

Company: Lamont Doherty

Well: Expedition 317 Site U1351B

Field: Canterbury Basin

Rig: JOIDES Resolution Ocean: Pacific

Induction Resistivity (DIT)

Rig: JOIDES Resolution
 Field: Canterbury Basin
 Location: Latitude: S 44° 53.044'
 Well: Expedition 317 Site U1351B
 Company: Lamont Doherty

LOCATION			
Latitude: S 44° 53.044'		Elev.:	K.B. 11.00 m
Longitude: E 171° 50.408'		G.L.	0.00 m
		D.F.	11.00 m
Permanent Datum:	Sea Bed	Elev.:	0.00 m
Log Measured From:	Drill Floor	0.00 m	above Perm. Datum
Drilling Measured From:	Drill Floor		
API Serial No.	Max. Hole Devi.	Longitude	Latitude
	0 deg	S 44° 43.044'	E 171° 50.408'

Logging Date	24-Nov-2009		
Run Number	1		
Depth Driller	1030.5 m		
Schlumberger Depth	1030.5 m		
Bottom Log Interval	1028.5 m		
Top Log Interval	82.5 m		
Casing Driller Size @ Depth	4.500 in	@	83.3 m
Casing Schlumberger	82.5 m		
Bit Size	11.438 in		
Type Fluid In Hole	Seawater Gel		
Density	Viscosity		
Fluid Loss	PH		
Source Of Sample	N/A		
RM @ Measured Temperature		@	@
RMF @ Measured Temperature		@	@
RMC @ Measured Temperature		@	@
Source RMF	RMC		
RM @ MRT	RMF @ MRT		
	@ 15	@ 15	@
Maximum Recorded Temperatures	15 degC		
Circulation Stopped	Time	24-Nov-2009	11:00
Logger On Bottom	Time	25-Nov-2009	2:25
Unit Number	Location	625003	Houston
Recorded By	C. Fuman		
Witnessed By	A. Slagle, G. Guerin		

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

DISCLAIMER

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OTHER SERVICES1

- OS1: FMS
- OS2: DSI
- OS3: HNGS
- OS4: APS/HLDS

REMARKS: RUN NUMBER 1

Logs run in second hole ("B" hole) of drilling site U1351 to aid in depth correlation of core data collected in surface labs.
 Average heave during the run was only 0.2m; Active Heave Compensator used.
 TD was found to be 1163mBRF with the pipe (bit) at 215mBRF. Sea Bed given as 132.7mBRF.
 Hole Size input taken from HLDS Caliper.
 Tools run slick in order to fit through drill pipe, as is standard practice on this project.
 HLDS Caliper closed at approximately 239m to facility entry into drill pipe.
 APS minitron deactivated at approximately 222m.
 GR affected by formation activation from the APS minitron from TD to approximately 1100mbrf.





Depth "Zero" reference adjusted to Sea Bed picked by client.

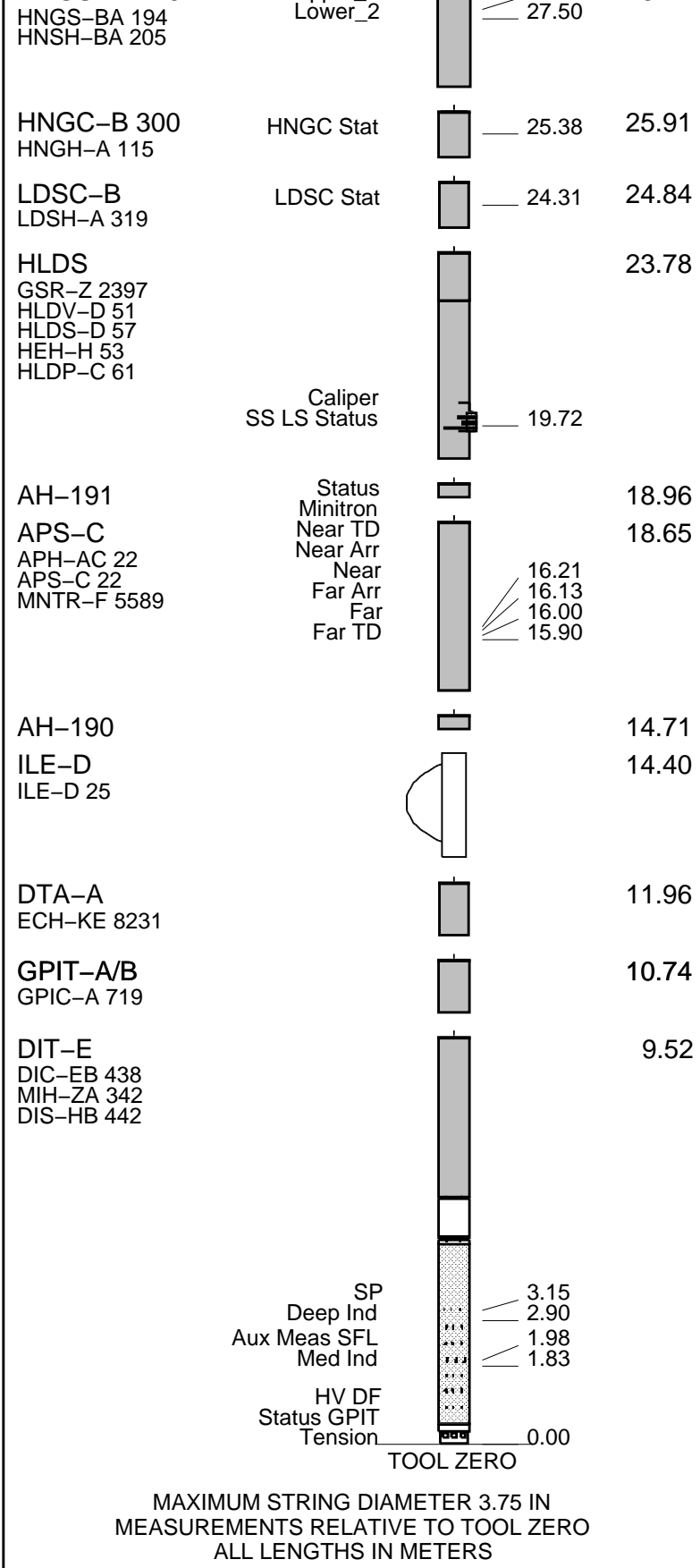
Depths shown are measured depth below sea floor, as per client request.

RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
17C0-154					
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1		RUN 2	
SURFACE EQUIPMENT			
SFT-281 2			
SFT-178 2			
GSR-U 616008			
WITM (DTS)-A			

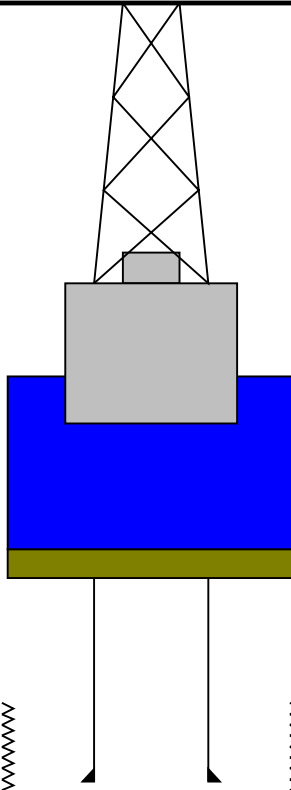
RUN 1		RUN 2	
DOWNHOLE EQUIPMENT			
LEH-QT		30.21	
LEH-QT 301			
DTC-H	CTEM 	29.04	29.32
ECH-KC 2304	TelStatus 	28.41	
HNGS-BA 194	ToolStatu 	27.71	28.41
	Upper 1		



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

Kelly Bushing Elevation
 Derrick Floor Elevation
 Mean Sea Level

0.0
 0.0
 11.0



0.0 4.500
 132.7 11.340
 215.8 4.500

Drill Pipe
 Sea Bed
 Bit Depth for Logging

Driller's Depths

1163.3 11.340

Total Depth

Schlumberger

Main Pass

MAXIS Field Log

Input DLIS Files

DEFAULT	PI_APS_LDL_NGS_036PUP	FN:46	PRODUCER	26-Nov-2009 14:50	1164.3 M	100.1 M
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Output DLIS Files

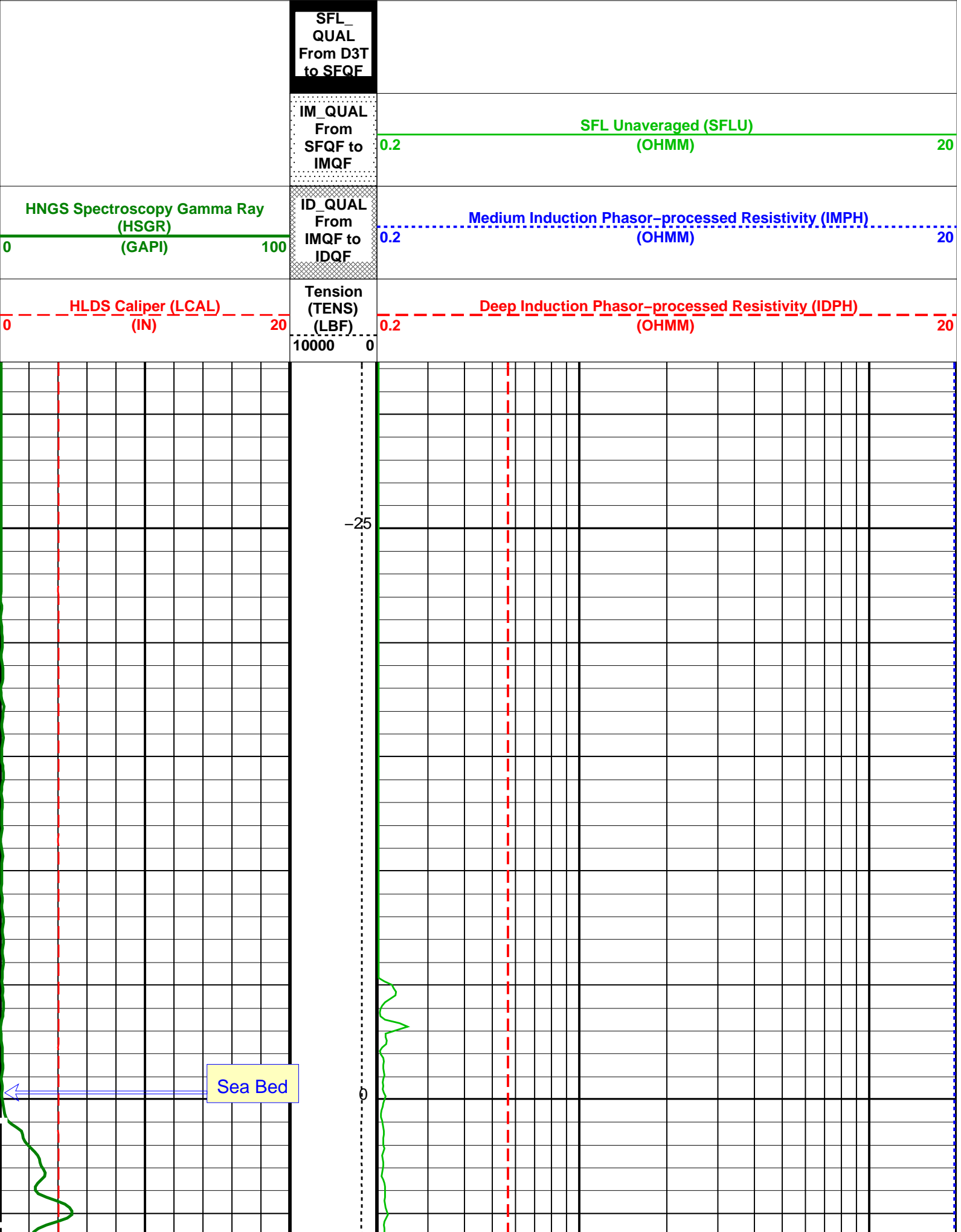
DEFAULT	PI_APS_LDL_NGS_042PUP	FN:52	PRODUCER	31-Dec-2009 20:17	1031.0 M	-32.3 M
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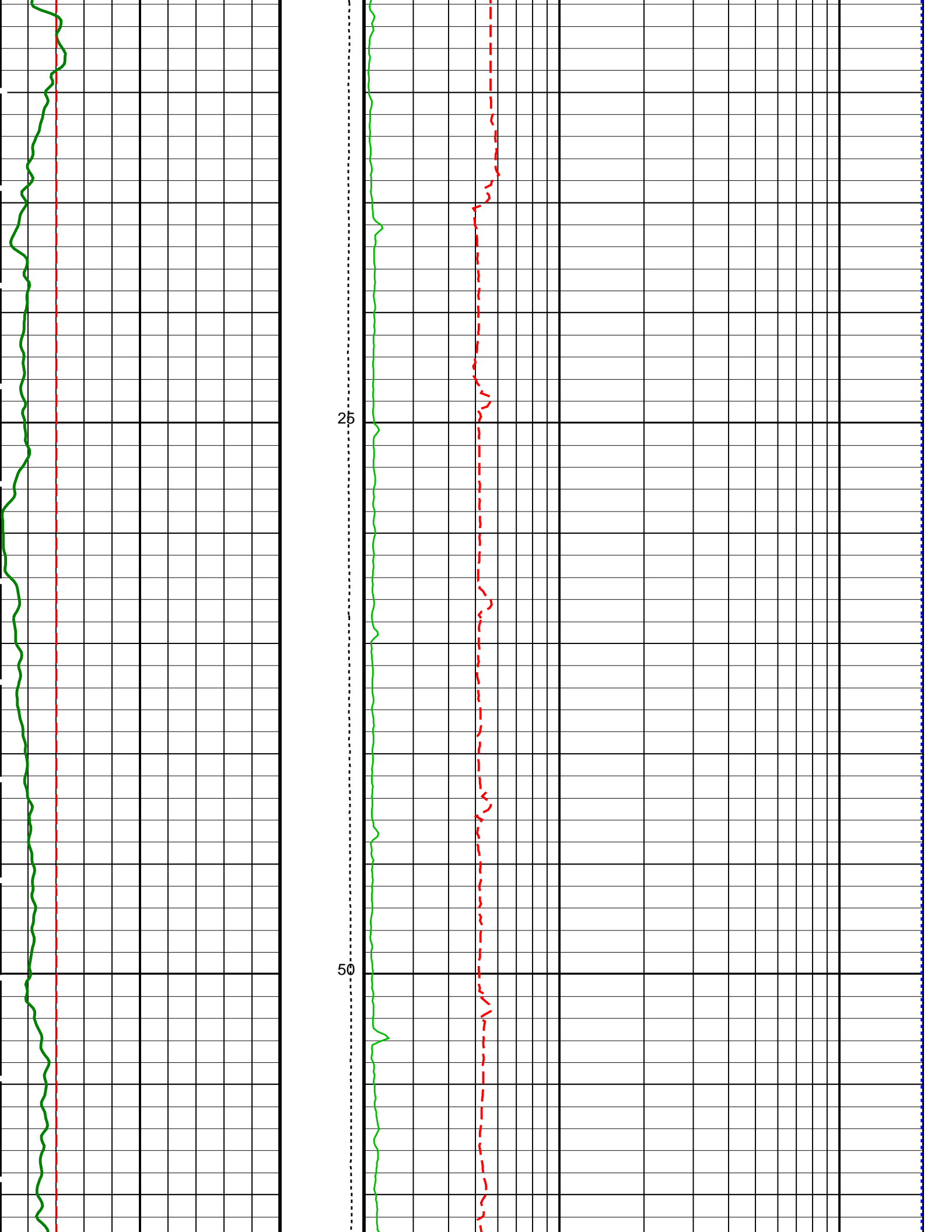
OP System Version: 17C0-154

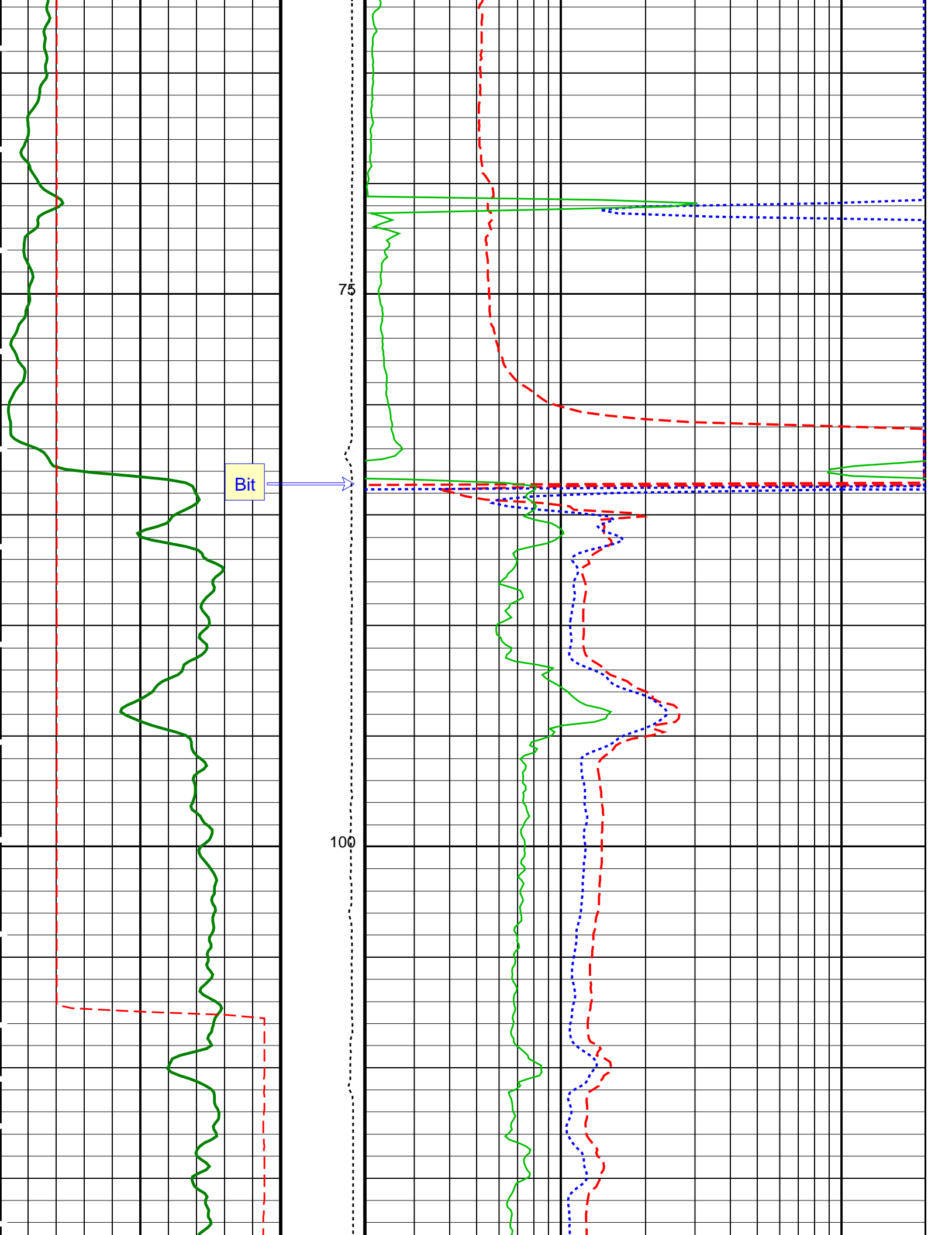
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	APS-C	17C0-154
HLDS	17C0-154	LDSC-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

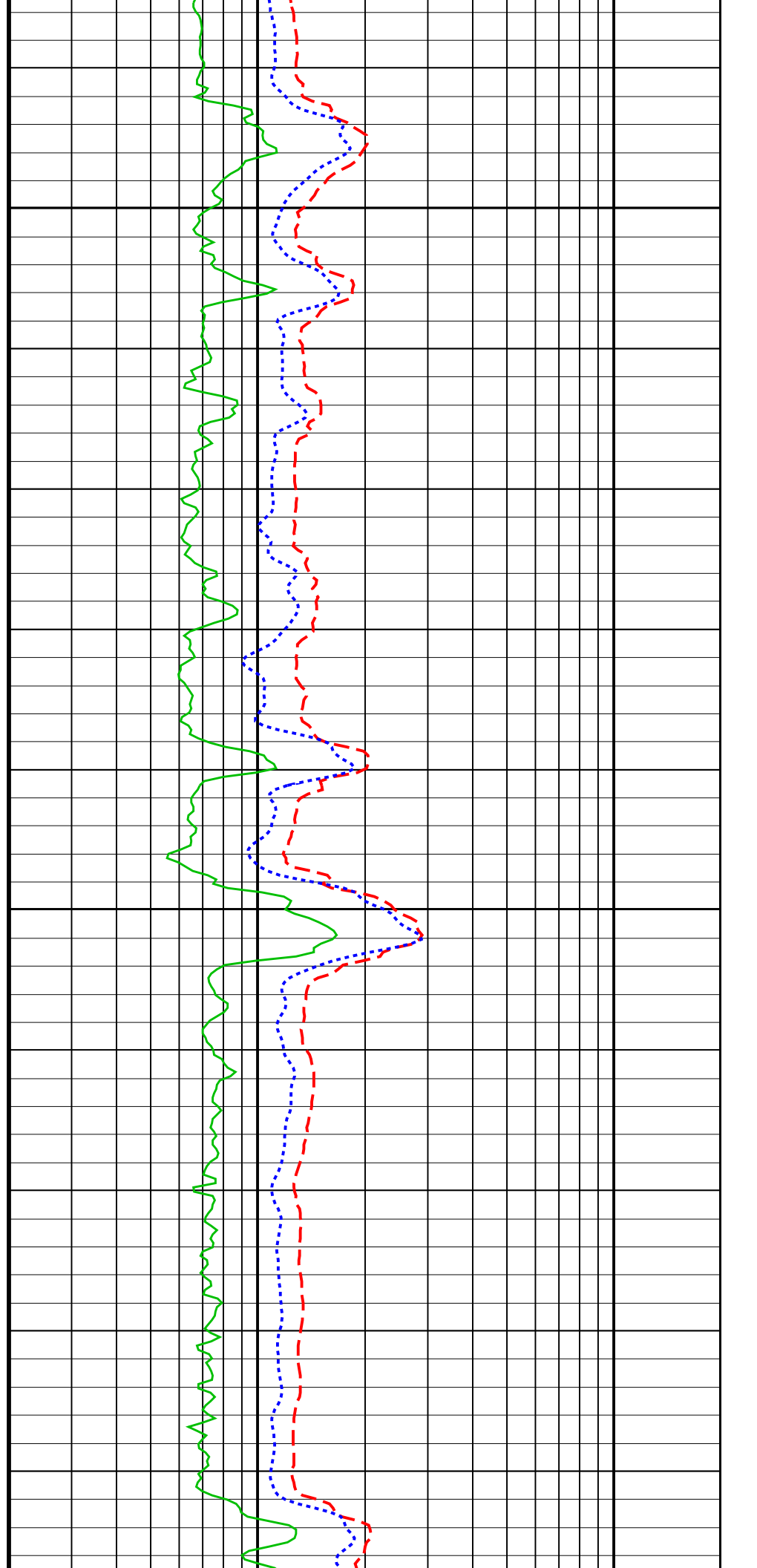
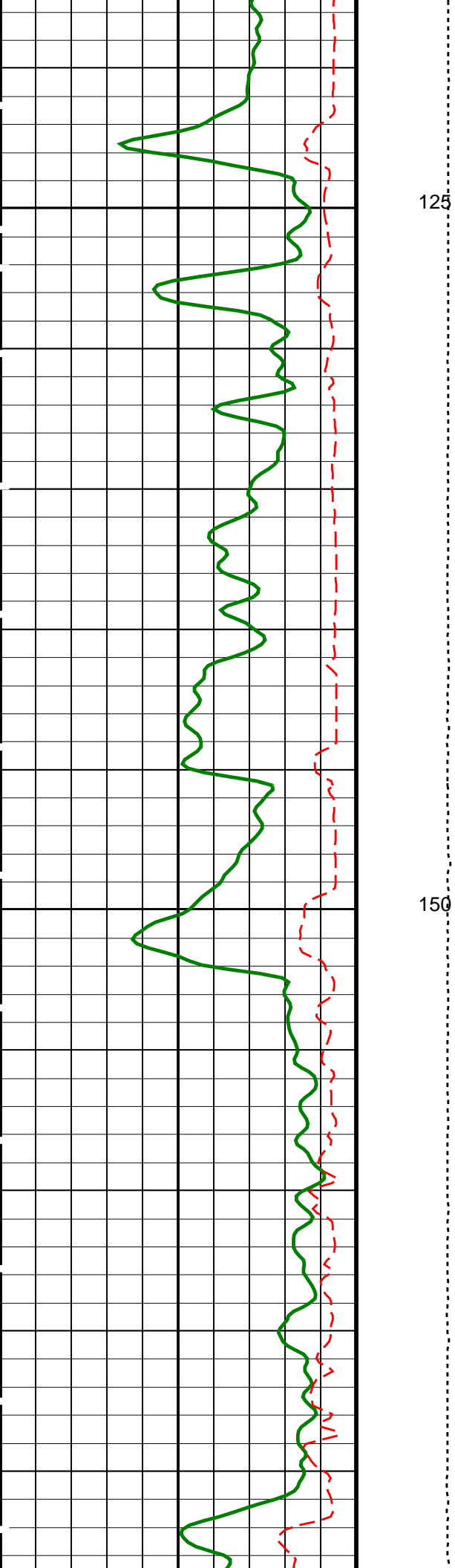
PIP SUMMARY

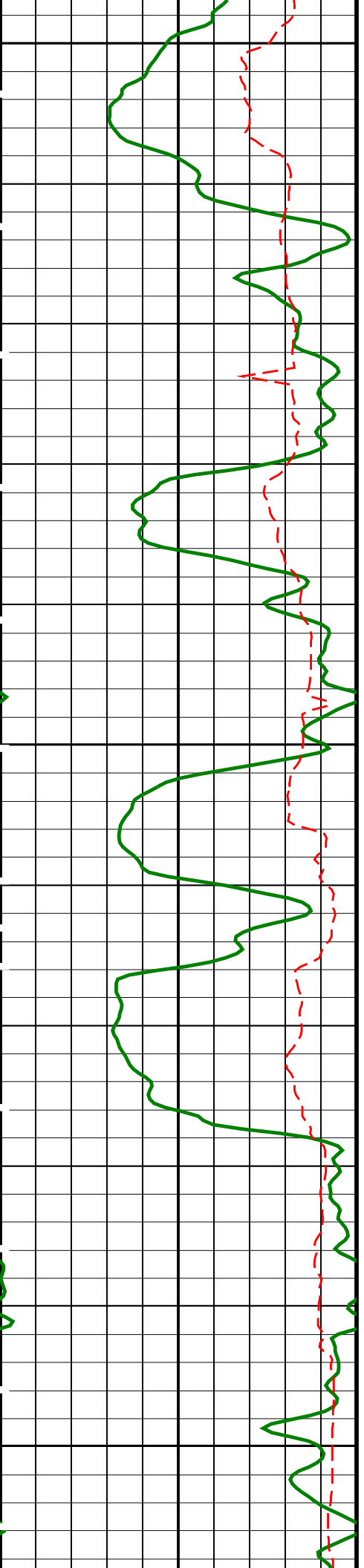
Time Mark Every 60 S







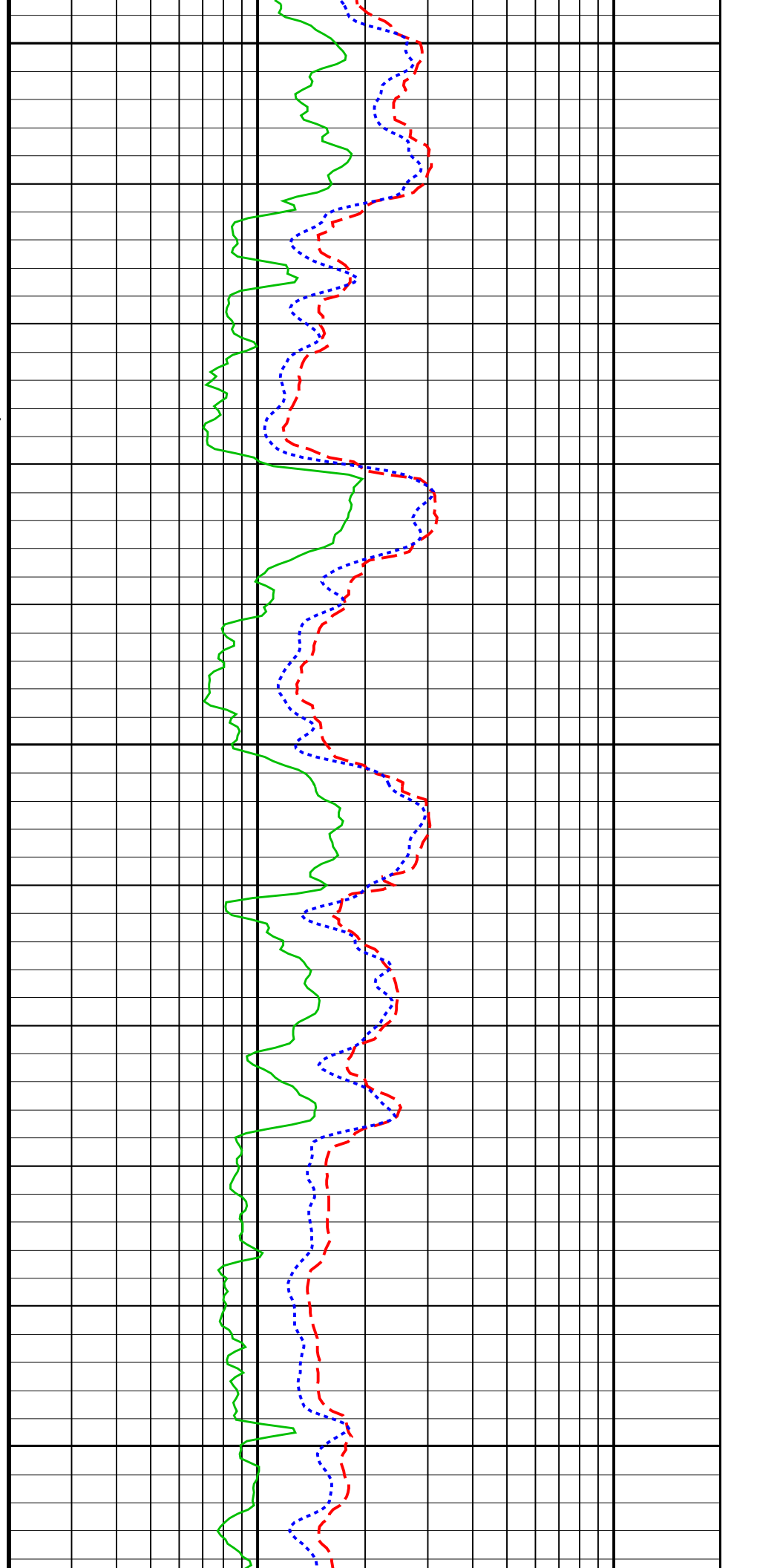


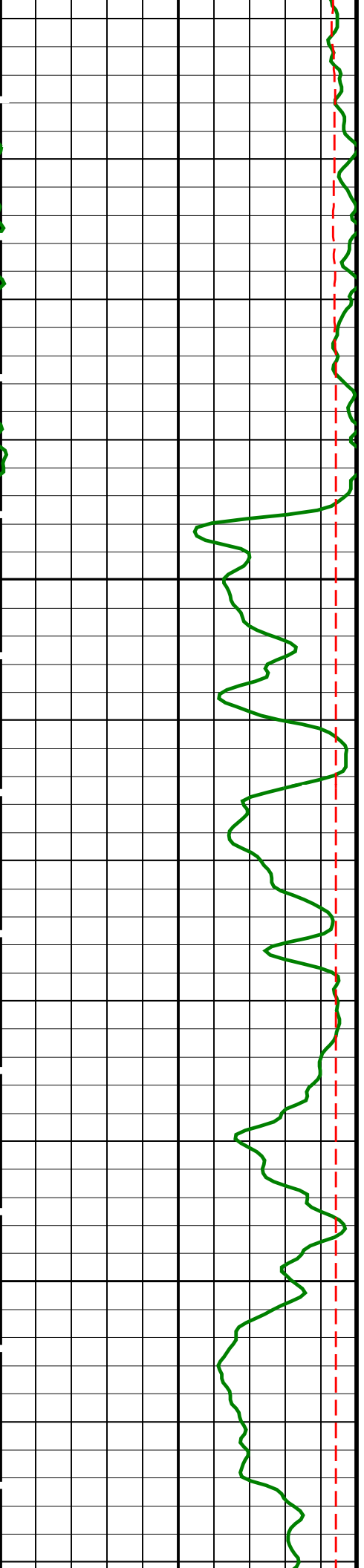


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200

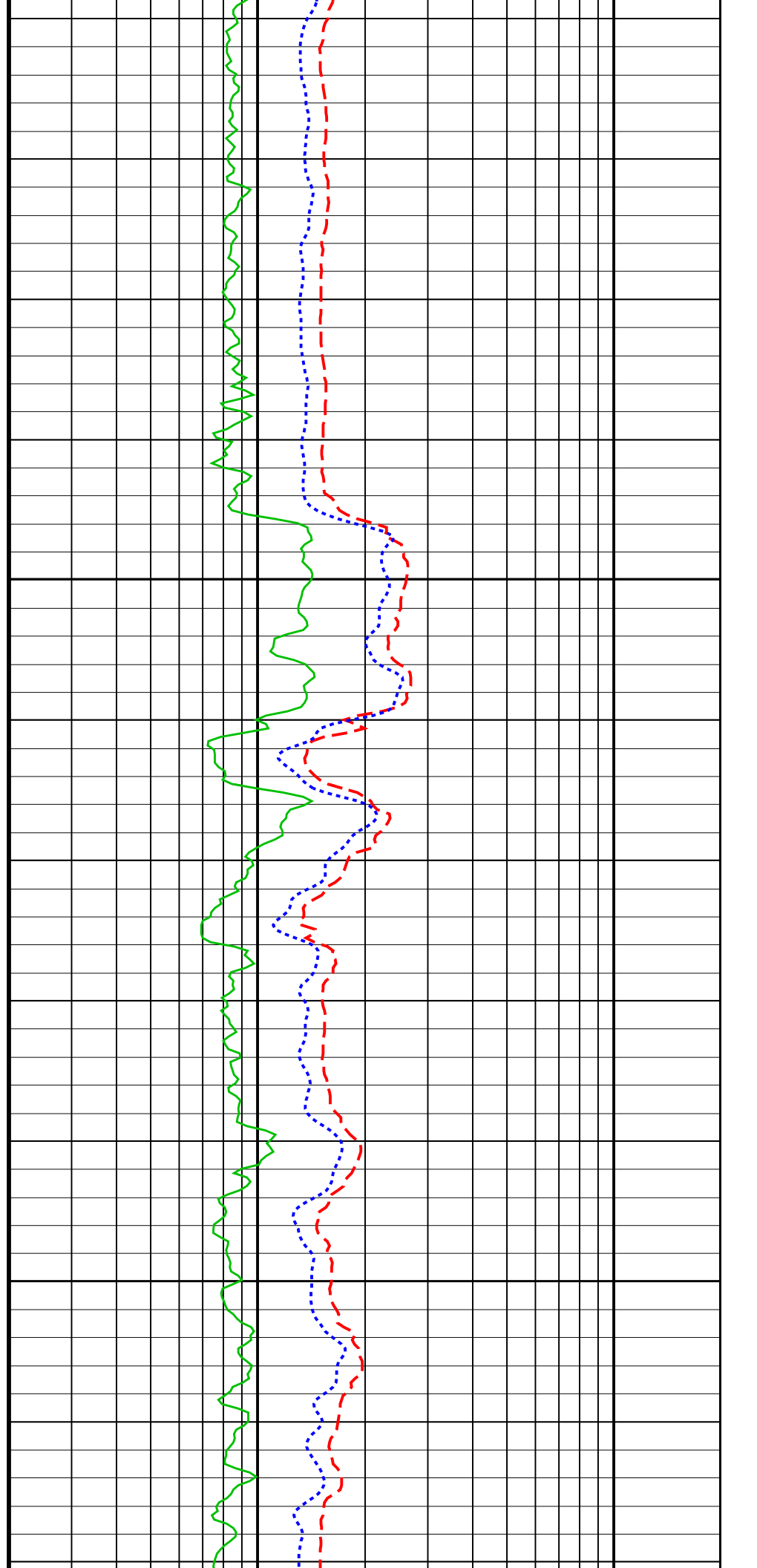
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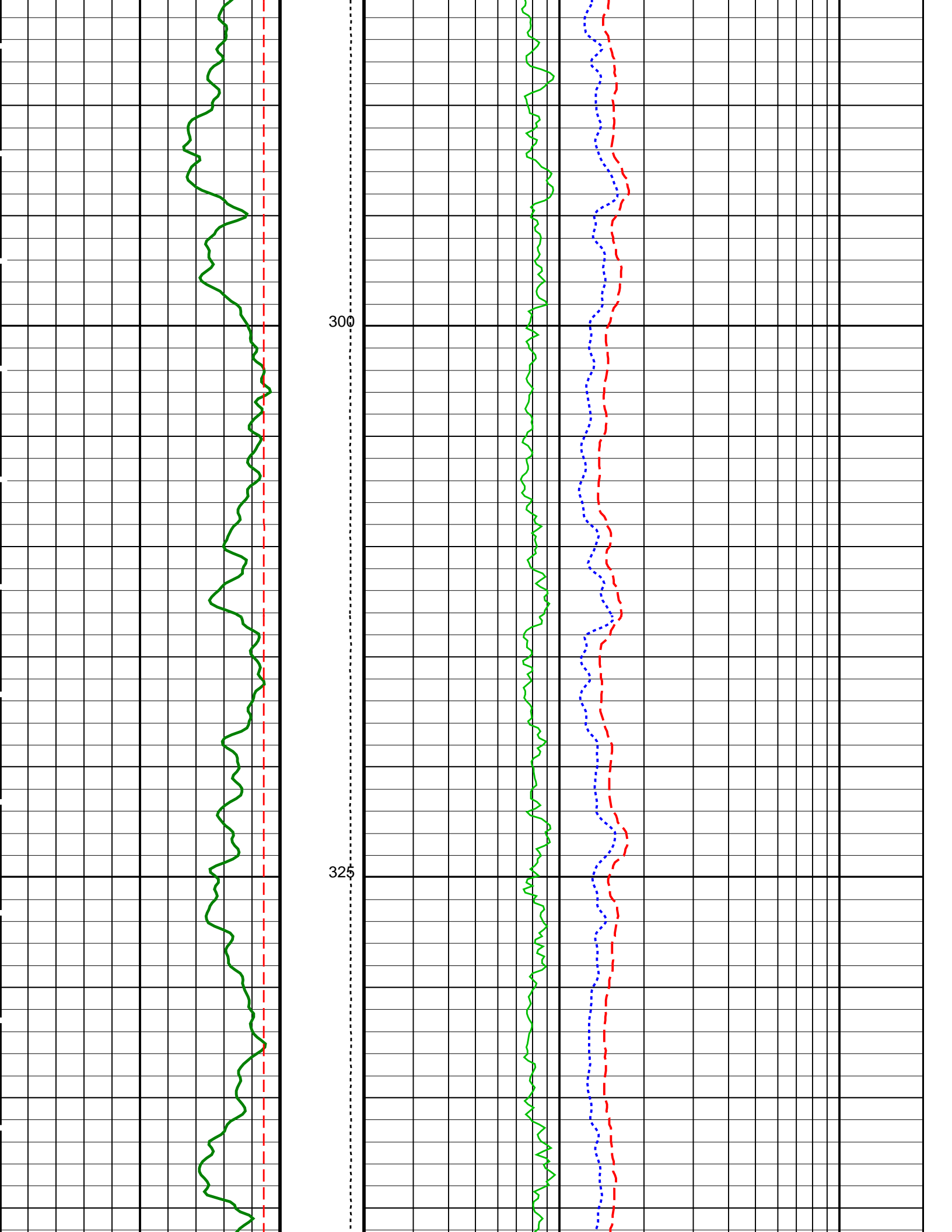


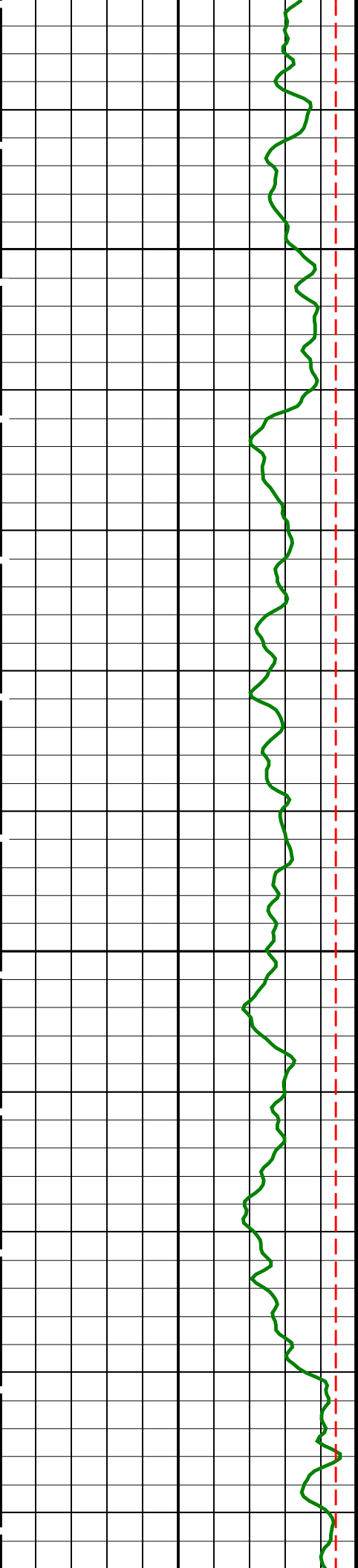


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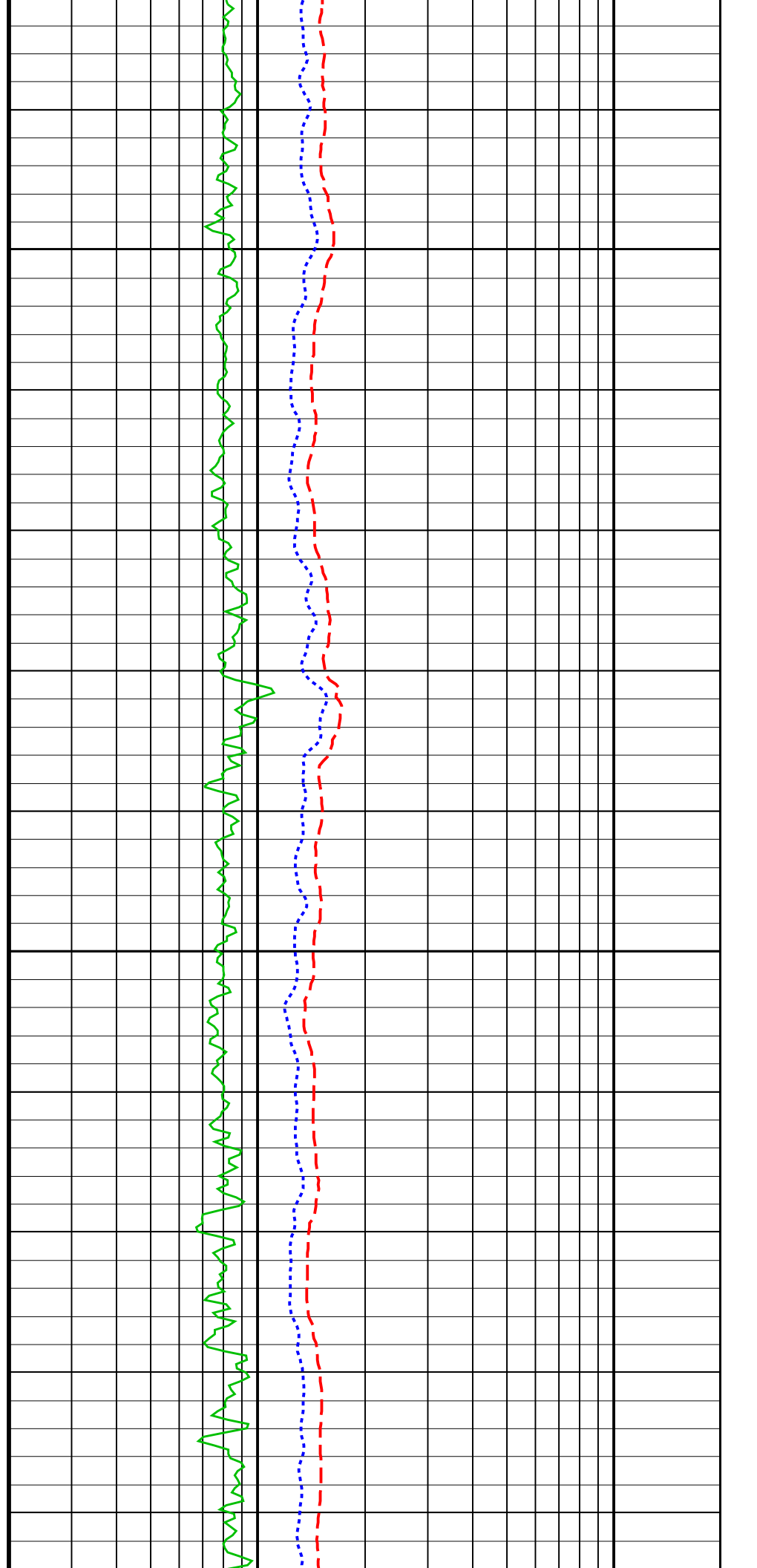


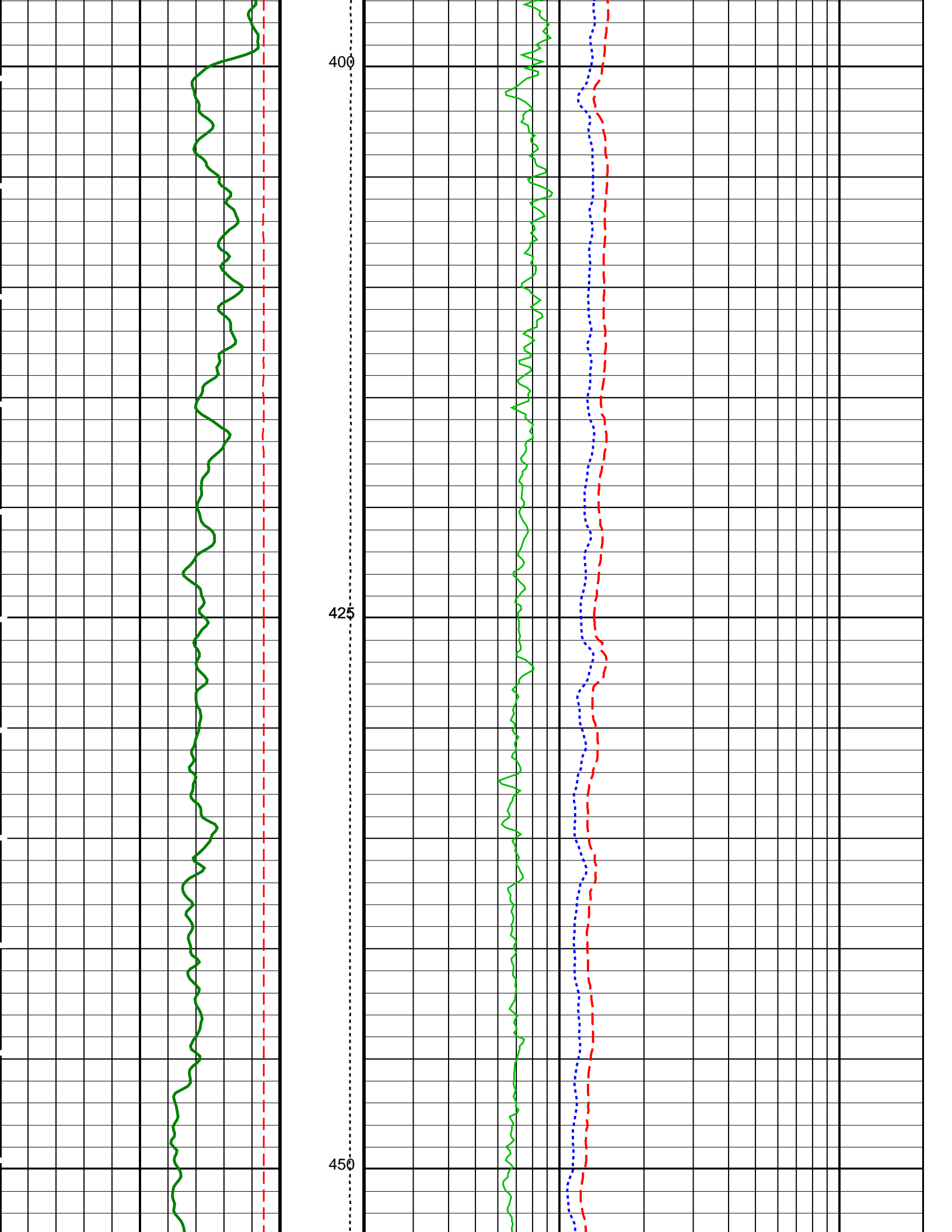


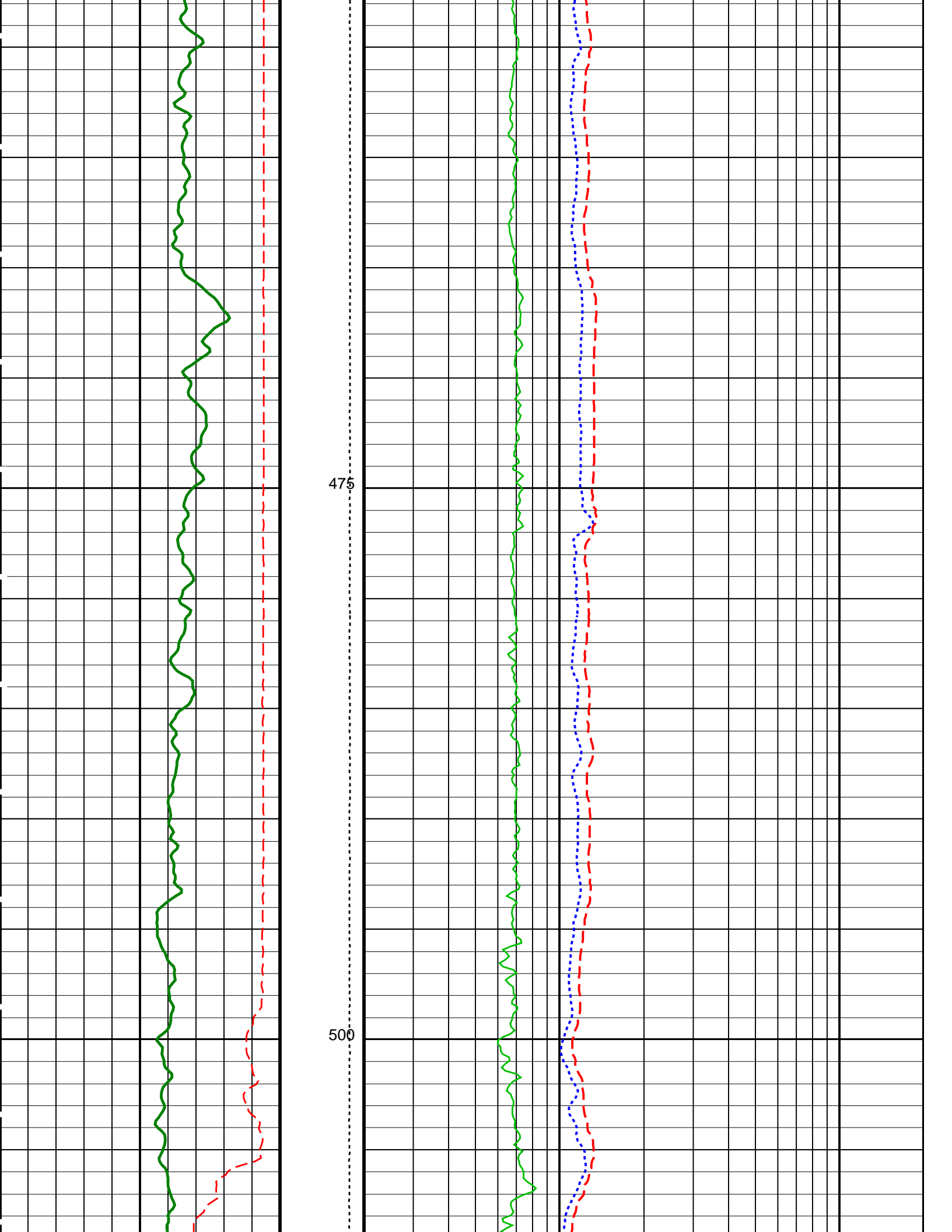


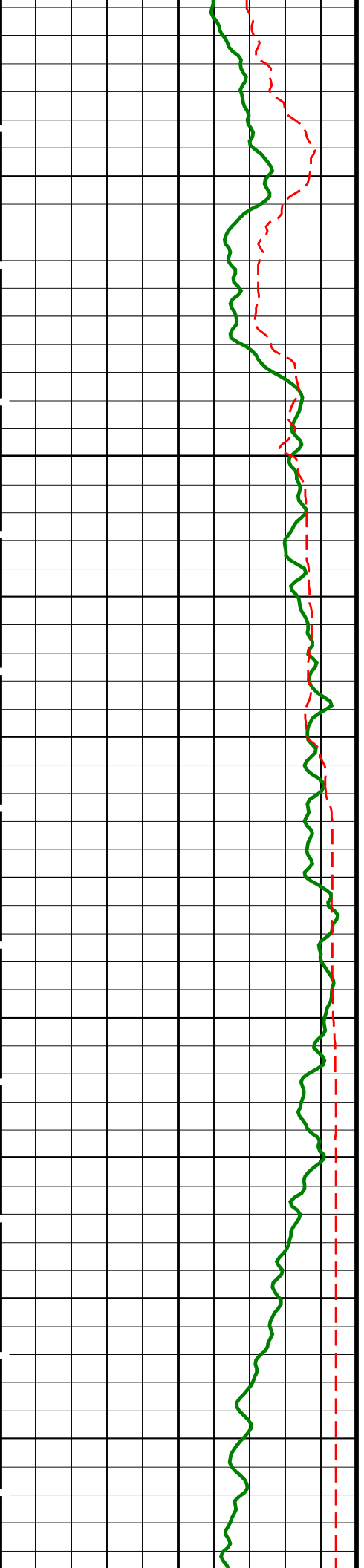
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375



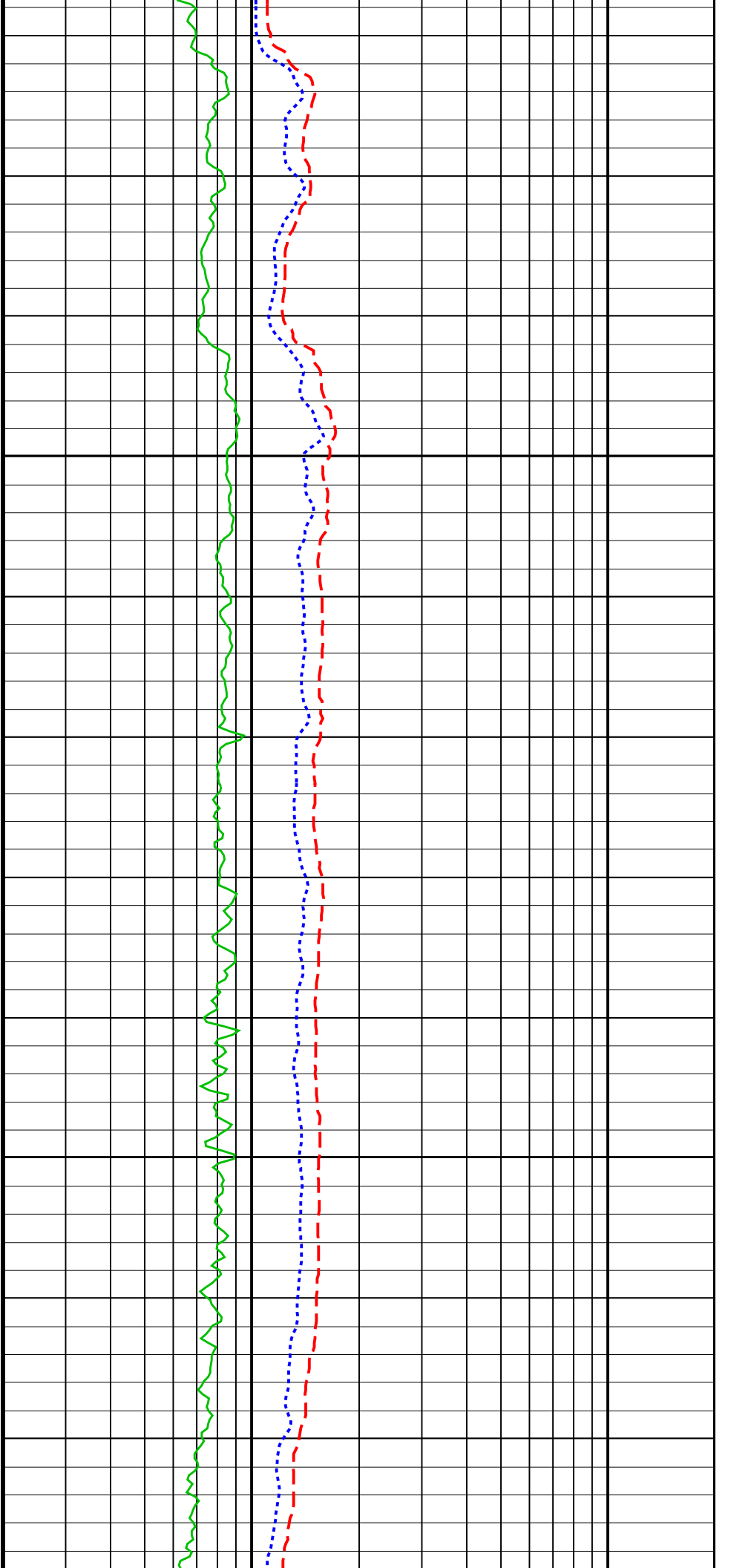


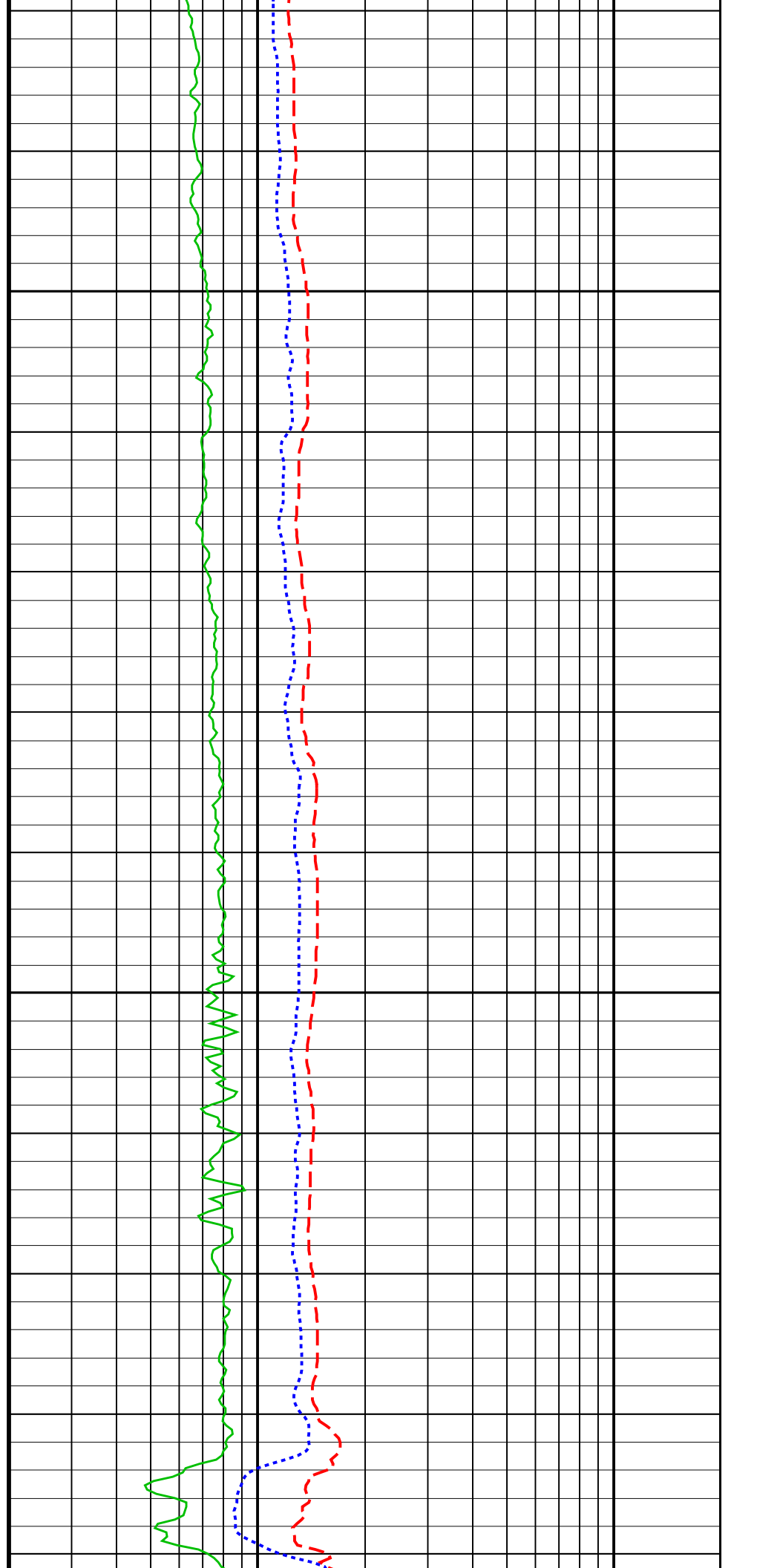
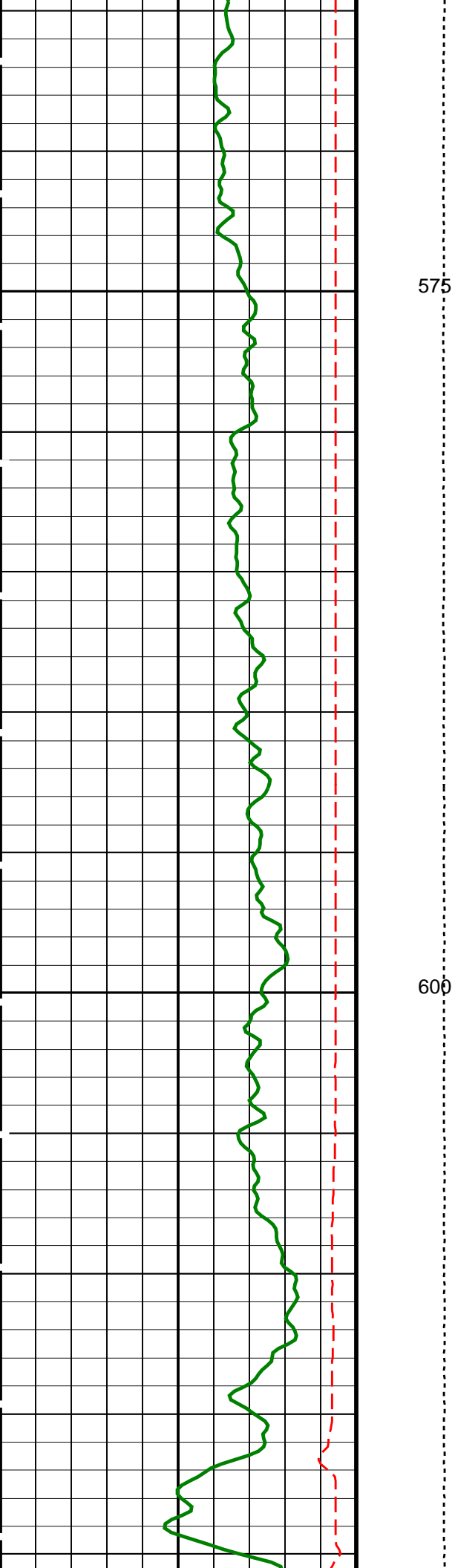


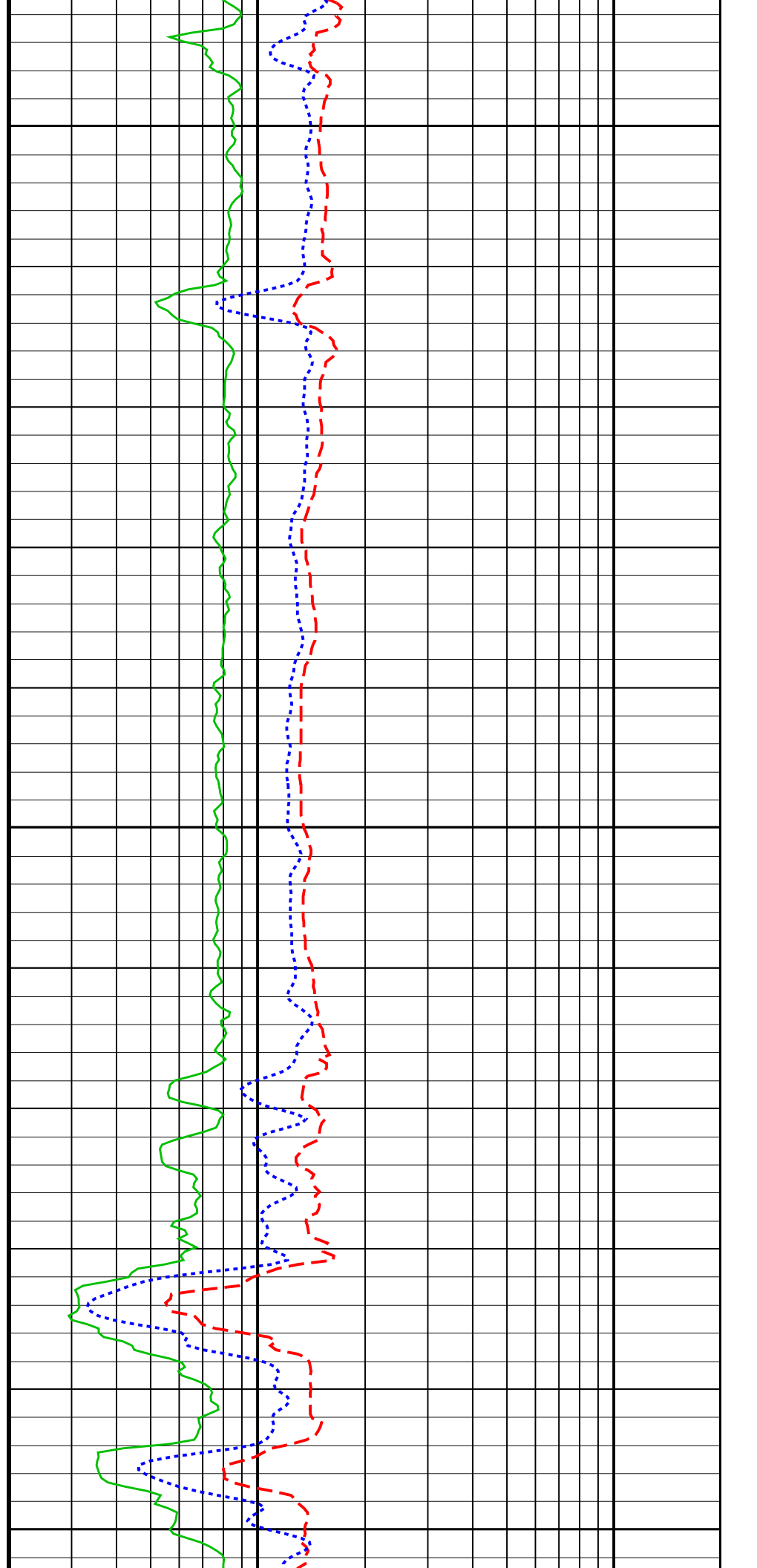
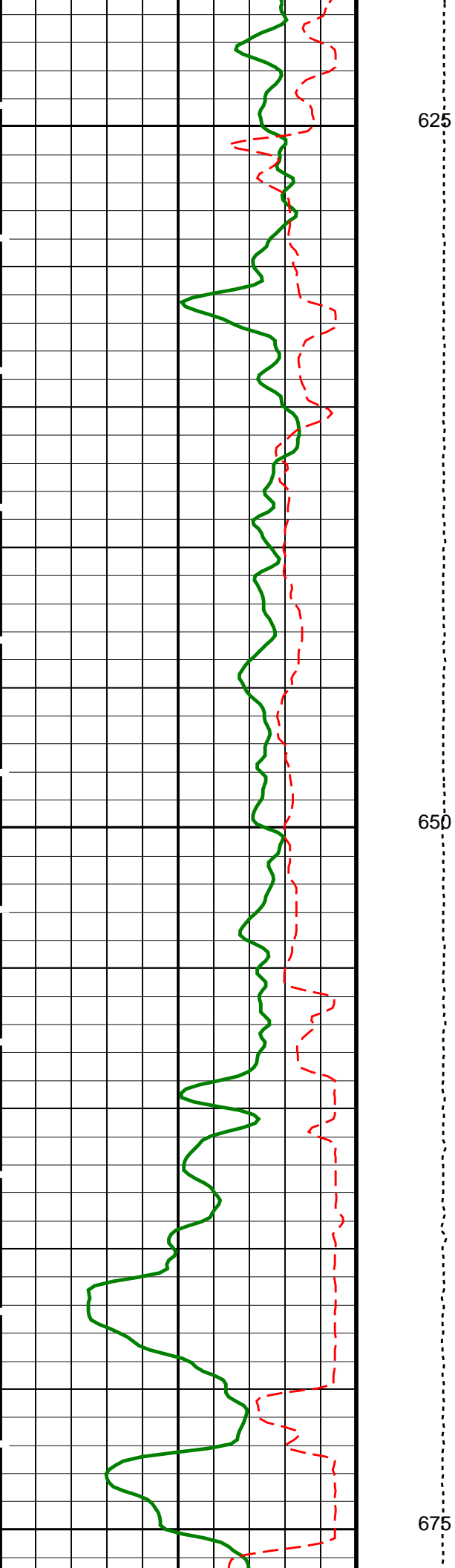


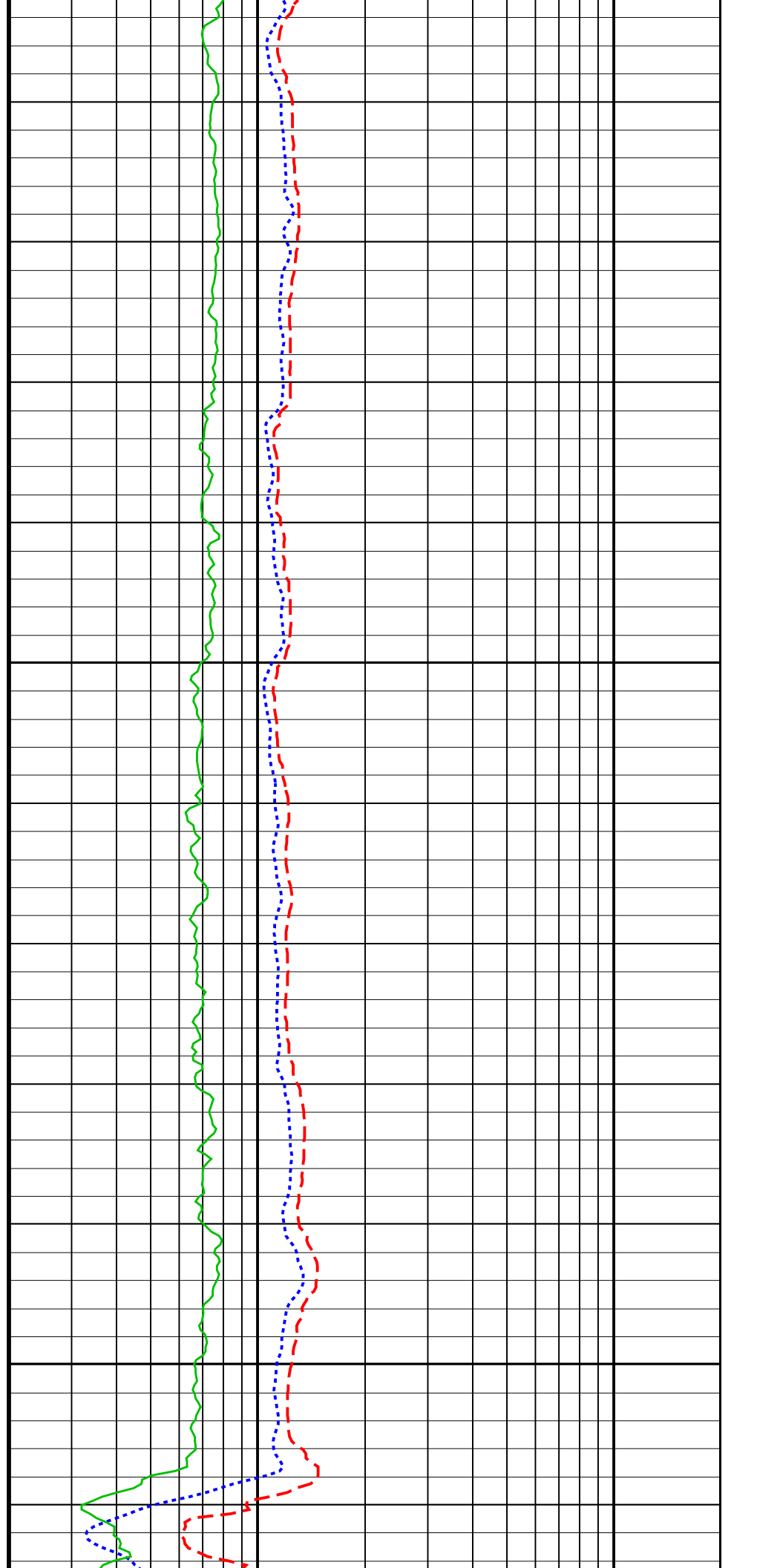
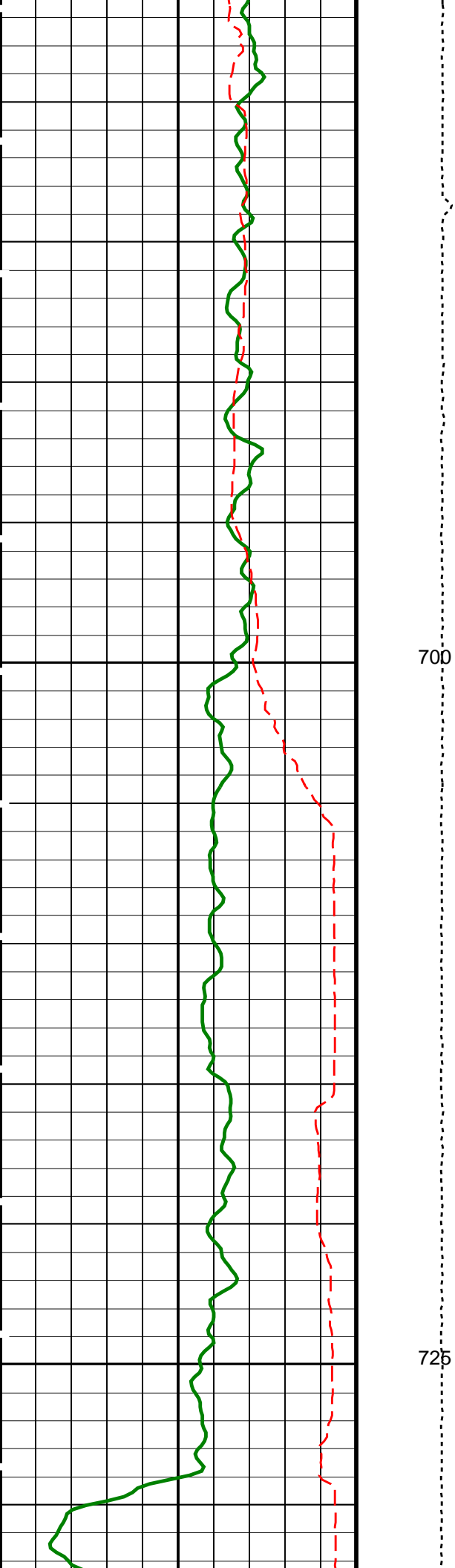
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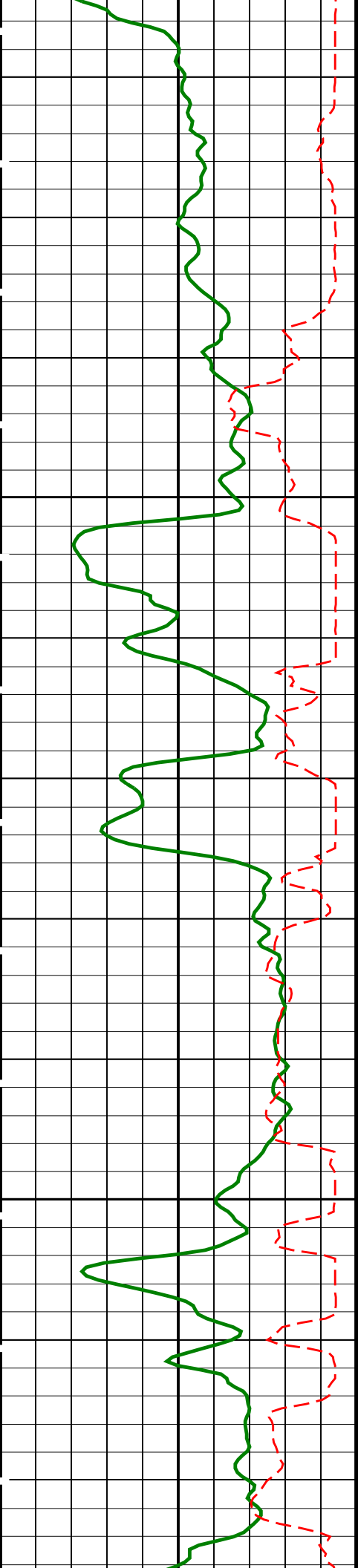
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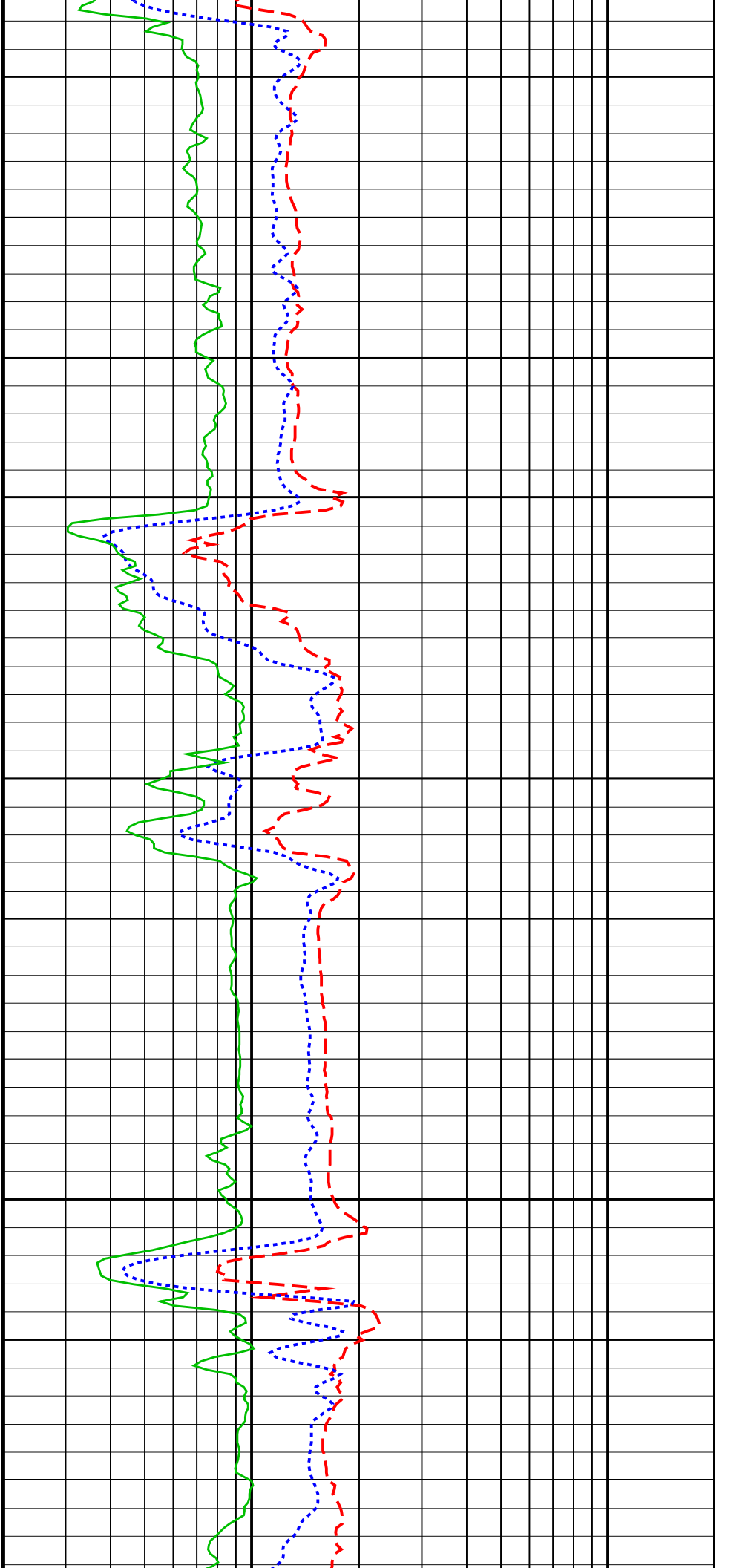


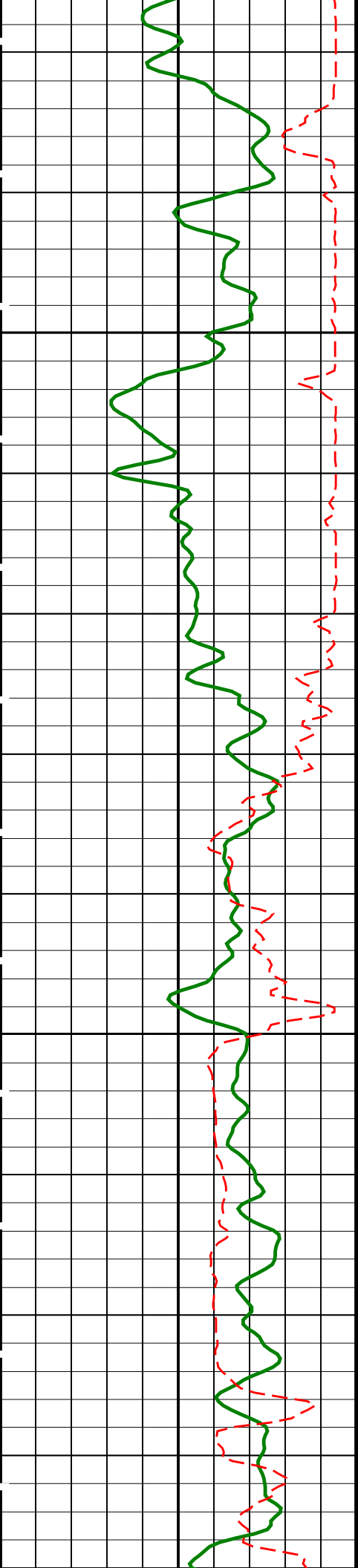




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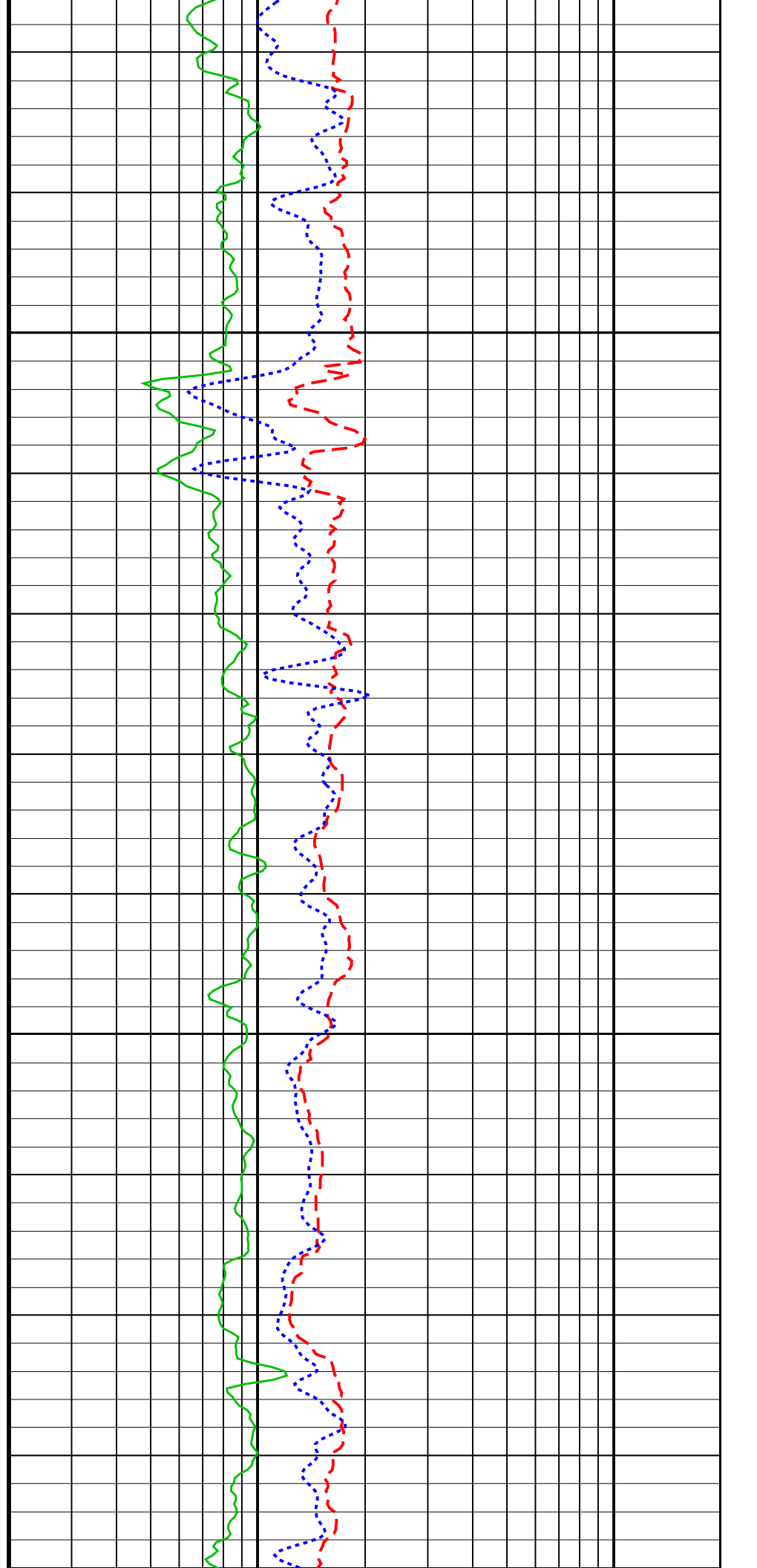
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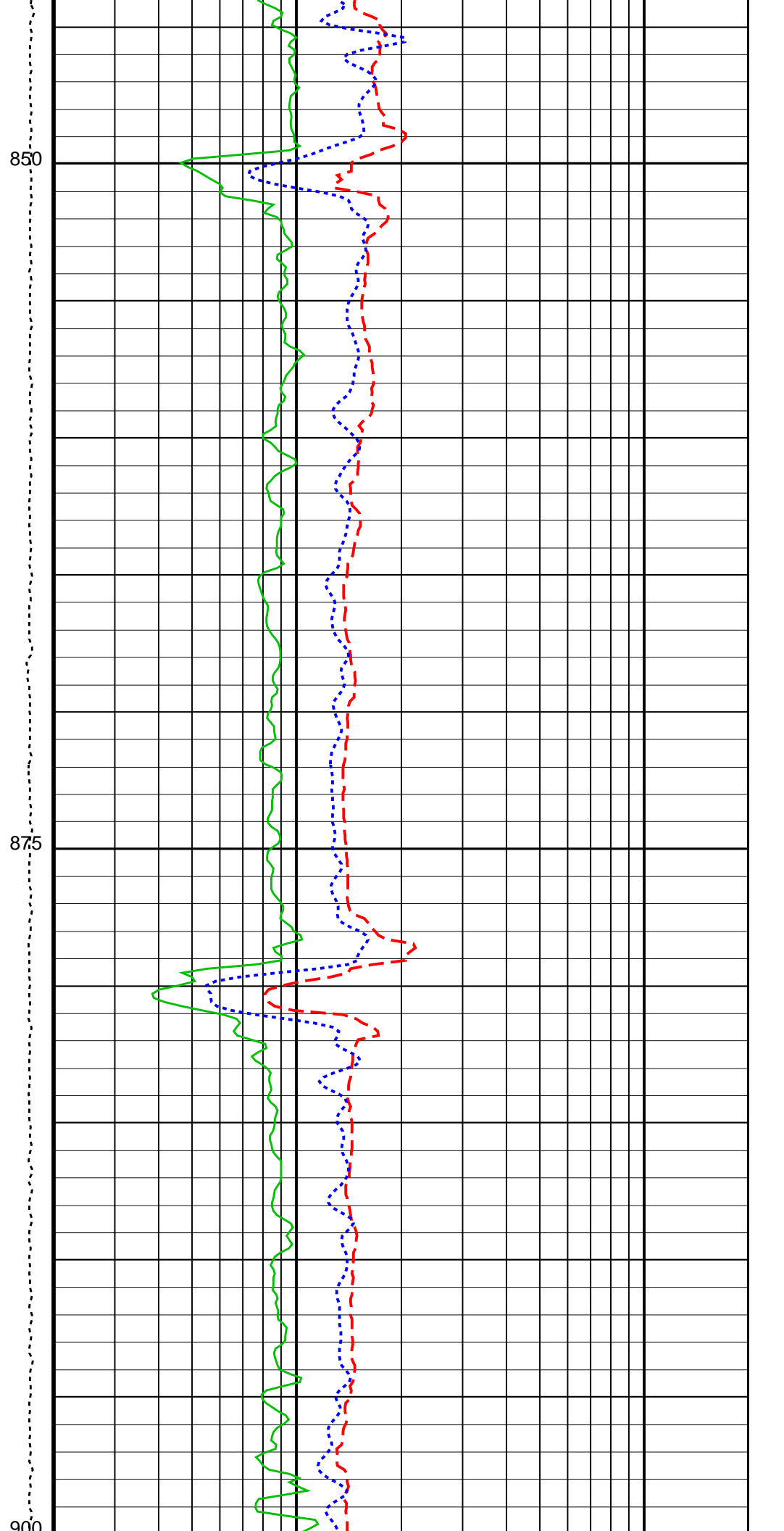
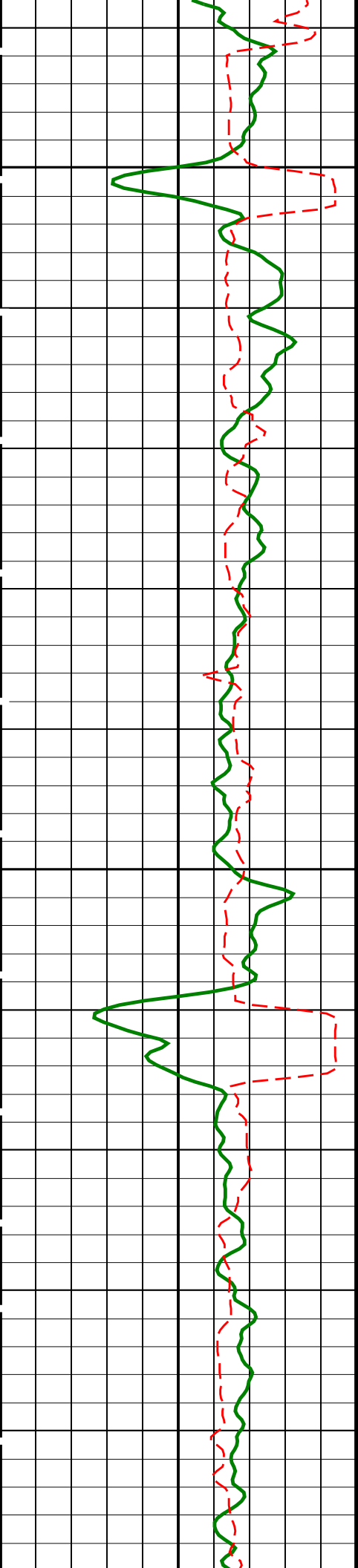


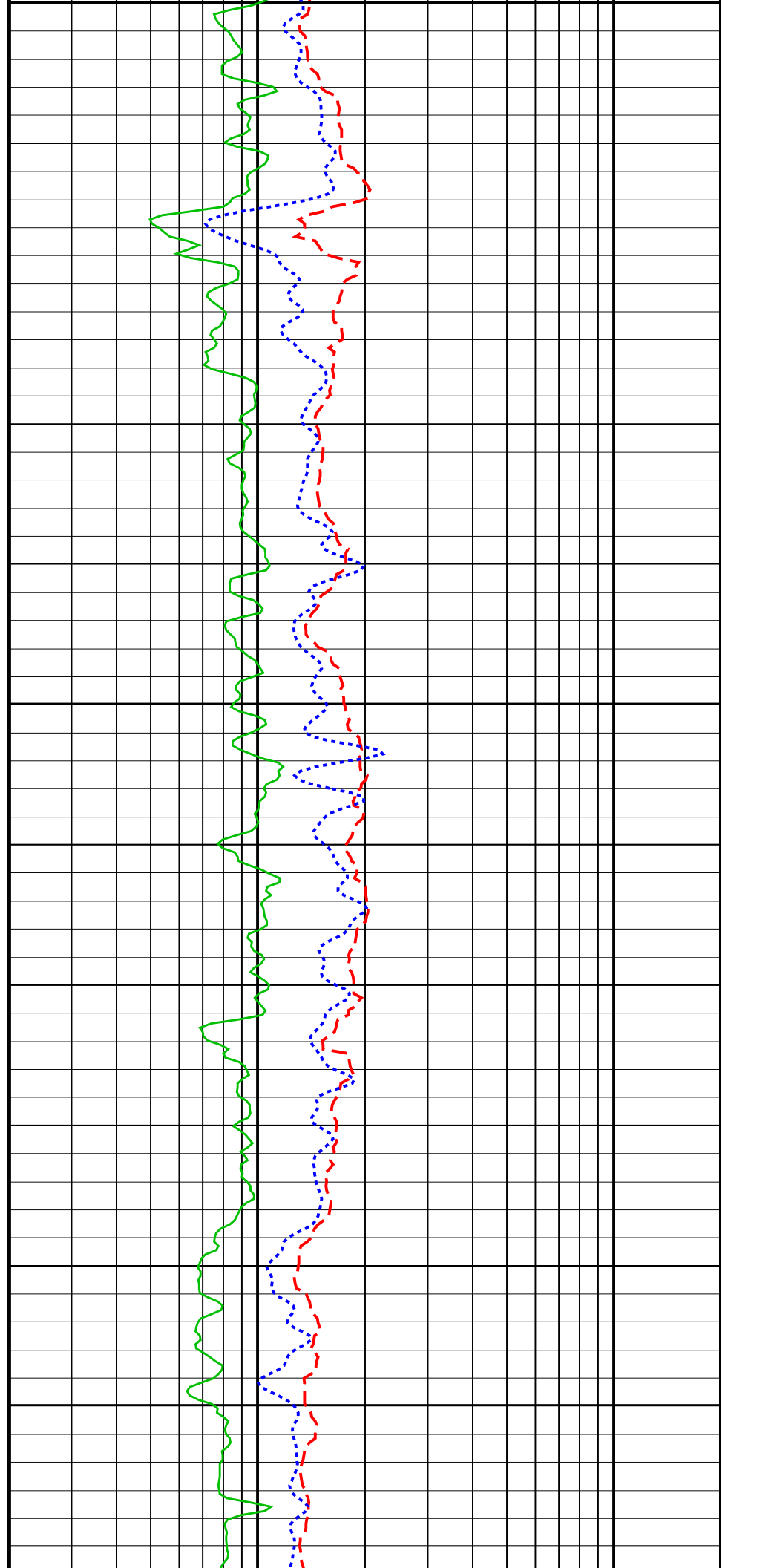
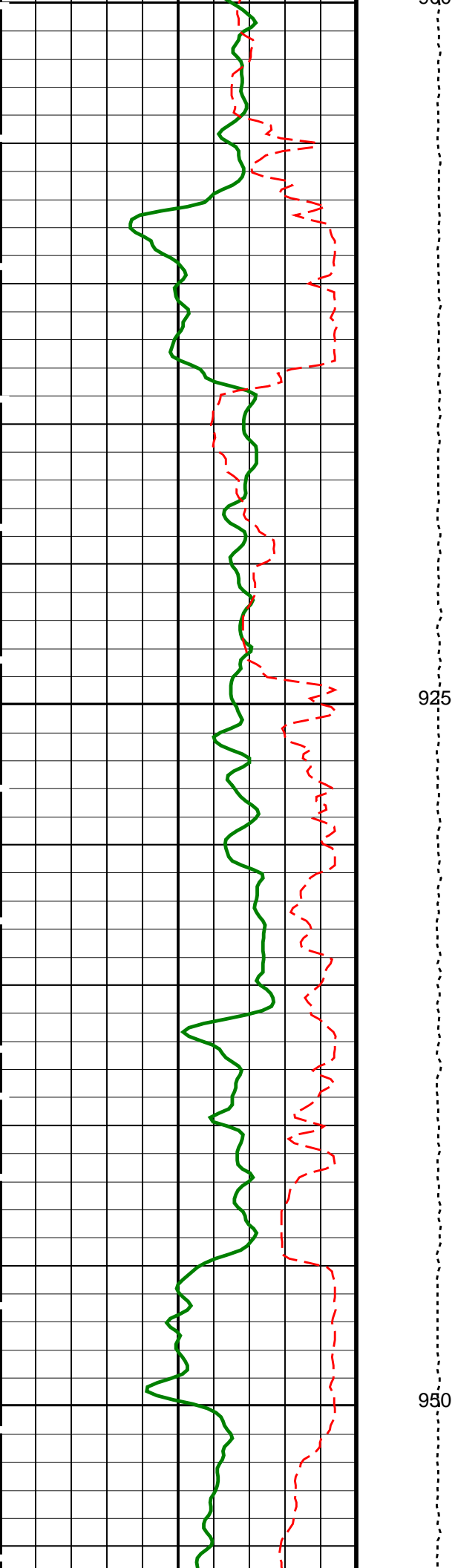


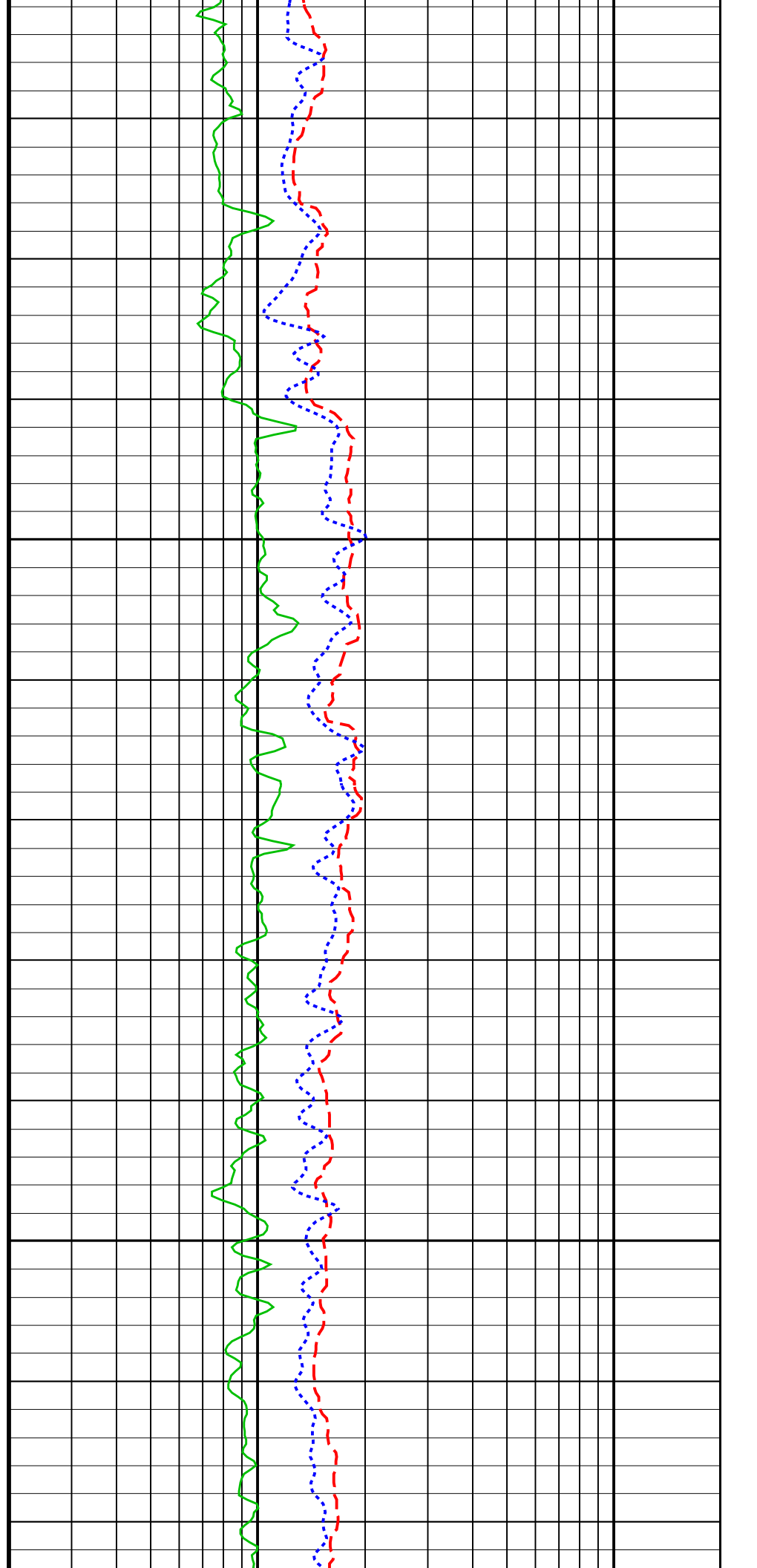
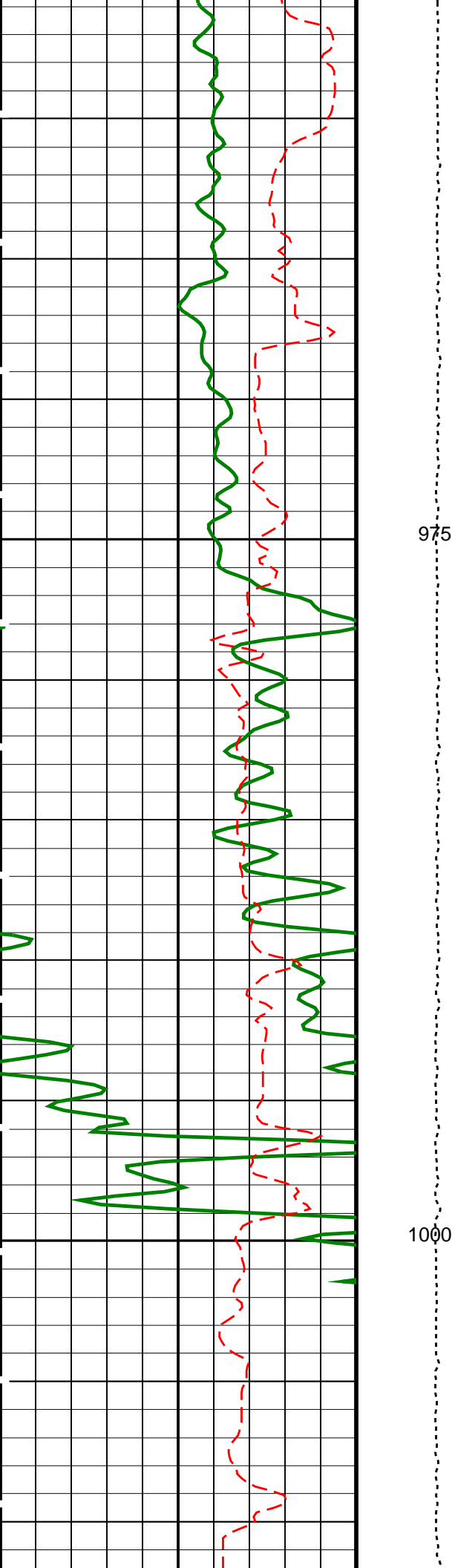
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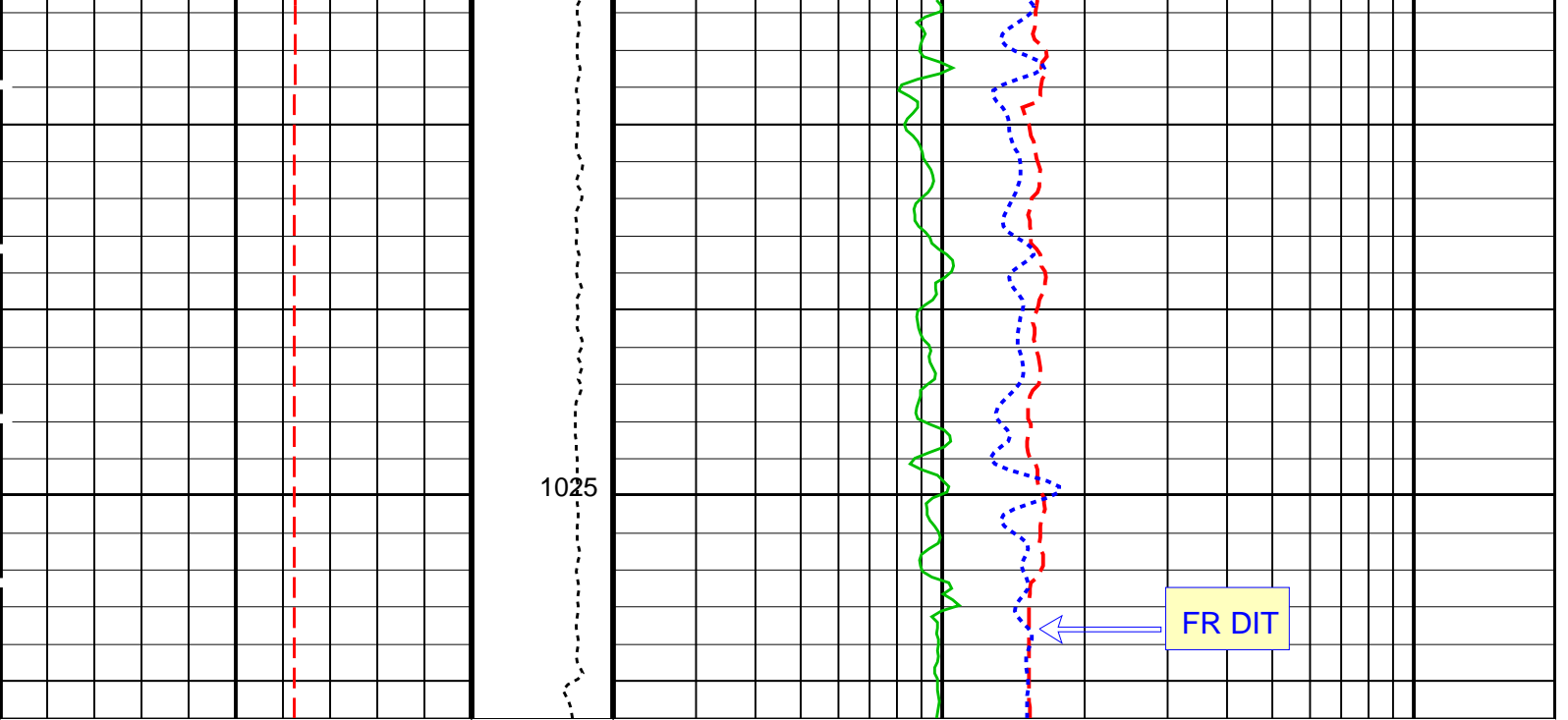
825











HLDS Caliper (LCAL) (IN)	Tension (TENS) (LBF)	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)
0 20	10000 0	0.2 20
HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)	ID_QUAL From IMQF to IDQF	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)
0 100	0.2	0.2 20
SFL_QUAL From D3T to SFQF	IM_QUAL From SFQF to IMQF	SFL Unaveraged (SFLU) (OHMM)
0.2	0.2	0.2 20

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	60 DEG F
DGF1	Deep 10 kHz Gain Factor	0.968036
DGF2	Deep 20 kHz Gain Factor	0.981641
DGF4	Deep 40 kHz Gain Factor	1.00354
DPH1	Deep 10 kHz Phase Shift	0.519505 DEG
DPH2	Deep 20 kHz Phase Shift	0.58231 DEG
DPH4	Deep 40 kHz Phase Shift	-0.0231022 DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	47.0269 MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.7871 MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.70109 MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt
DSR1	Deep Sigma Reference (10 kHz)	7637 MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843 MM/M
DSR4	Deep Sigma Reference (40 kHz)	405 MM/M
DSTA	DIT-E Transversal Standoff	0 IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	100.491 MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	62.191 MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	44.6702 MM/M
GCSE	Generalized Caliper Selection	BS
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGPD	Geothermal Gradient	0.01 DE/F

GRGD	Geothermal Gradient	0.01	
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ISSBAR	Barite Mud Switch	NOBARITE	
ITEN	DIT-E Temperature Enable	ENABLE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MGF1	Medium 10 kHz Gain Factor	1.00192	
MGF2	Medium 20 kHz Gain Factor	1.01122	
MGF4	Medium 40 kHz Gain Factor	1.04786	
MPH1	Medium 10 kHz Phase Shift	0.190245	DEG
MPH2	Medium 20 kHz Phase Shift	-0.139176	DEG
MPH4	Medium 40 kHz Phase Shift	-1.01614	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	17.1122	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	-2.07993	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	-9.895	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	-94.7355	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-32.0861	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	12.9006	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV

GPIT-A/B: General Purpose Inclinometer

ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	24.3995	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	NO	

APS-C: Accelerator-Porosity Tool

	APS Software Version	0	
AASD	APS Thermal and Array Detectors High Voltage Setting	1965.28	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2077.04	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	1734.68	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	Bottom Hole Temperature (used in calculations)	60	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source	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
GRGD	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	1.05996	
NFRC	APS Near/Far Calibration Ratio	0.890086	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	

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	
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)	60	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	0.00198706	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.981242	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.97768	
DIR: Directional Survey Computation			
SPED	East Departure of Starting Point	0	M
SPND	North Departure of Starting Point	0	M
SPVD	TVD of Starting Point	0	M
TAZI	Vertical Section Azimuth	0	DEG
TIED	East Departure of Tie-in Point	0	M
TIMD	Along-hole depth of Tie-in Point	0	M
TIND	North Departure of Tie-in Point	0	M
TIVD	TVD of Tie-in Point	0	M
System and Miscellaneous			
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	11.438	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.26	G/C3
DO	Depth Offset for Playback	-132.5	M
FLEV	Fluid Level	-50000.00	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2750.9	M
TDD	Total Depth - Driller	1030.50	M
TDL	Total Depth - Logger	1030.50	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 31-Dec-2009 20:17

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	APS-C	17C0-154
HLDS	17C0-154	LDSC-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

Input DLIS Files

DEFAULT PI_APS_LDL_NGS_036PUP FN:46 PRODUCER 26-Nov-2009 14:50 1164.3 M 100.1 M

Output DLIS Files

DEFAULT PI_APS_LDL_NGS_042PUP FN:52 PRODUCER 31-Dec-2009 20:17



Repeat Pass

MAXIS Field Log

Input DLIS Files

DEFAULT PI_APS_LDL_NGS_037PUP FN:47 PRODUCER 26-Nov-2009 14:55 1164.3 M 995.8 M

Output DLIS Files

DEFAULT PI_APS_LDL_NGS_044PUP FN:54 PRODUCER 31-Dec-2009 20:34 1031.0 M 863.4 M

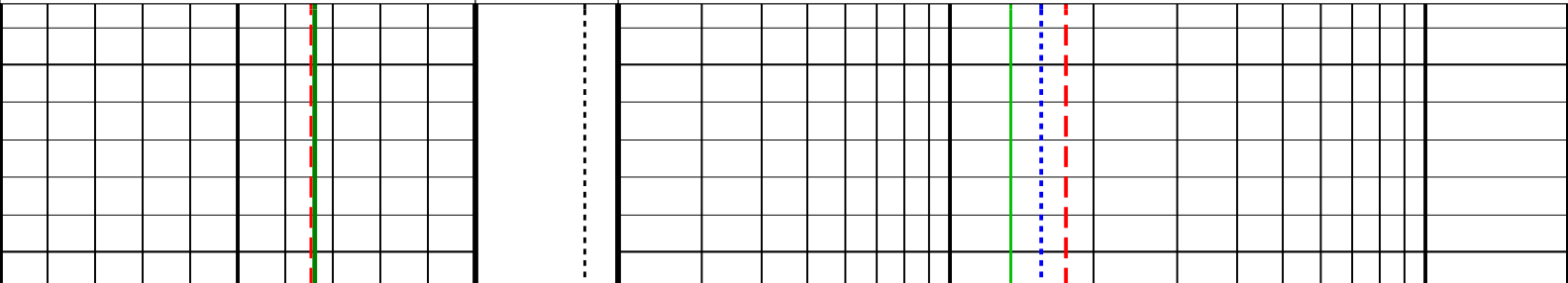
OP System Version: 17C0-154

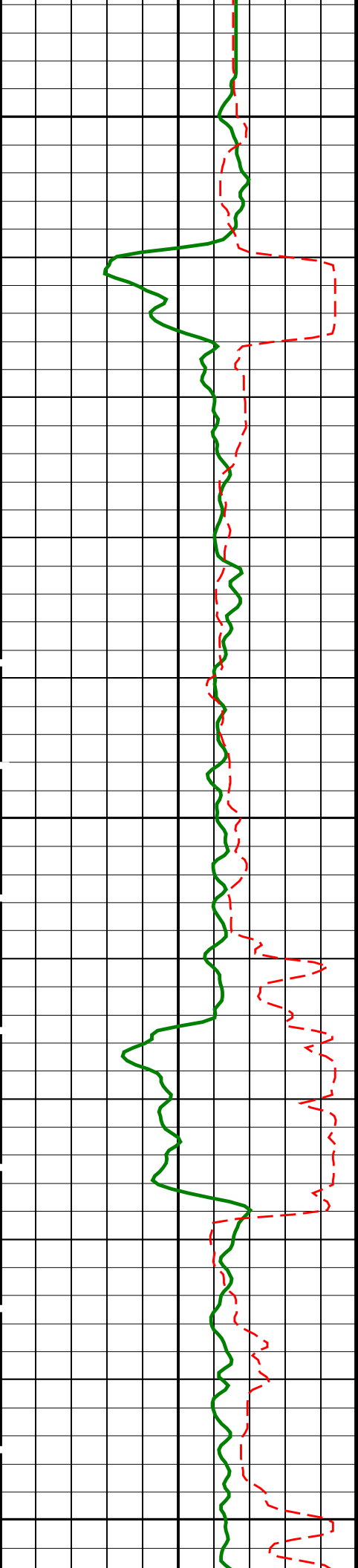
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	APS-C	17C0-154
HLDS	17C0-154	LDSC-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

PIP SUMMARY

Time Mark Every 60 S

	SFL_QUAL From D3T to SFQF	
	IM_QUAL From SFQF to IMQF	SFL Unaveraged (SFLU) (OHMM) 20
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100	ID_QUAL From IMQF to IDQF	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM) 20
HLDS Caliper (LCAL) (IN) 0 20	Tension (TENS) (LBF) 0.2 10000 0	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM) 20

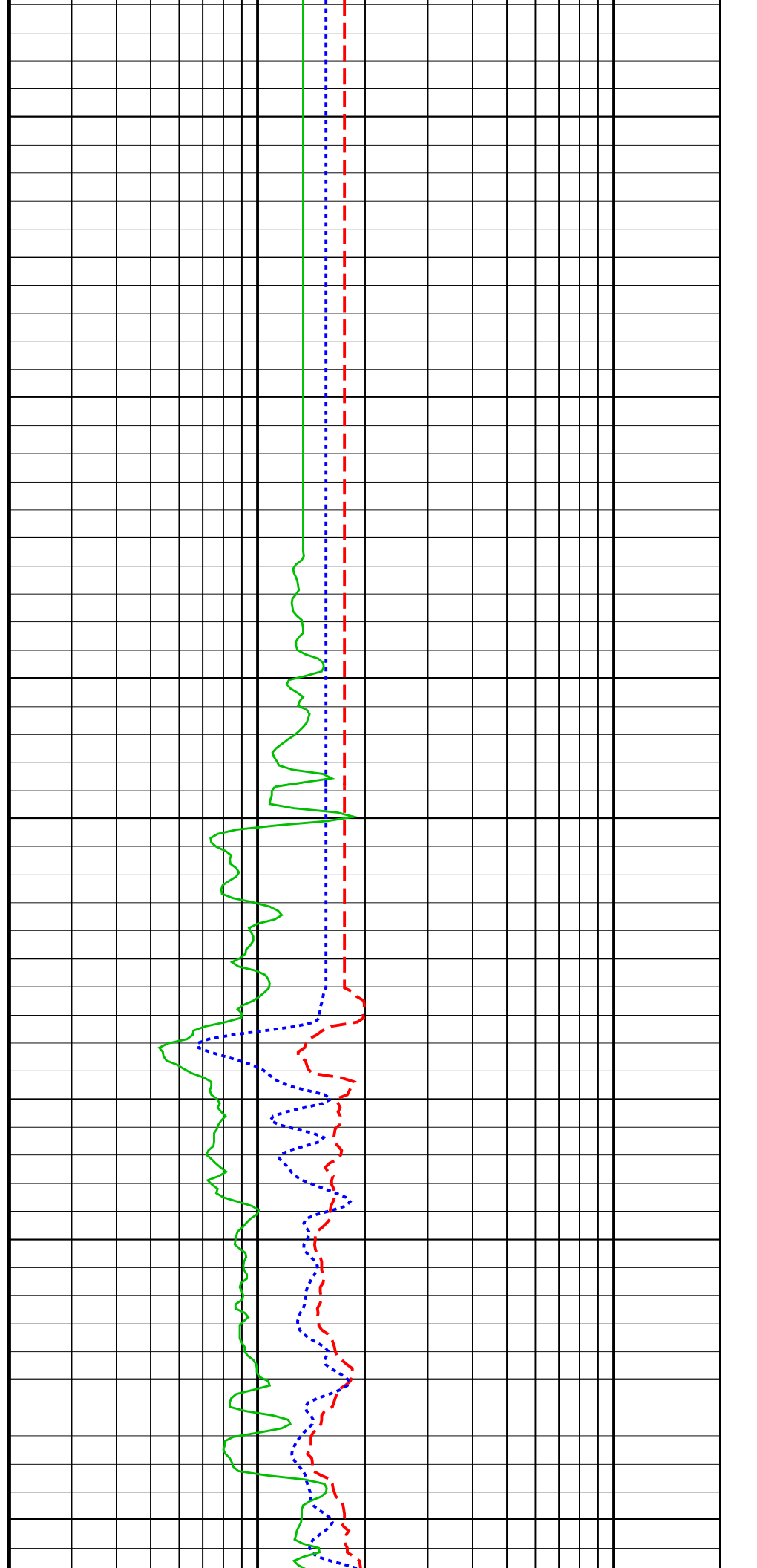


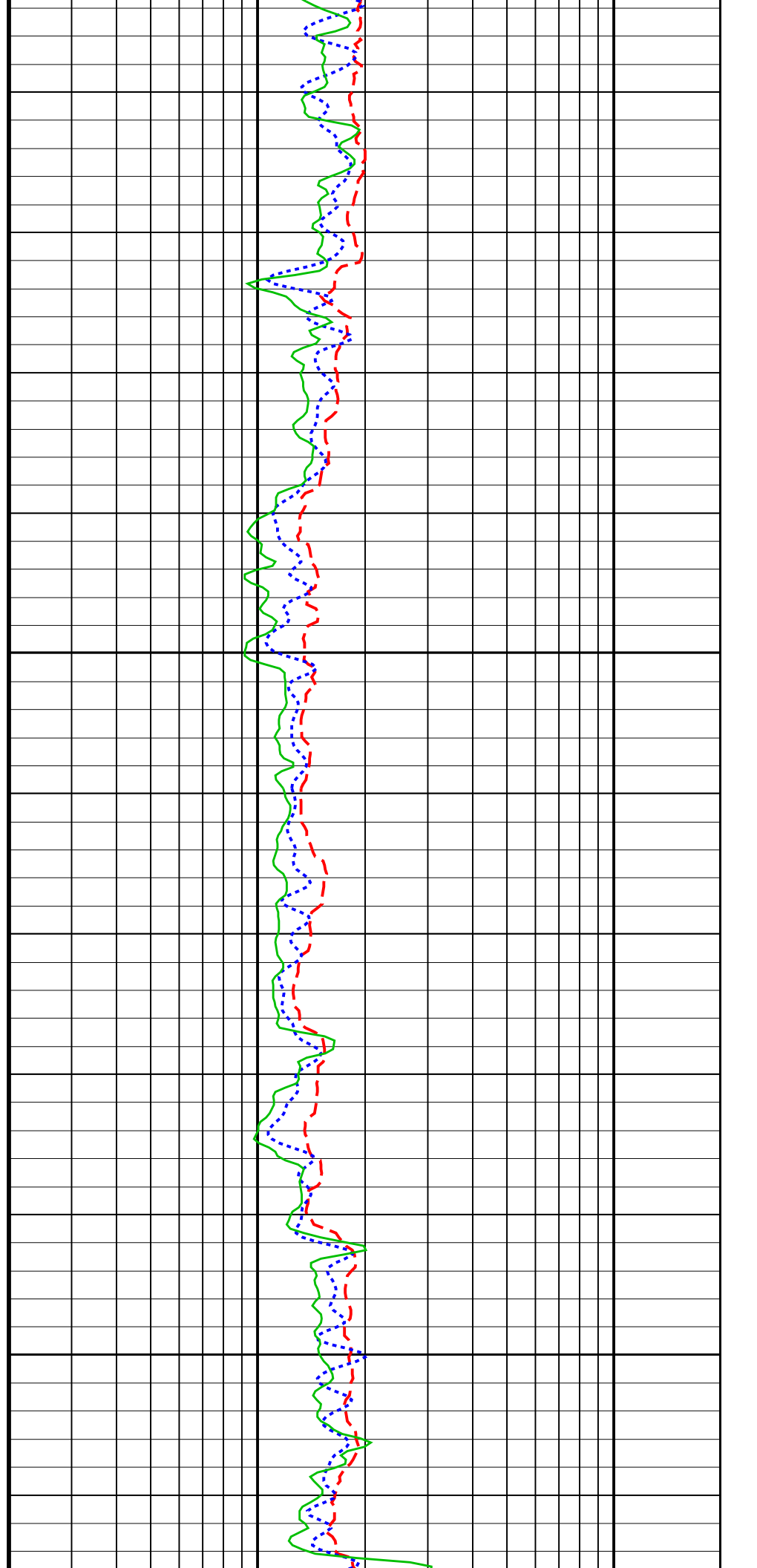
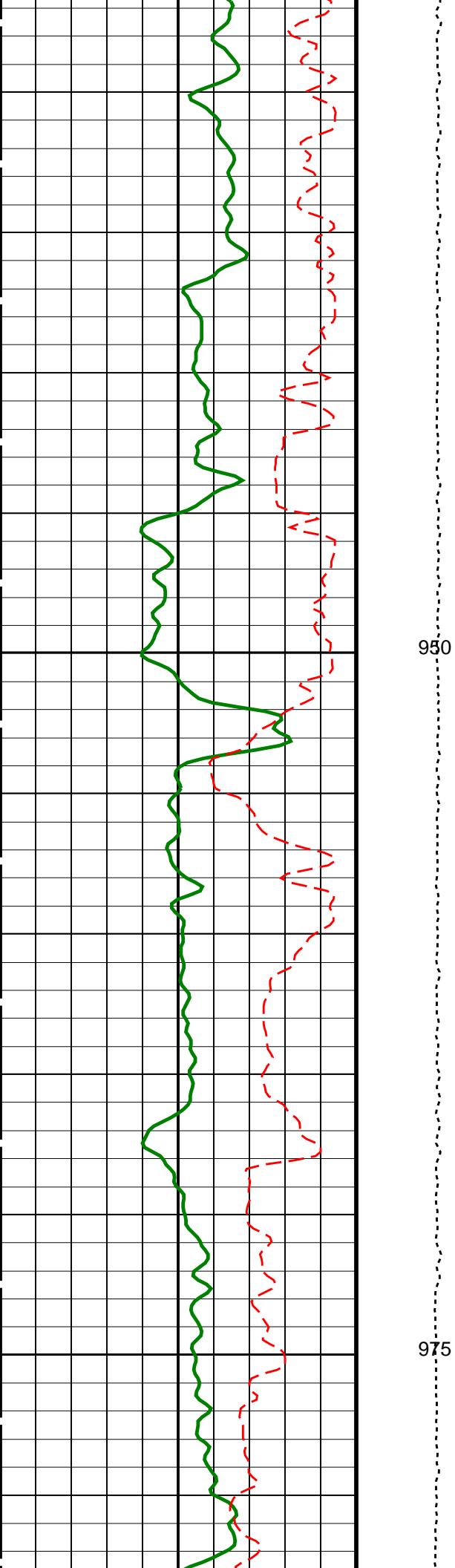


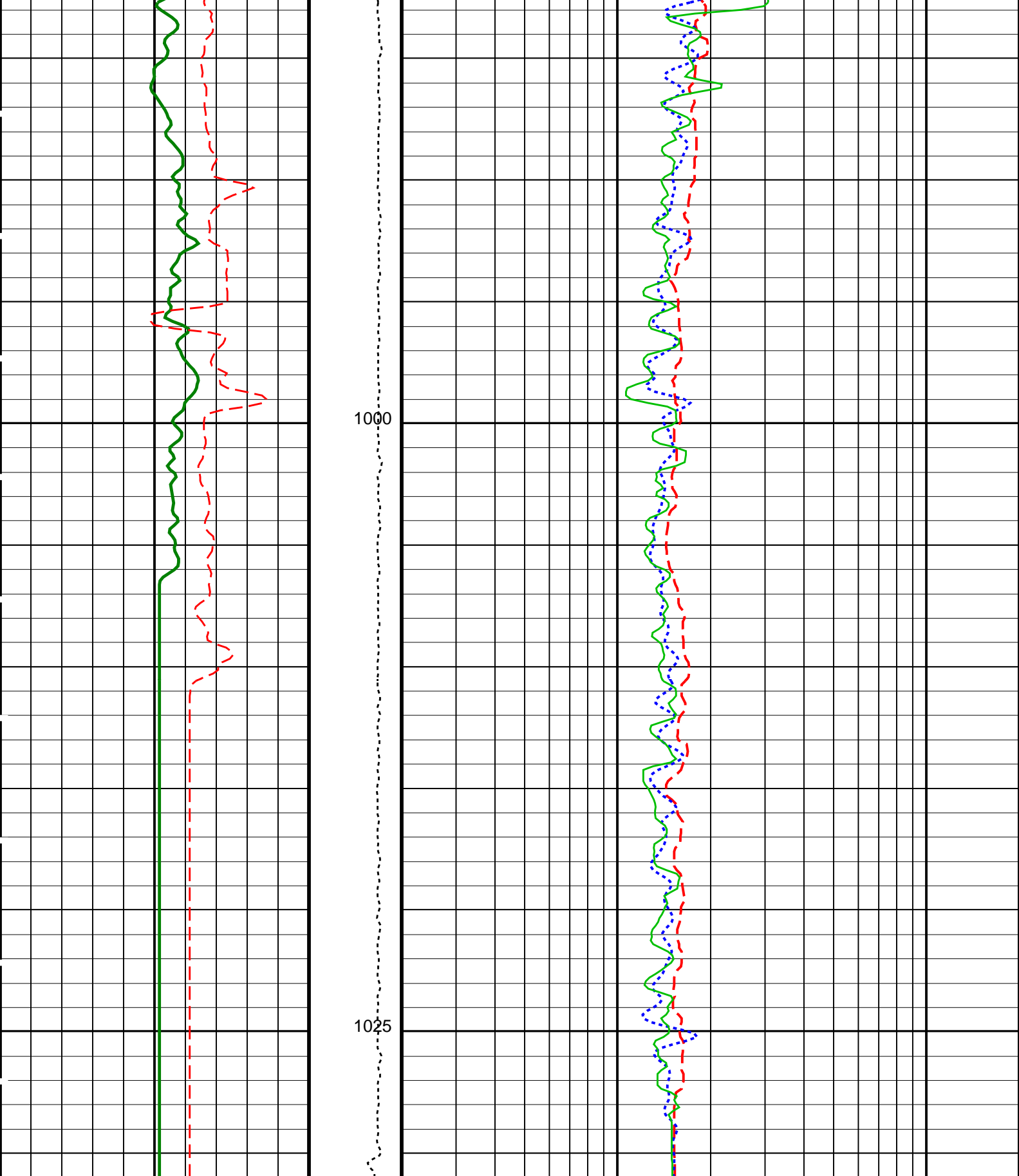
875

900

925







HLDS Caliper (LCAL)
(IN) 0 20

HNGS Spectroscopy Gamma Ray
(HSGR)
(GAPI) 0 100

Tension
(TENS)
(LBF) 10000 0

ID_QUAL
From
IMQF to
IDQF

Deep Induction Phasor-processed Resistivity (IDPH)
(OHMM) 0.2 20

Medium Induction Phasor-processed Resistivity (IMPH)
(OHMM) 0.2 20

IM_QUAL
From
SFQF to
IMQF

0.2

SFL Unaveraged (SFLU)
(OHMM)

20

SFL_
QUAL
From D3T
to SFQF

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DIT-E: Dual Induction - E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
DGF1	Deep 10 kHz Gain Factor	0.968036	
DGF2	Deep 20 kHz Gain Factor	0.981641	
DGF4	Deep 40 kHz Gain Factor	1.00354	
DPH1	Deep 10 kHz Phase Shift	0.519505	DEG
DPH2	Deep 20 kHz Phase Shift	0.58231	DEG
DPH4	Deep 40 kHz Phase Shift	-0.0231022	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	47.0269	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.7871	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.70109	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	100.491	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	62.191	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	44.6702	MM/M
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	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ISSBAR	Barite Mud Switch	NOBARITE	
ITEN	DIT-E Temperature Enable	ENABLE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MGF1	Medium 10 kHz Gain Factor	1.00192	
MGF2	Medium 20 kHz Gain Factor	1.01122	
MGF4	Medium 40 kHz Gain Factor	1.04786	
MPH1	Medium 10 kHz Phase Shift	0.190245	DEG
MPH2	Medium 20 kHz Phase Shift	-0.139176	DEG
MPH4	Medium 40 kHz Phase Shift	-1.01614	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	17.1122	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	-2.07993	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	-9.895	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	-94.7355	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-32.0861	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	12.9006	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
GPIT-A/B: General Purpose Inclinometer			
ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	24.3995	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?		

APS-C: Accelerator-Porosity Tool			
	APS Software Version	0	
AASD	APS Thermal and Array Detectors High Voltage Setting	1965.28	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2077.04	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	1734.68	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	Bottom Hole Temperature (used in calculations)	60	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source	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	1.05996	
NFRC	APS Near/Far Calibration Ratio	0.890086	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	
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	
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)	60	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	0.00198706	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF

TPOS	Tool Position		ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average		0.981242	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average		0.97768	
DIR: Directional Survey Computation				
SPED	East Departure of Starting Point		0	M
SPND	North Departure of Starting Point		0	M
SPVD	TVD of Starting Point		0	M
TAZI	Vertical Section Azimuth		0	DEG
TIED	East Departure of Tie-in Point		0	M
TIMD	Along-hole depth of Tie-in Point		0	M
TIND	North Departure of Tie-in Point		0	M
TIVD	TVD of Tie-in Point		0	M
System and Miscellaneous				
ALTDPCCHAN	Name of alternate depth channel		SpeedCorrectedDepth	
BS	Bit Size		11.438	IN
BSAL	Borehole Salinity		-50000.00	PPM
CSIZ	Current Casing Size		4.500	IN
CWEI	Casing Weight		0.00	LB/F
DFD	Drilling Fluid Density		1.26	G/C3
DO	Depth Offset for Playback		-132.5	M
FLEV	Fluid Level		-50000.00	M
MST	Mud Sample Temperature		-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback		NO	
PP	Playback Processing		NORMAL	
RMFS	Resistivity of Mud Filtrate Sample		-50000.0000	OHMM
RW	Resistivity of Connate Water		1.0000	OHMM
TD	Total Depth		2750.9	M
TDD	Total Depth - Driller		1030.50	M
TDL	Total Depth - Logger		1030.50	M
TWS	Temperature of Connate Water Sample		37.78	DEGC

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 31-Dec-2009 20:34

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	APS-C	17C0-154
HLDS	17C0-154	LDSC-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

Input DLIS Files

DEFAULT	PI_APS_LDL_NGS_037PUP	FN:47	PRODUCER	26-Nov-2009 14:55	1164.3 M	995.8 M
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Output DLIS Files

DEFAULT	PI_APS_LDL_NGS_044PUP	FN:54	PRODUCER	31-Dec-2009 20:34
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Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
General Purpose Inclinometer Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 24-Nov-2009 10:24							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	448	N/A	N/A	N/A	

General Purpose Inclinometer Wellsite Calibration – CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY

Before: 24–Nov–2009 10:24

TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	

Accelerator–Porosity Tool Wellsite Calibration – Detector Background

Master: 4–Nov–2009 12:02 Before: 24–Nov–2009 10:28 After: 24–Nov–2009 17:46

Near Det Bkg Cntrate	30.00	31.30	33.28	32.87	-0.4057	N/A	CPS
Far Det Bkg Cntrate	30.00	33.28	33.75	32.24	-1.509	N/A	CPS
Array–1 Det Bkg Cntrate	30.00	29.03	30.39	28.51	-1.878	N/A	CPS
Array–2 Det Bkg Cntrate	30.00	29.71	30.68	30.41	-0.2613	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.23	33.84	31.31	-2.534	N/A	CPS

Accelerator–Porosity Tool Wellsite Calibration – Calibration Ratios

Master: 4–Nov–2009 12:02

Near/Far Calibration Ratio	0.9250	0.8901	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.060	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.007	N/A	N/A	N/A	N/A	

Accelerator–Porosity Tool Wellsite Calibration – Tank Check

Master: 4–Nov–2009 12:02

Array–1 Standoff Porosity	11.75	11.51	N/A	N/A	N/A	N/A	PU
Array–2 Standoff Porosity	11.75	11.21	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.881	N/A	N/A	N/A	N/A	US
Array–1 SDT Ratio Up/Down	1.000	0.9799	N/A	N/A	N/A	N/A	
Array–2 SDT Ratio Up/Down	1.000	0.9831	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.90	N/A	N/A	N/A	N/A	CU

Accelerator–Porosity Tool Wellsite Calibration – CCR7 signal boxes

Master: 4–Nov–2009 12:02

Near Detector Plateau Setting	1650	1735	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2077	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1965	N/A	N/A	N/A	N/A	V

Hostile Litho–Density Sonde Wellsite Calibration – Background Measurement

Master: 4–Nov–2009 4:36 Before: 24–Nov–2009 10:29 After: 24–Nov–2009 17:46

SS Cs Resolution Bkg	9.000	7.756	7.734	7.800	0.06586	1.800	%
LS Cs Resolution Bkg	9.000	8.165	8.108	8.117	0.009247	1.800	%
LSW1 Background	100.0	92.48	90.88	91.98	1.101	3.000	CPS
LSW2 Background	100.0	84.63	82.28	84.13	1.850	3.000	CPS
LSW3 Background	200.0	191.1	190.9	190.2	-0.7636	6.000	CPS
LSW4 Background	250.0	233.7	232.7	233.0	0.2997	7.500	CPS
LSW5 Background	600.0	544.1	542.2	541.8	-0.3827	18.00	CPS
SSW1 Background	100.0	90.17	88.26	88.05	-0.2130	3.000	CPS
SSW2 Background	200.0	152.5	152.4	151.3	-1.120	6.000	CPS
SSW3 Background	500.0	429.0	429.8	427.5	-2.303	15.00	CPS
SSW4 Background	270.0	231.1	229.0	228.9	-0.07652	8.100	CPS
SSW5 Background	200.0	164.3	165.0	164.4	-0.5983	6.000	CPS

Hostile Litho–Density Sonde Wellsite Calibration – Aluminum Measurement

Master: 4–Nov–2009 4:36

LSW1 Aluminum	600.0	567.1	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	807.6	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	967.1	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	490.9	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	441.4	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2502	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6869	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9623	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3958	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	476.5	N/A	N/A	N/A	N/A	CPS

Hostile Litho–Density Sonde Wellsite Calibration – Lithology Measurement

Master: 4–Nov–2009 4:36

LSW1 Iron	400.0	388.6	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	657.3	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	863.8	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	446.9	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	407.2	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1834	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5739	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8813	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3631	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	422.9	N/A	N/A	N/A	N/A	CPS

Hostile Litho–Density Sonde Wellsite Calibration – Caliper Calibration

Before: Calibration out of date 16–Jul–2009 10:33

HLDS Caliper Small Ring	12.00	N/A	13.30	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.14	N/A	16.70	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 31–Oct–2009 10:09 Before: 24–Nov–2009 10:30 After: 24–Nov–2009 17:47

Na 511 Peak Loc	40.00	39.48	39.62	39.47	-0.1509	1.000	
Na 511 Peak Res	15.50	16.07	15.05	15.48	0.4290	2.000	%
High Voltage	1150	1200	1157	1165	7.953	N/A	V
Na 1785 Peak Loc	142.6	142.5	142.1	141.9	-0.1621	7.000	
Na 1785 Peak Res	8.500	8.076	7.708	8.978	1.271	2.000	%
Temperature	15.50	36.12	22.82	23.64	0.8194	N/A	DEGC
Na Count Rate	45.00	34.81	33.69	33.43	-0.2596	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 31–Oct–2009 10:09 Before: 24–Nov–2009 10:30 After: 24–Nov–2009 17:47

Na 511 Peak Loc	40.00	39.63	39.59	39.66	0.07236	1.000	
Na 511 Peak Res	15.50	15.54	16.26	15.22	-1.044	2.000	%
High Voltage	1150	1123	1094	1099	5.689	N/A	V
Na 1785 Peak Loc	142.6	142.2	142.2	142.2	0.02171	7.000	
Na 1785 Peak Res	8.500	8.652	8.393	8.244	-0.1482	2.000	%
Temperature	15.50	36.37	23.56	25.33	1.769	N/A	DEGC
Na Count Rate	45.00	35.36	33.56	33.18	-0.3781	8.000	CPS

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

Master: 31–Oct–2009 10:09 Before: 24–Nov–2009 10:30 After: 24–Nov–2009 17:47

Coincidence Count Rate Ratio	1.000	0.9839	1.005	1.007	0.001954	0.05000	
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Accelerator–Porosity Tool – Detector Plateau Settings :

Near Detector Plateau Setting 1735 V
 Far Detector Plateau Setting 2077 V
 Array Detector Plateau Setting 1965 V

Dual Induction – E / Equipment Identification

Primary Equipment:

Dual Induction Sonde DIS – HB 442
 Dual Induction Cartridge DIC – EB 438

Auxiliary Equipment:

Mass Isolated Housing MIH – ZA 342

Dual Induction – E Wellsite Calibration

Induction Electronics (10 kHz)

Phase	ID Elect Real Offset 10 kHz MM/M	Value	Phase	ID Elect Real Gain 10 kHz	Value	Phase	ID Elect Phase 10 kHz DEG	Value
Before		31.05	Before		0.9385	Before		9.060
	-267.4 (Minimum) 32.65 (Nominal) 332.6 (Maximum)			0.7960 (Minimum) 0.9460 (Nominal) 1.124 (Maximum)			-0.5967 (Minimum) 9.403 (Nominal) 19.40 (Maximum)	
Phase	ID Elect Quad Offset 10 kHz MM/M	Value	Phase	ID Elect Quad Gain 10 kHz	Value	Phase	IM Elect Phase 10 kHz DEG	Value
Before		23.92	Before		0.9546	Before		8.901
	-278.5 (Minimum) 21.47 (Nominal) 321.5 (Maximum)			0.8109 (Minimum) 0.9609 (Nominal) 1.145 (Maximum)			-0.7277 (Minimum) 9.272 (Nominal) 19.27 (Maximum)	
Phase	IM Elect Real Offset 10 kHz MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value			
Before		83.66	Before		0.9473			
	-465.7 (Minimum) 84.34 (Nominal) 634.3 (Maximum)			0.8034 (Minimum) 0.9534 (Nominal) 1.134 (Maximum)				
Phase	IM Elect Quad Offset 10 kHz MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value			
Before		43.93	Before		0.9278			
	-505.4 (Minimum) 44.57 (Nominal) 594.6 (Maximum)			0.7864 (Minimum) 0.9364 (Nominal) 1.110 (Maximum)				

Before: 24–Nov–2009 12:24

Dual Induction – E Wellsite Calibration

Induction Electronics (20 kHz)

Phase	ID Elect Real Offset 20 kHz MM/M	Value	Phase	ID Elect Real Gain 20 kHz	Value	Phase	ID Elect Phase 20 kHz DEG	Value
Before		12.28	Before		0.9665	Before		4.391
	-112.1 (Minimum) 12.92 (Nominal) 137.9 (Maximum)			0.8195 (Minimum) 0.9695 (Nominal) 1.157 (Maximum)			-10.06 (Minimum) 4.941 (Nominal) 19.94 (Maximum)	
Phase	ID Elect Quad Offset 20 kHz MM/M	Value	Phase	ID Elect Quad Gain 20 kHz	Value	Phase	IM Elect Phase 20 kHz DEG	Value
Before		12.28	Before		0.9665	Before		4.391
	-112.1 (Minimum) 12.92 (Nominal) 137.9 (Maximum)			0.8195 (Minimum) 0.9695 (Nominal) 1.157 (Maximum)			-10.06 (Minimum) 4.941 (Nominal) 19.94 (Maximum)	

Before		9.659	Before		0.9858	Before		4.791
	-116.3 (Minimum)	8.664 (Nominal)	133.7 (Maximum)		0.8375 (Minimum)	0.9875 (Nominal)	1.182 (Maximum)	
Phase	IM Elect Real Offset 20 kHz	MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value		
Before			34.35	Before			0.9917	
	-190.4 (Minimum)	34.62 (Nominal)	259.6 (Maximum)		0.8410 (Minimum)	0.9910 (Nominal)	1.187 (Maximum)	
Phase	IM Elect Quad Offset 20 kHz	MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value		
Before			18.19	Before			0.9711	
	-206.6 (Minimum)	18.45 (Nominal)	243.4 (Maximum)		0.8231 (Minimum)	0.9731 (Nominal)	1.162 (Maximum)	

Before: 24-Nov-2009 12:25

Dual Induction – E Wellsite Calibration											
Induction Electronics (40 kHz)											
Phase	ID Elect Real Offset 40 kHz	MM/M	Value	Phase	ID Elect Real Gain 40 kHz	Value	Phase	ID Elect Phase 40 kHz	DEG	Value	
Before			8.040	Before			Before			15.63	
	-76.50 (Minimum)	8.503 (Nominal)	93.50 (Maximum)		0.8112 (Minimum)	0.9612 (Nominal)	1.145 (Maximum)		-3.044 (Minimum)	16.96 (Nominal)	36.96 (Maximum)
Phase	ID Elect Quad Offset 40 kHz	MM/M	Value	Phase	ID Elect Quad Gain 40 kHz	Value	Phase	IM Elect Phase 40 kHz	DEG	Value	
Before			6.450	Before			Before			15.42	
	-79.21 (Minimum)	5.786 (Nominal)	90.79 (Maximum)		0.8370 (Minimum)	0.9870 (Nominal)	1.182 (Maximum)		-3.281 (Minimum)	16.72 (Nominal)	36.72 (Maximum)
Phase	IM Elect Real Offset 40 kHz	MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value					
Before			22.15	Before							
	-107.6 (Minimum)	22.42 (Nominal)	152.4 (Maximum)		0.8470 (Minimum)	0.9970 (Nominal)	1.196 (Maximum)				
Phase	IM Elect Quad Offset 40 kHz	MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value					
Before			11.81	Before							
	-118.0 (Minimum)	12.02 (Nominal)	142.0 (Maximum)		0.8285 (Minimum)	0.9785 (Nominal)	1.170 (Maximum)				

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Dual Induction – E Wellsite Calibration							
SFL Electronics							
Phase	SFL Voltage Offset	MV	Value	Phase	SFL Voltage Gain	Value	
Before			0.1613	Before			0.9984
	-15.00 (Minimum)	0 (Nominal)	15.00 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Phase	SFL Current Offset	MA	Value	Phase	SFL Current Gain	Value	
Before			0.03676	Before			1.010
	-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: 24-Nov-2009 12:26

Dual Induction – E Wellsite Calibration											
Electronics Calibration Changes Files/Depth Intervals: 10: 98.3 – 1102.0 13: 1163.6 – 994.7 14: 1163.6 – 99.1											
Phase	ID (R > 27 OHM-M)	MM/M	Value	Phase	ID (R < 27 OHM-M) %	Value	Phase	SFL (R < 1 OHM-M)	OHMM	Value	
After			0	After			After			0.0007201	
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)		0 (Minimum)	0 (Nominal)	0.02000 (Maximum)
Phase	IM (R > 27 OHM-M)	MM/M	Value	Phase	IM (R < 27 OHM-M) %	Value					
After			0	After							
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)				
Phase	SFL (R > 27 OHM-M)	MM/M	Value	Phase	SFL (R < 27 OHM-M) %	Value					
After			0	After							
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)				

After: 24-Nov-2009 17:13

General Purpose Inclinerometer / Equipment Identification

Primary Equipment:

SPIC 210 A 710

Auxiliary Equipment:
GPIT Housing

GPIH - A

2864

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:

Accelerator-Porosity Sonde
APS Minitron

APS - C
MNTR - F

22
5589

Auxiliary Equipment:

Accelerator-Porosity Housing
APS Calibration Water Tank
APS Aluminum Calibrator Sleeve

APH - AC
SFT - 178
SFT - 281

22
2
2

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		31.30	Master		33.28	Master		29.03
Before		33.28	Before		33.75	Before		30.39
After		32.87	After		32.24	After		28.51
	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		29.71	Master		33.23			
Before		30.68	Before		33.84			
After		30.41	After		31.31			
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)				

Master: 4-Nov-2009 12:02

Before: 24-Nov-2009 10:28

After: 24-Nov-2009 17:46

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		0.8901	Master		1.060	Master		1.007
	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)	

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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		11.51	Master		11.21	Master		5.881
	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		0.9799	Master		0.9831	Master		27.90
	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: 4-Nov-2009 12:02

Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:

Hostile Litho Density Sonde
Hostile Litho Density High Voltage
Gamma Source Radioactive

HLDS - D
HLDV - D
GSR - Z

57
51
2397

Auxiliary Equipment:

Hostile Litho Density Pad
Hostile Litho Density High Voltage Housi

HLDP - C
HEH - H

61
53

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		7.756	Master		8.165	Master		92.48
Before		7.734	Before		8.108	Before		90.88
After		7.800	After		8.117	After		91.98
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		84.63	Master		191.1	Master		233.7
Before		82.28	Before		190.9	Before		232.7
After		84.13	After		190.2	After		233.0
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		544.1	Master		90.17	Master		152.5
Before		542.2	Before		88.26	Before		152.4
After		541.8	After		88.05	After		151.3
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)		
Phase	SSW3 Background CPS	Value	Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value
Master		429.0	Master		231.1	Master		164.3
Before		429.8	Before		229.0	Before		165.0
After		427.5	After		228.9	After		164.4
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: 4-Nov-2009 4:36			Before: 24-Nov-2009 10:29			After: 24-Nov-2009 17:46		

Litho-Density Spectroscopy Cartridge - B / Equipment Identification

Primary Equipment:
LDSC Cartridge LDSC - B 326

Auxiliary Equipment:
LDSC Housing LDSH - A 319

Hostile Natural Gamma Ray Cartridge - B / Equipment Identification

Primary Equipment:
HNGC Cartridge HNGC - B 300

Auxiliary Equipment:
HNGC Housing HNGH - A 115

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:
HNGS Sonde HNGS - BA 194

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

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.48	Master		16.07	Master		1200
Before		39.62	Before		15.05	Before		1157

After		39.47	After		15.48	After		1165
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		142.5	Master		8.076	Master		36.12
Before		142.1	Before		7.708	Before		22.82
After		141.9	After		8.978	After		23.64
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		34.81						
Before		33.69						
After		33.43						
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						
Master: 31-Oct-2009 10:09			Before: 24-Nov-2009 10:30			After: 24-Nov-2009 17:47		

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		39.63	Master		15.54	Master		1123
Before		39.59	Before		16.26	Before		1094
After		39.66	After		15.22	After		1099
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		142.2	Master		8.652	Master		36.37
Before		142.2	Before		8.393	Before		23.56
After		142.2	After		8.244	After		25.33
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		35.36						
Before		33.56						
After		33.18						
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						
Master: 31-Oct-2009 10:09			Before: 24-Nov-2009 10:30			After: 24-Nov-2009 17:47		

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9839
Before		1.005
After		1.007
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 31-Oct-2009 10:09		
Before: 24-Nov-2009 10:30		
After: 24-Nov-2009 17:47		

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge
DTC-H Telemetry Cartridge

DTCH - A
DTCH - A 8798

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC 2304

Company: **Lamont Doherty**

Schlumberger

Well: **Expedition 317 Site U1351B**

Field: **Canterbury Basin**

Rig: **JOIDES Resolution**

Ocean: **Pacific**

Induction Resistivity (DIT)