

# Reeves

## DUAL LATEROLOG

**GAMMA RAY**  
**1:500 MD**

COMPANY			ESSO AUSTRALIA PTY LTD		
WELL			FLOUNDER A24A		
FIELD			GIPPSLAND BASIN		
PROVINCE/COUNTY			BASS STRAIT		
COUNTRY/STATE			AUSTRALIA		
LOCATION			5758709.11 m N, 625849.47 m E 38°18'39.233" S, 148°26'22.099" E		
LSD	SEC	TWP	RGE	Other Services	
				COMPENSATED SONIC	
API Number				PHOTO DENSITY	
Permit Number				COMPENSATED NEUTRON	
Permanent Datum MSL , Elevation 0 metres					Elevations:
Log Measured From RT@33.85 metres above Permanent Datum					KB 33.85 metres
Drilling Measured From RT					DF -93.00 metres
Date	16-MAR-2003				
Run Number	1				
Depth Driller	3193.00 metres				
Depth Logger	3195.00 metres				
First Reading	3193.40 metres				
Last Reading	2355.00 metres				
Casing Driller	662.60 metres				
Casing Logger	660.20 metres				
Bit Size	8.50 Inches				
Hole Fluid Type	KC/PPH/AGLY				
Density / Viscosity	9.50 lb/USg 68.00 sec/qt				
PH / Fluid Loss	9.00 2.50 ml/30Min				
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.119 @ 25.0 ohm-m				
Rmf @ Measured Temp	0.089 @ 25.0 ohm-m				
Rmc @ Measured Temp	0.119 @ 25.0 ohm-m				
Source Rmf / Rmc	PRESS ohm-m				
Rm @ BHT	0.048 @ 96.0 ohm-m				
Time Since Circulation	15hr 40min				
Max Recorded Temp	98.00 deg C				
Equipment Name	CWS/CIS				
Equipment / Base	1				
Recorded By	G. McManus, D. Woodward				
Witnessed By	G. Smith				
Circ. Stopped	22:10 15-MAR				

BOREHOLE RECORD				
Bit Size inches		Depth From metres		Depth To metres
8.510		662.60		3193.00
CASING RECORD				
Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
Conduct.	20.000	0.00	202.65	133.00
Surface	10.750	202.65	662.60	54.50
REMARKS				
DRILLING RIG: NABORS (ISDL) 453.				
COMPACT WIRELINE TOOLS LOGGED CONVENTIONALLY VIA SCHLUMBERGER WIRELINE UNIT.				
DUAL NEUTRON / PHOTO DENSITY ECCENTRALISED				
COMPENSATED SONIC / LATEROLOG FITTED WITH 1/2" STANDOFF				
BARITE CONTENT 1.65%				

AFTER SURVEY CALIBRATION		
C:\FLA A24A\FLA_A24A_Sonde_Picture.dta		
Gamma Check MCG 044		
Field Calibration on 14-MAR-2003 09:40 After Survey Check on 17-MAR-2003 00:08		
	Before (API)	After (API)
Background	10	13
Calibrator (Gross)	919	922
Calibrator (Net)	909	909

# Photo Density Check MPD 067

Before Survey Check on 14-MAR-2003 03:49

After Survey Check on 17-MAR-2003,00:13

## Density Check

	Near		Far	
	Before	After	Before	After
	959.8	957.8	1151.7	1156.6

## PE Check

	Before	After
WS	178.7	179.7
WH	833.1	834.3

# Laterolog Check MLE 015

Before Survey Check on 14-MAR-2003,03:10

After Survey Check on 17-MAR-2003,00:56

Channel	Before Survey (ohm-m)	After Survey (ohm-m)
Shallow	49.1	49.1
Deep	31.5	31.5
Groningen	246.3	246.3

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

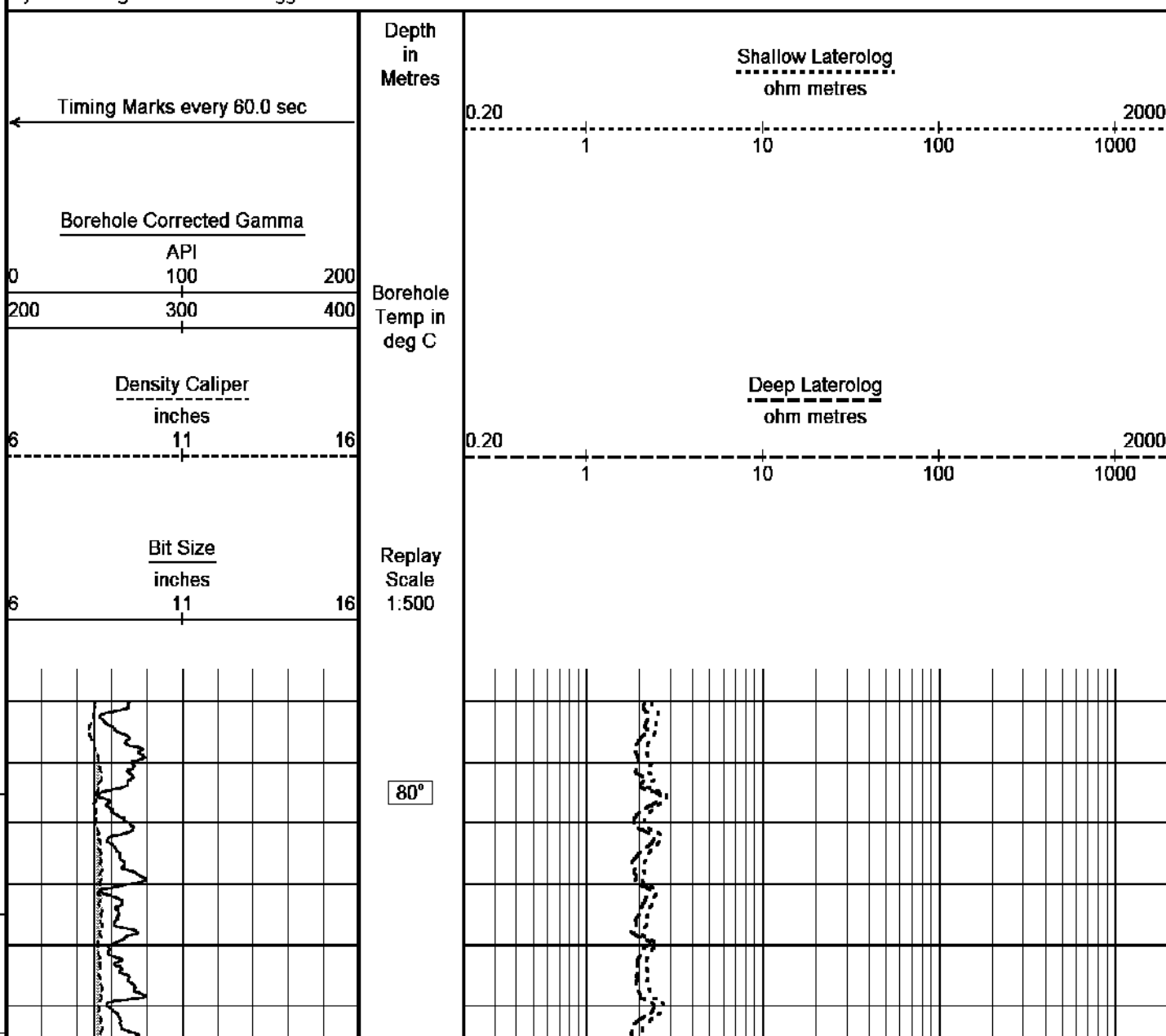
Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-MAY-2003 15:20

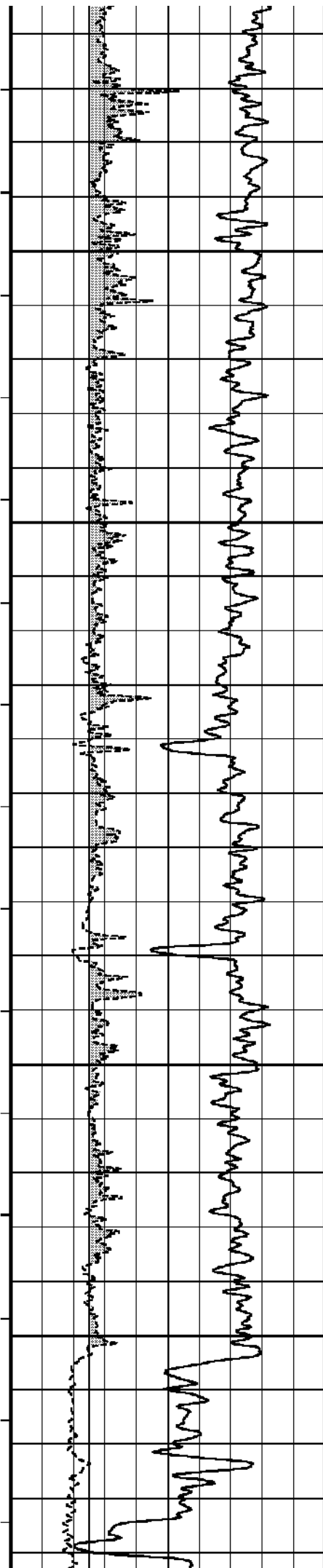
Filename: C:\FLA A24A\FLA\_A24A\_Main\_Log.dta

Recorded on 16-MAR-2003 13:38

System Configuration Dates: Logged 23-OCT-2002: Processed 23-OCT-2002: Plotted 23-OCT-2002:







83°

2550

84°

84°

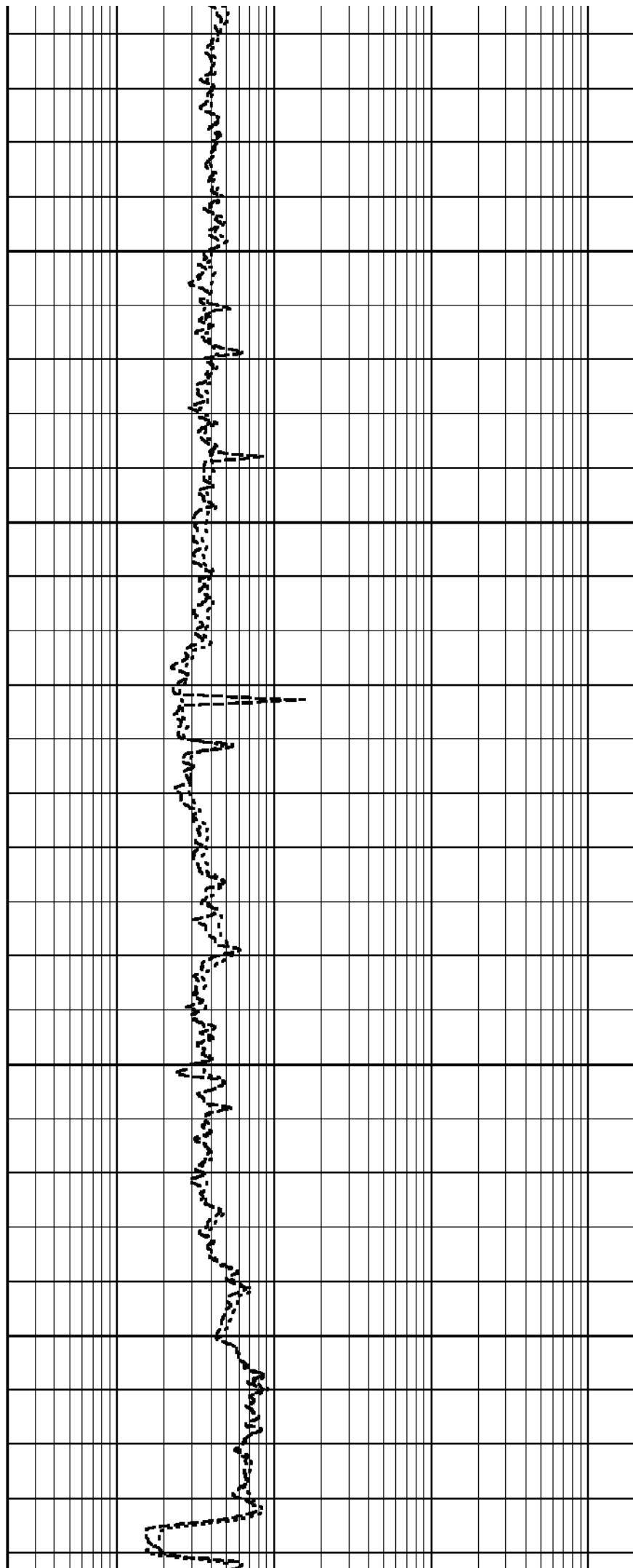
2600

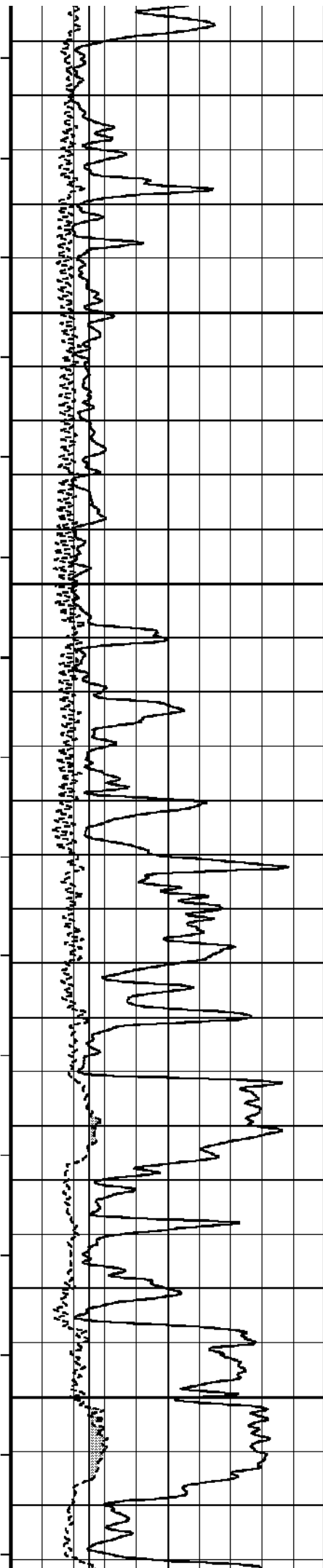
84°

85°

2650

86°





86°

2700

87°

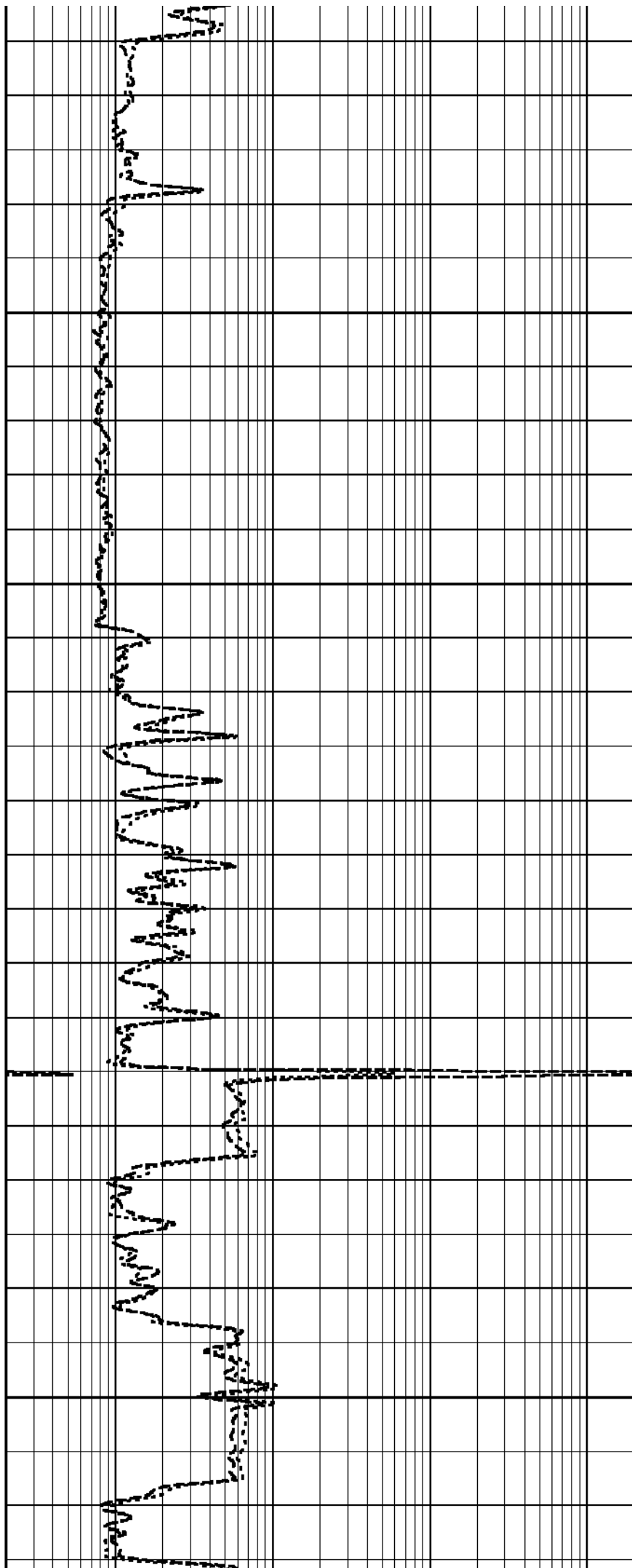
2750

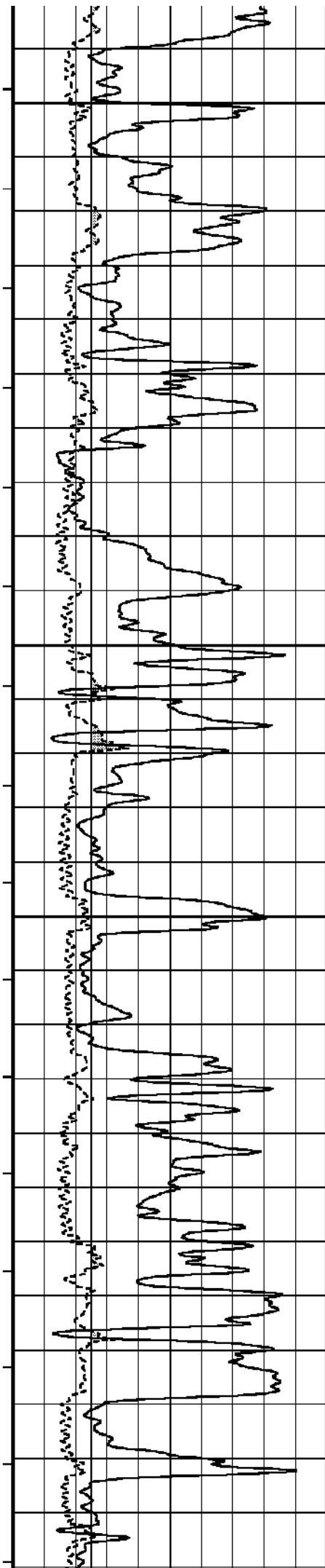
89°

90°

2800

90°





91°

2850

92°

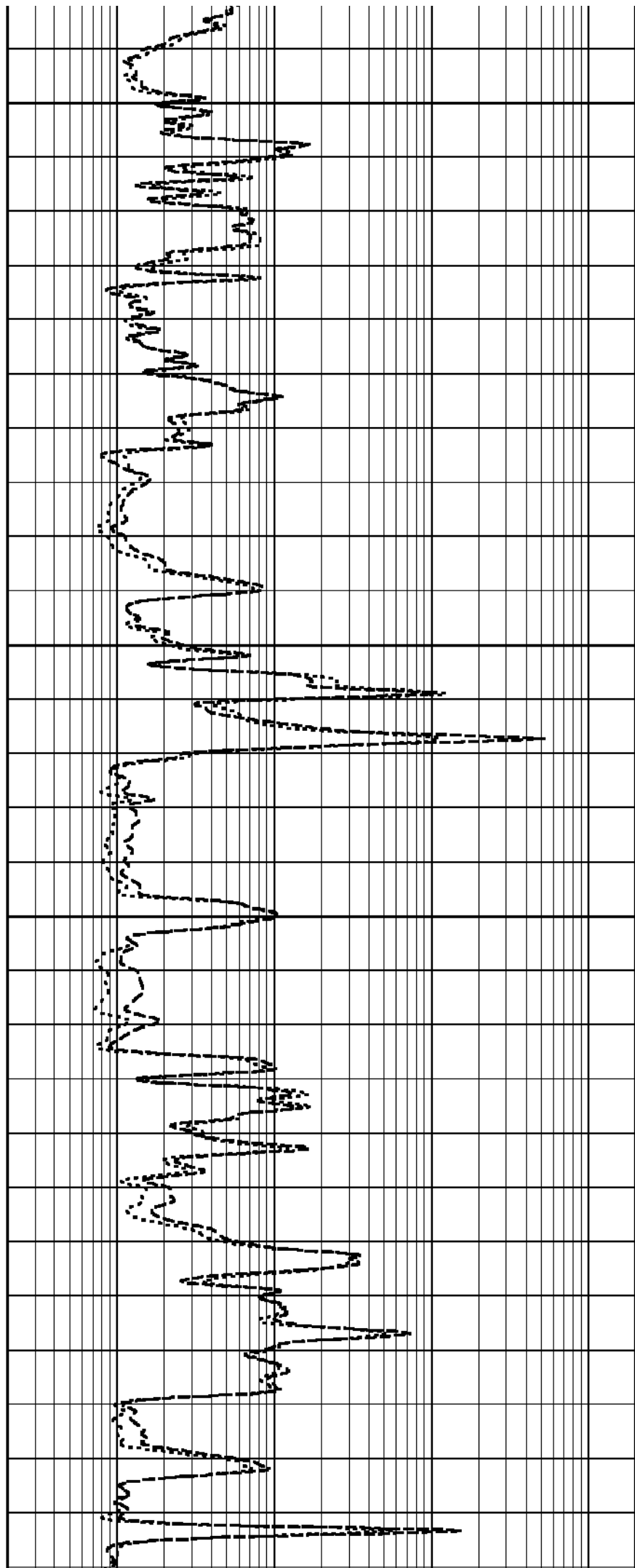
92°

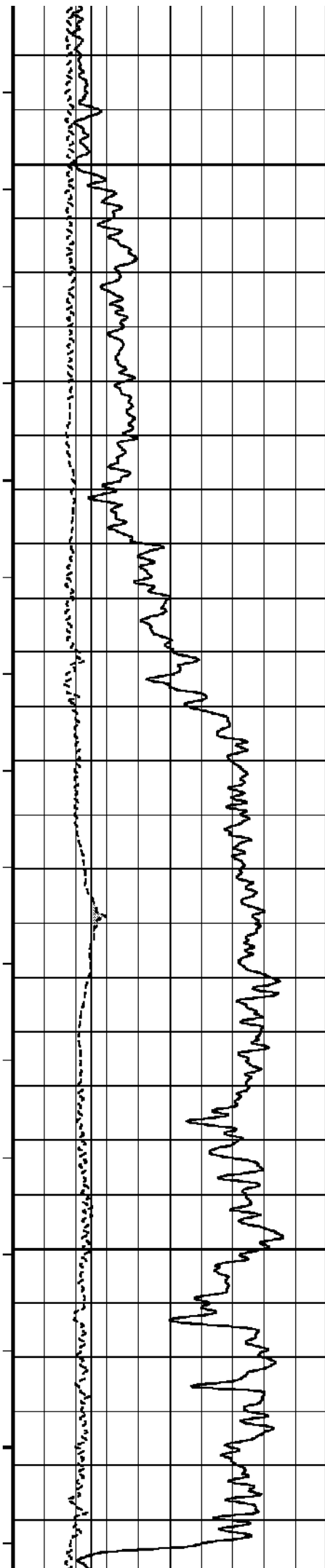
2900

93°

94°

2950





95°

95°

3000

96°

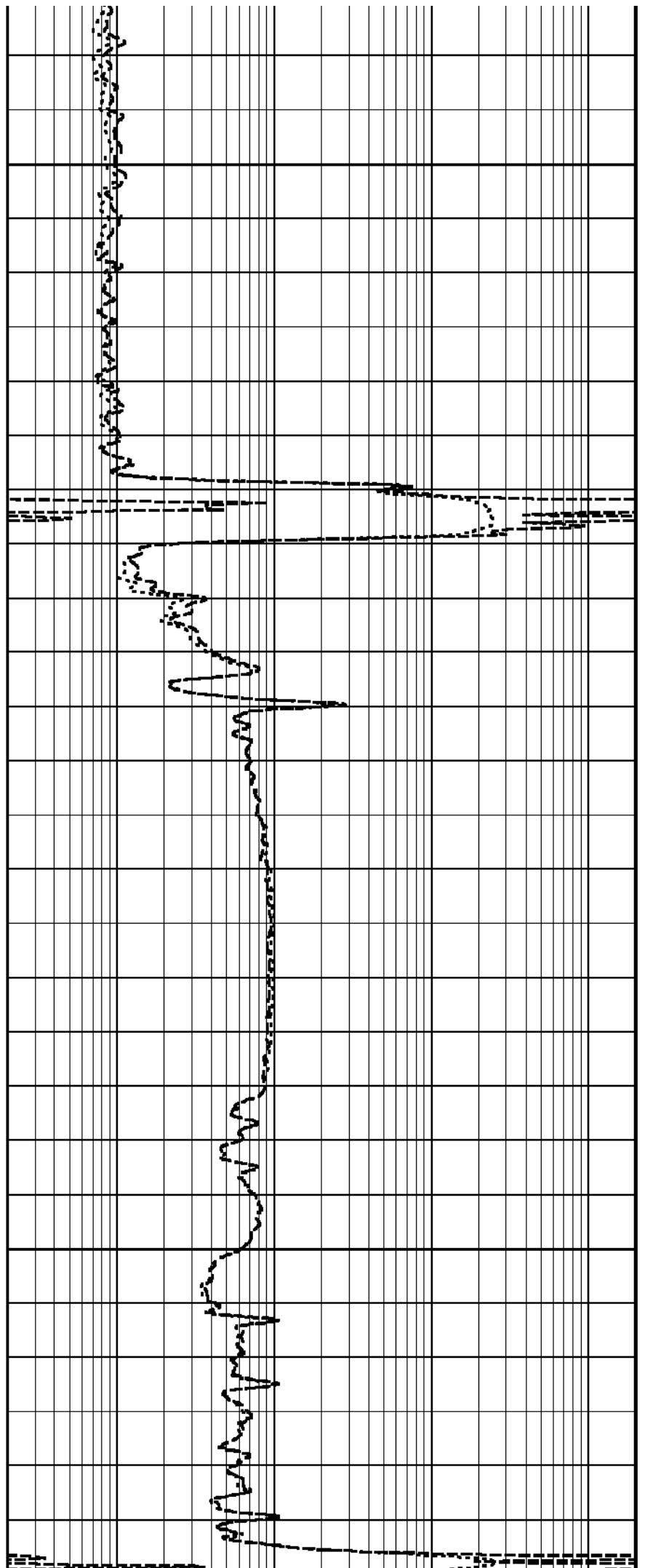
97°

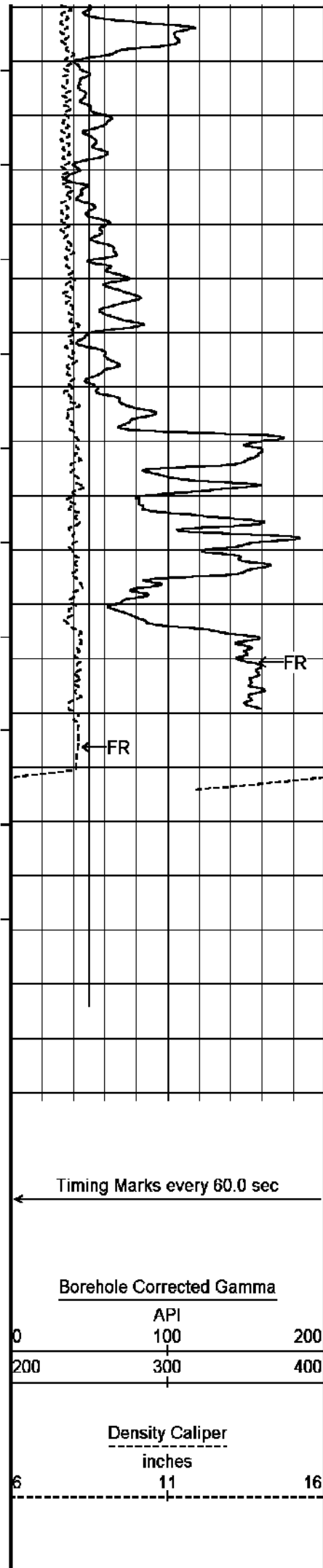
3050

97°

98°

3100





98°

98°

3150

97°

FR

FR

3200

Depth  
in  
Metres

Timing Marks every 60.0 sec

Borehole Corrected Gamma

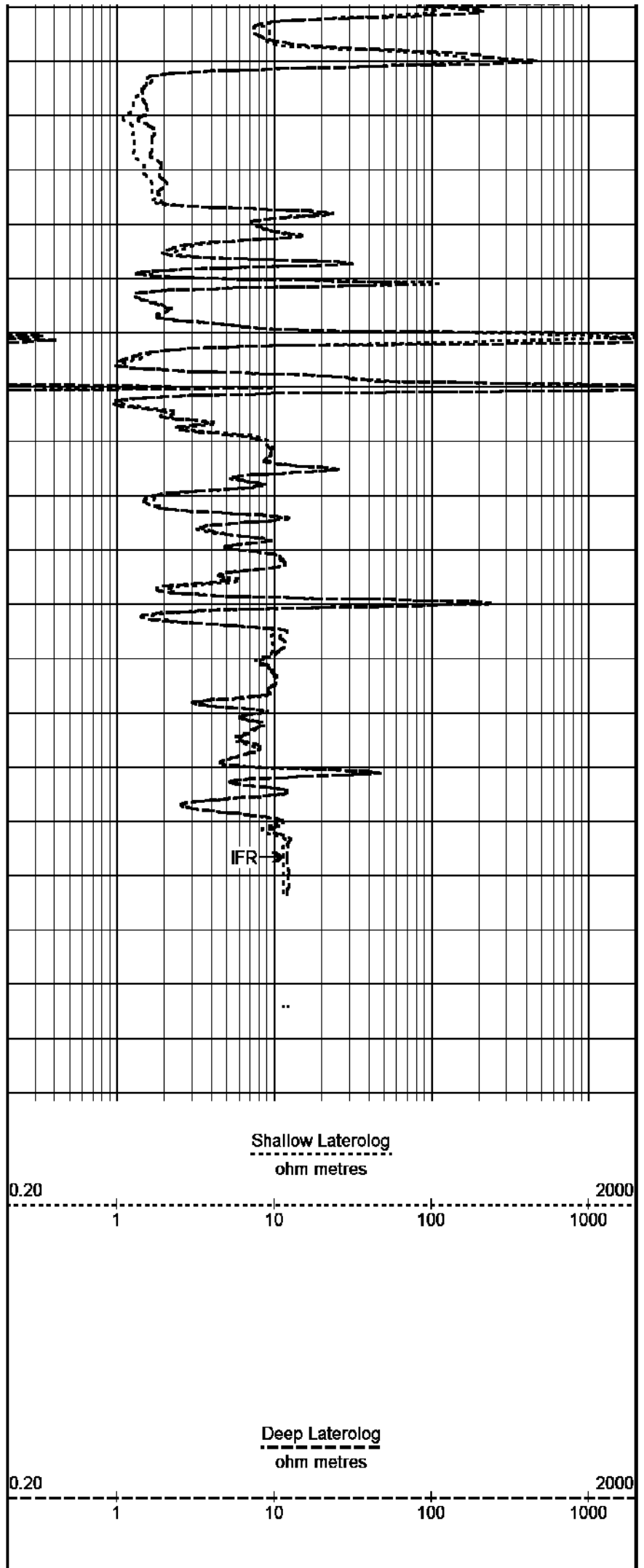
0 100 200  
200 300 400

Borehole  
Temp in  
deg C

Density Caliper

inches

6 11 16



Shallow Laterolog  
ohm metres

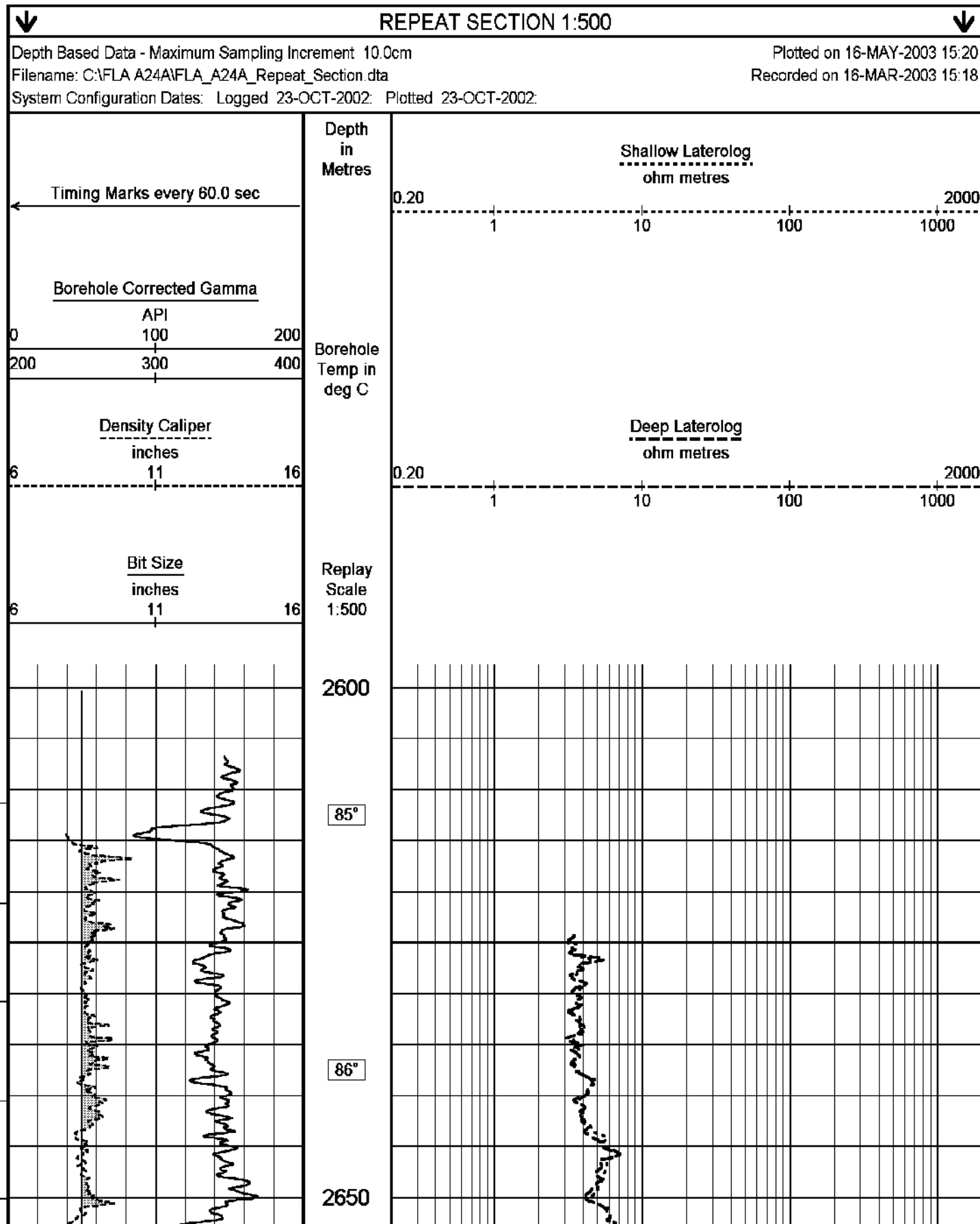
0.20 1 10 100 1000 2000

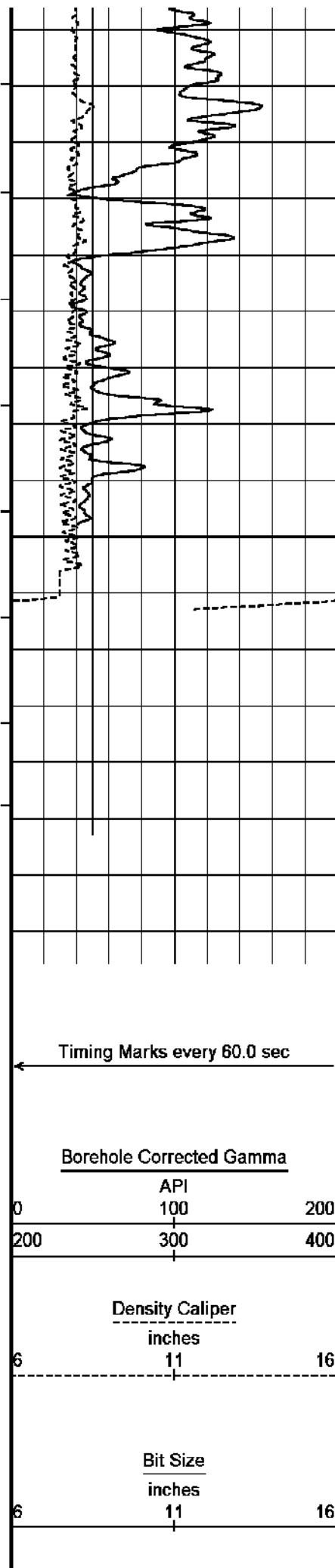
Deep Laterolog  
ohm metres

0.20 1 10 100 1000 2000



Bit Size inches 11	6	16	Replay Scale 1:500
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-MAY-2003 15:20 Filename: C:\FLA A24\FLA_A24A_Main_Log.dta Recorded on 16-MAR-2003 13:38 System Configuration Dates: Logged 23-OCT-2002: Processed 23-OCT-2002: Plotted 23-OCT-2002:			
↑		MAIN LOG 1:500	





86°

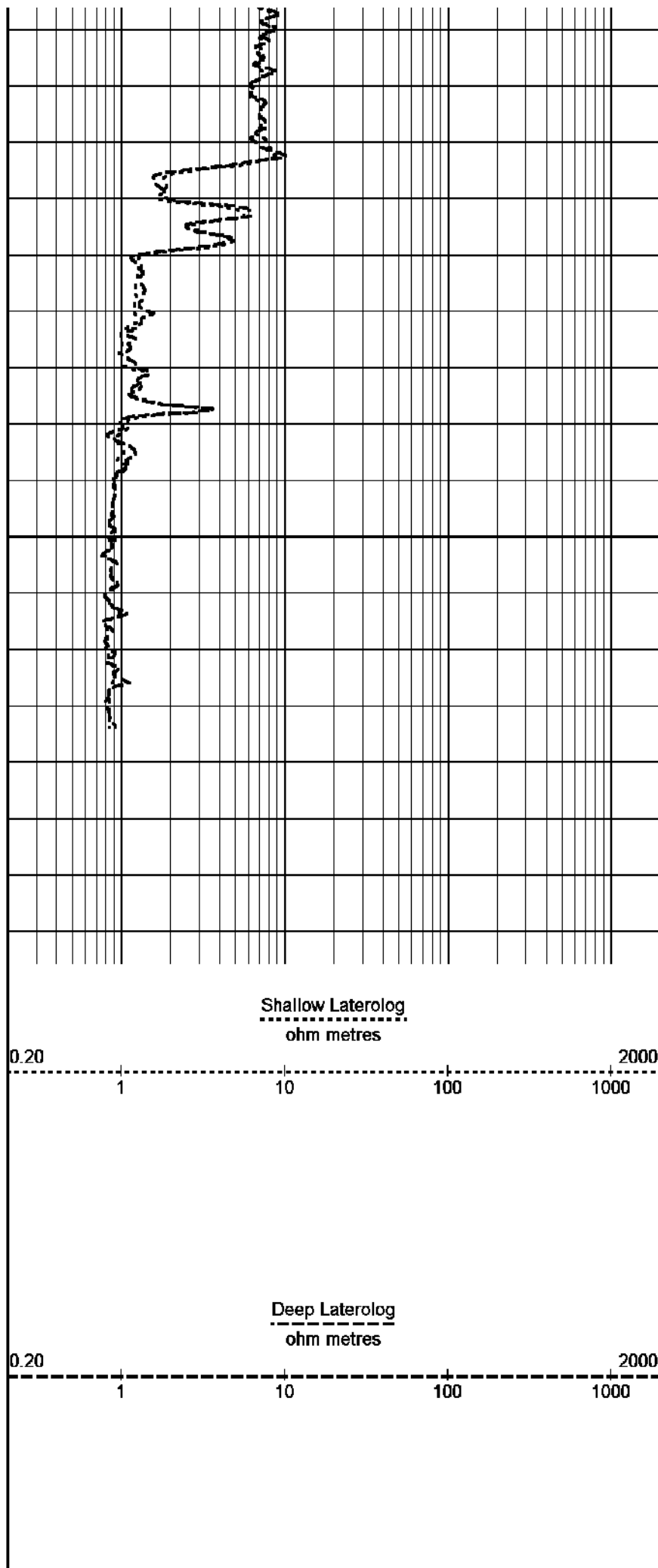
85°

2700

Depth  
in  
Metres

Borehole  
Temp in  
deg C

Replay  
Scale  
1:500





## REPEAT SECTION 1:500



## BEFORE SURVEY CALIBRATION

C:\FLA A24A\FLA\_A24A\_Main\_Log.dta

## General Constants All 000

## General Parameters

Mud Resistivity	0.12	ohm-metres
Mud Resistivity Temperature	25.00	degrees C
Water Level	0.00	metres
Density/Neutron Processing	Wet Hole	

## Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	None	
Annular Volume Diameter	7.00	inches
Caliper for Differential Caliper	Density Caliper	

## 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 14-MAR-2003 09:40

	Measured	Calibrated (API)
Background	16	10
Calibrator (Gross)	1435	919
Calibrator (Net)	1419	909

## Gamma Constants MCG 044

Gamma Calibrator Number	060	
Mud Density	1.14	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
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## Caliper Calibration MPD 067

Base Calibration on 19-FEB-2003,13:48

Field Calibration on 14-MAR-2003 03:53

## Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14847	4.01
2	24400	5.99
3	34321	7.98
4	44338	9.94
5	55648	12.01
6	N/A	N/A

## Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.98

## Laterolog Calibration MLE 015

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

Field Check on 14-MAR-2003,03:10

## Base Calibration

Channel	Resistor 1	Measured		Calibrated (ohm-m)	
		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

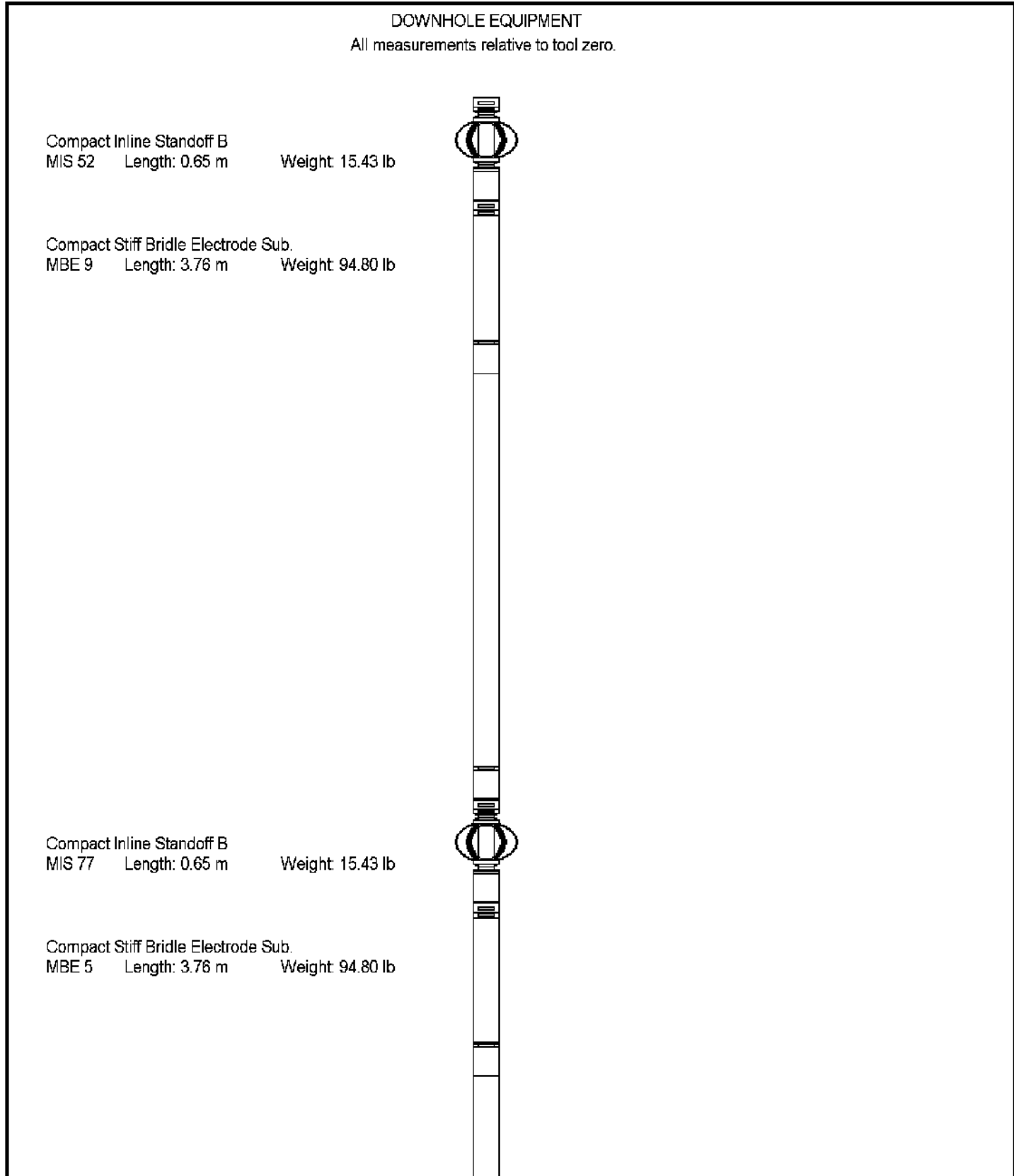
50 Hz

SP Connection

SP Bridle Electrode

Groningen Connection

Groningen Electrode



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

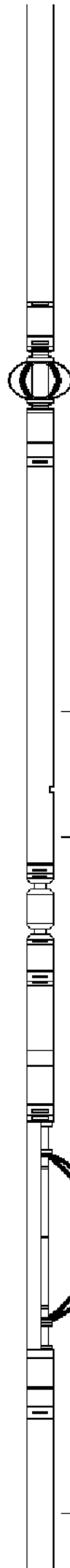
Compact Gamma  
MCG 44    Length: 2.65 m    Weight: 63.93 lb

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 A  
MIS 24    Length: 1.74 m    Weight: 33.07 lb

Compact Neutron  
MDN 69    Length: 1.53 m    Weight: 50.71 lb



27.98 m    GRGC - Gamma Ray

27.09 m    CGXT - MCG External Temperature

22.88 m    NPRL - Limestone Neutron Por.

Compact Density/Caliper  
MPD 67    Length: 2.92 m    Weight: 90.39 lb

- 20.20 m    CLDC - Density Caliper
- 20.20 m    HVOL - Hole Volume
- 20.20 m    AVOL - Annular Volume
- 19.98 m    DCOR - Density Correction
- 19.98 m    DEN - Compensated Density
- 19.96 m    PDPE - PE

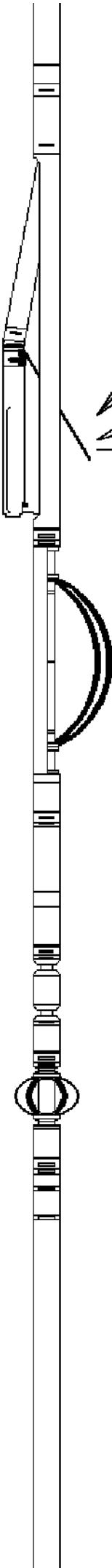
Compact Inline Bowspring A  
MIS 25    Length: 1.74 m    Weight: 33.07 lb

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

10.06 m      DSL - Shallow Laterolog  
10.06 m      DLL - Deep 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

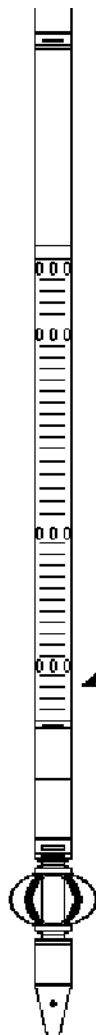


Compact Sonic  
MSS 28    Length: 3.82 m    Weight: 72.75 lb

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

Compact Hole Finder  
HFS 1    Length: 0.24 m    Weight: 2.20 lb


Total Length: 40.60 m    Total Weight: 1016.33 lb



0.00 m    TR21 - 3' Transit Time  
0.00 m    TR22 - 5' Transit Time  
0.00 m    DT35 - 3-5' Compensated Sonic  
Tool Zero    (1.58m from bottom)

<b>COMPANY</b>	<b>ESSO AUSTRALIA PTY LTD</b>
<b>WELL</b>	<b>FLOUNDER A24A</b>
<b>FIELD</b>	<b>GIPPSLAND BASIN</b>
<b>PROVINCE/COUNTY</b>	<b>BASS STRAIT</b>
<b>COUNTRY/STATE</b>	<b>AUSTRALIA</b>

Elevation Kelly Bushing	metres	First Reading	3193.40	metres
Elevation Drill Floor      33.85	metres	Depth Driller	3193.00	metres
Elevation Ground Level    -93.00	metres	Depth Logger	3195.00	metres

	<b>DUAL LATEROLOG</b>
	<b>GAMMA RAY</b>
	<b>1:500 MD</b>