



ARRAY INDUCTION

COMPANY
WELL
FIELD
PROVINCE
COUNTRY
LOCATION

PARAMOUNT RESOURCES LTD
PARA ET AL CAMERON L-73
CAMERON HILLS
NORTHWEST TERRITORIES
CANADA

300/L-73-60-10-117-15

FINAL PRINT

NEB COPY

API Number	1159	Other Services	PHOTO DENSITY MICROLOG	DUAL SPACED NEUTRON COMPENSATED SONIC XY CALIPERS
Permit Number	1159	Permanent Datum	OUND LEVEL, Elevation	770.8 metres
Log Measured From	4.0	Mabove Permanent Datum		
Drilling Measured From	KELLY BUSHING			
Date	27-FEB-2007	Elevations	KB 774.80 metres DF 770.80 metres GL	
Run Number	1			
Depth Driller	1450.00	metres		
Depth Logger	1448.60	metres		
First Reading	1447.50	metre		
Last Reading	435.00	metre		
Casing Driller	436.00	metres		
Casing Logger	435.00	metres		
Bit Size	200.00	mm		
Hole Fluid Type	GELCHEM			
Density / Viscosity	1180.0 kg/M3	85.00 sec/L		
PH / Fluid Loss	10.00	8.00 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.54 @ 25.0	ohm-m		
Rmf @ Measured Temp	0.41 @ 25.0	ohm-m		
Rmc @ Measured Temp	0.63 @ 25.0	ohm-m		
Source Rmf / Rmc	PRESS	FILTER		
Rm @ BHT	0.36 @ 47.0	ohm-m		
Time Since Circulation	8.5 HRS			
Max Recorded Temp	47.00	deg C		
Equipment Name	QUINT	GPR		
Recorded By	L. SUTHERLAND			
Witnessed By	A. AHMED			
CIRC STOP	05 30 FEB 27			

BOREHOLE RECORD

Last Edited: 28-FEB-2007 03:49

Bit Size millimetres	Depth From metres	Depth To metres
311.000	0.00	436.00
200.000	436.00	1450.00

CASING RECORD

Type	Size millimetres	Depth From metres	Shoe Depth metres	Weight pounds/ft
SURFACE	219.100	0.00	436.00	35.70

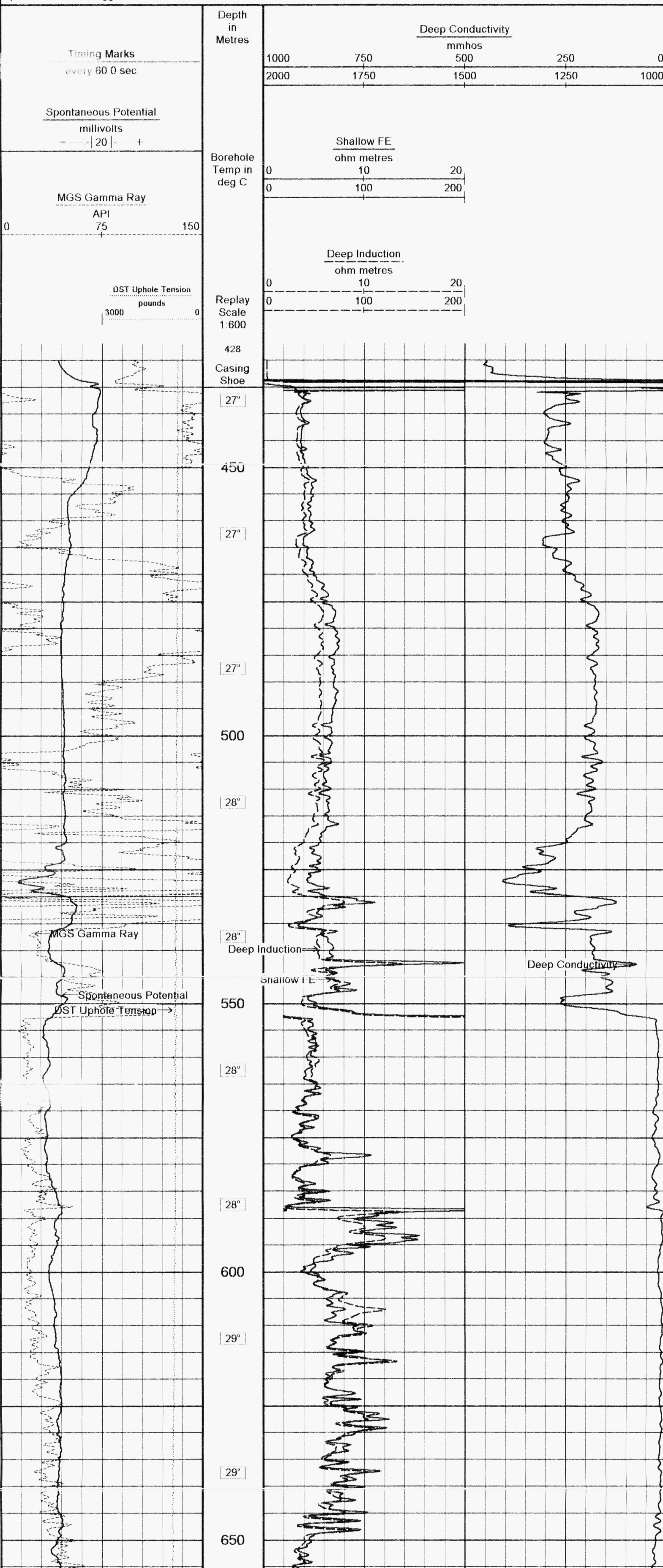
REMARKS

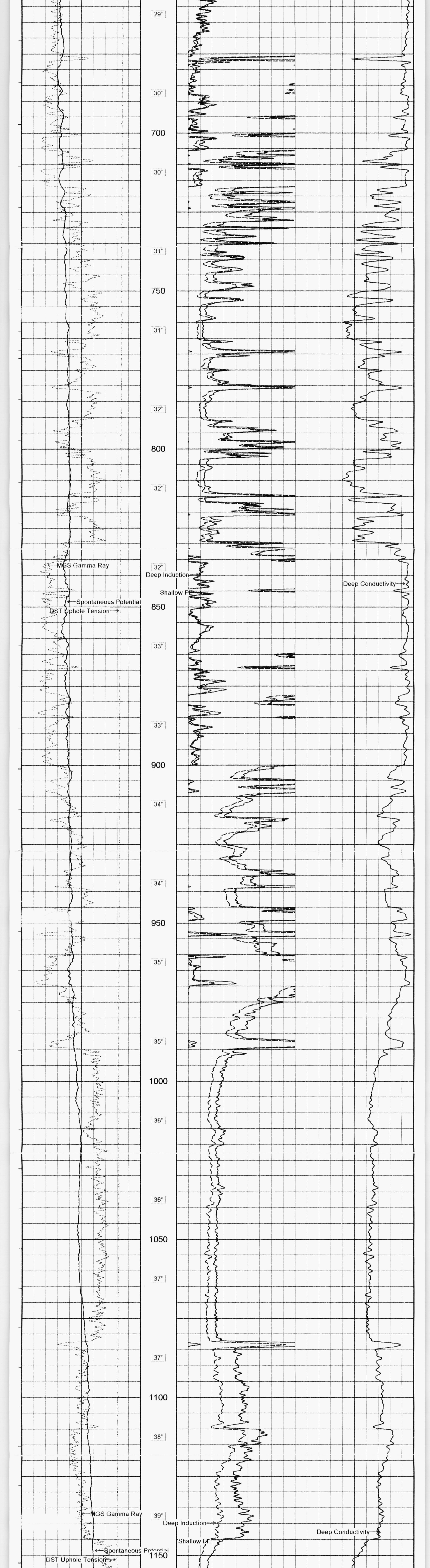
- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS
MSS: THREE 25.4 MM STANDOFFS
MDN: DUAL NEUTRON BOWSPRING
MTC: ONE SIX-LEAF CENTRALIZER
- 5) SAP# 4147855 FIELD TICKET #30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN
- 7) RIG PD # 129
- 8) HOLE CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION.
HOLE VOLUME = 36.05 CU M
ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU M
- 9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND
THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.
- 10) SONIC FREE PIPE 378M

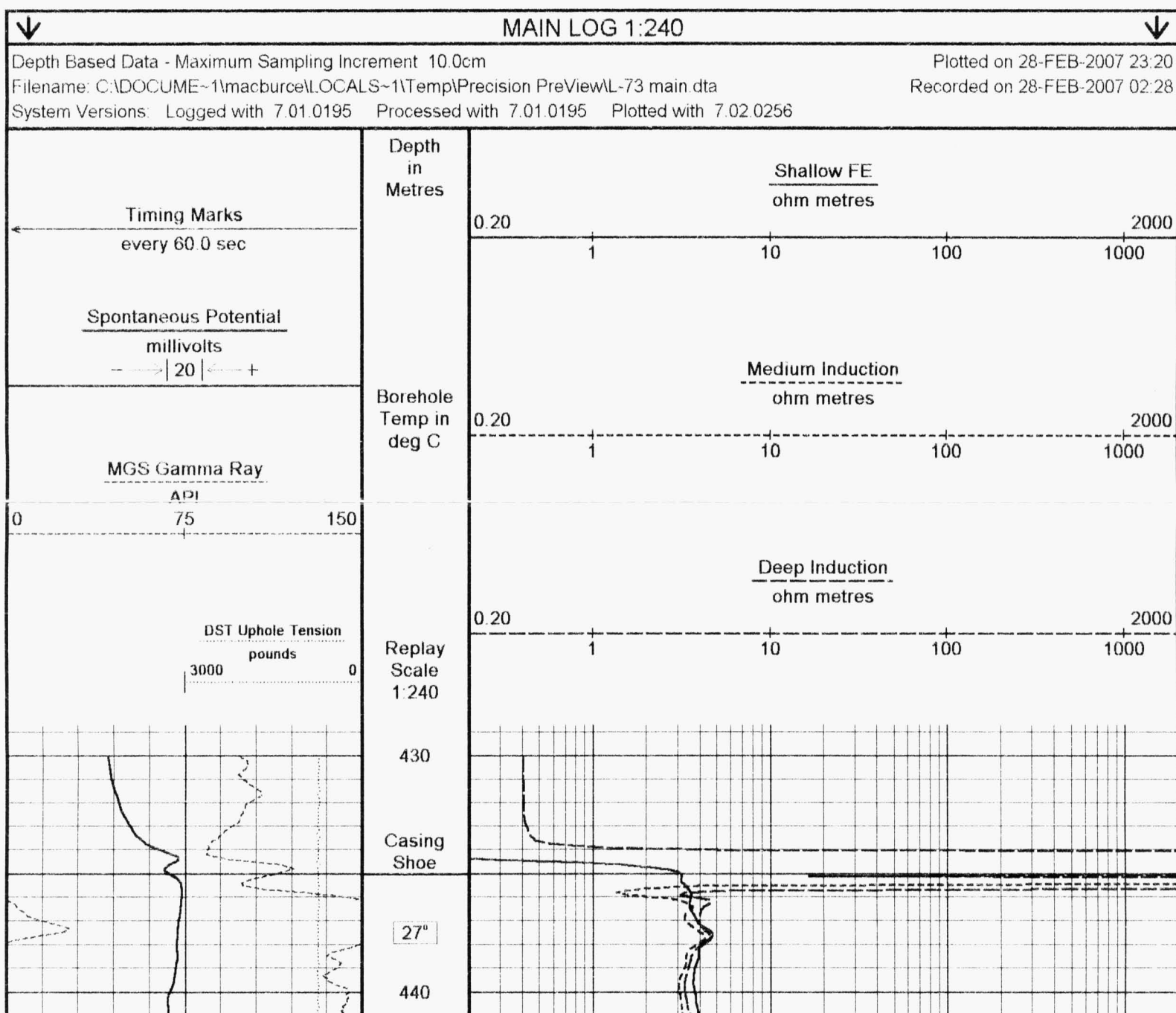
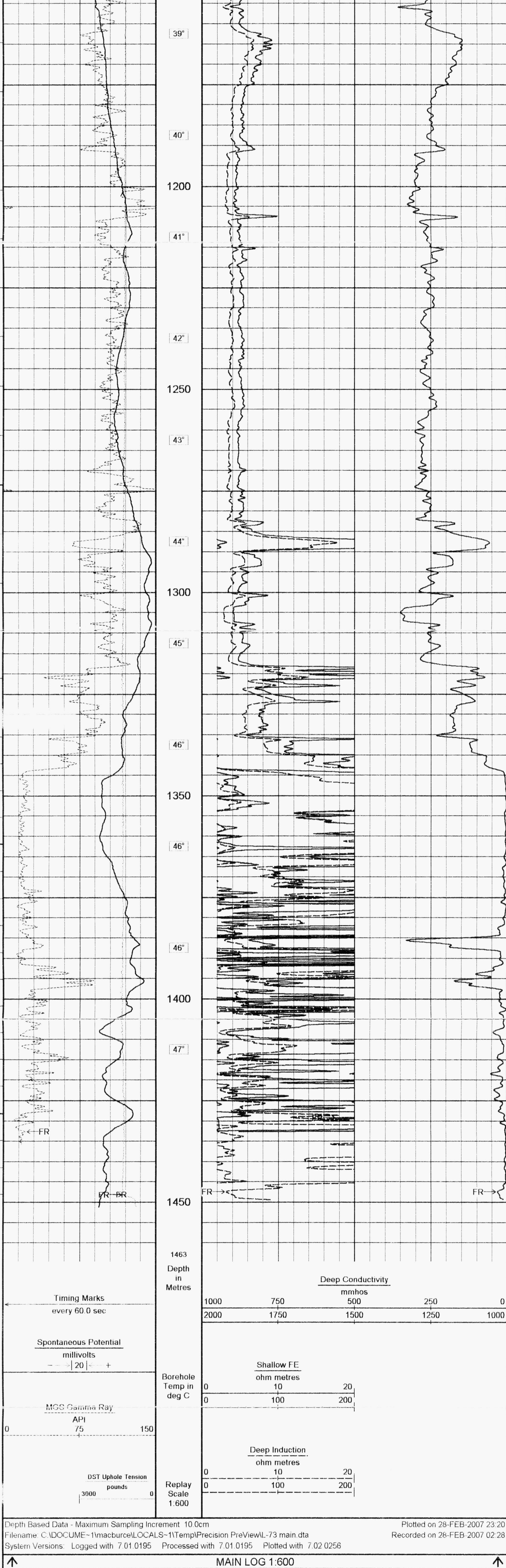
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

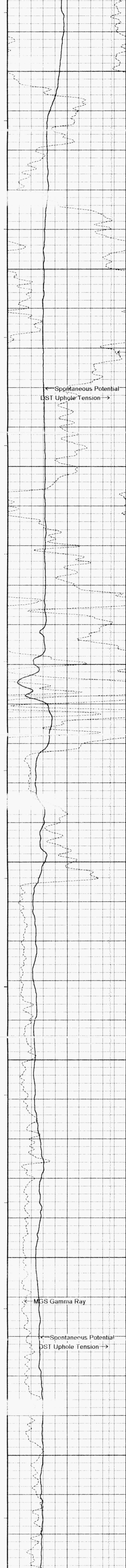
MAIN LOG 1-600

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\DOCUME~1\macburce\LOCALS~1\Temp\Precision PreView\L-73 main.dta
System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 7.02.0256
Plotted on 28-FEB-2007 23:20
Recorded on 28-FEB-2007 02:28

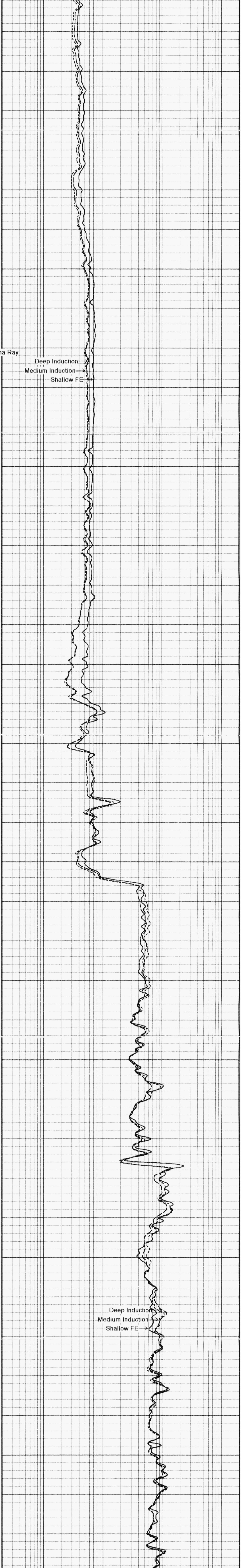


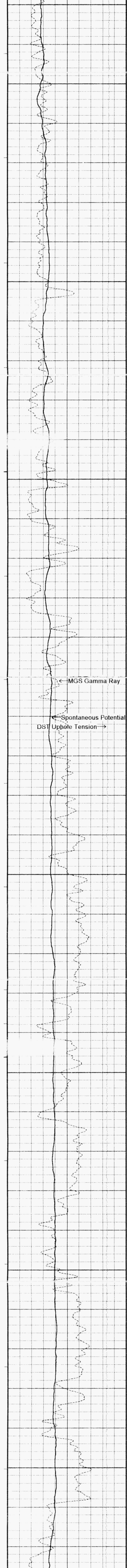




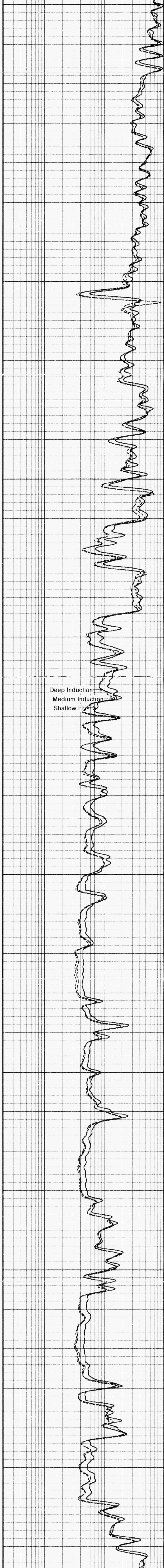


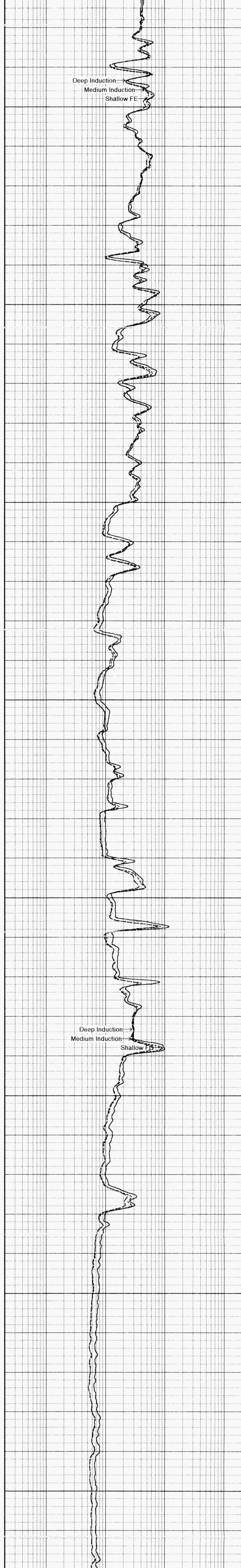
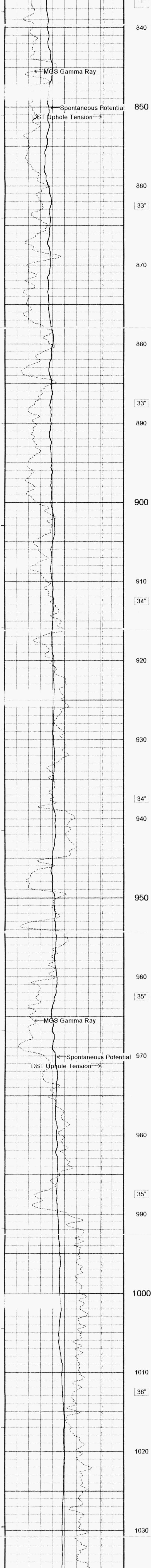
450
460
27°
470
480
MGS Gamma Ray
27°
490
500
510
28°
520
530
28°
540
550
560
28°
570
580
28°
590
600
MGS Gamma Ray
Spontaneous Potential
DST Uphole Tension
29°
610
620
630
29°

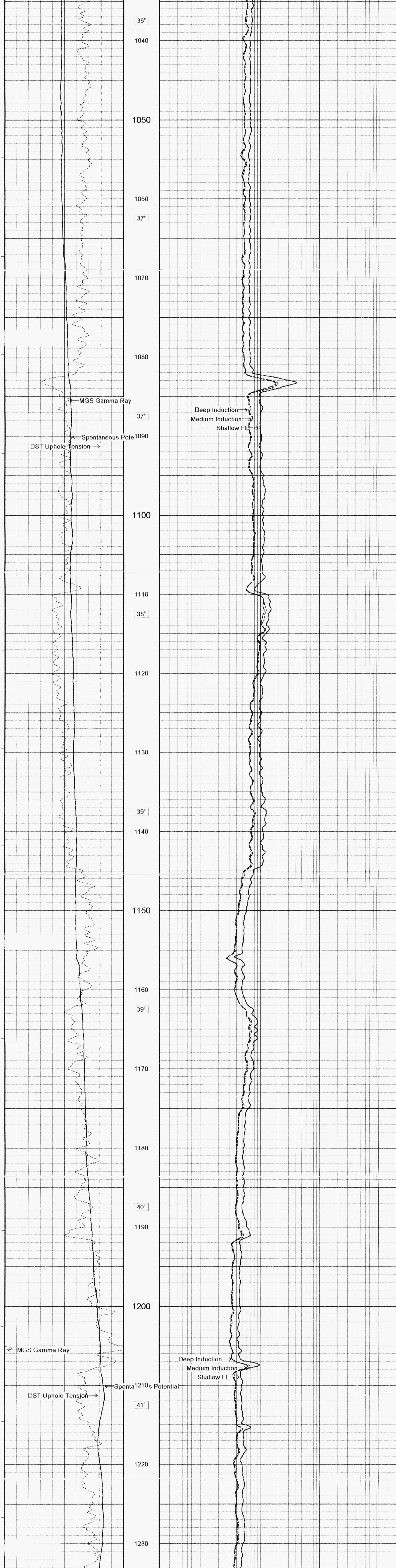


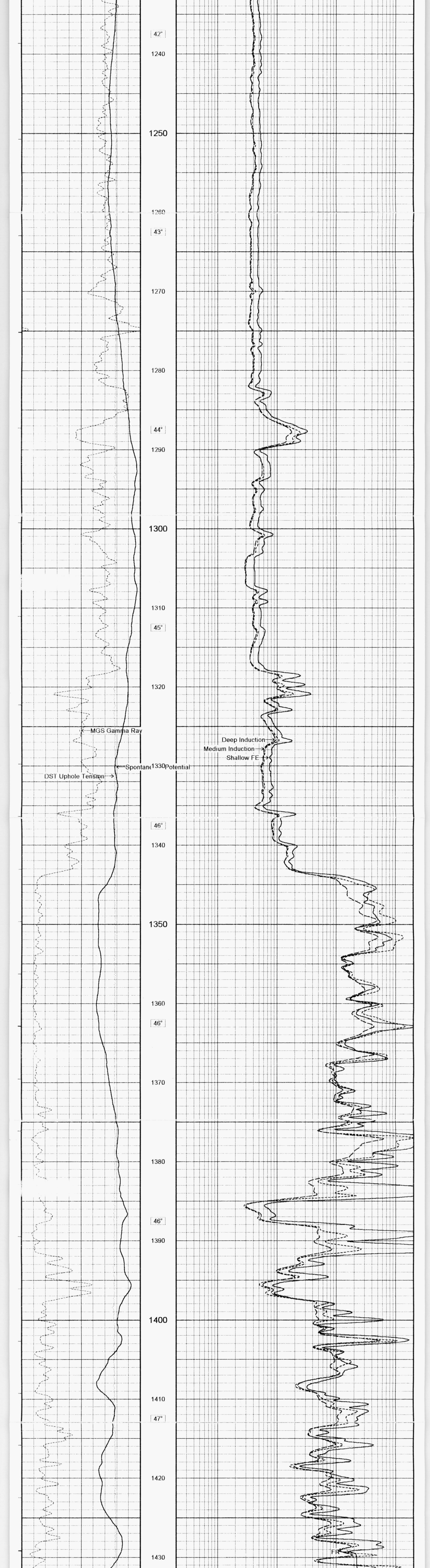


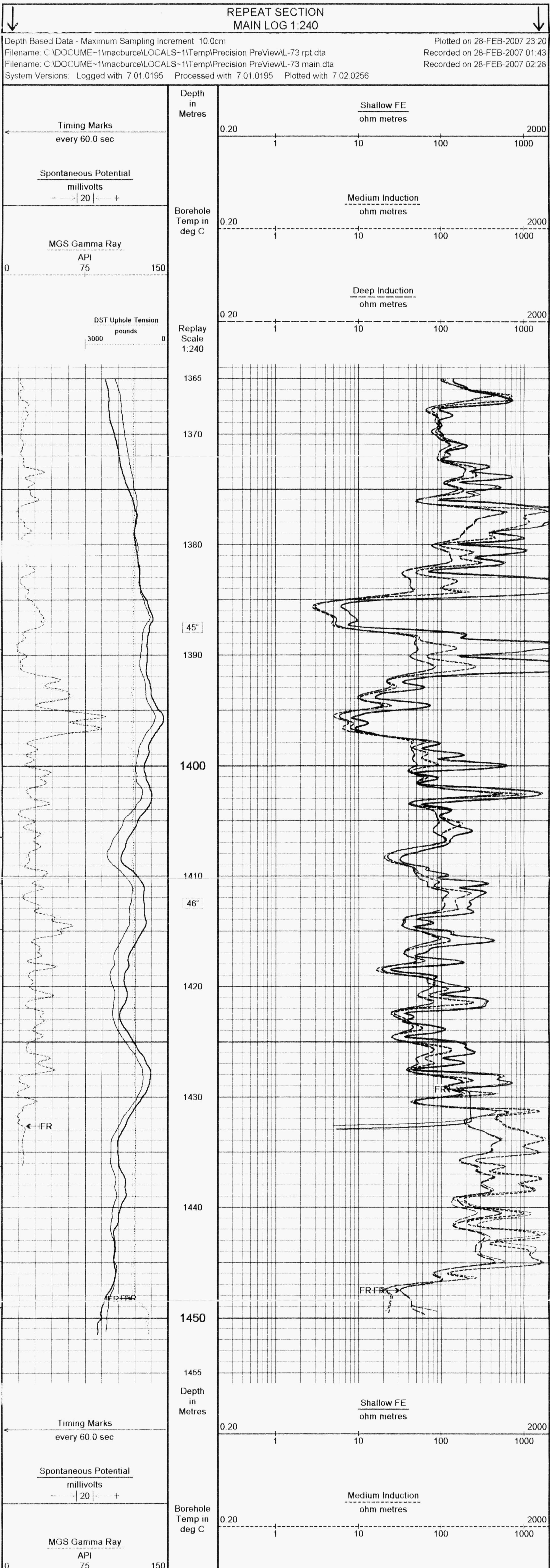
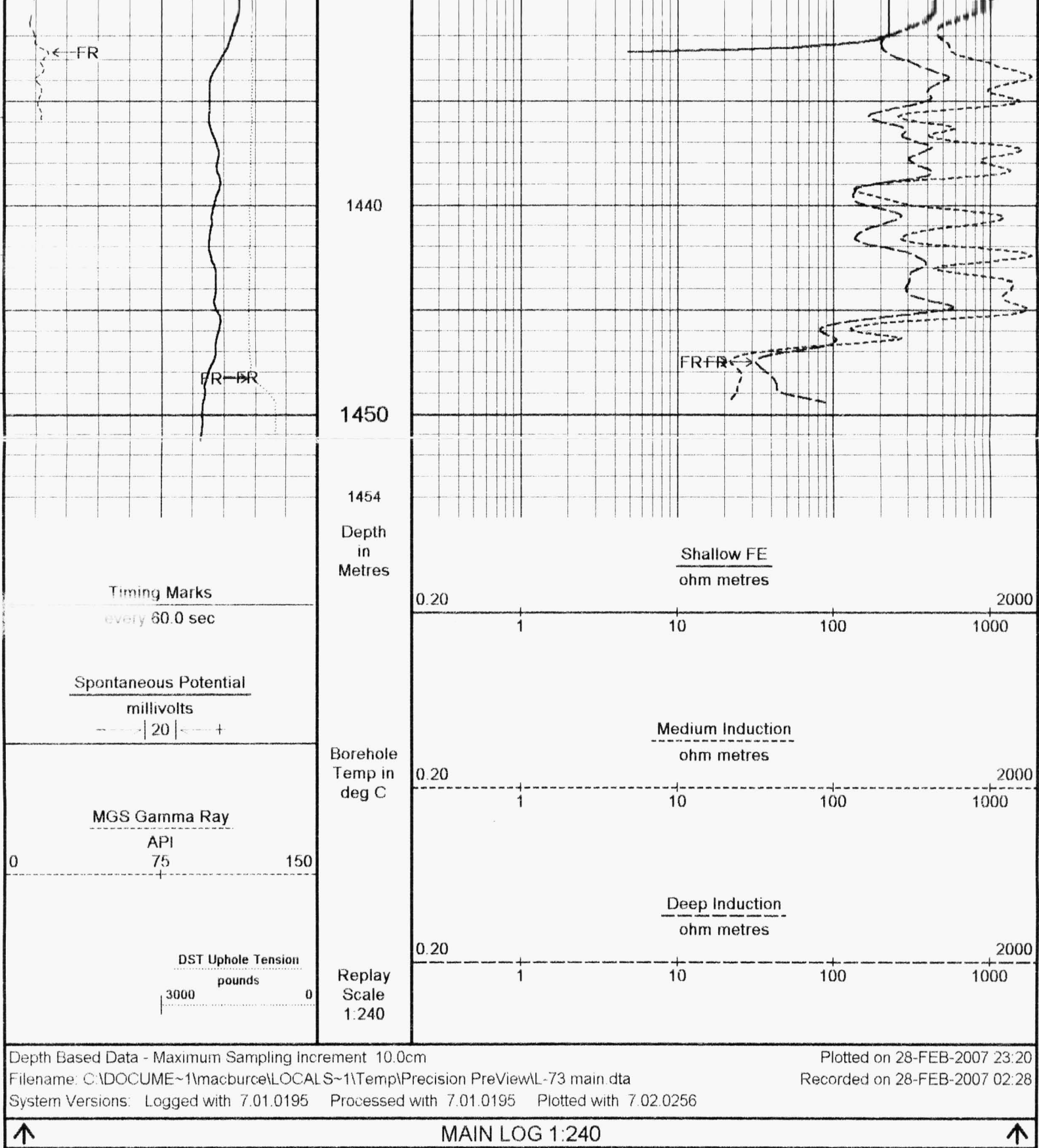
640
650
660
29°
670
680
30°
690
700
710
30°
720
730
31°
740
750
760
31°
770
780
32°
790
800
810
32°
820
830
32°

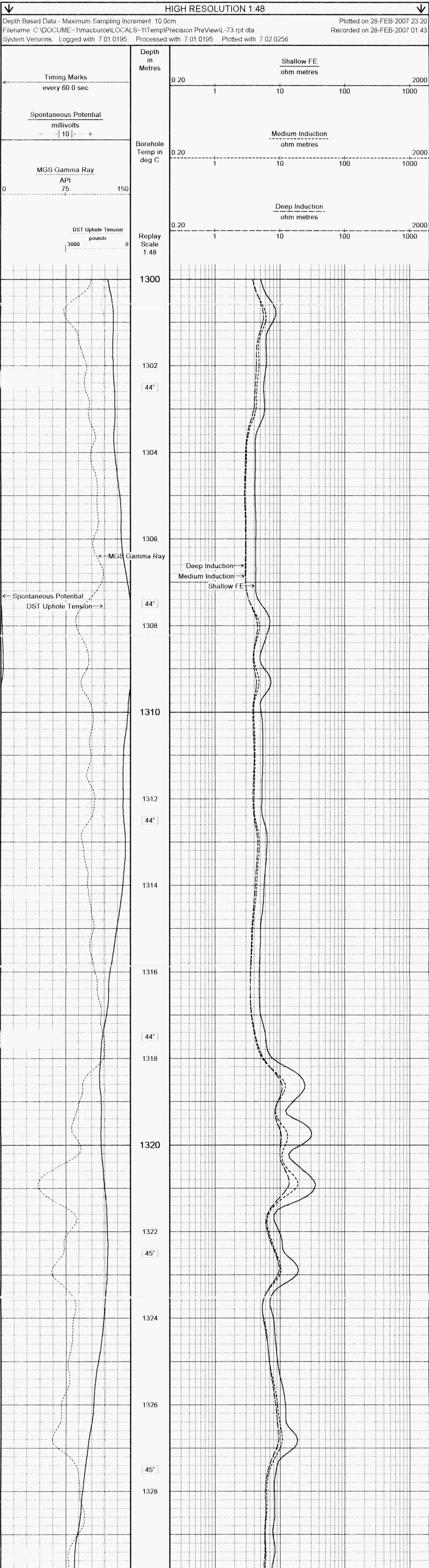
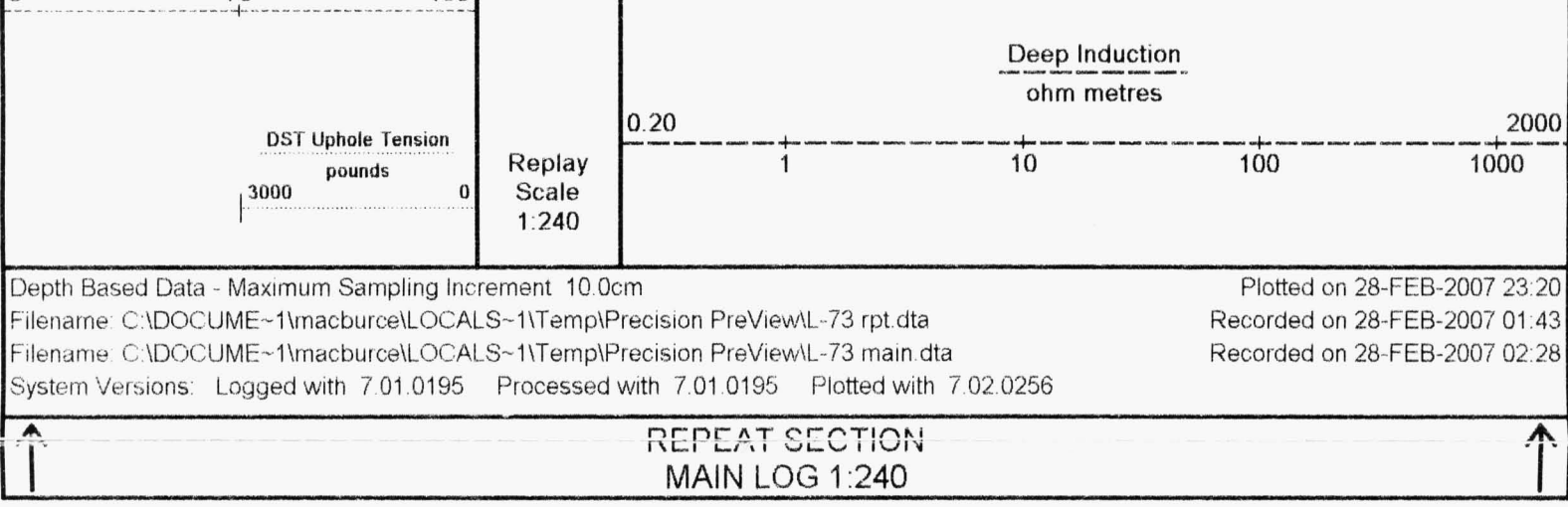


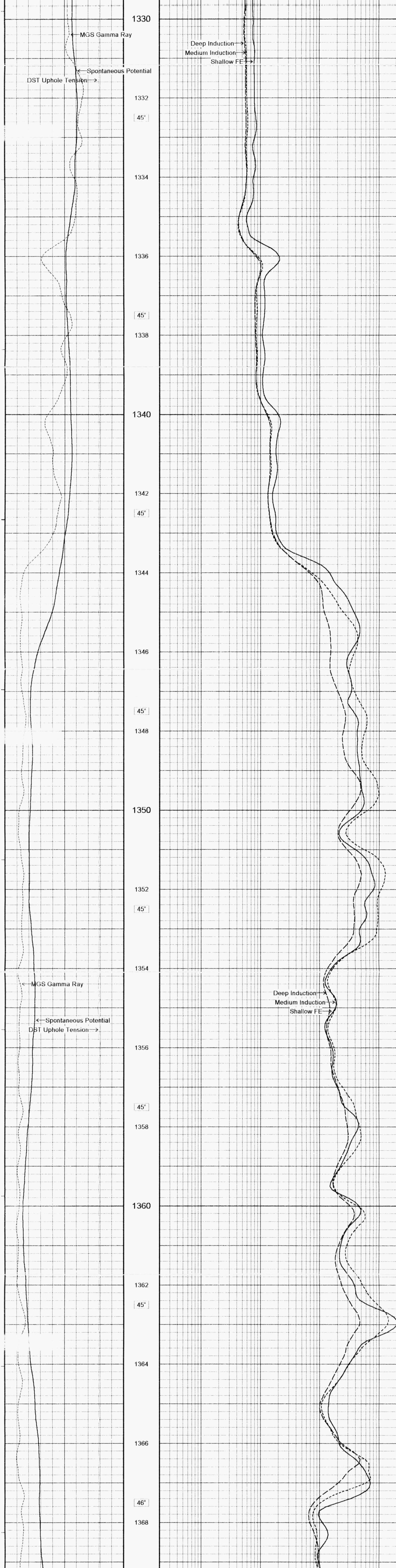


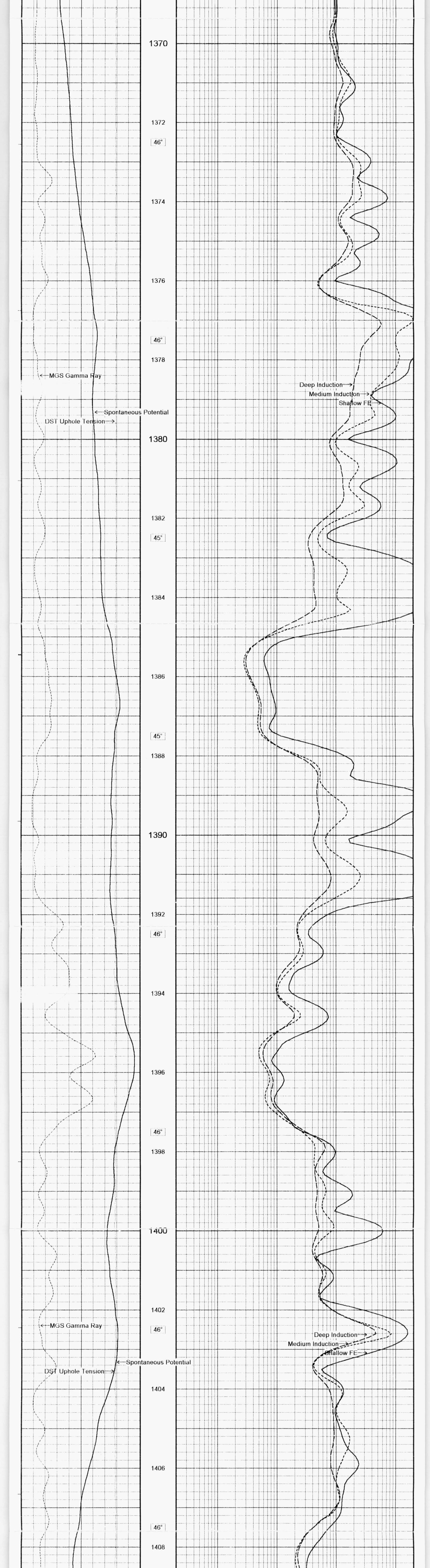


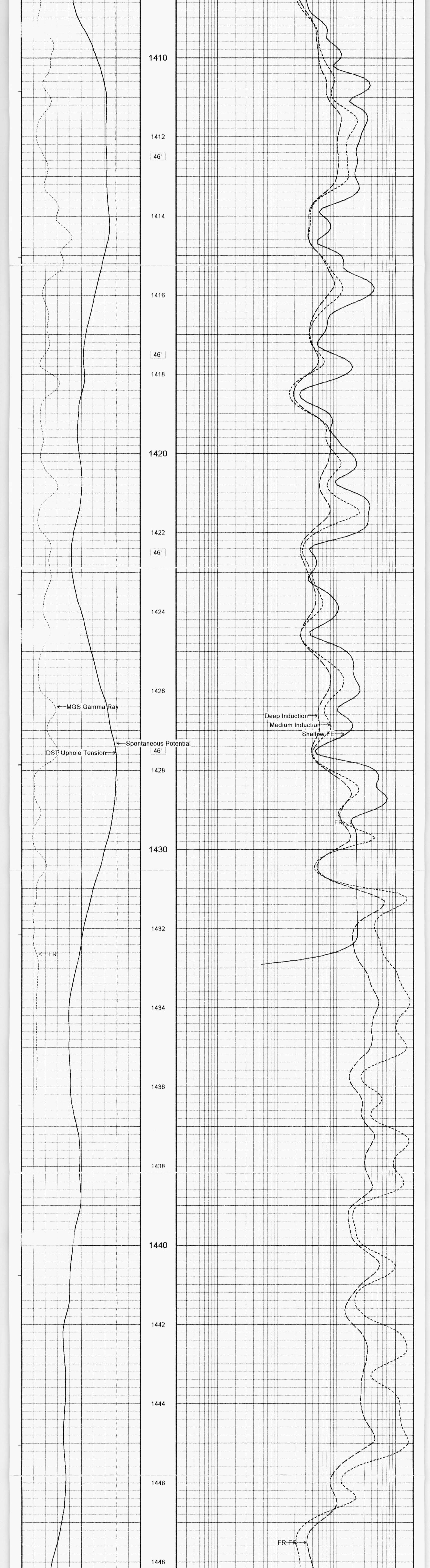








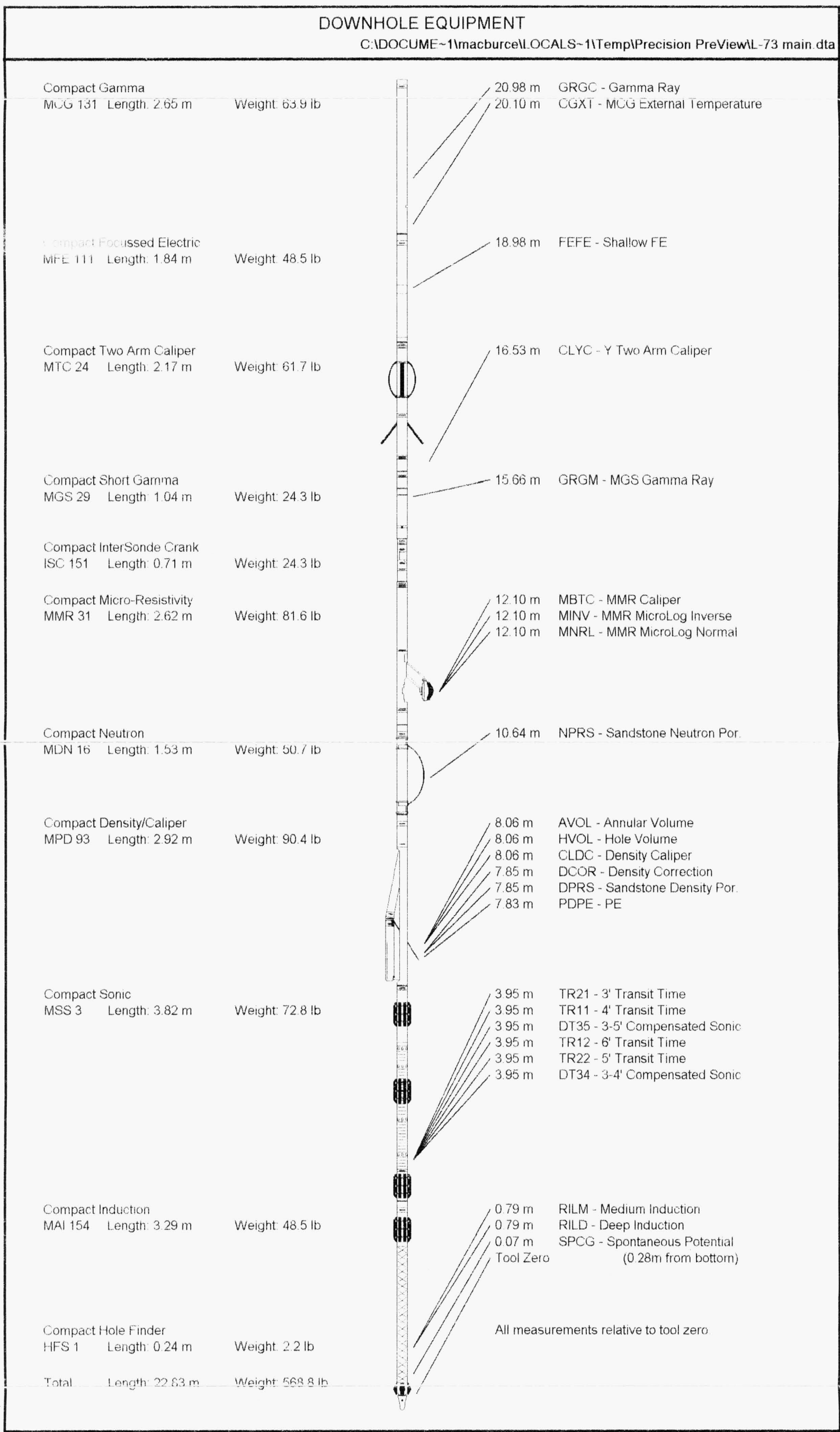






Micro Normal K Factor		0.5110		
Micro Inverse K Factor		0.3380		
Standoff Offset		0.0000		millimetres
Neutron Calibration MDN 016				Base Calibration on 11-JAN-2007 20:47 Field Check on 27-FEB-2007 23:30
Base Calibration				
		Measured	Calibrated (cps)	
	Near	Far	Near	Far
	3219	98	3714	110
Ratio	32.703		33.764	
Field Calibrator at Base				
			Calibrated (cps)	
			2486	3648
Ratio			0.681	
Field Check				
			Calibrated (cps)	
			2568	3767
Ratio			0.682	
Neutron Constants MDN 016				Last Edited on 25-FEB-2007,03:55
Neutron Source Id 277				
Neutron Jig Number N636				
Epithermal Neutron No				
Caliper Source for Processing Density Caliper				
Stand-off 0.00 mm				
Mud Density 1000.00 kg/m3				
Limestone Sigma 7.10 cu				
Sandstone Sigma 4.26 cu				
Dolomite Sigma 4.70 cu				
Formation Pressure Source Constant Value				
Formation Pressure 0.00 kPa				
Temperature Source Constant Value				
Temperature 20.00 degrees C				
Mud Salinity 0.00 kppm				
Formation Fluid Salinity Source Constant Value				
Formation Fluid Salinity 0.00 kppm				
Barite Mud Correction Not Applied				
Photo Density Calibration MPD 093				Base Calibration on 21-FEB-2007 18:37 Field Check on 27-FEB-2007 23:24
Density Calibration				
Base Calibration				
		Measured	Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	66461	35432	60352	31615
Reference 2	27582	2460	25043	2540
Field Check at Base				
	738.4	855.4		
Field Check				
	743.9	865.6		
PE Calibration				
Base Calibration				
	WS	Measured	Calibrated	
		WH	Ratio	
Background	135	656		
Reference 1	27020	66295	0.410	
Reference 2	7311	27477	0.268	
Field Check at Base				
	135.0	656.2		
Field Check				
	134.5	658.1		
Density Constants MPD 093				Last Edited on 27-FEB-2007,23:07
Density Source Id 1615B				
Nylon Calibrator Number 608				
Aluminum/Fe Calibrator Number 608				
Density Shoe Profile 4 inch				
Caliper Source for Processing Density Caliper				
PE Correction to Density Not Applied				
Mud Density 1180.00 kg/m3				
Mud Density Z/A Correction 1.11				
Mud Filtrate Density 1000.00 kg/m3				
Dry Hole Mud Filtrate Density 1000.00 kg/m3				
DNCT 0.00 kg/m3				
CRCT 0.00 kg/m3				
Matrix Density (kg/m3) Depth (m)				
2710.00		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 093				
Base Calibration				
Reading No Measured Calibrator Size (mm)				
1		15040	110.00	
2		23085	162.00	
3		31440	212.00	
4		40233	262.00	
5		49152	311.00	
6		N/A	N/A	
Field Calibration				
		Measured Caliper (mm)	Actual Caliper (mm)	
		207.70	205.70	
Sonic Constants MSS 003				Last Edited on 27-FEB-2007,23:07
Maximum Boundary Contrast 328.08 micro-sec/m				
Fluid Transit Time 620.08 micro-sec/m				
Limestone Transit Time 155.84 micro-sec/m				
Sandstone Transit Time 182.09 micro-sec/m				
Dolomite Transit Time 142.72 micro-sec/m				
Sonic used for Porosities 3-5' Compensated Sonic				
Correction for Sonde Skew Applied				
Cycle Stretch Algorithm Applied				
MN3FT N/A micro-sec				
MX3FT N/A micro-sec				
Fixed Gate Parameters				
Start Time (micro-sec)		End Time (micro-sec)	Discriminator (mV)	N/A
N/A		N/A	N/A	N/A
N/A		N/A	N/A	N/A
N/A		N/A	N/A	N/A
N/A		N/A	N/A	N/A
N/A		N/A	N/A	N/A
Down Hole Fixed Gate Parameters				
Gate Start		N/A	micro-sec	
Gate Width		N/A	micro-sec	
Initial Discriminator Level		0.0000	mVolts	
Full Waveform Parameters				
Use 3' Waveform to derive TR		N/A		
Use 4' Waveform to derive TR		N/A		
Use 5' Waveform to derive TR		N/A		
Use 6' Waveform to derive TR		N/A		
3' Waveform Discriminator Level		N/A	mV	
4' Waveform Discriminator Level		N/A	mV	
5' Waveform Discriminator Level		N/A	mV	
6' Waveform Discriminator Level		N/A	mV	
3' Waveform Filter		N/A		
4' Waveform Filter		N/A		
5' Waveform Filter		N/A		
6' Waveform Filter		N/A		
Semblance Level		N/A		
Semblance Window Width		N/A	micro-sec	
Sonic 1 Despiker		N/A	N/A	
Sonic 2 Despiker		N/A	N/A	
Induction Calibration MAI 154				Base Calibration on 14-JAN-2007 01:38 Field Check on 28-FEB-2007 00:33
Base Calibration				
Test Loop Calibration				
Channel		Measured	Calibrated (mmho/m)	
		Low High	Low High	
1		16.6 470.6	9.3	966.2
2		6.3 383.0	7.6	821.4
3		4.0 264.7	5.2	566.0
4		2.3 136.2	2.6	279.2
Array Temperature		22.3	Deg C	
Field Calibration				
Channel		Base Check (mmho/m)	Field Check (mmho/m)	
		Low High	Low High	
1		13.1 3867.2	15.3	3866.9
2		29.6 3530.7	30.2	3528.9
3		26.8 3001.8	27.1	2999.9
4		18.4 2040.8	18.6	2039.5
Deep		15.3 1926.8	15.7	1925.6
Medium		39.6 3962.8	39.7	3960.1
Shallow		45.8 5270.7	46.6	5268.1
Array Temperature		12.1	28.0	Deg C
Induction Constants MAI 154				Last Edited on 27-FEB-2007,23:07
Induction Model VECTAR				
Caliper for Borehole Corr. Density Caliper				
Hole Size for Borehole Correction N/A millimetres				
Stand-off 25.40 millimetres				
Number of Fins on Stand-off 5.0000				
Stand-off Fin Width 25.4000 millimetres				
Borehole Corr. Rm Source Temperature Corr				
Temp. for Rm Corr		MCG External Temperature		
Squasher Start		0.0020	mhos/metre	
Borehole Normalisation				
DRM1		0.0000	DRC1	0.0000
DRM2		0.0000	DRC2	0.0000
MRM1		0.0000	MRC1	0.0000
MRM2		0.0000	MRC2	0.0000
SRM1		0.0000	SRC1	0.0000
SRM2		0.0000	SRC2	0.0000
Calibration Site Corrections				
Channel 1		0.00	mmhos/metre	
Channel 2		0.00	mmhos/metre	
Channel 3		0.00	mmhos/metre	
Channel 4		0.00	mmhos/metre	
Apparent Porosity and Water Saturation Constants				
Archie Constant (A)		1.00		
Cementation Exponent (M)		2.00		
Saturation Exponent (N)		2.00		
Saturation of Water for Apor		100.00	percent	
Resistivity of Water for Apor and Sw		0.05	ohm-m	
Resistivity of Mud Filtrate for Sw		0.00	ohm-m	

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00
High Resolution Temperature Constants MAI 154		
Pre-filter Length	11	



COMPANY	PARAMOUNT RESOURCES LTD				
WELL	PARA ET AL CAMERON L-73				
FIELD	CAMERON HILLS				
PROVINCE	NORTHWEST TERRITORIES				
COUNTRY	CANADA				
Elevation Kelly Bushing	774.80	metres	First Reading	1447.50	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres

**Weatherford**[®]

ARRAY INDUCTION