

Company: **Lamont Doherty**

Well: **Expedition 330 Site U1374A**

Field: **Louisville Seamounds**

Rig: **JOIDES Resolution** Ocean: **Pacific**

Run 1

Run 2

Run 3

HLDS Density
APS Porosity
Natural Gamma Ray

Rig: JOIDES Resolution
Field: Louisville Seamounds
Location: Latitude: S 28° 35.75'
Well: Expedition 330 Site U1374A
Company: Lamont Doherty

LOCATION			
Latitude: S 28° 35.75' Longitude: W 173° 22.83'	Elev.: K.B. -1570.00 m G.L. 0.00 m D.F. -1570.00 m		
Permanent Datum: Sea Floor	Elev.: 0.00 m		
Log Measured From: Sea Floor	-1570.00 m above Perm. Datum		
Drilling Measured From: Sea Floor			
API Serial No.	Max. Hole Devi. 0 deg	Longitude W 123° 9.6433'	Latitude S 27° 55.0021'

Logging Date	19-Jan-2011				
Run Number	1				
Depth Driller	522 m				
Schlumberger Depth	520 m				
Bottom Log Interval	518 m				
Top Log Interval	0 m				
Casing Driller Size @ Depth	4.500 in @ 128 m				
Casing Schlumberger	130 m				
Bit Size	9.875 in				
Type Fluid In Hole	Seawater				
MUD Density	Viscosity	1.078 g/cm3			
MUD Fluid Loss	PH				
MUD Source Of Sample	N/A				
RM @ Measured Temperature	@	@			
RMF @ Measured Temperature	@	@			
RMC @ Measured Temperature	@	@			
Source RMF	RMC	N/A	N/A		
RM @ MRT	RMF @ MRT	@ 15	@ 15	@	@
Maximum Recorded Temperatures	15 degC				
Circulation Stopped	Time	18-Jan-2011	0:00		
Logger On Bottom	Time	19-Jan-2011	14:35		
Unit Number	Location	625003	Houston		
Recorded By	K. Swain				
Witnessed By	L. Anderson, S. Ehmann				

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

DISCLAIMER

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OTHER SERVICES1

OS1: FMS
OS2: UBI
OS3: HNGS
OS4: HLDS/APS
OS5: GBM

OTHER SERVICES2

OS1:
OS2:
OS3:
OS4:
OS5:

REMARKS: RUN NUMBER 1

Depths originally recorded from drill floor as main depth reference. Log files were played back with offset of 1570m to force sea floor as the new reference. This log references sea floor at 0 m. TD of hole at 522m (driller), 520 m (log)

REMARKS: RUN NUMBER 2

Tools run inside drill pipe and drill collars thru bit release and BHA. 9 7/8" bit released prior to logging. ID of pipe at minimum is 4.1" diameter. ILE inline eccentralizer run for APS porosity tool to eccentralize it. GPIT run with tool for Active Heave Compensator testing (AHC). GR spike at 75m possibly related to APS neutron activation by correcting wrap on cable drum requiring toolstring to descend in order to repair. Repeat section shows GR at slightly ligher level due to Neutron activation of the borehole.

Multiple attempts at logging this hole were made, with last attempt being successful after full wiper trip and drilling through obstructions.

RUN 1

SERVICE ORDER #: 17C0-154
PROGRAM VERSION:
FLUID LEVEL:

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION


RUN 1

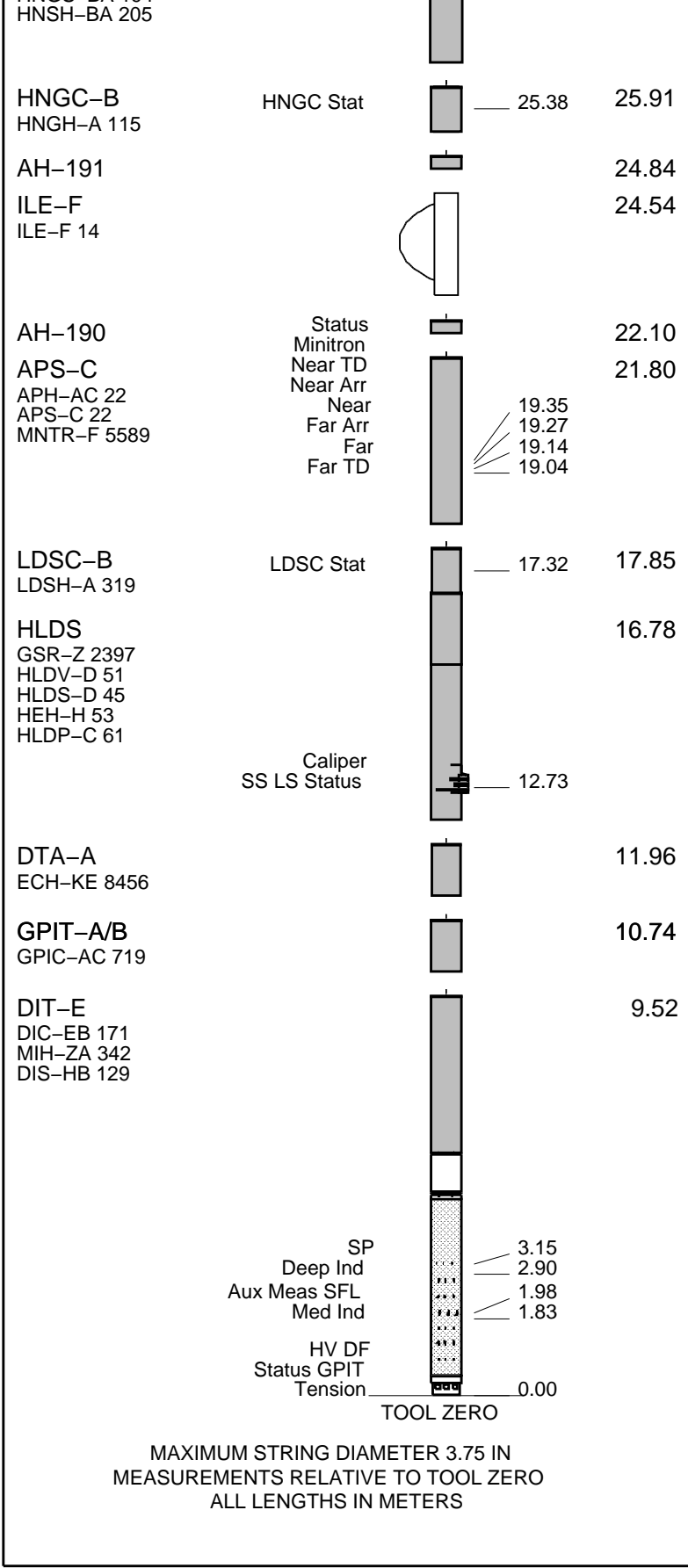
RUN 2

SURFACE EQUIPMENT

SFT-281 1
SFT-178 1
GSR-U 616008
WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT		30.21
LEH-QT 301		
DTC-H	CTEM	29.04
ECH-KC 1777	TelStatus	29.32
	ToolStatu	28.41
HNGS-BA	Upper_1	27.71
HNGS-BA 194	Lower_2	27.50
		28.41



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

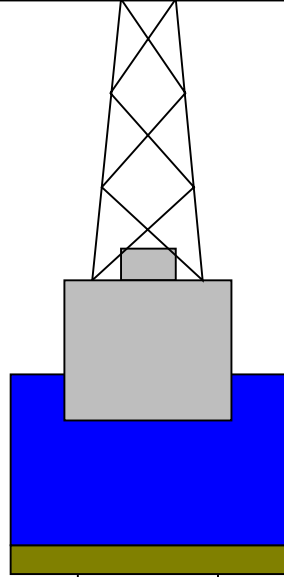
Kelly Bushing Elevation
Derrick Floor Elevation

Mean Sea Level

-1570

-1570

-1559



4.1



0

128

522

4.1

9.875

Sea Floor

Open Hole

Total Depth

Input DLIS Files

PI_LDL_APS_NGS_028LUP	FN:48	20-Jan-2011 21:03	1819.7 M	1549.7 M
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Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_114PUP	FN:4	PRODUCER	11-Feb-2011 07:08	249.9 M	-20.3 M
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OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3971-Q1_2010_OP17
DTA-A	17C0-154	HLDS	SPC-3961-OP17_NUCL
LDSC-B	SPC-3961-OP17_NUCL	APS-C	SPC-3961-OP17_NUCL
HNGC-B	SPC-3961-OP17_NUCL	HNGS-BA	SPC-3961-OP17_NUCL
DTC-H	17C0-154		

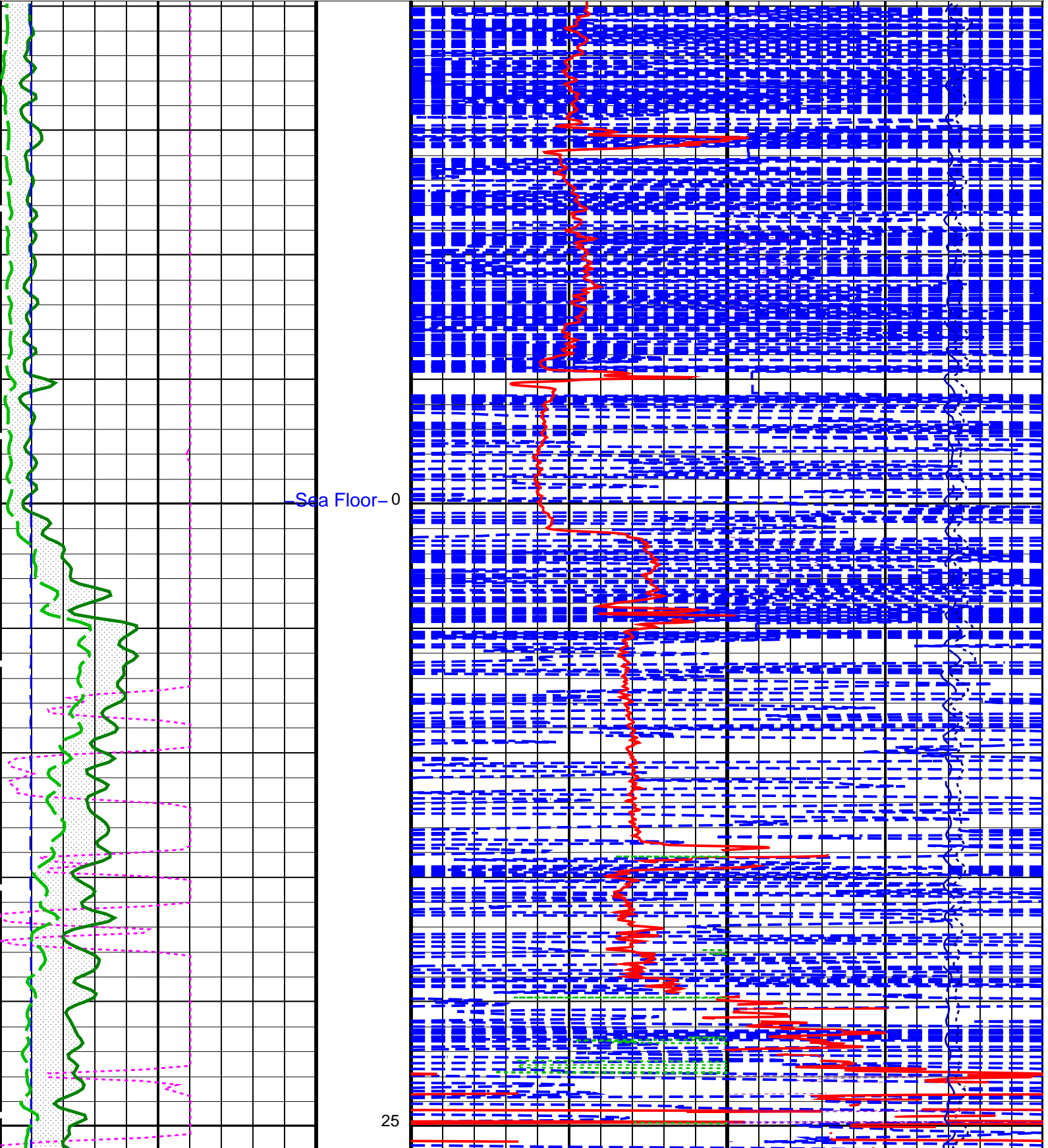
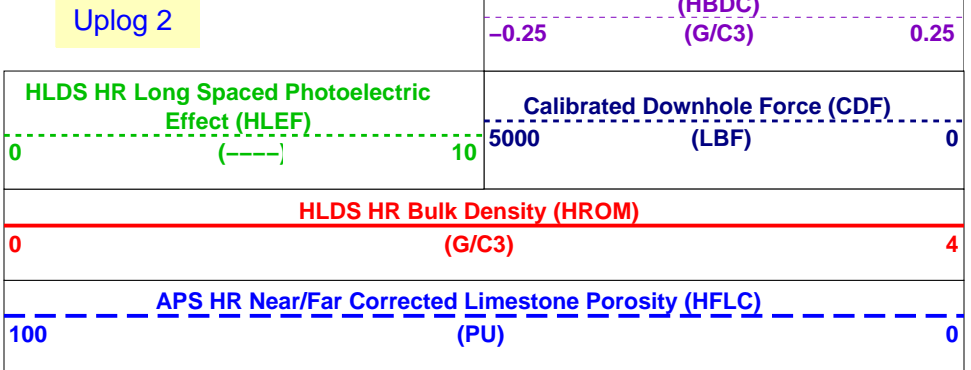
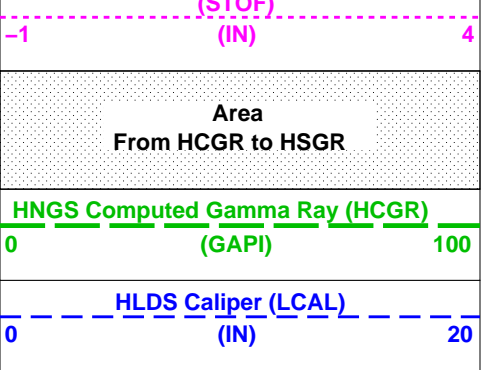
Changed Parameter Summary

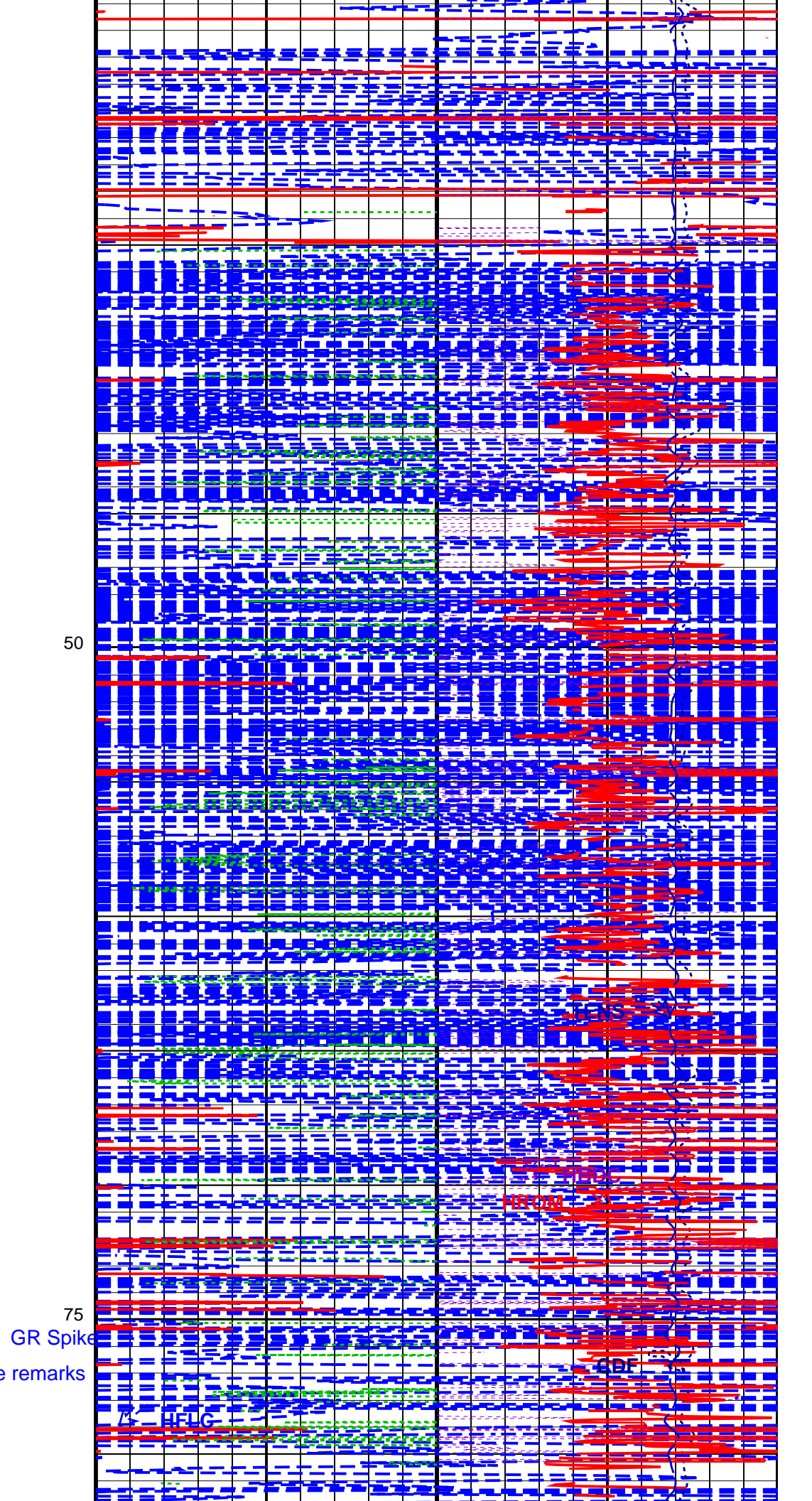
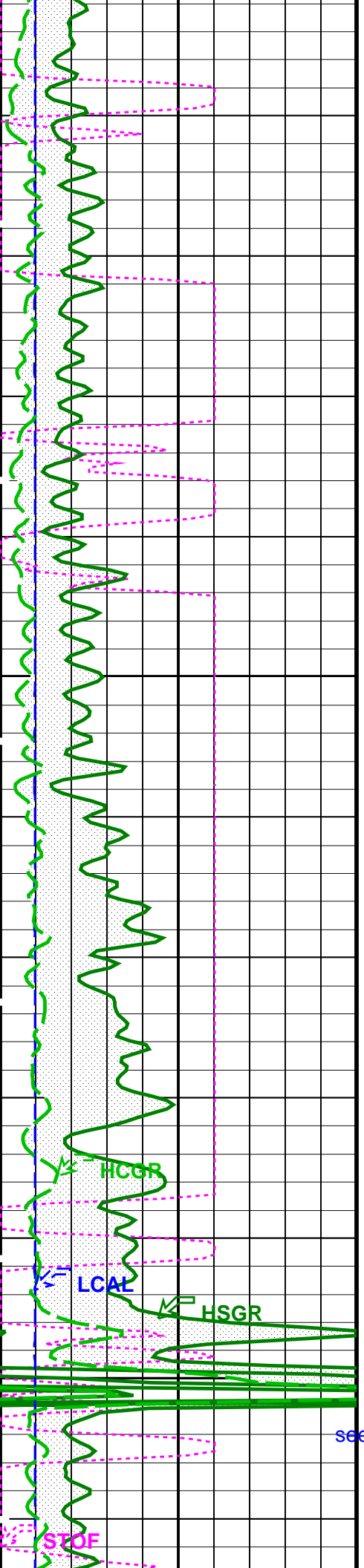
DLIS Name	New Value	Previous Value	Depth & Time
ICMO	CASED_HOLE	AUTOMATIC_SELECTION	138.7 07:09:26

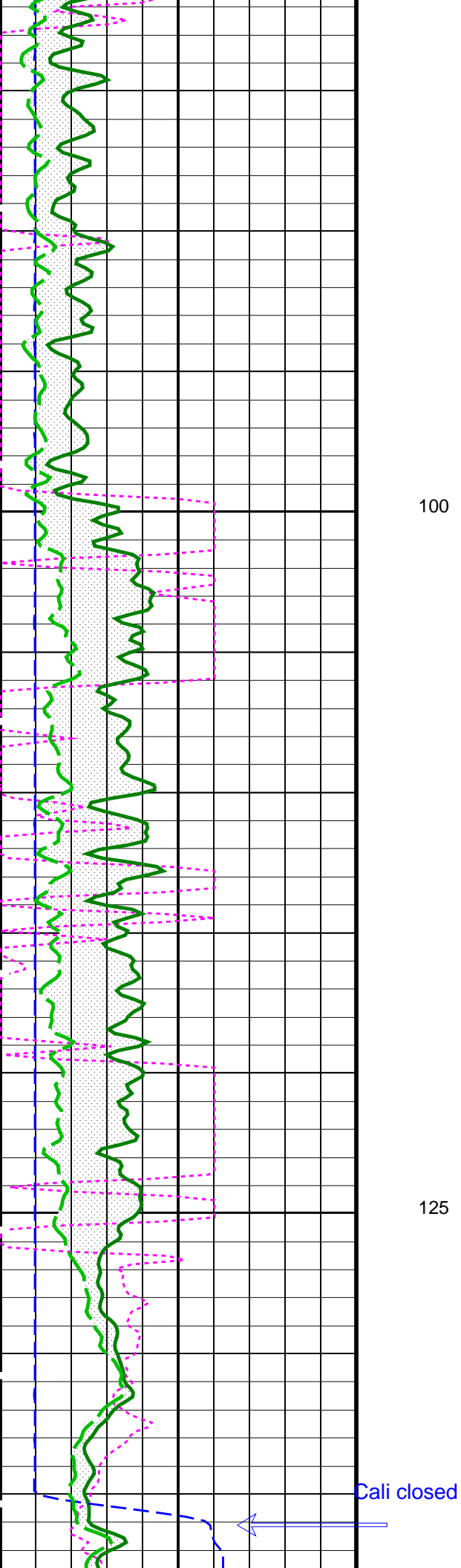
PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)		<u>Tension (TENS)</u>
0 (GAPI) 100		10000 (LBF) 0
APS Effective Standoff in Limestone (STOF)		HLDS HR Bulk Density Correction (HRDC)

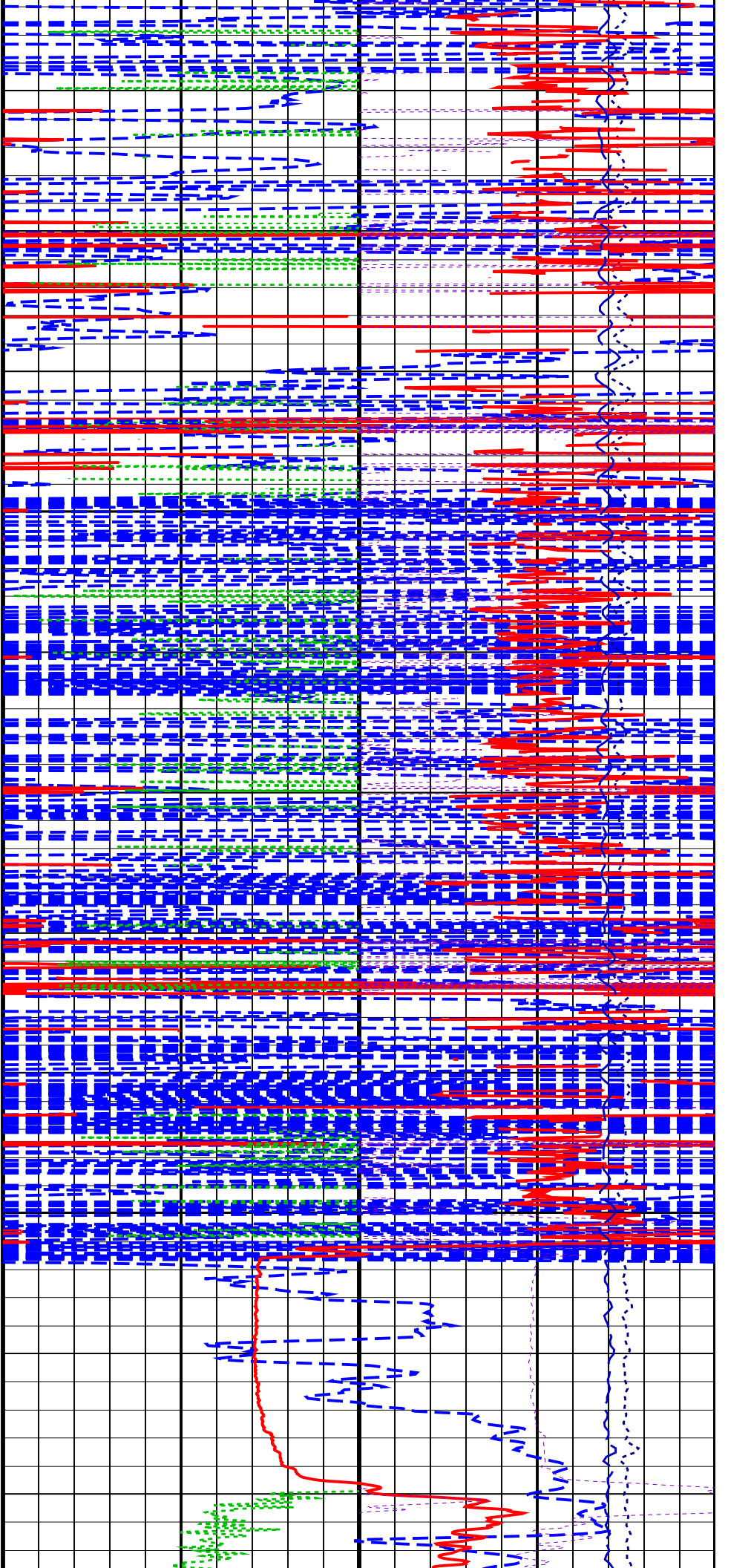


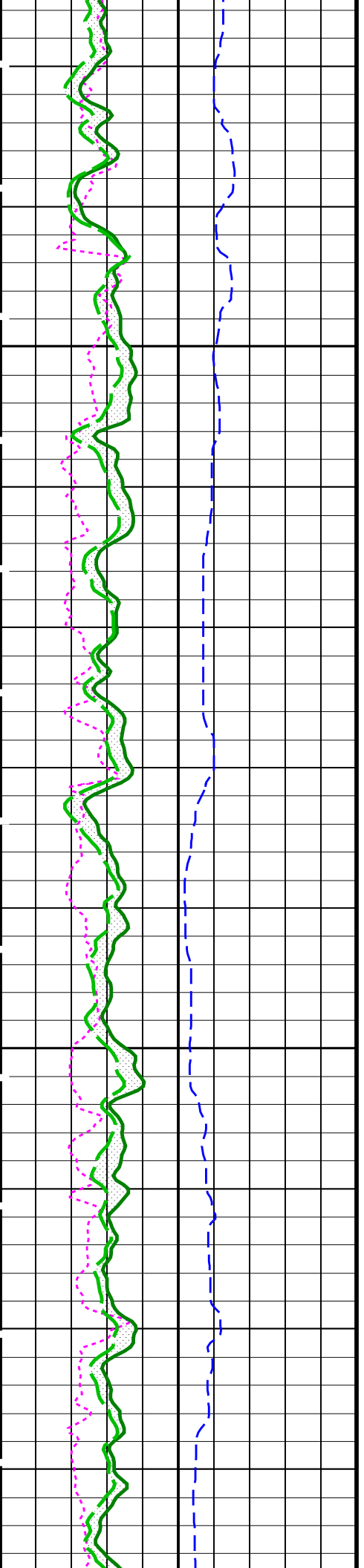




100

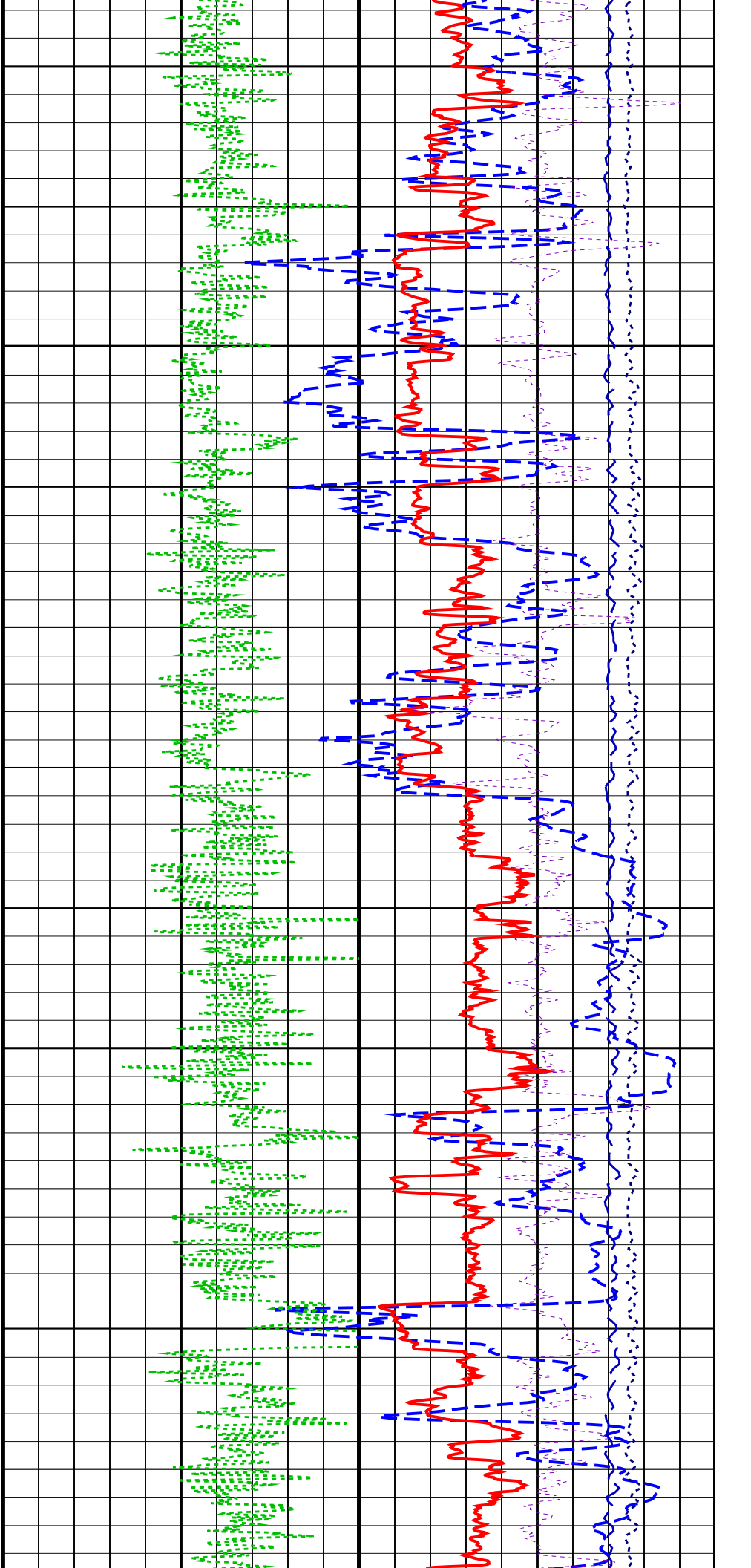
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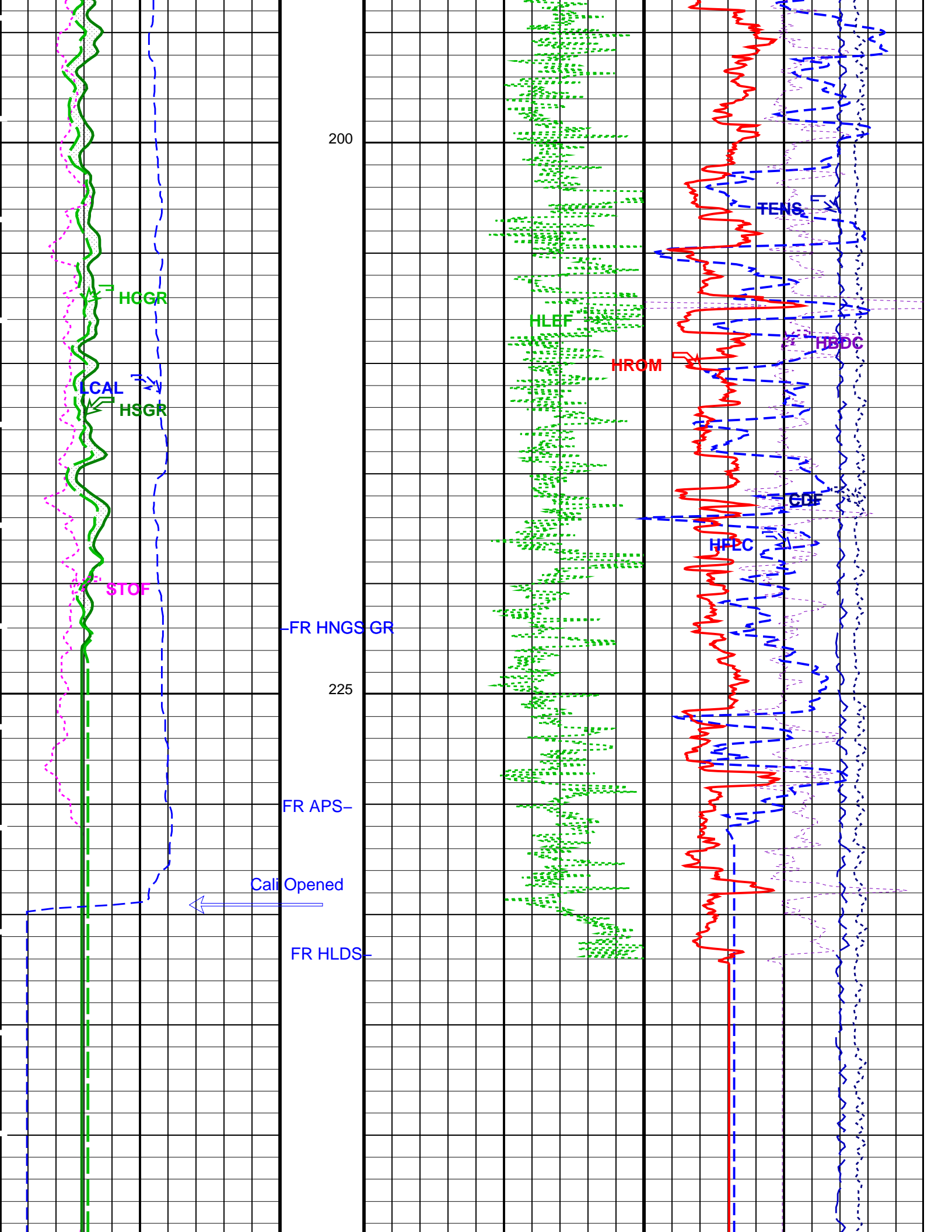




150

175





HLDS Caliper (LCAL)		APS HR Near/Far Corrected Limestone Porosity (HFLC)	
0	(IN)	20	100
		(PU)	
HNGS Computed Gamma Ray (HCGR)		HLDS HR Bulk Density (HROM)	
0	(GAPI)	100	0
		(G/C3)	
Area From HCGR to HSGR		HLDS HR Long Spaced Photoelectric Effect (HLEF)	Calibrated Downhole Force (CDF)
		0	5000
		(----)	(LBF)
		10	0
APS Effective Standoff in Limestone (STOF)		HLDS HR Bulk Density Correction (HBDC)	
-1	(IN)	4	-0.25
		(G/C3)	
		0.25	
HNGS Spectroscopy Gamma Ray (HSGR)		Tension (TENS)	
0	(GAPI)	100	10000
		(LBF)	
		0	

Uplog 2

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)	50	DEGF
DGF1	Deep 10 kHz Gain Factor	0.981463	
DGF2	Deep 20 kHz Gain Factor	0.992515	
DGF4	Deep 40 kHz Gain Factor	1.00423	
DPH1	Deep 10 kHz Phase Shift	0.032855	DEG
DPH2	Deep 20 kHz Phase Shift	-0.0620342	DEG
DPH4	Deep 40 kHz Phase Shift	-1.20308	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	42.3121	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.1426	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.87662	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	251.392	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	137.206	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	77.8842	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	0.99033	
MGF2	Medium 20 kHz Gain Factor	0.995142	
MGF4	Medium 40 kHz Gain Factor	1.01918	
MPH1	Medium 10 kHz Phase Shift	-0.27707	DEG
MPH2	Medium 20 kHz Phase Shift	-0.890816	DEG
MPH4	Medium 40 kHz Phase Shift	-2.23551	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	32.7618	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	10.896	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	1.11433	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	336.356	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	177.452	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	115.531	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			
ACPR	Accelerometer PROM Presence	PRESENT	

ACPP	Accelerometer Filtering Mode	MOVING_AVERAGE	
AFMO	Accelerometer Reference Temperature	20	DEGC
ART	GPIT Logging Mode	DIPM	
GLM	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
ICMO	Magnetometer PROM Presence	PRESENT	
MAPP	Magnetic Field Declination	16.2182	DEG
MDEC	Magneto Reference Temperature	19	DEGC
MRTE	GPIT Temperature Sensor Used	BOTH	
TEMS	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	NO	
U-GPOF			

HLDS: Hostile Litho-Density Sonde

CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.71	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	30000	
PSDS	HLDS SS Pulse Shape Compensation DAC	30000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	

APS-C: Accelerator-Porosity Tool

AASD	APS Software Version	0	
ADSO	APS Thermal and Array Detectors High Voltage Setting	1968.14	V
AFSD	APS Array Detectors Data Source Switch	Both	
AHCS	APS Far Detector High Voltage Setting	2080.2	V
AHSS	APS Holesize Correction Source	BS	
AMTY	APS Holesize Correction Switch	ON	
ANSD	APS Environmental Corrections Mud Type	WaterBaseBarite	
ASOS	APS Near Detector High Voltage Setting	1733.87	V
ATSS	APS Standoff Correction Switch	ON	
BHFL_APS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHS	APS TNPH Borehole Fluid Type	WATER	
BHT	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source Correction Option	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.06008	
NFRC	APS Near/Far Calibration Ratio	0.890428	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	YES	

HNGS-BA: Hostile Natural Gamma Ray Sonde

BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00157462	

HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	3.2086	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.99686	

System and Miscellaneous

ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.08	G/C3
DO	Depth Offset for Playback	-1570.0	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	1713	FT
TDD	Total Depth - Driller	522.00	M
TDL	Total Depth - Logger	520.00	M
TWS	Temperature of Connate Water Sample	15.00	DEGC

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 11-Feb-2011 07:08

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3971-Q1_2010_OP17
DTA-A	17C0-154	HLDS	SPC-3961-OP17_NUCL
LDSC-B	SPC-3961-OP17_NUCL	APS-C	SPC-3961-OP17_NUCL
HNGC-B	SPC-3961-OP17_NUCL	HNGS-BA	SPC-3961-OP17_NUCL
DTC-H	17C0-154		

Input DLIS Files

PI_LDL_APS_NGS_028LUP	FN:48	20-Jan-2011 21:03	1819.7 M	1549.7 M
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Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_114PUP	FN:4	PRODUCER	11-Feb-2011 07:08
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Input DLIS Files

PI_LDL_APS_NGS_027LUP	FN:46	20-Jan-2011 18:58	2089.4 M	1553.7 M
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Output DLIS Files

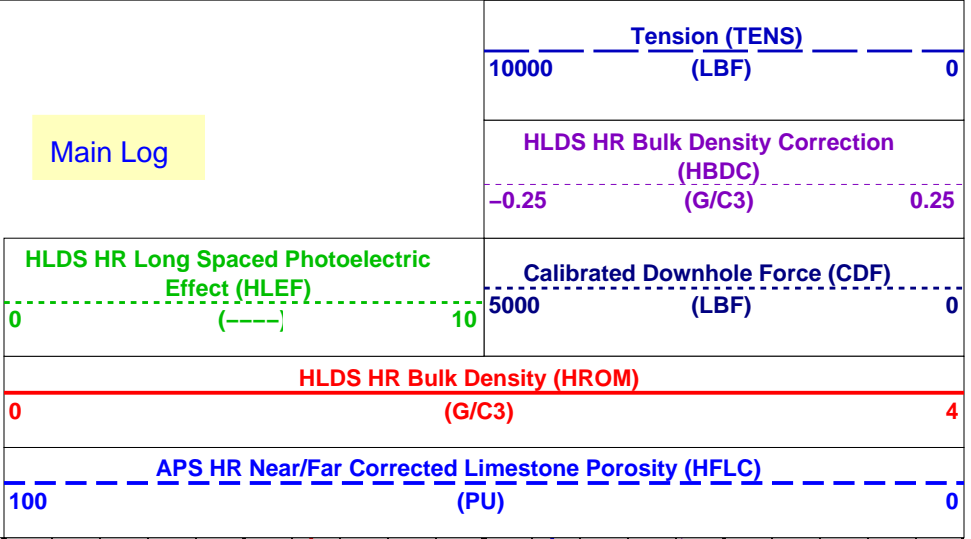
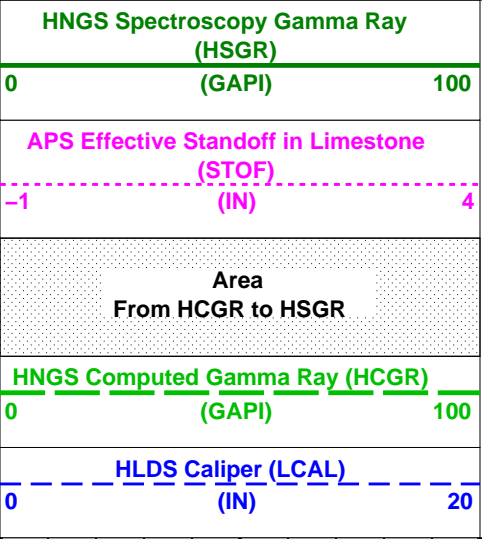
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OP System Version: 17C0-154

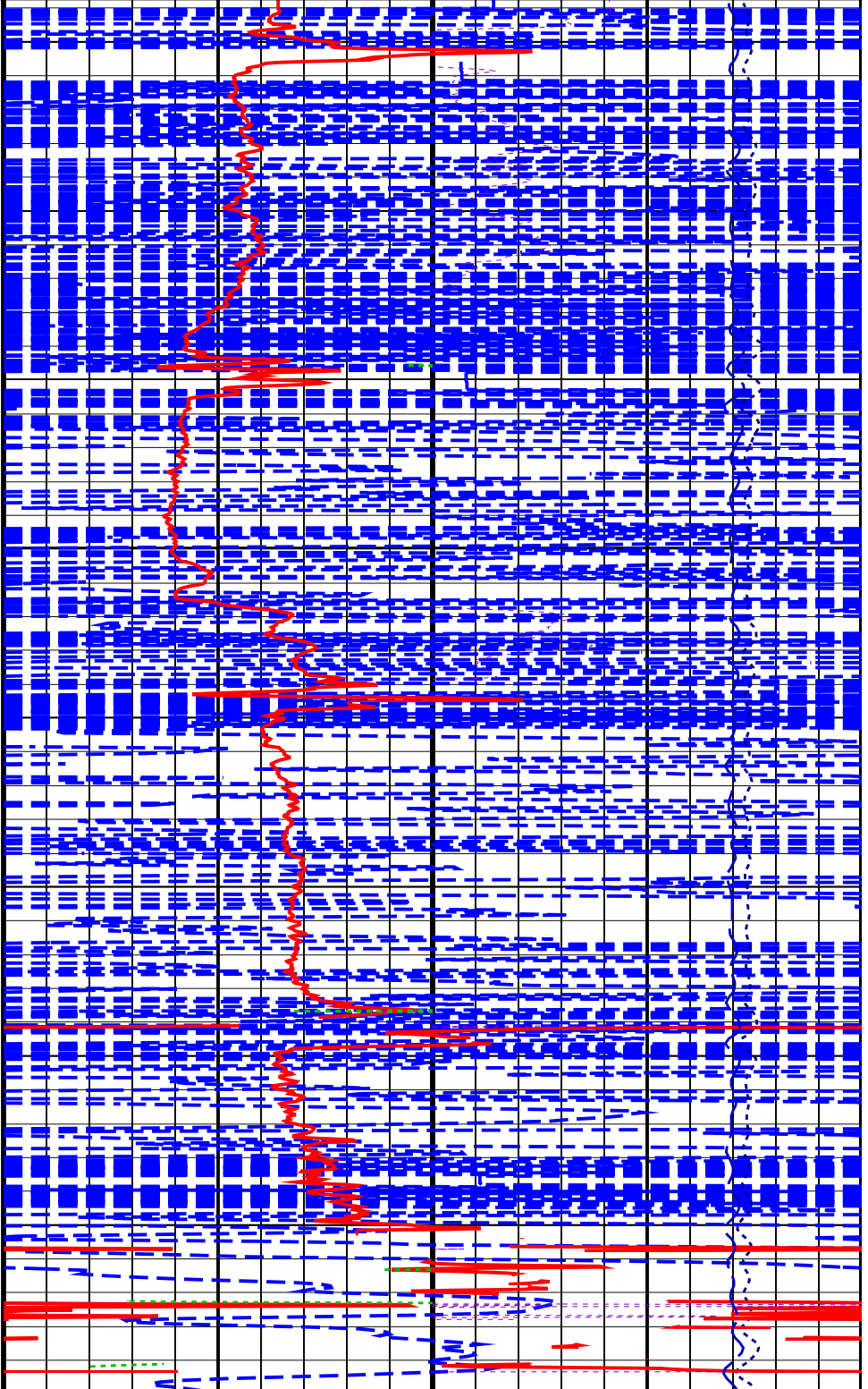
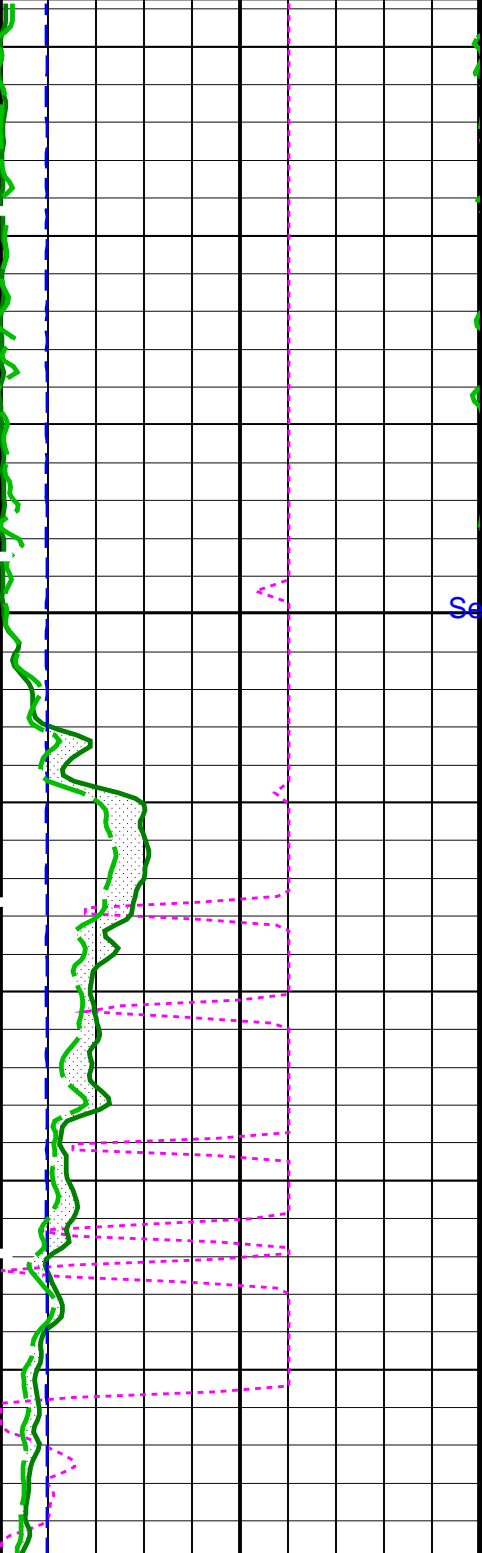
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LDSC-B	SPC-3961-OP17_NUCL	APS-C	SPC-3961-OP17_NUCL
HNGC-B	SPC-3961-OP17_NUCL	HNGS-BA	SPC-3961-OP17_NUCL
DTC-H	17C0-154		

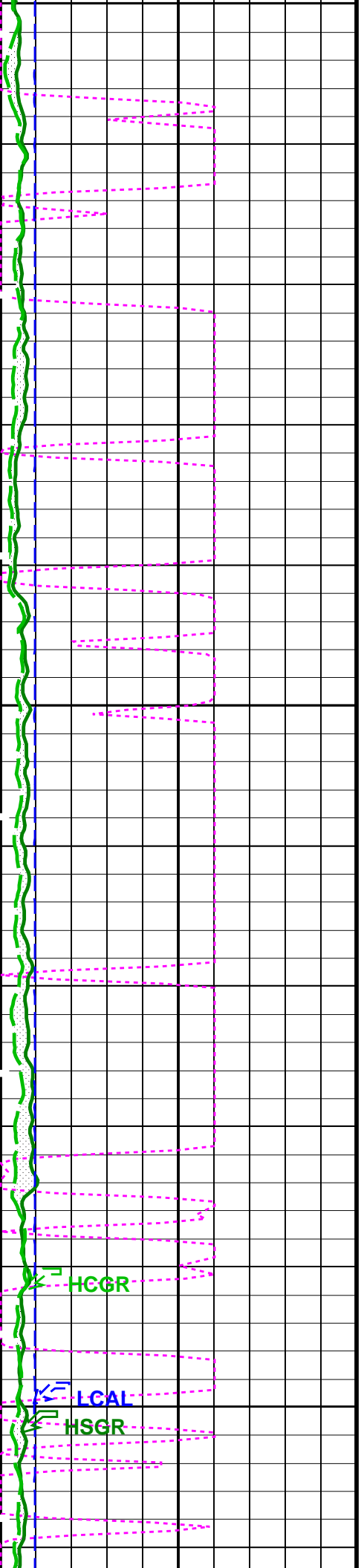
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
ICMO	CASED_HOLE	AUTOMATIC_SELECTION	138.7 06:49:56



Main Log

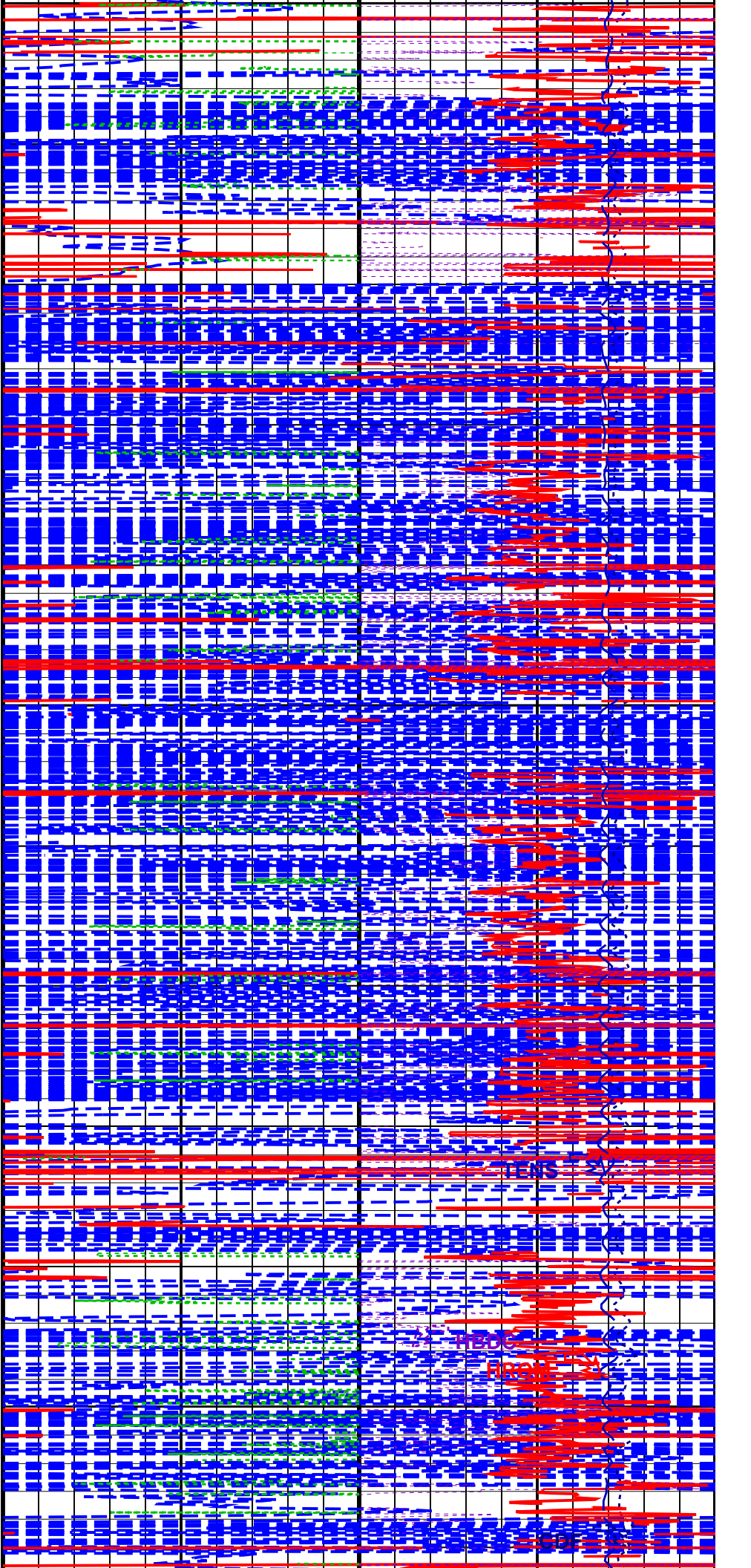


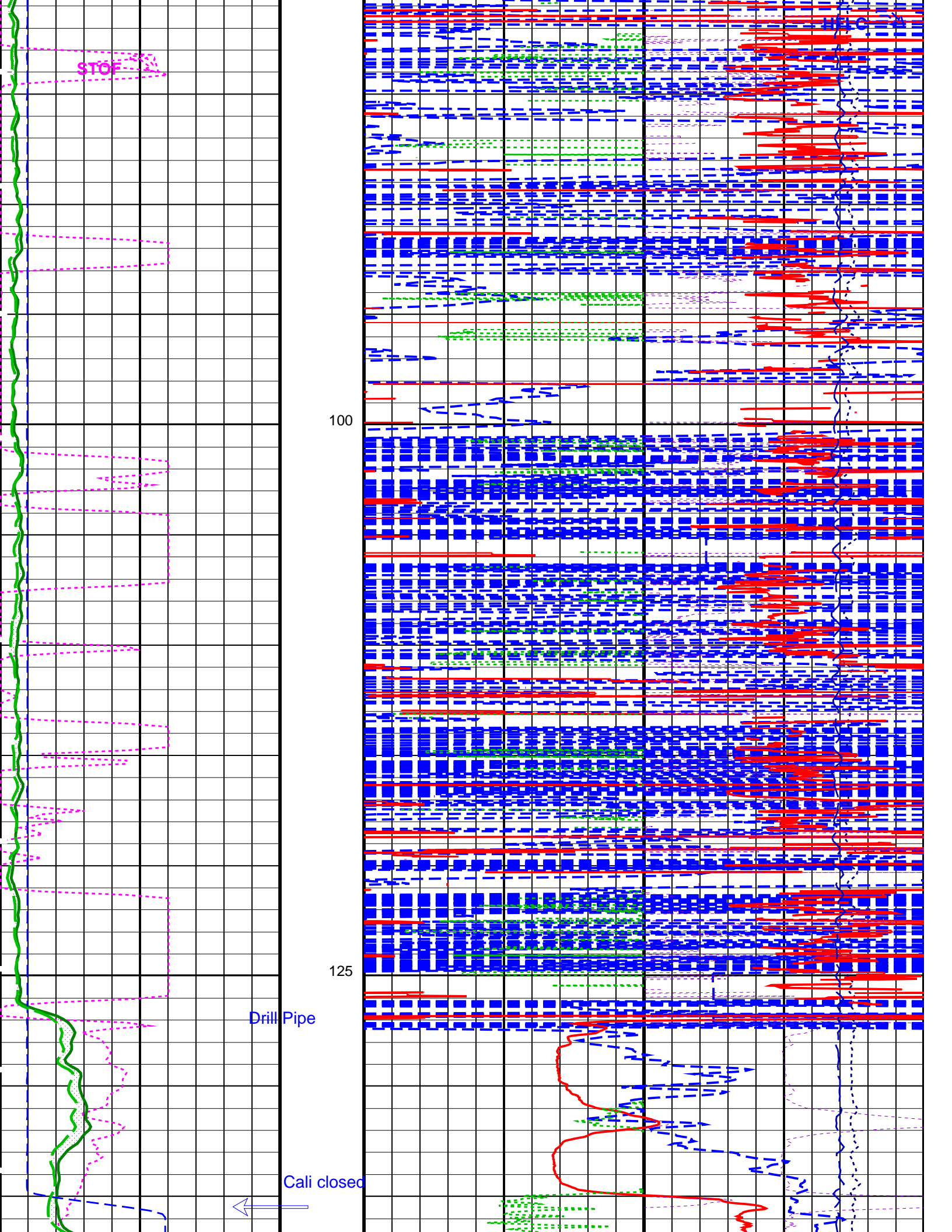


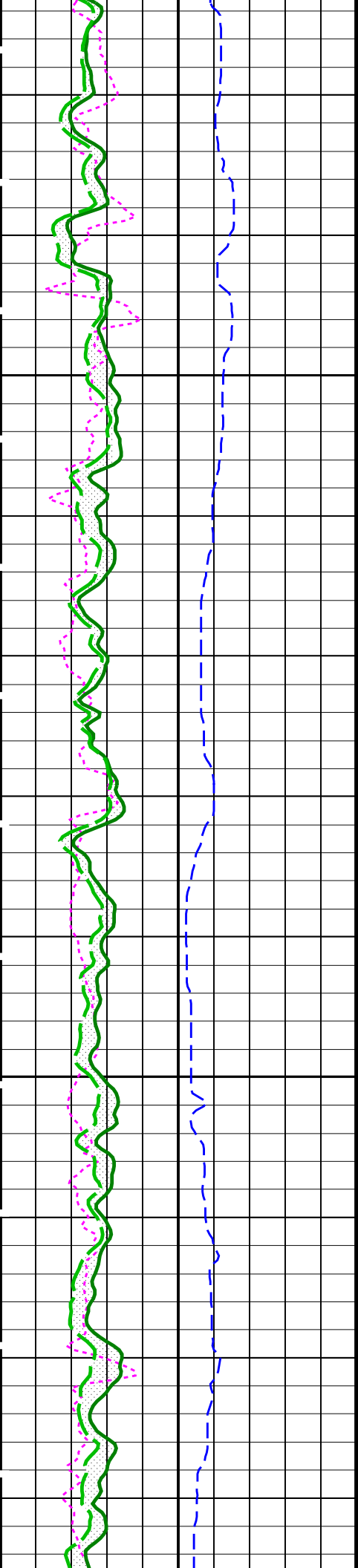
20

50

75

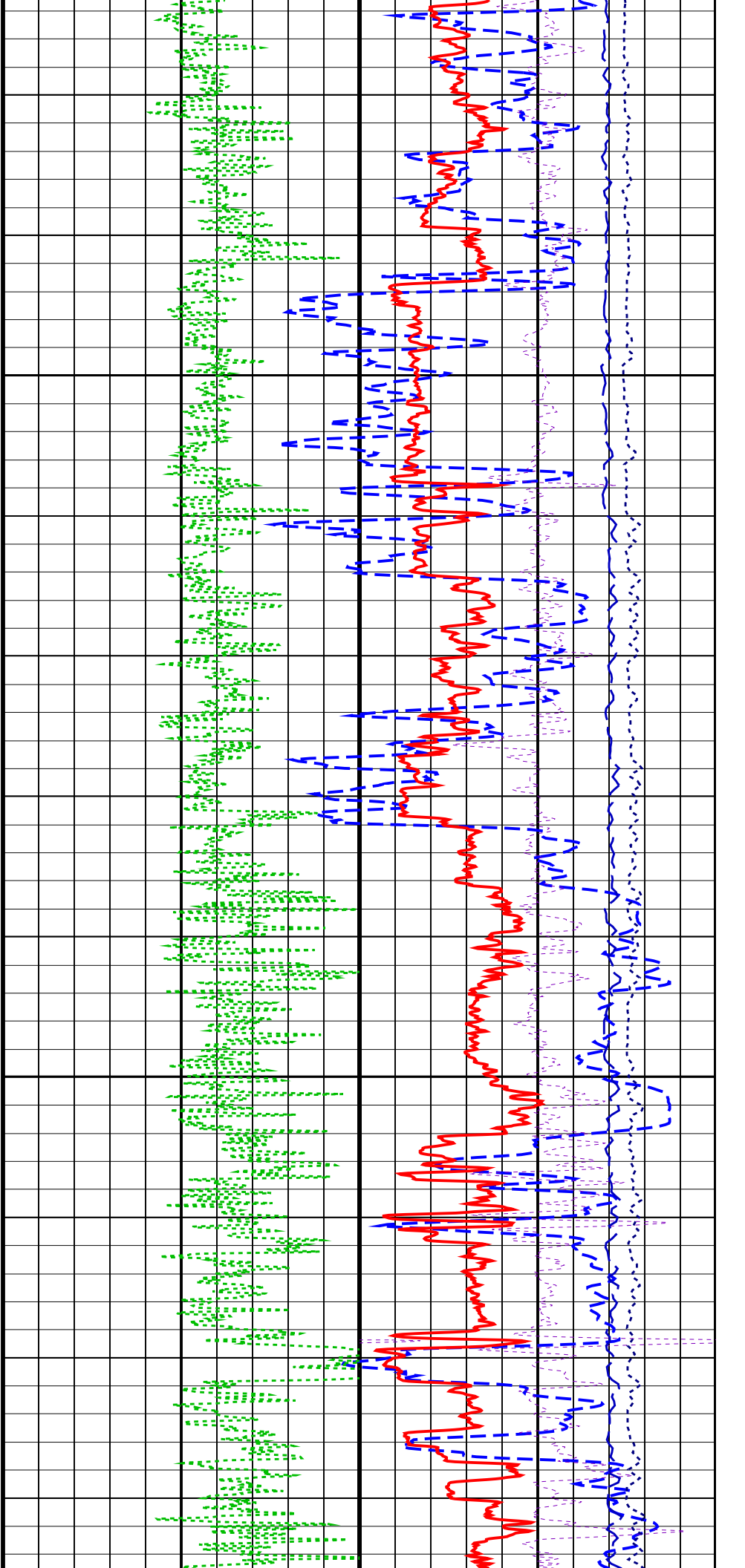


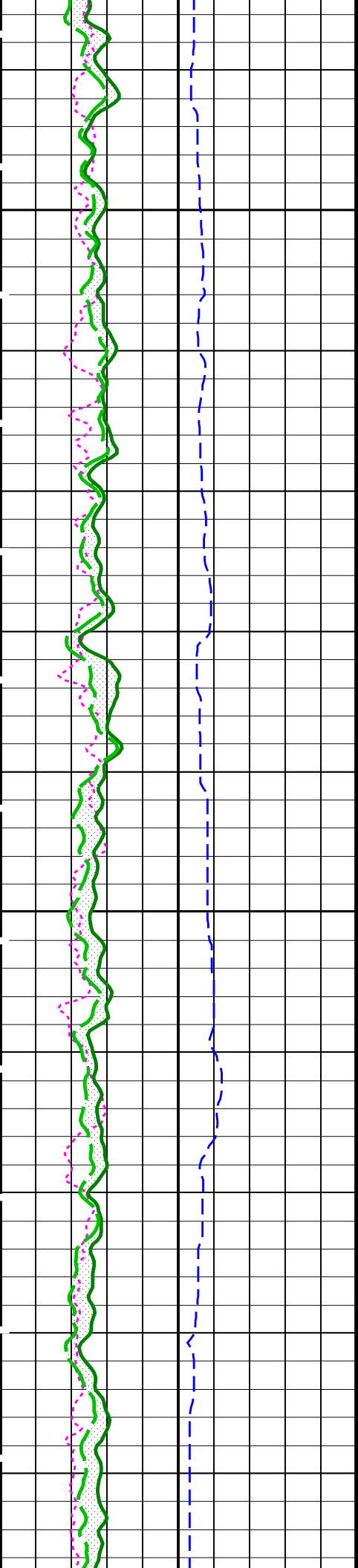




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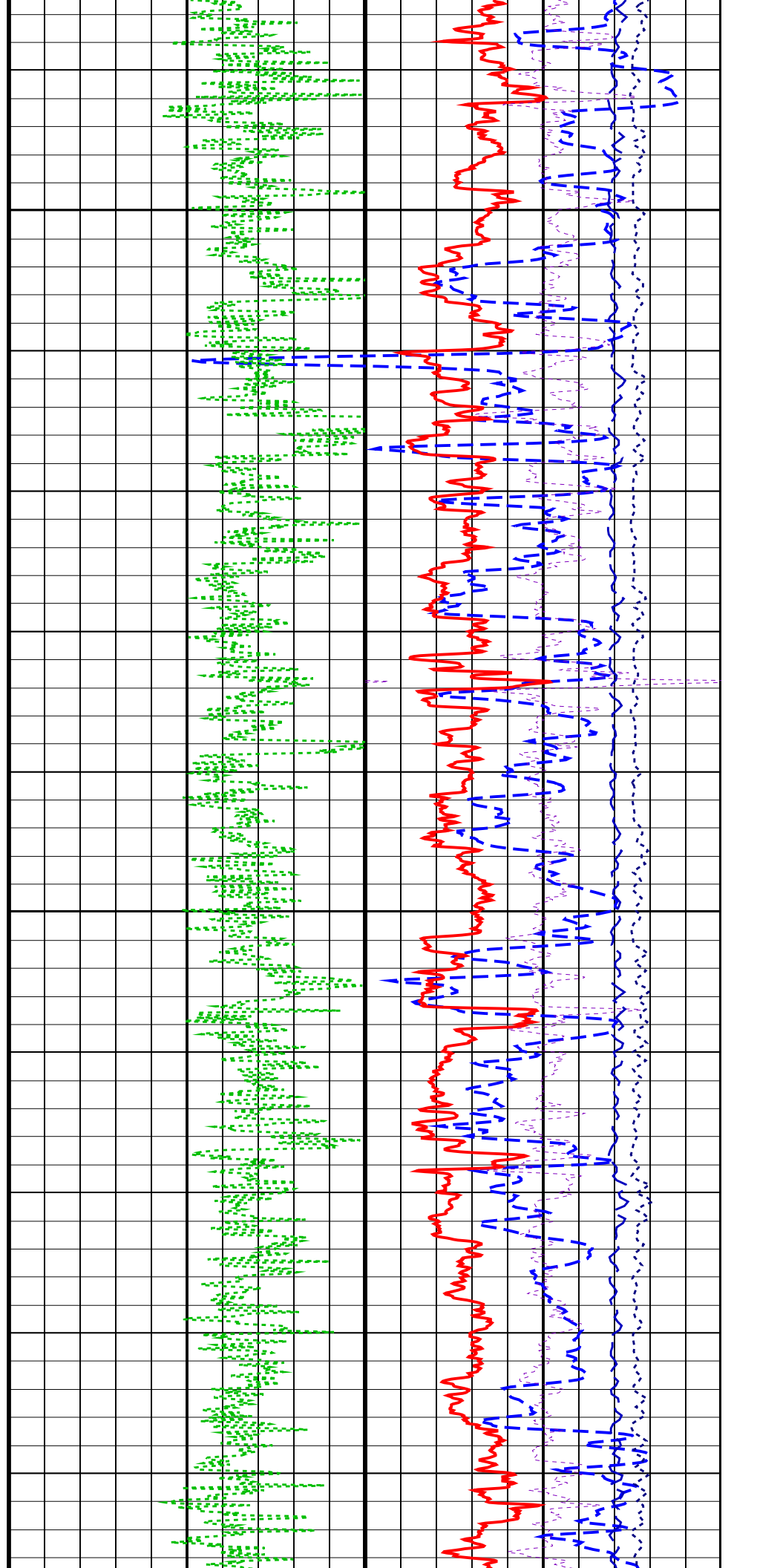
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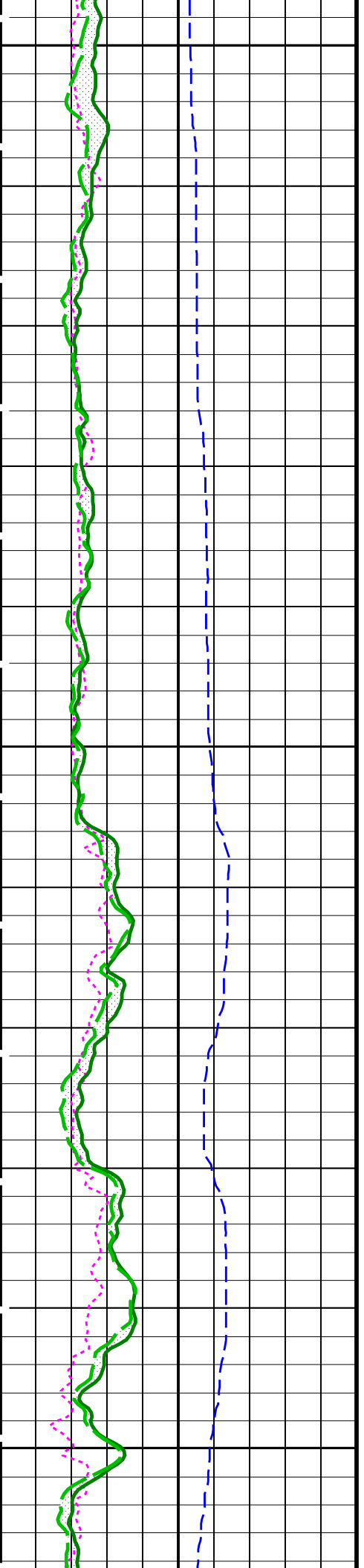




200

225

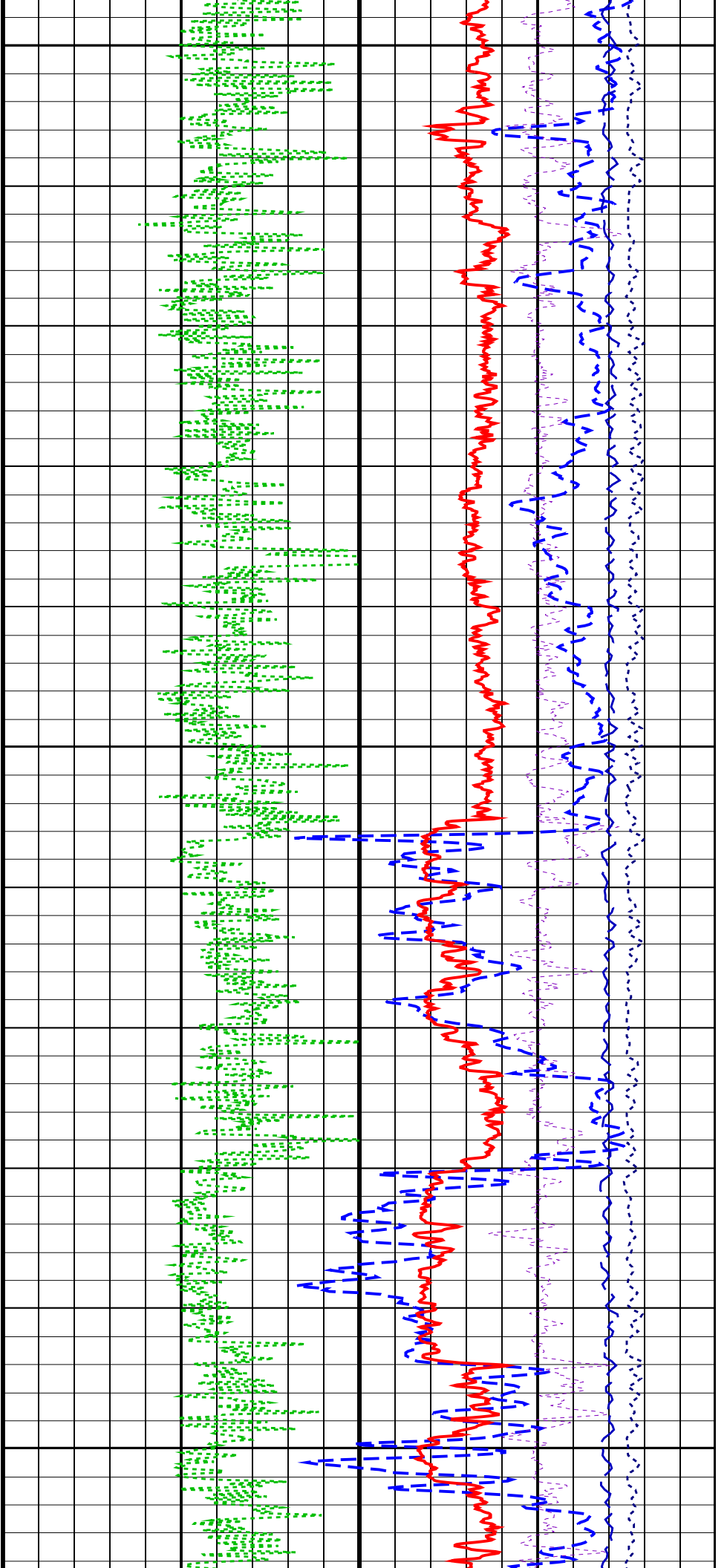


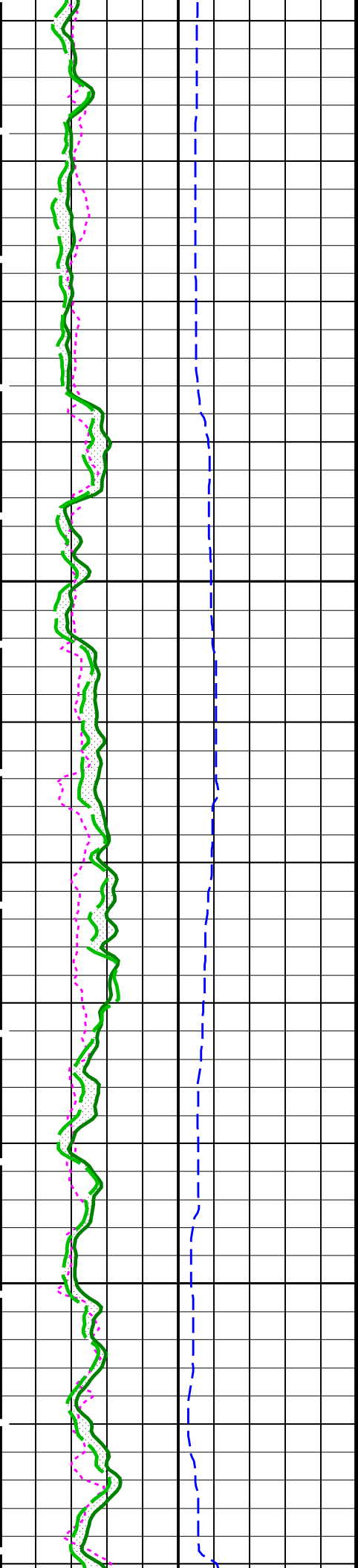


250

275

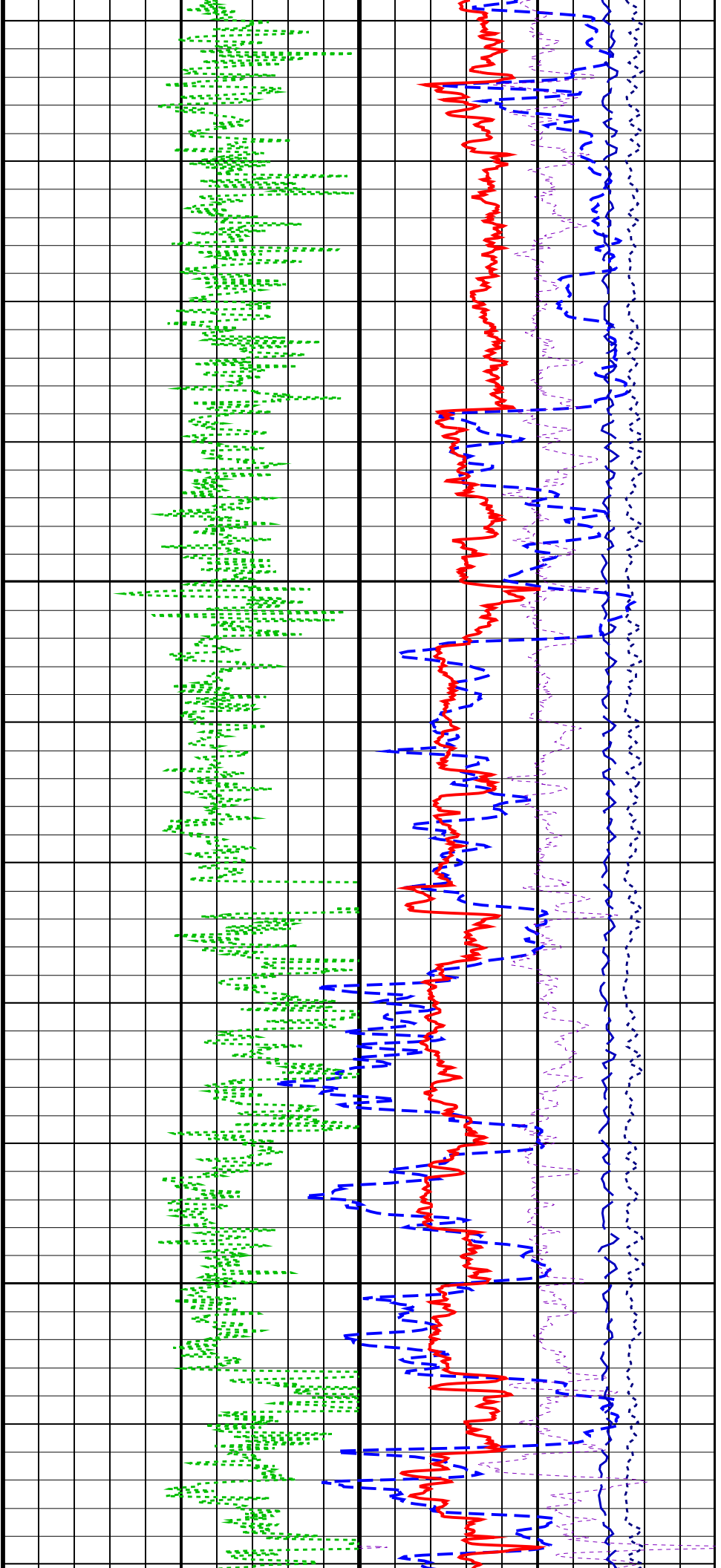
300

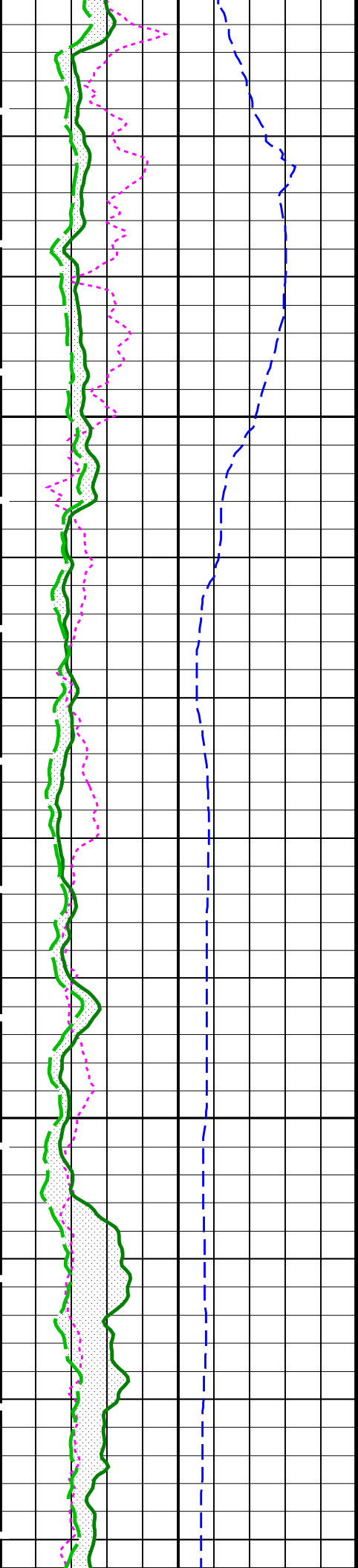




325

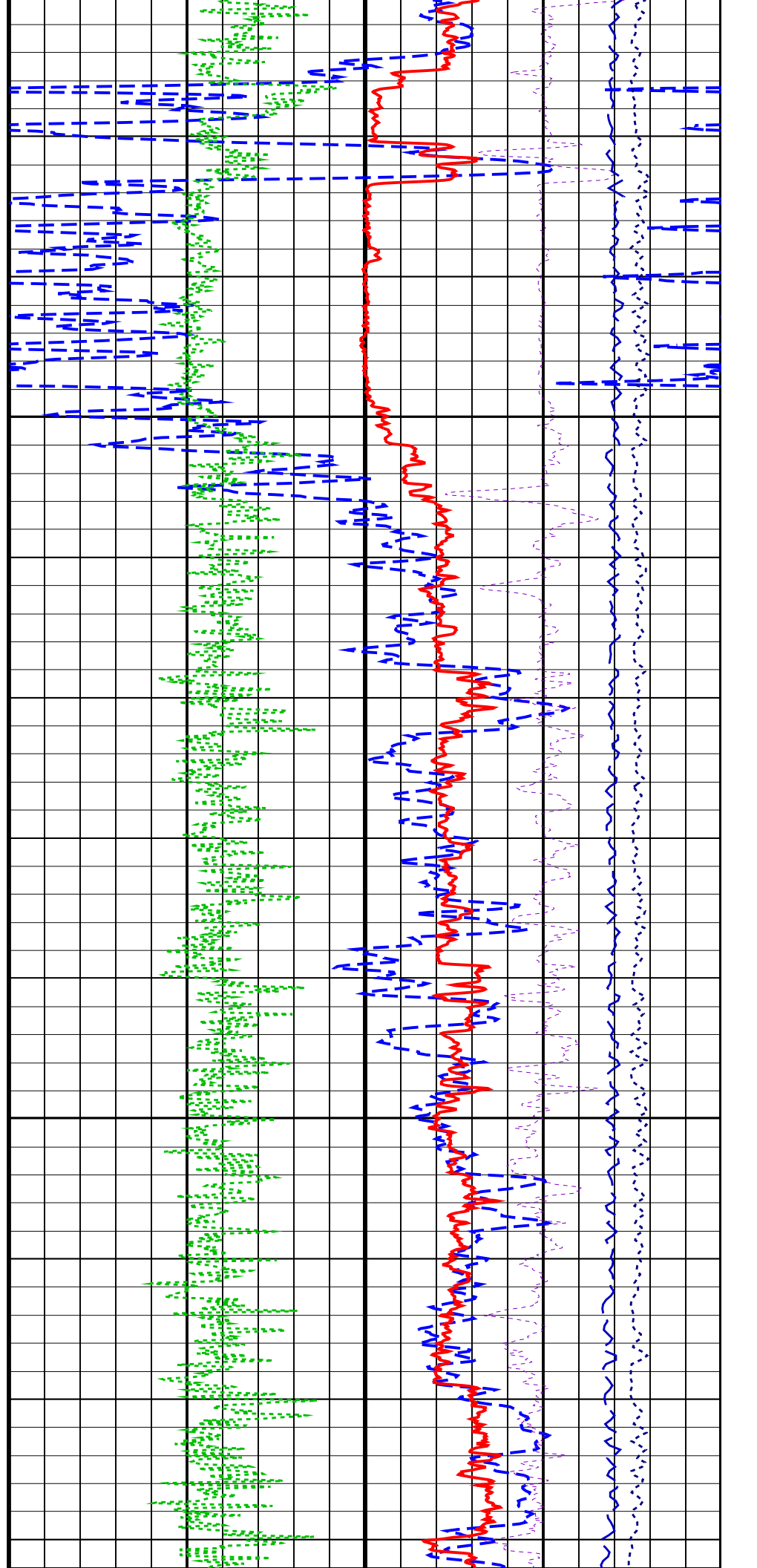
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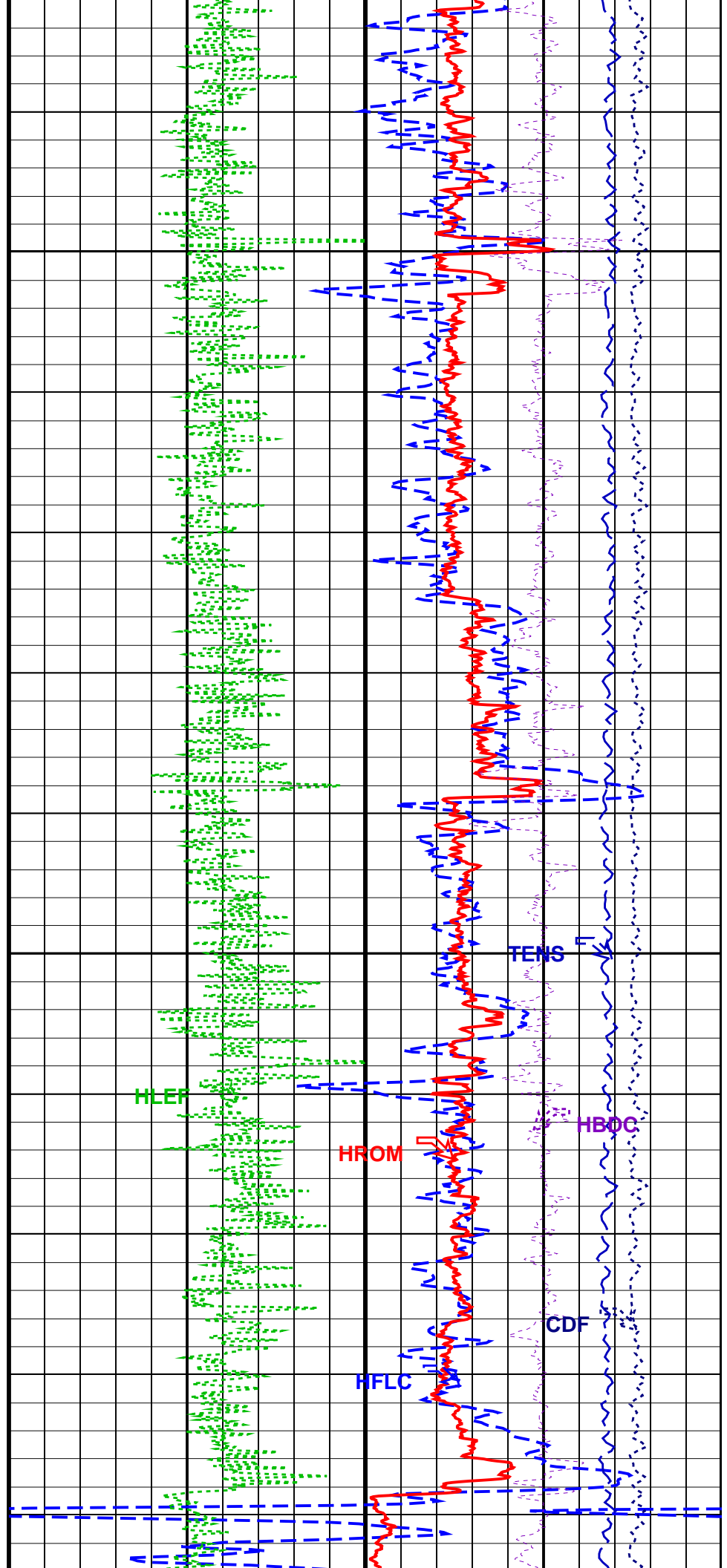
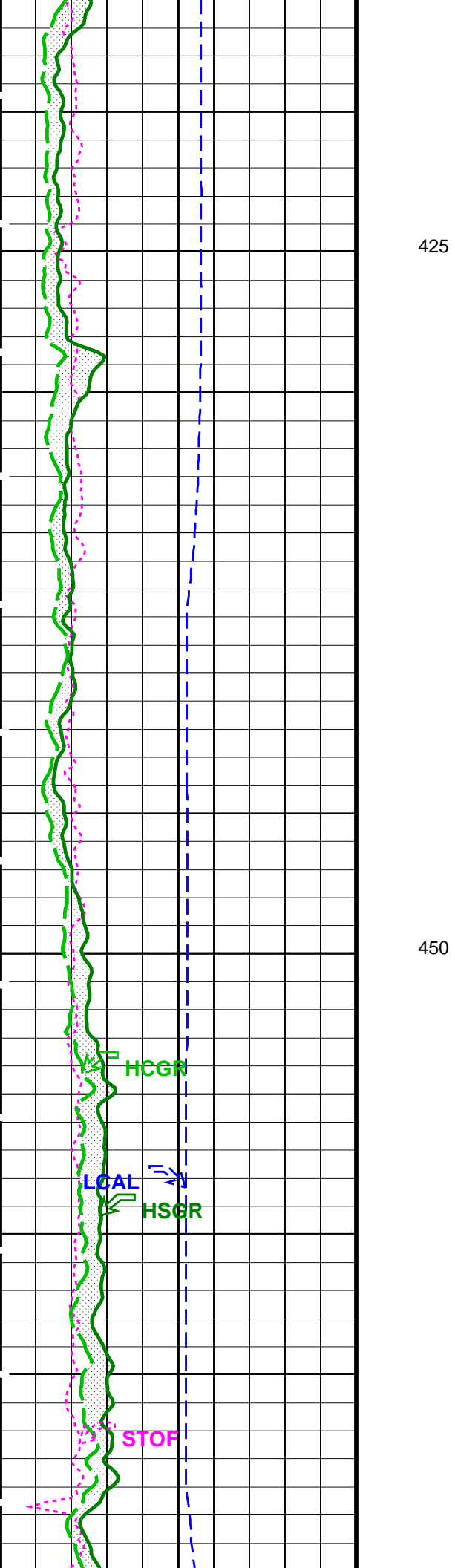


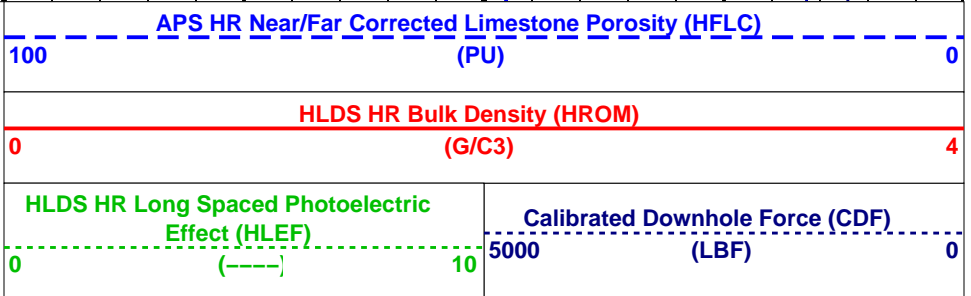
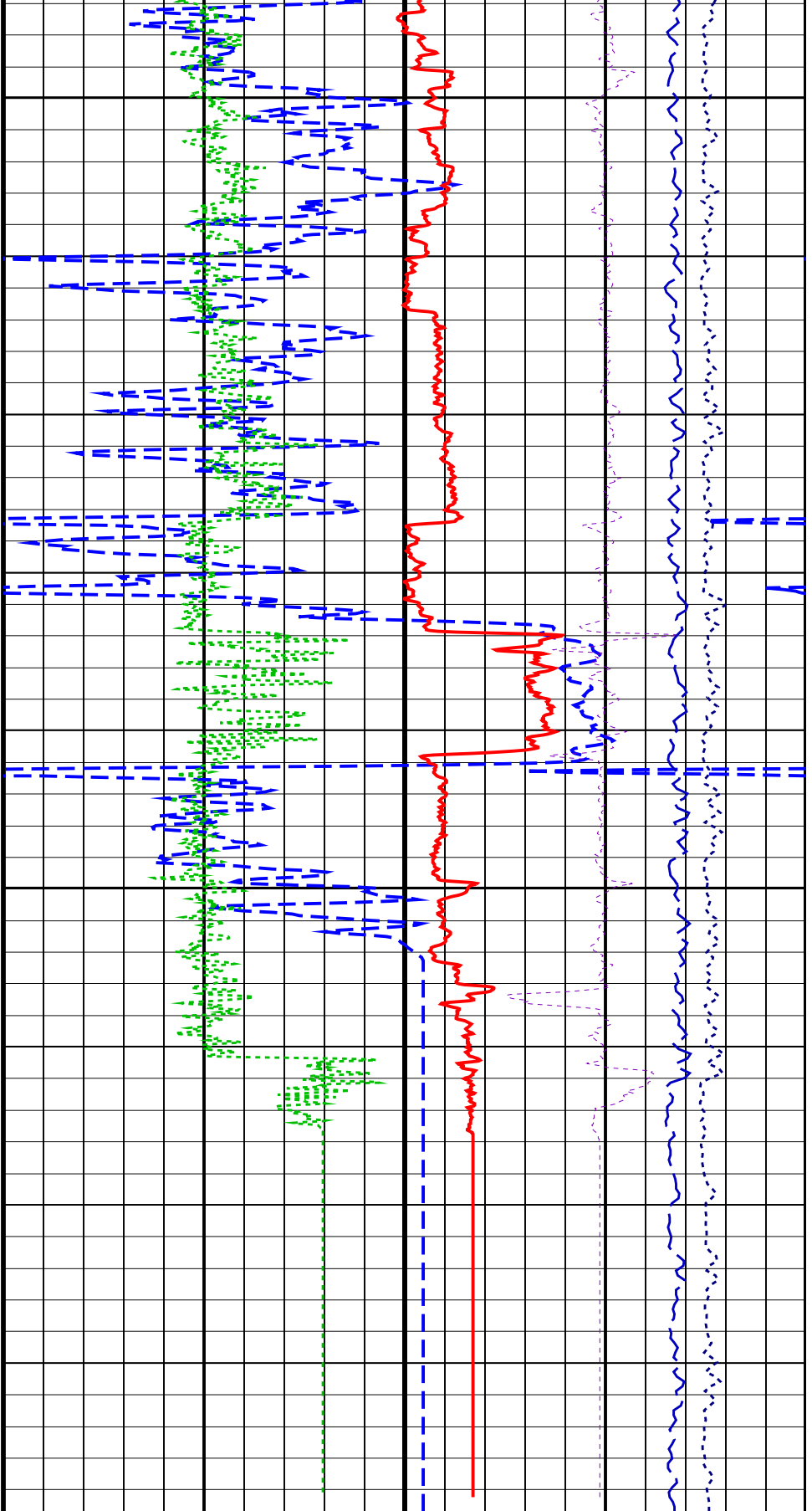
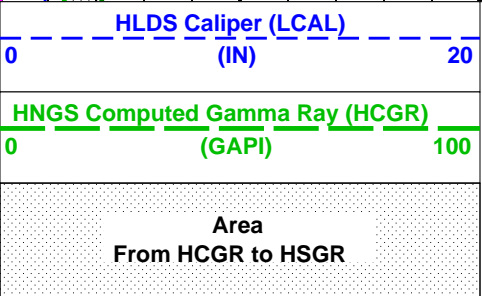
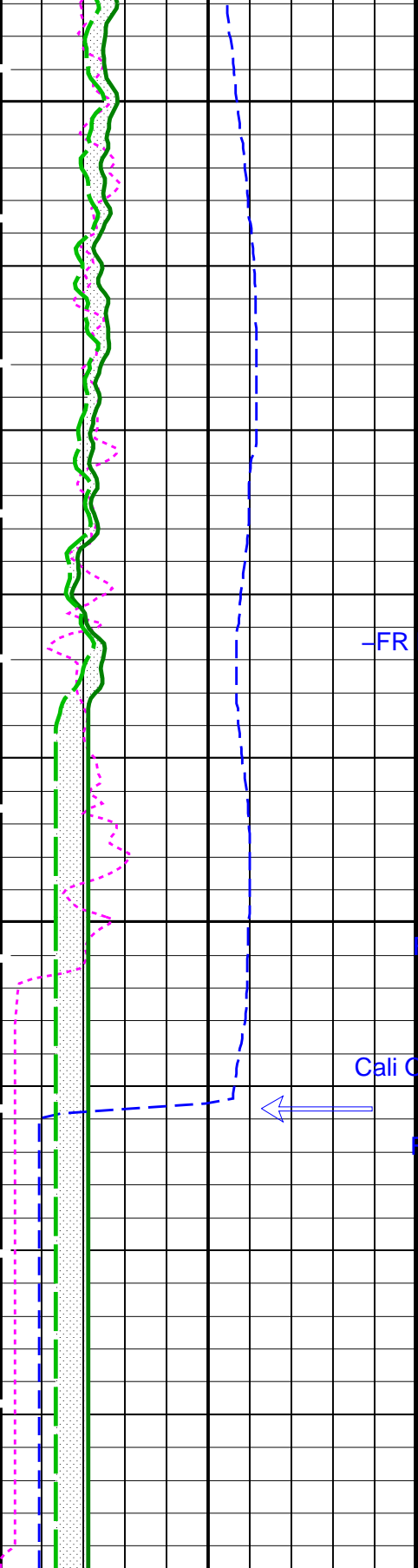


375

400







APS Effective Standoff in Limestone		
(STOF)		
-1	(IN)	4
HNGS Spectroscopy Gamma Ray		
(HSGR)		
0	(GAPI)	100

Main Log

HLDS HR Bulk Density Correction		
(HBDC)		
-0.25	(G/C3)	0.25
Tension (TENS)		
(LBF)		
10000		0

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)	50	DEGF
DGF1	Deep 10 kHz Gain Factor	0.981463	
DGF2	Deep 20 kHz Gain Factor	0.992515	
DGF4	Deep 40 kHz Gain Factor	1.00423	
DPH1	Deep 10 kHz Phase Shift	0.032855	DEG
DPH2	Deep 20 kHz Phase Shift	-0.0620342	DEG
DPH4	Deep 40 kHz Phase Shift	-1.20308	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	42.3121	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.1426	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.87662	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	251.392	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	137.206	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	77.8842	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	0.99033	
MGF2	Medium 20 kHz Gain Factor	0.995142	
MGF4	Medium 40 kHz Gain Factor	1.01918	
MPH1	Medium 10 kHz Phase Shift	-0.27707	DEG
MPH2	Medium 20 kHz Phase Shift	-0.890816	DEG
MPH4	Medium 40 kHz Phase Shift	-2.23551	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	32.7618	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	10.896	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	1.11433	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	336.356	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	177.452	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	115.531	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 Incliner			
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	16.2182	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	
HLDS: Hostile Litho-Density Sonde			
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	

CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.71	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	30000	
PSDS	HLDS SS Pulse Shape Compensation DAC	30000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	

APS-C: Accelerator-Porosity Tool

AASD	APS Software Version	0	
ADSO	APS Thermal and Array Detectors High Voltage Setting	1968.14	V
AFSD	APS Array Detectors Data Source Switch	Both	
AHCS	APS Far Detector High Voltage Setting	2080.2	V
AHSS	APS Holesize Correction Source	BS	
AMTY	APS Holesize Correction Switch	ON	
ANSD	APS Environmental Corrections Mud Type	WaterBaseBarite	
ASOS	APS Near Detector High Voltage Setting	1733.87	V
ATSS	APS Standoff Correction Switch	ON	
BHFL_APS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHS	APS TNPH Borehole Fluid Type	WATER	
BHT	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source Correction Option	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.06008	
NFRC	APS Near/Far Calibration Ratio	0.890428	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	YES	

HNGS-BA: Hostile Natural Gamma Ray Sonde

BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00157462	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	3.2086	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.99686	

System and Miscellaneous

ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.08	G/C3
DO	Depth Offset for Playback	-1570.0	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	1713	FT
TDD	Total Depth - Driller	522.00	M
TDL	Total Depth - Logger	520.00	M
TWS	Temperature of Connate Water Sample	15.00	DEGC

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 11-Feb-2011 06:49

OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3971-Q1_2010_OP17
DTA-A	17C0-154	HLDS	SPC-3961-OP17_NUCL
LDSC-B	SPC-3961-OP17_NUCL	APS-C	SPC-3961-OP17_NUCL
HNGC-B	SPC-3961-OP17_NUCL	HNGS-BA	SPC-3961-OP17_NUCL
DTC-H	17C0-154		

Input DLIS Files

PI_LDL_APS_NGS_027LUP	FN:46	20-Jan-2011 18:58	2089.4 M	1553.7 M
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Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_113PUP	FN:3	PRODUCER	11-Feb-2011 06:49
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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: 20-Jan-2011 17:32							
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: 20-Jan-2011 17:32							
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	
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 11-Dec-2010 5:21 Before: 25-Dec-2010 6:05 After: 20-Jan-2011 22:53							
SS Cs Resolution Bkg	9.000	8.370	8.517	8.559	0.04145	1.800	%
LS Cs Resolution Bkg	9.000	8.635	8.619	8.561	-0.05882	1.800	%
LSW1 Background	100.0	72.88	72.56	72.31	-0.2549	3.000	CPS
LSW2 Background	100.0	66.98	66.25	67.15	0.9066	3.000	CPS
LSW3 Background	200.0	151.3	148.8	149.7	0.9136	6.000	CPS
LSW4 Background	250.0	184.5	182.4	182.2	-0.1443	7.500	CPS
LSW5 Background	600.0	415.6	412.8	415.5	2.671	18.00	CPS
SSW1 Background	100.0	72.08	71.78	71.62	-0.1605	3.000	CPS
SSW2 Background	200.0	125.4	126.6	125.2	-1.397	6.000	CPS
SSW3 Background	500.0	334.7	333.8	328.9	-4.811	15.00	CPS
SSW4 Background	270.0	178.2	178.2	178.4	0.2584	8.100	CPS
SSW5 Background	200.0	127.8	127.9	128.7	0.8630	6.000	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement							
Master: 11-Dec-2010 5:21							
LSW1 Aluminum	600.0	532.4	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	783.1	N/A	N/A	N/A	N/A	CPS

LSW3 Aluminum	580.0	481.5	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	570.0	443.6	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2267	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6468	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9431	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3976	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	532.8	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Lithology Measurement

Master: 11-Dec-2010 5:21

LSW1 Iron	400.0	362.4	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	636.5	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	851.8	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	439.8	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	412.4	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1712	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5497	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8763	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3715	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	488.7	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Caliper Calibration

Before: 25-Dec-2010 5:54

HLDS Caliper Small Ring	11.88	N/A	13.51	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	17.01	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration – Detector Background

Master: 11-Dec-2010 9:00 Before: 20-Jan-2011 17:41 After: 20-Jan-2011 21:56

Near Det Bkg Cntrate	30.00	32.95	32.44	30.93	-1.502	N/A	CPS
Far Det Bkg Cntrate	30.00	32.12	33.19	33.43	0.2337	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	29.56	29.36	28.81	-0.5505	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.68	29.66	28.93	-0.7340	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	31.39	34.13	34.43	0.2992	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration – Calibration Ratios

Master: 11-Dec-2010 9:00

Near/Far Calibration Ratio	0.9250	0.8904	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	0.9962	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration – Tank Check

Master: 11-Dec-2010 9:00

Array-1 Standoff Porosity	11.75	12.03	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.87	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.811	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	1.003	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9944	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	28.18	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration – CCR7 signal boxes

Master: 11-Dec-2010 8:15

Near Detector Plateau Setting	1650	1734	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2080	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1968	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 10-Dec-2010 8:35 Before: 25-Dec-2010 5:54 After: 20-Jan-2011 22:54

Na 511 Peak Loc	40.00	39.66	39.55	39.70	0.1545	1.000	
Na 511 Peak Res	15.50	14.96	16.05	14.90	-1.148	2.000	%
High Voltage	1150	1187	1209	1176	-33.65	N/A	V
Na 1785 Peak Loc	142.6	141.8	142.2	142.3	0.1047	7.000	
Na 1785 Peak Res	8.500	8.530	9.021	8.877	-0.1443	2.000	%
Temperature	15.50	25.35	34.71	27.31	-7.397	N/A	DEGC
Na Count Rate	45.00	27.13	26.60	26.04	-0.5612	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 10-Dec-2010 8:35 Before: 25-Dec-2010 5:54 After: 20-Jan-2011 22:54

Na 511 Peak Loc	40.00	39.72	39.62	39.60	-0.02057	1.000	
Na 511 Peak Res	15.50	15.09	16.03	16.08	0.05057	2.000	%
High Voltage	1150	1099	1119	1105	-13.42	N/A	V
Na 1785 Peak Loc	142.6	142.5	141.3	141.3	0.03700	7.000	
Na 1785 Peak Res	8.500	8.852	9.212	9.090	-0.1219	2.000	%
Temperature	15.50	25.94	35.42	29.15	-6.274	N/A	DEGC
Na Count Rate	45.00	27.08	26.72	25.74	-0.9723	8.000	CPS

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

Master: 10-Dec-2010 8:35 Before: 25-Dec-2010 5:54 After: 20-Jan-2011 22:54

Coincidence Count Rate Ratio	1.000	1.001	0.9966	1.012	0.01544	0.05000	
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Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration

Master: 10-Dec-2010 8:35

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	--
Th Peak Loc	209.6	210.6	--	--	--	--	--
Th Peak Res	7.000	7.309	--	--	--	--	%
Background Count Rate	142.5	19.80	--	--	--	--	CPS
Gain Ratio	1.000	1.011	--	--	--	--	--

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration

Master: 10-Dec-2010 8:35

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	--
Th Peak Loc	209.6	208.6	--	--	--	--	--
Th Peak Res	7.000	6.652	--	--	--	--	%
Background Count Rate	142.5	20.42	--	--	--	--	CPS
Gain Ratio	1.000	0.9993	--	--	--	--	--

Accelerator-Porosity Tool – Detector Plateau Settings :

Near Detector Plateau Setting	1734 V
Far Detector Plateau Setting	2080 V
Array Detector Plateau Setting	1968 V

Dual Induction – E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS – HB	129
Dual Induction Cartridge	DIC – EB	171
Auxiliary Equipment:		
Mass Isolated Housing	MIH – ZA	342

General Purpose Inclinator / Equipment Identification

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

Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:		
Hostile Litho Density Sonde	HLDS – D	45
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

Hostile Litho-Density Sonde Wellsite Calibration

Background Measurement

Phase	SS Cs Resolution Bkg %	Value	Phase	LS Cs Resolution Bkg %	Value	Phase	LSW1 Background CPS	Value
Master		8.370	Master		8.635	Master		72.88
Before		8.517	Before		8.619	Before		72.56
After		8.559	After		8.561	After		72.31
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	
Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value
Master		66.98	Master		151.3	Master		184.5
Before		66.25	Before		148.8	Before		182.4
After		67.15	After		149.7	After		182.2
	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		415.6	Master		72.08	Master		125.4
Before		412.8	Before		71.78	Before		126.6
After		415.5	After		71.62	After		125.2
	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		334.7	Master		178.2	Master		127.8
Before		333.8	Before		178.2	Before		127.9
After		328.9	After		178.4	After		128.7
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)			150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Master: 11-Dec-2010 5:21 Before: 25-Dec-2010 6:05 After: 20-Jan-2011 22:53

Hostile Litho-Density Sonde Master Calibration
Detector Background Measurement

Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value
Master		72.88	Master		66.98	Master		151.3
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	
Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	LS Cs Resolution Bkg %	Value
Master		184.5	Master		415.6	Master		8.635
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)			330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value
Master		72.08	Master		125.4	Master		334.7
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)			280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	
Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value	Phase	SS Cs Resolution Bkg %	Value
Master		178.2	Master		127.8	Master		8.370
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Master: 11-Dec-2010 5:21

Hostile Litho-Density Sonde Master Calibration
Detector Aluminum Measurement (bkgd-subtracted)

Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value
Master		532.4	Master		783.1	Master		957.6
	420.0 (Minimum) 600.0 (Nominal) 770.0 (Maximum)			650.0 (Minimum) 900.0 (Nominal) 1150 (Maximum)			800.0 (Minimum) 1100 (Nominal) 1450 (Maximum)	
Phase	LSW4 Aluminum CPS	Value	Phase	LSW5 Aluminum CPS	Value	Phase	SSW1 Aluminum CPS	Value
Master		481.5	Master		443.6	Master		2267
	410.0 (Minimum) 580.0 (Nominal) 740.0 (Maximum)			410.0 (Minimum) 570.0 (Nominal) 740.0 (Maximum)			2000 (Minimum) 2800 (Nominal) 3200 (Maximum)	
Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value	Phase	SSW4 Aluminum CPS	Value
Master		6468	Master		9431	Master		3976
	5800 (Minimum) 8000 (Nominal) 9300 (Maximum)			8300 (Minimum) 11600 (Nominal) 13500 (Maximum)			3500 (Minimum) 5000 (Nominal) 5800 (Maximum)	
Phase	SSW5 Aluminum CPS	Value						
Master		532.8						
	470.0 (Minimum) 660.0 (Nominal) 770.0 (Maximum)							

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Hostile Litho-Density Sonde Master Calibration
Detector Litholog Measurement (bkgd-subtracted)

Phase	LSW1 Iron CPS	Value	Phase	LSW2 Iron CPS	Value	Phase	LSW3 Iron CPS	Value
Master		362.4	Master		636.5	Master		851.8
	290.0 (Minimum) 400.0 (Nominal) 560.0 (Maximum)			520.0 (Minimum) 730.0 (Nominal) 950.0 (Maximum)			720.0 (Minimum) 1000 (Nominal) 1350 (Maximum)	
Phase	LSW4 Iron CPS	Value	Phase	LSW5 Iron CPS	Value	Phase	SSW1 Iron CPS	Value
Master		439.8	Master		412.4	Master		1712
	370.0 (Minimum) 520.0 (Nominal) 700.0 (Maximum)			340.0 (Minimum) 470.0 (Nominal) 750.0 (Maximum)			1500 (Minimum) 2100 (Nominal) 2400 (Maximum)	

Phase	SSW2 Iron CPS	Value	Phase	SSW3 Iron CPS	Value	Phase	SSW4 Iron CPS	Value	
Master		5497	Master		8763	Master		3715	
	4900 (Minimum)	6800 (Nominal)	7900 (Maximum)	7800 (Minimum)	10800 (Nominal)	12600 (Maximum)	3300 (Minimum)	4600 (Nominal)	5400 (Maximum)
Phase	SSW5 Iron CPS	Value							
Master		488.7							
	420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)						

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Hostile Litho-Density Sonde Master Calibration									
Quality Ratios									
Phase	AL CALIBRATION RATIO 1	Value	Phase	AL CALIBRATION RATIO 2	Value	Phase	AL CALIBRATION RATIO 3	Value	
Master		1.035	Master		2.092	Master		0.5755	
	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.900 (Minimum)	2.100 (Nominal)	2.300 (Maximum)	0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)
Phase	AL CALIBRATION RATIO 4	Value	Phase	Pad-Wear SS Ratio	Value	Phase	Pad-Wear LS Ratio	Value	
Master		0.5028	Master		0.9860	Master		0.9868	
	0.4000 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)
Phase	Pad-Position SS Ratio	Value	Phase	Pad-Position LS Ratio	Value				
Master		1.004	Master	EXCEEDS LIMIT	0.9813				
	0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)	0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)			

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

Accelerator-Porosity Tool / Equipment Identification		
Primary Equipment:		
Accelerator-Porosity Sonde	APS - C	22
APS Minitron	MNTR - F	5589
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	22
APS Calibration Water Tank	SFT - 178	1
APS Aluminum Calibrator Sleeve	SFT - 281	1

Accelerator-Porosity Tool Wellsite Calibration									
Detector Background									
Phase	Near Det Bkg Cntrate CPS	Value	Phase	Far Det Bkg Cntrate CPS	Value	Phase	Array-1 Det Bkg Cntrate CPS	Value	
Master		32.95	Master		32.12	Master		29.56	
Before		32.44	Before		33.19	Before		29.36	
After		30.93	After		33.43	After		28.81	
	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		29.68	Master		31.39				
Before		29.66	Before		34.13				
After		28.93	After		34.43				
	1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)	1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)			

Master: 11-Dec-2010 9:00

Before: 20-Jan-2011 17:41

After: 20-Jan-2011 21:56

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		0.8904	Master		1.060	Master		0.9962	
	0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)	0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)	0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)

Master: 11-Dec-2010 9:00

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		12.03	Master		11.87	Master		5.811	
	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		1.003	Master		0.9944	Master		28.18	
	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: 11-Dec-2010 9:00

Accelerator-Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value	
Master		0.8904	Master		1.060	Master		0.9962	
	0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)	0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)	0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)

Master: 11-Dec-2010 9:00

Accelerator-Porosity Tool Master Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value	
Master		12.03	Master		11.87	Master		5.811	
	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		1.003	Master		0.9944	Master		28.18	
	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)

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Hostile Natural Gamma Ray Cartridge - B / Equipment Identification

Primary Equipment: HNGC Cartridge	HNGC - B	300
Auxiliary Equipment: HNGC Housing	HNGH - A	115

Hostile Natural Gamma Ray Sonde / Equipment Identification

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

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.66	Master		14.96	Master		1187
Before		39.55	Before		16.05	Before		1209

After	37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)	39.70	After	12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)	14.90	After	900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)	1176
Phase	Na 1785 Peak Loc			Value	Phase	Na 1785 Peak Res %			Value	Phase	Temperature DEGC			Value
Master				141.8	Master				8.530	Master				25.35
Before				142.2	Before				9.021	Before				34.71
After				142.3	After				8.877	After				27.31
	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				27.13										
Before				26.60										
After				26.04										
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)											
Master: 10-Dec-2010 8:35					Before: 25-Dec-2010 5:54					After: 20-Jan-2011 22:54				

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				39.72	Master				15.09	Master				1099
Before				39.62	Before				16.03	Before				1119
After				39.60	After				16.08	After				1105
	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				8.852	Master				25.94
Before				141.3	Before				9.212	Before				35.42
After				141.3	After				9.090	After				29.15
	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				27.08										
Before				26.72										
After				25.74										
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)											
Master: 10-Dec-2010 8:35					Before: 25-Dec-2010 5:54					After: 20-Jan-2011 22:54				

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.001
Before		0.9966
After		1.012
	0.9500 (Minimum)	1.000 (Nominal)
		1.050 (Maximum)
Master: 10-Dec-2010 8:35		
Before: 25-Dec-2010 5:54		
After: 20-Jan-2011 22:54		

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 1 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master				41.00	Master				210.6	Master				7.309
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)			201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)			5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)	
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master				19.80	Master				1.011					

10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)
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Hostile Natural Gamma Ray Sonde Master Calibration											
Detector 2 Calibration											
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value
Master			41.00	Master			208.6	Master			6.652
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value				
Master			20.42	Master			0.9993				
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				

Master: 10-Dec-2010 8:35

DTS Telemetry Tool / Equipment Identification		
Primary Equipment:		
DTC-H Auxiliary Cartridge	DTCH - A	8799
DTC-H Telemetry Cartridge	DTCH - A	8798
Auxiliary Equipment:		
DTCH Telemetry Cartridge Housing	ECH - KC	1777

Company:	Lamont Doherty	Schlumberger
Well:	Expedition 330 Site U1374A	
Field:	Louisville Seamounds	
Rig:	JOIDES Resolution	
Ocean:	Pacific	
HLDS Density APS Porosity Natural Gamma Ray		