mo 0JP4-18

**COMPANY: BHP PETROLEUM**

**WELL: MINERVA - 2A**

**FIELD: WILDCAT**

**RIG NAME: BYFORD** **COUNTRY: AUSTRALIA**

DEPT. NAT. RES & ENV
PE600431

Rig Name: BYFORD
Field: WILDCAT
Location: SEISMIC REF:OE80A-1056
Well: MINERVA - 2A
Company: BHP PETROLEUM

**Schlumberger**

## SUITE-2, RUN-2 1/500
## AS-MSFL-DLL-GR-AMS-SP
## (2170 - 1526 M)

LOCATION

| | | | |
|---|---|---|---|
| SEISMIC REF:OE80A-1056 | Elev.: | K.B. | 25.3 M |
| OTAWAY BASIN | | G.L. | -85 M |
| PERMI #VIC/P31 | | D.F. | 25 M |

Permanent Datum: MSL — Elev.: 0 M
Log Measured From: RT — 25.0 M above Perm. Datum
Drilling Measured From: RT

| STATE: | Well Deviation | Longitude | Latitude |
|---|---|---|---|
| VICTORIA | | 142 57' 20.80" E | 38 43' 04.54" S |

| | | | | |
|---|---|---|---|---|
| Logging Date | 12-OCT-1993 | | | |
| Run Number | SUITE-2, RUN-2 | | | |
| Depth Driller | 2170 M | | | |
| Schlumberger Depth | 2170 M | | | |
| Bottom Log Interval | 2166 M | | | |
| Top Log Interval | 1526 M | | | |
| Casing Driller Size @ Depth | 13.375 IN @ 1526 M | | @ | |
| Casing Schlumberger | 1526 M | | | |
| Bit Size | 12.250 IN | | | |
| Type Fluid In Hole | KCL-PHPA-POLYMER | | | |
| MUD Density / Viscosity | 1.17 G/C3 | 42 S | | |
| Fluid Loss / PH | 5.9 C3 | 9.2 | | |
| Source Of Sample | FLOW LINE | | | |
| RM @ Measured Temperature | 0.115 OHMM @ 14 DEGC | | @ | |
| RMF @ Measured Temperature | 0.097 OHMM @ 14 DEGC | | @ | |
| RMC @ Measured Temperature | 0.169 OHMM @ 14 DEGC | | @ | |
| Source RMF / RMC | MEASURED | MEASURED | | |
| RM @ BHT / RMF @ BHT | 0.042 @ 76 | 0.035 @ 76 | @ | @ |
| Maximum Recorded BHT | 76 DEGC | 76 / 76 | | |
| Circulation Stopped / Time | 11-OCT-1993 | 20:00 | | |
| Logger On Bottom / Time | 12-OCT-1993 | 03:45 | | |
| Unit Number / Location | 41 | VEA (SALE) | | |
| Recorded By | HELWIG | | | |
| Witnessed By | MENHENNITT / SYME | | | |

| | 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 @ BHT / RMF @ BHT | @ | @ | @ | @ |
| Maximum Recorded BHT | | | | |
| Circulation Stopped / Time | | | | |
| Logger On Bottom / Time | | | | |
| Unit Number / Location | | | | |
| Recorded By | | | | |
| Witnessed By | | | | |

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES FOR SUITE-2
DESCENT 1: AS-MSFL-DLL-GR AMS
DESCENT 2: FMS-LDT-CNL-GR-AMS
DESCENT 3: CSI (VSP)
DESCENT 4: RFT-HP-GR-AMS
DESCENT 5: CST-GR

REMARKS:
TOOL STRING: SDTC(ARRAY)-SRTC-AH169-DLTE-AH169-
SGTL-TCCB-AMSA-BSP
HOLE FINDER RUN ON THE BOTTOM OF THE STRING
STANDOFFS AND CENTRALIZERS POSITIONED AS IN DIAGRAM.

SOME NOISE ON THE SONIC DURING THE VERY RUGOSE
UPPER BORE HOLE SECTION.

ROUGH BORE HOLE AFFECTS MSFL.

Cl- = 47000 mg/l KCL = 7.2 %(WT.)
20 POUNDS PER BARREL BARITE IN THE MUD.
THEY CIRCULATED ON BOTTOM FOR ONE HOUR AFTER
MAKING AN EIGHT STAND WIPER TRIP.
THANK YOU FOR CALLING SCHLUMBERGER!!!

SERVICE ORDER #: 931012
PROGRAM VERSION: 5C0-423
FLUID LEVEL:

| LOGGED INTERVAL | START | STOP |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

DESCENT 1:
DESCENT 2:
DESCENT 3:
DESCENT 4:
DESCENT 5:

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

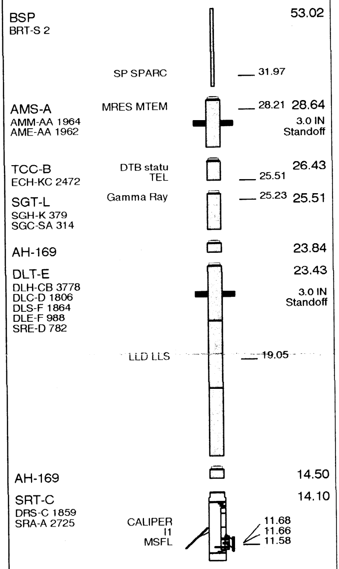
| LOGGED INTERVAL | START | STOP |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

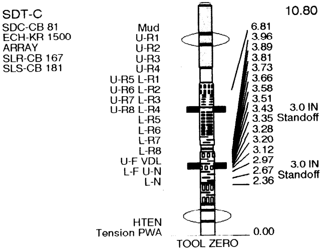
# EQUIPMENT DESCRIPTION

## SURFACE EQUIPMENT

STM-C 626
LCM-AA 949
GSR-U/Y
TCM-AB 1333

## DOWNHOLE EQUIPMENT





MAXIMUM STRING DIAMETER 9.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

## Input DLIS Files

| | | | | | |
|---|---|---|---|---|---|
| ALL | SDTC .022 | FIELD | 12-OCT-1993 06:19 | 2179.8 M | 1511.4 M |

## Output DLIS Files

| | | | | | |
|---|---|---|---|---|---|
| XMIT2 | SDTC .023 | FIELD | 12-OCT-1993 06:30 | 2179.8 M | 1511.5 M |
| DEFAULT | SDTC .023 | FIELD | 12-OCT-1993 06:30 | 2179.8 M | 1511.5 M |

## Integrated Hole/Cement Volume Summary

Hole Volume = 61.59 M3

Cement Volume = 61.59 M3 (assuming 0.00 IN casing O.D.)

Computed from 2169.9 M to 1526.1 M using data channel(s) CALS

## OP System Version: 5C0-423

**DLT-E** **5S423K-190**
**BSP** **5S423K-190**

**TCC-B** **5S423K-190**

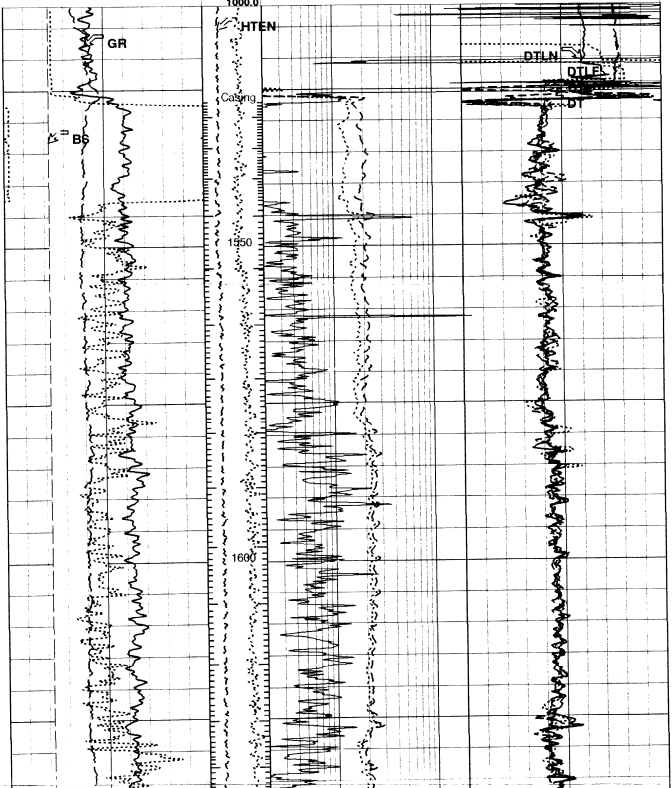
**PIP SUMMARY**

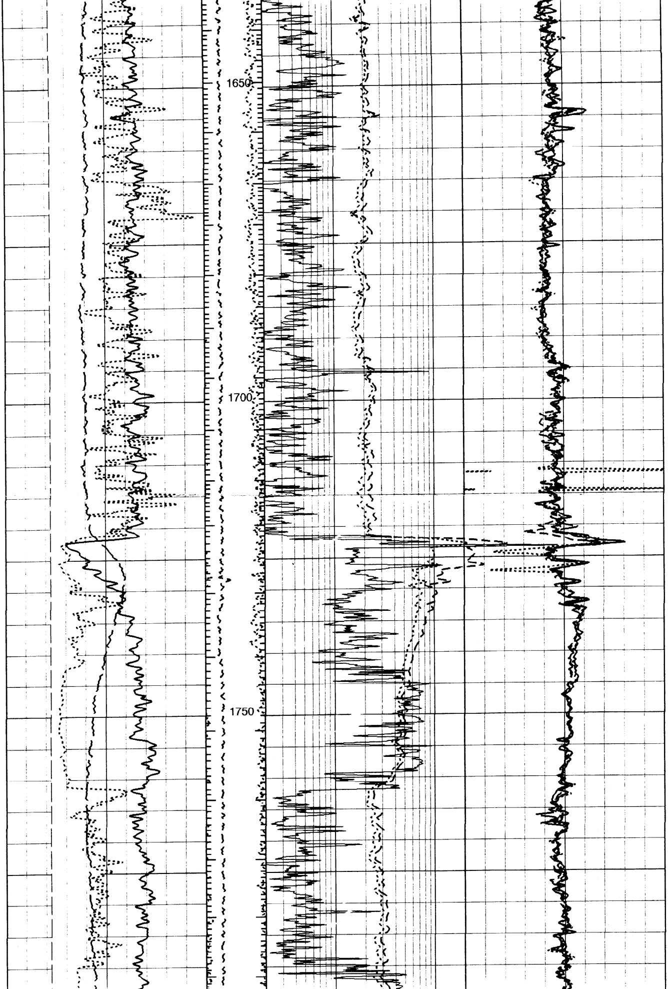
⊢ Integrated Hole Volume Minor Pip Every 0.1 M3
⊢ Integrated Hole Volume Major Pip Every 1.0 M3
⊣ Integrated Cement Volume Minor Pip Every 0.1 M3
⊣ Integrated Cement Volume Major Pip Every 1.0 M3

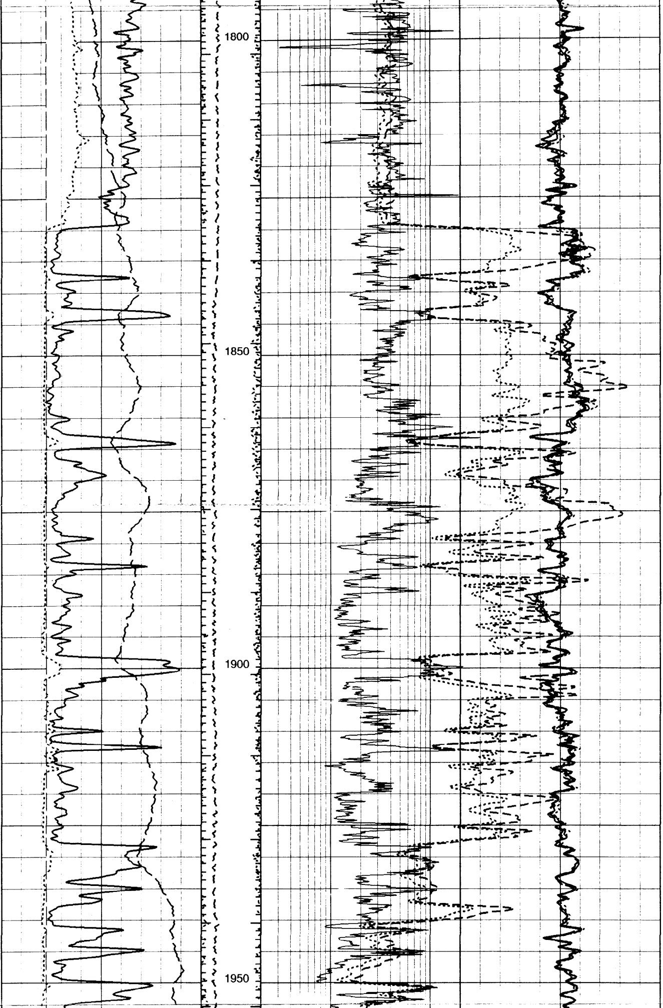
Time Mark Every 60.0 S

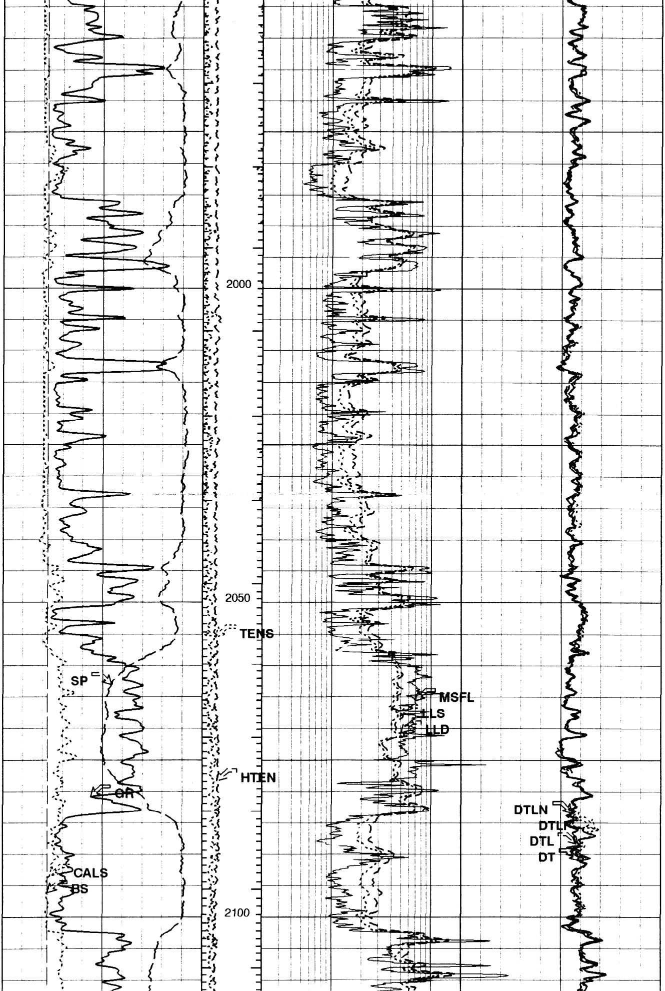
MAIN PASS

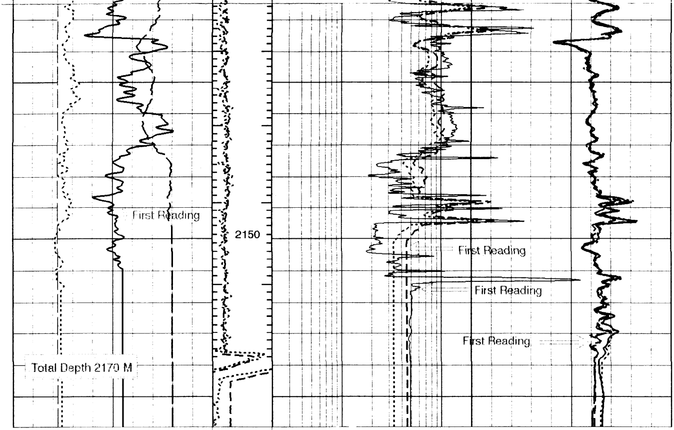
| | | | |
|---|---|---|---|
| Mud Cake<br>From CALS to BS | | | Delta-T Long Spacing Near (DTLN)<br>500.0 (US/M) 100.0 |
| Washout<br>From BS to CALS | | | Delta-T Long Spacing Far (DTLF)<br>500.0 (US/M) 100.0 |
| SP (SP)<br>-80.0 (MV) 20.0 | | | Delta-T Long (DTL)<br>500.0 (US/M) 100.0 |
| Gamma Ray (GR)<br>0.0 (GAPI) 150.0 | | | Delta-T (DT)<br>500.0 (US/M) 100.0 |
| | | Micro SFL Resistivity (MSFL)<br>0.2 (OHMM) 2000.0 | |
| Caliper (CALS)<br>10.0 (IN) 20.0 | Head Tension (HTEN) (LBF)<br>0.0 1000.0 | Laterolog Shallow Resistivity (LLS)<br>0.2 (OHMM) 2000.0 | |
| Bit Size (BS)<br>10.0 (IN) 20.0 | Tension (TENS) (LBF)<br>0.0 1000.0 | Laterolog Deep Resistivity (LLD)<br>0.2 (OHMM) 2000.0 | |











Bit Size (BS)
10.0 (IN) 20.0

Tension (TENS) (LBF)
0.0 1000.0

Laterolog Deep Resistivity (LLD)
0.2 (OHMM) 2000.0

Caliper (CALS)
10.0 (IN) 20.0

Head Tension (HTEN) (LBF)
0.0 1000.0

Laterolog Shallow Resistivity (LLS)
0.2 (OHMM) 2000.0

Gamma Ray (GR)
0.0 (GAPI) 150.0

Micro SFL Resistivity (MSFL)
0.2 (OHMM) 2000.0

SP (SP)
-80.0 (MV) 20.0

Delta-T (DT)
500.0 (US/M) 100.0

Washout
From BS to CALS

MAIN PASS

Delta-T Long (DTL)
500.0 (US/M) 100.0

Mud Cake
From CALS to BS

Delta-T Long Spacing Far (DTLF)
500.0 (US/M) 100.0

Delta-T Long Spacing Near (DTLN)
500.0 (US/M) 100.0

**PIP SUMMARY**

⊢ Integrated Hole Volume Minor Pip Every 0.1 M3
⊢ Integrated Hole Volume Major Pip Every 1.0 M3
⊣ Integrated Cement Volume Minor Pip Every 0.1 M3
⊣ Integrated Cement Volume Major Pip Every 1.0 M3

Time Mark Every 60.0 S

Format: DLT_D5 Vertical Scale: 1:500.0 Graphics File Created: 12-OCT-1993 06:30

## OP System Version: 5C0-423

DLT-E 5S423K-190 TCC-B 5S423K-190
BSP 5S423K-190

## Input DLIS Files

ALL SDTC .022 FIELD 12-OCT-1993 06:19 2179.8 M 1511.4 M

## Output DLIS Files

| | | | |
|---|---|---|---|
| XMIT2 | SDTC .023 | FIELD | 12-OCT-1993 06:30 |
| DEFAULT | SDTC .023 | FIELD | 12-OCT-1993 06:30 |

## Parameters

| DLIS Name | Description | Value | |
|---|---|---|---|
| | SDT Bore-hole Status (BST) | OPEN | |
| AGC | Automatic Gain Control (AGC) | ON | |
| AMSG | Auxilliary Minimum Sliding Gate (AMSG) | 180 | US |
| BHS | Bore Hole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 100 | DEGC |
| BILI | Bond Index Level for Zone Isolation | 0.8 | |
| BS | Bit Size | 12.250 | IN |
| BSAL | Borehole Salinity | 47000.0 | PPM |
| CBLG | CBL Gate Width (CBLG) | 45 | US |
| CDTS | C-Delta-T Shale | 100 | US/F |
| CREF | Current Reference | AUTO | |
| CSTR | Compressive Strength of Cement | 0 | KPA |
| DDE0 | Digitizing Delay 0 (DDE0) | 0 | US |
| DDEL | Digitizing Delay (DDEL) | 0 | US |
| DDMG | Downhole Differential Multi-Gain (DDMG) | 10 | |
| DETE | Detection (DETE) | E2 | |
| DO | Depth Offset | 0.0 | M |
| DPPM | Density Porosity Processing Mode | STAN | |
| DPRF | DEEP REFERENCE POWER | 550 | NW |
| DSI0 | Digitizer Sample Interval 0 (DSI0) | 10 | US |
| DSIN | Digitizer Sample Interval (DSIN) | DS10 | |
| DTCM | Delta-T Computation Mode (DTCM) | FULL | |
| DTF | Delta-T Fluid | 189 | US/F |
| DTM | Delta-T Matrix | 56 | US/F |
| DWC0 | Digitizer Word Count 0 (DWC0) | 500 | |
| DWCO | Digitizer Word Count (DWCO) | 500 | |
| EDMD | Effective Distance Mud (EDMD) | 0.6 | IN |
| FCF | CBL Fluid Compensation Factor | 1 | |
| GAI | Manual Gain (GAI) | 40 | |
| GCSE | Generalized Caliper Selection | CALIPER_CALS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GOBO | Good Bond | 2 | MV |
| GRSE | Generalized Mud Resistivity Selection | AMS_RESIST | |
| GTSE | Generalized Temperature Selection | AMS_TEMP | |
| ITMD | Intrinsic Time Mud (ITMD) | 0 | US |
| ITTS | Integrated Transit Time Source | DT | |
| KFAC | K FACTOR | SOND | |
| LLOO | LATEROLOG LOOP | OFF | |
| MAGC | Mud AGC (MAGC) | ON | |
| MATR | Rock Matrix Type | LIMESTONE | |
| MCI | Minimum Cemented Interval | 6.60692 | M |
| MGAI | Maximum Gain (MGAI) | 2000 | |
| MMOD | Mud Firing Mode (MMOD) | OFF | |
| MMSG | Mud Minimum Sliding Gate (MMSG) | 80 | US |
| MODE | Firing Mode (MODE) | DDBH | |
| MSA | Minimum Sonic Amplitude | 17.9197 | MV |
| MSGA | Mud Sliding Gate (NSGA) | ON | |
| MSGL | Mud Sliding Gate Length (MSGL) | 35 | US |
| MSGW | Mud Sliding Gate Width (MSGW) | 20 | US |
| MUDG | Mud Manual Gain (MUDG) | 20 | |
| NMSG | Near Minimum Sliding Gate (NMSG) | 180 | US |
| OMR | Origin of Mud Resistivity | AMS | |
| PLRM | POWER LOOP REFERENCE MODE | DEEP | |
| PP | Playback Processing | RECOMPUTE | |
| RATE | Firing Rate (RATE) | R15 | |
| RMOD | Receiver Mode (RMOD) | B | |
| RMUD | Resistivity of Mud Sample | 0.115 | OHMM |
| RW | Resistivity of Connate Water | 1.0000 | OHMM |
| SFAF | Sonic Formation Attenuation Factor (SFAF) | 0 | DB/M |
| SGAD | Sliding Gate (SGAD) | ON | |
| SGDT | Sliding Gate Delta-T (SGDT) | 50 | US/F |
| SGW | Sliding Gate Width (SGW) | 80 | US |
| SHT | Surface Hole Temperature | 20 | DEGC |
| SLEV | Signal Level for AGC (SLEV) | 5000 | MV |
| SPFS | Sonic Porosity Formula | RAYMER_HUNT | |
| SPNV | SP Next Value | 0 | MV |
| SPRF | SHALLOW REFERENCE POWER | 550 | NW |
| SPSO | Sonic Porosity Source | DT | |
| SPT | SRT Pad Type | STANDARD | |
| T0CA | T0 Correction (T0CA) | ON | |
| TD | Total Depth | 2170 | M |
| TLCK | TLC Kit | OFF | |
| TSIG | Test Signal (TSIG) | OFF | |
| TWS | Temperature of Connate Water Sample | 37.8 | DEGC |
| VDLG | VDL Manual Gain (VDLG) | 40 | |
| VDLM | VDL Firing Mode (VDLM) | NONE | |
| WAGC | Waveform AGC (WAGC) | ON | |
| WGAI | Waveform Manual Gain WGAI | 20 | |
| WGDT | Waveform Gain Delta-T (WGDT) | 240 | US/F |
| WGIN | Waveform Gain Interval (WGIN) | 4800 | US |
| WMOD | Waveform Firing Mode (WMOD) | NONE | |

COMPANY: **BHP PETROLEUM**

WELL: **MINERVA - 2A**

FIELD: **WILDCAT**

RIG NAME: **BYFORD**

COUNTRY: **AUSTRALIA**

| | |
|---|---|
| BOTTOM LOG INTERVAL | 2166 M |
| SCHLUMBERGER DEPTH | 2170 M |
| DEPTH DRILLER | 2170 M |
| KELLY BUSHING | 25.3 M |
| DRILL FLOOR | 25 M |
| GROUND LEVEL | -85 M |

Schlumberger

**SUITE-2, RUN-2 1/500**
**AS-MSFL-DLL-GR-AMS-SP**
**(2170 - 1526 M)**