

Reeves

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:200 MD

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		Elevations:	
Log Measured From 31.32, Metres				above Permanent Datum		KB	metres
Drilling Measured From Drill Floor, RT						DF	31.32 metres
						GL	-59.40 metres
Date	12-OCT-2002						
Run Number	1						
Depth Driller	2312.00			metres			
Depth Logger	2312.00			metres			
First Reading	2307.00			metres			
Last Reading	2050.00			metres			
Casing Driller	661.20			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.

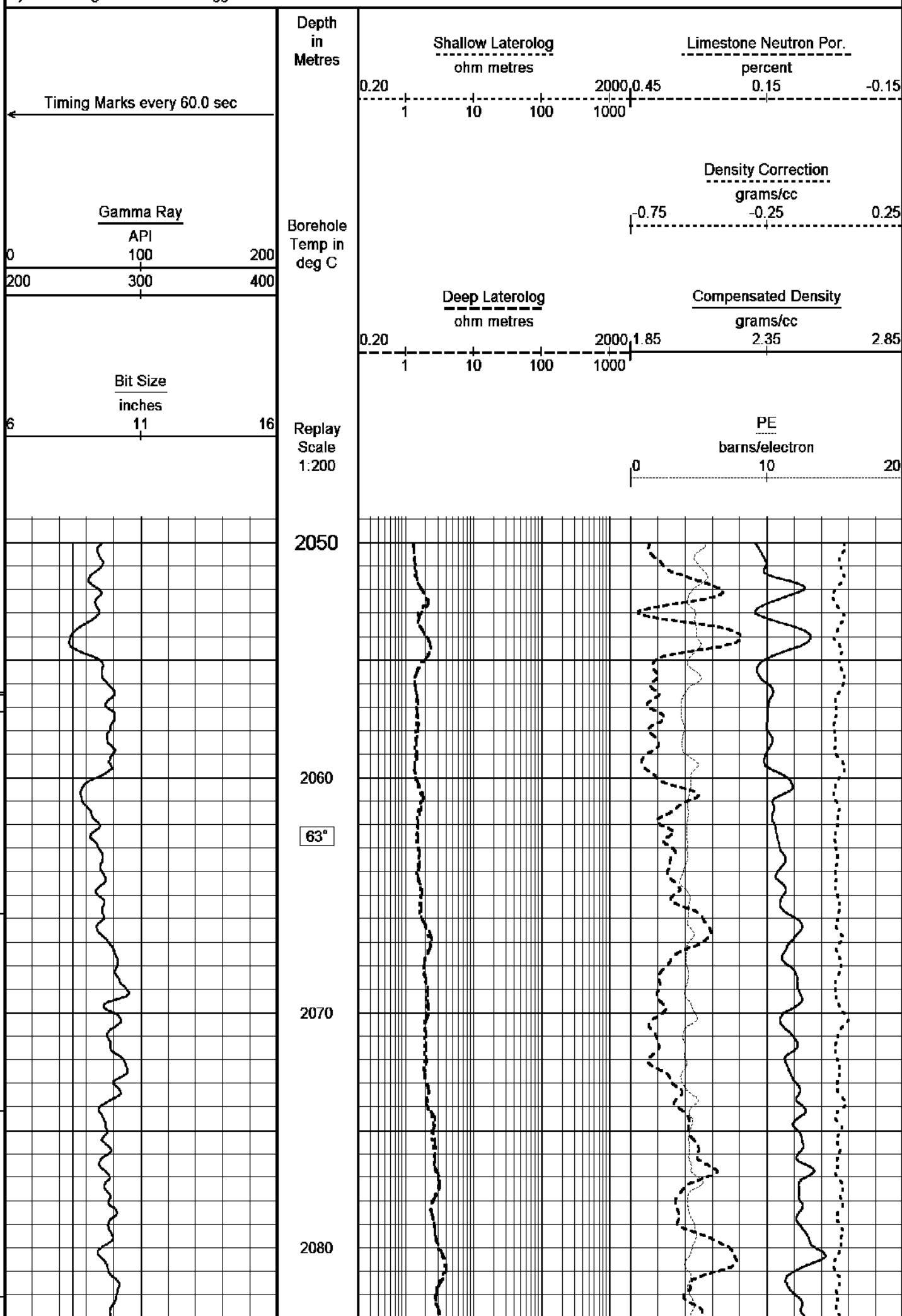
DENSITY CALIPER DID NOT OPEN, LOGS PROCESSED USING BITSIZE FOR CALIPER CORRECTIONS.

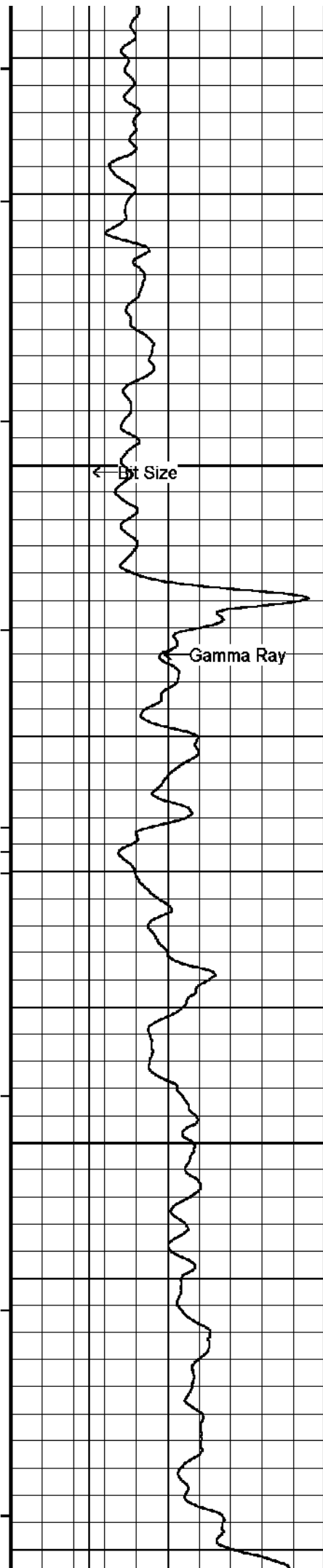
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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 1:200

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 31-OCT-2002 20:36





63°

2090

2100

2110

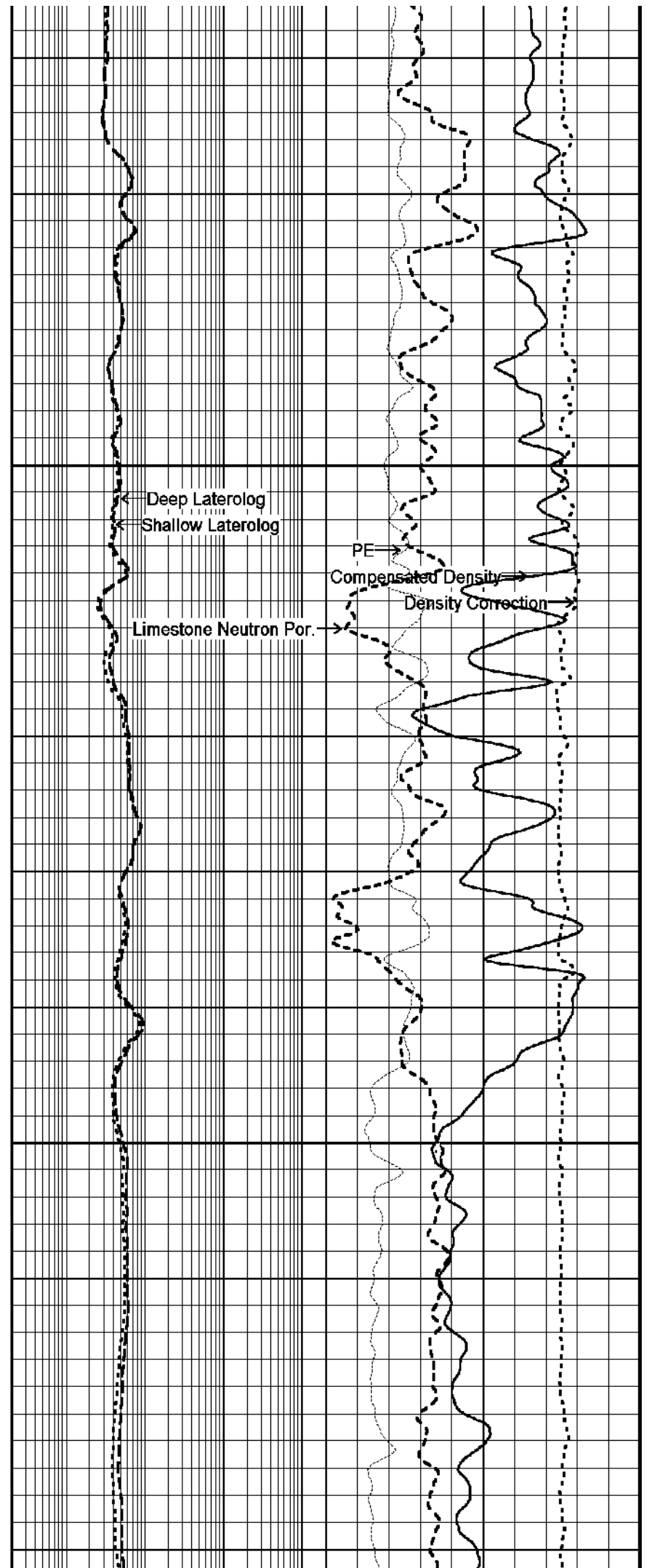
63°

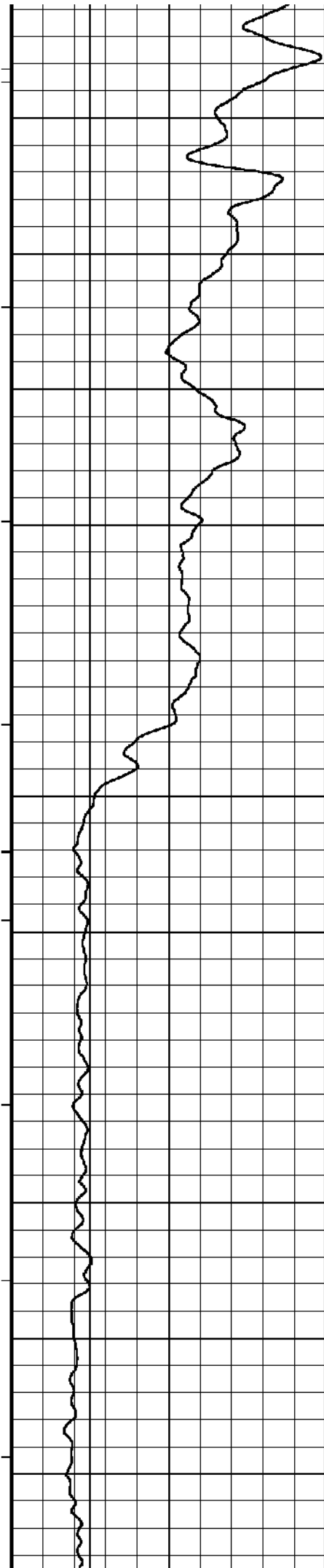
2120

2130

62°

2140





2150

2160

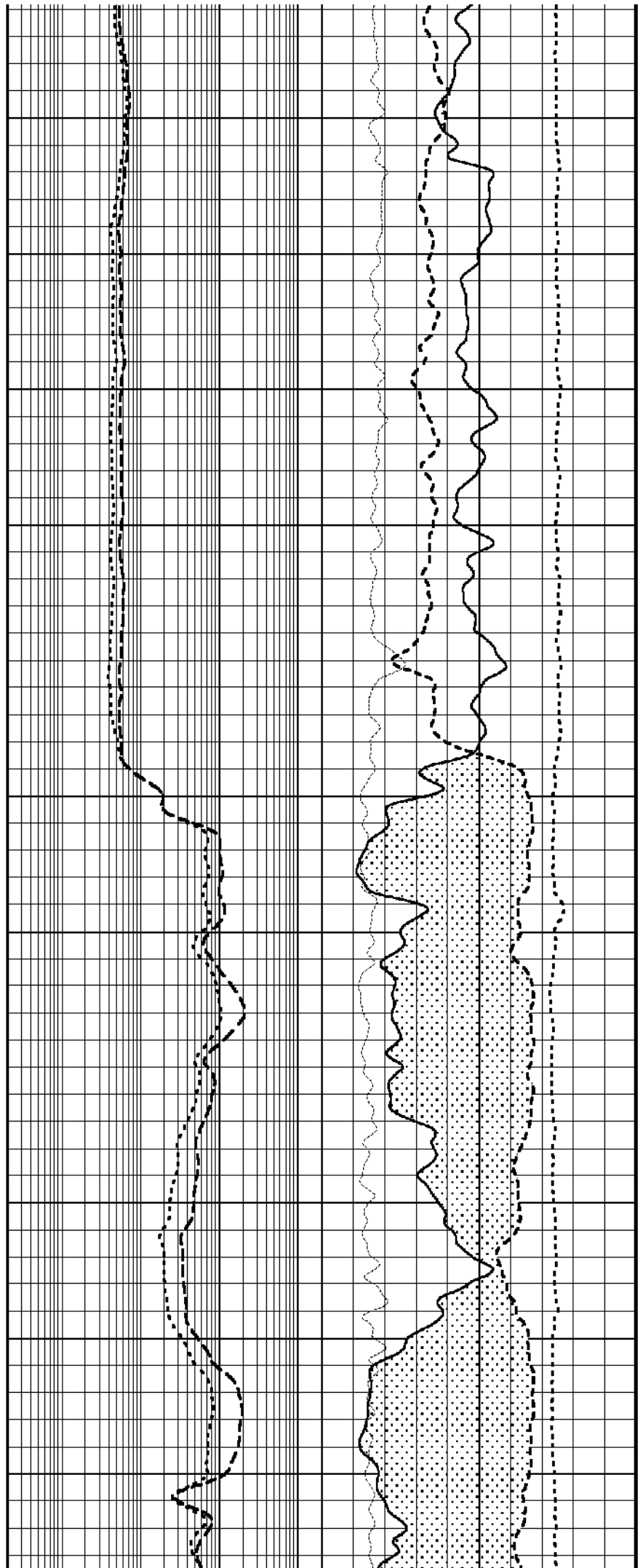
62°

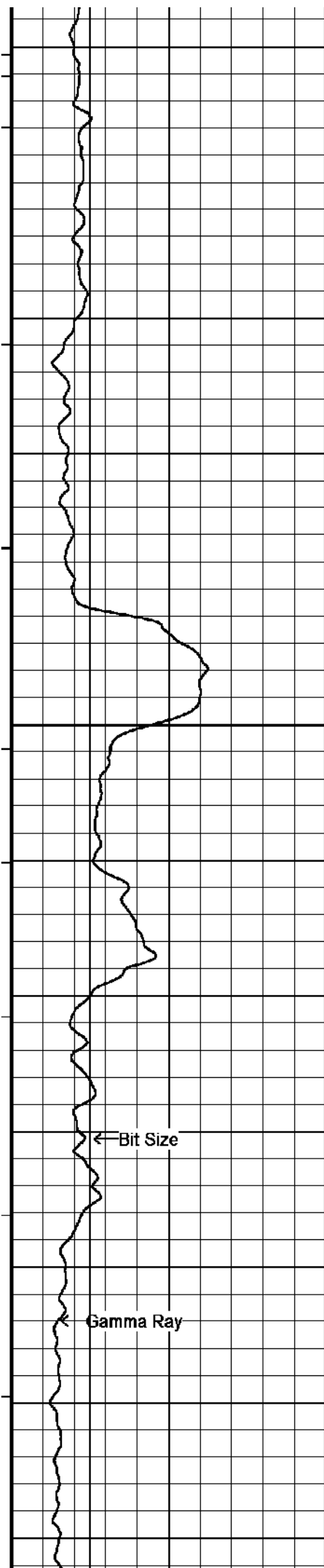
2170

2180

62°

2190





2200

2210

61°

2220

2230

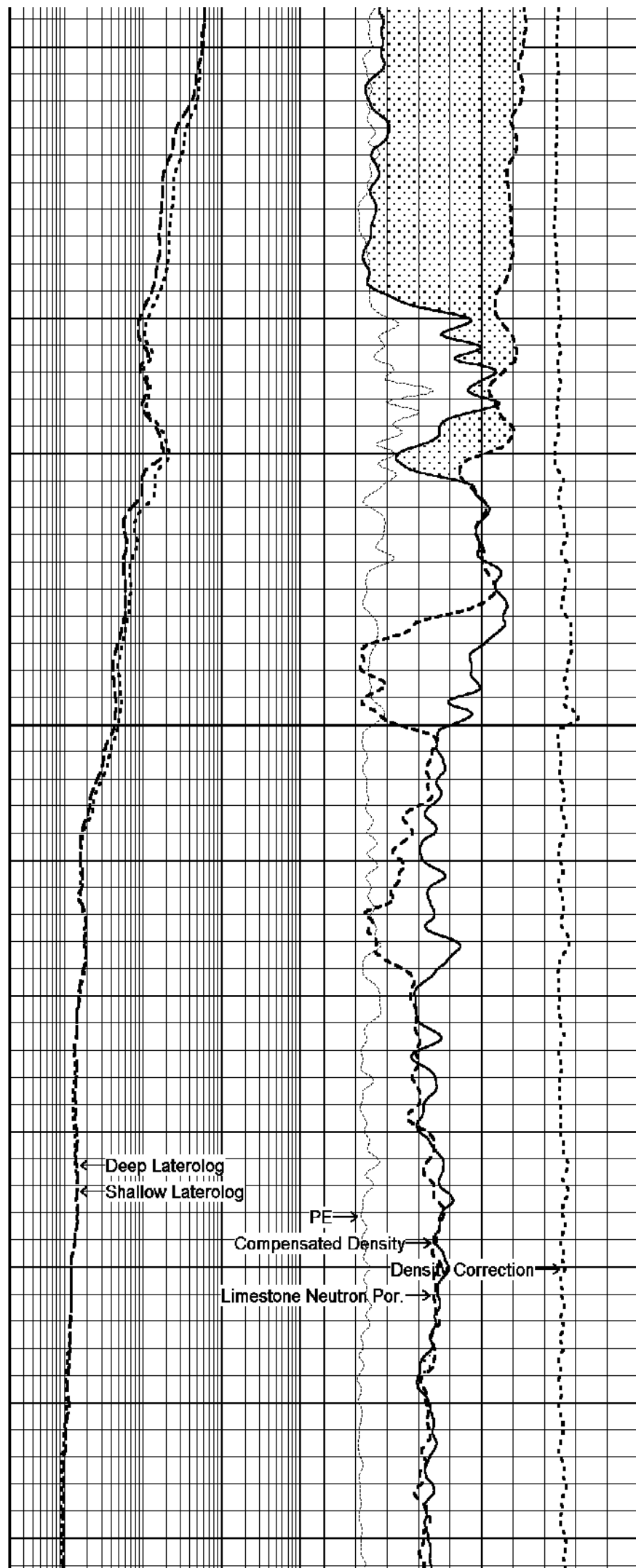
61°

2240

2250

← Bit Size

← Gamma Ray



← Deep Laterolog

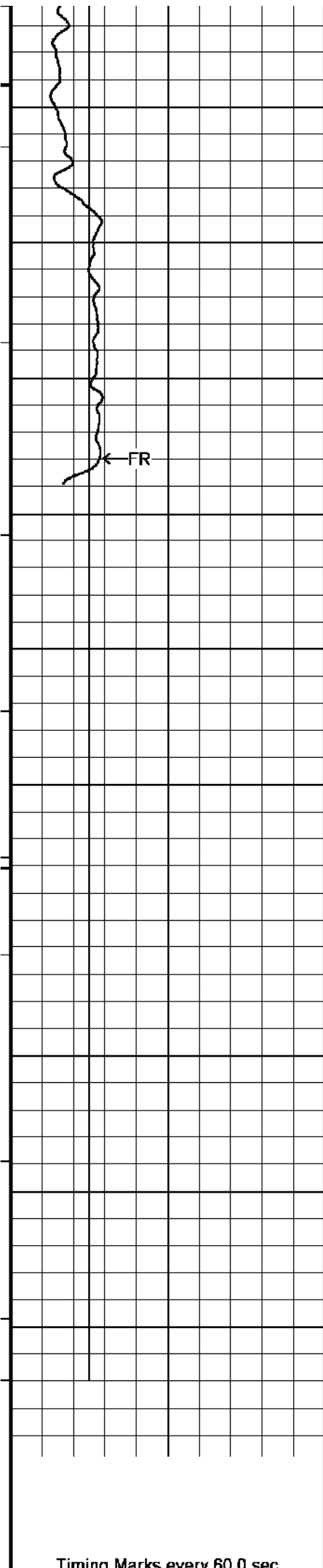
← Shallow Laterolog

PE →

Compensated Density →

Density Correction →

Limestone Neutron Por. →



2260

60°

2270

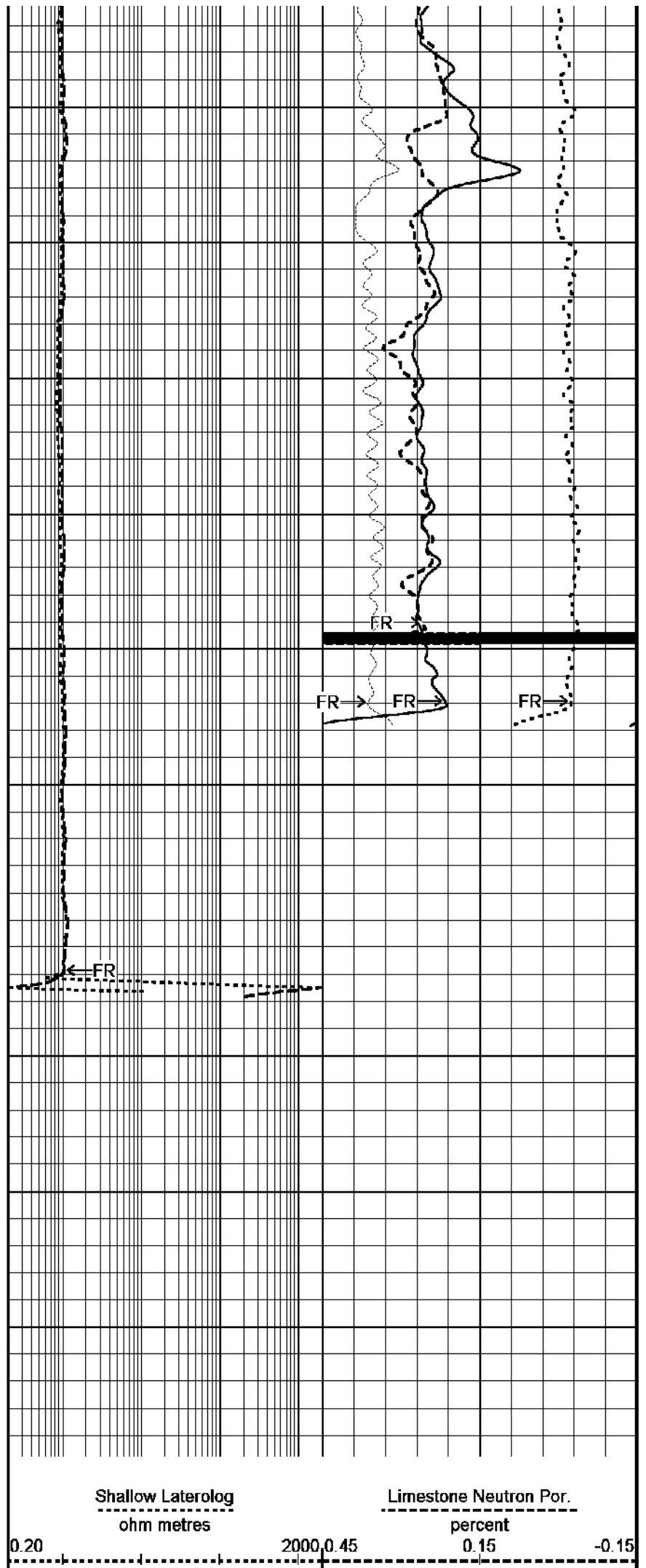
2280

2290

2300

Depth
in
Metres

Timing Marks every 60 0 sec:



Shallow Laterolog
ohm metres

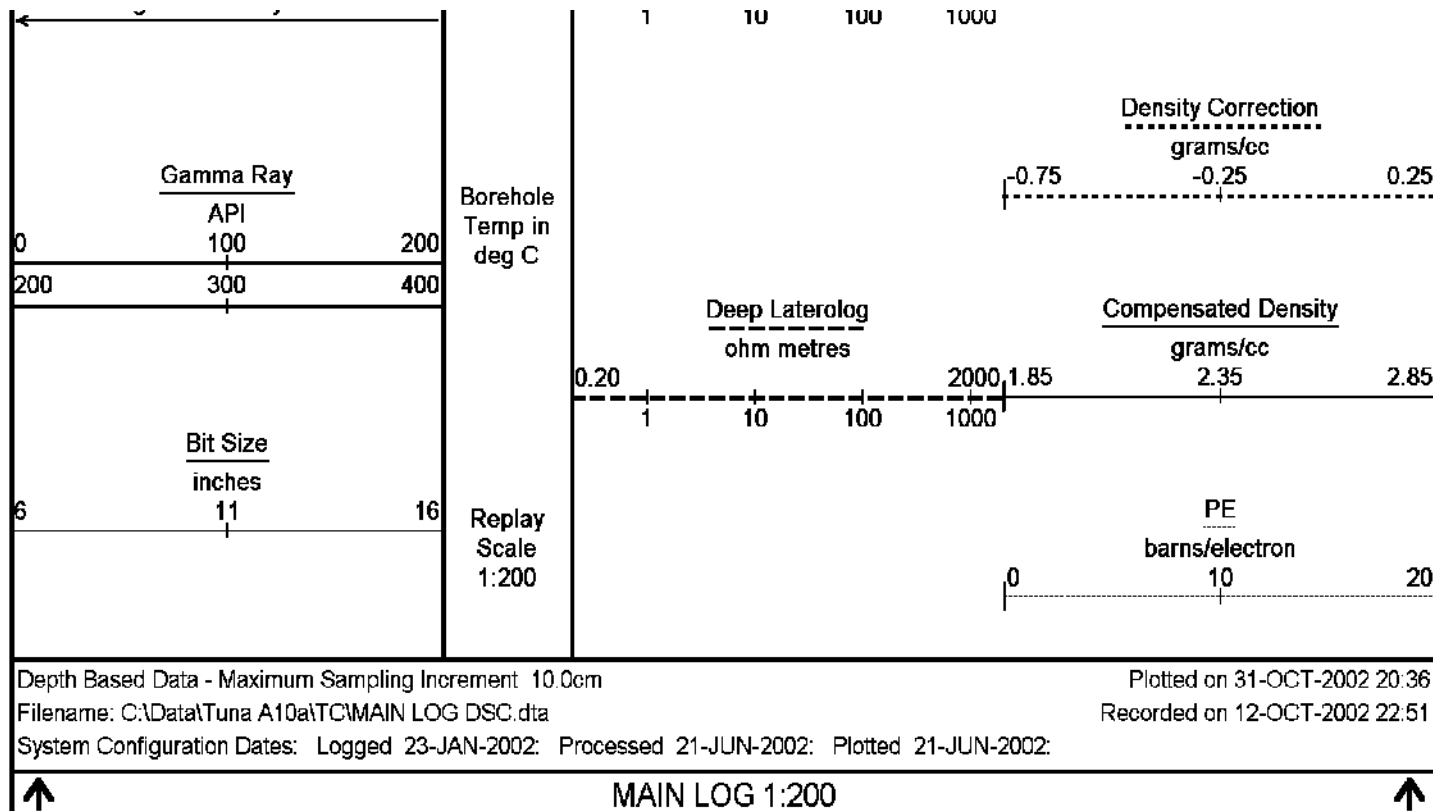
Limestone Neutron Por.
percent

0.20

2000 0.45

0.15

-0.15



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 (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

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	WS	Measured		Calibrated Ratio
		WH	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	1.11	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	
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

Channel	Measured		Calibrated (ohm-m)	
	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	
Groningen Laterolog K Factor	0.8527	
Interference Rejection	50 Hz	
SP Connection	SP Bridle Electrode	
Groningen Connection	Groningen Electrode	

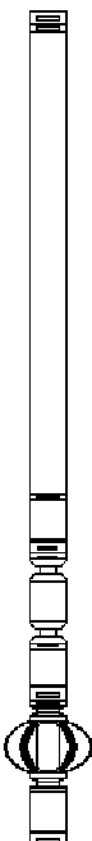
DOWNHOLE EQUIPMENT

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
MIS 52 Length: 0.65 m Weight: 30.86 lb



A vertical line drawing of a long, slender, segmented object, possibly a telescope or a long tube. It features two large, circular, flared sections near the ends, which appear to be lenses or mirrors. The object is composed of several rectangular segments joined by small, dark, horizontal lines. The drawing is oriented vertically, with the flared sections at the top and bottom.



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

32.58 m GRGC - Gamma Ray

31.69 m CGXT - MCG External Temperature

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

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
MIS 25 Length: 1.74 m Weight: 33.07 lb

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

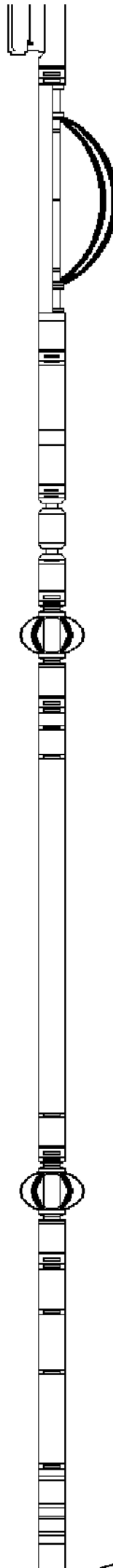
Compact Knuckle Joint
SKJ 45 Length: 0.66 m Weight: 24.25 lb

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
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

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

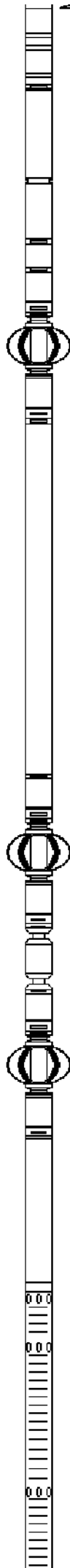
Compact Lower Guard Sub.
MLG 7 Length: 2.44 m Weight: 55.12 lb

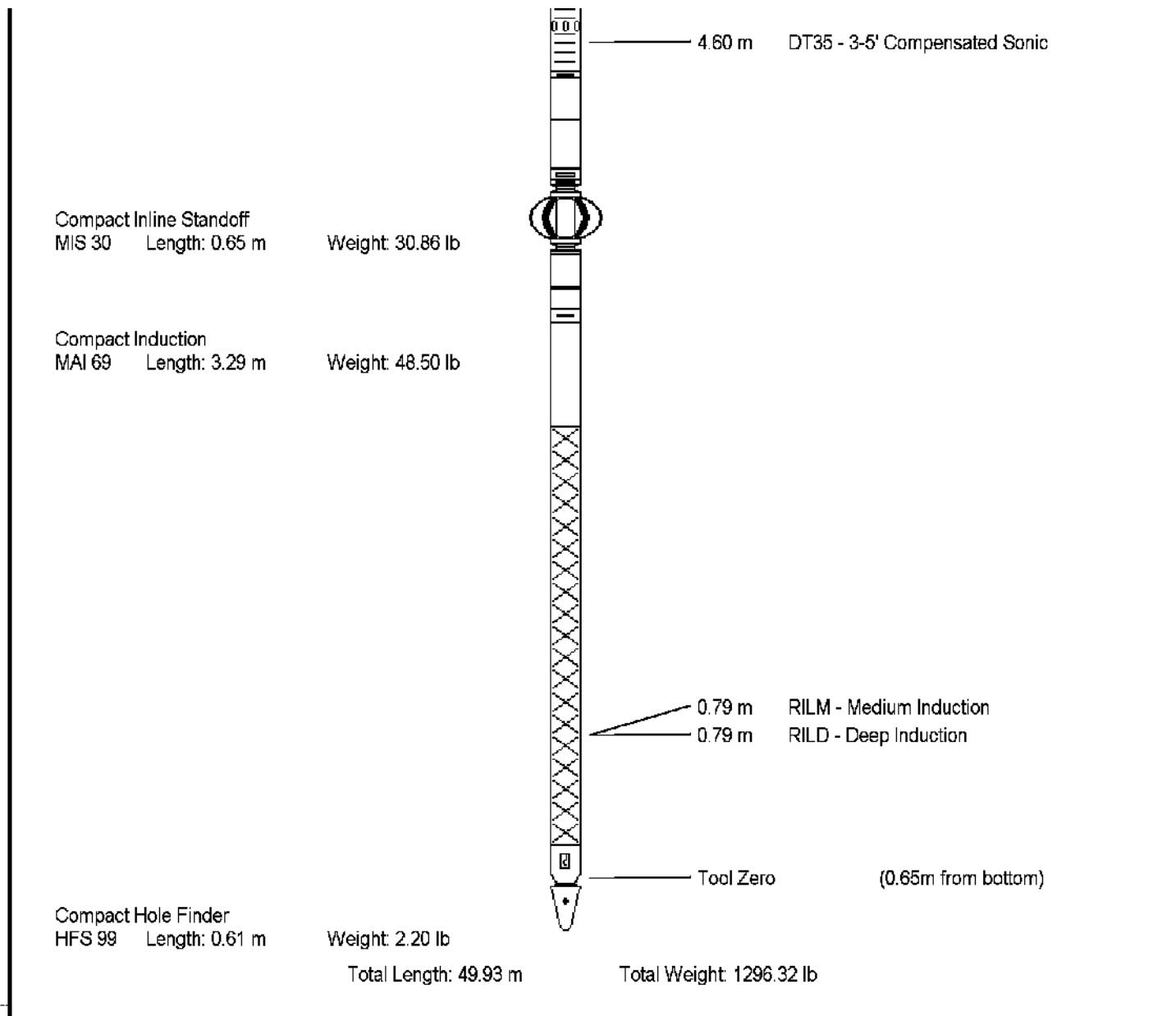
Compact Inline Standoff
MIS 73 Length: 0.65 m Weight: 30.86 lb

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





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

Elevation Kelly Bushing	metres	First Reading	2307.00	metres
Elevation Drill Floor	31.32 metres	Depth Driller	2312.00	metres
Elevation Ground Level	-59.40 metres	Depth Logger	2312.00	metres

	DUAL LATEROLOG - GR
	DENSITY - NEUTRON
	1:200 MD