Schlumberger

Company: **Lamont Doherty**

Well: **NGHP–1–10D**
Field: **Krishna Godavari Basin**
Rig: **Joides Resolution** Ocean: **Indian Ocean**

Phasor Induction Log

Rig: Joides Resolution
Field: Krishna Godavari Basin
Location: Rig: Joides Resolution
Well: NGHP–1–10D
Company: Lamont Doherty

LOCATION

Rig: Joides Resolution		Elev.: K.B.	11.3 m
		G.L.	–1050.4 m
		D.F.	11 m
Permanent Datum:	Mean Sea Level	Elev.:	0 m
Log Measured From:	Rig Floor	11.0 m	above Perm. Datum
Drilling Measured From:	Rig Floor		

API Serial No.	Max. Hole Devi.	Longitude	Latitude
		81* 50.0709E	15* 51.8647 N

Logging Date			20–Jun–2006								
Run Number			One								
Depth Driller			1254.2 m								
Schlumberger Depth			1202.5 m								
Bottom Log Interval			1201 m								
Top Log Interval			997 m								
Casing Driller Size @ Depth			0.000 in	@	1108 m			@			
Casing Schlumberger			1105 m								
Bit Size			9.875 in								
Type Fluid In Hole			SepioLite/Barite								
MUD	Density	Viscosity	1.26 g/cm3								
MUD	Fluid Loss	PH	0 cm3								
MUD	Source Of Sample		Pit								
RM @ Measured Temperature			0.177 ohm.m	@	23 degC			@			
RMF @ Measured Temperature			0.000 ohm.m	@				@			
RMC @ Measured Temperature			0.000 ohm.m	@				@			
Source RMF		RMC									
RM @ MRT		RMF @ MRT	0.199	@ 18		@ 18		@		@	
Maximum Recorded Temperatures			18 degC								
Circulation Stopped		Time	20–Jun–2006			1300					
Logger On Bottom		Time	20–Jun–2006			see log					
Unit Number		Location	2082	Webster, TX							
Recorded By			Steve Kittredge								
Witnessed By			Gilles Guerin								

			Run 1		Run 2	
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						

Run 3	Run 4

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	OTHER SERVICES2
OS1: VSI	OS1:
OS2: FMS,DSI	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
All parameters and presentations as per IODP standards	
Tool ran as per tool sketch below.	
Tool pumped out of drill pipe.	
Tool stopped at 1202.5 MBRF.	
All logs in Meters Belwo Rig Floor (MBRF).	
Caliper closed before logging head entered drill pipe.	
Hole filled with 105 ppg barite mud.	

RUN 1	RUN 2
SERVICE ORDER #:	SERVICE ORDER #:
PROGRAM VERSION: 12C0–301	PROGRAM VERSION:
FLUID LEVEL:	FLUID LEVEL:

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

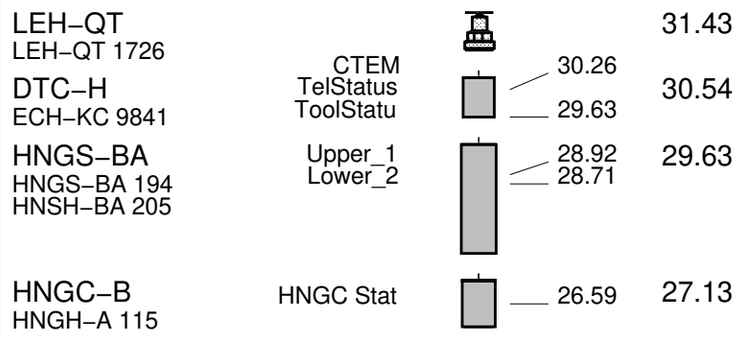
EQUIPMENT DESCRIPTION

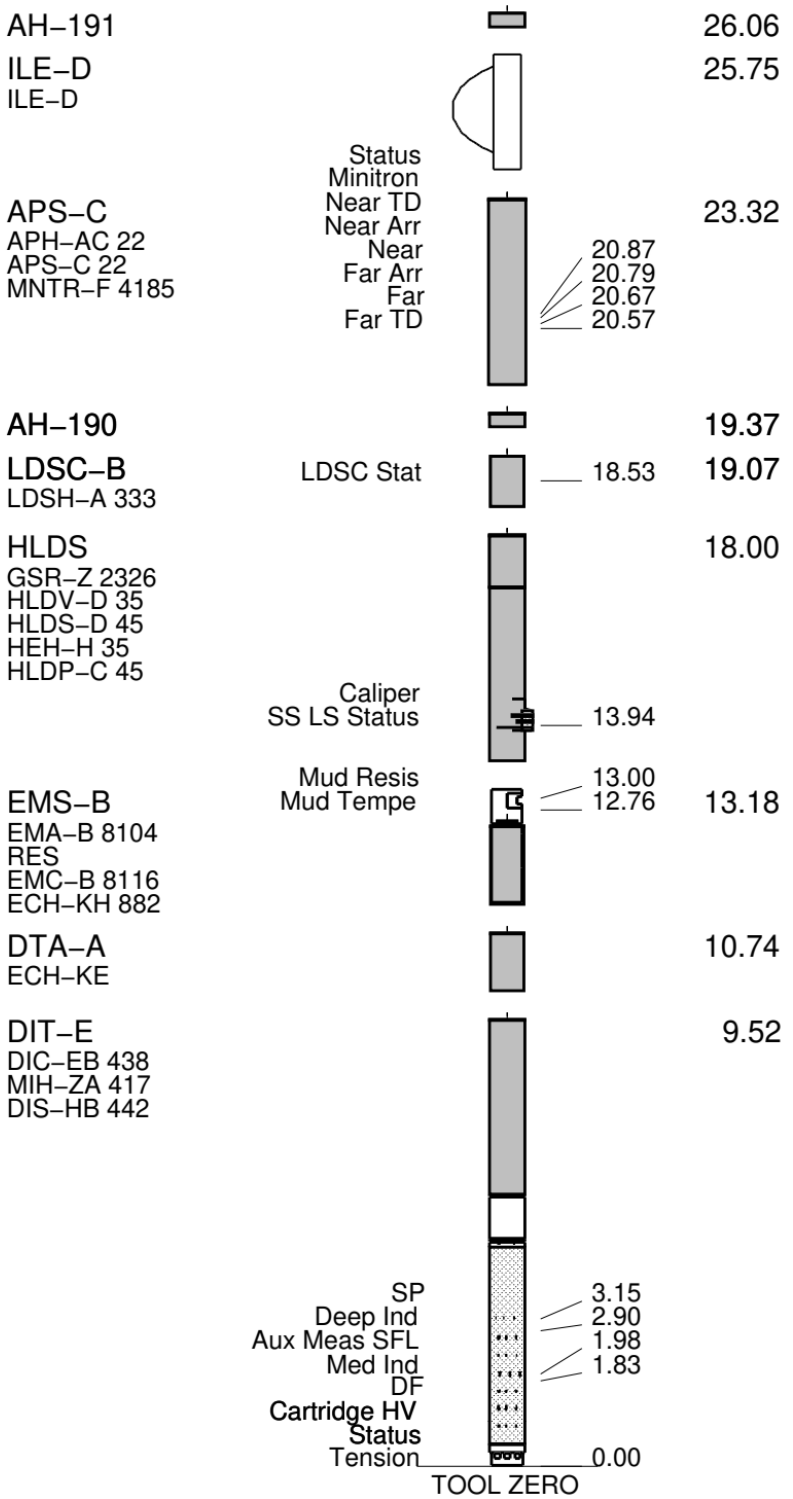
RUN 1 | RUN 2

SURFACE EQUIPMENT

SFT–281 6250
SFT–178 6250
GSR–U 135
WITM (DTS)–A

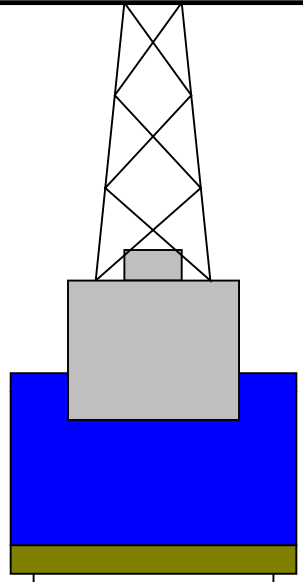
DOWNHOLE EQUIPMENT





MAXIMUM STRING DIAMETER 3.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

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

Kelly Bushing Elevation			11.3					
Derrick Floor Elevation			11.0					
Mean Sea Level			0.0					
					−11.0	8.250		Casing String
					1050.4	9.875		Borehole Segment
					1108.0	8.250		Casing Shoe
					1254.2	9.875		Borehole Segment Bottom

Schlumberger

Main Up Log

MAXIS Field Log

Output DLIS Files

DEFAULT	PI_EMS_LDL_APS_NGS_014LUP	FN:7	PRODUCER	20–Jun–2006 19:01	1202.4 M	997.3 M

OP System Version: 12C0–301

MCM

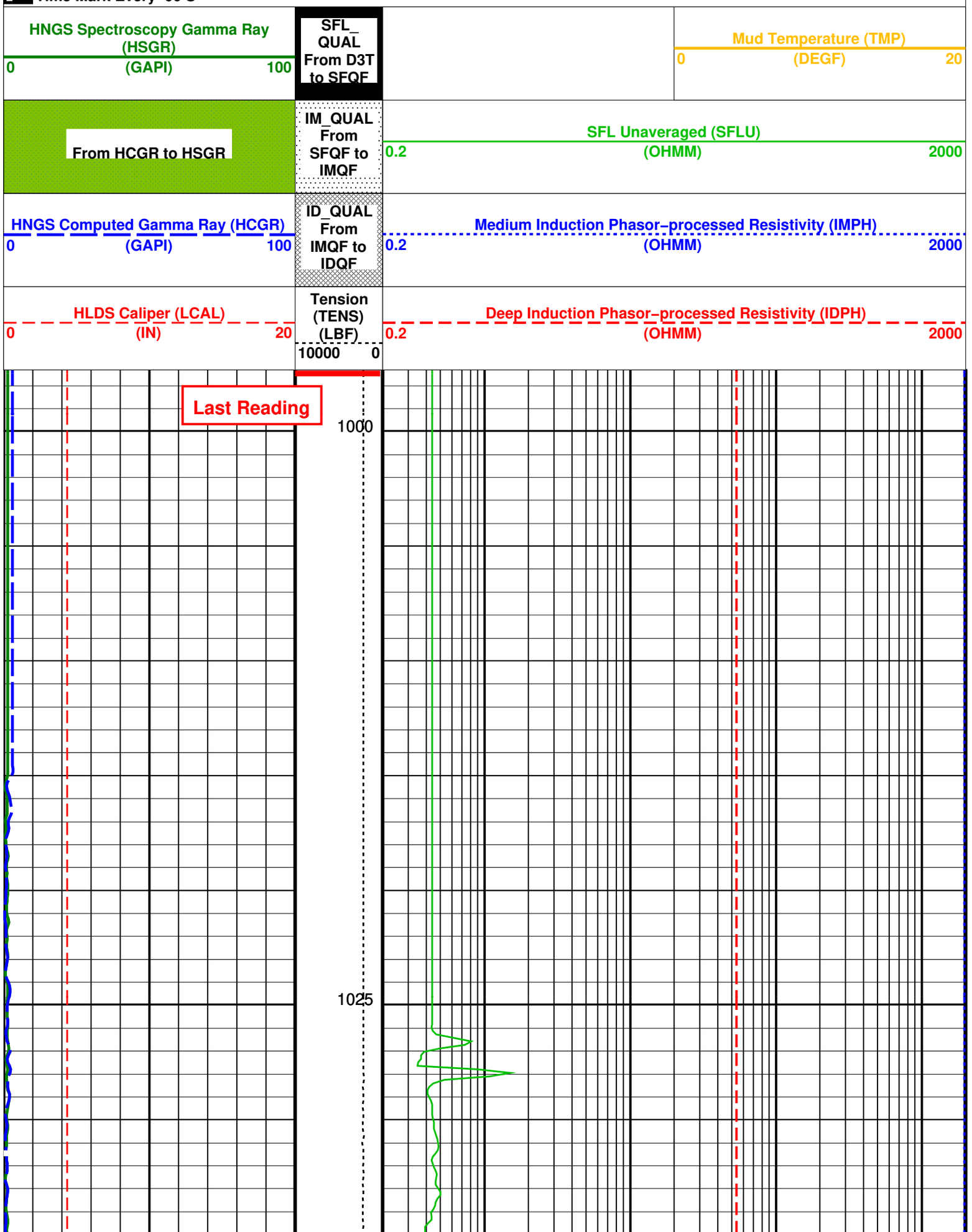
DIT–E	12C0–301	DTA–A	12C0–301
EMS–B	12C0–301	HLDS	SPC–2602–NUCL
LDSC–B	SPC–2602–NUCL	APS–C	SPC–2602–NUCL
HNGC–B	SPC–2602–NUCL	HNGS–BA	SPC–2602–NUCL
DTC–H	12C0–301		

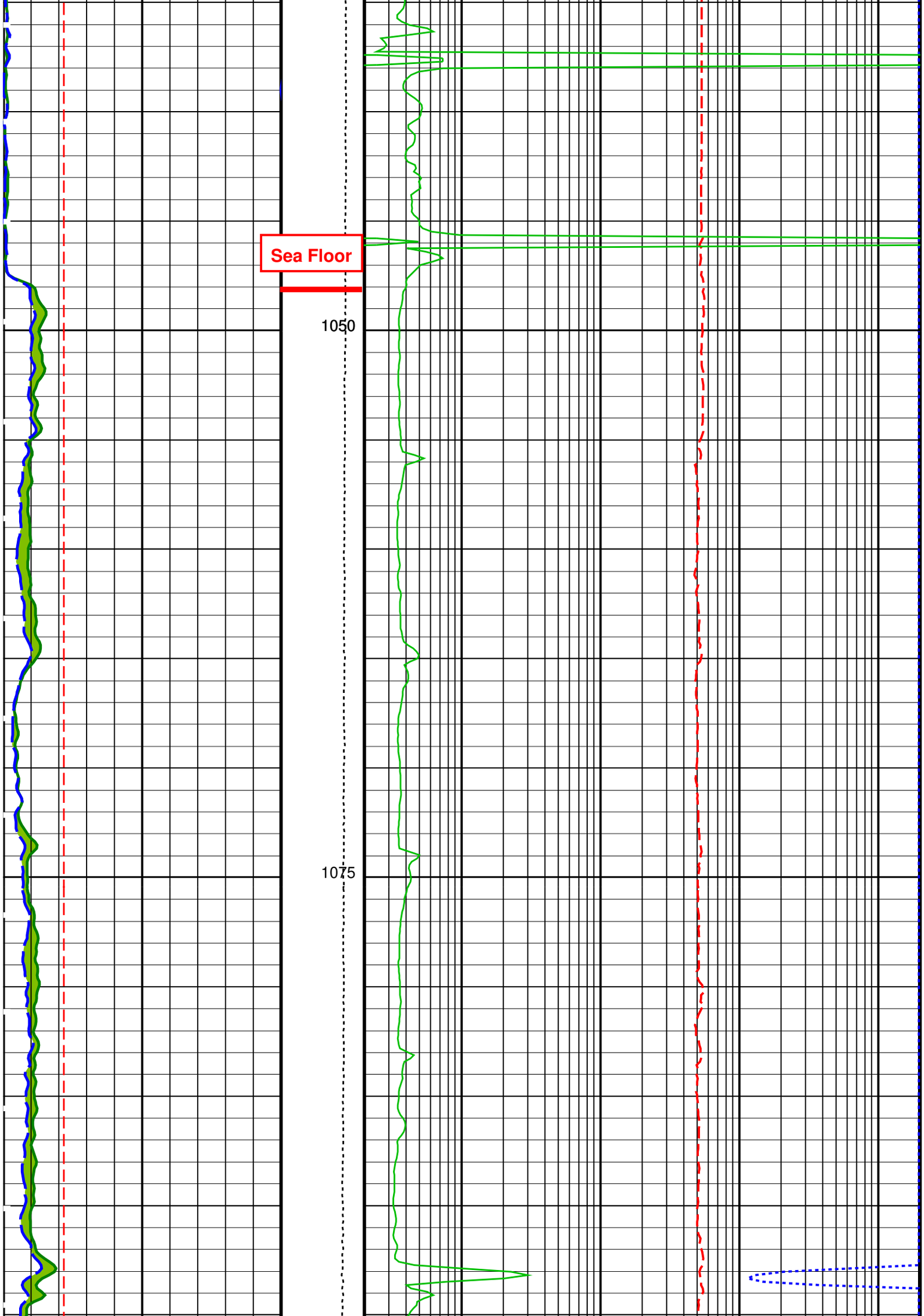
Changed Parameter Summary

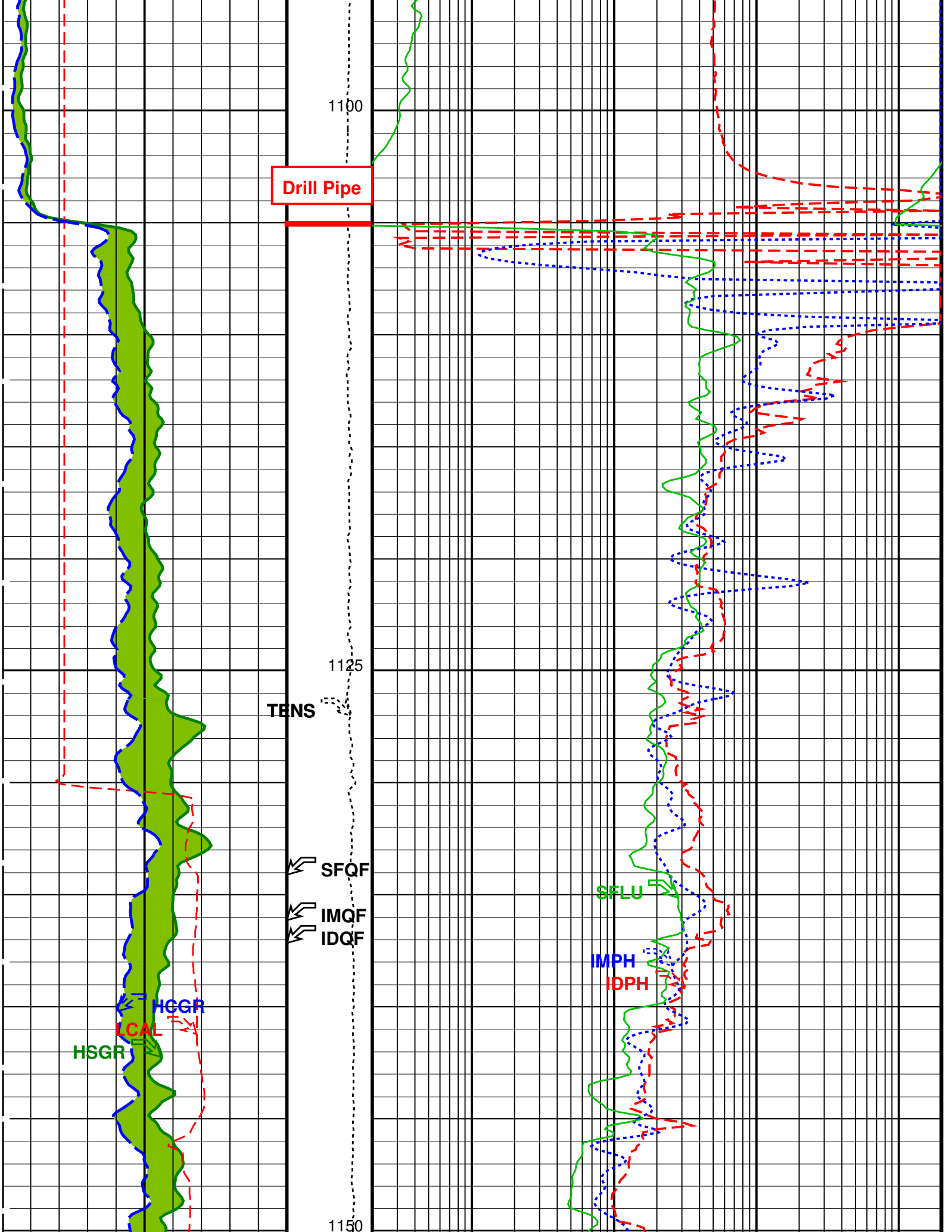
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	LCAL	1143.7 19:20:42

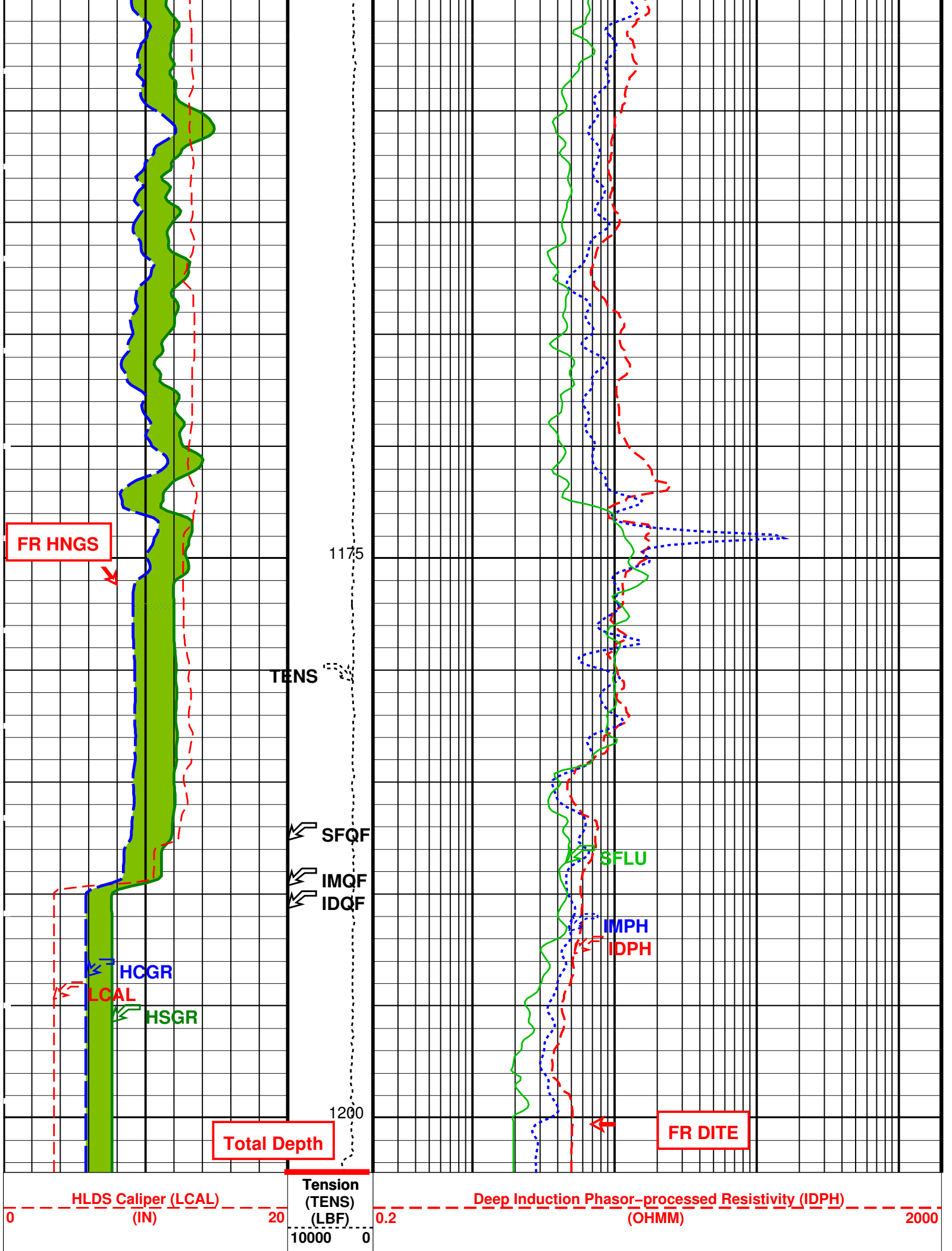
PIP SUMMARY

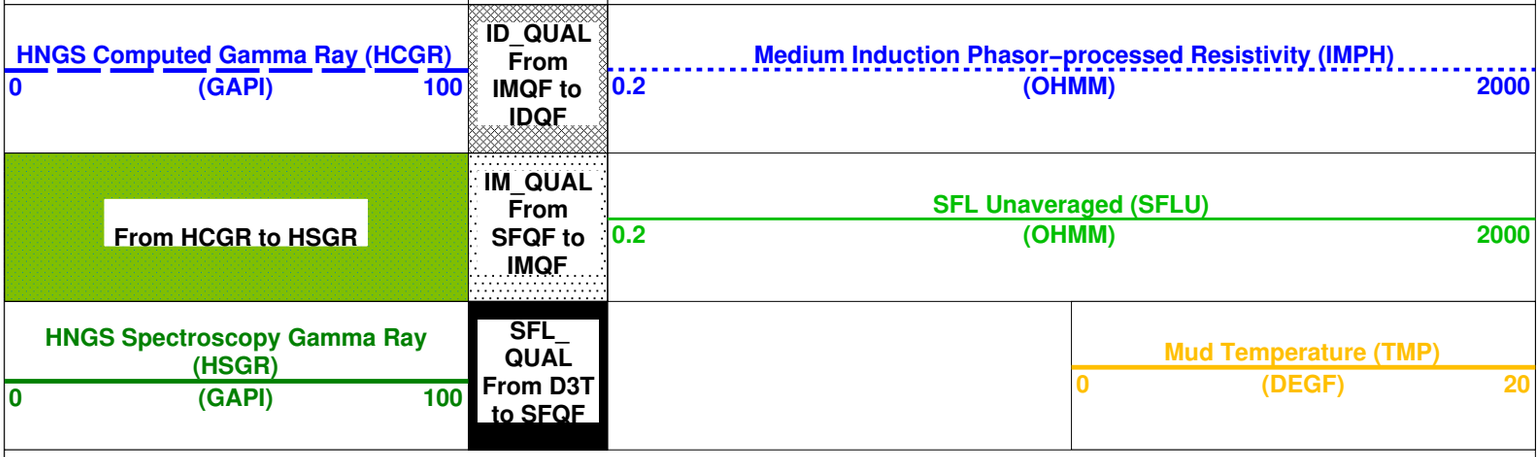
Time Mark Every 60 S




Sea Floor
1050
1075


1100
Drill Pipe
1125
TENS
SFQF
IMQF
IDQF
HCGR
LCAL
HSGR
SFLU
IMPH
IDPH
1150


FR HNGS
1175
TENS
SFQF
IMQF
IDQF
HCGR
LCAL
HSGR
SFLU
IMPH
IDPH
1200
Total Depth
FR DITE
HLDS Caliper (LCAL)
0
(IN)
20
Tension
(TENS)
(LBF)
10000
0
Deep Induction Phasor-processed Resistivity (IDPH)
0.2
(OHMM)
2000



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)	20	DEGF
DGF2	Deep 20 kHz Gain Factor	0.983571	
DPH2	Deep 20 kHz Phase Shift	0.502414	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	16.6574	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	62.4339	MM/M
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
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	
ITEN	DIT-E Temperature Enable	ENABLE	
MGF2	Medium 20 kHz Gain Factor	1.012	
MPH2	Medium 20 kHz Phase Shift	-0.218007	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	-2.10597	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-30.3702	MM/M
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	68	DEGF
	EMS-B: Environment Measurement Sonde		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	20	DEGF
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
	APS-C: Accelerator-Porosity Tool		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	20	DEGF
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
	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)	20	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
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	-0.00761078	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF

TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.301984	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.944982	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.26	G/C3
TD	Total Depth	1254.2	M

Format: DITE_LogPhasor **Vertical Scale: 1:200** **Graphics File Created: 20–Jun–2006 19:01**

OP System Version: 12C0–301

MCM

DIT–E	12C0–301	DTA–A	12C0–301
EMS–B	12C0–301	HLDS	SPC–2602–NUCL
LDSC–B	SPC–2602–NUCL	APS–C	SPC–2602–NUCL
HNGC–B	SPC–2602–NUCL	HNGS–BA	SPC–2602–NUCL
DTC–H	12C0–301		

Output DLIS Files

DEFAULT **PI_EMS_LDL_APS_NGS_014LUP** **FN:7** **PRODUCER** **20–Jun–2006 19:01**

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho–Density Sonde Wellsite Calibration – Background Measurement							
Master: 3–May–2006 2:58 Before: 3–May–2006 4:15 After: 20–Jun–2006 20:42							
SS Cs Resolution Bkg	9.000	8.106	8.014	8.127	0.1131	1.800	%
LS Cs Resolution Bkg	9.000	8.164	8.205	8.170	–0.03531	1.800	%
LSW1 Background	100.0	82.95	82.91	82.07	–0.8396	3.000	CPS
LSW2 Background	100.0	76.66	75.57	76.80	1.230	3.000	CPS
LSW3 Background	200.0	169.1	168.8	167.1	–1.702	6.000	CPS
LSW4 Background	250.0	204.5	206.3	205.6	–0.7600	7.500	CPS
LSW5 Background	600.0	468.2	467.6	464.5	–3.076	18.00	CPS
SSW1 Background	100.0	90.52	91.22	91.81	0.5915	3.000	CPS
SSW2 Background	200.0	163.0	165.1	162.6	–2.420	6.000	CPS
SSW3 Background	500.0	444.3	445.3	442.4	–2.887	15.00	CPS
SSW4 Background	270.0	226.1	225.0	224.1	–0.8737	8.100	CPS
SSW5 Background	200.0	163.6	164.4	162.7	–1.664	6.000	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Aluminum Measurement							
Master: 3–May–2006 3:33							
LSW1 Aluminum	600.0	623.6	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	884.1	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1041	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	519.7	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	469.9	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2803	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7520	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10430	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4204	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	520.4	N/A	N/A	N/A	N/A	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Lithology Measurement							
Master: 3–May–2006 3:22							
LSW1 Iron	400.0	412.9	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	698.8	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	909.2	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	471.1	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	432.9	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	2033	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	6281	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9567	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3857	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	458.9	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Caliper Calibration
Before: 3−May−2006 4:09

HLDS Caliper Small Ring	3.500	N/A	2.065	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	19.25	N/A	21.05	N/A	N/A	N/A	IN

Accelerator−Porosity Tool Wellsite Calibration − Detector Background
Master: 2−May−2006 10:19 Before: 2−May−2006 10:26 After: 20−Jun−2006 20:43

Near Det Bkg Cntrate	30.00	31.75	32.20	31.47	−0.7350	N/A	CPS
Far Det Bkg Cntrate	30.00	32.74	32.76	33.56	0.7982	N/A	CPS
Array−1 Det Bkg Cntrate	30.00	30.56	29.50	30.16	0.6611	N/A	CPS
Array−2 Det Bkg Cntrate	30.00	30.26	29.96	29.46	−0.4919	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.53	32.25	35.11	2.857	N/A	CPS

Accelerator−Porosity Tool Wellsite Calibration − Calibration Ratios
Master: 2−May−2006 10:19

Near/Far Calibration Ratio	0.9250	0.8849	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.056	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.005	N/A	N/A	N/A	N/A	

Accelerator−Porosity Tool Wellsite Calibration − Tank Check
Master: 2−May−2006 10:19

Array−1 Standoff Porosity	11.75	11.48	N/A	N/A	N/A	N/A	PU
Array−2 Standoff Porosity	11.75	11.75	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.866	N/A	N/A	N/A	N/A	US
Array−1 SDT Ratio Up/Down	1.000	0.9981	N/A	N/A	N/A	N/A	
Array−2 SDT Ratio Up/Down	1.000	0.9906	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.45	N/A	N/A	N/A	N/A	CU

Accelerator−Porosity Tool Wellsite Calibration − CCR7 signal boxes
Master: Calibration out of date 15−Aug−2005 20:08

Near Detector Plateau Setting	1650	1732	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2099	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1966	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 2−May−2006 2:30 Before: 2−May−2006 2:38 After: 20−Jun−2006 20:44

Na 511 Peak Loc	40.00	39.56	39.54	39.54	0.001892	1.000	
Na 511 Peak Res	15.50	16.25	16.58	16.55	−0.02656	2.000	%
High Voltage	1150	1127	1127	1131	4.088	N/A	V
Na 1785 Peak Loc	142.6	142.0	142.2	141.9	−0.3268	7.000	
Na 1785 Peak Res	8.500	8.216	8.344	8.329	−0.01413	2.000	%
Temperature	15.50	38.29	38.31	38.68	0.3707	N/A	DEGC
Na Count Rate	45.00	38.65	39.35	38.16	−1.192	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 2−May−2006 2:30 Before: 2−May−2006 2:38 After: 20−Jun−2006 20:44

Na 511 Peak Loc	40.00	39.68	39.61	39.57	−0.04034	1.000	
Na 511 Peak Res	15.50	15.77	16.64	17.07	0.4283	2.000	%
High Voltage	1150	1208	1209	1215	6.259	N/A	V
Na 1785 Peak Loc	142.6	142.4	142.0	142.0	−0.008118	7.000	
Na 1785 Peak Res	8.500	8.851	8.650	9.451	0.8003	2.000	%
Temperature	15.50	37.09	37.07	39.42	2.351	N/A	DEGC
Na Count Rate	45.00	38.15	38.97	37.86	−1.117	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 2−May−2006 2:30 Before: 2−May−2006 2:38 After: 20−Jun−2006 20:44

Coincidence Count Rate Ratio	1.000	1.012	1.010	1.009	−0.0009065	0.05000

Accelerator−Porosity Tool − Detector Plateau Settings :

Near Detector Plateau Setting 1732 V
Far Detector Plateau Setting 2099 V
Array Detector Plateau Setting 1966 V

Dual Induction − E / Equipment Identification

Primary Equipment:

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

Auxiliary Equipment:

Mass Isolated Housing	MIH − ZA	417

Hostile Litho−Density Sonde / Equipment Identification

Primary Equipment:		
Hostile Litho Density Sonde	HLDS − D	45
Hostile Litho Density High Voltage	HLDV − D	35
Gamma Source Radioactive	GSR − Z	2326
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP − C	45
Hostile Litho Density High Voltage Housi	HEH − H	35

Hostile Litho−Density Sonde Wellsite Calibration

Background Measurement

Phase	SS Cs Resolution Bkg %	Value
Master		8.106
Before		8.014
After		8.127
	7.000 (Minimum) / 9.000 (Nominal) / 11.00 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.164
Before		8.205
After		8.170
	7.000 (Minimum) / 9.000 (Nominal) / 11.00 (Maximum)	

Phase	LSW1 Background CPS	Value
Master		82.95
Before		82.91
After		82.07
	55.00 (Minimum) / 100.0 (Nominal) / 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		76.66
Before		75.57
After		76.80
	50.00 (Minimum) / 100.0 (Nominal) / 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		169.1
Before		168.8
After		167.1
	110.0 (Minimum) / 200.0 (Nominal) / 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		204.5
Before		206.3
After		205.6
	140.0 (Minimum) / 250.0 (Nominal) / 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		468.2
Before		467.6
After		464.5
	330.0 (Minimum) / 600.0 (Nominal) / 830.0 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		90.52
Before		91.22
After		91.81
	55.00 (Minimum) / 100.0 (Nominal) / 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		163.0
Before		165.1
After		162.6
	100.0 (Minimum) / 200.0 (Nominal) / 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		444.3
Before		445.3
After		442.4
	280.0 (Minimum) / 500.0 (Nominal) / 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		226.1
Before		225.0
After		224.1
	150.0 (Minimum) / 270.0 (Nominal) / 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		163.6
Before		164.4
After		162.7
	110.0 (Minimum) / 200.0 (Nominal) / 270.0 (Maximum)	

Master: 3−May−2006 2:58 Before: 3−May−2006 4:15 After: 20−Jun−2006 20:42

Litho−Density Spectroscopy Cartridge − B / Equipment Identification

Primary Equipment:		
LDSC Cartridge	LDSC − B	366
Auxiliary Equipment:		
LDSC Housing	LDSH − A	333

Accelerator−Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator−Porosity Sonde	APS − C	22
APS Minitron	MNTR − F	4185
Auxiliary Equipment:		
Accelerator−Porosity Housing	APH − AC	22
APS Calibration Water Tank	SFT − 178	6250
APS Aluminum Calibrator Sleeve	SFT − 281	6250

Accelerator–Porosity Tool Wellsite Calibration

Detector Background

Phase	Near Det Bkg Cntrate CPS	Value	Phase	Far Det Bkg Cntrate CPS	Value	Phase	Array–1 Det Bkg Cntrate CPS	Value
Master		31.75	Master		32.74	Master		30.56
Before		32.20	Before		32.76	Before		29.50
After		31.47	After		33.56	After		30.16
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		30.26	Master		33.53
Before		29.96	Before		32.25
After		29.46	After		35.11
1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)	1.000 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Master: 2–May–2006 10:19 Before: 2–May–2006 10:26 After: 20–Jun–2006 20:43

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		0.8849	Master		1.056	Master		1.005
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: 2–May–2006 10:19

Accelerator–Porosity Tool Wellsite Calibration

Tank Check

Phase	Array–1 Standoff Porosity PU	Value	Phase	Array–2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value
Master		11.48	Master		11.75	Master		5.866
9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)	9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)	5.500 (Minimum)	6.000 (Nominal)	6.250 (Maximum)

Phase	Array–1 SDT Ratio Up/Down	Value	Phase	Array–2 SDT Ratio Up/Down	Value	Phase	Sigma Formation CU	Value
Master		0.9981	Master		0.9906	Master		27.45
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: 2–May–2006 10:19

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	135

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		39.56	Master		16.25	Master		1127
Before		39.54	Before		16.58	Before		1127
After		39.54	After		16.55	After		1131
37.50 (Minimum)	40.00 (Nominal)	42.50 (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		142.0	Master		8.216	Master		38.29
Before		142.2	Before		8.344	Before		38.31
After		141.9	After		8.329	After		38.68
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		38.65
Before		39.35
After		38.16
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 2–May–2006 2:30 Before: 2–May–2006 2:38 After: 20–Jun–2006 20:44

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.68
Before		39.61
After		39.57
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		15.77
Before		16.64
After		17.07
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1208
Before		1209
After		1215
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.4
Before		142.0
After		142.0
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.851
Before		8.650
After		9.451
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		37.09
Before		37.07
After		39.42
	–28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		38.15
Before		38.97
After		37.86
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 2–May–2006 2:30 Before: 2–May–2006 2:38 After: 20–Jun–2006 20:44

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		1.012
Before		1.010
After		1.009
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 2–May–2006 2:30

Before: 2–May–2006 2:38

After: 20–Jun–2006 20:44

Company: **Lamont Doherty**

Schlumberger

Well: **NGHP–1–10D**

Field: **Krishna Godavari Basin**

Rig: **Joides Resolution**

Ocean: **Indian Ocean**

Phasor Induction Log