Schlumberger

Company: **Lamont Doherty Earth Observatory**

Well: **Expedition 352, Site U1442A**
Field: **IBM−3 Forearc**
Rig: **JOIDES Resolution** Country:

Rig: JOIDES Resolution
Field: IBM−3 Forearc
Location: Latitude: N 28.40964*
Well: Expedition 352, Site U1442A
Company: Lamont Doherty Earth Observato

Triple−Combo
HRLA Resisitivity, HLDS Litho−Density
HNGS Spectral GR

LOCATION

Latitude: N 28.40964*
Longitude: E 142.62228*

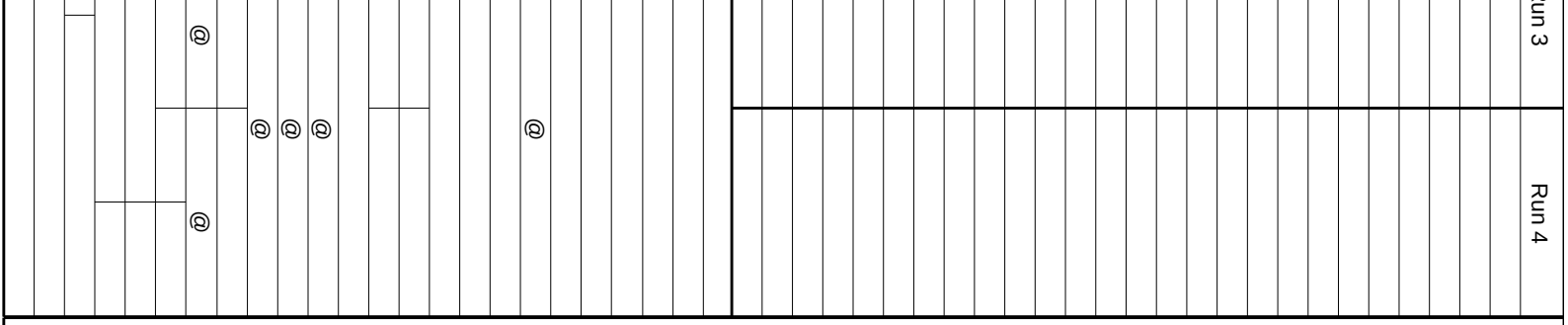
Elev.: K.B. −3173.00 m
G.L. 0.00 m
D.F. −3173.00 m

Permanent Datum: Sea Floor — Elev.: −3173.00 m
Log Measured From: Drill Floor — 3173.00 m above Perm. Datum
Drilling Measured From: Drill Floor

Ocean:	Max. Well Deviation	Longitude	Latitude
Pacific	0 deg	E 142.62228	N 28.40964

Logging Date		23−Sep−2014	
Run Number		1	
Depth Driller		529.8 m	
Schlumberger Depth		368.6 m	
Bottom Log Interval		358.6 m	
Top Log Interval		0 m	
Casing Driller Size @ Depth		5.500 in @ 96.5 m	@
Casing Schlumberger		96.5 m	
Bit Size		9.875 in	
Type Fluid In Hole		Sepiolite	
MUD Density	Viscosity	1.03 g/cm3	
Fluid Loss	PH		
Source Of Sample		N/A	
RM @ Measured Temperature		@	@
RMF @ Measured Temperature		@	@
RMC @ Measured Temperature		@	@
Source RMF	RMC	N/A / N/A	
RM @ MRT	RMF @ MRT	@ 7 / @ 7	@ / @
Maximum Recorded Temperatures		7 degC	
Circulation Stopped	Time	23−Sep−2014 3:00	
Logger On Bottom	Time	23−Sep−2014 23:00	
Unit Number	Location	627314 Houston	
Recorded By		C. Furman	
Witnessed By		S. Morgan	

	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			
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			



DISCLAIMER

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

OTHER SERVICES1

OS1: HNGS
OS2: FMS
OS3: DSI
OS4: MSS

REMARKS: RUN NUMBER 1

Hole drilled with RCB coring bit and bottom hole assembly (BHA). 9 7/8 " BS
Free−Fall Funnel deployed for re−entry without casing.
Bit placed at 96.5mbsf (driller's depth) prior to logging; logs tied into Run 1, Pass 2 bit depth due to low GR at sea bed.
Hole was displaced to water−based mud prior to logging.
Tools run as per tool sketch with upper section (HNGS & HLDS) eccentered using HLDS caliper and
lower section (HRLA & MSS) separated with knuckle joints and centralized using modified MCD inline bowsprings.
HLDS data is valid for the first pass, but density data from the second pass is invalid due to caliper failure.
Hole obstructed at a depth of 368.6mbsf; tools unable to pass below this depth; logs recorded from this depth up.
Bit found at 96.5mbsf; used as tie−in reference for all logs in this hole.
MSS Deep Reading (DR) sensor only was run centralized below HRLA.
Borehole corrections applied using corrected HLDS caliper (LCAL) for 1st up pass; Bit Size (BS) used for downlog and 2nd pass.
Logs recorded in real−time with depth zero at drill floor; final depth adjusted to have zero at sea floor for core compatibilit
Depth reference for this hole was the second pass of the first run; all other logs tied into that pass.

HLDS Data from Second Pass is INVALID due to a caliper failure
Density data is NOT VALID while caliper is closed
HLDS Caliper and Litho−Density from First Pass are OK over the logged interval (TD to 140mbsf)

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

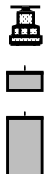
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

GSR−U 616008
WITM (EDTS)−A

DOWNHOLE EQUIPMENT



LEH−QT			32.79
LEH−QT 301	MDSB_EDTC		
AH−369	Mud Tempe	31.46	31.90
	CTEM	30.40	
EDTC−B	Gamma Ray	29.83	31.46
EDTH−B 8303	EFTB DIAG		
	TelStatus		

EDTC−B 8317
EDTG−A/B 8305

EDTCB Ele — 29.48

HNGS−BA — 29.48
HNGS−BA 194
HNSH−BA 205

Upper_1 — 28.78
Lower_2 — 28.57

HNGC−B — 26.98
HNGH−A 115

HNGC Stat — 26.45

LDSC−B — 25.91
LDSH−A 319

LDSC Stat — 25.38

HLDS — 24.85
GSR−Z 8113
HLDV−D 45
HLDS−D 45
HEH−H 47
HLDP−C 45

Caliper
SS LS Status — 20.79

AH−184_NonMagKnuckleJoint — 20.03

AH−NonMagSpacer — 19.42
AH−NonMagSpacer

AH−184_NonMagKnuckleJoint — 16.52

AH−MCD2 — 15.91
AH−MCD2

HRLT−B — 13.64
HRUH−B
HRUC−B
HRLS−B
HRLH−B
HRLC−B
AH−270

High Res. — 10.05

AH−MCD1 — 6.26
AH−MCD1

AH−230 — 3.98

Hi−Res — 3.36

MSS_LDEO−A — 3.58
ELIC−A
MSS_LDEO−A

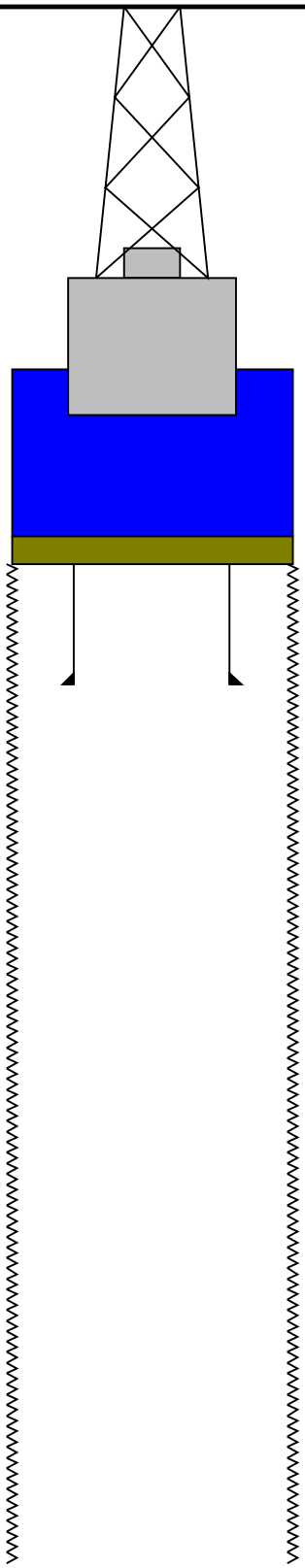
Dual Coil — 0.39
DF ACCZ
Tension HV — 0.00

TOOL ZERO

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

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

	OD	ID	MD
Kelly Bushing Elevation			−3173.0
Derrick Floor Elevation			−3173.0
Mean Sea Level			−3162.2



MD	OD	ID	
0.0			Sea Bed
96.5	5.500	4.000	Bit
529.8	9.875		Total Depth − Driller

Schlumberger

Downlog

MAXIS Field Log

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_018LUP		PRODUCER	26−Sep−2014 09:46	3557.9 M	3120.4 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_042PUP	FN:59	PRODUCER	26−Sep−2014 11:37	382.1 M	−11.6 M
CLIENT	MSS_LDEO_HRLA_LDL_042PUC	FN:60	CUSTOMER	26−Sep−2014 11:37	382.1 M	−11.6 M

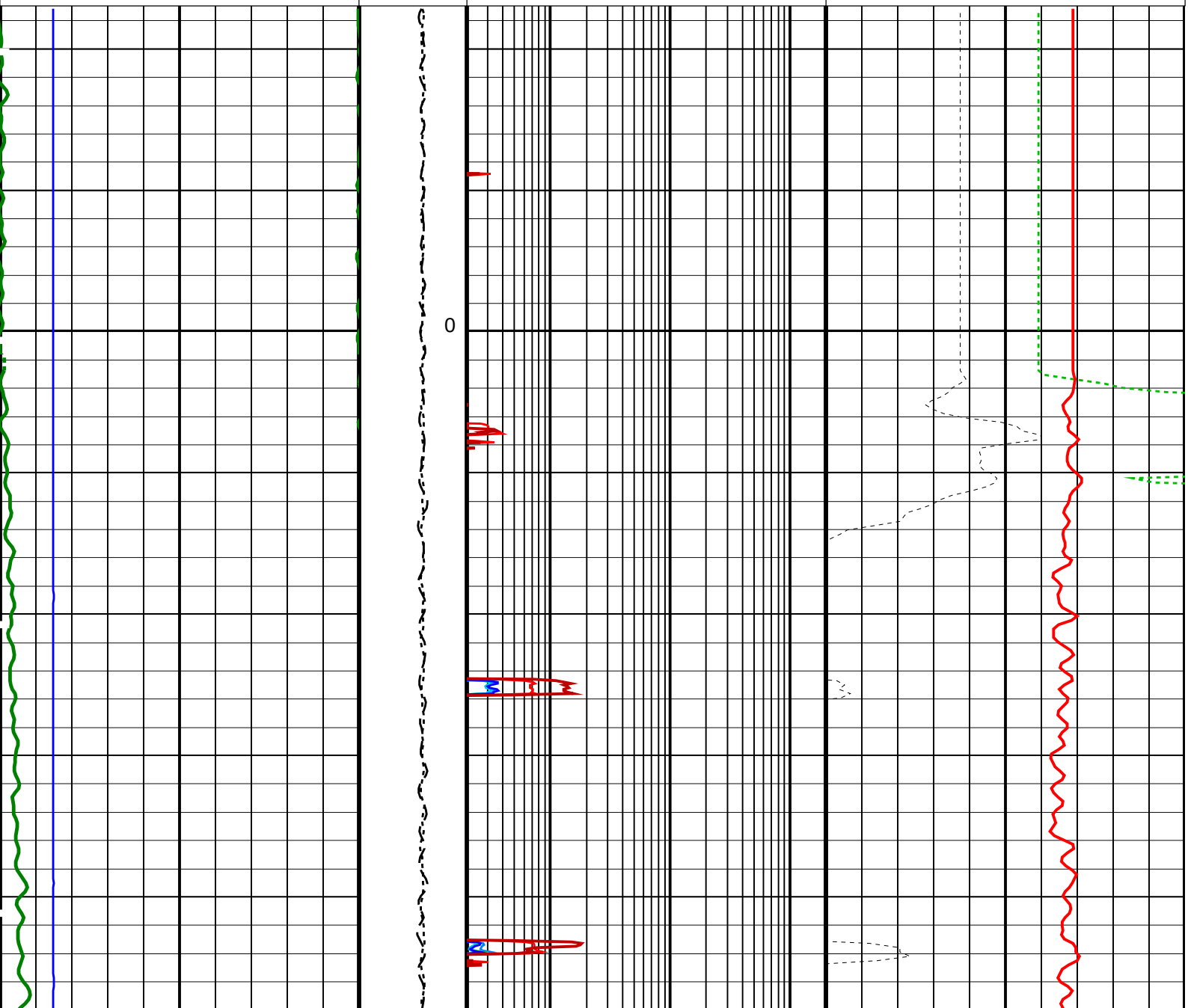
OP System Version: 19C0−187

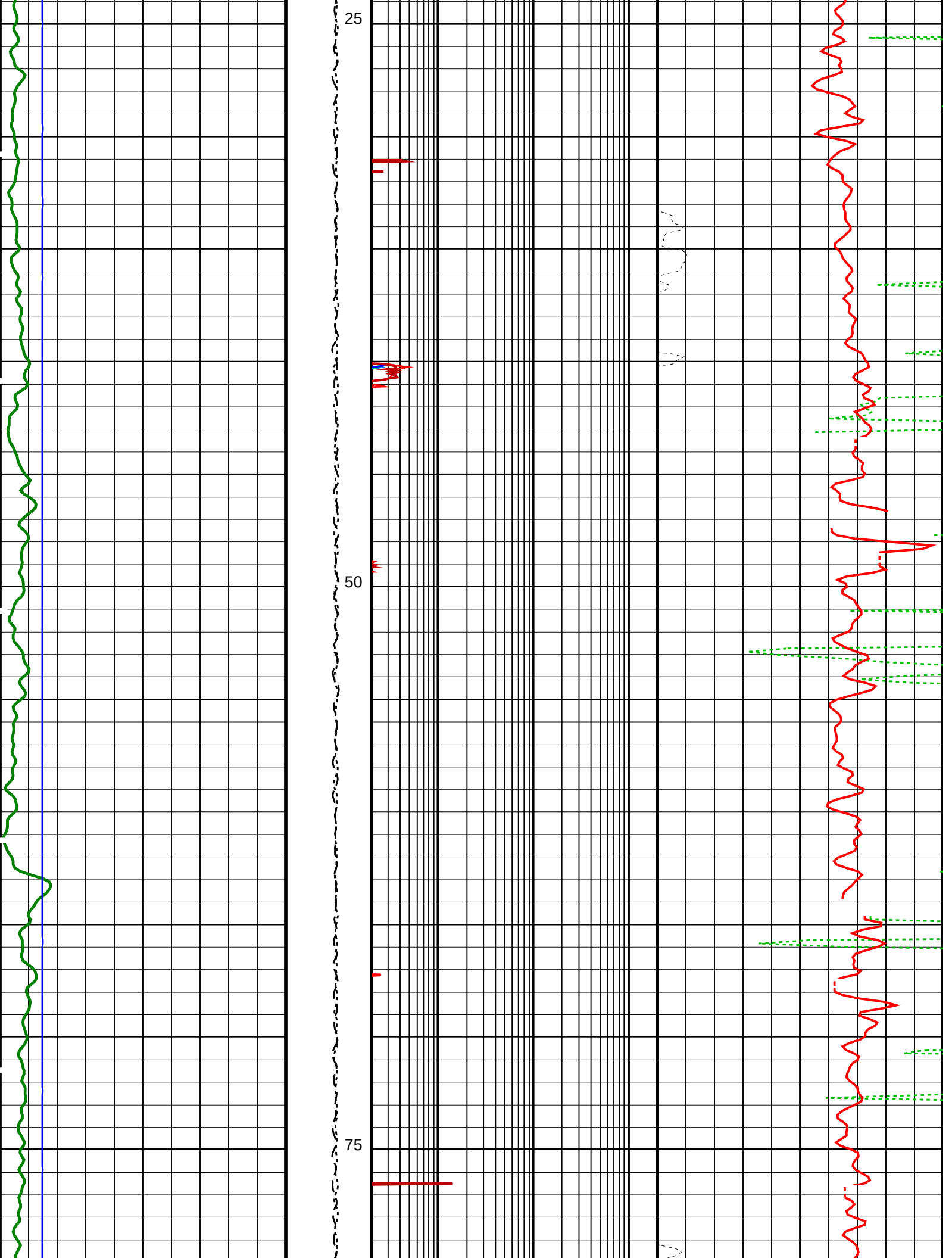
MSS_LDEO−A	19C0−187	HRLT−B	19C0−187
HLDS	19C0−187	LDSC−B	19C0−187
HNGC−B	19C0−187	HNGS−BA	19C0−187
EDTC−B	SKK−5169−EDTCB		

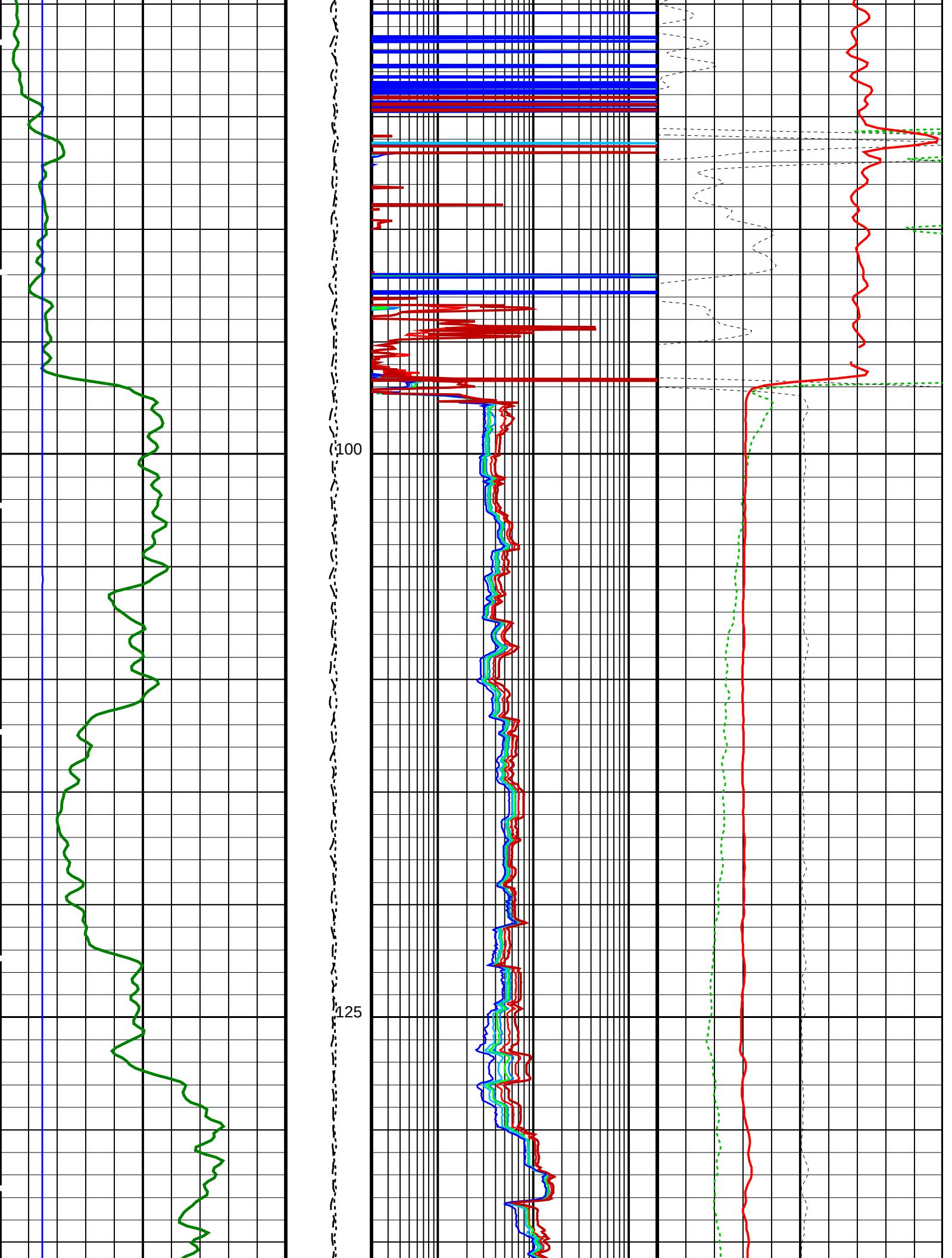
PIP SUMMARY

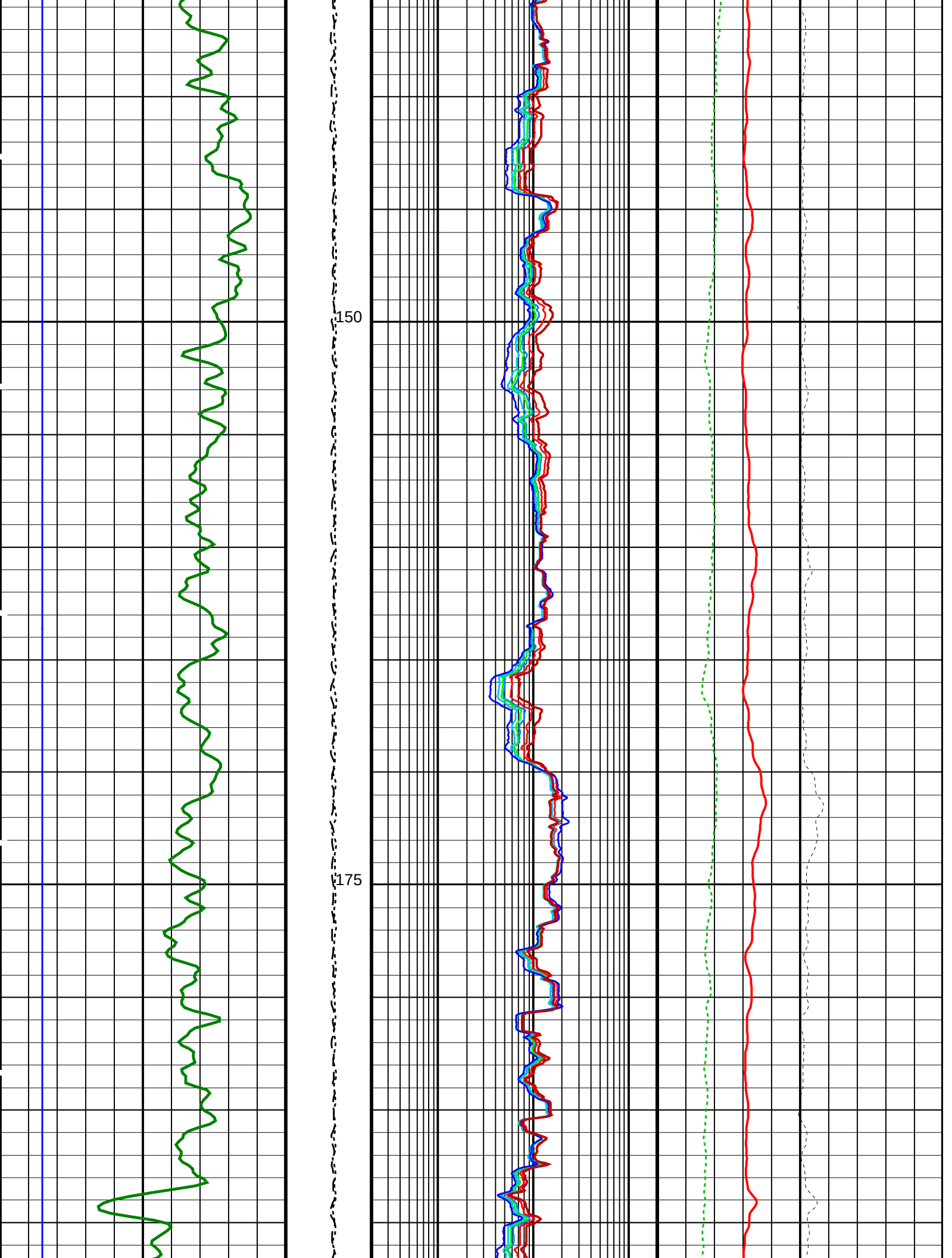
Time Mark Every 60 S

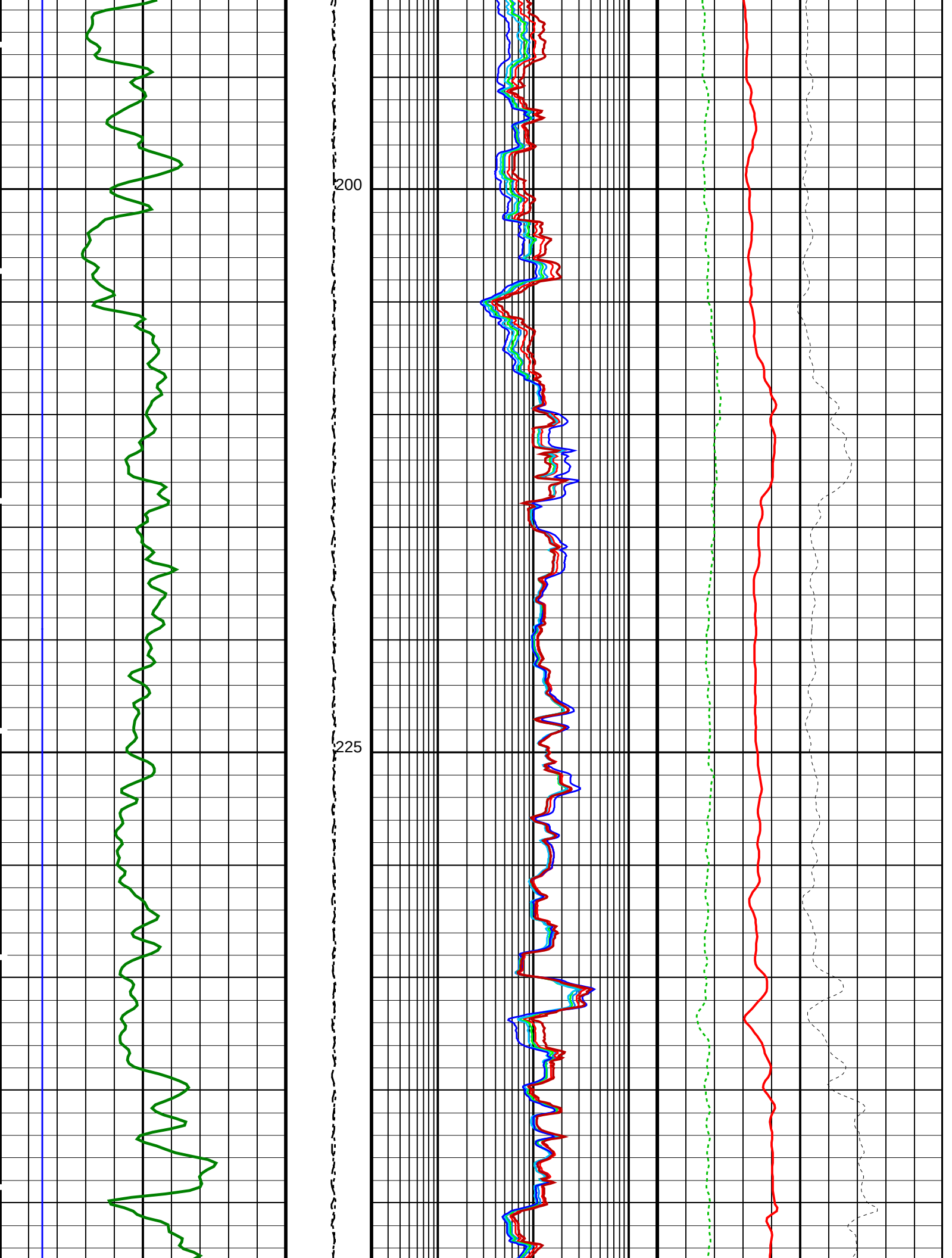
		HRLT True Resistivity (RT_HRLT) 0.2 (OHMM) 200	
		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 200	
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 200	
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 200	HLDS Bulk Density (RHOM) 0 (G/C3) 4
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 40	Calibrated Downhole Force (CDF) (LBF) 3000 0	HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 200	HLDS Bulk Density Correction (DRH) −0.25 (G/C3) 0.25
HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 200	HLDS Long Spaced Photoelectric Effect (PEFL) 0 (−−−−) 10

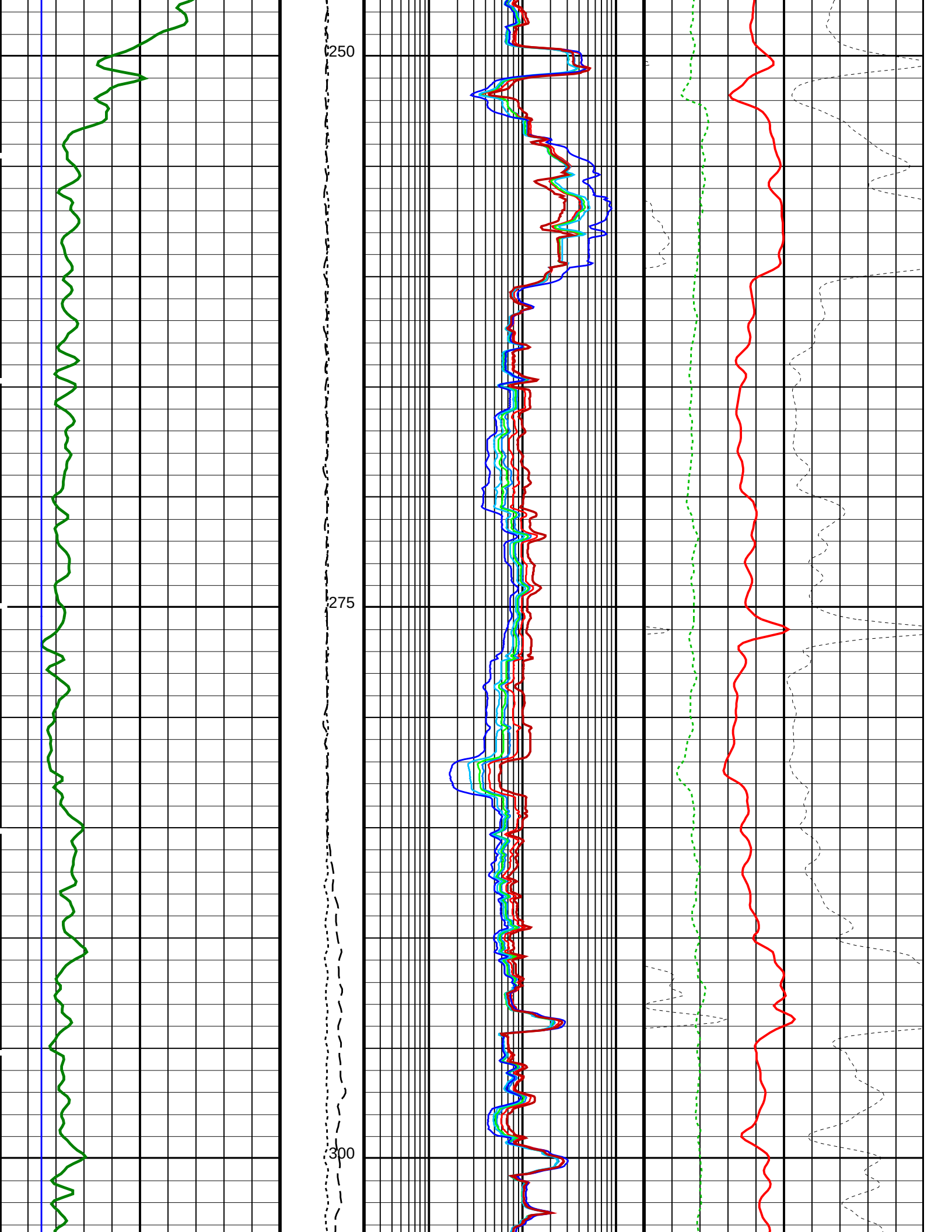


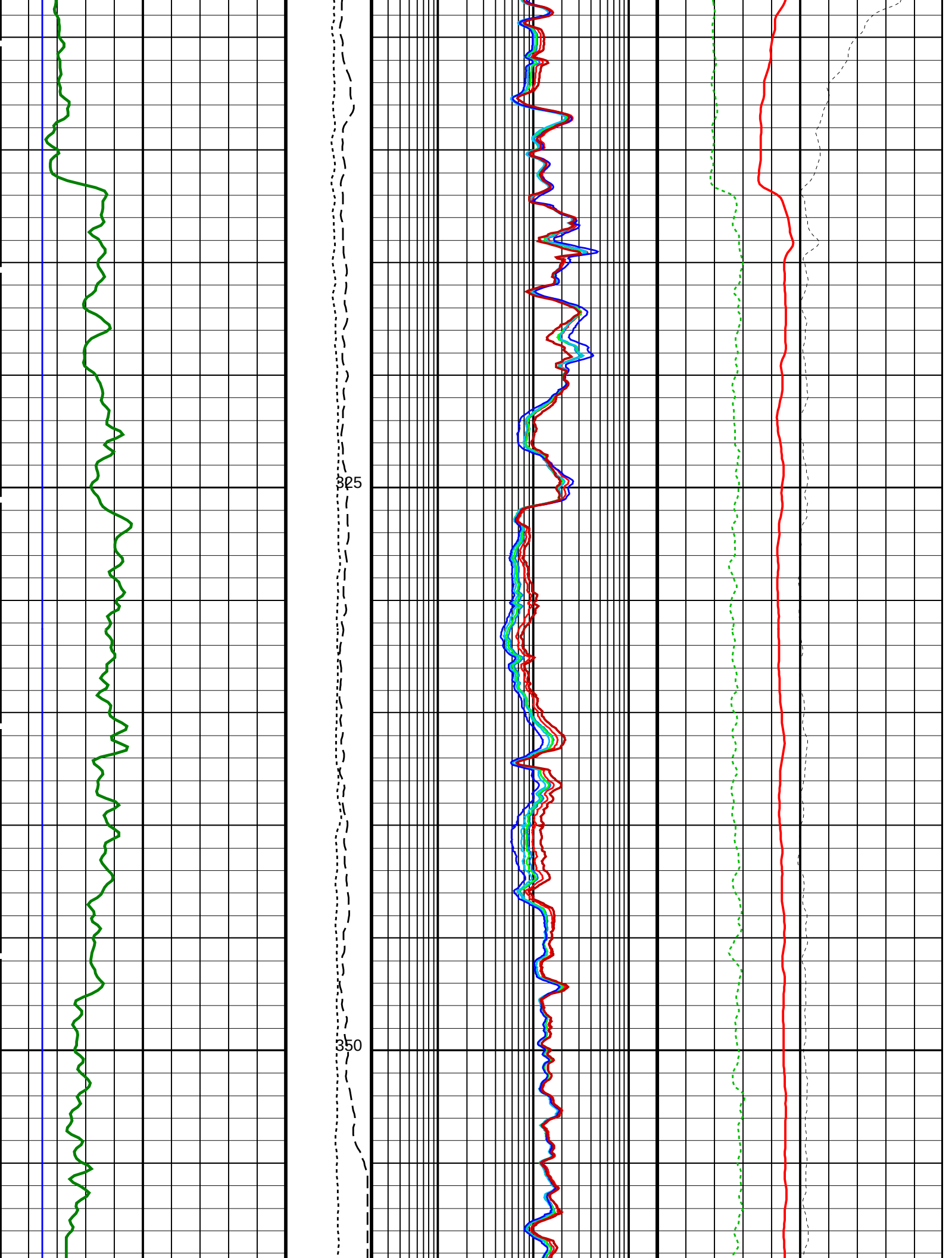

25
50
75

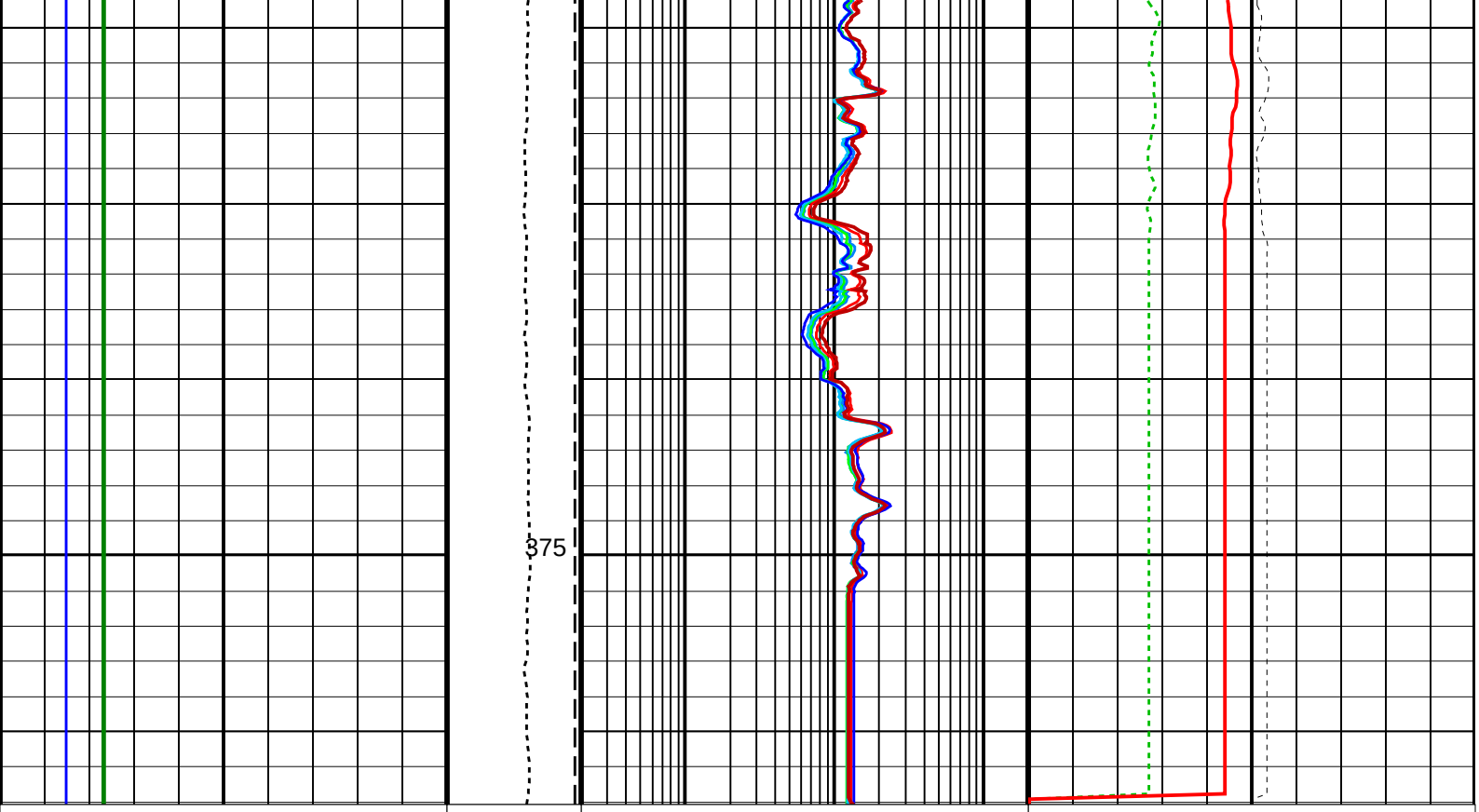

100
125


150
175


200
225


250
275
300


325
350



HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 200	HLDS Long Spaced Photoelectric Effect (PEFL) 0 (−−−−) 10
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 40	Calibrated Downhole Force (CDF) (LBF) 3000 0	HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 200	HLDS Bulk Density Correction (DRH) −0.25 (G/C3) 0.25
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 200	HLDS Bulk Density (RHOM) 0 (G/C3) 4
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 200	
		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 200	
		HRLT True Resistivity (RT_HRLT) 0.2 (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)	21	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	20.9455	DEGC
FREQ0	HRLT Frequency Index for Mode 0	32	
FREQ1	HRLT Frequency Index for Mode 1	128	
FREQ2	HRLT Frequency Index for Mode 2	104	
FREQ3	HRLT Frequency Index for Mode 3	86	
FREQ4	HRLT Frequency Index for Mode 4	56	
FREQ5	HRLT Frequency Index for Mode 5	44	
FREQ6	HRLT Frequency Index for Mode 6	116	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG

GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW	
LOOPMOD0	HRLT Mode 0 Loop Mode	OFF	
LOOPMOD1	HRLT Mode 1 Loop Mode	OFF	
LOOPMOD2	HRLT Mode 2 Loop Mode	OFF	
LOOPMOD3	HRLT Mode 3 Loop Mode	OFF	
LOOPMOD4	HRLT Mode 4 Loop Mode	OFF	
LOOPMOD5	HRLT Mode 5 Loop Mode	OFF	
LOOPMOD6	HRLT Mode 6 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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
HLDS: Hostile Litho−Density Sonde			
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.6	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	30000	
PSDS	HLDS SS Pulse Shape Compensation DAC	30000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
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)	21	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	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
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	−0.00366021	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	1.02657	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.0199	
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M

GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
ISSBAR_EDTC	Nuclear Mud Type	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	BARI	
MWCO	Mud Weight Correction Option	YES	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.5	IN
SOCO	Standoff Correction Option	NO	
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered	
U−ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS	
U−TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS	
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	10.750	IN
CWEI	Casing Weight	168.00	LB/F
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	−3171.5	M
FLEV	Fluid Level	−50000.00	M
MST	Mud Sample Temperature	−50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3684.3	M
TDD	Total Depth − Driller	544.30	M
TDL	Total Depth − Logger	398.50	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: TripleCombo Vertical Scale: 1:200 Graphics File Created: 26−Sep−2014 11:37

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	SKK−5169−EDTCB		

Input DLIS Files

DEFAULT	Flip_MSS_LDEO_HRLA_018LUP	PRODUCER	26−Sep−2014 09:46	3557.9 M	3120.4 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_042PUP	FN:59	PRODUCER	26−Sep−2014 11:37	
CLIENT	MSS_LDEO_HRLA_LDL_042PUC	FN:60	CUSTOMER	26−Sep−2014 11:37	

Schlumberger

First Pass

MAXIS Field Log

Input DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_008LUP	FN:8	PRODUCER	23−Sep−2014 06:10	3543.3 M	3310.4 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_032PUP	FN:39	PRODUCER	26−Sep−2014 11:23	372.6 M	139.9 M

CLIENT	MSS_LDEO_HRLA_LDL_032PUC	FN:40	CUSTOMER	26−Sep−2014 11:23	372.6 M	139.9 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	SKK−5169−EDTCB		

PIP SUMMARY

Time Mark Every 60 S

HRLT True Resistivity (RT_HRLT)
0.2 (OHMM) 200

HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 200

HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 200

HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 200

HLDS Bulk Density (RHOM)
0 (G/C3) 4

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 40

Calibrated Downhole Force (CDF) (LBF)
3000 0

HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 200

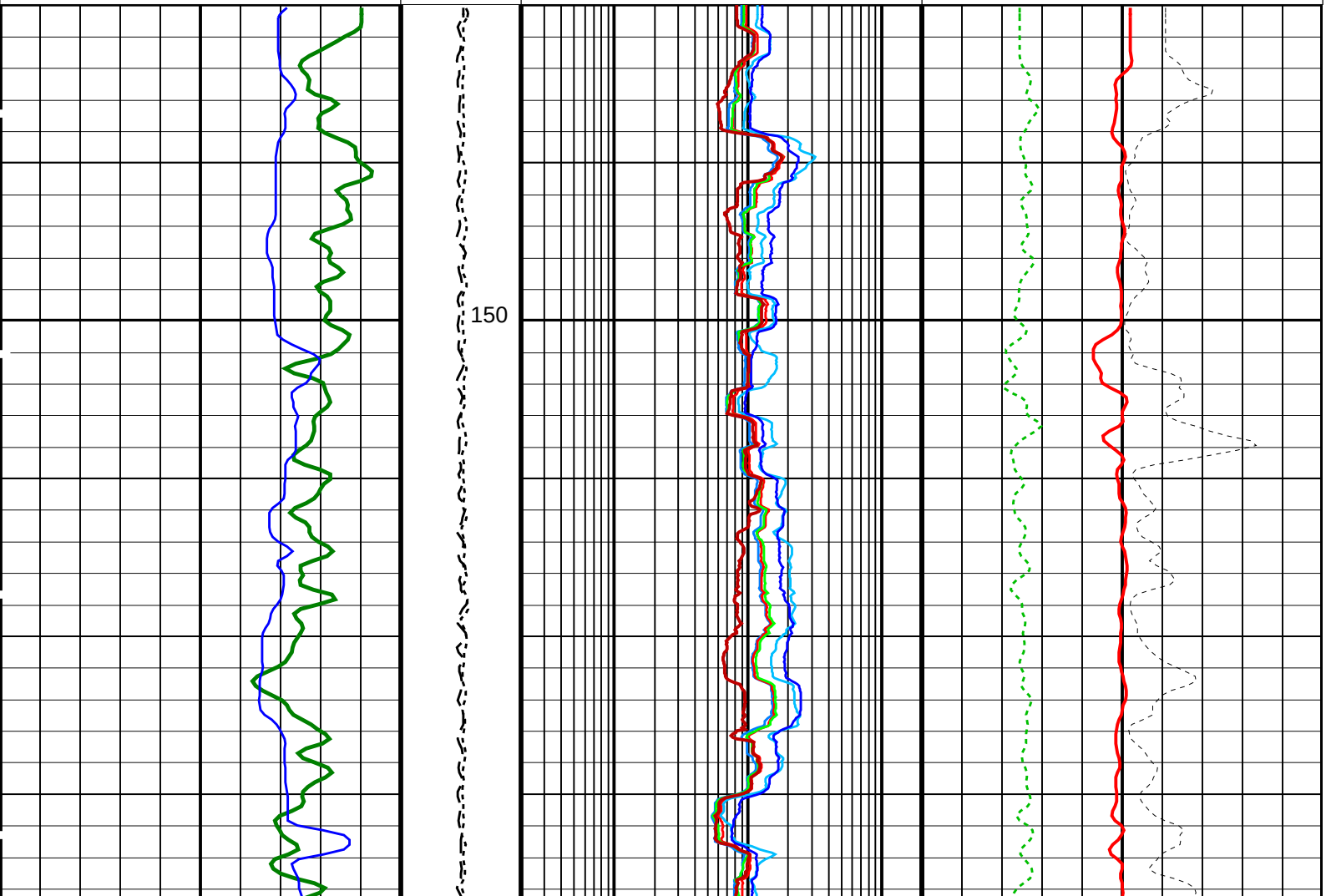
HLDS Bulk Density Correction (DRH)
−0.25 (G/C3) 0.25

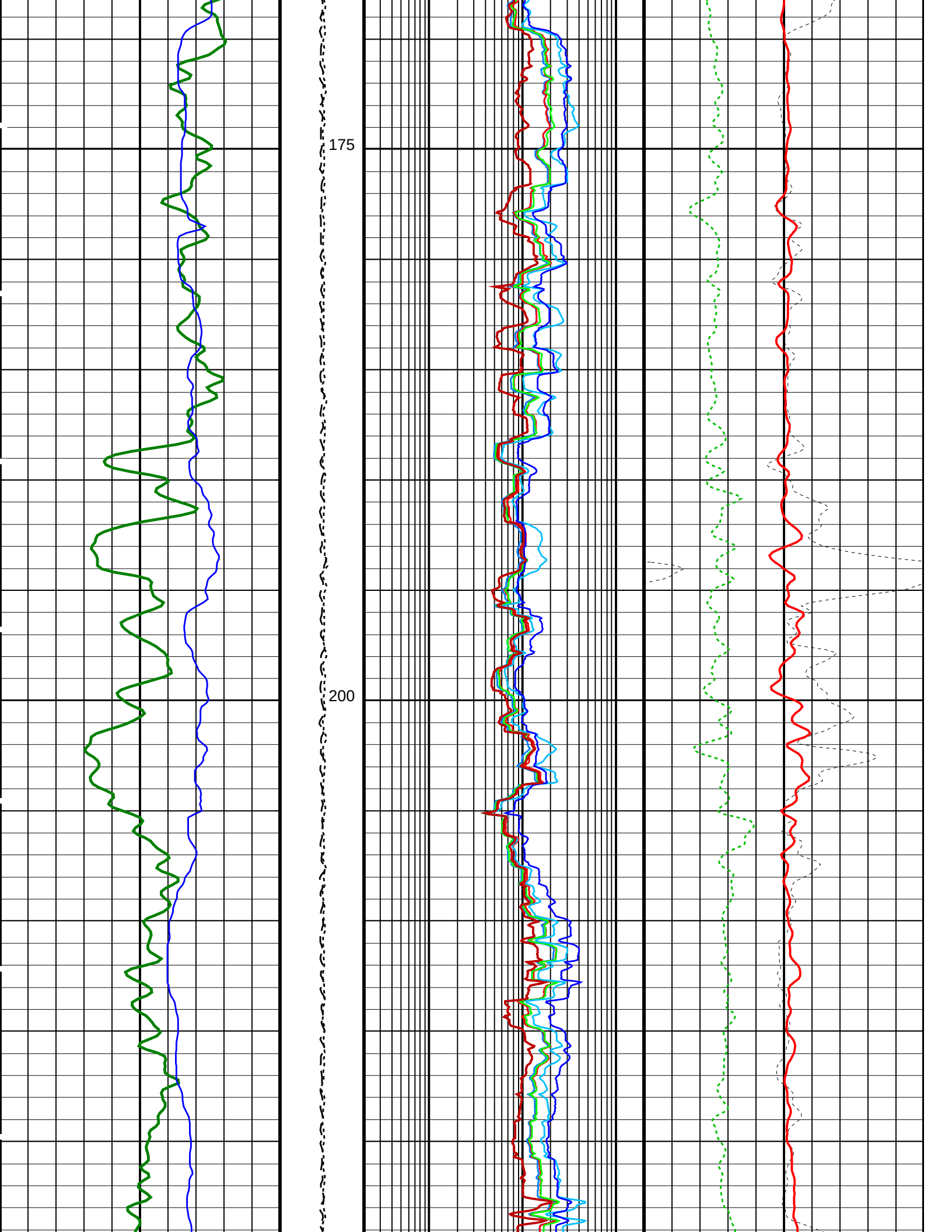
HLDS Caliper (LCAL)
0 (IN) 20

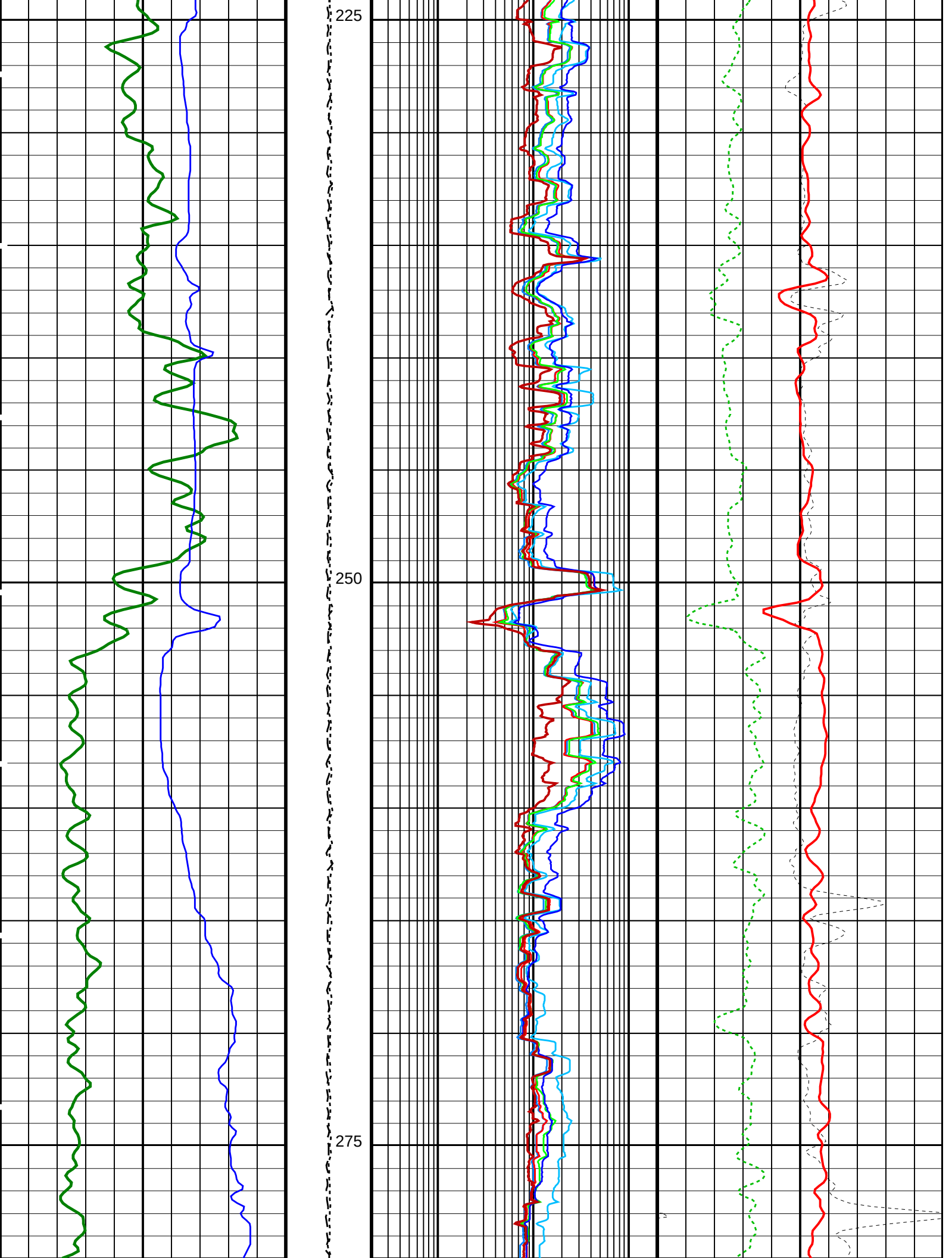
Tension (TENS) (LBF)
10000 0

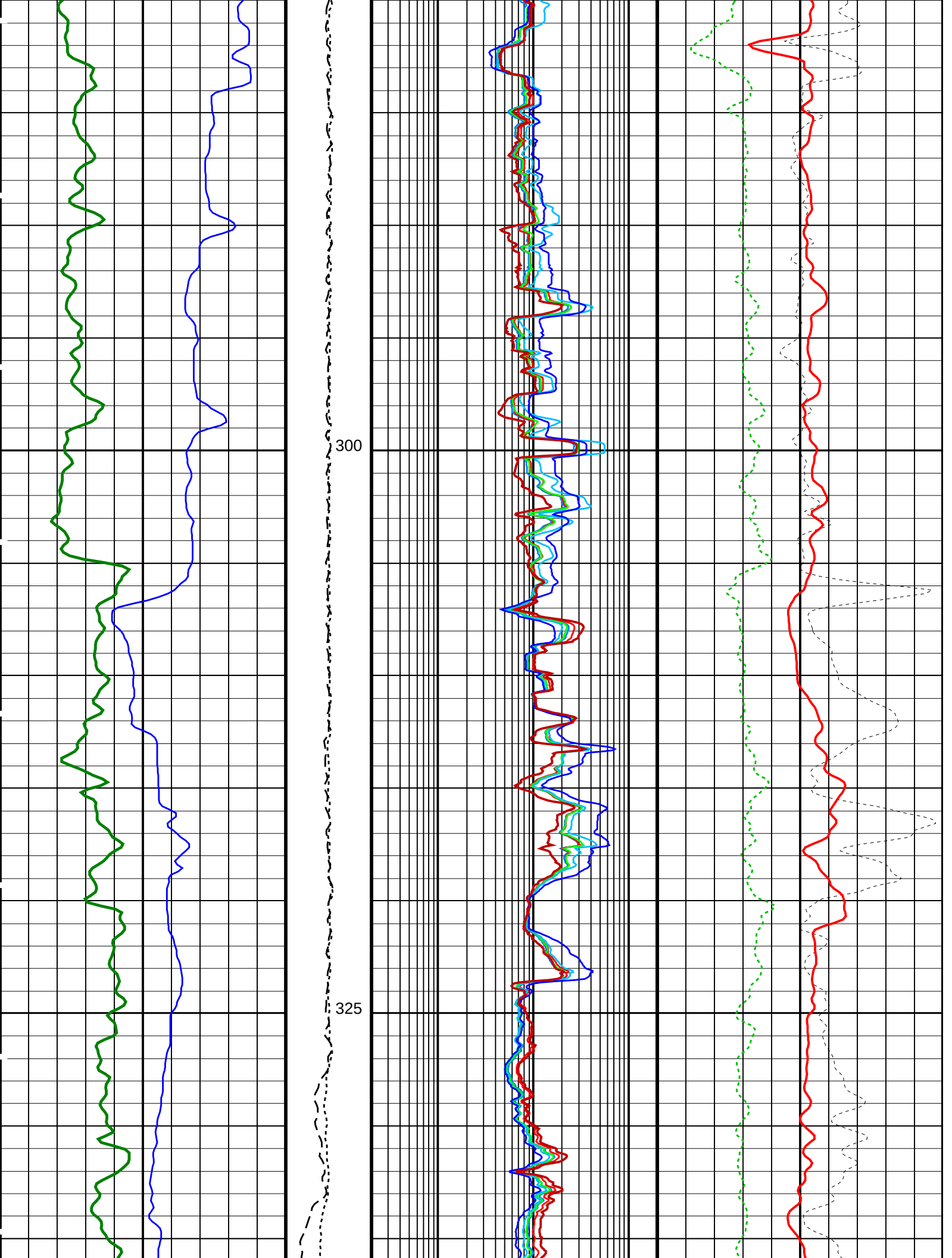
HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 200

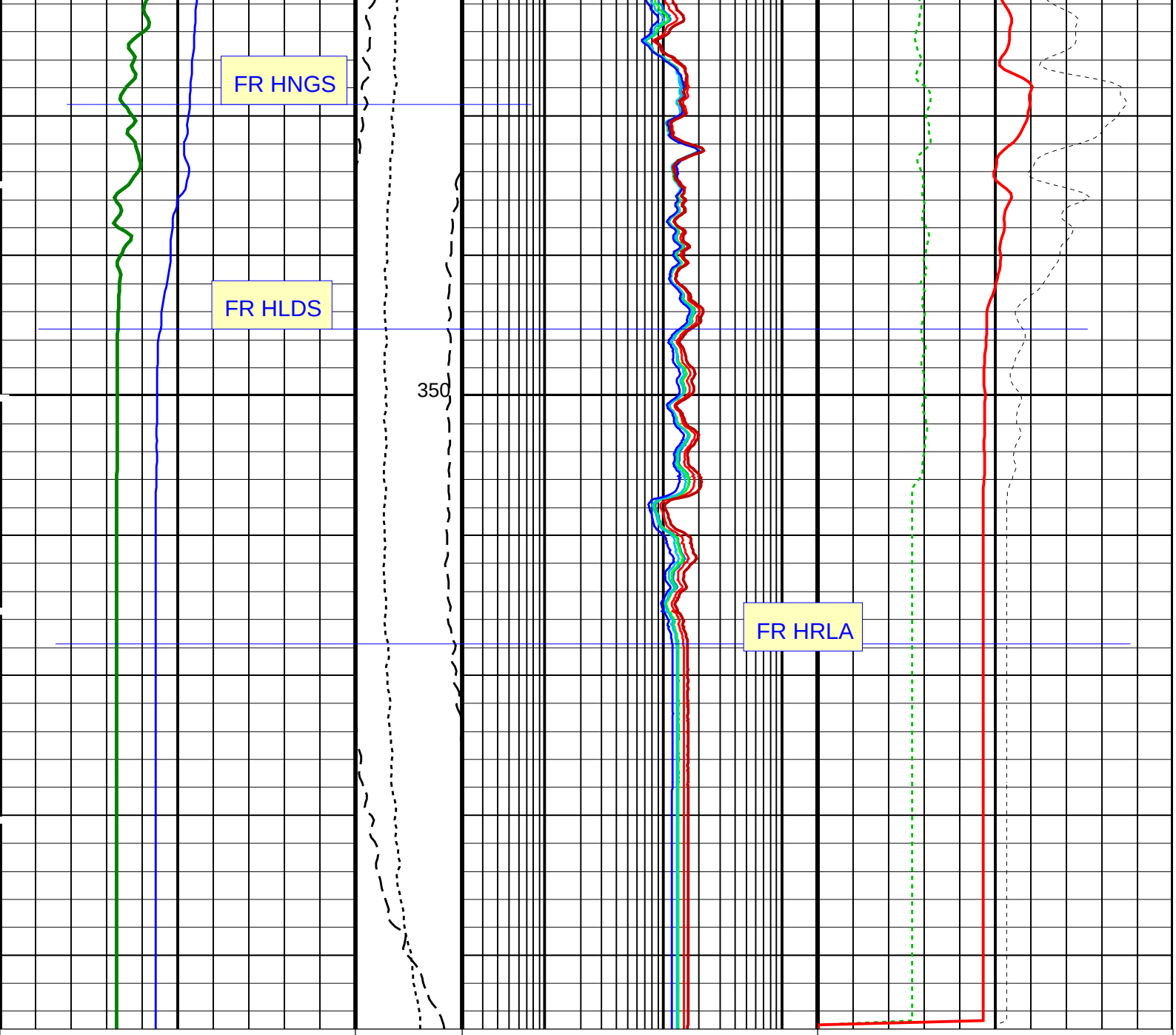
HLDS Long Spaced Photoelectric Effect (PEFL)
0 (−−−−) 10




175
200


225
250
275


300
325



HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 200	HLDS Long Spaced Photoelectric Effect (PEFL) 0 (−−−−) 10
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 40	Calibrated Downhole Force (CDF) (LBF) 3000 0	HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 200	HLDS Bulk Density Correction (DRH) −0.25 (G/C3) 0.25
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 200	HLDS Bulk Density (RHOM) 0 (G/C3) 4
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 200	
		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 200	
		HRLT True Resistivity (RT_HRLT) 0.2 (OHMM) 200	

PIP SUMMARY

Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	20.9455	DEGC
FREQ0	HRLT Frequency Index for Mode 0	32	
FREQ1	HRLT Frequency Index for Mode 1	128	
FREQ2	HRLT Frequency Index for Mode 2	104	
FREQ3	HRLT Frequency Index for Mode 3	86	
FREQ4	HRLT Frequency Index for Mode 4	56	
FREQ5	HRLT Frequency Index for Mode 5	44	
FREQ6	HRLT Frequency Index for Mode 6	116	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW	
LOOPMOD0	HRLT Mode 0 Loop Mode	OFF	
LOOPMOD1	HRLT Mode 1 Loop Mode	OFF	
LOOPMOD2	HRLT Mode 2 Loop Mode	OFF	
LOOPMOD3	HRLT Mode 3 Loop Mode	OFF	
LOOPMOD4	HRLT Mode 4 Loop Mode	OFF	
LOOPMOD5	HRLT Mode 5 Loop Mode	OFF	
LOOPMOD6	HRLT Mode 6 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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
	HLDS: Hostile Litho−Density Sonde		
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.6	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	30000	
PSDS	HLDS SS Pulse Shape Compensation DAC	30000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
	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)	21	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	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
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	−0.000422465	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	

ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	1.05286	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01977	
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
ISSBAR_EDTC	Nuclear Mud Type	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	BARI	
MWCO	Mud Weight Correction Option	YES	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.5	IN
SOCO	Standoff Correction Option	NO	
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered	
U−ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS	
U−TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS	
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	10.750	IN
CWEI	Casing Weight	168.00	LB/F
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	−3170.5	M
FLEV	Fluid Level	−50000.00	M
MST	Mud Sample Temperature	−50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3684.3	M
TDD	Total Depth − Driller	544.30	M
TDL	Total Depth − Logger	398.50	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: TripleCombo Vertical Scale: 1:200 Graphics File Created: 26−Sep−2014 11:23

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	SKK−5169−EDTCB		

Input DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_008LUP	FN:8	PRODUCER	23−Sep−2014 06:10	3543.3 M	3310.4 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_032PUP	FN:39	PRODUCER	26−Sep−2014 11:23
CLIENT	MSS_LDEO_HRLA_LDL_032PUC	FN:40	CUSTOMER	26−Sep−2014 11:23

Schlumberger

Schlumberger

Second Pass

MAXIS Field Log

Input DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_010LUP	FN:12	PRODUCER	23−Sep−2014 07:11	3477.0 M	3160.8 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_020PUP	FN:24	PRODUCER	26−Sep−2014 09:48	306.3 M	−9.6 M
CLIENT	MSS_LDEO_HRLA_LDL_020PUC	FN:25	CUSTOMER	26−Sep−2014 09:48	306.3 M	−9.6 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	SKK−5169−EDTCB		

PIP SUMMARY

Time Mark Every 60 S

HRLT True Resistivity (RT_HRLT) 0.2 (OHMM) 200

HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 200

HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 200

HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 200

HLDS Bulk Density (RHOM) 0 (G/C3) 4

HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 40

Calibrated Downhole Force (CDF) (LBF) 3000 0

HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 200

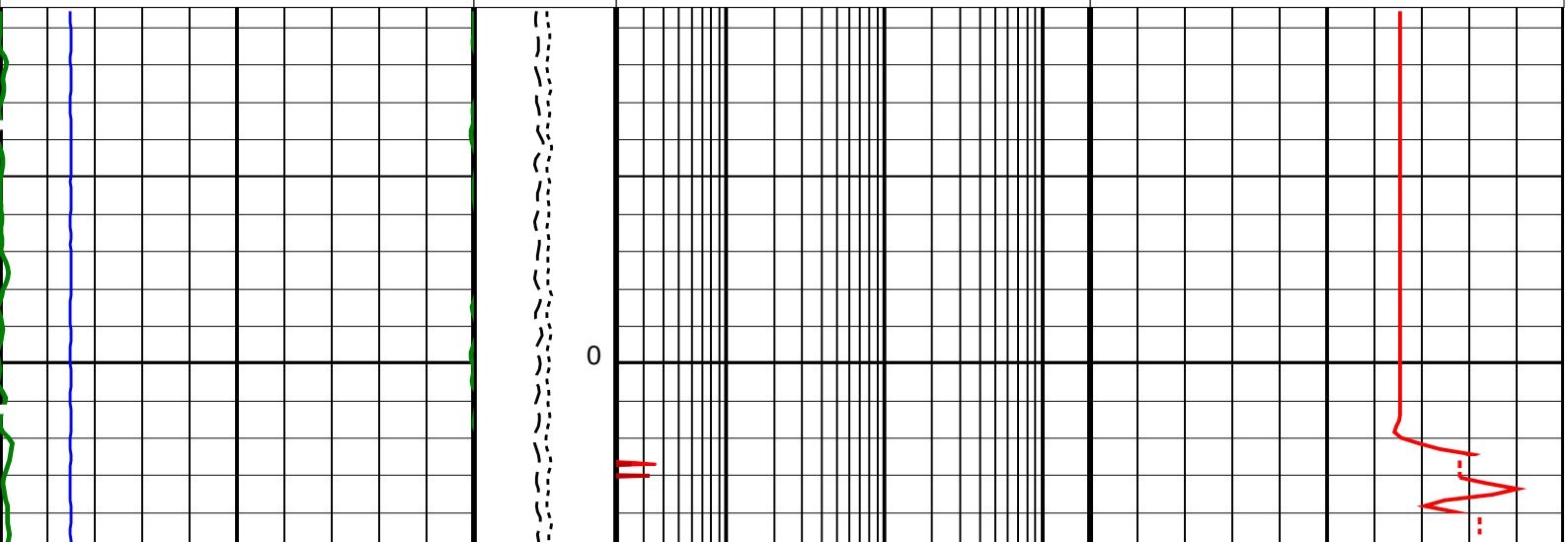
HLDS Bulk Density Correction (DRH) −0.25 (G/C3) 0.25

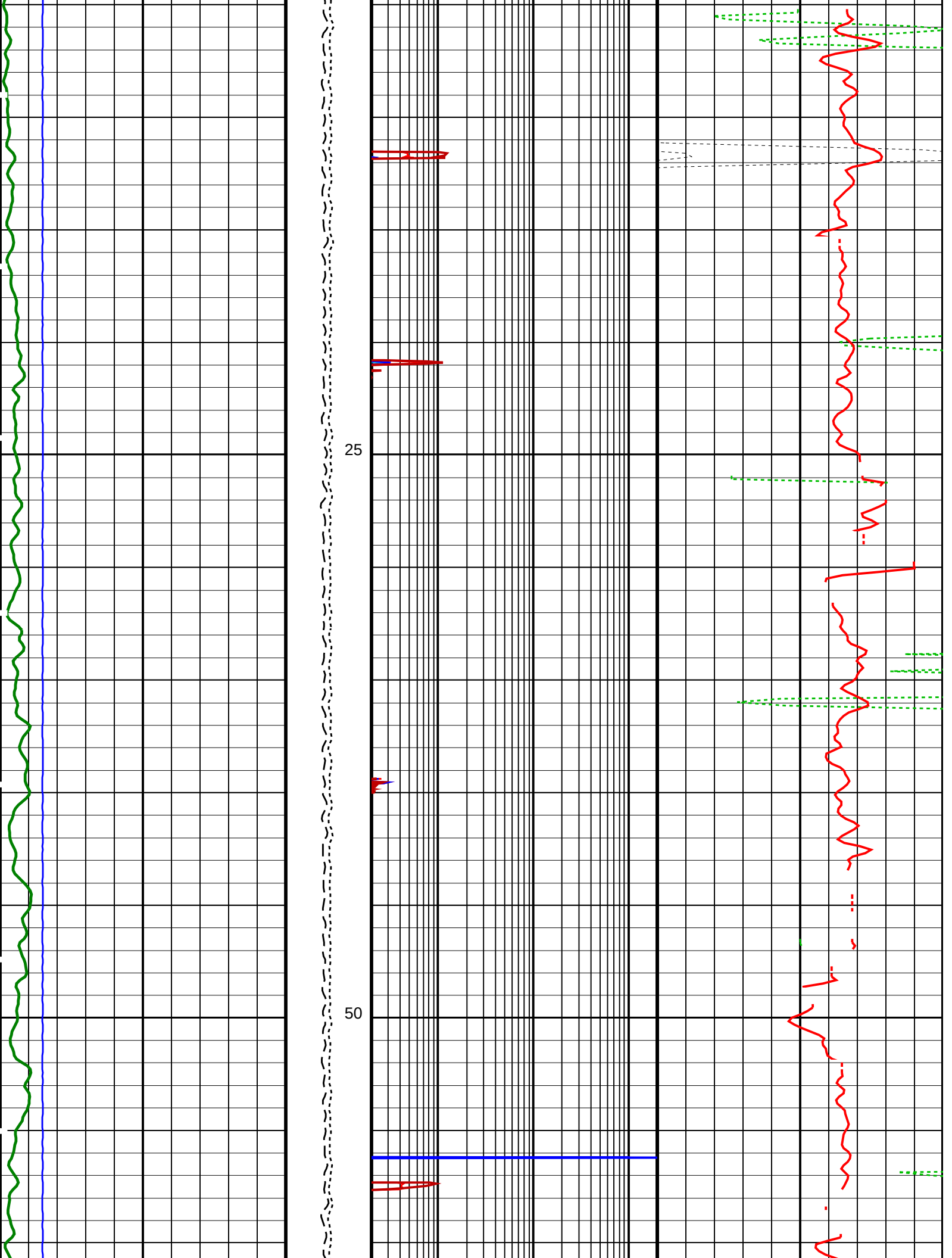
HLDS Caliper (LCAL) 0 (IN) 20

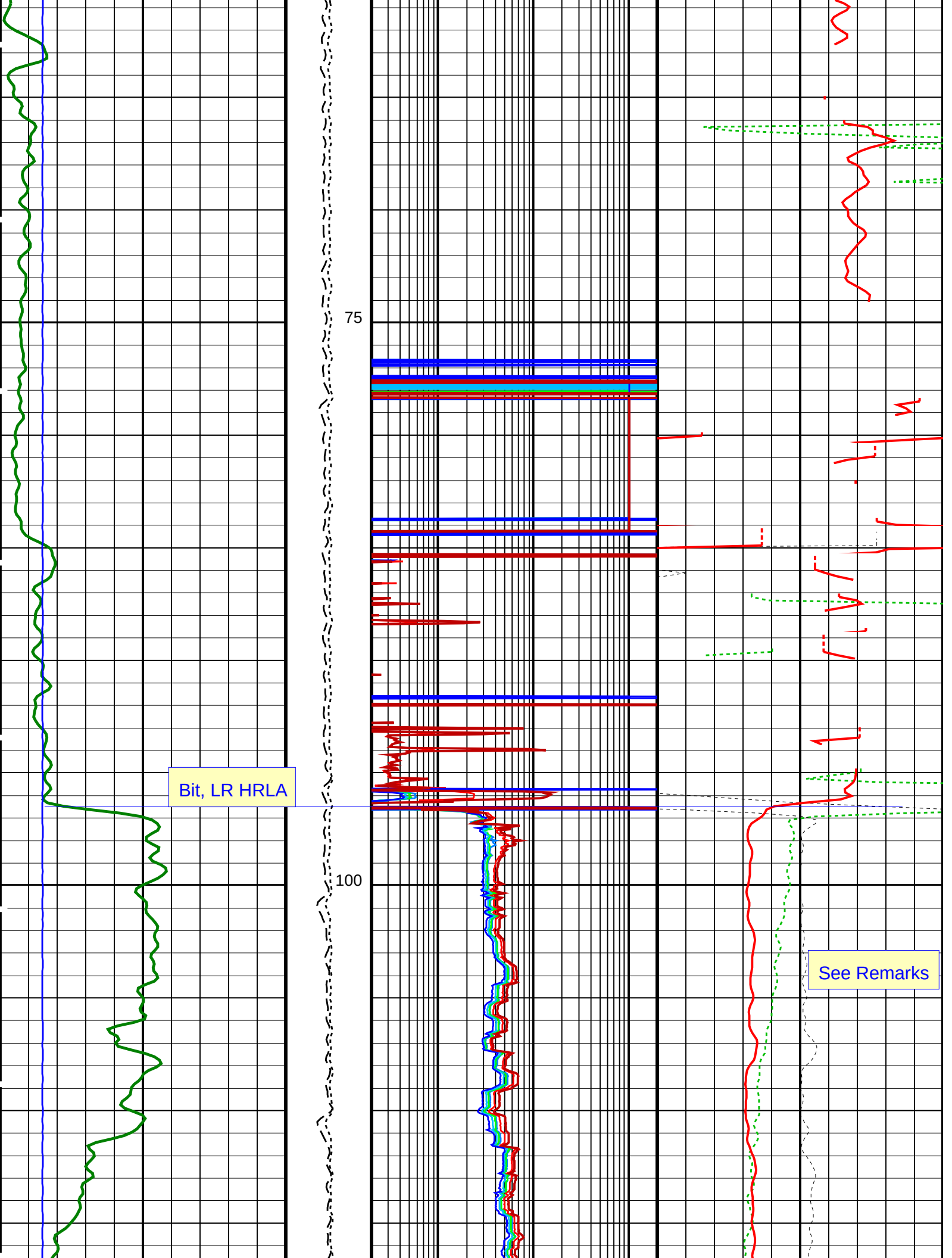
Tension (TENS) (LBF) 10000 0

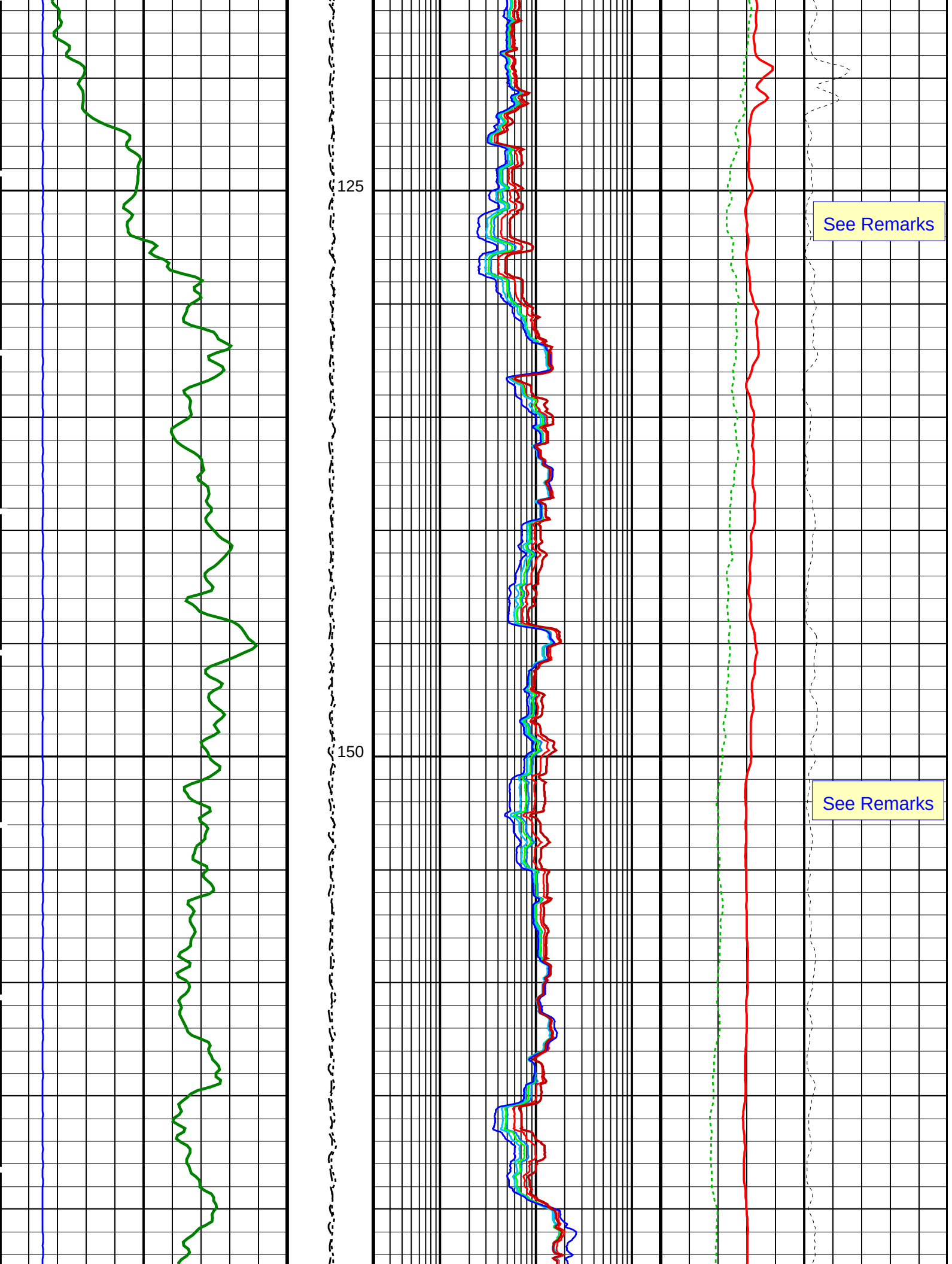
HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 200

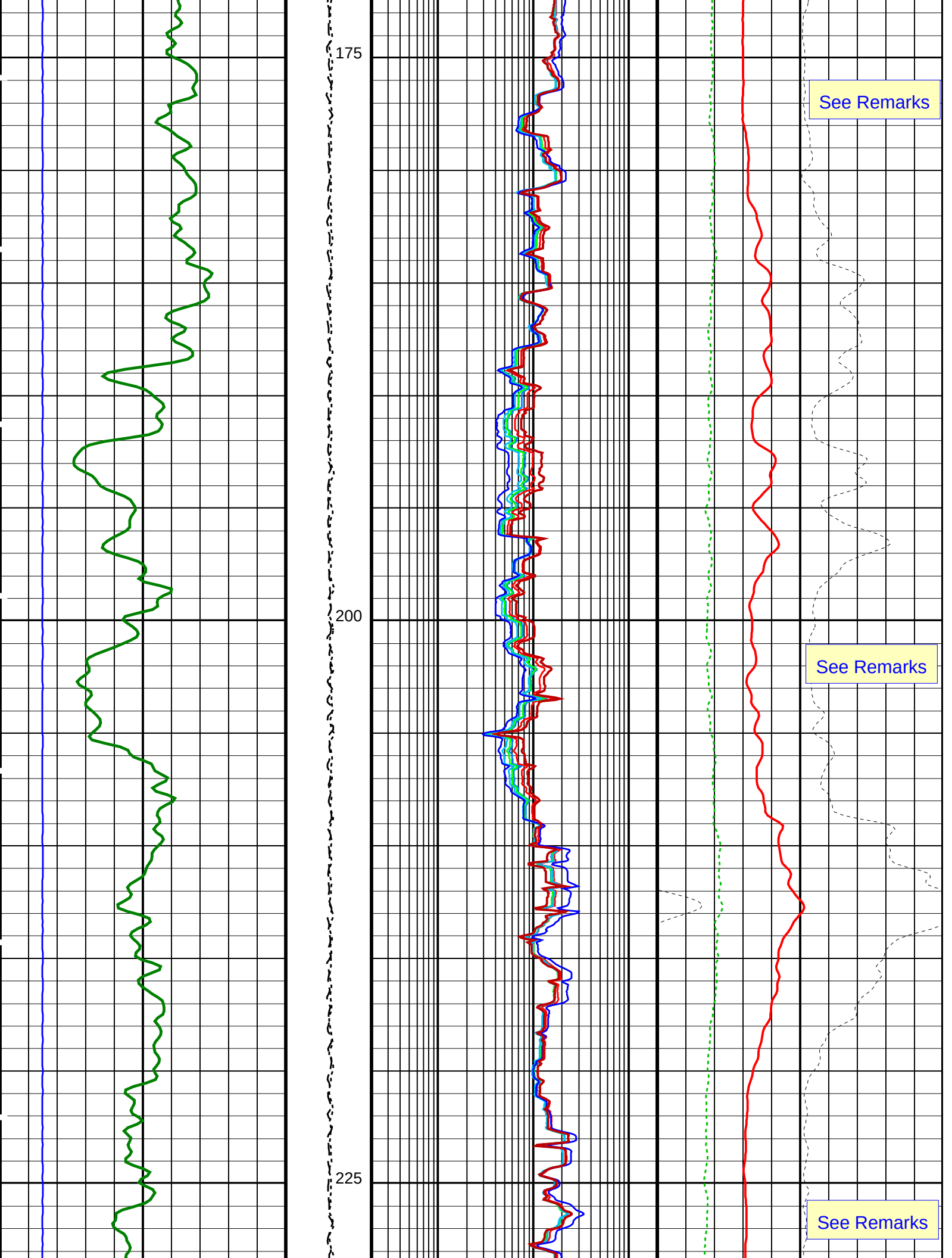
HLDS Long Spaced Photoelectric Effect (PEFL) 0 (−−−−) 10

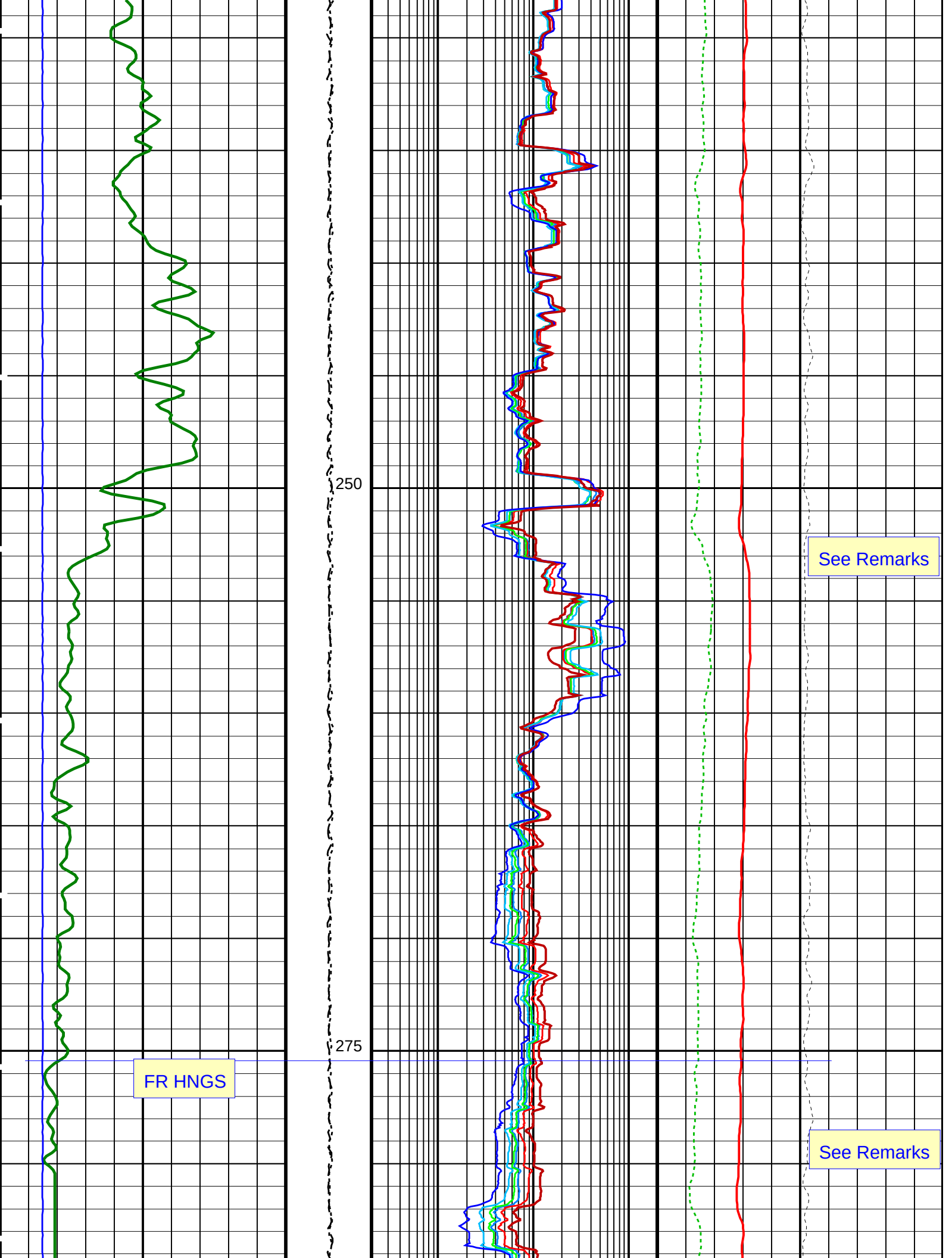


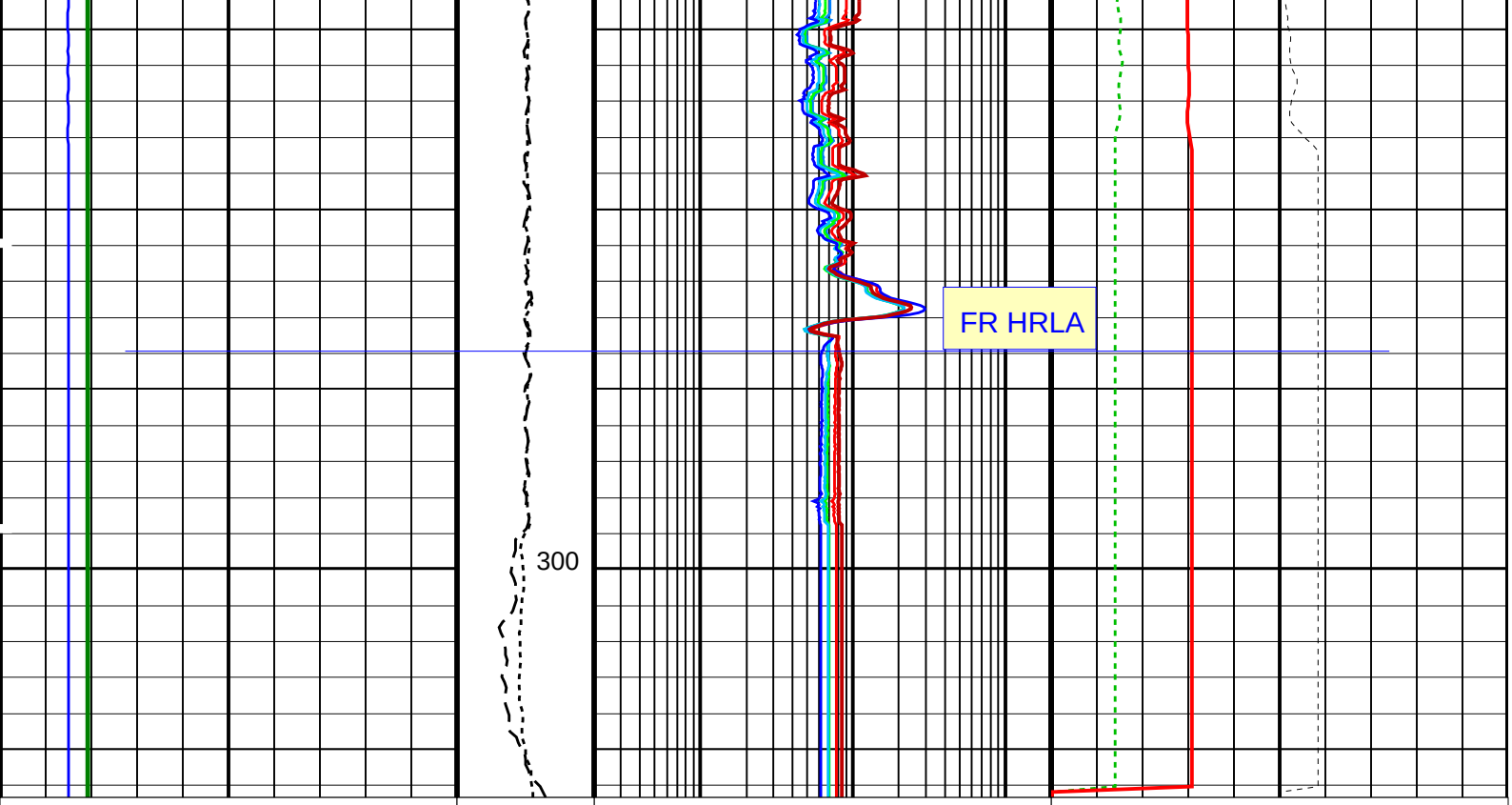

25
50


75
Bit, LR HRLA
100
See Remarks


125
150
See Remarks
See Remarks


175
200
225
See Remarks
See Remarks
See Remarks


250
See Remarks
275
FR HNGS
See Remarks



HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 200
HLDS Long Spaced Photoelectric Effect (PEFL) 0 (----) 10		
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 40	Calibrated Downhole Force (CDF) (LBF) 3000 0	HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 200
HLDS Bulk Density Correction (DRH) −0.25 (G/C3) 0.25		
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 200
HLDS Bulk Density (RHOM) 0 (G/C3) 4		
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 200
		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 200
		HRLT True Resistivity (RT_HRLT) 0.2 (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)	21	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	20.9455	DEGC
FREQ0	HRLT Frequency Index for Mode 0	32	
FREQ1	HRLT Frequency Index for Mode 1	128	
FREQ2	HRLT Frequency Index for Mode 2	104	
FREQ3	HRLT Frequency Index for Mode 3	86	
FREQ4	HRLT Frequency Index for Mode 4	56	
FREQ5	HRLT Frequency Index for Mode 5	44	
FREQ6	HRLT Frequency Index for Mode 6	116	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M

GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW	
LOOPMOD0	HRLT Mode 0 Loop Mode	OFF	
LOOPMOD1	HRLT Mode 1 Loop Mode	OFF	
LOOPMOD2	HRLT Mode 2 Loop Mode	OFF	
LOOPMOD3	HRLT Mode 3 Loop Mode	OFF	
LOOPMOD4	HRLT Mode 4 Loop Mode	OFF	
LOOPMOD5	HRLT Mode 5 Loop Mode	OFF	
LOOPMOD6	HRLT Mode 6 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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
HLDS: Hostile Litho−Density Sonde			
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.6	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	30000	
PSDS	HLDS SS Pulse Shape Compensation DAC	30000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
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)	21	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	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
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	−0.00343737	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	1.0244	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01751	
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	

GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
ISSBAR_EDTC	Nuclear Mud Type	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	BARI	
MWCO	Mud Weight Correction Option	YES	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.5	IN
SOCO	Standoff Correction Option	NO	
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered	
U−ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS	
U−TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS	
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	10.750	IN
CWEI	Casing Weight	168.00	LB/F
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	−3170.5	M
FLEV	Fluid Level	−50000.00	M
MST	Mud Sample Temperature	−50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3684.3	M
TDD	Total Depth − Driller	544.30	M
TDL	Total Depth − Logger	398.50	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: TripleCombo **Vertical Scale: 1:200** **Graphics File Created: 26−Sep−2014 09:48**

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	SKK−5169−EDTCB		

Input DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_010LUP	FN:12	PRODUCER	23−Sep−2014 07:11	3477.0 M	3160.8 M

Output DLIS Files

DEFAULT	MSS_LDEO_HRLA_LDL_020PUP	FN:24	PRODUCER	26−Sep−2014 09:48
CLIENT	MSS_LDEO_HRLA_LDL_020PUC	FN:25	CUSTOMER	26−Sep−2014 09:48

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High Resolution Laterolog Array − B Wellsite Calibration − HRLT M01							
Before: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31							
HRLT M0−M1 Voltage Plus −	0	N/A	−318.6	−319.0	−0.3972	9.681	UV

HRLT M0−M1 Voltage Plus − 1	0	N/A	−327.5	−330.6	−3.087	9.681	UV
HRLT M0−M1 Voltage Plus − 2	0	N/A	−330.5	−332.6	−2.123	9.681	UV
HRLT M0−M1 Voltage Plus − 3	0	N/A	−334.8	−336.7	−1.979	9.681	UV
HRLT M0−M1 Voltage Plus − 4	0	N/A	−324.8	−325.7	−0.9054	9.681	UV
HRLT M0−M1 Voltage Plus − 5	0	N/A	−321.5	−322.1	−0.5943	9.681	UV
HRLT M0−M1 Voltage Plus − 6	0	N/A	320.0	323.0	3.042	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT M1−M2 Voltage Plus − 0	0	N/A	1754	1754	0.4924	53.42	UV
HRLT M1−M2 Voltage Plus − 1	0	N/A	1807	1822	15.27	53.42	UV
HRLT M1−M2 Voltage Plus − 2	0	N/A	1816	1827	10.23	53.42	UV
HRLT M1−M2 Voltage Plus − 3	0	N/A	1839	1848	8.822	53.42	UV
HRLT M1−M2 Voltage Plus − 4	0	N/A	1784	1787	3.019	53.42	UV
HRLT M1−M2 Voltage Plus − 5	0	N/A	1766	1767	1.385	53.42	UV
HRLT M1−M2 Voltage Plus − 6	0	N/A	−1774	−1789	−15.79	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT M2−M3 Voltage Plus − 0	0	N/A	1741	1740	−0.8749	53.42	UV
HRLT M2−M3 Voltage Plus − 1	0	N/A	1806	1819	13.49	53.42	UV
HRLT M2−M3 Voltage Plus − 2	0	N/A	1817	1825	8.390	53.42	UV
HRLT M2−M3 Voltage Plus − 3	0	N/A	1843	1850	7.481	53.42	UV
HRLT M2−M3 Voltage Plus − 4	0	N/A	1781	1782	1.479	53.42	UV
HRLT M2−M3 Voltage Plus − 5	0	N/A	1764	1764	0.2654	53.42	UV
HRLT M2−M3 Voltage Plus − 6	0	N/A	−1762	−1776	−13.50	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT A3−A4 Voltage Plus − 0	0	N/A	68360	68410	51.43	2100	UV
HRLT A3−A4 Voltage Plus − 1	0	N/A	70720	71340	622.7	2100	UV
HRLT A3−A4 Voltage Plus − 2	0	N/A	71420	71860	441.2	2100	UV
HRLT A3−A4 Voltage Plus − 3	0	N/A	72710	73090	387.9	2100	UV
HRLT A3−A4 Voltage Plus − 4	0	N/A	70240	70390	153.1	2100	UV
HRLT A3−A4 Voltage Plus − 5	0	N/A	69590	69670	80.90	2100	UV
HRLT A3−A4 Voltage Plus − 6	0	N/A	−68000	−68620	−617.2	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT A4−A5 Voltage Plus − 0	0	N/A	68620	68690	69.00	2100	UV
HRLT A4−A5 Voltage Plus − 1	0	N/A	71090	71730	636.4	2100	UV
HRLT A4−A5 Voltage Plus − 2	0	N/A	71780	72220	433.8	2100	UV
HRLT A4−A5 Voltage Plus − 3	0	N/A	73050	73430	389.4	2100	UV
HRLT A4−A5 Voltage Plus − 4	0	N/A	70520	70690	170.5	2100	UV
HRLT A4−A5 Voltage Plus − 5	0	N/A	69850	69960	106.8	2100	UV
HRLT A4−A5 Voltage Plus − 6	0	N/A	−68380	−68990	−601.6	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT A5−A6 Voltage Plus − 0	0	N/A	68530	68590	68.99	2100	UV
HRLT A5−A6 Voltage Plus − 1	0	N/A	70820	71460	631.8	2100	UV
HRLT A5−A6 Voltage Plus − 2	0	N/A	71540	71980	442.0	2100	UV
HRLT A5−A6 Voltage Plus − 3	0	N/A	72860	73260	399.2	2100	UV
HRLT A5−A6 Voltage Plus − 4	0	N/A	70390	70540	155.1	2100	UV
HRLT A5−A6 Voltage Plus − 5	0	N/A	69750	69850	93.20	2100	UV
HRLT A5−A6 Voltage Plus − 6	0	N/A	−68100	−68720	−623.2	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT Torpedo−M0 Voltage − 0	0	N/A	−68210	−68260	−50.92	2100	UV
HRLT Torpedo−M0 Voltage − 1	0	N/A	−71130	−71780	−646.8	2100	UV
HRLT Torpedo−M0 Voltage − 2	0	N/A	−71850	−72280	−430.9	2100	UV
HRLT Torpedo−M0 Voltage − 3	0	N/A	−73140	−73530	−395.6	2100	UV
HRLT Torpedo−M0 Voltage − 4	0	N/A	−70590	−70750	−154.5	2100	UV
HRLT Torpedo−M0 Voltage − 5	0	N/A	−69910	−70000	−85.94	2100	UV
HRLT Torpedo−M0 Voltage − 6	0	N/A	68370	68980	611.8	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT Bridle#9−M0 Voltage − 0	0	N/A	−68200	−68260	−64.10	2100	UV
HRLT Bridle#9−M0 Voltage − 1	0	N/A	−71110	−71770	−656.3	2100	UV
HRLT Bridle#9−M0 Voltage − 2	0	N/A	−71820	−72260	−442.6	2100	UV
HRLT Bridle#9−M0 Voltage − 3	0	N/A	−73110	−73510	−394.9	2100	UV
HRLT Bridle#9−M0 Voltage − 4	0	N/A	−70580	−70740	−167.2	2100	UV

HRLT Bridle#9−M0 Voltage − 5	0	N/A	−69900	−70000	−98.30	2100	UV
HRLT Bridle#9−M0 Voltage − 6	0	N/A	68340	68960	627.5	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT Source Current Plus − 0	0	N/A	284.4	284.7	0.2599	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: 23−Sep−2014 3:35 After: 23−Sep−2014 9:31

HRLT Vertical Voltage Pl − 0	0	N/A	−321.4	−321.4	−0.02020	9.681	UV
HRLT Vertical Voltage Pl − 1	0	N/A	−323.0	−325.8	−2.784	9.681	UV
HRLT Vertical Voltage Pl − 2	0	N/A	−325.0	−326.6	−1.630	9.681	UV
HRLT Vertical Voltage Pl − 3	0	N/A	−327.3	−328.7	−1.466	9.681	UV
HRLT Vertical Voltage Pl − 4	0	N/A	−314.6	−315.0	−0.4435	9.681	UV
HRLT Vertical Voltage Pl − 5	0	N/A	−326.3	−326.4	−0.1440	9.681	UV
HRLT Vertical Voltage Pl − 6	0	N/A	328.4	331.3	2.980	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: 16−Jul−2014 4:36 Before: 23−Sep−2014 3:38 After: 23−Sep−2014 9:34

SS Cs Resolution Bkg	9.000	8.061	7.985	8.044	0.05823	1.800	%
LS Cs Resolution Bkg	9.000	8.137	8.095	8.222	0.1272	1.800	%
LSW1 Background	100.0	69.74	68.96	67.97	−0.9935	3.000	CPS
LSW2 Background	100.0	63.61	63.19	63.28	0.08903	3.000	CPS
LSW3 Background	200.0	141.8	140.7	140.4	−0.2910	6.000	CPS
LSW4 Background	250.0	172.4	172.6	170.6	−2.018	7.500	CPS
LSW5 Background	600.0	395.0	393.5	391.6	−1.914	18.00	CPS
SSW1 Background	100.0	78.54	77.91	76.86	−1.048	3.000	CPS
SSW2 Background	200.0	139.1	137.7	139.8	2.131	6.000	CPS
SSW3 Background	500.0	371.9	370.6	369.4	−1.204	15.00	CPS
SSW4 Background	270.0	195.4	194.2	194.0	−0.2188	8.100	CPS
SSW5 Background	200.0	142.5	140.7	138.7	−2.005	6.000	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Aluminum Measurement
Master: 16−Jul−2014 5:05

LSW1 Aluminum	600.0	508.4	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	733.7	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	883.4	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	447.4	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	407.5	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2389	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6455	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	8951	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3637	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	442.1	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Lithology Measurement
Master: 16−Jul−2014 4:57

LSW1 Iron	400.0	349.8	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	590.1	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	785.3	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	408.9	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	376.5	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1743	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5378	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8163	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3323	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	390.1	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Caliper Calibration
Before: 17−Jul−2014 5:38

HLDS Caliper Small Ring	12.00	N/A	15.84	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	19.69	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 15−Jul−2014 0:16 Before: 23−Sep−2014 3:43 After: 23−Sep−2014 9:35

Na 511 Peak Loc	40.00	39.57	39.57	39.68	0.1186	1.000	
Na 511 Peak Res	15.50	15.78	15.35	14.71	−0.6379	2.000	%
High Voltage	1150	1197	1187	1186	−0.7285	N/A	V
Na 1785 Peak Loc	142.6	142.4	141.8	142.6	0.7831	7.000	
Na 1785 Peak Res	8.500	9.334	8.462	9.740	1.278	2.000	%
Temperature	15.50	37.42	35.70	33.88	−1.827	N/A	DEGC
Na Count Rate	45.00	10.91	9.927	9.941	0.01461	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 15−Jul−2014 0:16 Before: 23−Sep−2014 3:43 After: 23−Sep−2014 9:35

Na 511 Peak Loc	40.00	39.46	39.49	39.67	0.1857	1.000	
Na 511 Peak Res	15.50	16.20	15.66	15.36	−0.2991	2.000	%
High Voltage	1150	1129	1121	1132	10.84	N/A	V
Na 1785 Peak Loc	142.6	141.8	140.7	142.8	2.092	7.000	
Na 1785 Peak Res	8.500	10.06	8.501	8.168	−0.3334	2.000	%
Temperature	15.50	38.37	35.89	35.35	−0.5446	N/A	DEGC
Na Count Rate	45.00	11.54	10.34	10.12	−0.2134	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 15−Jul−2014 0:16 Before: 23−Sep−2014 3:43 After: 23−Sep−2014 9:35

Coincidence Count Rate Ratio	1.000	0.9495	0.9661	0.9843	0.01826	0.05000	

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 23−Sep−2014 3:45

EDTC Z−Axis Acceleration	9.810	N/A	9.750	N/A	N/A	N/A	M/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: 23−Sep−2014 3:36 After: 23−Sep−2014 9:32

Gamma Ray (Jig − Bkg)	160.3	N/A	160.3	155.0	−5.277	14.57	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	159.6	−5.432	15.00	GAPI

High Resolution Laterolog Array − B / Equipment Identification

Primary Equipment:

HRLT Sonde	HRLS − B

Auxiliary Equipment:

HRLT lower Housing	HRLH − B
HRLT Lower Cartridge	HRLC − B
HRLT upper Housing	HRUH − B
HRLT Upper Cartridge	HRUC − B

High Resolution Laterolog Array − B Wellsite Calibration
HRLT M01

Idx	Phase	HRLT M0−M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−318.6	−322.7	−280.7	−379.7
	After		−319.0			
1	Before		−327.5	−322.7	−280.7	−379.7
	After		−330.6			
2	Before		−330.5	−322.7	−280.7	−379.7
	After		−332.6			
3	Before		−334.8	−322.7	−280.7	−379.7
	After		−336.7			
4	Before		−324.8	−322.7	−280.7	−379.7
	After		−325.7			
5	Before		−321.5	−322.7	−280.7	−379.7
	After		−322.1			
6	Before		320.0	322.7	379.7	280.7
	After		323.0			
7	Before		−322.7	−322.7	−280.7	−379.7
	After		−322.7			
		(Minimum) (Nominal) (Maximum)				

Before: 23−Sep−2014 3:35
After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration
HRLT M12

Idx	Phase	HRLT M1−M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum

0	Before	1754	1781	2095	1549
	After	1754			
1	Before	1807	1781	2095	1549
	After	1822			
2	Before	1816	1781	2095	1549
	After	1827			
3	Before	1839	1781	2095	1549
	After	1848			
4	Before	1784	1781	2095	1549
	After	1787			
5	Before	1766	1781	2095	1549
	After	1767			
6	Before	−1774	−1781	−1549	−2095
	After	−1789			
7	Before	1781	1781	2095	1549
	After	1781			
	(Minimum) (Nominal) (Maximum)				

Before: 23−Sep−2014 3:35
After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT M23

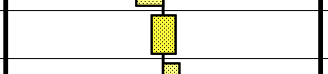
Idx	Phase	HRLT M2−M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1741	1781	2095	1549
	After		1740			
1	Before		1806	1781	2095	1549
	After		1819			
2	Before		1817	1781	2095	1549
	After		1825			
3	Before		1843	1781	2095	1549
	After		1850			
4	Before		1781	1781	2095	1549
	After		1782			
5	Before		1764	1781	2095	1549
	After		1764			
6	Before		−1762	−1781	−1549	−2095
	After		−1776			
7	Before		1781	1781	2095	1549
	After		1781			
	(Minimum) (Nominal) (Maximum)					

Before: 23−Sep−2014 3:35
After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT V34

Idx	Phase	HRLT A3−A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68360	70000	82360	60900
	After		68410			

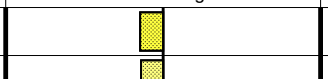
1	Before		70720	70000	82360	60900
	After		71340			
2	Before		71420	70000	82360	60900
	After		71860			
3	Before		72710	70000	82360	60900
	After		73090			
4	Before		70240	70000	82360	60900
	After		70390			
5	Before		69590	70000	82360	60900
	After		69670			
6	Before		−68000	−70000	−60900	−82360
	After		−68620			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT V45

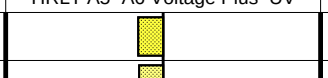
Idx	Phase	HRLT A4−A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68620	70000	82360	60900
	After		68690			
1	Before		71090	70000	82360	60900
	After		71730			
2	Before		71780	70000	82360	60900
	After		72220			
3	Before		73050	70000	82360	60900
	After		73430			
4	Before		70520	70000	82360	60900
	After		70690			
5	Before		69850	70000	82360	60900
	After		69960			
6	Before		−68380	−70000	−60900	−82360
	After		−68990			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

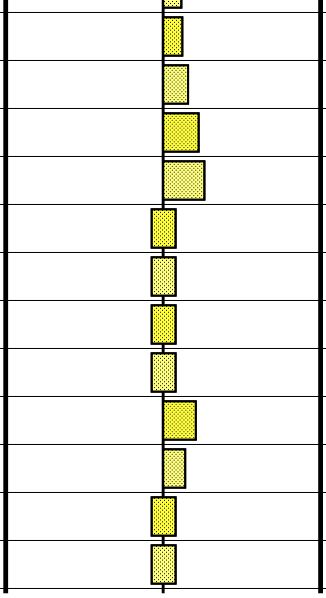
Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

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		68590			
1	Before		70820	70000	82360	60900
	After		71460			

2	Before		71540	70000	82360	60900
	After		71980			
3	Before		72860	70000	82360	60900
	After		73260			
4	Before		70390	70000	82360	60900
	After		70540			
5	Before		69750	70000	82360	60900
	After		69850			
6	Before		−68100	−70000	−60900	−82360
	After		−68720			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT VTP

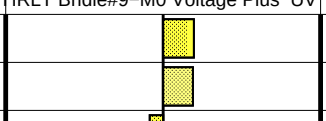
Idx	Phase	HRLT Torpedo−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68210	−70000	−60900	−82360
	After		−68260			
1	Before		−71130	−70000	−60900	−82360
	After		−71780			
2	Before		−71850	−70000	−60900	−82360
	After		−72280			
3	Before		−73140	−70000	−60900	−82360
	After		−73530			
4	Before		−70590	−70000	−60900	−82360
	After		−70750			
5	Before		−69910	−70000	−60900	−82360
	After		−70000			
6	Before		68370	70000	82360	60900
	After		68980			
7	Before		−70000	−70000	−60900	−82360
	After		−70000			
	(Minimum) (Nominal) (Maximum)					

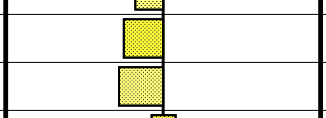
Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT VBD

Idx	Phase	HRLT Bridle#9−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68200	−70000	−60900	−82360
	After		−68260			
1	Before		−71110	−70000	−60900	−82360
	After		−71770			
2	Before		−71820	−70000	−60900	−82360
	After		−72260			

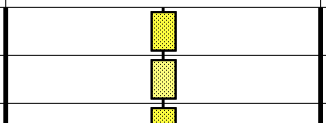
3	Before		−73110	−70000	−60900	−82360
	After		−73510			
4	Before		−70580	−70000	−60900	−82360
	After		−70740			
5	Before		−69900	−70000	−60900	−82360
	After		−70000			
6	Before		68340	70000	82360	60900
	After		68960			
7	Before		−70000	−70000	−60900	−82360
	After		−70000			
	(Minimum) (Nominal) (Maximum)					

Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT ISO

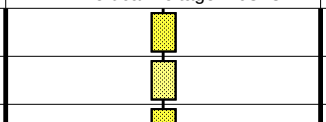
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.4	284.0	334.1	247.0
	After		284.7			
1	Before		281.1	281.1	330.7	244.4
	After		281.1			
2	Before		281.1	281.1	330.7	244.4
	After		281.1			
3	Before		281.1	**281.1**	**330.7**	**244.4**
	After		281.1			
4	Before		281.1	281.1	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: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

High Resolution Laterolog Array − B Wellsite Calibration

HRLT MV

Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−321.4	−322.7	−280.7	−379.7
	After		−321.4			
1	Before		−323.0	−322.7	−280.7	−379.7
	After		−325.8			
2	Before		−325.0	−322.7	−280.7	−379.7
	After		−326.6			
3	Before		−327.3	−322.7	−280.7	−379.7
	After		−328.7			

	After				
4	Before	−314.6	−322.7	−280.7	−379.7
	After	−315.0			
5	Before	−326.3	−322.7	−280.7	−379.7
	After	−326.4			
6	Before	328.4	322.7	379.7	280.7
	After	331.3			
7	Before	−322.7	−322.7	−280.7	−379.7
	After	−322.7			
	(Minimum) (Nominal) (Maximum)				

Before: 23−Sep−2014 3:35

After: 23−Sep−2014 9:31

Hostile Litho−Density Sonde / Equipment Identification

Primary Equipment:		
Hostile Litho Density Sonde	HLDS − D	45
Hostile Litho Density High Voltage	HLDV − D	45
Gamma Source Radioactive	GSR − Z	8113
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP − C	45
Hostile Litho Density High Voltage Housi	HEH − H	47

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		8.061	Master		8.137	Master		69.74
Before		7.985	Before		8.095	Before		68.96
After		8.044	After		8.222	After		67.97
	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		63.61	Master		141.8	Master		172.4
Before		63.19	Before		140.7	Before		172.6
After		63.28	After		140.4	After		170.6
	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		395.0	Master		78.54	Master		139.1
Before		393.5	Before		77.91	Before		137.7
After		391.6	After		76.86	After		139.8
	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		371.9	Master		195.4	Master		142.5
Before		370.6	Before		194.2	Before		140.7
After		369.4	After		194.0	After		138.7
	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: 16−Jul−2014 4:36 Before: 23−Sep−2014 3:38 After: 23−Sep−2014 9:34

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	300
Auxiliary Equipment:		
HNGC Housing	HNGH − A	115

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	194
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	205
Gamma Source Radioactive	GSR − U	616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		39.57
Before		39.57
After		39.68
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.78
Before		15.35
After		14.71
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1197
Before		1187
After		1186
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		**142.4**
Before		141.8
After		142.6
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		**9.334**
Before		8.462
After		9.740
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		**37.42**
Before		35.70
After		33.88
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		10.91
Before	EXCEEDS LIMIT	9.927
After	EXCEEDS LIMIT	9.941
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 15−Jul−2014 0:16 Before: 23−Sep−2014 3:43 After: 23−Sep−2014 9:35

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.46
Before		39.49
After		39.67
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.20
Before		15.66
After		15.36
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1129
Before		1121
After		1132
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		141.8
Before		140.7
After		142.8
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		10.06
Before		8.501
After		8.168
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		38.37
Before		35.89
After		35.35
−28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		11.54

Before			10.34
After			10.12
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 15−Jul−2014 0:16 Before: 23−Sep−2014 3:43 After: 23−Sep−2014 9:35

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master	EXCEEDS LIMIT	0.9495
Before		0.9661
After		0.9843
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 15−Jul−2014 0:16
Before: 23−Sep−2014 3:43
After: 23−Sep−2014 9:35

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG − A/B	8305
Enhanced DTS Cartridge	EDTC − B	8317
Auxiliary Equipment:		
EDTC Housing	EDTH − B	8303

Enhanced DTS Cartridge Wellsite Calibration

EDTC Accelerometer Calibration

Phase	EDTC Z−Axis Acceleration M/S2	Value
Before		9.750
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 23−Sep−2014 3:45

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		1.756	Before		160.3	Before		165.0
After		7.977	After		155.0	After		159.6
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			145.7 (Minimum) 160.3 (Nominal) 174.9 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 23−Sep−2014 3:36 After: 23−Sep−2014 9:32

Company: **Lamont Doherty Earth Observatory**

Schlumberger

Well: **Expedition 352, Site U1442A**
Field: **IBM−3 Forearc**
Rig: **JOIDES Resolution**
Country:

Triple−Combo

Triple Combo
HRLA Resisitivity, HLDS Litho−Density
HNGS Spectral GR