18.18

COMPANY: **BHP PETROLEUM**

WELL: **MINERVA-1**

FIELD: **WILDCAT**

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

DEPT. NAT. RES & ENV
PE600589

Rig Name: BYFORD
Field: WILDCAT
Location: SEISMIC LINE: OE81A-2028
Well: MINERVA-1
Company: BHP PETROLEUM

Schlumberger

SUITE-2, RUN-2 1/500
DLL-MSFL-AS-GR-AMS-SP
(2024 - 1189 M)

LOCATION
SEISMIC LINE: OE81A-2028
OTWAY BASIN
VIC P31

Elev.: K.B. 25.3 M
G.L. -57 M
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' 12.34" E	38 42' 12.23" S

Logging Date	21-MAR-1993			
Run Number	SUITE-2, RUN-2			
Depth Driller	2031 M			
Schlumberger Depth	2024 M			
Bottom Log Interval	2019 M			
Top Log Interval	1189 M			
Casing Driller Size @ Depth	9.625 IN @ 1189 M		@	
Casing Schlumberger	1189 M			
Bit Size	8.500 IN			
Type Fluid In Hole	KCL-PHPA			
MUD Density / Viscosity	1.15 G/C3	45 S		
Fluid Loss / PH	5.5 C3	9.5		
Source Of Sample	FLOW LINE			
RM @ Measured Temperature	0.100 OHMM @ 21 DEGC		@	
RMF @ Measured Temperature	0.084 OHMM @ 22 DEGC		@	
RMC @ Measured Temperature	0.120 OHMM @ 22 DEGC		@	
Source RMF / RMC	MEAS	MEAS		
RM @ BHT / RMF @ BHT	0.041 @ 83	0.035 @ 83	@	@
Maximum Recorded BHT	83 DEGC	83 / 83		
Circulation Stopped / Time	21-MAR-1993	08:30		
Logger On Bottom / Time	21-MAR-1993	17:00		
Unit Number / Location	41	SALE (VEA)		
Recorded By	HELWIG / JONSSON			
Witnessed By	PICKAVANCE / TABASSI			

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

REMARKS:
TOOL STRING: DLTE-AH169-SRTC-SDTC(ARRAY)-
SGTL-TCCB-AMSA-BSP

STANDOFFS AND CENTRALIZERS RUN AS SHOWN IN DIAGRAM.
HOLE FINDER RUN ON THE BOTTOM OF THE TOOL.

DEPTH CORRELATED TO SUITE-1, RUN-1 RESISTIVITY
SONIC.

KCL - 34000 PPM, 4 POUNDS PER BARREL BARITE.

THANK YOU FOR CALLING SCHLUMBERGER!!!

SERVICE ORDER #:	930321		SERVICE ORDER #:		
PROGRAM VERSION:	5C0-423		PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

SURFACE EQUIPMENT

LCM-AA 949
STM-C 213
GSR-U/Y
TCM-AB 1333

DOWNHOLE EQUIPMENT

BSP
BRT-S 2

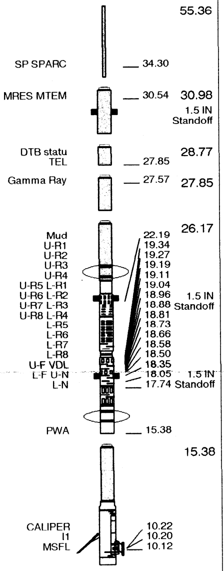
AMS-A
AMM-AA 1964
AME-AA 1962

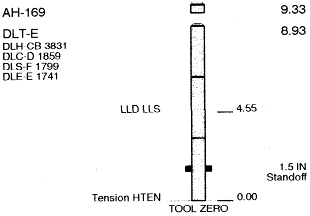
TCC-B
ECH-KC 2472

SGT-L
SGH-K 1565
SGC-SA 1244

SDT-C
SDC-CB 81
ECH-KR 1500
ARRAY
SLR-CB 167
SLS-CB 181

SRT-C
SRE-D 782
ECH-KQ 718
DRS-C 2701
SRA-A 2765





MAXIMUM STRING DIAMETER 6.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Input DLIS Files

DEFAULT	DLTE	.007	FIELD	21-MAR-1993 16:55	2033.9 M	1133.4 M

Output DLIS Files

TRANS2	DLTE	.012	FIELD	21-MAR-1993 18:46	2034.2 M	1133.7 M
DEFAULT	DLTE	.012	FIELD	21-MAR-1993 18:46	2034.2 M	1133.7 M

Integrated Hole/Cement Volume Summary

```
Hole Volume =   35.88 M3
Cement Volume =   15.15 M3 (assuming  7.00 IN casing O.D.)
Computed from   2023.9 M to   1189.0 M using data channel(s) CALS
```

OP System Version: 5C0-423

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

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

Mud Cake
From CALS to BS

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

Washout
From BS to CALS

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

SP (SP)
-80.0 (MV) 20.0

MAIN PASS

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

Gamma Ray (GR)
0.0 (GAPI) 150.0

Micro SFL Resistivity (MSFL)
0.2 (OHMM) 2000.0

Caliper (CALS)
6.0 (IN) 16.0

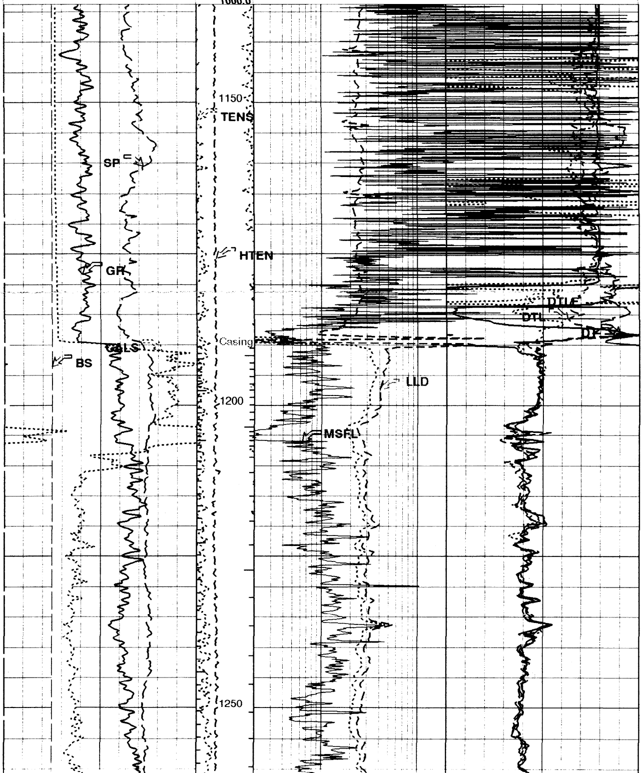
Head Tension (HTEN) (LBF)
0.0 1000.0

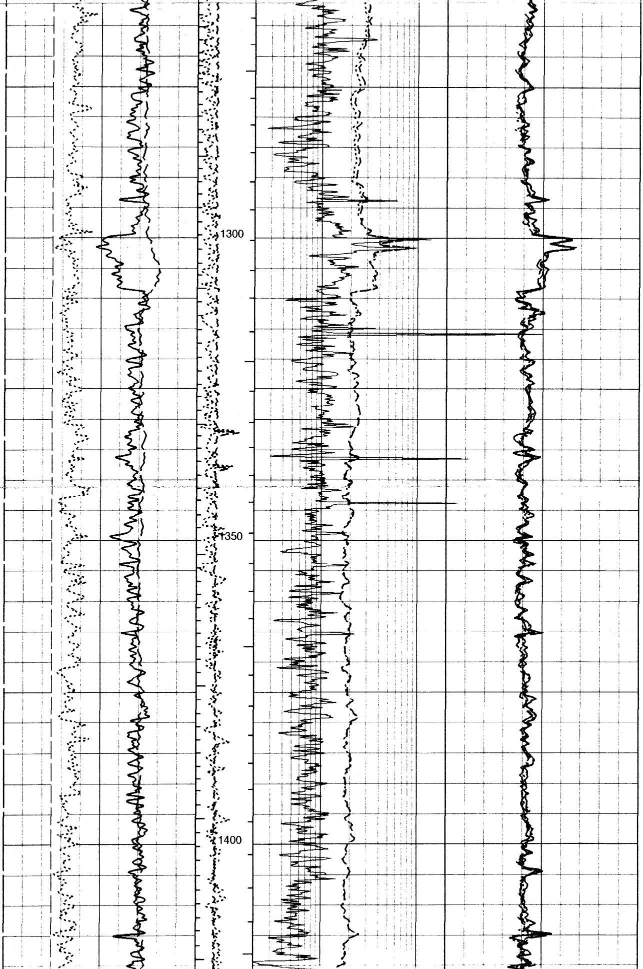
Laterolog Shallow Resistivity (LLS)
0.2 (OHMM) 2000.0

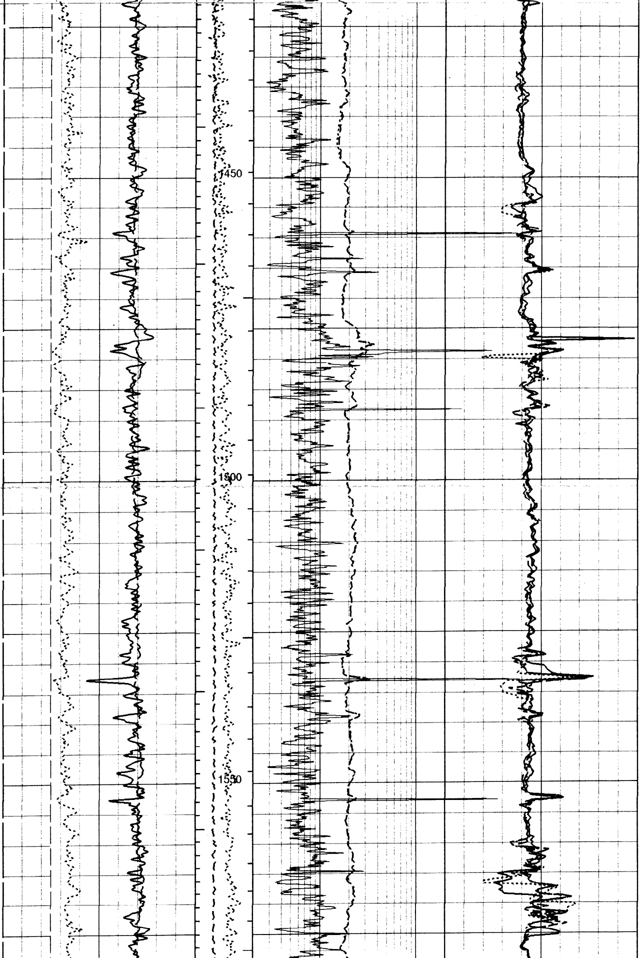
Bit Size (BS)
6.0 (IN) 16.0

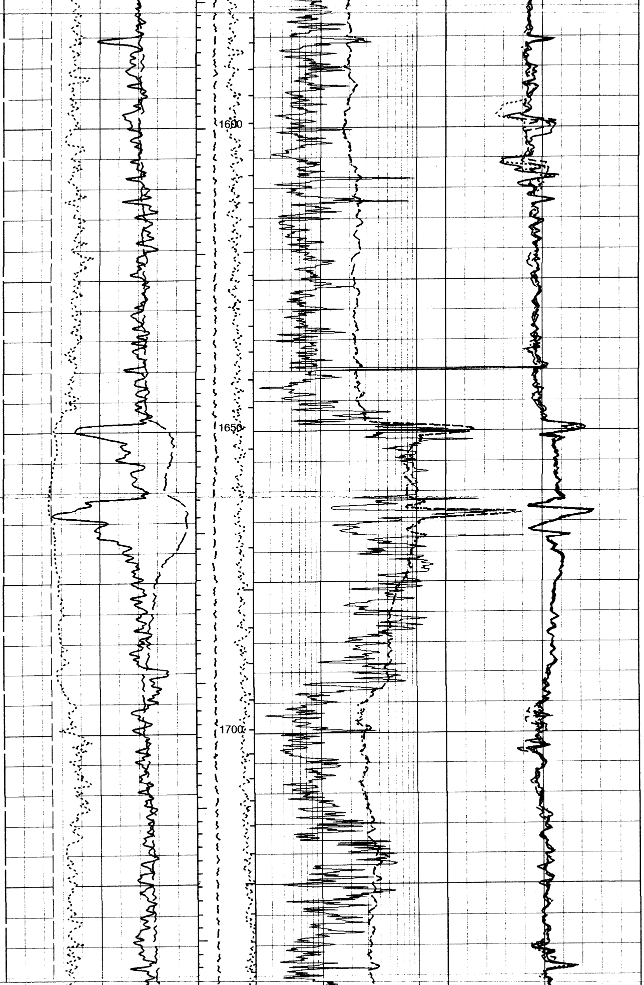
Tension (TENS) (LBF)
0.0 1000.0

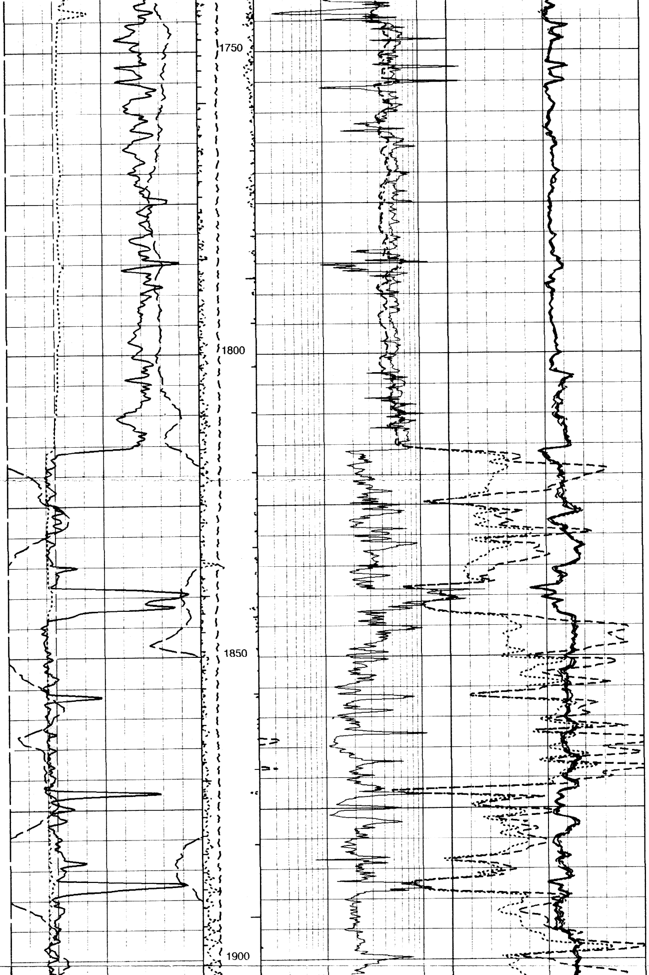
Laterolog Deep Resistivity (LLD)
0.2 (OHMM) 2000.0

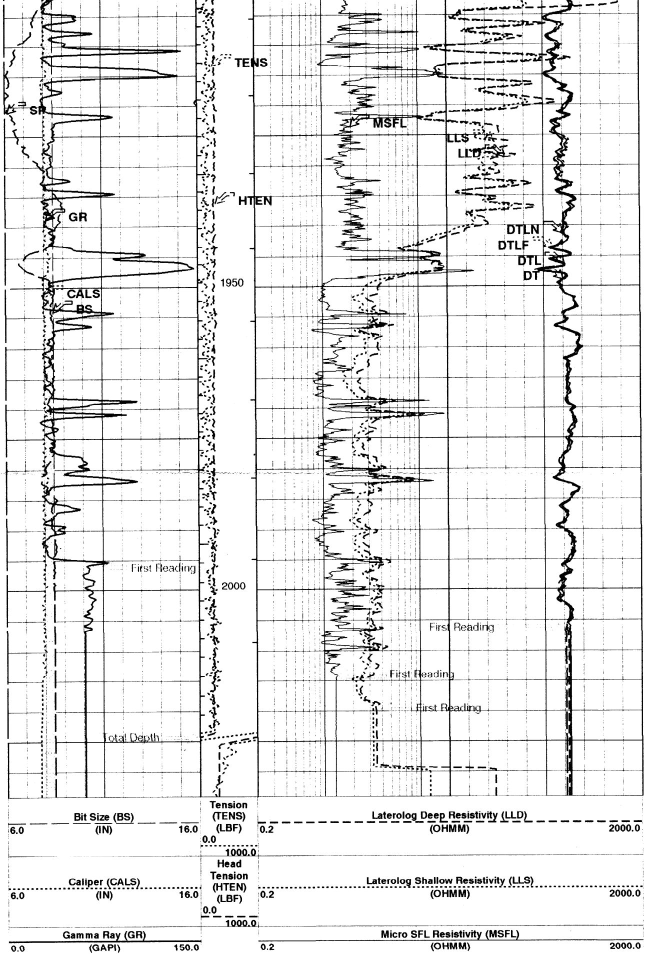












SP (SP)
-80.0 (MV) 20.0

Washout
From BS to CALS

Mud Cake
From CALS to BS

MAIN PASS

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

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

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: 21-MAR-1993 18:46

OP System Version: 5C0-423

Input DLIS Files

DEFAULT	DLTE .007	FIELD	21-MAR-1993 16:55	2033.9 M	1133.4 M

Output DLIS Files

TRANS2	DLTE .012	FIELD	21-MAR-1993 18:46
DEFAULT	DLTE .012	FIELD	21-MAR-1993 18:46

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)	83	DEGC
BILI	Bond Index Level for Zone Isolation	0.8	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	45000.0	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	0.3	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)*	*6*	*IN*
FCD	Future Casing (Outer) Diameter	7	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	4.51523	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	19.7824	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	
RATE	Firing Rate (RATE)	R15	
RMOD	Receiver Mode (RMOD)	AUTO	
RMUD	Resistivity of Mud Sample	1	OHMM
RTCO	RTCO - Rt Invasion Correction	YES	
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
SPDR	SP Drift	0	MV/M
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPNV	SP Next Value	-55	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	2024	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-1**
FIELD: **WILDCAT**
RIG NAME: **BYFORD**
COUNTRY: **AUSTRALIA**

BOTTOM LOG INTERVAL	2019 M
SCHLUMBERGER DEPTH	2024 M
DEPTH DRILLER	2031 M
KELLY BUSHING	25.3 M
DRILL FLOOR	25 M
GROUND LEVEL	-57 M

Schlumberger

SUITE-2, RUN-2 1/500
DLL-MSFL-AS-GR-AMS-SP
(2024 - 1189 M)