

Schlumberger

Company: **Lamont Doherty Earth Observatory**

Well: **Expedition 341, Site U1417E**

Field: **Southern Alaska Margin Tectonics**

Rig: **JOIDES Resolution** Ocean: **Pacific**

Hostile Natural Gamma Sonde (HNGS) Spectroscopy Log

Rig: JOIDES Resolution
Field: Southern Alaska Margin Tectonic
Location: Latitude: N 56* 57.5888'
Well: Expedition 341, Site U1417E
Company: Lamont Doherty Earth Observatory

LOCATION	Latitude: N 56* 57.5888'	Elev.: K.B. -4200.00 m
	Longitude: W 147* 6.5983'	G.L. 0.00 m
		D.F. -4200.00 m
	Permanent Datum: Mean Sea Level	Elev.: 0.00 m
	Log Measured From: Drill Floor	-4200.00 m above Perm. Datum
	Drilling Measured From: Drill Floor	
	API Serial No.	Max. Hole Devi. 0 deg
		Longitude W 147.1099
		Latitude N 56.9598

Logging Date	21-Jun-2013
Run Number	1
Depth Driller	709.5 m
Schlumberger Depth	624 m
Bottom Log Interval	624 m
Top Log Interval	0 m
Casing Driller Size @ Depth	5.500 in @ 81 m
Casing Schlumberger	84 m
Bit Size	9.875 in
Type Fluid In Hole	Seawater
MUD Density	1.03 g/cm3
MUD Viscosity	
MUD Fluid Loss	PH
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 @ 14 @ 14 @ @
Maximum Recorded Temperatures	14 degC
Circulation Stopped	Time 20-Jun-2013 19:30
Logger On Bottom	Time 21-Jun-2013 2:30
Unit Number	Location 625003 Houston
Recorded By	K. Swain
Witnessed By	A. Slagle, L. Drab

	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			
MUD Viscosity			
MUD Fluid Loss	PH		
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF	RMC		
RM @ MRT	RMF @ MRT @ @		
Maximum Recorded Temperatures			
Circulation Stopped	Time		
Logger On Bottom	Time		
Unit Number	Location		
Recorded By			
Witnessed By			

DISCLAIMER
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OTHER SERVICES1
 OS1: FMS
 OS2: DSI
 OS3: MSS
 OS4: VSI
 OS5: HRLA/HLDS/APS

OTHER SERVICES2
 OS1:
 OS2:
 OS3:
 OS4:
 OS5:

REMARKS: RUN NUMBER 1
 Hole drilled with RCB coring bit and bottom hole assembly (BHA). 9 7/8" BS
 Lamont Magnetic Susceptibility (MSS) tool run in combination with HRLA/HLDS/HNGS
 2 knuckle joints decouple the eccentered HLDS and HNGS from the centered HRLA
 and MSS. A thru wired ECH-MRA separates the 2 knuckles for added capability.
 2 MCD (mechanical Caliper Device) centralizers run with HRLA.
 LDEO-MSS tool run below HRLA consisting of a deep reading sensor only with the
 electronics cartridge and ELIC.
 RCB coring bit released on bottom of hole prior to logging to allow
 wireline tools to pass out of drill collars/pipe into open hole.
 APS activation of pipe at drill pipe up to 70 m causes GR to be high due
 to previous 1st run with APS as drill pipe requires more time to equilibrate
 once activated.

REMARKS: RUN NUMBER 2

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

RUN 2		
SERVICE ORDER #:		
PROGRAM VERSION:		
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP





EQUIPMENT DESCRIPTION

RUN 1

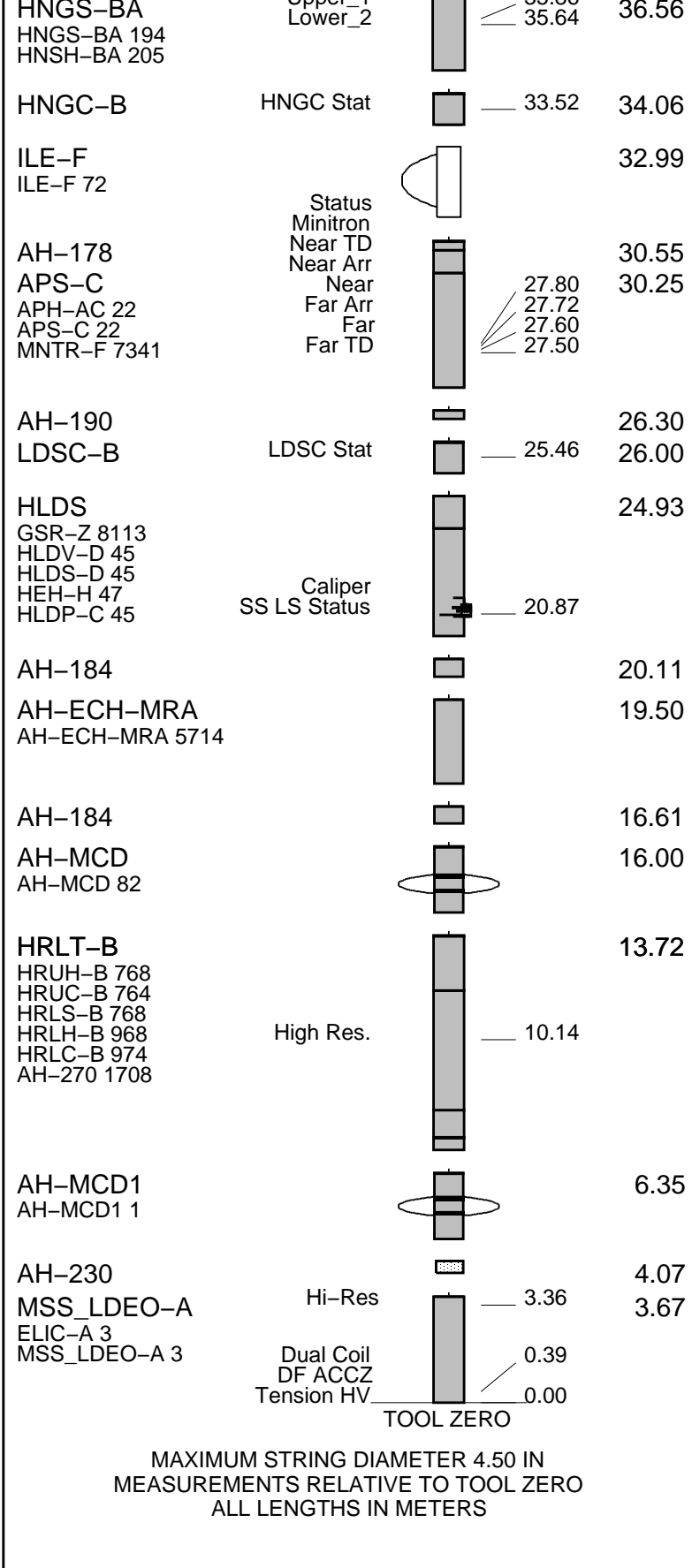
SURFACE EQUIPMENT

SFT-281 1
 SFT-178 1
 GSR-U 616008
 WITM (EDTS)-A 1

DOWNHOLE EQUIPMENT

LEH-MT 101	MDSB_EDTC		38.54	39.93
	Mud Tempe		37.47	
AH-369	CTEM		36.90	38.97
EDTC-B	Gamma Ray		38.54	
EDTH-B 8303	EFTB DIAG		36.56	
EDTC-B 8317	TelStatus		35.86	
	EDTCB Ele			
	Inner 1			

RUN 2



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

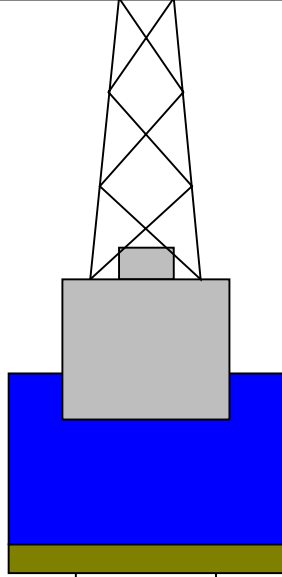
Kelly Bushing Elevation
Derrick Floor Elevation

Mean Sea Level

-4200

-4200

-4189



4.1



0

84

624

4.1

9.875

Sea Floor

Open Hole

Total Depth

Input DLIS Files

23-Jun-2013 13:19

Output DLIS Files

DEFAULT MSS_LDEO_HRLA_LDL_077PUP FN:101 PRODUCER 23-Jun-2013 14:28 628.6 M -11.6 M

OP System Version: 19C0-187

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	BS	628.6 14:28:29

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray
(HSGR)

0 (GAPI) 75

1st Pass, Sea Floor Depth Reference

Area1
From HCGR to HSGR

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

HNGS Computed Gamma Ray (HCGR)
 (GAPI)

0 75

Calibrated Downhole Force (CDF) (LBF)

3000 0

HNGS Uranium (HURA)
 (PPM)

-5 10

HLDS Caliper (LCAL)
 (IN)

0 20

Tension (TENS) (LBF)

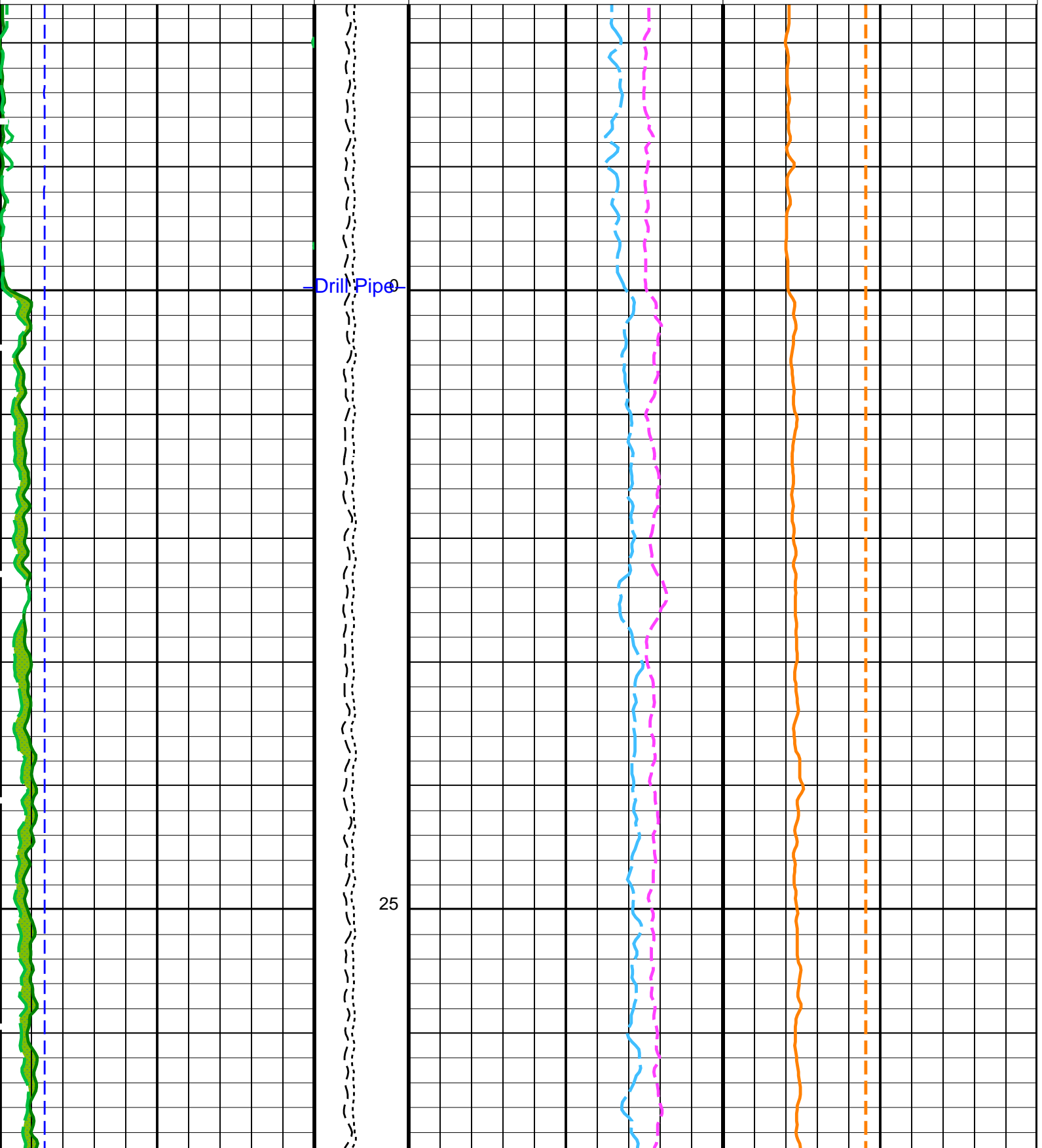
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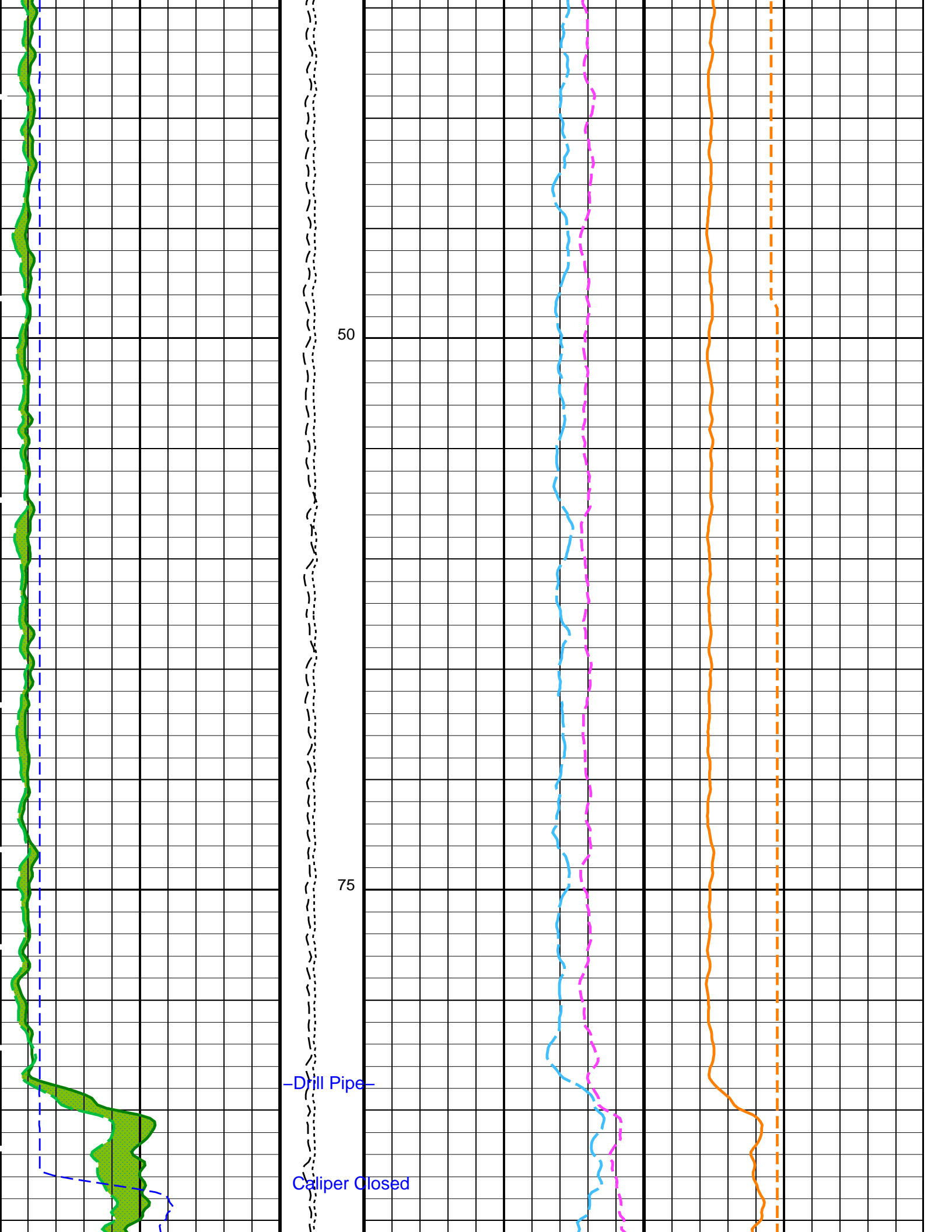
HNGS Thorium (HTHO)
 (PPM)

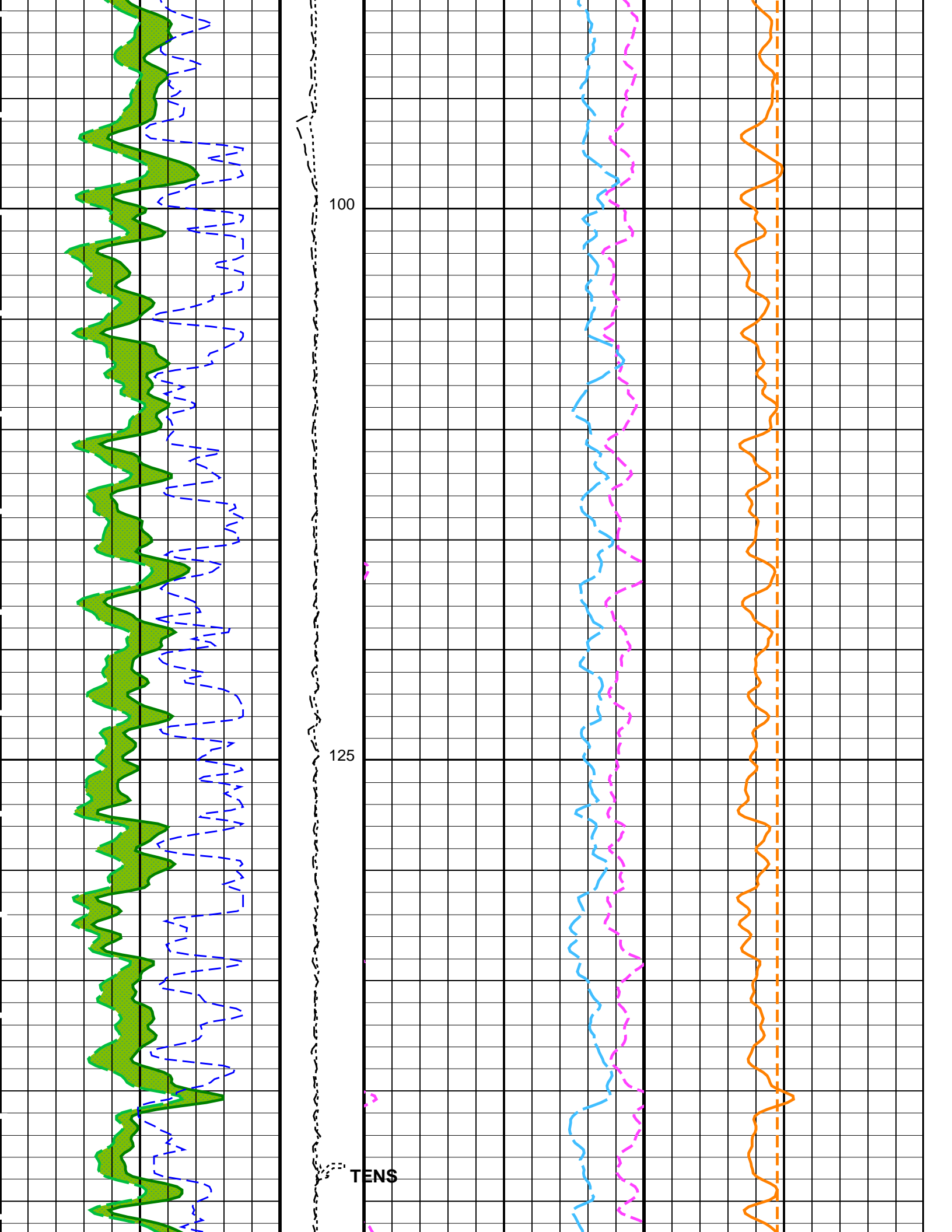
5 25

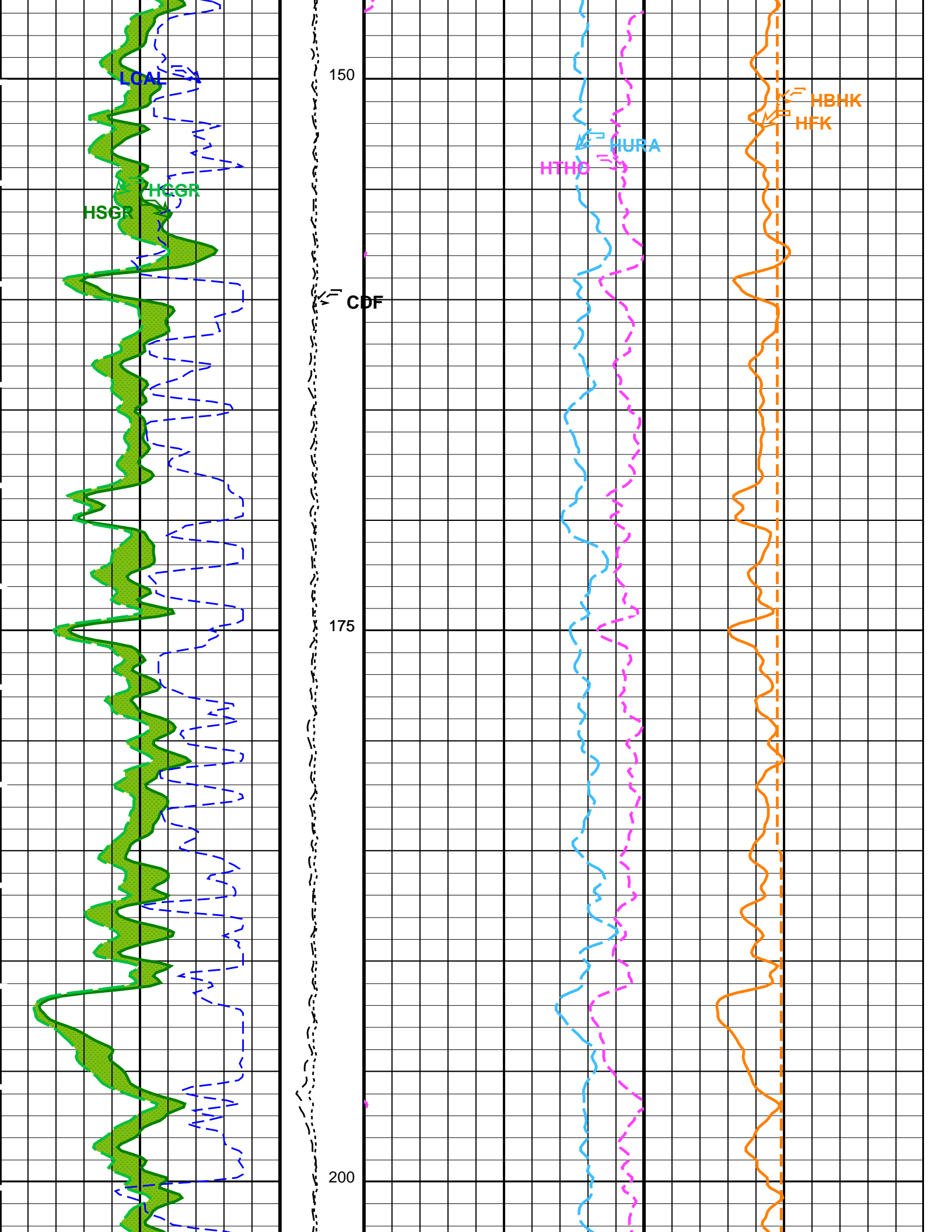
HNGS Potassium (HFK)
 (-----)

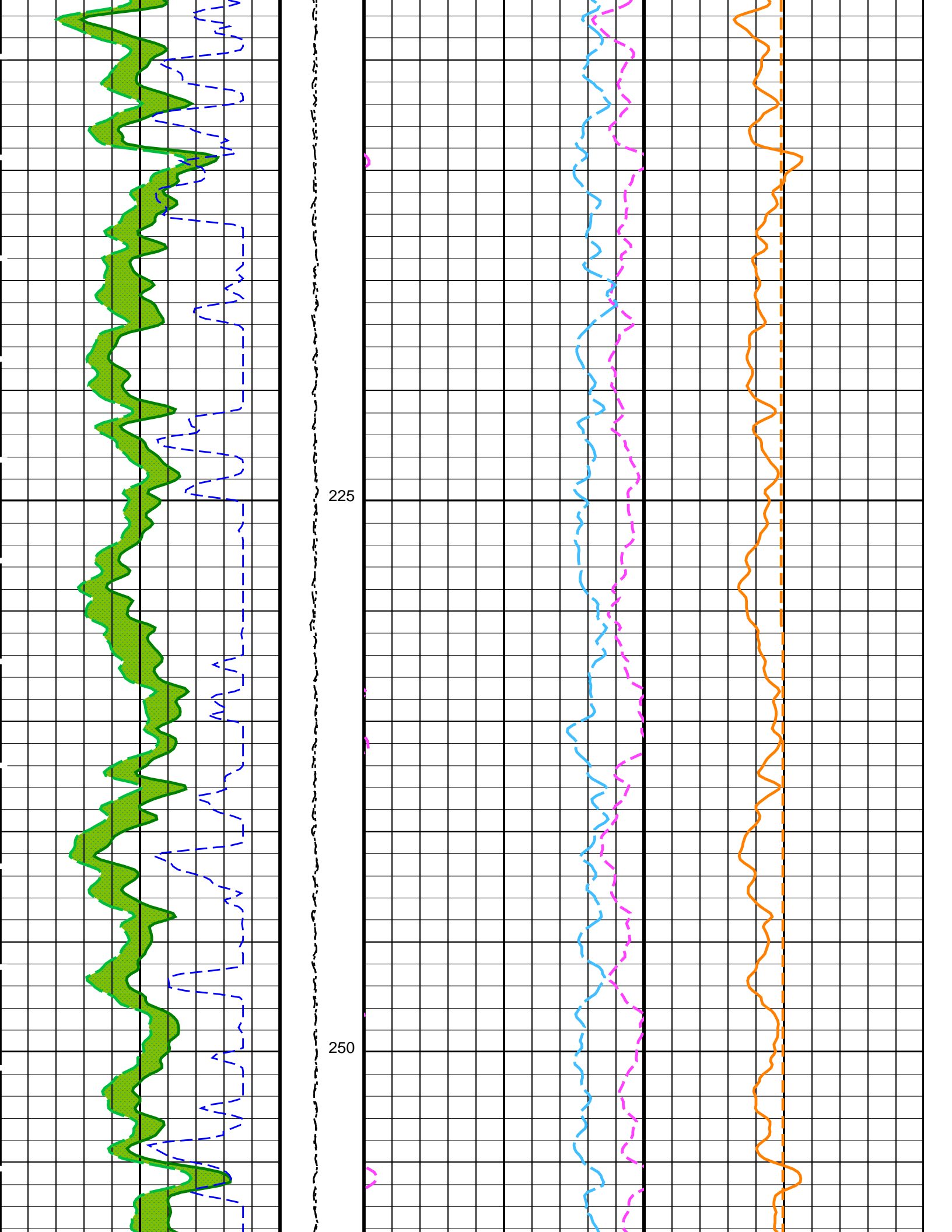
-0.01 0.04

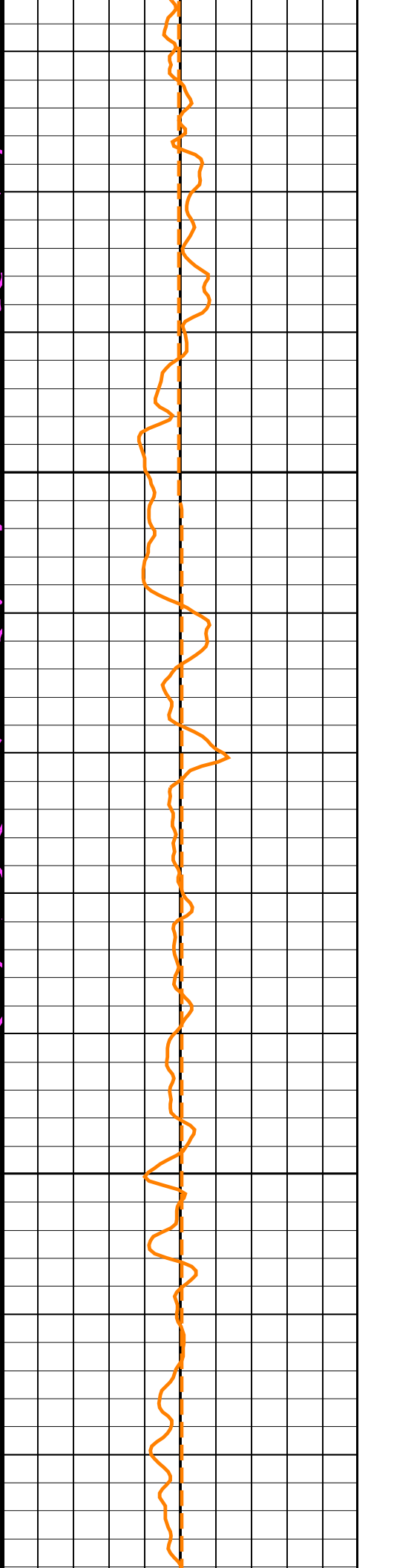
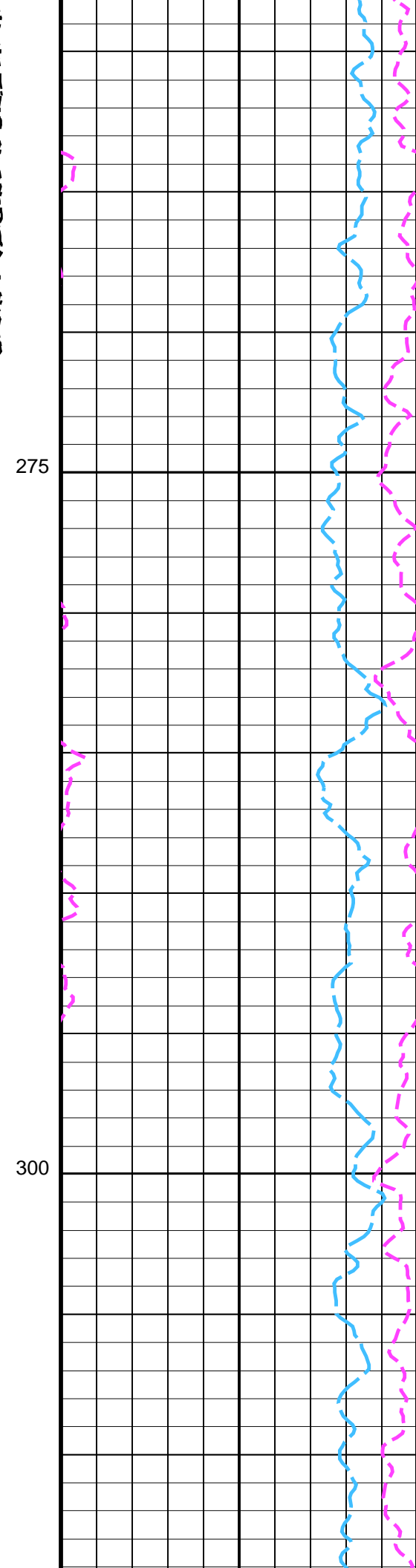
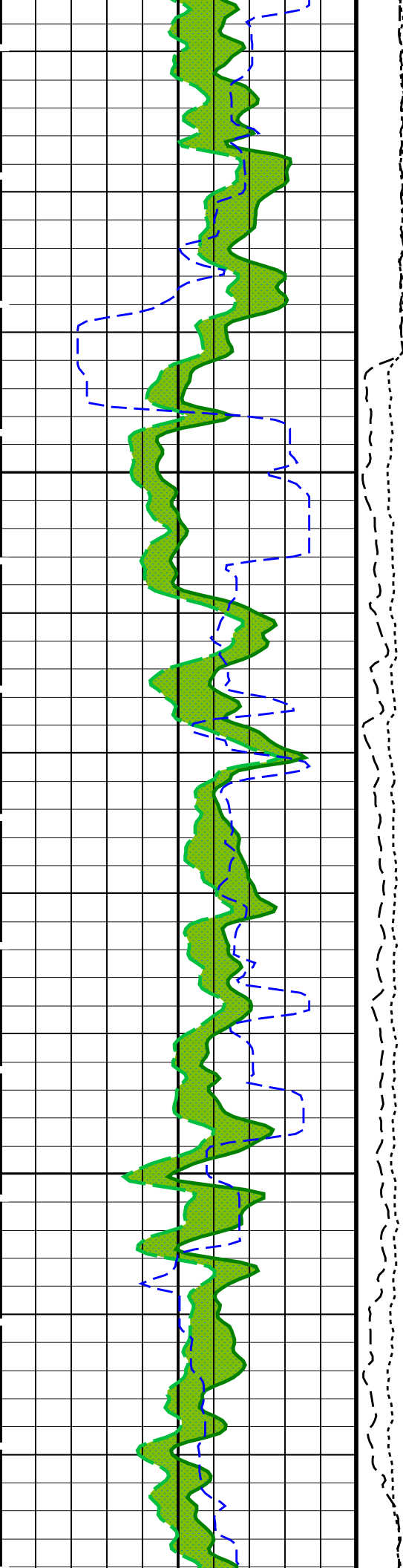


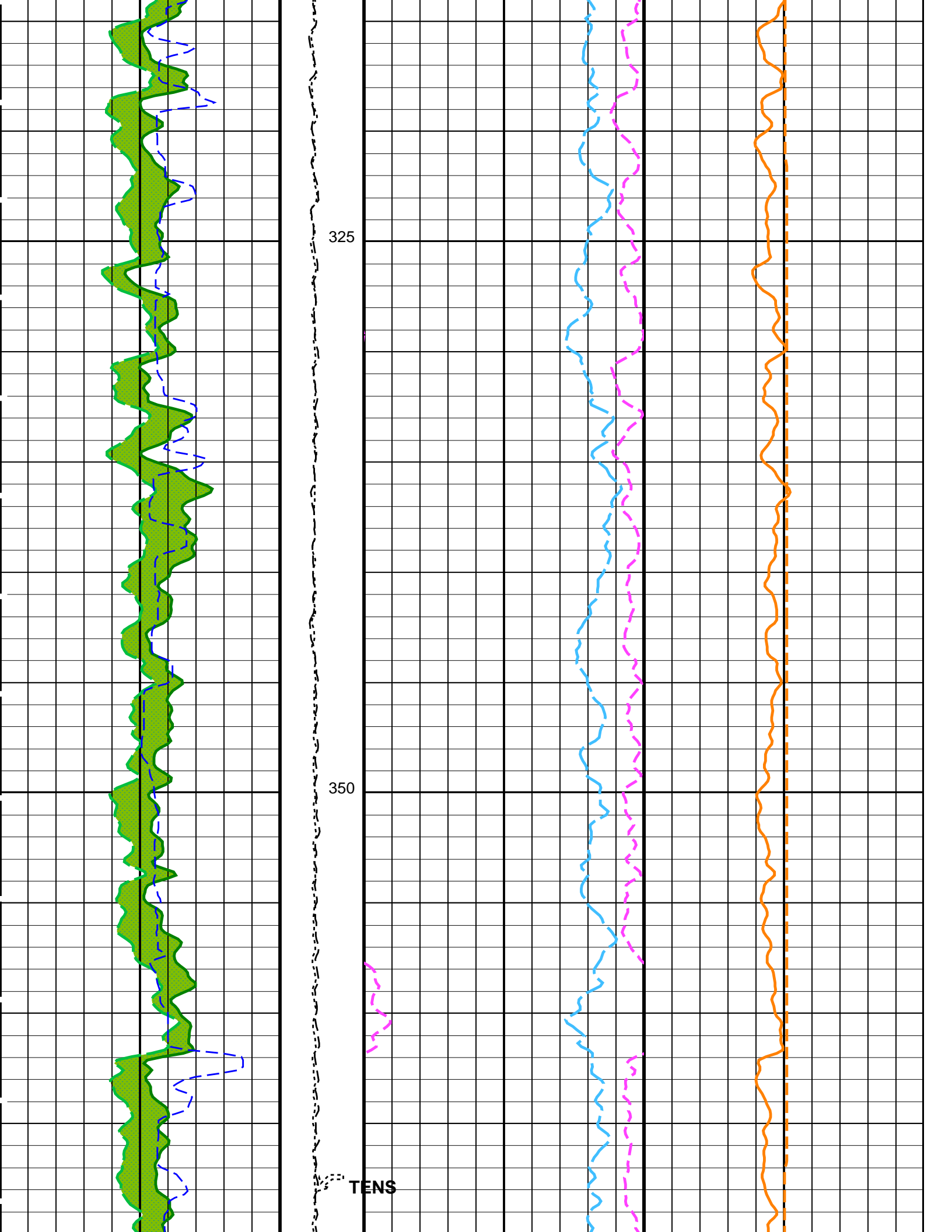


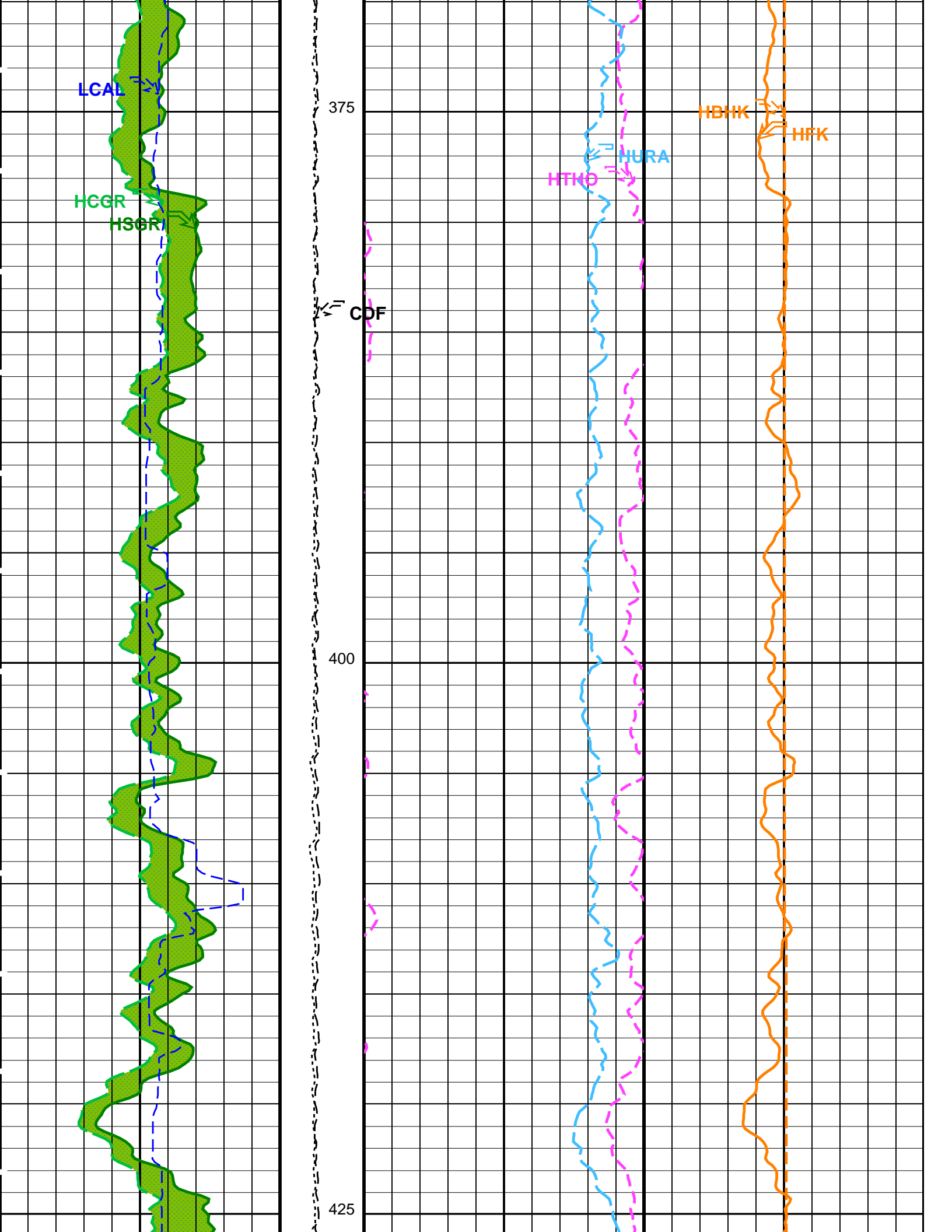


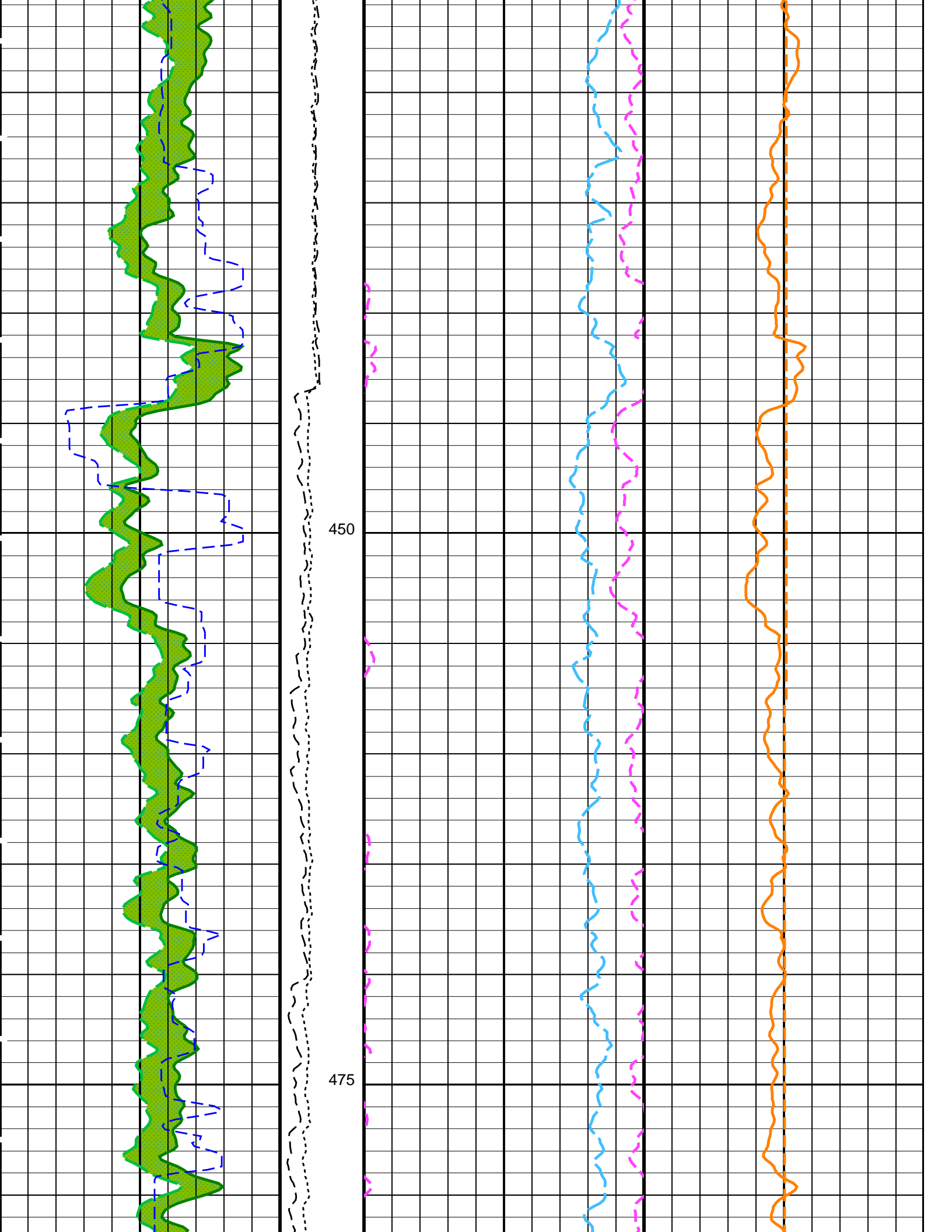


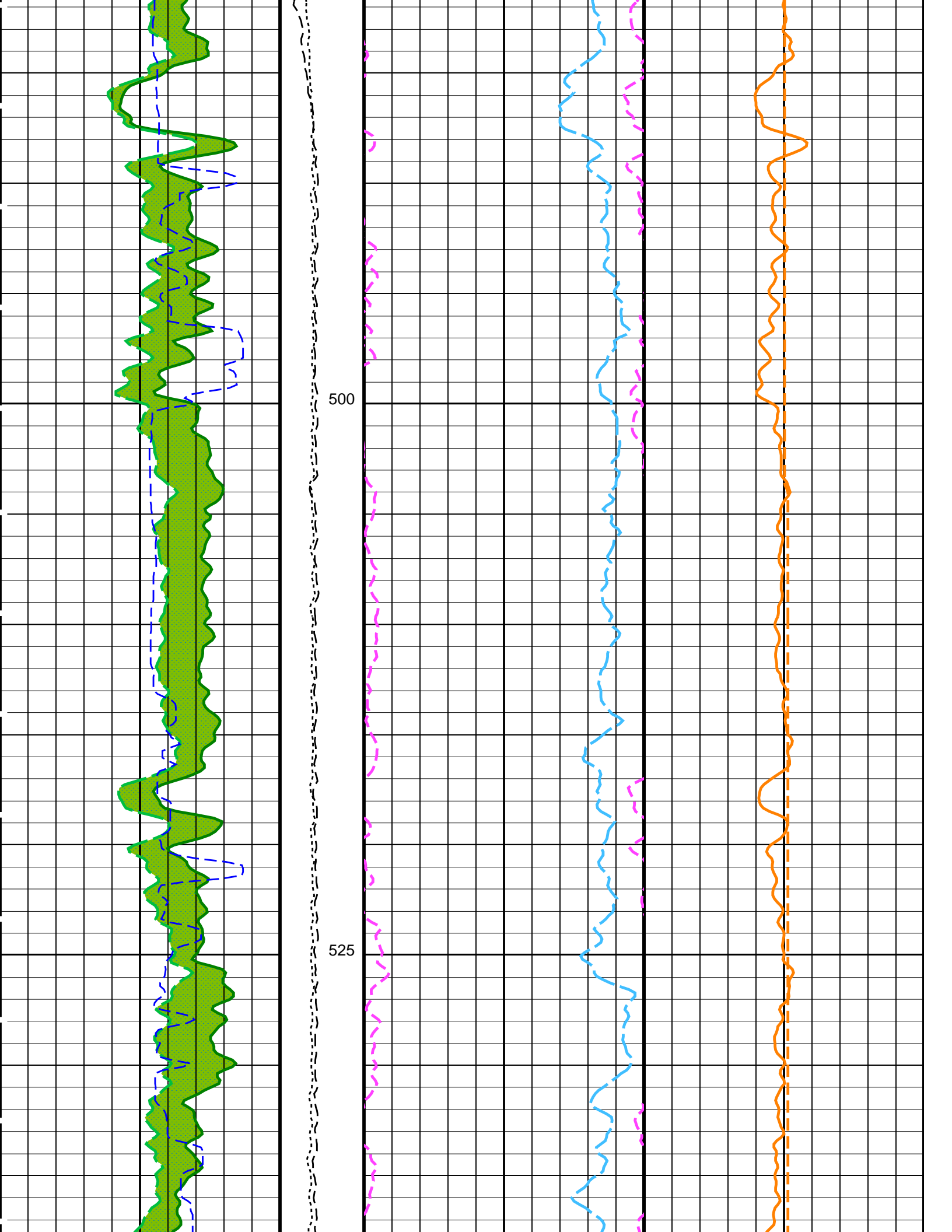


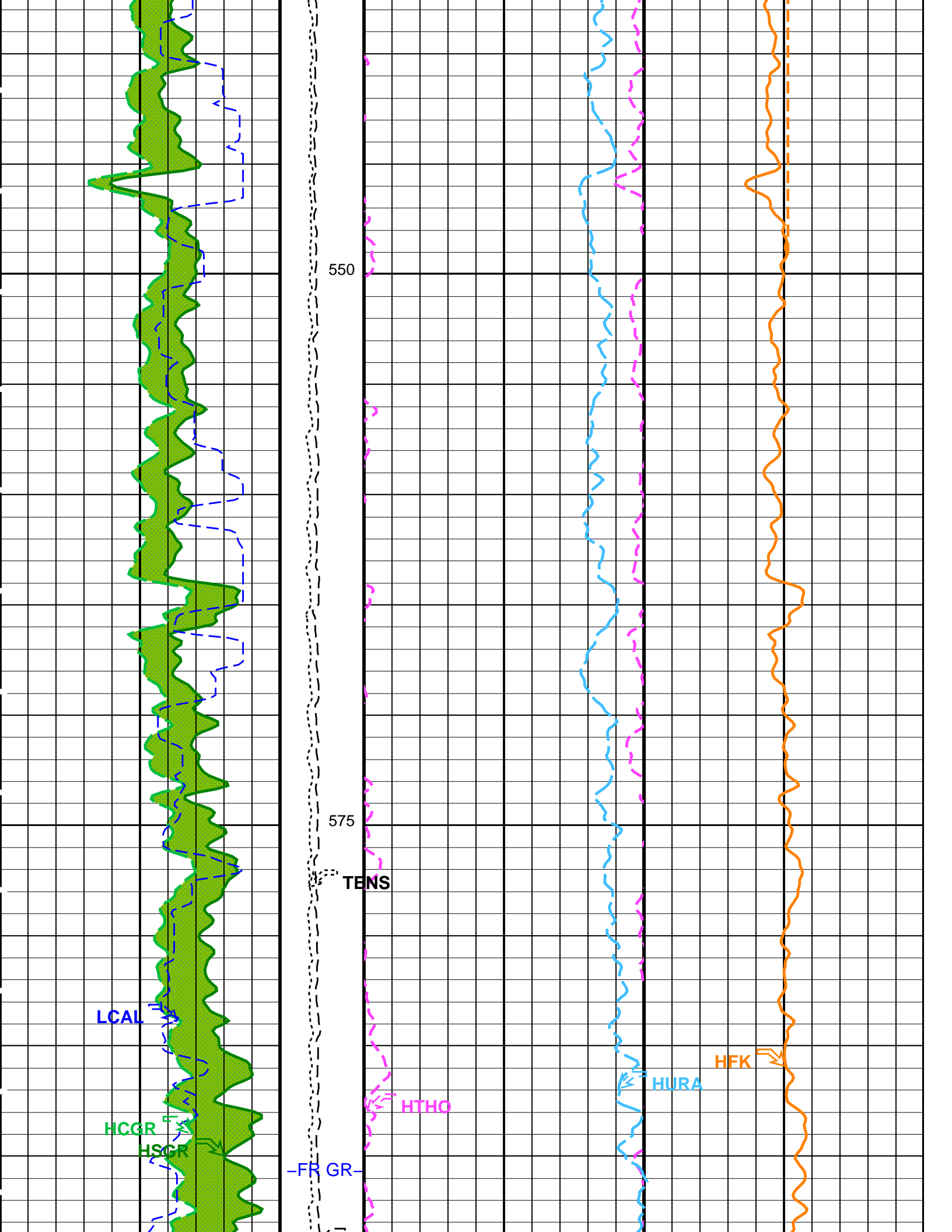


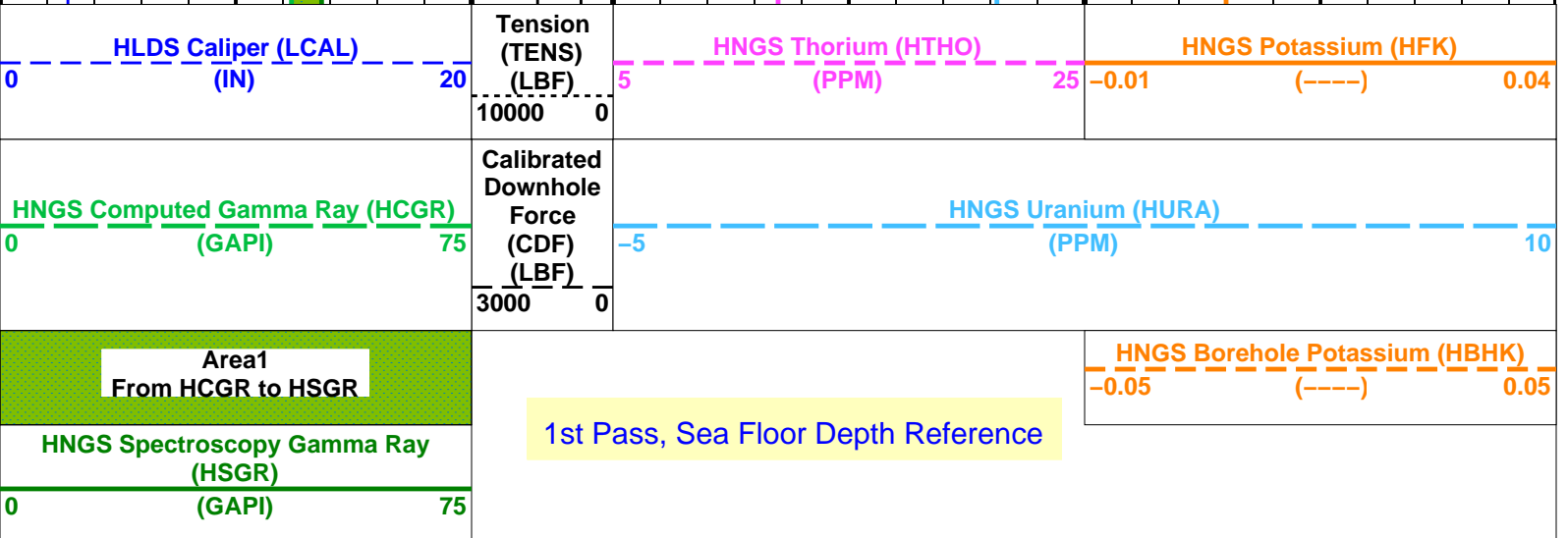
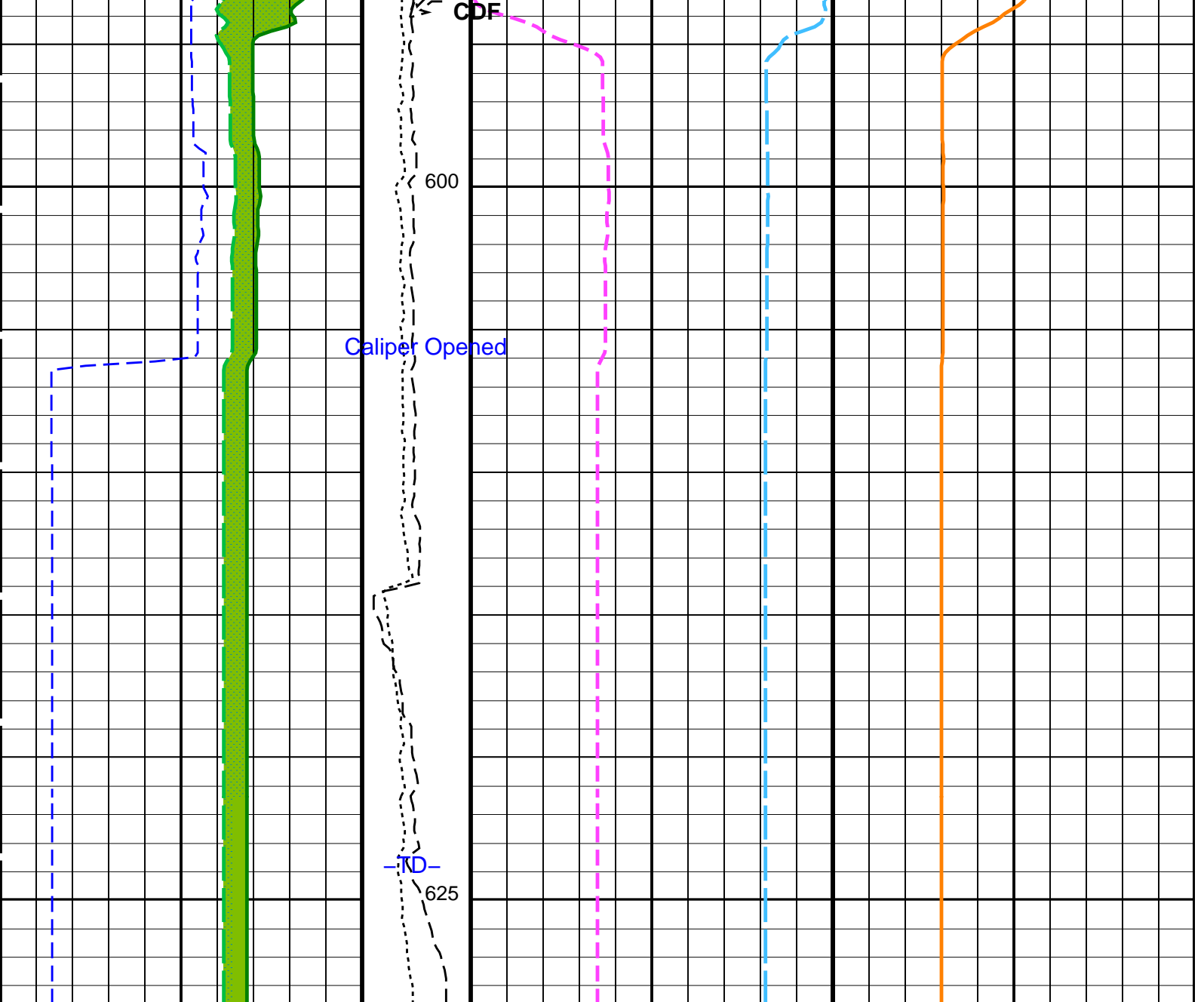












PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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HPLT_B: High Resolution Laterolog Array - B

BHS	HRLT-B: High Resolution Laterolog Array - B	Borehole Status	OPEN	
GCSE		Generalized Caliper Selection	BS	
	APS-C: Accelerator-Porosity Tool			
BHS		Borehole Status	OPEN	
GCSE		Generalized Caliper Selection	BS	
	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	-0.00219827	
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	1.00701	
VBA2		HNGS Detector 2 Variable Barite Factor Running Average	0.994333	
	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	1.03	G/C3
DO		Depth Offset for Playback	-4200.0	M
PP		Playback Processing	OFF	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 23-Jun-2013 14:28

OP System Version: 19C0-187

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Input DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_075PUP	FN:99	PRODUCER	23-Jun-2013 13:19	4828.0 M	4188.4 M
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Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_077PUP	FN:101	PRODUCER	23-Jun-2013 14:28		
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Input DLIS Files

MSS_LDEO_HRLA_LDL_076PUP	FN:100	23-Jun-2013 13:21	4423.4 M	4265.1 M
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Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_078PUP	FN:102	PRODUCER	23-Jun-2013 14:30	224.0 M	65.1 M
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Speed Corrected Depth Log

OP System Version: 19C0-187

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Changed Parameter Summary

DLIS Name

New Value

Previous Value

Depth & Time

GCSE

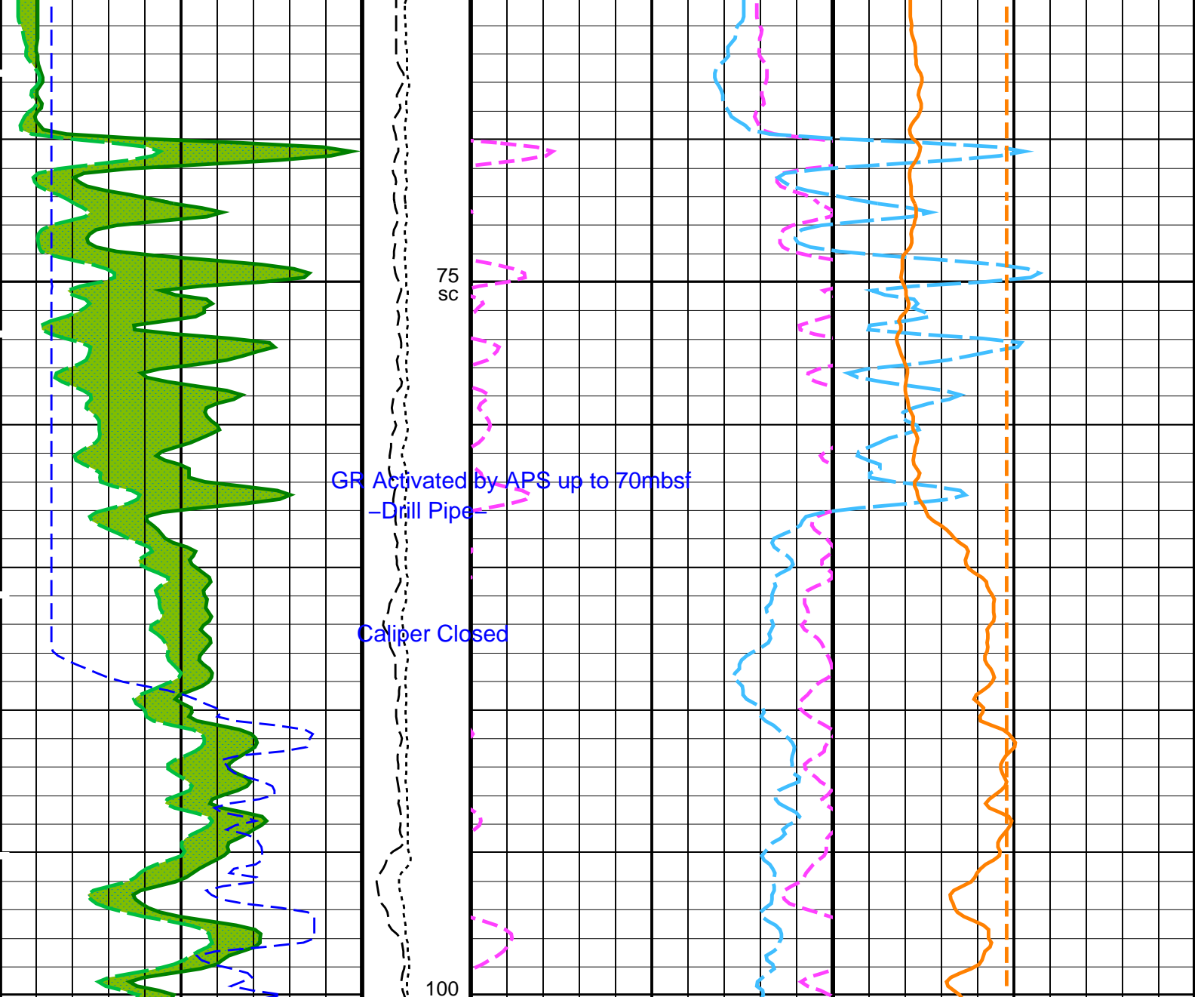
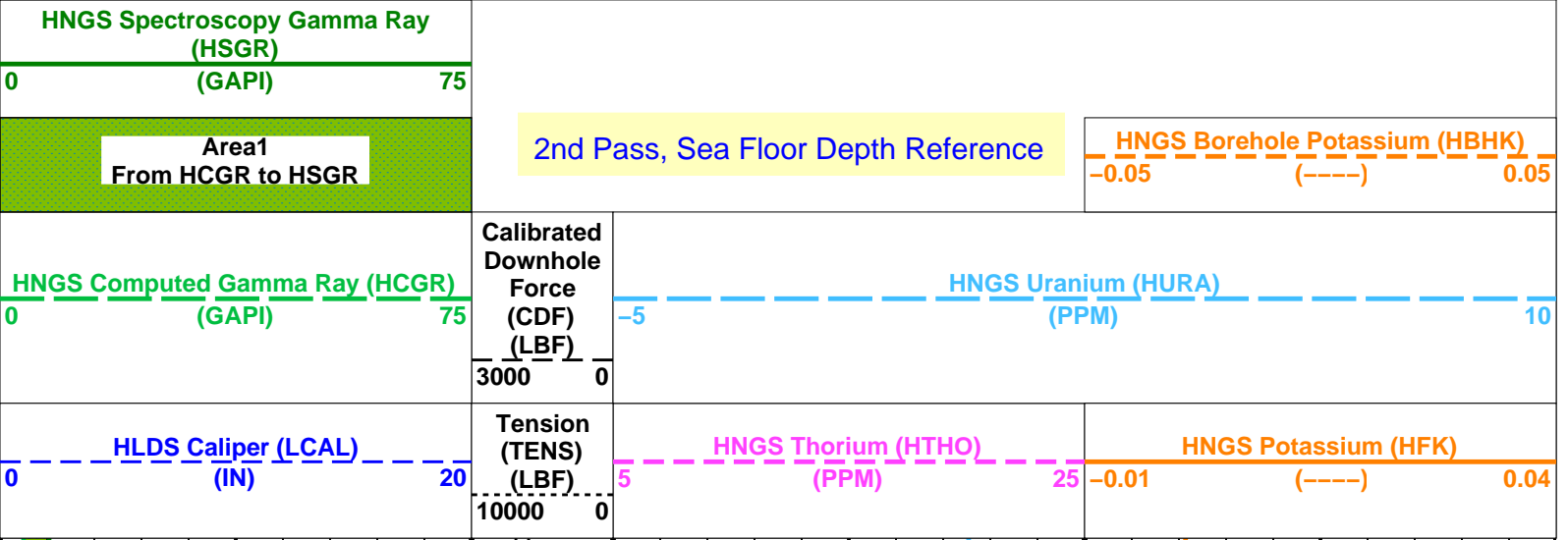
BS

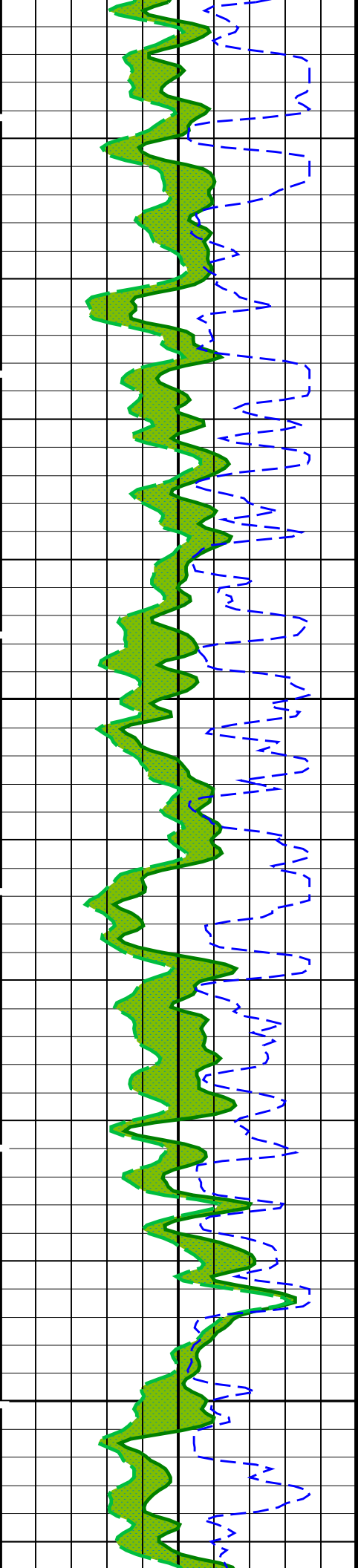
BS

224.0 14:30:40

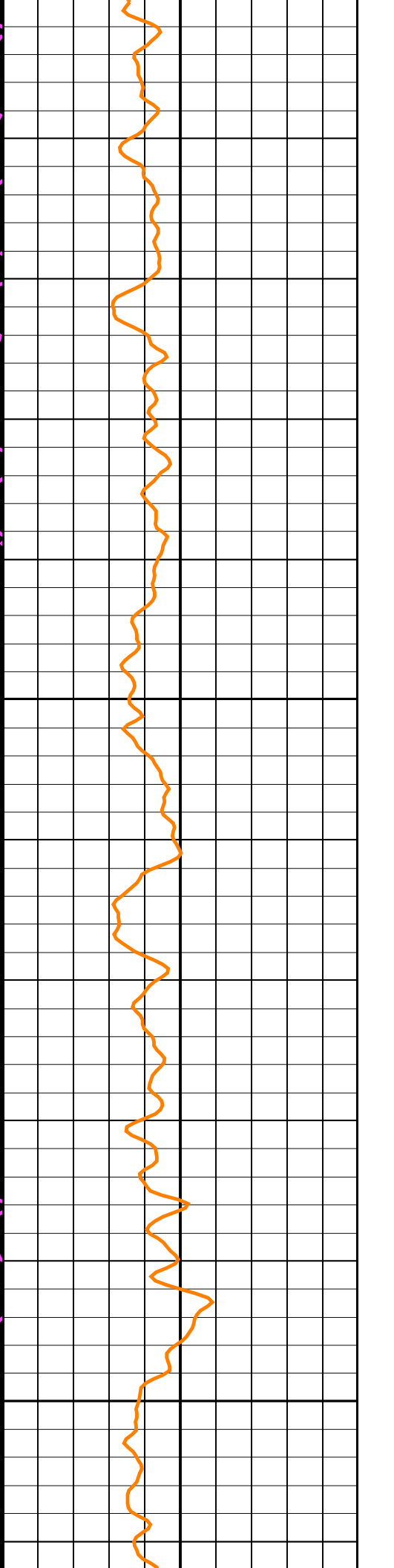
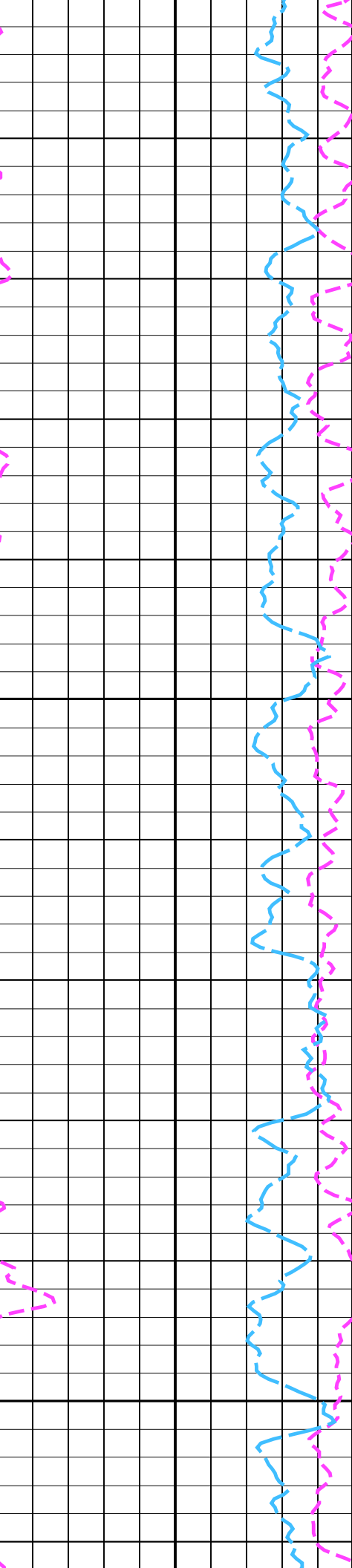
PIP SUMMARY

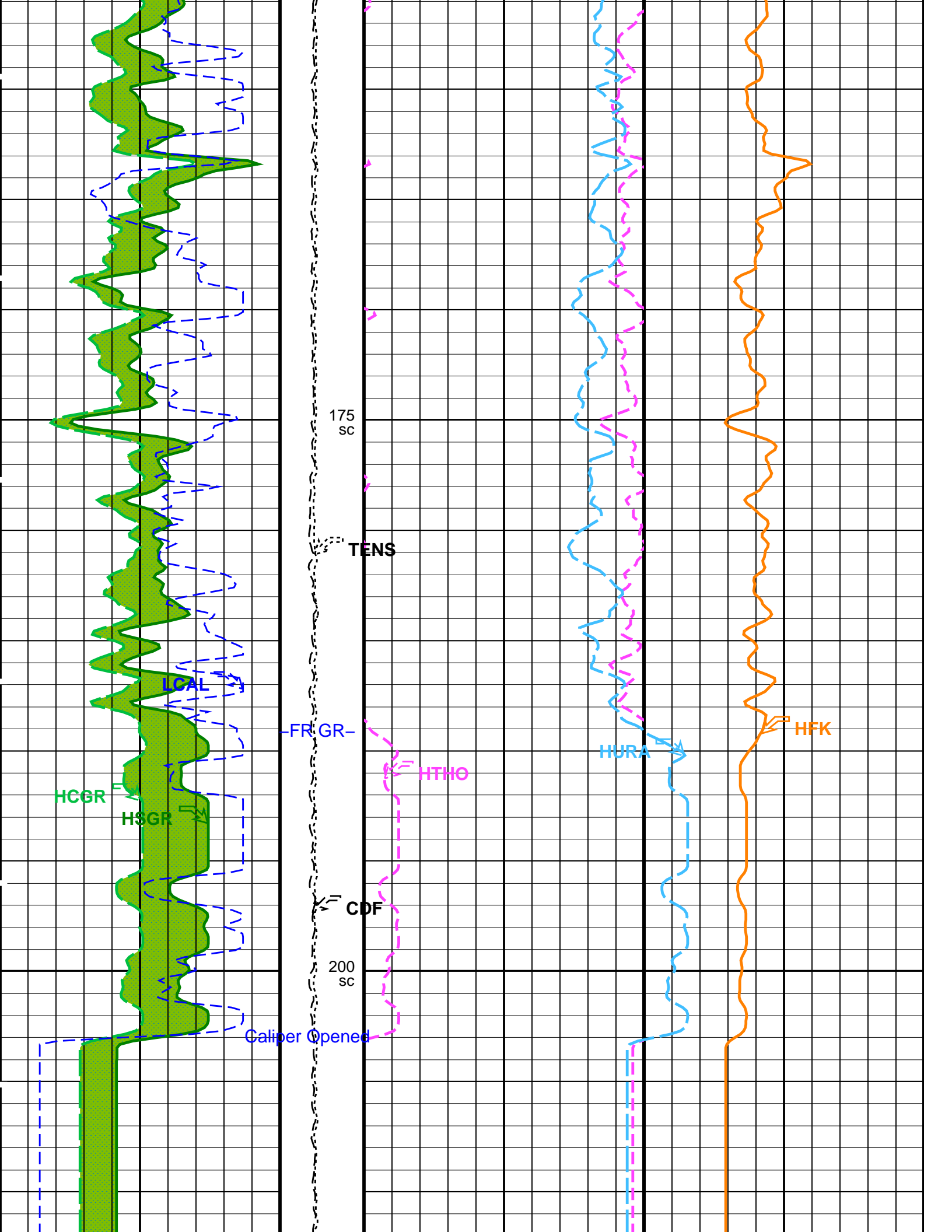
Time Mark Every 60 S

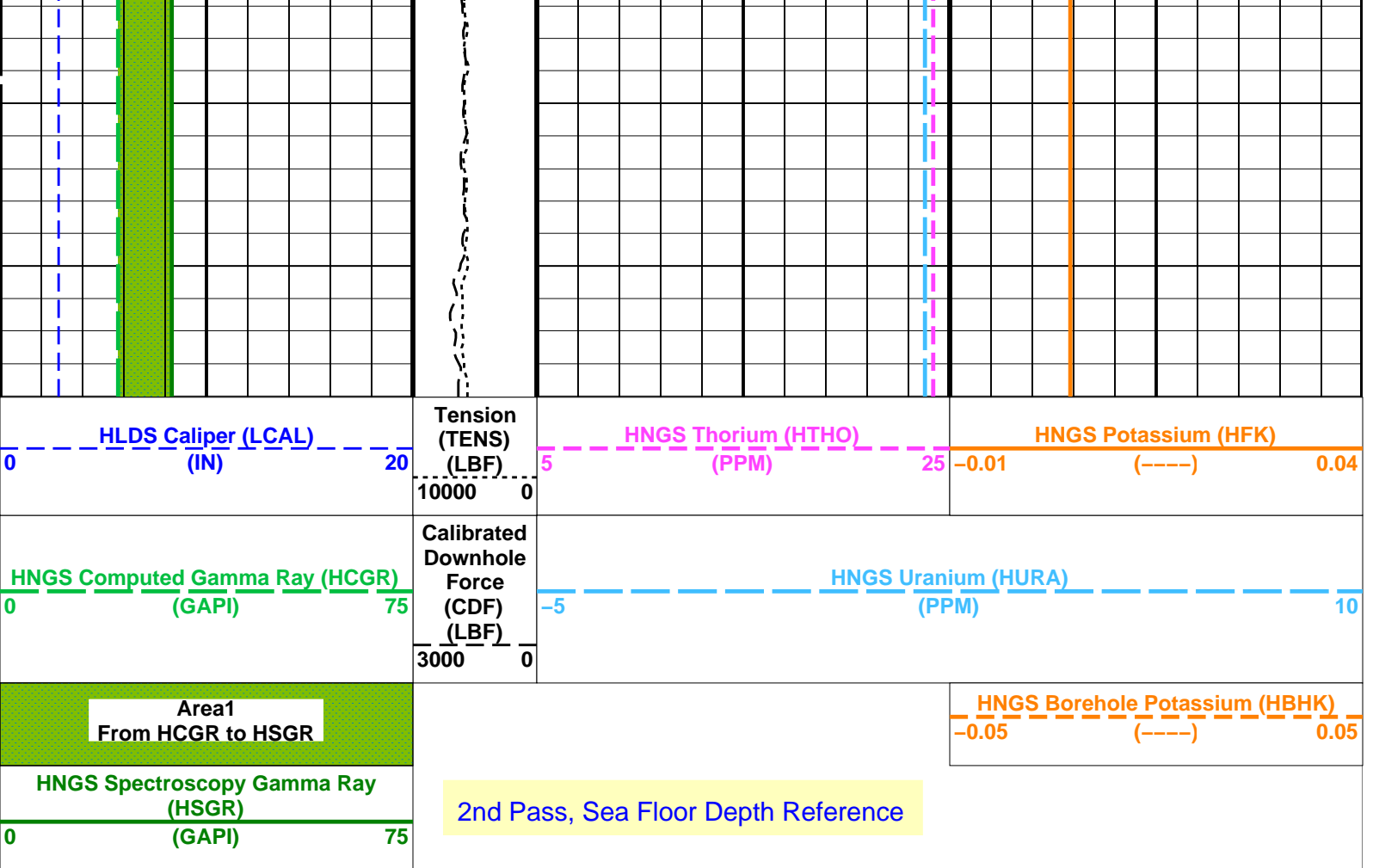




SC
125 SC
150 SC







PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	BS
APS-C: Accelerator-Porosity Tool		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	BS
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	-0.00219827
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	1.00701
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.994333
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	1.02 G/G

OP System Version: 19C0-187

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	EDTC-B	SKK-5169-EDTCB

Speed Corrected Depth Log

Input DLIS Files

MSS_LDEO_HRLA_LDL_076PUP	FN:100	23-Jun-2013 13:21	4423.4 M	4265.1 M
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Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_078PUP	FN:102	PRODUCER	23-Jun-2013 14:30
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Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M01							
Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19							
HRLT M0-M1 Voltage Plus - 0	0	N/A	-319.5	-319.6	-0.06070	9.681	UV
HRLT M0-M1 Voltage Plus - 1	0	N/A	-336.4	-338.8	-2.425	9.681	UV
HRLT M0-M1 Voltage Plus - 2	0	N/A	-336.7	-338.4	-1.714	9.681	UV
HRLT M0-M1 Voltage Plus - 3	0	N/A	-339.9	-341.0	-1.113	9.681	UV
HRLT M0-M1 Voltage Plus - 4	0	N/A	-327.2	-327.7	-0.4758	9.681	UV
HRLT M0-M1 Voltage Plus - 5	0	N/A	-323.2	-323.5	-0.2760	9.681	UV
HRLT M0-M1 Voltage Plus - 6	0	N/A	328.0	329.5	1.473	9.681	UV
HRLT M0-M1 Voltage Plus - 7	0	N/A	-322.7	-322.7	0	9.681	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M12							
Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19							
HRLT M1-M2 Voltage Plus - 0	0	N/A	1757	1757	-0.3696	53.42	UV
HRLT M1-M2 Voltage Plus - 1	0	N/A	1854	1865	11.04	53.42	UV
HRLT M1-M2 Voltage Plus - 2	0	N/A	1848	1856	7.536	53.42	UV
HRLT M1-M2 Voltage Plus - 3	0	N/A	1864	1868	4.795	53.42	UV
HRLT M1-M2 Voltage Plus - 4	0	N/A	1794	1795	1.535	53.42	UV
HRLT M1-M2 Voltage Plus - 5	0	N/A	1773	1773	0.4408	53.42	UV
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1817	-1823	-6.657	53.42	UV
HRLT M1-M2 Voltage Plus - 7	0	N/A	1781	1781	0	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M23							
Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19							
HRLT M2-M3 Voltage Plus - 0	0	N/A	1744	1742	-1.570	53.42	UV
HRLT M2-M3 Voltage Plus - 1	0	N/A	1852	1862	9.860	53.42	UV
HRLT M2-M3 Voltage Plus - 2	0	N/A	1848	1855	6.829	53.42	UV
HRLT M2-M3 Voltage Plus - 3	0	N/A	1867	1871	3.787	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1791	1791	-0.02759	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1770	1770	-0.4113	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1804	-1809	-4.846	53.42	UV
HRLT M2-M3 Voltage Plus - 7	0	N/A	1781	1781	0	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V34							
Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19							
HRLT A3-A4 Voltage Plus - 0	0	N/A	68520	68530	6.273	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	72600	73030	438.0	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	72720	73020	299.0	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	73760	73950	192.8	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	70690	70750	58.16	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	69900	69940	39.48	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-69680	-69950	-265.2	2100	UV
HRLT A3-A4 Voltage Plus - 7	0	N/A	70000	70000	0	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V45							

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT A4-A5 Voltage Plus - 0	0	N/A	68810	68810	7.523	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	72970	73440	472.7	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	73090	73390	301.5	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	74100	74290	194.3	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	70990	71050	59.49	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	70190	70210	25.24	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-70060	-70330	-273.9	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT V56

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT A5-A6 Voltage Plus - 0	0	N/A	68710	68710	5.008	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	72700	73170	472.7	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	72850	73150	304.0	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	73900	74090	192.0	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70840	70910	68.19	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	70060	70090	34.30	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-69770	-70030	-267.8	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VTP

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT Torpedo-M0 Voltage - 0	0	N/A	-68390	-68390	5.992	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-73050	-73490	-439.0	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-73160	-73470	-310.5	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-74210	-74390	-177.9	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-71060	-71110	-51.70	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-70230	-70250	-22.26	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	70070	70320	250.7	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	-70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68370	-68380	-8.383	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-73020	-73480	-457.3	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-73130	-73450	-316.7	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-74170	-74370	-204.0	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-71040	-71110	-63.20	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70210	-70250	-34.00	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	70020	70300	273.8	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	-70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT Source Current Plus - 0	0	N/A	285.1	285.2	0.03937	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	281.1	0	8.520	UA

High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV

Before: 21-Jun-2013 5:02 After: 21-Jun-2013 14:19

HRLT Vertical Voltage PI - 0	0	N/A	-321.9	-321.9	0.03369	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-331.5	-333.6	-2.111	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-330.4	-332.0	-1.516	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-331.7	-332.6	-0.8864	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-316.3	-316.6	-0.2819	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-327.4	-327.6	-0.1616	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	336.5	337.6	1.141	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	-322.7	0	9.681	UV

Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement

Master: 23-May-2013 18:26 Before: 5-Jun-2013 5:19 After: 21-Jun-2013 15:43

SS Cs Resolution Bkg	9.000	7.935	8.049	7.894	-0.1558	1.800	%
LS Cs Resolution Bkg	9.000	8.162	8.063	8.099	0.03602	1.800	%
LSW1 Background	100.0	71.72	70.78	70.77	-0.009674	0.03000	CPS
LSW2 Background	100.0	65.95	64.89	65.91	1.019	0.03000	CPS
LSW3 Background	200.0	146.1	143.2	142.4	-0.8057	0.03000	CPS
LSW4 Background	250.0	176.3	175.6	173.4	-2.196	0.03000	CPS
LSW5 Background	600.0	404.2	405.6	401.3	-4.256	0.03000	CPS
SSW1 Background	100.0	80.22	79.61	80.05	0.4435	0.03000	CPS
SSW2 Background	200.0	141.1	142.8	140.8	-2.062	0.03000	CPS
SSW3 Background	500.0	380.9	379.7	382.0	2.379	0.03000	CPS
SSW4 Background	270.0	201.0	199.2	199.1	-0.1189	0.03000	CPS
SSW5 Background	200.0	143.8	144.9	143.3	-1.597	0.03000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Master: 23-May-2013 19:07

Master: 23-May-2013 19:07								
LSW1 Aluminum	600.0	513.7	N/A	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	737.9	N/A	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	887.0	N/A	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	448.1	N/A	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	411.4	N/A	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2391	N/A	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6513	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9048	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3653	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	442.2	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Lithology Measurement

Master: 23-May-2013 18:57								
LSW1 Iron	400.0	354.2	N/A	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	602.9	N/A	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	794.0	N/A	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	408.1	N/A	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	376.8	N/A	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1748	N/A	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5423	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8249	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3342	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	391.9	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Caliper Calibration

Before: 5-Jun-2013 5:19								
HLDS Caliper Small Ring	12.00	N/A	16.02	N/A	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	19.90	N/A	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration – Detector Background

Master: 24-May-2013 10:47 Before: 24-May-2013 10:54 After: 21-Jun-2013 14:24								
Near Det Bkg Cntrate	30.00	33.52	32.19	32.47	0.2844	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	33.43	32.67	32.86	0.1863	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	29.51	28.88	30.28	1.405	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.86	29.59	29.53	-0.06015	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	31.39	34.16	31.82	-2.336	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration – Calibration Ratios

Master: 24-May-2013 10:47								
Near/Far Calibration Ratio	0.9250	0.8891	N/A	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.063	N/A	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.017	N/A	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration – Tank Check

Master: 24-May-2013 10:47								
Array-1 Standoff Porosity	11.75	10.38	N/A	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	10.04	N/A	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	6.114	N/A	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9764	N/A	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9755	N/A	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	34.51	N/A	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration – CCR7 signal boxes

Master: 24-May-2013 10:47								
Near Detector Plateau Setting	1650	1732	N/A	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2085	N/A	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1965	N/A	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 22-May-2013 20:18 Before: 5-Jun-2013 5:31 After: 21-Jun-2013 15:44								
Na 511 Peak Loc	40.00	39.77	39.78	39.85	0.06499	1.000		
Na 511 Peak Res	15.50	15.23	15.40	12.72	-2.674	2.000	%	
High Voltage	1150	1161	1143	1151	7.681	N/A	V	
Na 1785 Peak Loc	142.6	143.9	143.2	141.3	-1.901	7.000		
Na 1785 Peak Res	8.500	7.558	8.088	7.759	-0.3289	2.000	%	
Temperature	15.50	16.49	14.24	16.34	2.107	N/A	DEGC	
Na Count Rate	45.00	14.90	15.37	14.04	-1.332	8.000	CPS	

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 22-May-2013 20:18 Before: 5-Jun-2013 5:31 After: 21-Jun-2013 15:44								
Na 511 Peak Loc	40.00	39.67	39.68	39.51	-0.1639	1.000		
Na 511 Peak Res	15.50	15.00	15.05	15.43	0.3853	2.000	%	
High Voltage	1150	1082	1074	1085	11.62	N/A	V	
Na 1785 Peak Loc	142.6	141.4	140.3	143.0	2.653	7.000		
Na 1785 Peak Res	8.500	9.134	8.027	9.053	1.026	2.000	%	
Temperature	15.50	16.94	14.41	18.12	3.704	N/A	DEGC	
Na Count Rate	45.00	14.58	15.20	14.08	-1.128	8.000	CPS	

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2

Master: 22-May-2013 20:18 Before: 5-Jun-2013 5:31 After: 21-Jun-2013 15:44								
Coincidence Count Rate Ratio	1.000	1.024	1.014	0.9996	-0.01401	0.05000		

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration

Master: 22–May–2013 20:18

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	211.4	--	--	--	--	
Th Peak Res	7.000	6.972	--	--	--	--	%
Background Count Rate	142.5	18.97	--	--	--	--	CPS
Gain Ratio	1.000	1.011	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration

Master: 22–May–2013 20:18

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.8	--	--	--	--	
Th Peak Res	7.000	6.474	--	--	--	--	%
Background Count Rate	142.5	18.20	--	--	--	--	CPS
Gain Ratio	1.000	1.001	--	--	--	--	

Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration

Before: 21–Jun–2013 5:02

EDTC Z–Axis Acceleration	9.810	N/A	9.801	N/A	N/A	N/A	M/S2
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Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration

Before: 5–Jun–2013 5:18 After: Calibration not done

Gamma Ray (Jig – Bkg)	156.4	N/A	156.4	N/A	N/A	0.09091	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	N/A	N/A	15.00	GAPI

Accelerator–Porosity Tool – Detector Plateau Settings :

Near Detector Plateau Setting	1732 V
Far Detector Plateau Setting	2085 V
Array Detector Plateau Setting	1965 V

High Resolution Laterolog Array – B / Equipment Identification

Primary Equipment:		
HRLT Sonde	HRLS – B	768
Auxiliary Equipment:		
HRLT lower Housing	HRLH – B	968
HRLT Lower Cartridge	HRLC – B	974
HRLT upper Housing	HRUH – B	768
HRLT Upper Cartridge	HRUC – B	764

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	8113
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
Auxiliary Equipment:		
LDSC Housing	LDSH – A	319

Accelerator–Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator–Porosity Sonde	APS – C	22
APS Minitron	MNTR – F	7341

Auxiliary Equipment:
 Accelerator-Porosity Housing
 APS Calibration Water Tank
 APS Aluminum Calibrator Sleeve

APH - AC 22
 SFT - 178 1
 SFT - 281 1

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 HNSH - BA 205
 Gamma Source Radioactive 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		39.77	Master		15.23	Master		1161
Before		39.78	Before		15.40	Before		1143
After		39.85	After		12.72	After		1151
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		143.9	Master		7.558	Master		16.49
Before		143.2	Before		8.088	Before		14.24
After		141.3	After		7.759	After		16.34
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		14.90						
Before		15.37						
After		14.04						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 22-May-2013 20:18			Before: 5-Jun-2013 5:31			After: 21-Jun-2013 15:44		

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		39.67	Master		15.00	Master		1082
Before		39.68	Before		15.05	Before		1074
After		39.51	After		15.43	After		1085
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		141.4	Master		9.134	Master		16.94
Before		140.3	Before		8.027	Before		14.41
After		143.0	After		9.053	After		18.12
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		14.58
Before		15.20
After		14.08
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 22-May-2013 20:18 Before: 5-Jun-2013 5:31 After: 21-Jun-2013 15:44

Hostile Natural Gamma Ray Sonde Wellsite Calibration Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.024
Before		1.014
After		0.9996
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 22-May-2013 20:18
Before: 5-Jun-2013 5:31
After: 21-Jun-2013 15:44

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		211.4	Master		6.972
	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		18.97	Master		1.011			
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)				

Master: 22-May-2013 20:18

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		208.8	Master		6.474
	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		18.20	Master		1.001			
	10.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)				

Master: 22-May-2013 20:18

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

Well: **Expedition 341, Site U1417E**
Field: **Southern Alaska Margin Tectonics**
Rig: **JOIDES Resolution**
Ocean: **Pacific**

Hostile Natural Gamma Sonde (HNGS)
Spectroscopy Log