Company: **Lamont Doherty**
Well: **NGHP-01-19B**
Field: **Bay of Bengal**
Rig: **Joides Resolution**
Ocean:

Schlumberger

Dual Induction Tool
Gamma Ray

| | |
|---|---|
| Rig: | Joides Resolution |
| Field: | Bay of Bengal |
| Location: | |
| Well: | NGHP-01-19B |
| Company: | Lamont Doherty |

LOCATION

| | | | |
|---|---|---|---|
| Permanent Datum: | Mean Sea Level | Elev.: 0 m | Elev.: K.B. 11.3 m<br>G.L. -1433 m<br>D.F. 11 m |
| Log Measured From: | Drill Floor | 11.0 m above Perm. Datum | |
| Drilling Measured From: | Drill Floor | | |
| API Serial No. | Latitude: 18* 58.6568' N | Longitude 85* 39.5202' E | |

| | | | | |
|---|---|---|---|---|
| Logging Date | 8-Aug-2006 | | | |
| Run Number | One | | | |
| Depth Driller | 1713 m | | | |
| Schlumberger Depth | 1716 m | | | |
| Bottom Log Interval | 1716 m | | | |
| Top Log Interval | 1433 m | | | |
| Casing Driller Size @ Depth | 0.000 in | @ 1495 m | | @ |
| Casing Schlumberger | 1487 m | | | |
| Bit Size | 11.438 in | | | |
| Type Fluid In Hole | Barite | | | |
| MUD Density / Viscosity | 1.07 g/cm3 | | | |
| 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 | 8-Aug-2006 | 0:30 | | |
| Logger On Bottom / Time | 8-Aug-2006 | 5:55 | | |
| Unit Number / Location | 2082 | Webster, TX | | |
| Recorded By | Javier Espinosa | | | |
| Witnessed By | Gilles Guerin, Indrajit Dutta | | | |

| | 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 | | | | |
| 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 | OTHER SERVICES2 |
|---|---|
| OS1: HLDS | OS1: |
| OS2: APS | OS2: |
| OS3: HNGS | OS3: |
| OS4: | OS4: |
| OS5: | OS5: |

| REMARKS: RUN NUMBER 1 | REMARKS: RUN NUMBER 2 |
|---|---|
| All parameters and presentations as per client request | |
| Tool ran as per tool sketch below | |
| HLDS caliper closed 10m. before tool entered drill pipe to avoid | |
| tool damage | |
| Drill pipe moved to 1487 mbrf for the main pass | |

| 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 |

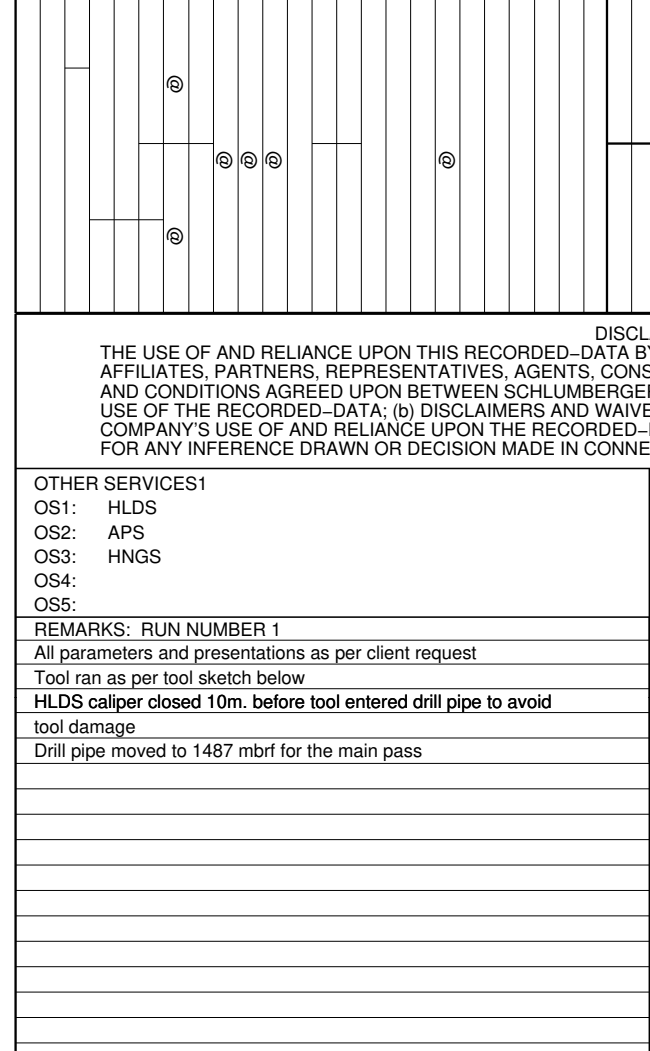
## EQUIPMENT DESCRIPTION

RUN 1 | RUN 2

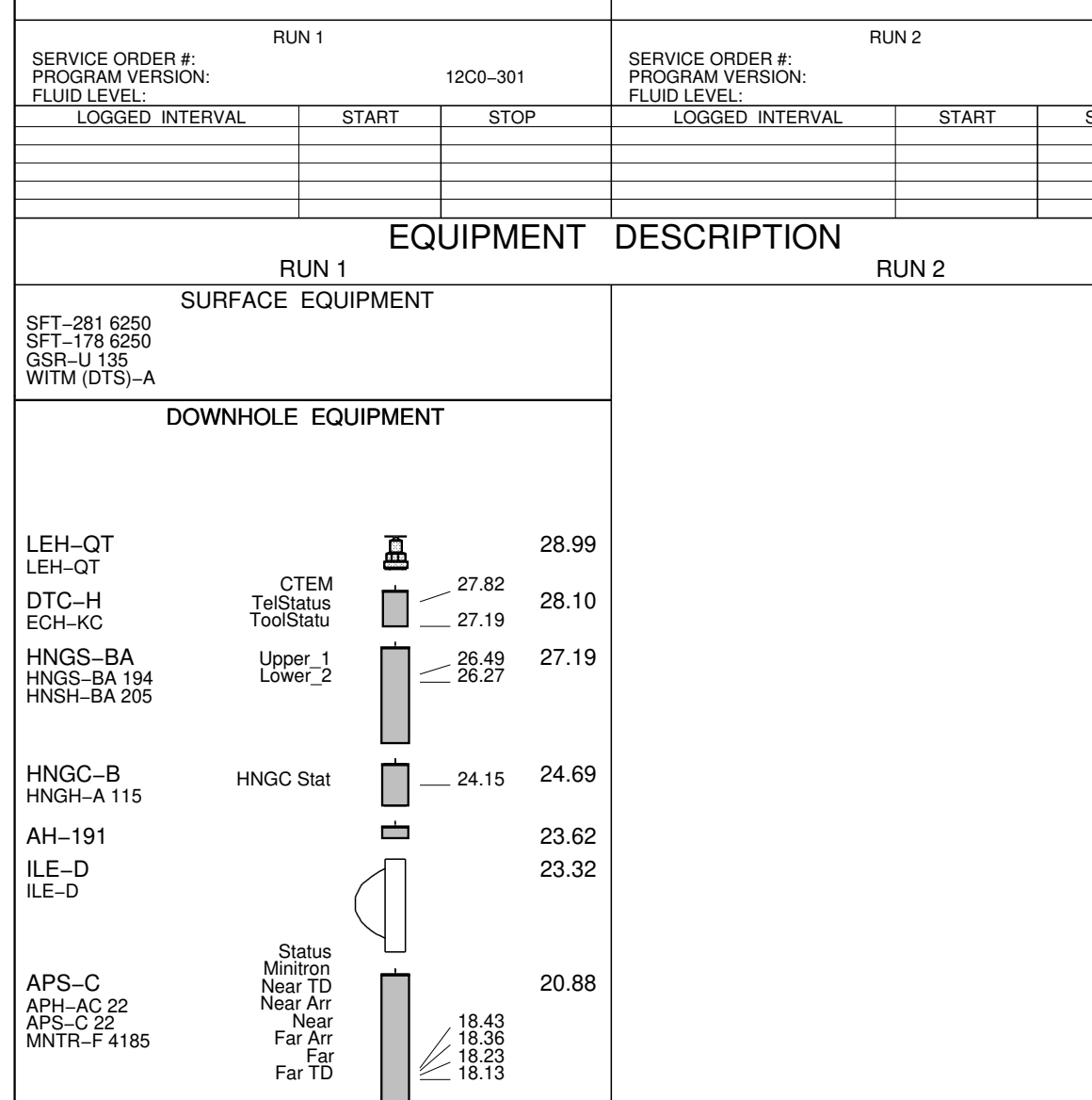
SURFACE EQUIPMENT

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



Schlumberger

## MAIN PASS

MAXIS Field Log

**Company: Lamont Doherty** **Well: NGHP-01-19B**

### Input DLIS Files

| | | | | | | |
|---|---|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_011LUP | FN:15 | PRODUCER | 08-Aug-2006 05:56 | 1716.8 M | 1400.1 M |

### Output DLIS Files

| | | | | | | |
|---|---|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_027PUP | FN:37 | PRODUCER | 12-Aug-2006 16:49 | 1716.8 M | 1404.8 M |
| REDUCED | PI_LDL_APS_NGS_027PUP | FN:38 | PRODUCER | 12-Aug-2006 16:49 | 1716.8 M | 1404.8 M |

### OP System Version: 12C0-301
MCM

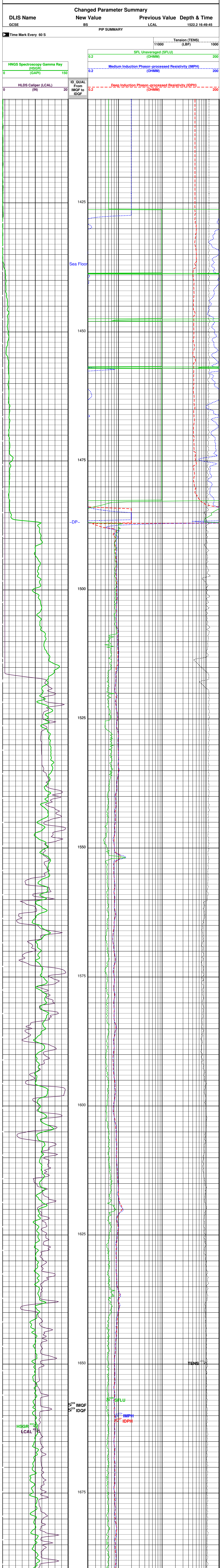
| | | | |
|---|---|---|---|
| DIT-E | 12C0-301 | DTA-A | 12C0-301 |
| HLDS | SPC-2602-NUCL | LDSC-B | SPC-2602-NUCL |
| APS-C | SPC-2602-NUCL | HNGC-B | SPC-2602-NUCL |
| HNGS-BA | SPC-2602-NUCL | DTC-H | 12C0-301 |

### Changed Parameter Summary

| DLIS Name | New Value | Previous Value | Depth & Time |
|---|---|---|---|
| GCSE | BS | LCAL | 1522.2 16:49:45 |

PIP SUMMARY

Time Mark Every 60 S



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 | DEGC |
| DGF2 | Deep 20 kHz Gain Factor | 0.979701 | |
| DPH2 | Deep 20 kHz Phase Shift | 0.0149425 | DEG |
| DRE2 | Deep Real 20 kHz Sonde Error Correction | 16.9484 | MM/M |
| DSR2 | Deep Sigma Reference (20 kHz) | 1843 | MM/M |
| DXE2 | Deep Quad 20 kHz Sonde Error Correction | 134.665 | MM/M |
| GCSE | Generalized Caliper Selection | LCAL | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.018227 | DC/M |
| 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 | 0.991455 | |
| MPH2 | Medium 20 kHz Phase Shift | -0.877902 | DEG |
| MRE2 | Medium Real 20 kHz Sonde Error Correction | 10.4851 | MM/M |
| MSR2 | Medium Sigma Reference (20 kHz) | 3250 | MM/M |
| MXE2 | Medium Quad 20 kHz Sonde Error Correction | 175.191 | MM/M |
| SFCR | SFL Channel Ratio | 1000 | |
| SHT | Surface Hole Temperature | 20 | DEGC |
| APS-C: Accelerator-Porosity Tool | | | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 20 | DEGC |
| GCSE | Generalized Caliper Selection | LCAL | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.018227 | DC/M |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| SHT | Surface Hole Temperature | 20 | DEGC |
| 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 | DEGC |
| 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 | 0.018227 | DC/M |
| 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 | -0.0176552 | |
| HALF | HNGS Alpha Filter Length | 60 | IN |
| HCRB | HNGS Apply Borehole Potassium Correction | NONE | |
| HMWM | Mud Weighting Material | NATU | |
| 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 | 20 | DEGC |
| TPOS | Tool Position | ECCE | |
| VBA1 | HNGS Detector 1 Variable Barite Factor Running Average | -0.26731 | |
| VBA2 | HNGS Detector 2 Variable Barite Factor Running Average | 0.921394 | |
| System and Miscellaneous | | | |
| BS | Bit Size | 11.438 | IN |
| DFD | Drilling Fluid Density | 1.07 | G/C3 |
| DO | Depth Offset for Playback | 0.0 | M |
| PP | Playback Processing | RECOMPUTE | |
| TD | Total Depth | 1716 | M |

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 12-Aug-2006 16:49

### OP System Version: 12C0-301
MCM

| | | | |
|---|---|---|---|
| DIT-E | 12C0-301 | DTA-A | 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_LDL_APS_NGS_011LUP | FN:15 | PRODUCER | 08-Aug-2006 05:56 | 1716.8 M | 1400.1 M |

### Output DLIS Files

| | | | | |
|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_027PUP | FN:37 | PRODUCER | 12-Aug-2006 16:49 |
| REDUCED | PI_LDL_APS_NGS_027PUP | FN:38 | PRODUCER | 12-Aug-2006 16:49 |

Schlumberger

## REPEAT PASS

MAXIS Field Log

**Company: Lamont Doherty** **Well: NGHP-01-19B**

### Input DLIS Files

| | | | | | | |
|---|---|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_022PUP | FN:30 | PRODUCER | 09-Aug-2006 13:31 | 1655.2 M | 1488.3 M |

### Output DLIS Files

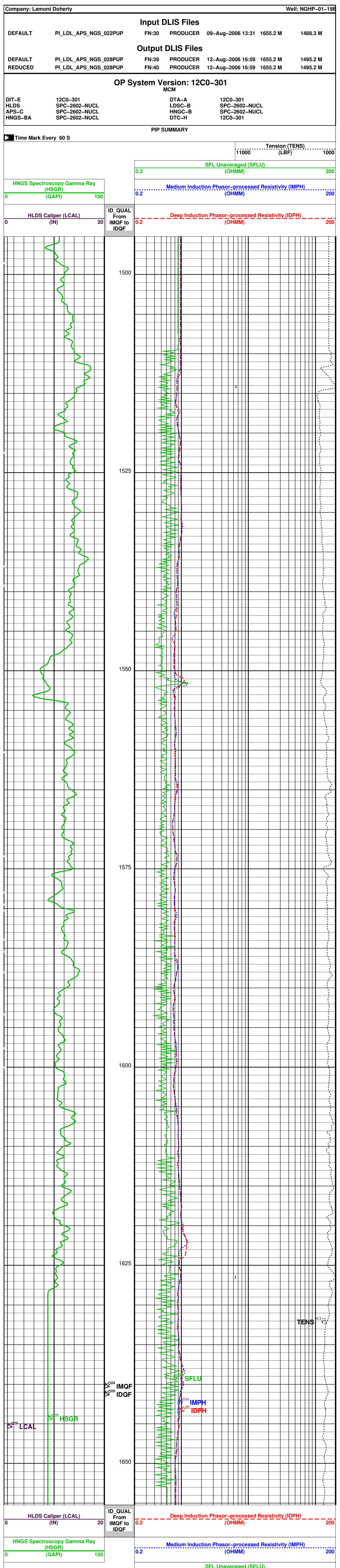
| | | | | | | |
|---|---|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_028PUP | FN:39 | PRODUCER | 12-Aug-2006 16:59 | 1655.2 M | 1495.2 M |
| REDUCED | PI_LDL_APS_NGS_028PUP | FN:40 | PRODUCER | 12-Aug-2006 16:59 | 1655.2 M | 1495.2 M |

### OP System Version: 12C0-301
MCM

| | | | |
|---|---|---|---|
| DIT-E | 12C0-301 | DTA-A | 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 |

PIP SUMMARY

Time Mark Every 60 S



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 | DEGC |
| DGF2 | Deep 20 kHz Gain Factor | 0.979701 | |
| DPH2 | Deep 20 kHz Phase Shift | 0.0149425 | DEG |
| DRE2 | Deep Real 20 kHz Sonde Error Correction | 16.9484 | MM/M |
| DSR2 | Deep Sigma Reference (20 kHz) | 1843 | MM/M |
| DXE2 | Deep Quad 20 kHz Sonde Error Correction | 134.665 | MM/M |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.018227 | DC/M |
| 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 | 0.991455 | |
| MPH2 | Medium 20 kHz Phase Shift | -0.877902 | DEG |
| MRE2 | Medium Real 20 kHz Sonde Error Correction | 10.4851 | MM/M |
| MSR2 | Medium Sigma Reference (20 kHz) | 3250 | MM/M |
| MXE2 | Medium Quad 20 kHz Sonde Error Correction | 175.191 | MM/M |
| SFCR | SFL Channel Ratio | 1000 | |
| SHT | Surface Hole Temperature | 20 | DEGC |
| APS-C: Accelerator-Porosity Tool | | | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 20 | DEGC |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.018227 | DC/M |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| SHT | Surface Hole Temperature | 20 | DEGC |
| 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 | DEGC |
| 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 | 0.018227 | DC/M |
| 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 | 0.00343611 | |
| HALF | HNGS Alpha Filter Length | 60 | IN |
| HCRB | HNGS Apply Borehole Potassium Correction | NONE | |
| HMWM | Mud Weighting Material | NATU | |
| 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 | 20 | DEGC |
| TPOS | Tool Position | ECCE | |
| VBA1 | HNGS Detector 1 Variable Barite Factor Running Average | 0.936637 | |
| VBA2 | HNGS Detector 2 Variable Barite Factor Running Average | 0.929604 | |
| System and Miscellaneous | | | |
| BS | Bit Size | 11.438 | IN |
| DFD | Drilling Fluid Density | 1.07 | G/C3 |
| DO | Depth Offset for Playback | 0.0 | M |
| PP | Playback Processing | RECOMPUTE | |
| TD | Total Depth | 1716 | M |

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 12-Aug-2006 16:59

### OP System Version: 12C0-301
MCM

| | | | |
|---|---|---|---|
| DIT-E | 12C0-301 | DTA-A | 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_LDL_APS_NGS_022PUP | FN:30 | PRODUCER | 09-Aug-2006 13:31 | 1655.2 M | 1488.3 M |

### Output DLIS Files

| | | | | |
|---|---|---|---|---|
| DEFAULT | PI_LDL_APS_NGS_028PUP | FN:39 | PRODUCER | 12-Aug-2006 16:59 |
| REDUCED | PI_LDL_APS_NGS_028PUP | FN:40 | PRODUCER | 12-Aug-2006 16:59 |

Company: **Lamont Doherty**
Well: **NGHP-01-19B**
Field: **Bay of Bengal**
Rig: **Joides Resolution**
Ocean:

Schlumberger

Dual Induction Tool

Gamma Ray