Schlumberger

Company: **Lamont Doherty**

Well: **NGHP_1_13A**
Field: **Krishna Godavari Basin**
Rig: **Joides Resolution** Ocean: **Indian Ocean**

PHASOR INDUCTION/ NATURAL GAMMA RAY

Rig: Joides Resolution
Field: Krishna Godavari Basin
Location: Rig: Joides Resolution
Well: NGHP_1_13A
Company: Lamont Doherty

LOCATION
Rig: Joides Resolution

Elev.: K.B. 11.3 m
G.L. −1044 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 50.1816 E	15 51.7017 N

Logging Date		23–June_2006			
Run Number		One			
Depth Driller		1244 m			
Schlumberger Depth		1193 m			
Bottom Log Interval		1046 m			
Top Log Interval		969.5 m			
Casing Driller Size @ Depth		0.000 in	@ 1088.9 m	@	
Casing Schlumberger		1087 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	23–June_2006	1345		
Logger On Bottom	Time	23–June_2006	see log		
Unit Number	Location	2082	Webster, TX		
Recorded By		Steve Kittredge			
Witnessed By		Gilles Guerin			

		Run 1	Run 2	Run 3	Run 4
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	OTHER SERVICES2
OS1:	OS1:
OS2:	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 would not go through Flapper.	
Had to run core Barrel down to clear flapper.	
All Logs in Meters Below Rig Floor (MBRF).	
Caliper closed before logging head entered drill pipe.	
Hole filled with 10.5 ppg mud.	
Tool stopped at 1193 MBRF.	

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

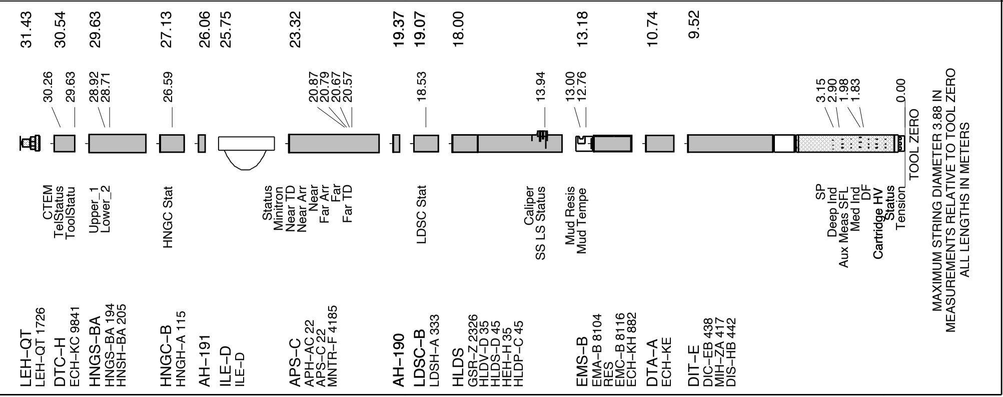
RUN 1

RUN 2

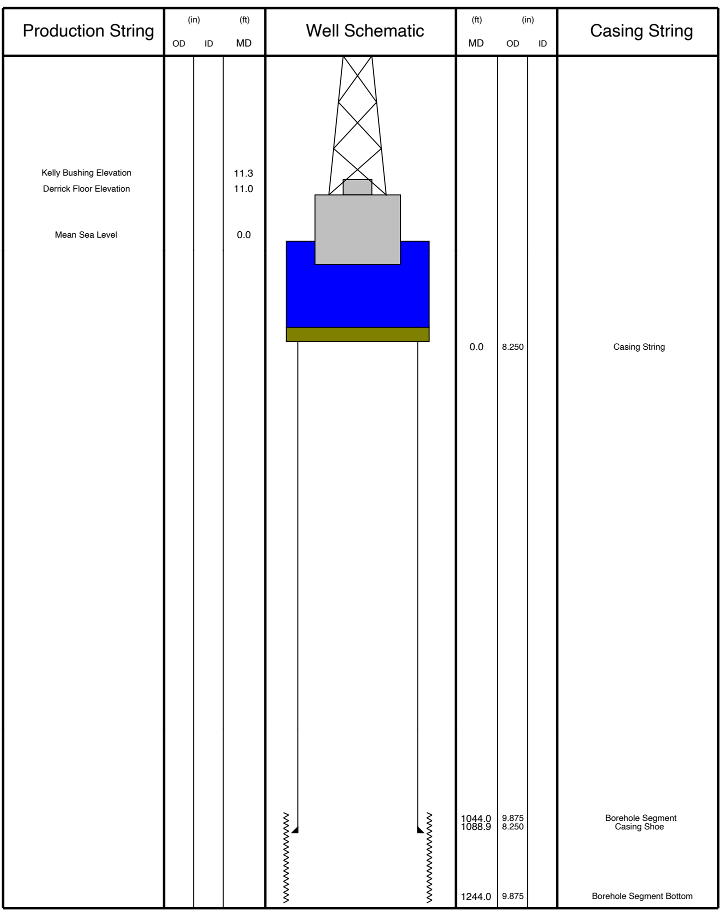
SURFACE EQUIPMENT

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



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Main Up Log

MAXIS Field Log

Input DLIS Files

DEFAULT	PI_EMS_LDL_APS_NGS_006LUP	FN:5	PRODUCER	23–Jun–2006 22:04	1195.6 M	994.7 M

Output DLIS Files

DEFAULT	PI_EMS_LDL_APS_NGS_008PUP	FN:7	PRODUCER	23–Jun–2006 22:57	1195.6 M	969.6 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		

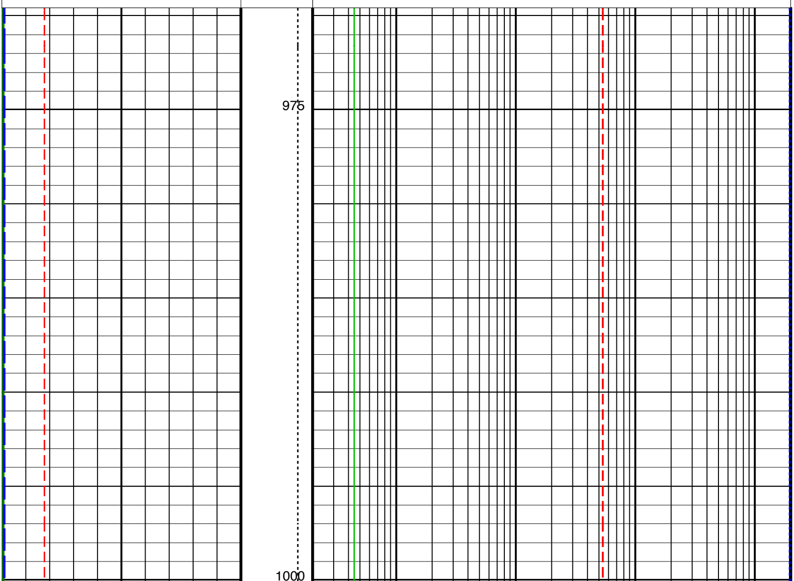
Changed Parameter Summary

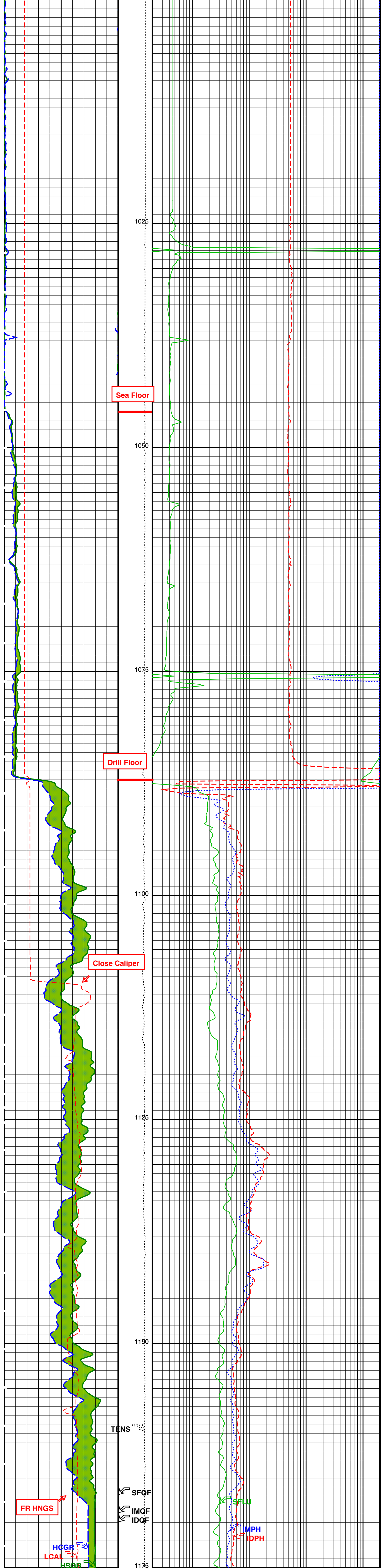
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	LCAL	1114.7 22:57:43

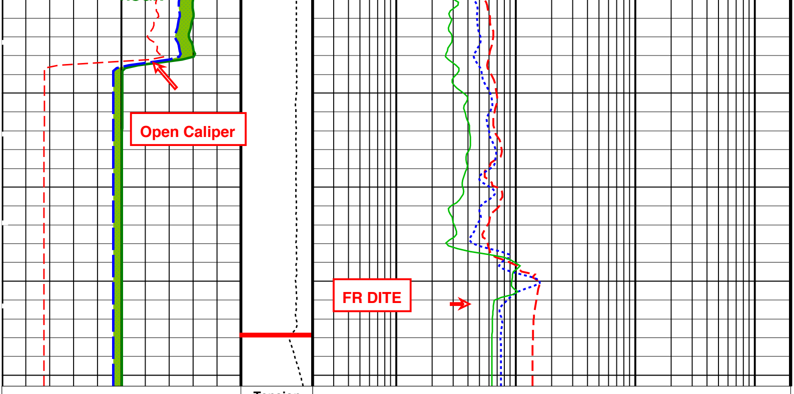
PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100	SFL_ QUAL From D3T to SFQF		Mud Temperature (TMP) 0 (DEGF) 20
From HCGR to HSGR	IM_QUAL From SFQF to IMQF	SFL Unaveraged (SFLU) 0.2 (OHMM) 2000	
HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 100	ID_QUAL From IMQF to IDQF	Medium Induction Phasor–processed Resistivity (IMPH) 0.2 (OHMM) 2000	
HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	Deep Induction Phasor–processed Resistivity (IDPH) 0.2 (OHMM) 2000	







HLDS Caliper (LCAL) 0 (IN) 20	Tension (TENS) (LBF) 10000 0	Deep Induction Phasor–processed Resistivity (IDPH) 0.2 (OHMM) 2000
HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 100	ID_QUAL From IMQF to IDQF	Medium Induction Phasor–processed Resistivity (IMPH) 0.2 (OHMM) 2000
From HCGR to HSGR	IM_QUAL From SFQF to IMQF	SFL Unaveraged (SFLU) 0.2 (OHMM) 2000
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100	SFL_ QUAL From D3T to SFQF	Mud Temperature (TMP) 0 (DEGF) 20

PIP SUMMARY

■ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DIT–E: Dual Induction – E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	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	–0.00119668	
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	0.975733	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.976522	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.26	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	1244	M

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 23–Jun–2006 22:57

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		

Input DLIS Files

DEFAULT	PI_EMS_LDL_APS_NGS_006LUP	FN:5	PRODUCER	23–Jun–2006 22:04	1195.6 M	994.7 M

Output DLIS Files

DEFAULT	PI_EMS_LDL_APS_NGS_008PUP	FN:7	PRODUCER	23–Jun–2006 22:57

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: 23–Jun–2006 23:37							
SS Cs Resolution Bkg	9.000	8.106	8.014	8.088	0.07419	1.800	%
LS Cs Resolution Bkg	9.000	8.164	8.205	8.147	–0.05814	1.800	%
LSW1 Background	100.0	82.95	82.91	81.22	–1.693	3.000	CPS
LSW2 Background	100.0	76.66	75.57	77.43	1.865	3.000	CPS
LSW3 Background	**200.0**	**169.1**	**168.8**	**165.9**	**–2.912**	**6.000**	**CPS**
LSW4 Background	250.0	204.5	206.3	203.5	–2.865	7.500	CPS
LSW5 Background	600.0	468.2	467.6	466.0	–1.593	18.00	CPS
SSW1 Background	100.0	90.52	91.22	92.50	1.286	3.000	CPS
SSW2 Background	200.0	163.0	165.1	163.0	–2.041	6.000	CPS
SSW3 Background	500.0	444.3	445.3	442.8	–2.445	15.00	CPS
SSW4 Background	270.0	226.1	225.0	226.2	1.217	8.100	CPS
SSW5 Background	200.0	163.6	164.4	160.3	–4.070	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: 23–Jun–2006 23:38							
Near Det Bkg Cntrate	30.00	31.75	32.20	31.74	–0.4680	N/A	CPS
Far Det Bkg Cntrate	30.00	32.74	32.76	33.01	0.2473	N/A	CPS
Array–1 Det Bkg Cntrate	30.00	30.56	29.50	29.81	0.3108	N/A	CPS
Array–2 Det Bkg Cntrate	30.00	30.26	29.96	28.63	–1.326	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.53	32.25	34.17	1.917	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: 23–Jun–2006 23:38							
Na 511 Peak Loc	40.00	39.56	39.54	39.60	0.05484	1.000	
Na 511 Peak Res	15.50	16.25	16.58	16.86	0.2771	2.000	%
High Voltage	1150	1127	1127	1121	–6.251	N/A	V
Na 1785 Peak Loc	**142.6**	**142.0**	**142.2**	**142.4**	**0.1609**	**7.000**	
Na 1785 Peak Res	8.500	8.216	8.344	8.288	–0.05573	2.000	%
Temperature	15.50	38.29	38.31	34.43	–3.877	N/A	DEGC
Na Count Rate	45.00	38.65	39.35	37.34	–2.008	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: 23–Jun–2006 23:38

Na 511 Peak Loc	40.00	39.68	39.61	39.69	0.07337	1.000	
Na 511 Peak Res	15.50	15.77	16.64	15.40	–1.235	2.000	%
High Voltage	1150	1208	1209	1202	–6.688	N/A	V
Na 1785 Peak Loc	142.6	142.4	142.0	141.6	–0.3455	7.000	
Na 1785 Peak Res	8.500	8.851	8.650	8.409	–0.2410	2.000	%
Temperature	15.50	37.09	37.07	34.50	–2.572	N/A	DEGC
Na Count Rate	45.00	38.15	38.97	37.15	–1.823	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: 23–Jun–2006 23:38

Coincidence Count Rate Ratio	1.000	1.012	1.010	1.007	–0.003453	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		8.088
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.164
Before		8.205
After		8.147
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LSW1 Background CPS	Value
Master		82.95
Before		82.91
After		81.22
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		76.66
Before		75.57
After		77.43
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		169.1
Before		168.8
After		165.9
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		204.5
Before		206.3
After		203.5
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		468.2
Before		467.6
After		466.0
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		90.52
Before		91.22
After		92.50
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

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

Phase	SSW3 Background CPS	Value
Master		444.3
Before		445.3
After		442.8
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		226.1
Before		225.0
After		226.2
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		163.6
Before		164.4
After		160.3
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Master: 3–May–2006 2:58 Before: 3–May–2006 4:15 After: 23–Jun–2006 23:37

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
Master		31.75
Before		32.20
After		31.74
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Phase	Far Det Bkg Cntrate CPS	Value
Master		32.74
Before		32.76
After		33.01
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Phase	Array–1 Det Bkg Cntrate CPS	Value
Master		30.56
Before		29.50
After		29.81
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Phase	Array–2 Det Bkg Cntrate CPS	Value
Master		30.26
Before		29.96
After		28.63
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Phase	Array Therm Det Bkg Cntrate CPS	Value
Master		33.53
Before		32.25
After		34.17
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Master: 2–May–2006 10:19 Before: 2–May–2006 10:26 After: 23–Jun–2006 23:38

Accelerator–Porosity Tool Wellsite Calibration

Calibration Ratios

Phase	Near/Far Calibration Ratio	Value
Master		0.8849
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)	

Phase	Near/Array Calibration Ratio	Value
Master		1.056
	0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)	

Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.005
	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
Master		11.48
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Array–2 Standoff Porosity PU	Value
Master		11.75
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Average Slowing Down Time US	Value
Master		5.866
	5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	

Phase	Array–1 SDT Ratio Up/Down	Value
Master		0.9981
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Array–2 SDT Ratio Up/Down	Value
Master		0.9906
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Sigma Formation CU	Value
Master		27.45
	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
Master		39.56
Before		39.54
After		39.60
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.25
Before		16.58
After		16.86
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1127
Before		1127
After		1121
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.0
Before		142.2
After		142.4
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.216
Before		8.344
After		8.288
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		38.29
Before		38.31
After		34.43
	–28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		38.65
Before		39.35
After		37.34
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 2–May–2006 2:30 Before: 2–May–2006 2:38 After: 23–Jun–2006 23:38

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.68
Before		39.61
After		39.69
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		15.77
Before		16.64
After		15.40
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1208
Before		1209
After		1202
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.4
Before		142.0
After		141.6
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.851
Before		8.650
After		8.409
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		37.09
Before		37.07
After		34.50
	–28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		38.15
Before		38.97
After		37.15
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 2–May–2006 2:30 Before: 2–May–2006 2:38 After: 23–Jun–2006 23:38

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		1.007
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 2–May–2006 2:30
Before: 2–May–2006 2:38
After: 23–Jun–2006 23:38

Company: **Lamont Doherty**

Schlumberger

Well: **NGHP_1_13A**
Field: **Krishna Godavari Basin**
Rig: **Joides Resolution**
Ocean: **Indian Ocean**

PHASOR INDUCTION/ NATURAL GAMMA RAY