

# Schlumberger

Company: Lamont Doherty

Well: Expedition 324 Site U1347A

Field: Shatsky Rise

Rig: JOIDES Resolution Ocean: Pacific

Rig: JOIDES Resolution Field: Shatsky Rise Location: Latitude: N 32° 30.477' Well: Expedition 324 Site U1347A Company: Lamont Doherty	Dual Induction (DITE)			
	Natural Gamma Spectroscopy (HNGS)			
	Latitude: N 32° 30.477'		Elev.: K.B. 11.00 m	
	Longitude: E 159° 14.077'		G.L. -3461.00 m D.F. 11.00 m	
LOCATION	Permanent Datum: <u>Mean Sea Level</u>		Elev.: <u>0.00 m</u>	
	Log Measured From: <u>Drill Floor</u>		11.00 m above Perm. Datum	
	Drilling Measured From: <u>Drill Floor</u>			
API Serial No.		Max. Hole Devi. 0 deg	Longitude	Latitude

Logging Date		1-Oct-2009	
Run Number		1	
Depth Driller		3778.5 m	
Schlumberger Depth		3775 m	
Bottom Log Interval		3775 m	
Top Log Interval		3461 m	
Casing Driller Size @ Depth		4.500 in @ 3592.5 m	
Casing Schlumberger		3589 m	
Bit Size		9.875 in	
Type Fluid In Hole		Seawater Gel	
MUD	Density	Viscosity	1.258 g/cm3
	Fluid Loss	PH	
	Source Of Sample		
RM @ Measured Temperature		@	@
RMF @ Measured Temperature		@	@
RMC @ Measured Temperature		@	@
Source RMF	RMC	N/A	N/A
RM @ MRT	RMF @ MRT	@ 4	@ 4
Maximum Recorded Temperatures			
Circulation Stopped	Time	18-Sep-2009	18:00
Logger On Bottom	Time	1-Oct-2009	1:00
Unit Number	Location	625003	Houston
Recorded By		K. Swain	
Witnessed By		Gerardo Iturrino, Helen Evans	

	Run 1	Run 2	Run 3
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			
Fluid Loss			
PH			
Source Of Sample			
RM @ Measured Temperature		@	
RMF @ Measured Temperature		@	
RMC @ Measured Temperature		@	
Source RMF			
RMC			
RM @ MRT		@	@
RMF @ MRT		@	@
Maximum Recorded Temperatures			
Circulation Stopped			
Time			
Logger On Bottom			
Time			
Unit Number			
Location			
Recorded By			
Witnessed By			

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1  
 OS1: DITE  
 OS2: GPIT  
 OS3: HLDS/APS  
 OS4: FMS/DSI  
 OS5:

OTHER SERVICES2  
 OS1:  
 OS2:  
 OS3:  
 OS4:  
 OS5:

REMARKS: RUN NUMBER 1  
 Logging tools deployed inside drillpipe with wireline.  
 BHA consisted of RCB Drilling Bit and collars with mechanical bit release.  
 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 3593 mbsf approximately for duration of logging.  
 Ship heave averaged +0.5m to -0.5 m on average (estimate) with occasional peaks to +/-1m (2mpeak to peak).  
 Downlog used as Repeat.  
 See report filed for logging for further explanation.

REMARKS: RUN NUMBER 2

RUN 1

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

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #: \_\_\_\_\_  
 PROGRAM VERSION: \_\_\_\_\_  
 FLUID LEVEL: \_\_\_\_\_

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION


RUN 1

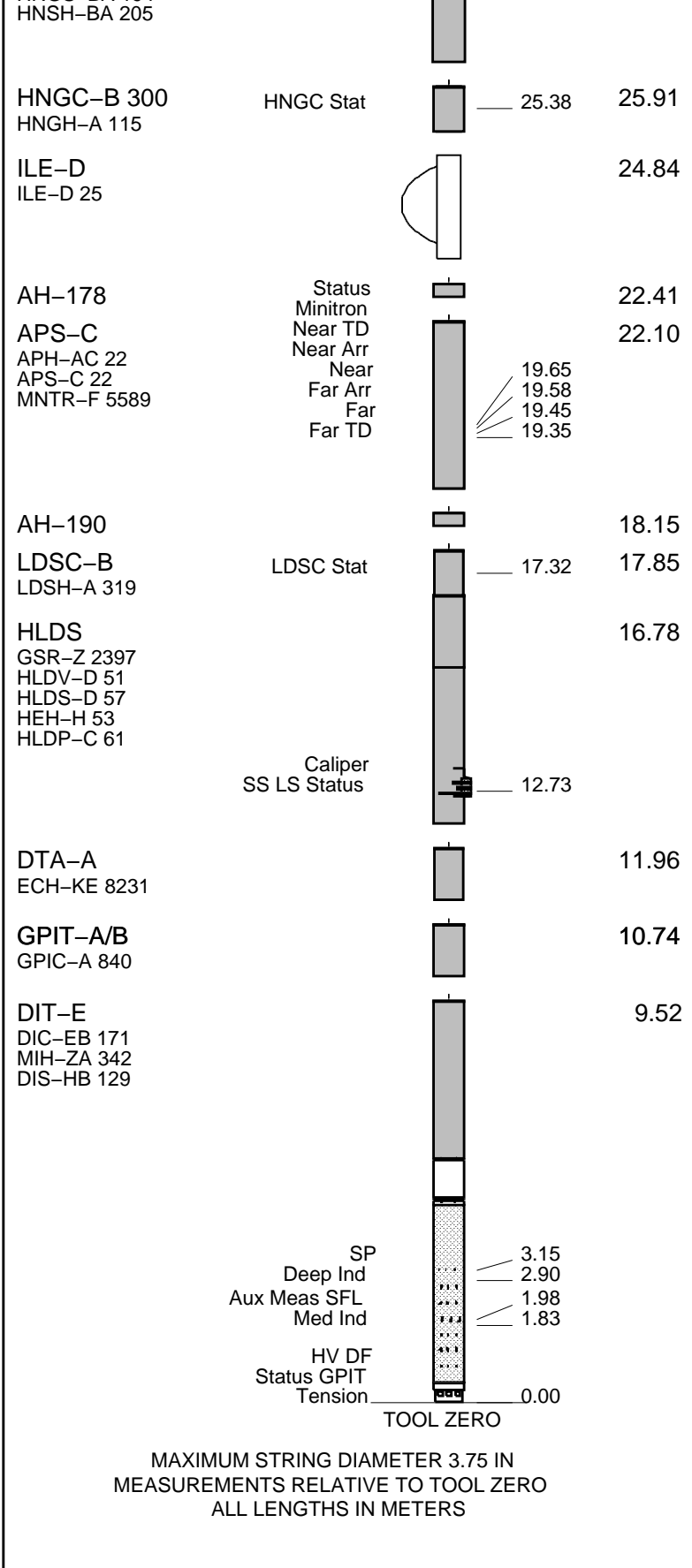
SURFACE EQUIPMENT

SFT-281 2  
 SFT-178 2  
 GSR-U 616008  
 WITM (DTS)-A

RUN 2

DOWNHOLE EQUIPMENT

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



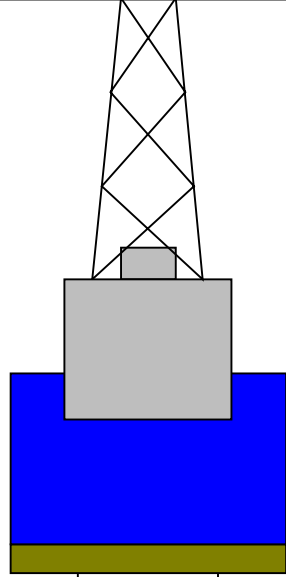
Production String	(in)	(M)	Well Schematic	(M)	(in)	Casing String
	OD	ID		MD	MD	

Kelly Bushing Elevation  
Derrick Floor Elevation

11.0  
11.0

Mean Sea Level

0.0



3461 4.20

Sea Floor



3461 9.875

3592.5 3.80

Borehole Segment

Open Hole

3778.5

### Input DLIS Files

DEFAULT	FLIP_PI_LDL_APS_NGS_010L	PRODUCER	01-Oct-2009 02:48	3750.0 M	3424.4 M
---------	--------------------------	----------	-------------------	----------	----------

### Output DLIS Files

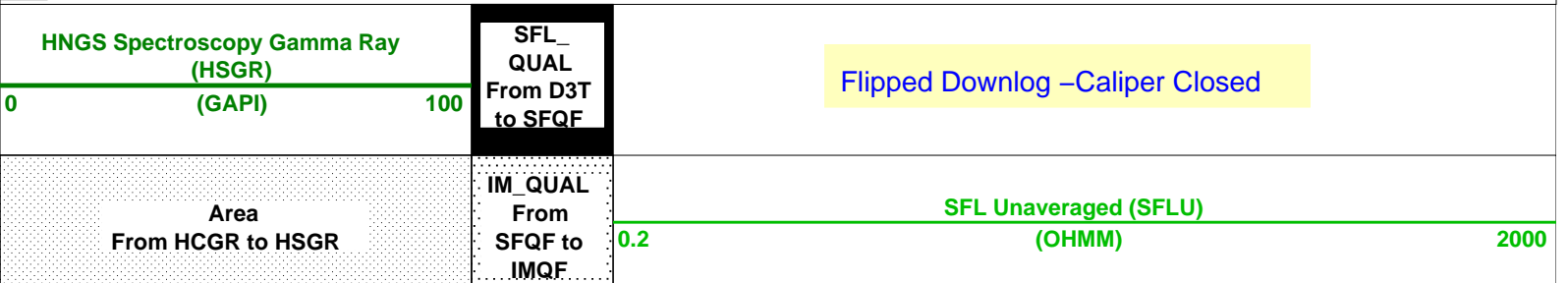
DEFAULT	PI_LDL_APS_NGS_011PUP	FN:13	PRODUCER	01-Oct-2009 02:50	3750.0 M	3424.6 M
BACKUPDLIS	PI_LDL_APS_NGS_011PUP	FN:14	PRODUCER	01-Oct-2009 01:51	3750.0 M	3424.6 M

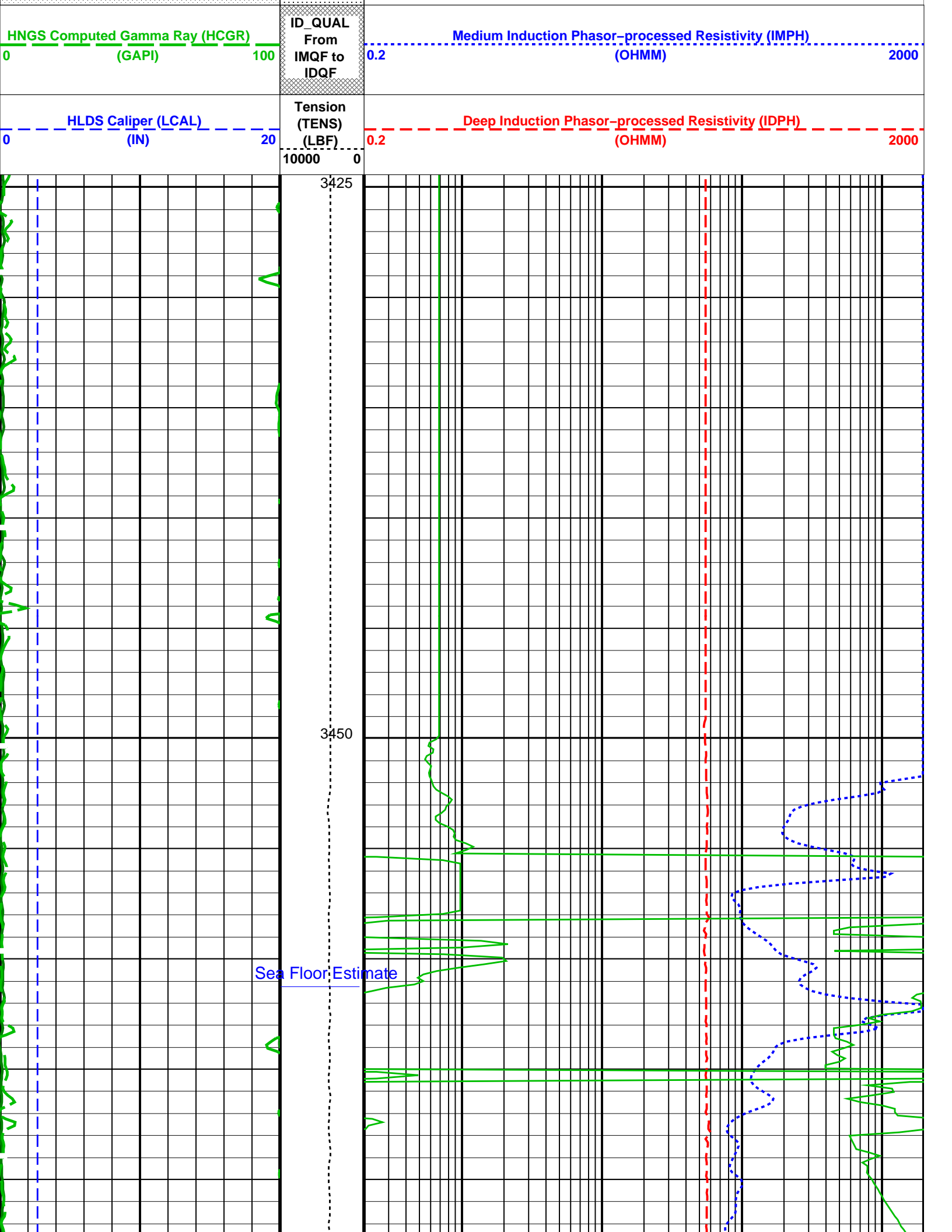
### OP System Version: 17C0-154

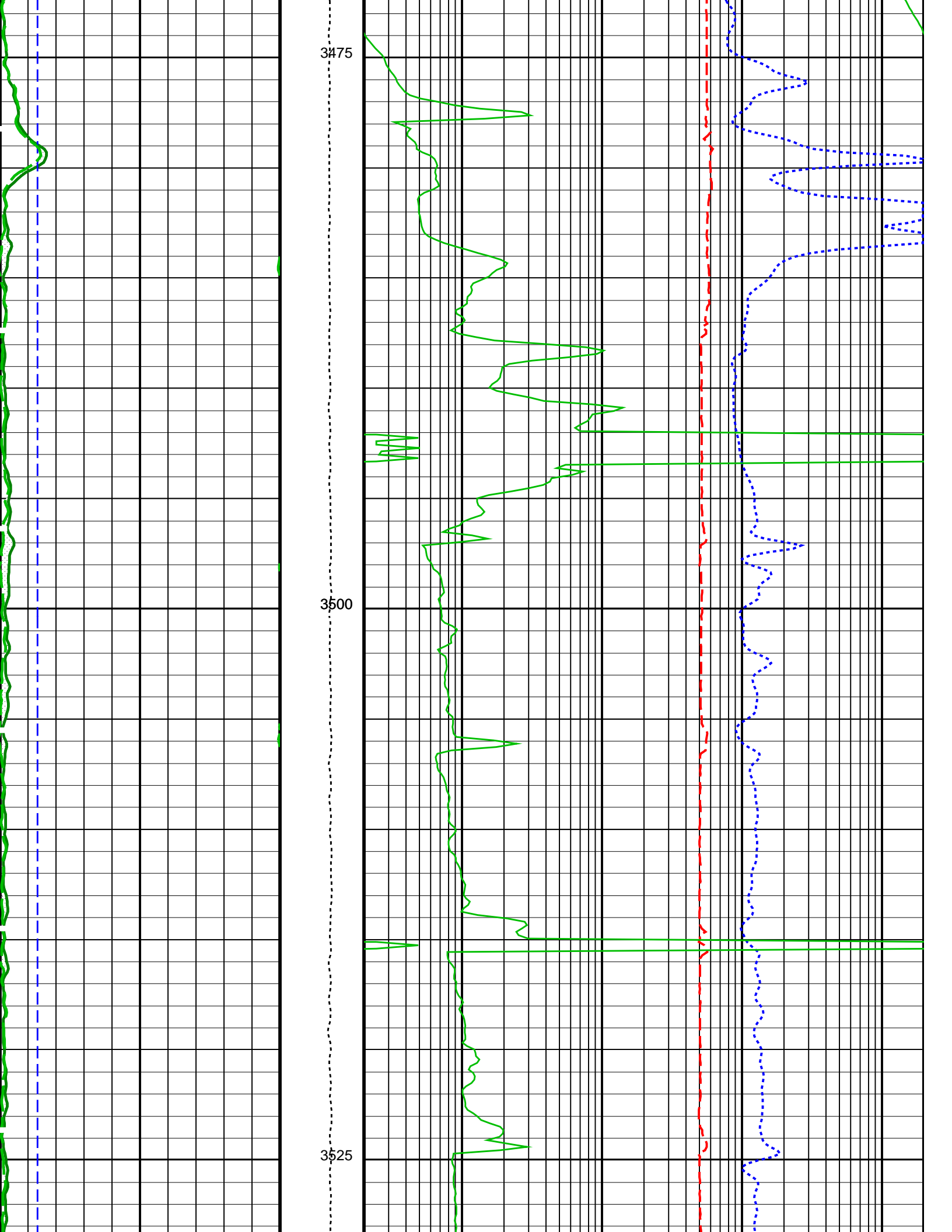
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	HLDS	17C0-154
LDSC-B	17C0-154	APS-C	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

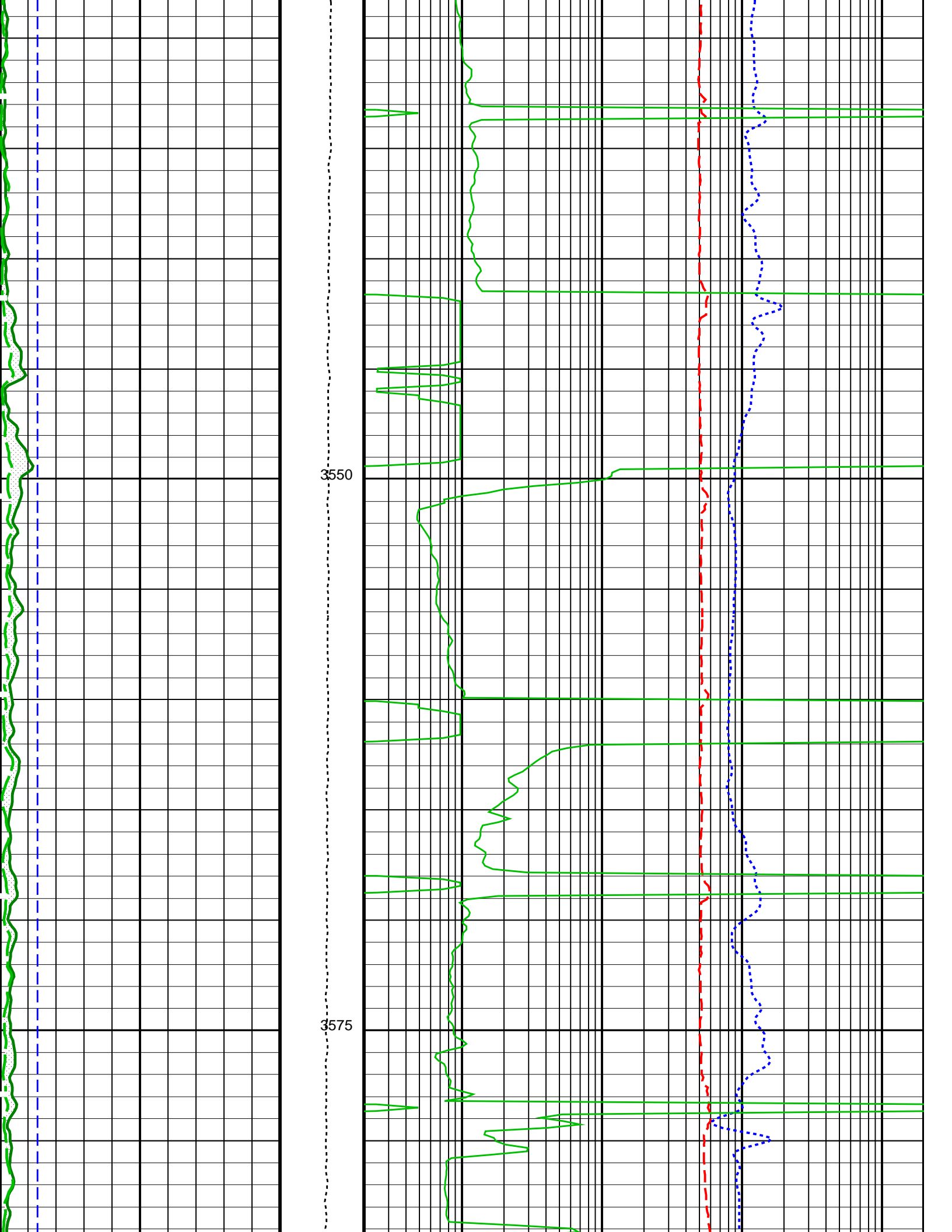
### PIP SUMMARY

Time Mark Every 60 S

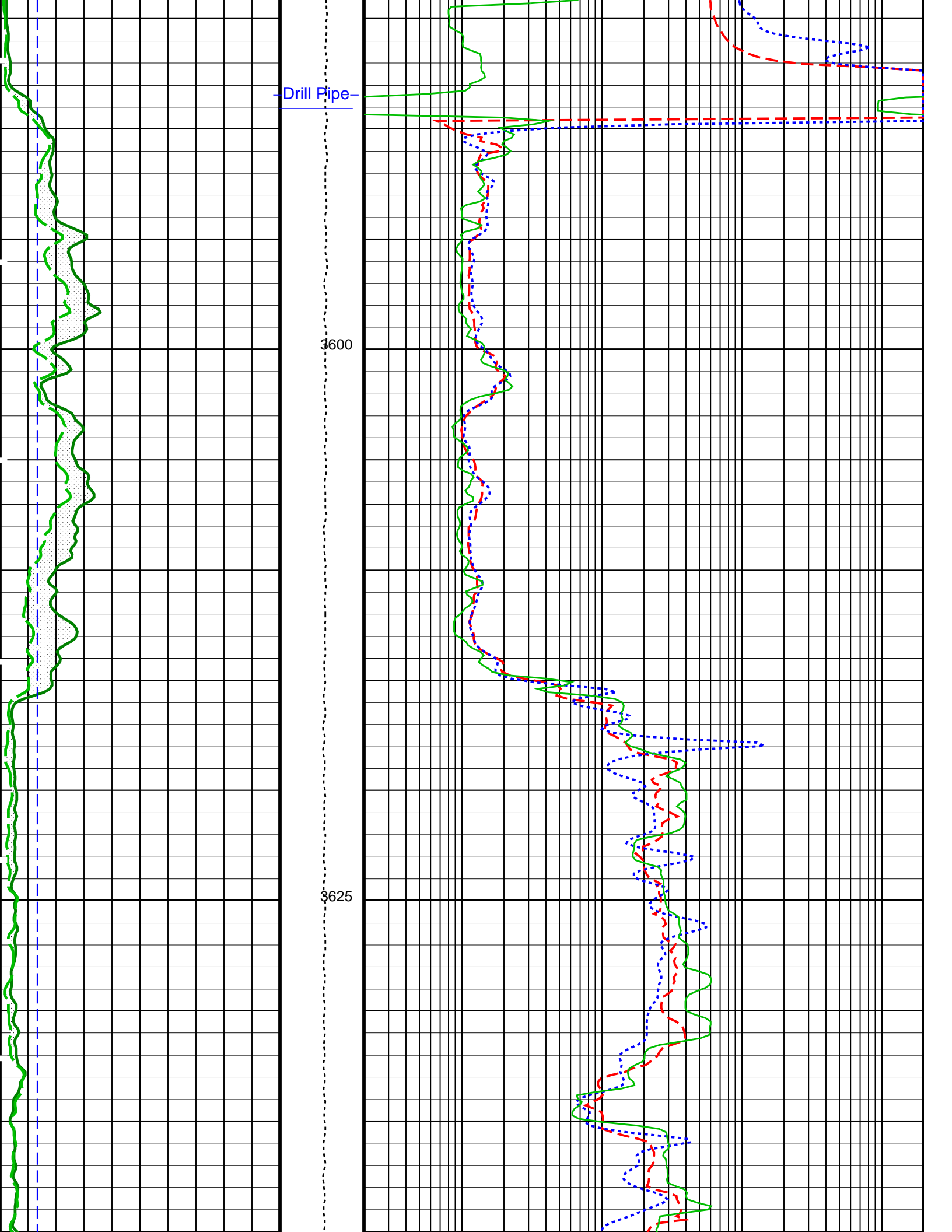


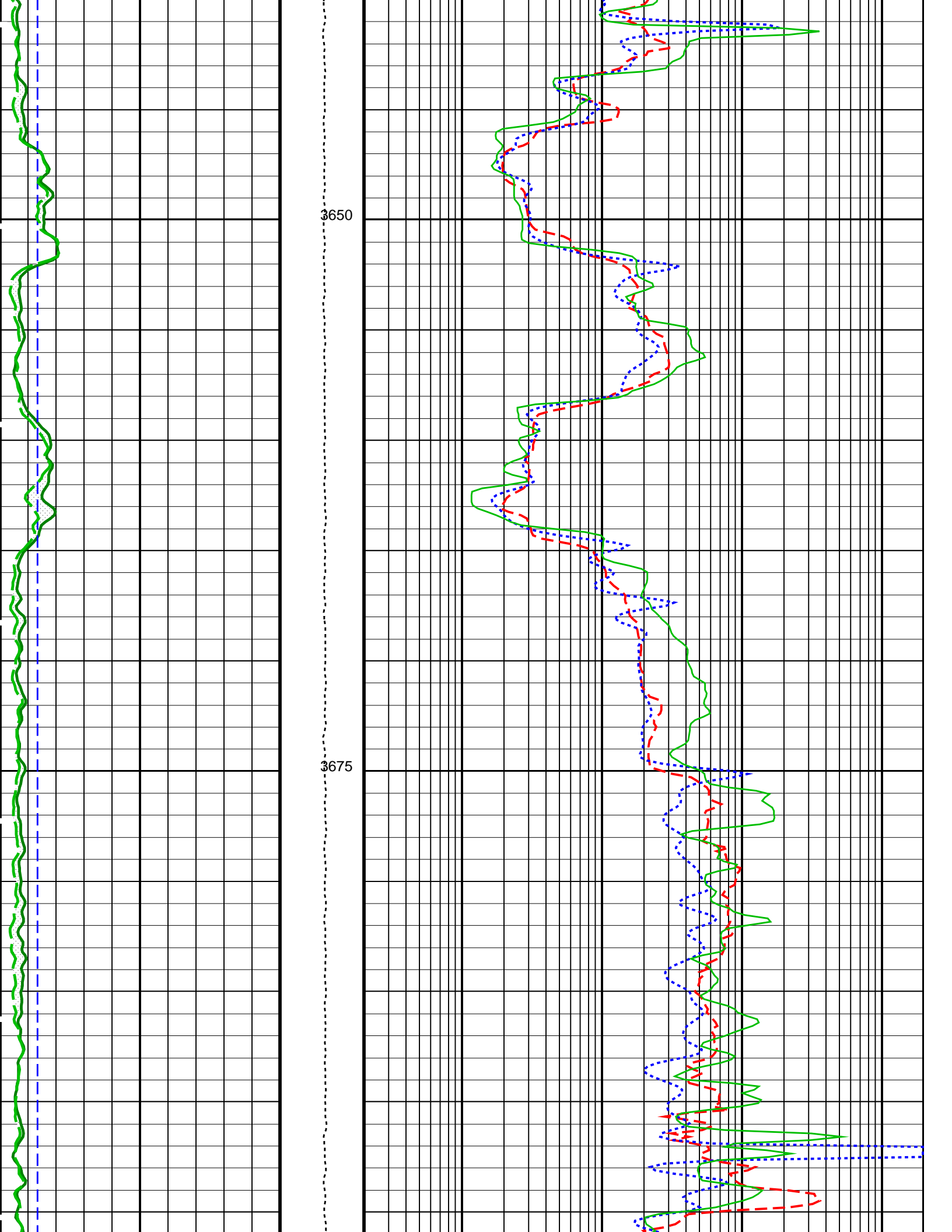


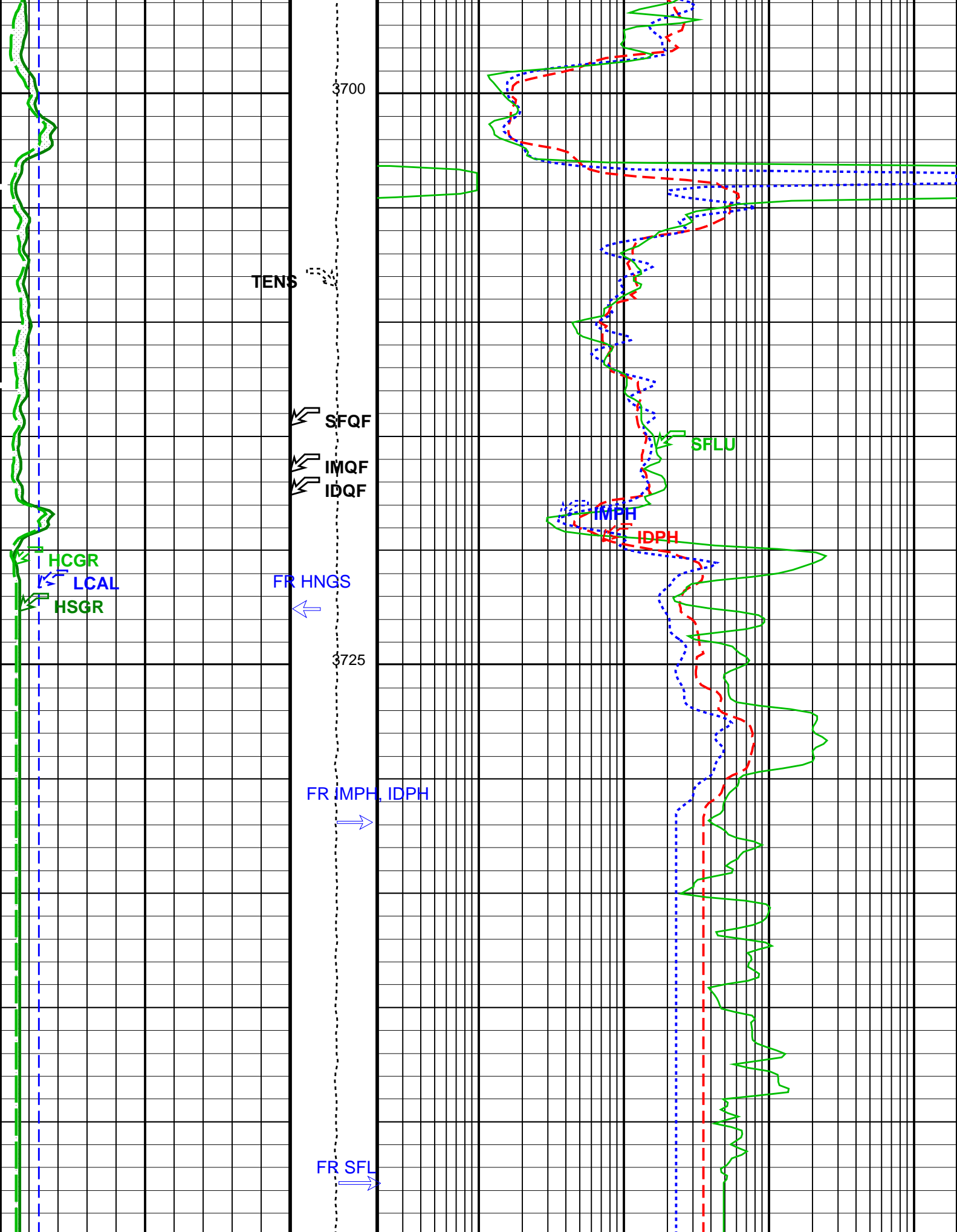








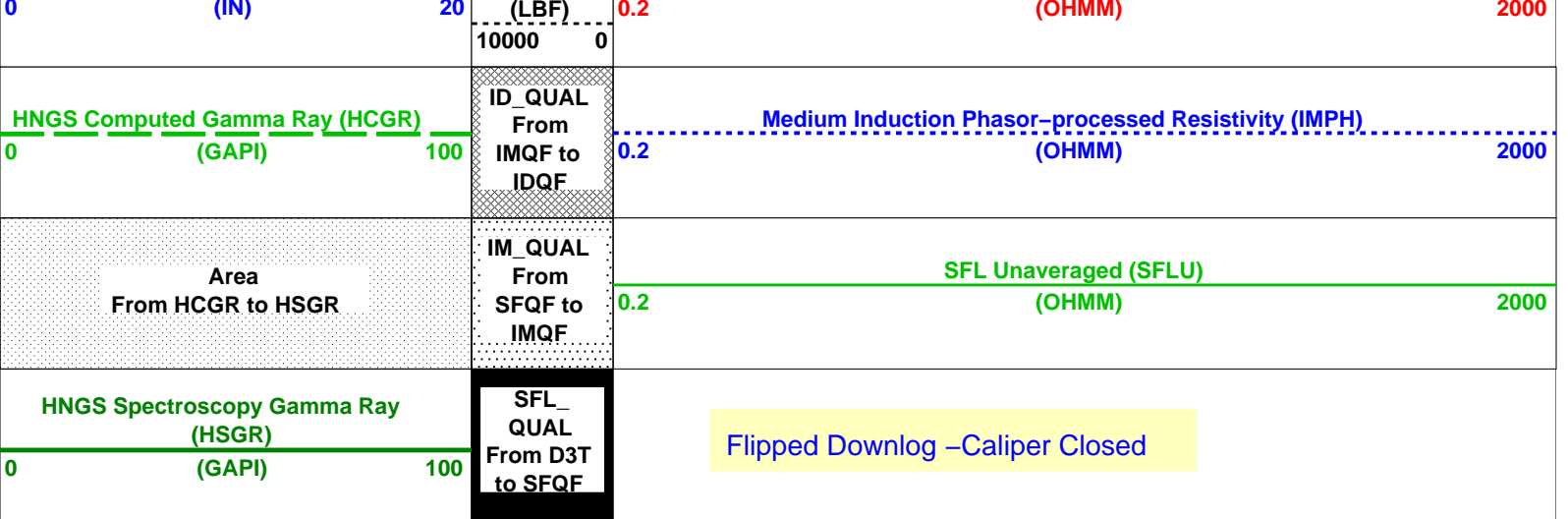




HLDS Caliper (LCAL)

Tension (TENS)

Deep Induction Phasor-processed Resistivity (IDPH)



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)	45 DEG
DGF1	Deep 10 kHz Gain Factor	0.968645
DGF2	Deep 20 kHz Gain Factor	0.979119
DGF4	Deep 40 kHz Gain Factor	0.990252
DPH1	Deep 10 kHz Phase Shift	0.26358 DEG
DPH2	Deep 20 kHz Phase Shift	0.0159963 DEG
DPH4	Deep 40 kHz Phase Shift	-1.11256 DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	39.5751 MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.0457 MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.15121 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	245.841 MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	136.154 MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	78.4516 MM/M
GCSE	Generalized Caliper Selection	BS
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GRGD	Geothermal Gradient	0.01 DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE
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	0.969585
MGF2	Medium 20 kHz Gain Factor	0.974788
MGF4	Medium 40 kHz Gain Factor	0.999842
MPH1	Medium 10 kHz Phase Shift	0.0787021 DEG
MPH2	Medium 20 kHz Phase Shift	-0.199528 DEG
MPH4	Medium 40 kHz Phase Shift	-0.885081 DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	31.1041 MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	11.3259 MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	3.5782 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	328.09 MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	172.606 MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	112.808 MM/M
SBR	Shoulder Bed Resistivity Factor	1 OHMM
SFCR	SFL Channel Ratio	1000
SFLE	SFL Enable	ENABLE
SHT	Surface Hole Temperature	68 DEG
SPAE	DIT-E SPARC Processing Enable	ENABLE
SPNV	SP Next Value	0 MV

GPIT-A/B: General Purpose Inclinerometer

ACPP	Accelerometer PROM Presence	PRESENT
AEMO	Accelerometer Filtering Mode	HAMMING

APIMS	Accelerometer Filtering Mode	PARAMETER	
ART	Accelerometer Reference Temperature		20 DEG
GLM	GPIT Logging Mode		DIPM
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	-0.649944	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	
<b>HLDS: Hostile Litho-Density Sonde</b>			
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	
<b>APS-C: Accelerator-Porosity Tool</b>			
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.76	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2108.58	V
AHCS	APS Holesize Correction Source	BS	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1736.91	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHFL_APS	APS TNPH Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	45	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.06221	
NFRC	APS Near/Far Calibration Ratio	0.888507	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	
<b>HNGS-BA: Hostile Natural Gamma Ray Sonde</b>			
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)	45	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	-0.00240846	
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	1.04355	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.03383	
<b>System and Miscellaneous</b>			
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	1.26	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	12417	FT
TDD	Total Depth - Driller	3822.00	M
TDL	Total Depth - Logger	3811.00	M
TWS	Temperature of Connate Water Sample	7.00	DEGC

Format: DITE\_LogPhasor Vertical Scale: 1:200 Graphics File Created: 01-Oct-2009 02:50

### OP System Version: 17C0-154

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

### Input DLIS Files

DEFAULT	FLIP_PI_LDL_APS_NGS_010L	PRODUCER	01-Oct-2009 02:48	3750.0 M	3424.4 M
---------	--------------------------	----------	-------------------	----------	----------

### Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_011PUP	FN:13	PRODUCER	01-Oct-2009 02:50
BACKUPDLIS	PI_LDL_APS_NGS_011PUP	FN:14	PRODUCER	01-Oct-2009 01:51

### Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_007LUP	FN:8	PRODUCER	01-Oct-2009 00:52
BACKUPDLIS	PI_LDL_APS_NGS_007LUP	FN:9	PRODUCER	30-Sep-2009 23:53

### OP System Version: 17C0-154

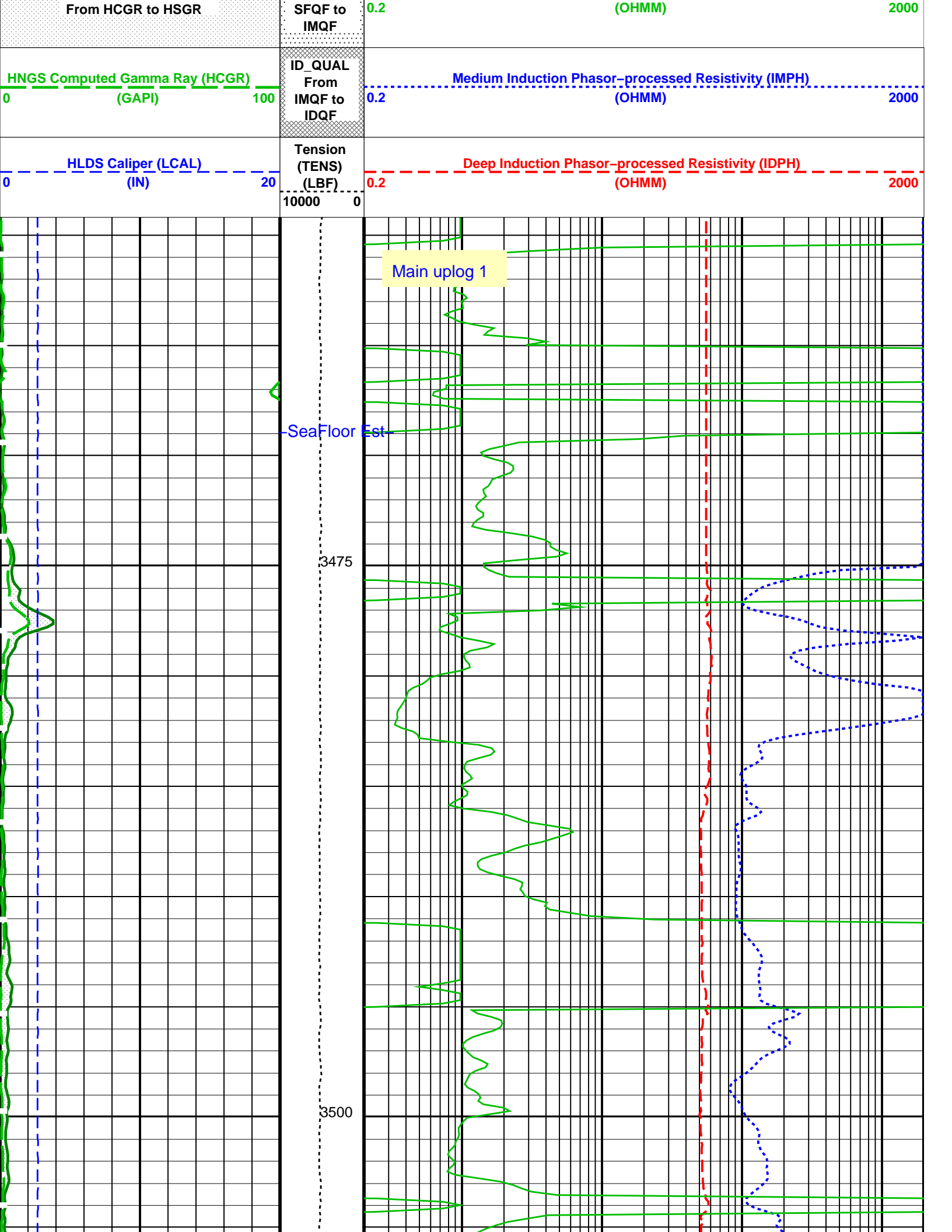
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	HLDS	17C0-154
LDSC-B	17C0-154	APS-C	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

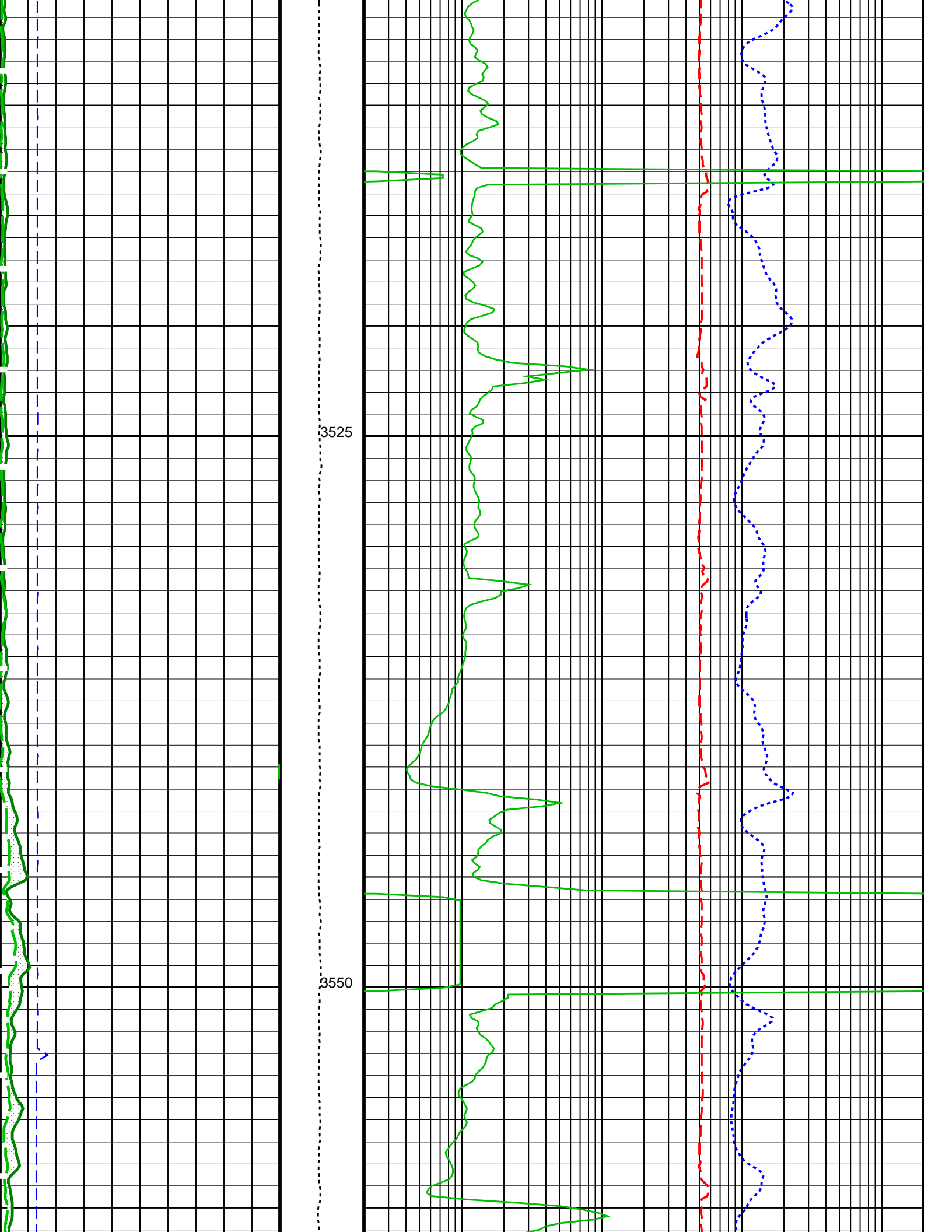
### PIP SUMMARY

Time Mark Every 60 S

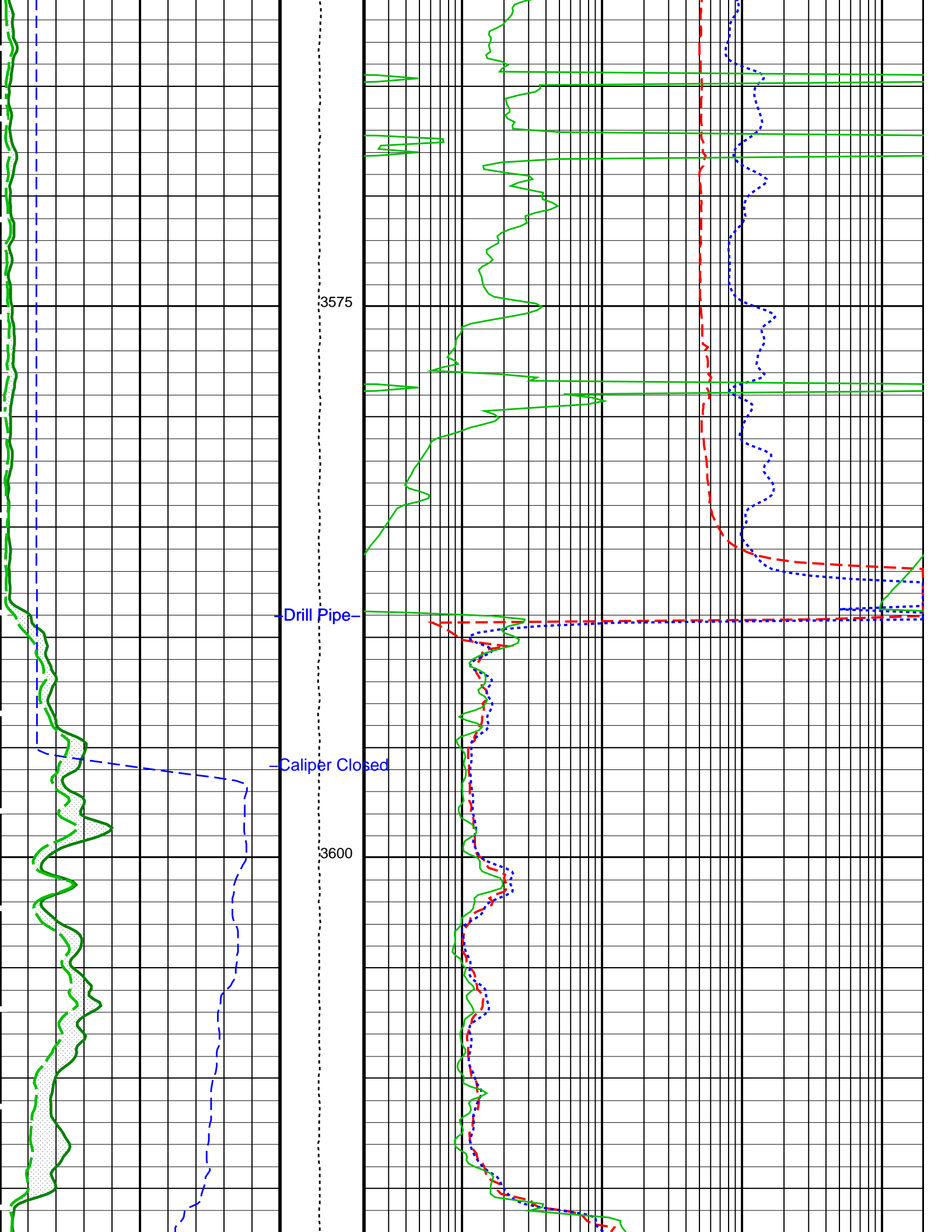
HNGS Spectroscopy Gamma Ray (HSGR)		SFL_QUAL
0	(GAPI) 100	From D3T to SFQE

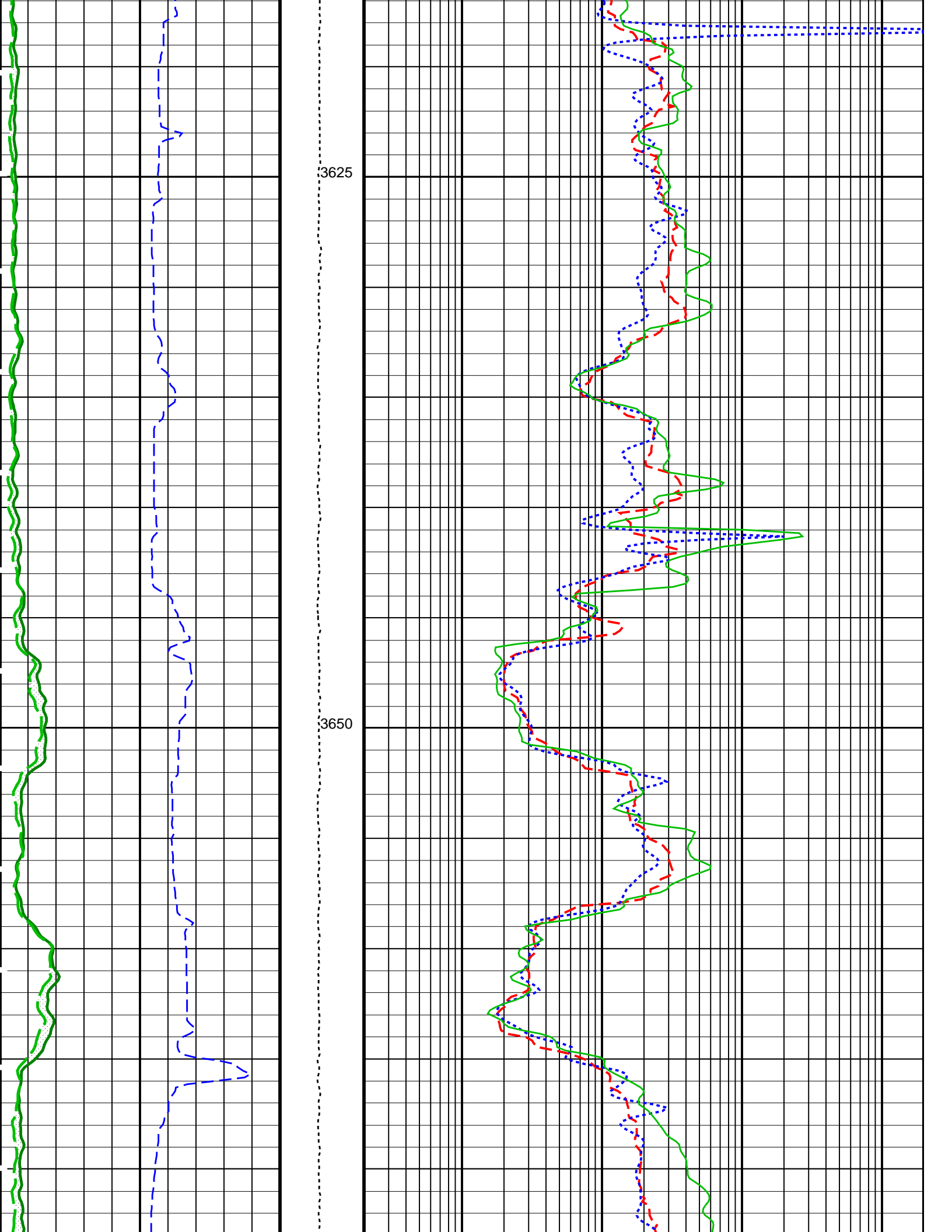
Area	IM_QUAL	SFL Unaveraged (SFLU)
	From	

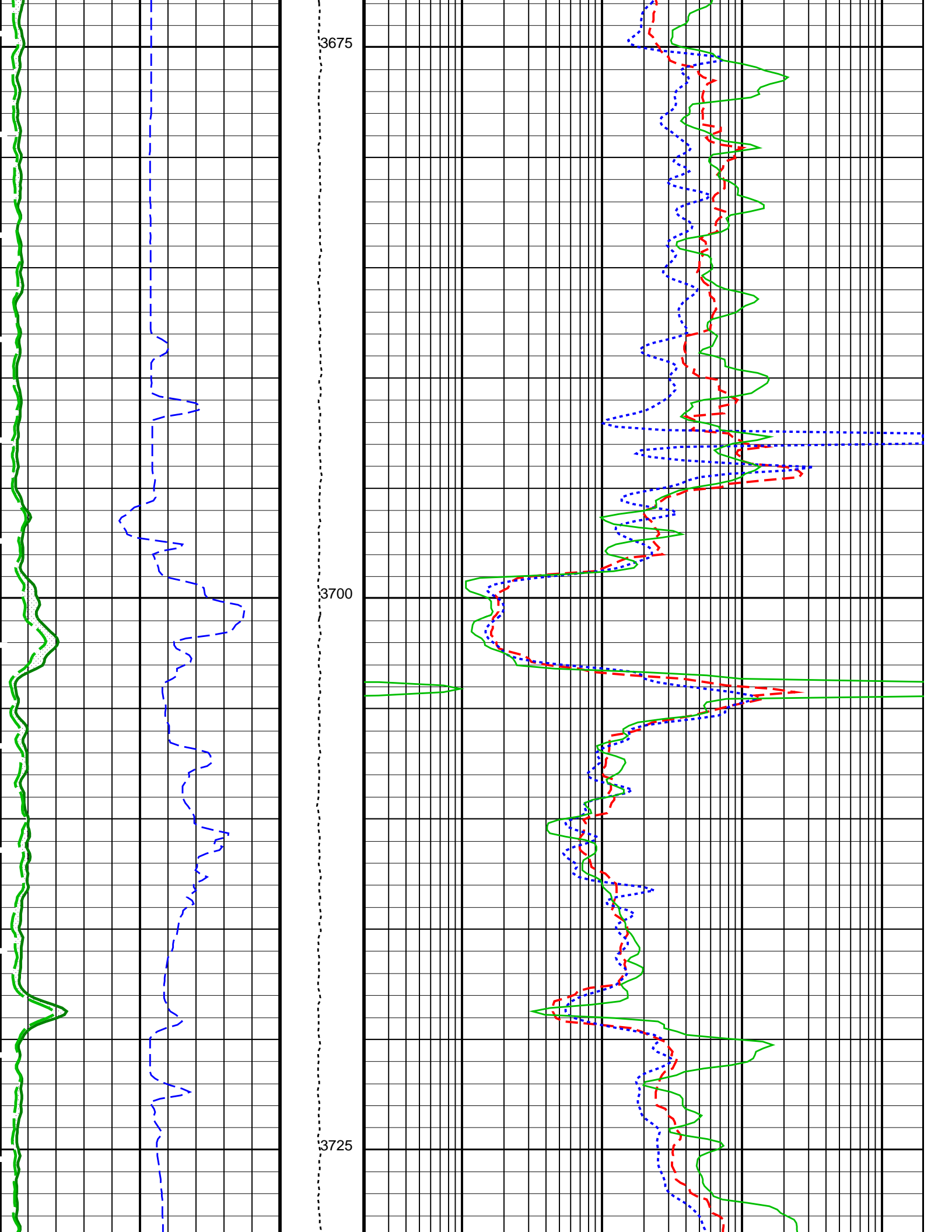


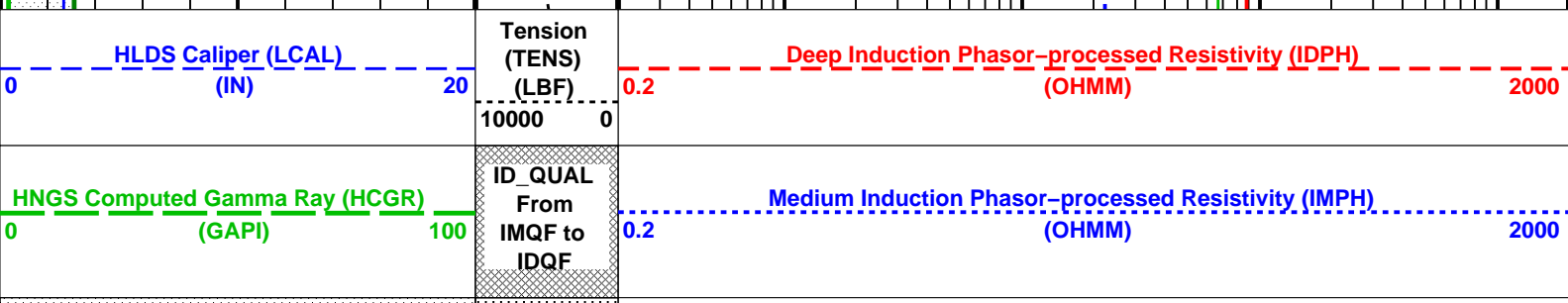
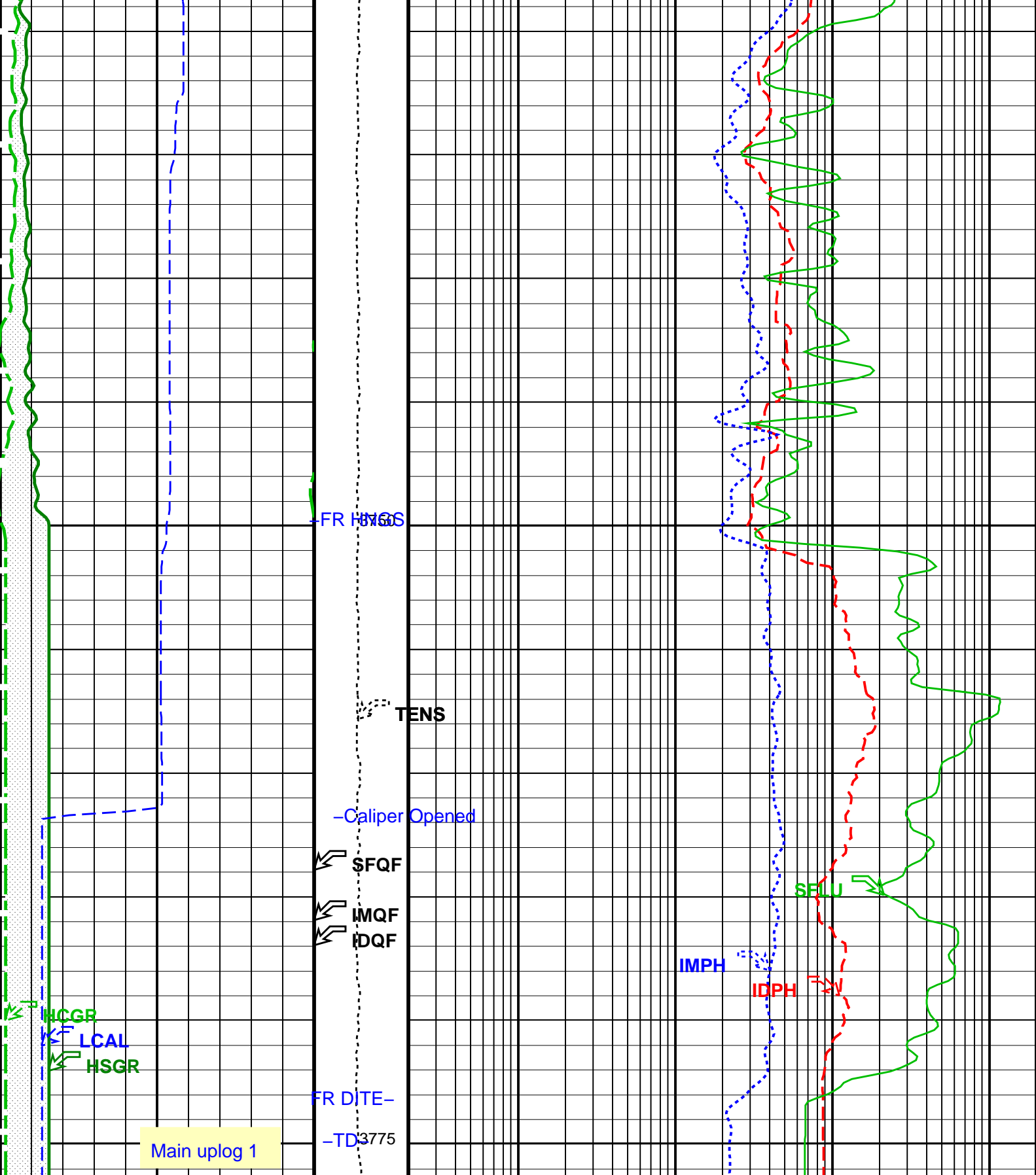












Area From HCGR to HSGR	IM_QUAL From SFQF to IMQF	0.2	SFL Unaveraged (SFLU) (OHMM)	2000
HNGS Spectroscopy Gamma Ray (HSGR)	SFL_QUAL From D3T to SFQF	0	(GAPI)	100

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)	45	DEGF
DGF1	Deep 10 kHz Gain Factor	0.968645	
DGF2	Deep 20 kHz Gain Factor	0.979119	
DGF4	Deep 40 kHz Gain Factor	0.990252	
DPH1	Deep 10 kHz Phase Shift	0.26358	DEG
DPH2	Deep 20 kHz Phase Shift	0.015963	DEG
DPH4	Deep 40 kHz Phase Shift	-1.11256	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	39.5751	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.0457	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.15121	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	245.841	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	136.154	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	78.4516	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	0.969585	
MGF2	Medium 20 kHz Gain Factor	0.974788	
MGF4	Medium 40 kHz Gain Factor	0.999842	
MPH1	Medium 10 kHz Phase Shift	0.0787021	DEG
MPH2	Medium 20 kHz Phase Shift	-0.199528	DEG
MPH4	Medium 40 kHz Phase Shift	-0.885081	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	31.1041	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	11.3259	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	3.5782	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	328.09	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	172.606	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	112.808	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	HAMMING	
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	-0.649944	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	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

	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.76	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2108.58	V
AHCS	APS Holesize Correction Source	BS	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1736.91	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHFL_APS	APS TNPH Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	45	DEGF
BSCO_APS	APS TNPH Borehole Salinity Correction Option	YES	
DPPM	Density Porosity Processing Mode	HIRS	
DSCO_APS	APS TNPH Density Source	COMPUTED	
FSAL	Formation Salinity	-50000	PPM
FSCO_APS	APS TNPH Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO_APS	APS TNPH Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO_APS	APS TNPH Mud Cake Correction Option	YES	
MCOR_APS	APS TNPH Mud Correction	NATU	
MWCO_APS	APS TNPH Mud Weight Correction Option	YES	
NARC	APS Near/Array Calibration Ratio	1.06221	
NFRC	APS Near/Far Calibration Ratio	0.888507	
PTCO_APS	APS TNPH Pressure/Temperature Correction Option	YES	
SHT	Surface Hole Temperature	68	DEGF
TNCO_APS	APS TNPH Computation Option	NO	

## HNGS-BA: Hostile Natural Gamma Ray Sonde

BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	45	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	-0.00109838	
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 1.03065  
 VBA2 HNGS Detector 2 Variable Barite Factor Running Average 0.98053

**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	1.26	G/C3
FLEV	Fluid Level	-50000.00	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	12417	FT
TDD	Total Depth - Driller	3822.00	M
TDL	Total Depth - Logger	3811.00	M
TWS	Temperature of Connate Water Sample	7.00	DEGC

Format: DITE\_LogPhasor Vertical Scale: 1:200 Graphics File Created: 01-Oct-2009 00:52

**OP System Version: 17C0-154**

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

**Output DLIS Files**

DEFAULT	PI_LDL_APS_NGS_007LUP	FN:8	PRODUCER	01-Oct-2009 00:52
BACKUPDLIS	PI_LDL_APS_NGS_007LUP	FN:9	PRODUCER	30-Sep-2009 23:53

**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: Calibration out of date 18-Sep-2009 12:20							
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 Inclinometer Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: Calibration out of date 18-Sep-2009 12:20							
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: 3-Sep-2009 17:44 Before: 3-Sep-2009 18:17 After: 1-Oct-2009 4:20							
SS Cs Resolution Bkg	9.000	7.746	7.730	7.713	-0.01698	1.800	%
LS Cs Resolution Bkg	9.000	8.108	8.054	8.075	0.02159	1.800	%
LSW1 Background	100.0	93.25	92.32	93.01	0.6932	0.03000	CPS
LSW2 Background	100.0	84.64	83.60	83.76	0.1644	0.03000	CPS
LSW3 Background	200.0	190.6	188.9	188.6	-0.2676	0.03000	CPS
LSW4 Background	250.0	236.5	235.1	232.9	-2.262	0.03000	CPS
LSW5 Background	600.0	546.1	545.4	546.5	1.088	0.03000	CPS
SSW1 Background	100.0	89.81	90.04	89.24	-0.7969	0.03000	CPS
SSW2 Background	200.0	154.2	155.8	154.6	-1.209	0.03000	CPS
SSW3 Background	500.0	432.1	434.0	431.5	-2.587	0.03000	CPS
SSW4 Background	270.0	230.2	231.3	231.5	0.1576	0.03000	CPS
SSW5 Background	200.0	165.4	164.8	163.5	-1.245	0.03000	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement							
Master: 3-Sep-2009 22:04							
LSW1 Aluminum	600.0	571.6	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	821.3	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	980.0	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	485.4	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	446.8	N/A	N/A	N/A	N/A	CPS

SSW1 Aluminum	2800	2506	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6921	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9688	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4004	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	483.9	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Lithology Measurement

Master: 3-Sep-2009 21:28

LSW1 Iron	400.0	381.3	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	656.8	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	863.7	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	449.5	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	404.3	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1830	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5778	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8866	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3644	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	430.1	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration – Caliper Calibration

Before: 3-Sep-2009 18:07

HLDS Caliper Small Ring	12.00	N/A	13.29	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	16.79	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration – Detector Background

Master: 4-Sep-2009 10:19 Before: 15-Sep-2009 4:03 After: 1-Oct-2009 2:29

Near Det Bkg Cntrate	30.00	32.55	31.78	31.13	-0.6498	N/A	CPS
Far Det Bkg Cntrate	30.00	32.82	33.98	31.99	-1.995	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	29.79	29.03	28.70	-0.3379	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.52	31.38	29.38	-1.999	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.60	32.56	30.11	-2.443	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration – Calibration Ratios

Master: 4-Sep-2009 10:19

Near/Far Calibration Ratio	0.9250	0.8885	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.062	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.010	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration – Tank Check

Master: 4-Sep-2009 10:19

Array-1 Standoff Porosity	11.75	11.58	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.38	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.850	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9839	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9757	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.81	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration – CCR7 signal boxes

Master: 4-Sep-2009 10:19

Near Detector Plateau Setting	1650	1737	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2109	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1969	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 5-Sep-2009 7:01 Before: 13-Sep-2009 22:15 After: 1-Oct-2009 4:22

Na 511 Peak Loc	40.00	39.55	39.60	39.61	0.009148	1.000	
Na 511 Peak Res	15.50	15.65	16.19	15.16	-1.036	2.000	%
High Voltage	1150	1146	1180	1180	0.6639	N/A	V
Na 1785 Peak Loc	142.6	142.8	142.7	142.0	-0.6621	7.000	
Na 1785 Peak Res	8.500	7.849	8.372	8.836	0.4647	2.000	%
Temperature	15.50	14.91	32.53	31.35	-1.177	N/A	DEGC
Na Count Rate	45.00	36.92	35.51	34.86	-0.6483	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 5-Sep-2009 7:01 Before: 13-Sep-2009 22:15 After: 1-Oct-2009 4:22

Na 511 Peak Loc	40.00	39.62	39.55	39.69	0.1409	1.000	
Na 511 Peak Res	15.50	15.06	16.55	15.47	-1.088	2.000	%
High Voltage	1150	1080	1113	1114	0.8286	N/A	V
Na 1785 Peak Loc	142.6	141.3	142.3	142.2	-0.06085	7.000	
Na 1785 Peak Res	8.500	8.437	9.484	8.489	-0.9953	2.000	%
Temperature	15.50	15.08	32.86	33.16	0.3056	N/A	DEGC
Na Count Rate	45.00	36.97	36.00	35.17	-0.8337	8.000	CPS

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

Master: 5-Sep-2009 7:01 Before: 13-Sep-2009 22:15 After: 1-Oct-2009 4:22

Coincidence Count Rate Ratio	1.000	0.9992	0.9853	0.9937	0.008377	0.05000	
------------------------------	-------	--------	--------	--------	----------	---------	--

Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration

Master: 5-Sep-2009 7:01

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.4	--	--	--	--	
Th Peak Res	7.000	6.417	--	--	--	--	%



Background Count Rate	142.5	18.75	--	--	--	--	CPS
Gain Ratio	1.000	1.012	--	--	--	--	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration							
Master: 5-Sep-2009 7:01							
Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.5	--	--	--	--	
Th Peak Res	7.000	7.001	--	--	--	--	%
Background Count Rate	142.5	18.87	--	--	--	--	CPS
Gain Ratio	1.000	1.006	--	--	--	--	

Accelerator--Porosity Tool – Detector Plateau Settings :

Near Detector Plateau Setting 1737 V  
Far Detector Plateau Setting 2109 V  
Array Detector Plateau Setting 1969 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

Dual Induction – E Wellsite Calibration									
Induction Electronics (10 kHz)									
Phase	ID Elect Real Offset 10 kHz MM/M	Value	Phase	ID Elect Real Gain 10 kHz	Value	Phase	ID Elect Phase 10 kHz DEG	Value	
Before		31.39	Before		0.9358	Before		9.281	
	-267.4 (Minimum) 32.65 (Nominal) 332.6 (Maximum)			0.7960 (Minimum) 0.9460 (Nominal) 1.124 (Maximum)			-0.5967 (Minimum) 9.403 (Nominal) 19.40 (Maximum)		
Phase	ID Elect Quad Offset 10 kHz MM/M	Value	Phase	ID Elect Quad Gain 10 kHz	Value	Phase	IM Elect Phase 10 kHz DEG	Value	
Before		23.30	Before		0.9522	Before		9.135	
	-278.5 (Minimum) 21.47 (Nominal) 321.5 (Maximum)			0.8109 (Minimum) 0.9609 (Nominal) 1.145 (Maximum)			-0.7277 (Minimum) 9.272 (Nominal) 19.27 (Maximum)		
Phase	IM Elect Real Offset 10 kHz MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value				
Before		83.78	Before		0.9447				
	-465.7 (Minimum) 84.34 (Nominal) 634.3 (Maximum)			0.8034 (Minimum) 0.9534 (Nominal) 1.134 (Maximum)					
Phase	IM Elect Quad Offset 10 kHz MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value				
Before		44.07	Before		0.9251				
	-505.4 (Minimum) 44.57 (Nominal) 594.6 (Maximum)			0.7864 (Minimum) 0.9364 (Nominal) 1.110 (Maximum)					

Before: 15-Sep-2009 3:59

Dual Induction – E Wellsite Calibration									
Induction Electronics (20 kHz)									
Phase	ID Elect Real Offset 20 kHz MM/M	Value	Phase	ID Elect Real Gain 20 kHz	Value	Phase	ID Elect Phase 20 kHz DEG	Value	
Before		12.45	Before		0.9640	Before		4.602	
	-112.1 (Minimum) 12.92 (Nominal) 137.9 (Maximum)			0.8195 (Minimum) 0.9695 (Nominal) 1.157 (Maximum)			-10.06 (Minimum) 4.941 (Nominal) 19.94 (Maximum)		
Phase	ID Elect Quad Offset 20 kHz MM/M	Value	Phase	ID Elect Quad Gain 20 kHz	Value	Phase	IM Elect Phase 20 kHz DEG	Value	
Before		9.460	Before		0.9837	Before		4.998	
	-116.3 (Minimum) 8.664 (Nominal) 133.7 (Maximum)			0.8375 (Minimum) 0.9875 (Nominal) 1.182 (Maximum)			-9.662 (Minimum) 5.338 (Nominal) 20.34 (Maximum)		
Phase	IM Elect Real Offset 20 kHz MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value				
Before		34.42	Before		0.9893				
	-190.4 (Minimum) 34.62 (Nominal) 259.6 (Maximum)			0.8410 (Minimum) 0.9910 (Nominal) 1.187 (Maximum)					
Phase	IM Elect Quad Offset 20 kHz MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value				
Before		18.25	Before		0.9688				
	-206.6 (Minimum) 18.45 (Nominal) 243.4 (Maximum)			0.8231 (Minimum) 0.9731 (Nominal) 1.162 (Maximum)					



Master		0.07870	Master		-0.1995	Master		-0.8851
	-1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)		-3.000 (Minimum)	-1.000 (Nominal)	1.000 (Maximum)	

Master: Calibration out of date 30-Apr-2008 14:59

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		39.58	Master		17.05	Master		5.151
	-50.00 (Minimum)	0 (Nominal)	125.0 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (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		245.8	Master		136.2	Master		78.45
	-250.0 (Minimum)	0 (Nominal)	350.0 (Maximum)		-125.0 (Minimum)	0 (Nominal)	200.0 (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		31.10	Master		11.33	Master		3.578
	-50.00 (Minimum)	0 (Nominal)	140.0 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (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		328.1	Master		172.6	Master		112.8
	-1300 (Minimum)	0 (Nominal)	1300 (Maximum)		-650.0 (Minimum)	0 (Nominal)	650.0 (Maximum)	

Master: Calibration out of date 30-Apr-2008 15:24

General Purpose Inclinator / Equipment Identification		
Primary Equipment:		
GPIT Cartridge – A	GPIC – A	840
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

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	2
APS Aluminum Calibrator Sleeve	SFT – 281	2

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification

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

Hostile Natural Gamma Ray Sonde / Equipment Identification

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

Hostile Natural Gamma Ray Sonde Wellsite Calibration




Detector 1 Check






Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.55	Master		15.65	Master		1146
Before		39.60	Before		16.19	Before		1180
After		39.61	After		15.16	After		1180
	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		142.8	Master		7.849	Master		14.91
Before		142.7	Before		8.372	Before		32.53
After		142.0	After		8.836	After		31.35
	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		36.92						
Before		35.51						
After		34.86						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 5-Sep-2009 7:01			Before: 13-Sep-2009 22:15			After: 1-Oct-2009 4:22		




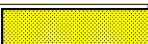

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.62	Master		15.06	Master		1080
Before		39.55	Before		16.55	Before		1113
After		39.69	After		15.47	After		1114
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		141.3	Master		8.437	Master		15.08
Before		142.3	Before		9.484	Before		32.86
After		142.2	After		8.489	After		33.16
	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		36.97						
Before		36.00						
After		35.17						

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9992
Before		0.9853
After		0.9937
	0.9500      1.000      1.050 (Minimum)      (Nominal)      (Maximum)	
Master: 5-Sep-2009 7:01		
Before: 13-Sep-2009 22:15		
After: 1-Oct-2009 4:22		

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		210.4	Master		6.417
	38.00      40.00      43.00 (Minimum)      (Nominal)      (Maximum)			201.0      209.6      218.3 (Minimum)      (Nominal)      (Maximum)			5.000      7.000      9.000 (Minimum)      (Nominal)      (Maximum)	
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master		18.75	Master		1.012			
	10.00      142.5      265.0 (Minimum)      (Nominal)      (Maximum)			0.9400      1.000      1.060 (Minimum)      (Nominal)      (Maximum)				
Master: 5-Sep-2009 7:01								

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		209.5	Master		7.001
	38.00      40.00      43.00 (Minimum)      (Nominal)      (Maximum)			201.0      209.6      218.3 (Minimum)      (Nominal)      (Maximum)			5.000      7.000      9.000 (Minimum)      (Nominal)      (Maximum)	
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master		18.87	Master		1.006			
	10.00      142.5      265.0 (Minimum)      (Nominal)      (Maximum)			0.9400      1.000      1.060 (Minimum)      (Nominal)      (Maximum)				
Master: 5-Sep-2009 7:01								

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

<b>Company:</b>	<b>Lamont Doherty</b>	<b>Schlumberger</b>
<b>Well:</b>	<b>Expedition 324 Site U1347A</b>	
<b>Field:</b>	<b>Shatsky Rise</b>	
<b>Rig:</b>	<b>JOIDES Resolution</b>	

Ocean: **Pacific**

Dual Induction (DITE)

Natural Gamma Spectroscopy (HNGS)