Reeves

DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:500 TVD

COMPANY	ESSO AUSTRALIA PTY. LTD.
WELL	TUNA A10a
FIELD	GIPPSLAND BASIN
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA
LOCATION	AMG X 624224.99m E AMG Y 5774222.49m N
	LAT:38°10'16.394"S LONG:148°25'05.413"E

LSD	SEC	TWP	RGE	Other Services
				COMPENSATED SONIC

API Number
Permit Number

Permanent Datum MSL , Elevation 0 metres
Log Measured From 31.32, Metres above Permanent Datum
Drilling Measured From Drill Floor, RT

Elevations:

KB		metres
DF	31.32	metres
GL	-59.40	metres

Date	12-OCT-2002			
Run Number	1			
Depth Driller	1446.70	metres		
Depth Logger	1446.70	metres		
First Reading	1445.00	metres		
Last Reading	1346.00	metres		
Casing Driller	625.90	metres		
Casing Logger				
Bit Size	8.50	inches		
Hole Fluid Type	KCL PHPA			
Density / Viscosity	10.30 lb/USg	57.00		
PH / Fluid Loss	8.90	3.40 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.126 @ 25.0	ohm-m		
Rmf @ Measured Temp	0.097 @ 25.0	ohm-m		
Rmc @ Measured Temp	0.191 @ 25.0	ohm-m		
Source Rmf / Rmc	PRESS	FILTER		
Rm @ BHT	0.07 @ 63.0	ohm-m		
Time Since Circulation	0.65 HRS			
Max Recorded Temp	63.00	deg C		
Equipment Name	SHUTTLE			
Equipment / Base	1	CML		
Recorded By	MATT BARNES			
Witnessed By	BRUCE MENZEL			
Last Title				

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
8.500	661.20	2312.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	9.625	0.00	661.20	40.00

REMARKS

DRILLING RIG: NABORS (ISDL) RIG 453.

COMPACT WIRELINE TOOLS DEPLOYED BY COMPACT WELL SHUTTLE TECHNIQUE.

MESSENGER DEPLOYED WITH HALLIBURTON CEMENT PUMP, MESSENGER DEPLOYED AT 14:35 12-OCT.
RING SHEARED AT 15:08 12-OCT.

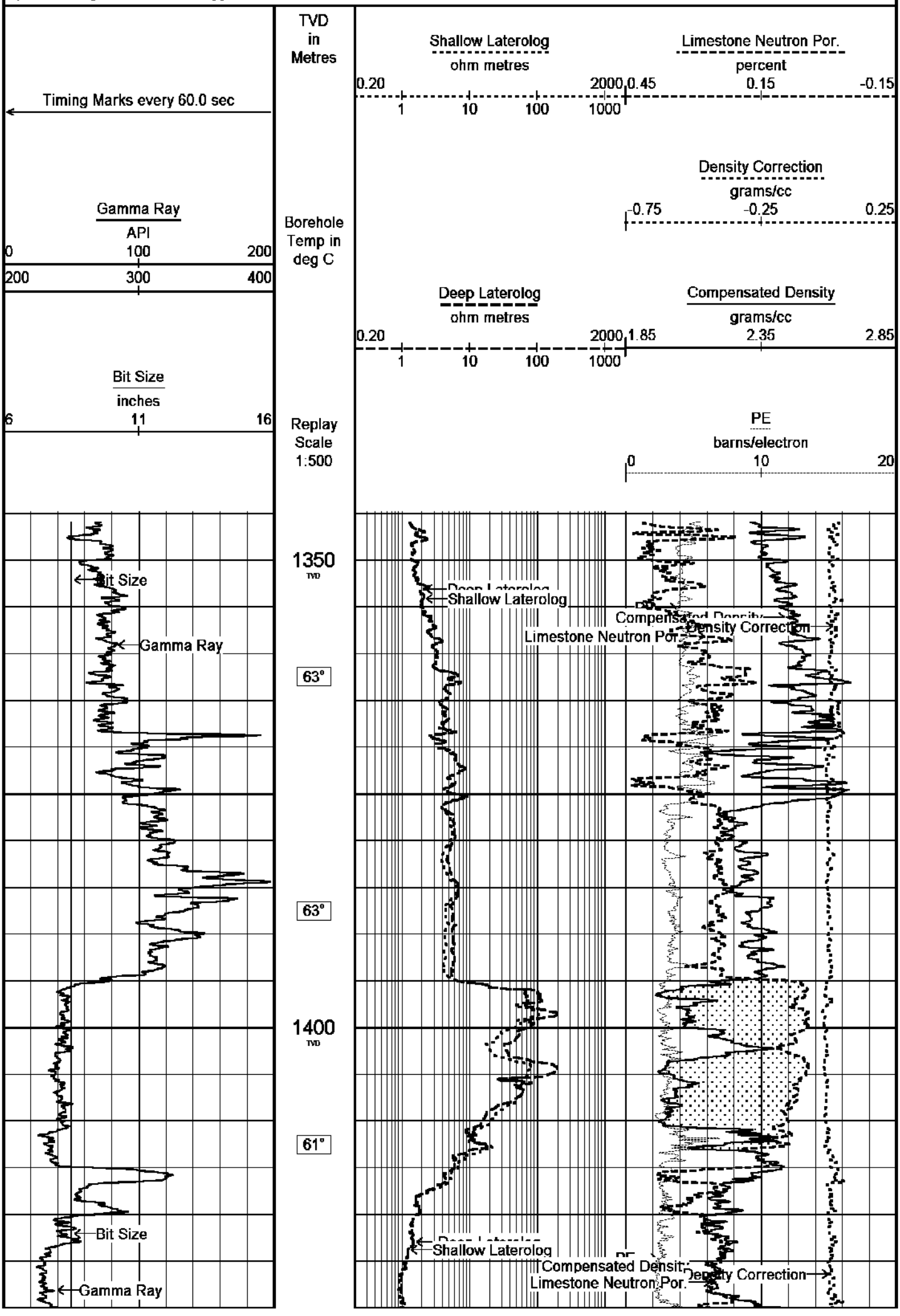
DENSITY CALIPER DID NOT OPEN, LOGS PROCESSED USING BITSIZE FOR CALIPER CORRECTIONS.

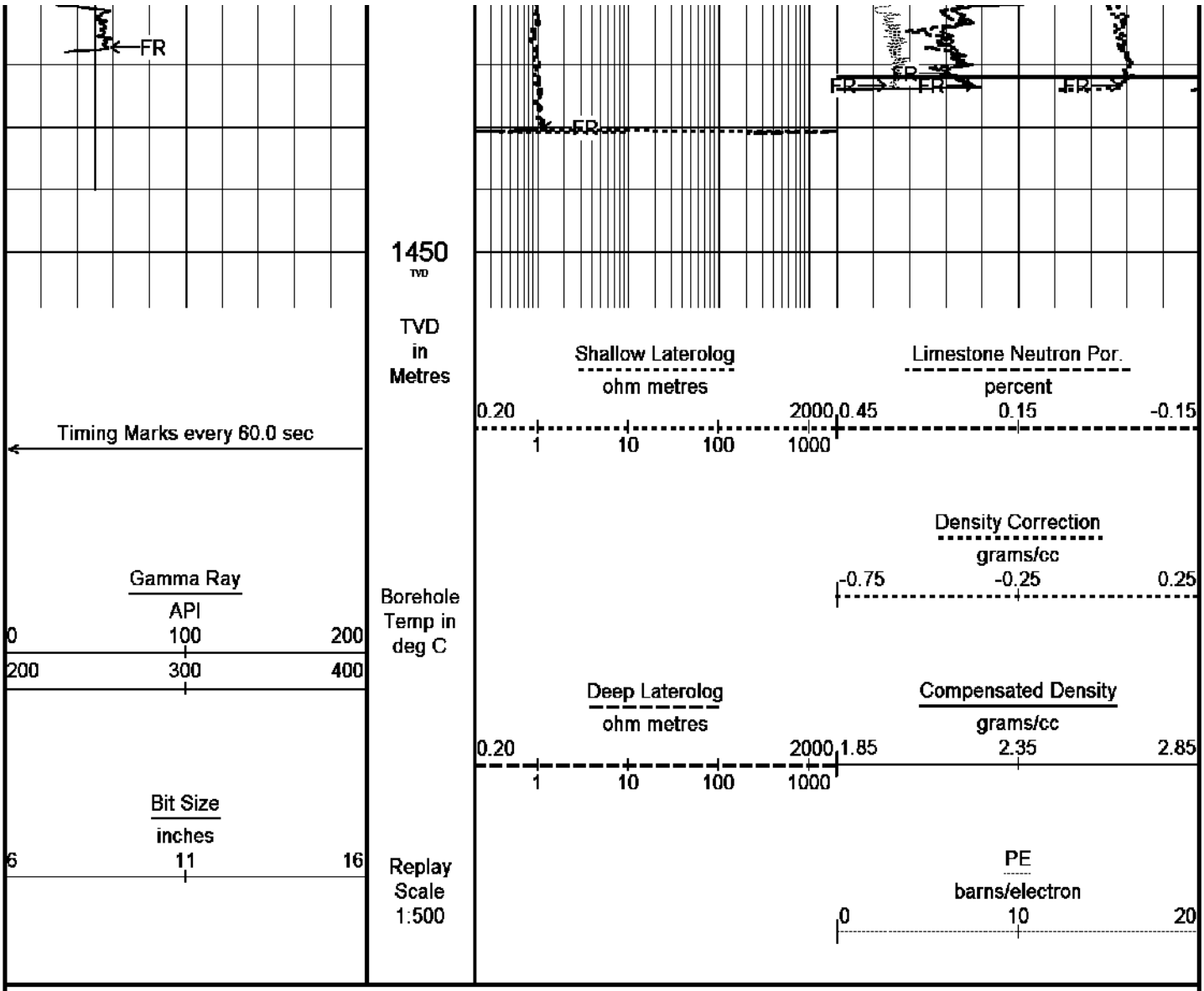
MAIN LOG 1:500

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 31-OCT-2002 20:49

Filename: C:\Data\Tuna A10a\TC\MAIN LOG DSC.dta
Recorded on 12-OCT-2002 22:51
System Configuration Dates: Logged 23-JAN-2002: Processed 21-JUN-2002: Plotted 21-JUN-2002:





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MAIN LOG 1:500

BEFORE SURVEY CALIBRATION

C:\Data\Tuna A10a\TC\MAIN LOG DSC.dta

General Constants All 000

General Parameters		
Mud Resistivity	0.07	ohm-metres
Mud Resistivity Temperature	63.00	degrees C
Water Level	0.00	metres
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	None	
Annular Volume Diameter	7.00	inches
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Deep Laterolog	
RWA Constant A	0.61	
RWA Constant M	2.15	

Gamma Calibration MCG 044

Field Calibration on 10-OCT-2002 15:55

	Measured	Calibrated (API)
Background	12	8
Calibrator (Cpms)	1440	917

Calibrator (Gross)	1440	917
Calibrator (Net)	1428	909

Gamma Constants MCG 044

Gamma Calibrator Number	060	
Mud Density	1.24	gm/cc
Caliper Source for Processing	Bit Size	
Tool Position	Centred	
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 4-SEP-2002,14:36
Field Check on 10-OCT-2002 15:45

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2771	85	3714	110
Ratio	32.600		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2438	3603
Ratio	0.677	

Field Check

	Calibrated (cps)	
	1904	2750
Ratio	0.693	

Neutron Constants MDN 068

Neutron Source Id	724	
Neutron Jig Number	52	
Epithermal Neutron	No	
Caliper Source for Processing	Bit Size	
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	N/A	degrees C
Mud Salinity	52.00	kppm
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

Photo Density Calibration MPD 066

Base Calibration on 4-SEP-2002,14:39
Field Check on 10-OCT-2002 16:08

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	54289	19473	53282	19349
Reference 2	25469	2619	25298	2555

Field Check at Base

	997.0	1172.6

Field Check

	995.7	1165.6

PE Calibration

Base Calibration

	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	191	873		
Reference 1	17342	54106	0.322	0.318

Reference 2	6938	25336	0.276	0.273
Field Check at Base	191.1	872.9		
Field Check	190.3	872.2		

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	Bit Size	
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	0.00

Laterolog Calibration MLE 015

Base Calibration on 4-SEP-2002,14:40
Field Check on 11-OCT-2002,11:33

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Shallow	0.0	972.3	0.0	1327.3
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

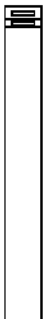
Laterolog Constants MLE 015

Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.3273	
Deep Laterolog K Factor	0.8527	
Groningem 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.

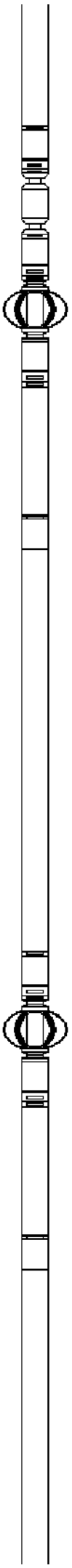
Compact Battery Sub.
MBS 99 Length: 4.34 m Weight: 44.09 lb



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

Compact Inline Standoff
MIS 52 Length: 0.65 m Weight: 30.86 lb

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



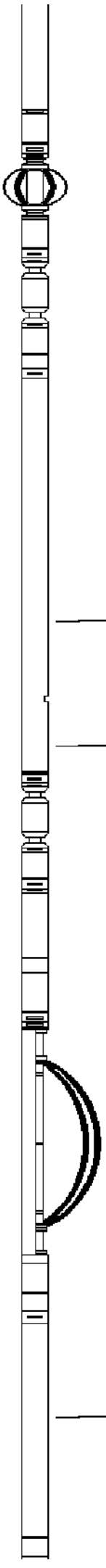
Compact Inline Standoff
MIS 77 Length: 0.65 m Weight: 30.86 lb

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

Compact Inline Standoff
MIS 31 Length: 0.65 m Weight: 30.86 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



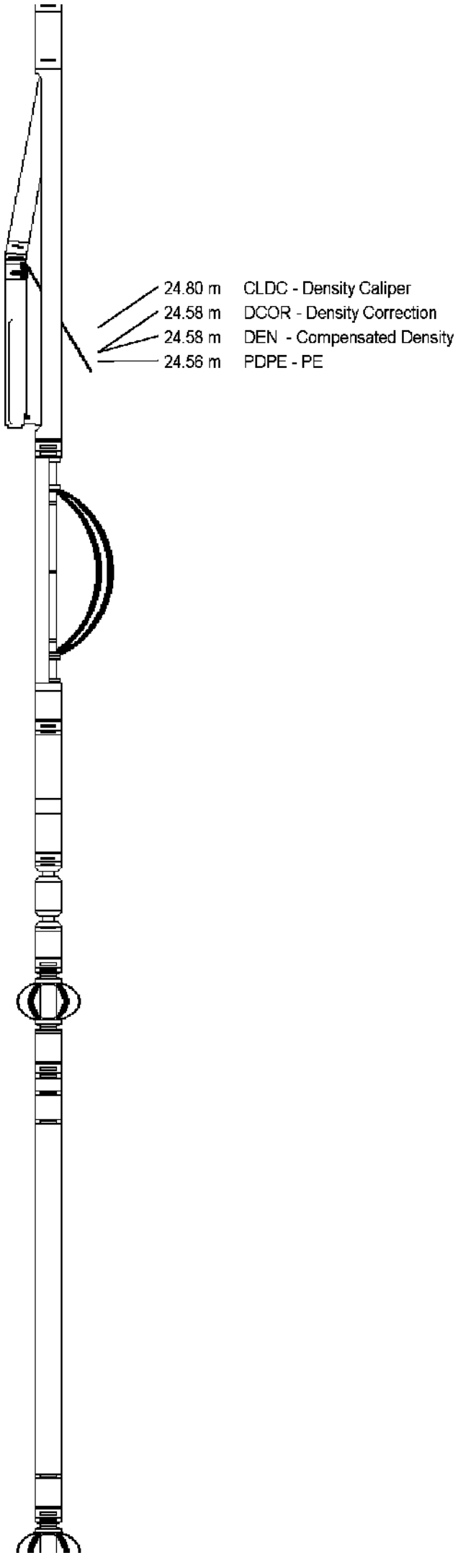
Compact Knuckle Joint
SKJ 46 Length: 0.66 m Weight: 24.25 lb

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

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

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

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



Compact Inline Bowspring
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

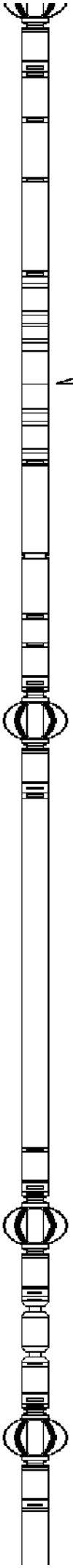
Compact Inline Standoff
MIS 53 Length: 0.65 m Weight: 30.86 lb

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

Compact Inline Standoff

Compact Inline Standoff
MIS 49 Length: 0.65 m Weight: 30.86 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
MIS 76 Length: 0.65 m Weight: 30.86 lb

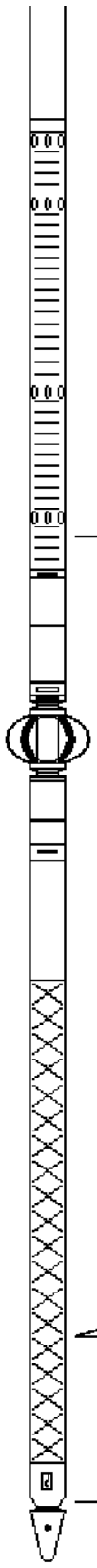
Compact Lower Guard Sub.
MLG 7 Length: 2.44 m Weight: 55.12 lb

Compact Inline Standoff
MIS 73 Length: 0.65 m Weight: 30.86 lb

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

Compact Inline Standoff
MIS 75 Length: 0.65 m Weight: 30.86 lb

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



4.60 m DT35 - 3-5' Compensated Sonic

Compact Inline Standoff
MIS 30 Length: 0.65 m Weight: 30.86 lb

Compact Induction
MAI 69 Length: 3.29 m Weight: 48.50 lb

0.79 m RILM - Medium Induction
0.79 m RILD - Deep Induction

Tool Zero (0.65m from bottom)

Compact Hole Finder
HFS 99 Length: 0.61 m Weight: 2.20 lb

Total Length: 49.93 m Total Weight: 1296.32 lb

COMPANY	ESSO AUSTRALIA PTY. LTD.
WELL	TUNA A10a
FIELD	GIPPSLAND BASIN
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing		metres	First Reading	1445.00	metres
Elevation Drill Floor	31.32	metres	Depth Driller	1446.70	metres
Elevation Ground Level	-59.40	metres	Depth Logger	1446.70	metres

Reeves

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:500 TVD