

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

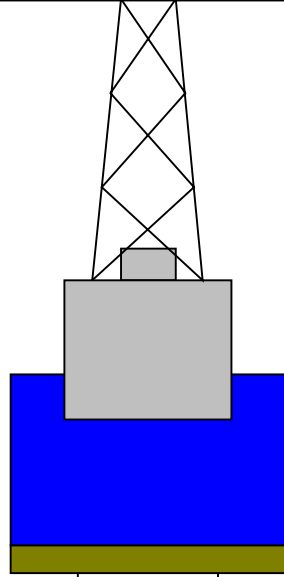
Kelly Bushing Elevation
Derrick Floor Elevation

Mean Sea Level

-655

-655

-645



4.1



0

3.80

102.2

9.875

990

Sea Floor

Open Hole

Total Depth

Input DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_027LUP	FN:21	PRODUCER	02-Jan-2012 03:40	1220.7 M	643.0 M
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Output DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_030PUP	FN:25	PRODUCER	02-Jan-2012 06:00	566.9 M	-11.0 M
BACKUPDLIS	LDL_APS_NGS_HRLA_030PUP	FN:26	PRODUCER	02-Jan-2012 06:00	566.9 M	-11.0 M

OP System Version: 19C0-187

HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

PIP SUMMARY

Time Mark Every 60 S

HRLT True Resistivity (RT_HRLT)		
0.2	(OHMM)	20

HRLT Resistivity 1 (RLA1)		
0.2	(OHMM)	20

HRLT Resistivity 2 (RLA2)		
0.2	(OHMM)	20

HRLT Resistivity 3 (RLA3)		
0.2	(OHMM)	20

HLDS HR Bulk Density Correction (HBDC)

Main Log

Sea Floor Depth Reference

HNGS Spectroscopy Gamma Ray
(HSGR)
(GAPI) 75

0 10000 0

Calibrated
Downhole
Force
(CDF)
(LBF)

HRLT Resistivity 5 (RLA5)
(OHMM) 20

HLDS HR Bulk Density (HROM)
(G/C3) 4

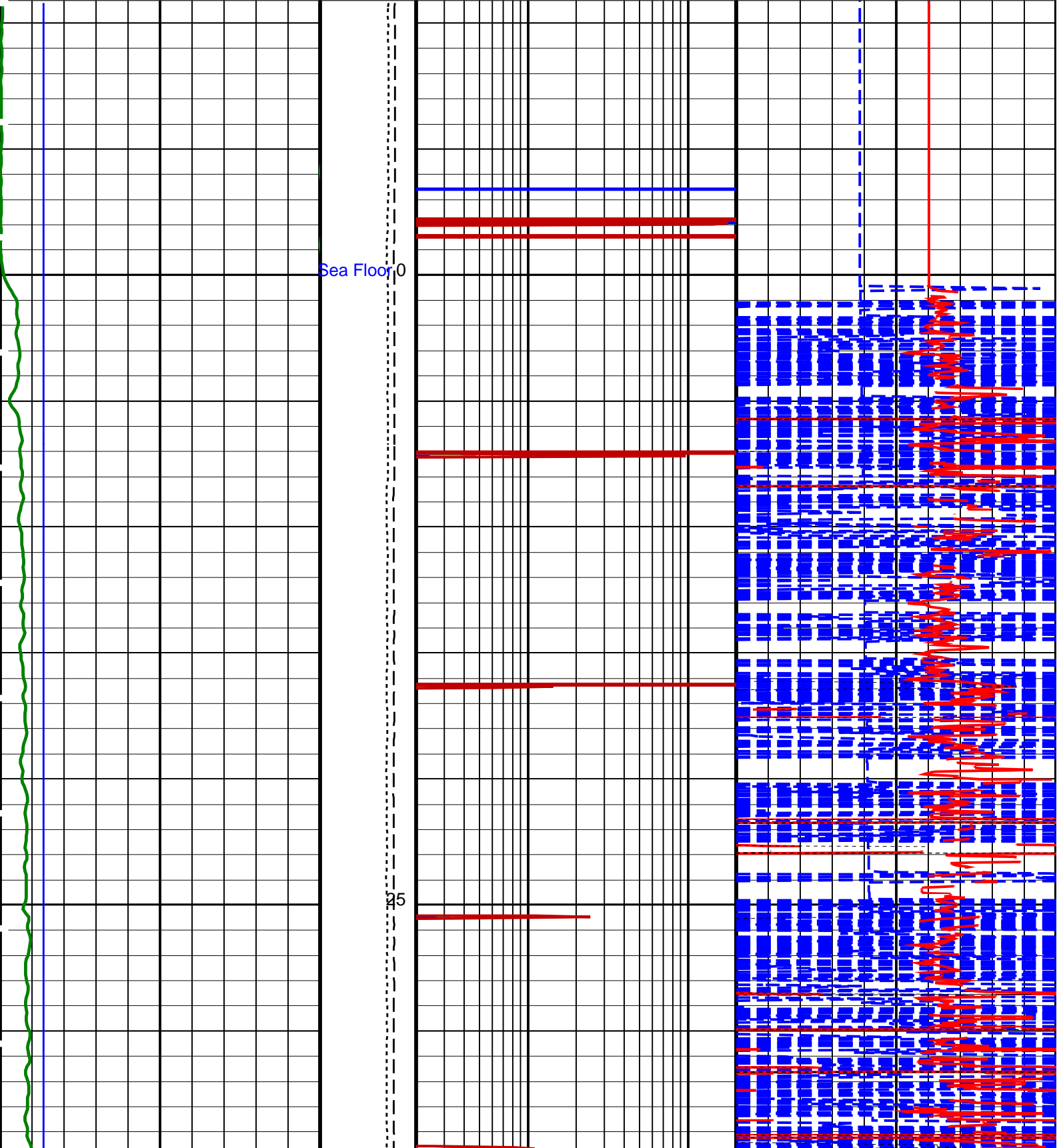
HLDS Caliper (LCAL)
(IN) 20

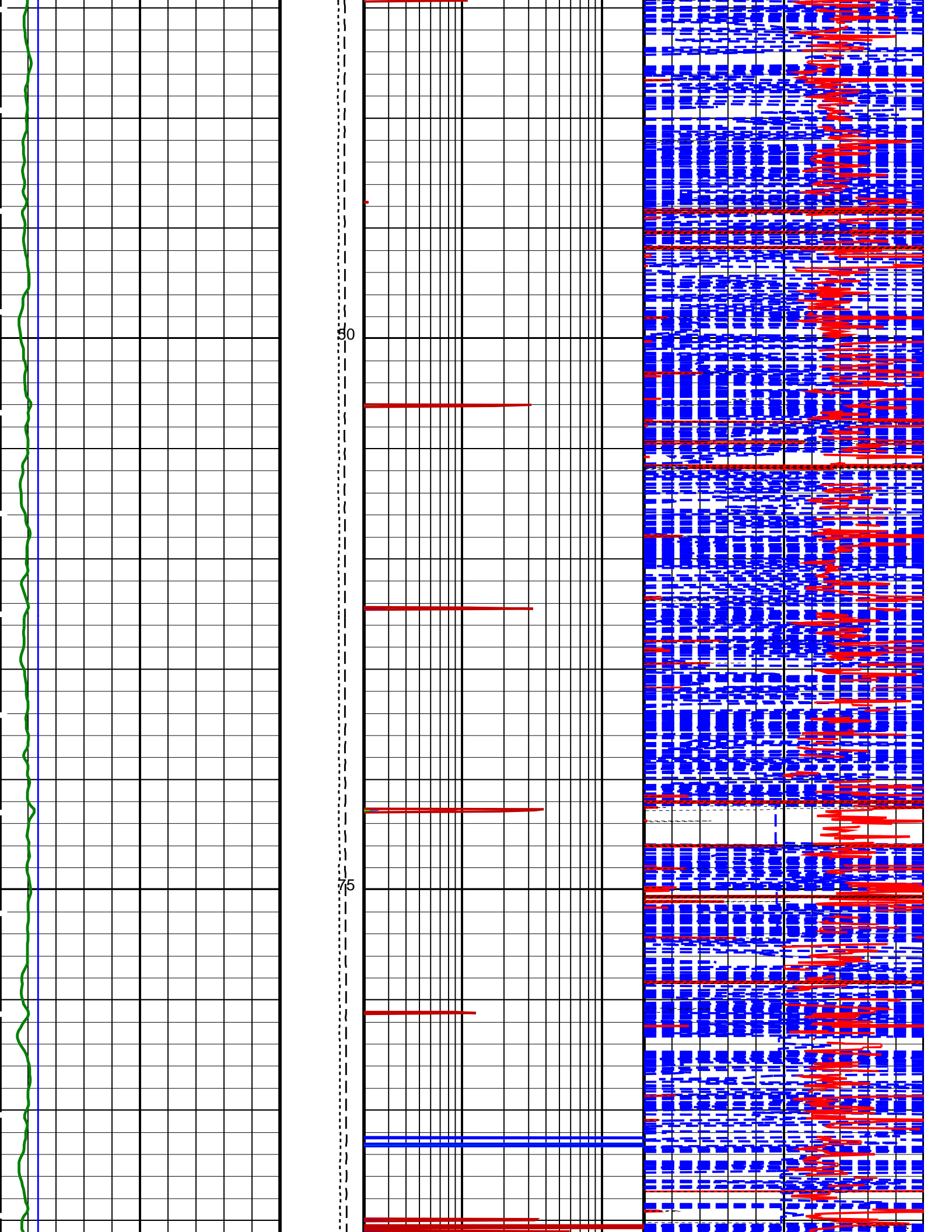
0 10000 0

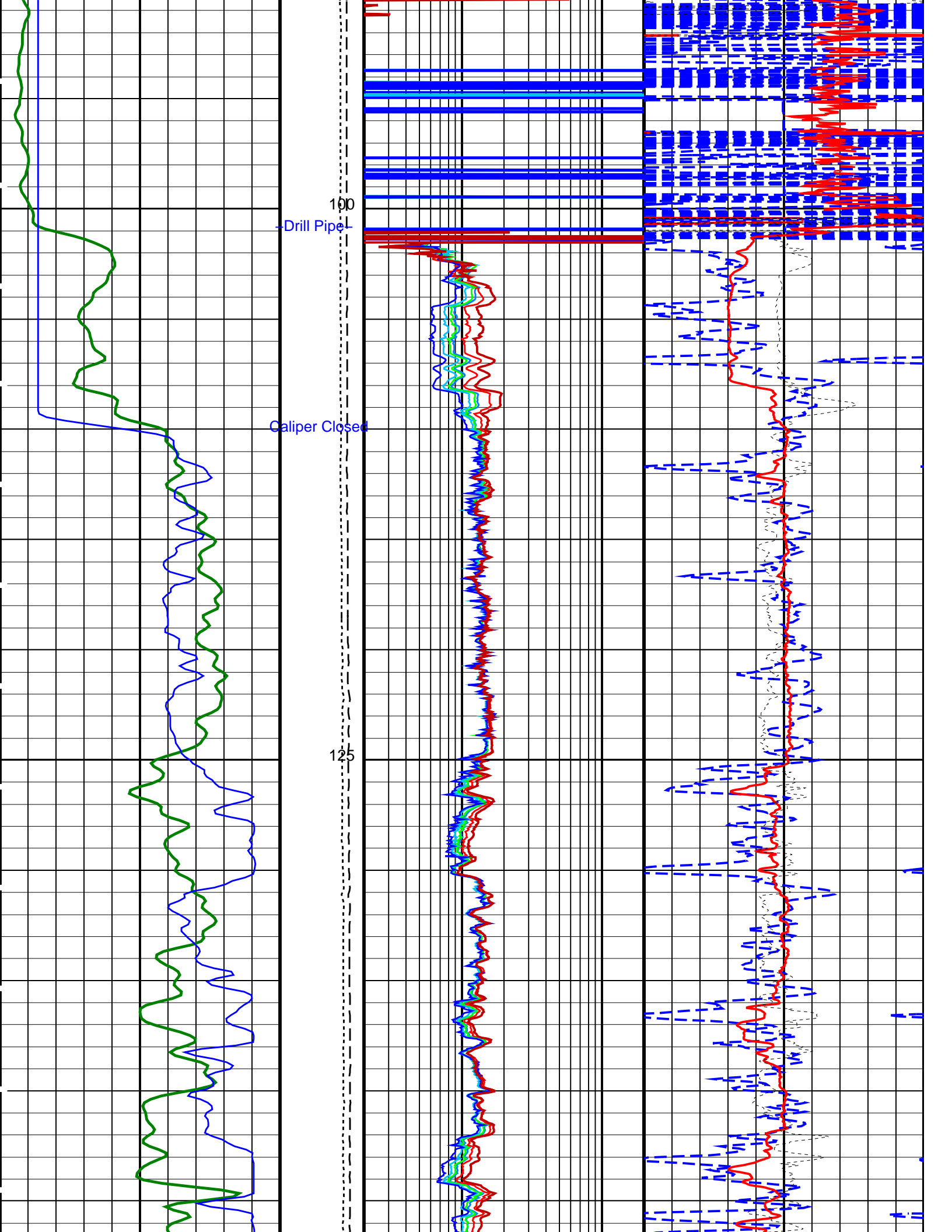
Tension
(TENS)
(LBF)

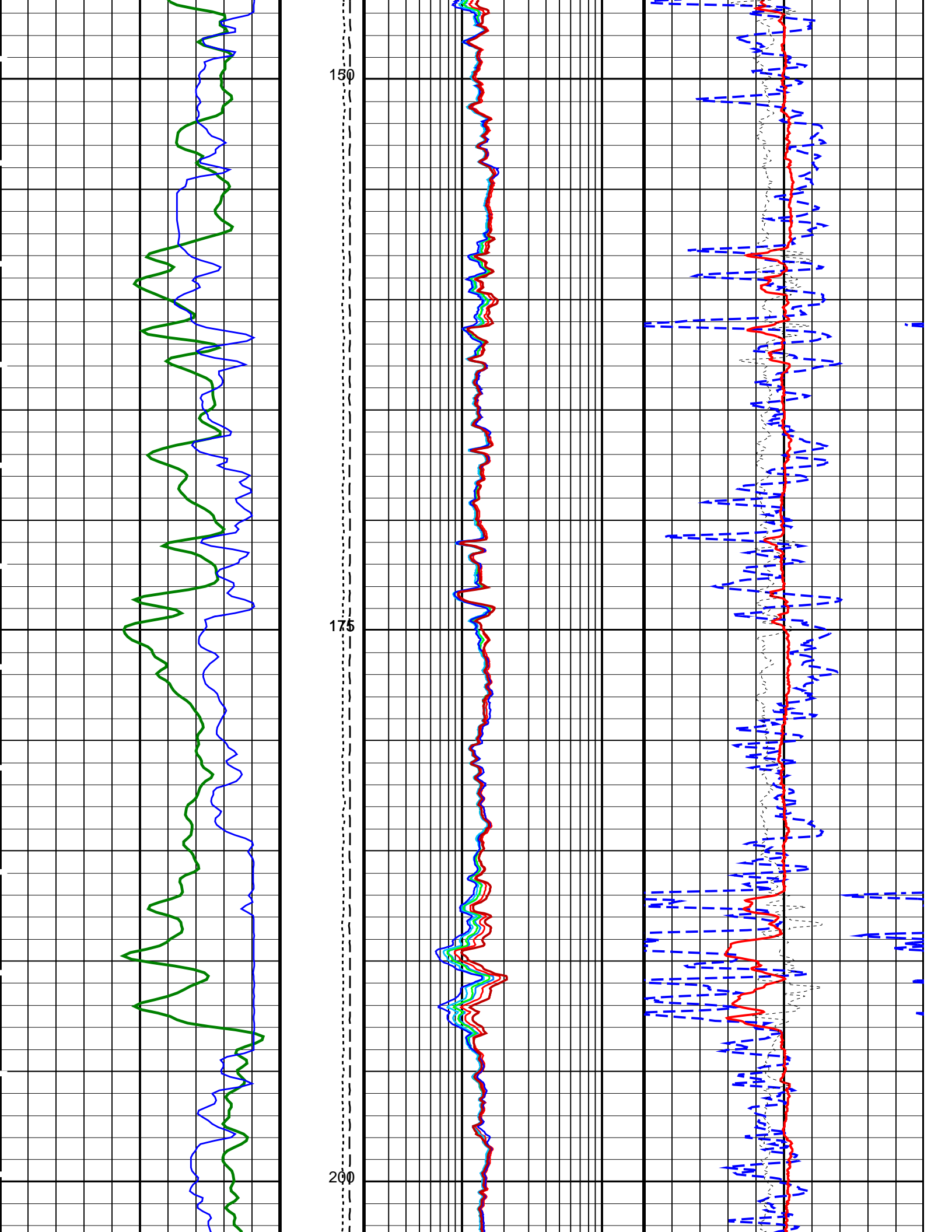
HRLT Resistivity 4 (RLA4)
(OHMM) 20

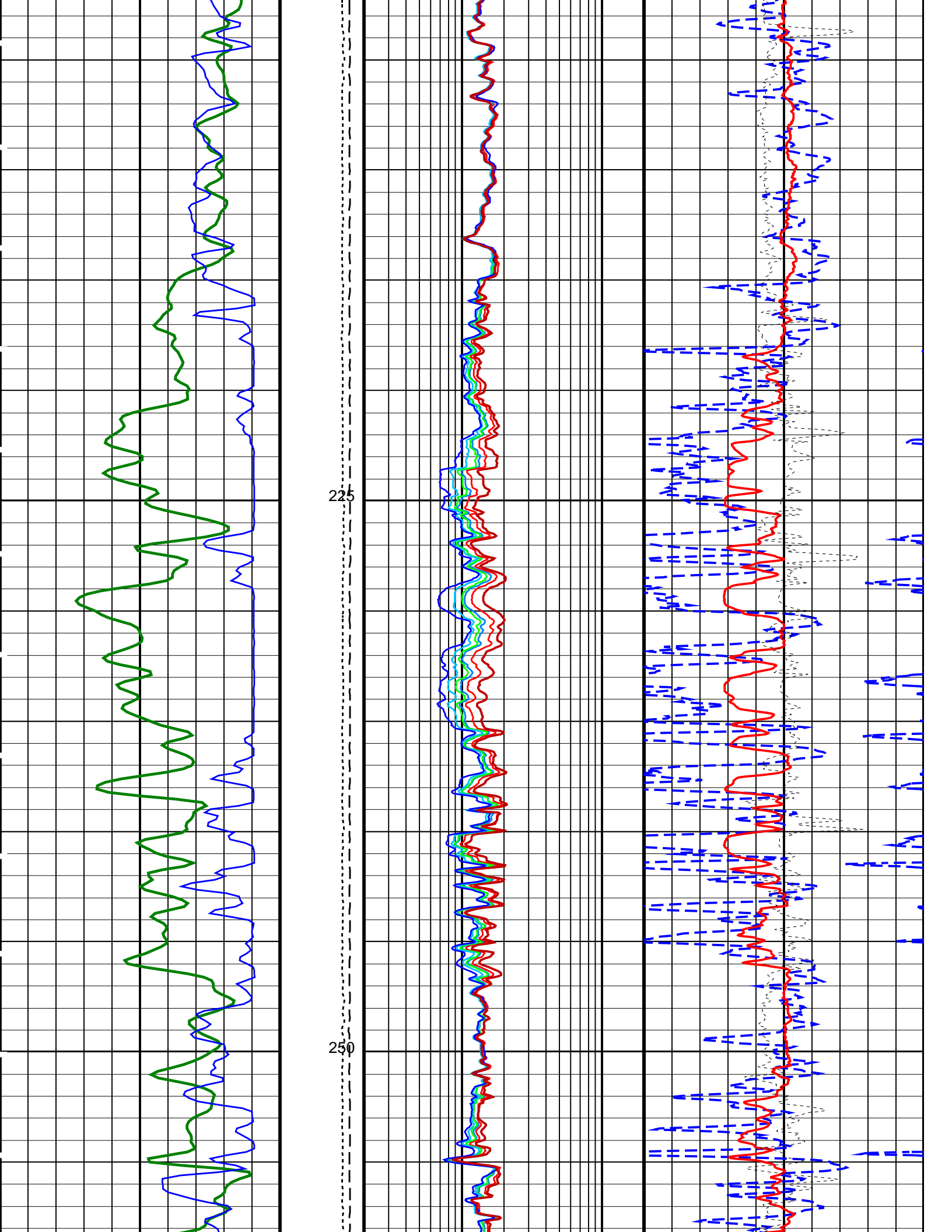
APS HR Near/Far Corrected Limestone
Porosity (HFLC)
(PU) 0

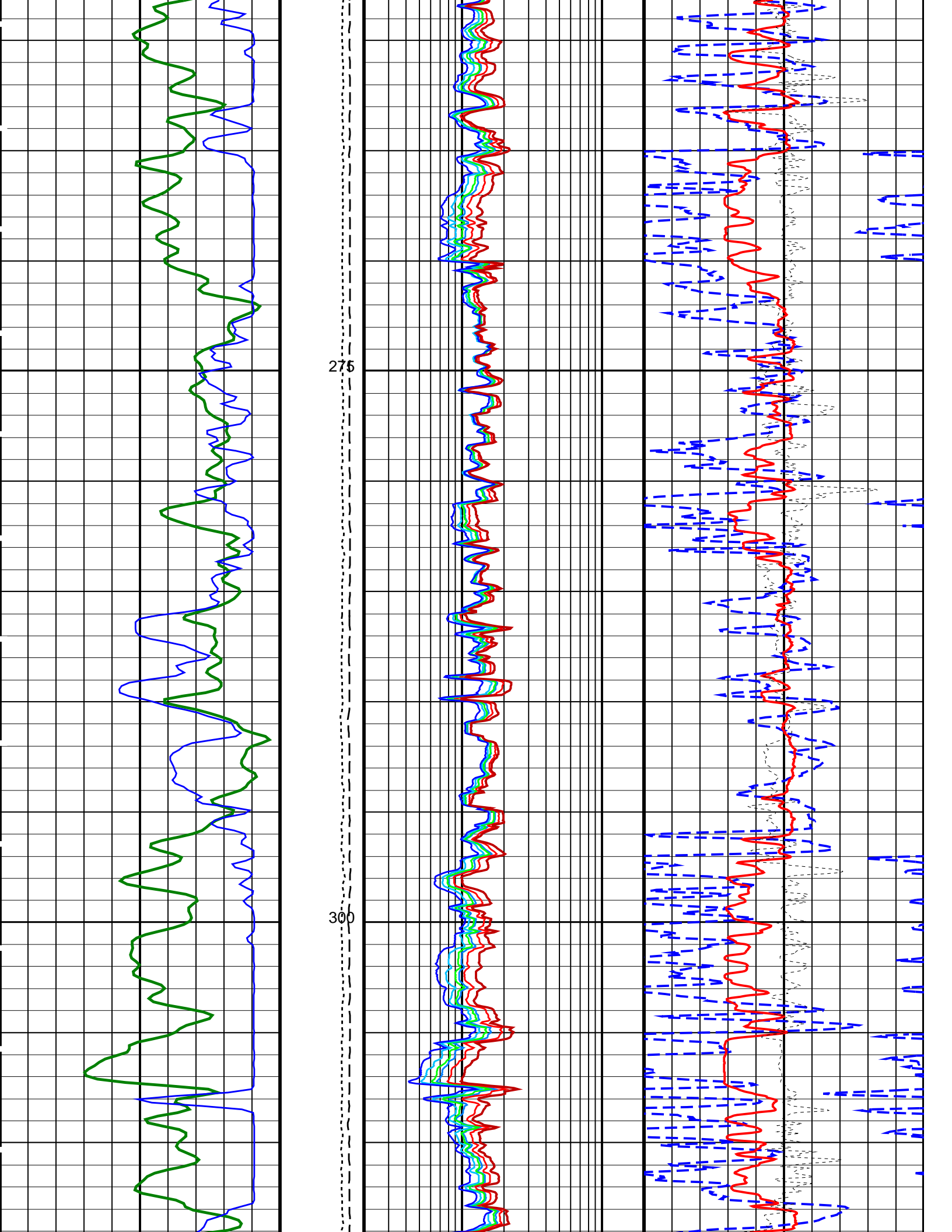


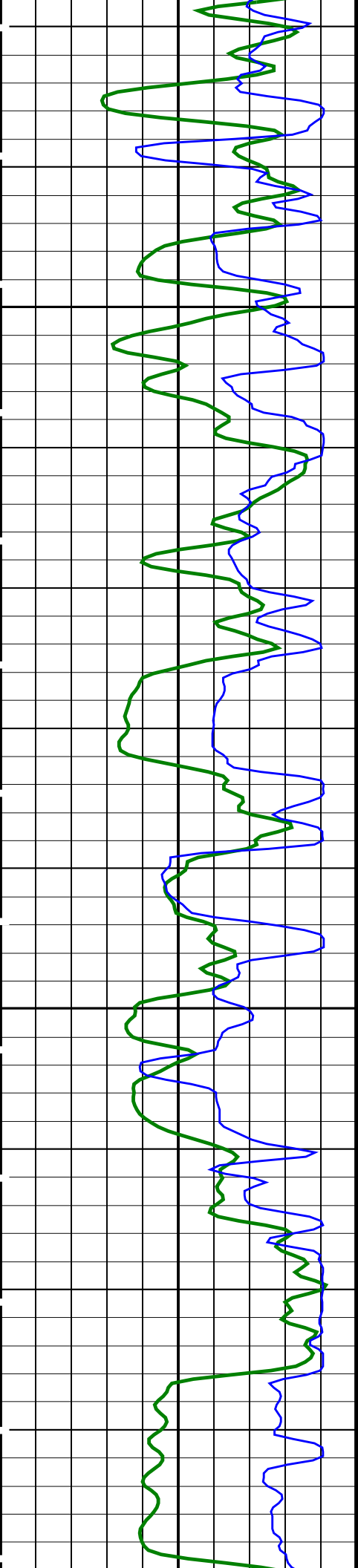






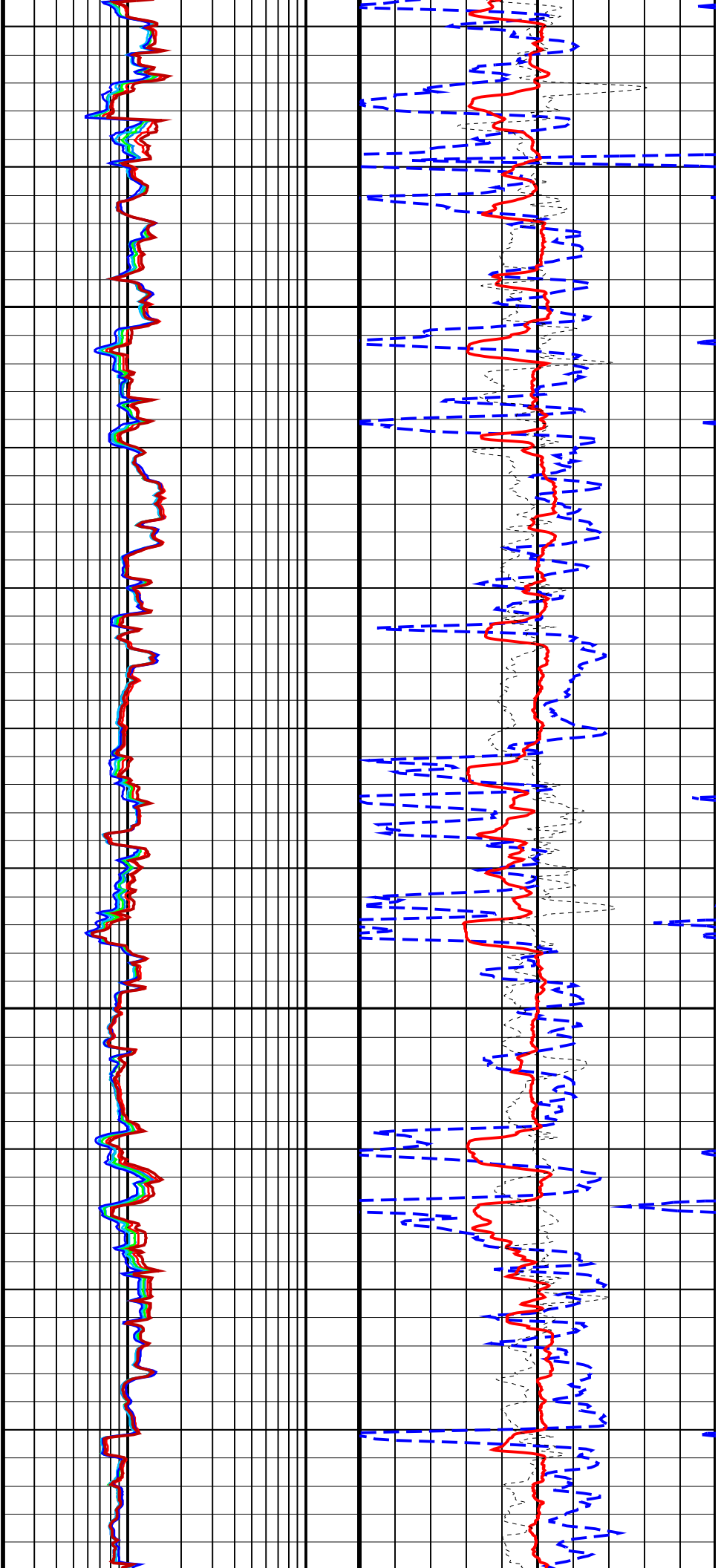


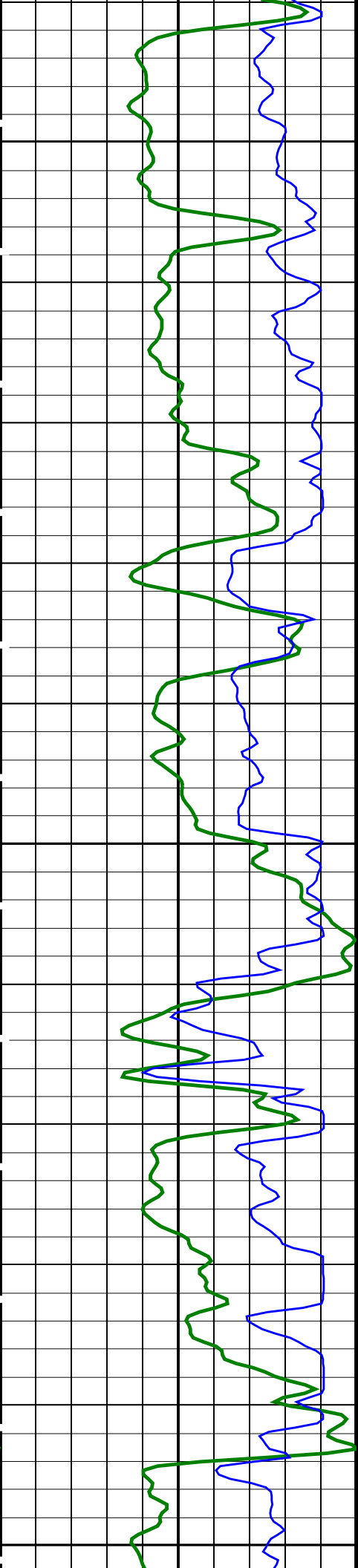




325

350

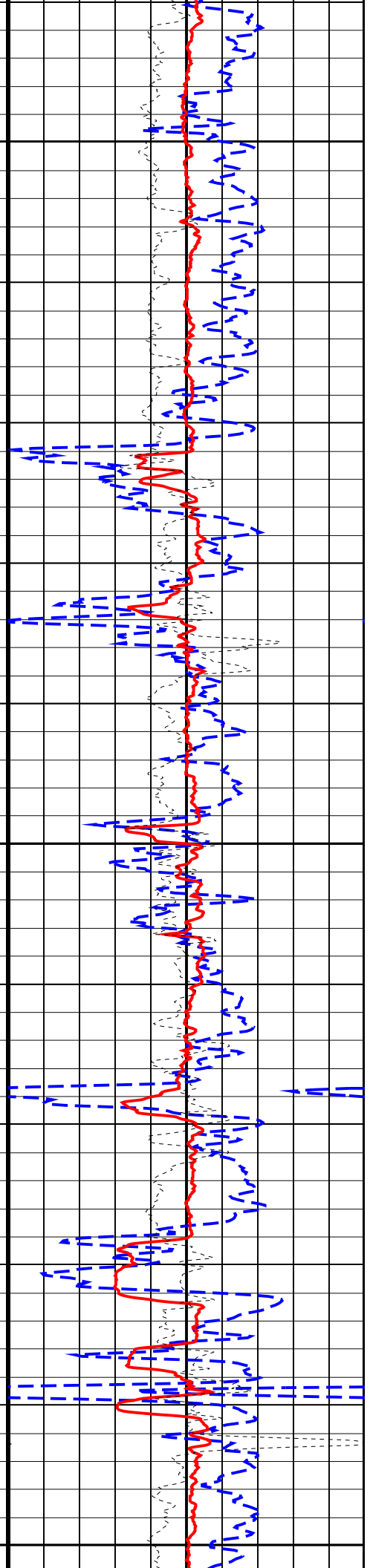
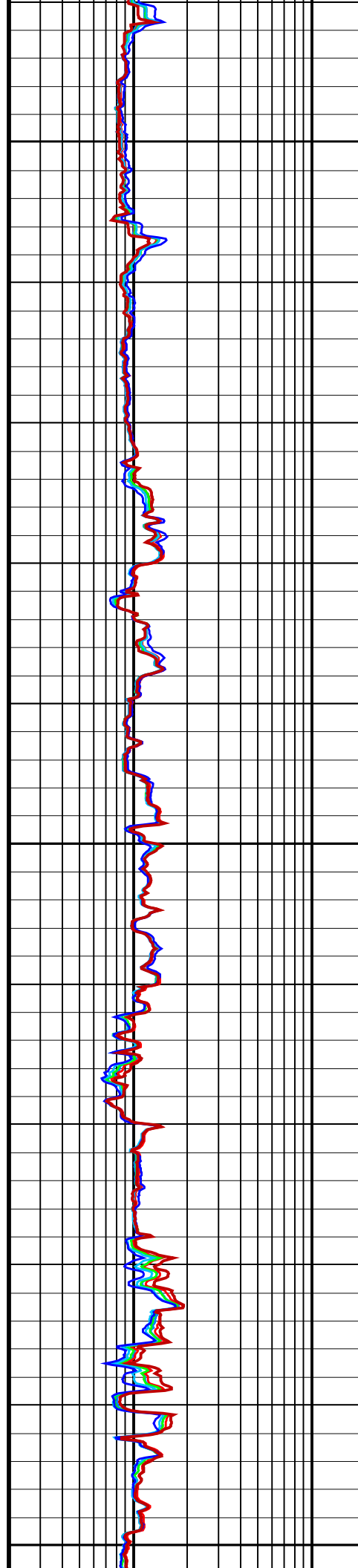


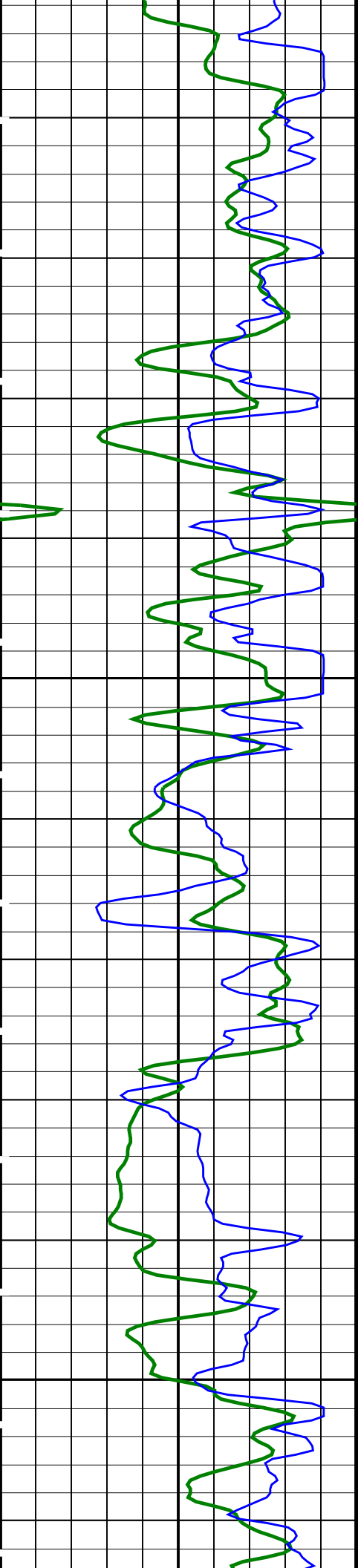


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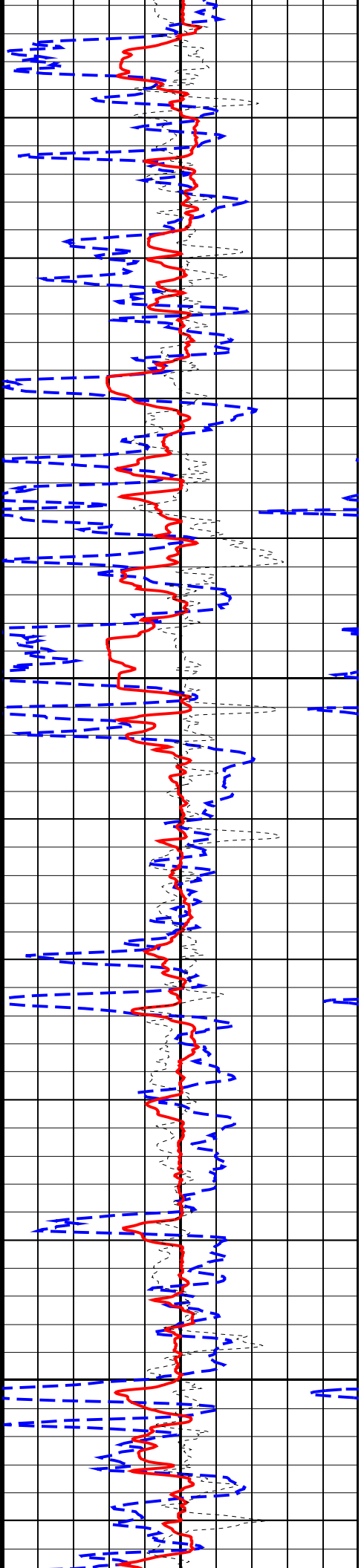
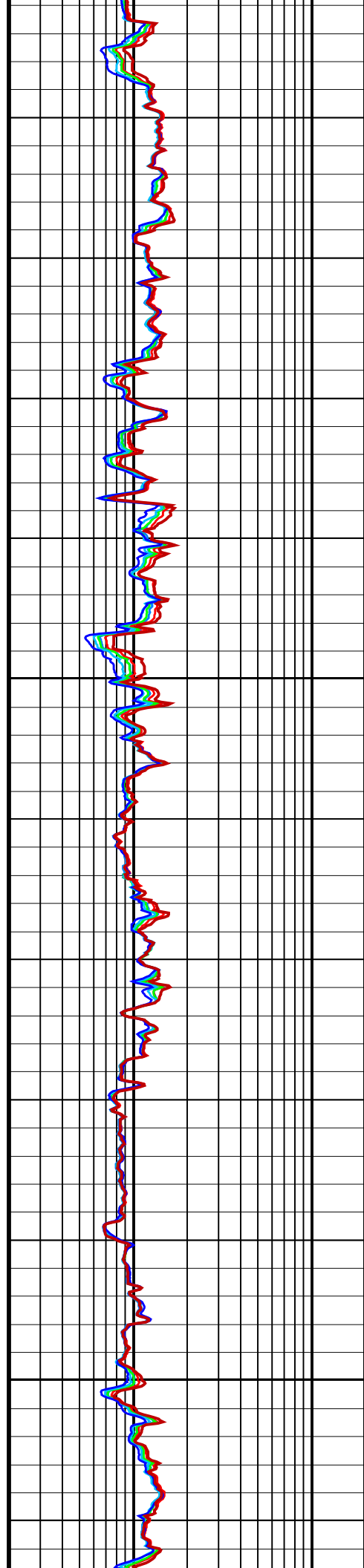
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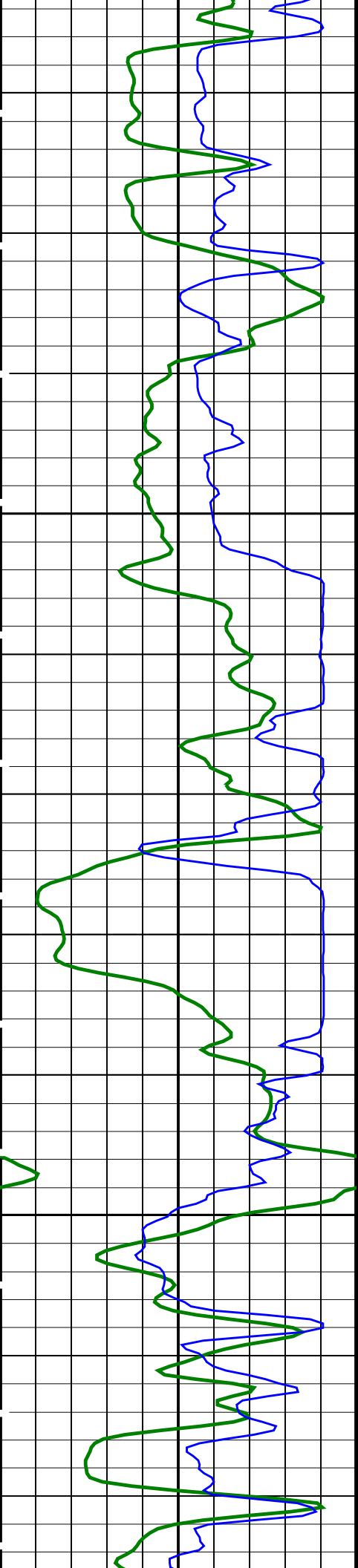
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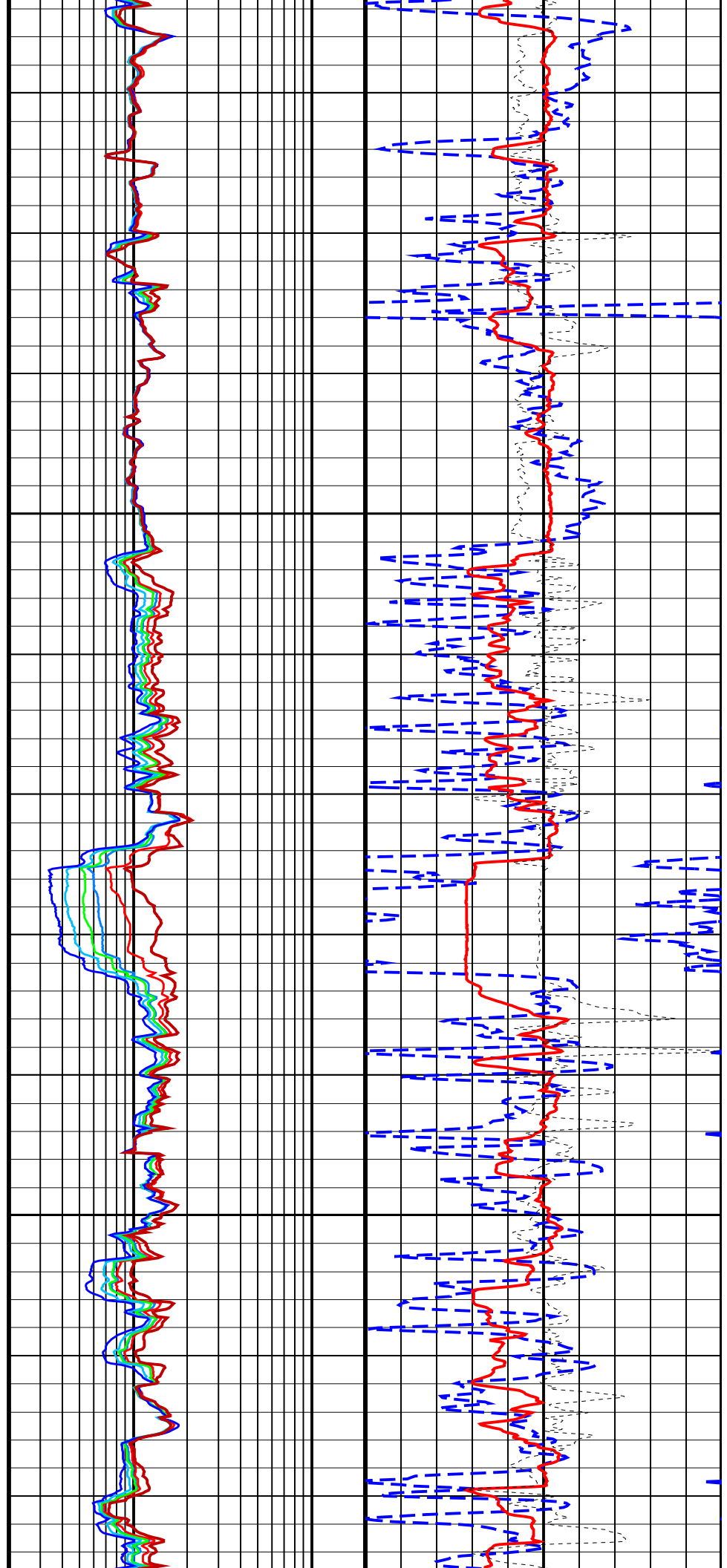
450
475

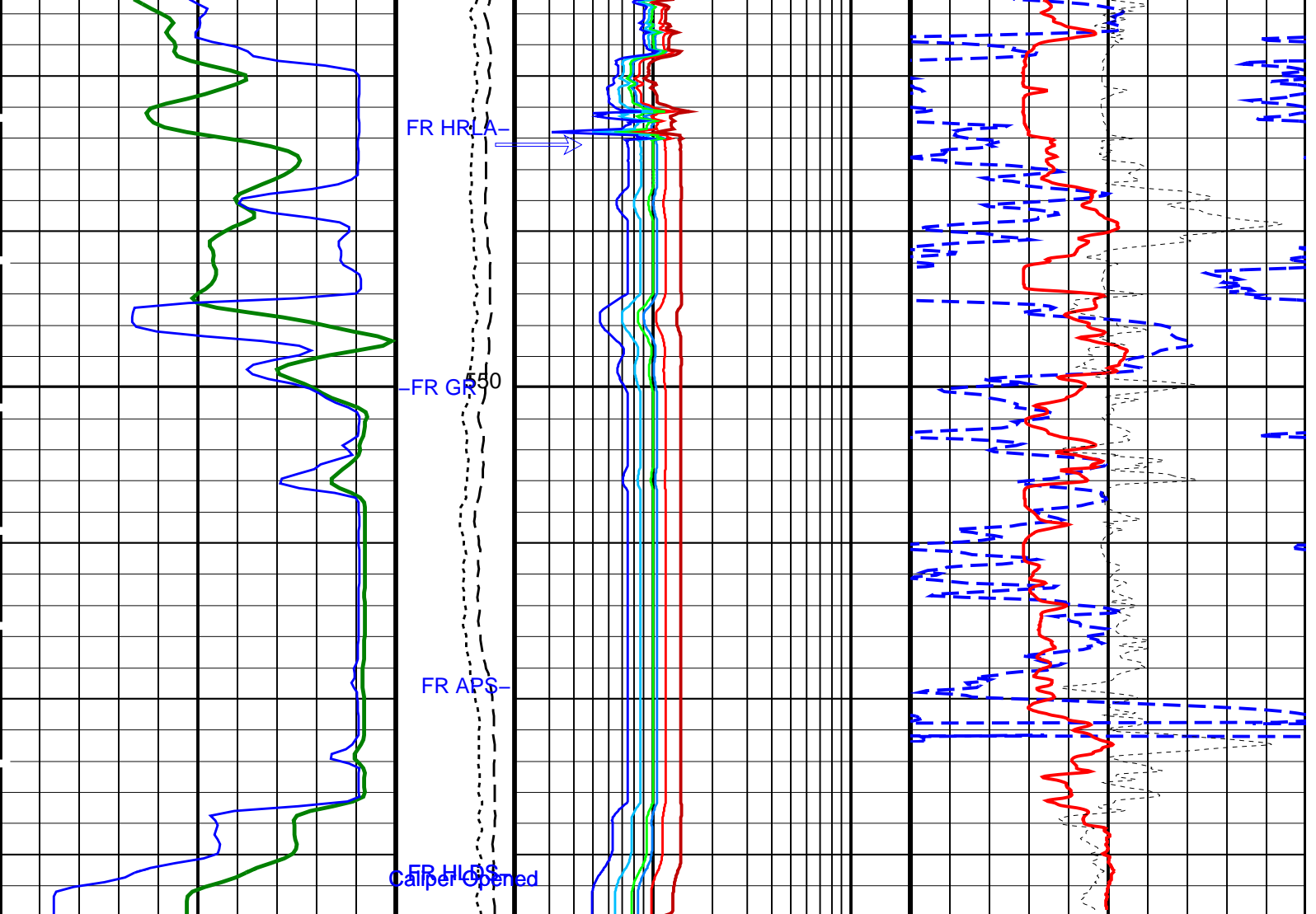




500

525





<p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>HRLT Resistivity 4 (RLA4) (OHMM)</p> <p>0.2 20</p>	<p>APS HR Near/Far Corrected Limestone Porosity (HFLC) (PU)</p> <p>100 0</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 75</p>	<p>Calibrated Downhole Force (CDF) (LBF)</p> <p>10000 0</p>	<p>HRLT Resistivity 5 (RLA5) (OHMM)</p> <p>0.2 20</p>	<p>HLDS HR Bulk Density (HROM) (G/C3)</p> <p>0 4</p>
<p>Sea Floor Depth Reference</p> <p>Main Log</p> <p>Playback with LCAL and Barite for corrections</p>	<p>HRLT Resistivity 3 (RLA3) (OHMM)</p> <p>0.2 20</p>	<p>HLDS HR Bulk Density Correction (HBDC) (G/C3)</p> <p>-0.25 0.25</p>	
	<p>HRLT Resistivity 2 (RLA2) (OHMM)</p> <p>0.2 20</p>		
	<p>HRLT Resistivity 1 (RLA1) (OHMM)</p> <p>0.2 20</p>		
	<p>HRLT True Resistivity (RT_HRLT) (OHMM)</p> <p>0.2 20</p>		

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HLDS	Hostile Litho-Density Sonde	AUTO_DEFAULT
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT

CLCS	HLDS Control Loop Controller Mode	AUTO	
CLSS	HLDS Mode Loop Long 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	2.71	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	

APS-C: Accelerator-Porosity Tool

AASD	APS Software Version	5	
ADSO	APS Thermal and Array Detectors High Voltage Setting	1962.18	V
AFSD	APS Array Detectors Data Source Switch	Both	
AHCS	APS Far Detector High Voltage Setting	2082.06	V
AHSS	APS Holesize Correction Source	GCSE	
AMTY	APS Holesize Correction Switch	ON	
ANSD	APS Environmental Corrections Mud Type	WaterBaseBarite	
ASOS	APS Near Detector High Voltage Setting	1731.78	V
ATSS	APS Standoff Correction Switch	ON	
BHFL_APS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHS	APS TNPH Borehole Fluid Type	WATER	
BHT	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	NO	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source Correction Option	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	BARI	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.05701	
NFRC	APS Near/Far Calibration Ratio	0.887966	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	NO	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	

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)	50	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00518472	
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	BARITE	
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	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.992678	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.983861	

HRLT-B: High Resolution Laterolog Array - B

BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	17.0393	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	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	BARITE	
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	
PROGINV	Inversion Selection	ON	
PROCMFL	Inversion Micro-Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Centered	
SHT	Surface Hole Temperature	68	DEGF

EDTC-B: Enhanced DTS Cartridge

BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
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	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	BARITE	
ISSBAR_EDTC	Nuclear Mud Type	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	YES	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
SOCO	Standoff Correction Option	NO	
TPOS_EDTC	EDTC Tool Centered/Eccentered	Centered	
U-ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS	
U-TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS	

System and Miscellaneous

ALDTPCHAN	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	43.00	LB/F
DFD	Drilling Fluid Density	1.25	G/C3
DO	Depth Offset for Playback	-654.0	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	3330	FT
TDD	Total Depth - Driller	990.00	M
TDL	Total Depth - Logger	567.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

Input DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_027LUP	FN:21	PRODUCER	02-Jan-2012 03:40	1220.7 M	643.0 M
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Output DLIS Files

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BACKUPDLIS	LDL_APS_NGS_HRLA_030PUP	FN:26	PRODUCER	02-Jan-2012 06:00		

Input DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_027LUP	FN:21	PRODUCER	02-Jan-2012 03:40	1220.7 M	643.0 M
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Output DLIS Files

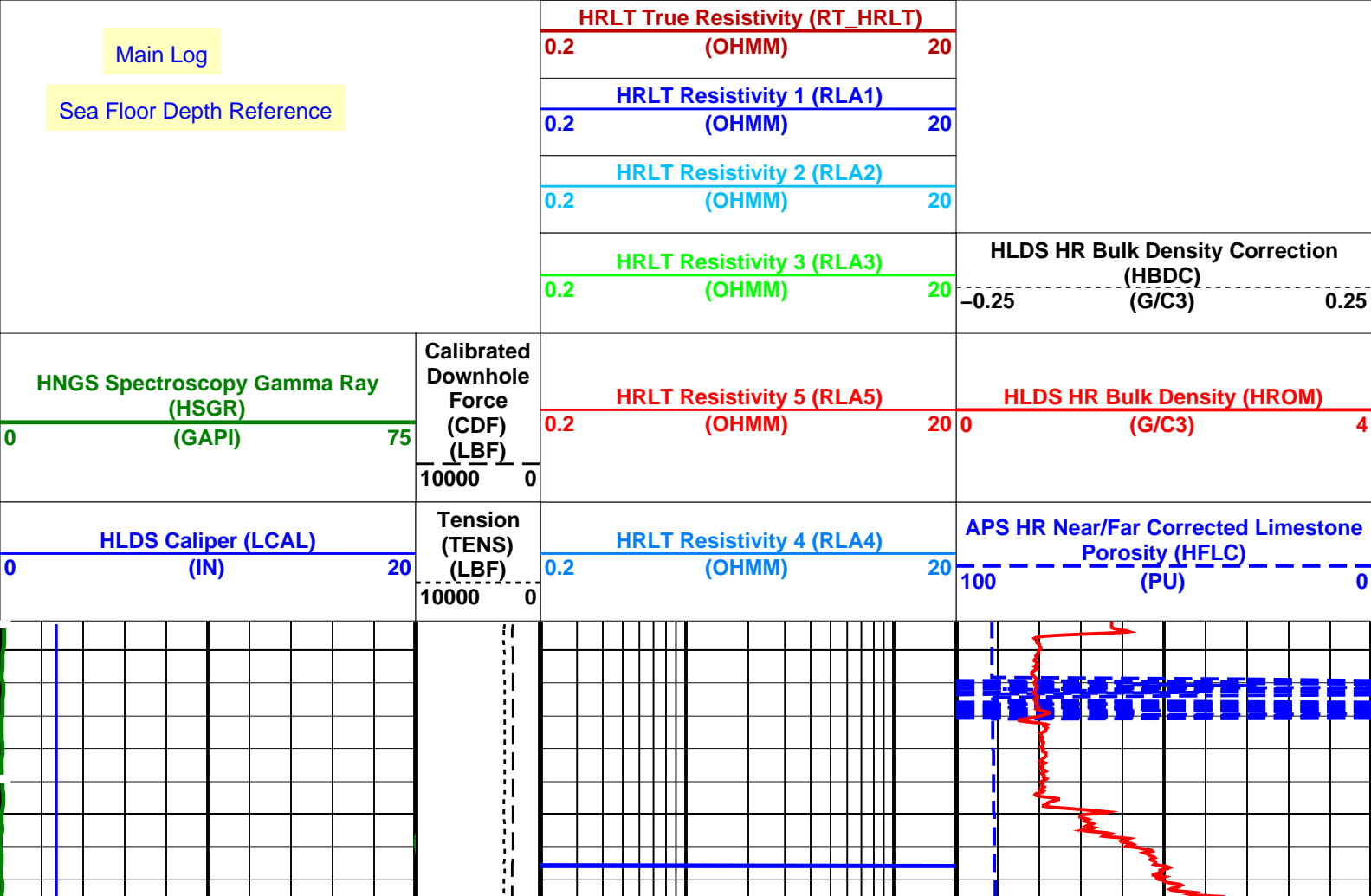
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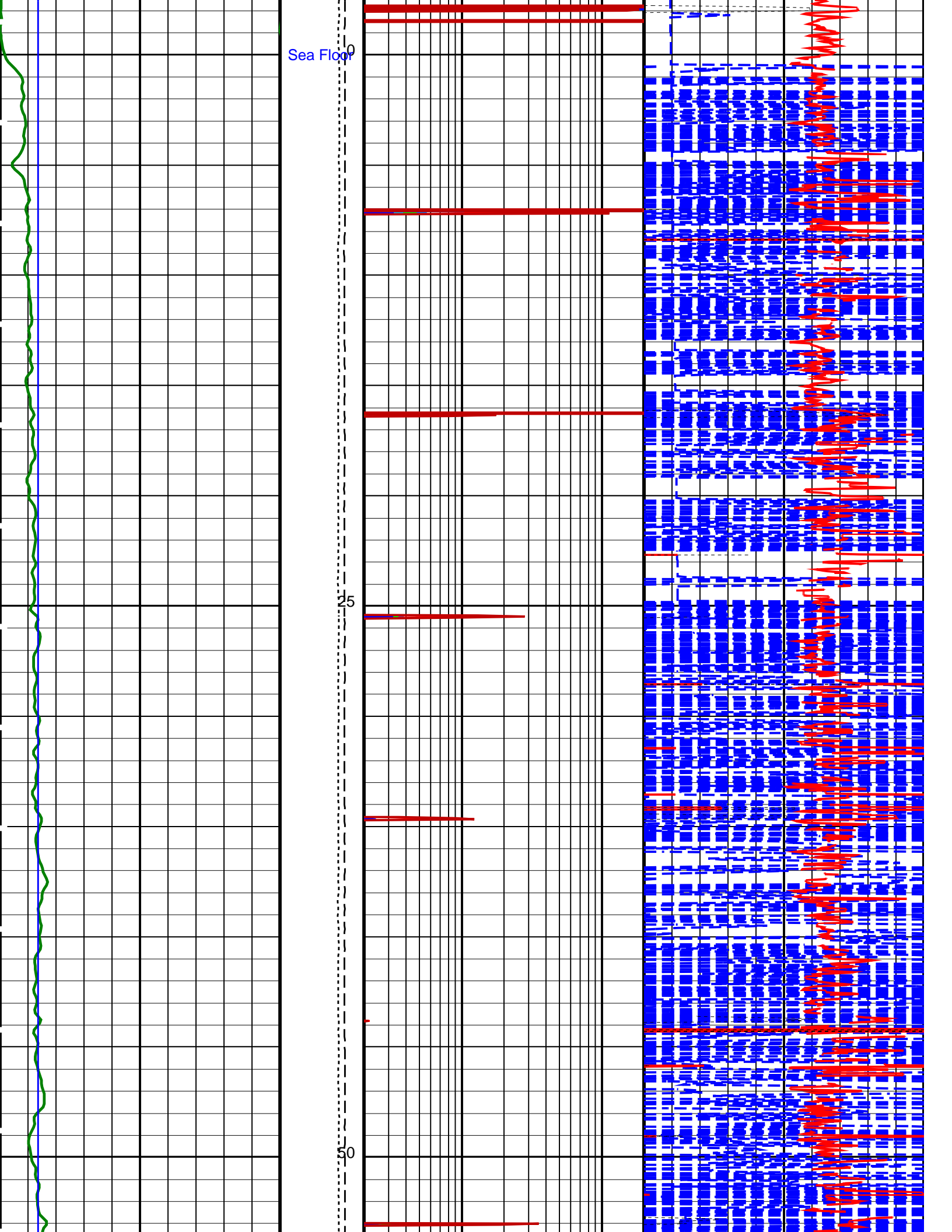
OP System Version: 19C0-187

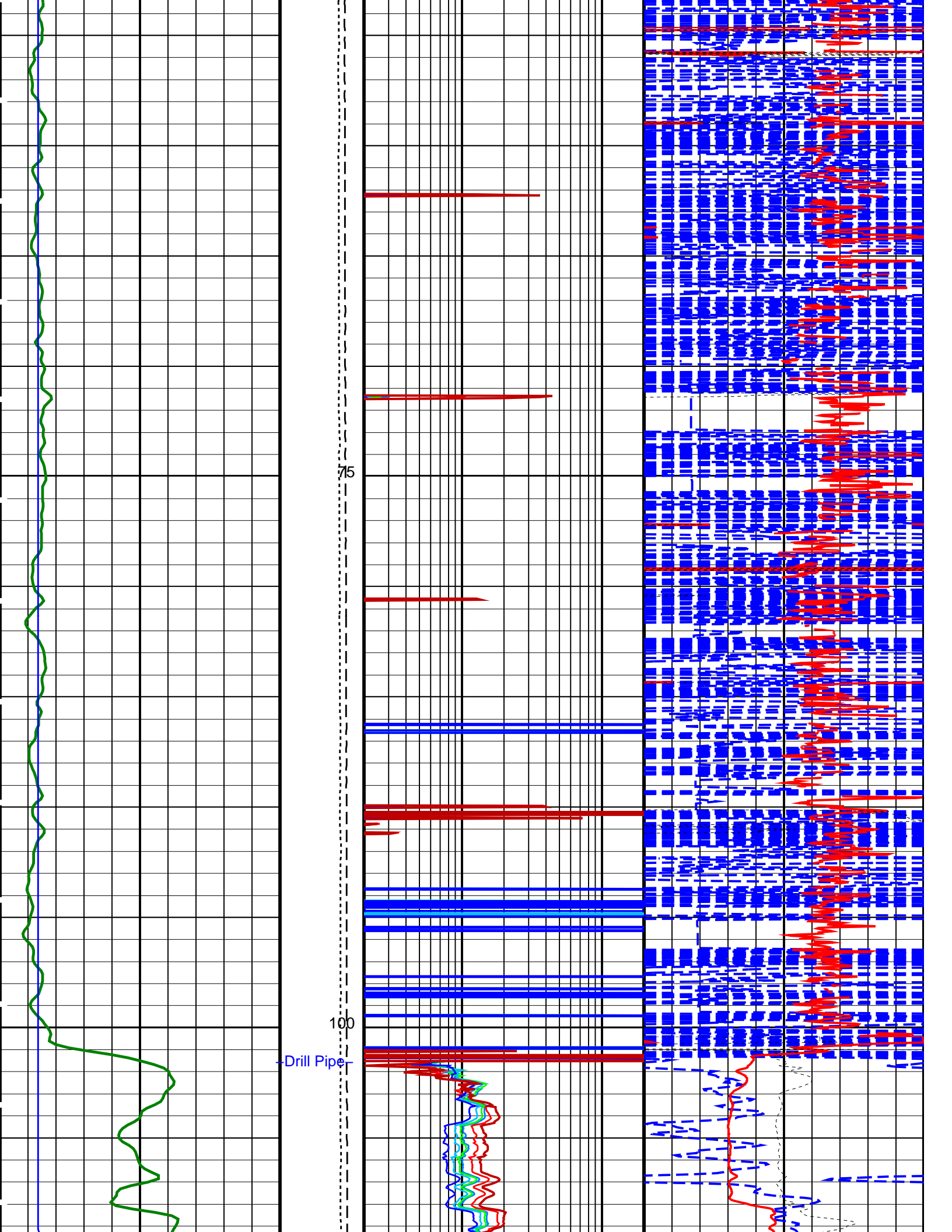
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

PIP SUMMARY

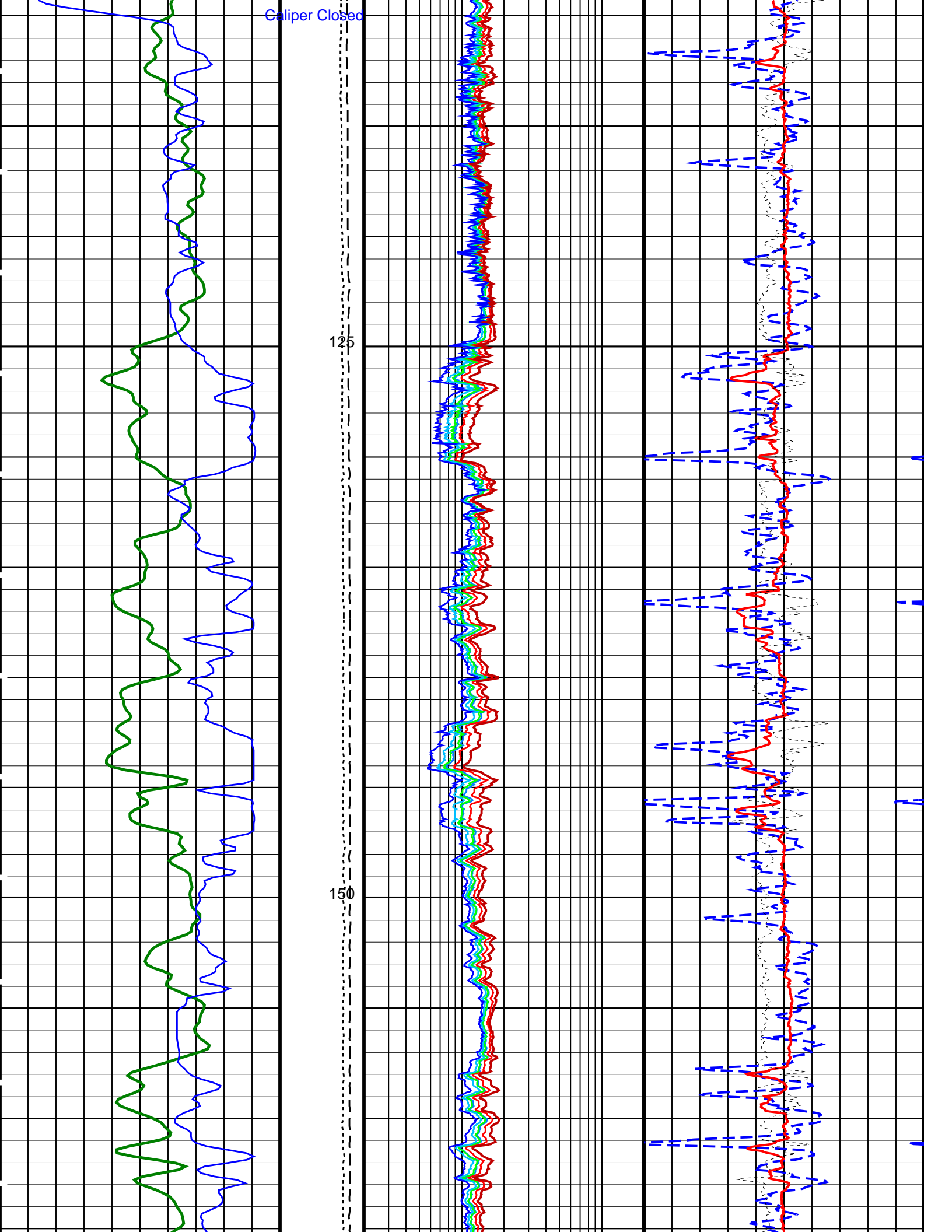
Time Mark Every 60 S

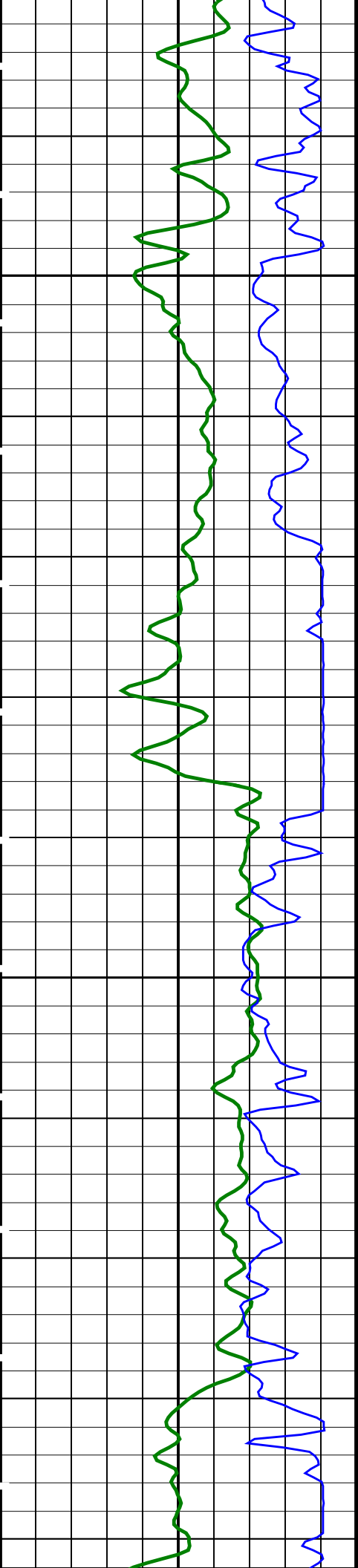






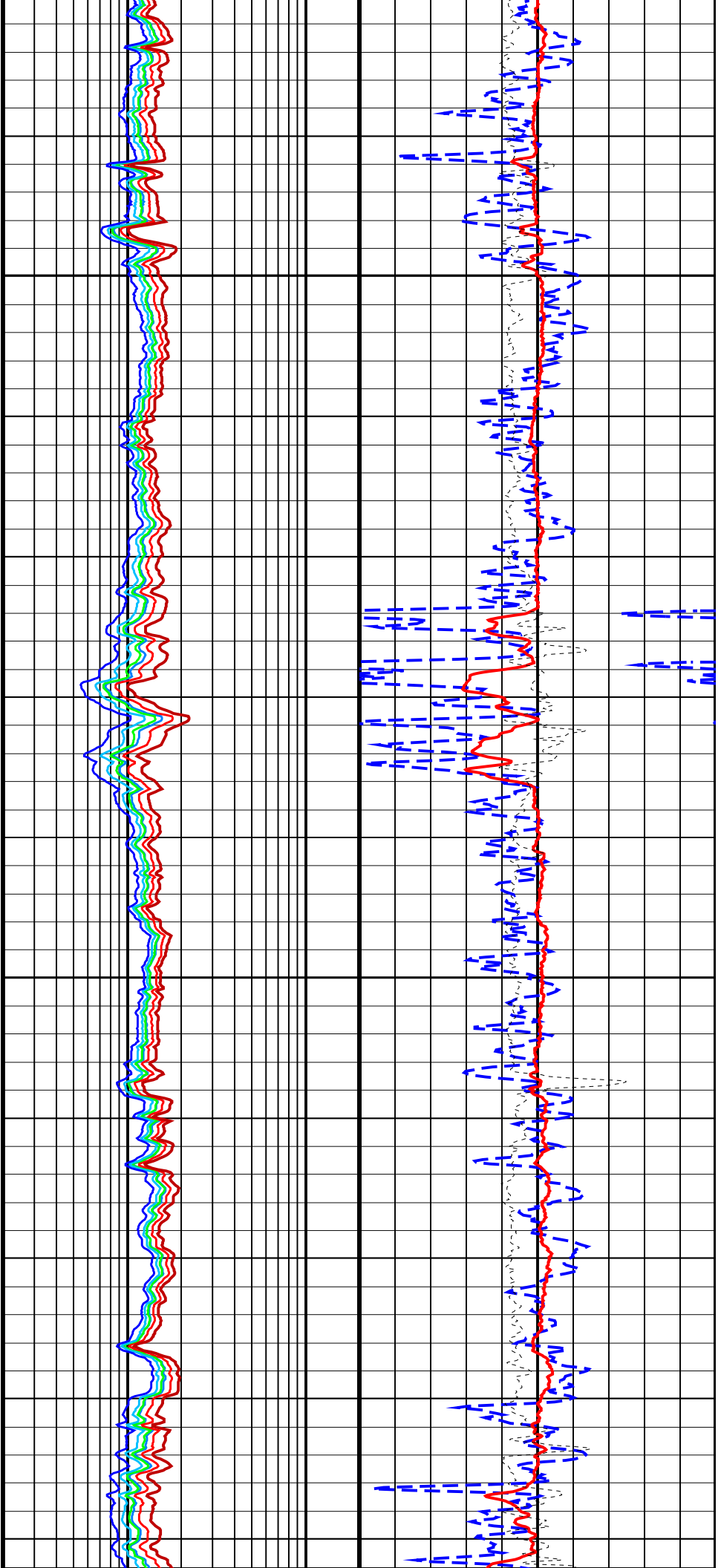
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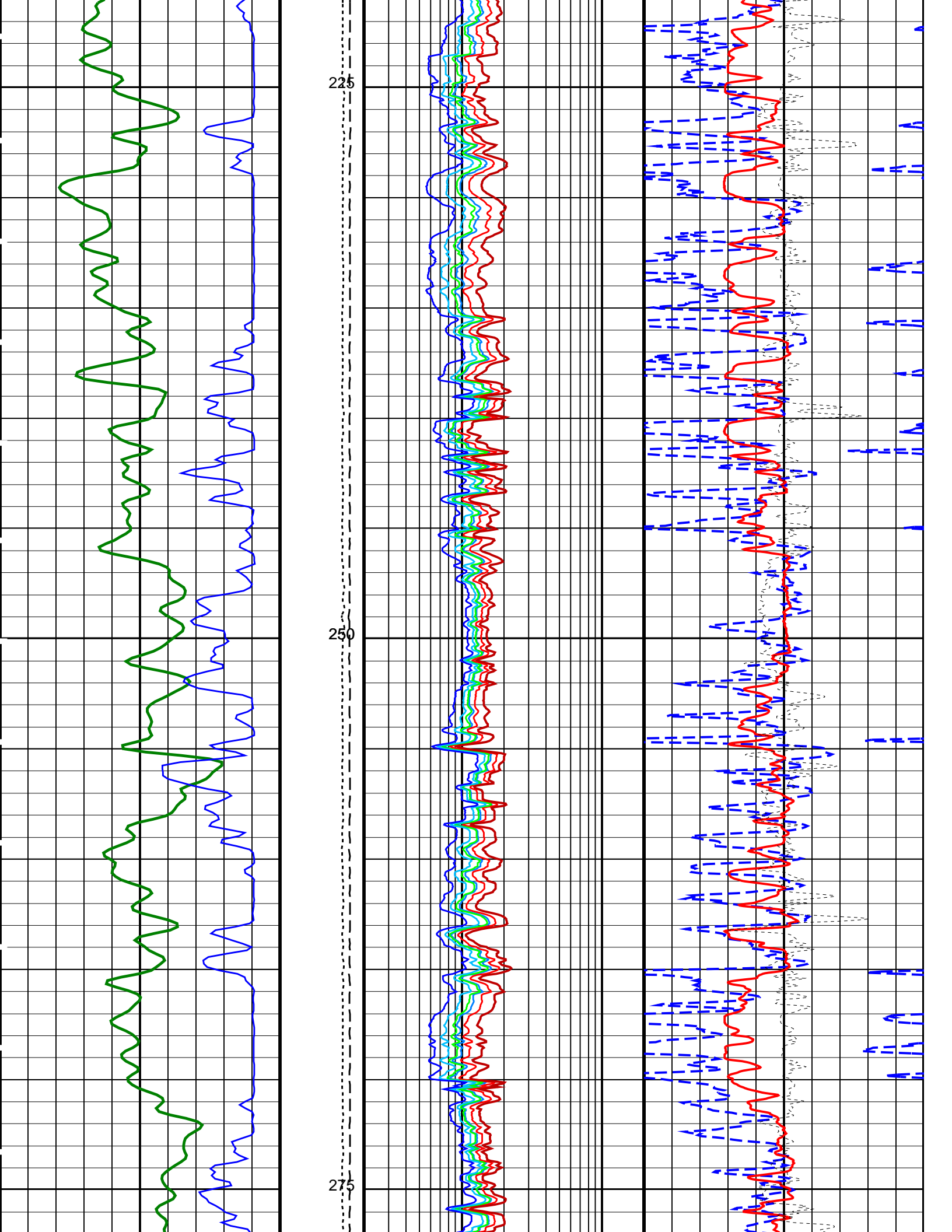


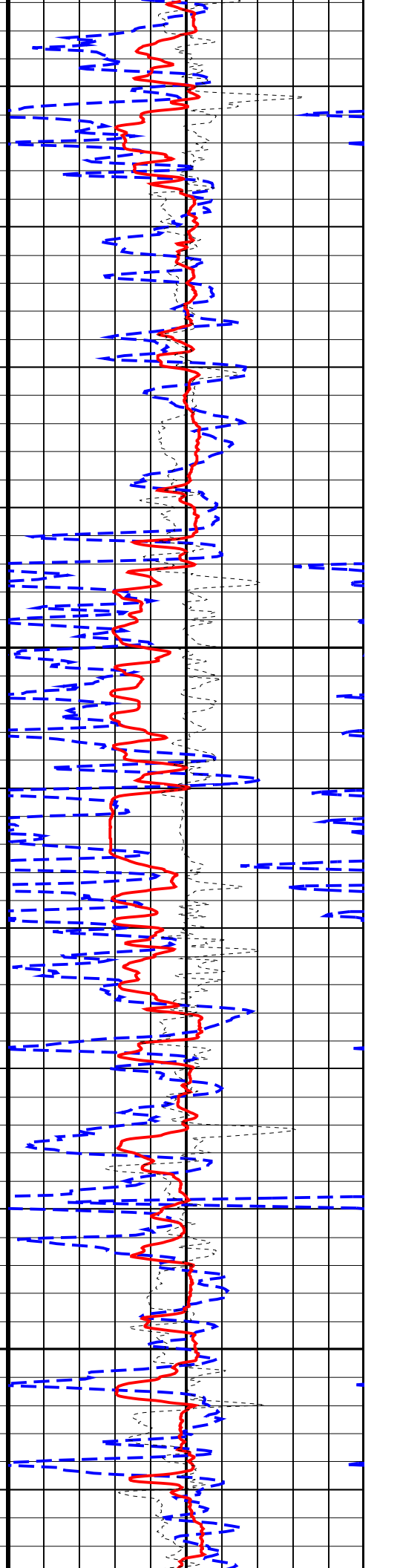
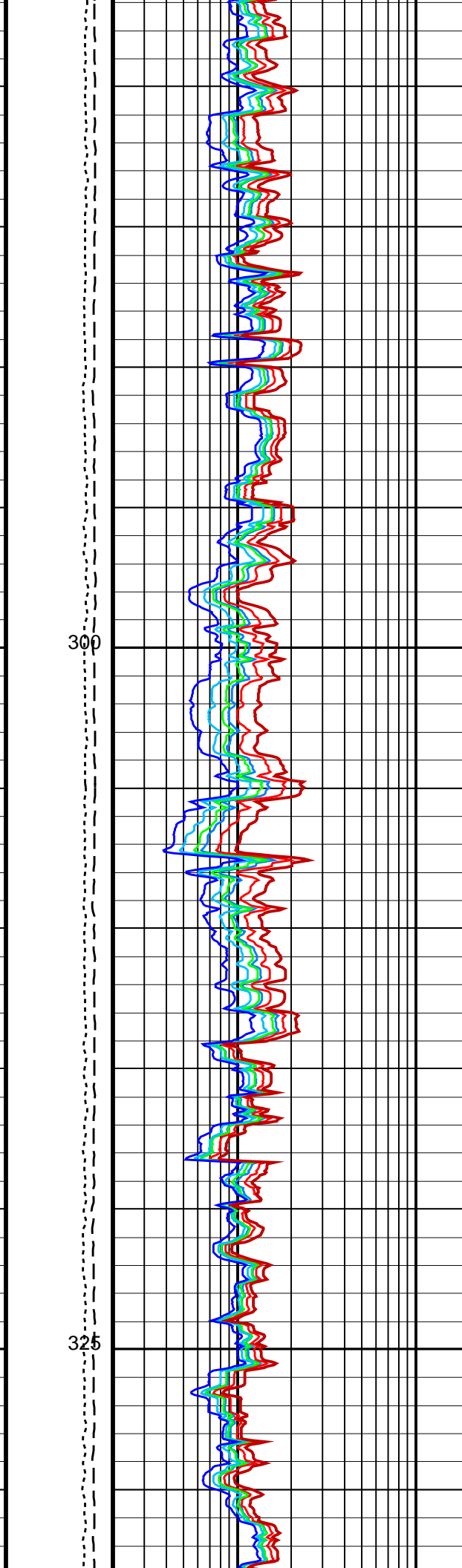
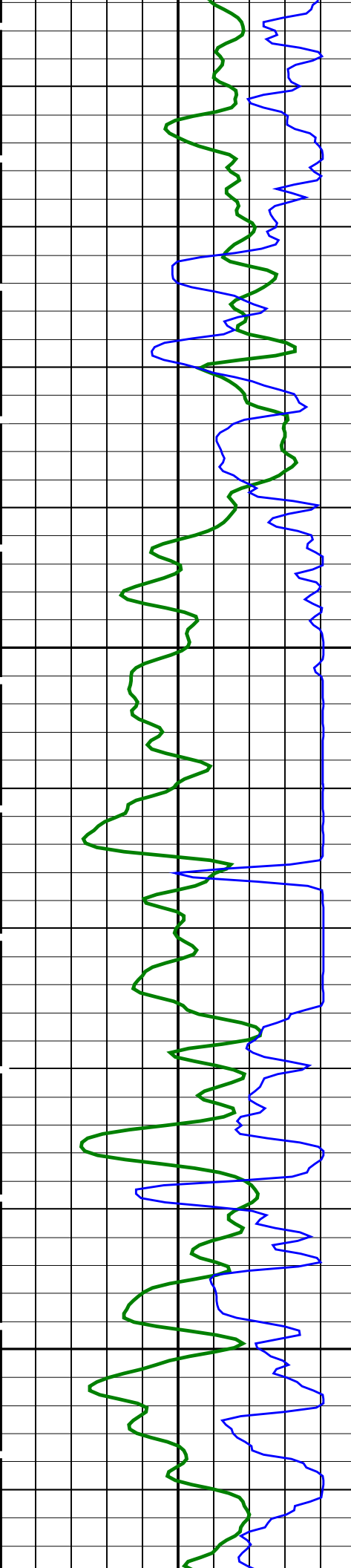


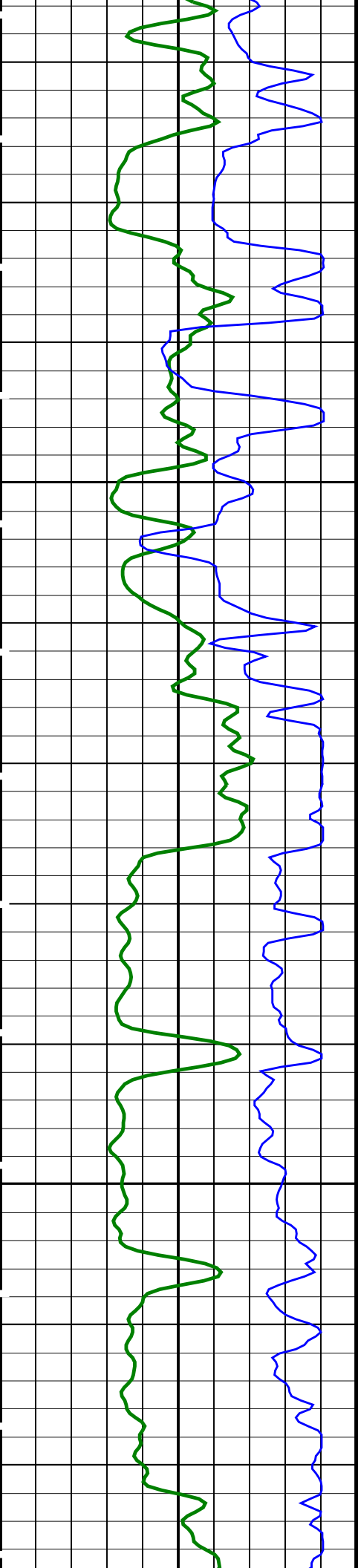
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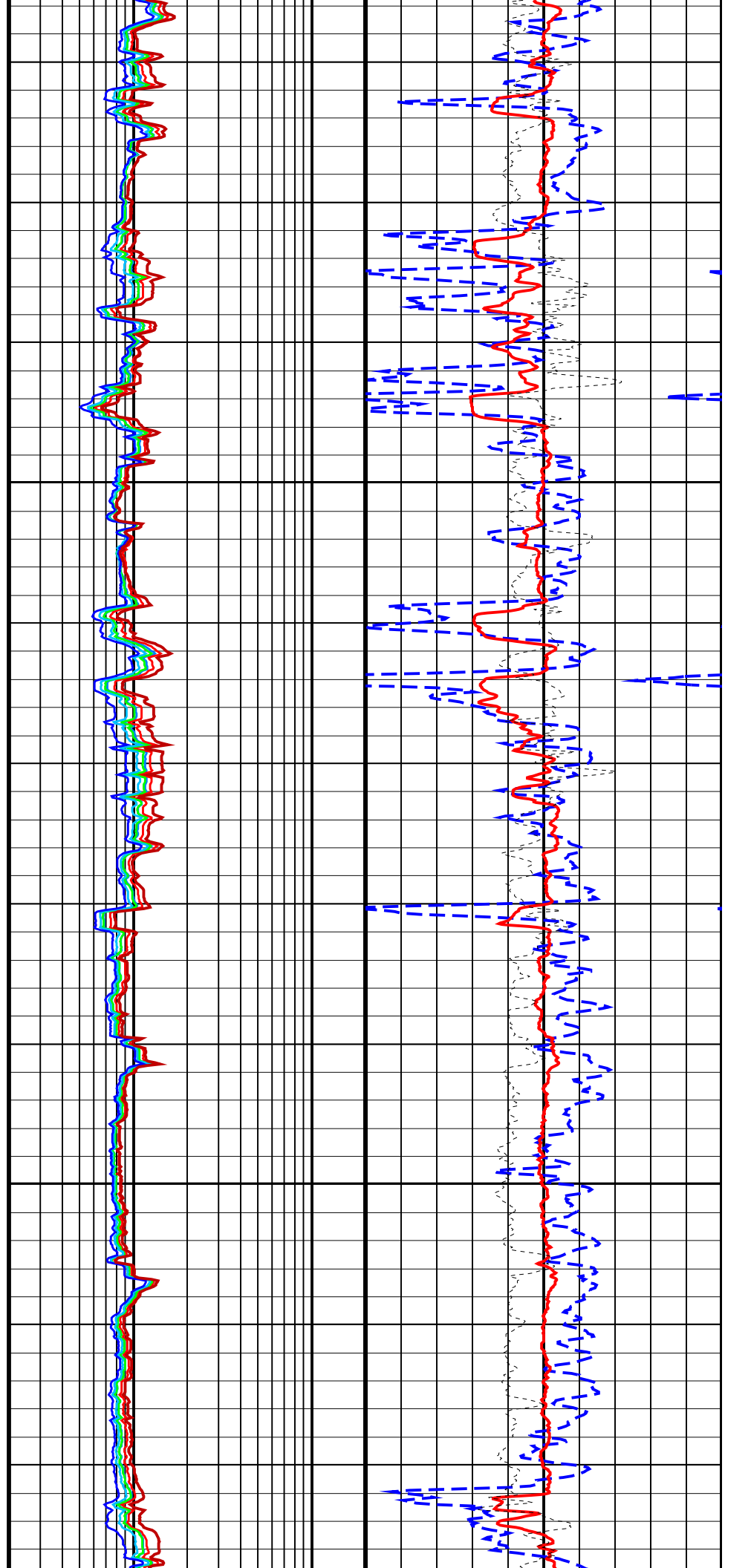


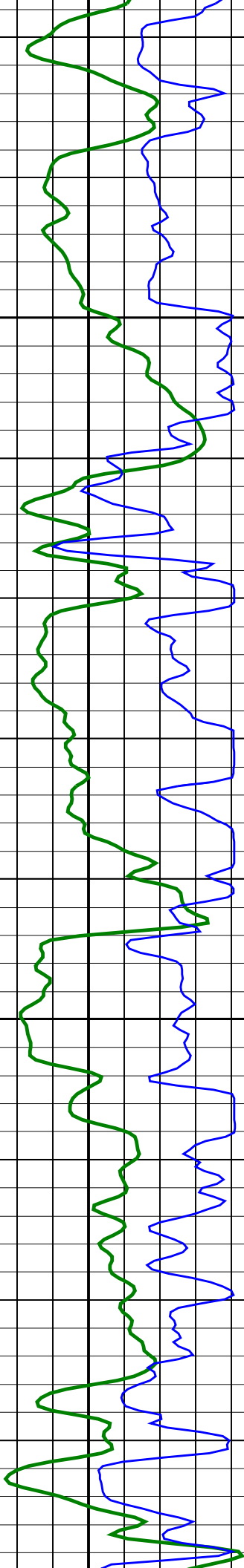




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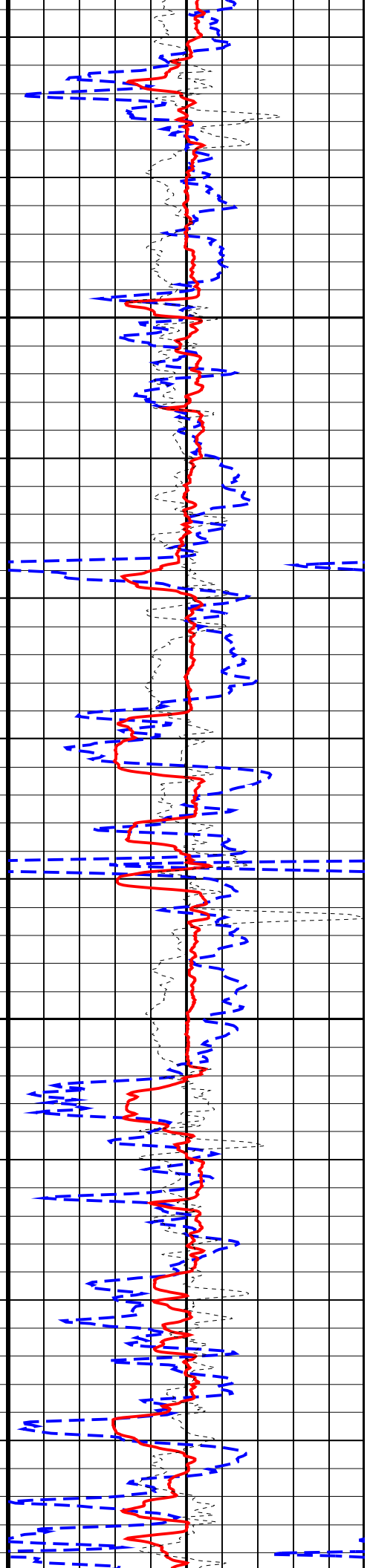
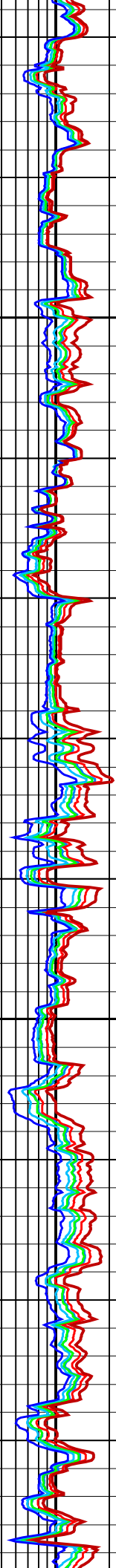
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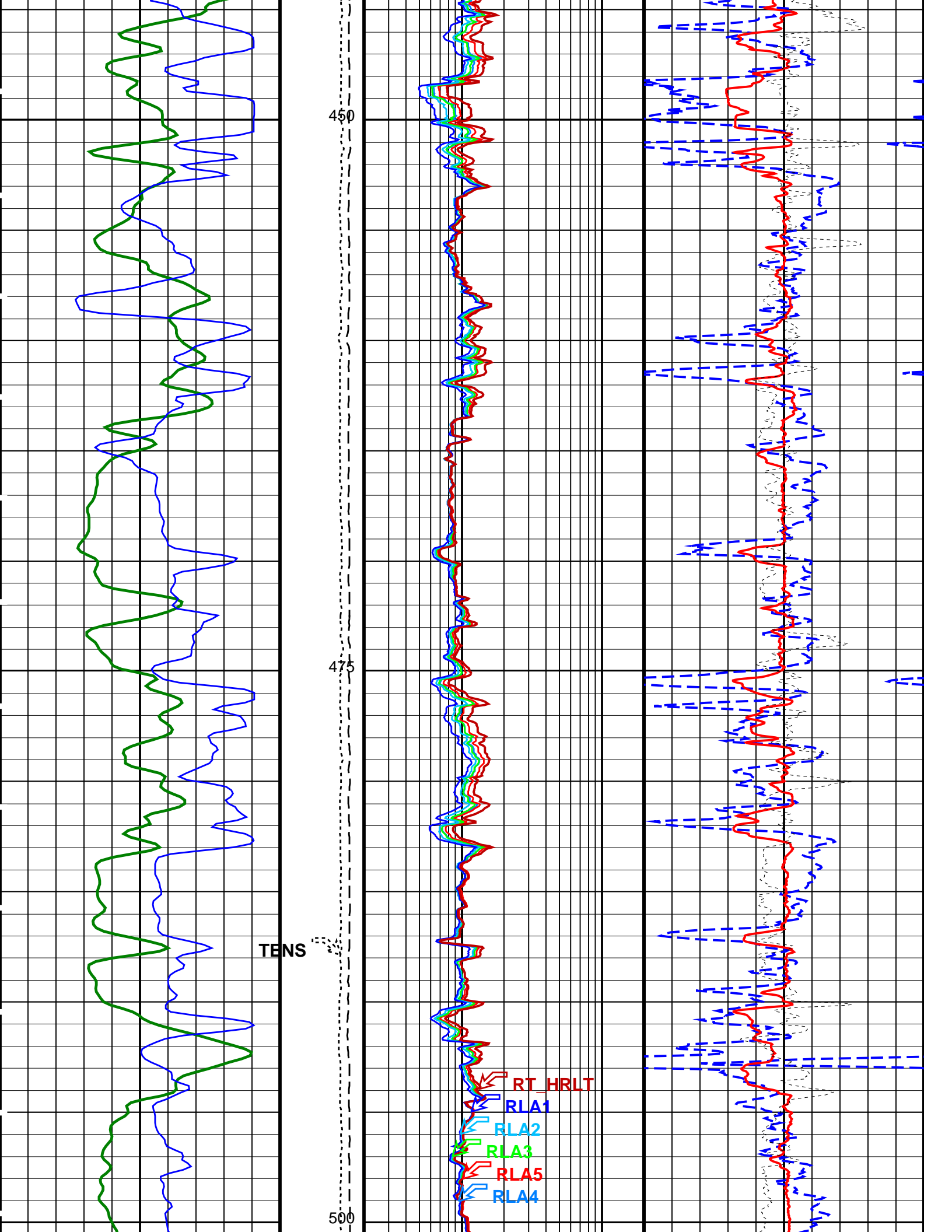


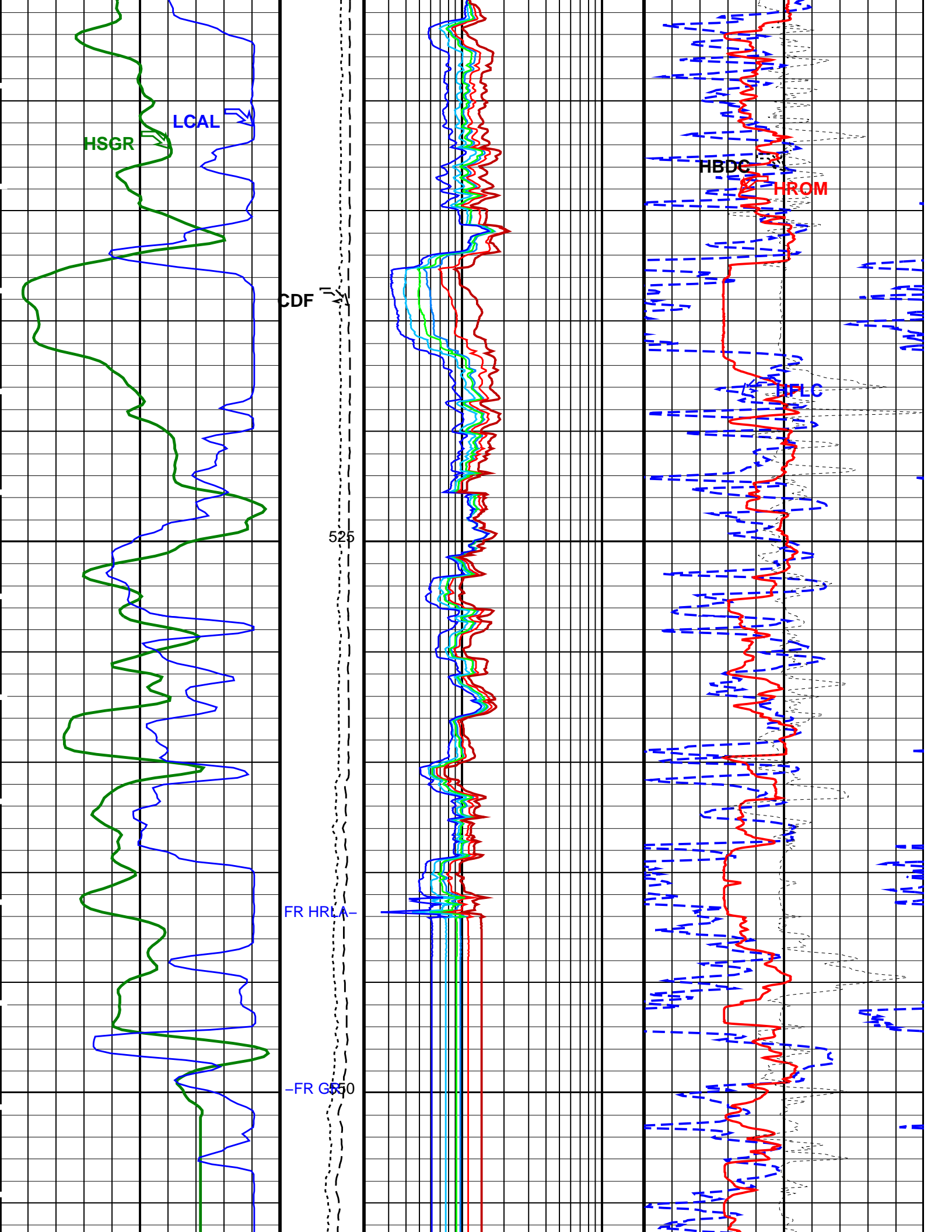


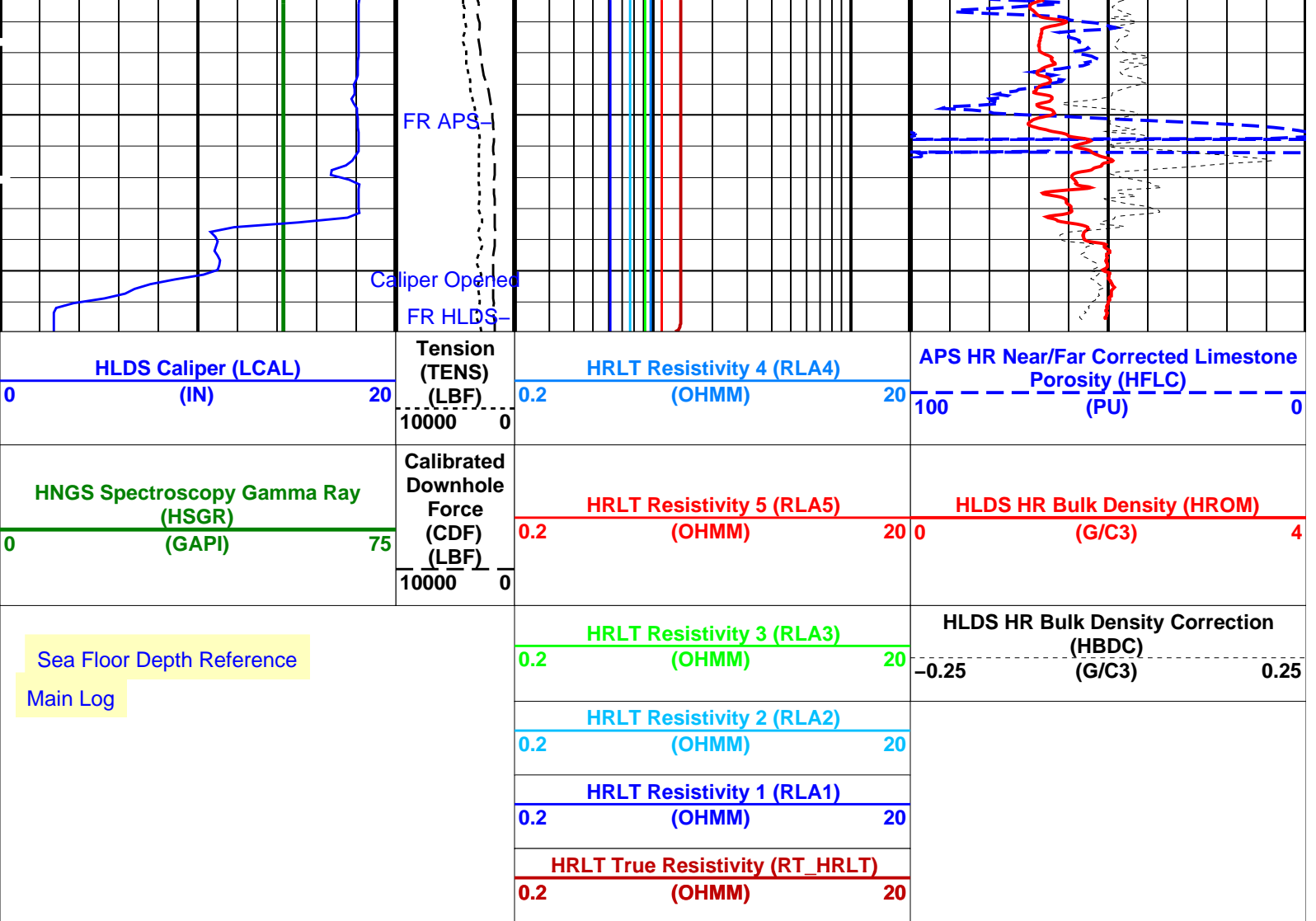
400

425









PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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	OFF
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	2.71 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
APS-C: Accelerator-Porosity Tool		
	APS Software Version	0
AASD	APS Thermal and Array Detectors High Voltage Setting	1962.18 V
ADSO	APS Array Detectors Data Source Switch	Both
AFSD	APS Far Detector High Voltage Setting	2082.06 V
AHCS	APS Holesize Correction Source	BS
AHSS	APS Holesize Correction Switch	ON
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite
ANSD	APS Near Detector High Voltage Setting	1731.78 V
ASOS	APS Standoff Correction Switch	ON
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON

BHFL_APS	Water	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source Correction Option	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.05701	
NFRC	APS Near/Far Calibration Ratio	0.887966	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	NO	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	

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)	50	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00279021	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
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	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.960045	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.971544	

HRLT-B: High Resolution Laterolog Array - B

BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	17.0393	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	0.01	DF/F
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	AUTO	
LOOPMOD1	HRLT Mode 1 Loop Mode	AUTO	
LOOPMOD2	HRLT Mode 2 Loop Mode	AUTO	
LOOPMOD3	HRLT Mode 3 Loop Mode	AUTO	
LOOPMOD4	HRLT Mode 4 Loop Mode	AUTO	
LOOPMOD5	HRLT Mode 5 Loop Mode	AUTO	
LOOPMOD6	HRLT Mode 6 Loop Mode	AUTO	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PROGINV	Inversion Selection	ON	

PROCMFL	Inversion Selection	NO_EXTERNAL_RXO	ON	
PROCMSO	Mechanical Standoff Fin Size		0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute		
PROCSPO	Sonde Position	Centered		
SHT	Surface Hole Temperature		68	DEGF
EDTC-B: Enhanced DTS Cartridge				
BHFL	Borehole Fluid Type	WATER		
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)		50	DEGF
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		0.01	DF/F
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		NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE		
MCCO	Mud Cake Correction Option		NO	
MCOR	Mud Correction		NATU	
MWCO	Mud Weight Correction Option		YES	
PTCO	Pressure/Temperature Correction Option		NO	
SDAT	Standoff Data Source		SOCN	
SHT	Surface Hole Temperature		68	DEGF
SOCN	Standoff Distance		0	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				
ALTDPCCHAN	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		43.00	LB/F
DFD	Drilling Fluid Density		1.25	G/C3
DO	Depth Offset for Playback		-654.0	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		NORMAL	
RMFS	Resistivity of Mud Filtrate Sample		-50000.0000	OHMM
RW	Resistivity of Connate Water		1.0000	OHMM
TD	Total Depth		3330	FT
TDD	Total Depth - Driller		990.00	M
TDL	Total Depth - Logger		990.00	M
TWS	Temperature of Connate Water Sample		37.78	DEGC

Format: TripleCombo Vertical Scale: 1:200 Graphics File Created: 10-Jan-2012 02:40

OP System Version: 19C0-187

HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

Input DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_027LUP	FN:21	PRODUCER	02-Jan-2012 03:40	1220.7 M	643.0 M
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Output DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_042PUP	FN:46	PRODUCER	10-Jan-2012 02:40		
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Input DLIS Files

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Output DLIS Files

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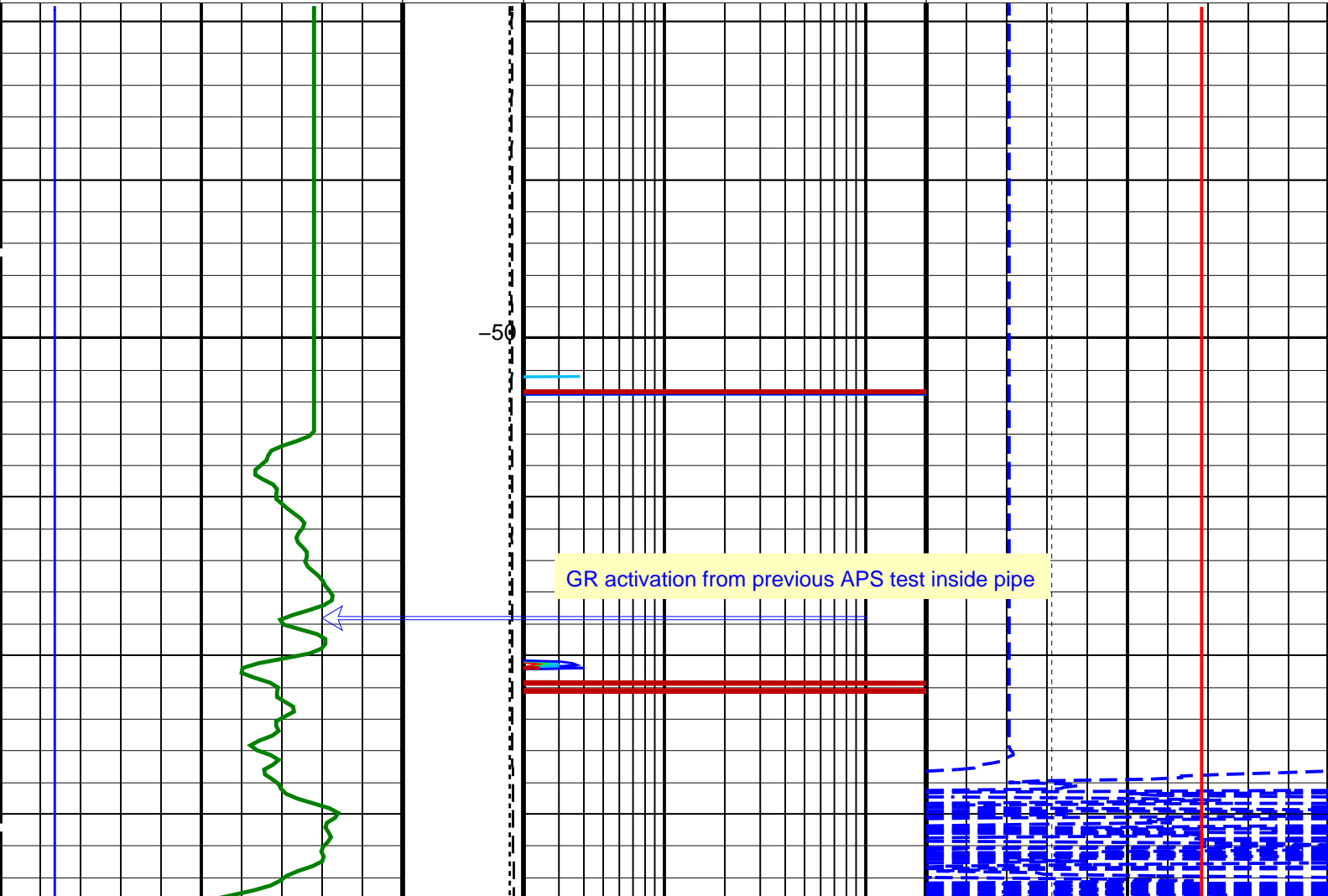
OP System Version: 19C0-187

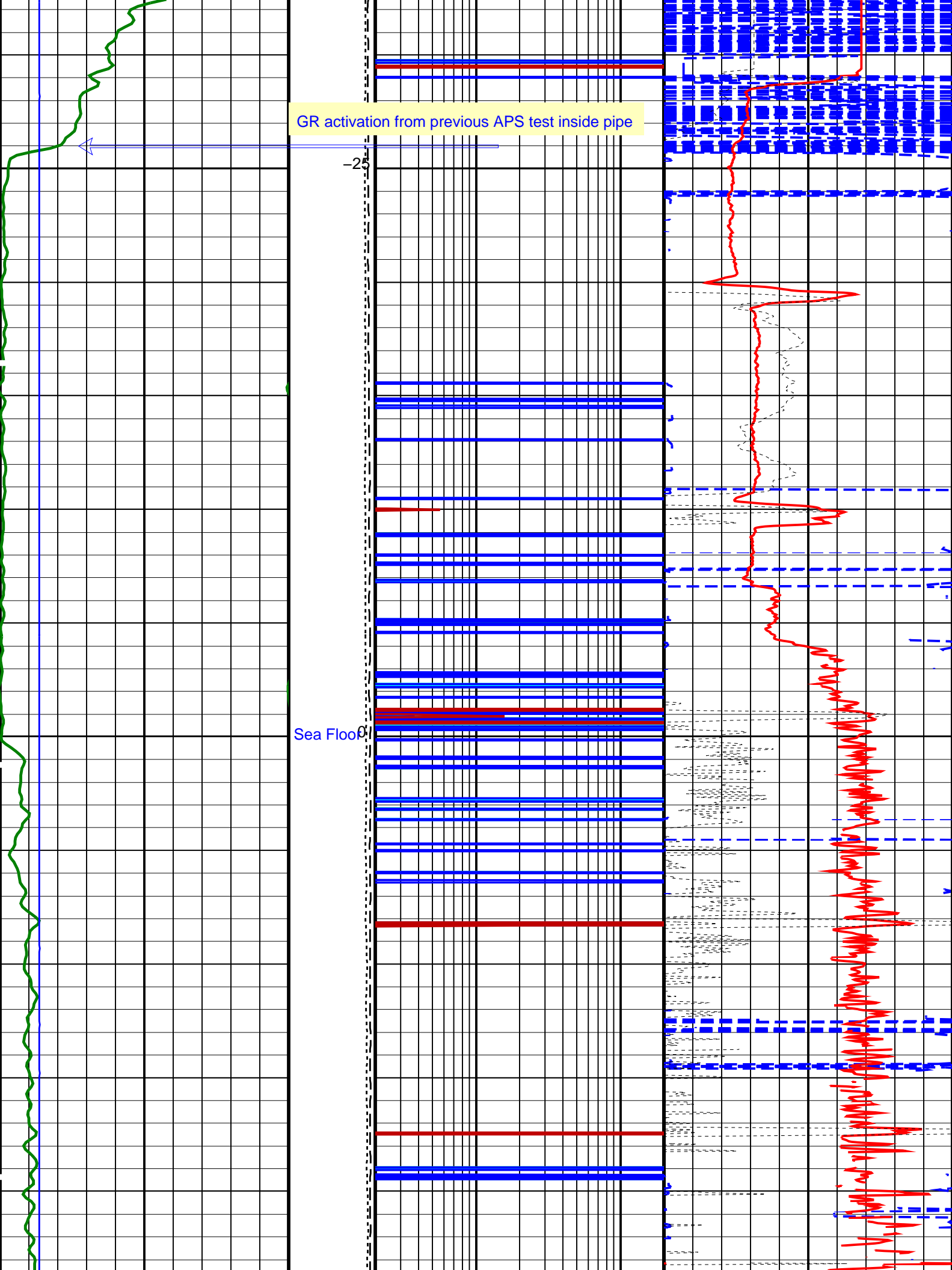
HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

PIP SUMMARY

Time Mark Every 60 S

<p style="background-color: yellow;">Sea Floor Depth Reference</p> <p style="background-color: yellow;">Flipped Downlog</p>		<p style="color: red;">HRLT True Resistivity (RT_HRLT)</p> <p style="color: red;">0.2 (OHMM) 20</p>	
		<p style="color: blue;">HRLT Resistivity 1 (RLA1)</p> <p style="color: blue;">0.2 (OHMM) 20</p>	
		<p style="color: cyan;">HRLT Resistivity 2 (RLA2)</p> <p style="color: cyan;">0.2 (OHMM) 20</p>	
		<p style="color: green;">HRLT Resistivity 3 (RLA3)</p> <p style="color: green;">0.2 (OHMM) 20</p>	<p>HLDS HR Bulk Density Correction (HBDC)</p> <p style="border-top: 1px dashed black;">-0.25 (G/C3) 0.25</p>
<p style="color: green;">HNGS Spectroscopy Gamma Ray (HSGR)</p> <p style="color: green;">0 (GAPI) 75</p>	<p>Calibrated Downhole Force (CDF) (LBF)</p> <p style="border-top: 1px dashed black;">10000 0</p>	<p style="color: red;">HRLT Resistivity 5 (RLA5)</p> <p style="color: red;">0.2 (OHMM) 20</p>	<p style="color: red;">HLDS HR Bulk Density (HROM)</p> <p style="color: red;">0 (G/C3) 4</p>
<p style="color: blue;">HLDS Caliper (LCAL)</p> <p style="color: blue;">0 (IN) 20</p>	<p>Tension (TENS) (LBF)</p> <p style="border-top: 1px dashed black;">10000 0</p>	<p style="color: blue;">HRLT Resistivity 4 (RLA4)</p> <p style="color: blue;">0.2 (OHMM) 20</p>	<p style="color: blue;">APS HR Near/Far Corrected Limestone Porosity (HFCLC)</p> <p style="color: blue; border-top: 1px dashed black;">100 (PU) 0</p>

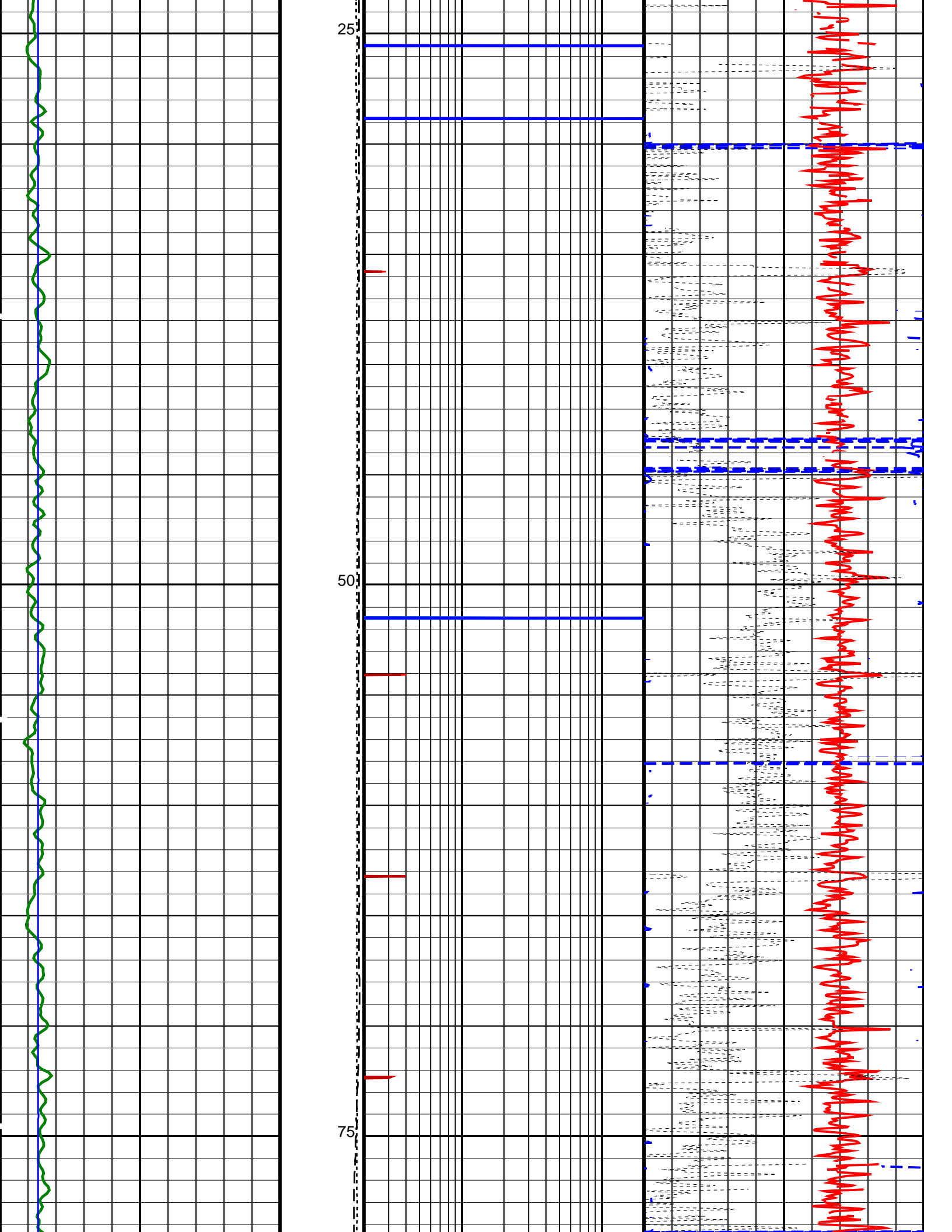


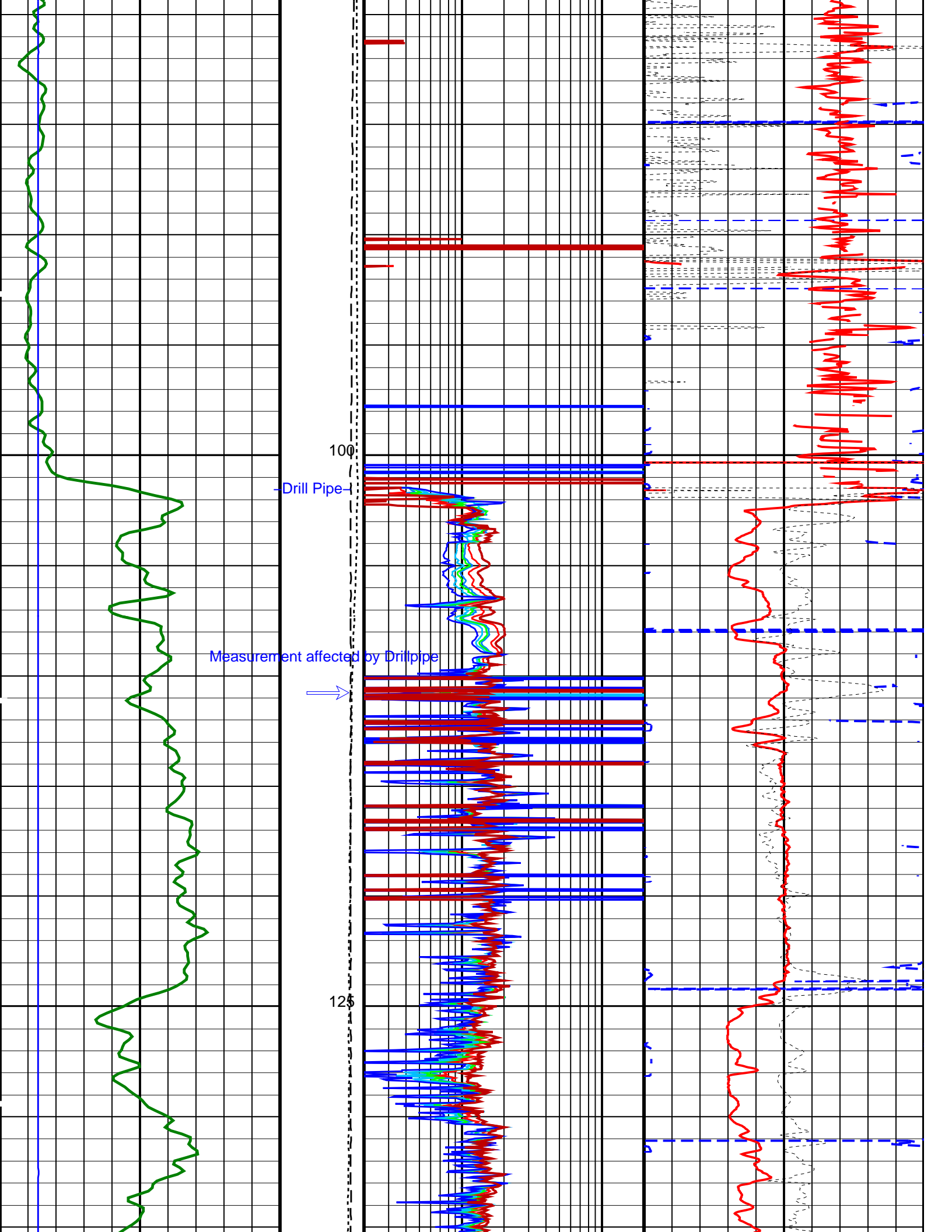


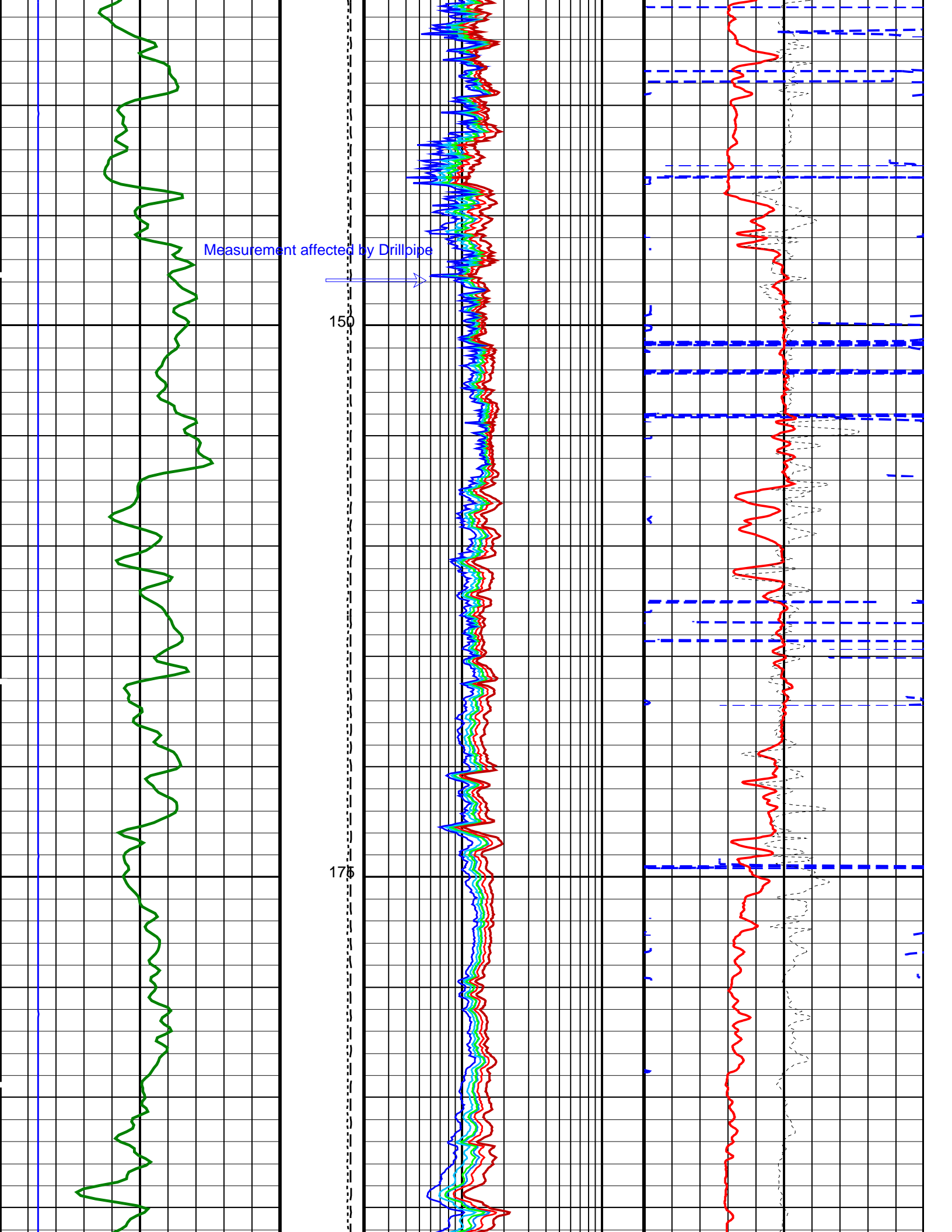
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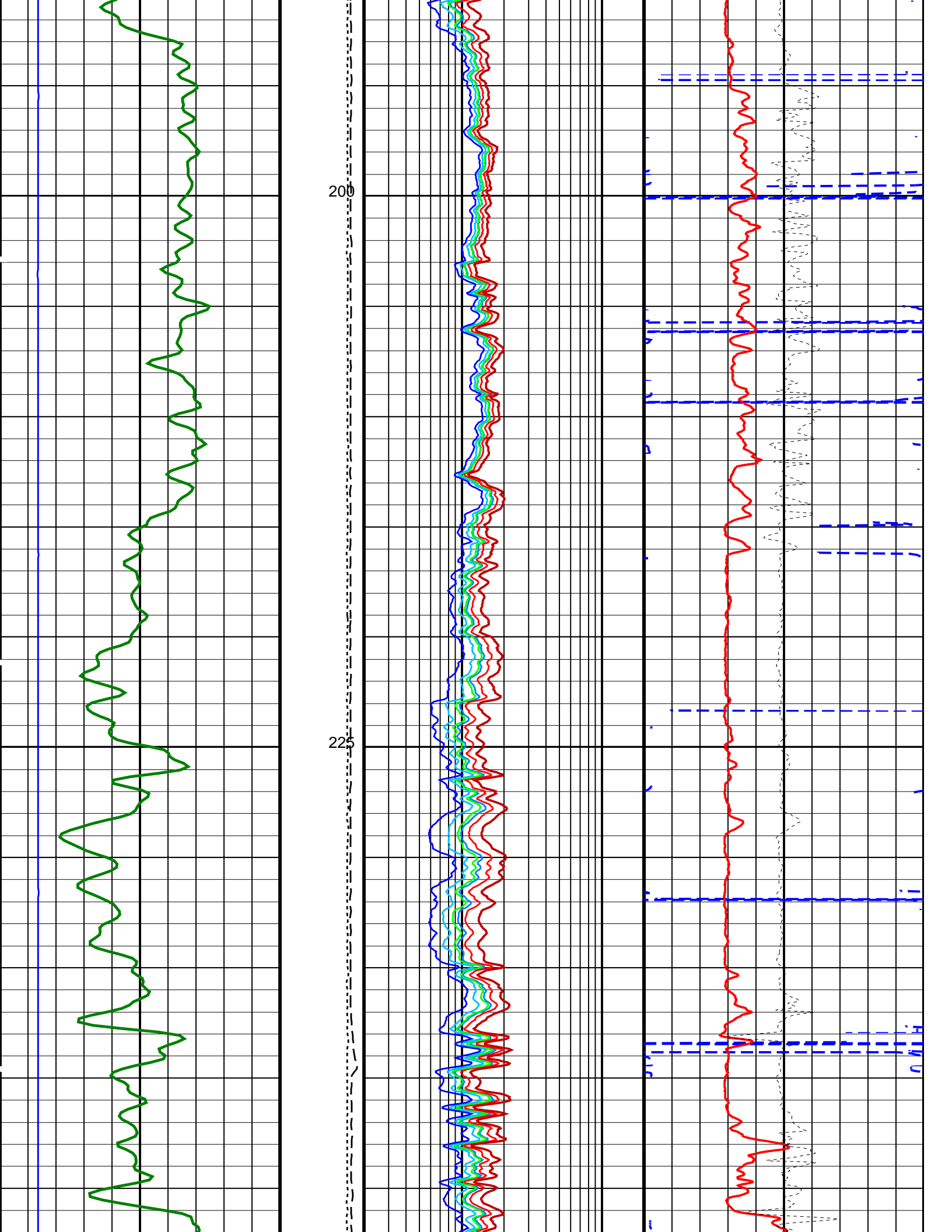
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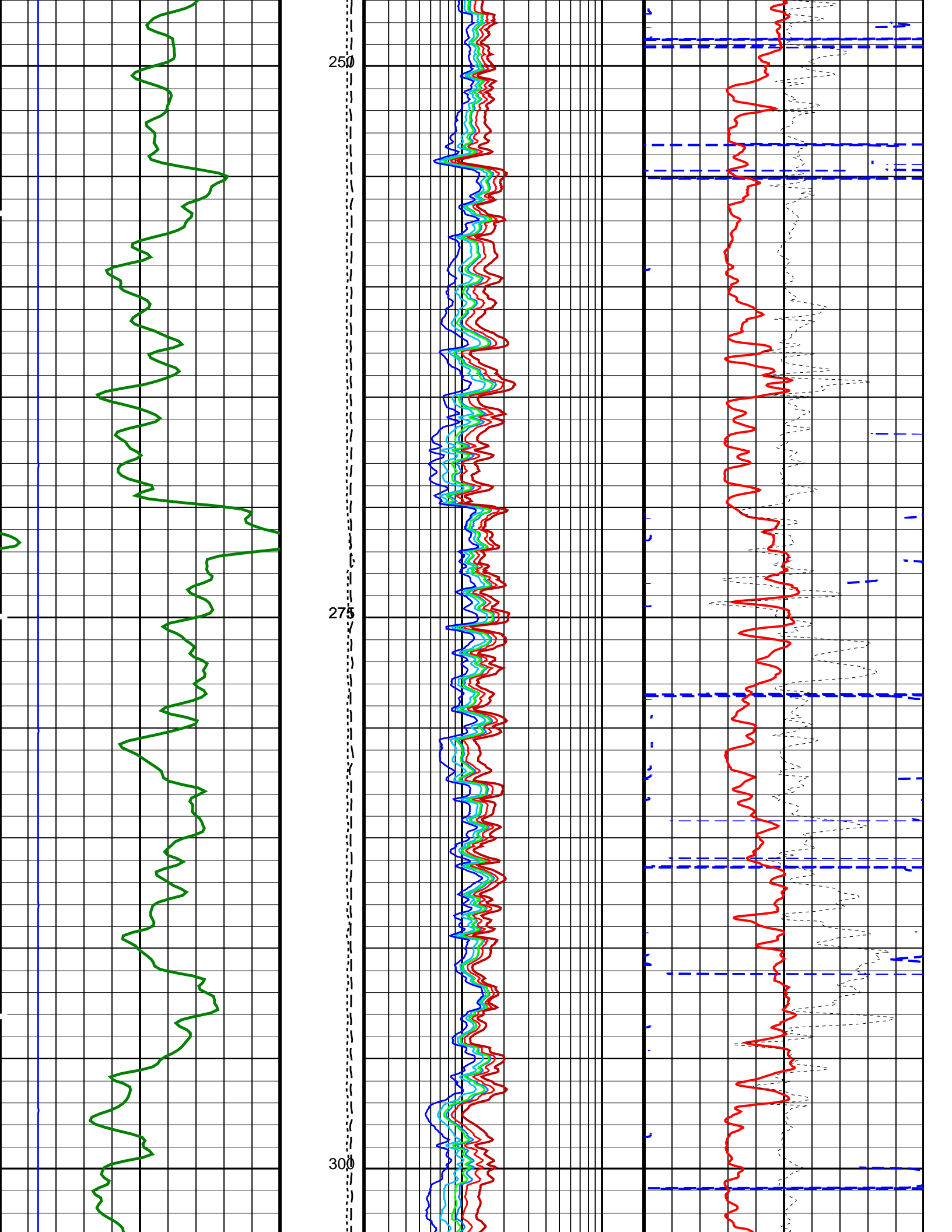
Sea Floor

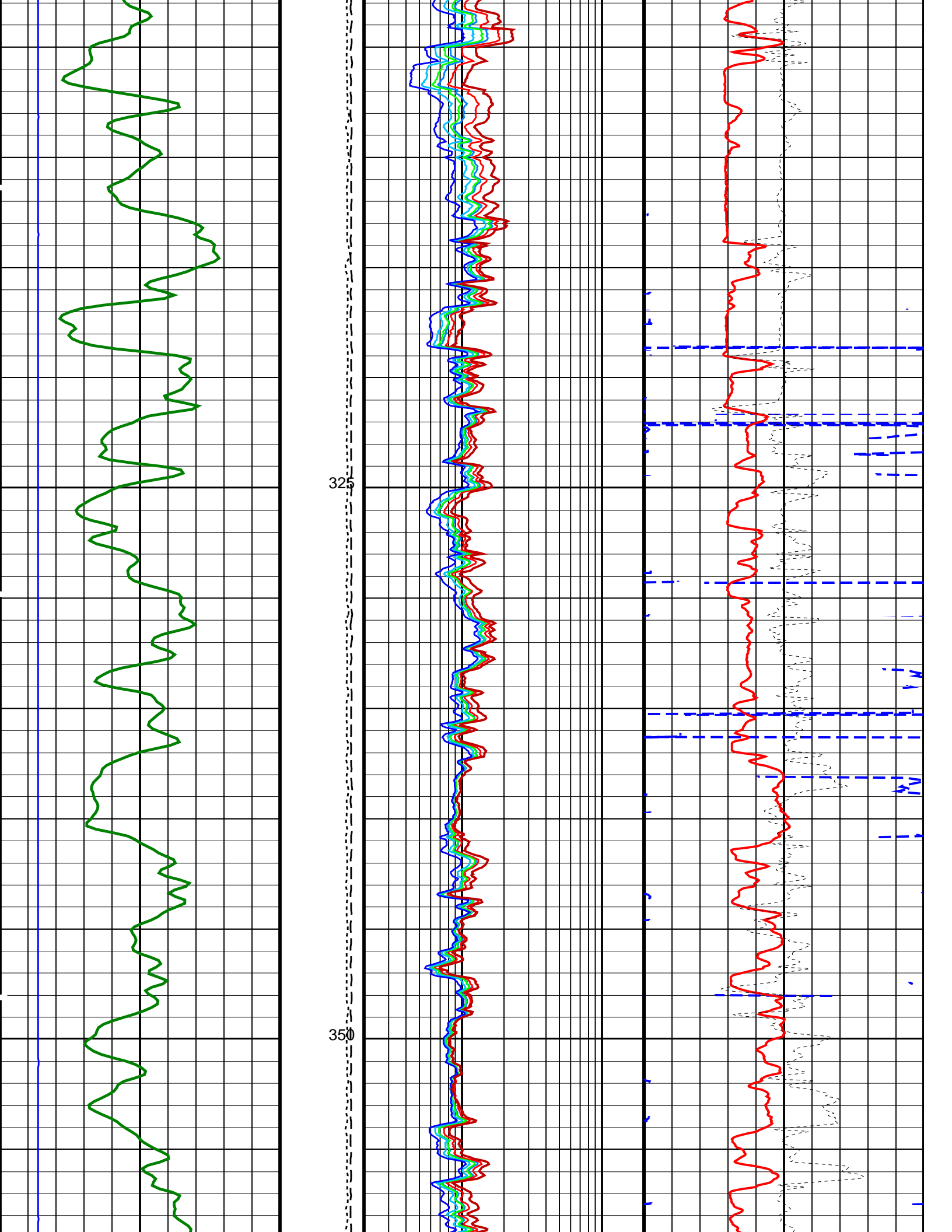


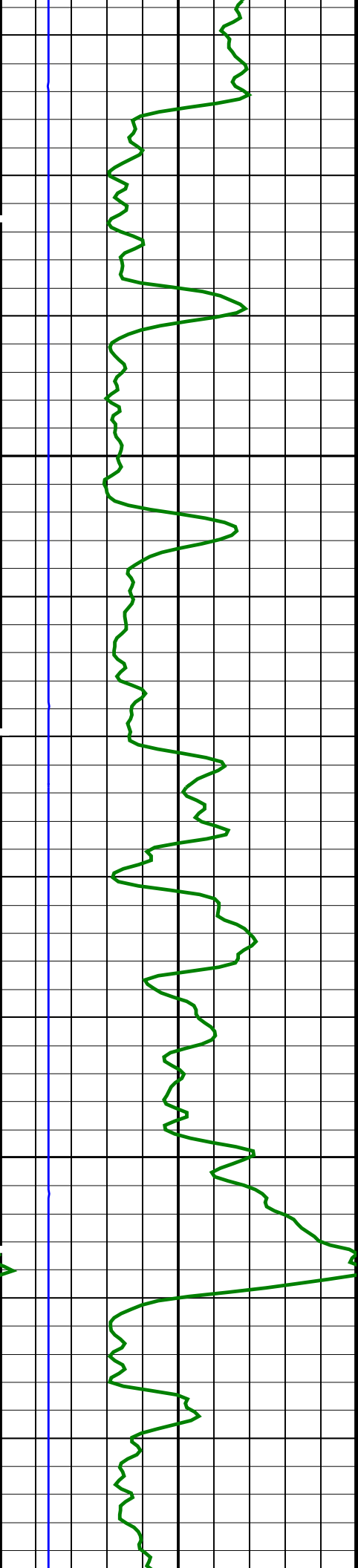






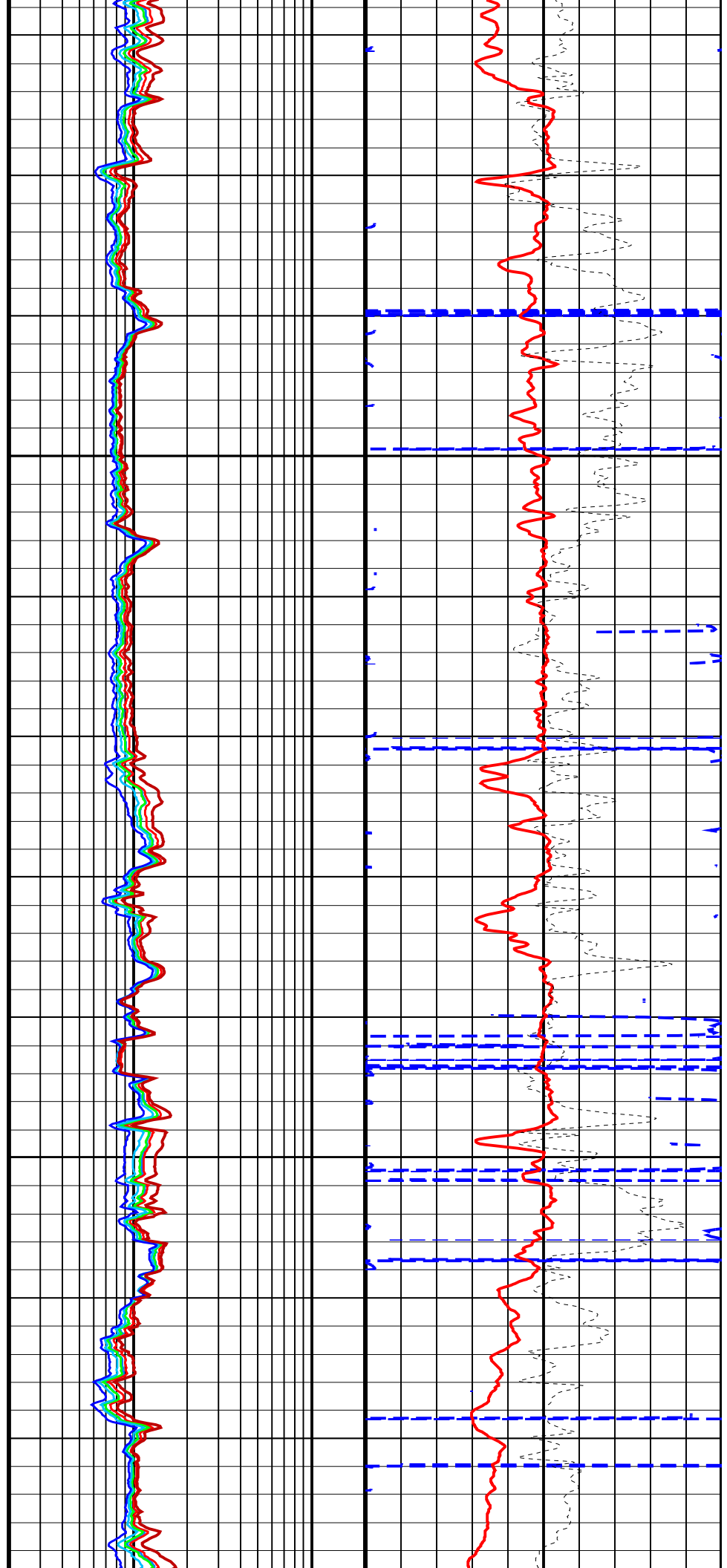


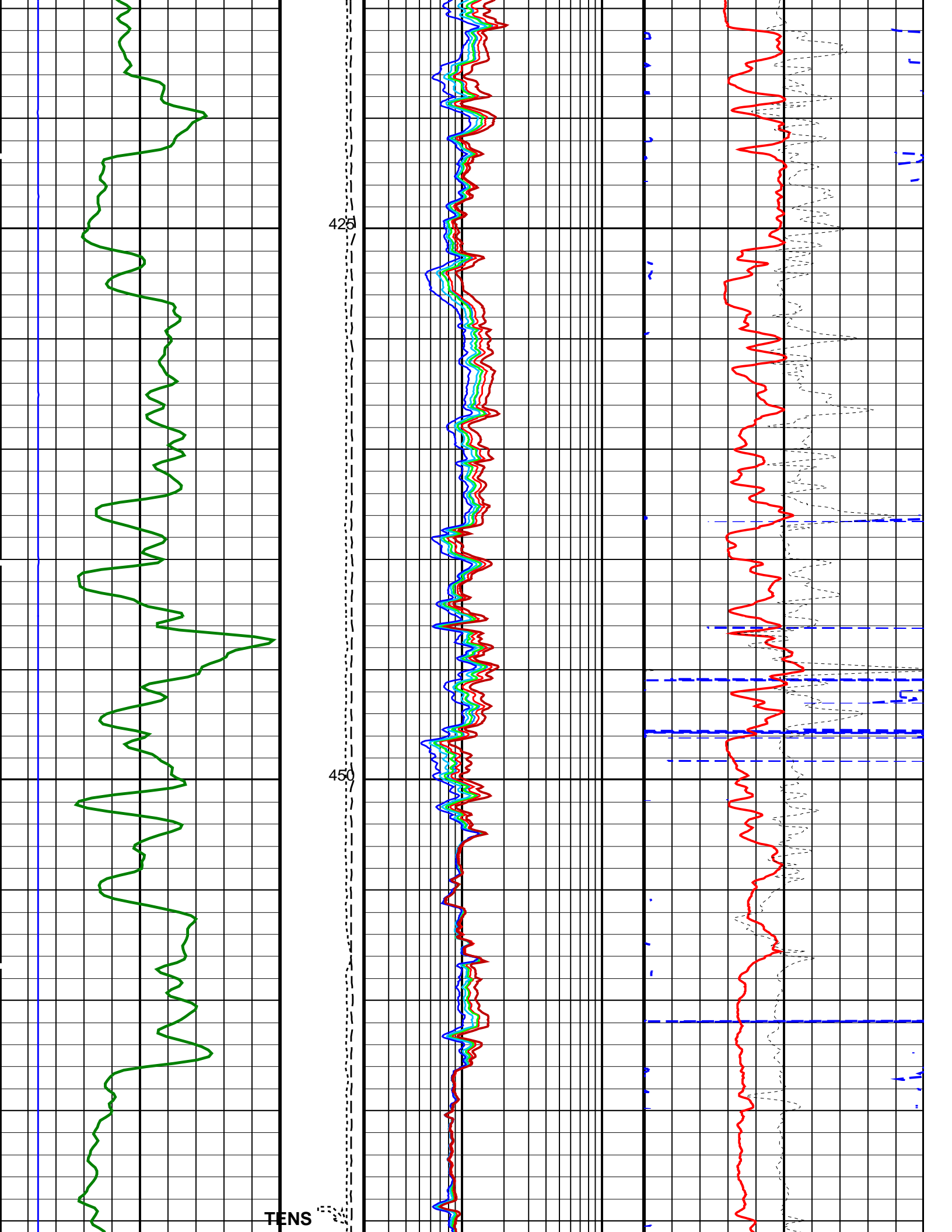




375

400

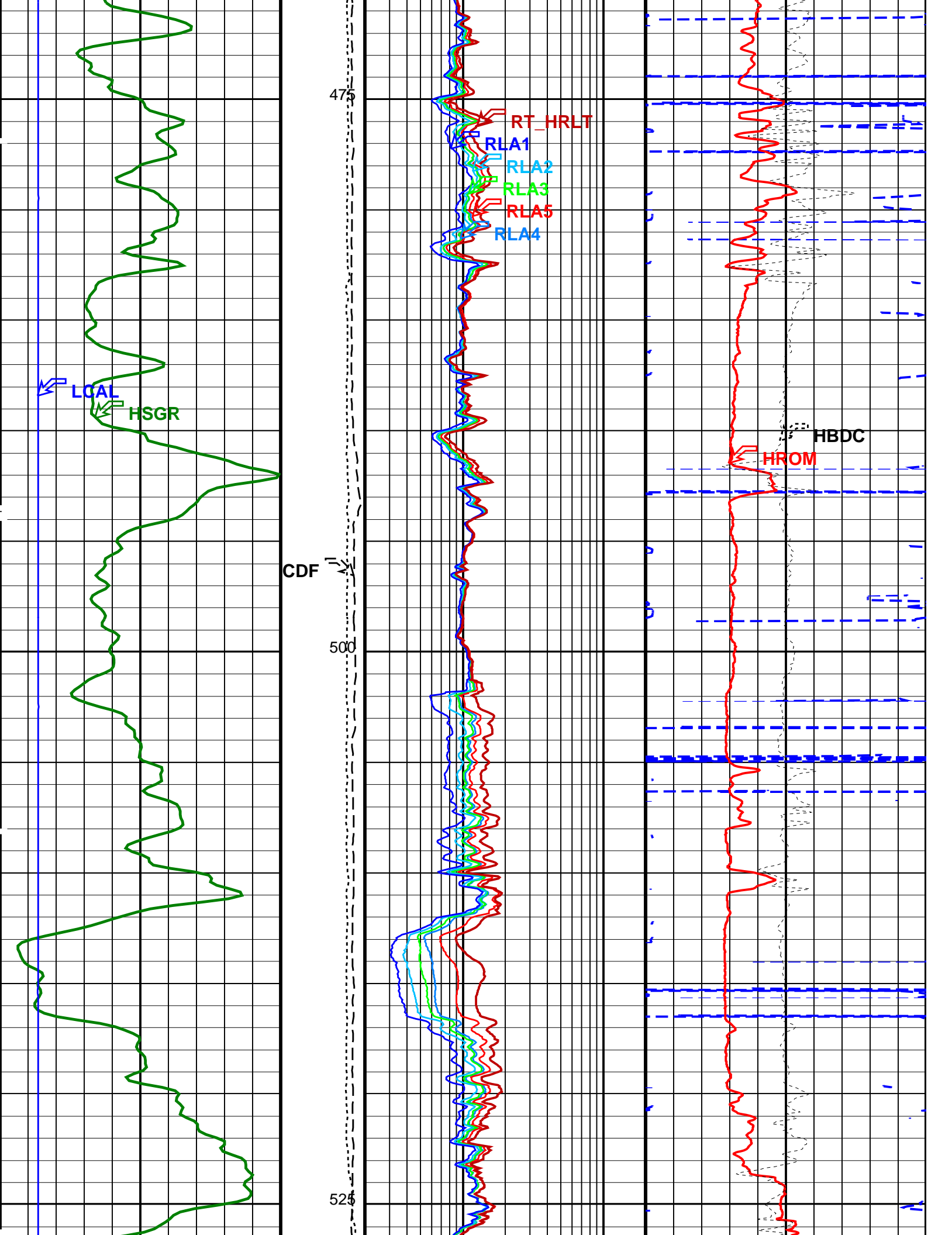


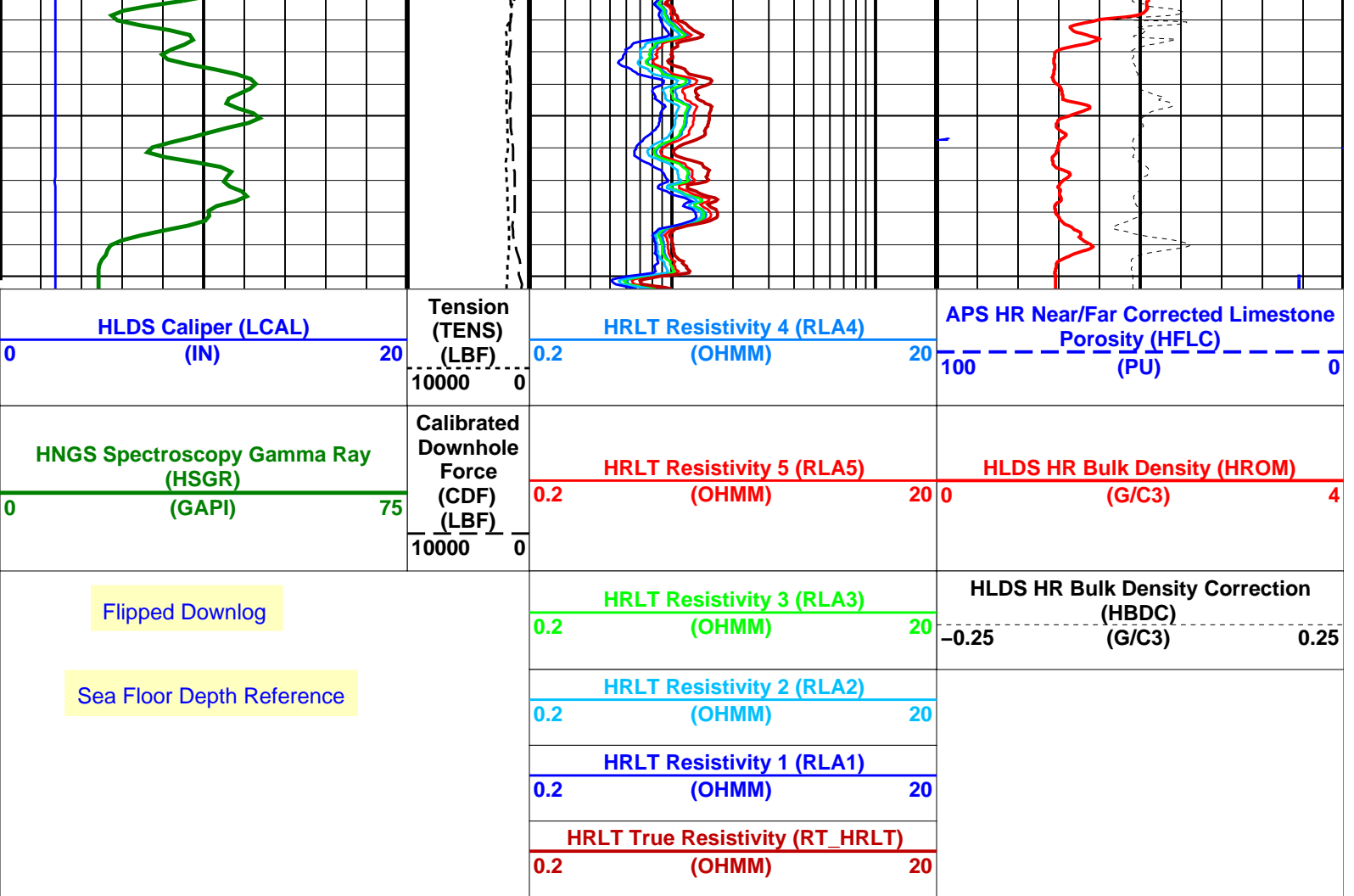


TENS

425

450





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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	OFF
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	2.71 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
APS-C: Accelerator-Porosity Tool		
	APS Software Version	0
AASD	APS Thermal and Array Detectors High Voltage Setting	1962.18 V
ADSO	APS Array Detectors Data Source Switch	Both
AFSD	APS Far Detector High Voltage Setting	2082.06 V
AHCS	APS Holesize Correction Source	BS
AHSS	APS Holesize Correction Switch	ON
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite
ANSD	APS Near Detector High Voltage Setting	1731.78 V
ASOS	APS Standoff Correction Switch	ON
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON
BHFL_APS	APS TNPH Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BHT	Borehole Temperature (used in calculations)	50 DEGE

BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source Correction Option	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.05701	
NFRC	APS Near/Far Calibration Ratio	0.887966	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	NO	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	
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)	50	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00279021	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
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	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.960045	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.971544	
HRLT-B: High Resolution Laterolog Array - B			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	17.0393	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	0.01	DF/F
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	AUTO	
LOOPMOD1	HRLT Mode 1 Loop Mode	AUTO	
LOOPMOD2	HRLT Mode 2 Loop Mode	AUTO	
LOOPMOD3	HRLT Mode 3 Loop Mode	AUTO	
LOOPMOD4	HRLT Mode 4 Loop Mode	AUTO	
LOOPMOD5	HRLT Mode 5 Loop Mode	AUTO	
LOOPMOD6	HRLT Mode 6 Loop Mode	AUTO	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PROCVN	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	
PROCSP0	Sonde Position	Centered	
SHT	Surface Hole Temperature	68	DEGF
EDTC-B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	NO	DEGF
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	0.01	DF/F
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	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	YES	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	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			
ALDTPCHAN	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	43.00	LB/F
DFD	Drilling Fluid Density	1.25	G/C3
DO	Depth Offset for Playback	-655.0	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	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3330	FT
TDD	Total Depth - Driller	990.00	M
TDL	Total Depth - Logger	990.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: TripleCombo Vertical Scale: 1:200 Graphics File Created: 10-Jan-2012 02:25

OP System Version: 19C0-187

HLDS	19C0-187	LDSC-B	19C0-187
APS-C	19C0-187	HNGC-B	19C0-187
HNGS-BA	19C0-187	HRLT-B	19C0-187
EDTC-B	19C0-187		

Input DLIS Files

DEFAULT	Flip_LDL_APS_NGS_028LUP	PRODUCER	02-Jan-2012 05:48	1190.5 M	594.4 M
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Output DLIS Files

DEFAULT	LDL_APS_NGS_HRLA_041PUP	FN:45	PRODUCER	10-Jan-2012 02:25
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Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 17-Nov-2011 16:03 Before: 17-Nov-2011 15:55							
SS Cs Resolution Bkg	9.000	7.741	7.618	N/A	N/A	1.800	%
LS Cs Resolution Bkg	0.000	0.000	0.000	N/A	N/A	1.000	%

LS CS Resolution Bkg	9.000	8.089	8.025	N/A	N/A	1.800	%
LSW1 Background	100.0	87.45	87.45	N/A	N/A	3.000	CPS
LSW2 Background	100.0	80.38	80.38	N/A	N/A	3.000	CPS
LSW3 Background	200.0	180.0	180.0	N/A	N/A	6.000	CPS
LSW4 Background	250.0	224.8	224.8	N/A	N/A	7.500	CPS
LSW5 Background	600.0	526.0	526.0	N/A	N/A	18.00	CPS
SSW1 Background	100.0	85.28	85.28	N/A	N/A	3.000	CPS
SSW2 Background	200.0	147.3	147.3	N/A	N/A	6.000	CPS
SSW3 Background	500.0	409.2	409.2	N/A	N/A	15.00	CPS
SSW4 Background	270.0	221.7	221.7	N/A	N/A	8.100	CPS
SSW5 Background	200.0	158.7	158.7	N/A	N/A	6.000	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Aluminum Measurement

Master: 17-Nov-2011 16:33

LSW1 Aluminum	600.0	560.2	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	815.4	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	984.8	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	493.4	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	450.2	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2639	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7196	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10050	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4135	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	504.7	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Lithology Measurement

Master: 17-Nov-2011 16:29

LSW1 Iron	400.0	389.4	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	674.0	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	897.0	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	464.0	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	424.7	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1967	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	6145	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9395	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3871	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	460.2	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Caliper Calibration

Before: 17-Dec-2011 9:53

HLDS Caliper Small Ring	12.00	N/A	14.33	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	18.10	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration – Detector Background

Master: 16-Nov-2011 15:14 Before: 2-Jan-2012 1:16

Near Det Bkg Cntrate	30.00	31.42	32.02	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	33.69	32.37	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	30.06	28.73	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.35	29.78	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	30.97	32.42	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration – Calibration Ratios

Master: 16-Nov-2011 15:12

Near/Far Calibration Ratio	0.9250	0.8880	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.057	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.006	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration – Tank Check

Master: 16-Nov-2011 15:14

Array-1 Standoff Porosity	11.75	11.83	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.78	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.843	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9874	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	1.012	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	29.40	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration – CCR7 signal boxes

Master: 16-Nov-2011 14:29

Near Detector Plateau Setting	1650	1732	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2082	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1962	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 17-Nov-2011 7:57 Before: 26-Nov-2011 0:21

Na 511 Peak Loc	40.00	39.70	39.69	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.50	15.07	N/A	N/A	2.000	%
High Voltage	1150	1176	1168	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.1	141.8	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.309	8.731	N/A	N/A	2.000	%
Temperature	15.50	29.76	21.55	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	20.77	21.01	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 17–Nov–2011 7:57 Before: 26–Nov–2011 0:21

Na 511 Peak Loc	40.00	39.60	39.49	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.99	15.91	N/A	N/A	2.000	%
High Voltage	1150	1109	1091	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.6	142.3	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.914	8.591	N/A	N/A	2.000	%
Temperature	15.50	29.91	21.84	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	21.44	20.97	N/A	N/A	8.000	CPS

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

Master: 17–Nov–2011 7:57 Before: 26–Nov–2011 0:21

Coincidence Count Rate Ratio	1.000	0.9705	1.004	N/A	N/A	0.05000	
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Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration

Master: 17–Nov–2011 7:52

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.8	--	--	--	--	
Th Peak Res	7.000	6.865	--	--	--	--	%
Background Count Rate	142.5	24.91	--	--	--	--	CPS
Gain Ratio	1.000	1.010	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration

Master: 17–Nov–2011 7:52

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.5	--	--	--	--	
Th Peak Res	7.000	6.879	--	--	--	--	%
Background Count Rate	142.5	24.15	--	--	--	--	CPS
Gain Ratio	1.000	1.001	--	--	--	--	

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M01

Before: 2–Jan–2012 1:09

HRLT M0–M1 Voltage Plus – 0	0	N/A	-319.5	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 1	0	N/A	-336.1	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 2	0	N/A	-336.5	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 3	0	N/A	-339.4	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 4	0	N/A	-326.6	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 5	0	N/A	-322.4	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 6	0	N/A	326.6	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 7	0	N/A	-322.7	N/A	N/A	9.681	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M12

Before: 2–Jan–2012 1:09

HRLT M1–M2 Voltage Plus – 0	0	N/A	1756	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 1	0	N/A	1846	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 2	0	N/A	1844	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 3	0	N/A	1860	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 4	0	N/A	1792	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 5	0	N/A	1770	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 6	0	N/A	-1802	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M23

Before: 2–Jan–2012 1:09

HRLT M2–M3 Voltage Plus – 0	0	N/A	1743	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 1	0	N/A	1845	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 2	0	N/A	1844	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 3	0	N/A	1864	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 4	0	N/A	1789	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 5	0	N/A	1768	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 6	0	N/A	-1789	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V34

Before: 2–Jan–2012 1:09

HRLT A3–A4 Voltage Plus – 0	0	N/A	68490	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 1	0	N/A	72290	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 2	0	N/A	72560	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 3	0	N/A	73600	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 4	0	N/A	70610	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 5	0	N/A	69800	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 6	0	N/A	-69100	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V45

Before: 2–Jan–2012 1:09

HRLT A4–A5 Voltage Plus – 0	0	N/A	68770	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 1	0	N/A	72670	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 2	0	N/A	72910	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 3	0	N/A	73940	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 4	0	N/A	70910	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 5	0	N/A	70000	N/A	N/A	2100	UV

HRLT A4-A5 Voltage Plus - 5	0	N/A	70080	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-69490	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT V56

Before: 2-Jan-2012 1:09

HRLT A5-A6 Voltage Plus - 0	0	N/A	68670	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	72400	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	72670	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	73730	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70780	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	69960	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-69200	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VTP

Before: 2-Jan-2012 1:09

HRLT Torpedo-M0 Voltage - 0	0	N/A	-68330	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-72720	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-72960	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-74020	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-70960	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-70120	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	69470	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD

Before: 2-Jan-2012 1:09

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68330	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-72710	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-72950	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-74010	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70960	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70120	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	69450	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO

Before: 2-Jan-2012 1:09

HRLT Source Current Plus - 0	0	N/A	285.0	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA

High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV

Before: 2-Jan-2012 1:09

HRLT Vertical Voltage PI - 0	0	N/A	-321.5	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-329.9	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-329.6	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-330.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-315.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-326.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	333.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV

Enhanced DTS Cartridge Wellsite Calibration - EDTC Accelerometer Calibration

Before: 2-Jan-2012 1:11

EDTC Z-Axis Acceleration	9.810	N/A	9.755	N/A	N/A	N/A	M/S2
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Enhanced DTS Cartridge Wellsite Calibration - Detector Calibration

Before: 27-Dec-2011 9:12

Gamma Ray (Jig - Bkg)	160.1	N/A	160.1	N/A	N/A	14.56	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	N/A	N/A	15.00	GAPI

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting	1732 V
Far Detector Plateau Setting	2082 V
Array Detector Plateau Setting	1962 V

Primary Equipment:
 Hostile Litho Density Sonde
 Hostile Litho Density High Voltage
 Gamma Source Radioactive

HLDS - D 45
 HLDV - D 45
 GSR - Z 2397

Auxiliary Equipment:
 Hostile Litho Density Pad
 Hostile Litho Density High Voltage Housi

HLDP - C 45
 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		7.741	Master		8.089	Master		87.45
Before		7.618	Before		8.025	Before		87.45
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)		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		80.38	Master		180.0	Master		224.8
Before		80.38	Before		180.0	Before		224.8
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)		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		526.0	Master		85.28	Master		147.3
Before		526.0	Before		85.28	Before		147.3
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)		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		409.2	Master		221.7	Master		158.7
Before		409.2	Before		221.7	Before		158.7
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)		110.0 (Minimum)		200.0 (Nominal)	270.0 (Maximum)

Master: 17-Nov-2011 16:03

Before: 17-Nov-2011 15:55

Hostile Litho-Density Sonde Master Calibration								
Detector Background Measurement								
Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value
Master		87.45	Master		80.38	Master		180.0
55.00 (Minimum)		100.0 (Nominal)	150.0 (Maximum)		50.00 (Minimum)		100.0 (Nominal)	140.0 (Maximum)
110.0 (Minimum)		200.0 (Nominal)	290.0 (Maximum)		110.0 (Minimum)		200.0 (Nominal)	290.0 (Maximum)
Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	LS Cs Resolution Bkg %	Value
Master		224.8	Master		526.0	Master		8.089
140.0 (Minimum)		250.0 (Nominal)	360.0 (Maximum)		330.0 (Minimum)		600.0 (Nominal)	830.0 (Maximum)
7.000 (Minimum)		9.000 (Nominal)	11.000 (Maximum)		7.000 (Minimum)		9.000 (Nominal)	11.000 (Maximum)
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value
Master		85.28	Master		147.3	Master		409.2
55.00 (Minimum)		100.0 (Nominal)	150.0 (Maximum)		100.0 (Minimum)		200.0 (Nominal)	260.0 (Maximum)
280.0 (Minimum)		500.0 (Nominal)	700.0 (Maximum)		280.0 (Minimum)		500.0 (Nominal)	700.0 (Maximum)
Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value	Phase	SS Cs Resolution Bkg %	Value
Master		221.7	Master		158.7	Master		7.741
150.0 (Minimum)		270.0 (Nominal)	380.0 (Maximum)		110.0 (Minimum)		200.0 (Nominal)	270.0 (Maximum)
7.000 (Minimum)		9.000 (Nominal)	11.000 (Maximum)		7.000 (Minimum)		9.000 (Nominal)	11.000 (Maximum)

Master: 17-Nov-2011 16:03

Hostile Litho-Density Sonde Master Calibration								
Detector Aluminum Measurement (bkgd-subtracted)								
Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value
Master		560.2	Master		815.4	Master		984.8
420.0 (Minimum)		600.0 (Nominal)	770.0 (Maximum)		650.0 (Minimum)		900.0 (Nominal)	1150 (Maximum)
800.0 (Minimum)		1100 (Nominal)	1450 (Maximum)		800.0 (Minimum)		1100 (Nominal)	1450 (Maximum)
Phase	LSW4 Aluminum CPS	Value	Phase	LSW5 Aluminum CPS	Value	Phase	SSW1 Aluminum CPS	Value
Master		493.4	Master		450.2	Master		2639
410.0 (Minimum)		580.0 (Nominal)	740.0 (Maximum)		410.0 (Minimum)		570.0 (Nominal)	740.0 (Maximum)
2000 (Minimum)		2800 (Nominal)	3200 (Maximum)		2000 (Minimum)		2800 (Nominal)	3200 (Maximum)
Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value	Phase	SSW4 Aluminum CPS	Value

Master		7196	Master		10050	Master		4135	
	5800 (Minimum)	8000 (Nominal)	9300 (Maximum)	8300 (Minimum)	11600 (Nominal)	13500 (Maximum)	3500 (Minimum)	5000 (Nominal)	5800 (Maximum)
Phase	SSW5 Aluminum CPS		Value						
Master		504.7							
	430.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)						
Master: 17-Nov-2011 16:33									

Hostile Litho-Density Sonde Master Calibration											
Detector Litholog Measurement (bkgd-subtracted)											
Phase	LSW1 Iron CPS		Value	Phase	LSW2 Iron CPS		Value	Phase	LSW3 Iron CPS		Value
Master		389.4	Master		674.0	Master		897.0			
	290.0 (Minimum)	400.0 (Nominal)	560.0 (Maximum)	520.0 (Minimum)	730.0 (Nominal)	950.0 (Maximum)	720.0 (Minimum)	1000 (Nominal)	1350 (Maximum)		
Phase	LSW4 Iron CPS		Value	Phase	LSW5 Iron CPS		Value	Phase	SSW1 Iron CPS		Value
Master		464.0	Master		424.7	Master		1967			
	370.0 (Minimum)	520.0 (Nominal)	700.0 (Maximum)	340.0 (Minimum)	470.0 (Nominal)	750.0 (Maximum)	1500 (Minimum)	2100 (Nominal)	2400 (Maximum)		
Phase	SSW2 Iron CPS		Value	Phase	SSW3 Iron CPS		Value	Phase	SSW4 Iron CPS		Value
Master		6145	Master		9395	Master		3871			
	4900 (Minimum)	6800 (Nominal)	7900 (Maximum)	7800 (Minimum)	10800 (Nominal)	12600 (Maximum)	3300 (Minimum)	4600 (Nominal)	5400 (Maximum)		
Phase	SSW5 Iron CPS		Value								
Master		460.2									
	420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)								
Master: 17-Nov-2011 16:29											

Hostile Litho-Density Sonde Master Calibration											
Quality Ratios											
Phase	AL CALIBRATION RATIO 1		Value	Phase	AL CALIBRATION RATIO 2		Value	Phase	AL CALIBRATION RATIO 3		Value
Master		1.044	Master		2.167	Master		0.5937			
	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.900 (Minimum)	2.100 (Nominal)	2.300 (Maximum)	0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)		
Phase	AL CALIBRATION RATIO 4		Value	Phase	Pad-Wear SS Ratio		Value	Phase	Pad-Wear LS Ratio		Value
Master		0.5690	Master		0.9915	Master		0.9856			
	0.4000 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)		
Phase	Pad-Position SS Ratio		Value	Phase	Pad-Position LS Ratio		Value				
Master		1.003	Master		0.9882						
	0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)	0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)					
Master: 17-Nov-2011 16:35											

Litho-Density Spectroscopy Cartridge - B / Equipment Identification		
Primary Equipment:		
LDSC Cartridge	LDSC - B	521
Auxiliary Equipment:		
LDSC Housing	LDSH - A	319

Accelerator-Porosity Tool / Equipment Identification		
Primary Equipment:		
Accelerator-Porosity Sonde	APS - C	22
APS Minitron	MNTR - F	5978
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	22
APS Calibration Water Tank	SFT - 178	1
APS Aluminum Calibrator Sleeve	SFT - 281	1

Accelerator-Porosity Tool Wellsite Calibration											
Detector Background											
Phase	Near Det Bkg Cntrate	CPS	Value	Phase	Far Det Bkg Cntrate	CPS	Value	Phase	Array-1 Det Bkg Cntrate	CPS	Value
Master			31.42	Master			33.69	Master			30.06
Before			32.02	Before			32.37	Before			28.73
	1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)		1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)		1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)
Phase	Array-2 Det Bkg Cntrate	CPS	Value	Phase	Array Therm Det Bkg Cntrate	CPS	Value				
Master			29.35	Master			30.97				
Before			29.78	Before			32.42				
	1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)		1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)				
Master: 16-Nov-2011 15:14						Before: 2-Jan-2012 1:16					

Accelerator-Porosity Tool Wellsite Calibration											
Calibration Ratios											
Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value			
Master		0.8880	Master		1.057	Master		1.006			
	0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)		0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)		0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)
Master: 16-Nov-2011 15:12											

Accelerator-Porosity Tool Wellsite Calibration											
Tank Check											
Phase	Array-1 Standoff Porosity	PU	Value	Phase	Array-2 Standoff Porosity	PU	Value	Phase	Average Slowing Down Time	US	Value
Master			11.83	Master			11.78	Master			5.843
	9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)		9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)		5.500 (Minimum)	6.000 (Nominal)	6.250 (Maximum)
Phase	Array-1 SDT Ratio Up/Down	Value	Phase	Array-2 SDT Ratio Up/Down	Value	Phase	Sigma Formation	CU	Value		
Master		0.9874	Master		1.012	Master			29.40		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)
Master: 16-Nov-2011 15:14											

Accelerator-Porosity Tool Master Calibration											
Detector Calibration											
Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value			
Master		0.8880	Master		1.057	Master		1.006			
	0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)		0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)		0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)
Master: 16-Nov-2011 15:12											

Accelerator-Porosity Tool Master Calibration											
Tank Check											
Phase	Array-1 Standoff Porosity	PU	Value	Phase	Array-2 Standoff Porosity	PU	Value	Phase	Average Slowing Down Time	US	Value
Master			11.83	Master			11.78	Master			5.843
	9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)		9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)		5.500 (Minimum)	6.000 (Nominal)	6.250 (Maximum)
Phase	Array-1 SDT Ratio Up/Down	Value	Phase	Array-2 SDT Ratio Up/Down	Value	Phase	Sigma Formation	CU	Value		
Master		0.9874	Master		1.012	Master			29.40		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)
Master: 16-Nov-2011 15:14											

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
Gamma Source Radioactive

HNSH – BA 205
GSR – U 616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration								
Detector 1 Check								
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.70	Master		15.50	Master		1176
Before		39.69	Before		15.07	Before		1168
	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		142.1	Master		8.309	Master		29.76
Before		141.8	Before		8.731	Before		21.55
	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		20.77						
Before		21.01						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 17–Nov–2011 7:57			Before: 26–Nov–2011 0:21					

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		39.60	Master		16.99	Master		1109
Before		39.49	Before		15.91	Before		1091
	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		9.914	Master		29.91
Before		142.3	Before		8.591	Before		21.84
	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		21.44						
Before		20.97						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 17–Nov–2011 7:57			Before: 26–Nov–2011 0:21					

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9705
Before		1.004
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 17–Nov–2011 7:57		
Before: 26–Nov–2011 0:21		

Hostile Natural Gamma Ray Sonde Master Calibration								
Detector 1 Calibration								
Phase	Na 511 Peak Set Point	Value	Phase	Th Peak Loc	Value	Phase	Th Peak Res %	Value
Master		41.00	Master		210.8	Master		6.865

38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)	201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)	5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value	
Master			24.91	Master			1.010	
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)	

Master: 17-Nov-2011 7:52

Hostile Natural Gamma Ray Sonde Master Calibration											
Detector 2 Calibration											
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value
Master			41.00	Master			208.5	Master			6.879
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value				
Master			24.15	Master			1.001				
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				

Master: 17-Nov-2011 7:52









High Resolution Laterolog Array – B / Equipment Identification









Primary Equipment:	HRLT Sonde	HRLS – B	969
Auxiliary Equipment:	HRLT lower Housing	HRLH – B	759
	HRLT Lower Cartridge	HRLC – B	759
	HRLT upper Housing	HRLH – B	769
	HRLT Upper Cartridge	HRUC – B	769









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M01						
Idx	Phase	HRLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-319.5	-322.7	-280.7	-379.7
1	Before		-336.1	-322.7	-280.7	-379.7
2	Before		-336.5	-322.7	-280.7	-379.7
3	Before		-339.4	-322.7	-280.7	-379.7
4	Before		-326.6	-322.7	-280.7	-379.7
5	Before		-322.4	-322.7	-280.7	-379.7
6	Before		326.6	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
		(Minimum) (Nominal) (Maximum)				




Before: 2-Jan-2012 1:09

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M12						
Idx	Phase	HRLT M1-M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1756	1781	2095	1549
1	Before		1846	1781	2095	1549
2	Before		1844	1781	2095	1549
3	Before		1860	1781	2095	1549
4	Before		1792	1781	2095	1549
5	Before		1770	1781	2095	1549
6	Before		-1802	-1781	-1549	-2095
7	Before		1781	1781	2095	1549
		(Minimum) (Nominal) (Maximum)				

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2–M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1743	1781	2095	1549
1	Before		1845	1781	2095	1549
2	Before		1844	1781	2095	1549
3	Before		1864	1781	2095	1549
4	Before		1789	1781	2095	1549
5	Before		1768	1781	2095	1549
6	Before		-1789	-1781	-1549	-2095
7	Before		1781	1781	2095	1549
		(Minimum) (Nominal) (Maximum)				

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V34						
Idx	Phase	HRLT A3–A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68490	70000	82360	60900
1	Before		72290	70000	82360	60900
2	Before		72560	70000	82360	60900
3	Before		73600	70000	82360	60900
4	Before		70610	70000	82360	60900
5	Before		69800	70000	82360	60900
6	Before		-69100	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
		(Minimum) (Nominal) (Maximum)				

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4–A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68770	70000	82360	60900
1	Before		72670	70000	82360	60900
2	Before		72910	70000	82360	60900
3	Before		73940	70000	82360	60900
4	Before		70910	70000	82360	60900
5	Before		70080	70000	82360	60900
6	Before		-69490	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
		(Minimum) (Nominal) (Maximum)				

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5–A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68670	70000	82360	60900
1	Before		72400	70000	82360	60900
2	Before		72670	70000	82360	60900

3	Before		73730	70000	82360	60900
4	Before		70780	70000	82360	60900
5	Before		69960	70000	82360	60900
6	Before		-69200	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
			(Minimum)	(Nominal)	(Maximum)	

Before: 2-Jan-2012 1:09

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT VTP							
Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-68330	-70000	-60900	-82360	
1	Before		-72720	-70000	-60900	-82360	
2	Before		-72960	-70000	-60900	-82360	
3	Before		-74020	-70000	-60900	-82360	
4	Before		-70960	-70000	-60900	-82360	
5	Before		-70120	-70000	-60900	-82360	
6	Before		69470	70000	82360	60900	
7	Before		-70000	-70000	-60900	-82360	
			(Minimum)	(Nominal)	(Maximum)		

Before: 2-Jan-2012 1:09

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT VBD							
Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum	
0	Before		-68330	-70000	-60900	-82360	
1	Before		-72710	-70000	-60900	-82360	
2	Before		-72950	-70000	-60900	-82360	
3	Before		-74010	-70000	-60900	-82360	
4	Before		-70960	-70000	-60900	-82360	
5	Before		-70120	-70000	-60900	-82360	
6	Before		69450	70000	82360	60900	
7	Before		-70000	-70000	-60900	-82360	
			(Minimum)	(Nominal)	(Maximum)		

Before: 2-Jan-2012 1:09

High Resolution Laterolog Array – B Wellsite Calibration							
HRLT ISO							
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum	
0	Before		285.0	284.0	334.1	247.0	
1	Before		281.1	281.1	330.7	244.4	
2	Before		281.1	281.1	330.7	244.4	
3	Before		281.1	281.1	330.7	244.4	
4	Before		281.1	281.1	330.7	244.4	
5	Before		281.1	281.1	330.7	244.4	
6	Before		281.1	281.1	330.7	244.4	
7	Before		281.1	281.1	330.7	244.4	
			(Minimum)	(Nominal)	(Maximum)		

Before: 2-Jan-2012 1:09

High Resolution Laterolog Array – B Wellsite Calibration

HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-321.5	-322.7	-280.7	-379.7
1	Before		-329.9	-322.7	-280.7	-379.7
2	Before		-329.6	-322.7	-280.7	-379.7
3	Before		-330.8	-322.7	-280.7	-379.7
4	Before		-315.8	-322.7	-280.7	-379.7
5	Before		-326.8	-322.7	-280.7	-379.7
6	Before		333.4	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
		(Minimum) (Nominal) (Maximum)				

Before: 2-Jan-2012 1:09

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		9.755
		9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)

Before: 2-Jan-2012 1:11

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		6.619	Before		160.1	Before		164.0
		0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			145.6 (Minimum) 160.1 (Nominal) 174.7 (Maximum)			149.0 (Minimum) 164.0 (Nominal) 179.0 (Maximum)

Before: 27-Dec-2011 9:12

Company: **Lamont Doherty**

Schlumberger

Well: **Expedition 339, Site U1389 GC-11A Hole E**

Field: **Mediterranean Outflow (Portugal)**

Rig: **JOIDES Resolution**

Ocean: **Atlantic**

High Resolution Laterolog Array

Hostile Litho Density

Accelerator Porosity Sande/CP (HNCS)

