

Reeves

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:500 TVD

COMPANY				ESSO AUSTRALIA PTY. LTD.			
WELL				TUNA A-05A			
FIELD				GIPPSLAND BASIN			
PROVINCE/COUNTY				BASS STRAIT			
COUNTRY/STATE				AUSTRALIA			
LOCATION				X: 624233.40 m E, Y: 5774225.83 m N 38°10'16.282" S, 148°25'05.756" E			
LSD	SEC	TWP	RGE	Other Services			
API Number				COMPENSATED SONIC			
Permit Number							
Permanent Datum MSL				, Elevation 0		metres	
Log Measured From DF@ 31.32				metres above Permanent Datum			
Drilling Measured From DF							
Date	26-Dec-2002					Elevations: KB DF 31.32 GL -59.40 metres metres metres	
Run Number	1						
Depth Driller	1450.68			metres			
Depth Logger	1450.68			metres			
First Reading	1448.70			metres			
Last Reading	1319.80			metres			
Casing Driller	652.00			metres			
Casing Logger							
Bit Size	8.50			Inches			
Hole Fluid Type	KCL/PPH/AGLY						
Density / Viscosity	10.30 lb/USg			64.00 secs/ct			
PH / Fluid Loss	9.00			3.20 ml/30Min			
Sample Source	FLOWLINE						
Rm @ Measured Temp	0.118 @ 25.0			ohm-m			
Rmf @ Measured Temp	0.085 @ 25.0			ohm-m			
Rmc @ Measured Temp	0.193 @ 25.0			ohm-m			
Source Rmf / Rmc	PRESS			FILTER			
Rm @ BHT	0.059 @ 73.0			ohm-m			
Time Since Circulation	36:15 hrs						
Max Recorded Temp	73.00			deg C			
Equipment Name	SHUTTLE						
Equipment / Base	1			CML			
Recorded By	M. BARNES, B. ARNOLD			D. MACHIN, G. MCMANUS			
Witnessed By	G. SMITH						
Circ. Stopped	09:00 25-Dec						

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
12.250	218.00	841.00
8.500	841.00	3257.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	9.625	0.00	836.41	47.00

REMARKS

DRILLING RIG: NABORS (ISDL) RIG 453.

COMPACT WIRELINE TOOLS DEPLOYED BY COMPACT WELL SHUTTLE TECHNIQUE.

MESSENGER DEPLOYED WITH RIG MUD PUMPS.

RING SHEARED AT 21:10 26-DEC-02.

SHEARING PRESSURE WAS 1200 PSI.

HTHP FILTER LOSS = 10.8 ml/30min.

CASING DETAILS:

20" 133.0 lb/ft from surface to 164.60 m.

13 3/8" 54.5 lb/ft from surface to 609.65 m (window milled from 210.39 m to 218.39 m).

9 5/8" 47.0 lb/ft from surface to 836.41 m.

CALIPER READING 8.68" ON TIME LOG IN 9 5/8" 47 LB/FT CASING.

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 wilful 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 our general terms and conditions in our price schedule.

MAIN LOG 1:500

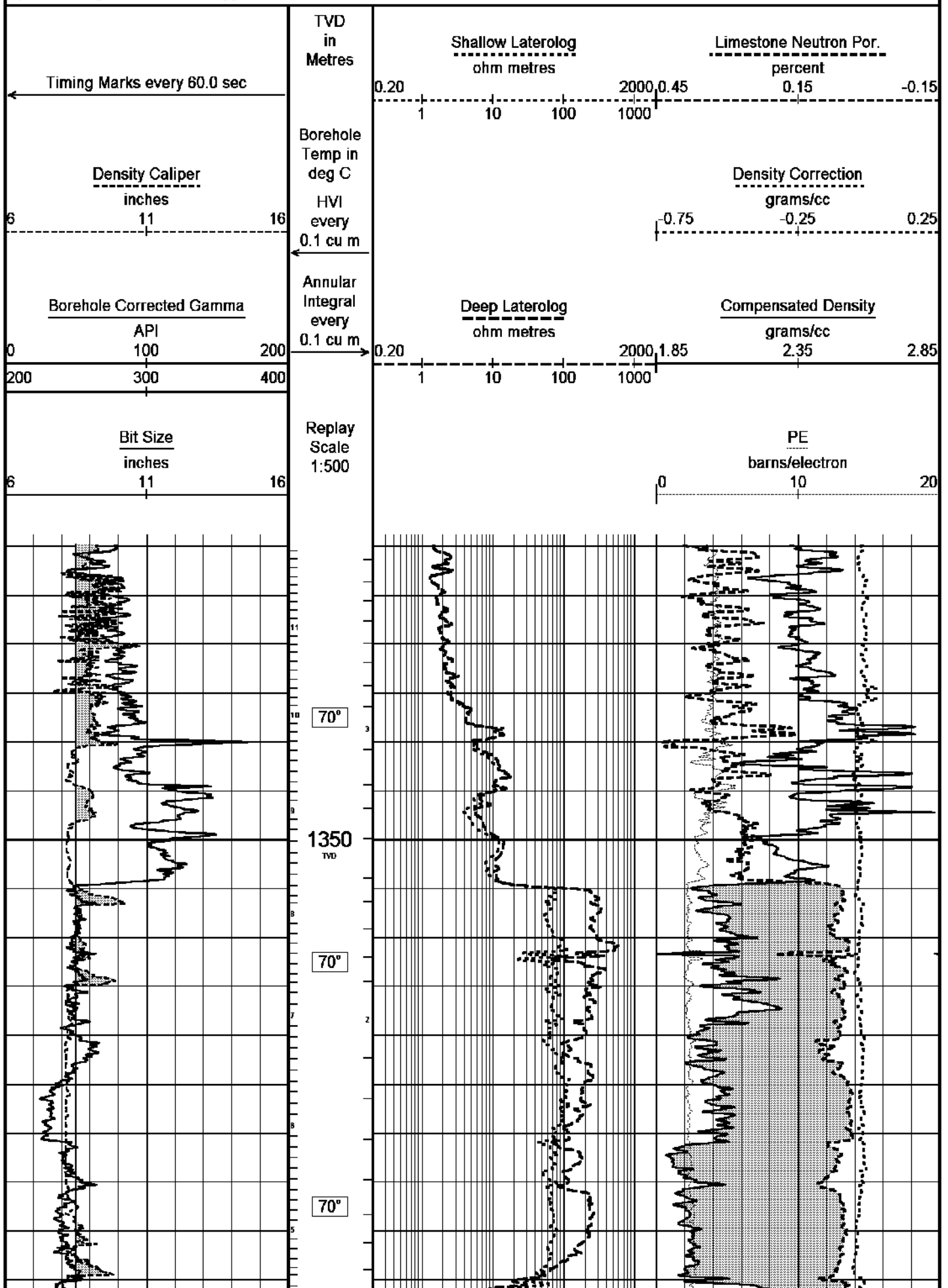
Depth Based Data - Maximum Sampling Increment 10.0cm

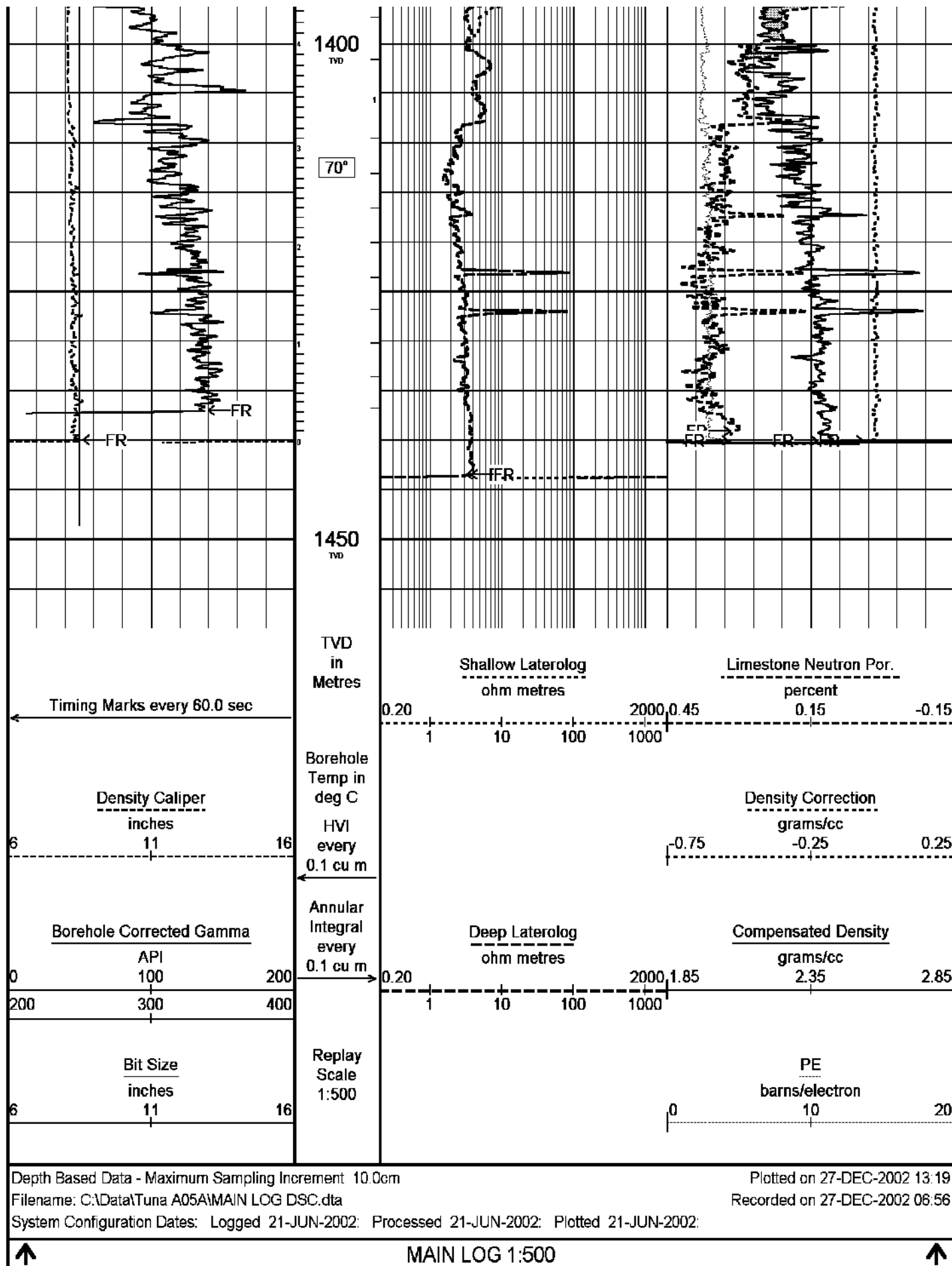
Plotted on 27-DEC-2002 13:19

Filename: C:\Data\Tuna A05A\MAIN LOG DSC.dta

Recorded on 27-DEC-2002 06:56

System Configuration Dates: Logged 21-JUN-2002: Processed 21-JUN-2002: Plotted 21-JUN-2002





BEFORE SURVEY CALIBRATION

C:\Data\Tuna A05A\MAIN LOG DSC.dta

General Constants All 000

General Parameters

Mud Resistivity

0.06

ohm-metres

Mud Resistivity Temperature	73.00	degrees C
Water Level	0.00	metres
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Density Caliper	
Annular Volume Diameter	7.00	inches
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Deep Induction	
RWA Constant A	0.61	
RWA Constant M	2.15	
Gamma Calibration MCG 044		
		Field Calibration on 24-DEC-2002 10:04
	Measured	Calibrated (API)
Background	11	7
Calibrator (Gross)	1439	916
Calibrator (Net)	1428	909
Gamma Constants MCG 044		
Gamma Calibrator Number	060	
Mud Density	1.24	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm
High Resolution Temperature Calibration MCG 044		
		Field Calibration on 4-SEP-2002,14:58
	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	150.00	150.00
High Resolution Temperature Constants MCG 044		
Pre-filter Length	11	
Neutron Calibration MDN 068		
		Base Calibration on 5-DEC-2002 18:20
		Field Check on 24-DEC-2002 10:24
Base Calibration		
	Measured	Calibrated (cps)
	Near Far	Near Far
	2886 90	3714 110
Ratio	32.026	33.764
Field Calibrator at Base		Calibrated (cps)
		1833 2640
Ratio		0.694
Field Check		Calibrated (cps)
		1849 2675
Ratio		0.691
Neutron Constants MDN 068		
Neutron Source Id	724	
Neutron Jig Number	52	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.24	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	MCG External Temperature	
Temperature	20.00	degrees C
Mud Salinity	56.00	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Caliper Calibration MPD 066

Base Calibration on 27-DEC-2002,09:09

Field Calibration on

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	11999	4.31
2	20143	6.29
3	28915	8.28
4	37314	10.24
5	46672	12.31
6	N/A	N/A

Field Calibration

0	0
0.00	0.00

Photo Density Calibration MPD 066

Base Calibration on 4-DEC-2002 16:29

Field Check on 26-DEC-2002 05:42

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	54476	19731	53282	19349
Reference 2	29983	2875	25298	2555

Field Check at Base

993.0 1165.2

Field Check

990.1 1159.3

PE Calibration

Base Calibration	WS	Measured		Calibrated Ratio
		WH	Ratio	
Background	189	869		
Reference 1	17146	54295	0.317	0.318
Reference 2	7927	29843	0.267	0.273

Field Check at Base

189.1 868.6

Field Check

187.7 868.8

Density Constants MPD 066

Density Source Id	226
Nylon Calibrator Number	517
Aluminium/Fe Calibrator Number	517
Density Shoe Profile	4 inch
Caliper Source for Processing	Density Caliper
Gamma Strip Coefficient	0.00
PE Correction to Density	Not Applied
Mud Density	1.24 gm/cc
Mud Density Z/A Correction	1.11
Mud Filtrate Density	1.00 gm/cc
Dry Hole Mud Filtrate Density	1.00 gm/cc
DNCT	0.00 gm/cc
CRCT	0.00 gm/cc

Matrix Density (gm/cc)

Depth (m)

2.71	
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

Laterolog Calibration MLE 015

Base Calibration on 4-SEP-2002,14:40

Field Check on 24-DEC-2002,10:46

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Shallow	0.0	072.2	0.0	1227.2

Shallow	0.0	972.9	0.0	852.7
Deep	0.0	972.9	0.0	852.7
Groningen	0.0	996.2	0.0	852.7

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Shallow	49.1	49.1
Deep	31.5	31.5
Groningen	246.3	246.3

Laterolog Constants MLE 015

Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.3273	
Deep Laterolog K Factor	0.8527	
Groningen Laterolog K Factor	0.8527	
Interference Rejection	50 Hz	
SP Connection	SP Bridle Electrode	
Groningen Connection	Groningen Electrode	

DOWNHOLE EQUIPMENT

All measurements relative to tool zero.

Compact Battery Sub.
MBS 99 Length: 4.34 m Weight: 44.09 lb

Compact Knuckle Joint
SKJ 47 Length: 0.66 m Weight: 24.25 lb

Compact Inline Standoff B
MIS 52 Length: 0.65 m Weight: 15.43 lb

Compact Stiff Bridle Electrode Sub.
MBE 9 Length: 3.76 m Weight: 94.80 lb



Compact Inline Standoff B
MIS 77 Length: 0.65 m Weight: 15.43 lb

Compact Stiff Bridle Electrode Sub.
MBE 5 Length: 3.76 m Weight: 94.80 lb

Compact Inline Standoff B
MIS 31 Length: 0.65 m Weight: 15.43 lb

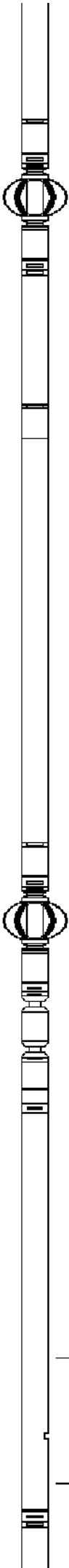
Compact Knuckle Joint
SKJ 44 Length: 0.66 m Weight: 24.25 lb

Compact Gamma
MCG 44 Length: 2.65 m Weight: 63.93 lb

33.53 m GRGC - Gamma Ray

32.64 m CGXT - MCG External Temperature

Compact Memory Sub.



MMS 24 Length: 0.95 m Weight: 22.05 lb

Compact Knuckle Joint
SKJ 46 Length: 0.66 m Weight: 24.25 lb

Compact Swivel Head Adaptor
SHA 27 Length: 0.83 m Weight: 26.46 lb

Compact Inline Bowspring A
MIS 24 Length: 1.74 m Weight: 33.07 lb

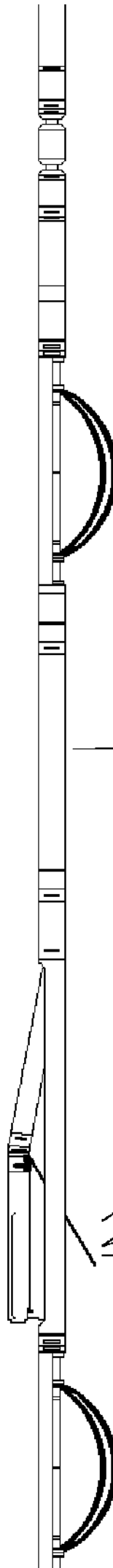
Compact Neutron
MDN 68 Length: 1.53 m Weight: 50.71 lb

27.48 m NPRL - Limestone Neutron Por.

Compact Density/Caliper
MPD 66 Length: 2.92 m Weight: 90.39 lb

24.80 m CLDC - Density Caliper
24.58 m DCOR - Density Correction
24.58 m DEN - Compensated Density
24.56 m PDPE - PE

Compact Inline Bowspring A
MIS 25 Length: 1.74 m Weight: 33.07 lb



Compact Swivel Head Adaptor
SHA 28 Length: 0.83 m Weight: 26.46 lb

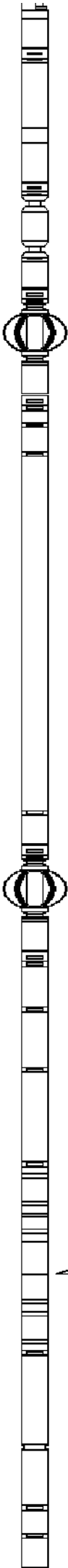
Compact Knuckle Joint
SKJ 45 Length: 0.66 m Weight: 24.25 lb

Compact Inline Standoff B
MIS 53 Length: 0.65 m Weight: 15.43 lb

Compact Upper Guard Sub.
MUG 17 Length: 2.74 m Weight: 68.34 lb

Compact Inline Standoff B
MIS 49 Length: 0.65 m Weight: 15.43 lb

Compact Laterolog Electrode Sub.
MLE 15 Length: 3.76 m Weight: 92.59 lb



14.66 m DSLL - Shallow Laterolog
14.66 m DGLL - Groningen Laterolog

Compact Inline Standoff B
MIS 76 Length: 0.65 m Weight: 15.43 lb

Compact Lower Guard Sub.
MLG 7 Length: 2.44 m Weight: 55.12 lb

Compact Inline Standoff B
MIS 73 Length: 0.65 m Weight: 15.43 lb

Compact Knuckle Joint
SKJ 48 Length: 0.66 m Weight: 24.25 lb

Compact Inline Standoff B
MIS 75 Length: 0.65 m Weight: 15.43 lb

Compact Sonic
MSS 45 Length: 3.82 m Weight: 72.75 lb

Compact Inline Standoff B
MIS 30 Length: 0.65 m Weight: 15.43 lb

Compact Induction



MAI 69 Length: 3.29 m Weight: 48.50 lb

Pressure Bung + Hole Finder
HFS 99 Length: 0.28 m

Weight: 6.61 lb

Total Length: 50.55 m

Total Weight: 1183.88 lb



COMPANY	ESSO AUSTRALIA PTY. LTD.
WELL	TUNA A-05A
FIELD	GIPPSLAND BASIN
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing		metres	First Reading	1448.70	metres
Elevation Drill Floor	31.32	metres	Depth Driller	1450.68	metres
Elevation Ground Level	-59.40	metres	Depth Logger	1450.68	metres

Reeves

DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:500 TVD