

Well: **Expedition 402, Site U1616E**
Field: **Tyrrhenian Continent–Ocean Transition**
Rig: **JOIDES Resolution** Country: **Italy**

Rig:	JOIDES Resolution	High Resolution Laterolog (HRLA) / HLDS			
Field:	Tyrrhenian Continent–Ocean Transect	Magnetic Susceptibility (MSS)			
Location:	Latitude: N 40° 11.0508'	Natural Gamma / MSS (HNGS)			
Well:	Expedition 402, Site U1616E				
Company:	International Ocean Discovery Program				
LOCATION		Latitude: N 40° 11.0508'		Elev.:	K.B. 0.00 m
		Longitude: E 12° 33.9972'			G.L. –3578.20 m
					D.F. 0.00 m
		Permanent Datum: Sea Floor		Elev.:	–3578.20 m
		Log Measured From: Rig Floor		3578.20 m above Perm. Datum	
		Drilling Measured From: Rig Floor			
Ocean: Mediterranean		Max. Well Deviation 5 deg		Longitude E 12.56662°	Latitude N 40.18418°

Logging Date			26-Mar-2024					
Run Number			1					
Depth Driller			3949 m					
Schlumberger Depth			3890 m					
Bottom Log Interval			3890 m					
Top Log Interval			3578 m					
Casing Driller Size @ Depth			13.375 in	@	3797 m		@	
Casing Schlumberger			3797 m					
Bit Size			9.875 in					
Type Fluid In Hole			Sea Water					
MUD	Density	Viscosity	1.023 g/cm3					
	Fluid Loss	PH		8.07				
	Source Of Sample		Mudpit					
	RM @ Measured Temperature		0.220 ohm.m	@	23 degC		@	
RMF @ Measured Temperature			@			@		
RMC @ Measured Temperature			@			@		
Source RMF	RMC	N/A	N/A					
RM @ MRT	RMF @ MRT	0.369 @ 5	@ 5		@		@	
Maximum Recorded Temperatures		5 degC						
Circulation Stopped		Time	26-Mar-2024	8:00				
Logger On Bottom		Time	26-Mar-2024	15:00				
Unit Number	Location	627314	Larose, LA					
Recorded By		C. Furman						
Witnessed By		K. Grigar						

[illegible]

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	
	Fluid Loss	PH	
	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

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 SERVICES2

Drill pipe set at 3844mbrf (Run1a); lowered to 3888mbrf for second attempt (Run1b)
Casing shoe at 3797mbrf
Fluid type was seawater, as drilled.
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 closed for down log, as it cannot be used in that direction, so Density measurement are NOT valid.

Active heave compensator switched on at 3884mbrf while logging down. (RUn1a)

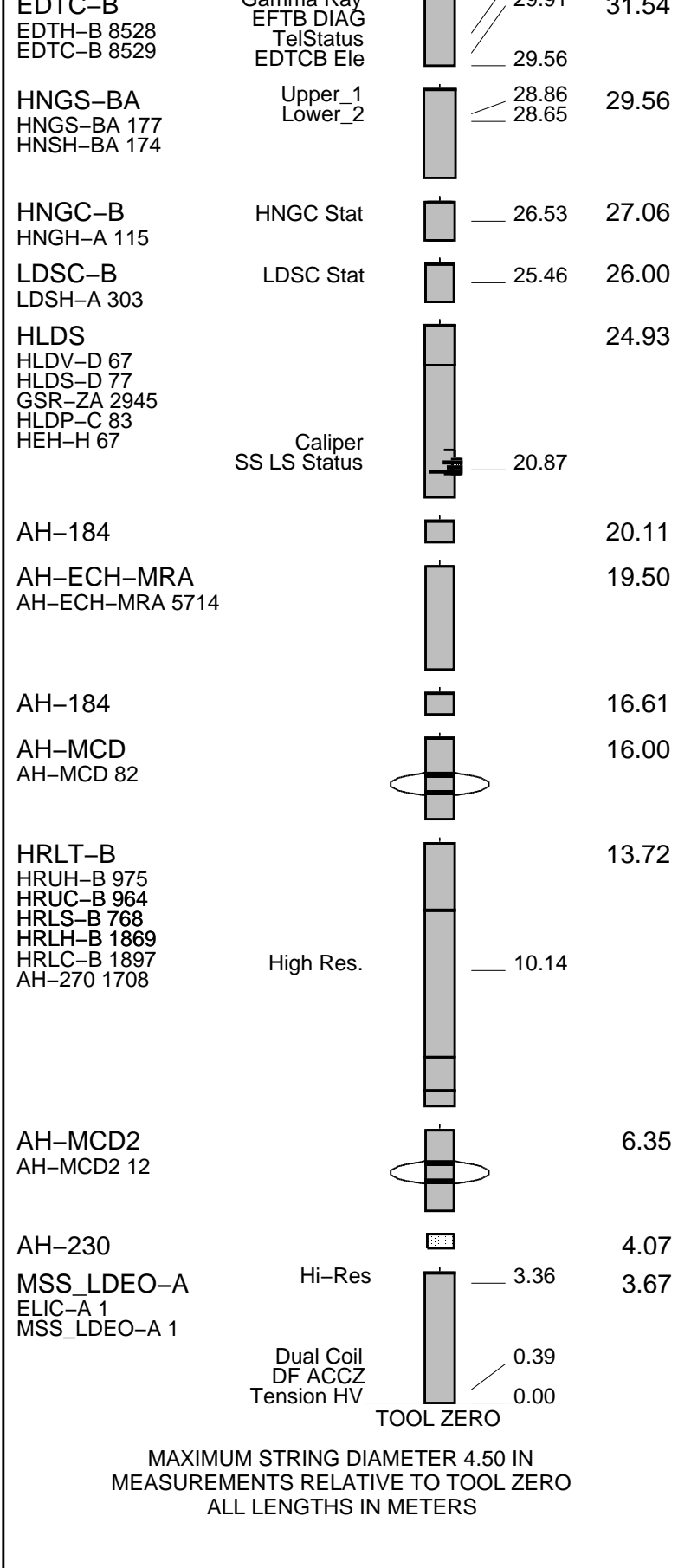
Run2a encountered an obstruction INSIDE pipe, roughly 50m above the MBR and had to be aborted without any OH data.

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

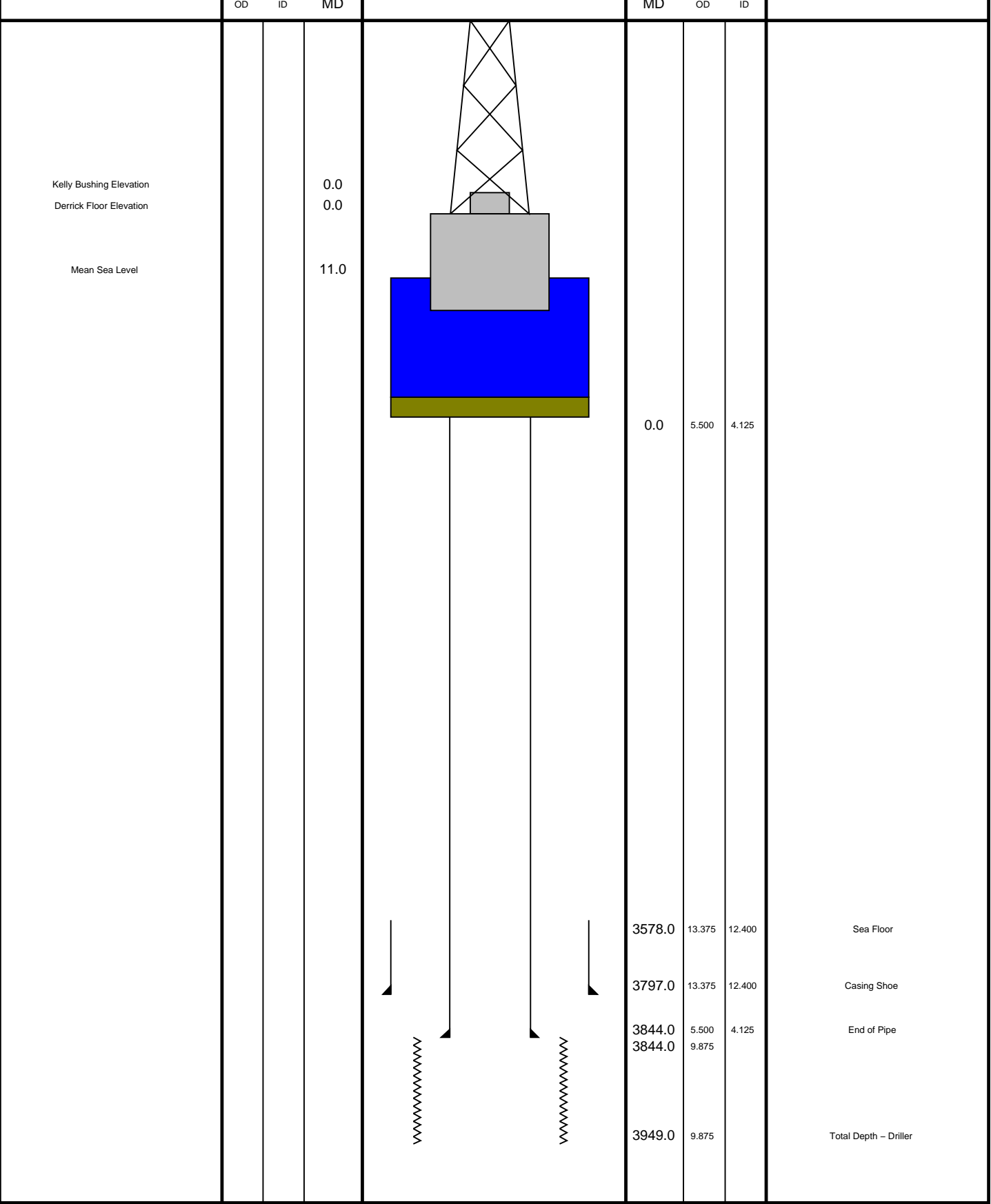
RUN 1 RUN 2

GSR-U 135
WITM (EDTS)-A

Location	Parameter	Value
LEH-PT		33.29
LEH-PT 1060		
AH-233	MDSB EDTC	32.35
AH-369	Mud Tempe	31.54
	CTEM	30.48
EDTC 2	Gamma Ray	29.91



Production String	(in)	(m)	Well Schematic	(m)	(in)	Casing String
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Run1a Downlog
1:200 Scale (flipped)

MAXIS Field Log

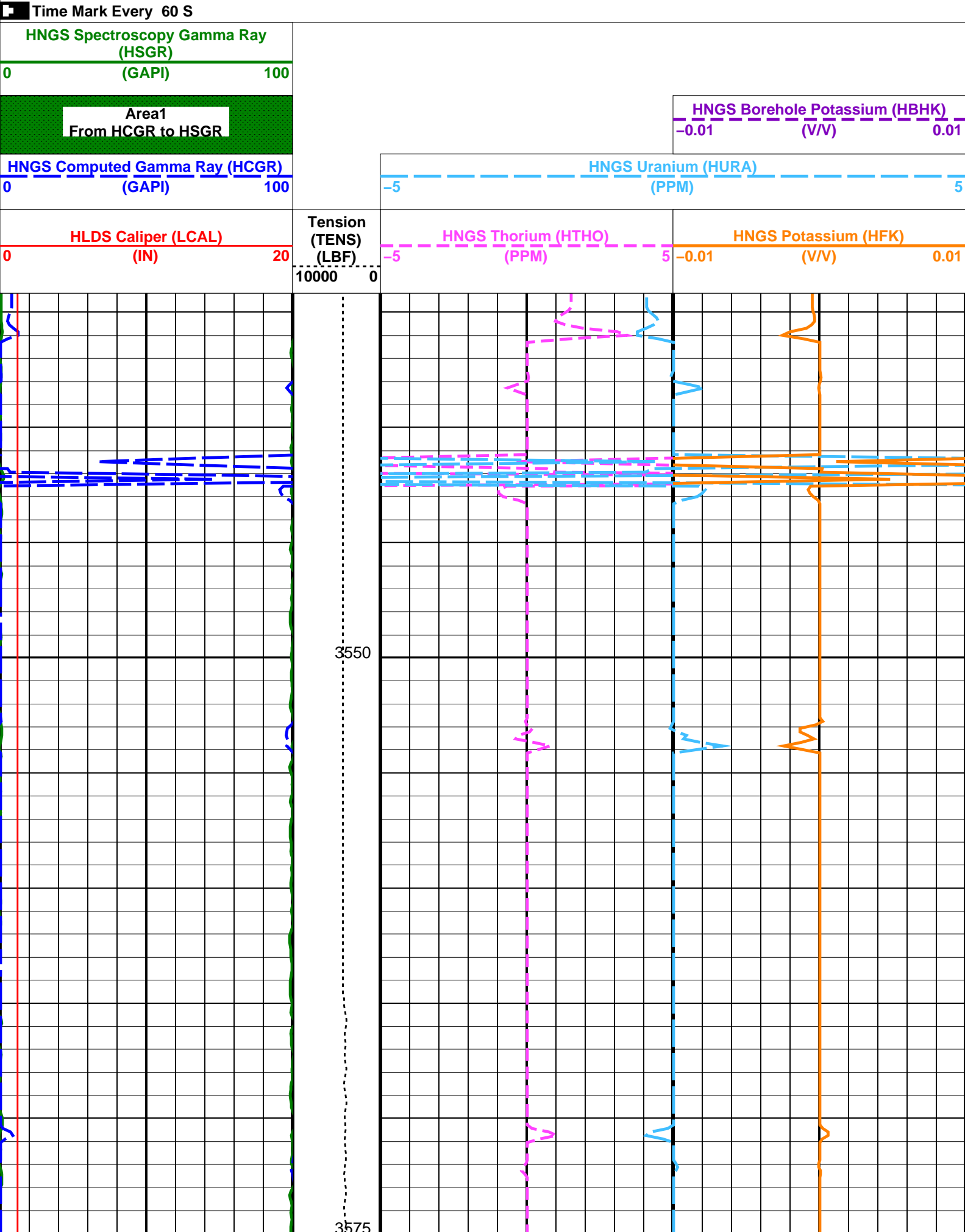
Company: International Ocean Discovery Program Well: Expedition 402, Site U1616E

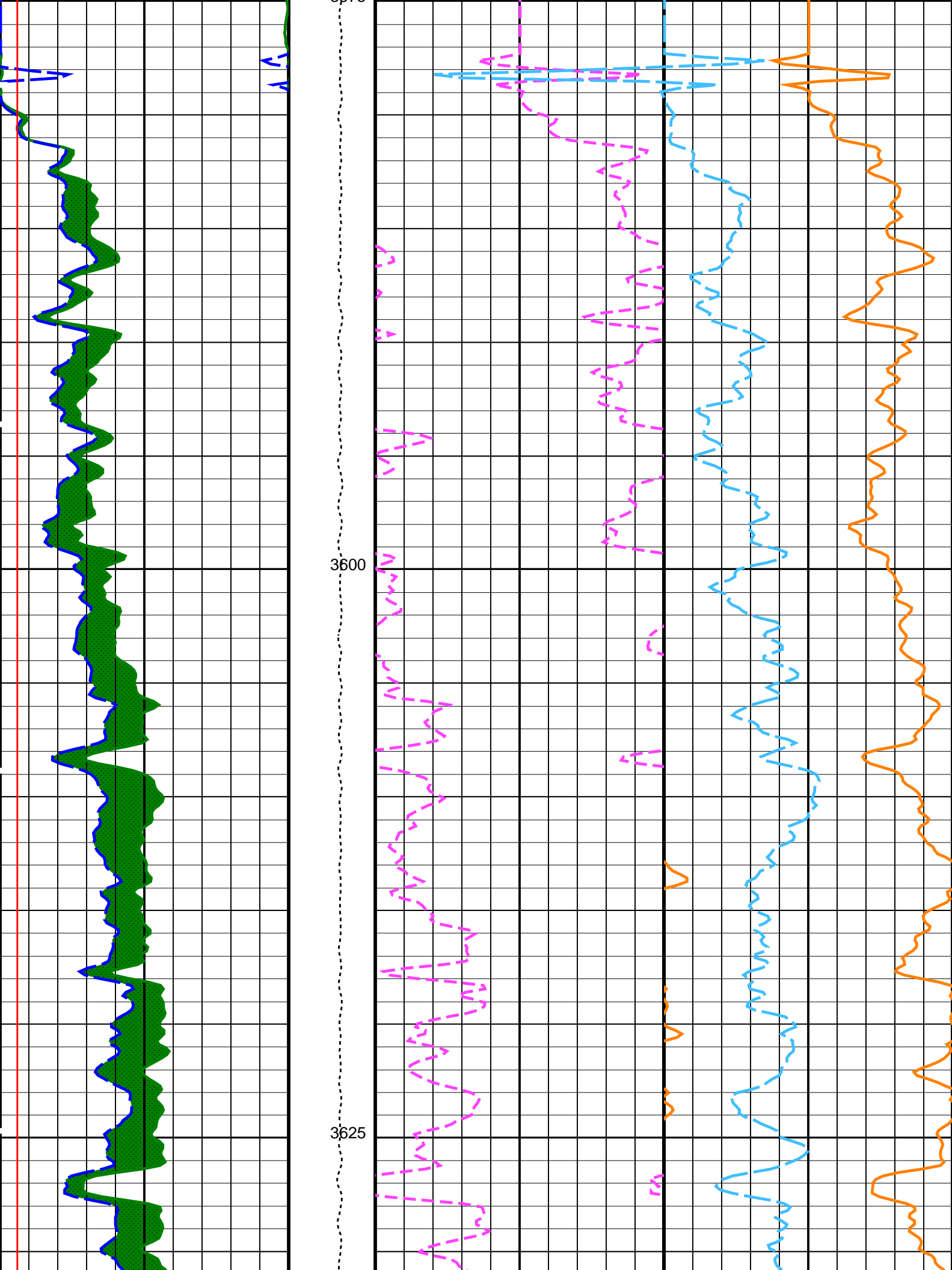
Input DLIS Files						
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Output DLIS Files						
DEFAULT	MSS_LDEO_HRLA_LDL_025PUP	FN:13	PRODUCER	26-Mar-2024 22:31	3890.0 M	3534.2 M
RTB	MSS_LDEO_HRLA_LDL_025PUP	FN:14	PRODUCER	26-Mar-2024 22:31	3890.0 M	3534.2 M

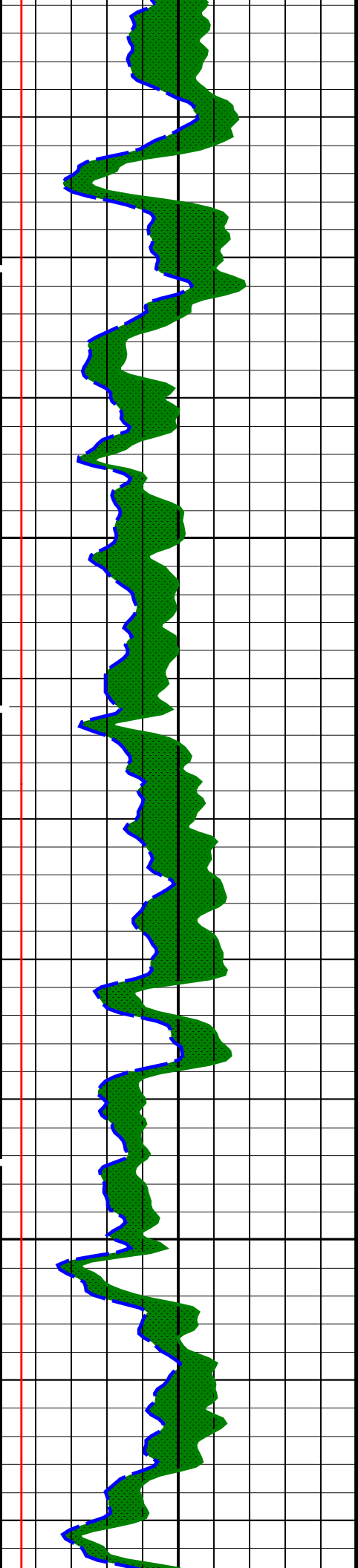
OP System Version: 19C0-187

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187

PIP SUMMARY

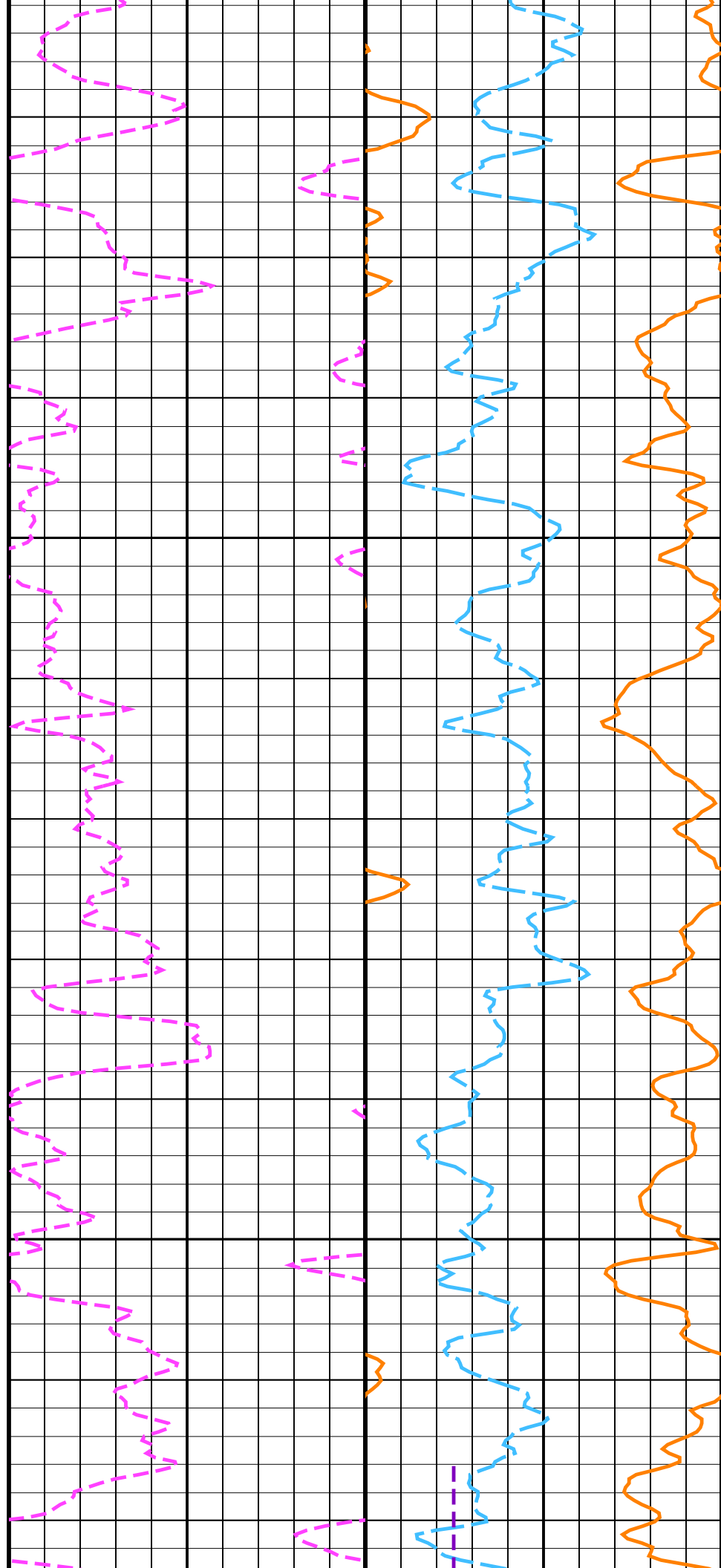


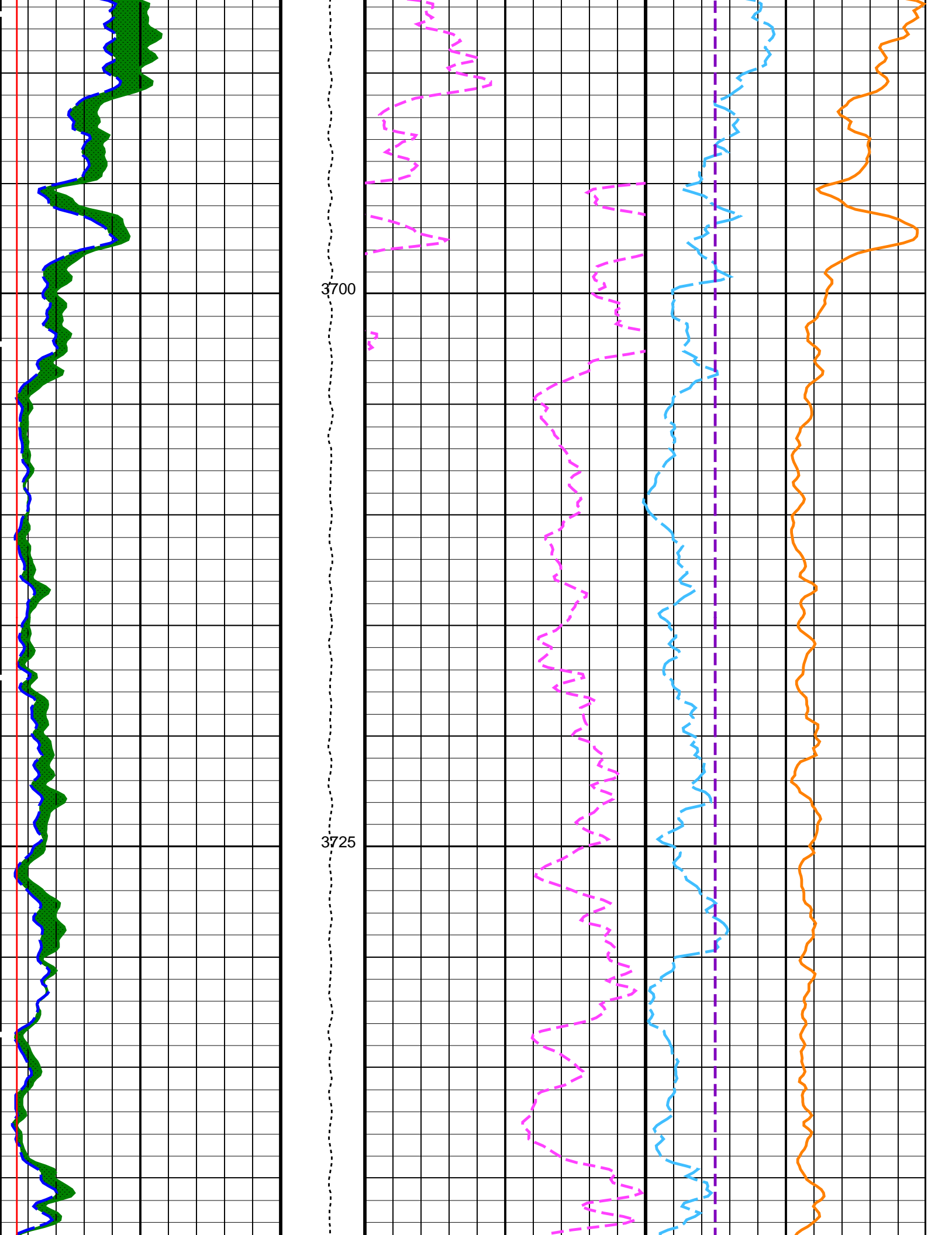


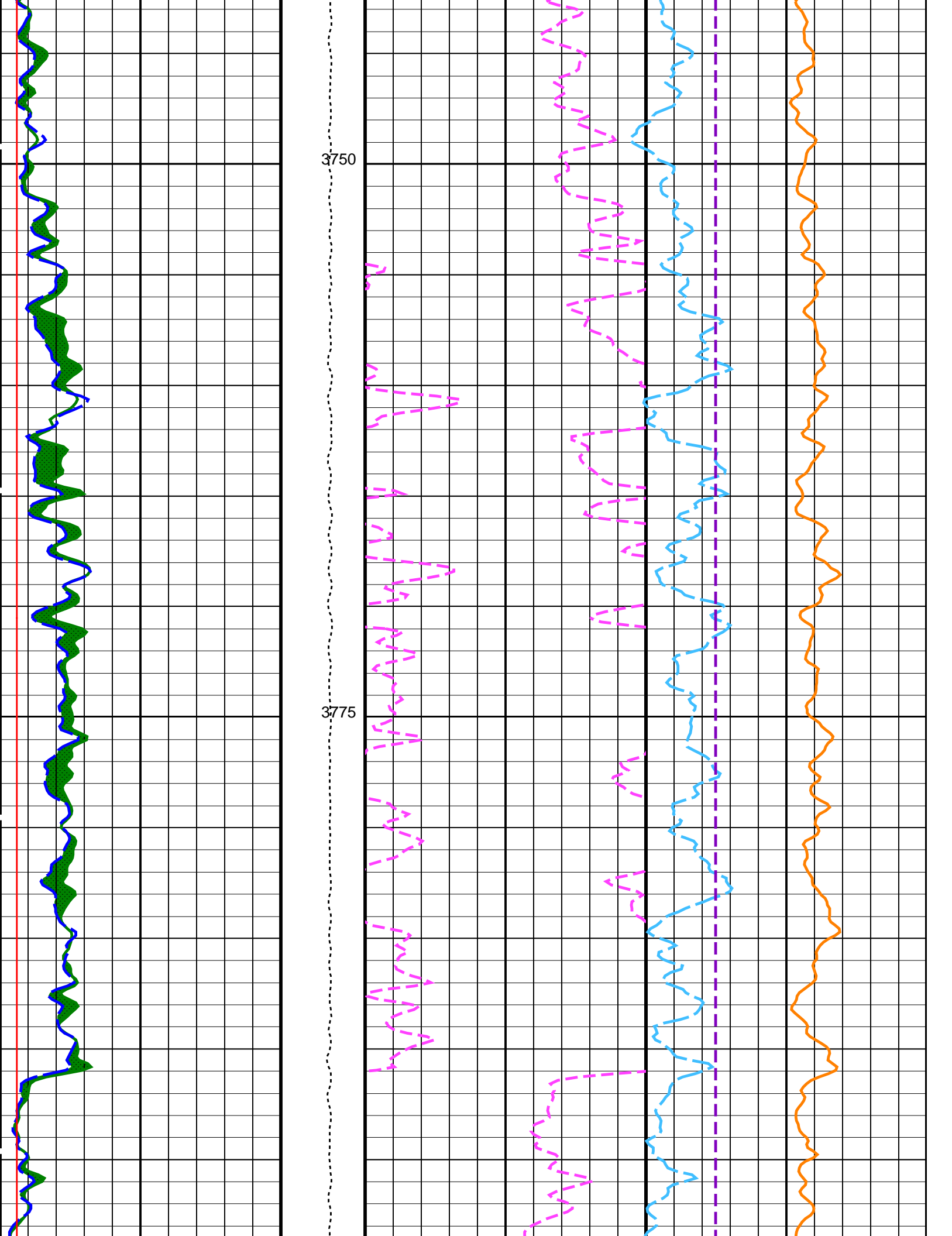


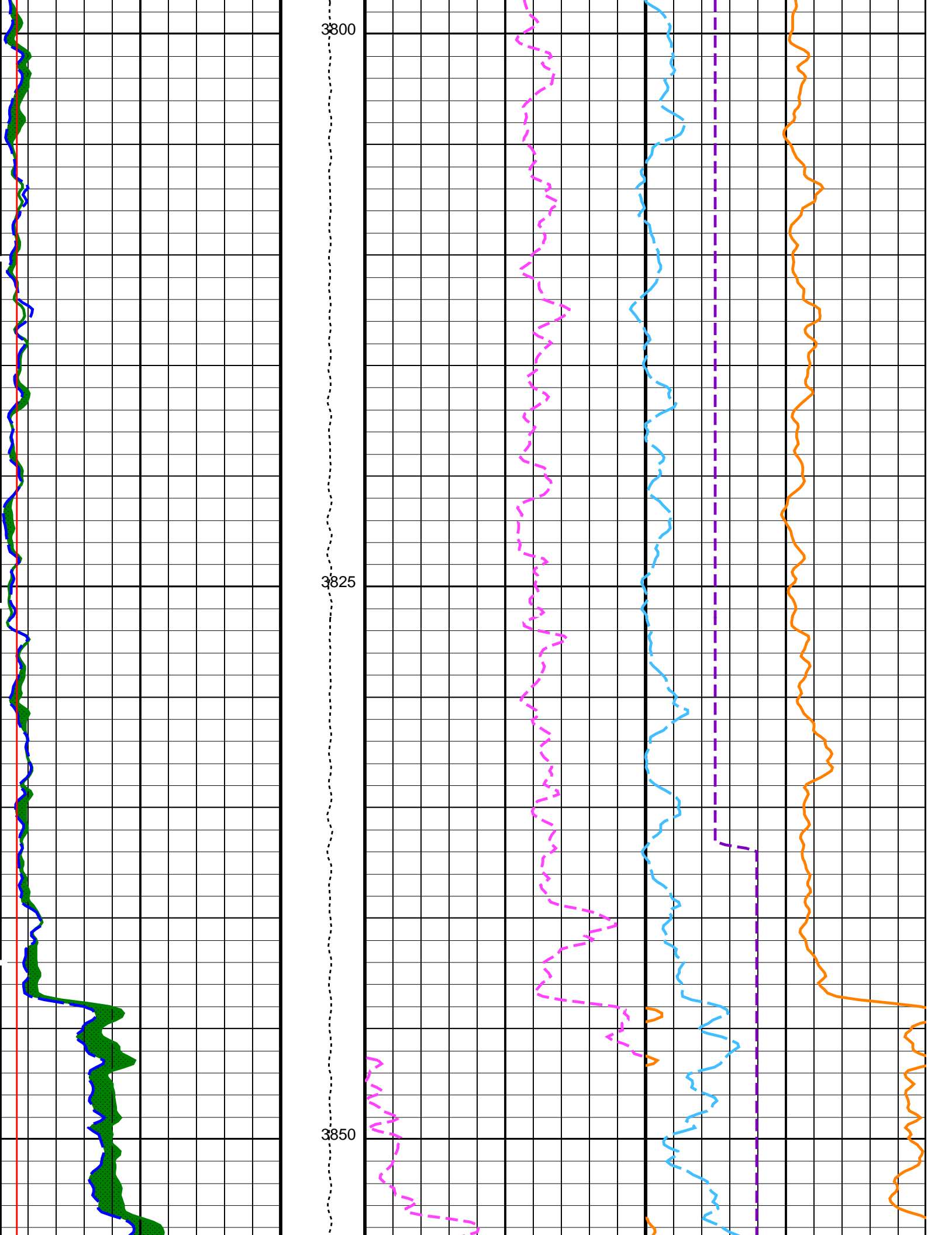
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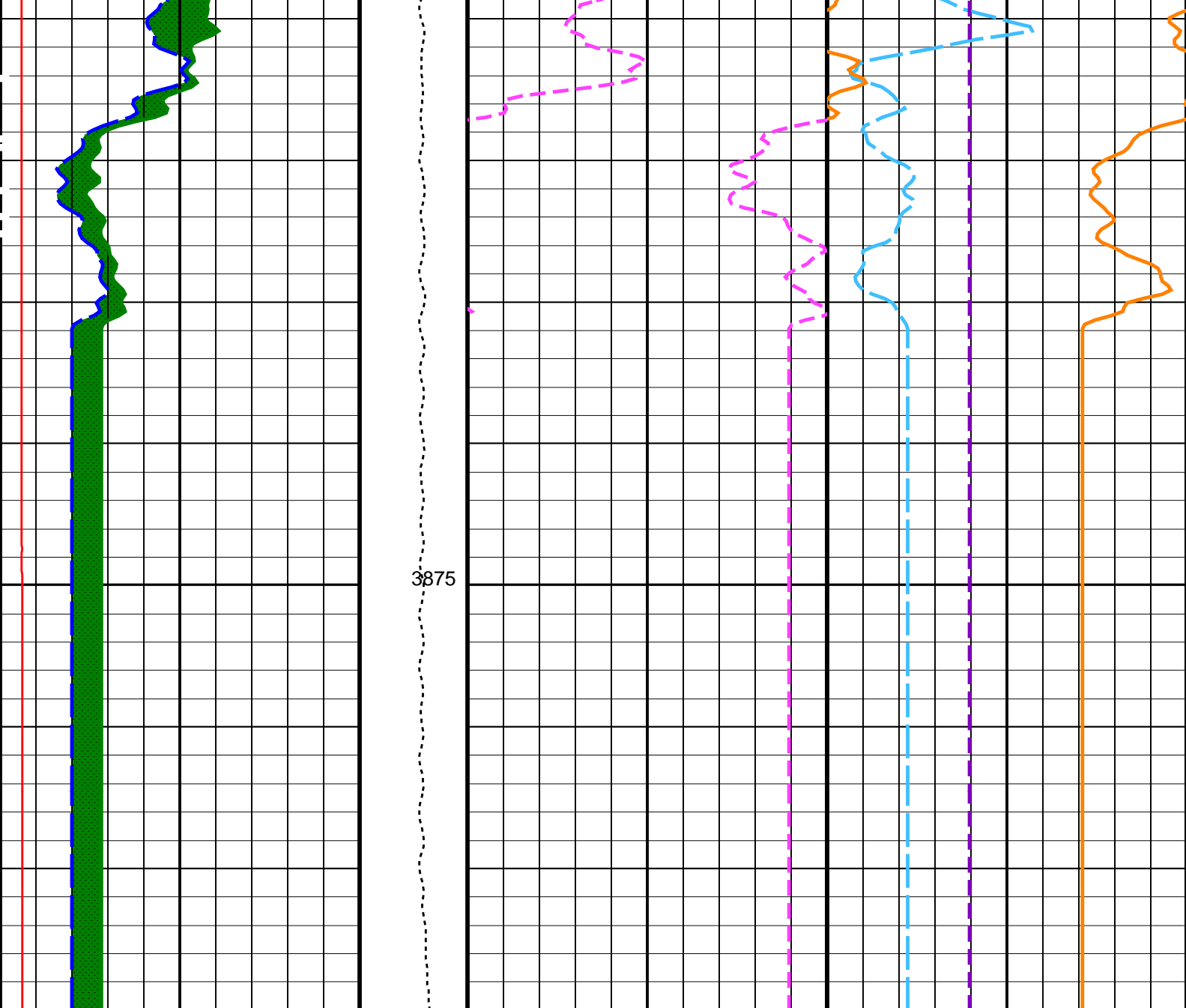
3675











3875

HLDS Caliper (LCAL)		Tension (TENS) (LBF)	HNGS Thorium (HTHO)		HNGS Potassium (HFK)	
0	20		-5	5	-0.01	0.01
(IN)			(PPM)		(V/V)	
HNGS Computed Gamma Ray (HCGR)		10000 0	HNGS Uranium (HURA)		HNGS Borehole Potassium (HBHK)	
0	100		-5	5	-0.01	0.01
(GAPI)			(PPM)		(V/V)	
Area1						
From HCGR to HSGR						
HNGS Spectroscopy Gamma Ray (HSGR)						
0	100					
(GAPI)						

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
BHS	HRLT-B: High Resolution Laterolog Array - B	OPEN BS
GCSE	Borehole Status	
	Generalized Caliper Selection	
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	-0.00690543	
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	0.950928	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.938231	
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/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	

Format: HNGSYields
Vertical Scale: 1:200
Graphics File Created: 26-Mar-2024 22:31

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

Input DLIS Files					
DEFAULT	Flip_MSS_LDEO_HRLA_022LUP	PRODUCER	26-Mar-2024 22:29	3895.0 M	3534.2 M
Output DLIS Files					
DEFAULT	MSS_LDEO_HRLA_LDL_025PUP	FN:13	PRODUCER	26-Mar-2024 22:31	
RTB	MSS_LDEO_HRLA_LDL_025PUP	FN:14	PRODUCER	26-Mar-2024 22:31	

Company: International Ocean Discovery Program
Well: Expedition 402, Site U1616E

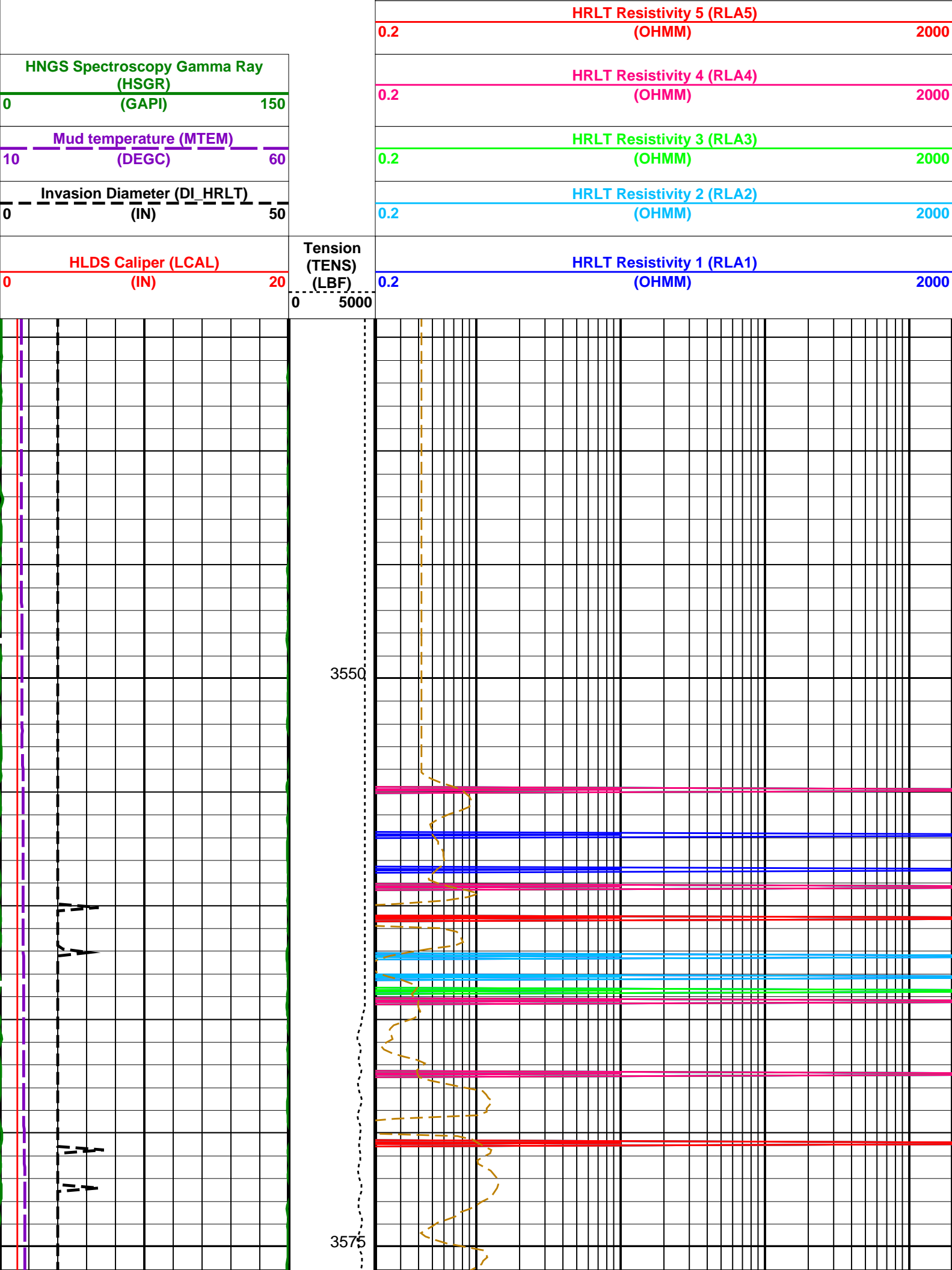
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Output DLIS Files					
DEFAULT	MSS_LDEO_HRLA_LDL_025PUP	FN:13	PRODUCER	26-Mar-2024 22:31	3890.0 M 3534.2 M
RTB	MSS_LDEO_HRLA_LDL_025PUP	FN:14	PRODUCER	26-Mar-2024 22:31	3890.0 M 3534.2 M

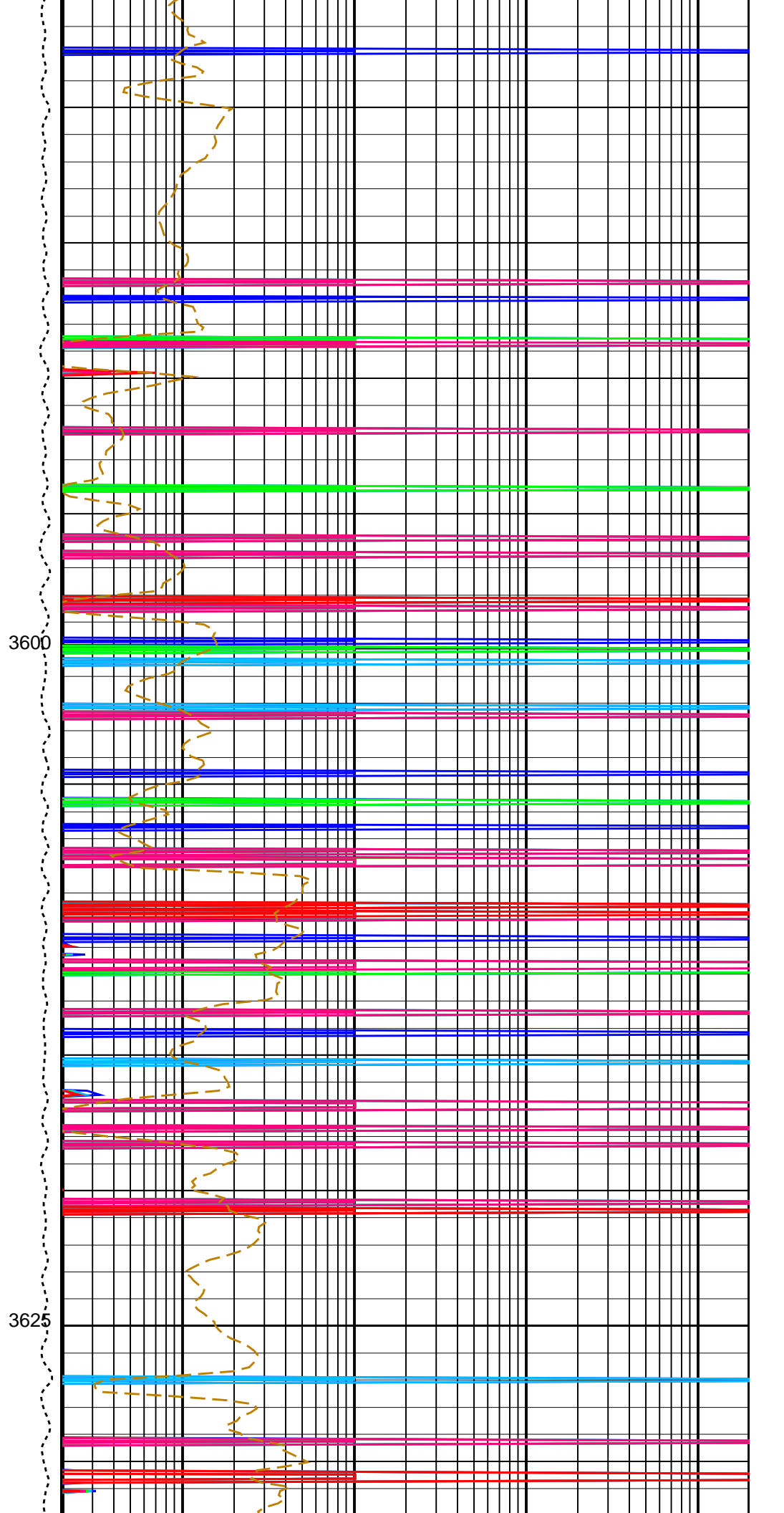
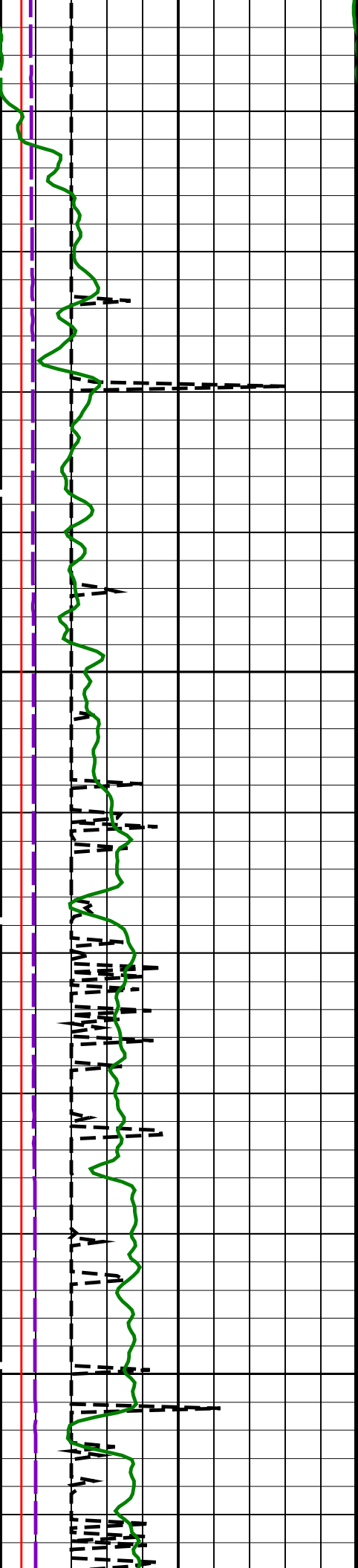
OP System Version: 19C0-187			
MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
EDTC-B	19C0-187		

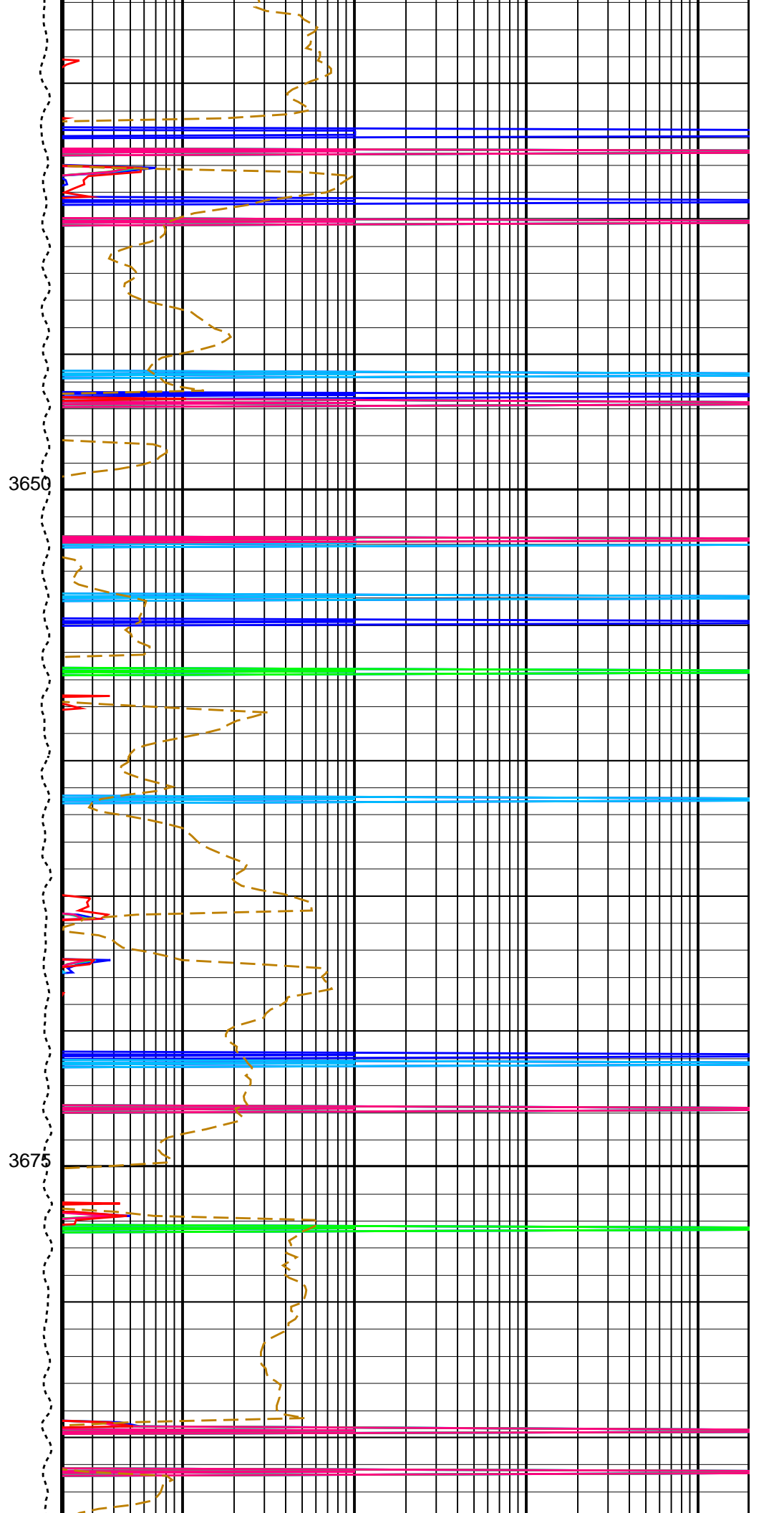
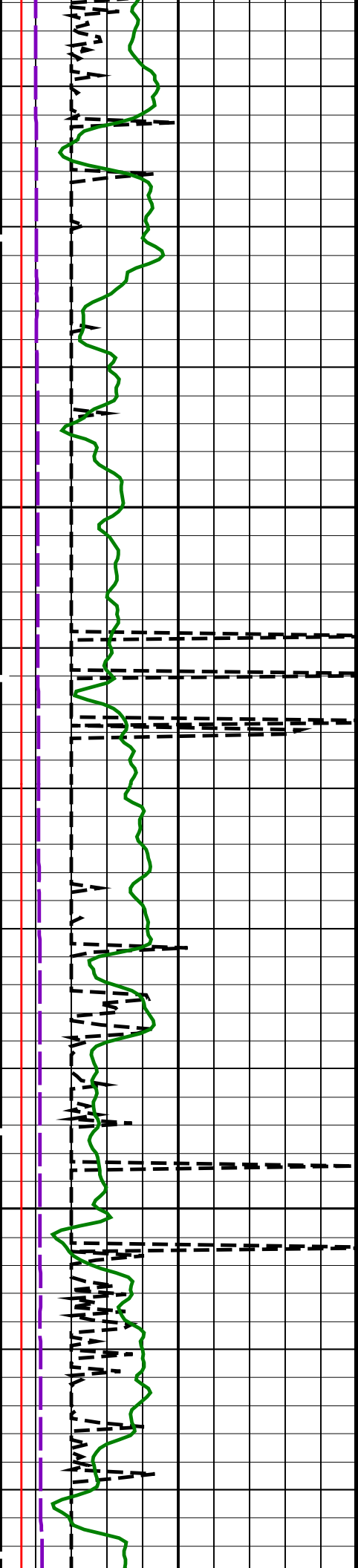
Time Mark Every 60 S

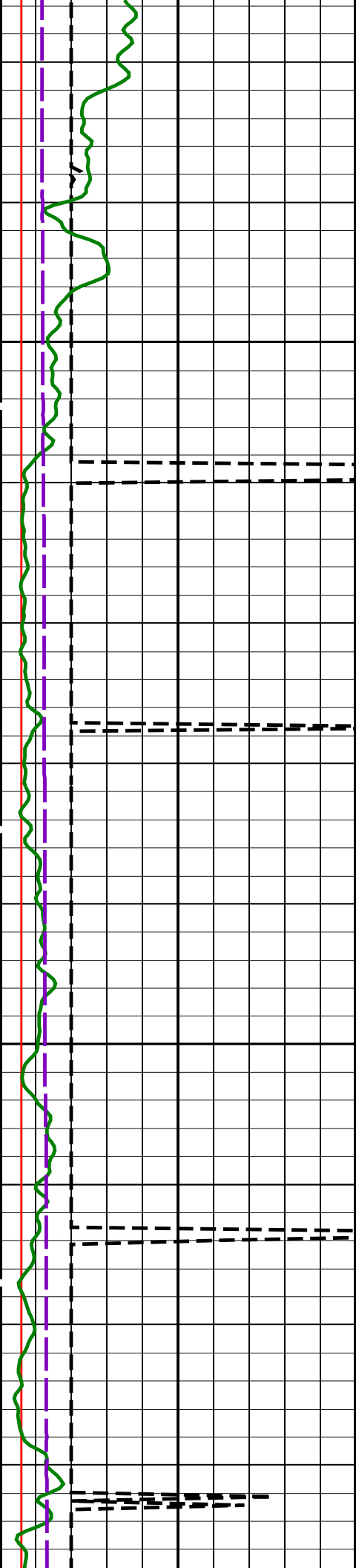
PIP SUMMARY





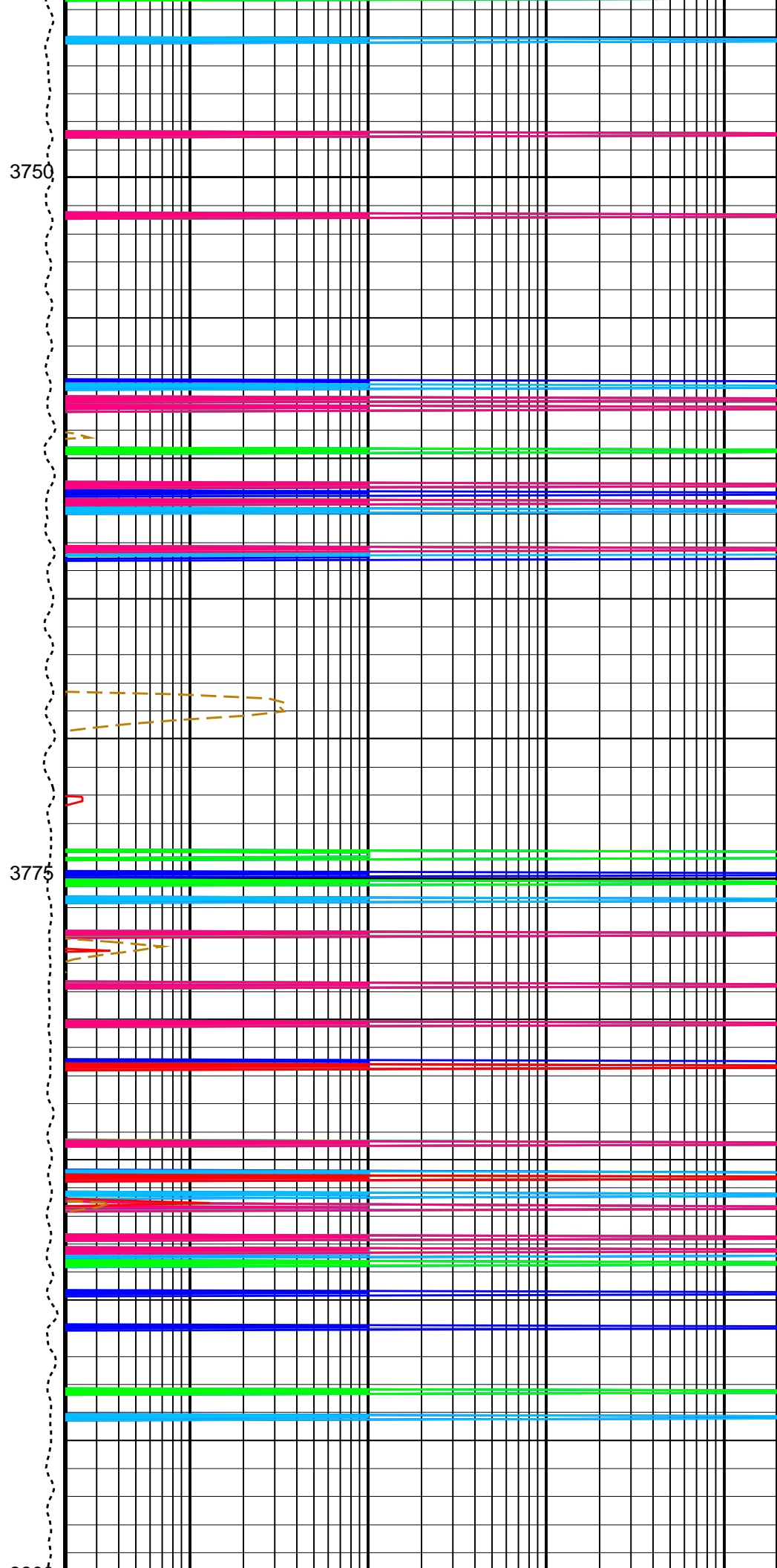
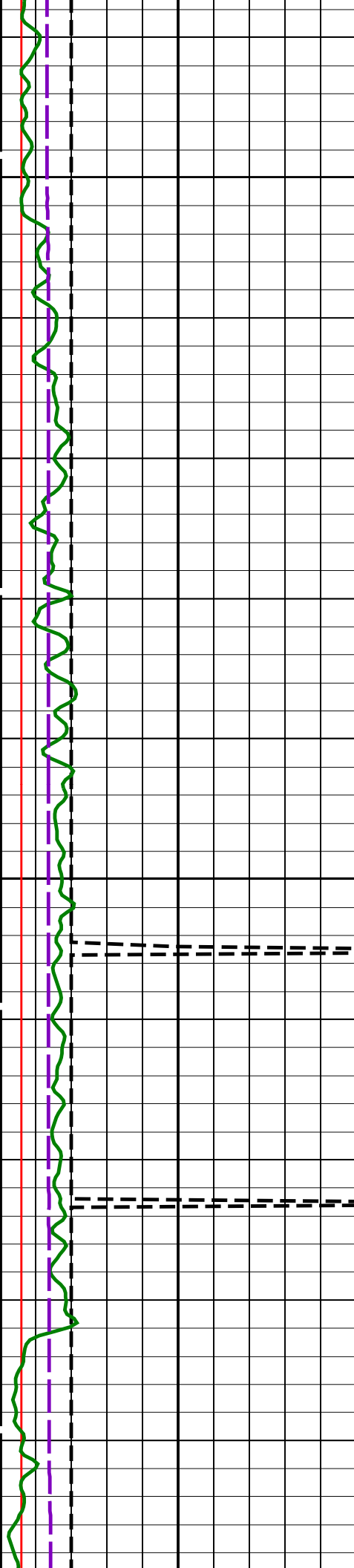


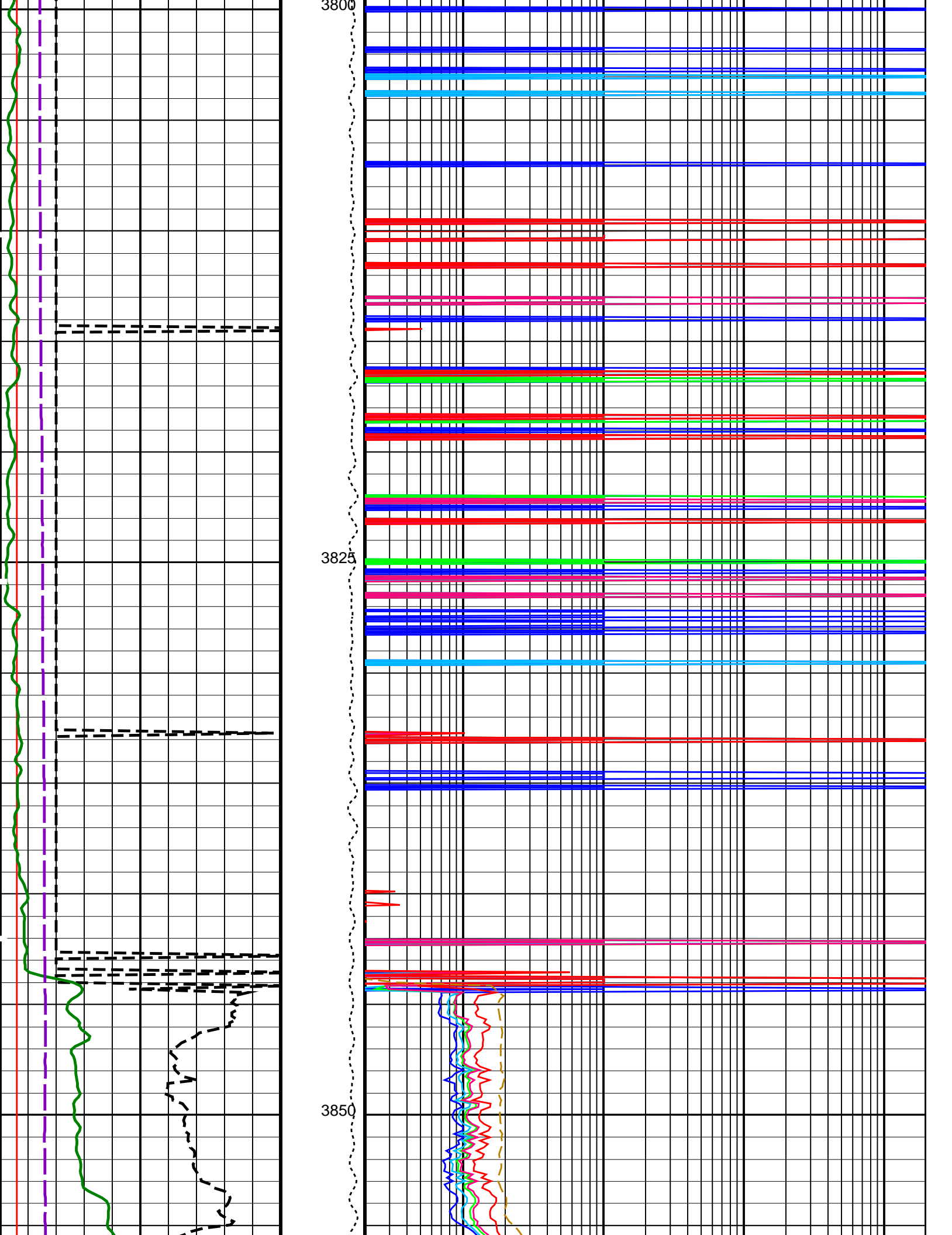


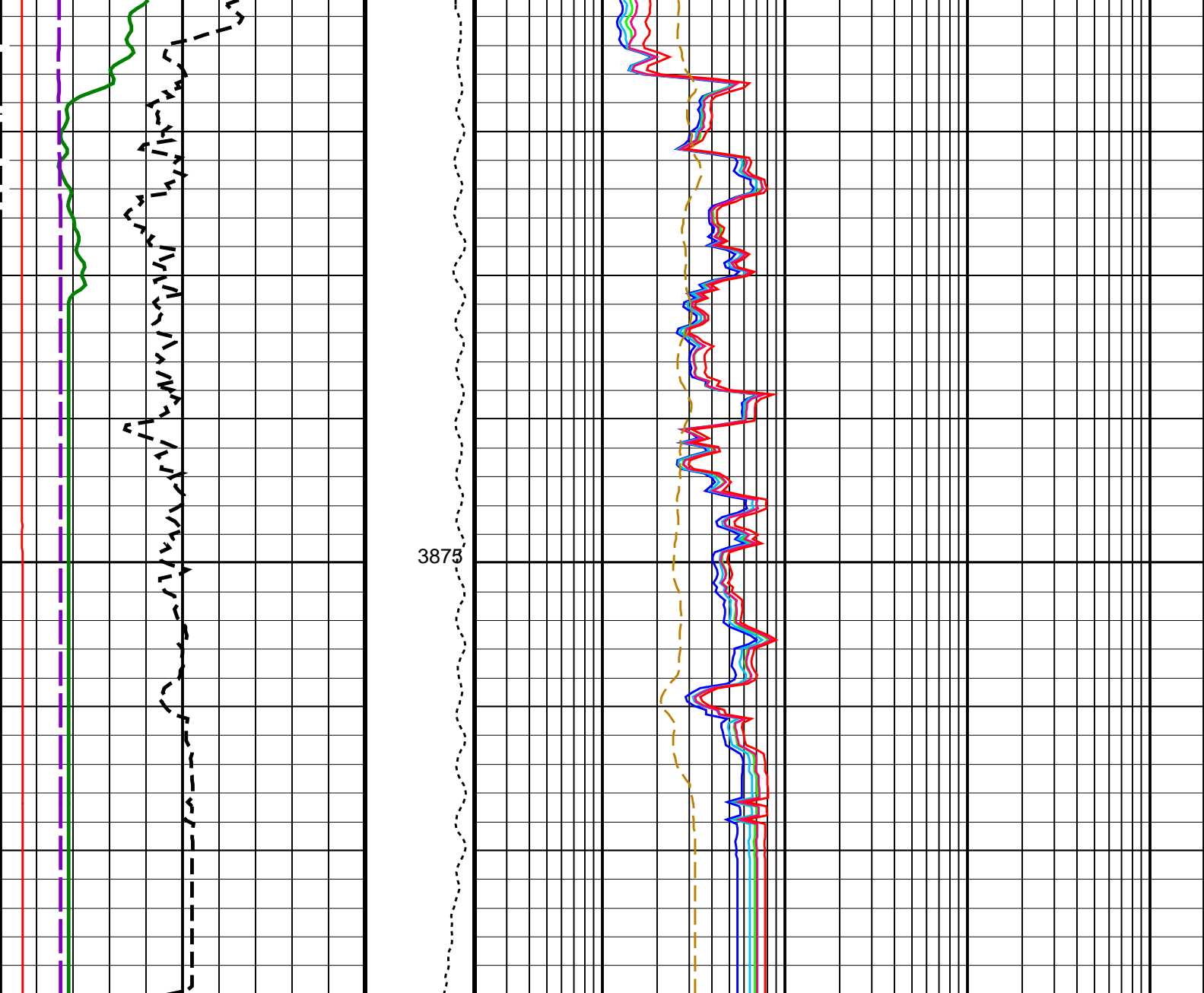


3700

3725







<div>HLDS Caliper (LCAL)</div> <div>020</div> <div>(IN)</div>	<div>Tension (TENS)</div> <div>05000</div> <div>(LBF)</div>	<div>HRLT Resistivity 1 (RLA1)</div> <div>0.22000</div> <div>(OHMM)</div>
<div>Invasion Diameter (DI_HRLT)</div> <div>050</div> <div>(IN)</div>		<div>HRLT Resistivity 2 (RLA2)</div> <div>0.22000</div> <div>(OHMM)</div>
<div>Mud temperature (MTEM)</div> <div>1060</div> <div>(DEGC)</div>		<div>HRLT Resistivity 3 (RLA3)</div> <div>0.22000</div> <div>(OHMM)</div>
<div>HNGS Spectroscopy Gamma Ray (HSGR)</div> <div>0150</div> <div>(GAPI)</div>		<div>HRLT Resistivity 4 (RLA4)</div> <div>0.22000</div> <div>(OHMM)</div>
		<div>HRLT Resistivity 5 (RLA5)</div> <div>0.22000</div> <div>(OHMM)</div>
		<div>HRLT Mud Resistivity (RM_HRLT)</div> <div>0.02200</div> <div>(OHMM)</div>

PIP SUMMARY

Time Mark Every 60 S

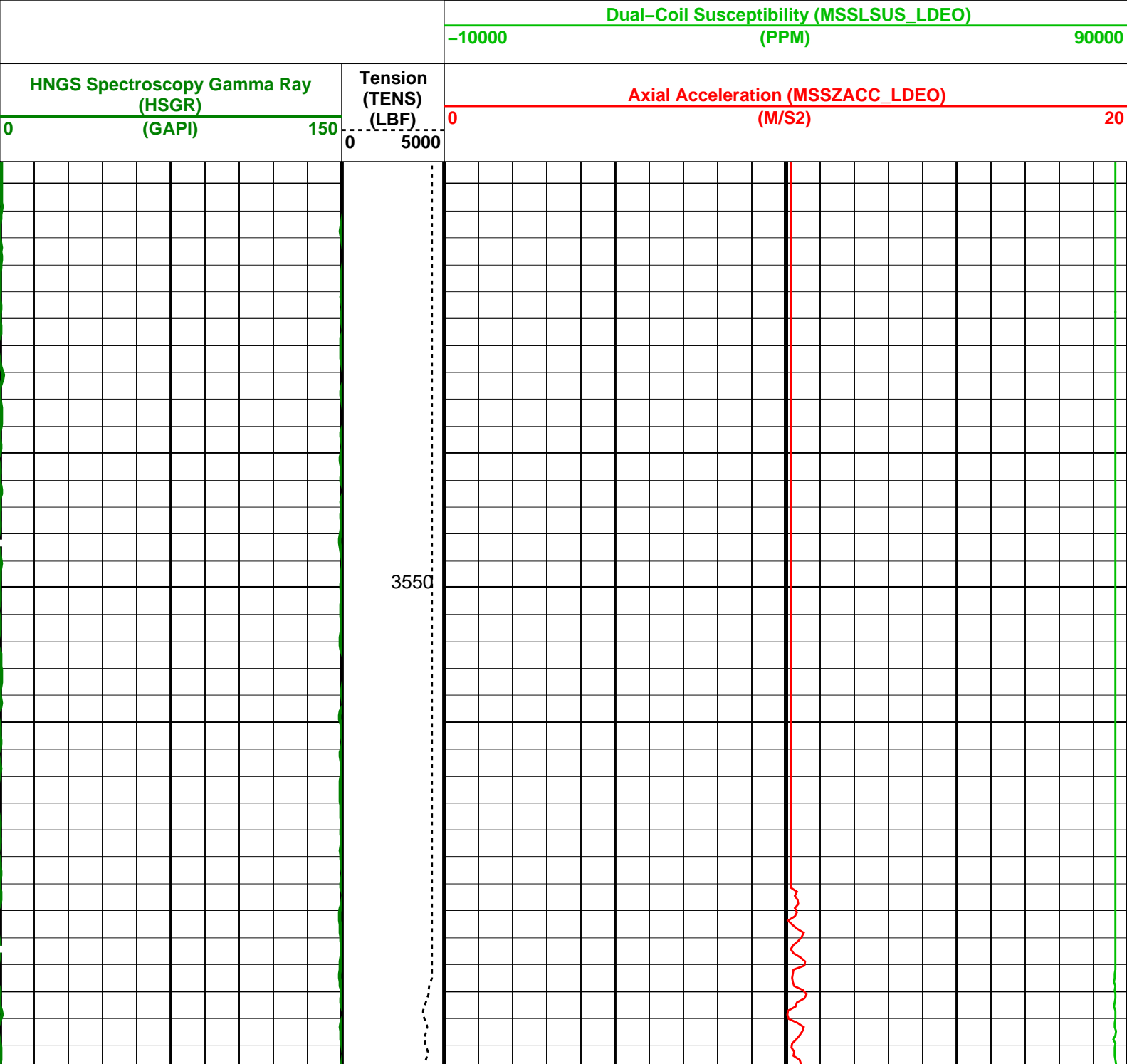
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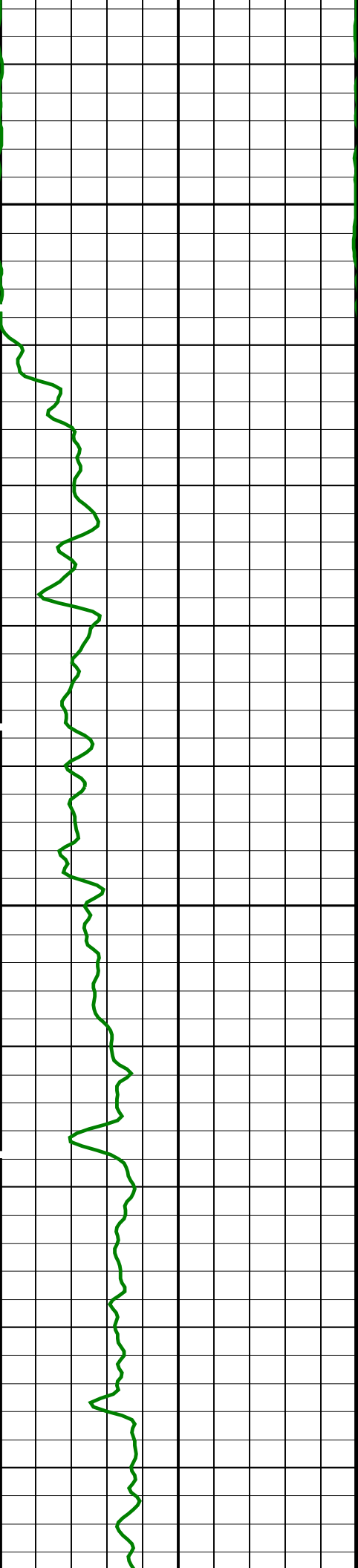
DLIS Name		Value	
HRLT-B: High Resolution Laterolog Array – B			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	35	DEGF
GCSE	Generalized Caliper Selection	BS	
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROGINV	Inversion Selection	ON	
PROCMFL	Inversion Micro-Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Centered	
SHT	Surface Hole Temperature	68	DEGF
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	
BHT	Bottom Hole Temperature (used in calculations)	35	DEGF
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	
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00690543	
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	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.950928	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.938231	
EDTC-B: Enhanced DTS Cartridge			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	35	DEGF
GCSE	Generalized Caliper Selection	BS	
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	23.00	DEGC
PP	Playback Processing	NORMAL	
TD	Total Depth	10190.3	FT
Format: HRLT		Vertical Scale: 1:200	
		Graphics File Created: 26-Mar-2024 22:31	
OP System Version: 19C0-187			
MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
EDTC-B	19C0-187		
Input DLIS Files			
DEFAULT	Flip_MSS_LDEO_HRLA_022LUP	PRODUCER	26-Mar-2024 22:29 3895.0 M 3534.2 M
Output DLIS Files			
DEFAULT	MSS_LDEO_HRLA_LDL_025PUP	FN:13	PRODUCER 26-Mar-2024 22:31
RTB	MSS_LDEO_HRLA_LDL_025PUP	FN:14	PRODUCER 26-Mar-2024 22:31

Input DLIS Files					
DEFAULT	Flip_MSS_LDEO_HRLA_022LUP	PRODUCER	26-Mar-2024 22:29	3895.0 M	3534.2 M
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OP System Version: 19C0-187					
MSS_LDEO-A	19C0-187		HRLT-B	19C0-187	
HLDS	19C0-187		LDSC-B	19C0-187	
HNGC-B	19C0-187		HNGS-BA	19C0-187	
EDTC-B	19C0-187				

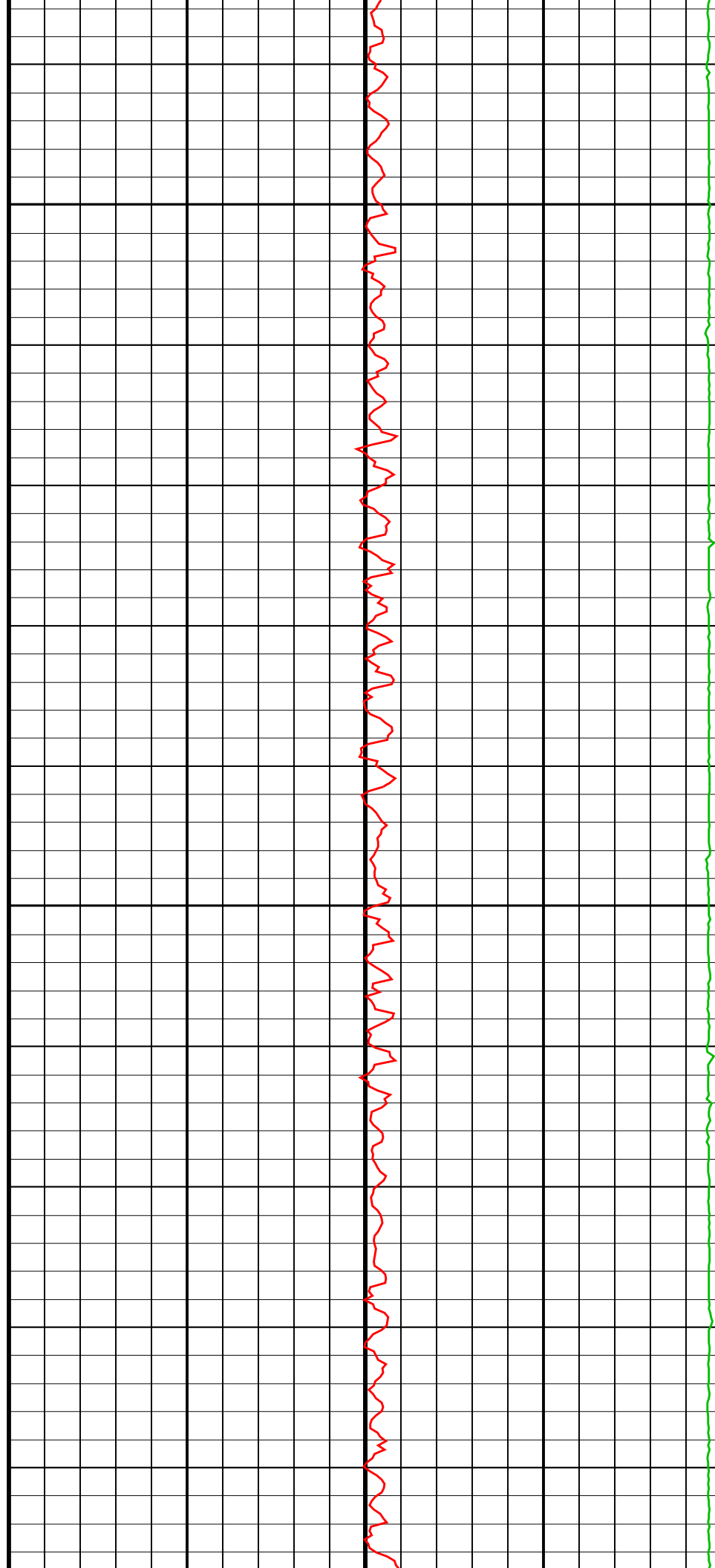
PIP SUMMARY					
Time Mark Every 60 S					

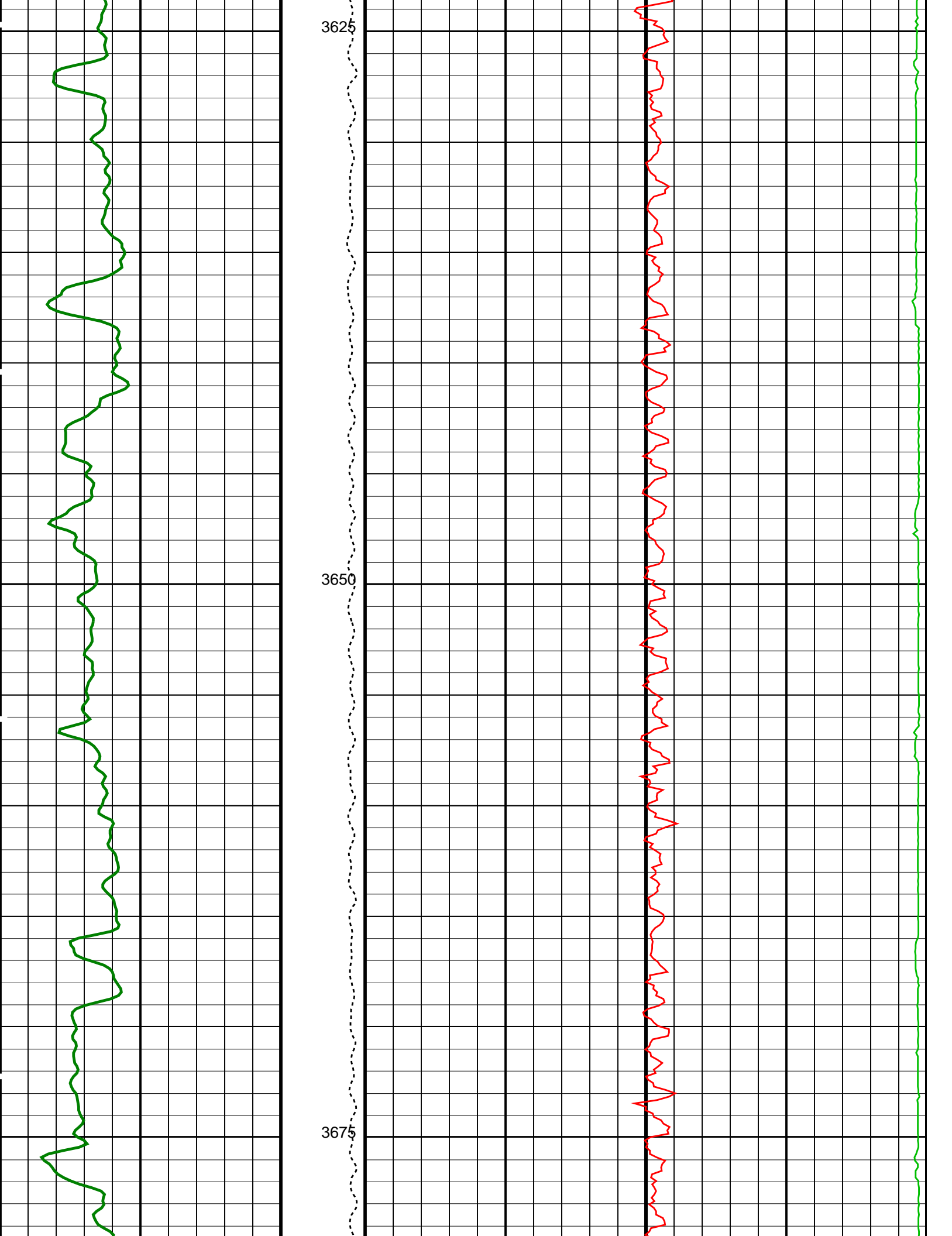


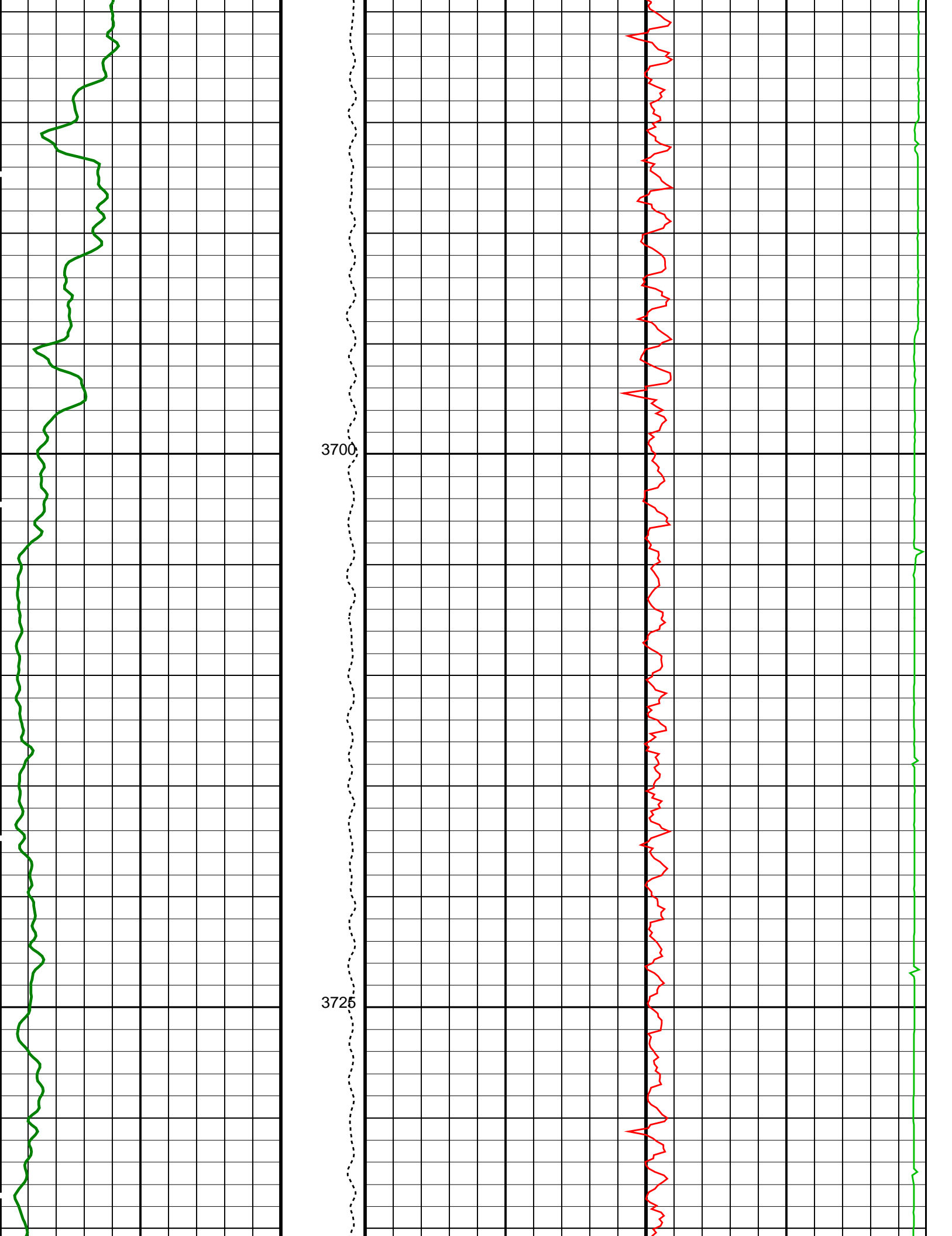


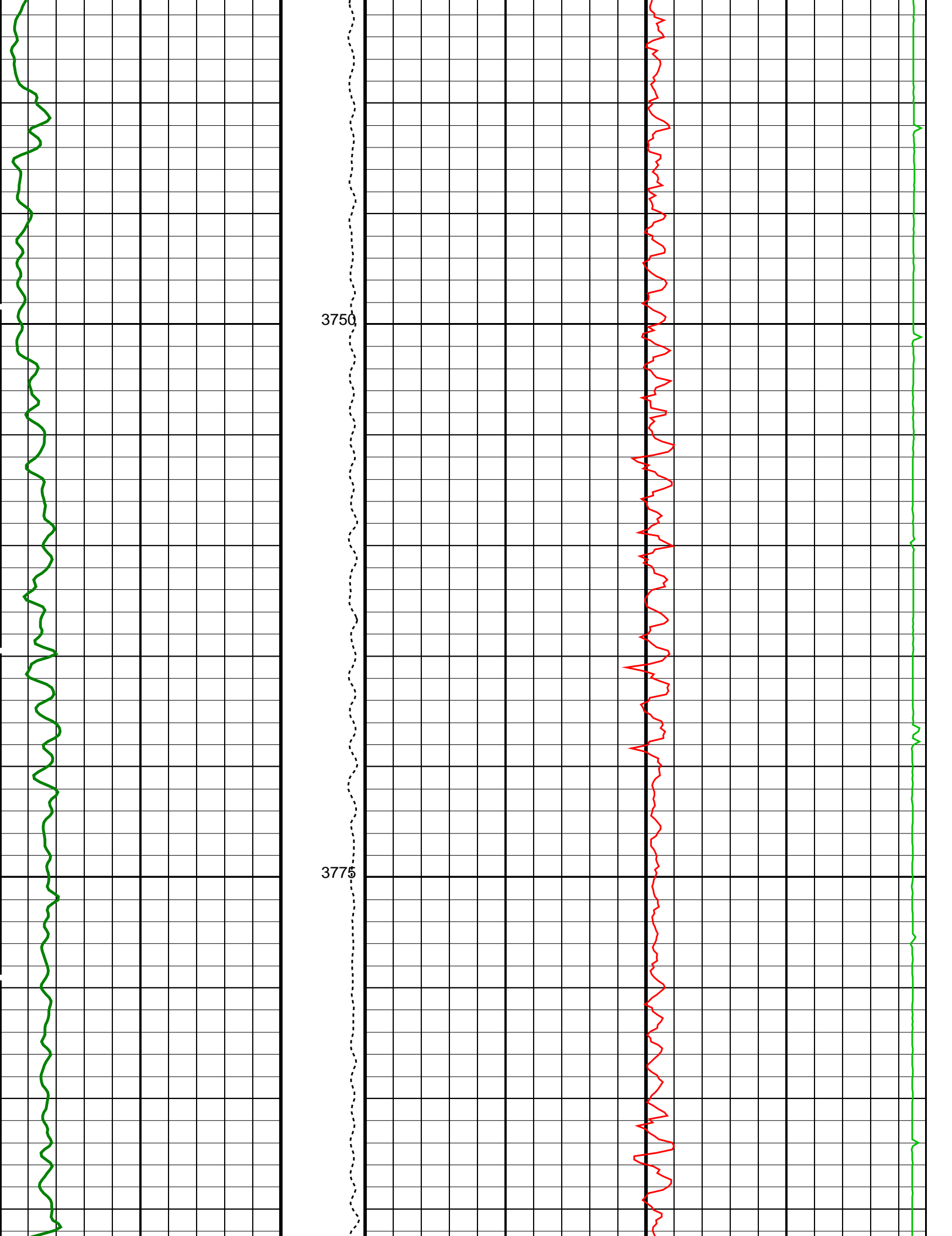
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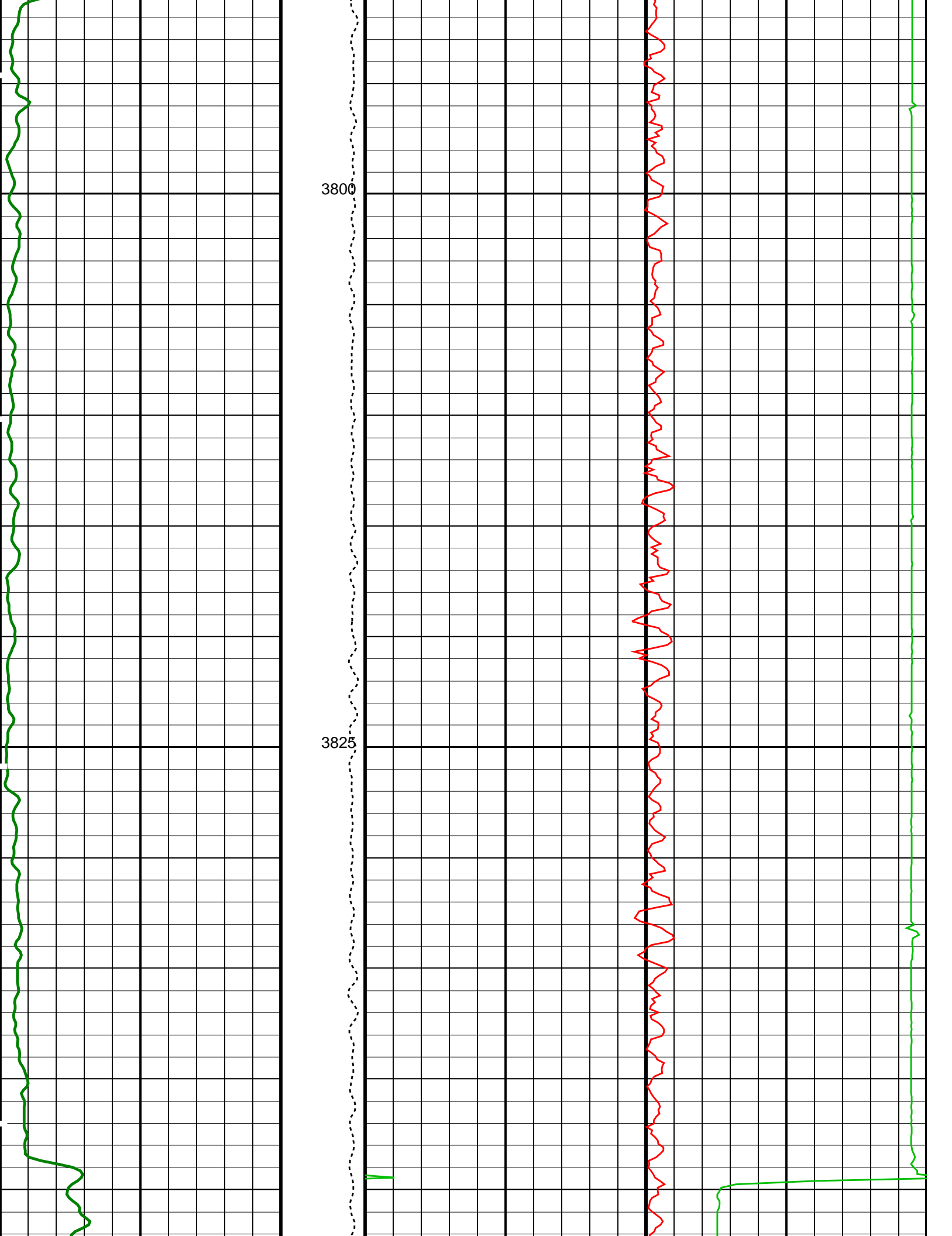
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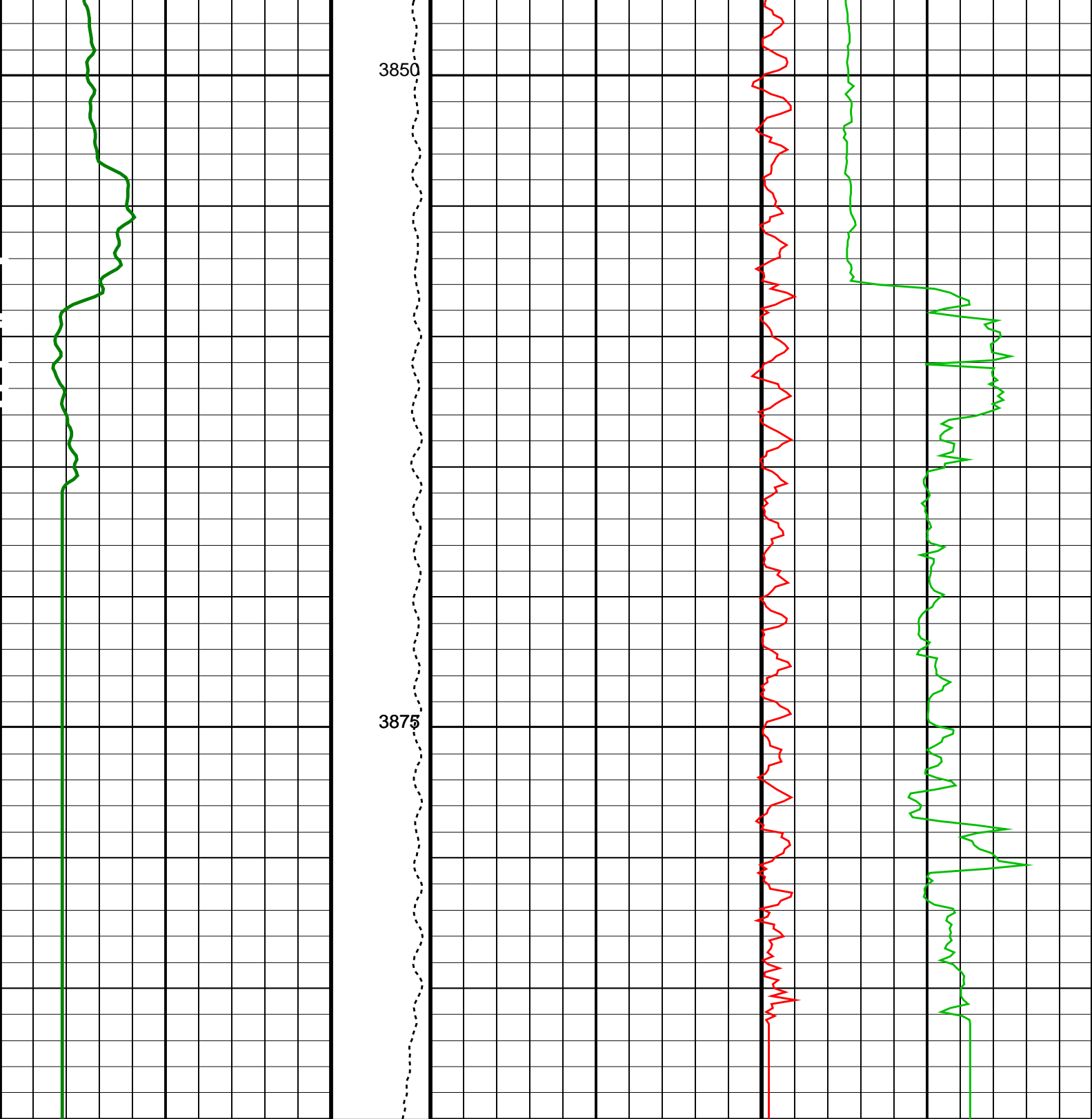












HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)		Tension (TENS) (LBF)	Axial Acceleration (MSSZACC_LDEO) (M/S2)	
0	150	0	5000	20
			Dual-Coil Susceptibility (MSSLSUS_LDEO) (PPM)	
			-10000	90000

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
BHS	HRLT-B: High Resolution Laterolog Array – B Borehole Status	OPEN

Format: MSS_Logging Vertical Scale: 1:200 Graphics File Created: 26-Mar-2024 22:31

MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
EDTC-B	19C0-187		

DEFAULT	Flip_MSS_LDEO_HRLA_022LUP	PRODUCER	26-Mar-2024 22:29	3895.0 M	3534.2 M
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DEFAULT	MSS_LDEO_HRLA_LDL_025PUP	FN:13	PRODUCER	26-Mar-2024 22:31
RTB	MSS LDEO HRLA LDL 025PUP	FN:14	PRODUCER	26-Mar-2024 22:31

Schlumberger

Run1b Downlog 1:200 Scale (flipped)

MAXIS Field Log

Company: International Ocean Discovery Program

Well: Expedition 402, Site U1616E

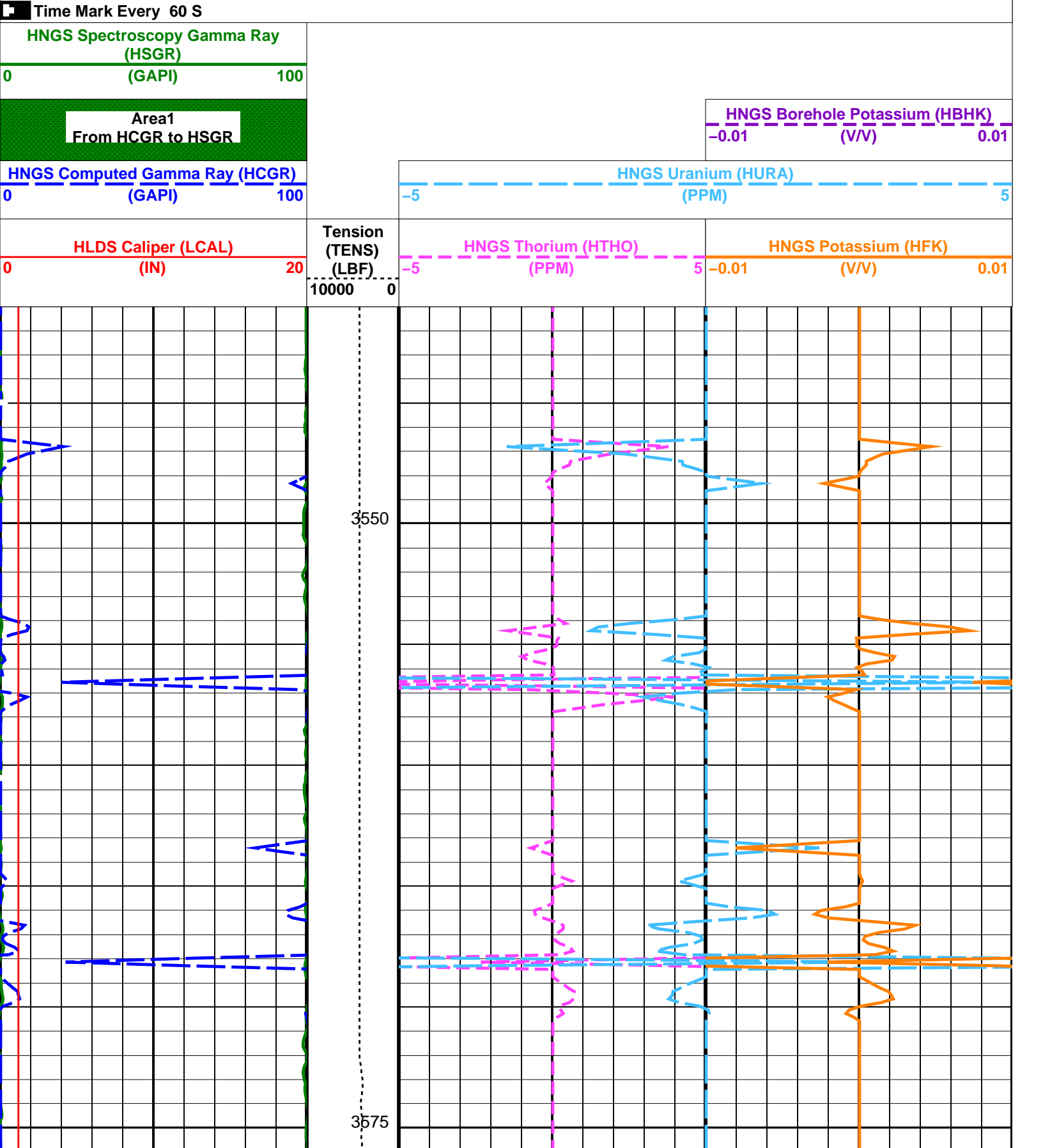
DEFAULT	Flip_MSS_LDEO_HRLA_023LUP	PRODUCER	26-Mar-2024 22:29	3840.3 M	3541.0 M
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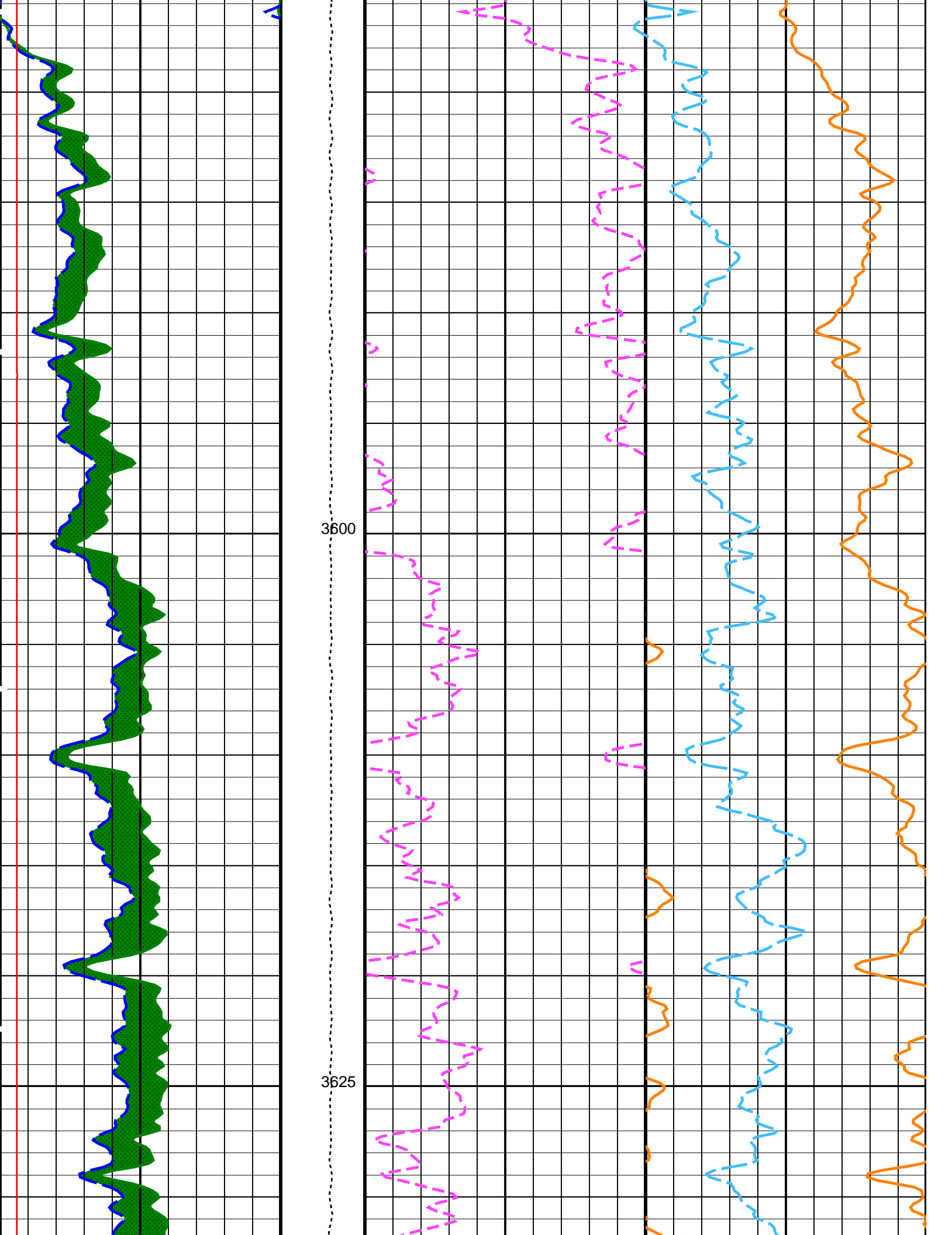
DEFAULT	MSS	LDEO	HRLA	LDL	026PUP	FN:15	PRODUCER	26-Mar-2024 22:32	3840.3 M	3541.0 M
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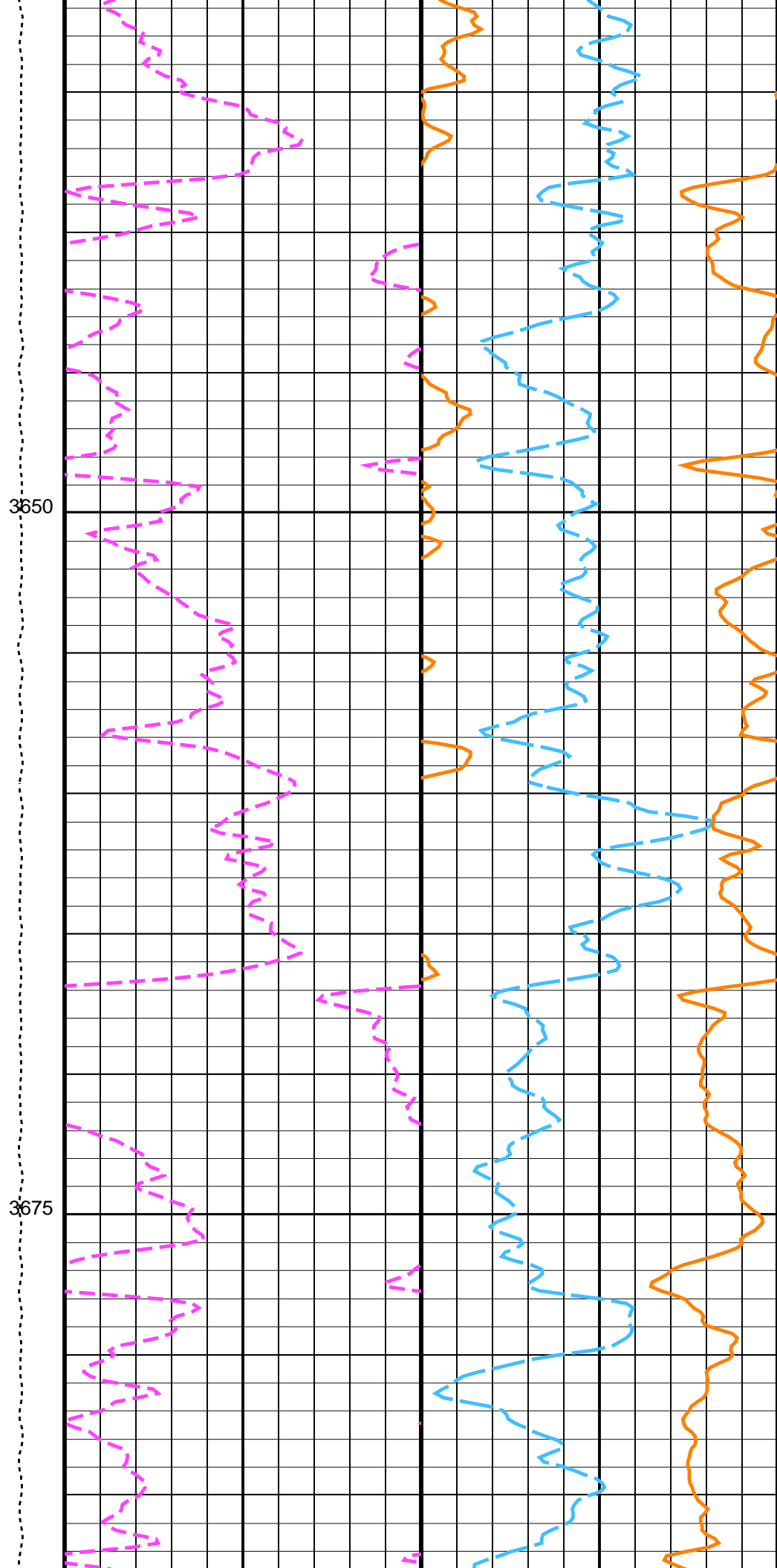
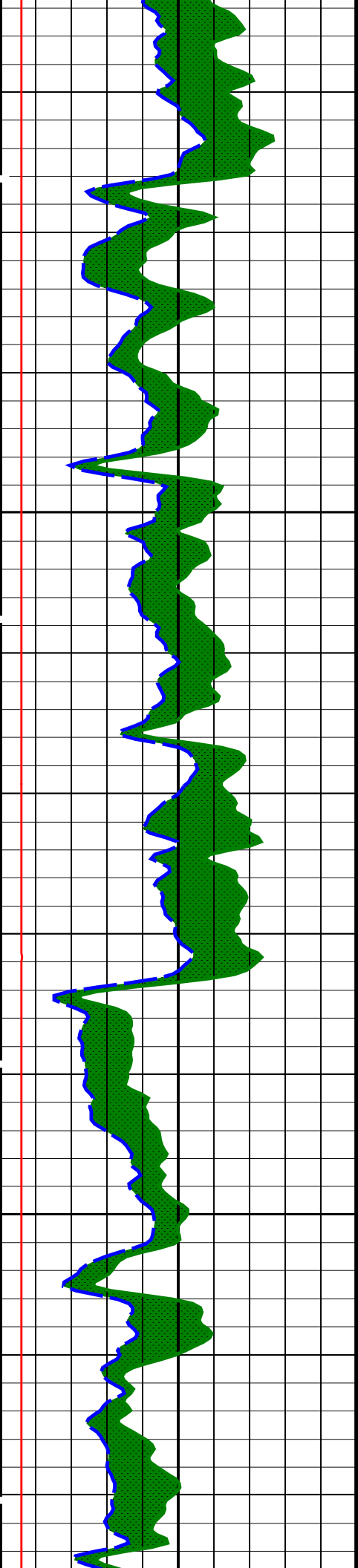
OP System Version: 19C0-187

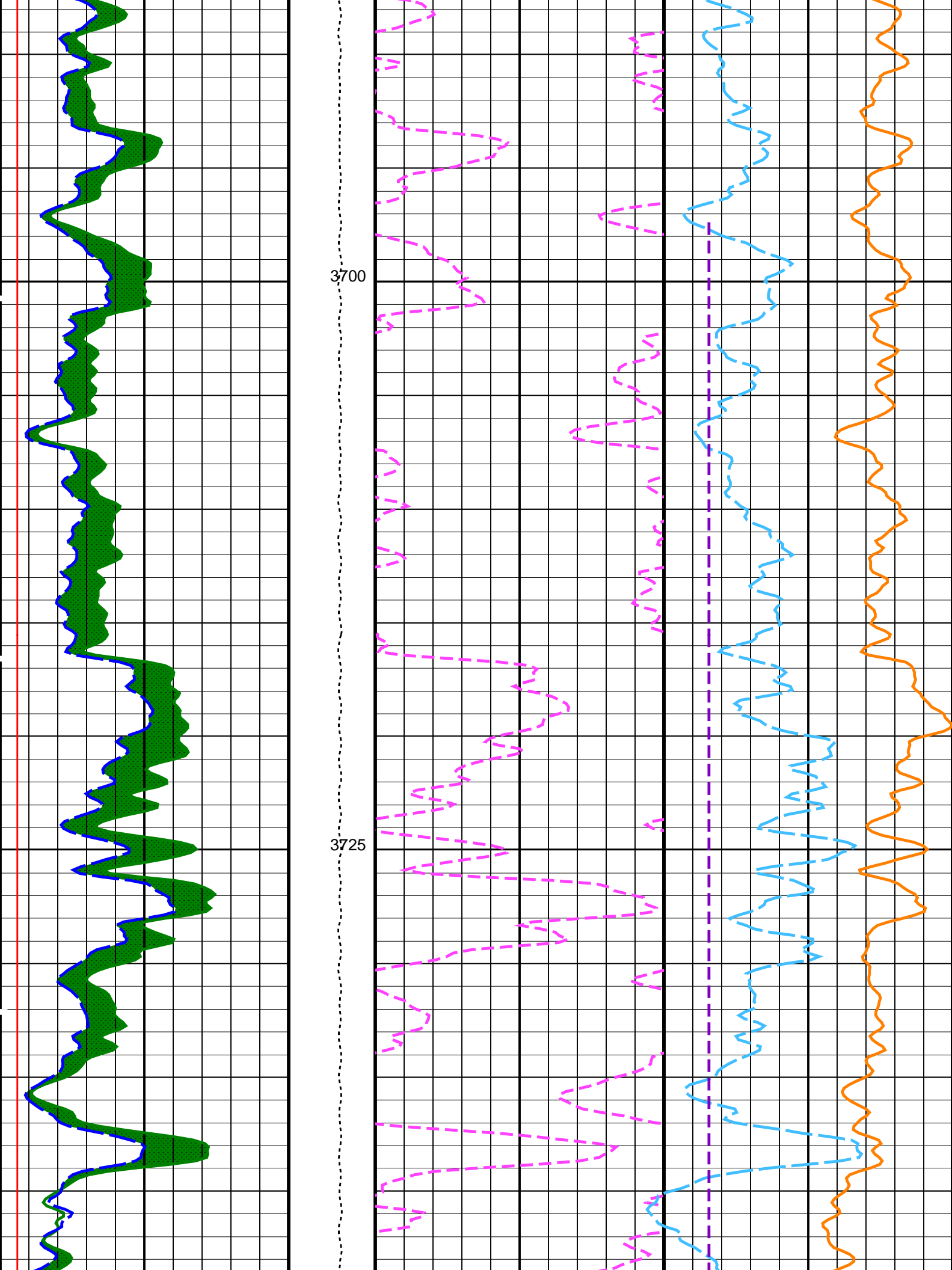
MSS_LDEO-A	19C0-187	HRLT-B	19C0-187
HLDS	19C0-187	LDSC-B	19C0-187
HNGC-B	19C0-187	HNGS-BA	19C0-187
EDTC-B	19C0-187		

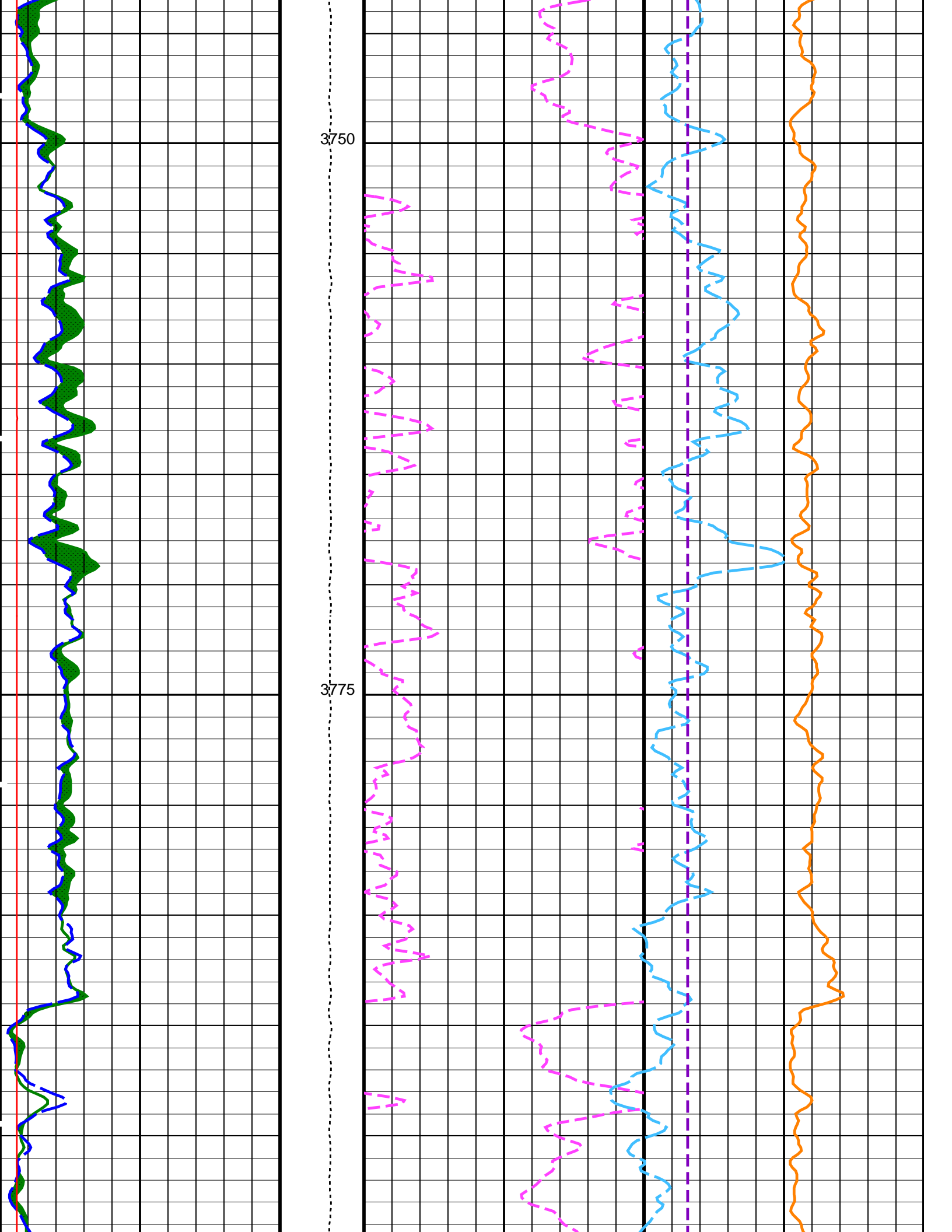
PIP SUMMARY

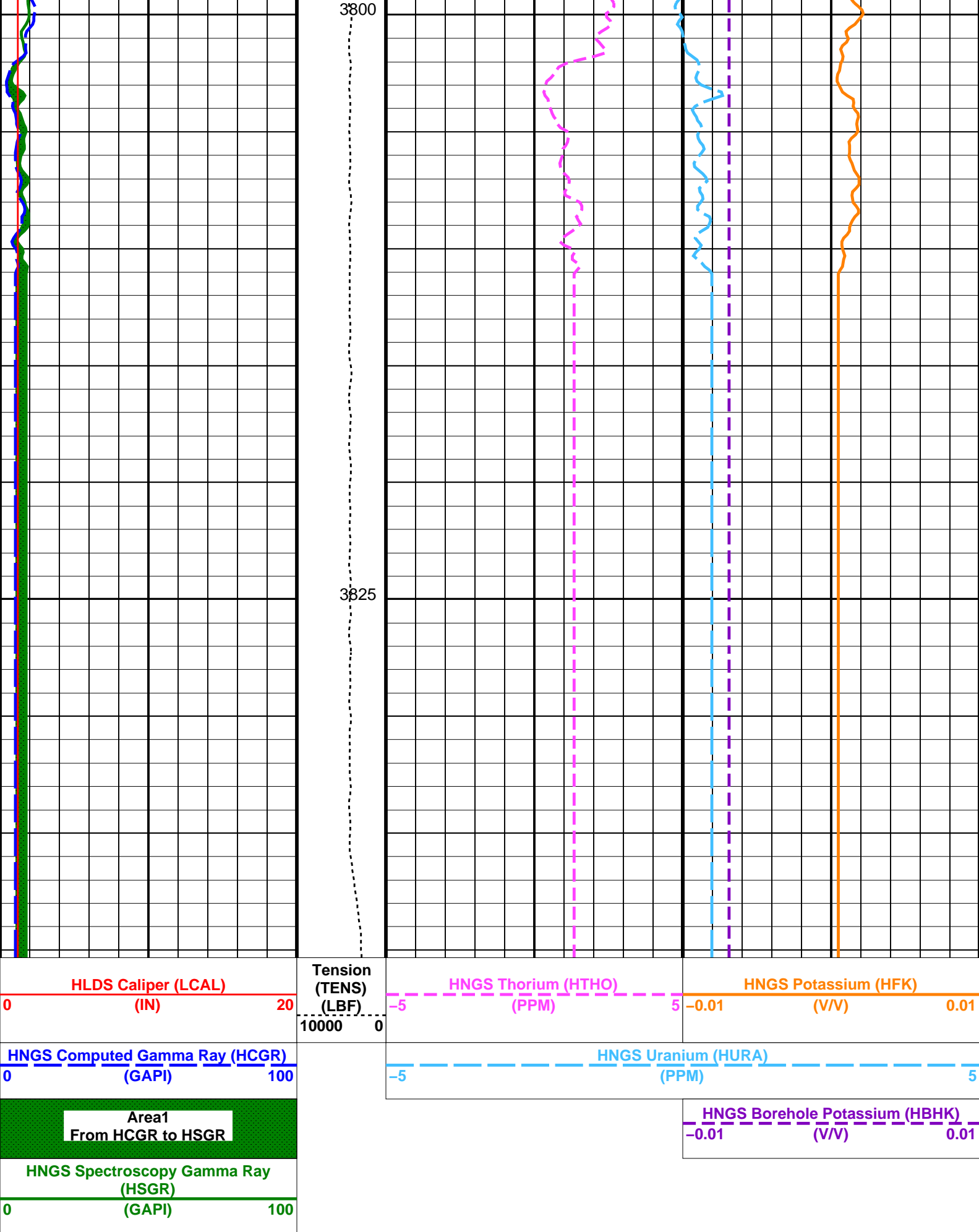












PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name		Description	Parameters		Value	
BHS	HRLT-B: High Resolution Laterolog Array – B				OPEN	
GCSE	Borehole Status				BS	
	Generalized Caliper Selection					
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				-0.00690543	
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				0.950928	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average				0.938231	
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/C3	
DO	Depth Offset for Playback				0.0 M	
PP	Playback Processing				NORMAL	
Format: HNGSYields		Vertical Scale: 1:200		Graphics File Created: 26-Mar-2024 22:32		
OP System Version: 19C0-187						
MSS_LDEO-A	19C0-187	HRLT-B	19C0-187			
HLDS	19C0-187	LDSC-B	19C0-187			
HNGC-B	19C0-187	HNGS-BA	19C0-187			
EDTC-B	19C0-187					
Input DLIS Files						
DEFAULT	Flip_MSS_LDEO_HRLA_023LUP	PRODUCER	26-Mar-2024 22:29	3840.3 M	3541.0 M	
Output DLIS Files						
DEFAULT	MSS_LDEO_HRLA_LDL_026PUP	FN:15	PRODUCER	26-Mar-2024 22:32		
RTB	MSS_LDEO_HRLA_LDL_026PUP	FN:16	PRODUCER	26-Mar-2024 22:32		
<div><div><div>Schlumberger</div></div><div>Calibrations 1:200 Scale (flipped)</div></div> <div>MAXIS Field Log</div>						

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High Resolution Laterolog Array – B Wellsite Calibration – HRLT M01							
Before: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT M0–M1 Voltage Plus – 0	0	N/A	–318.8	–319.0	–0.2289	9.681	UV
HRLT M0–M1 Voltage Plus – 1	0	N/A	–331.4	–332.9	–1.542	9.681	UV
HRLT M0–M1 Voltage Plus – 2	0	N/A	–338.3	–339.7	–1.421	9.681	UV
HRLT M0–M1 Voltage Plus – 3	0	N/A	–328.8	–329.9	–1.116	9.681	UV
HRLT M0–M1 Voltage Plus – 4	0	N/A	–319.5	–320.0	–0.5334	9.681	UV
HRLT M0–M1 Voltage Plus – 5	0	N/A	–321.3	–321.7	–0.4282	9.681	UV
HRLT M0–M1 Voltage Plus – 6	0	N/A	320.4	323.3	2.883	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT M1–M2 Voltage Plus – 0	0	N/A	1739	1741	2.389	53.42	UV
HRLT M1–M2 Voltage Plus – 1	0	N/A	1810	1820	9.417	53.42	UV
HRLT M1–M2 Voltage Plus – 2	0	N/A	1843	1851	8.734	53.42	UV
HRLT M1–M2 Voltage Plus – 3	0	N/A	1792	1798	6.873	53.42	UV
HRLT M1–M2 Voltage Plus – 4	0	N/A	1742	1745	3.483	53.42	UV
HRLT M1–M2 Voltage Plus – 5	0	N/A	1753	1756	3.439	53.42	UV
HRLT M1–M2 Voltage Plus – 6	0	N/A	–1757	–1774	–16.59	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT M2–M3 Voltage Plus – 0	0	N/A	1732	1733	1.299	53.42	UV
HRLT M2–M3 Voltage Plus – 1	0	N/A	1813	1821	7.381	53.42	UV
HRLT M2–M3 Voltage Plus – 2	0	N/A	1847	1855	7.467	53.42	UV
HRLT M2–M3 Voltage Plus – 3	0	N/A	1800	1806	6.333	53.42	UV
HRLT M2–M3 Voltage Plus – 4	0	N/A	1745	1747	2.315	53.42	UV
HRLT M2–M3 Voltage Plus – 5	0	N/A	1757	1759	1.486	53.42	UV
HRLT M2–M3 Voltage Plus – 6	0	N/A	–1749	–1764	–15.46	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT A3–A4 Voltage Plus – 0	0	N/A	68590	68710	126.7	2100	UV
HRLT A3–A4 Voltage Plus – 1	0	N/A	71660	72020	355.7	2100	UV
HRLT A3–A4 Voltage Plus – 2	0	N/A	73290	73640	343.4	2100	UV
HRLT A3–A4 Voltage Plus – 3	0	N/A	71670	71960	289.2	2100	UV
HRLT A3–A4 Voltage Plus – 4	0	N/A	69430	69590	162.4	2100	UV
HRLT A3–A4 Voltage Plus – 5	0	N/A	69920	70050	133.3	2100	UV
HRLT A3–A4 Voltage Plus – 6	0	N/A	–68140	–68800	–656.2	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT A4–A5 Voltage Plus – 0	0	N/A	68670	68790	113.5	2100	UV
HRLT A4–A5 Voltage Plus – 1	0	N/A	71870	72230	357.5	2100	UV
HRLT A4–A5 Voltage Plus – 2	0	N/A	73480	73820	341.8	2100	UV
HRLT A4–A5 Voltage Plus – 3	0	N/A	71820	72130	301.3	2100	UV
HRLT A4–A5 Voltage Plus – 4	0	N/A	69540	69690	153.1	2100	UV
HRLT A4–A5 Voltage Plus – 5	0	N/A	70020	70150	130.1	2100	UV
HRLT A4–A5 Voltage Plus – 6	0	N/A	–68350	–69020	–665.7	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT A5–A6 Voltage Plus – 0	0	N/A	68530	68650	121.1	2100	UV
HRLT A5–A6 Voltage Plus – 1	0	N/A	71710	72080	366.7	2100	UV
HRLT A5–A6 Voltage Plus – 2	0	N/A	73340	73690	350.0	2100	UV
HRLT A5–A6 Voltage Plus – 3	0	N/A	71680	72000	318.0	2100	UV
HRLT A5–A6 Voltage Plus – 4	0	N/A	69400	69560	155.8	2100	UV
HRLT A5–A6 Voltage Plus – 5	0	N/A	69890	70040	143.0	2100	UV
HRLT A5–A6 Voltage Plus – 6	0	N/A	–68190	–68850	–661.4	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							
HRLT Torpedo–M0 Voltage – 0	0	N/A	–68070	–68160	–91.65	2100	UV
HRLT Torpedo–M0 Voltage – 1	0	N/A	–71530	–71880	–352.9	2100	UV
HRLT Torpedo–M0 Voltage – 2	0	N/A	–73180	–73510	–325.3	2100	UV
HRLT Torpedo–M0 Voltage – 3	0	N/A	–71610	–71880	–272.7	2100	UV
HRLT Torpedo–M0 Voltage – 4	0	N/A	–69370	–69510	–141.7	2100	UV
HRLT Torpedo–M0 Voltage – 5	0	N/A	–69860	–69970	–110.7	2100	UV
HRLT Torpedo–M0 Voltage – 6	0	N/A	67960	68600	644.8	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: 26–Mar–2024 12:10 After: 27–Mar–2024 0:45							

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68100	-68200	-97.64	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-71600	-71970	-372.9	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-73270	-73600	-333.2	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-71670	-71970	-297.3	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-69410	-69560	-147.4	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-69890	-70010	-124.9	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	68040	68690	657.2	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: 26-Mar-2024 12:10 After: 27-Mar-2024 0:45							
HRLT Source Current Plus - 0	0	N/A	284.0	284.5	0.5171	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: 26-Mar-2024 12:10 After: 27-Mar-2024 0:45							
HRLT Vertical Voltage PI - 0	0	N/A	-320.5	-320.4	0.1011	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-325.1	-326.4	-1.284	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-331.1	-332.2	-1.097	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-320.4	-321.2	-0.7445	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-308.8	-309.0	-0.2028	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-325.6	-325.7	-0.1018	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	326.8	329.4	2.553	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: 5-Feb-2024 14:31 Before: 26-Mar-2024 12:13 After: 27-Mar-2024 0:48							
SS Cs Resolution Bkg	9.000	7.740	7.736	7.725	-0.01153	1.800	%
LS Cs Resolution Bkg	9.000	8.164	8.042	8.151	0.1093	1.800	%
LSW1 Background	100.0	67.09	65.81	66.15	0.3494	3.000	CPS
LSW2 Background	100.0	61.34	59.57	61.27	1.701	3.000	CPS
LSW3 Background	200.0	139.1	137.3	136.9	-0.4193	6.000	CPS
LSW4 Background	250.0	170.9	168.7	169.6	0.8390	7.500	CPS
LSW5 Background	600.0	398.8	395.8	395.4	-0.4188	18.00	CPS
SSW1 Background	100.0	64.20	64.19	64.95	0.7601	3.000	CPS
SSW2 Background	200.0	111.7	113.2	112.7	-0.5721	6.000	CPS
SSW3 Background	500.0	309.0	310.3	309.5	-0.7972	15.00	CPS
SSW4 Background	270.0	168.1	168.2	168.2	-0.04488	8.100	CPS
SSW5 Background	200.0	118.8	118.5	118.1	-0.3990	6.000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Master: 5-Feb-2024 15:19							
LSW1 Aluminum	600.0	404.4	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	584.3	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	709.7	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	358.1	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	321.6	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	1939	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	5349	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	7472	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	2948	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	328.7	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement

Master: 5-Feb-2024 15:12							
LSW1 Iron	400.0	282.3	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	487.5	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	641.5	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	332.1	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	306.1	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1464	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	4601	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	7020	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	2788	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	307.0	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration

Before: 5-Feb-2024 13:50							
HLDS Caliper Small Ring	12.00	N/A	16.56	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	19.92	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: Calibration out of date 20-Apr-2023 2:22 Before: 26-Mar-2024 12:14 After: 27-Mar-2024 0:48							
Na 511 Peak Loc	40.00	38.56	38.57	38.52	-0.04628	1.000	
Na 511 Peak Res	15.50	16.82	16.49	16.29	-0.2005	2.000	%
High Voltage	1150	1206	1192	1199	6.536	N/A	V

High Voltage	1150	1200	1152	1155	0.355	N/A	V
Na 1785 Peak Loc	142.6	139.2	139.1	139.5	0.3548	7.000	%
Na 1785 Peak Res	8.500	9.087	7.414	8.669	1.255	2.000	%
Temperature	15.50	26.64	20.97	21.71	0.7413	N/A	DEGC
Na Count Rate	45.00	47.40	37.54	36.14	-1.401	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check							
Master: Calibration out of date	20-Apr-2023 2:22	Before: 26-Mar-2024 12:14	After: 27-Mar-2024 0:48				
Na 511 Peak Loc	40.00	39.72	39.50	39.56	0.06071	1.000	
Na 511 Peak Res	15.50	15.41	16.07	16.20	0.1276	2.000	%
High Voltage	1150	1089	1079	1089	10.03	N/A	V
Na 1785 Peak Loc	142.6	142.9	142.9	142.8	-0.05634	7.000	
Na 1785 Peak Res	8.500	8.753	8.058	8.096	0.03827	2.000	%
Temperature	15.50	25.53	20.25	22.06	1.808	N/A	DEGC
Na Count Rate	45.00	47.70	37.60	36.42	-1.172	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2							
Master: Calibration out of date	20-Apr-2023 2:22	Before: 26-Mar-2024 12:14	After: 27-Mar-2024 0:48				
Coincidence Count Rate Ratio	1.000	0.9913	0.9939	0.9884	-0.005502	0.05000	
Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration							
Before: 26-Mar-2024 12:09							
EDTC Z-Axis Acceleration	9.810	N/A	9.774	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration							
Before: 26-Mar-2024 12:16	After: 27-Mar-2024 0:45						
Gamma Ray (Jig – Bkg)	163.1	N/A	163.1	158.0	-5.112	14.83	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	159.8	-5.170	15.00	GAPI

High Resolution Laterolog Array – B / Equipment Identification

Primary Equipment:

HRLT Sonde

HRLS – B

768

Auxiliary Equipment:

HRLT lower Housing

HRLH – B

1869

HRLT Lower Cartridge

HRLC – B

1897

HRLT upper Housing
















HRUH – B

975

HRLT Upper Cartridge

















HRUC – B

964

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT M01							
Idx	Phase	HRLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-318.8	-322.7	-280.7	-379.7	
	After		-319.0				
1	Before		-331.4	-322.7	-280.7	-379.7	
	After		-332.9				
2	Before		-338.3	-322.7	-280.7	-379.7	
	After		-339.7				
3	Before		-328.8	-322.7	-280.7	-379.7	
	After		-329.9				
4	Before		-319.5	-322.7	-280.7	-379.7	
	After		-320.0				
5	Before		-321.3	-322.7	-280.7	-379.7	
	After		-321.7				
6	Before		320.4	322.7	379.7	280.7	
	After		323.3				
7	Before		-322.7	-322.7	-280.7	-379.7	
	After		-322.7				
(Minimum) (Nominal) (Maximum)							

















Before: 26-Mar-2024 12:10

After: 27-Mar-2024 0:45

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M12						
Idx	Phase	HRLT M1–M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1739	1781	2095	1549
	After		1741			
1	Before		1810	1781	2095	1549
	After		1820			
2	Before		1843	1781	2095	1549
	After		1851			
3	Before		1792	1781	2095	1549
	After		1798			
4	Before		1742	1781	2095	1549
	After		1745			
5	Before		1753	1781	2095	1549
	After		1756			
6	Before		-1757	-1781	-1549	-2095
	After		-1774			
7	Before		1781	1781	2095	1549
	After		1781			
		(Minimum) (Nominal) (Maximum)				

















Before: 26–Mar–2024 12:10

















After: 27–Mar–2024 0:45


High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2–M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1732	1781	2095	1549
	After		1733			
1	Before		1813	1781	2095	1549
	After		1821			
2	Before		1847	1781	2095	1549
	After		1855			
3	Before		1800	1781	2095	1549
	After		1806			
4	Before		1745	1781	2095	1549
	After		1747			
5	Before		1757	1781	2095	1549
	After		1759			
6	Before		-1749	-1781	-1549	-2095
	After		-1764			
7	Before		1781	1781	2095	1549
	After		1781			
		(Minimum) (Nominal) (Maximum)				
















Before: 26–Mar–2024 12:10

















After: 27–Mar–2024 0:45




HRLT V34						
Idx	Phase	HRLT A3–A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68590	70000	82360	60900
	After		68710			
1	Before		71660	70000	82360	60900
	After		72020			
2	Before		73290	70000	82360	60900
	After		73640			
3	Before		71670	70000	82360	60900
	After		71960			
4	Before		69430	70000	82360	60900
	After		69590			
5	Before		69920	70000	82360	60900
	After		70050			
6	Before		–68140	–70000	–60900	–82360
	After		–68800			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 26–Mar–2024 12:10						
After: 27–Mar–2024 0:45						













High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4–A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68670	70000	82360	60900
	After		68790			
1	Before		71870	70000	82360	60900
	After		72230			
2	Before		73480	70000	82360	60900
	After		73820			
3	Before		71820	70000	82360	60900
	After		72130			
4	Before		69540	70000	82360	60900
	After		69690			
5	Before		70020	70000	82360	60900
	After		70150			
6	Before		–68350	–70000	–60900	–82360
	After		–69020			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 26–Mar–2024 12:10						
After: 27–Mar–2024 0:45						

















High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5–A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68530	70000	82360	60900
	After					






1	After		68650	70000	82360	60900
	Before		71710			
	After		72080			
2	Before		73340	70000	82360	60900
	After		73690			
3	Before		71680	70000	82360	60900
	After		72000			
4	Before		69400	70000	82360	60900
	After		69560			
5	Before		69890	70000	82360	60900
	After		70040			
6	Before		-68190	-70000	-60900	-82360
	After		-68850			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 26-Mar-2024 12:10						
After: 27-Mar-2024 0:45						












High Resolution Laterolog Array – B Wellsite Calibration							
HRLT VTP							
Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-68070	-70000	-60900	-82360	
	After		-68160				
1	Before		-71530	-70000	-60900	-82360	
	After		-71880				
2	Before		-73180	-70000	-60900	-82360	
	After		-73510				
3	Before		-71610	-70000	-60900	-82360	
	After		-71880				
4	Before		-69370	-70000	-60900	-82360	
	After		-69510				
5	Before		-69860	-70000	-60900	-82360	
	After		-69970				
6	Before		67960	70000	82360	60900	
	After		68600				
7	Before		-70000	-70000	-60900	-82360	
	After		-70000				
(Minimum) (Nominal) (Maximum)							
Before: 26-Mar-2024 12:10							
After: 27-Mar-2024 0:45							

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT VBD							
Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-68100	-70000	-60900	-82360	
	After		-68200				
4	Before		-71600	70000	82360	60900	





































2	After		-71970	-70000	-60900	-82360
	Before		-73270			
3	After		-73600	-70000	-60900	-82360
	Before		-71670			
4	After		-71970	-70000	-60900	-82360
	Before		-69410			
5	After		-69560	-70000	-60900	-82360
	Before		-69890			
6	After		-70010	70000	82360	60900
	Before		68040			
7	After		68690	-70000	-60900	-82360
	Before		-70000			
(Minimum) (Nominal) (Maximum)						
Before: 26-Mar-2024 12:10						
After: 27-Mar-2024 0:45						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.0	284.0	334.1	247.0
	After		284.5			
1	Before		281.1	281.1	330.7	244.4
	After		281.1			
2	Before		281.1	281.1	330.7	244.4
	After		281.1			
3	Before		281.1	281.1	330.7	244.4
	After		281.1			
4	Before		281.1	281.1	330.7	244.4
	After		281.1			
5	Before		281.1	281.1	330.7	244.4
	After		281.1			
6	Before		281.1	281.1	330.7	244.4
	After		281.1			
7	Before		281.1	281.1	330.7	244.4
	After		281.1			
(Minimum) (Nominal) (Maximum)						
Before: 26-Mar-2024 12:10						
After: 27-Mar-2024 0:45						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-320.5	-322.7	-280.7	-379.7
	After		-320.4			
1	Before		-325.1	-322.7	-280.7	-379.7
	After		-326.4			
2	Before		-331.1	-322.7	-280.7	-379.7

3	After		-332.2	-322.7	-280.7	-379.7
	Before		-320.4	-322.7	-280.7	-379.7
	After		-321.2			
4	Before		-308.8	-322.7	-280.7	-379.7
	After		-309.0			
5	Before		-325.6	-322.7	-280.7	-379.7
	After		-325.7			
6	Before		326.8	322.7	379.7	280.7
	After		329.4			
7	Before		-322.7	-322.7	-280.7	-379.7
	After		-322.7			
(Minimum) (Nominal) (Maximum)						
Before: 26-Mar-2024 12:10						
After: 27-Mar-2024 0:45						

Hostile Litho-Density Sonde / Equipment Identification		
Primary Equipment:		
Gamma Source Radioactive	GSR – ZA	2945
Hostile Litho Density Sonde	HLDS – D	77
Hostile Litho Density High Voltage	HLDV – D	67
Auxiliary Equipment:		
Hostile Litho Density High Voltage Housi	HEH – H	67
Hostile Litho Density Pad	HLDP – C	83

Hostile Litho-Density Sonde Wellsite Calibration								
Background Measurement								
Phase	SS Cs Resolution Bkg %	Value	Phase	LS Cs Resolution Bkg %	Value	Phase	LSW1 Background CPS	Value
Master		7.740	Master		8.164	Master		67.09
Before		7.736	Before		8.042	Before		65.81
After		7.725	After		8.151	After		66.15
7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)		
Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value
Master		61.34	Master		139.1	Master		170.9
Before		59.57	Before		137.3	Before		168.7
After		61.27	After		136.9	After		169.6
50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)			140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)		
Phase	LSW5 Background CPS	Value	Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value
Master		398.8	Master		64.20	Master		111.7
Before		395.8	Before		64.19	Before		113.2
After		395.4	After		64.95	After		112.7
330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)		
Phase	SSW3 Background CPS	Value	Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value
Master		309.0	Master		168.1	Master		118.8
Before		310.3	Before		168.2	Before		118.5
After		309.5	After		168.2	After		118.1
280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)			150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)		
Master: 5-Feb-2024 14:31			Before: 26-Mar-2024 12:13			After: 27-Mar-2024 0:48		

Litho–Density Spectroscopy Cartridge – B / Equipment Identification

Primary Equipment:
LDSC Cartridge

LDSC – B 326

Auxiliary Equipment:
LDSC Housing

LDSH – A 303

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:
HNCS Sonde

HNCS – BA 177

Auxiliary Equipment:
HNCS Sonde Housing
Gamma Source RadioactiveHNCSH – BA 174
GSR – U 135

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			38.56	Master			16.82	Master			1206		
Before			38.57	Before			16.49	Before			1192		
After			38.52	After			16.29	After			1199		
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			139.2	Master			9.087	Master			26.64		
Before			139.1	Before			7.414	Before			20.97		
After			139.5	After			8.669	After			21.71		
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			47.40										
Before			37.54										
After			36.14										
10.00 (Minimum)			45.00 (Nominal)										100.0 (Maximum)

Master: Calibration out of date 20–Apr–2023 2:22

Before: 26–Mar–2024 12:14




After: 27–Mar–2024 0:48

Hostile Natural Gamma Ray Sonde Wellsite Calibration


Detector 2 Check







Detector 2 Check																				
Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value									
Master			39.72	Master			15.41	Master			1089									
Before			39.50	Before			16.07	Before			1079									
After			39.56	After			16.20	After			1089									
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			142.9	Master			8.753	Master			25.53									
Before			142.9	Before			8.058	Before			20.25									
After			142.8	After			8.096	After			22.06									

<div><div></div><div></div><div></div></div> <div>135.0 (Minimum)</div> <div>142.6 (Nominal)</div> <div>150.3 (Maximum)</div>			<div><div></div><div></div><div></div></div> <div>7.000 (Minimum)</div> <div>8.500 (Nominal)</div> <div>11.00 (Maximum)</div>			<div><div></div><div></div><div></div></div> <div>-28.89 (Minimum)</div> <div>15.50 (Nominal)</div> <div>60.00 (Maximum)</div>			
Phase	Na Count Rate CPS		Value						
Master	<div><div></div><div></div><div></div></div> <div>MASTER-BEFORE LIMIT</div>		47.70						
Before	<div><div></div><div></div><div></div></div>		37.60						
After	<div><div></div><div></div><div></div></div>		36.42						
<div><div></div><div></div><div></div></div> <div>10.00 (Minimum)</div> <div>45.00 (Nominal)</div> <div>100.0 (Maximum)</div>									
Master: Calibration out of date 20-Apr-2023 2:22			Before: 26-Mar-2024 12:14				After: 27-Mar-2024 0:48		

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9913
Before		0.9939
After		0.9884
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: Calibration out of date 20-Apr-2023 2:22		
Before: 26-Mar-2024 12:14		
After: 27-Mar-2024 0:48		

Enhanced DTS Cartridge / Equipment Identification		
Primary Equipment:		
EDTC Gamma Ray Detector	EDTG – A/B	77693
Enhanced DTS Cartridge	EDTC – B	8529
Auxiliary Equipment:		
EDTC Housing	EDTH – B	8528

Enhanced DTS Cartridge Wellsite Calibration		
EDTC Accelerometer Calibration		
Phase	EDTC Z-Axis Acceleration M/S2	Value
Before		9.774
9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 26-Mar-2024 12:09		

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			10.27	Before			163.1	Before			165.0
After			7.284	After			158.0	After			159.8
0 (Minimum)			30.00 (Nominal)	120.0 (Maximum)			148.3 (Minimum)			163.1 (Nominal)	178.0 (Maximum)
150.0 (Minimum)			165.0 (Nominal)	180.0 (Maximum)							
Before: 26–Mar–2024 12:16				After: 27–Mar–2024 0:45							

Company: International Ocean Discovery Program

Schlumberger

Well: Expedition 402, Site U1616E

Field: Tyrrhenian Continent–Ocean Transition

Rig: **JOIDES Resolution**

Country: **Italy**

High Resolution Laterolog (HRLA) / HLDS

Magnetic Susceptibility (MSS)

Natural Gamma / MSS (HNGS)