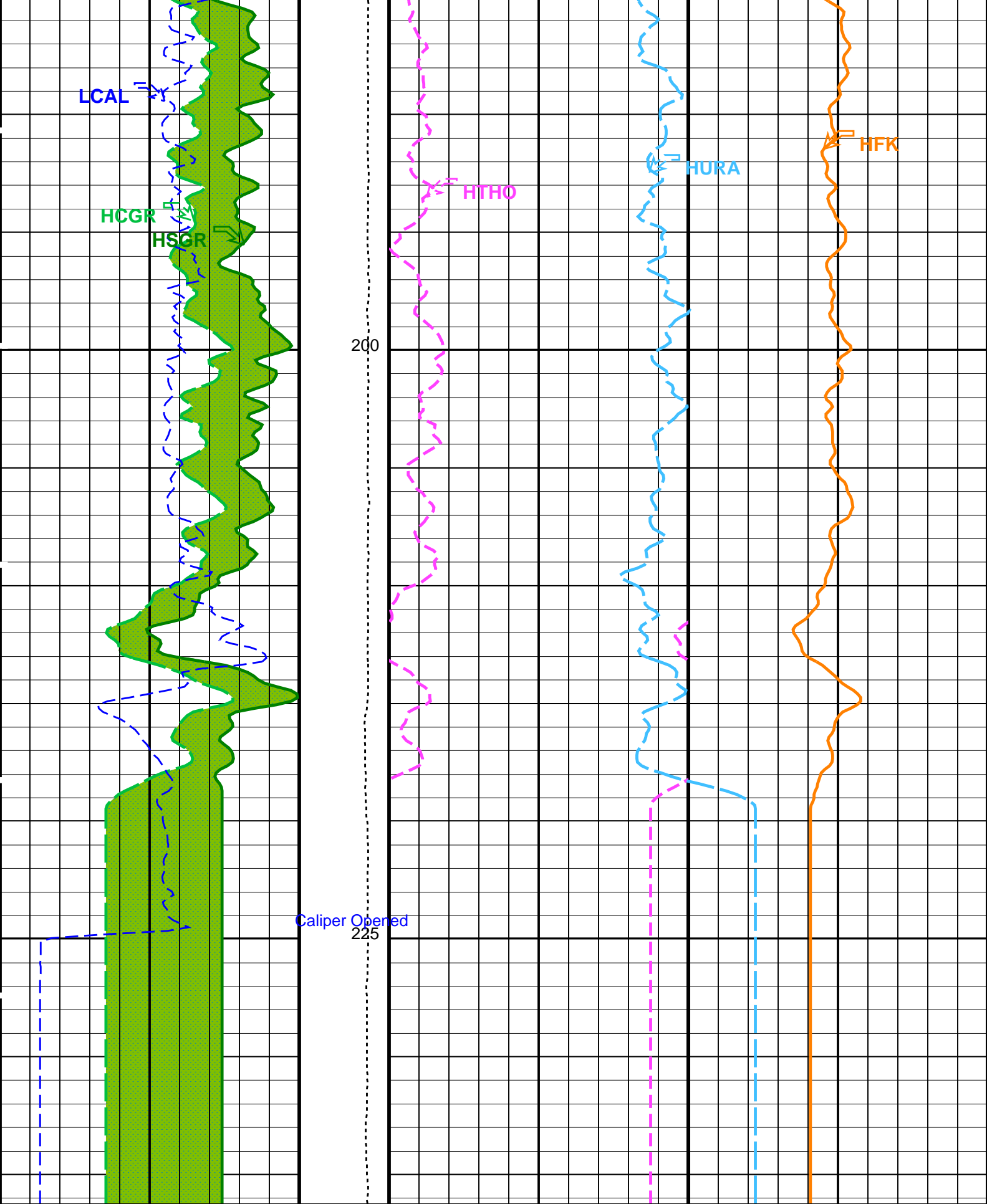
REPEAT SECTION





TENS





PIP SUMMARY

Time Mark Every 60 S

Parameters				
DLIS Name	Description	Value		
DIT-E: Dual Induction – E				
BHS	Borehole Status	OPEN		
GCSE	Generalized Caliper Selection	BS		
HN GS-BA: Hostile Natural Gamma Ray Sonde				
BAR1	HN GS Detector 1 Barite Constant	1		
BAR2	HN GS Detector 2 Barite Constant	1		
BHK	HN GS 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	HN GS Barite Constant Correction Flag	NONE		
GCSE	Generalized Caliper Selection	BS		
H1P	HN GS Detector 1 Allow/Disallow In Processing	ALLOW		
H2P	HN GS Detector 2 Allow/Disallow In Processing	ALLOW		
HABK	HN GS Borehole Potassium Running Average	-0.00489121		
HALF	HN GS Alpha Filter Length	60	IN	
HCRB	HN GS Apply Borehole Potassium Correction	NONE		
HMWM	Mud Weighting Material	NATU		
HNPE	HN GS Processing Enable	YES		
S1BI	HN GS Detector 1 Calibration Bismuth Count Rate	1.3	CPS	
S2BI	HN GS Detector 2 Calibration Bismuth Count Rate	1.3	CPS	
SGRC	HN GS Standard Gamma-Ray Correction Flag	YES		
TPOS	Tool Position	ECCE		
VBA1	HN GS Detector 1 Variable Barite Factor Running Average	1.28118		
VBA2	HN GS Detector 2 Variable Barite Factor Running Average	0.991398		
HRLT-B: High Resolution Laterolog Array – B				
BHS	Borehole Status	OPEN		
GCSE	Generalized Caliper Selection	BS		
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	1.25	G/C3	
DO	Depth Offset for Playback	-575.0	M	
PP	Playback Processing	NORMAL		

Format: HNGSYields

Vertical Scale: 1:200

Graphics File Created: 31-Dec-2011 06:32

OP System Version: 19C0-187			
DIT-E	19C0-187	DTA-A	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HN	19C0-187
HRLT-B	19C0-187	GS-BA	19C0-187
		EDTC-B	19C0-187

Input DLIS Files						
DEFAULT	PI_LDL_NGS_HRLA_012LUP	FN:15	PRODUCER	07-Dec-2011 23:47	811.5 M	656.7 M
Output DLIS Files						
DEFAULT	PI_LDL_NGS_HRLA_039PUP	FN:6	PRODUCER	31-Dec-2011 06:32		

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho–Density Sonde Wellsite Calibration – Background Measurement							
Master: Calibration out of date 16–Sep–2011 11:31	Before: 26–Nov–2011 0:20	After: Calibration not done					
SS Cs Resolution Bkg	9.000	7.738	7.637	N/A	N/A	1.800	%
LS Cs Resolution Bkg	9.000	8.115	7.989	N/A	N/A	1.800	%
LSW1 Background	100.0	90.00	87.28	N/A	N/A	0.03000	CPS
LSW2 Background	100.0	79.46	78.77	N/A	N/A	0.03000	CPS
LSW3 Background	200.0	182.4	178.8	N/A	N/A	0.03000	CPS
LSW4 Background	250.0	223.0	225.1	N/A	N/A	0.03000	CPS
LSW5 Background	600.0	526.1	523.2	N/A	N/A	0.03000	CPS
SSW1 Background	100.0	84.99	86.55	N/A	N/A	0.03000	CPS
SSW2 Background	200.0	147.1	147.2	N/A	N/A	0.03000	CPS
SSW3 Background	500.0	413.1	412.9	N/A	N/A	0.03000	CPS
SSW4 Background	270.0	220.0	219.5	N/A	N/A	0.03000	CPS
SSW5 Background	200.0	157.9	158.0	N/A	N/A	0.03000	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Aluminum Measurement							
Master: Calibration out of date 16–Sep–2011 11:31							
LSW1 Aluminum	600.0	554.8	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	809.5	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	975.9	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	495.9	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	452.5	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2638	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7210	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10070	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4124	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	502.8	N/A	N/A	N/A	N/A	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Lithology Measurement							
Master: Calibration out of date 16–Sep–2011 11:31							
LSW1 Iron	400.0	383.3	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	664.3	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	884.0	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	466.3	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	427.8	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1972	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	6170	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9403	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3878	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	460.6	N/A	N/A	N/A	N/A	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Caliper Calibration							
Before: 26–Nov–2011 0:25							
HLDS Caliper Small Ring	11.88	N/A	14.04	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	17.89	N/A	N/A	N/A	IN
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check							
Master: 17–Nov–2011 7:57	Before: 26–Nov–2011 0:21						
Na 511 Peak Loc	40.00	39.70	39.69	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.50	15.07	N/A	N/A	2.000	%
High Voltage	1150	1176	1168	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.1	141.8	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.309	8.731	N/A	N/A	2.000	%
Temperature	15.50	29.76	21.55	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	20.77	21.01	N/A	N/A	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check							
Master: 17–Nov–2011 7:57	Before: 26–Nov–2011 0:21						
Na 511 Peak Loc	40.00	39.60	39.49	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.99	15.91	N/A	N/A	2.000	%
High Voltage	1150	1109	1091	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.6	142.3	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.914	8.591	N/A	N/A	2.000	%
Temperature	15.50	29.91	21.84	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	21.44	20.97	N/A	N/A	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2							
Master: 17–Nov–2011 7:57	Before: 26–Nov–2011 0:21						
Coincidence Count Rate Ratio	1.000	0.9705	1.004	N/A	N/A	0.05000	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration							
Master: 17–Nov–2011 7:52							
Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.8	--	--	--	--	
Th Peak Res	7.000	6.865	--	--	--	--	%
Background Count Rate	142.5	24.91	--	--	--	--	CPS
Gain Ratio	1.000	1.010	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration

Master: 17–Nov–2011 7:52

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.5	--	--	--	--	
Th Peak Res	7.000	6.879	--	--	--	--	%
Background Count Rate	142.5	24.15	--	--	--	--	CPS
Gain Ratio	1.000	1.001	--	--	--	--	

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M01

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT M0–M1 Voltage Plus – 0	0	N/A	–319.6	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 1	0	N/A	–335.3	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 2	0	N/A	–335.7	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 3	0	N/A	–339.0	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 4	0	N/A	–326.6	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 5	0	N/A	–322.5	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 6	0	N/A	326.9	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 7	0	N/A	–322.7	N/A	N/A	9.681	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M12

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT M1–M2 Voltage Plus – 0	0	N/A	1757	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 1	0	N/A	1842	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 2	0	N/A	1840	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 3	0	N/A	1858	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 4	0	N/A	1792	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 5	0	N/A	1771	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 6	0	N/A	–1804	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M23

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT M2–M3 Voltage Plus – 0	0	N/A	1743	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 1	0	N/A	1841	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 2	0	N/A	1840	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 3	0	N/A	1862	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 4	0	N/A	1788	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 5	0	N/A	1769	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 6	0	N/A	–1792	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V34

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT A3–A4 Voltage Plus – 0	0	N/A	68510	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 1	0	N/A	72130	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 2	0	N/A	72370	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 3	0	N/A	73500	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 4	0	N/A	70580	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 5	0	N/A	69830	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 6	0	N/A	–69190	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V45

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT A4–A5 Voltage Plus – 0	0	N/A	68780	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 1	0	N/A	72490	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 2	0	N/A	72730	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 3	0	N/A	73850	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 4	0	N/A	70870	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 5	0	N/A	70100	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 6	0	N/A	–69560	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V56

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT A5–A6 Voltage Plus – 0	0	N/A	68680	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 1	0	N/A	72210	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 2	0	N/A	72490	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 3	0	N/A	73650	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 4	0	N/A	70740	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 5	0	N/A	69990	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 6	0	N/A	–69290	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT VTP

Before: 7–Dec–2011 19:08 After: Calibration not done

HRLT Torpedo–M0 Voltage – 0	0	N/A	–68390	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 1	0	N/A	–72590	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 2	0	N/A	–72820	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 3	0	N/A	–73990	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 4	0	N/A	–70980	N/A	N/A	2100	UV

HRLT Torpedo-M0 Voltage - 5	0	N/A	-70170	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	69590	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD

Before: 7-Dec-2011 19:08 After: Calibration not done

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68370	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-72550	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-72800	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-73940	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70940	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70160	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	69560	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO

Before: 7-Dec-2011 19:08 After: Calibration not done

HRLT Source Current Plus - 0	0	N/A	285.0	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA

High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV

Before: 7-Dec-2011 19:08 After: Calibration not done

HRLT Vertical Voltage PI - 0	0	N/A	-322.0	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-329.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-329.2	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-330.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-316.0	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-327.2	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	334.1	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV

Enhanced DTS Cartridge Wellsite Calibration - EDTC Accelerometer Calibration

Before: 7-Dec-2011 19:06

EDTC Z-Axis Acceleration	9.810	N/A	9.822	N/A	N/A	N/A	M/S2
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Enhanced DTS Cartridge Wellsite Calibration - Detector Calibration

Before: Calibration out of date 26-Nov-2011 0:18 After: Calibration not done

Gamma Ray (Jig - Bkg)	163.8	N/A	163.8	N/A	N/A	0.09091	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	N/A	N/A	15.00	GAPI

Dual Induction - E / Equipment Identification

Primary Equipment:

Dual Induction Sonde	DIS - HB	129
Dual Induction Cartridge	DIC - EB	171

Auxiliary Equipment:

Mass Isolated Housing	MIH - ZA	342
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Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:

Hostile Litho Density Sonde	HLDS - D	45
Hostile Litho Density High Voltage	HLDV - D	45
Gamma Source Radioactive	GSR - Z	2397

Auxiliary Equipment:

Hostile Litho Density Pad	HLDP - C	45
Hostile Litho Density High Voltage Housi	HEH - H	47

Litho-Density Spectroscopy Cartridge - B / Equipment Identification

Primary Equipment:

LDSC Cartridge	LDSC - B	521
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Auxiliary Equipment:

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification

Primary Equipment:
HNGC Cartridge

HNGC – B 300

Auxiliary Equipment:
HNGC Housing

HNGH – A 115

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:
HNGS Sonde

HNGS – BA 194

Auxiliary Equipment:
HNGS Sonde Housing
Gamma Source RadioactiveHNSH – BA 205
GSR – U 616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value	
Master			39.70	Master			15.50	Master			1176	
Before			39.69	Before			15.07	Before			1168	
37.50 (Minimum)			40.00 (Nominal)	12.00 (Minimum)			15.50 (Nominal)	900.0 (Minimum)			1150 (Nominal)	1600 (Maximum)
				19.00 (Maximum)								
Phase	Na 1785 Peak Loc		Value	Phase	Na 1785 Peak Res %		Value	Phase	Temperature DEGC		Value	
Master			142.1	Master			8.309	Master			29.76	
Before			141.8	Before			8.731	Before			21.55	
135.0 (Minimum)			142.6 (Nominal)	7.000 (Minimum)			8.500 (Nominal)	-28.89 (Minimum)			15.50 (Nominal)	60.00 (Maximum)
				11.00 (Maximum)								
Phase	Na Count Rate CPS		Value									
Master			20.77									
Before			21.01									
10.00 (Minimum)			45.00 (Nominal)									100.0 (Maximum)
Master: 17–Nov–2011 7:57				Before: 26–Nov–2011 0:21								

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check




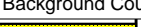

Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value	
Master			39.60	Master			16.99	Master			1109	
Before			39.49	Before			15.91	Before			1091	
37.50 (Minimum)			40.00 (Nominal)	12.00 (Minimum)			15.50 (Nominal)	900.0 (Minimum)			1150 (Nominal)	1600 (Maximum)
43.50 (Maximum)				19.00 (Maximum)				1600 (Maximum)				
Phase	Na 1785 Peak Loc		Value	Phase	Na 1785 Peak Res %		Value	Phase	Temperature DEGC		Value	
Master			142.6	Master			9.914	Master			29.91	
Before			142.3	Before			8.591	Before			21.84	
135.0 (Minimum)			142.6 (Nominal)	7.000 (Minimum)			8.500 (Nominal)	-28.89 (Minimum)			15.50 (Nominal)	60.00 (Maximum)
150.3 (Maximum)				11.00 (Maximum)				60.00 (Maximum)				
Phase	Na Count Rate CPS		Value									
Master			21.44									
Before			20.97									
10.00 (Minimum)			45.00 (Nominal)									100.0 (Maximum)
Master: 17–Nov–2011 7:57				Before: 26–Nov–2011 0:21								






Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
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Phase	Confidence Count Rate Rate	Value
Master		0.9705
Before		1.004
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 17-Nov-2011 7:57		
Before: 26-Nov-2011 0:21		

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 1 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master				41.00	Master				210.8	Master				6.865
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)			
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master				24.91	Master				1.010					
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)							
Master: 17-Nov-2011 7:52														

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 2 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master				41.00	Master				208.5	Master				6.879
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)			
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master				24.15	Master				1.001					
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)							
Master: 17-Nov-2011 7:52														

High Resolution Laterolog Array – B / Equipment Identification		
Primary Equipment:		
HRLT Sonde	HRLS – B	969
Auxiliary Equipment:		
HRLT lower Housing	HRLH – B	759
HRLT Lower Cartridge	HRLC – B	759
HRLT upper Housing	HRLH – B	769
HRLT Upper Cartridge	HRUC – B	769

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

Company: **Lamont Doherty**

Well: **Expedition 339, Site U1386 GC-01A**

Schlumberger

Field: **Mediterranean Outflow (Portugal)**
Rig: **JOIDES Resolution**
Ocean: **Atlantic**

Hostile Natural Gamma Ray
Spectroscopy