Schlumberger

Company: **International Ocean Discovery Program**

Well: **Expedition 396, Site U1566A**
Field: **Mid−Norwegian Cont. Margin Magmatism**
Rig: **JOIDES Resolution** Country: **Iceland**

Rig: JOIDES Resolution
Field: Mid−Norwegian Cont. Margin Ma
Location: Latitude: N 64.9648
Well: Expedition 396, Site U1566A
Company: International Ocean Discovery Pr

High Resolution Laterolog (HRLA)
Litho Density (HLDS)
Natural Gamma / MSS (HNGS)

LOCATION

Latitude: N 64.9648
Longitude: E 2.72922

Elev.: K.B. 0.00 m
G.L. −2110.30 m
D.F. 0.00 m

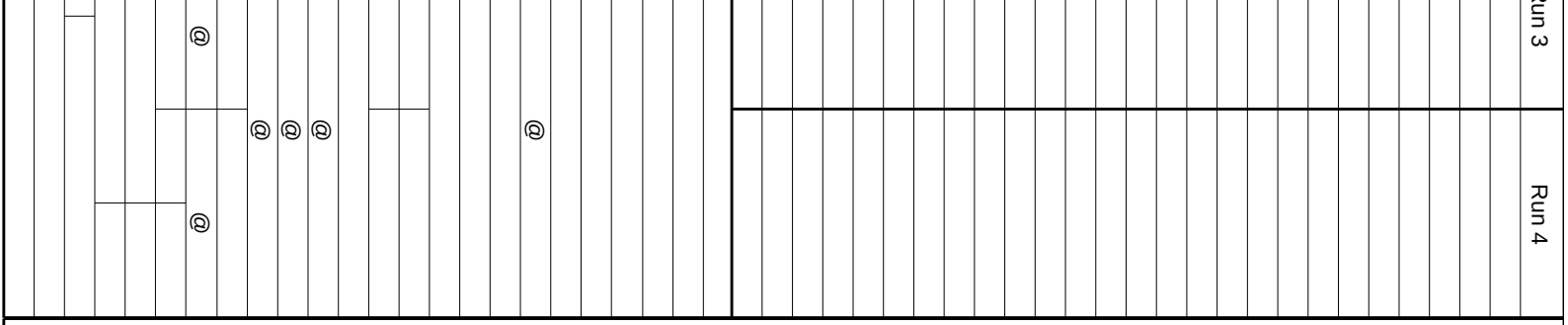
Permanent Datum: Sea Floor
Log Measured From: Rig Floor
Drilling Measured From: Rig Floor

Elev.: −2110.30 m
2110.30 m above Perm. Datum

Ocean: Atlantic	Max. Well Deviation 5 deg	Longitude E 2.72922	Latitude N 64.9648

	Run 1	Run 2	R
Logging Date	20−Aug−2021		
Run Number	1		
Depth Driller	2292 m		
Schlumberger Depth	2255 m		
Bottom Log Interval	2110.3 m		
Top Log Interval	2110.3 m		
Casing Driller Size @ Depth	5.500 in @ 2160.7 m	@	
Casing Schlumberger	2160.7 m		
Bit Size	9.875 in		
Type Fluid In Hole	Sea Water		
MUD Density / Viscosity	1.023 g/cm3		
MUD Fluid Loss / PH		8.07	
MUD Source Of Sample	Mudpit		
RM @ Measured Temperature	0.220 ohm.m @ 23 degC	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC	N/A	N/A	
RM @ MRT / RMF @ MRT	0.369 @ 5	@ 5	@ @
Maximum Recorded Temperatures	5 degC		
Circulation Stopped / Time	20−Aug−2021	9:00	
Logger On Bottom / Time	20−Aug−2021	0:00	
Unit Number / Location	627314	Larose, LA	
Recorded By	C. Furman		
Witnessed By	S. Midgley		

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



DISCLAIMER

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OTHER SERVICES1

OS1: FMS
OS2: DSI
OS3: VSI
OS4: UBI
OS5:

REMARKS: RUN NUMBER 1

Hole drilled with RCB bottom hole assembly (BHA) at 9.875" BS

Drill pipe set at 2160.3 (50mbsf) mbrf.

Fluid type was seawater displaced in the hole prior to logging.
Depth recorded from drill floor; logs presented as−logged without depth corrections or shifts, as per client instructions.
All logs presented in wireline measured depth below rig floor (MDBRF).
Caliper opened during upward passes; closed inside pipe and while logging down.
Hole size corrections made using caliper measurements for upward passes bit size
used for downlog corrections.
AHC used from TD then switched off to facilitate pipe entry.
Caliper closed prior to shutting off compensator and entering pipe or casing.

Downlog flipped and note the caliper closed logging down.

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

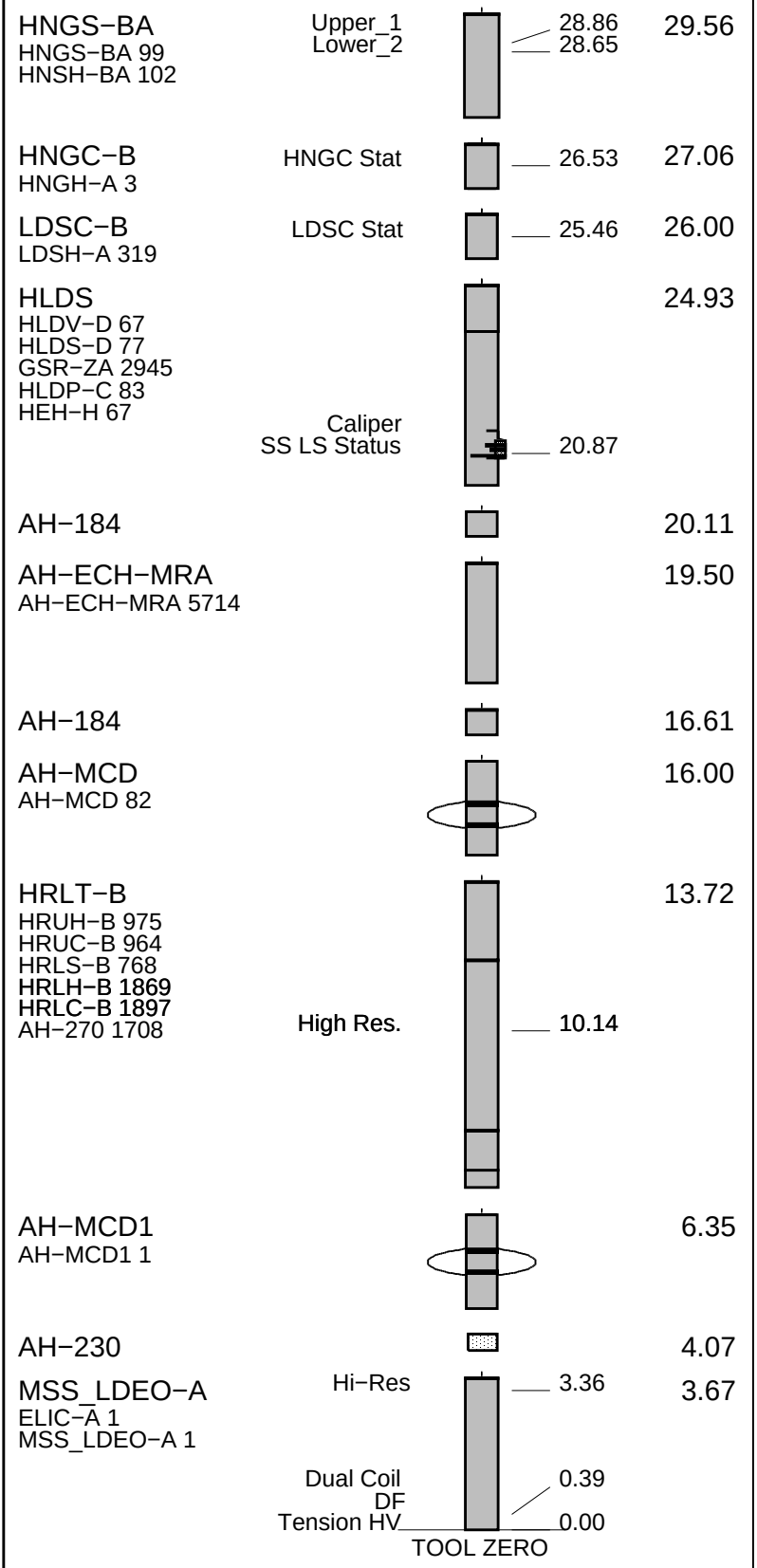
SURFACE EQUIPMENT

GSR−U 6098
WITM (DTS)−A

DOWNHOLE EQUIPMENT

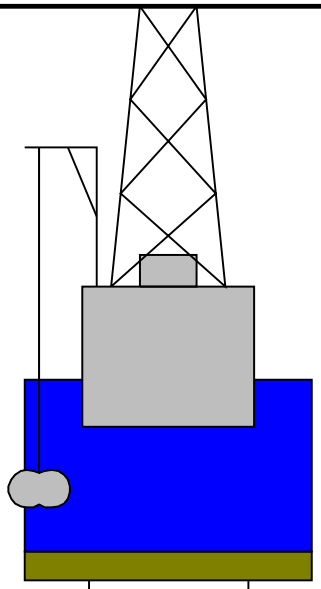
LEH−QT 31.80
LEH−QT 301
AH−369 30.91
DTC−H 30.48
ECH−KC 9842

RUN 2



MAXIMUM STRING DIAMETER 3.75 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

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

Kelly Bushing Elevation			0.0					
Derrick Floor Elevation			0.0					
Mean Sea Level			11.1					
Seismic Gun depth below MSL			6.0					
					0.0	5.500	4.125	
					2110.3	9.875		Sea Floor
					2160.7	5.500	4.125	Pipe
					2292.0	9.875		Driller's TD

Schlumberger

Downlog

MAXIS Field Log

Company: International Ocean Discovery Program **Well: Expedition 396, Site U1566A**

Input DLIS Files

DEFAULT	**Flip_MSS_LDEO_HRLA_052LUP**		**PRODUCER**	**21−Aug−2021 13:44**	**2255.2 M**	**2071.1 M**

Output DLIS Files

DEFAULT	**MSS_LDEO_HRLA_LDL_053PUP**	**FN:52**	**PRODUCER**	**21−Aug−2021 13:45**	**2255.2 M**	**2071.1 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**
DTC−H	**19C0−187**		

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 15

Area1
From HCGR to HSGR

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 15

HNGS Borehole Potassium (HBHK)
−0.01 (V/V) 0.01

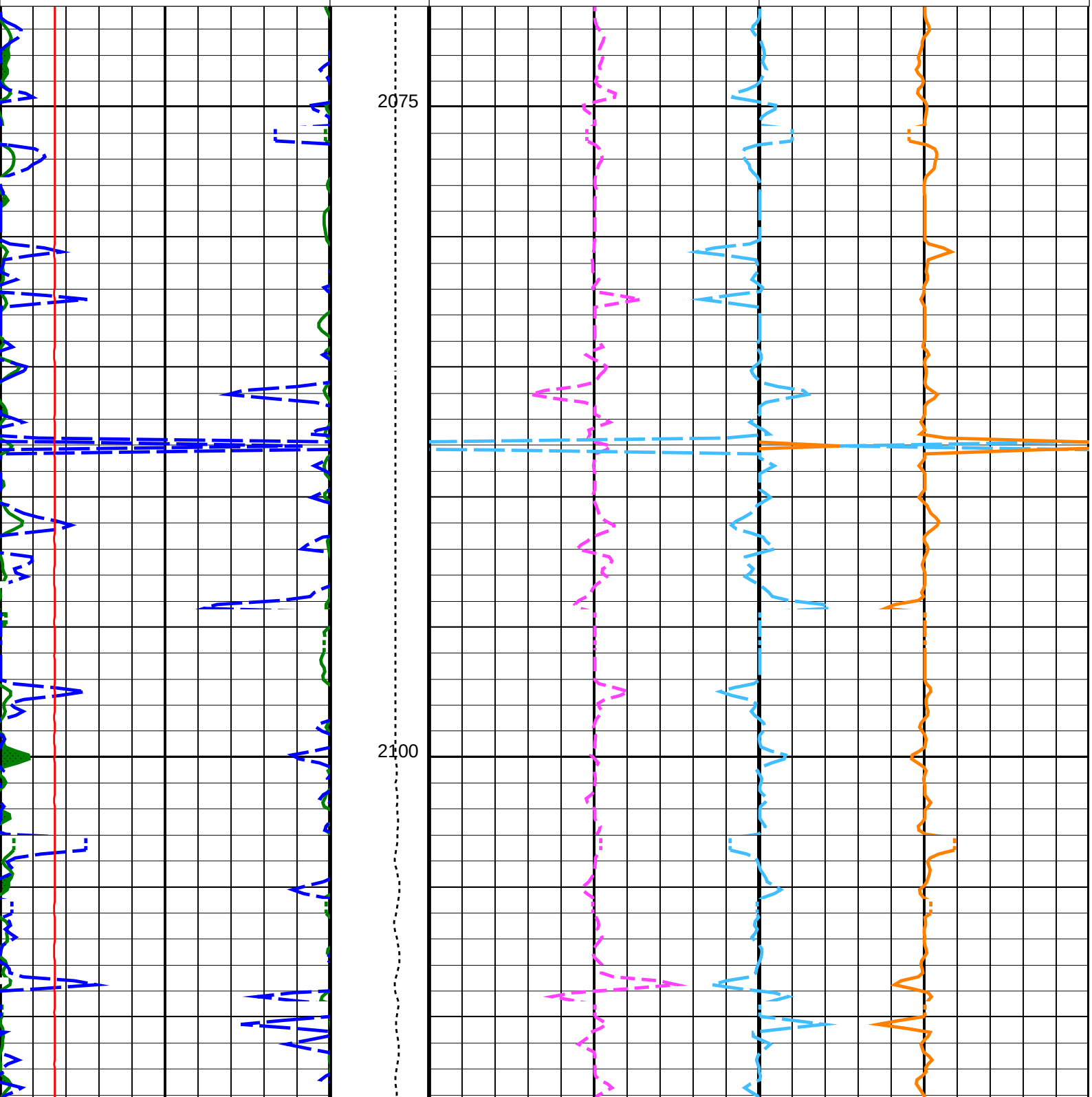
HNGS Uranium (HURA)
−5 (PPM) 5

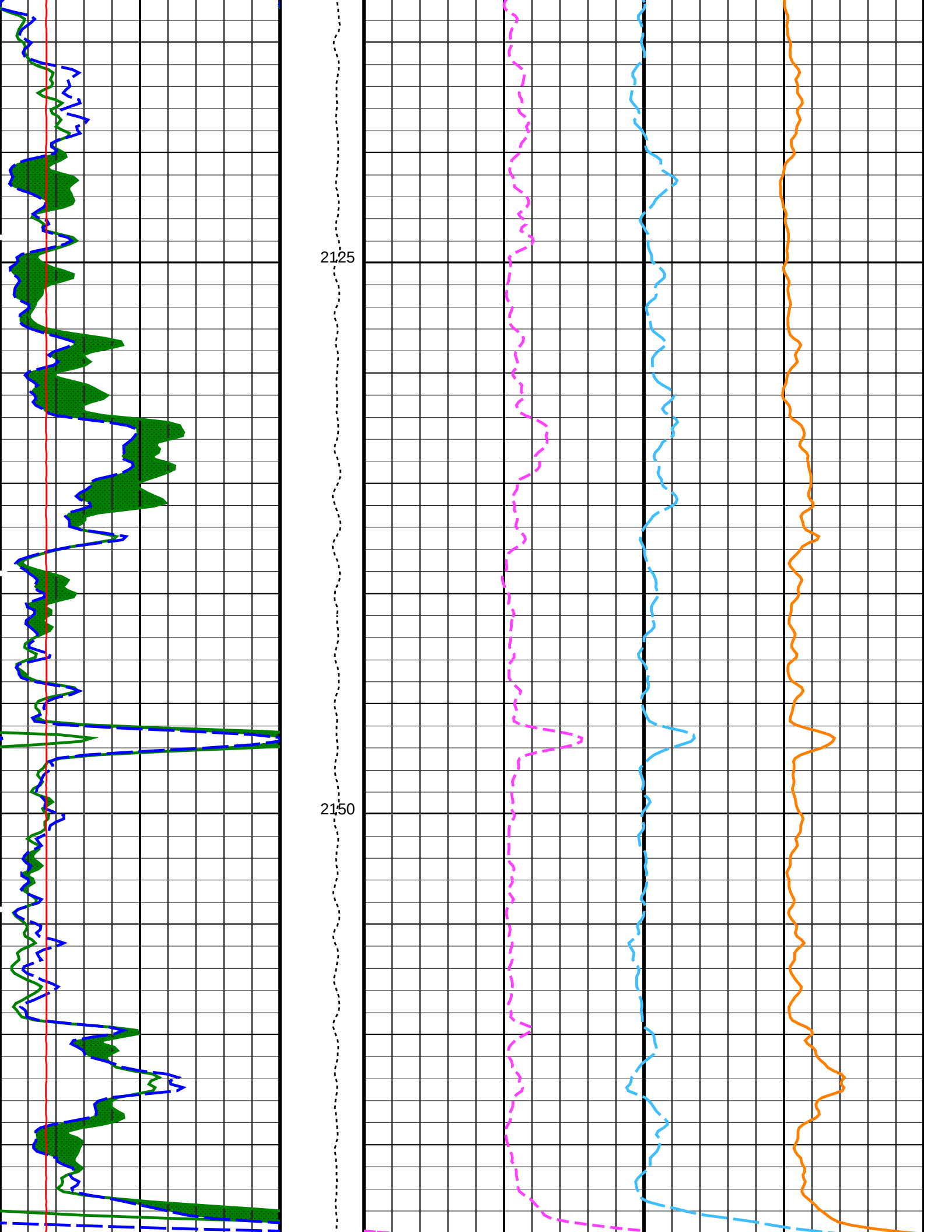
HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
−5 (PPM) 5

HNGS Potassium (HFK)
−0.01 (V/V) 0.01

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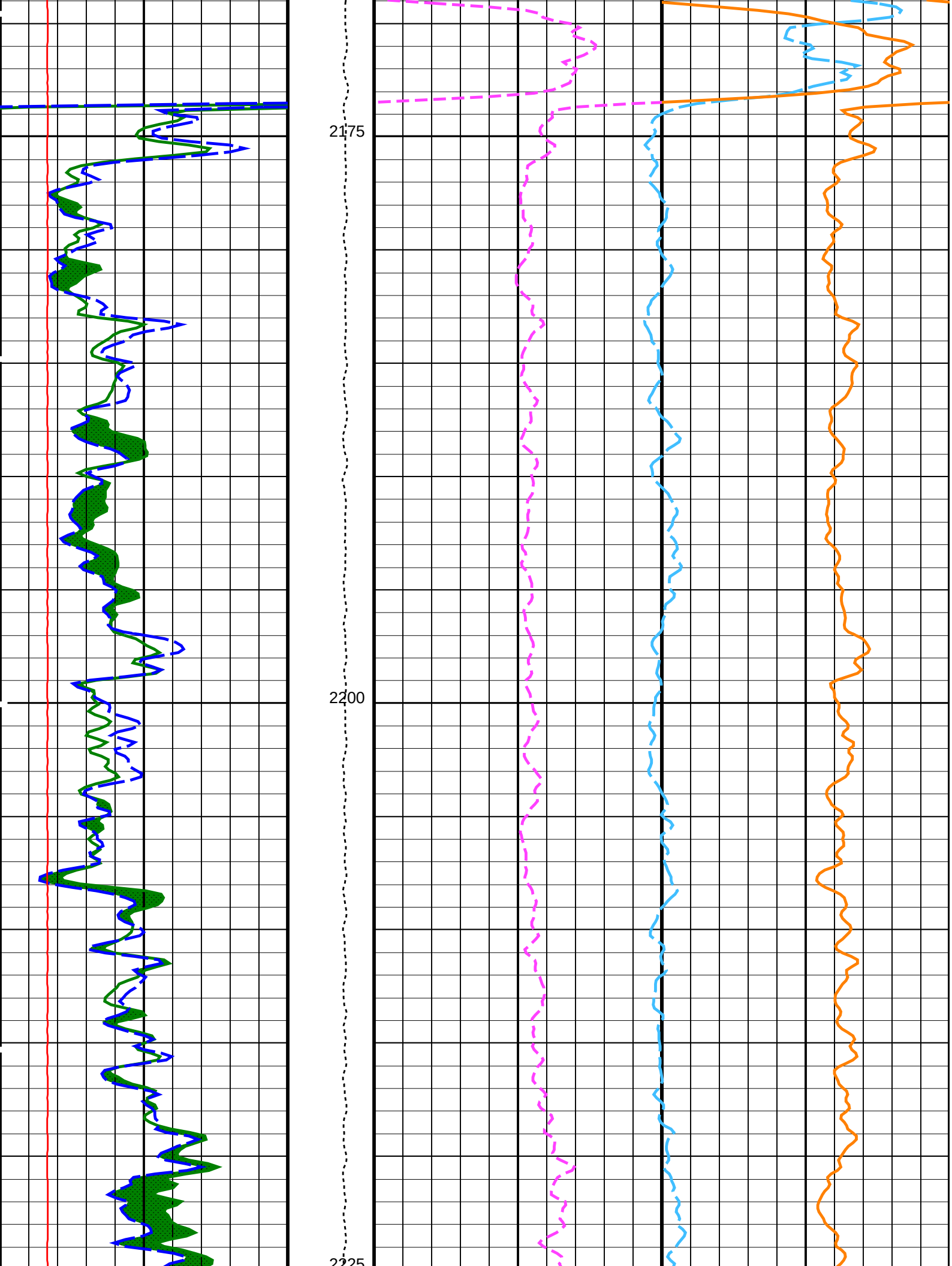
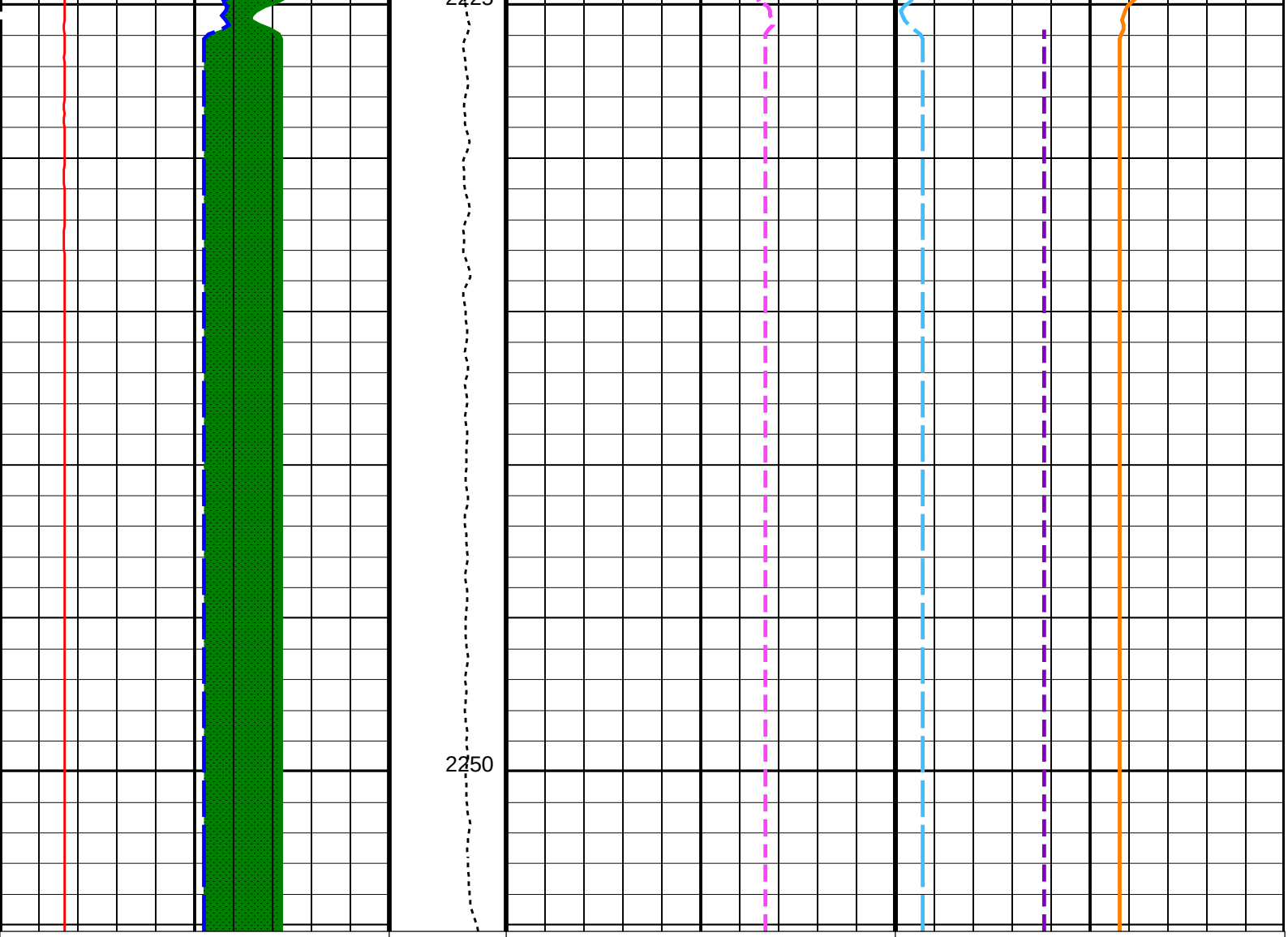
2150


2175
2200
2225



Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHS	Borehole Status	OPEN	
GCSE	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
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	−0.00864063	
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	1.02852	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.07632	
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: 21−Aug−2021 13:45

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
DTC−H	19C0−187		

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_052LUP	PRODUCER	21−Aug−2021 13:44	2255.2 M	2071.1 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_053PUP	FN:52	PRODUCER	21−Aug−2021 13:45	

Company: International Ocean Discovery Program Well: Expedition 396, Site U1566A

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_052LUP	PRODUCER	21−Aug−2021 13:44	2255.2 M	2071.1 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_053PUP	FN:52	PRODUCER	21−Aug−2021 13:45	2255.2 M	2071.1 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
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

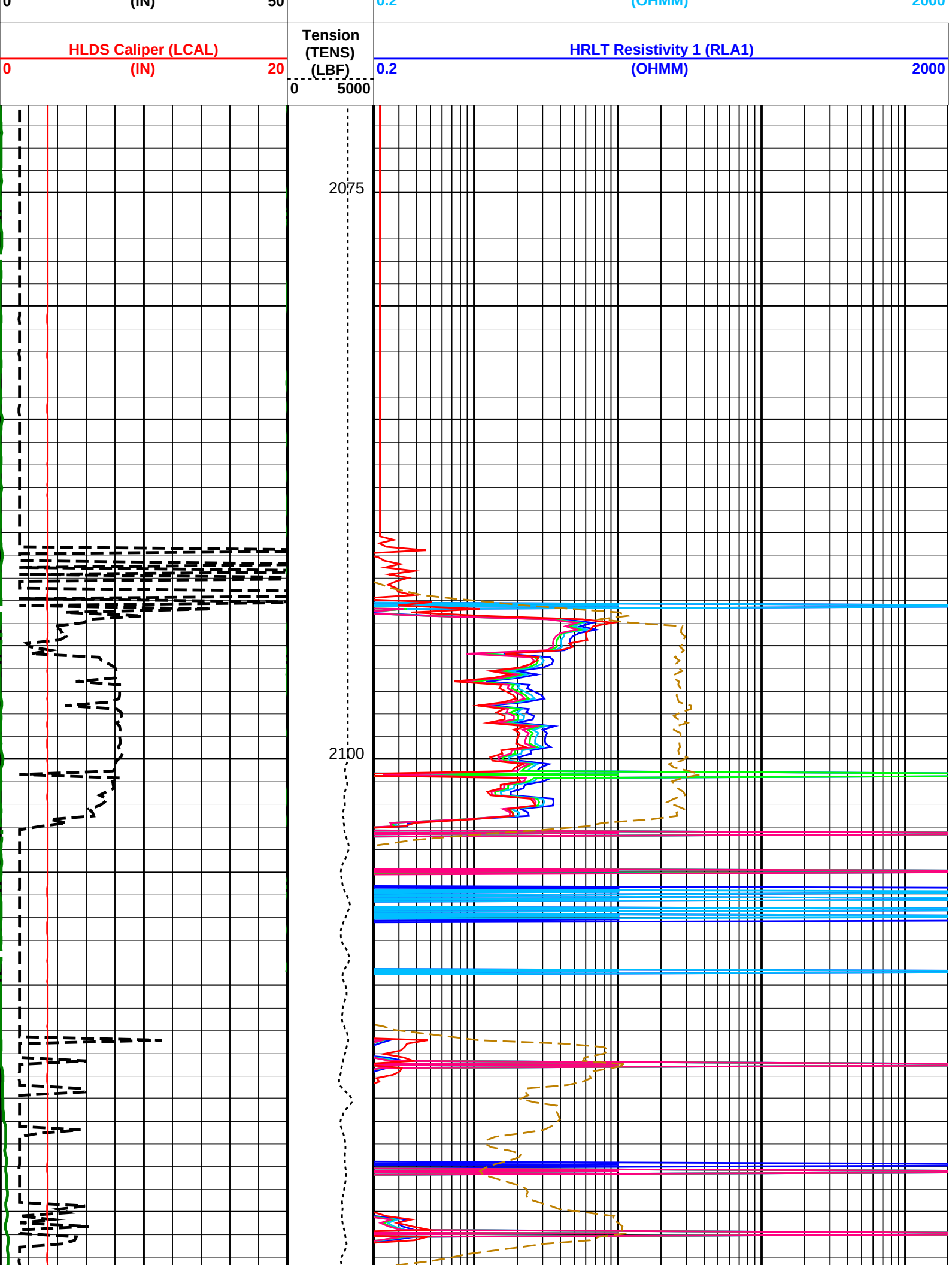
HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

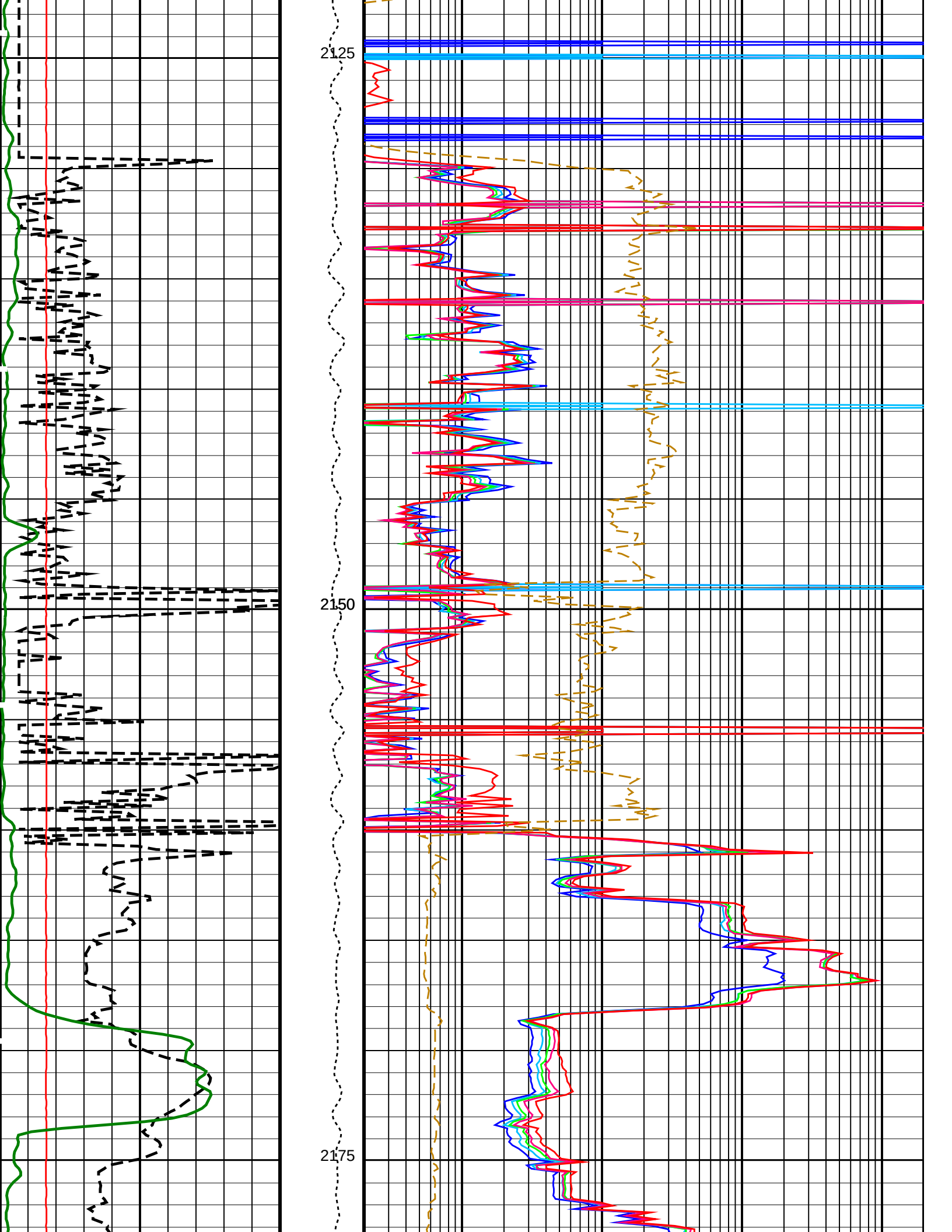
HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

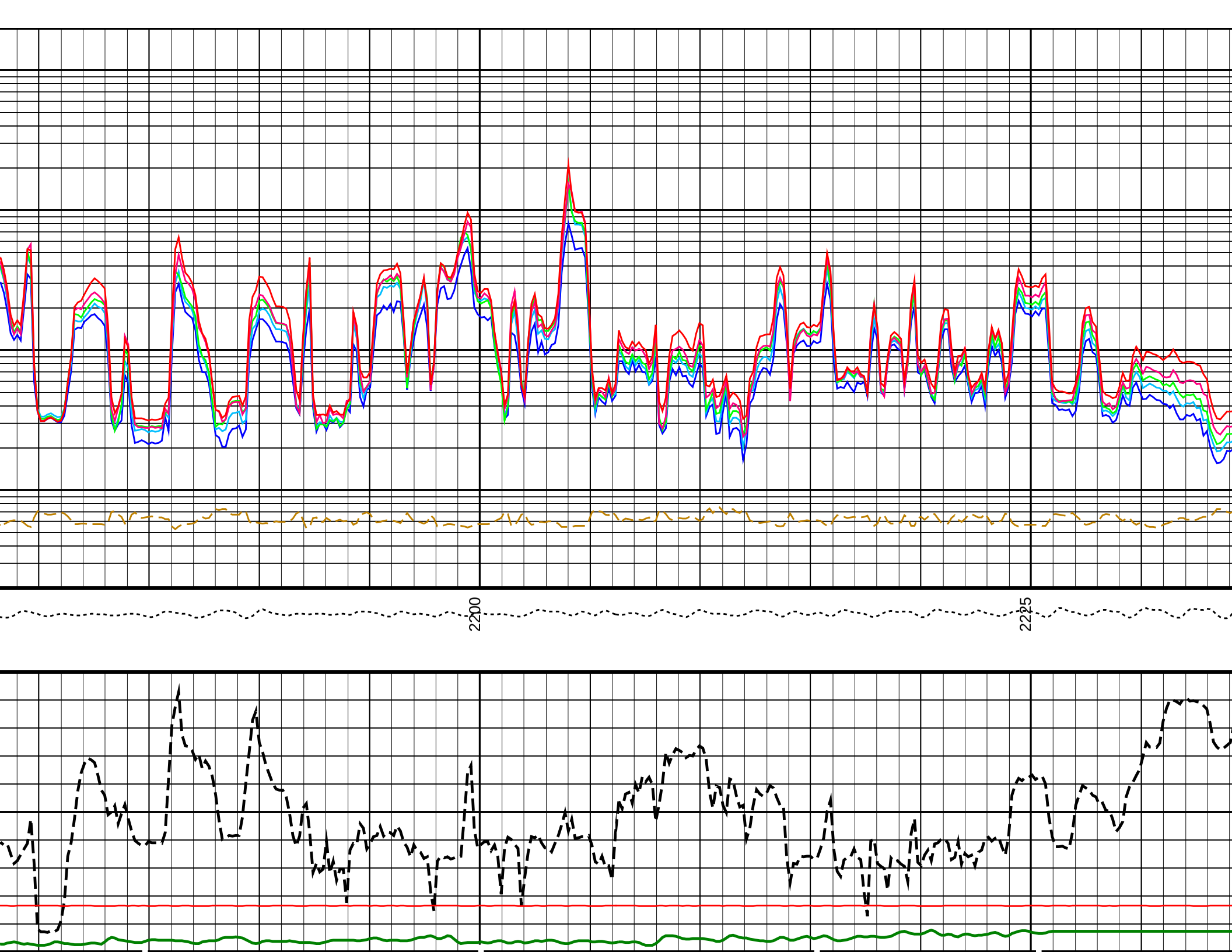
HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

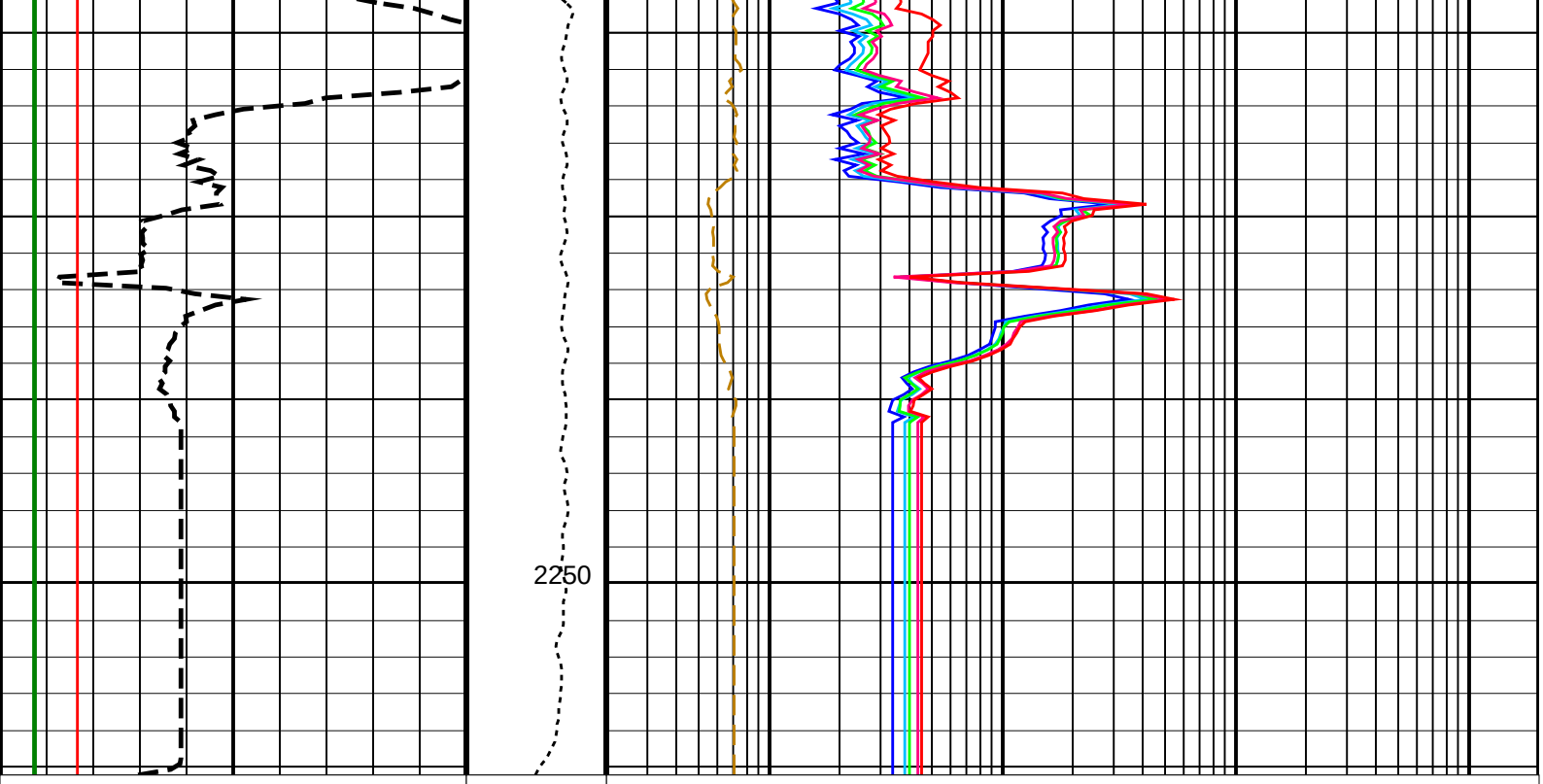
HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

Invasion Diameter (DI_HRLT)
0 (IN) 50


0
(IN)
50
0.2
(OHMM)
2000
HLDS Caliper (LCAL)
0
(IN)
20
Tension
(TENS)
(LBF)
0
5000
HRLT Resistivity 1 (RLA1)
0.2
(OHMM)
2000
2075
2100


2125
2150
2175


2200
2225



HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
0 5000

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000

Invasion Diameter (DI_HRLT)
0 (IN) 50

HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	7	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROCINV	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	Eccentered	
SHT	Surface Hole Temperature	20	DEGC
	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)	7	DEGC
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	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
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	−0.00864063	
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	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.02852	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.07632	
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	
TD	Total Depth	2292	M

Format: HRLT Vertical Scale: 1:200 Graphics File Created: 21−Aug−2021 13:45

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
DTC−H	19C0−187		

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_052LUP	PRODUCER	21−Aug−2021 13:44	2255.2 M	2071.1 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_053PUP	FN:52	PRODUCER	21−Aug−2021 13:45	

Company: International Ocean Discovery Program Well: Expedition 396, Site U1566A

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_052LUP	PRODUCER	21−Aug−2021 13:44	2255.2 M	2071.1 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_053PUP	FN:52	PRODUCER	21−Aug−2021 13:45	2255.2 M	2071.1 M

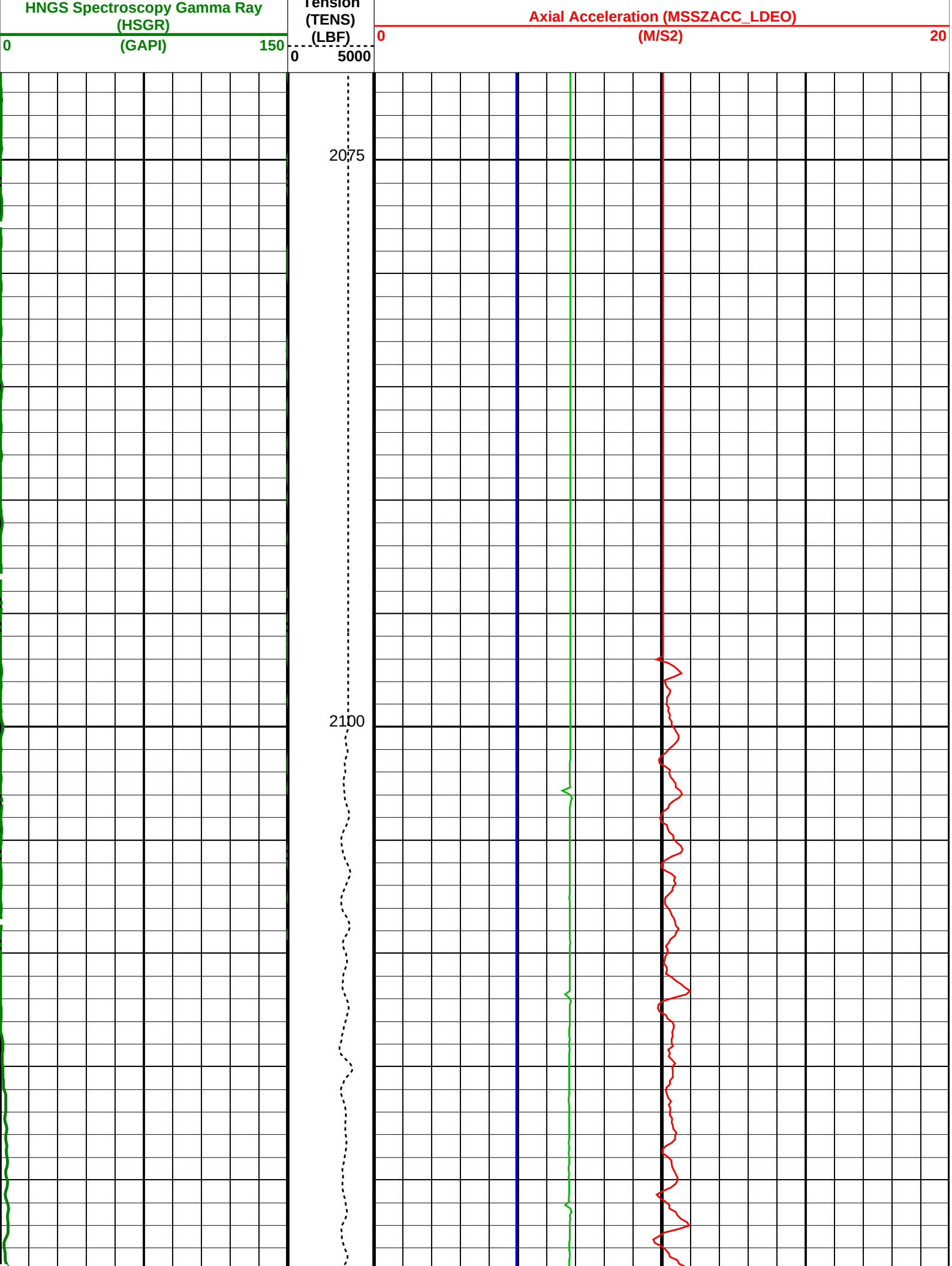
OP System Version: 19C0−187

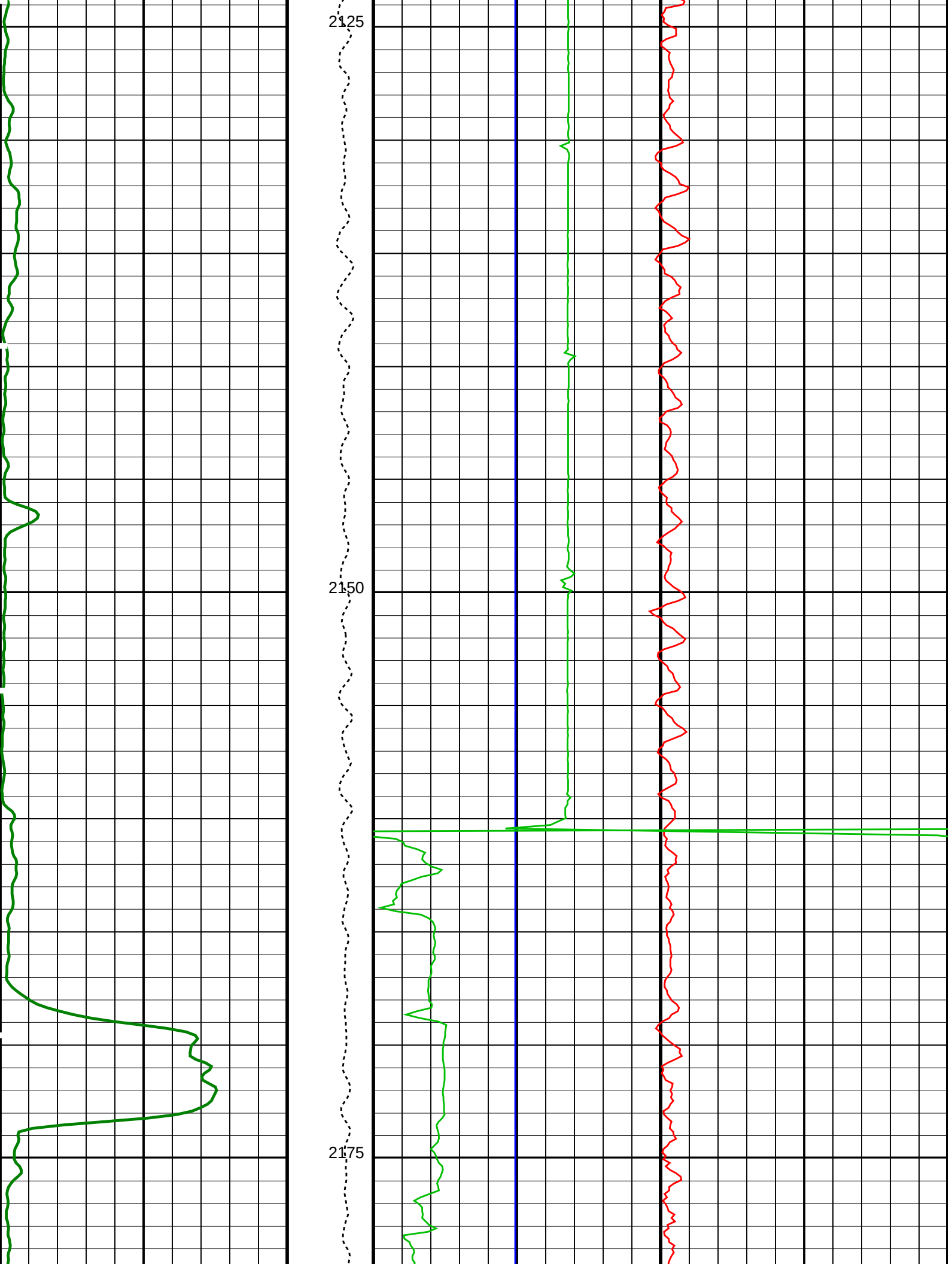
MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

	Dual−Coil Susceptibility (MSSLSUS_LDEO)	
	−10000 (PPM)	90000
	High−Res Susceptibility (MSSHSUS_LDEO)	
	−10000 (PPM)	90000
Tension		


HNGS Spectroscopy Gamma Ray (HSGR)
0
(GAPI)
150
Tension (TENS) (LBF)
0
5000
Axial Acceleration (MSSZACC_LDEO)
0
(M/S2)
20
2075
2100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2150
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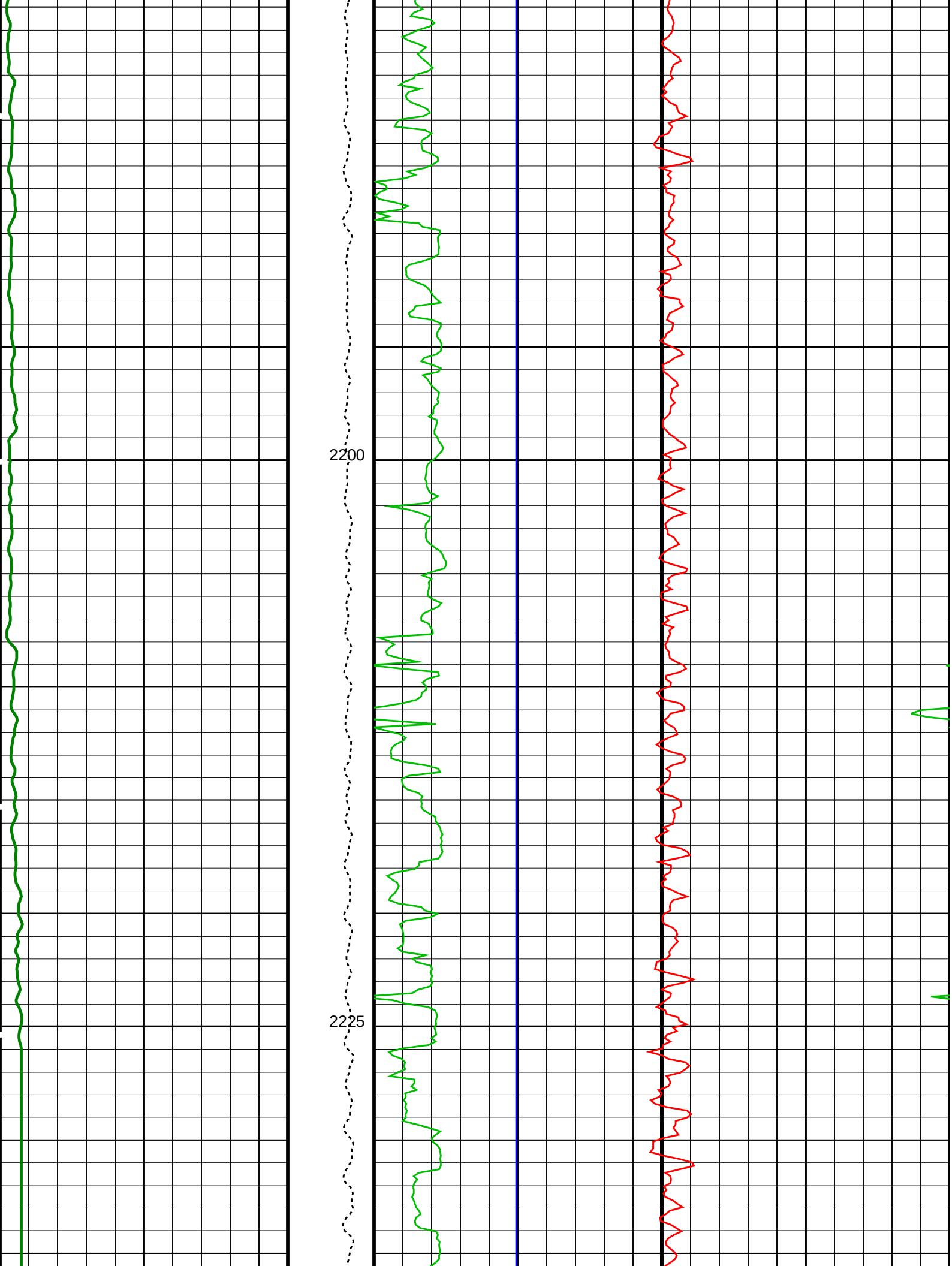
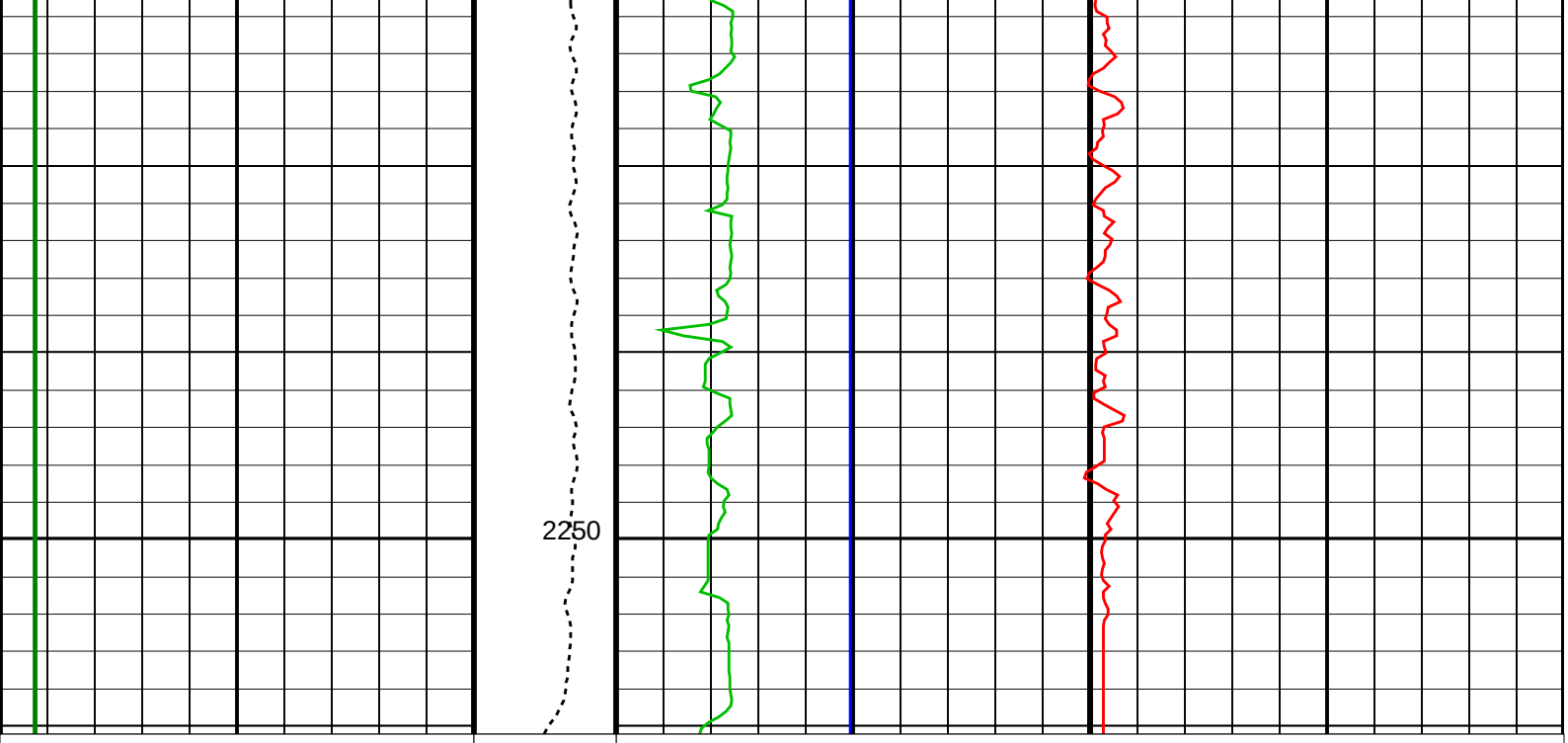

2200
2225



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

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	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
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	−0.00864063	
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	1.02852	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.07632	
	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	

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
DTC−H	19C0−187		

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_052LUP	PRODUCER	21−Aug−2021 13:44	2255.2 M	2071.1 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_053PUP	FN:52	PRODUCER	21−Aug−2021 13:45

Schlumberger

First Pass

MAXIS Field Log

Company: International Ocean Discovery Program

Well: Expedition 396, Site U1566A

Output DLIS Files

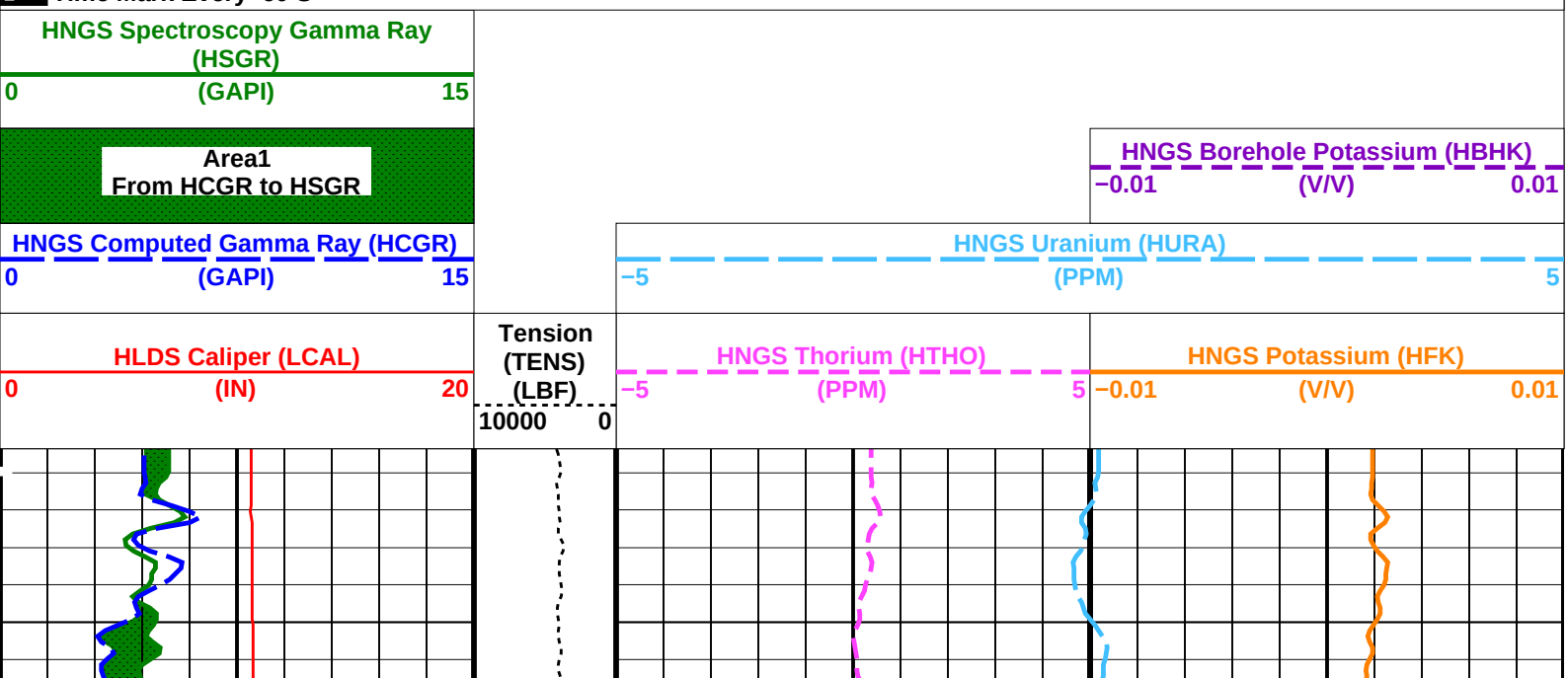
DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M

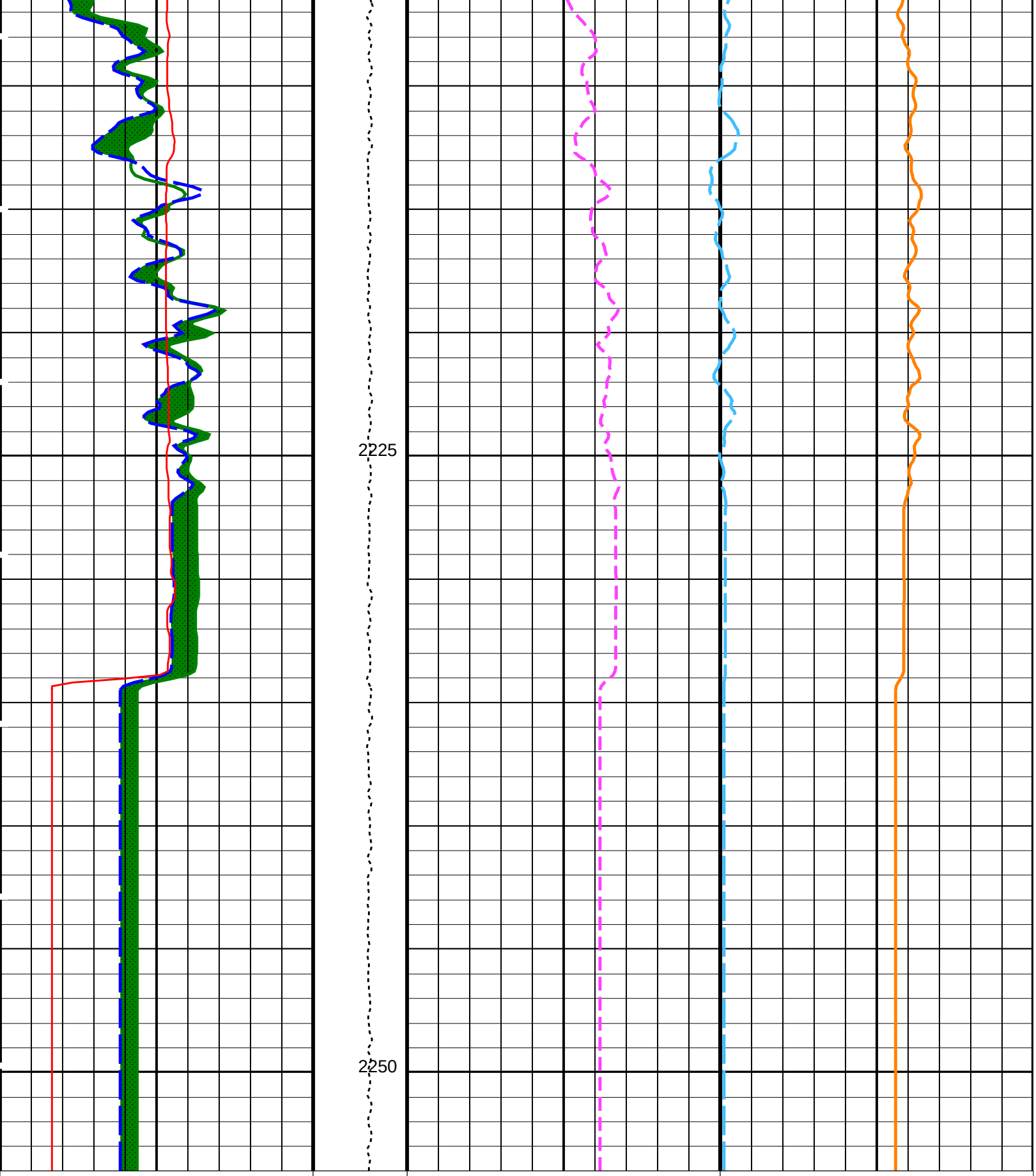
OP System Version: 19C0−187

MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S





HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
−5 (PPM) 5

HNGS Potassium (HFK)
−0.01 (V/V) 0.01

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 15

HNGS Uranium (HURA)
−5 (PPM) 5

Area1
From HCGR to HSGR

HNGS Borehole Potassium (HBHK)
−0.01 (V/V) 0.01

HNGS Spectroscopy Gamma Ray (HSGR)

0 (GAPI) 15

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	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
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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 20−Aug−2021 06:30

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30		
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30		

Company: International Ocean Discovery Program Well: Expedition 396, Site U1566A

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 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
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray

HLDS Long Spaced Photoelectric Effect

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

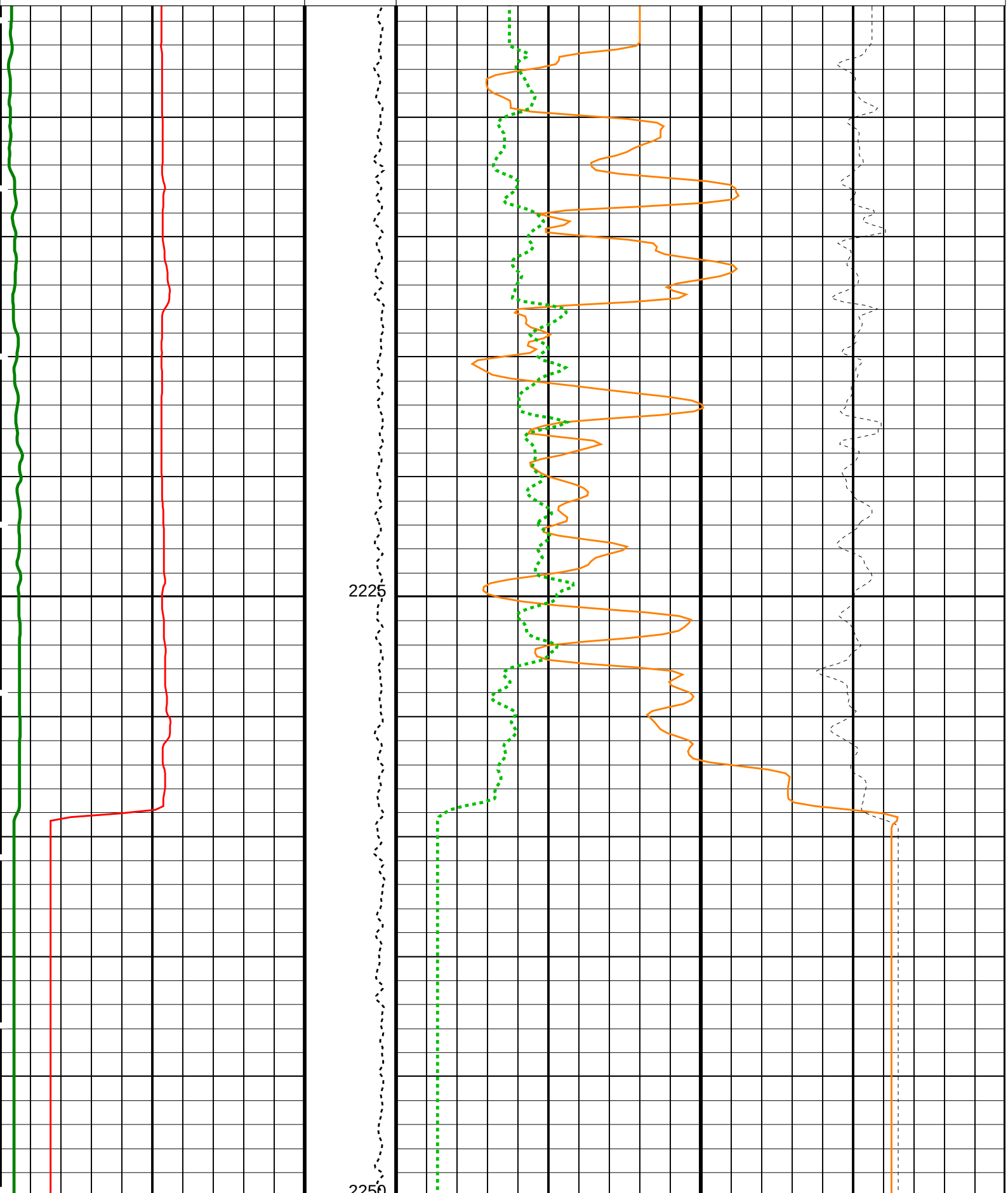
HLDS Long Spaced Photoelectric Effect (PEFL)
0 (----) 10

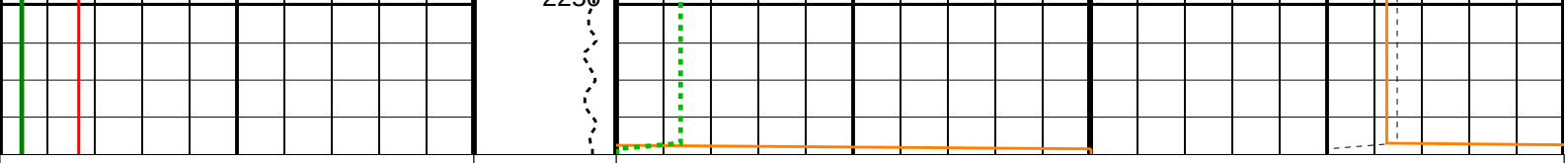
HLDS Bulk Density Correction (DRH)
−0.25 (G/C3) 0.25

HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
0 5000

HLDS Bulk Density (RHOM)
3 (G/C3) 1





HLDS Caliper (LCAL)	Tension (TENS)	HLDS Bulk Density (RHOM)
0 (IN) 20	0 (LBF) 5000	3 (G/C3) 1

HNGS Spectroscopy Gamma Ray (HSGR)		HLDS Long Spaced Photoelectric Effect (PEFL)	HLDS Bulk Density Correction (DRH)
0 (GAPI) 150		0 (----) 10	−0.25 (G/C3) 0.25

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	LCAL	
	HLDS: Hostile Litho−Density Sonde		
DHC	Density Hole Correction	CALIPER	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
MDEN	Matrix Density	2.6	G/C3
	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	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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: HLDSDensityPE **Vertical Scale: 1:200** **Graphics File Created: 20−Aug−2021 06:30**

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 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
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

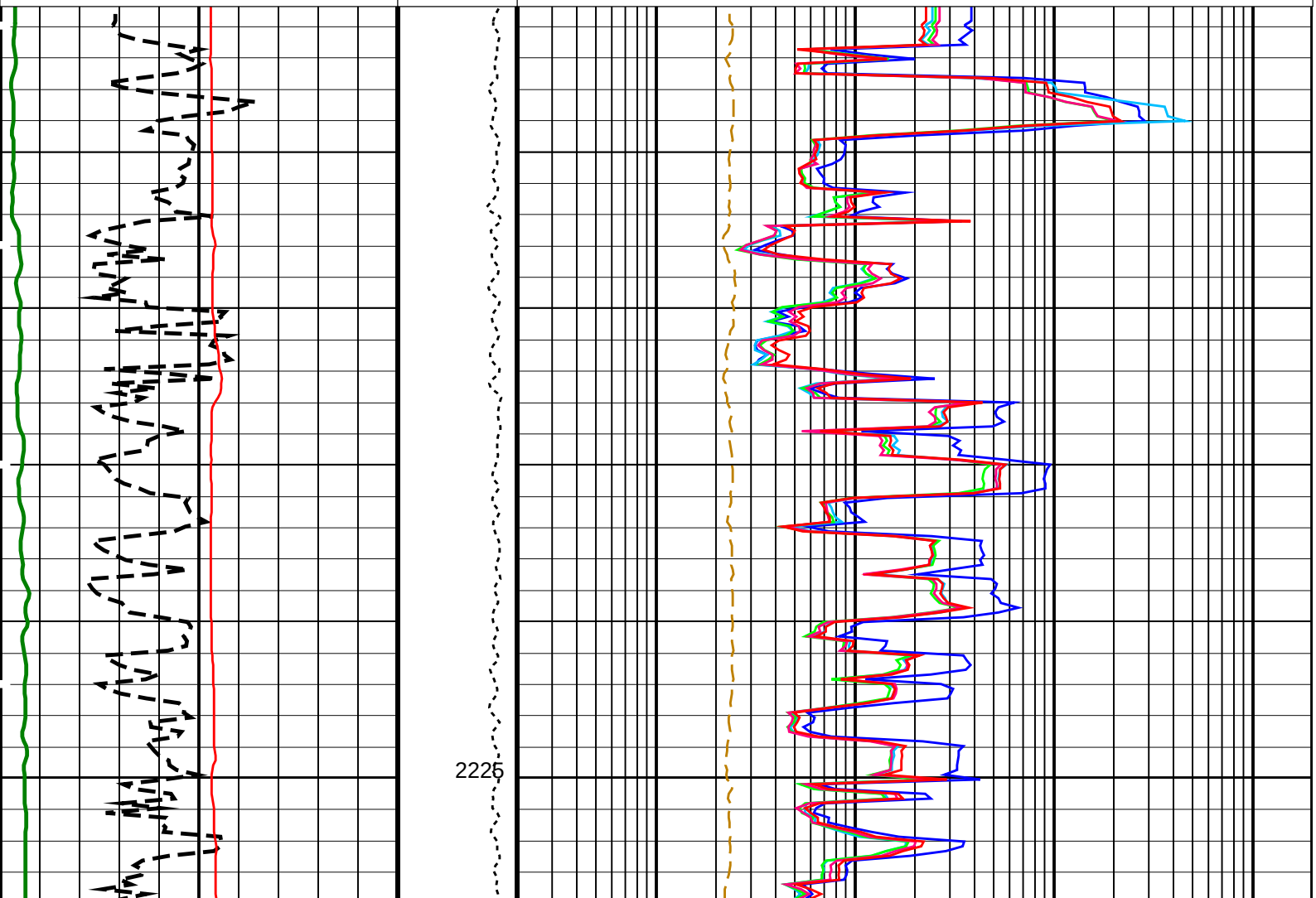
Invasion Diameter (DI_HRLT)
0 (IN) 50

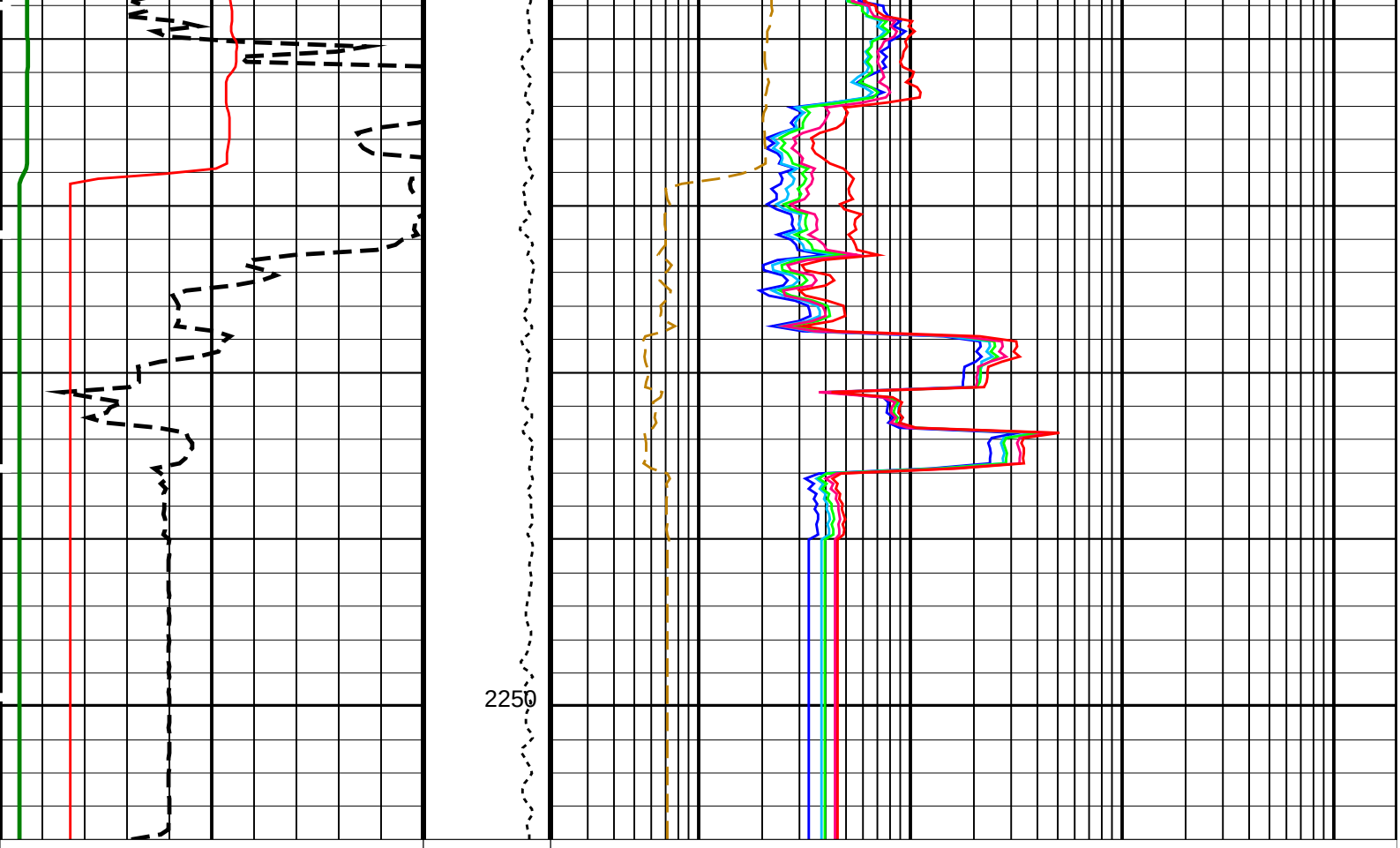
HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
0 5000

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000





HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
0 5000

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000

Invasion Diameter (DI_HRLT)
0 (IN) 50

HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	7	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROCINV	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	Eccentered	

SHT	Surface Hole Temperature	20	DEGC
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)	7	DEGC
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	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
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	−0.00239239	
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	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3
TD	Total Depth	2292	M

Format: HRLT Vertical Scale: 1:200 Graphics File Created: 20−Aug−2021 06:30

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30

Company: International Ocean Discovery Program Well: Expedition 396, Site U1566A

Output DLIS Files

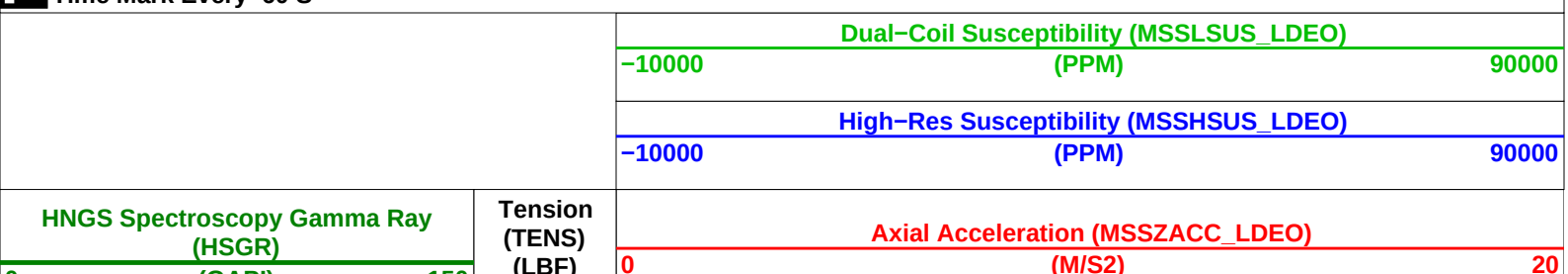
DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30	2254.0 M	2201.4 M

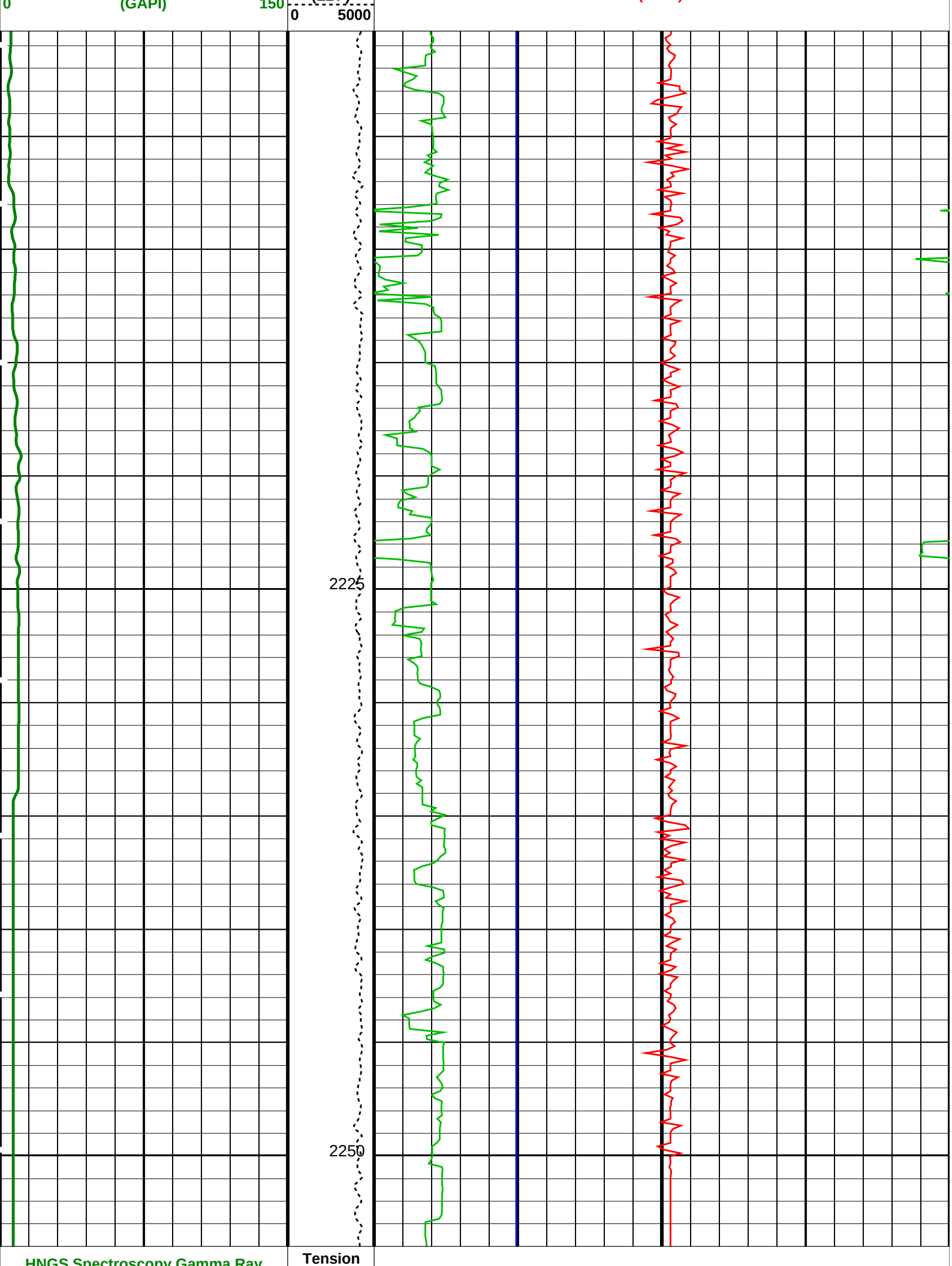
OP System Version: 19C0−187

MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S




0
(GAPI)
150
0
5000
2225
2250
HNGS Spectroscopy Gamma Ray
Tension

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

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	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
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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: MSS_Logging Vertical Scale: 1:200 Graphics File Created: 20−Aug−2021 06:30

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_017LUP	FN:12	PRODUCER	20−Aug−2021 06:30
RTB	MSS_LDEO_HRLA_LDL_017LUP	FN:13	PRODUCER	20−Aug−2021 06:30

Schlumberger

Second Pass

MAXIS Field Log

Company: International Ocean Discovery Program | Well: Expedition 396, Site U1566A

Output DLIS Files

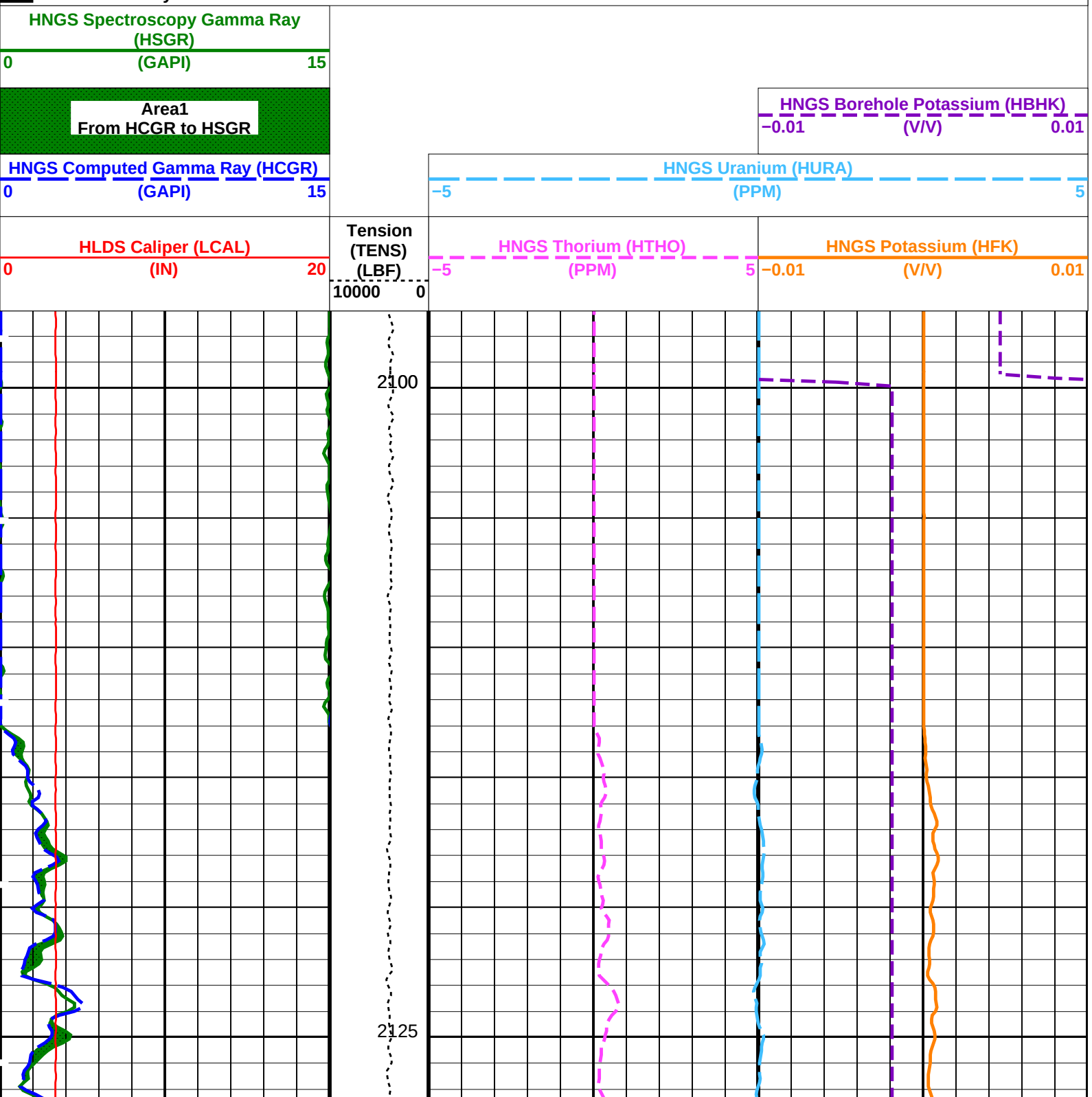
DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46	2254.0 M	2097.0 M
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46	2254.0 M	2097.0 M

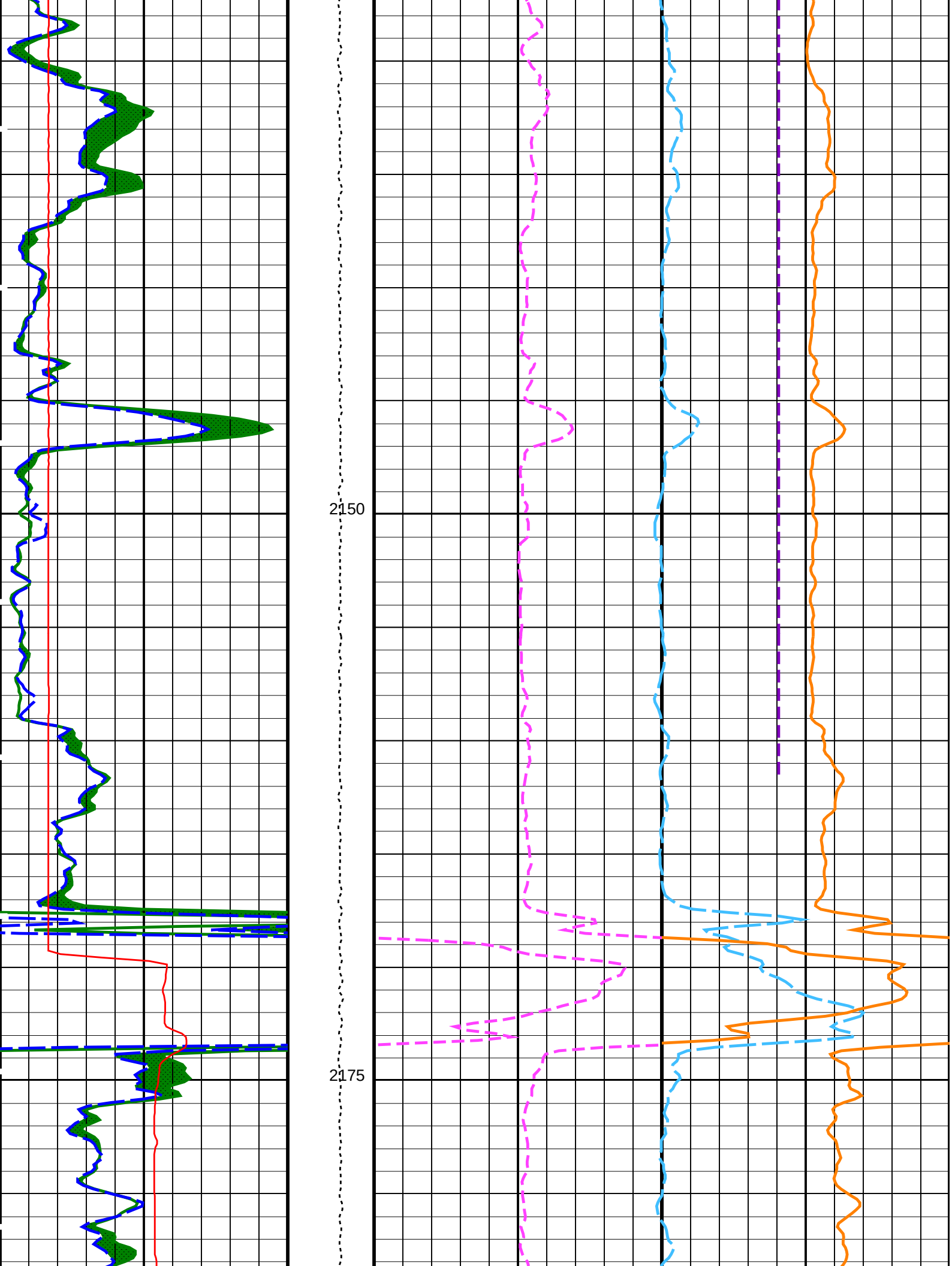
OP System Version: 19C0−187

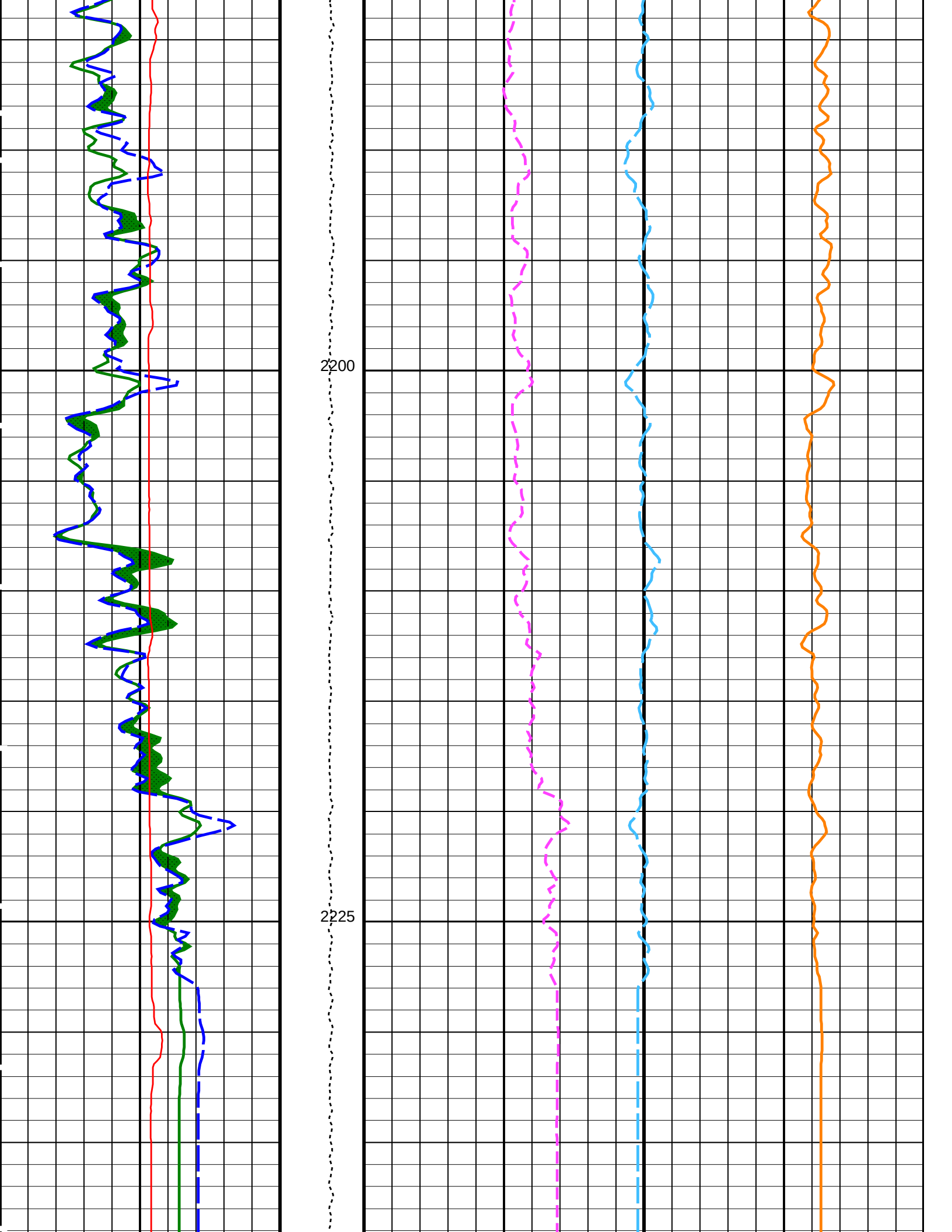
MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

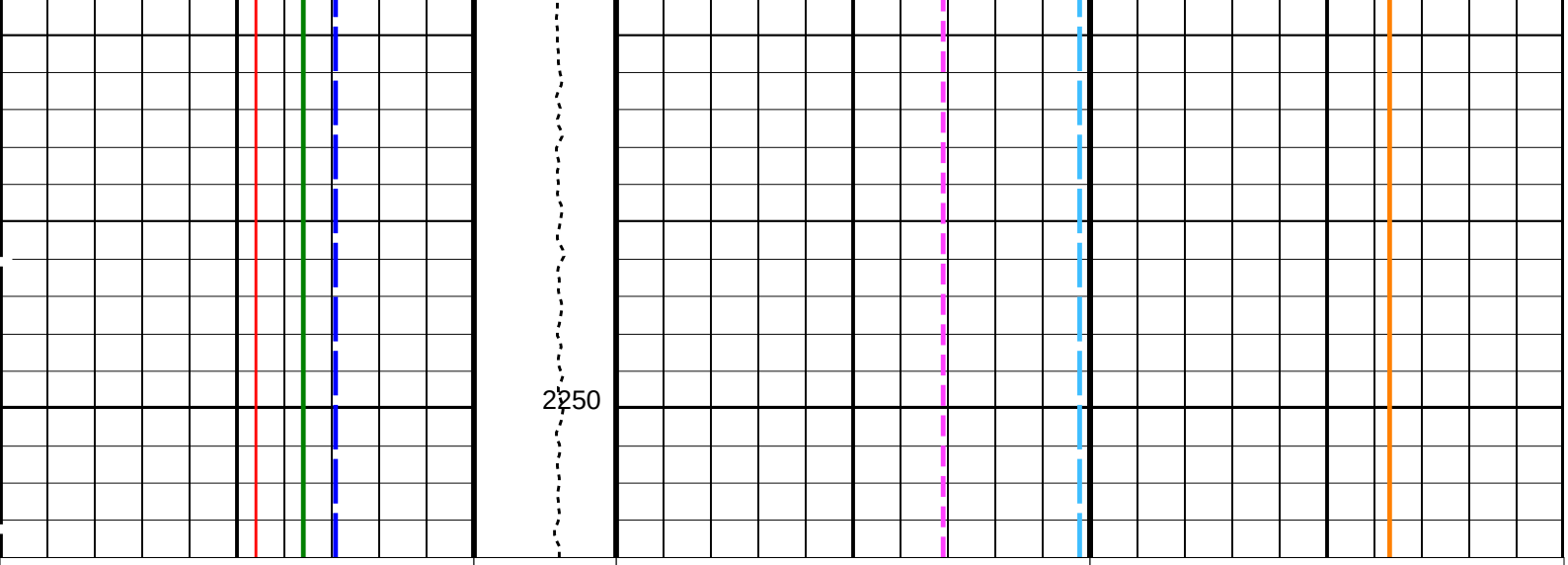
PIP SUMMARY

Time Mark Every 60 S




2150
2175


2200
2225



HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
−5 (PPM) 5

HNGS Potassium (HFK)
−0.01 (V/V) 0.01

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 15

HNGS Uranium (HURA)
−5 (PPM) 5

Area1
From HCGR to HSGR

HNGS Borehole Potassium (HBHK)
−0.01 (V/V) 0.01

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 15

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	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
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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 20−Aug−2021 06:46

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46	
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46	

Company: International Ocean Discovery Program — Well: Expedition 396, Site U1566A

Output DLIS Files

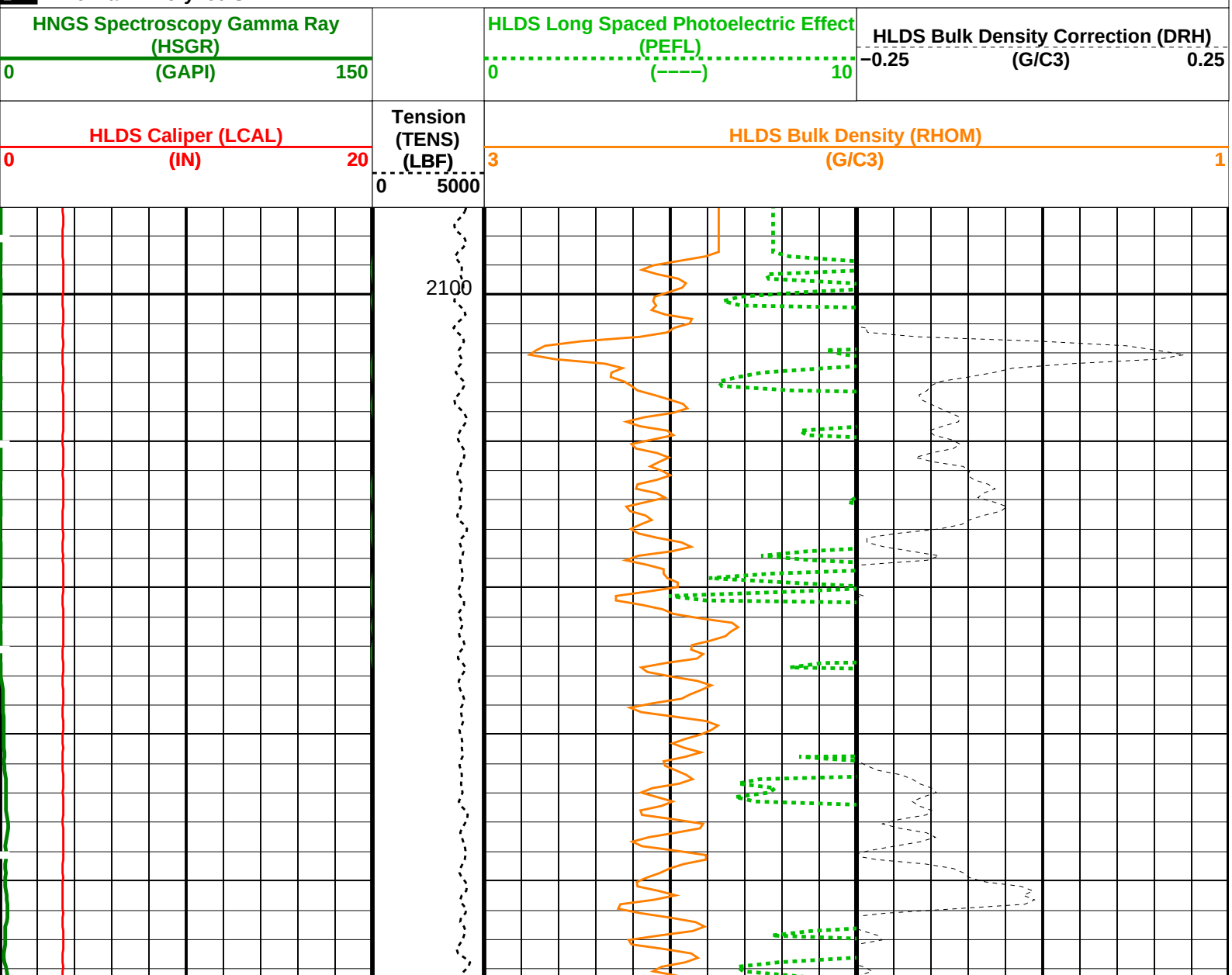
DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46	2254.0 M	2098.5 M
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46	2254.0 M	2098.5 M

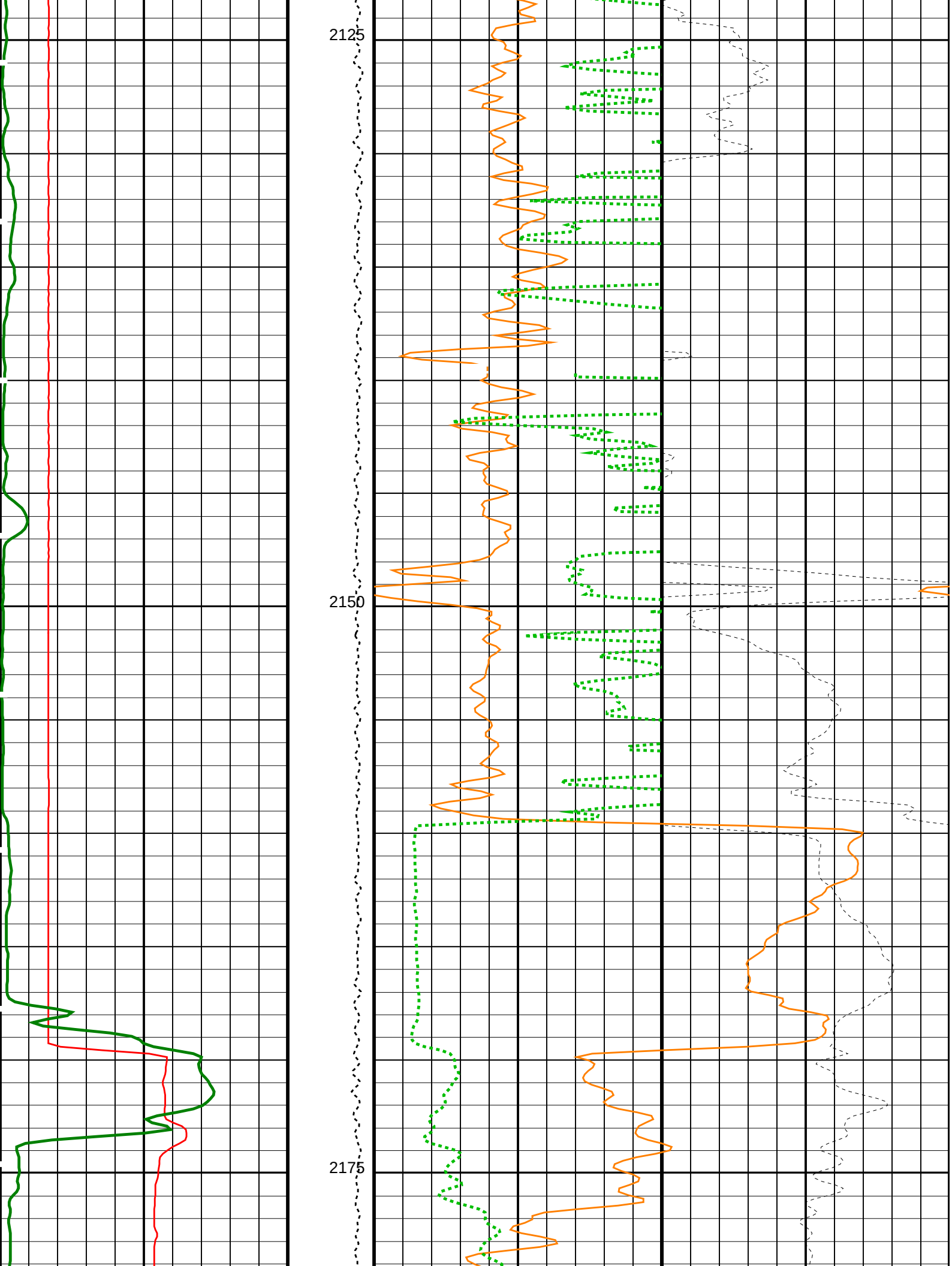
OP System Version: 19C0−187

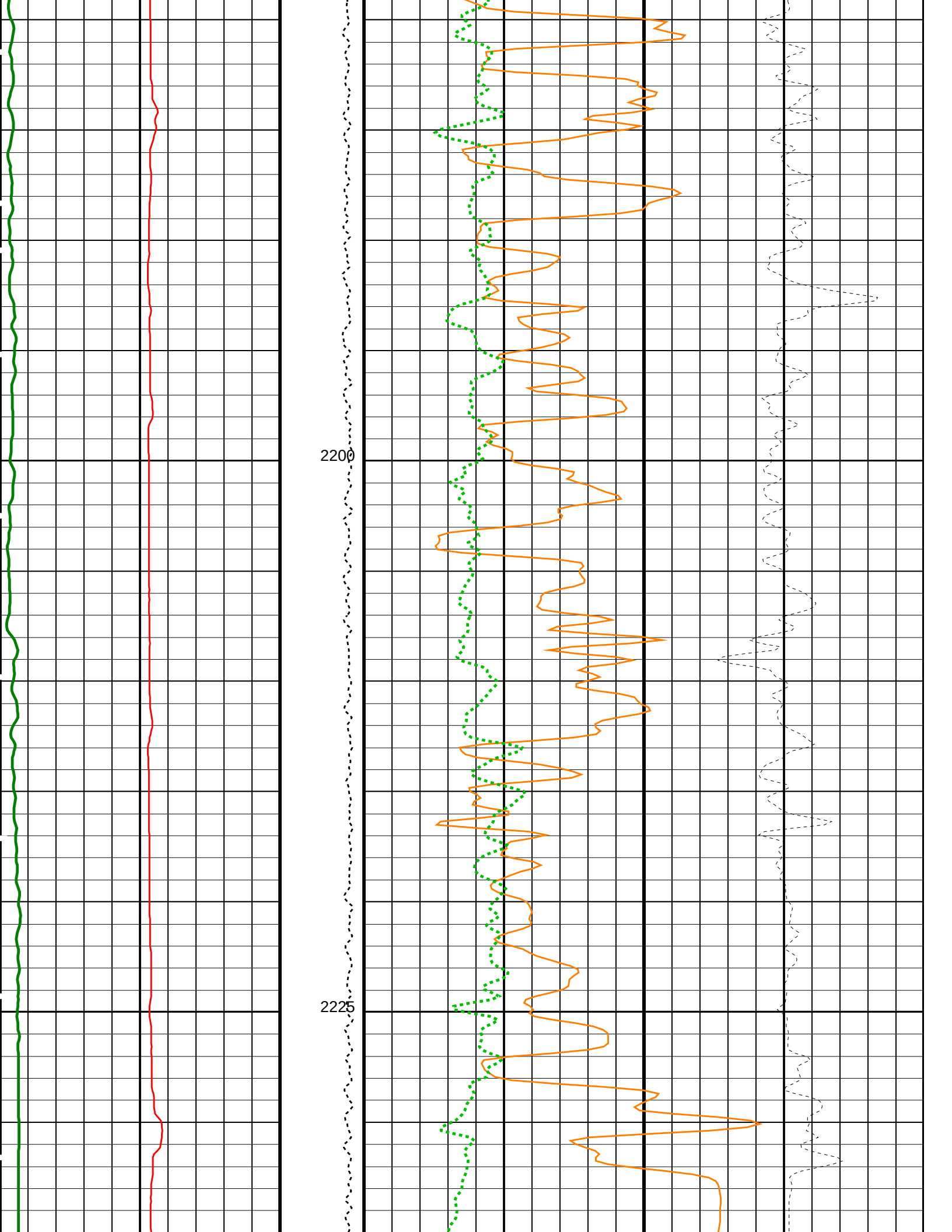
MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

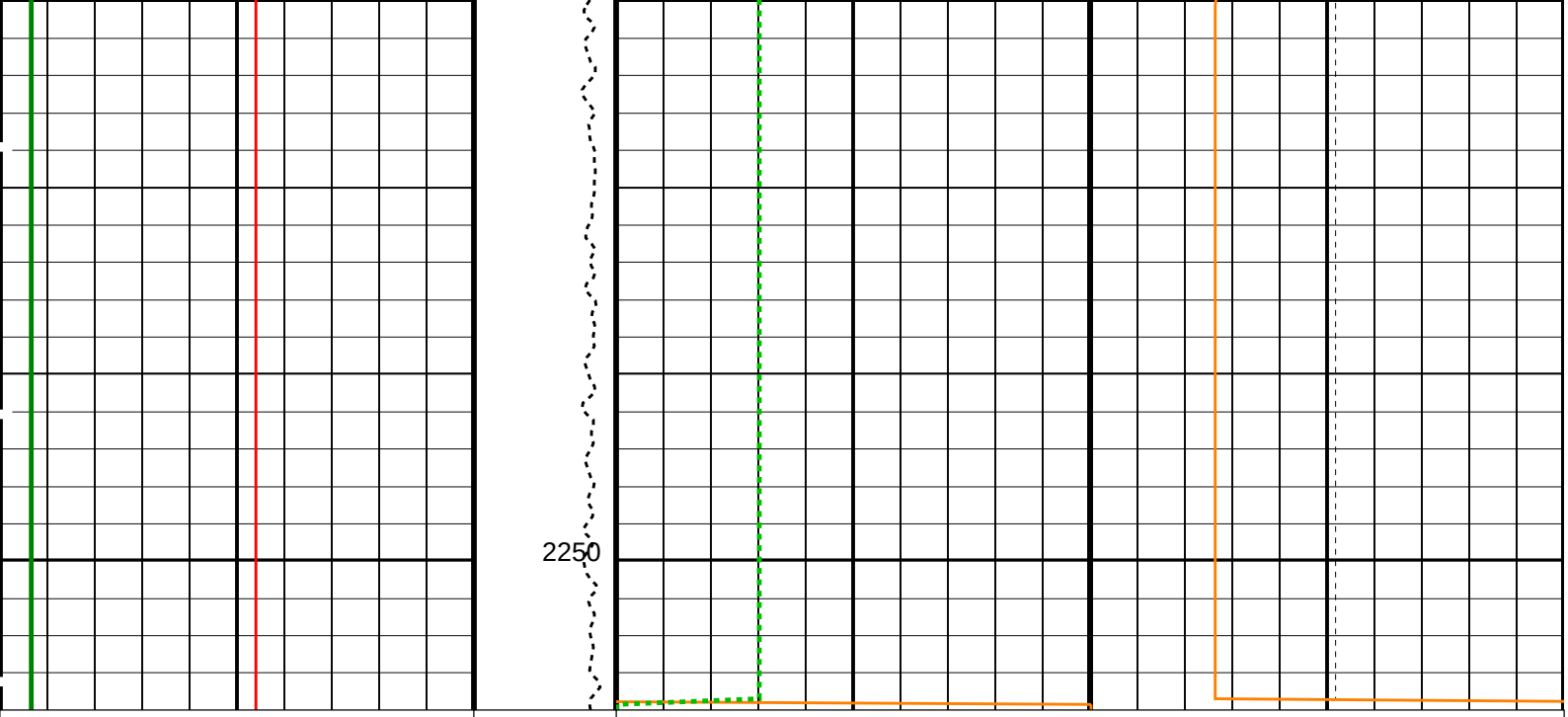
PIP SUMMARY

Time Mark Every 60 S




2125
2150
2175


2200
2225



HLDS Caliper (LCAL)	Tension (TENS)	HLDS Bulk Density (RHOM)
0 (IN) 20	0 (LBF) 5000	3 (G/C3) 1

HNGS Spectroscopy Gamma Ray (HSGR)	HLDS Long Spaced Photoelectric Effect (PEFL)	HLDS Bulk Density Correction (DRH)
0 (GAPI) 150	0 (----) 10	−0.25 (G/C3) 0.25

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	LCAL	
	HLDS: Hostile Litho−Density Sonde		
DHC	Density Hole Correction	CALIPER	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
MDEN	Matrix Density	2.6	G/C3
	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	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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: HLDSDensityPE Vertical Scale: 1:200 Graphics File Created: 20-Aug-2021 06:46

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
DTC-H	19C0-187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20-Aug-2021 06:46	
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20-Aug-2021 06:46	

Company: International Ocean Discovery Program Well: Expedition 396, Site U1566A

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20-Aug-2021 06:46	2254.0 M	2097.0 M
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20-Aug-2021 06:46	2254.0 M	2097.0 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
DTC-H	19C0-187		

PIP SUMMARY

Time Mark Every 60 S

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

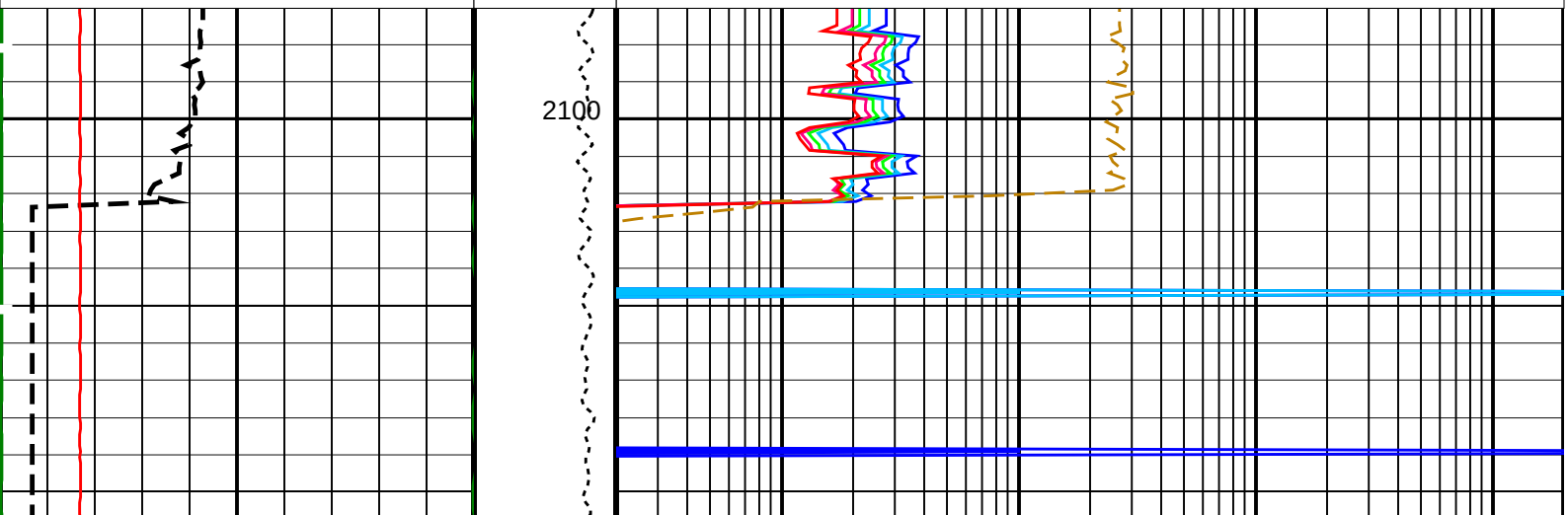
Invasion Diameter (DI_HRLT)
0 (IN) 50

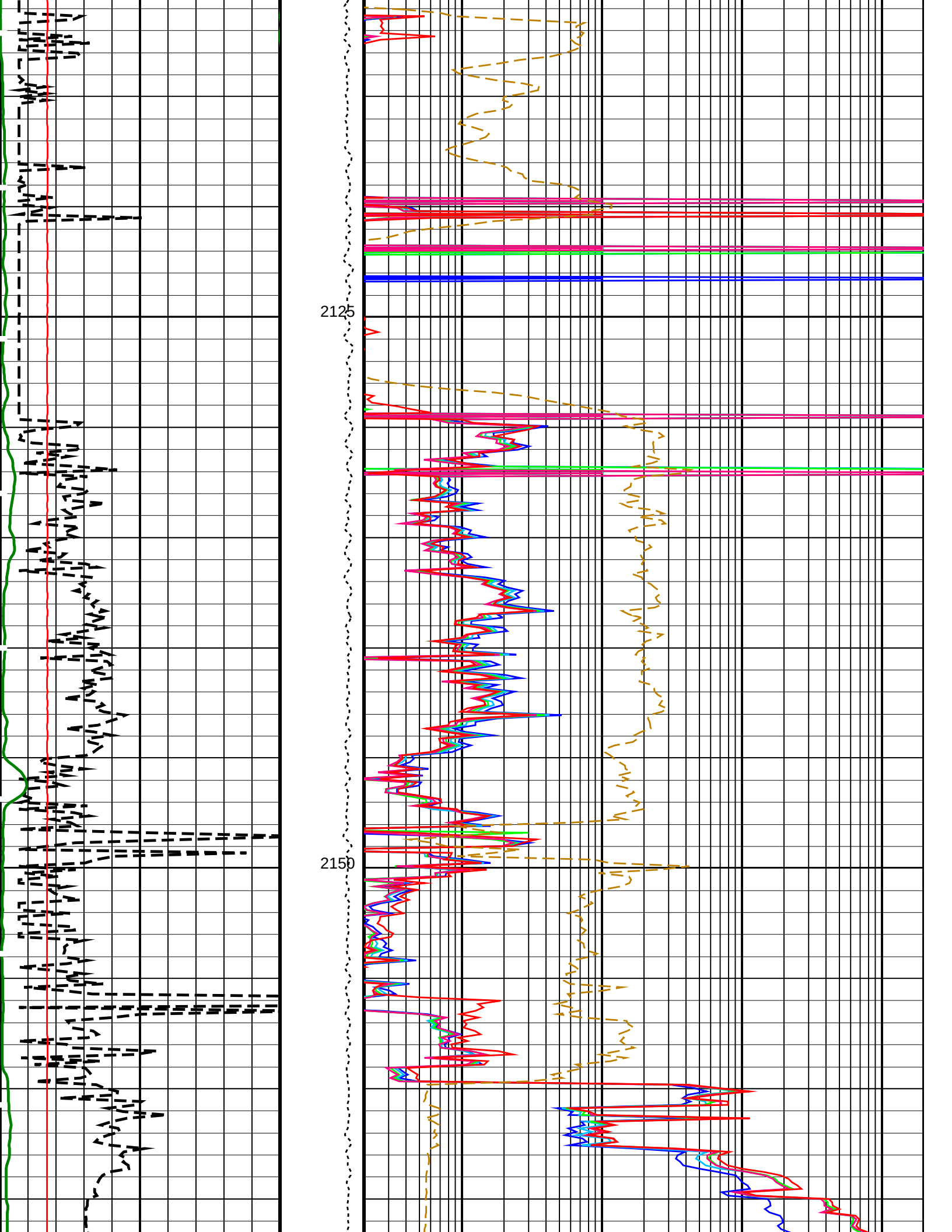
HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

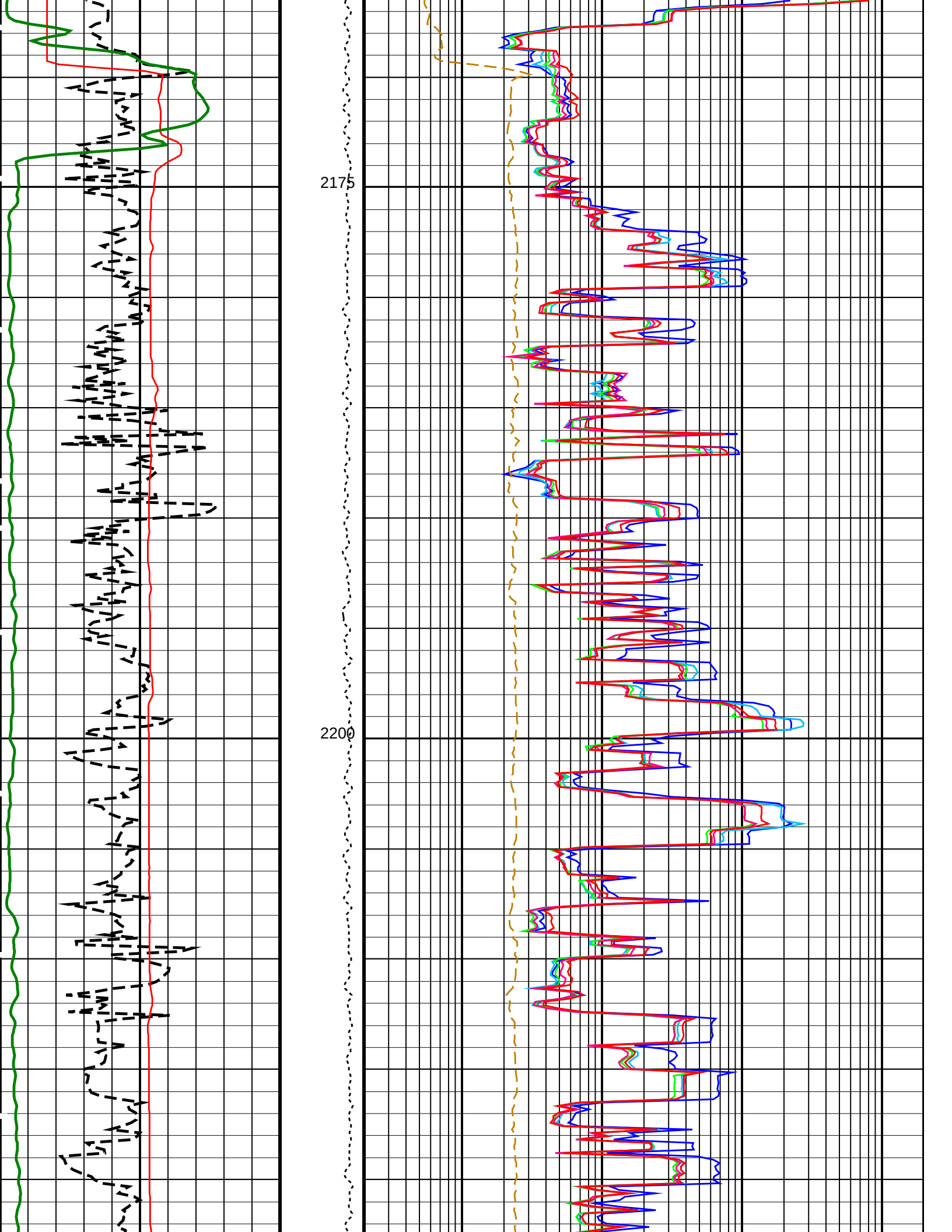
HLDS Caliper (LCAL)
0 (IN) 20

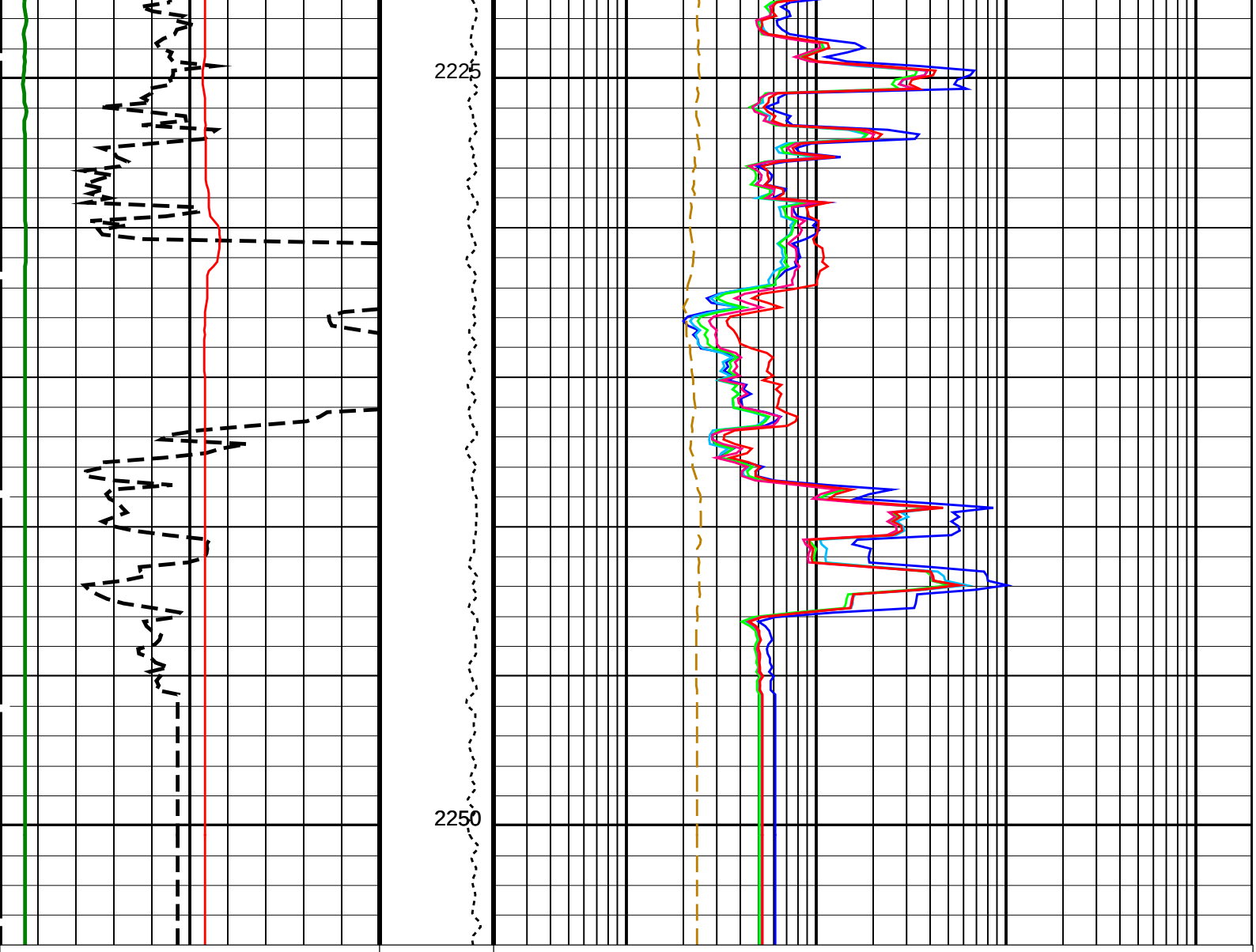
Tension (TENS) (LBF)
0 5000

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000




2125
2150


2175
2200



HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
0 5000

Invasion Diameter (DI_HRLT)
0 (IN) 50

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000

HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000

HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

HRLT Mud Resistivity (RM_HRLT)
0.02 (OHMM) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
	HRLT−B: High Resolution Laterolog Array − B	
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	7 DEGC

GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROCINV	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	Eccentered	
SHT	Surface Hole Temperature	20	DEGC
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)	7	DEGC
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	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
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	−0.00239239	
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	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3
TD	Total Depth	2292	M

Format: HRLT **Vertical Scale: 1:200** **Graphics File Created: 20−Aug−2021 06:46**

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46		
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46		

Company: International Ocean Discovery Program **Well: Expedition 396, Site U1566A**

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46	2254.0 M	2097.0 M
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46	2254.0 M	2097.0 M

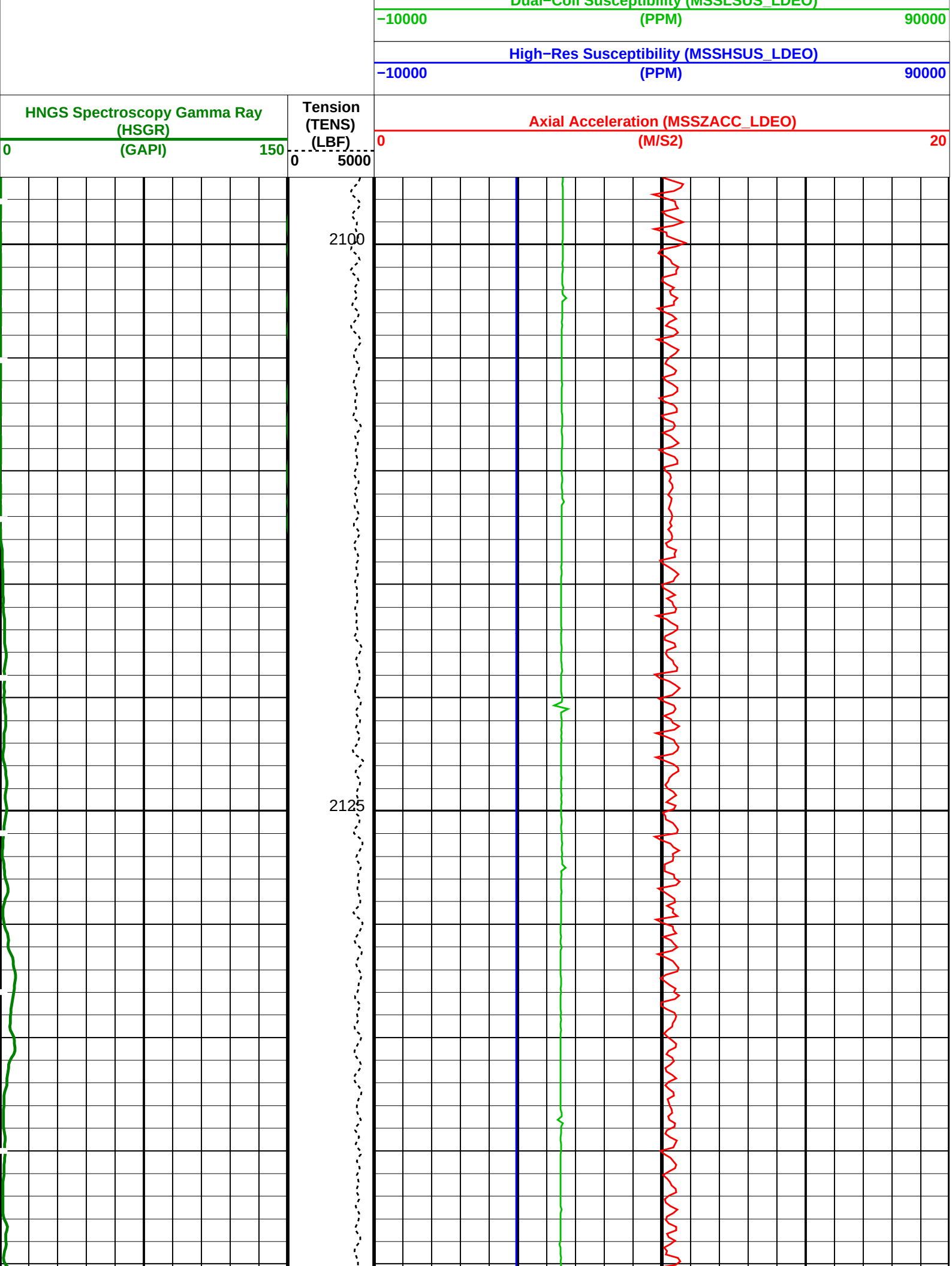
OP System Version: 19C0−187

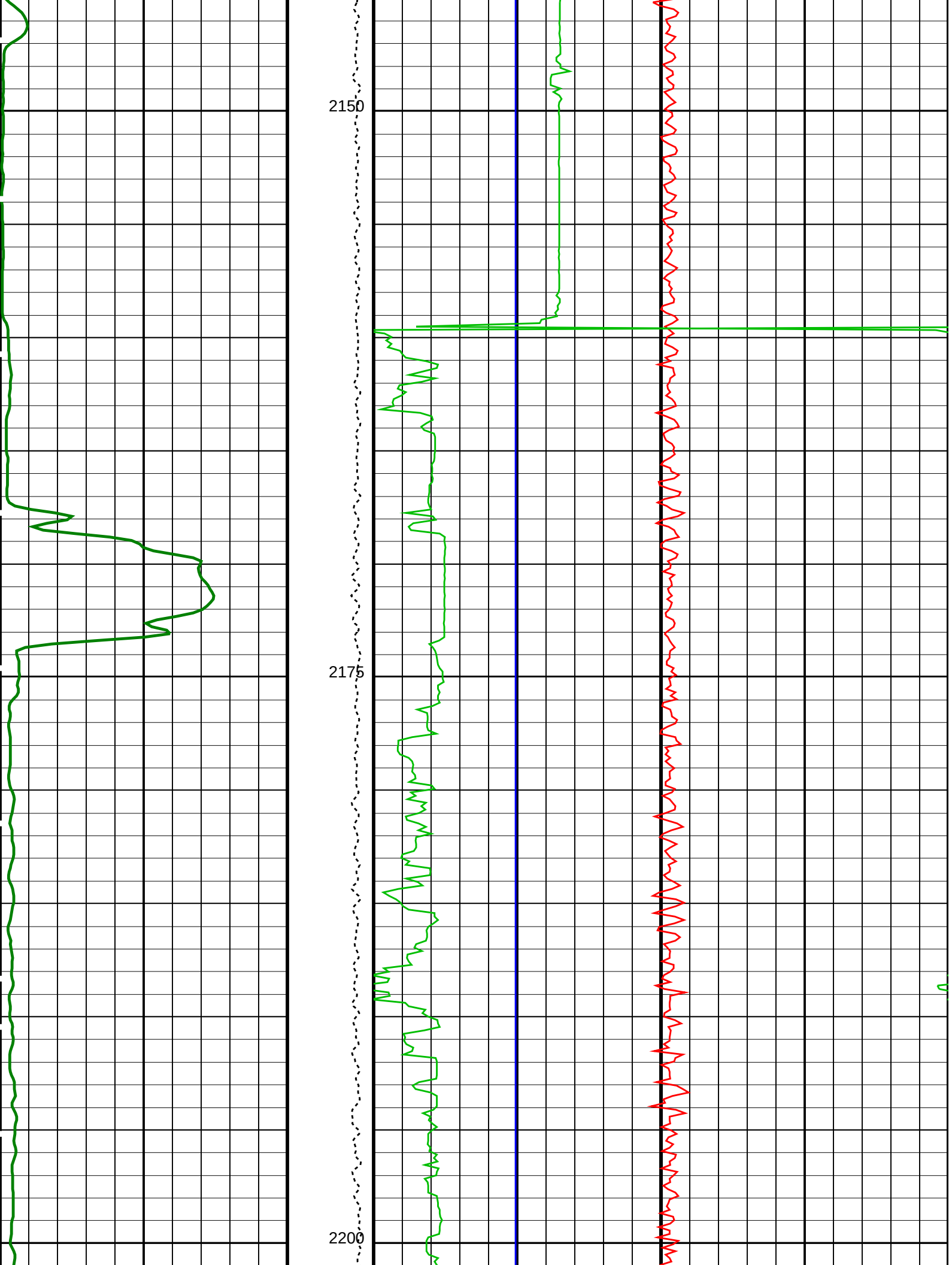
MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
DTC−H	19C0−187		

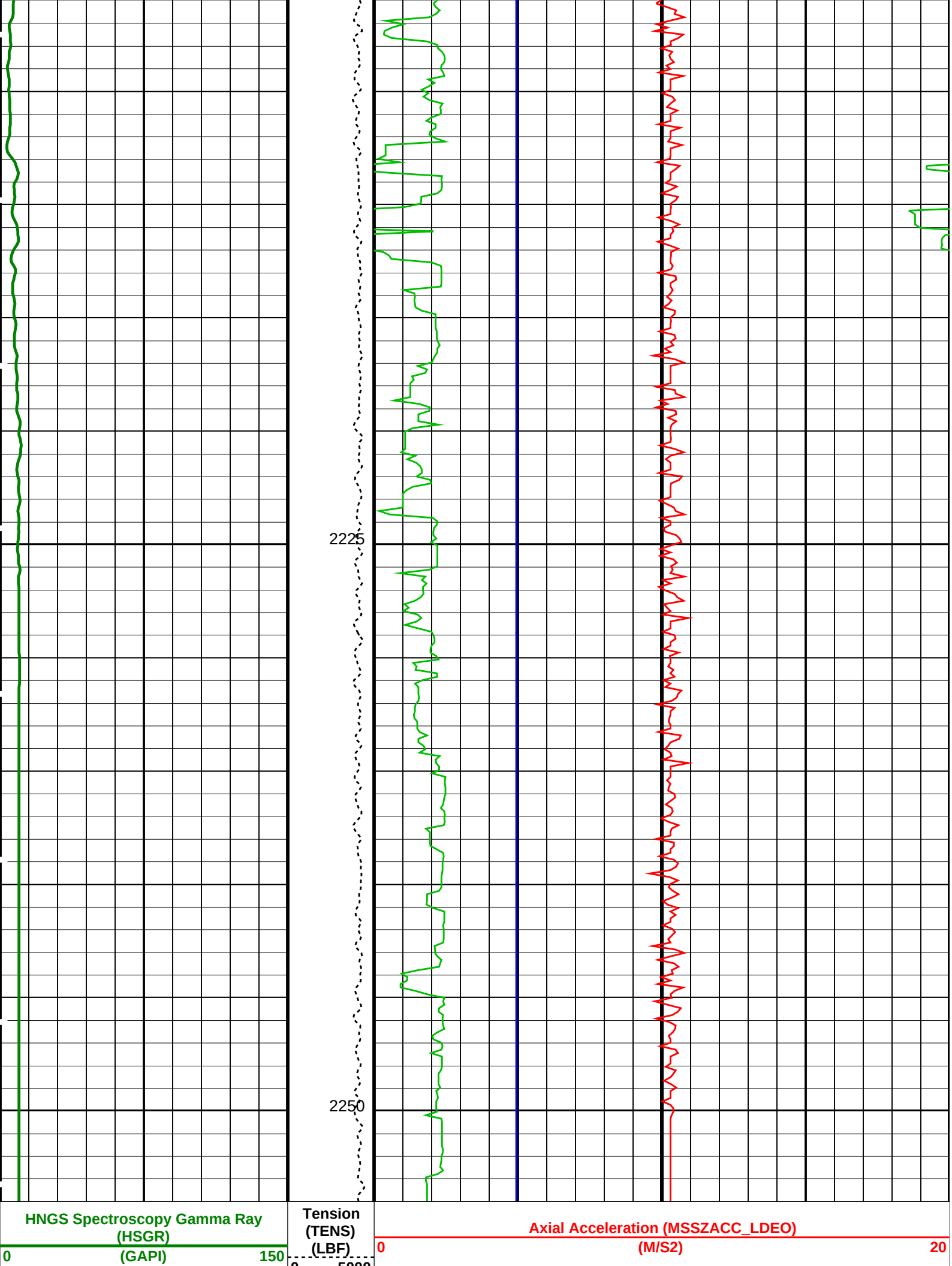
PIP SUMMARY

Time Mark Every 60 S

Dual−Coil Susceptibility (MSSLSUS_LDEO)


Dual−Coil Susceptibility (MSSLSUS_LDEO)
−10000
(PPM)
90000
High−Res Susceptibility (MSSHSUS_LDEO)
−10000
(PPM)
90000
HNGS Spectroscopy Gamma Ray (HSGR)
0
(GAPI)
150
Tension (TENS) (LBF)
0
5000
Axial Acceleration (MSSZACC_LDEO)
0
(M/S2)
20
2100
2125


2150
2175
2200


2225
2250
HNGS Spectroscopy Gamma Ray (HSGR)
0
(GAPI)
150
Tension (TENS) (LBF)
Axial Acceleration (MSSZACC_LDEO)
0
(M/S2)
20

0	5000	

High−Res Susceptibility (MSSHSUS_LDEO)		
−10000	(PPM)	90000

Dual−Coil Susceptibility (MSSLSUS_LDEO)		
−10000	(PPM)	90000

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	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
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	−0.00239239	
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	1.04969	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.09486	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.02	G/C3

Format: MSS_Logging **Vertical Scale: 1:200** **Graphics File Created: 20−Aug−2021 06:46**

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
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_018LUP	FN:14	PRODUCER	20−Aug−2021 06:46
RTB	MSS_LDEO_HRLA_LDL_018LUP	FN:15	PRODUCER	20−Aug−2021 06:46

Schlumberger

Calibrations

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High Resolution Laterolog Array − B Wellsite Calibration − HRLT M01							
Before: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT M0−M1 Voltage Plus − 0	0	N/A	−318.7	−318.5	0.2207	9.681	UV
HRLT M0−M1 Voltage Plus − 1	0	N/A	−330.3	−330.4	−0.03677	9.681	UV
HRLT M0−M1 Voltage Plus − 2	0	N/A	−337.5	−337.5	−0.04050	9.681	UV
HRLT M0−M1 Voltage Plus − 3	0	N/A	−328.6	−328.6	−0.06659	9.681	UV
HRLT M0−M1 Voltage Plus − 4	0	N/A	−319.8	−319.8	−0.005768	9.681	UV
HRLT M0−M1 Voltage Plus − 5	0	N/A	−321.5	−321.6	−0.09860	9.681	UV
HRLT M0−M1 Voltage Plus − 6	0	N/A	319.2	319.5	0.2291	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT M1−M2 Voltage Plus − 0	0	N/A	1739	1738	−1.158	53.42	UV
HRLT M1−M2 Voltage Plus − 1	0	N/A	1810	1811	0.6133	53.42	UV
HRLT M1−M2 Voltage Plus − 2	0	N/A	1842	1842	0.6520	53.42	UV
HRLT M1−M2 Voltage Plus − 3	0	N/A	1791	1792	0.5406	53.42	UV
HRLT M1−M2 Voltage Plus − 4	0	N/A	1743	1743	−0.05164	53.42	UV
HRLT M1−M2 Voltage Plus − 5	0	N/A	1752	1753	0.3402	53.42	UV
HRLT M1−M2 Voltage Plus − 6	0	N/A	−1757	−1759	−1.363	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT M2−M3 Voltage Plus − 0	0	N/A	1732	1730	−2.020	53.42	UV
HRLT M2−M3 Voltage Plus − 1	0	N/A	1813	1813	−0.1306	53.42	UV
HRLT M2−M3 Voltage Plus − 2	0	N/A	1846	1846	0.05017	53.42	UV
HRLT M2−M3 Voltage Plus − 3	0	N/A	1800	1799	−0.3258	53.42	UV
HRLT M2−M3 Voltage Plus − 4	0	N/A	1746	1744	−1.205	53.42	UV
HRLT M2−M3 Voltage Plus − 5	0	N/A	1756	1756	−0.7432	53.42	UV
HRLT M2−M3 Voltage Plus − 6	0	N/A	−1749	−1749	−0.2651	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT A3−A4 Voltage Plus − 0	0	N/A	68620	68600	−25.09	2100	UV
HRLT A3−A4 Voltage Plus − 1	0	N/A	71660	71710	42.06	2100	UV
HRLT A3−A4 Voltage Plus − 2	0	N/A	73280	73320	46.01	2100	UV
HRLT A3−A4 Voltage Plus − 3	0	N/A	71670	71720	53.89	2100	UV
HRLT A3−A4 Voltage Plus − 4	0	N/A	69480	69490	11.37	2100	UV
HRLT A3−A4 Voltage Plus − 5	0	N/A	69900	69950	47.89	2100	UV
HRLT A3−A4 Voltage Plus − 6	0	N/A	−68170	−68220	−52.01	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT A4−A5 Voltage Plus − 0	0	N/A	68710	68690	−20.07	2100	UV
HRLT A4−A5 Voltage Plus − 1	0	N/A	71880	71920	39.32	2100	UV
HRLT A4−A5 Voltage Plus − 2	0	N/A	73460	73510	46.01	2100	UV
HRLT A4−A5 Voltage Plus − 3	0	N/A	71830	71890	53.89	2100	UV
HRLT A4−A5 Voltage Plus − 4	0	N/A	69580	69590	6.016	2100	UV
HRLT A4−A5 Voltage Plus − 5	0	N/A	70000	70040	48.55	2100	UV
HRLT A4−A5 Voltage Plus − 6	0	N/A	−68370	−68420	−52.01	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT A5−A6 Voltage Plus − 0	0	N/A	68560	68540	−16.30	2100	UV
HRLT A5−A6 Voltage Plus − 1	0	N/A	71700	71740	45.71	2100	UV
HRLT A5−A6 Voltage Plus − 2	0	N/A	73320	73360	45.18	2100	UV
HRLT A5−A6 Voltage Plus − 3	0	N/A	71680	71730	47.06	2100	UV
HRLT A5−A6 Voltage Plus − 4	0	N/A	69440	69450	8.695	2100	UV
HRLT A5−A6 Voltage Plus − 5	0	N/A	69860	69910	47.89	2100	UV
HRLT A5−A6 Voltage Plus − 6	0	N/A	−68210	−68270	−57.20	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38							
HRLT Torpedo−M0 Voltage − 0	0	N/A	−68090	−68070	25.76	2100	UV
HRLT Torpedo−M0 Voltage − 1	0	N/A	−71510	−71550	−33.03	2100	UV
HRLT Torpedo−M0 Voltage − 2	0	N/A	−73160	−73200	−39.88	2100	UV
HRLT Torpedo−M0 Voltage − 3	0	N/A	−71600	−71650	−50.63	2100	UV
HRLT Torpedo−M0 Voltage − 4	0	N/A	−69410	−69410	−7.016	2100	UV
HRLT Torpedo−M0 Voltage − 5	0	N/A	−69830	−69870	−40.80	2100	UV
HRLT Torpedo−M0 Voltage − 6	0	N/A	67970	68020	53.59	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38

HRLT Bridle#9−M0 Voltage − 0	0	N/A	−68130	−68110	23.95	2100	UV
HRLT Bridle#9−M0 Voltage − 1	0	N/A	−71600	−71650	−48.68	2100	UV
HRLT Bridle#9−M0 Voltage − 2	0	N/A	−73230	−73280	−48.48	2100	UV
HRLT Bridle#9−M0 Voltage − 3	0	N/A	−71670	−71720	−52.80	2100	UV
HRLT Bridle#9−M0 Voltage − 4	0	N/A	−69450	−69460	−8.938	2100	UV
HRLT Bridle#9−M0 Voltage − 5	0	N/A	−69870	−69910	−43.89	2100	UV
HRLT Bridle#9−M0 Voltage − 6	0	N/A	68060	68110	54.42	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38

HRLT Source Current Plus − 0	0	N/A	284.2	284.1	−0.03152	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: 20−Aug−2021 4:43 After: 20−Aug−2021 8:38

HRLT Vertical Voltage Pl − 0	0	N/A	−320.6	−320.2	0.3907	9.681	UV
HRLT Vertical Voltage Pl − 1	0	N/A	−325.2	−325.2	0.06375	9.681	UV
HRLT Vertical Voltage Pl − 2	0	N/A	−331.0	−330.9	0.1626	9.681	UV
HRLT Vertical Voltage Pl − 3	0	N/A	−320.4	−320.3	0.09210	9.681	UV
HRLT Vertical Voltage Pl − 4	0	N/A	−309.0	−308.8	0.1822	9.681	UV
HRLT Vertical Voltage Pl − 5	0	N/A	−325.5	−325.4	0.09131	9.681	UV
HRLT Vertical Voltage Pl − 6	0	N/A	327.0	327.0	0.05072	9.681	UV
HRLT Vertical Voltage Pl − 7	0	N/A	−322.7	−322.7	0	9.681	UV

Hostile Litho−Density Sonde Wellsite Calibration − Background Measurement
Master: Calibration out of date 2−May−2021 7:20 Before: 20−Aug−2021 4:44 After: 20−Aug−2021 8:41

SS Cs Resolution Bkg	9.000	7.698	7.716	7.712	−0.004094	1.800	%
LS Cs Resolution Bkg	9.000	7.989	8.044	7.979	−0.06513	1.800	%
LSW1 Background	100.0	71.96	69.96	70.67	0.7080	3.000	CPS
LSW2 Background	100.0	65.02	63.84	63.11	−0.7310	3.000	CPS
LSW3 Background	200.0	146.1	145.5	145.9	0.3983	6.000	CPS
LSW4 Background	250.0	183.2	181.0	180.4	−0.5676	7.500	CPS
LSW5 Background	600.0	424.9	422.4	422.3	−0.08960	18.00	CPS
SSW1 Background	100.0	68.97	68.65	67.38	−1.274	3.000	CPS
SSW2 Background	200.0	118.2	118.6	116.8	−1.860	6.000	CPS
SSW3 Background	500.0	331.3	330.1	328.1	−1.939	15.00	CPS
SSW4 Background	270.0	178.4	176.1	177.4	1.291	8.100	CPS
SSW5 Background	200.0	127.4	126.5	126.3	−0.1968	6.000	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Aluminum Measurement
Master: Calibration out of date 2−May−2021 7:46

LSW1 Aluminum	600.0	437.4	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	651.2	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	787.2	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	396.8	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	364.1	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2070	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	5832	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	8191	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3322	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	384.2	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Lithology Measurement
Master: Calibration out of date 2−May−2021 7:41

LSW1 Iron	400.0	298.6	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	524.2	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	699.6	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	360.1	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	333.9	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1520	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	4870	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	7479	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3030	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	343.3	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Caliper Calibration
Before: Calibration out of date 2−May−2021 8:12

HLDS Caliper Small Ring	12.00	N/A	16.10	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	20.13	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42

Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42							
Na 511 Peak Loc	40.00	39.25	39.60	39.74	0.1407	1.000	
Na 511 Peak Res	15.50	16.53	15.84	15.11	−0.7305	2.000	%
High Voltage	1150	1197	1177	1179	1.847	N/A	V
Na 1785 Peak Loc	142.6	141.8	142.7	142.9	0.2140	7.000	
Na 1785 Peak Res	8.500	8.905	8.955	8.354	−0.6012	2.000	%
Temperature	15.50	26.59	16.70	16.28	−0.4200	N/A	DEGC
Na Count Rate	45.00	12.01	10.52	10.31	−0.2124	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check

Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42							
Na 511 Peak Loc	40.00	39.88	39.56	39.74	0.1846	1.000	
Na 511 Peak Res	15.50	15.29	16.20	15.07	−1.130	2.000	%
High Voltage	1150	1122	1104	1104	−0.2054	N/A	V
Na 1785 Peak Loc	142.6	142.6	142.8	141.7	−1.096	7.000	
Na 1785 Peak Res	8.500	8.040	8.953	9.597	0.6440	2.000	%
Temperature	15.50	27.21	17.38	17.80	0.4184	N/A	DEGC
Na Count Rate	45.00	12.32	10.17	10.10	−0.07357	8.000	CPS

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

Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42							
Coincidence Count Rate Ratio	1.000	0.9728	1.036	1.020	−0.01542	0.05000	

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		−318.7	−322.7	−280.7	−379.7
	After		−318.5			
1	Before		−330.3	−322.7	−280.7	−379.7
	After		−330.4			
2	Before		−337.5	−322.7	−280.7	−379.7
	After		−337.5			
3	Before		−328.6	−322.7	−280.7	−379.7
	After		−328.6			
4	Before		−319.8	−322.7	−280.7	−379.7
	After		−319.8			
5	Before		−321.5	−322.7	−280.7	−379.7
	After		−321.6			
6	Before		319.2	322.7	379.7	280.7
	After		319.5			
7	Before		−322.7	−322.7	−280.7	−379.7
	After		−322.7			
		(Minimum) (Nominal) (Maximum)				

Before: 20−Aug−2021 4:43

After: 20−Aug−2021 8:38

High Resolution Laterolog Array − B Wellsite Calibration

HRLT M12

Idx	Phase	HRLT M1−M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−318.7	−322.7	−280.7	−379.7
	After		−318.5			
1	Before		−330.3	−322.7	−280.7	−379.7
	After		−330.4			
2	Before		−337.5	−322.7	−280.7	−379.7
	After		−337.5			
3	Before		−328.6	−322.7	−280.7	−379.7
	After		−328.6			
4	Before		−319.8	−322.7	−280.7	−379.7
	After		−319.8			
5	Before		−321.5	−322.7	−280.7	−379.7
	After		−321.6			
6	Before		319.2	322.7	379.7	280.7
	After		319.5			
7	Before		−322.7	−322.7	−280.7	−379.7
	After		−322.7			
		(Minimum) (Nominal) (Maximum)				

0	Before	1739	1781	2095	1549
	After	1738			
1	Before	1810	1781	2095	1549
	After	1811			
2	Before	1842	1781	2095	1549
	After	1842			
3	Before	1791	1781	2095	1549
	After	1792			
4	Before	1743	1781	2095	1549
	After	1743			
5	Before	1752	1781	2095	1549
	After	1753			
6	Before	−1757	−1781	−1549	−2095
	After	−1759			
7	Before	1781	1781	2095	1549
	After	1781			
	(Minimum) (Nominal) (Maximum)				

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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		1730			
1	Before		1813	1781	2095	1549
	After		1813			
2	Before		1846	1781	2095	1549
	After		1846			
3	Before		1800	1781	2095	1549
	After		1799			
4	Before		1746	1781	2095	1549
	After		1744			
5	Before		1756	1781	2095	1549
	After		1756			
6	Before		−1749	−1781	−1549	−2095
	After		−1749			
7	Before		1781	1781	2095	1549
	After		1781			
	(Minimum) (Nominal) (Maximum)					

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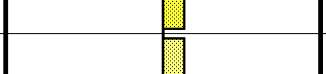
High Resolution Laterolog Array − B Wellsite Calibration

HRLT V34

Idx	Phase	HRLT A3−A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68620	70000	82360	60900
	After		68600			

1	Before		71660	70000	82360	60900
	After		71710			
2	Before		73280	70000	82360	60900
	After		73320			
3	Before		71670	70000	82360	60900
	After		71720			
4	Before		69480	70000	82360	60900
	After		69490			
5	Before		69900	70000	82360	60900
	After		69950			
6	Before		−68170	−70000	−60900	−82360
	After		−68220			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

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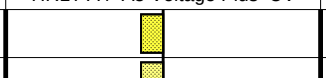
High Resolution Laterolog Array − B Wellsite Calibration

HRLT V45

Idx	Phase	HRLT A4−A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68710	70000	82360	60900
	After		68690			
1	Before		71880	70000	82360	60900
	After		71920			
2	Before		73460	70000	82360	60900
	After		73510			
3	Before		71830	70000	82360	60900
	After		71890			
4	Before		69580	70000	82360	60900
	After		69590			
5	Before		70000	70000	82360	60900
	After		70040			
6	Before		−68370	−70000	−60900	−82360
	After		−68420			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

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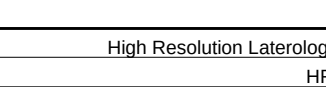
High Resolution Laterolog Array − B Wellsite Calibration

HRLT V56

Idx	Phase	HRLT A5−A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68560	70000	82360	60900
	After		68540			
1	Before		71700	70000	82360	60900
	After		71740			
	(Minimum) (Nominal) (Maximum)					

2	Before	73320	70000	82360	60900
	After	73360			
3	Before	71680	70000	82360	60900
	After	71730			
4	Before	69440	70000	82360	60900
	After	69450			
5	Before	69860	70000	82360	60900
	After	69910			
6	Before	−68210	−70000	−60900	−82360
	After	−68270			
7	Before	70000	70000	82360	60900
	After	70000			
	(Minimum) (Nominal) (Maximum)				

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High Resolution Laterolog Array − B Wellsite Calibration

HRLT VTP

Idx	Phase	HRLT Torpedo−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68090	−70000	−60900	−82360
	After		−68070			
1	Before		−71510	−70000	−60900	−82360
	After		−71550			
2	Before		−73160	−70000	−60900	−82360
	After		**−73200**			
3	Before		−71600	−70000	−60900	−82360
	After		−71650			
4	Before		−69410	−70000	−60900	−82360
	After		−69410			
5	Before		−69830	−70000	−60900	−82360
	After		−69870			
6	Before		67970	70000	82360	60900
	After		68020			
7	Before		−70000	−70000	−60900	−82360
	After		−70000			
	(Minimum) (Nominal) (Maximum)					

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High Resolution Laterolog Array − B Wellsite Calibration

HRLT VBD

Idx	Phase	HRLT Bridle#9−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68130	−70000	−60900	−82360
	After		−68110			
1	Before		−71600	−70000	−60900	−82360
	After		−71650			
2	Before		−73230	−70000	−60900	−82360
	After		−73280			

3	Before	−71670	−70000	−60900	−82360
	After	−71720			
4	Before	−69450	−70000	−60900	−82360
	After	−69460			
5	Before	−69870	−70000	−60900	−82360
	After	−69910			
6	Before	68060	70000	82360	60900
	After	68110			
7	Before	−70000	−70000	−60900	−82360
	After	−70000			
	(Minimum) (Nominal) (Maximum)				

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High Resolution Laterolog Array − B Wellsite Calibration

HRLT ISO

Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.2	284.0	334.1	247.0
	After		284.1			
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: 20−Aug−2021 4:43

After: 20−Aug−2021 8:38

High Resolution Laterolog Array − B Wellsite Calibration

HRLT MV

Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−320.6	−322.7	−280.7	−379.7
	After		−320.2			
1	Before		−325.2	−322.7	−280.7	−379.7
	After		−325.2			
2	Before		−331.0	−322.7	−280.7	−379.7
	After		−330.9			
3	Before		−320.4	−322.7	−280.7	−379.7
	After		−320.3			

4	Before	−309.0	−322.7	−280.7	−379.7
	After	−308.8			
5	Before	−325.5	−322.7	−280.7	−379.7
	After	−325.4			
6	Before	327.0	322.7	379.7	280.7
	After	327.0			
7	Before	−322.7	−322.7	−280.7	−379.7
	After	−322.7			
	(Minimum) (Nominal) (Maximum)				

Before: 20−Aug−2021 4:43

After: 20−Aug−2021 8:38

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
Master		7.698
Before		7.716
After		7.712
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		7.989
Before		8.044
After		7.979
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LSW1 Background CPS	Value
Master		71.96
Before		69.96
After		70.67
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		65.02
Before		63.84
After		63.11
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		146.1
Before		145.5
After		145.9
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		183.2
Before		181.0
After		180.4
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		424.9
Before		422.4
After		422.3
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		68.97
Before		68.65
After		67.38
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		118.2
Before		118.6
After		116.8
	100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		331.3
Before		330.1
After		328.1
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		178.4
Before		176.1
After		177.4
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		127.4
Before		126.5
After		126.3
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Master: Calibration out of date 2−May−2021 7:20 Before: 20−Aug−2021 4:44 After: 20−Aug−2021 8:41

Litho−Density Spectroscopy Cartridge − B / Equipment Identification

Primary Equipment:		
LDSC Cartridge	LDSC − B	521
Auxiliary Equipment:		

LDSC Housing	LDSH − A	319

Hostile Natural Gamma Ray Cartridge − B / Equipment Identification

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

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	99
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	102
Gamma Source Radioactive	GSR − U	6098

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		39.25
Before		39.60
After		39.74
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.53
Before		15.84
After		15.11
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1197
Before		1177
After		1179
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		141.8
Before		142.7
After		142.9
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.905
Before		8.955
After		8.354
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		26.59
Before		16.70
After		16.28
	−28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		12.01
Before		10.52
After		10.31
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.88
Before		39.56
After		39.74
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		15.29
Before		16.20
After		15.07
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1122
Before		1104
After		1104
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.6
Before		142.8
After		141.7
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.040
Before		8.953
After		9.597
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		27.21
Before		17.38
After		17.80
	−28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		12.32

Before		10.17
After		10.10

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

Master: Calibration out of date 2−May−2021 10:04 Before: 20−Aug−2021 4:46 After: 20−Aug−2021 8:42

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master	MASTER−BEFORE LIMIT	0.9728
Before		1.036
After		1.020

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Master: Calibration out of date 2−May−2021 10:04

Before: 20−Aug−2021 4:46

After: 20−Aug−2021 8:42

DTS Telemetry Tool / Equipment Identification

Primary Equipment:		
DTC−H Auxiliary Cartridge	DTCH − A	8799
DTC−H Telemetry Cartridge	DTCH − A	8799
Auxiliary Equipment:		
DTCH Telemetry Cartridge Housing	ECH − KC	9842

Company: **International Ocean Discovery Program**

Schlumberger

Well: **Expedition 396, Site U1566A**
Field: **Mid−Norwegian Cont. Margin Magmatism**
Rig: **JOIDES Resolution**
Country: **Iceland**

High Resolution Laterolog (HRLA)
Litho Density (HLDS)
Natural Gamma / MSS (HNGS)