

Company: Lamont Doherty

Well: Expedition 321 Site U1338B

Field: PEAT

Rig: JOIDES Resolution Ocean: Pacific

Phasor Induction Natural Gamma Spectroscopy

LOCATION		Elev.:	K.B.	11.00 m
Latitude: N 2° 30.471'		G.L.	-4199.00 m	
Longitude: W 117° 58.162'		D.F.	11.00 m	
Permanent Datum:	Mean Sea Level	Elev.:	0.00 m	
Log Measured From:	Drill Floor	11.00 m above Perm. Datum		
Drilling Measured From:	Drill Floor			
API Serial No.	N 2° 30.471'	117° 58.162'		

Rig: JOIDES Resolution
Field: PEAT
Location: Latitude: N 2° 30.471'
Well: Expedition 321 Site U1338B
Company: Lamont Doherty

Logging Date	9-Jun-2009
Run Number	1
Depth Driller	4626 m
Schlumberger Depth	4622 m
Bottom Log Interval	4619 m
Top Log Interval	4210 m
Casing Driller Size @ Depth	4.500 in @ 4295 m
Casing Schlumberger	4289 m
Bit Size	11.438 in

Type Fluid In Hole		Seawater Gel
Density	Fluid Loss	1.258 g/cm3
Viscosity	PH	
Source Of Sample	N/A	

RM @ Measured Temperature	@	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF	RMC	RMC	N/A
RM @ MRT	RMF @ MRT	RMF @ MRT	@ @
Maximum Recorded Temperatures	6 degC	@ 6	@ 6
Circulation Stopped	9-Jun-2009	18:00	
Logger On Bottom	9-Jun-2009	see log	
Unit Number	625003	Houston	
Recorded By	K. Swain		
Witnessed By	Alberto Malinverno, Louise Anderson		

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

Logging Date	
Run Number	
Depth Driller	
Schlumberger Depth	
Bottom Log Interval	
Top Log Interval	
Casing Driller Size @ Depth	
Casing Schlumberger	
Bit Size	
Type Fluid In Hole	
Density	
Viscosity	
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	

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OTHER SERVICES1 OS1: FMS/HNGS OS2: MSS/Caliper/HNGS OS3: VSI OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
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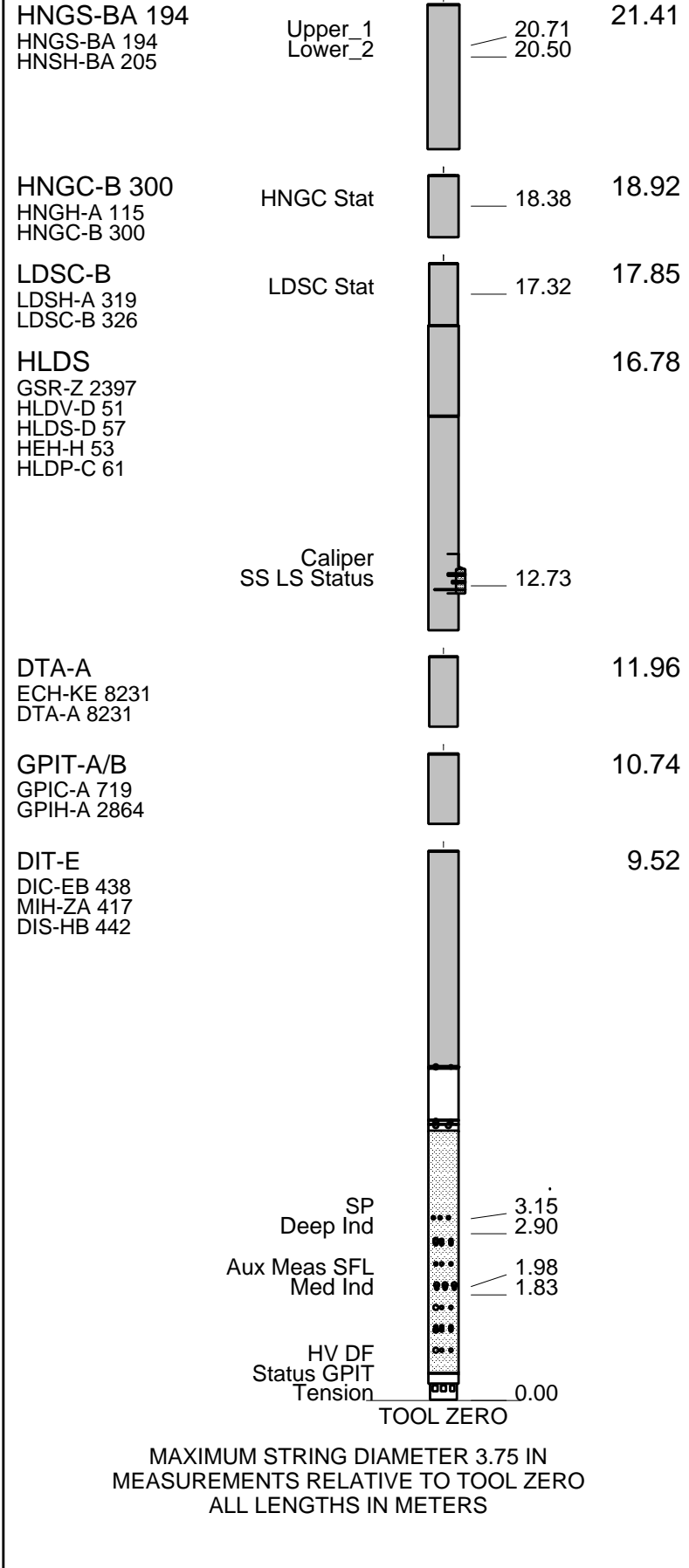
REMARKS: RUN NUMBER 1 Logging tools deployed inside drillpipe with wireline. BHA consisted of LFV and seal bore collar of 3.80" ID. HLDS caliper calibration used 12 inch and 15.19" diameter rings as reference to improve large hole size accuracy. Depths referenced from drill floor which is 11m above sea level. Pipe depth set at 4210 m approximately for duration of logging. Ship heave averaged +0.7m to -0.7 m on average (estimate). Tcombo run encountered 3 pulls near pipe depth due to formation sticking. FMS (MEST) and VSI runs made with drill pipe lowered to 4353mbrf from 4295mbrf. This was to eliminate the sticking problems on these later runs. No problems encountered with sticking on the last two runs.	REMARKS: RUN NUMBER 2
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RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		17C0-154	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

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

DOWNHOLE EQUIPMENT			
LEH-QT LEH-QT 301		23.22	
DTC-H ECH-KC 2304 DTCH0-A 8798	CTEM TelStatus ToolStatu 	22.05 21.41	22.33



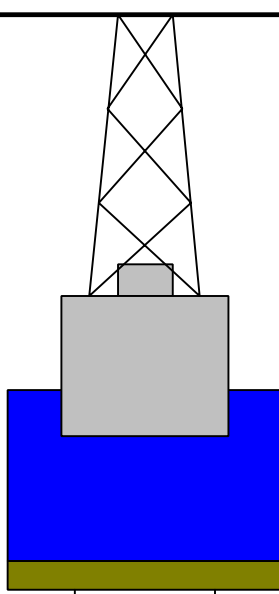
Production String	(in)	(M)	Well Schematic	(M)	(in)	Casing String
	OD	ID		MD	MD	

Kelly Bushing Elevation
Derrick Floor Elevation

11.0
11.0

Mean Sea Level

0.0



4210 4.20

Casing String



4210 9.875

4353 3.80

Borehole Segment

Casing Shoe

4626

Input DLIS Files

DEFAULT	PI_LDL_NGS_010LUP	FN:12	PRODUCER	10-Jun-2009 00:26	4622.3 M	4199.2 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_040PUP	FN:53	PRODUCER	21-Jun-2009 17:13	4622.3 M	4199.2 M
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OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3762-Q1_2009_OP17
DTA-A	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

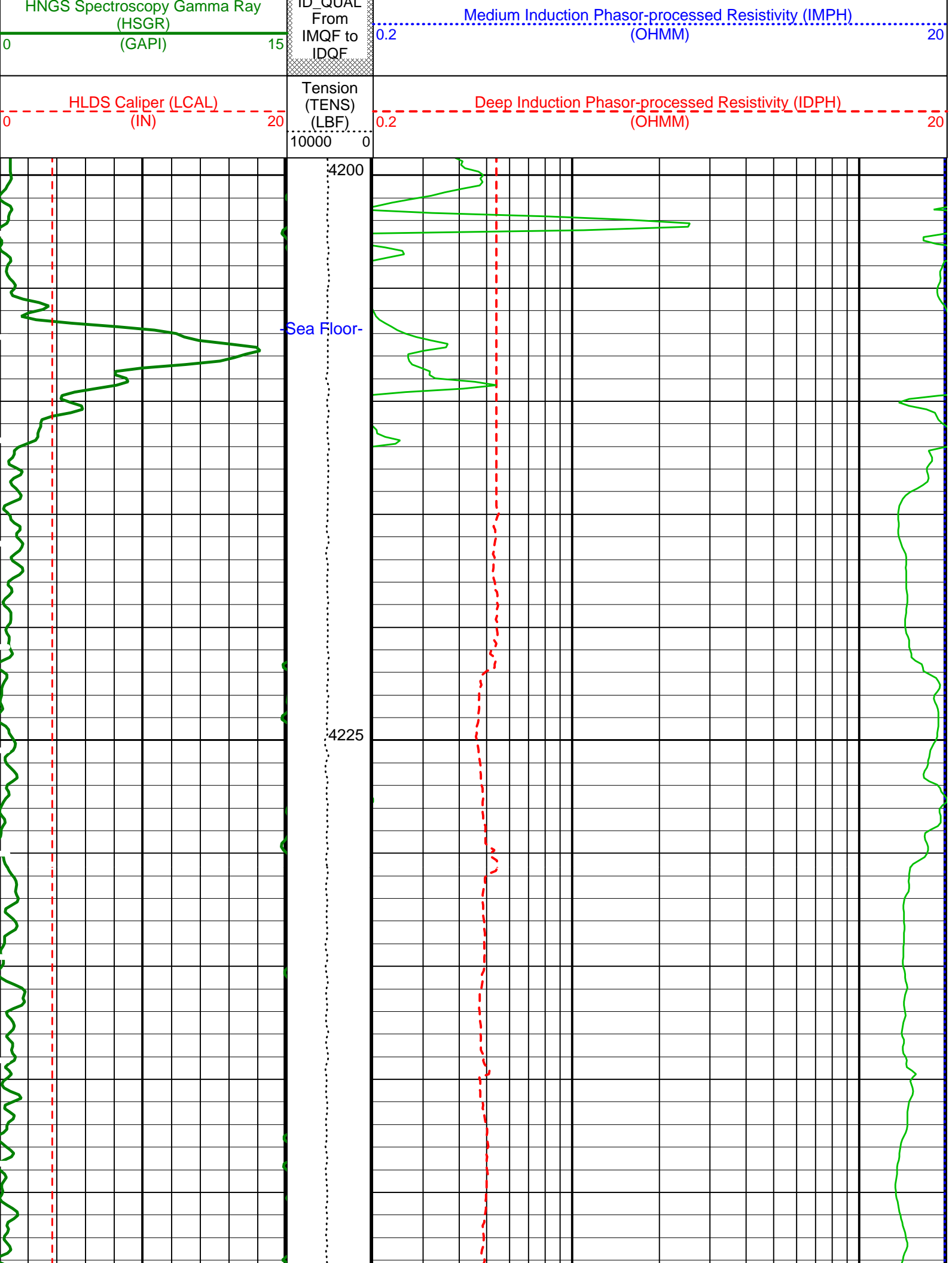
IM_QUAL
From
SFQF to
IMQF

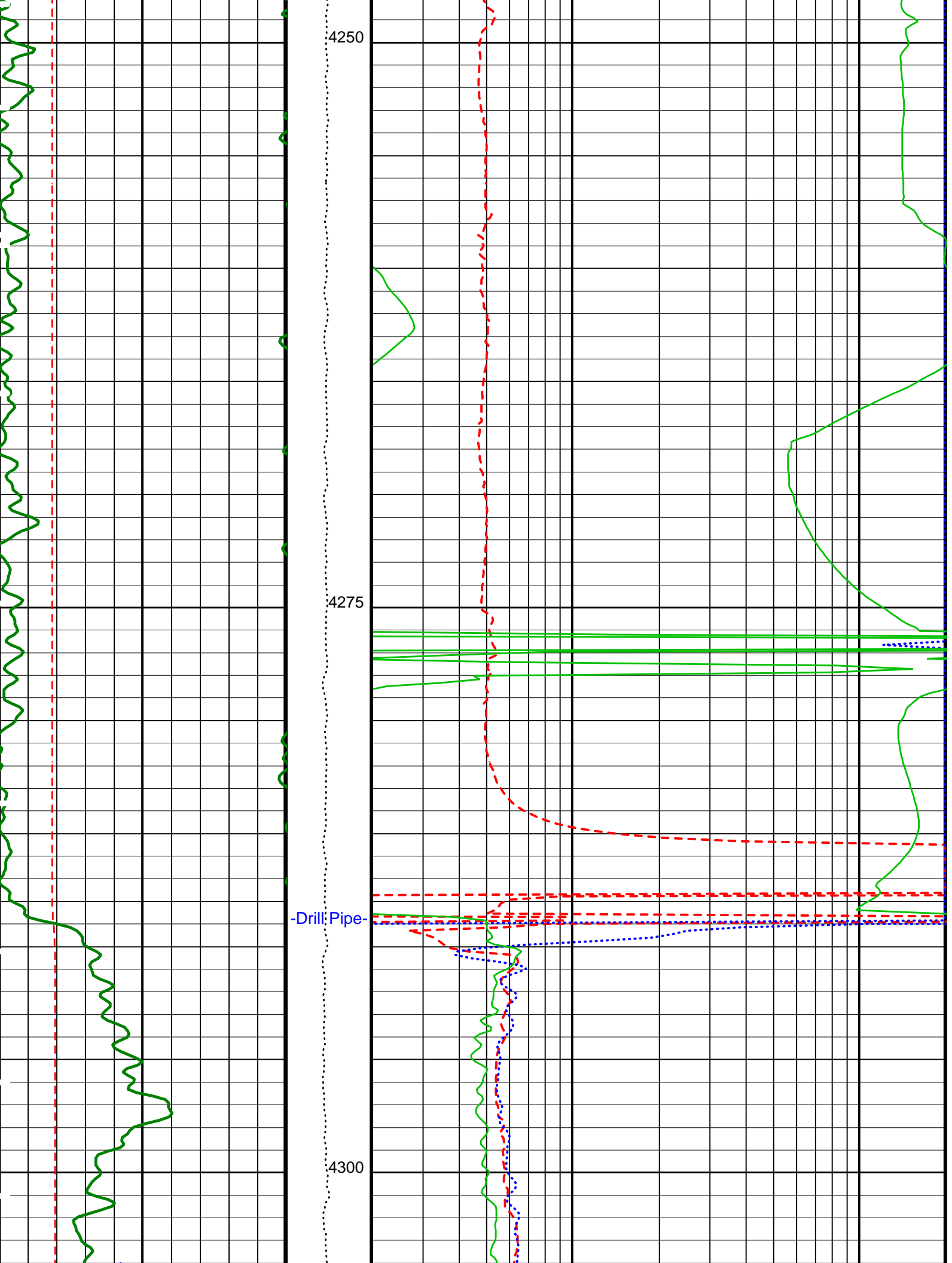
SFL Unaveraged (SFLU)
(OHMM)

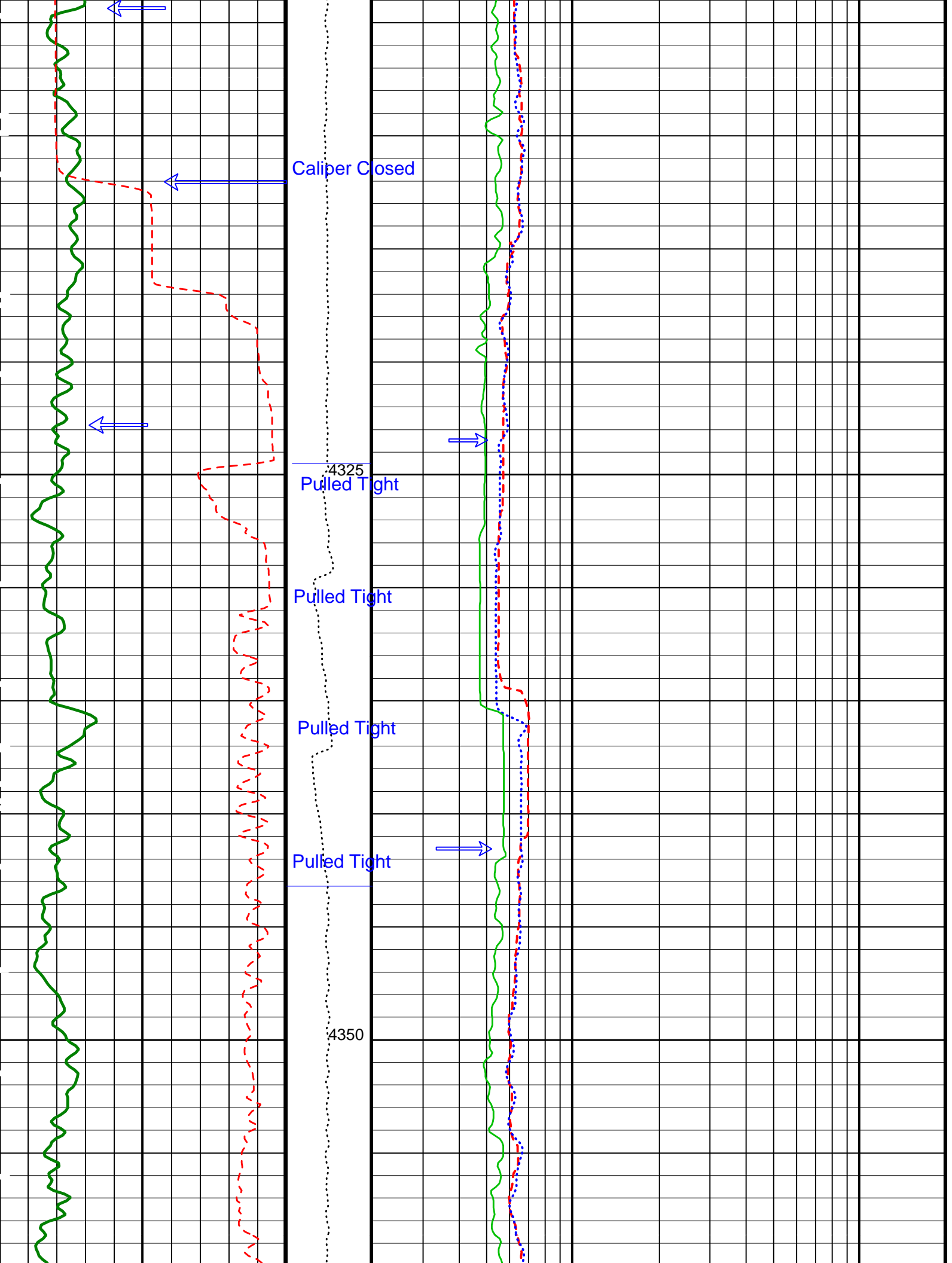
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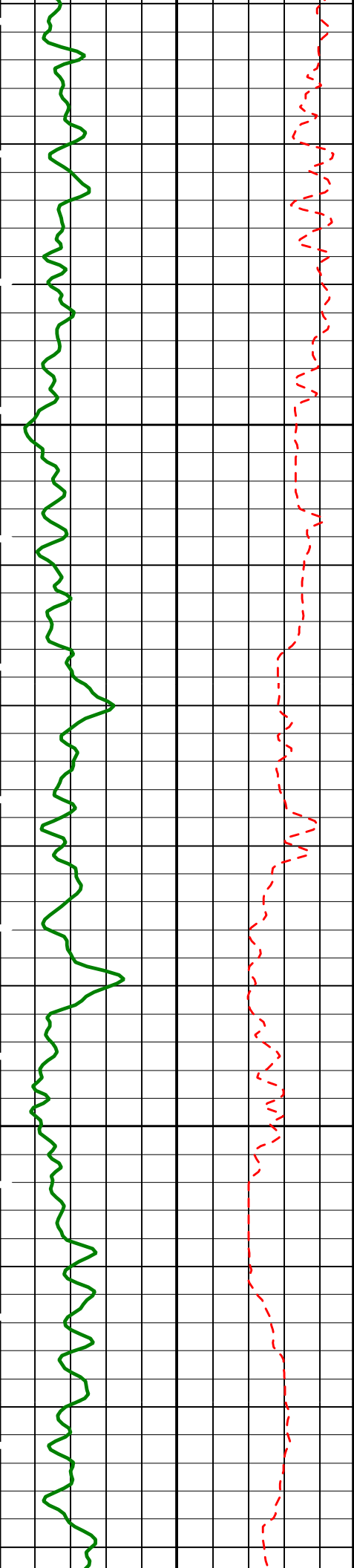
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Main Uplog



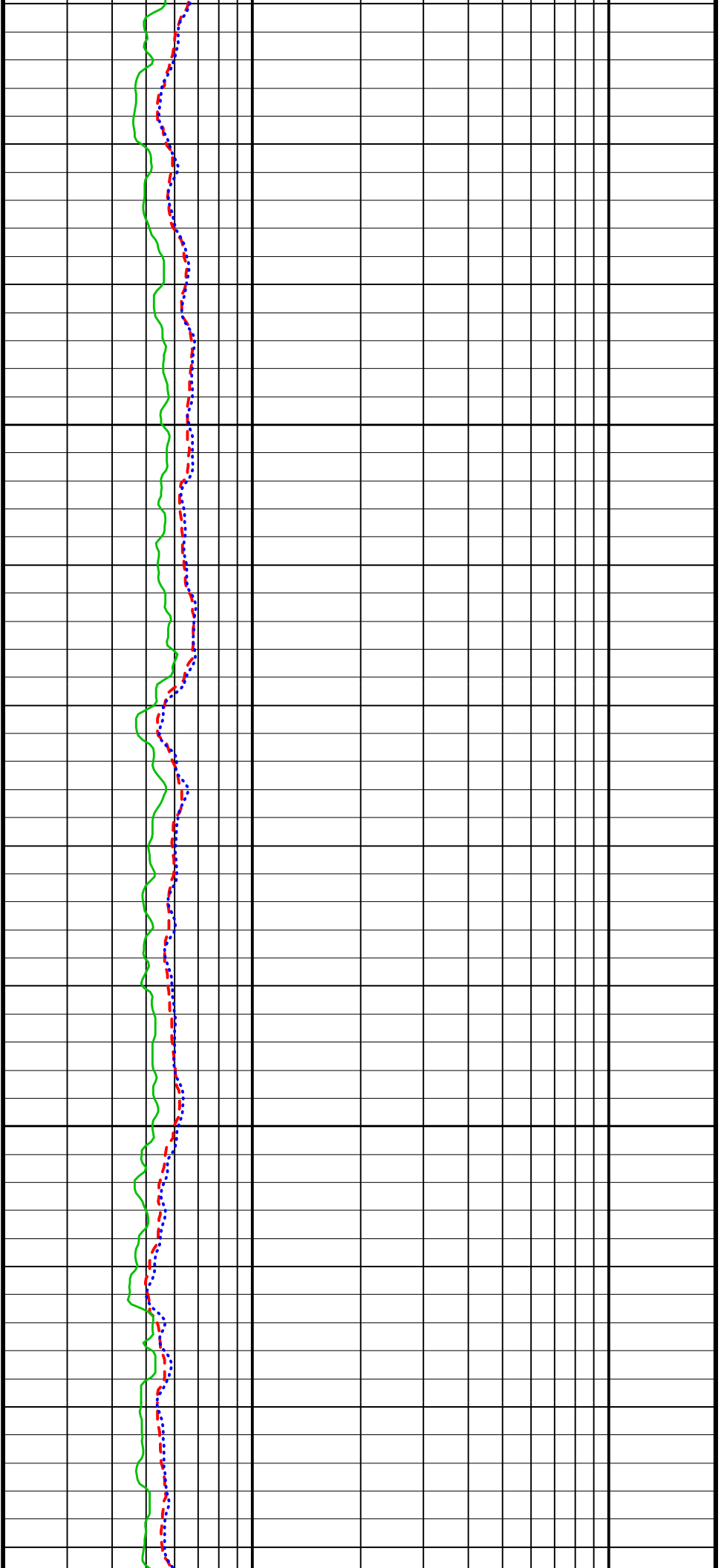


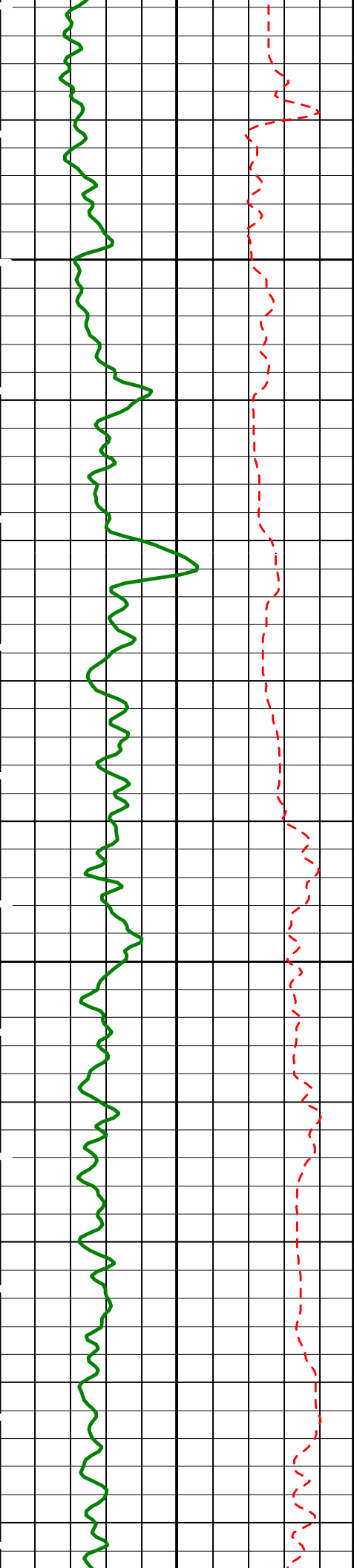




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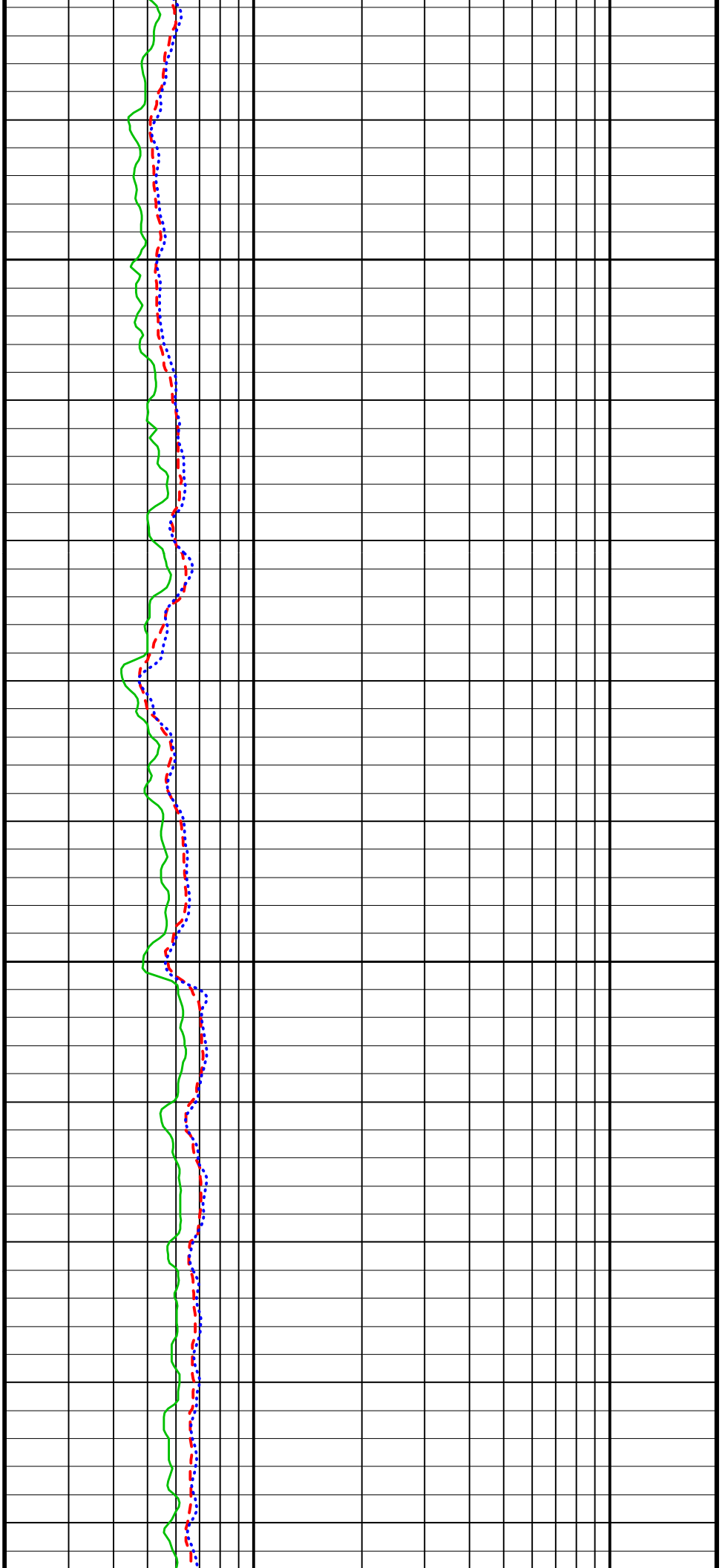
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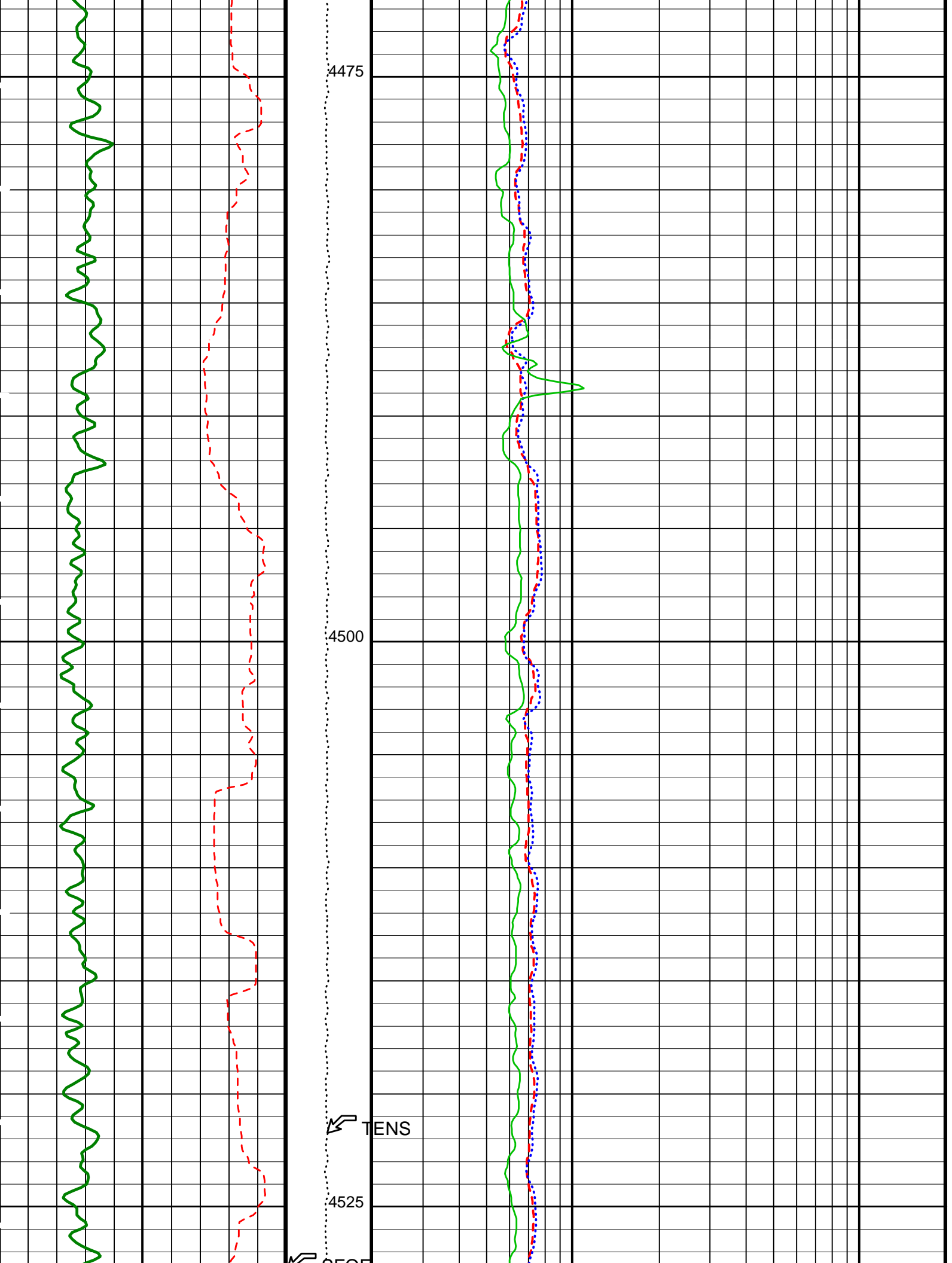


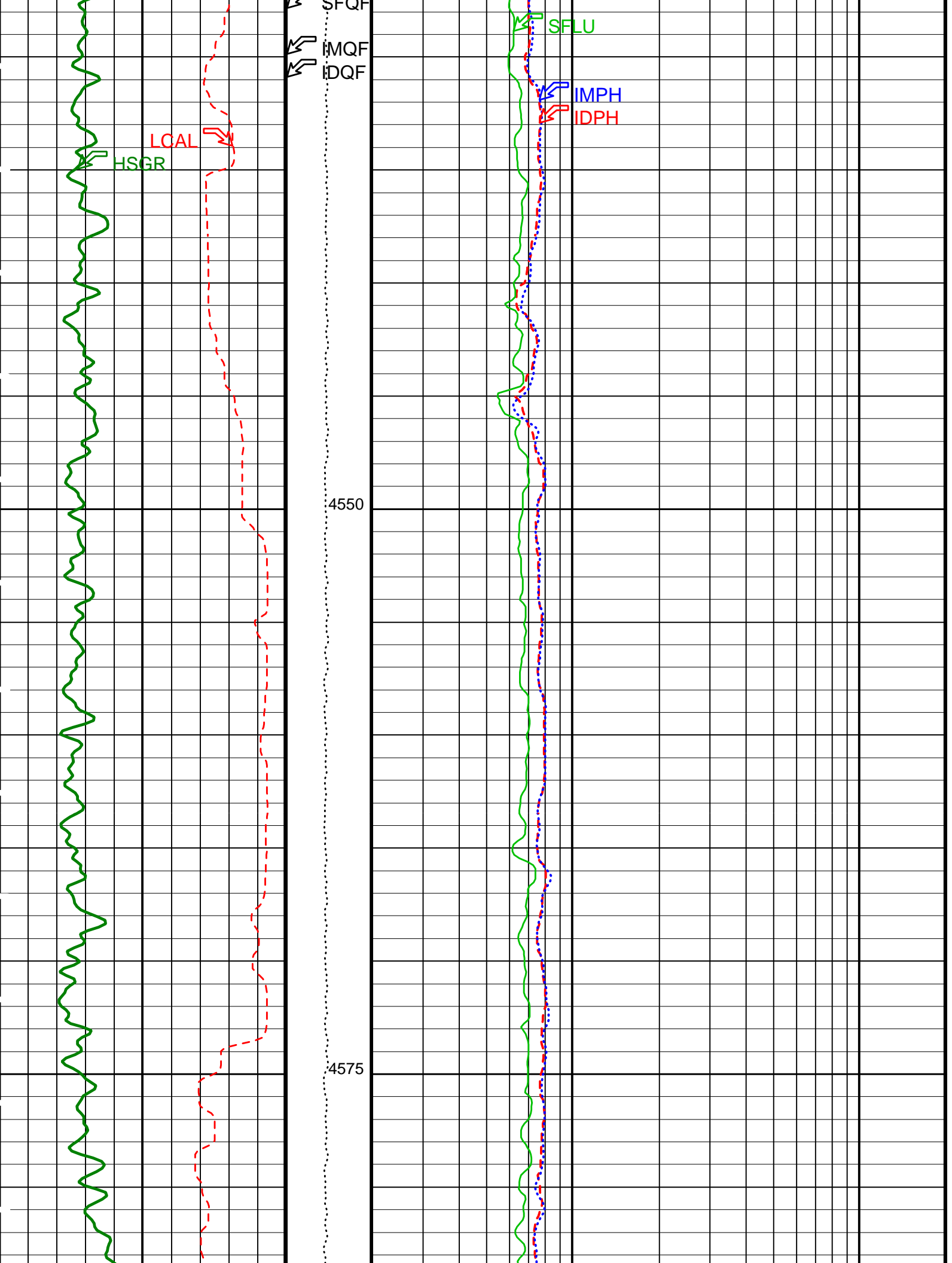


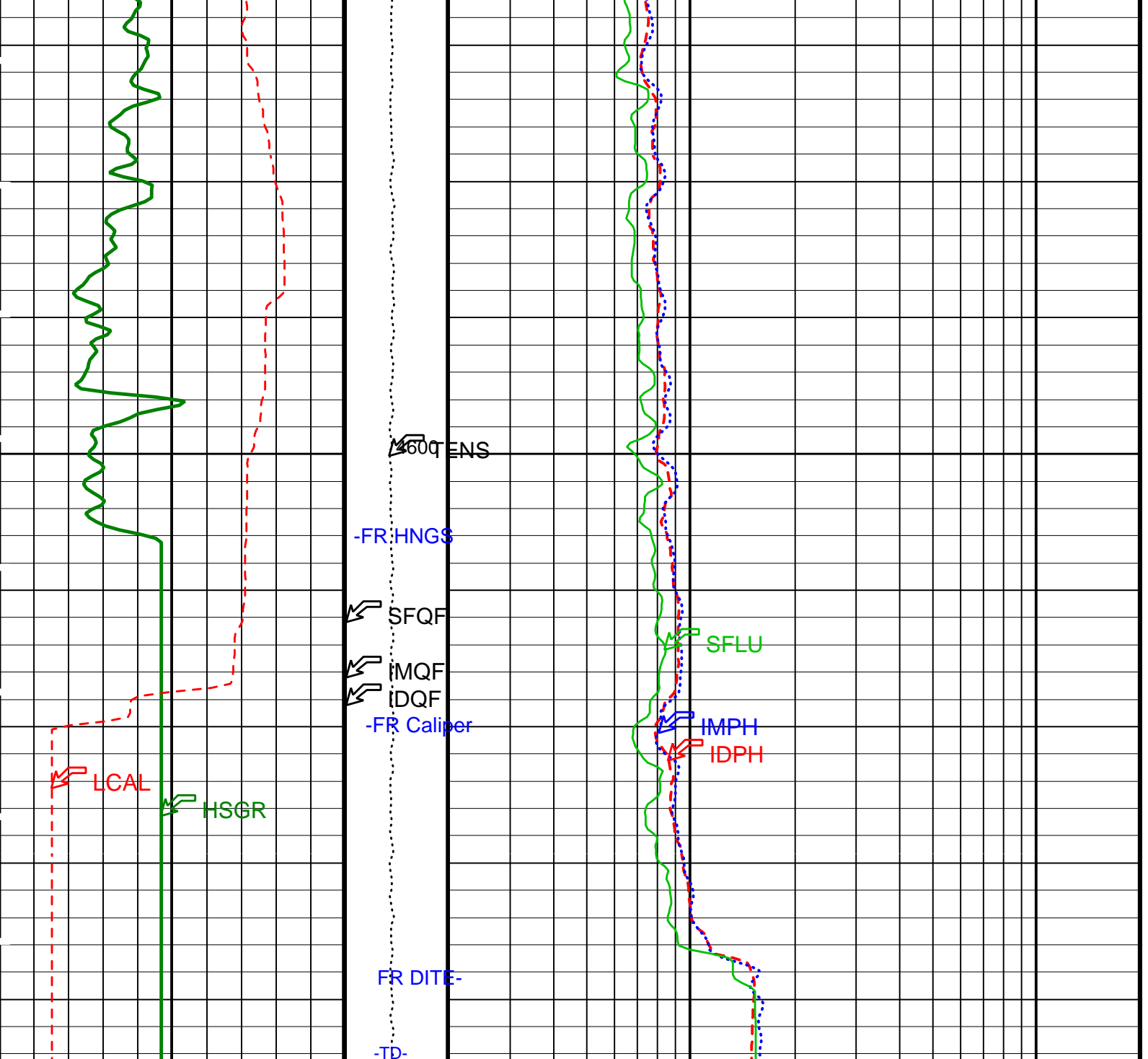
4425

4450









<p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)</p> <p>0.2 20</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 15</p>	<p>ID_QUAL From IMQF to IDQF</p>	<p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)</p> <p>0.2 20</p>
<p>Main Uplog</p>	<p>IM_QUAL From SFQF to IMQF</p>	<p>SFL Unaveraged (SFLU) (OHMM)</p> <p>0.2 20</p>
	<p>SFL_QUAL From D3T to SFQF</p>	

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	8.89719	DEG
MRTE	Magneto Reference Temperature	23	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	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	
M DEN	Matrix Density	2.71	G/C3

MDEX	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	-0.0012723	
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	1.22479	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.853849	

System and Miscellaneous

ALDTPCHAN	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	0.0	M
FLEV	Fluid Level	-50000.00	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSDP	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	4650	M
TDD	Total Depth - Driller	4626.00	M
TDL	Total Depth - Logger	4622.00	M
TWS	Temperature of Connate Water Sample	7.00	DEGC

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 21-Jun-2009 17:13

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3762-Q1_2009_OP17
DTA-A	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_LDL_NGS_010LUP	FN:12	PRODUCER	10-Jun-2009 00:26	4622.3 M	4199.2 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_040PUP	FN:53	PRODUCER	21-Jun-2009 17:13		
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Input DLIS Files

DEFAULT	Flip_PI_LDL_NGS_037LUP		PRODUCER	21-Jun-2009 16:51	4623.8 M	4169.7 M
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Output DLIS Files

DEFAULT

PI_LDL_NGS_038PUP

FN:51

PRODUCER

21-Jun-2009 16:53

4623.8 M

4169.7 M

OP System Version: 17C0-154

DIT-E 17C0-154
 DTA-A 17C0-154
 LDSC-B 17C0-154
 HNGS-BA 17C0-154

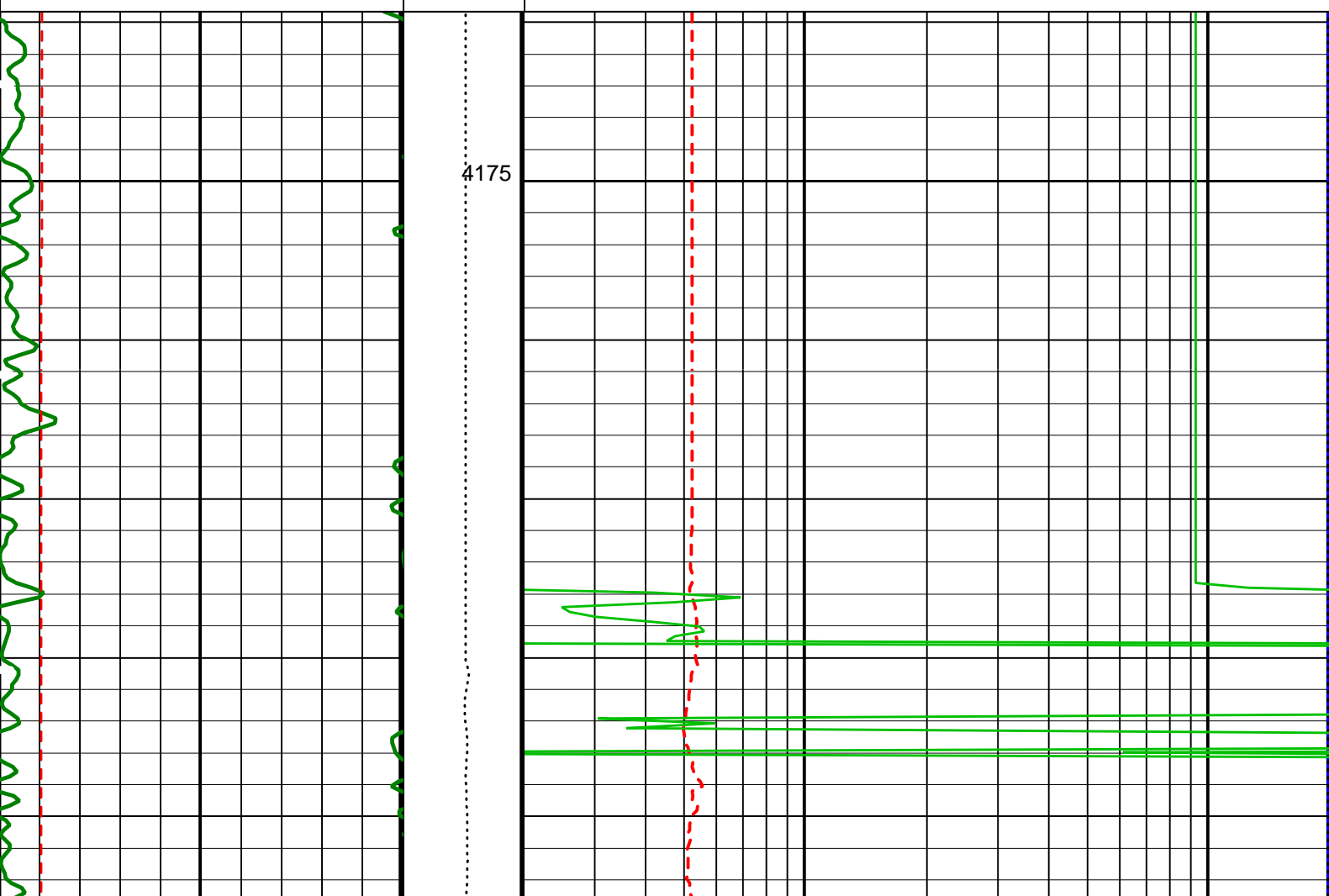
GPIT-A/B
 HLDS
 HNGC-B
 DTC-H

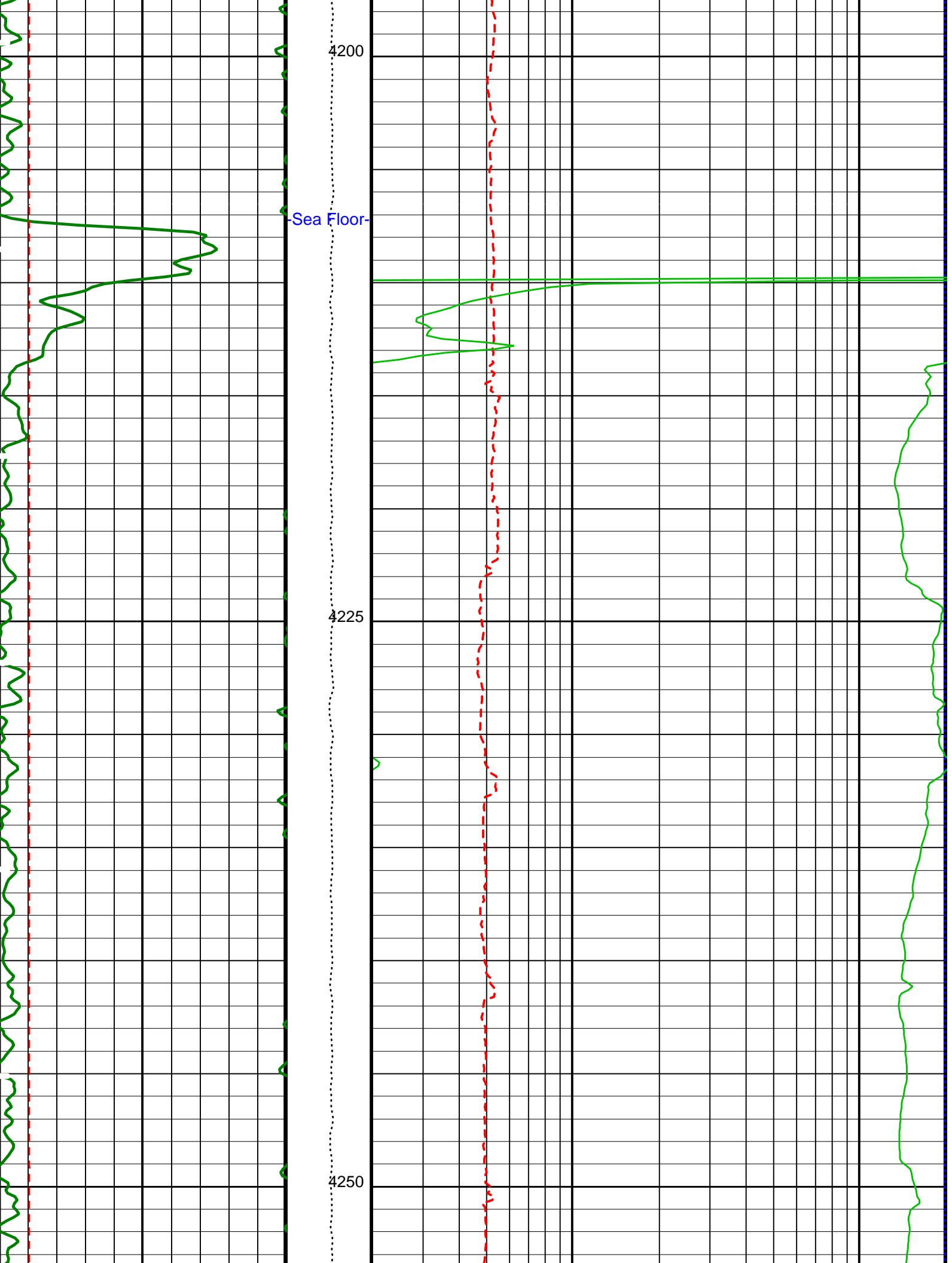
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 17C0-154
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 17C0-154

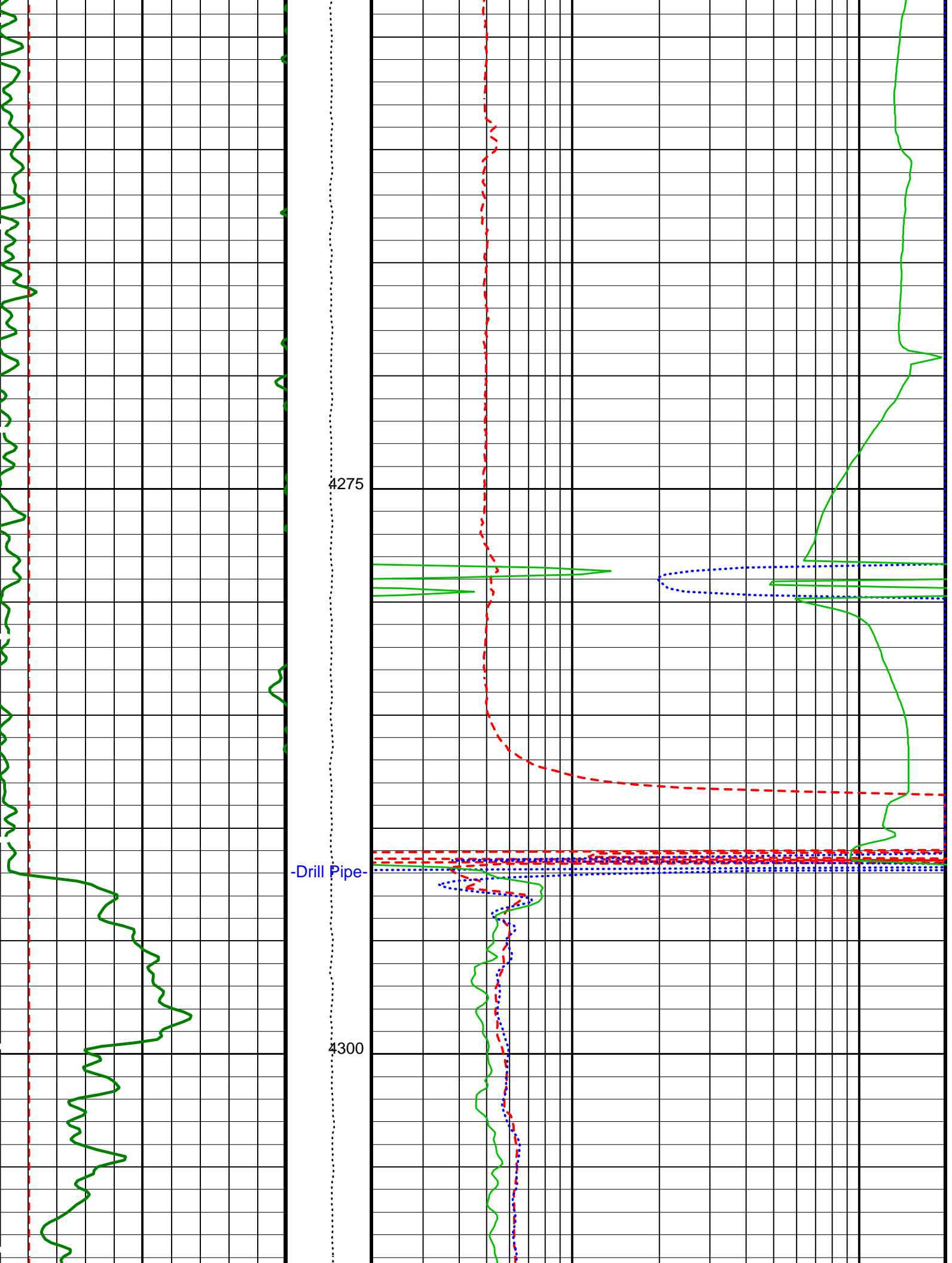
PIP SUMMARY

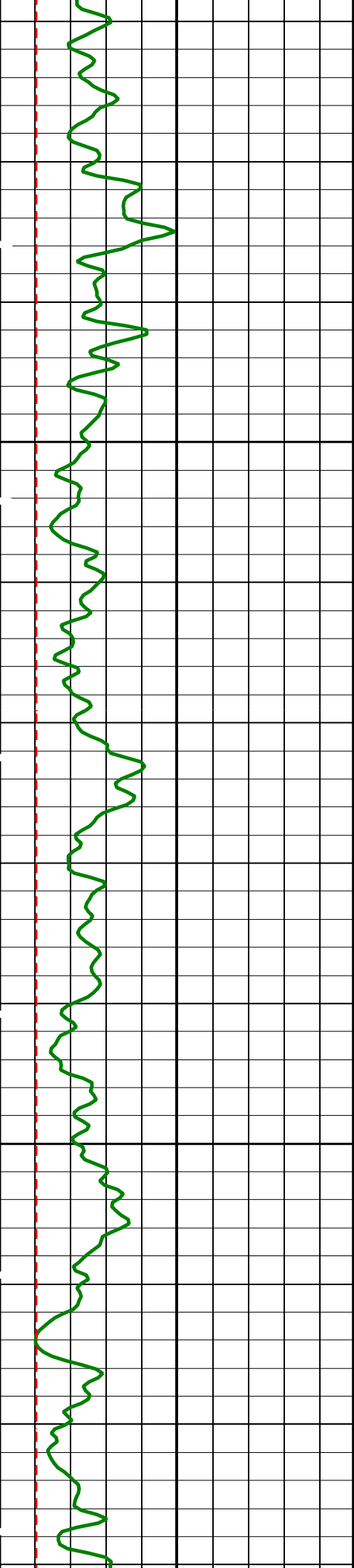
▶ Time Mark Every 60 S

	<p>SFL_QUAL From D3T to SFQF</p>	
<p>Downlog</p>	<p>IM_QUAL From SFQF to IMQF</p>	<p>SFL Unaveraged (SFLU) (OHMM) 0.2 20</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI) 0 15</p>	<p>ID_QUAL From IMQF to IDQF</p>	<p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM) 0.2 20</p>
<p>HLDS Caliper (LCAL) (IN) 0 20</p>	<p>Tension (TENS) (LBF) 10000 0</p>	<p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM) 0.2 20</p>



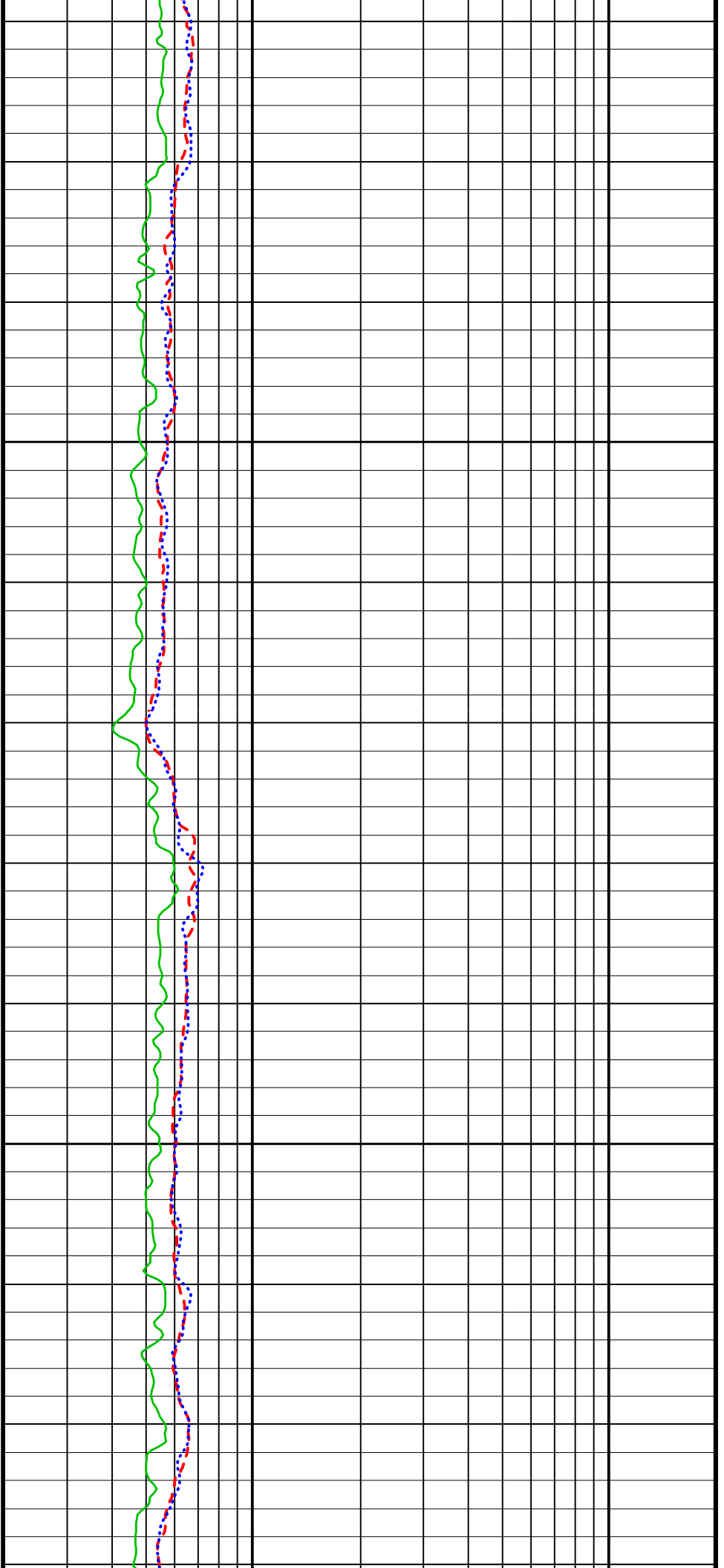


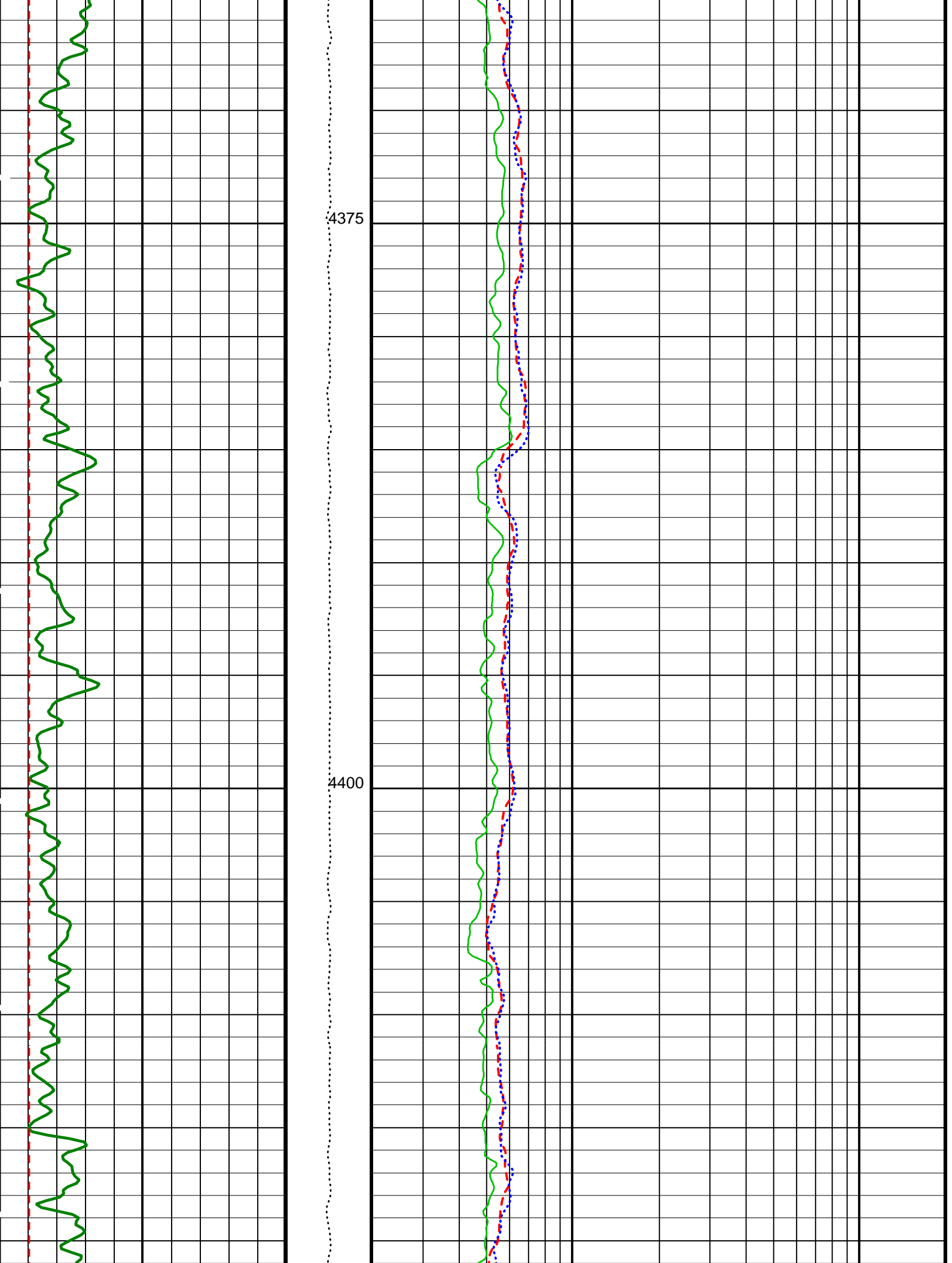


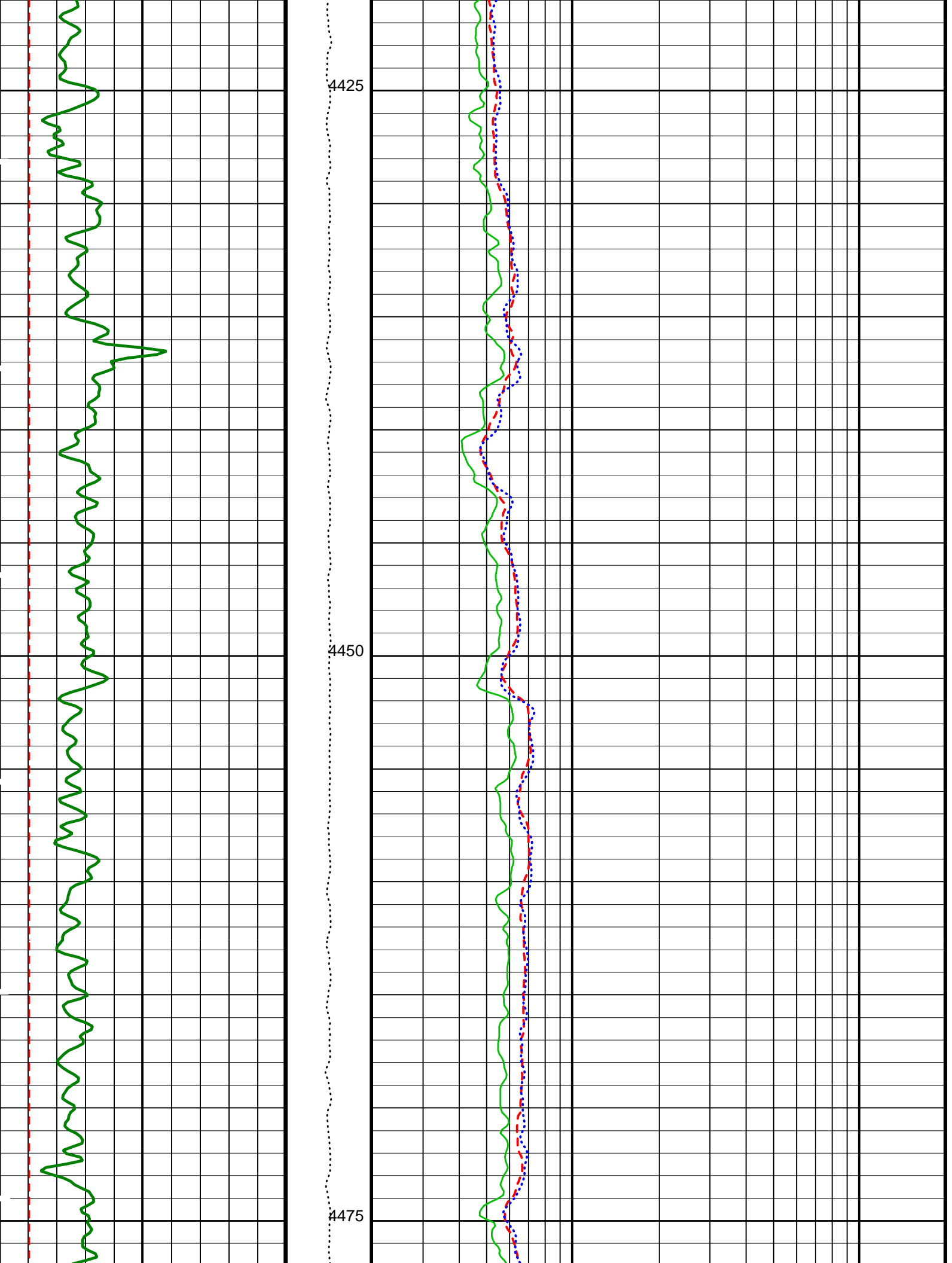


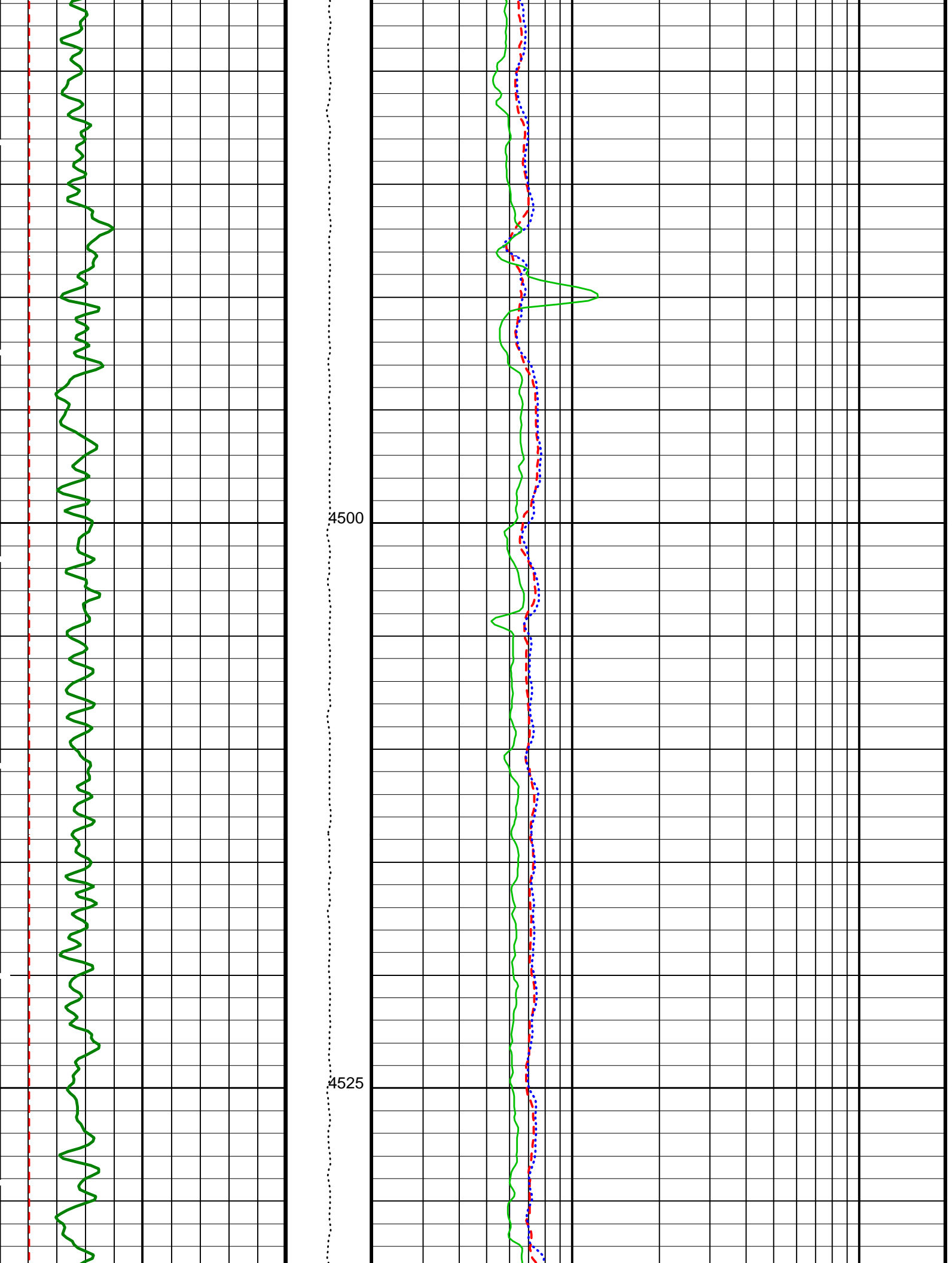
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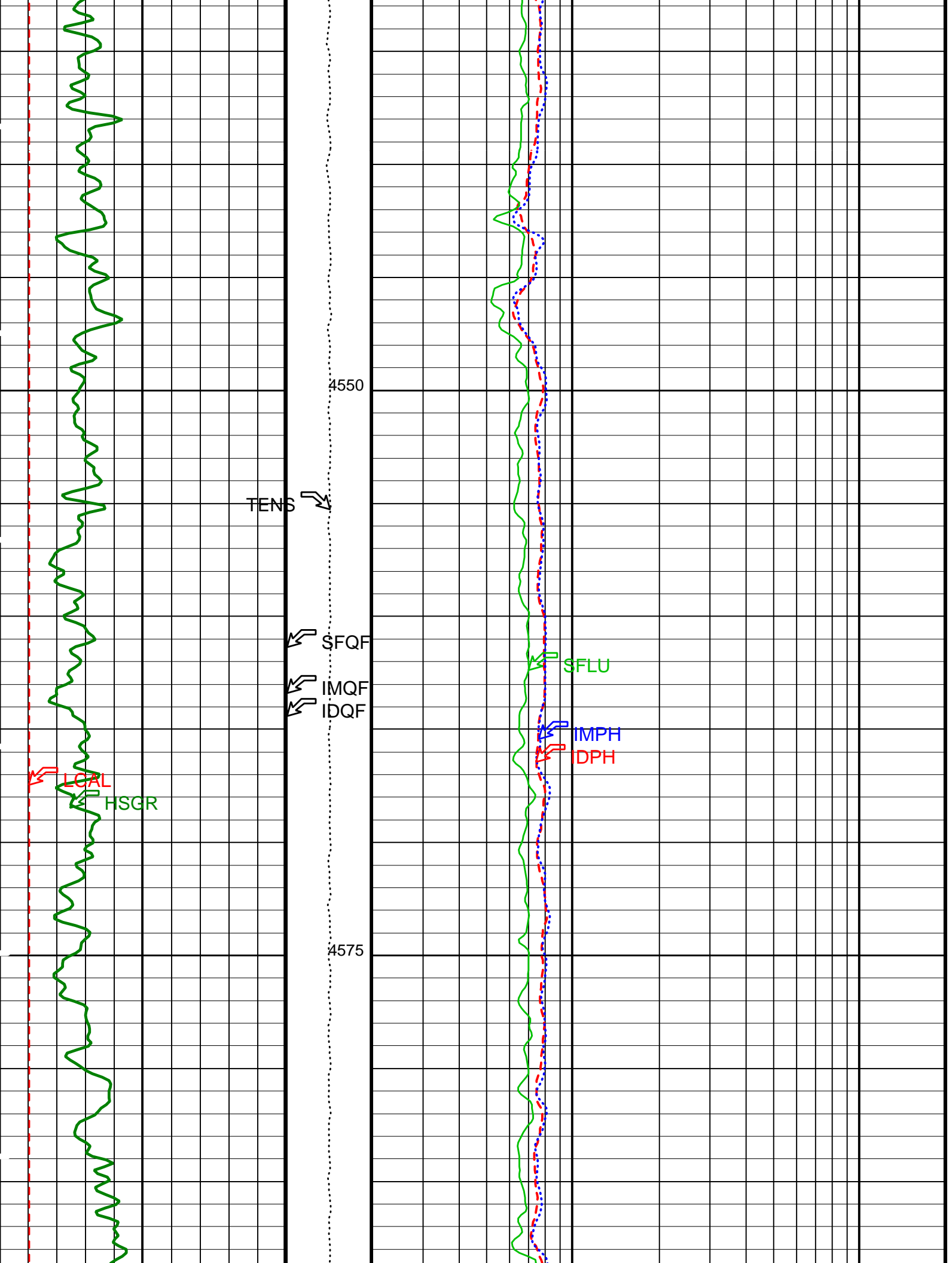
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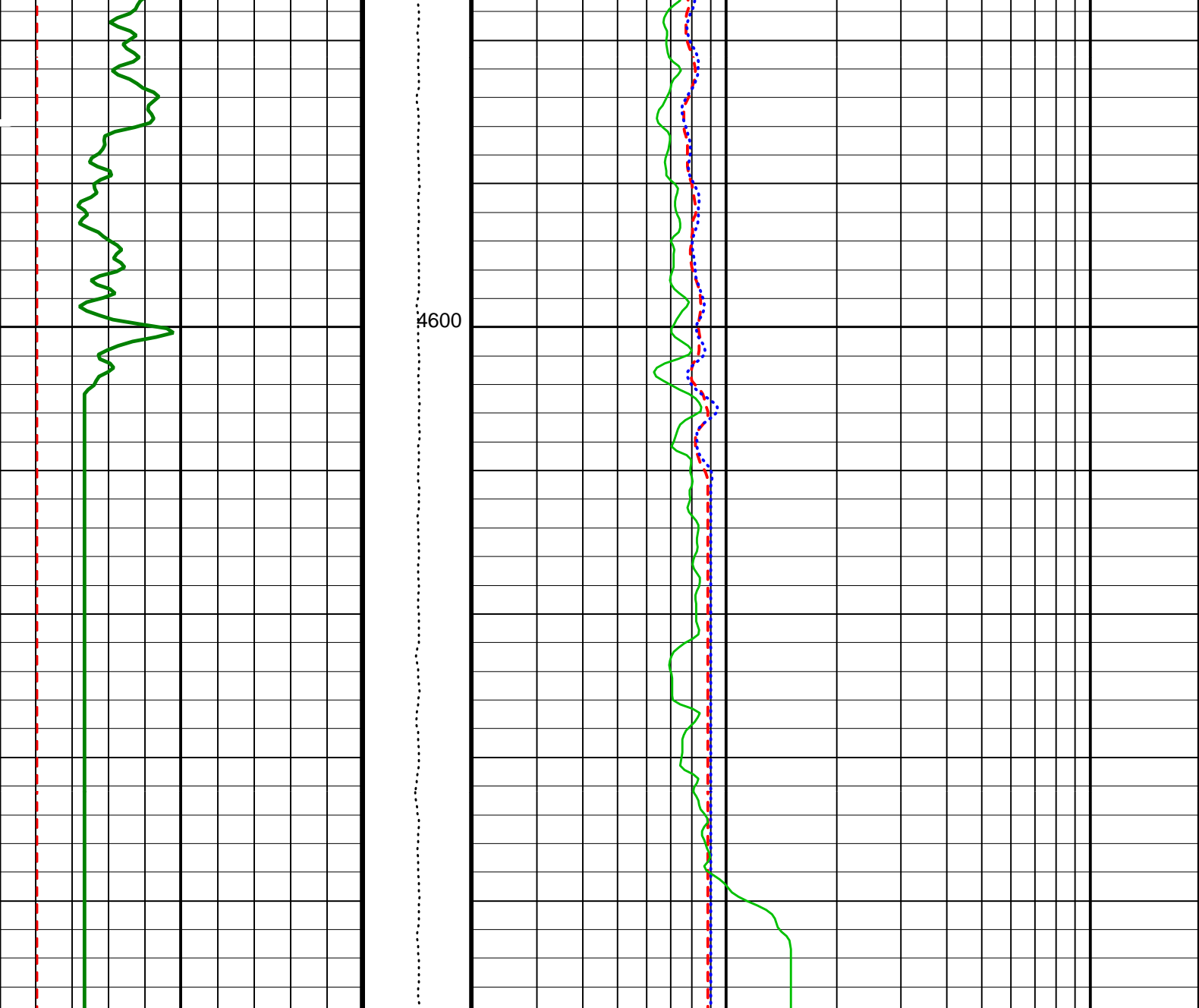












<p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)</p> <p>0.2 20</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 15</p>	<p>ID_QUAL From IMQF to IDQF</p>	<p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)</p> <p>0.2 20</p>
<p>Downlog</p>	<p>IM_QUAL From SFQF to IMQF</p>	<p>SFL Unaveraged (SFLU) (OHMM)</p> <p>0.2 20</p>
<p>SFL_QUAL From D3T to SFQF</p>		

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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DELS 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	8.89719	DEG
MRTE	Magneto Reference Temperature	23	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	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	-0.0012723	
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	1.22479	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.853849	

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	0.0	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	4650	M
TDD	Total Depth - Driller	4626.00	M
TDL	Total Depth - Logger	4622.00	M
TWS	Temperature of Connate Water Sample	7.00	DEGC

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 21-Jun-2009 16:53

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3762-Q1_2009_OP17
DTA-A	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	Flip_PI_LDL_NGS_037LUP	PRODUCER	21-Jun-2009 16:51	4623.8 M	4169.7 M
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Output DLIS Files

DEFAULT	PI_LDL_NGS_038PUP	FN:51	PRODUCER	21-Jun-2009 16:53
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Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
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General Purpose Inclinator Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY
 Before: 9-Jun-2009 20:05

TEMPERATURE REFERENCE :	N/A	N/A	20	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	3	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	743	N/A	N/A	N/A	

General Purpose Inclinator Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY

Before: 9-Jun-2009 20:05

TEMPERATURE REFERENCE :	N/A	N/A	23	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	9	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	507	N/A	N/A	N/A	

Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement

Master: 22-Apr-2009 13:53 Before: 16-May-2009 7:00 After: 10-Jun-2009 4:52

SS Cs Resolution Bkg	9.000	7.759	7.744	7.707	-0.03621	1.800	%
LS Cs Resolution Bkg	9.000	8.110	8.072	8.047	-0.02563	1.800	%
LSW1 Background	100.0	93.49	92.71	92.99	0.2837	0.03000	CPS
LSW2 Background	100.0	85.73	84.14	84.25	0.1052	0.03000	CPS
LSW3 Background	200.0	192.7	191.4	190.3	-1.137	0.03000	CPS
LSW4 Background	250.0	235.8	233.7	234.6	0.8759	0.03000	CPS
LSW5 Background	600.0	552.3	550.2	548.9	-1.330	0.03000	CPS
SSW1 Background	100.0	90.71	90.74	89.98	-0.7586	0.03000	CPS
SSW2 Background	200.0	156.2	156.2	156.1	-0.1726	0.03000	CPS
SSW3 Background	500.0	436.6	432.7	434.3	1.601	0.03000	CPS
SSW4 Background	270.0	234.8	232.3	232.7	0.4607	0.03000	CPS
SSW5 Background	200.0	168.2	167.2	164.3	-2.829	0.03000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Master: 22-Apr-2009 14:54

LSW1 Aluminum	600.0	576.2	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	831.7	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	999.8	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	502.6	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	456.4	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2571	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7074	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9869	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4093	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	501.7	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement

Master: 22-Apr-2009 14:47

LSW1 Iron	400.0	396.8	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	672.9	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	883.7	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	454.8	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	415.6	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1882	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5884	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8992	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3724	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	443.2	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration

Before: 3-Jun-2009 11:40

HLDS Caliper Small Ring	12.00	N/A	14.14	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	17.61	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 12-Mar-2009 20:35 Before: 16-May-2009 19:11 After: 10-Jun-2009 4:53

Na 511 Peak Loc	40.00	39.63	39.53	39.69	0.1590	1.000	
Na 511 Peak Res	15.50	14.89	16.37	14.99	-1.379	2.000	%
High Voltage	1150	1168	1179	1180	1.091	N/A	V
Na 1785 Peak Loc	142.6	142.1	141.7	141.8	0.1085	7.000	
Na 1785 Peak Res	8.500	8.613	9.055	9.382	0.3269	2.000	%
Temperature	15.50	27.34	32.56	31.21	-1.341	N/A	DEGC
Na Count Rate	45.00	41.11	38.79	37.71	-1.087	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 12-Mar-2009 20:35 Before: 16-May-2009 19:11 After: 10-Jun-2009 4:53

Na 511 Peak Loc	40.00	39.72	39.75	39.58	-0.1694	1.000	
Na 511 Peak Res	15.50	15.49	15.15	16.32	1.176	2.000	%
High Voltage	1150	1102	1113	1114	0.6743	N/A	V
Na 1785 Peak Loc	142.6	142.7	142.3	142.0	-0.2681	7.000	
Na 1785 Peak Res	8.500	7.944	8.759	9.052	0.2937	2.000	%
Temperature	15.50	27.88	33.15	32.73	-0.4194	N/A	DEGC
Na Count Rate	45.00	41.22	39.43	38.09	-1.336	8.000	CPS

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

Master: 12-Mar-2009 20:35 Before: 16-May-2009 19:11 After: 10-Jun-2009 4:53

Coincidence Count Rate Ratio	1.000	0.9971	0.9835	0.9891	0.005594	0.05000	
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Dual Induction - E / Equipment Identification

Primary Equipment:

Dual Induction Sonde
Dual Induction Cartridge

DIS - HB 442
DIC - EB 438

Auxiliary Equipment:

Mass Isolated Housing

MIH - ZA 417

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			40.13	Before		1.010	Before		8.883	
	-261.2 (Minimum)	38.83 (Nominal)	338.8 (Maximum)		0.8436 (Minimum)	0.9936 (Nominal)	1.191 (Maximum)	0.1759 (Minimum)	10.18 (Nominal)	20.18 (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			25.41	Before		0.9974	Before		13.32	
	-276.0 (Minimum)	23.99 (Nominal)	324.0 (Maximum)		0.8333 (Minimum)	0.9833 (Nominal)	1.176 (Maximum)	3.625 (Minimum)	13.63 (Nominal)	23.63 (Maximum)
Phase	IM Elect Real Offset 10 kHz	MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value				
Before			99.84	Before		0.9508				
	-452.1 (Minimum)	97.90 (Nominal)	647.9 (Maximum)		0.8095 (Minimum)	0.9595 (Nominal)	1.143 (Maximum)			
Phase	IM Elect Quad Offset 10 kHz	MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value				
Before			98.48	Before		0.9481				
	-453.6 (Minimum)	96.36 (Nominal)	646.4 (Maximum)		0.8070 (Minimum)	0.9570 (Nominal)	1.139 (Maximum)			

Before: 31-May-2009 8:10

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			15.55	Before		1.018	Before		7.910	
	-109.8 (Minimum)	15.15 (Nominal)	140.2 (Maximum)		0.8559 (Minimum)	1.006 (Nominal)	1.208 (Maximum)	-6.430 (Minimum)	8.570 (Nominal)	23.57 (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			10.06	Before		1.005	Before		12.63	
	-115.5 (Minimum)	9.522 (Nominal)	134.5 (Maximum)		0.8453 (Minimum)	0.9953 (Nominal)	1.193 (Maximum)	-2.601 (Minimum)	12.40 (Nominal)	27.40 (Maximum)
Phase	IM Elect Real Offset 20 kHz	MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value				
Before			41.68	Before		1.011				
	-184.3 (Minimum)	40.66 (Nominal)	265.7 (Maximum)		0.8562 (Minimum)	1.006 (Nominal)	1.209 (Maximum)			
Phase	IM Elect Quad Offset 20 kHz	MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value				
Before			41.27	Before		1.008				
	-184.8 (Minimum)	40.18 (Nominal)	265.2 (Maximum)		0.8534 (Minimum)	1.003 (Nominal)	1.205 (Maximum)			

Before: 31-May-2009 8:11

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			10.13	Before		0.9949	Before		29.02	
	-75.13 (Minimum)	9.871 (Nominal)	94.87 (Maximum)		0.8385 (Minimum)	0.9885 (Nominal)	1.184 (Maximum)	8.300 (Minimum)	28.30 (Nominal)	48.30 (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			6.544	Before		0.9814	Before		33.63	
	-78.79 (Minimum)	6.213 (Nominal)	91.21 (Maximum)		0.8272 (Minimum)	0.9772 (Nominal)	1.168 (Maximum)	12.35 (Minimum)	32.35 (Nominal)	52.35 (Maximum)
Phase	IM Elect Real Offset 40 kHz	MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value				
Before			27.30	Before		1.029				
	-103.5 (Minimum)	26.51 (Nominal)	156.5 (Maximum)		0.8684 (Minimum)	1.018 (Nominal)	1.226 (Maximum)			

(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	IM Elect Quad Offset 40 kHz	MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value
Before			27.10	Before		1.026
-103.7	26.25	156.3		0.8652	1.015	1.221
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)

Before: 31-May-2009 8:12

Dual Induction - E Wellsite Calibration						
SFL Electronics						
Phase	SFL Voltage Offset	MV	Value	Phase	SFL Voltage Gain	Value
Before			1.372	Before		1.023
-15.00	0	15.00		0.8500	1.000	1.200
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
Phase	SFL Current Offset	MA	Value	Phase	SFL Current Gain	Value
Before			0.005820	Before		0.9989
-0.6000	0	0.6000		0.8500	1.000	1.200
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)

Before: 31-May-2009 8:13

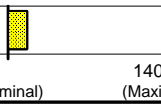
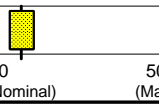
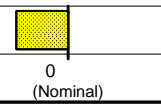
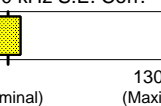
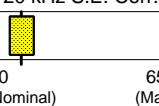
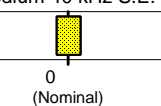
Dual Induction - E Wellsite Calibration										
Electronics Calibration Changes Files/Depth Intervals: 7: 0.0 - 0.0 8: 4169.7 - 4623.8 9: 4622.3 - 4547.0 10: 4622.3 - 4199.2										
Phase	ID (R > 27 OHM-M)	MM/M	Value	Phase	ID (R < 27 OHM-M) %	Value	Phase	SFL (R < 1 OHM-M)	OHMM	Value
After			0	After		0.0001566	After			0.0005654
0	0	0.7500		0	0	2.000	0	0	0.02000	
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	IM (R > 27 OHM-M)	MM/M	Value	Phase	IM (R < 27 OHM-M) %	Value				
After			0	After		0.0001175				
0	0	0.7500		0	0	2.000				
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)				
Phase	SFL (R > 27 OHM-M)	MM/M	Value	Phase	SFL (R < 27 OHM-M) %	Value				
After			0	After		0.0003786				
0	0	0.7500		0	0	2.000				
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)				

After: 10-Jun-2009 2:30

Dual Induction - E Master Calibration									
Test Loop Calibration: Calibration of Internal Reference to Test Loop Standard									
Phase	Deep 10 kHz Gain Factor	Value	Phase	Deep 20 kHz Gain Factor	Value	Phase	Deep 40 kHz Gain Factor	Value	
Master		0.9680	Master		0.9816	Master		1.004	
0.9000	1.000	1.100	0.9000	1.000	1.100	0.9000	1.000	1.100	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	Medium 10 kHz Gain Factor	Value	Phase	Medium 20 kHz Gain Factor	Value	Phase	Medium 40 kHz Gain Factor	Value	
Master		1.002	Master		1.011	Master		1.048	
0.9000	1.000	1.100	0.9000	1.000	1.100	0.9000	1.000	1.100	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	Deep 10 kHz Phase Shift	Value	Phase	Deep 20 kHz Phase Shift	Value	Phase	Deep 40 kHz Phase Shift	Value	
Master		0.5195	Master		0.5823	Master		-0.02310	
-1.500	0	1.500	-2.000	0	2.000	-4.000	-1.000	2.000	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	Medium 10 kHz Phase Shift	Value	Phase	Medium 20 kHz Phase Shift	Value	Phase	Medium 40 kHz Phase Shift	Value	
Master		0.1902	Master		-0.1392	Master		-1.016	
-1.500	0	1.500	-3.000	-1.000	1.000	-5.000	-2.000	1.000	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	

Master: Calibration out of date 1-May-2008 9:35

Dual Induction - E Master Calibration									
Sonde Error Corrections: Correction for sonde response in zero conductivity environment. (Normalized to 25C).									
Phase	Real Deep 10 kHz S.E. Corr.	Value	Phase	Real Deep 20 kHz S.E. Corr.	Value	Phase	Real Deep 40 kHz S.E. Corr.	Value	
Master		47.03	Master		16.79	Master		5.701	
-50.00	0	125.0	-30.00	0	30.00	-15.00	0	15.00	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Phase	Quad Deep 10 kHz S.E. Corr.	Value	Phase	Quad Deep 20 kHz S.E. Corr.	Value	Phase	Quad Deep 40 kHz S.E. Corr.	Value	
Master		100.5	Master		62.19	Master		44.67	
-250.0	0	350.0	-125.0	0	200.0	-75.00	0	125.0	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	

Phase	Real Medium 10 kHz S.E. Corr.	Value	Phase	Real Medium 20 kHz S.E. Corr.	Value	Phase	Real Medium 40 kHz S.E. Corr.	Value				
Master		17.11	Master		-2.080	Master		-9.895				
	-50.00 (Minimum)	0 (Nominal)	140.0 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)	
Phase	Quad Medium 10 kHz S.E. Corr.	Value	Phase	Quad Medium 20 kHz S.E. Corr.	Value	Phase	Quad Medium 40 kHz S.E. Corr.	Value				
Master		-94.74	Master		-32.09	Master		12.90				
	-1300 (Minimum)	0 (Nominal)	1300 (Maximum)		-650.0 (Minimum)	0 (Nominal)	650.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)	

Master: Calibration out of date 1-May-2008 9:49

General Purpose Inclinometer / Equipment Identification

Primary Equipment:			
GPIT Cartridge - A	GPIC - A	719	
Auxiliary Equipment:			
GPIT Housing	GPIH - A	2864	

Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:			
Hostile Litho Density Sonde	HLDS - D	57	
Hostile Litho Density High Voltage	HLDV - D	51	
Gamma Source Radioactive	GSR - Z	2397	
Auxiliary Equipment:			
Hostile Litho Density Pad	HLDP - C	61	
Hostile Litho Density High Voltage Housi	HEH - H	53	

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	

DTS Telemetry Tool / Equipment Identification

Primary Equipment:			
DTC-H Auxiliary Cartridge	DTCH - A		
DTC-H Telemetry Cartridge	DTCH - A	8798	
Auxiliary Equipment:			
DTCH Telemetry Cartridge Housing	ECH - KC	2304	

Company: Lamont Doherty

Schlumberger

Well: Expedition 321 Site U1338B

Field: PEAT

Rig: JOIDES Resolution

Ocean: Pacific

Phasor Induction

Natural Gamma

Spectroscopy