



PRECISION
ENERGY SERVICES

DUAL LATEROLOG - GR
DENSITY - NEUTRON

Compact

1:500 TVD

COMPANY

ESSO AUSTRALIA PTY LTD

WELL

BREAM A1A

FIELD

BREAM

PROVINCE/COUNTY

BASS STRAIT

COUNTRY/STATE

AUSTRALIA

LOCATION

S 38 29 58.755, E 147 46 19.983

N 5738462.460 m, E 567336.500 m

FIELD PRINT

LSD SEC TWP RGE

Other Services
COMPENSATED SONIC

API Number

Permit Number

Permanent Datum MSL

, Elevation 0.0 metres

Log Measured From RT @ 32.82 M

above Permanent Datum

Drilling Measured From RT

Elevations:
KB
DF
GL

metres
metres
metres

Date 08-Nov-2005

Run Number ONE

Depth Driller 2032.00 metres

Depth Logger 2031.01 metres

First Reading 2018.23 metres

Last Reading 1280.89 metres

Casing Driller 1285.33 metres

Casing Logger 1285.33 metres

Bit Size 8.50 inches

Hole Fluid Type KCL/GYL/POLY

Density / Viscosity 10.10 lb/USg 69.00 CP

PH / Fluid Loss 9.00 3.00

Sample Source FLOWLINE

Rm @ Measured Temp 0.113 @ 25.0 ohm-m

Rmf @ Measured Temp 0.088 @ 25.0 ohm-m

Rmc @ Measured Temp 0.168 @ 25.0 ohm-m

Source Rmf / Rmc PRESS PRESS

Rm @ BHT 0.053 @ 79.0 ohm-m

Time Since Circulation 22 Hours

Max Recorded Temp 82.00 deg C

Equipment Name 5" CWS/CML

Recorded By 1 SALE

Witnessed By R. TENCH, B. MOSS

CIRC STOPPED TREVOR LOBO

15:30 7-NOV

BOREHOLE RECORD

Bit Size
inches

8.500

Depth From
metres

1496.00

Depth To
metres

2294.00

CASING RECORD

Type

Size
inches

13.375

Depth From
metres

0.00

Shoe Depth
metres

853.00

Weight
pounds/ft

54.50

K-55

L-80

9.625

0.00

1496.00

47.00

REMARKS

RIG: NABORS 453

5" SHUTTLE/MEMORY COMPACT OPERATION.

CREW: R TENCH , B MOSS , B GOODWIN, M KOLCZE.

FIELD FINAL LOGS TO BE CORRELATED TO ANADRILL GAMMA LOG.

MAX. TEMPERATURE: 82DEG C AT 2249 m MD

MAX. INCLINATION: 43.98 DEG AT 1500m MD

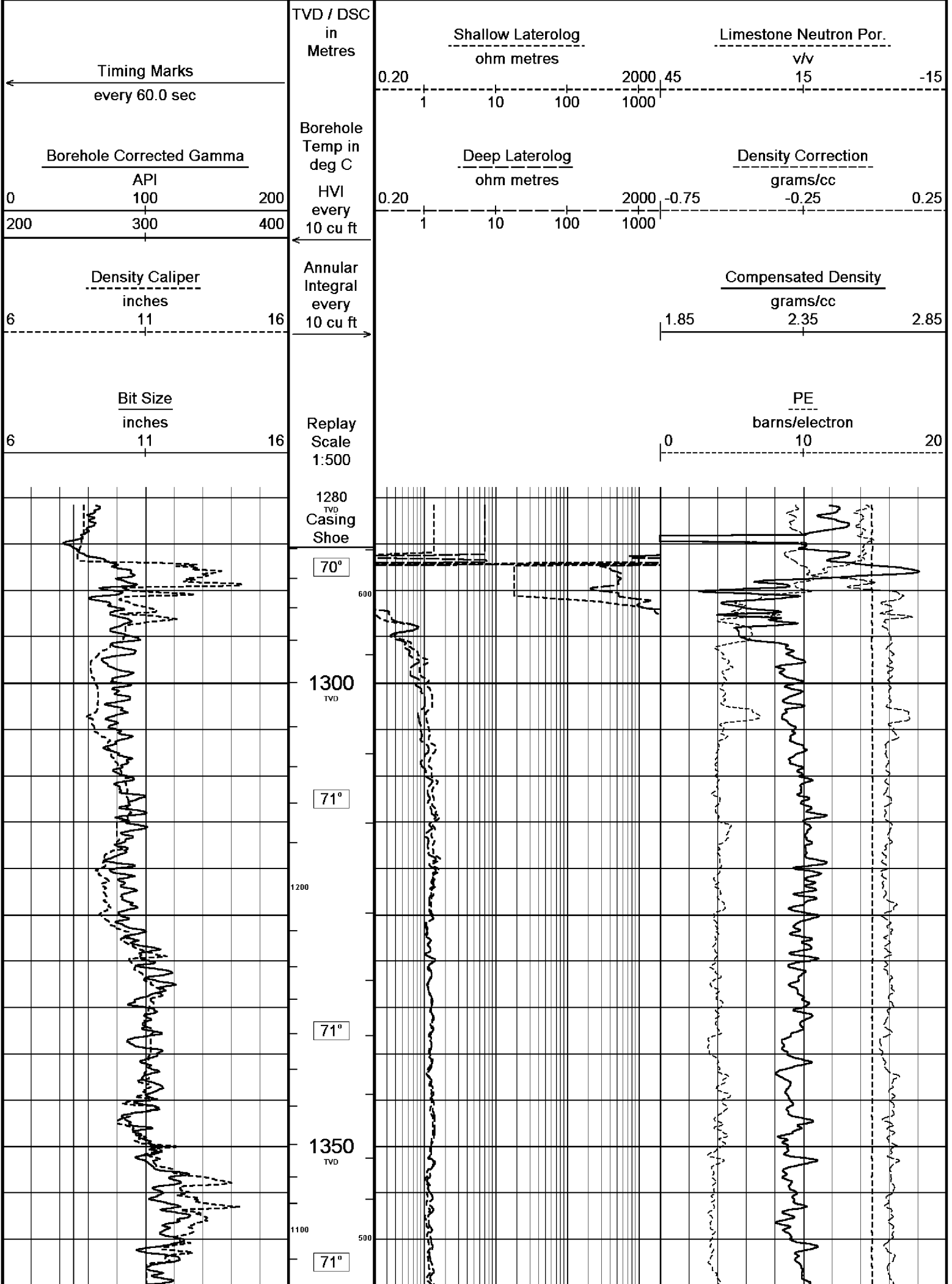
MAX. DOGLEG SERVERITY: 7.58DEG/30m AT 1561.54 m MD

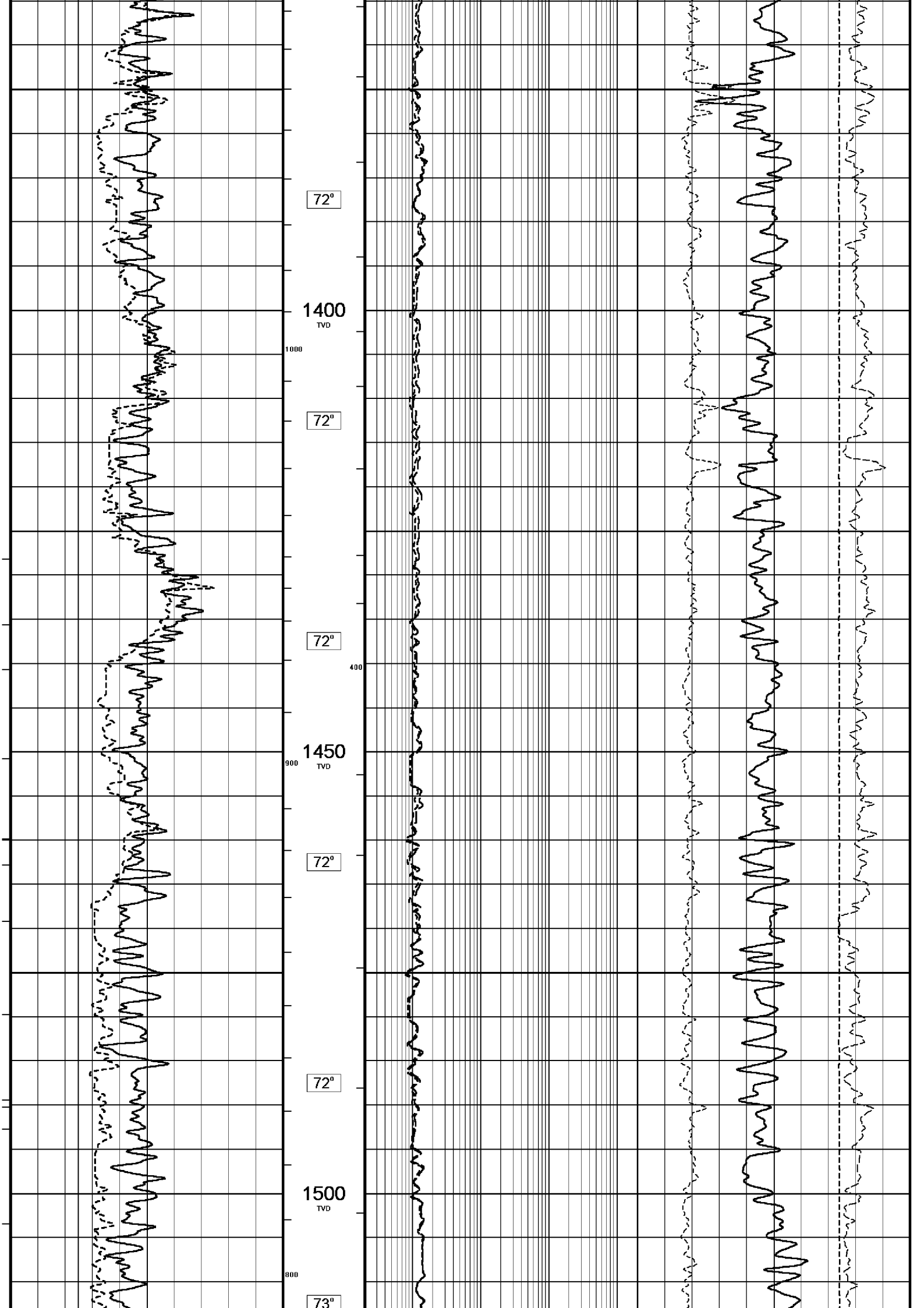
DEPLOYMENT ANGLE: 14.45 DEG

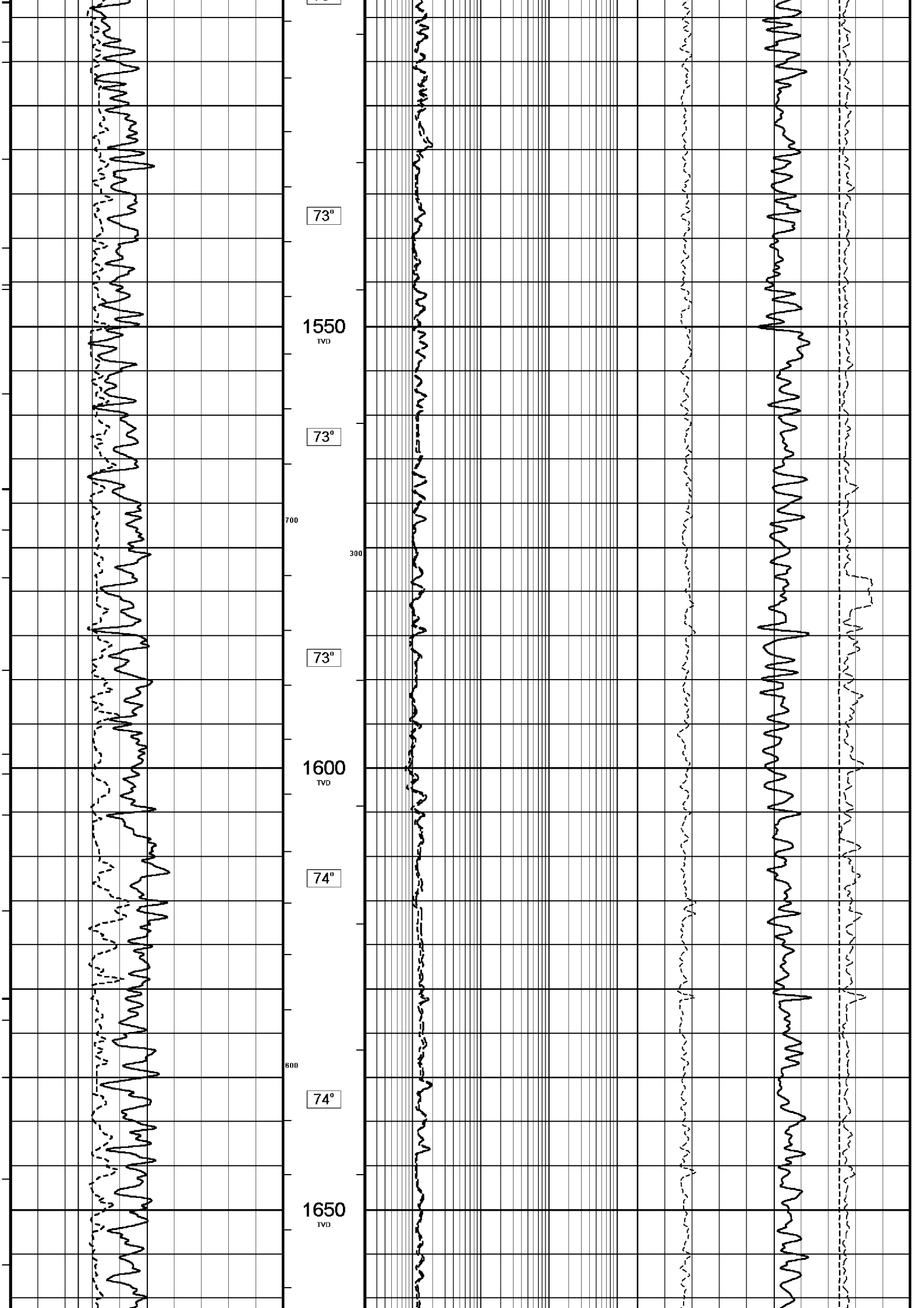
HVOL: 1290 FT^3

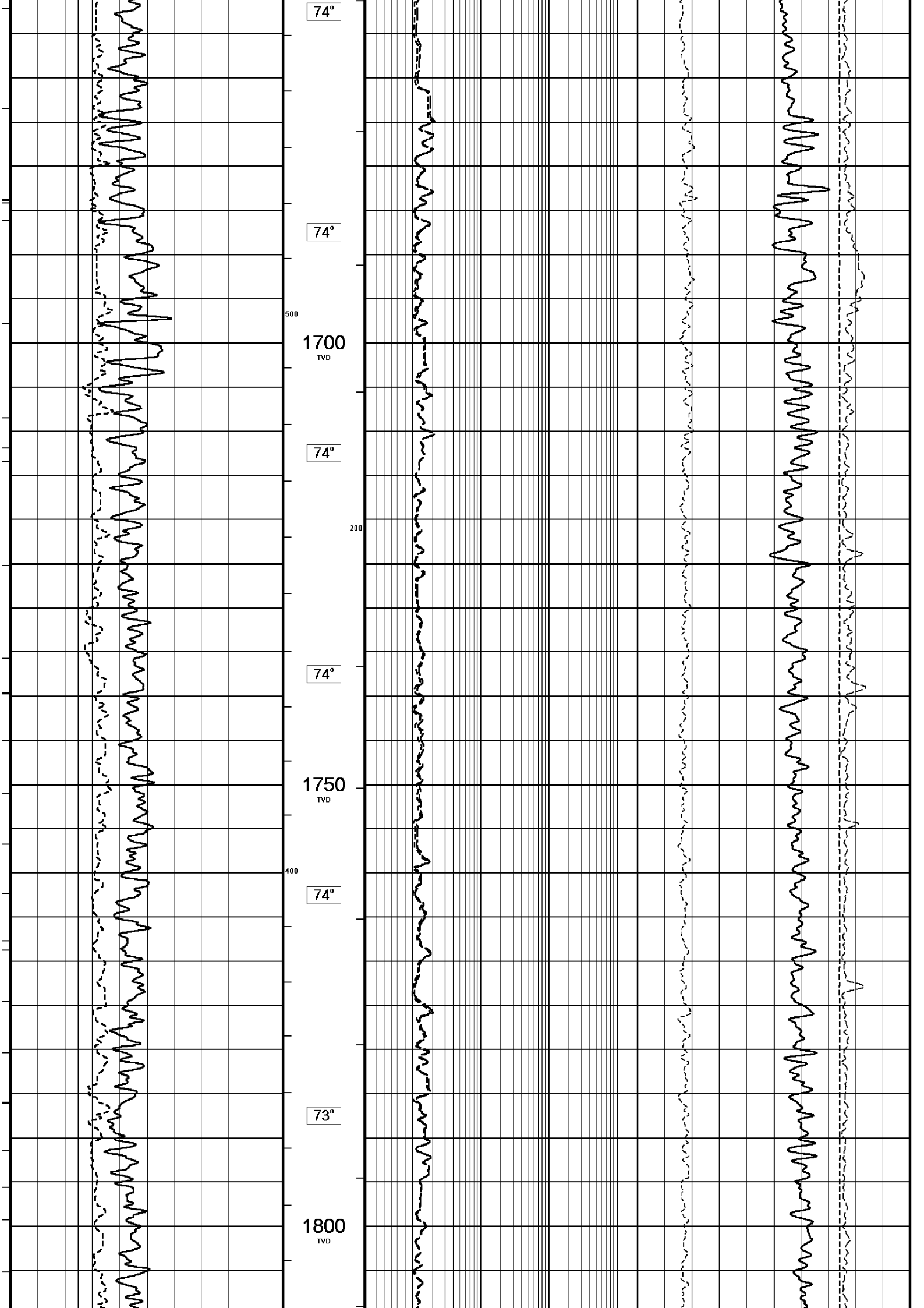
AVOL: 610 FT^3

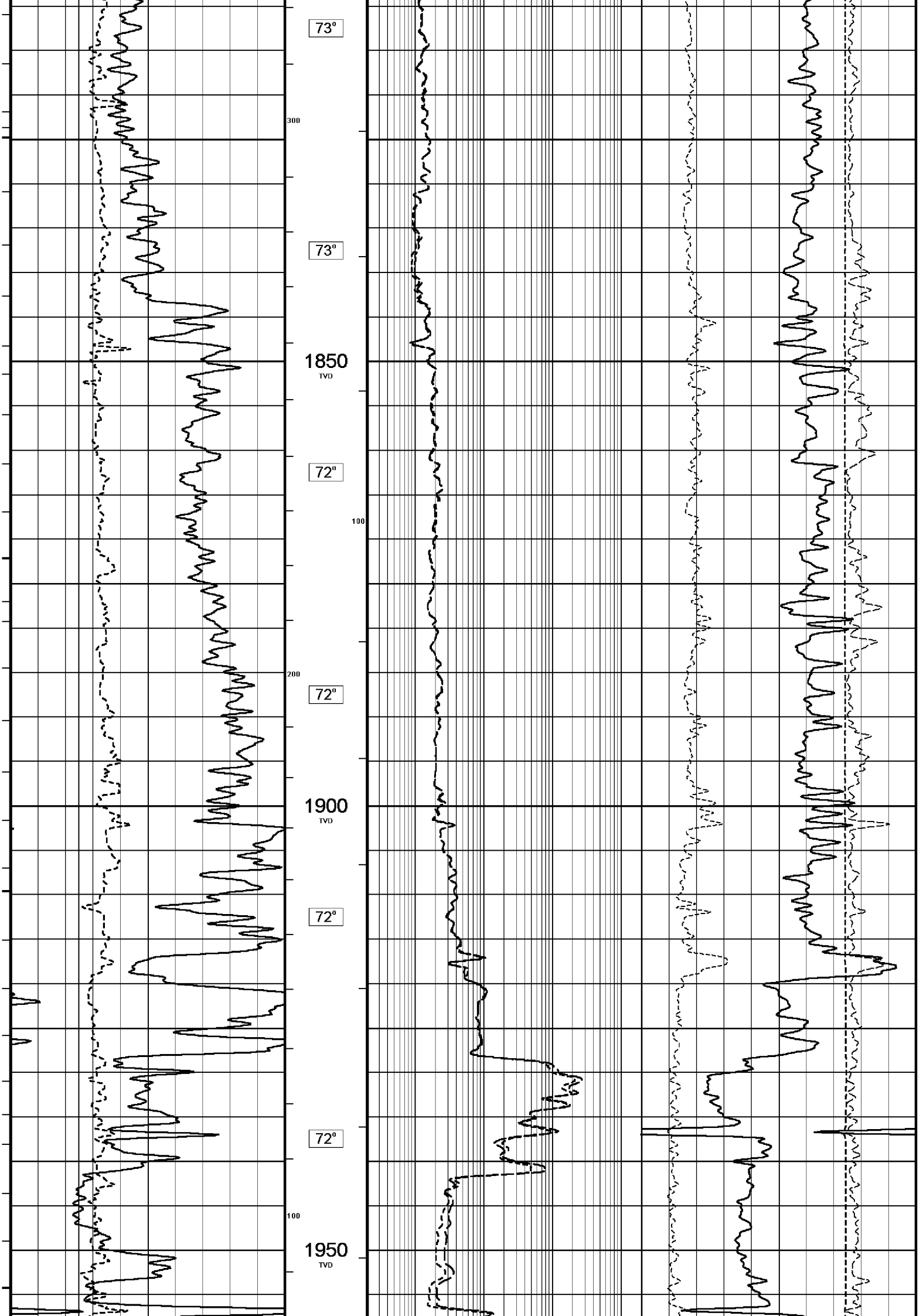
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

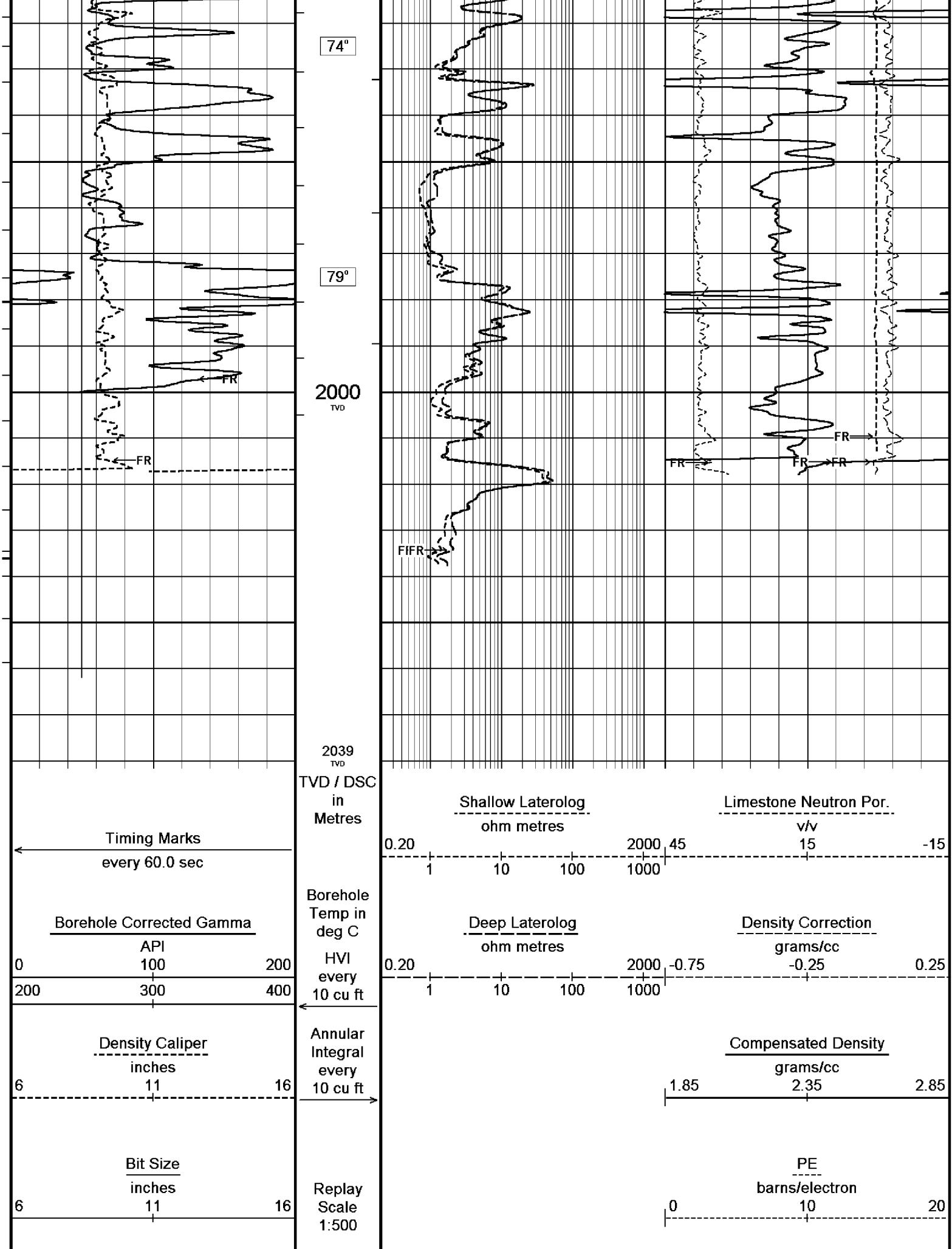












Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\logs\BMA_A1A\BMA_A1A_TC_200.dta

System Configuration Dates: Logged 17-JUN-2004: Processed 17-JUN-2004: Plotted 17-JUN-2004:

Plotted on 09-NOV-2005 04:24

Recorded on 08-NOV-2005 21:51



MAIN LOG 1:500



BEFORE SURVEY CALIBRATION

C:\logs\BMA_A1A\BMA_A1A_TC_200.dta

General Constants All 000

General Parameters

Mud Resistivity	0.113	ohm-metres
Mud Resistivity Temperature	25.000	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Density Caliper	
Annular Volume Diameter	7.000	inches
Caliper for Differential Caliper	None	

Rwa Parameters

Porosity used	Limestone Sonic Porosity
Resistivity used	Deep Induction
RWA Constant A	0.610
RWA Constant M	2.150

High Resolution Temperature Calibration MCG 142

Field Calibration on 7-NOV-2005,03:12

	Measured	Calibrated(Deg C)
Lower	0.00	0.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG 142

Pre-filter Length	11
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Gamma Calibration MCG 142

Field Calibration on 7-NOV-2005 03:17

	Measured	Calibrated (API)
Background	21	14
Calibrator (Gross)	1367	923
Calibrator (Net)	1346	909

Gamma Constants MCG 142

Gamma Calibrator Number	060	
Mud Density	1.21	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN 085

Base Calibration on 28-OCT-2005 16:16

Field Check on 7-NOV-2005 03:32

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3202	100	3714	110
Ratio	32.170		33.764	

Field Calibrator at Base

	Calibrated (cps)
	1608 2344
Ratio	0.686

Field Check

	Calibrated (cps)
	1577 2339
Ratio	0.674

Neutron Constants MDN 085

Neutron Source Id	NSN-E-729	
Neutron Jig Number	NEC-C-052	
Epithermal Neutron	No	
Caliper Source for Processing	Bit Size	
Stand-off	0.00	inches
Mud Density	1.21	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	59.40	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Caliper Calibration MPD 083

Base Calibration on 28-OCT-2005 18:13
Field Calibration on 7-NOV-2005 03:20

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13616	4.01
2	21847	5.99
3	30336	7.98
4	38762	9.94
5	47872	12.01
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.94	7.98

Photo Density Calibration MPD 083

Base Calibration on 28-OCT-2005 18:32
Field Check on 7-NOV-2005 03:25

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	54504	18779	53111	19310
Reference 2	25530	2542	24951	2530

Field Check at Base

949.8 1099.0

Field Check

950.3 1097.1

PE Calibration

Base Calibration	WS	Measured		Calibrated Ratio
		WH	Ratio	
Background	181	815		
Reference 1	17171	54310	0.318	0.320
Reference 2	6840	25386	0.271	0.273

Field Check at Base

181.2 815.4

Field Check

181.0 813.6

Density Constants MPD 083

Density Source Id	NSD-L-242	
Nylon Calibrator Number	DNC-D-536	
Aluminium/Fe Calibrator Number	DNC-D-536	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.21	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

Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.3210	
Deep Laterolog K Factor	0.7550	
Groningen Laterolog K Factor	0.8540	
Interference Rejection	50 Hz	
SP Connection	SP Bridle Electrode	
Groningen Connection	Groningen Electrode	

DOWNHOLE EQUIPMENT

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Compact Swivel Head Adaptor F

SHA 71 Length: 0.83 m Weight: 26.5 lb

Compact Knuckle Joint

SKJ 100 Length: 0.66 m Weight: 24.3 lb

Compact Battery Sub.

MBS 99 Length: 4.41 m Weight: 44.1 lb

Compact Inline Standoff B

MIS 73 Length: 0.65 m Weight: 15.4 lb

Compact Stiff Bridle Electrode Sub.

MBE 18 Length: 3.76 m Weight: 94.8 lb

Compact Inline Standoff B

MIS 138 Length: 0.65 m Weight: 15.4 lb

Compact Stiff Bridle Electrode Sub.

MBE 19 Length: 3.76 m Weight: 94.8 lb

Compact Inline Standoff B

MIS 136 Length: 0.65 m Weight: 15.4 lb

MBE21 - THIRD BRIDLE

MLK 111 Length: 3.76 m Weight: 30.9 lb

Compact Inline Standoff B

MIS 133 Length: 0.65 m Weight: 15.4 lb

Compact Gamma

22.62 m - CGGE - Downhole Corrected Gamma

Compact Gamma
MCG 142 Length: 2.65 m Weight: 63.9 lb

32.63 m GGCE - Borehole Corrected Gamma
31.75 m CGXT - MCG External Temperature

Compact Memory Sub A.C
MMS 38 Length: 1.37 m Weight: 30.9 lb

Compact Knuckle Joint
SKJ 45 Length: 0.66 m Weight: 24.3 lb

Compact Swivel Head Adaptor F
SHA 64 Length: 0.83 m Weight: 26.5 lb

Compact Inline Bowspring A
MIS 94 Length: 1.74 m Weight: 33.1 lb

Compact Neutron
MDN 85 Length: 1.53 m Weight: 50.7 lb

26.17 m NPRL - Limestone Neutron Por.

Compact Density/Caliper
MPD 83 Length: 2.92 m Weight: 90.4 lb

23.48 m AVOL - Annular Volume
23.48 m HVOL - Hole Volume
23.48 m CLDC - Density Caliper
23.27 m DEN - Compensated Density

Compact Inline Bowspring A
MIS 24 Length: 1.74 m Weight: 33.1 lb

23.27 m DCOR - Density Correction
23.25 m PDPE - PE

Compact Swivel Head Adaptor
SHA 28 Length: 0.83 m Weight: 26.5 lb

Compact Knuckle Joint
SKJ 110 Length: 0.66 m Weight: 24.3 lb

Compact Inline Standoff B
MIS 72 Length: 0.65 m Weight: 15.4 lb

Compact Upper Guard Sub.
MUG 30 Length: 2.74 m Weight: 68.3 lb

Compact Inline Standoff B
MIS 141 Length: 0.65 m Weight: 15.4 lb

Compact Laterolog Electrode Sub.
MLE 31 Length: 3.76 m Weight: 92.6 lb

13.35 m DSLL - Shallow Laterolog
13.35 m DDLL - Deep Laterolog

Compact Inline Standoff B
MIS 127 Length: 0.65 m Weight: 15.4 lb

Compact Lower Guard Sub.
MLG 7 Length: 2.44 m Weight: 55.1 lb

Compact Inline Standoff B
MIS 129 Length: 0.65 m Weight: 15.4 lb

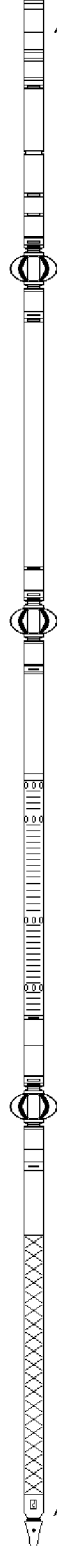
Compact Sonic
MSS 66 Length: 3.82 m Weight: 72.8 lb

Compact Inline Standoff B
MIS 126 Length: 0.65 m Weight: 15.4 lb

Compact Induction
MAI 39 Length: 3.29 m Weight: 48.5 lb

Pressure Bung + Hole Finder
HFS 4 Length: 0.40 m Weight: 6.6 lb

Total Length: 54.43 m Weight: 1201.5 lb



Tool Zero (0.44m from bottom)

All measurements relative to tool zero.

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	BREAM A1A
FIELD	BREAM
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing	metres	First Reading	2018.23	metres
Elevation Drill Floor	32.82 metres	Depth Driller	2032.00	metres
Elevation Ground Level	-59.40 metres	Depth Logger	2031.01	metres



DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:500 TVD

