Schlumberger

Company: **Esso Australia Pty. Ltd.**

Well: **Scallop−1**
Field: **Wildcat**
Rig: **TSF 702** State: **Victoria**

Rig: TSF 702
Field: Wildcat
Location: Bass Strait
Well: Scallop−1
Company: Esso Australia Pty. Ltd.

GeoVision Resistivity*
1:500 Measured Depth
Recorded Mode Log

Location

Total depth:	3174.0 m
Spud date:	2−Feb−2003
Runs:	1 To 1

Elevation

K.B.	25.9 m
G.L.	−109.6 m
D.F.	25.9 m

Permanent datum:	Mean Sea Level	Elev.:	109.6 m
Log measured from:	Drill Floor	25.9 m	above Perm. datum
Depth reference:	Driller's Depth		

API serial no.	y = 5, 769, 298.84 m N	Longitude	Latitude
	x = 639, 314.95 m E	148º35'28.879'' E	38º12'48.615'' S

Depth logged:	2900.0 m To 3154.6 m	Mag decl:	13.24 deg.
Date logged:	19−Feb−03 To 22−Feb−03	Mag dip:	−68.66 deg.

Other services: Directional Surveys

Bore hole record

Hole size	from	to
36.00 in.	136 m	184 m
17.50 in.	184 m	915 m
12.25 in.	900 m	3174 m

Casing record

Size	Density	from	to
30 in.	457 lbm/m	134 m	158 m
30 in.	310 lbm/m	158 m	176 m
20 in.	129 lbm/m	176 m	184 m
20 in.	203 lbm/m	134 m	140 m
13.375 in.	72 lbm/m	140 m	143 m
13.375 in.	68 lbm/m	143 m	900 m

Mud record

Type	from	to
KCl/phpa/Glycol	900 m	3174 m

Borehole deviation record

Min	Max	from	to
0.39 deg.	1.55 deg.	2933 m	3174 m

Surface equipment		Software record			
Unit	OLU−JC−9602	IDEAL Wis	ID8_0C_07		
Depth system	Geolograph/GTE	SPM	HSPM8_0C_13		
		LWD	See Toolsketch		
		MWD	See Toolsketch		

Bit Run Summary

Run number		1	
Bit size	in	12.25	
Bit start depth	m	2933.0	
Bit end depth	m	3174.0	
Top interval logged	m	2900.0	
Bottom interval logged	m	3154.6	
Begin log: time		7:30	
Begin log: date		19−Feb−03	
End log: time		10:00	
End log: date		22−Feb−03	
Mud data			
Depth	m	3154.0	

Type		KCl/phpa/Glycol									
Mud weight	lb/gal	10.35									
Solids	%	8.8									
Chlorides	mg/L	38,500									
Rm	ohm−m@ºC	0.1089@22									
Rmf	ohm−m@ºC	0.0914@21									
Rmc	ohm−m@ºC	0.309@24									
Potassium	%	2.9									
Environmental data											
GR											
Mud weight	lb/gal	10.35									
Bit size	in	12.25									
Resistivity											
Neutron porosity											
Hole Size	in.	12.25									
Mud weight	lb/gal	10.35									
Temperature	ºC	73									
Mud salinity	ppk	63.525									
Formation salinity											
Recording rate 1	SEC	10									
Recording rate 2	SEC	10									
Filtering GR		3 pt									
Filtering density											
Filtering Neutron											
Company representative		G. Sharkey	M.Jackson								
Anadrill personnel		L.Bon	K.Handley								

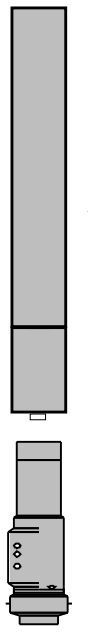
OTHER SERVICES FOR RUN1	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
D & I		
REMARKS: RUN NUMBER 1	**REMARKS: RUN NUMBER**	**REMARKS: RUN NUMBER**
All data presented is from tool memory. GR corrected for mud weight, tool and bit size. RAB8* resistivity corrected for the bit size, mud resistivity and borehole temperature. Mud type is KCl/phpa/Glycol.		

RAB8* downhole software: 5.0B14
PowerPulse* downhole software: 6.1C00

EQUIPMENT DESCRIPTION

RUN1	RUN	RUN

DOWNHOLE EQ



PowerPu
S/N: M8
OD: 8.4

30.8

D&I — 26.5

RAB8−
S/N: 0
OD: 8.2
Blade OD: 1

22.4

Shallo 20.1
Mediu 20.0
Deep 19.8
Ring R 19.6
GR 19.4

Cross O OD: 8.0

18.5

IB Stabi
S/N: 207
OD: 8.5
Blade OD: 1

18.2

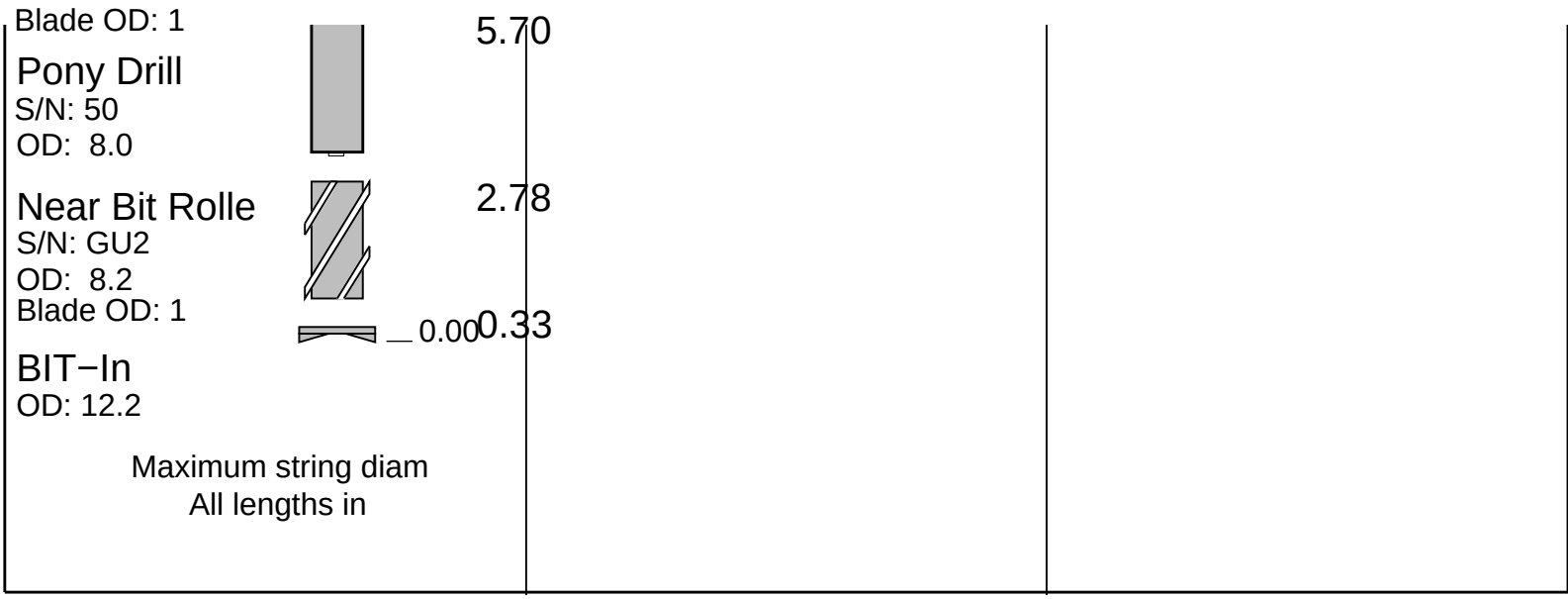
16.4

Drill Co
S/N: 93
OD: 8.2

Bit Re — 9.40

IB Stabi
S/N: 207
OD: 8.2

7.14



IDEAL Version: ID8_0C_07

IDF

RAB	**id8_0c_07**	**MWD_10**	**id8_0c_07**

Format: GeoVISION Resistivity **Vertical Scale: 1:500** **Graphics File Created: 28−Feb−2003 15:33**

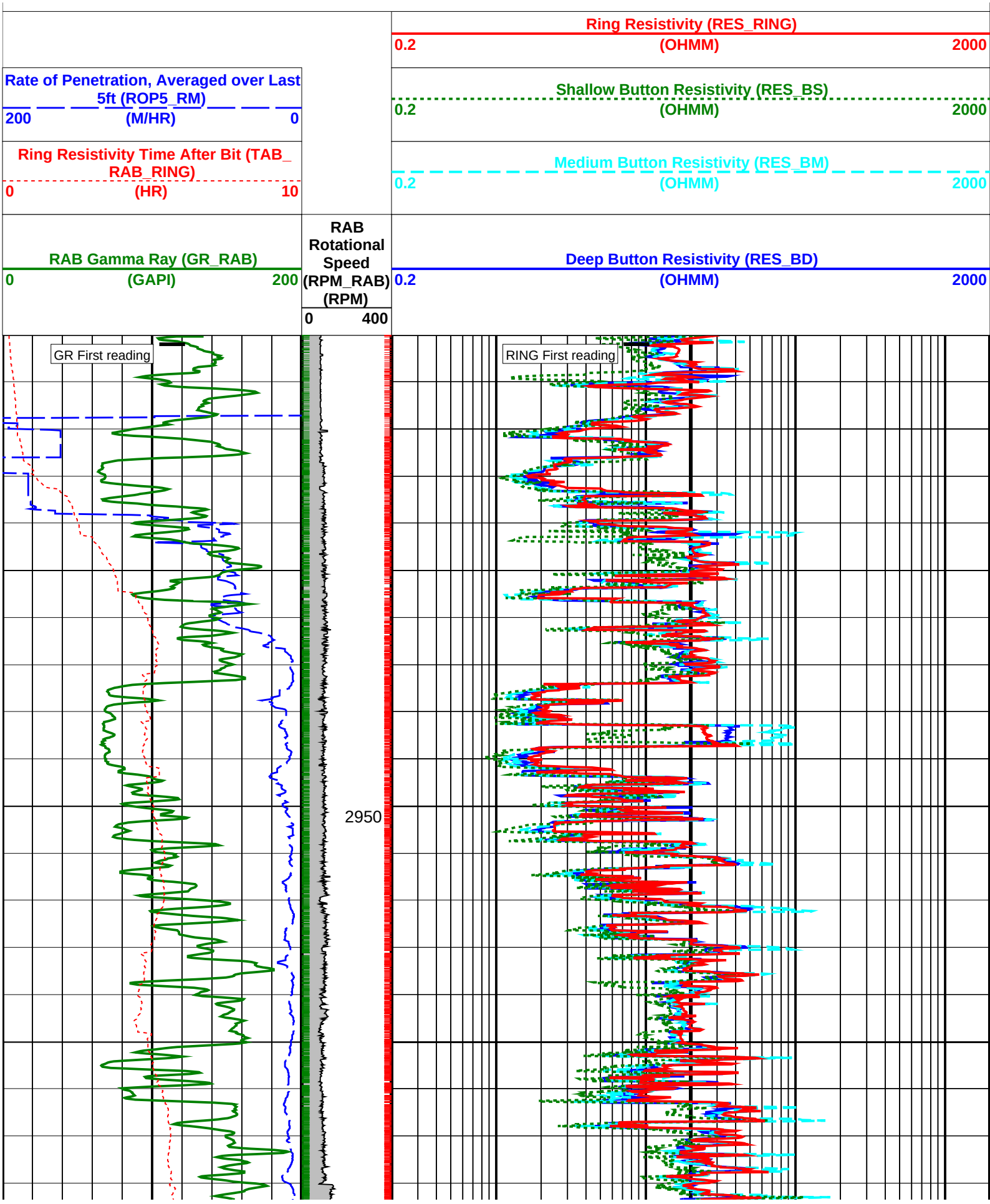
Parameters

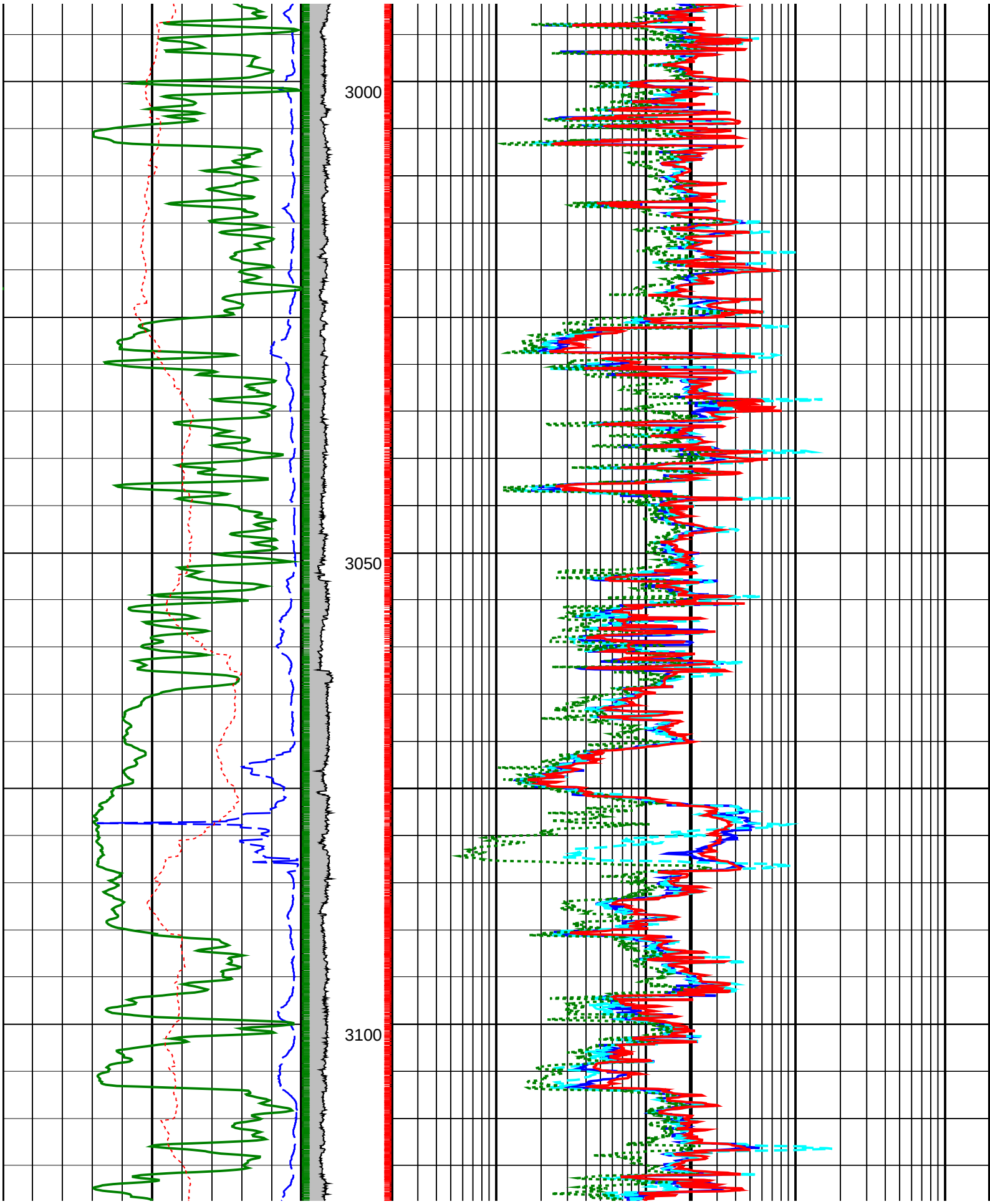
DLIS Name	Description	Value	
BDBHCA	RAB: Button Deep Borehole A Factor	−0.035	
BDBHCB	RAB: Button Deep Borehole B Factor	−0.018	
BHA_COEF_VER	RAB: BHA Coef Generator Version	2.000	
BITBHCA	RAB: Bit A Borehole Factor	0.090	
BITBHCB	RAB: Bit B Borehole Factor	−0.073	
BIT_K_FACTOR	RAB: Bit K Factor	22.722	
BMBHCA	RAB: Button Medium Borehole A Factor	0.006	
BMBHCB	RAB: Button Medium Borehole B Factor	−0.019	
BSBHCA	RAB: Button Shallow Borehole A Factor	−0.009	
BSBHCB	RAB: Button Shallow Borehole B Factor	−0.036	
BS_RM	Bit Size (RM)	12.250	in
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.002	
BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000	
DBUTTON_K_FACTOR	RAB: Button Deep K factor	0.003	
DHS_VERSION	RAB: DownHole Software Version	5.001	
DO	Depth Offset	0.0	m
GRDC	Grid corr angle	−0.980	deg
MBUTTON_K_FACTOR	RAB: Button Medium K Factor	0.003	
MST_RM	Mud Sample temperature (RM)	22.000	degC
MW_RM	Mud Weight (RM)	10.350	lbm/gal
OBM	RAB: Oil base Mud	NO	
RABEC	RAB: Resistivity Env−Cor	YES	
RAB_TEMP_SELECT	RAB Temperature Selection	MEAS	
READOUT_PORT_MP	RAB: ROP to Bit Face Distance	19.370	m
RINGBHCA	RAB: Ring Borehole A Factor	0.298	
RINGBHCB	RAB: Ring Borehole B Factor	−0.112	
RING_KIMP_A	RAB: Ring Impedance Coeff A	0.000	
RING_KIMP_B	RAB: Ring Impedance Coeff B	0.000	
RING_K_FACTOR	RAB: Ring K Factor	0.100	
RMS_RM	Resistivity of Mud Sample (RM)	0.109	ohm.m
SBUTTON_K_FACTOR	RAB: Button Shallow K Factor	0.005	
STAB	RAB: Run with Stabilizer	YES	
TOOLTYPE	RAB: Azimuthal Tool	YES	
TS_VERSION	RAB: ToolScope Software Version	6.101	
VRAB6	Rab Tool type (ENP/PILOT)	RAB8_ENP	

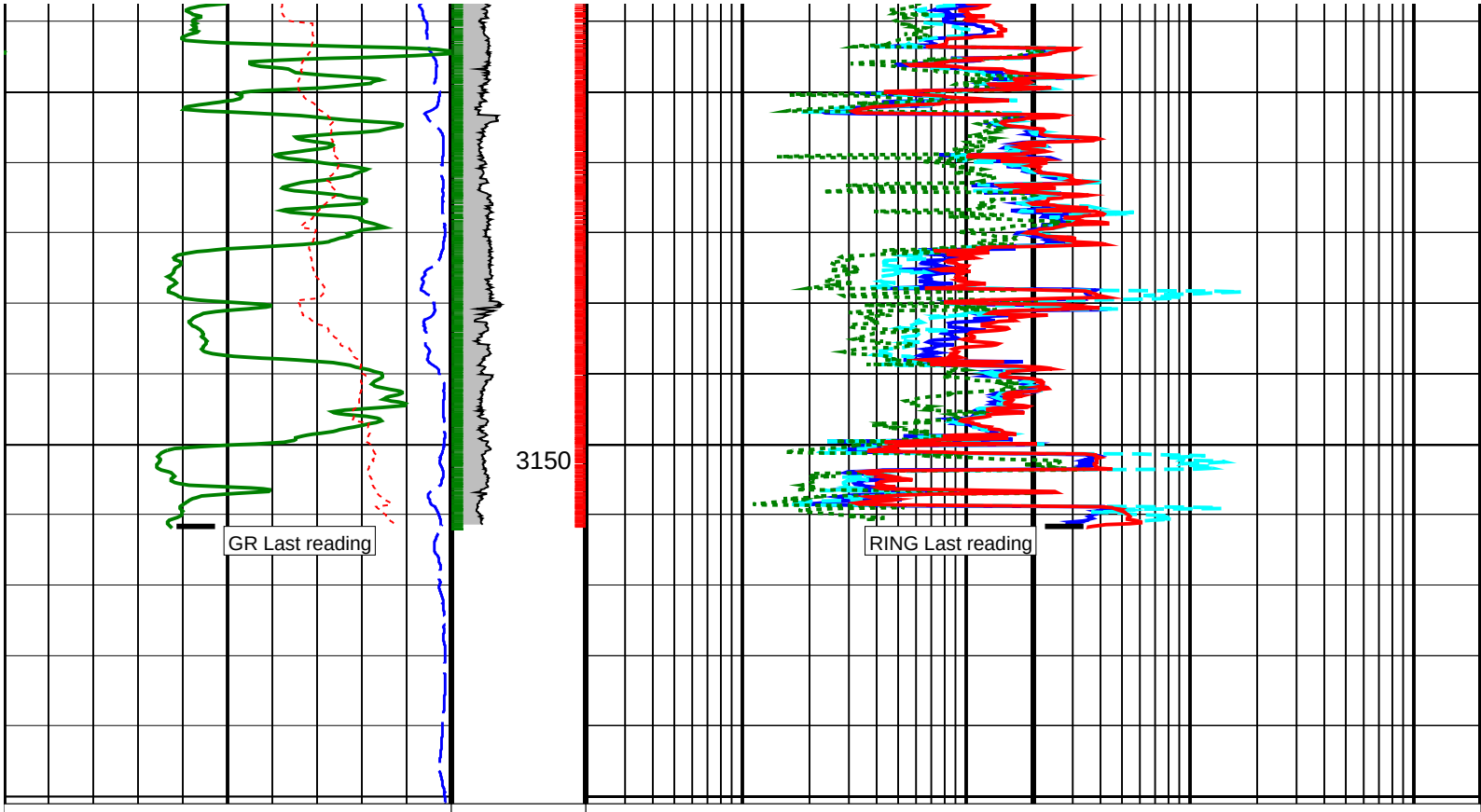
PIP SUMMARY

Gamma Ray Samples

Ring Samples


Rate of Penetration, Averaged over Last 5ft (ROP5_RM)
200
(M/HR)
0
Ring Resistivity Time After Bit (TAB_RAB_RING)
0
(HR)
10
Ring Resistivity (RES_RING)
0.2
(OHMM)
2000
Shallow Button Resistivity (RES_BS)
0.2
(OHMM)
2000
Medium Button Resistivity (RES_BM)
0.2
(OHMM)
2000
RAB Gamma Ray (GR_RAB)
0
(GAPI)
200
RAB Rotational Speed (RPM_RAB)
(RPM)
0
400
Deep Button Resistivity (RES_BD)
0.2
(OHMM)
2000
GR First reading
RING First reading
2950


3000
3050
3100



RAB Gamma Ray (GR_RAB)
0 (GAPI) 200

RAB Rotational Speed (RPM_RAB) (RPM)
0 400

Deep Button Resistivity (RES_BD)
0.2 (OHMM) 2000

Ring Resistivity Time After Bit (TAB_RAB_RING)
0 (HR) 10

Medium Button Resistivity (RES_BM)
0.2 (OHMM) 2000

Rate of Penetration, Averaged over Last 5ft (ROP5_RM)
200 (M/HR) 0

Shallow Button Resistivity (RES_BS)
0.2 (OHMM) 2000

Ring Resistivity (RES_RING)
0.2 (OHMM) 2000

PIP SUMMARY

Gamma Ray Samples

Ring Samples

IDEAL Version: ID8_0C_07

IDF

RAB	**id8_0c_07**	**MWD_10**	**id8_0c_07**

8.25−in. Resistivity At−the−Bit / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	RAB8 − AA	10
Calibration Status	Valid	

Master: 6−Feb−2003 16:34

8.25−in. Resistivity At−the−Bit Calibration

Resistivity: Fixture

Phase	Ring/T1 factor	Value
Master		0.01128
	0.009500 (Minimum) 0.01100 (Nominal) 0.01250 (Maximum)	

Phase	Ring/T2 factor	Value
Master		0.01129
	0.009500 (Minimum) 0.01100 (Nominal) 0.01250 (Maximum)	

Phase	M0/T1 factor	Value
Master		1.089
	0.9000 (Minimum) 1.050 (Nominal) 1.200 (Maximum)	

Phase	M0/T2 factor	Value
Master		1.071
	0.9000 (Minimum) 1.050 (Nominal) 1.200 (Maximum)	

Phase	M2/T1 factor	Value
Master		0.9718
	0.8500 (Minimum) 1.000 (Nominal) 1.150 (Maximum)	

Phase	M2/T2 factor	Value
Master		0.9375
	0.8500 (Minimum) 1.000 (Nominal) 1.150 (Maximum)	

Phase	BTN shallow/T1 factor	Value
Master		0.0006535
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Phase	BTN shallow/T2 factor	Value
Master		0.0006539
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Phase	BTN medium/T1 factor	Value
Master		0.0006565
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Phase	BTN medium/T2 factor	Value
Master		0.0006568
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Phase	BTN deep/T1 factor	Value
Master		0.0006718
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Phase	BTN deep/T2 factor	Value
Master		0.0006716
	0.0005700 (Minimum) 0.0006700 (Nominal) 0.0007700 (Maximum)	

Master: 28−Feb−2003 10:54

8.25−in. Resistivity At−the−Bit Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor	Value
Master		9.441
	6.500 (Minimum) 8.000 (Nominal) 9.500 (Maximum)	

SCHLUMBERGER

Survey report 22−Feb−2003 14:25:49 Page 1 of 2

Client.....: ESSO Australia Ltd. Pty.
Field.....: Wildcat

Well.....: Scallop−1
API number.....:
Engineer.....: L. Bon
RIG:.....: TSF 702
STATE:.....: Victoria

Spud date.....: 2−Feb−2003
Last survey date.....: 22−Feb−03
Total accepted surveys...: 10
MD of first survey.....: 2923.00 m
MD of last survey.....: 3174.00 m

−−−−− Survey calculation methods−−−−−−−−−−
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

−−−−− Depth reference −−−−−−−−−−−−−−−−−−−−
Permanent datum.....: MEAN SEA LEVEL
Depth reference.....: Driller's Depth
GL above permanent.....: −110.00 m
KB above permanent.....: 25.90 m
DF above permanent.....: 25.90 m

−−−−− Vertical section origin−−−−−−−−−−−−−−−
Latitude (+N/S−).....: 0.00 m
Departure (+E/W−).....: 0.00 m

−−−−− Platform reference point−−−−−−−−−−−−−−
Latitude (+N/S−).....: 37.24 m
Departure (+E/W−).....: 2.84 m

−−−−− Geomagnetic data −−−−−−−−−−−−−−−−−−−−
Magnetic model.....: BGGM version 2002
Magnetic date.....: 14−Feb−2003
Magnetic field strength..: 1199.67 HCNT
Magnetic dec (+E/W−).....: 13.24 degrees
Magnetic dip.....: −68.66 degrees

−−−−− MWD survey Reference Criteria −−−−−−−−−
Reference G.....: 1000.02 mGal
Reference H.....: 1199.67 HCNT
Reference Dip.....: −68.66 degrees
Tolerance of G.....: (+/−) 2.50 mGal
Tolerance of H.....: (+/−) 6.00 HCNT
Tolerance of Dip.....: (+/−) 0.45 degrees

−−−−− Corrections −−−−−−−−−−−−−−−−−−−−−−−−−
Magnetic dec (+E/W−).....: 13.24 degrees
Grid convergence (+E/W−).: −0.98 degrees
Total az corr (+E/W−)....: 14.22 degrees
Azimuth from rotary table to target: 0.00 degrees (Total az corr = magnetic dec − grid conv)

Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction

F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S− (m)	Displ +E/W− (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy Tool type	Tool Corr (deg)
1	2923.00	1.35	28.95	0.00	2922.61	37.24	37.24	2.84	37.35	4.36	0.00	TIP	None
2	2936.30	1.36	325.18	13.30	2935.91	37.51	37.51	2.83	37.61	4.31	1.08	MWD	None
3	2964.01	1.45	327.72	27.71	2963.61	38.07	38.07	2.45	38.15	3.68	0.04	MWD	None
4	2993.09	1.51	327.61	29.08	2992.68	38.71	38.71	2.05	38.76	3.03	0.02	MWD	None
5	3023.62	1.56	335.57	30.53	3023.20	39.43	39.43	1.66	39.46	2.41	0.07	MWD	None
6	3051.74	1.55	335.18	28.12	3051.31	40.12	40.12	1.34	40.14	1.92	0.01	MWD	None
7	3080.66	1.55	331.24	28.92	3080.22	40.82	40.82	0.99	40.83	1.39	0.04	MWD	None
8	3110.84	1.52	333.82	30.18	3110.39	41.53	41.53	0.62	41.54	0.85	0.02	MWD	None
9	3138.26	1.52	333.59	27.42	3137.80	42.19	42.19	0.30	42.19	0.40	0.00	MWD	None
10	3174.00	1.52	333.59	35.74	3173.52	43.04	43.04	−0.13	43.04	359.83	0.00	Projecton to TD	

[(c)2003 IDEAL ID8_0C_07]

Company: **Esso Australia Pty. Ltd.**

Schlumberger

Well: **Scallop−1**

Field: **Wildcat**

Rig: **TSF 702**

State: **Victoria**

GeoVision Resistivity*
1:500 Measured Depth
Recorded Mode Log