



**PRECISION**  
ENERGY SERVICES  
**Compact**

**COMPENSATED NEUTRON  
PHOTO DENSITY**

**1:500**

COMPANY	ORIGIN ENERGY LIMITED		
WELL	PETERBOROUGH - 1ST1		
FIELD	OTWAY BASIN		
PROVINCE/COUNTY	VICTORIA		
COUNTRY/STATE	AUSTRALIA		
LOCATION	38° 35' 11.98" S, 142° 51' 34.06" E		
LSD	SEC	TWP	RGE
API Number	Other Services		
Permit Number	MICRO-LATEROLOG		
Permanent Datum MSL	Elevation 0.0 metres		
Log Measured From KB @	14.95 above Permanent Datum		
Drilling Measured From	COMPENSATED SONIC		
Date	05-SEP-2004		
Run Number	2		
Depth Driller	2070.00 metres		
Depth Logger	2052.55 metres		
First Reading	2051.50 metres		
Last Reading	1750.00 metres		
Casing Driller	495.60 metres		
Casing Logger	495.40 metres		
Bit Size	8.50 inches		
Hole Fluid Type	KCL POLYMER		
Density / Viscosity	1.14 g/cc	45.00 CP	
PH / Fluid Loss	9.50	4.40 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.30 @ 22.2 ohm-m		
Rmf @ Measured Temp	0.53 @ 22.3 ohm-m		
Rmc @ Measured Temp	0.12 @ 22.1 ohm-m		
Source Rmf / Rmc	FILTER	PRESS	
Rm @ BHT	0.14 @ 74.0 ohm-m		
Time Since Circulation	26 HRS		
Max Recorded Temp	74.00 deg C		
Equipment Name	SCOMBO		
Equipment / Base	8		
Recorded By	SHAWN STASIUK		
Witnessed By	JOHN HOBDAV		
Circ. Stop	01:00-SEP 05		

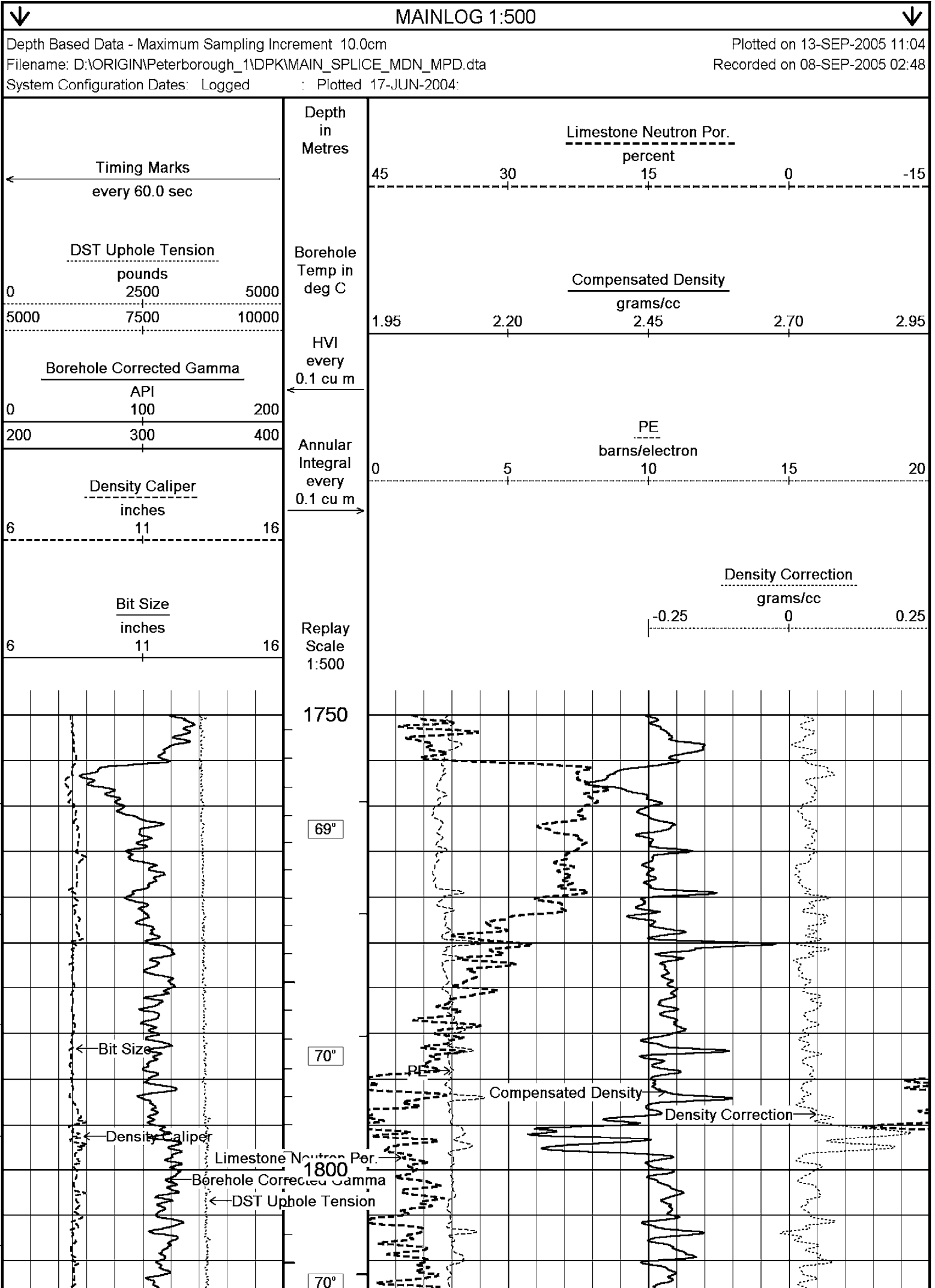
BOREHOLE RECORD		
Bit Size inches	Depth From metres	Depth To metres
8.500	495.00	2070.00

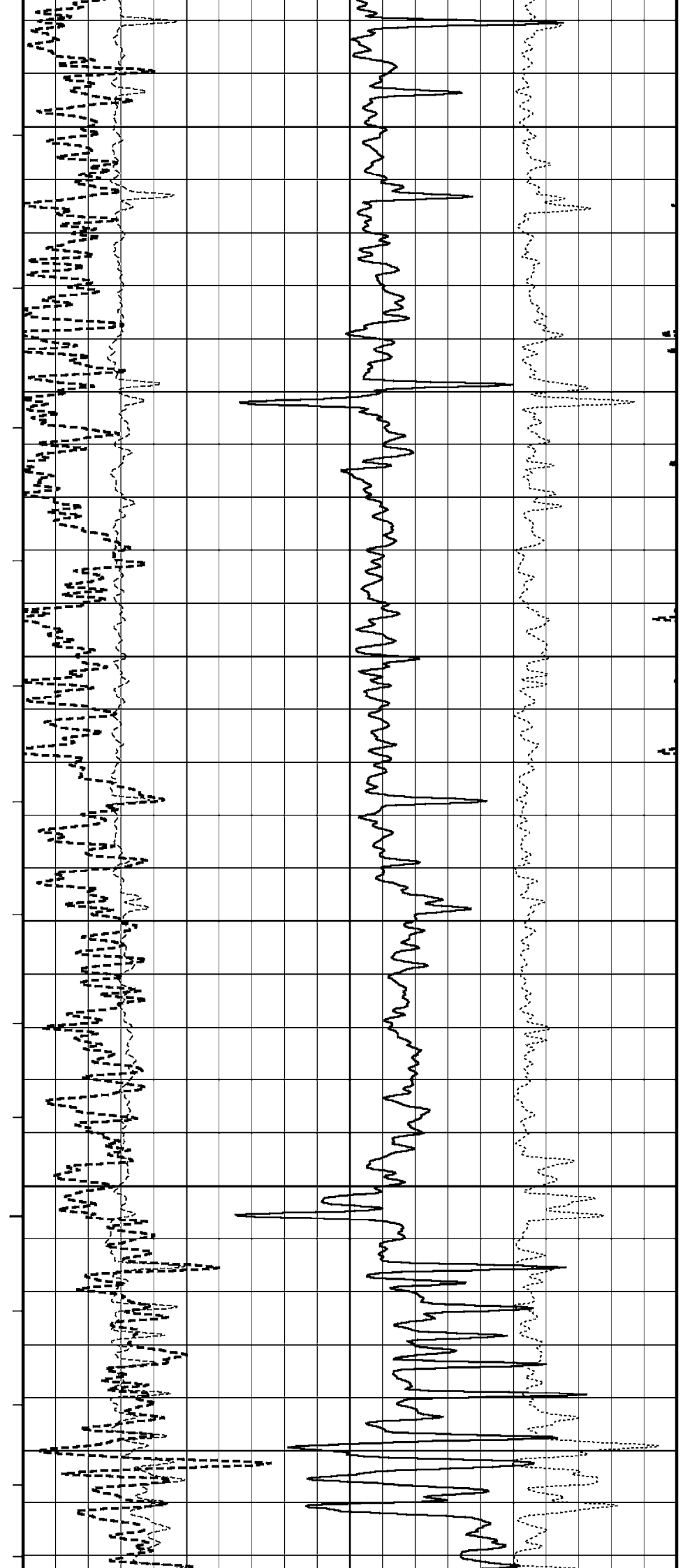
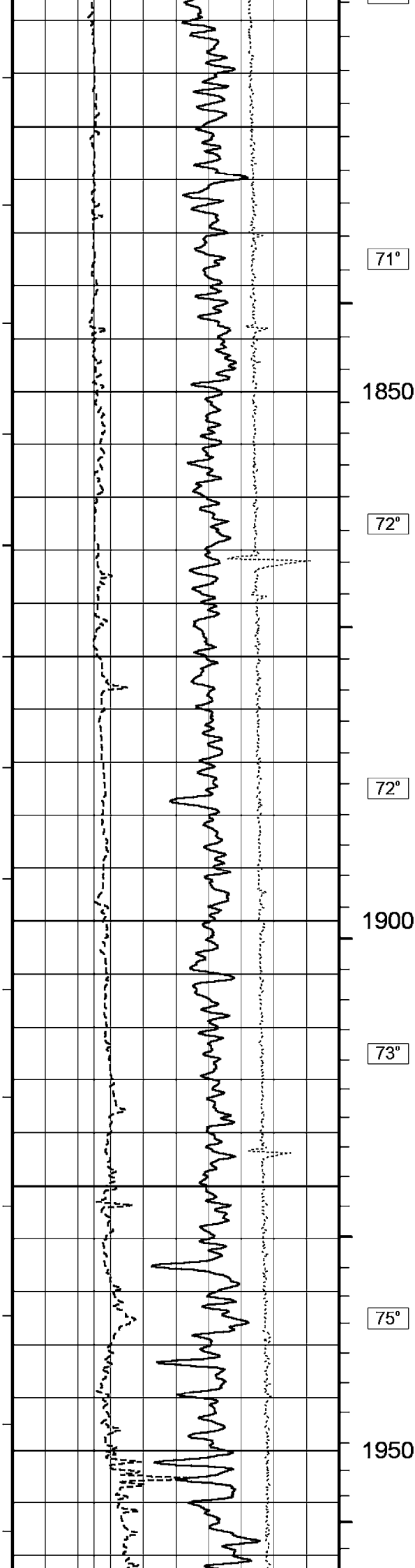
CASING RECORD				
Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
K55	9.625	0.00	495.00	36.00

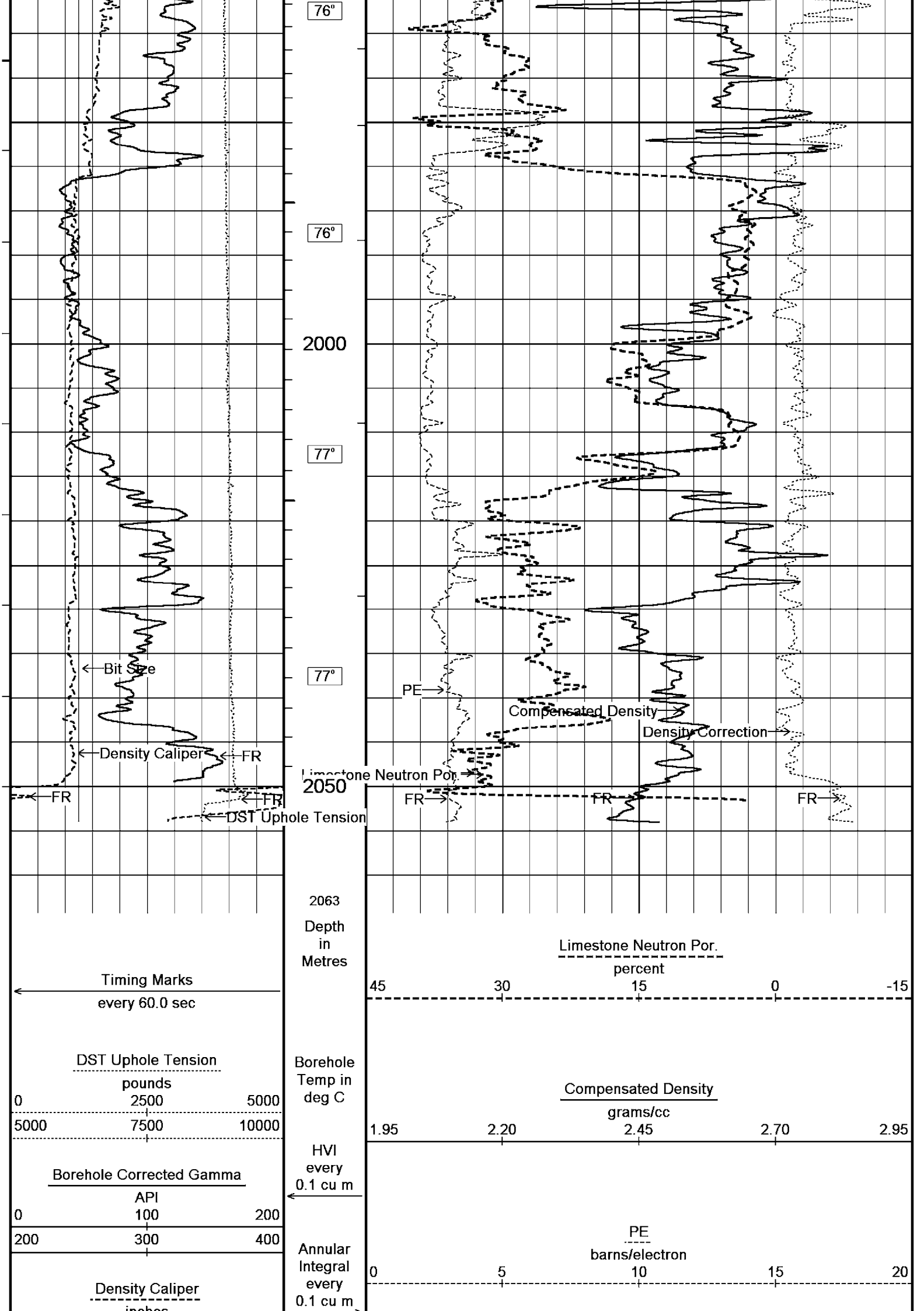
REMARKS	
1) SOFTWARE ISSUE: JUN 17, 2004. 2) CUSTOMER SCALES AND INTERVALS LOGGED. 3) HFS, MPD, MDN, MCG RAN IN COMBINATION. 4) HARDWARE: MDN: DUAL BOWSPRING	
5) MPD CORRECTED FOR BOREHOLE SIZE AND MUD DENSITY. 6) MDN CORRECTED FOR BOREHOLE SIZE AND MUD DENSITY AND SALINITY.	
7) SERVICE ORDER:2391 8) RIG:CENTURY 7	
PRINTS: 1 FIELD 3 FINALS	
9) TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 70 CU.M. 10) TOTAL ANNULAR VOLUME WITH 7 INCH CASING = 31.5 CU.M.	
11) PARTIAL CEMENT IN THE HOLE BETWEEN 925 AND 980M. 12) LOGGING TOOLS WERE REPEATEDLY HUNG UP FROM 720 TO 1354M. 13) UNABLE TO MAKE IT PAST 2049M. SEVERAL ATTEMPTS WERE MADE.	

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

or correctness of any interpretations, and we shall not, except in the case of gross or willful 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 10.0cmPlotted on 13-SEP-2005 11:04

Filename: D:\ORIGIN\Peterborough\_1\DPK\MAIN\_SPLICE\_MDN\_MPD.dtaRecorded on 08-SEP-2005 02:48

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

BEFORE SURVEY CALIBRATION

D:\ORIGIN\Peterborough\_1\DPK\MAIN\_SPLICE\_MDN\_MPD.dta

General Constants All 000			
General Parameters			
Mud Resistivity	0.300	ohm-metres	
Mud Resistivity Temperature	20.000	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	Density Caliper		
Rwa Parameters			
Porosity used	N/A		
Resistivity used	N/A		
RWA Constant A	N/A		
RWA Constant M	N/A		

Gamma Calibration MCG 098			Field Calibration on 23-AUG-2005 10:33
	Measured	Calibrated (API)	
Background	48	35	
Calibrator (Gross)	1070	784	
Calibrator (Net)	1022	749	

Gamma Constants MCG 098			
Gamma Calibrator Number	30		
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 098			Field Calibration on 23-AUG-2005,10:33
	Measured	Calibrated(Deg C)	
Lower	0.00	0.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MCG 098			
Pre-filter Length	11		

SP Calibration MCG 098			Field Calibration on 9-JAN-2005,00:41
	Measured	Calibrated (mV)	
Reference 1	1604.7	1599.0	
Reference 2	-1599.8	-1599.0	

Neutron Calibration MDN 043			Base Calibration on 22-AUG-2005 15:53 Field Check on 4-SEP-2005 20:27
Base Calibration			
	Measured	Calibrated (cps)	
Near	Far	Near	Far

	3021	94	3714	110
Ratio	32.071		33.764	
Field Calibrator at Base			Calibrated (cps)	
			1674	2333
Ratio			0.717	
Field Check			Calibrated (cps)	
			1645	2338
Ratio			0.703	

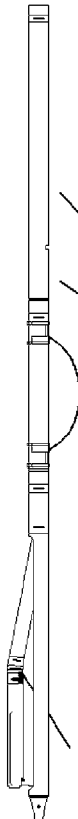
Neutron Constants MDN 043				
Neutron Source Id	NSNE-747			
Neutron Jig Number	31			
Epithermal Neutron	No			
Caliper Source for Processing	Density Caliper			
Stand-off	0.00	inches		
Mud Density	1.14	gm/cc		
Limestone Sigma	7.10	cu		
Sandstone Sigma	4.26	cu		
Dolomite Sigma	4.70	cu		
Formation Pressure Source	Constant Value			
Formation Pressure	0.00	kpsi		
Temperature Source	Constant Value			
Temperature	20.00	degrees C		
Mud Salinity	21.14	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 22-AUG-2005,12:13	
					Field Check on 4-SEP-2005 20:33	
Density Calibration						
Base Calibration		Measured		Calibrated (sdu)		
		Near	Far	Near	Far	
	Reference 1	49825	17938	53111	19310	
	Reference 2	23308	2480	24951	2530	
Field Check at Base						
		918.0	1089.7			
Field Check						
		921.8	1085.1			
PE Calibration						
Base Calibration		Measured		Calibrated		
	WS	WH	Ratio	Ratio		
	Background	176	793			
	Reference 1	15856	49650	0.321	0.320	
	Reference 2	6240	23176	0.271	0.273	
Field Check at Base						
		176.0	793.2			
Field Check						
		175.6	798.1			

Density Constants MPD 066		
Density Source Id	NSDL250	
Nylon Calibrator Number	DNC-D-536	
Aluminium/Fe Calibrator Number	DAC-D-536	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.14	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

Caliper Calibration MPD 066			Base Calibration on 22-AUG-2005 11:11
			Field Calibration on 8-SEP-2005,03:44
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	11983	4.01	
2	20446	5.99	
3	29120	7.98	
4	37568	9.94	
5	47008	12.01	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	8.37	8.92	

DOWNHOLE EQUIPMENT			
D:\ORIGIN\Peterborough_1\DPK\MAIN_SPLICE_MDN_MPD.dta			
All measurements relative to tool zero.			
Compact Gamma MCG 98    Length: 2.65 m    Weight: 63.9 lb			4.87 m    GGCE - Borehole Corrected Gamma
			3.98 m    CGXT - MCG External Temperature
Compact Neutron MDN 43    Length: 1.53 m    Weight: 50.7 lb			3.00 m    NPRS - Sandstone Neutron Por.
Compact Density/Caliper MPD 66    Length: 2.92 m    Weight: 90.4 lb			0.32 m    AVOL - Annular Volume
Pressure Bung + Hole Finder HFS 3    Length: 0.28 m    Weight: 6.6 lb		0.32 m    HVOL - Hole Volume	0.32 m    CLDC - Density Caliper
Total    Length: 7.39 m    Weight: 211.6 lb		0.10 m    DCOR - Density Correction	0.10 m    DPRS - Sandstone Density Por.
		0.08 m    PDPE - PE	Tool Zero    (0.95m from bottom)

COMPANY		ORIGIN ENERGY LIMITED		
WELL		PETERBOROUGH - 1ST1		
FIELD		OTWAY BASIN		
PROVINCE/COUNTY		VICTORIA		
COUNTRY/STATE		AUSTRALIA		
Elevation Kelly Bushing	14.95	metres	First Reading	2051.50    metres
Elevation Drill Floor		metres	Depth Driller	2070.00    metres
Elevation Ground Level	9.65	metres	Depth Logger	2052.55    metres



COMPENSATED NEUTRON

PHOTO DENSITY

1:500

