



Company: Lamont Doherty Earth Observatory

Well: Expedition 346, Site U1423B

Field: Asian Monsoon

Rig: JOIDES Resolution Country: USA

HRLA Resistivity

JOIDES Resolution  
Asian Monsoon  
Location: N 43\* 45.9897'  
Expedition 346, Site U1423B  
Company: Lamont Doherty Earth Observatory

LOCATION	Latitude: N 43* 45.9897' Longitude: W 138* 50.0002'	Elev.: K.B. -1796.00 m G.L. 0.00 m D.F. -1796.00 m
	Permanent Datum: Sea Floor Log Measured From: Drill Floor Drilling Measured From: Drill Floor	Elev.: 0.00 m -1796.00 m above Perm. Datum
	Ocean: Pacific	Max. Well Deviation 0 deg Longitude W 138.83334 Latitude N 43.7665

Logging Date	23-Aug-2013	
Run Number	1	
Depth Driller	249.1 m	
Schlumberger Depth	249 m	
Bottom Log Interval	223.3 m	
Top Log Interval	81 m	
Casing Driller Size @ Depth	5.500 in @ 80 m	
Casing Schlumberger	80 m	
Bit Size	9.875 in	
Type Fluid In Hole	Seawater	
MUD Density	Viscosity	1.03 g/cm3
MUD Fluid Loss	PH	
Source Of Sample		
N/A		
RM @ Measured Temperature	@	@
RMF @ Measured Temperature	@	@
RMC @ Measured Temperature	@	@
Source RMF	RMC	N/A
RM @ MRT	RMF @ MRT	@ 15 @ 15 @ @
Maximum Recorded Temperatures		
15 degC		
Circulation Stopped	Time	23-Aug-2013 16:00
Logger On Bottom	Time	23-Aug-2013 20:00
Unit Number	Location	625003 Houston
Recorded By	C. Furman	
Witnessed By	J. Lofi	

	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		
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: HNGS
- OS2: MSS
- OS3: HLDS
- OS4: DSI
- OS5: FMS

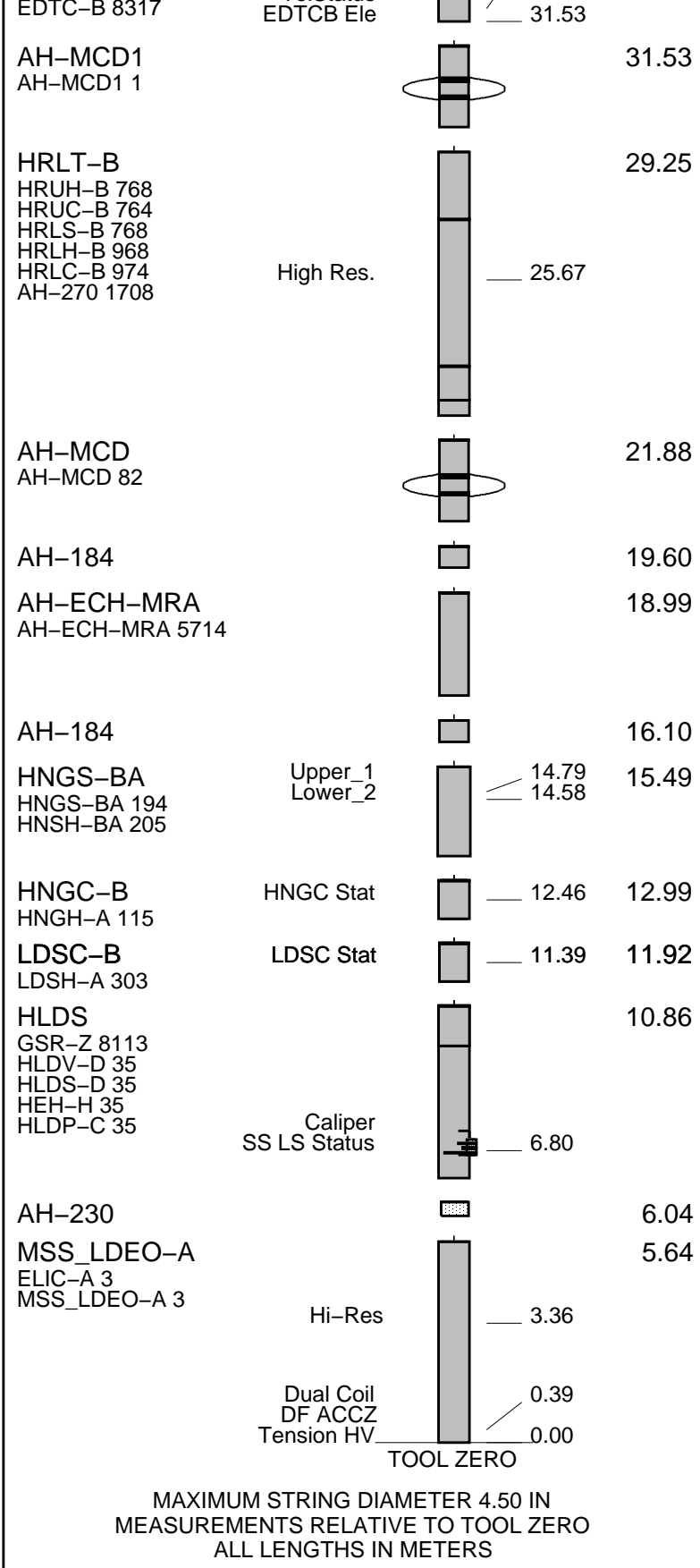
**REMARKS: RUN NUMBER 1**

- Hole drilled and cored using APC/XCB coring system.
- Modified MCD devices run above and below HRLA for centralization.
- HLDS and MSS eccentralized by caliper and bowspring with knuckled to decouple from HRLA.
- LFV Actuator (Go-Devil) run attached to bottom of MSS for LFV locking open / closed.
- Logs recorded from drill floor (1796m above permanent datum) then shifted to zero at sea floor.
- Log depth adjusted to zero at the sea floor; TD=249m, Bit Depth=80m.
- HRLA resistivity data affected by pipe (spikey) from 101mbsf to 123mbsf.

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:			PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

**EQUIPMENT DESCRIPTION**

RUN 1		RUN 2	
SURFACE EQUIPMENT		SURFACE EQUIPMENT	
GSR-U 616008 WITM (EDTS)-A			
DOWNHOLE EQUIPMENT		DOWNHOLE EQUIPMENT	
LEH-MT 101			34.91
LEH-MT 101 101	MDSB_EDTC		
AH-369	Mud Tempe		33.51
	CTEM		32.45
EDTC-B	Gamma Ray		31.88
EDTH-B 8303	EFTB DIAG		33.51
	TelStatus		



Production String	(in)	(m)	Well Schematic	(m)	(in)	Casing String

Kelly Bushing Elevation

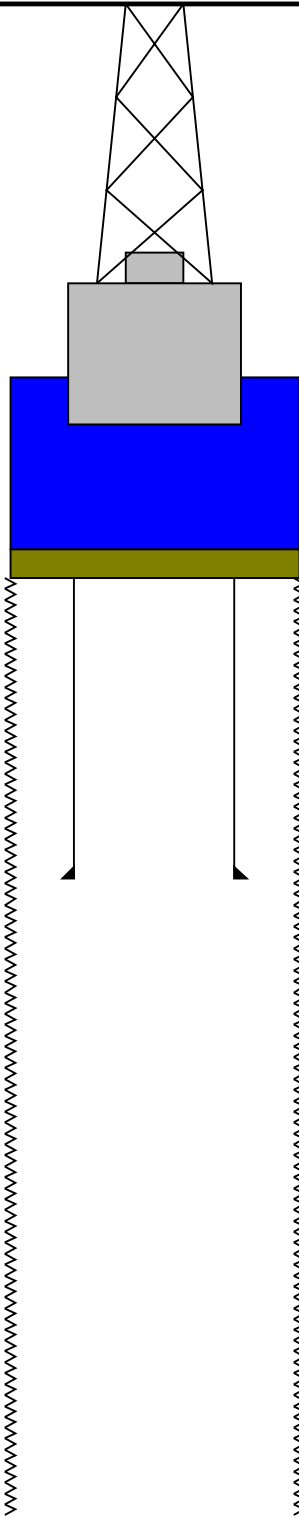
Derrick Floor Elevation

Mean Sea Level

-1796.8

-1796.8

-1785.8



0.0

9.875

4.000

Sea Floor

80.0

5.500

4.000

Bit

249.1

9.875

TD - Driller



## Downlog 1:200 Scale

MAXIS Field Log

Company: Lamont Doherty Earth Observatory

Well: Expedition 346, Site U1423B

### Input DLIS Files

DEFAULT	Flip_MSS_LDEO_LDL_045PUP	PRODUCER	24-Aug-2013 11:37	2006.2 M	1744.2 M
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### Output DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_046PUP	FN:59	PRODUCER	24-Aug-2013 11:38	212.0 M	-11.1 M
CLIENT	MSS_LDEO_LDL_NGS_046PUC	FN:60	CUSTOMER	24-Aug-2013 11:38	212.0 M	-11.1 M

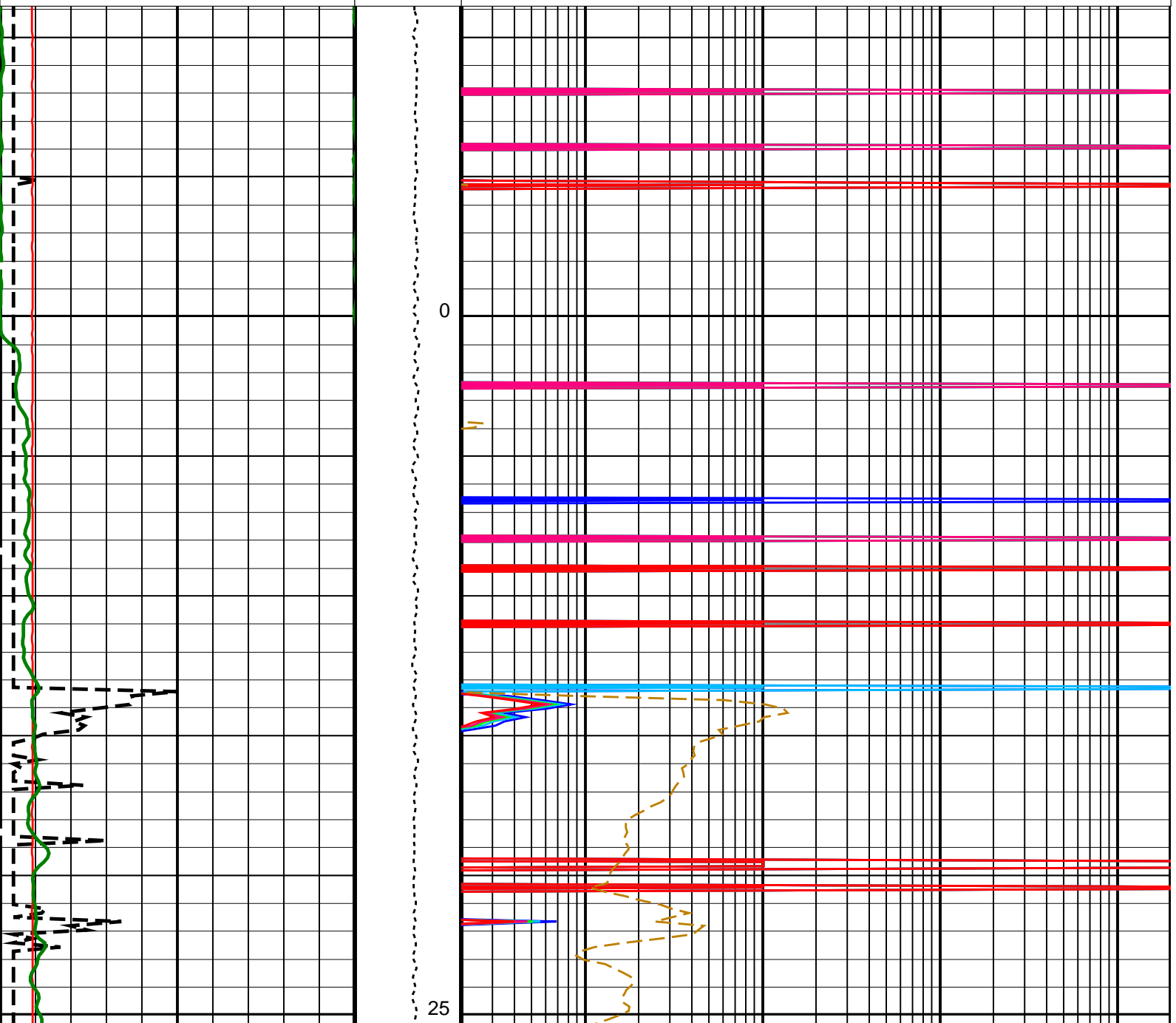
### OP System Version: 19C0-187

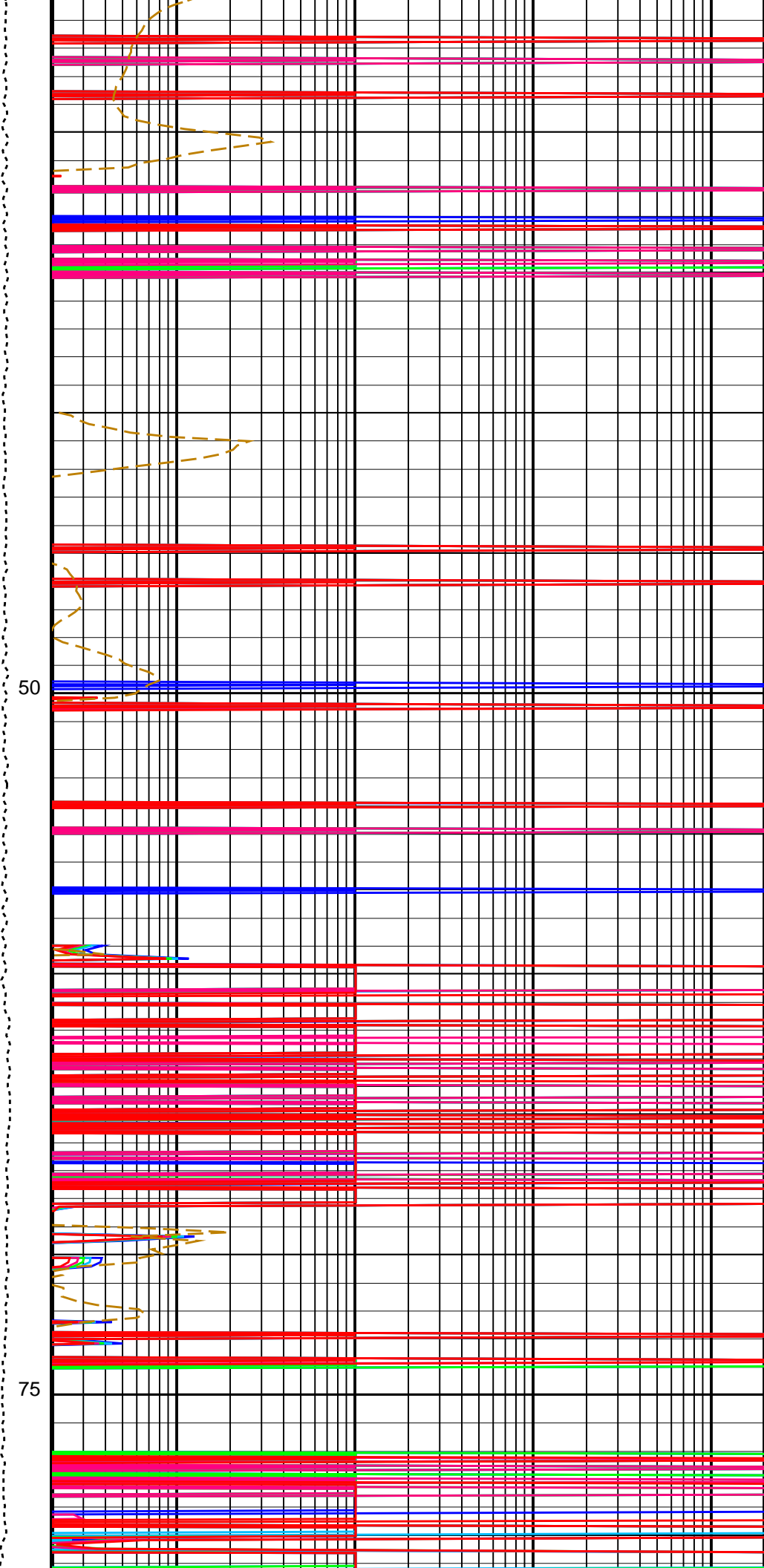
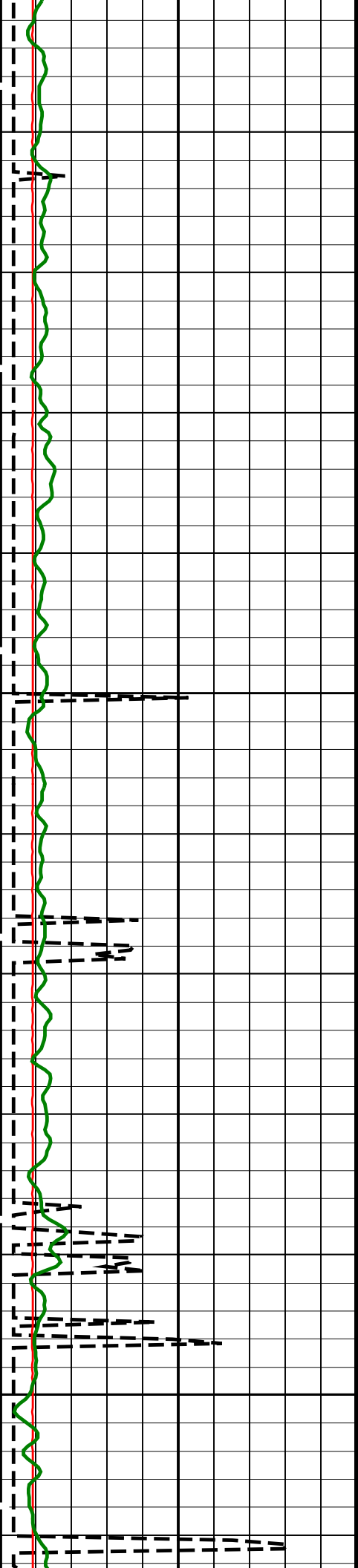
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LDSC-B	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187

PIP SUMMARY

Time Mark Every 60 S

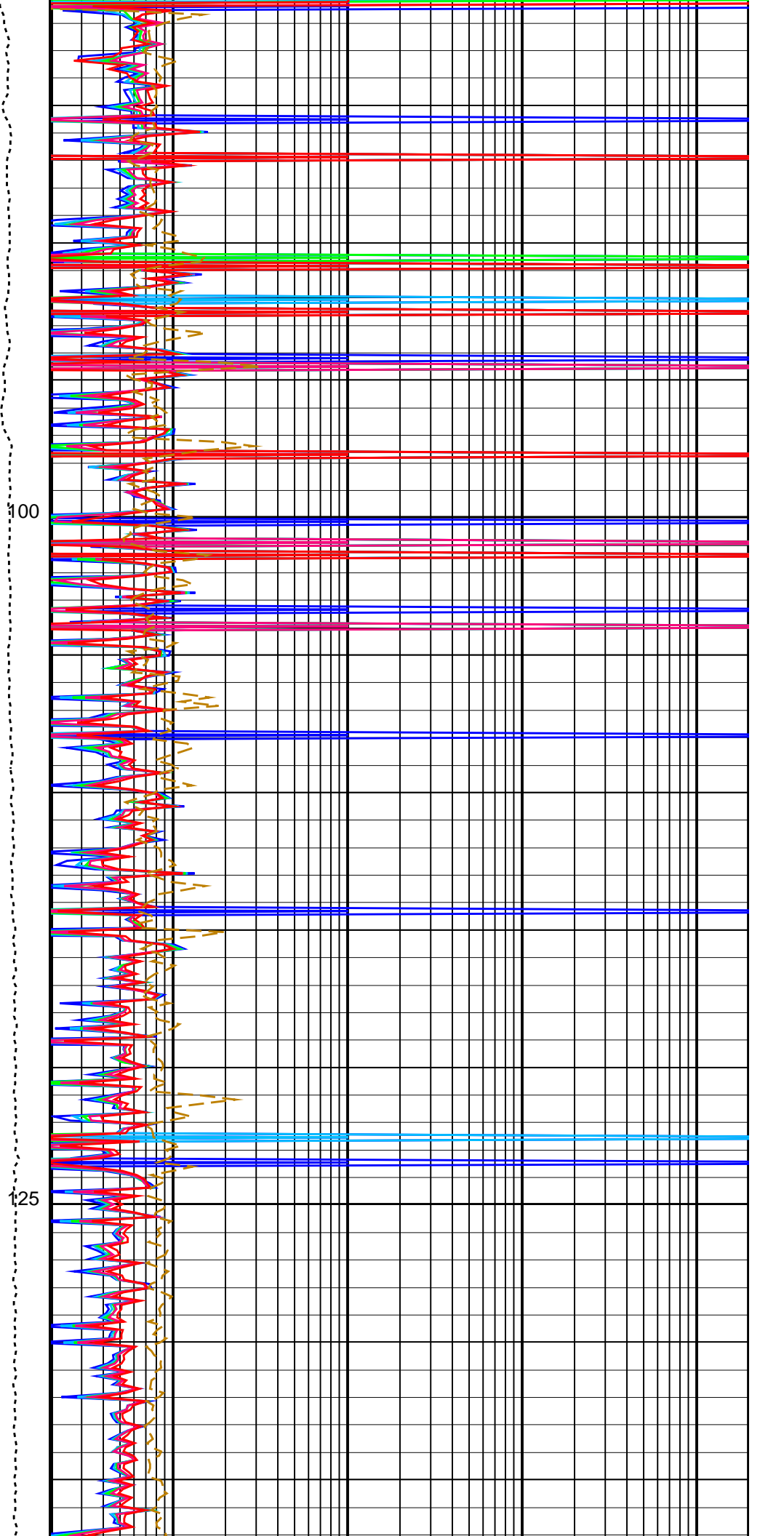
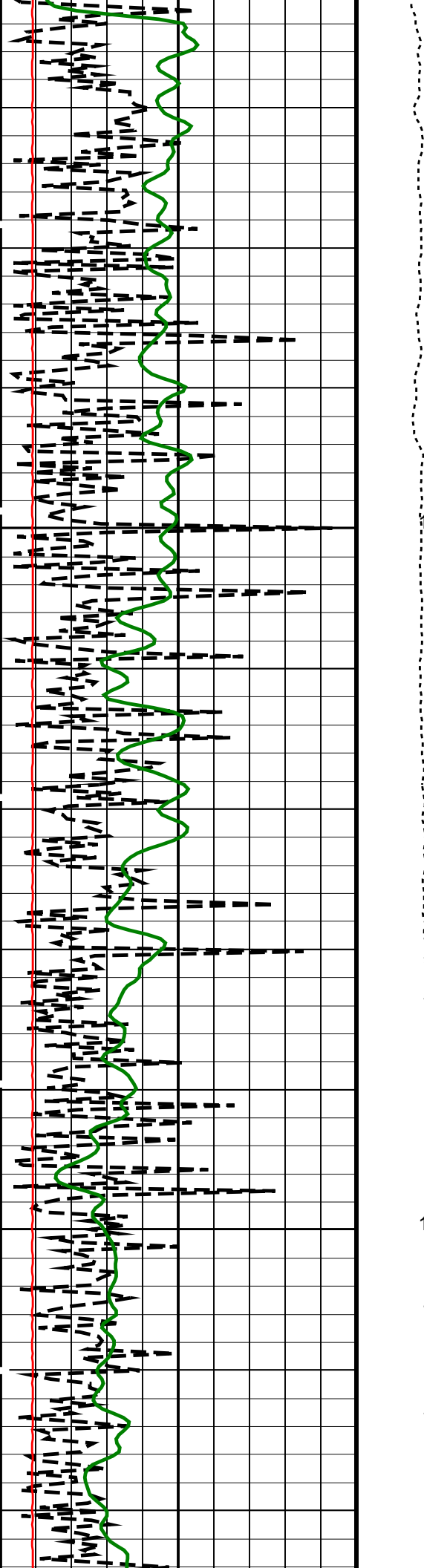
		HRLT Mud Resistivity (RM_HRLT) 0.02 (OHMM) 200	
		HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 2000	
		HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 2000	
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 2000	
Invasion Diameter (DI_HRLT) 0 (IN) 50		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 2000	
HLDS Caliper (LCAL) 0 (IN) 20		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 2000	
Tension (TENS) (LBF) 0 5000			



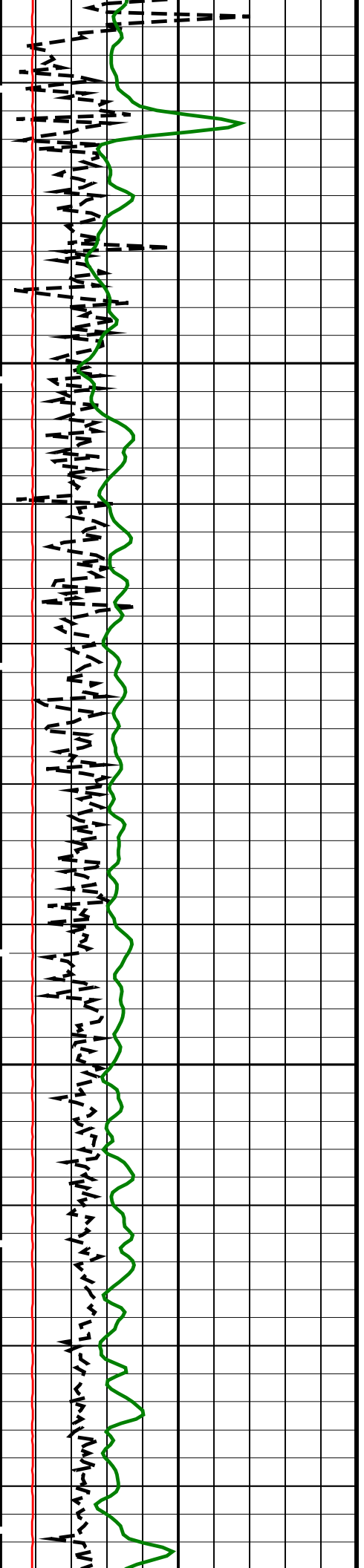


50

75

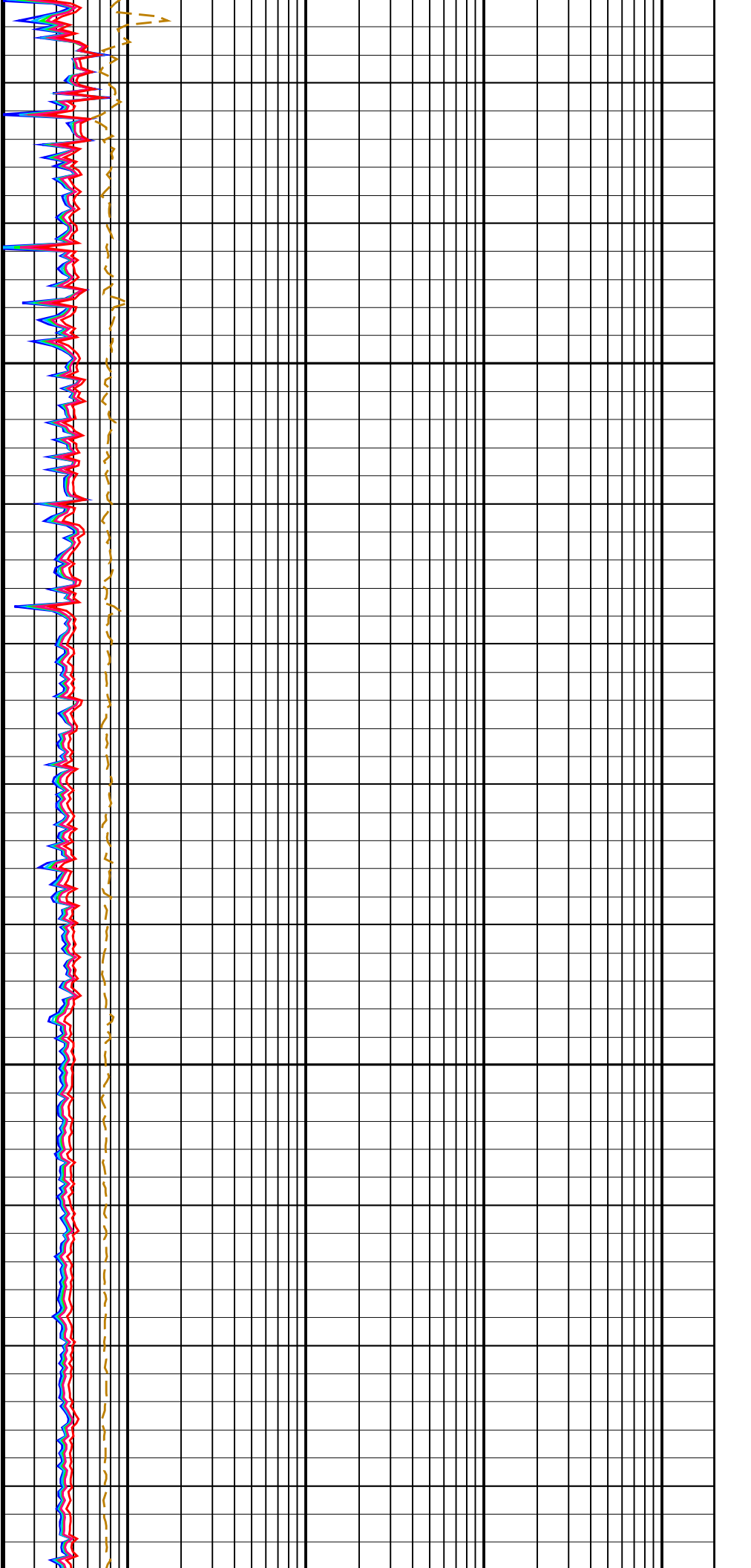


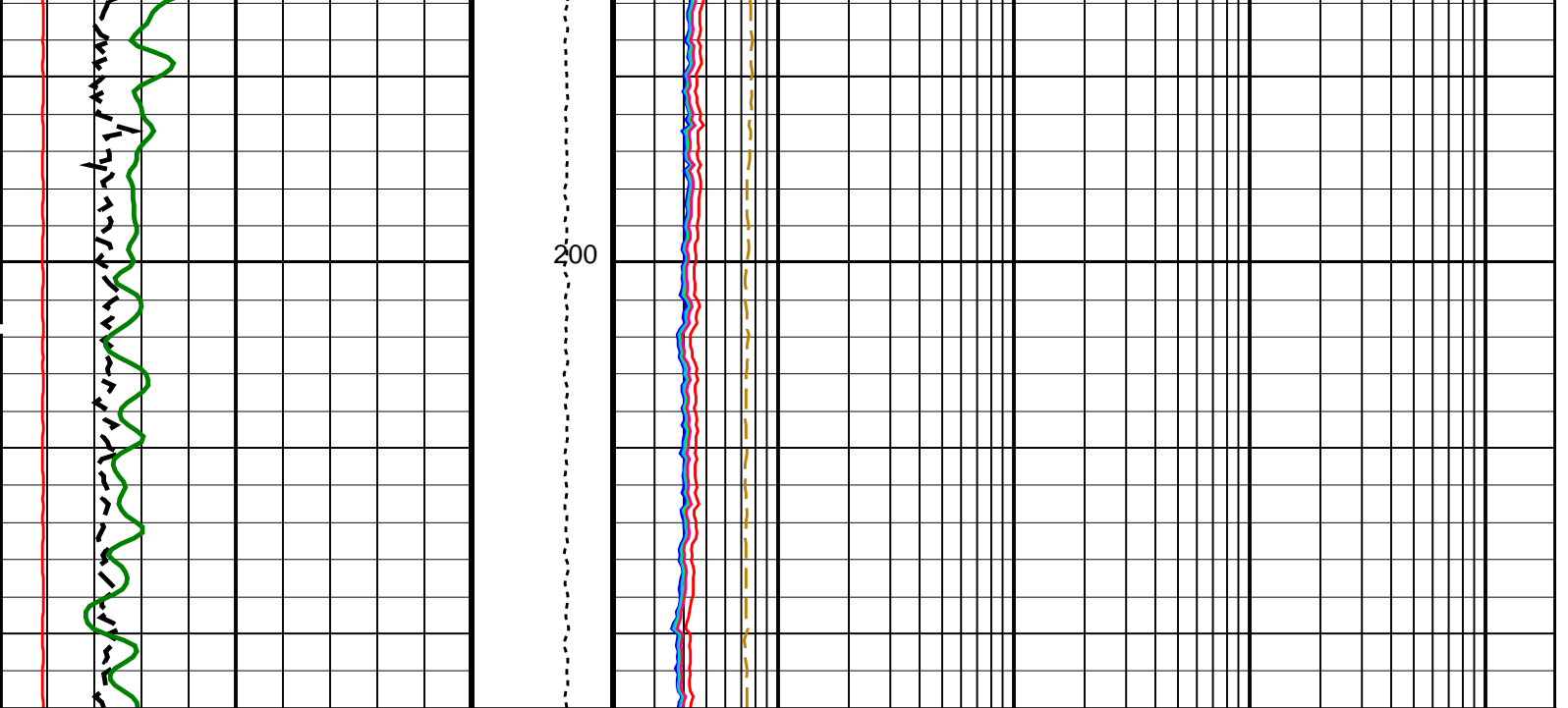




150

175





<b>HLDS Caliper (LCAL)</b> 0 (IN) 20	<b>Tension (TENS)</b> (LBF) 0 5000	<b>HRLT Resistivity 1 (RLA1)</b> 0.2 (OHMM) 2000
<b>Invasion Diameter (DI_HRLT)</b> 0 (IN) 50		<b>HRLT Resistivity 2 (RLA2)</b> 0.2 (OHMM) 2000
<b>HNGS Spectroscopy Gamma Ray (HSGR)</b> 0 (GAPI) 100		<b>HRLT Resistivity 3 (RLA3)</b> 0.2 (OHMM) 2000
		<b>HRLT Resistivity 4 (RLA4)</b> 0.2 (OHMM) 2000
		<b>HRLT Resistivity 5 (RLA5)</b> 0.2 (OHMM) 2000
		<b>HRLT Mud Resistivity (RM_HRLT)</b> 0.02 (OHMM) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
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	-0.00436195
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	9	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.02343	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01912	
<b>HRLT-B: High Resolution Laterolog Array - B</b>			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	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	
PROGINV	Inversion Selection	ON	
PROCMFL	Inversion Micro-Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Centered	
SHT	Surface Hole Temperature	9	DEGC
<b>EDTC-B: Enhanced DTS Cartridge</b>			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	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	
SHT	Surface Hole Temperature	9	DEGC
<b>System and Miscellaneous</b>			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	-1794.2	M
PP	Playback Processing	NORMAL	
TD	Total Depth	4627	M

Format: HRLT    Vertical Scale: 1:200    Graphics File Created: 24-Aug-2013 11:38

### OP System Version: 19C0-187

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

#### Input DLIS Files

DEFAULT	Flip_MSS_LDEO_LDL_045PUP	PRODUCER	24-Aug-2013 11:37	2006.2 M	1744.2 M
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#### Output DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_046PUP	FN:59	PRODUCER	24-Aug-2013 11:38
CLIENT	MSS_LDEO_LDL_NGS_046PUC	FN:60	CUSTOMER	24-Aug-2013 11:38



**First Pass**  
**1:200 Scale**

MAXIS Field Log

Company: Lamont Doherty Earth Observatory    Well: Expedition 346, Site U1423B

#### Input DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_016LUP	FN:15	PRODUCER	23-Aug-2013 11:19	2043.7 M	1882.1 M
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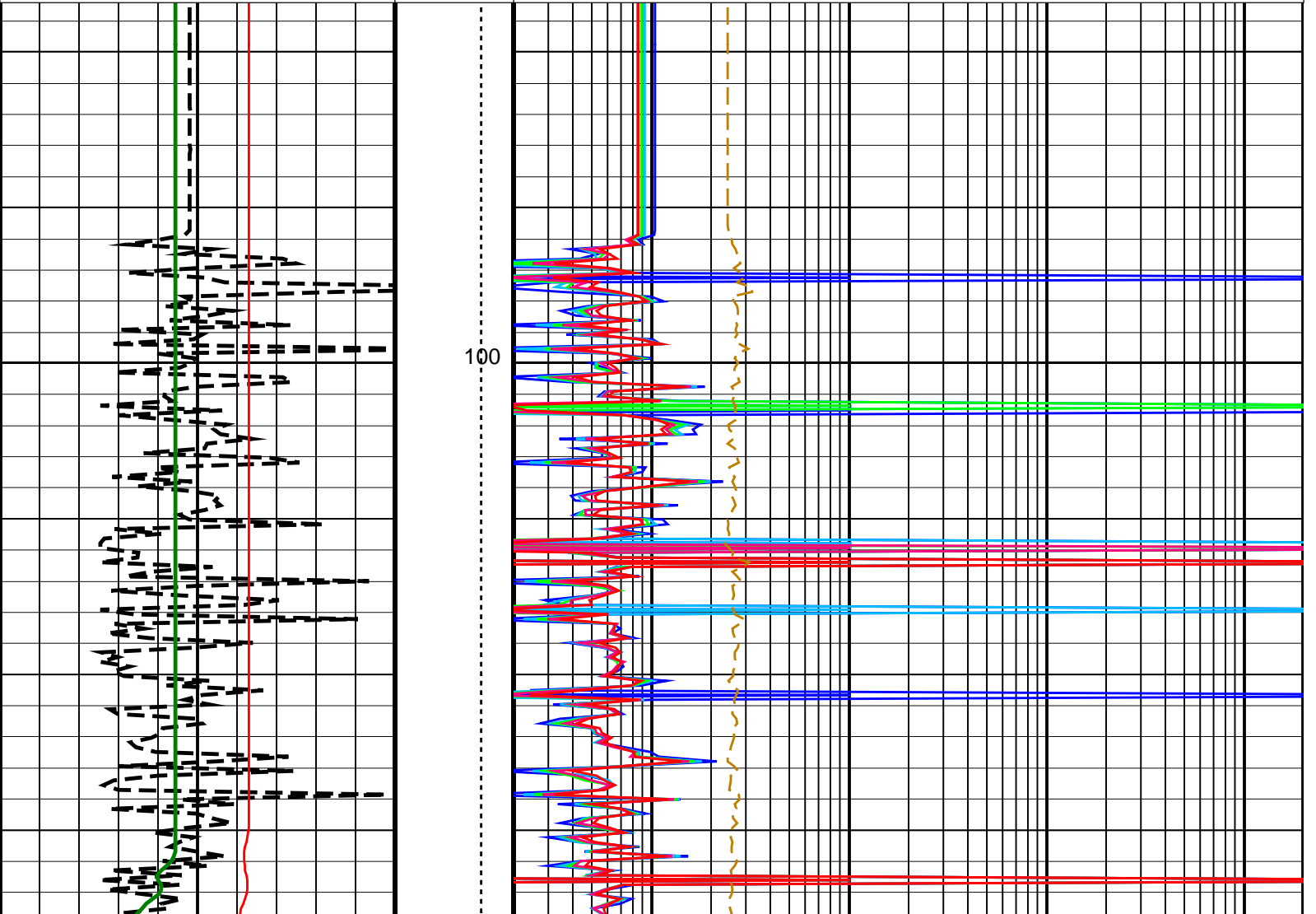
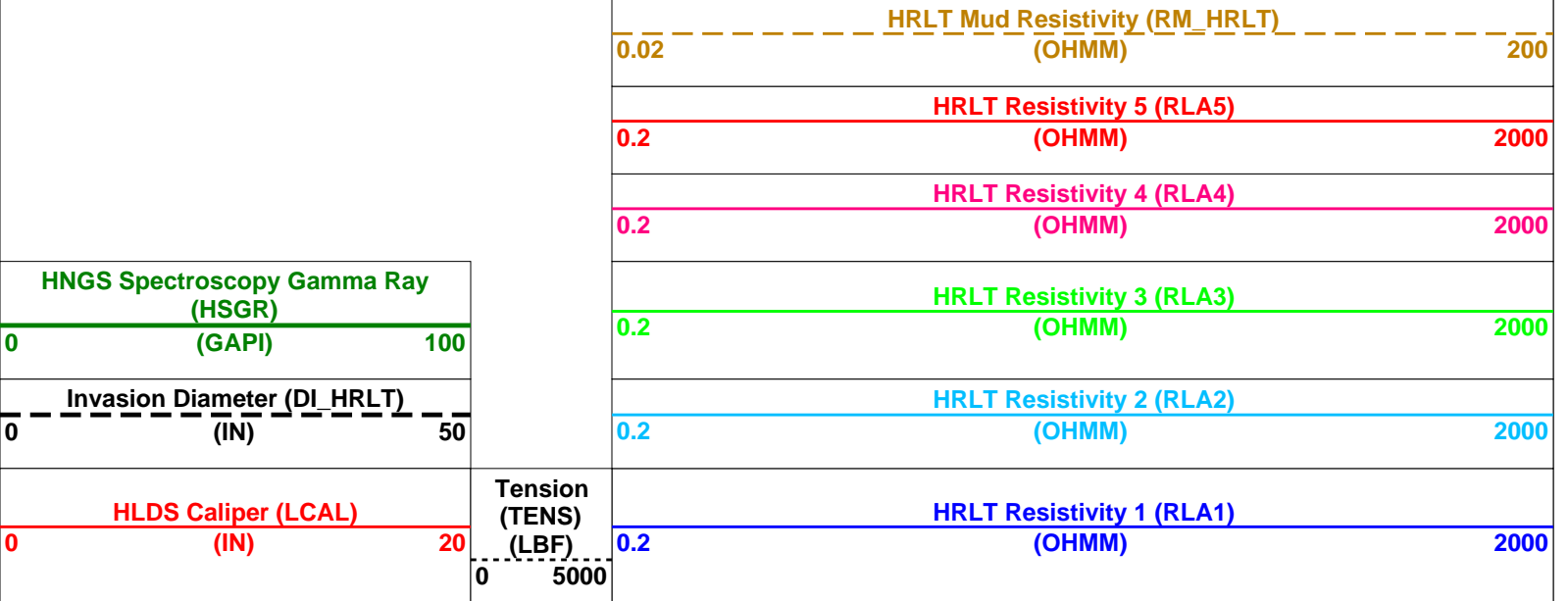
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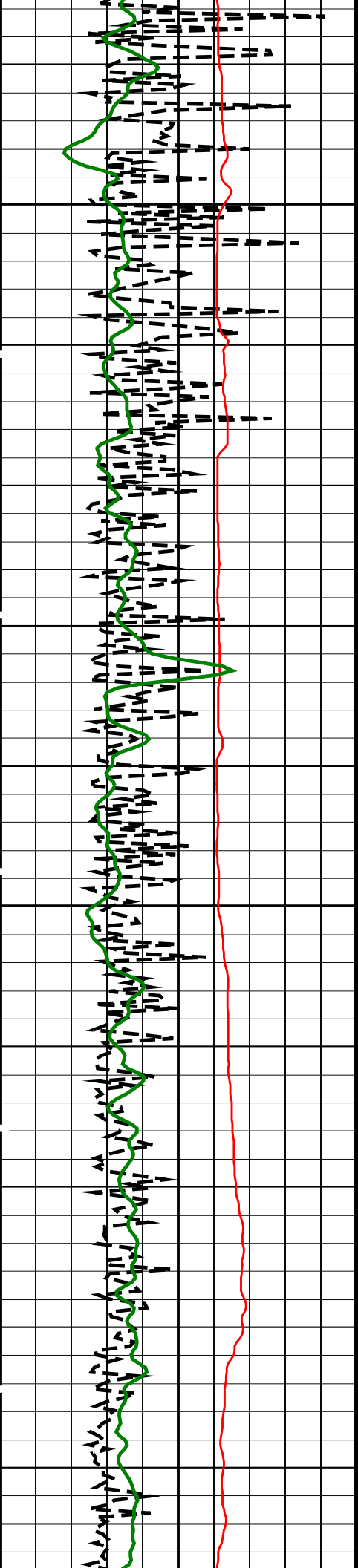
## OP System Version: 19C0-187

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

### PIP SUMMARY

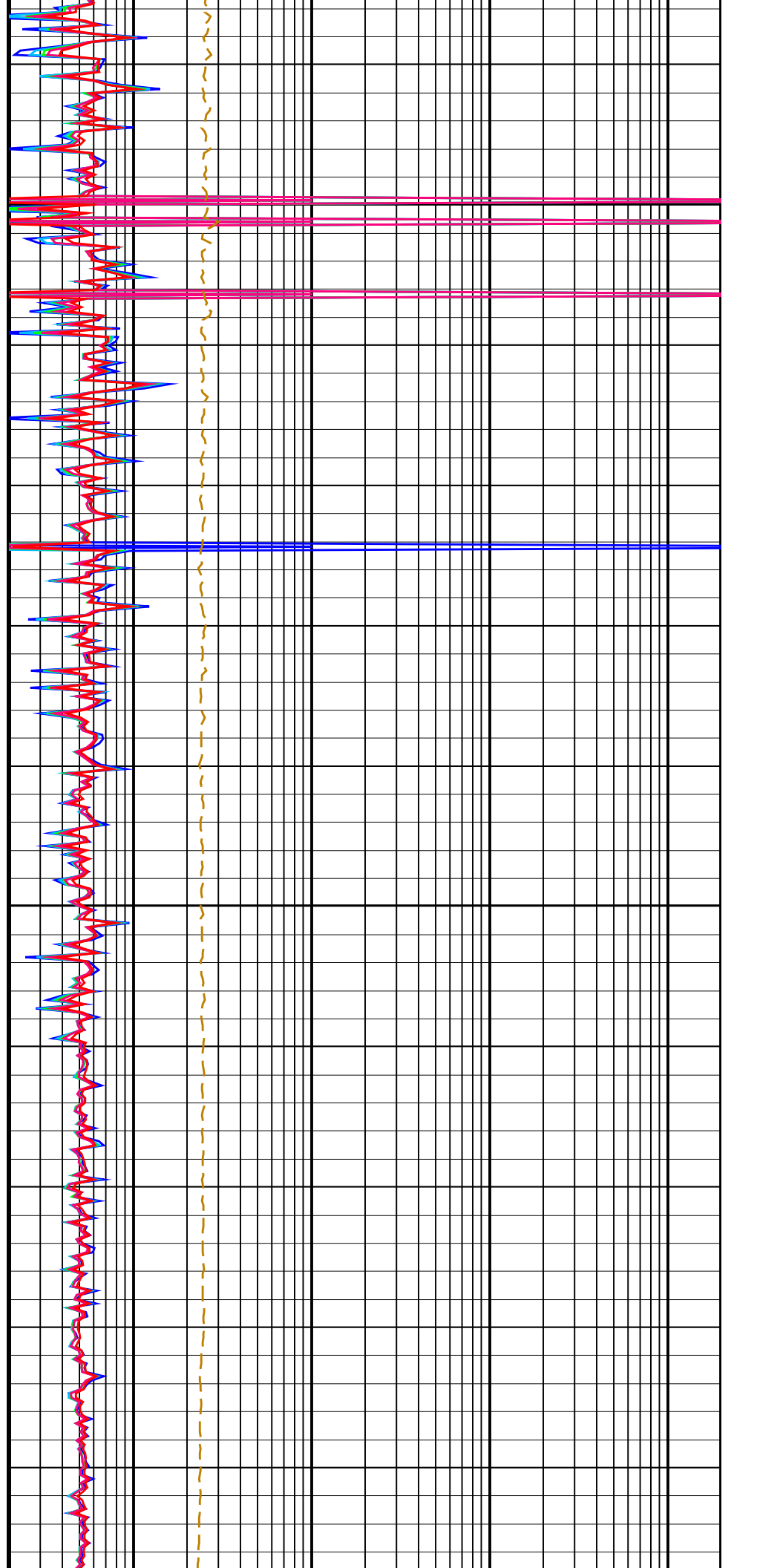
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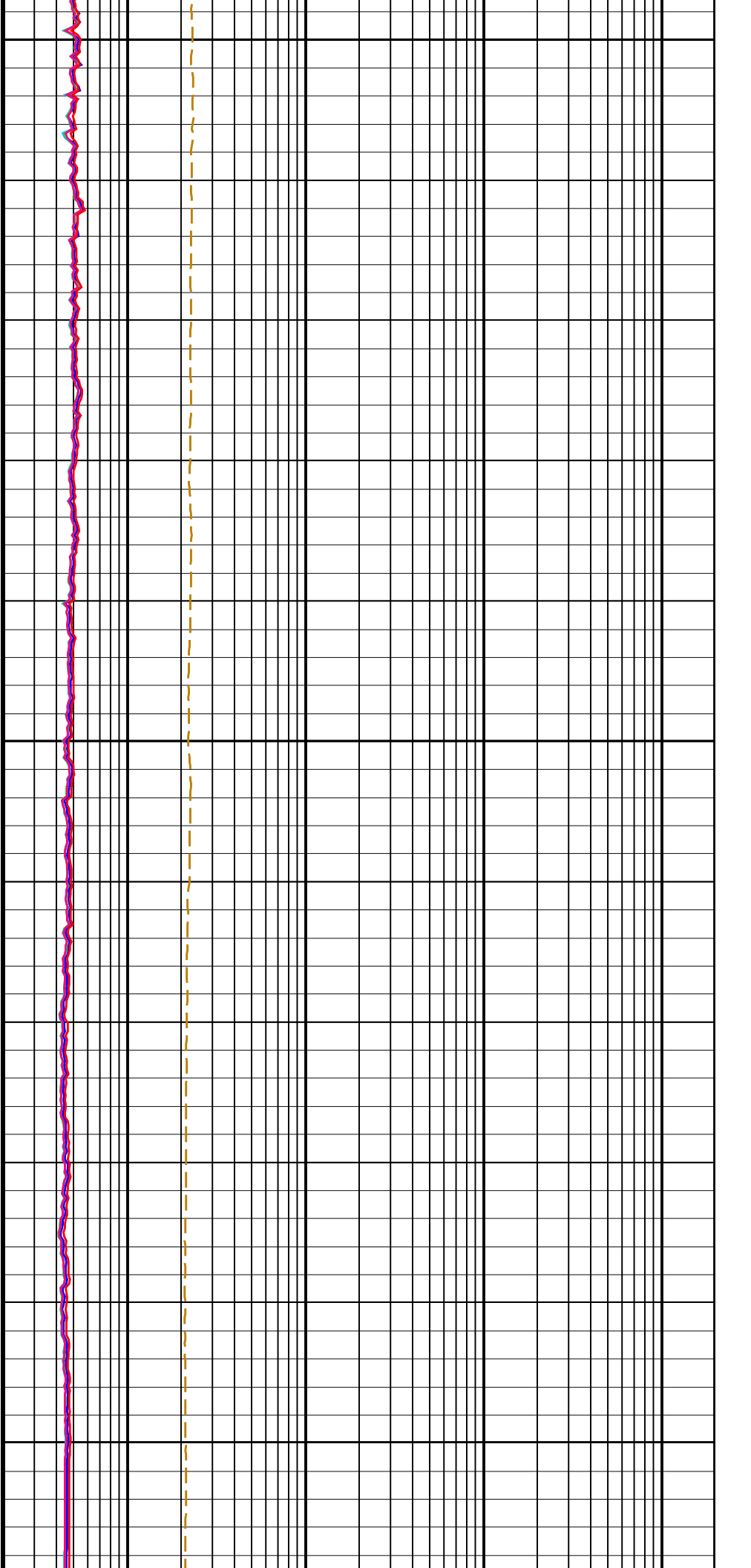
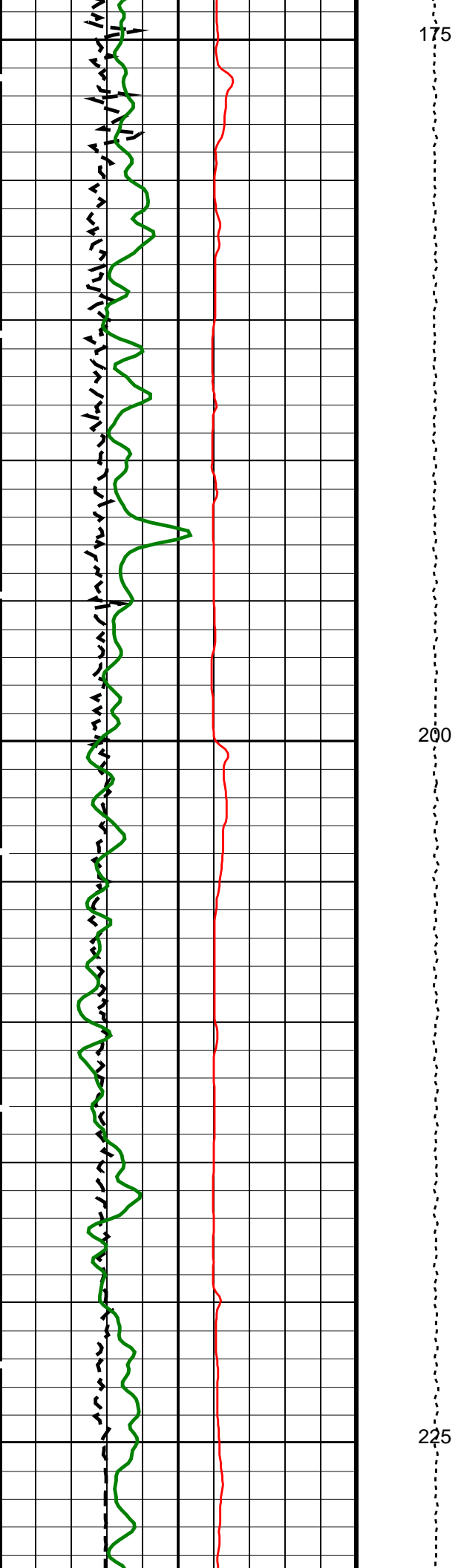


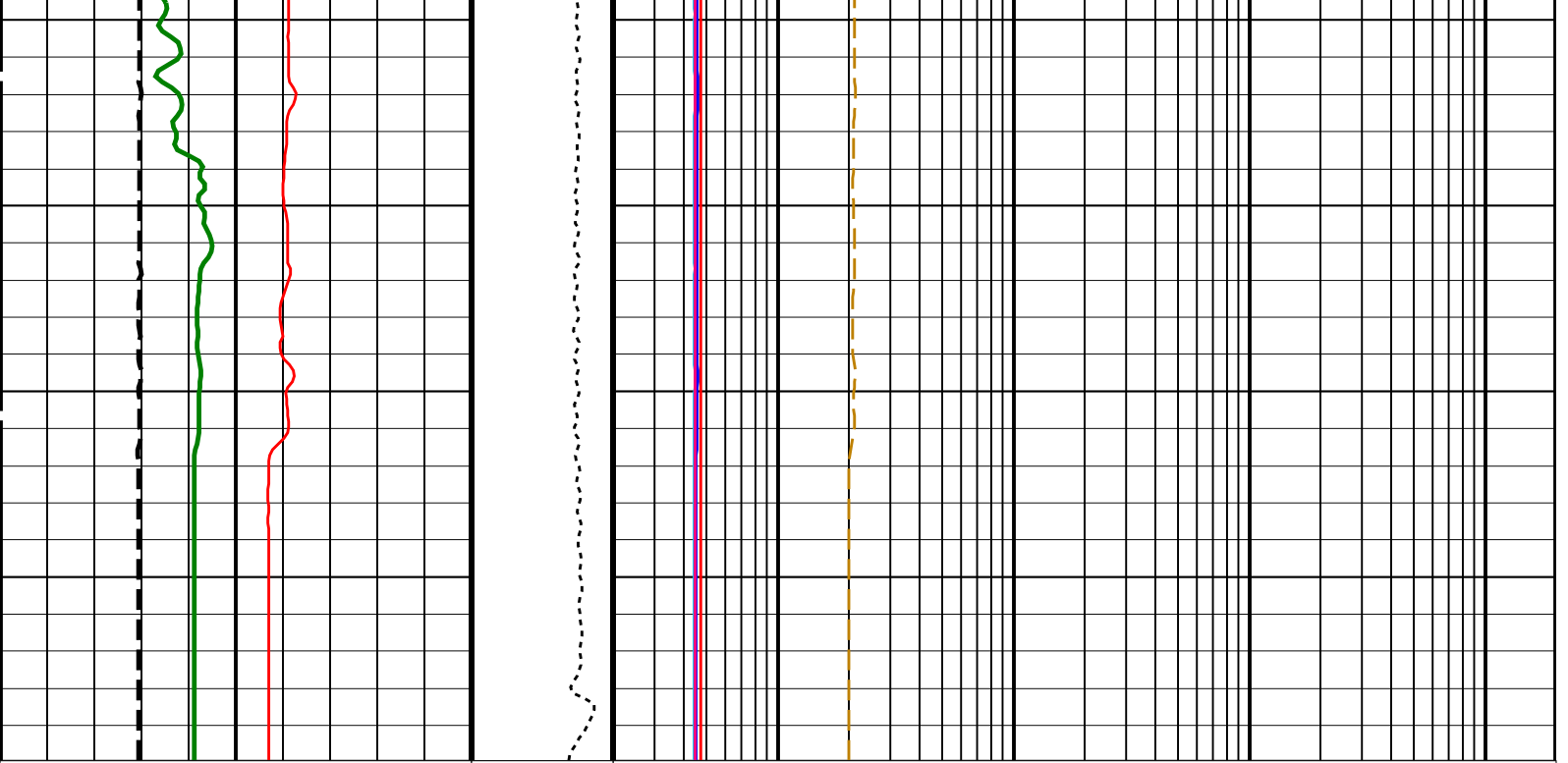


125

150







<b>HLDS Caliper (LCAL)</b> 0 (IN) 20	<b>Tension (TENS)</b> (LBF) 0 5000	<b>HRLT Resistivity 1 (RLA1)</b> 0.2 (OHMM) 2000
<b>Invasion Diameter (DI_HRLT)</b> 0 (IN) 50		<b>HRLT Resistivity 2 (RLA2)</b> 0.2 (OHMM) 2000
<b>HNGS Spectroscopy Gamma Ray (HSGR)</b> 0 (GAPI) 100		<b>HRLT Resistivity 3 (RLA3)</b> 0.2 (OHMM) 2000
		<b>HRLT Resistivity 4 (RLA4)</b> 0.2 (OHMM) 2000
		<b>HRLT Resistivity 5 (RLA5)</b> 0.2 (OHMM) 2000
		<b>HRLT Mud Resistivity (RM_HRLT)</b> 0.02 (OHMM) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
GRGD	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	-0.00436195
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	9	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.02343	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01912	
<b>HRLT-B: High Resolution Laterolog Array - B</b>			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	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	
PROCMO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSP0	Sonde Position	Centered	
SHT	Surface Hole Temperature	9	DEGC
<b>EDTC-B: Enhanced DTS Cartridge</b>			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	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	
SHT	Surface Hole Temperature	9	DEGC
<b>System and Miscellaneous</b>			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	-1793.8	M
PP	Playback Processing	NORMAL	
TD	Total Depth	4627	M

Format: HRLT Vertical Scale: 1:200 Graphics File Created: 24-Aug-2013 11:23

### OP System Version: 19C0-187

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

### Input DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_016LUP	FN:15	PRODUCER	23-Aug-2013 11:19	2043.7 M	1882.1 M
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### Output DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_037PUP	FN:45	PRODUCER	24-Aug-2013 11:23
CLIENT	MSS_LDEO_LDL_NGS_037PUC	FN:46	CUSTOMER	24-Aug-2013 11:23

**Main Pass**  
**1:200 Scale**

MAXIS Field Log

Company: Lamont Doherty Earth Observatory

Well: Expedition 346, Site U1423B

### Input DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_017LUP	FN:17	PRODUCER	23-Aug-2013 11:44	2043.7 M	1749.1 M
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# Output DLIS Files

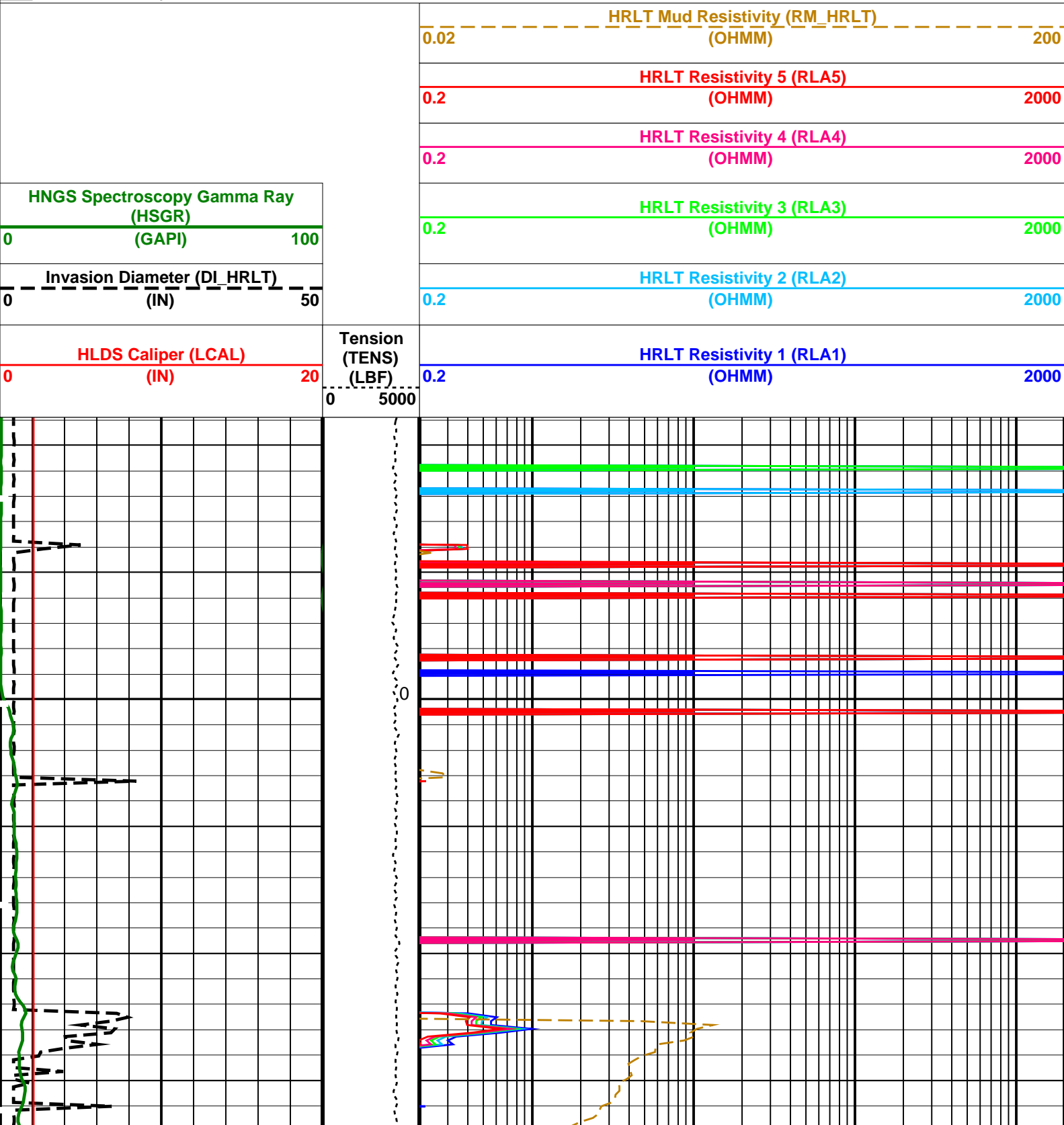
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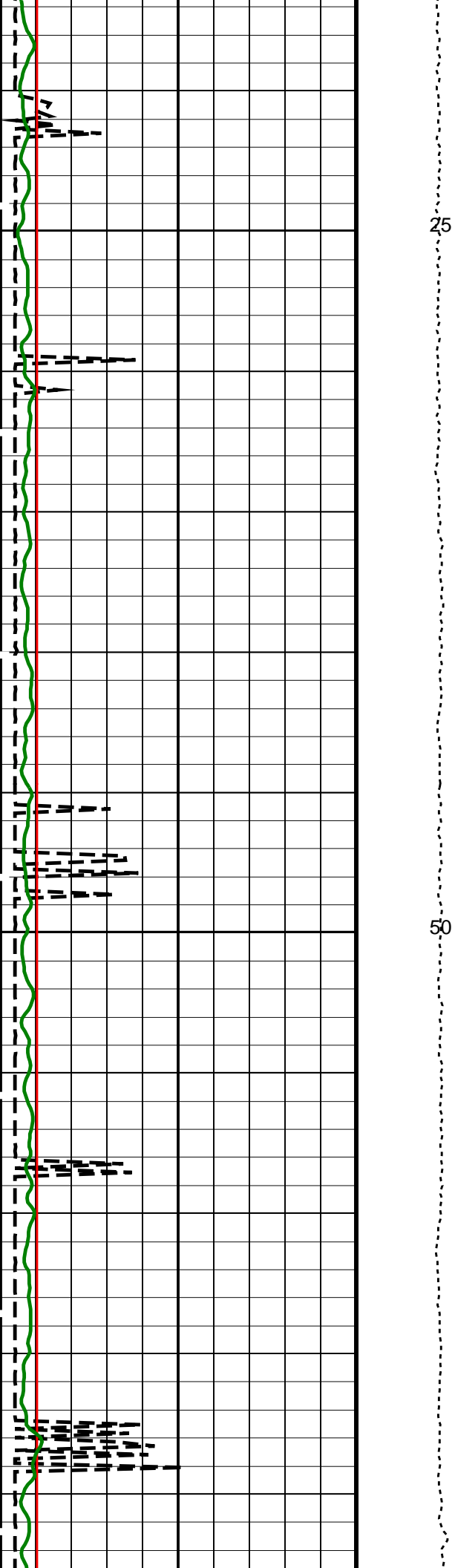
## OP System Version: 19C0-187

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

### PIP SUMMARY

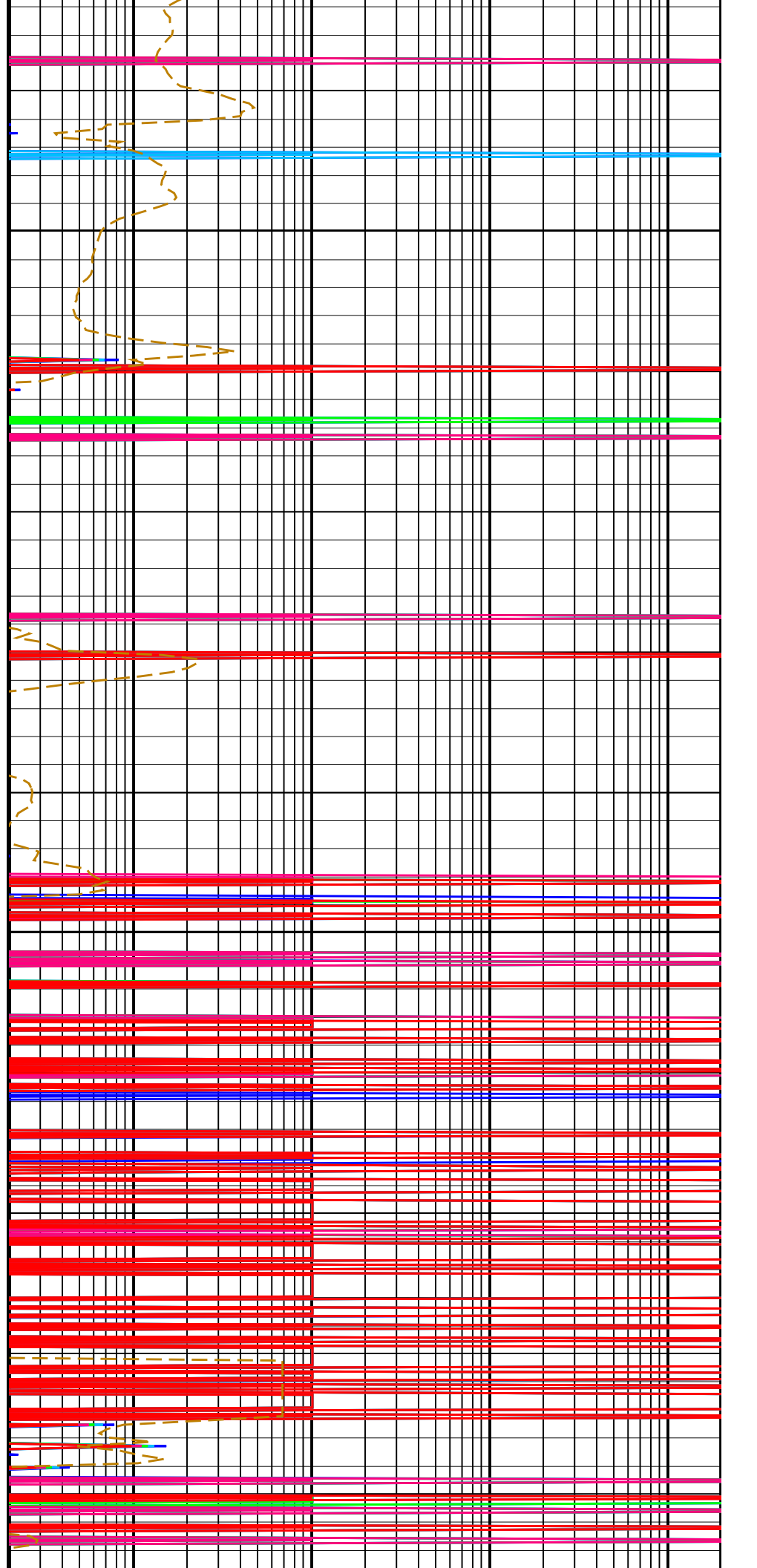
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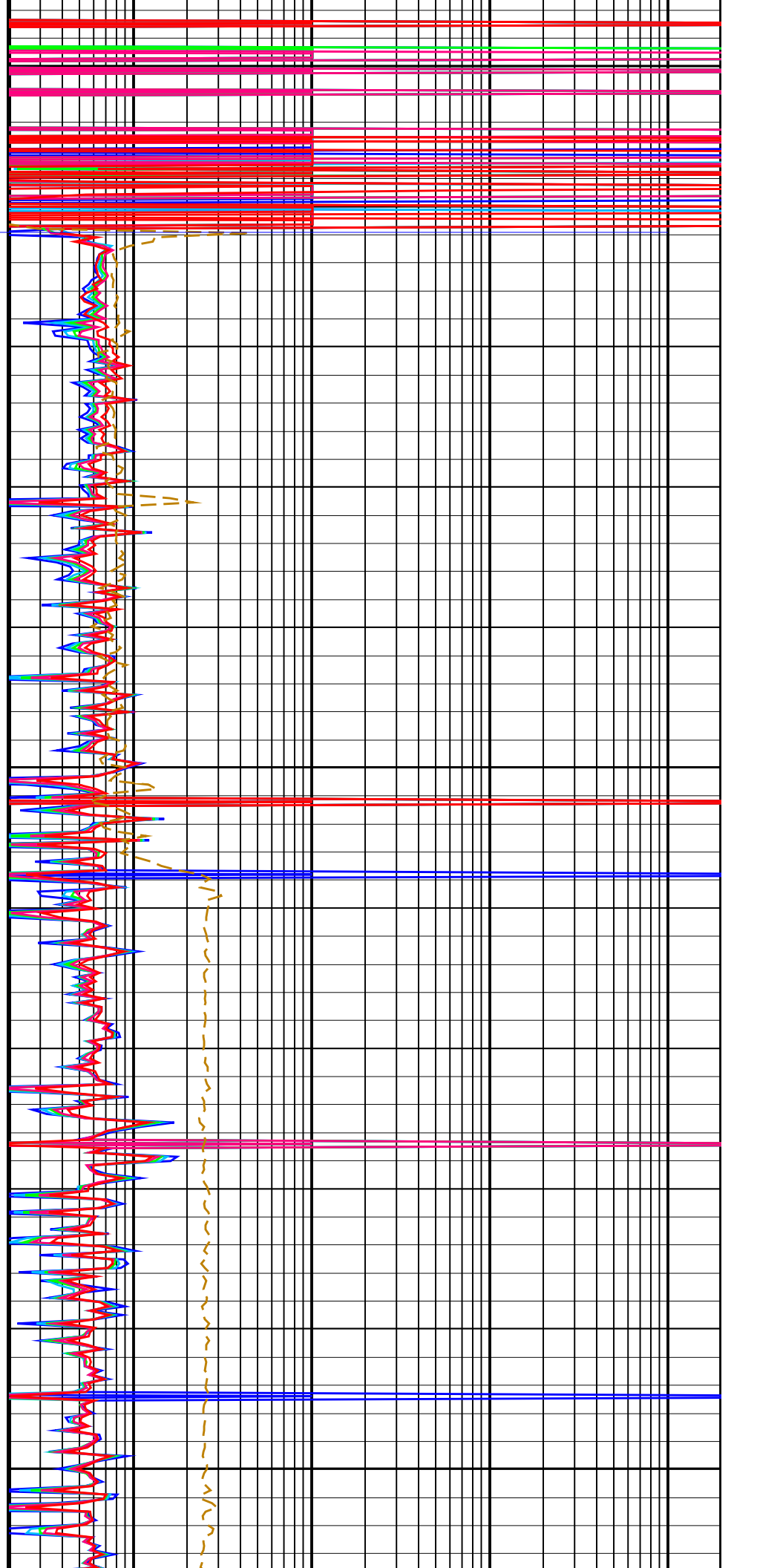
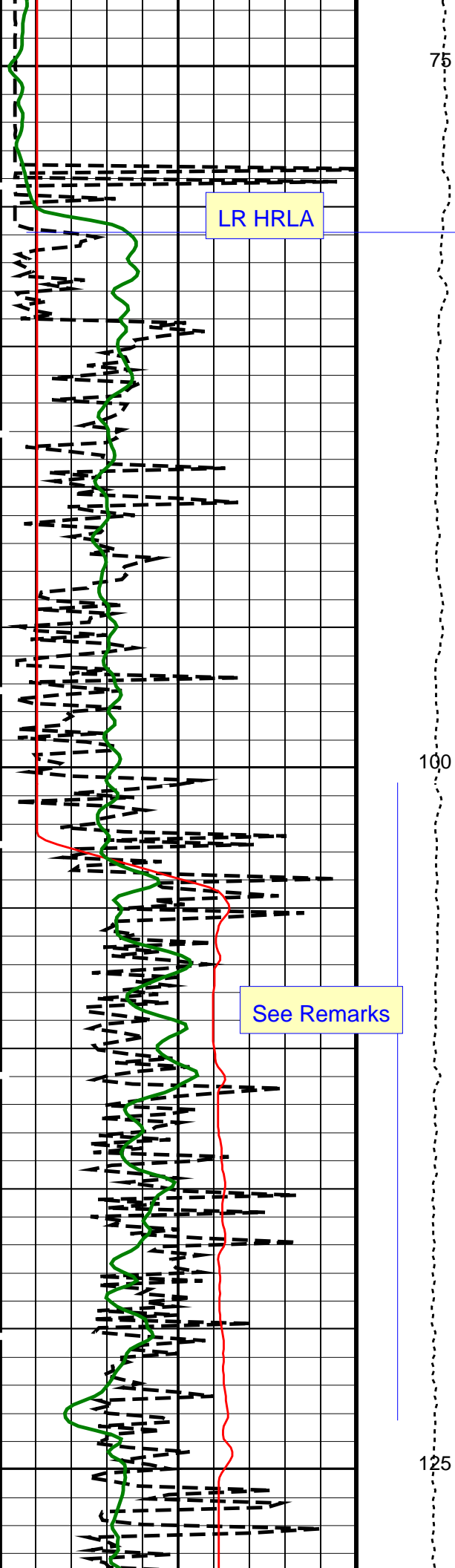


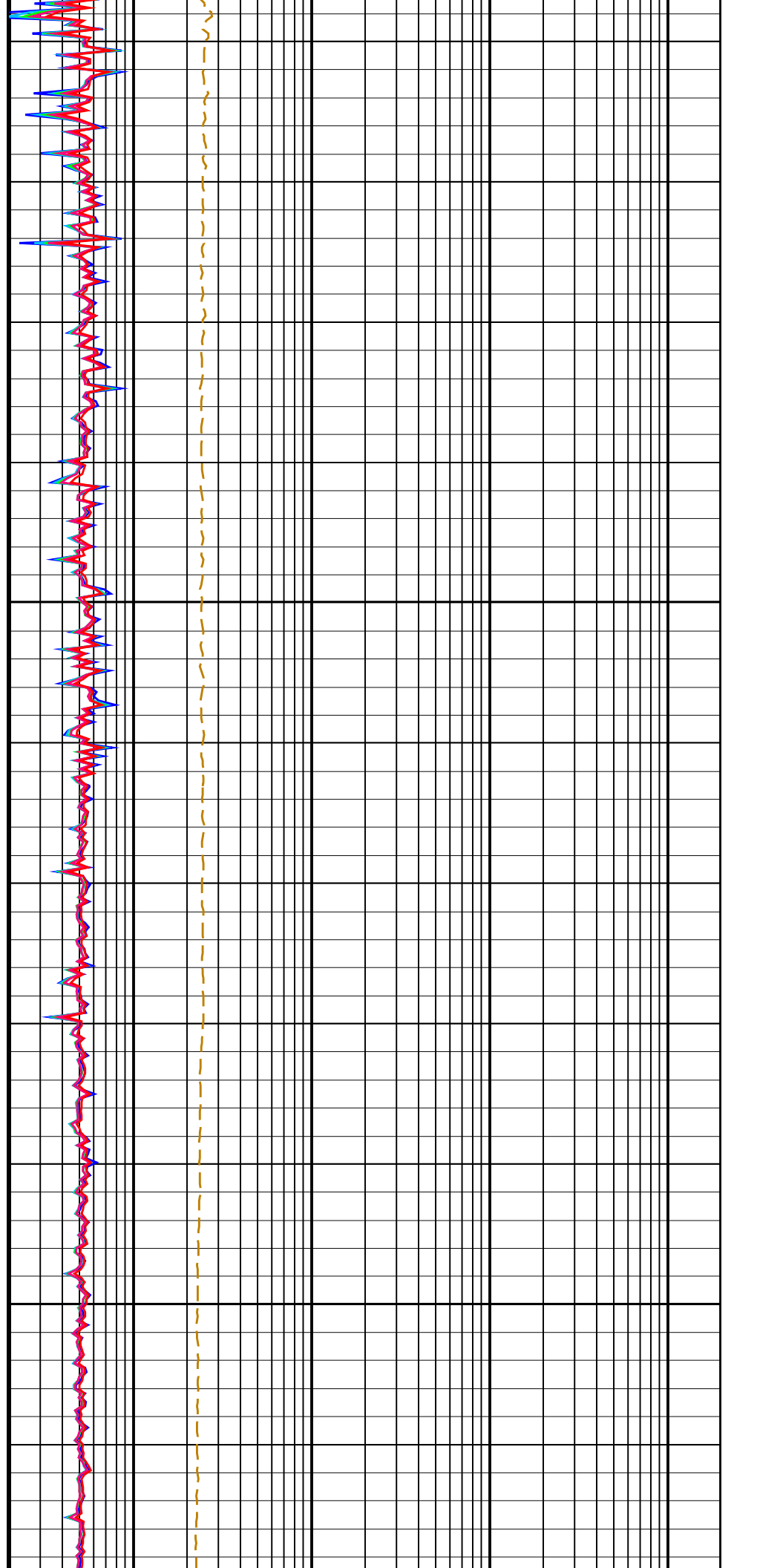
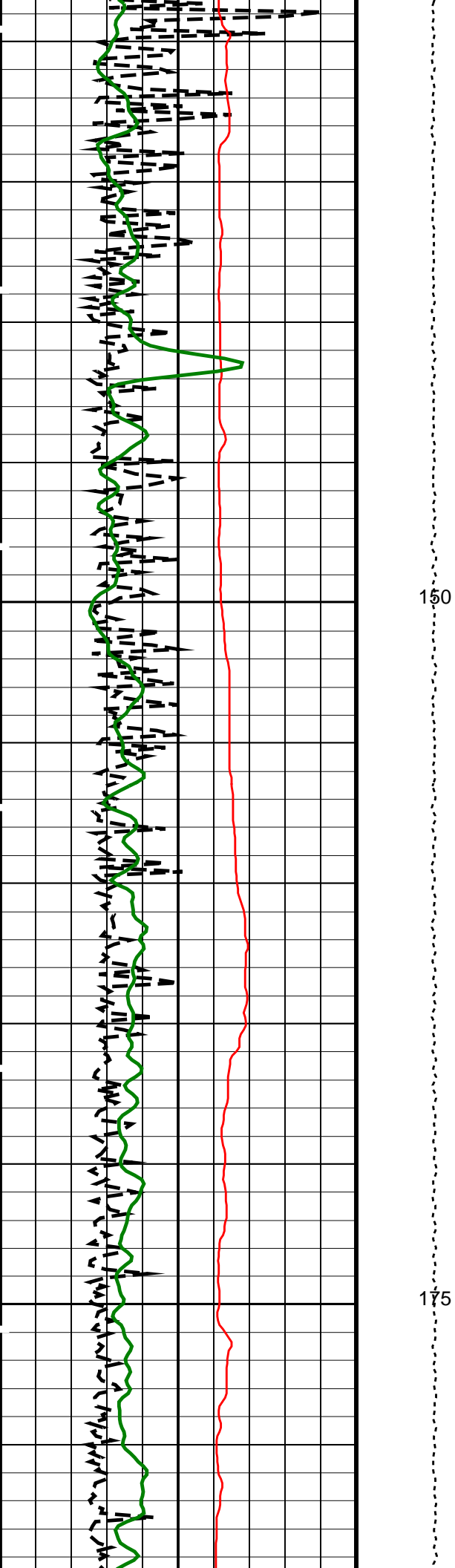


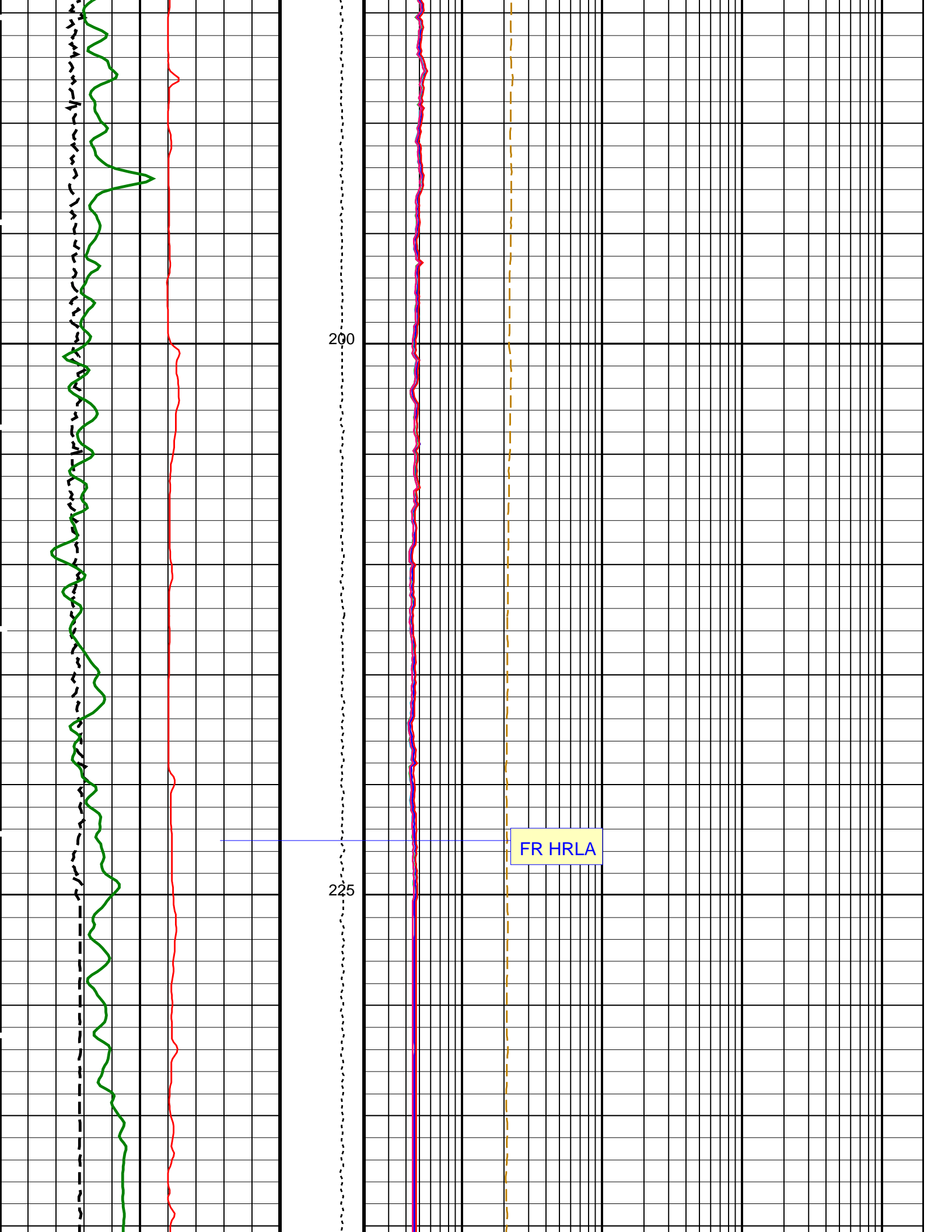
25

50





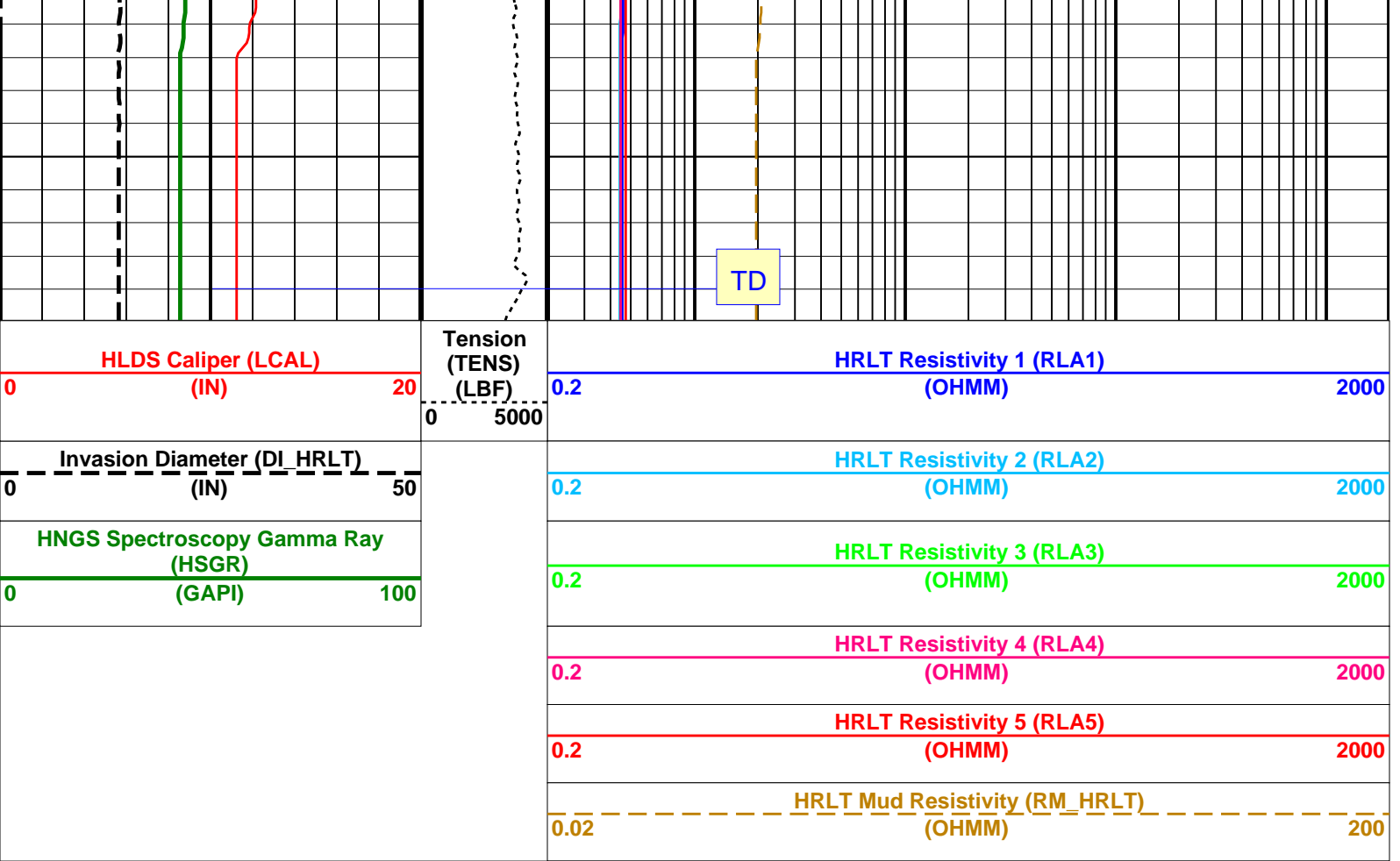




200

225

FR HRLA



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
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	-0.00436195
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	9 DEGC
TPOS	Tool Position	ECCE
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.02343
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01912
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	21 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
KEAC	HRLT K Factor Option	SONDE

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	Centered	
SHT	Surface Hole Temperature	9	DEGC
<b>EDTC-B: Enhanced DTS Cartridge</b>			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	21	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	
SHT	Surface Hole Temperature	9	DEGC
<b>System and Miscellaneous</b>			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.03	G/C3
DO	Depth Offset for Playback	-1793.8	M
PP	Playback Processing	NORMAL	
TD	Total Depth	4627	M

Format: HRLT    Vertical Scale: 1:200    Graphics File Created: 24-Aug-2013 11:13

### OP System Version: 19C0-187

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

#### Input DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_017LUP	FN:17	PRODUCER	23-Aug-2013 11:44	2043.7 M	1749.1 M
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#### Output DLIS Files

DEFAULT	MSS_LDEO_LDL_NGS_036PUP	FN:43	PRODUCER	24-Aug-2013 11:13		
CLIENT	MSS_LDEO_LDL_NGS_036PUC	FN:44	CUSTOMER	24-Aug-2013 11:13		



## Calibrations

MAXIS Field Log

#### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 29-Jul-2013 0:00 Before: 23-Aug-2013 9:28 After: 23-Aug-2013 13:47							
SS Cs Resolution Bkg	9.000	7.700	7.738	7.778	0.03959	1.800	%
LS Cs Resolution Bkg	9.000	7.970	8.060	8.077	0.01745	1.800	%
LSW1 Background	100.0	84.57	84.24	85.03	0.7864	3.000	CPS
LSW2 Background	100.0	75.61	78.21	77.43	-0.7841	3.000	CPS
LSW3 Background	200.0	173.3	175.2	175.9	0.6479	6.000	CPS
LSW4 Background	250.0	214.7	214.7	214.3	-0.4162	7.500	CPS
LSW5 Background	600.0	499.6	499.2	499.1	-0.1175	18.00	CPS
SSW1 Background	100.0	82.62	82.46	80.81	-1.649	3.000	CPS
SSW2 Background	200.0	142.8	141.0	142.5	1.438	6.000	CPS
SSW3 Background	500.0	395.0	396.7	395.2	-1.552	15.00	CPS
SSW4 Background	270.0	213.9	211.5	211.8	0.3634	8.100	CPS
SSW5 Background	200.0	151.4	151.6	151.6	0.01205	6.000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum

Master: 29-Jul-2013 3:09								
LSW1 Aluminum	600.0	491.6	N/A	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	715.0	N/A	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	869.1	N/A	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	437.9	N/A	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	399.4	N/A	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2277	N/A	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6290	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	8825	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3653	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	439.8	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement

Master: 29-Jul-2013 3:02								
LSW1 Iron	400.0	337.2	N/A	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	576.3	N/A	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	764.7	N/A	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	394.4	N/A	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	366.6	N/A	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1667	N/A	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5226	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8022	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3308	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	389.3	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration

Before: 29-Jul-2013 5:20								
HLDS Caliper Small Ring	12.00	N/A	14.88	N/A	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	18.44	N/A	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 29-Jul-2013 20:46	Before: 23-Aug-2013 9:36	After: 23-Aug-2013 13:48						
Na 511 Peak Loc	40.00	39.74	39.56	39.64	0.08041	1.000		
Na 511 Peak Res	15.50	15.31	15.86	14.30	-1.557	2.000	%	
High Voltage	1150	1168	1184	1186	2.590	N/A	V	
Na 1785 Peak Loc	142.6	142.6	142.5	141.5	-0.9723	7.000		
Na 1785 Peak Res	8.500	9.002	8.365	9.140	0.7754	2.000	%	
Temperature	15.50	21.46	33.75	32.32	-1.429	N/A	DEGC	
Na Count Rate	45.00	15.10	12.69	12.31	-0.3842	8.000	CPS	

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 29-Jul-2013 20:46	Before: 23-Aug-2013 9:36	After: 23-Aug-2013 13:48						
Na 511 Peak Loc	40.00	39.58	39.68	39.52	-0.1665	1.000		
Na 511 Peak Res	15.50	16.04	16.60	16.43	-0.1718	2.000	%	
High Voltage	1150	1093	1115	1117	1.288	N/A	V	
Na 1785 Peak Loc	142.6	141.7	142.0	141.2	-0.7971	7.000		
Na 1785 Peak Res	8.500	9.499	8.682	10.26	1.573	2.000	%	
Temperature	15.50	21.65	33.92	33.93	0.01301	N/A	DEGC	
Na Count Rate	45.00	14.93	12.79	12.40	-0.3997	8.000	CPS	

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

Master: 29-Jul-2013 20:46	Before: 23-Aug-2013 9:36	After: 23-Aug-2013 13:48						
Coincidence Count Rate Ratio	1.000	1.015	0.9915	0.9938	0.002254	0.05000		

High Resolution Laterolog Array - B Wellsite Calibration - HRLT M01

Before: 23-Aug-2013 9:34	After: 23-Aug-2013 13:44							
HRLT M0-M1 Voltage Plus - 0	0	N/A	-318.4	-318.8	-0.3806	9.681	UV	
HRLT M0-M1 Voltage Plus - 1	0	N/A	-328.0	-331.3	-3.363	9.681	UV	
HRLT M0-M1 Voltage Plus - 2	0	N/A	-330.8	-333.4	-2.622	9.681	UV	
HRLT M0-M1 Voltage Plus - 3	0	N/A	-335.2	-337.1	-1.884	9.681	UV	
HRLT M0-M1 Voltage Plus - 4	0	N/A	-325.1	-325.9	-0.8045	9.681	UV	
HRLT M0-M1 Voltage Plus - 5	0	N/A	-321.7	-322.2	-0.4986	9.681	UV	
HRLT M0-M1 Voltage Plus - 6	0	N/A	320.2	323.6	3.462	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-Aug-2013 9:34	After: 23-Aug-2013 13:44							
HRLT M1-M2 Voltage Plus - 0	0	N/A	1753	1753	0.8129	53.42	UV	
HRLT M1-M2 Voltage Plus - 1	0	N/A	1809	1826	17.18	53.42	UV	
HRLT M1-M2 Voltage Plus - 2	0	N/A	1818	1831	13.31	53.42	UV	
HRLT M1-M2 Voltage Plus - 3	0	N/A	1841	1850	8.822	53.42	UV	
HRLT M1-M2 Voltage Plus - 4	0	N/A	1784	1787	2.851	53.42	UV	
HRLT M1-M2 Voltage Plus - 5	0	N/A	1766	1767	1.008	53.42	UV	
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1774	-1792	-18.37	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-Aug-2013 9:34	After: 23-Aug-2013 13:44							
HRLT M2-M3 Voltage Plus - 0	0	N/A	1738	1739	0.8749	53.42	UV	
HRLT M2-M3 Voltage Plus - 1	0	N/A	1806	1823	16.74	53.42	UV	
HRLT M2-M3 Voltage Plus - 2	0	N/A	1817	1829	12.74	53.42	UV	



HRLT M2-M3 Voltage Plus - 3	0	N/A	1843	1852	8.862	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1780	1783	2.904	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1763	1764	1.260	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1761	-1779	-17.74	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT A3-A4 Voltage Plus - 0	0	N/A	68320	68380	57.71	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	70810	71510	697.6	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	71490	72030	540.6	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	72800	73170	371.2	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	70290	70430	145.1	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	69610	69700	95.79	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-68020	-68770	-753.3	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT A4-A5 Voltage Plus - 0	0	N/A	68590	68650	63.35	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	71180	71870	690.3	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	71850	72400	553.7	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	73130	73520	384.8	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	70570	70720	148.4	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	69890	69970	81.55	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-68400	-69150	-745.4	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT A5-A6 Voltage Plus - 0	0	N/A	68480	68560	77.77	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	70910	71600	693.1	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	71610	72150	546.3	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	72930	73320	384.1	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70440	70590	146.4	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	69780	69850	75.08	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-68140	-68860	-721.2	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT Torpedo-M0 Voltage - 0	0	N/A	-68160	-68240	-75.48	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-71240	-71930	-689.3	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-71910	-72450	-535.7	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-73230	-73610	-379.7	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-70640	-70790	-148.1	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-69940	-70020	-84.69	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	68400	69130	729.8	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68160	-68230	-73.09	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-71220	-71900	-685.9	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-71890	-72430	-536.5	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-73210	-73590	-381.9	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70620	-70770	-150.6	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-69930	-70020	-82.22	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	68370	69110	747.9	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT Source Current Plus - 0	0	N/A	284.3	284.6	0.2730	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-Aug-2013 9:34 After: 23-Aug-2013 13:44

HRLT Vertical Voltage PI - 0	0	N/A	-321.0	-321.3	-0.2998	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-323.3	-326.5	-3.136	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-324.9	-327.4	-2.536	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-327.4	-329.1	-1.692	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-314.5	-315.1	-0.6566	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-326.2	-326.5	-0.2810	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	328.4	331.9	3.458	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	322.7	322.7	0	9.681	UV

Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration								
Before: 23-Aug-2013 9:25								
EDTC Z-Axis Acceleration	9.810	N/A	9.753	N/A	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration								
Before: 23-Aug-2013 9:29								
Gamma Ray (Jig – Bkg)	184.4	N/A	184.4	N/A	N/A	N/A	16.77	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	N/A	15.00	GAPI

Hostile Litho-Density Sonde / Equipment Identification			
Primary Equipment:			
Hostile Litho Density Sonde	HLDS – D	35	
Hostile Litho Density High Voltage	HLDV – D	35	
Gamma Source Radioactive	GSR – Z	8113	
Auxiliary Equipment:			
Hostile Litho Density Pad	HLDP – C	35	
Hostile Litho Density High Voltage Housi	HEH – H	35	

Hostile Litho-Density Sonde Wellsite Calibration								
Background Measurement								
Phase	SS Cs Resolution Bkg %	Value	Phase	LS Cs Resolution Bkg %	Value	Phase	LSW1 Background CPS	Value
Master		7.700	Master		7.970	Master		84.57
Before		7.738	Before		8.060	Before		84.24
After		7.778	After		8.077	After		85.03
	7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (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		75.61	Master		173.3	Master		214.7
Before		78.21	Before		175.2	Before		214.7
After		77.43	After		175.9	After		214.3
	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		499.6	Master		82.62	Master		142.8
Before		499.2	Before		82.46	Before		141.0
After		499.1	After		80.81	After		142.5
	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		395.0	Master		213.9	Master		151.4
Before		396.7	Before		211.5	Before		151.6
After		395.2	After		211.8	After		151.6
	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: 29-Jul-2013 0:00			Before: 23-Aug-2013 9:28			After: 23-Aug-2013 13:47		

Litho-Density Spectroscopy Cartridge – B / Equipment Identification			
Primary Equipment:			
LDSC Cartridge	LDSC – B	326	
Auxiliary Equipment:			
LDSC Housing	LDSh – A	303	

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification			
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Primary Equipment: HNGC Cartridge	HNGC - B	300
Auxiliary Equipment: HNGC Housing	HNGH - A	115

Hostile Natural Gamma Ray Sonde / Equipment Identification

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

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.74	Master		15.31	Master		1168
Before		39.56	Before		15.86	Before		1184
After		39.64	After		14.30	After		1186
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		142.6	Master		9.002	Master		21.46
Before		142.5	Before		8.365	Before		33.75
After		141.5	After		9.140	After		32.32
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		15.10						
Before		12.69						
After		12.31						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							




Master: 29-Jul-2013 20:46      Before: 23-Aug-2013 9:36      After: 23-Aug-2013 13:48

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

















Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.58	Master		16.04	Master		1093
Before		39.68	Before		16.60	Before		1115
After		39.52	After		16.43	After		1117
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		141.7	Master		9.499	Master		21.65
Before		142.0	Before		8.682	Before		33.92
After		141.2	After		10.26	After		33.93
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		14.93						
Before		12.79						
After		12.40						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							






Master: 29-Jul-2013 20:46      Before: 23-Aug-2013 9:36      After: 23-Aug-2013 13:48

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.015
Before		0.9915
After		0.9938
	0.9500 (Minimum)      1.000 (Nominal)      1.050 (Maximum)	
Master: 29-Jul-2013 20:46		
Before: 23-Aug-2013 9:36		
After: 23-Aug-2013 13:48		

### High Resolution Laterolog Array – B / Equipment Identification

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

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT M01							
Idx	Phase	HRLT M0–M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-318.4	-322.7	-280.7	-379.7	
	After		-318.8				
1	Before		-328.0	-322.7	-280.7	-379.7	
	After		-331.3				
2	Before		-330.8	-322.7	-280.7	-379.7	
	After		-333.4				
3	Before		-335.2	-322.7	-280.7	-379.7	
	After		-337.1				
4	Before		-325.1	-322.7	-280.7	-379.7	
	After		-325.9				
5	Before		-321.7	-322.7	-280.7	-379.7	
	After		-322.2				
6	Before		320.2	322.7	379.7	280.7	
	After		323.6				
7	Before		-322.7	-322.7	-280.7	-379.7	
	After		-322.7				
		(Minimum)      (Nominal)      (Maximum)					
Before: 23-Aug-2013 9:34							
After: 23-Aug-2013 13:44							

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT M12							
Idx	Phase	HRLT M1–M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		1753	1781	2095	1549	
	After		1753				
1	Before		1809	1781	2095	1549	
	After		1826				
	Before		1818				

2	After		1831	1781	2095	1549
3	Before		1841	1781	2095	1549
	After		1850			
4	Before		1784	1781	2095	1549
	After		1787			
5	Before		1766	1781	2095	1549
	After		1767			
6	Before		-1774	-1781	-1549	-2095
	After		-1792			
7	Before		1781	1781	2095	1549
	After		1781			
(Minimum) (Nominal) (Maximum)						

Before: 23-Aug-2013 9:34

After: 23-Aug-2013 13:44

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2–M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1738	1781	2095	1549
	After		1739			
1	Before		1806	1781	2095	1549
	After		1823			
2	Before		1817	1781	2095	1549
	After		1829			
3	Before		1843	1781	2095	1549
	After		1852			
4	Before		1780	1781	2095	1549
	After		1783			
5	Before		1763	1781	2095	1549
	After		1764			
6	Before		-1761	-1781	-1549	-2095
	After		-1779			
7	Before		1781	1781	2095	1549
	After		1781			
(Minimum) (Nominal) (Maximum)						

Before: 23-Aug-2013 9:34

After: 23-Aug-2013 13:44

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V34						
Idx	Phase	HRLT A3–A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68320	70000	82360	60900
	After		68380			
1	Before		70810	70000	82360	60900
	After		71510			
2	Before		71490	70000	82360	60900
	After		72030			
3	Before		72800			

Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
3	Before		73170	70000	82360	60900
	After		70290			
4	Before		70430	70000	82360	60900
	After		69610			
5	Before		69700	70000	82360	60900
	After		-68020			
6	Before		-68770	-70000	-60900	-82360
	After		70000			
7	Before		70000	70000	82360	60900
	After		70000			
			(Minimum)	(Nominal)	(Maximum)	
Before: 23-Aug-2013 9:34						
After: 23-Aug-2013 13:44						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68590	70000	82360	60900
	After		68650			
1	Before		71180	70000	82360	60900
	After		71870			
2	Before		71850	70000	82360	60900
	After		72400			
3	Before		73130	70000	82360	60900
	After		73520			
4	Before		70570	70000	82360	60900
	After		70720			
5	Before		69890	70000	82360	60900
	After		69970			
6	Before		-68400	-70000	-60900	-82360
	After		-69150			
7	Before		70000	70000	82360	60900
	After		70000			
			(Minimum)	(Nominal)	(Maximum)	
Before: 23-Aug-2013 9:34						
After: 23-Aug-2013 13:44						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5-A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68480	70000	82360	60900
	After		68560			
1	Before		70910	70000	82360	60900
	After		71600			
2	Before		71610	70000	82360	60900
	After		72150			
3	Before		72930	70000	82360	60900
	After		73320			
4	Before		70440	70000	82360	60900
	After		70440			
			(Minimum)	(Nominal)	(Maximum)	

4	Before		70590	70000	82360	60900
5	Before		69780	70000	82360	60900
	After		69850			
6	Before		-68140	-70000	-60900	-82360
	After		-68860			
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		-68160	-70000	-60900	-82360
	After		-68240			
1	Before		-71240	-70000	-60900	-82360
	After		-71930			
2	Before		-71910	-70000	-60900	-82360
	After		-72450			
3	Before		-73230	-70000	-60900	-82360
	After		-73610			
4	Before		-70640	-70000	-60900	-82360
	After		-70790			
5	Before		-69940	-70000	-60900	-82360
	After		-70020			
6	Before		68400	70000	82360	60900
	After		69130			
7	Before		-70000	-70000	-60900	-82360
	After		-70000			
			(Minimum)	(Nominal)	(Maximum)	

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After: 23-Aug-2013 13:44

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT VBD						
Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68160	-70000	-60900	-82360
	After		-68230			
1	Before		-71220	-70000	-60900	-82360
	After		-71900			
2	Before		-71890	-70000	-60900	-82360
	After		-72430			
3	Before		-73210	-70000	-60900	-82360
	After		-73590			
4	Before		-70620	-70000	-60900	-82360
	After		-70770			
5	Before		-69920	-70000	-60900	-82360
	After		-70020			

5	Before		-70000	-70000	-60900	-82360
	After		-70020			
6	Before		68370	70000	82360	60900
	After		69110			
7	Before		-70000	-70000	-60900	-82360
	After		-70000			
			(Minimum)	(Nominal)	(Maximum)	





Before: 23-Aug-2013 9:34  
After: 23-Aug-2013 13:44

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.3	284.0	334.1	247.0
	After		284.6			
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-Aug-2013 9:34  
After: 23-Aug-2013 13:44

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-321.0	-322.7	-280.7	-379.7
	After		-321.3			
1	Before		-323.3	-322.7	-280.7	-379.7
	After		-326.5			
2	Before		-324.9	-322.7	-280.7	-379.7
	After		-327.4			
3	Before		-327.4	-322.7	-280.7	-379.7
	After		-329.1			
4	Before		-314.5	-322.7	-280.7	-379.7
	After		-315.1			
5	Before		-326.2	-322.7	-280.7	-379.7
	After		-326.5			
6	Before		-328.4	-322.7	-280.7	-379.7
	After		-328.4			




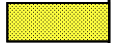


6	Before		328.4	322.7	379.7	280.7
	After		331.9			
7	Before		-322.7	-322.7	-280.7	-379.7
	After		-322.7			
			(Minimum)	(Nominal)	(Maximum)	
Before: 23-Aug-2013 9:34						
After: 23-Aug-2013 13:44						

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		9.753	
		9.610	10.01
		(Minimum)	(Maximum)
Before: 23-Aug-2013 9:25			

Enhanced DTS Cartridge Wellsite Calibration											
Detector Calibration											
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value			
Before		10.48	Before		184.4	Before		165.0			
	0	120.0		167.7	201.2		150.0	180.0			
	(Minimum)	(Maximum)		(Minimum)	(Maximum)		(Minimum)	(Maximum)			
Before: 23-Aug-2013 9:29											

Company: **Lamont Doherty Earth Observatory**

**Schlumberger**

Well: **Expedition 346, Site U1423B**

Field: **Asian Monsoon**

Rig: **JOIDES Resolution**

Country: **USA**

HRLA Resistivity