Schlumberger

Company: **Lamont Doherty**

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

APS/HLDS Porosity 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

SERVICE ORDER #:
PROGRAM VERSION: 12C0−301
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

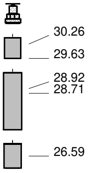
EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

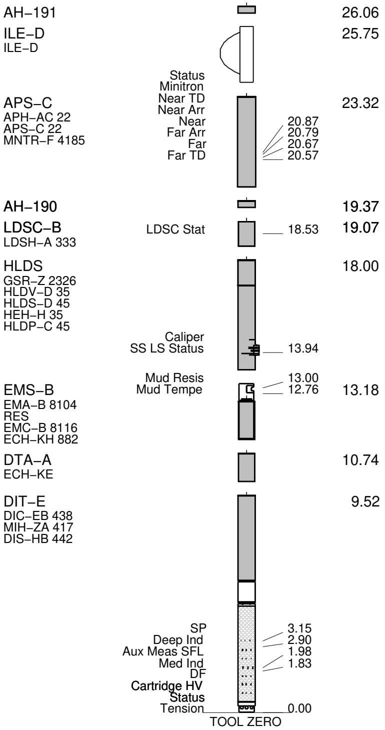
SFT−281 6250
SFT−178 6250
GSR−U 135
WITM (DTS)−A

DOWNHOLE EQUIPMENT



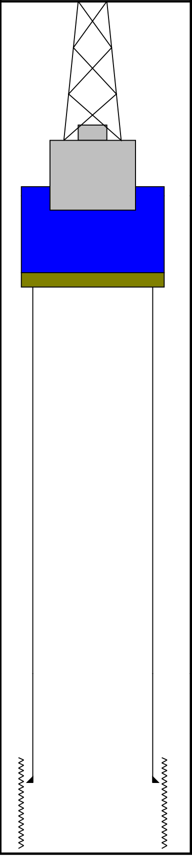
LEH−QT LEH−QT 1726			31.43
DTC−H ECH−KC 9841	CTEM TelStatus ToolStatu	30.26 29.63	30.54
HNGS−BA HNGS−BA 194 HNSH−BA 205	Upper_1 Lower_2	28.92 28.71	29.63
HNGC−B HNGH−A 115	HNGC Stat	26.59	27.13

RUN 2



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

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



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

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 100

APS Effective Standoff in Limestone (STOF)
−1 (IN) 4

From HCGR to HSGR

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 100

HLDS Caliper (LCAL)
0 (IN) 20

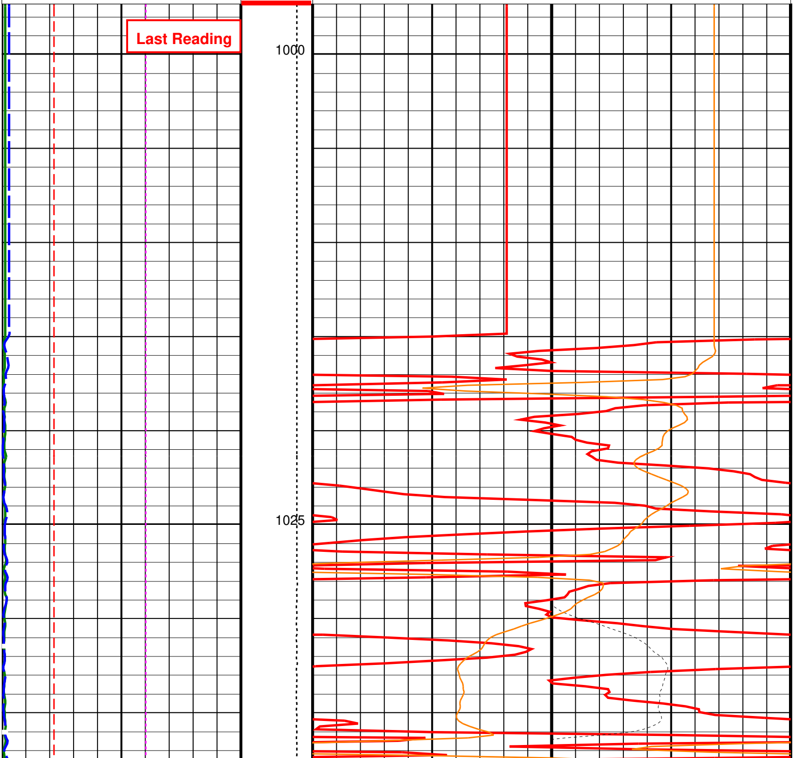
Tension (TENS) (LBF)
10000 0

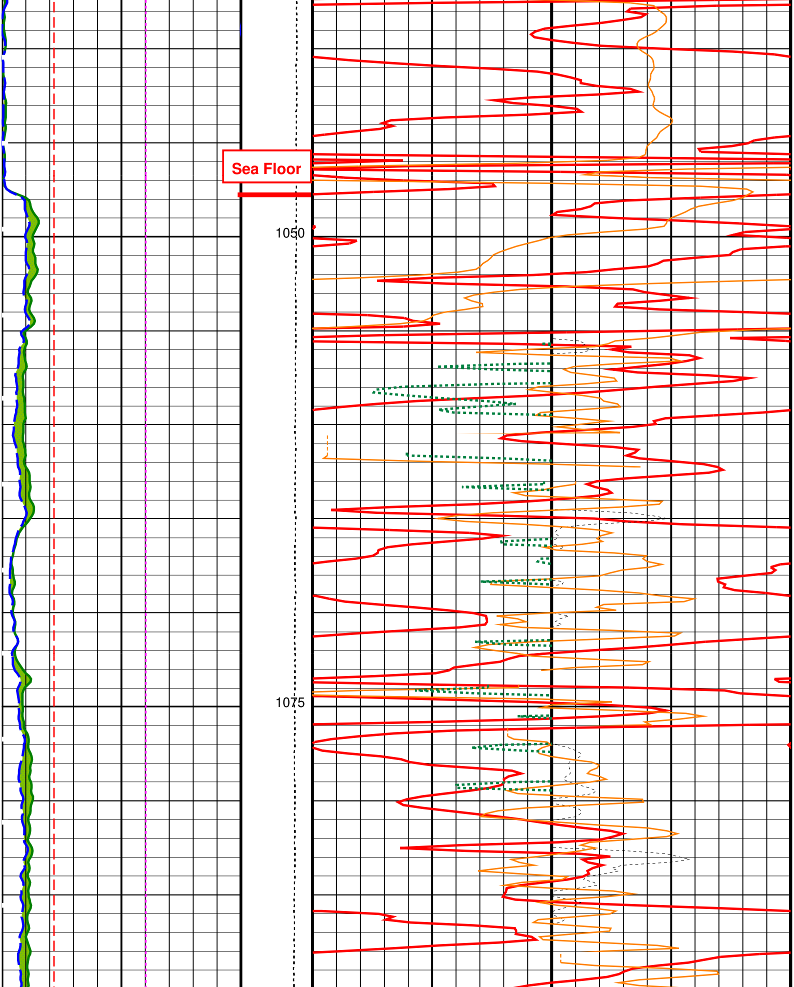
HLDS Long Spaced Photoelectric Effect (PEFL)
0 (----) 20

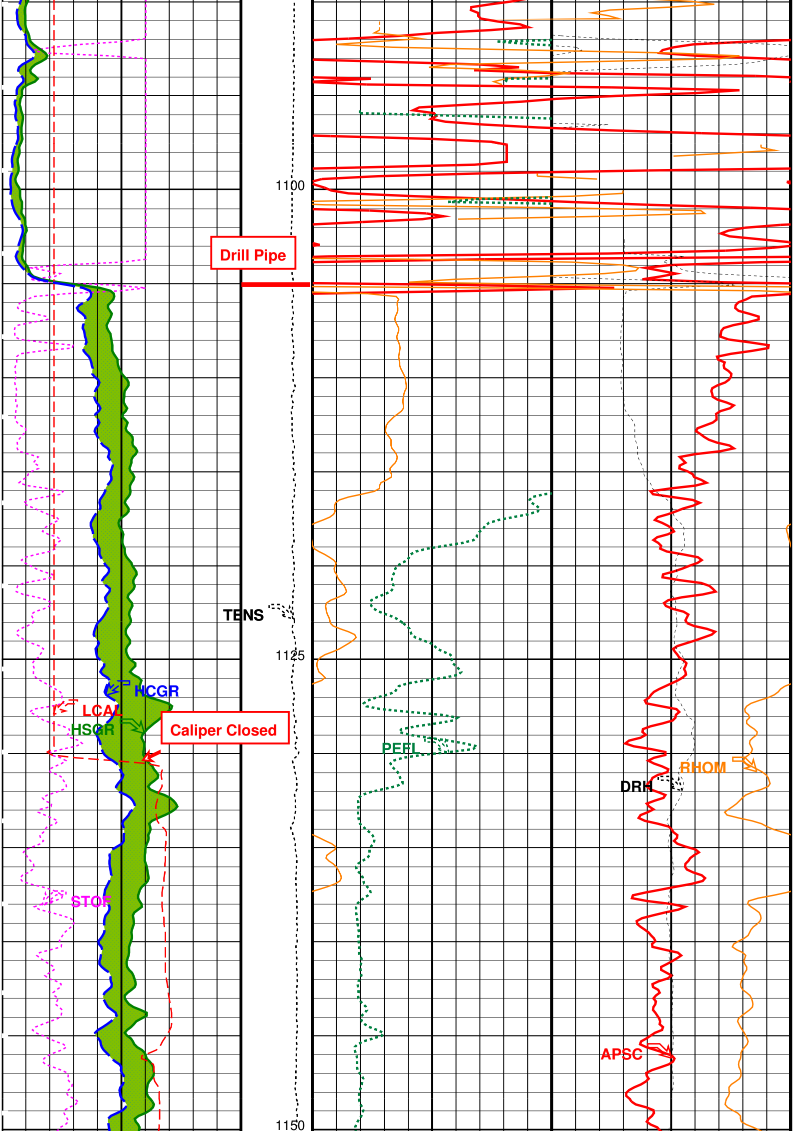
HLDS Bulk Density Correction (DRH)
−0.25 (G/C3) 0.25

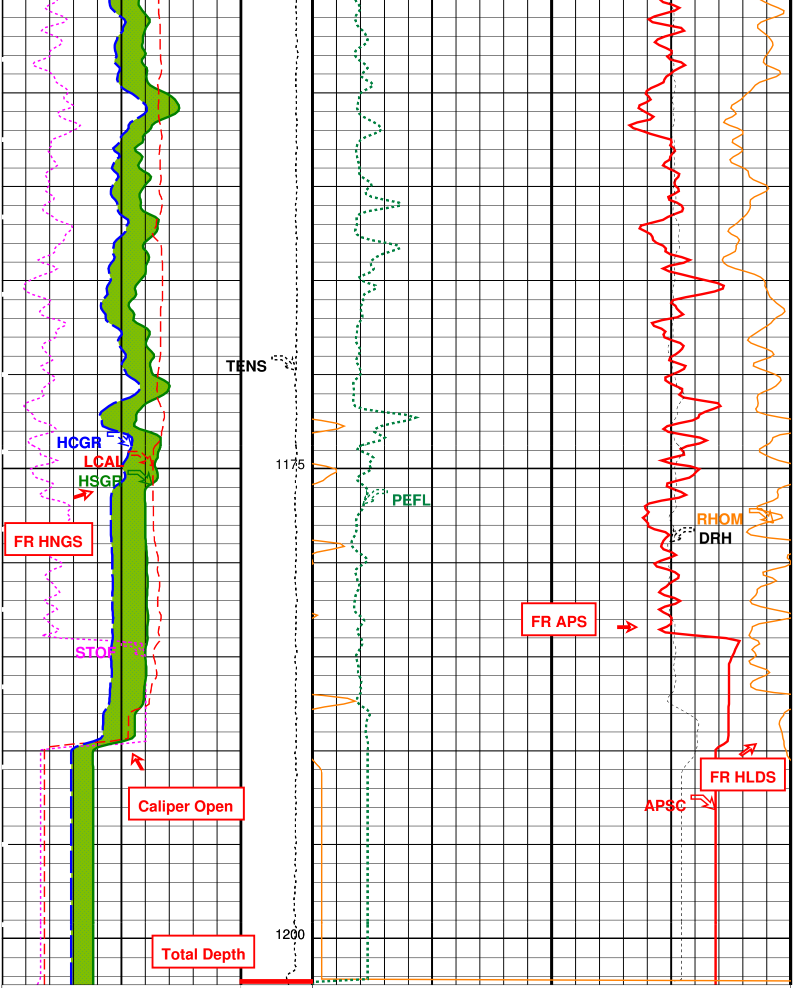
HLDS Bulk Density (RHOM)
2.65 (G/C3) 1.65

APS Near/Array Corrected Sandstone Porosity (APSC)
0 (PU) 100









HLDS Caliper (LCAL)
0 (IN) 20

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 100

🟩 From HCGR to HSGR

Tension (TENS) (LBF)
10000 0

APS Near/Array Corrected Sandstone Porosity (APSC)
0 (PU) 100

HLDS Bulk Density (RHOM)
2.65 (G/C3) 1.65

HLDS Long Spaced Photoelectric Effect (PEFL)
0 (----) 20

HLDS Bulk Density Correction (DRH)
-0.25 (G/C3) 0.25

APS Effective Standoff in Limestone
(STOF)
−1 (IN) 4

HNGS Spectroscopy Gamma Ray
(HSGR)
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)	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
	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
	HLDS: Hostile Litho−Density Sonde		
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1.26	G/C3
LATC	HLDS Activation Correction	ON	
MDEN	Matrix Density	2.65	G/C3
	APS−C: Accelerator−Porosity Tool		
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1966.03	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2098.58	V
AHCS	APS Holesize Correction Source	GCSE	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1731.81	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature−Pressure−Salinity Correction Switch	OFF	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	20	DEGF
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	30000	PPM
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	
NARC	APS Near/Array Calibration Ratio	1.05617	
NFRC	APS Near/Far Calibration Ratio	0.88491	
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

BSAL	**Borehole Salinity**	**32000.00**	**PPM**
CSIZ	**Current Casing Size**	**0.000**	**IN**
CWEI	**Casing Weight**	**0.00**	**LB/F**
DFD	**Drilling Fluid Density**	**1.26**	**G/C3**
TD	**Total Depth**	**1254.2**	**M**

Format: APSLiquidPorosity_1 **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**

Company: **Lamont Doherty**

Schlumberger

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

APS/HLDS Porosity Log