Reeves

COMPENSATED SONIC
1:500 MD

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
				DUAL LATEROLOG COMPENSATED NEUTRON
				PHOTO DENSITY

API Number
Permit Number

Permanent Datum MSL , Elevation 0 metres
Log Measured From DF@ 31.32 metres above Permanent Datum
Drilling Measured From DF

Elevations:

KB		metres
DF	31.32	metres
GL	-59.40	metres

Date	26-Dec-2002			
Run Number	1			
Depth Driller	3257.00	metres		
Depth Logger	3257.00	metres		
First Reading	3251.20	metres		
Last Reading	2900.00	metres		
Casing Driller	836.41	metres		
Casing Logger				
Bit Size	8.50	inches		
Hole Fluid Type	KCL/PHPA/GLY			
Density / Viscosity	10.30 lb/USg	64.00 secs/qt		
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.

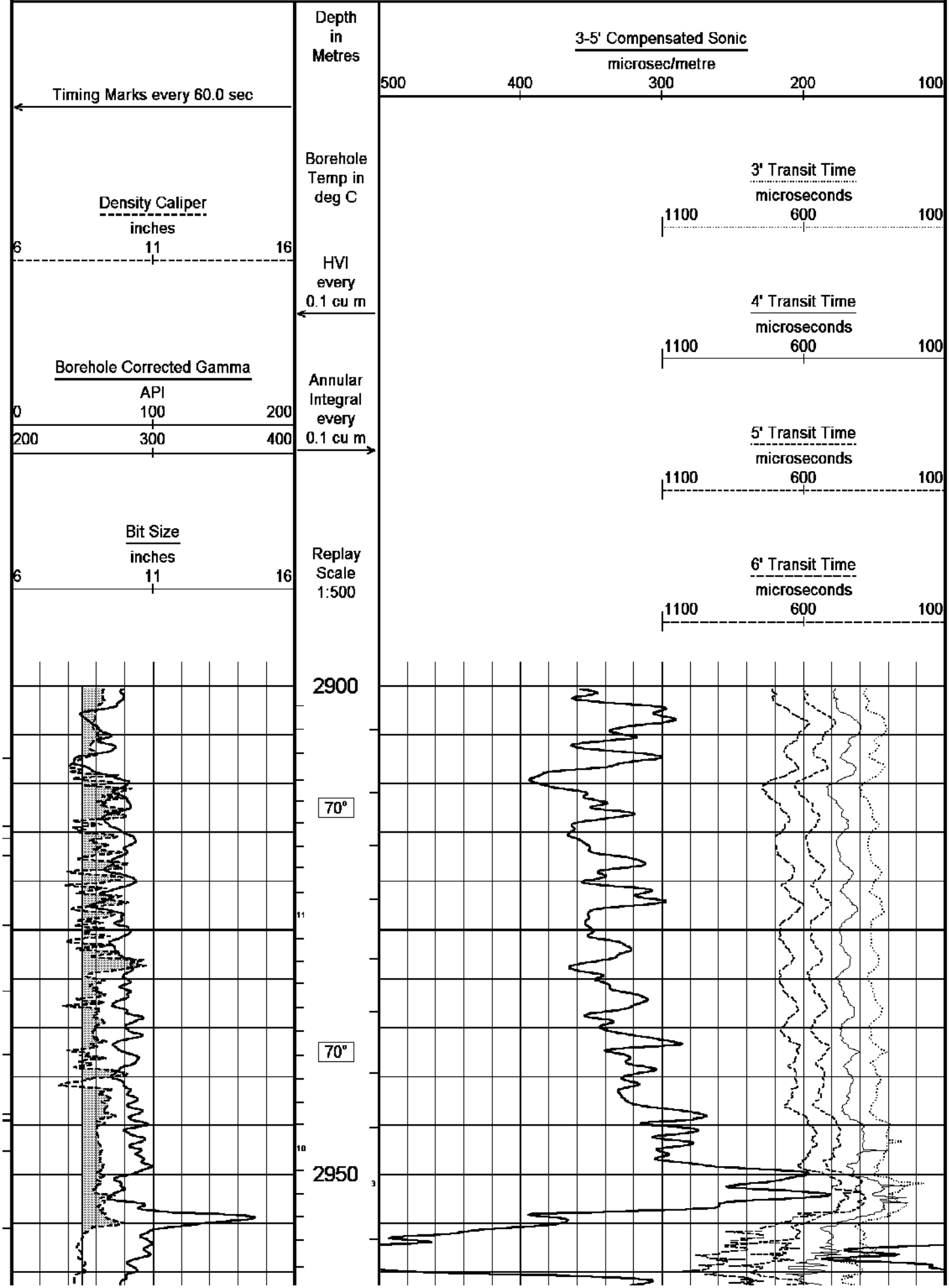
CASING DETAILS:
20" 133.0 lb/ft from surface to 164.60 m.
13 3/8" 54.5 lb/ft from surface to 609.65 m (window milled from 210.39 m to 218.39 m).
9 5/8" 47.0 lb/ft from surface to 836.41 m.

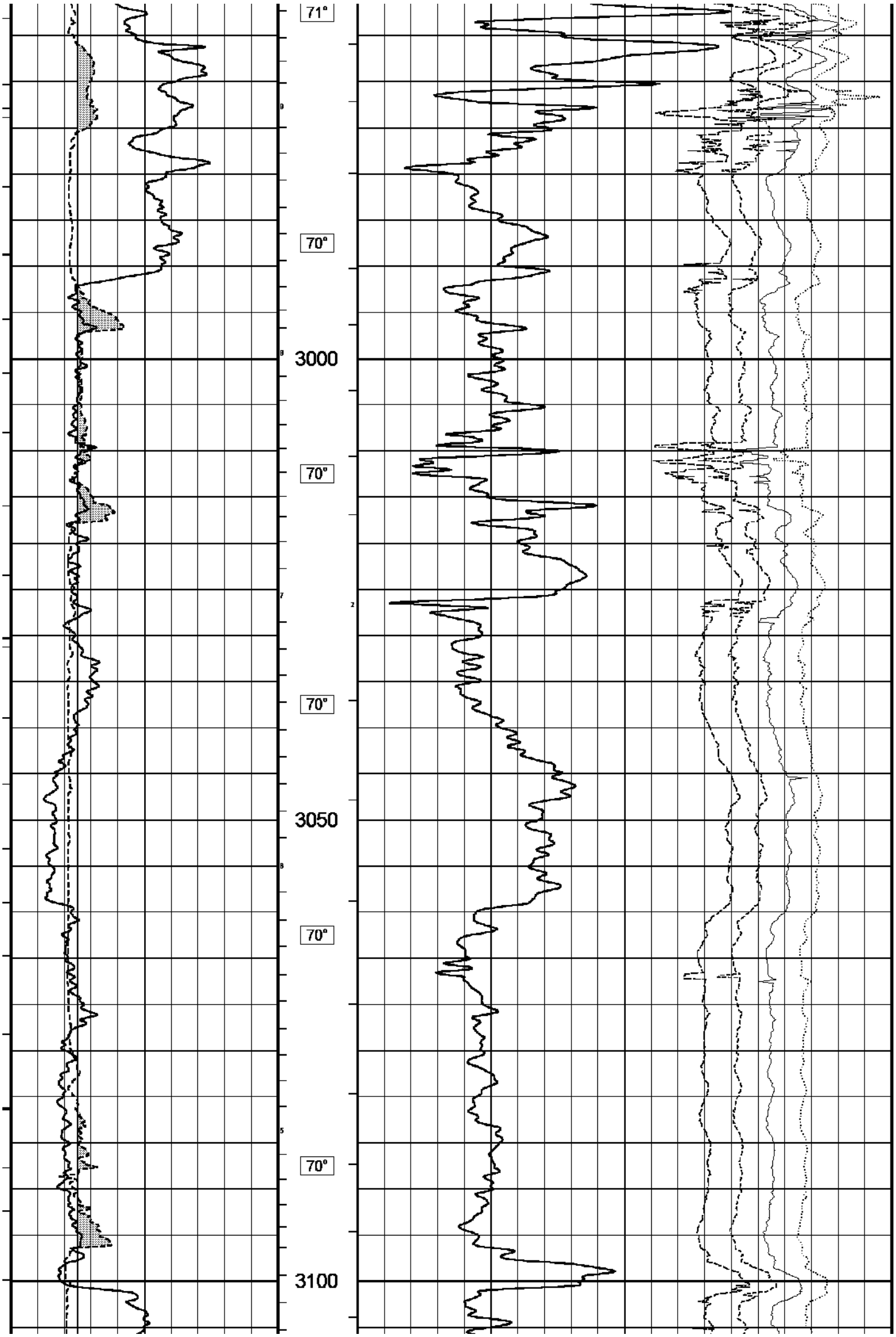
CALIPER READING 8.68" ON TIME LOG IN 9 5/8" 47 LB/FT CASING.

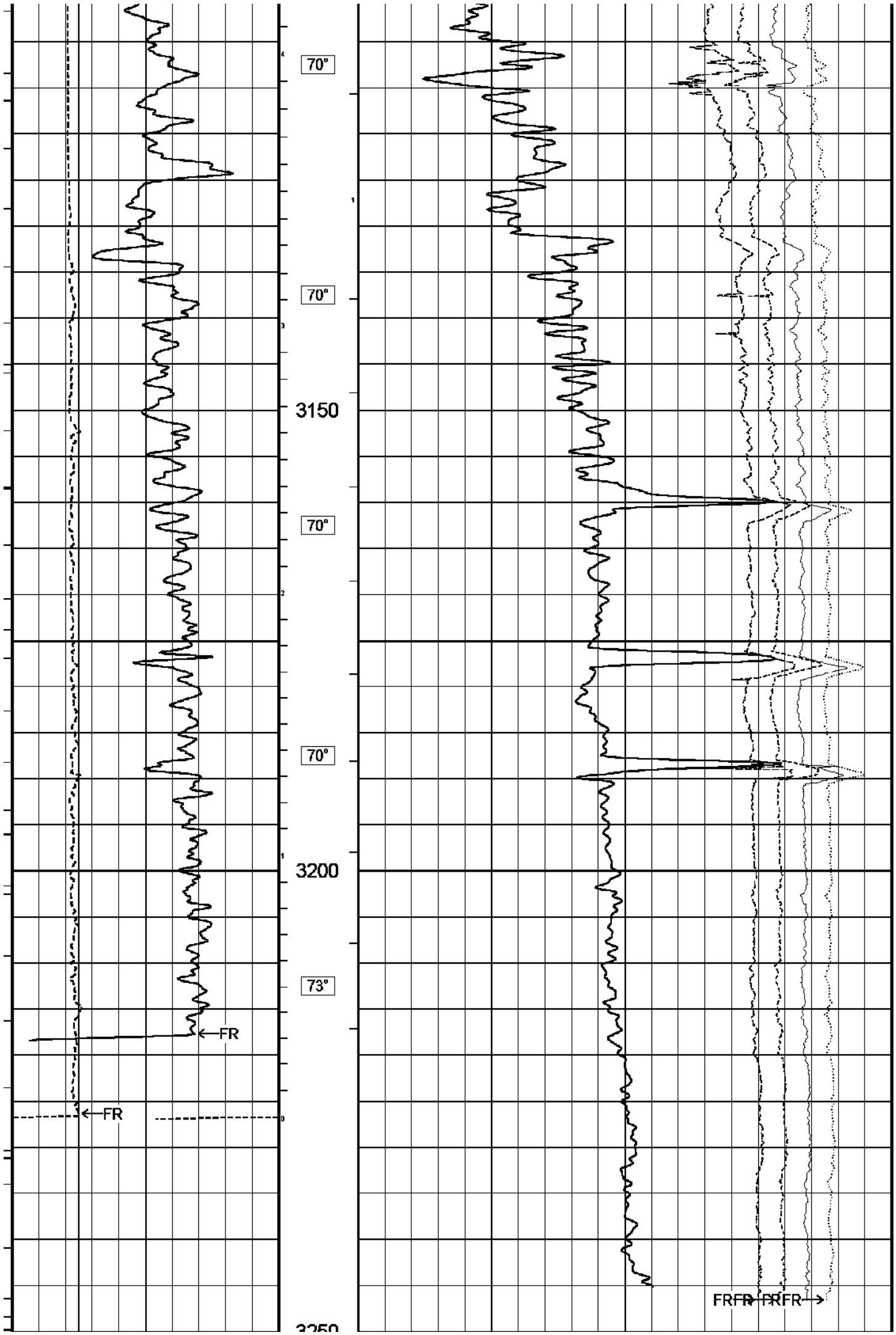
MAIN LOG 1:500

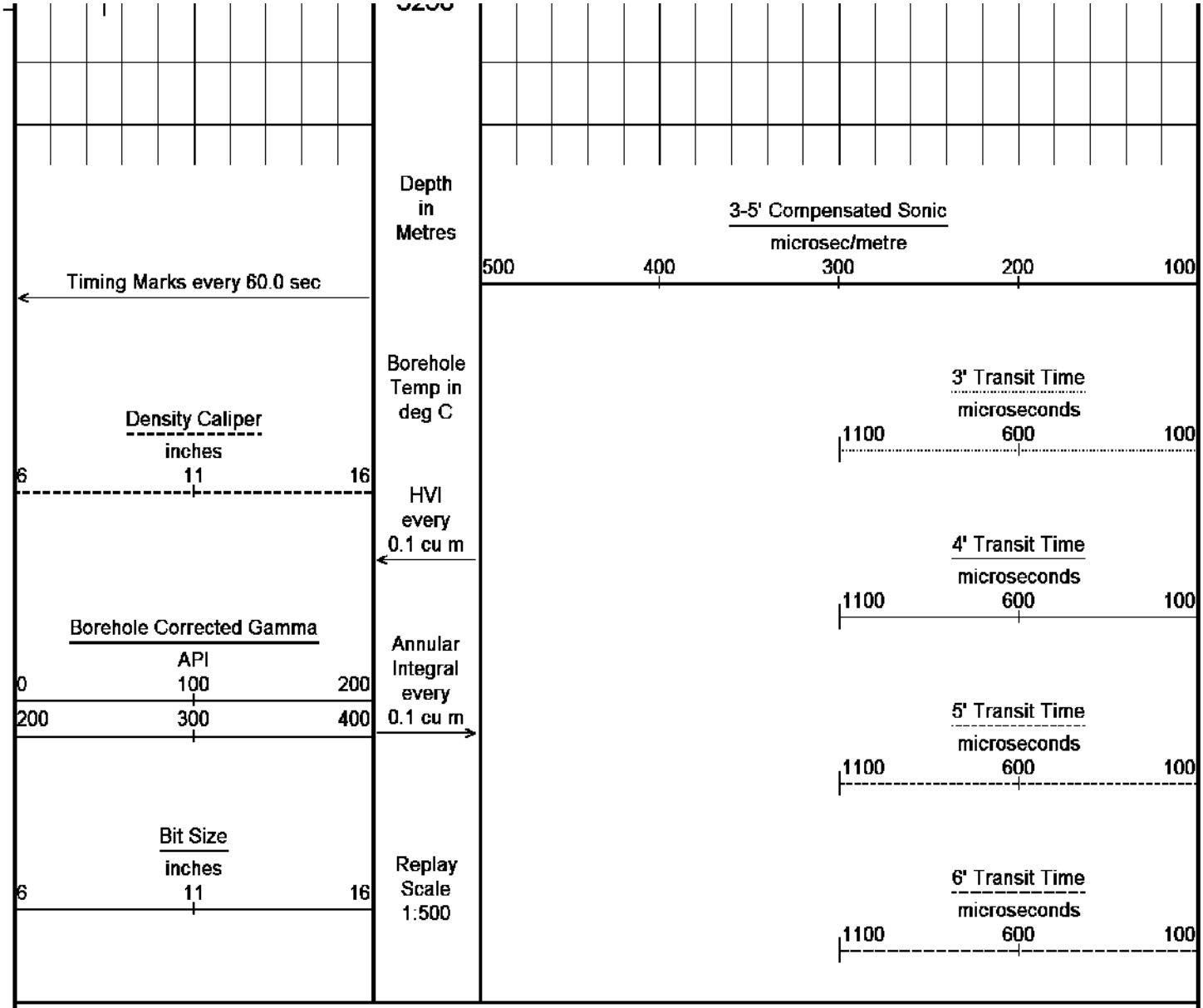
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Data\Tuna A05A\MAIN LOG DSC.dta
System Configuration Dates: Logged 21-JUN-2002 Processed 21-JUN-2002 Plotted 21-JUN-2002

Plotted on 27-DEC-2002 13:32
Recorded on 27-DEC-2002 06:56




71°
70°
3000
70°
70°
3050
70°
70°
3100


70°
70°
3150
70°
70°
3200
73°
FR
FR
FR FR FR FR



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-DEC-2002 13:32
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:

MAIN LOG 1:500

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

	Measured			Calibrated
	WS	WH	Ratio	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

		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

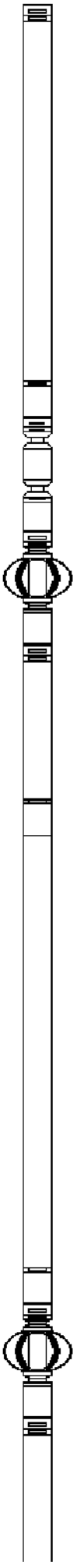
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Shallow	49.1	49.1
Deep	31.5	31.5
Groningen	246.3	246.3

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

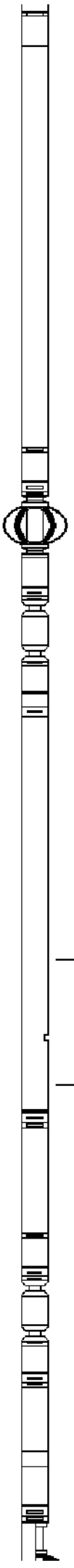
Compact Knuckle Joint
SKJ 47 Length: 0.66 m Weight: 24.25 lb

Compact Inline Standoff 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

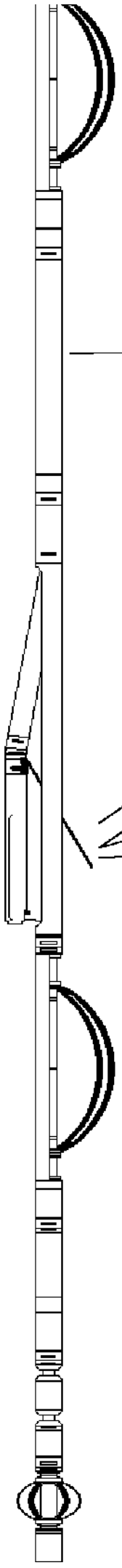
24.80 m CLDC - Density Caliper
24.58 m DCOR - Density Correction
24.58 m DEN - Compensated Density
24.56 m PDPE - PE

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

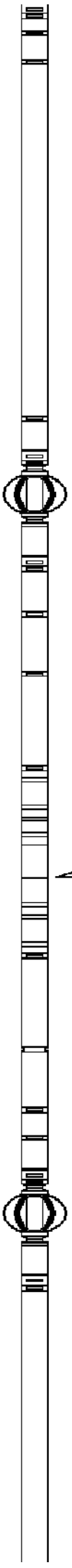
Compact Inline Standoff B
MIS 53 Length: 0.65 m Weight: 15.43 lb



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

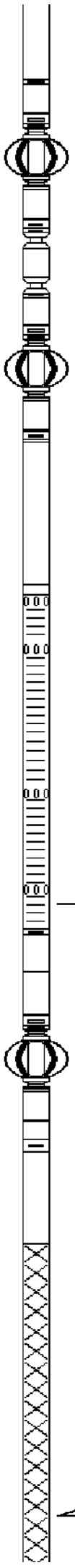
Compact Laterolog Electrode Sub.
MLE 15 Length: 3.76 m Weight: 92.59 lb



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

4.60 m DT35 - 3-5' Compensated Sonic

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

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

Tool Zero (0.32m from bottom)

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	3251.20	metres
Elevation Drill Floor	31.32	metres	Depth Driller	3257.00	metres
Elevation Ground Level	-59.40	metres	Depth Logger	3257.00	metres

Reeves

COMPENSATED SONIC

1:500 MD