



Weatherford

MICRORESISTIVITY LOG

COMPANY O'BRIAN RESOURCES, LLC			
WELL BAR S RANCH 28 #1			
FIELD WILDCAT			
PROVINCE/COUNTY RUSSELL			
COUNTRY/STATE U.S.A. / KANSAS			
LOCATION 472' FNL & 814' FEL			
SEC 28	TWP 11S	RGE 14W	Other Services MPD/MDN MAI/MFE
API Number 15-167-23897			
Permit Number			
Permanent Datum GL, Elevation 1730 feet			
Log Measured From KB			
Drilling Measured From KB @ 11 FEET			
Date 12-AUG-2013	Elevations: KB 1741.00 DF 1740.00 GL 1730.00		
Run Number ONE			
Service Order 3541030			
Depth Driller 3518.00	feet		
Depth Logger 3512.00	feet		
First Reading 3479.00	feet		
Last Reading 2550.00	feet		
Casing Driller 267.00	feet		
Casing Logger 261.00	feet		
Bit Size 7.875	inches		
Hole Fluid Type CHEM			
Density / Viscosity 9.20 lb/USg	64.00 CP		
PH / Fluid Loss 10.50	10.00 ml/30Min		
Sample Source PIT			
Rm @ Measured Temp 1.20 @ 85.0	ohm-m		
Rmf @ Measured Temp 0.96 @ 85.0	ohm-m		
Rmc @ Measured Temp 1.44 @ 85.0	ohm-m		
Source Rmf / Rmc CALC	CALC		
Rm @ BHT 1.0 @ 85.0	ohm-m		
Time Since Circulation 4 HRS			
Max Recorded Temp 102.00	deg F		
Equipment / Base 13057	LIB		
Recorded By D. COLE			
Witnessed By S. DEENIHAN			

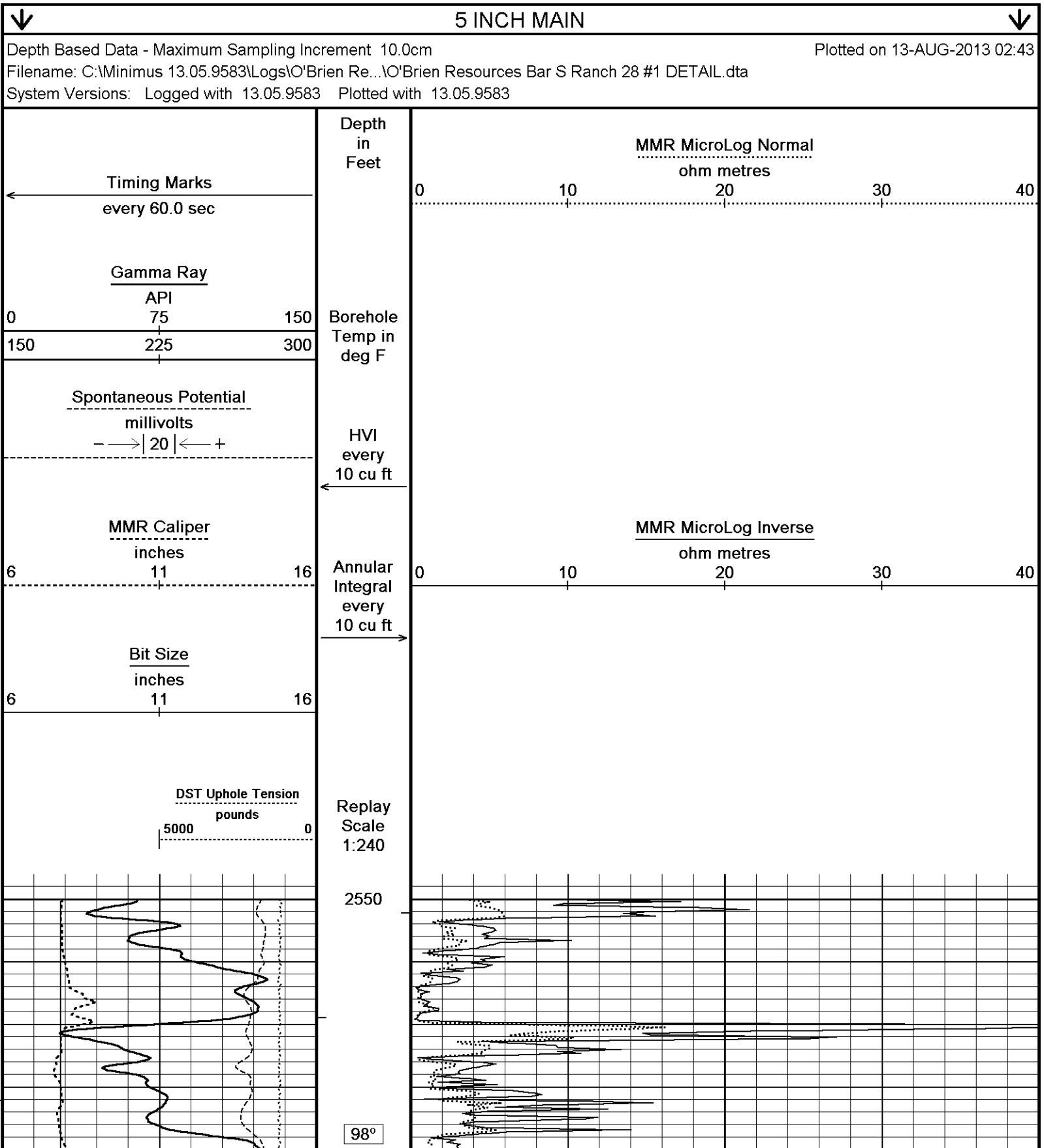
BOREHOLE RECORD					Last Edited: 12-AUG-2013 22:46
Bit Size inches		Depth From feet		Depth To feet	
7.875		267.00		3518.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	267.00	24.00	

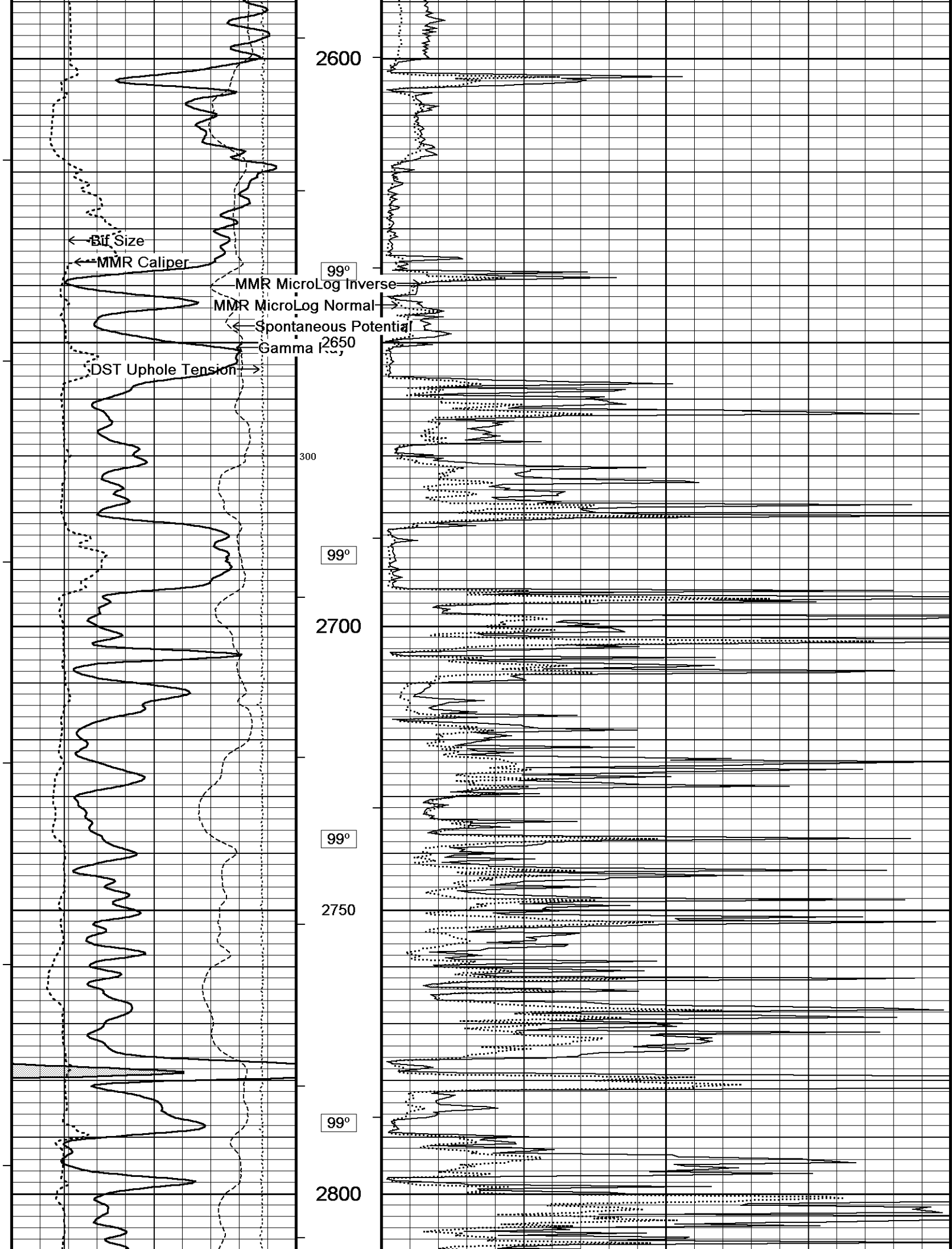
REMARKS
- SOFTWARE ISSUE: 13.05.9583
- MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION
- HARDWARE: DUAL BOWSPRING USED ON MDN 0.5 INCH STANDOFF USED ON MFE AND MAI
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL EFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMRES REQUEST
- TOTAL HOLE VOLUME FROM TD TO 2550: 340 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2550: 190 CU.FT.
-RIG: DUKE 10

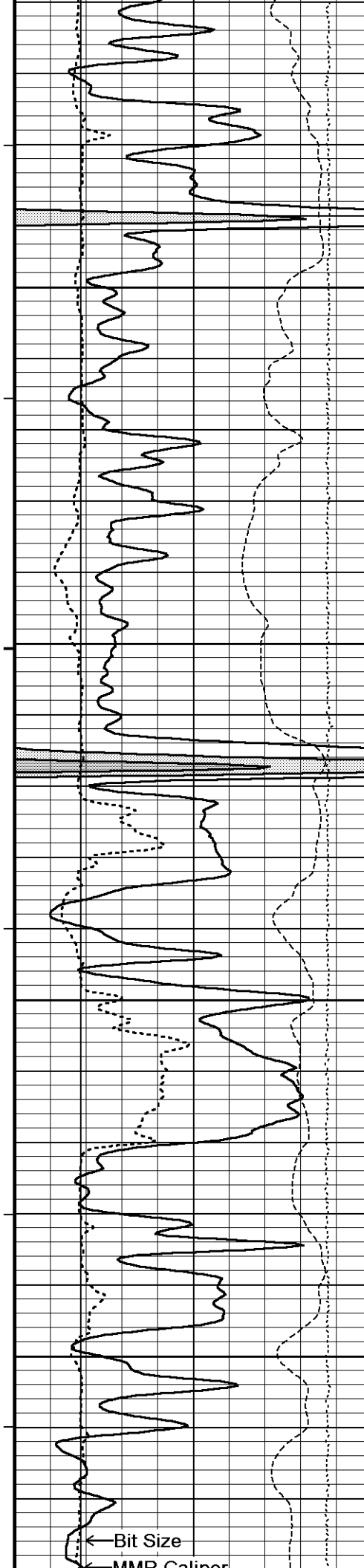
- ENGINEER: D. COLE

- OPERATOR: C. RAMIREZ

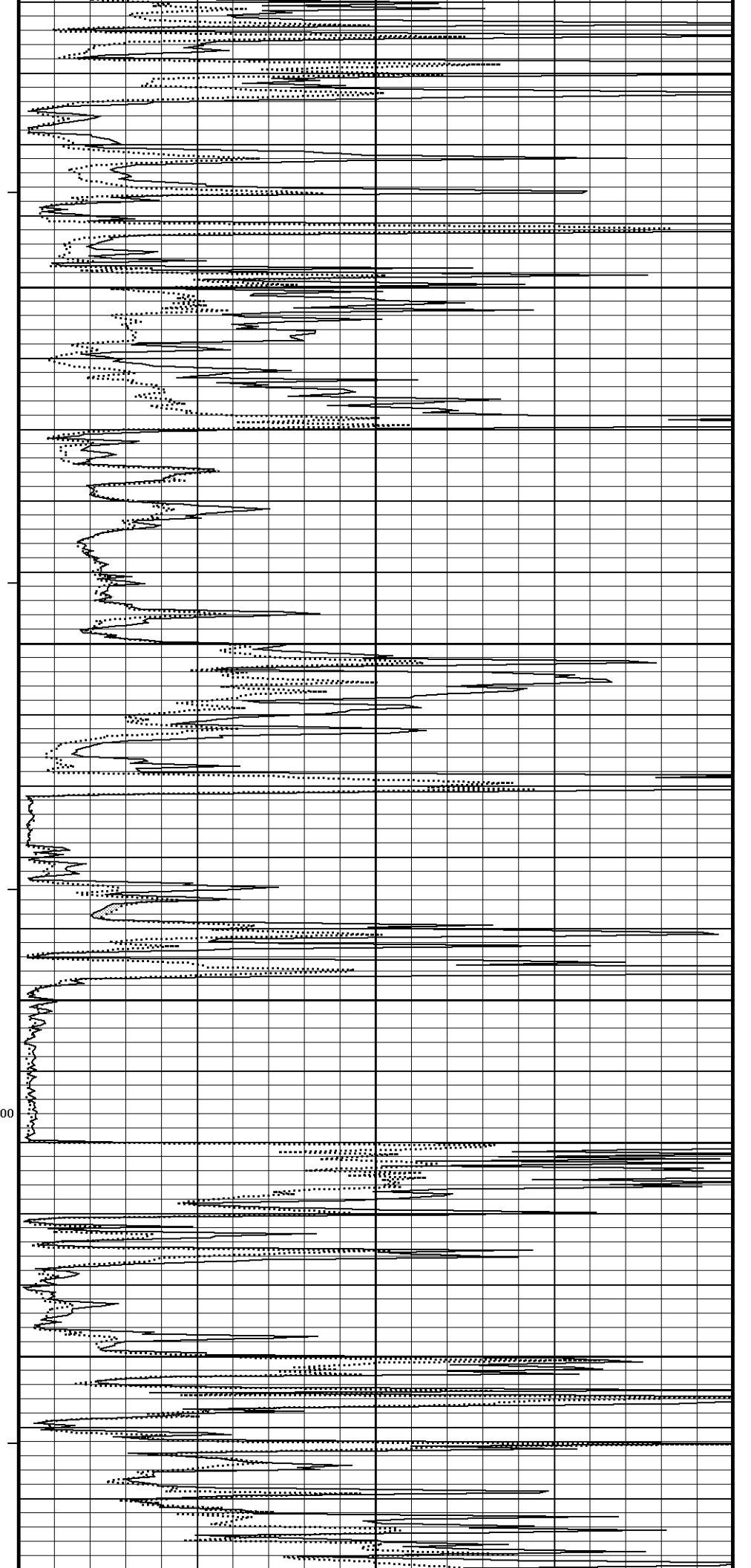
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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



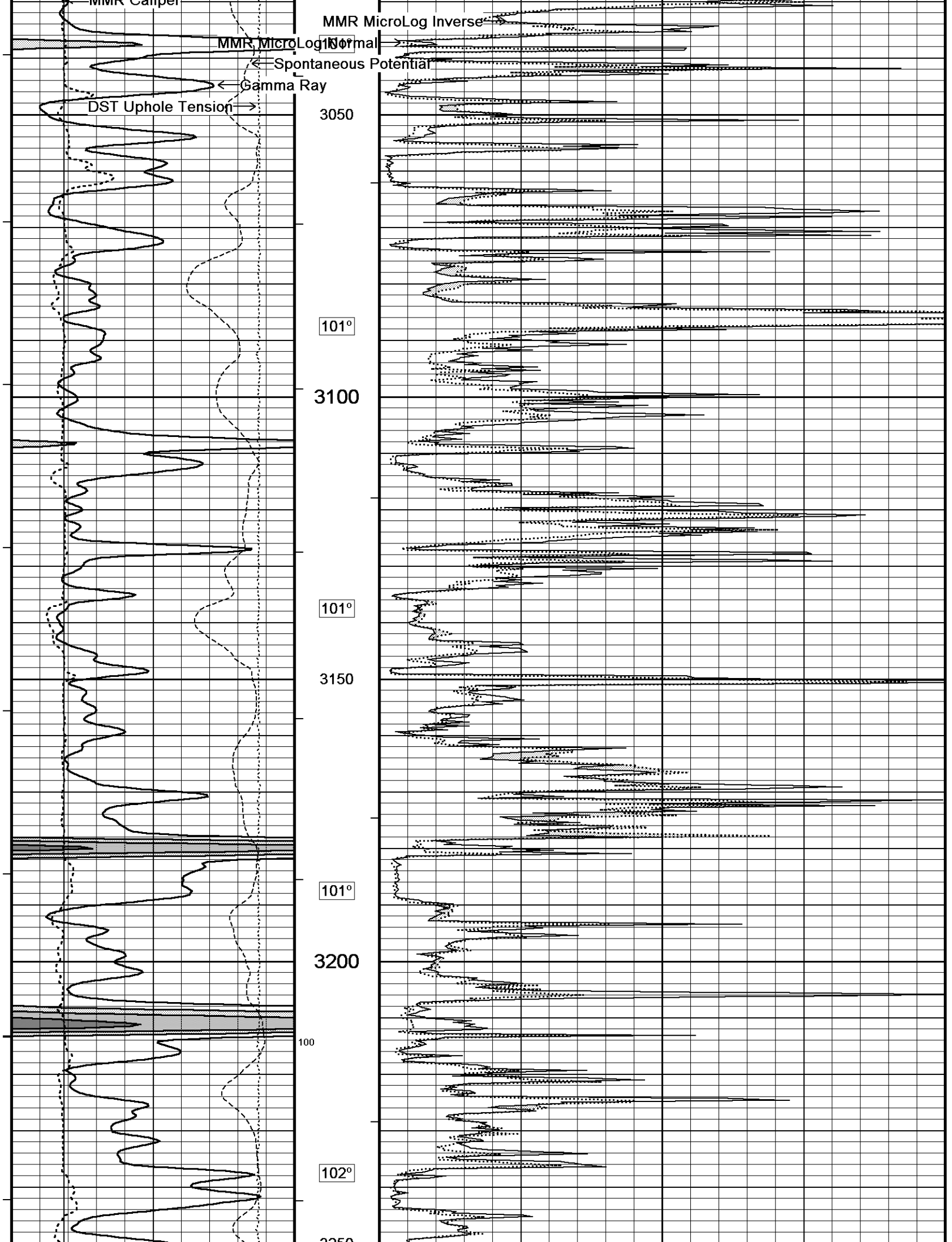


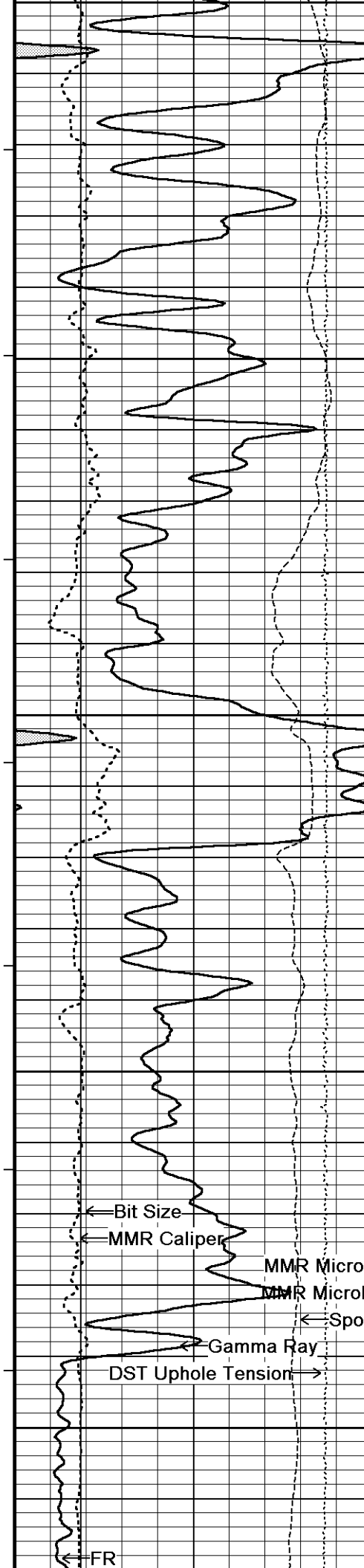


99°
2850
100°
2900
100°
2950
100°
3000

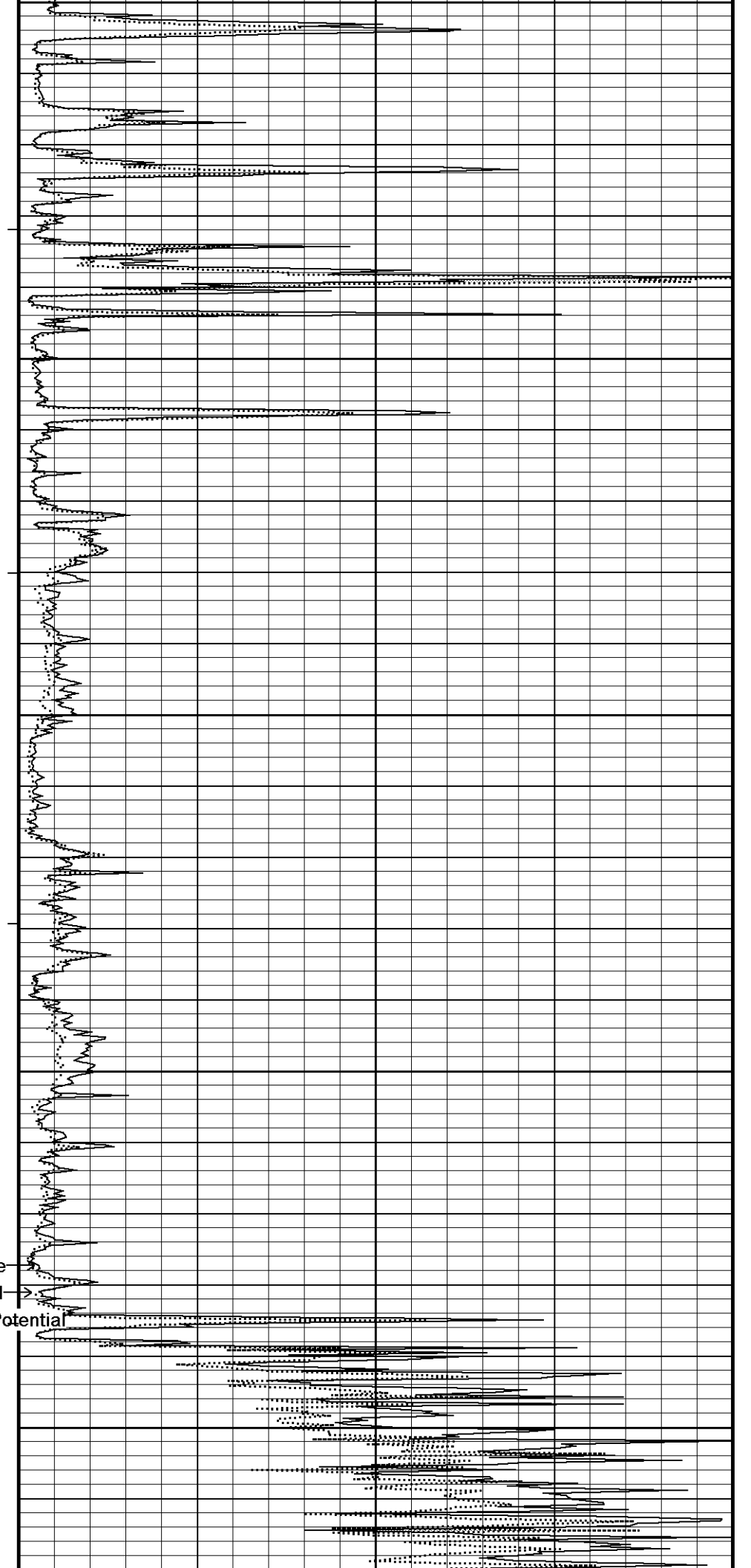


← Bit Size
← MMP Caliper

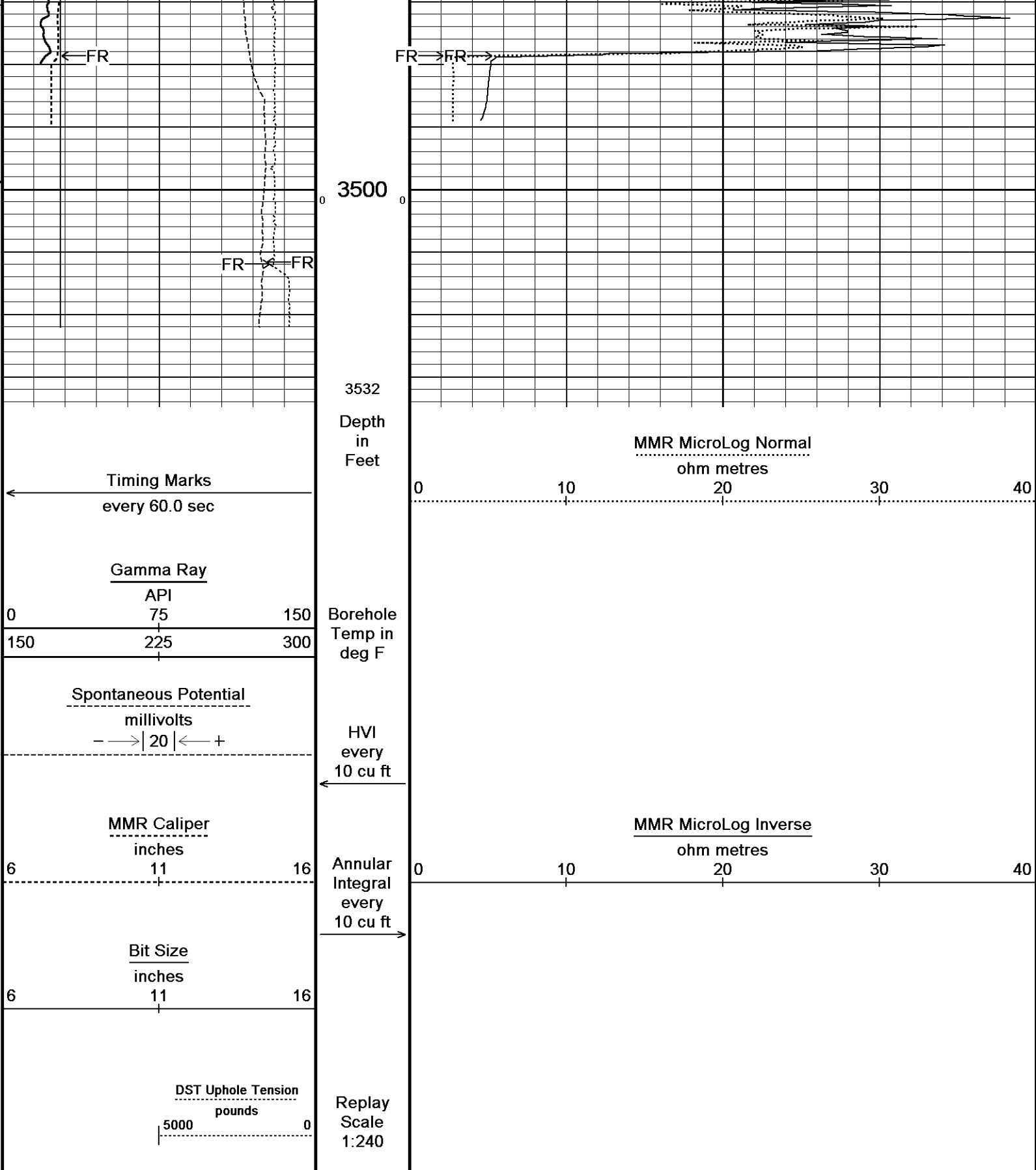




3250
102°
3300
102°
3350
103°
3400
102°
3450



← Bit Size
← MMR Caliper
MMR MicroLog Inverse
MMR MicroLog Normal →
← Spontaneous Potential
← Gamma Ray
DST Uphole Tension →
← FR



Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-AUG-2013 02:43

Filename: C:\Minimus 13.05.9583\Logs\O'Brien Re...\O'Brien Resources Bar S Ranch 28 #1 DETAIL.dta

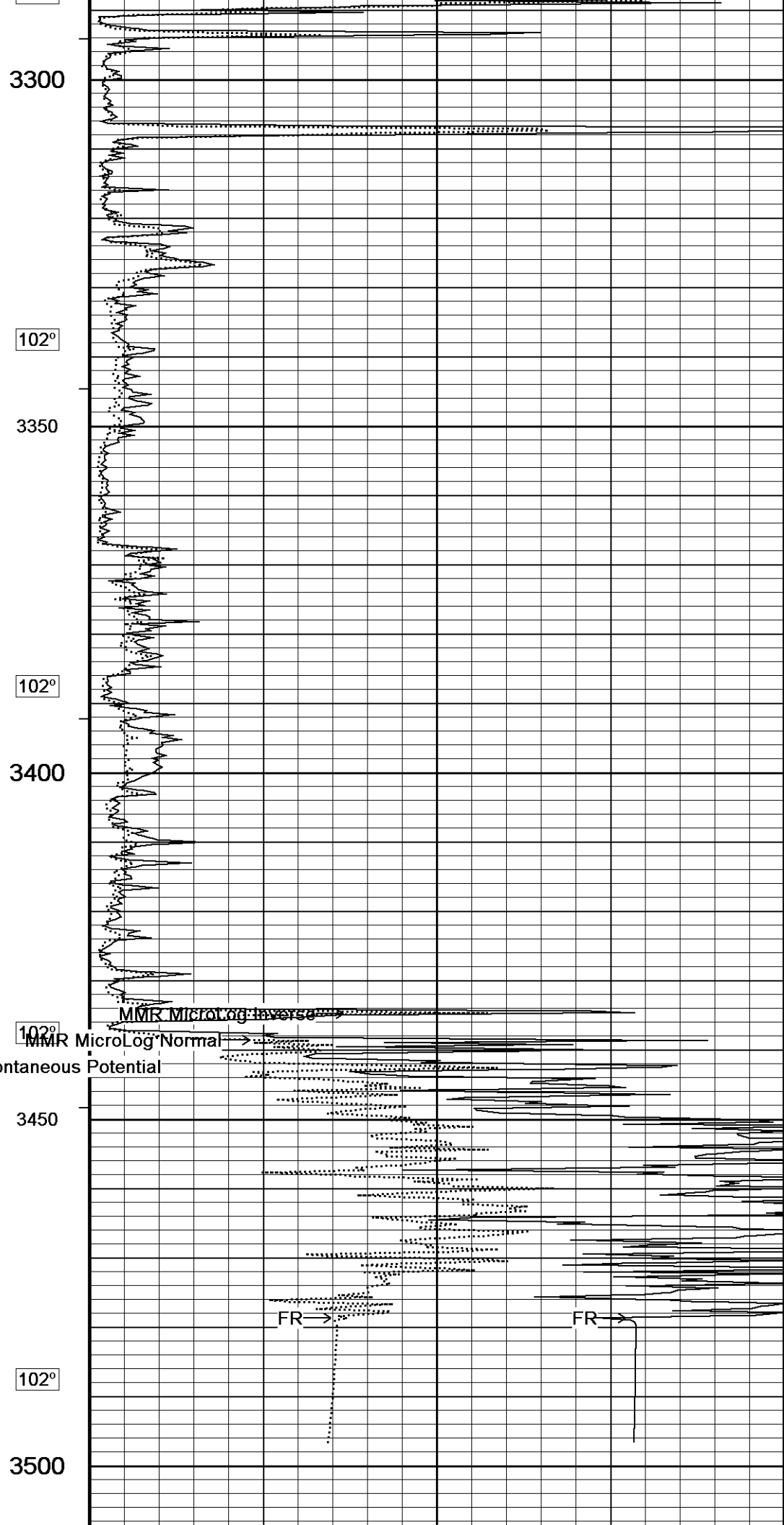
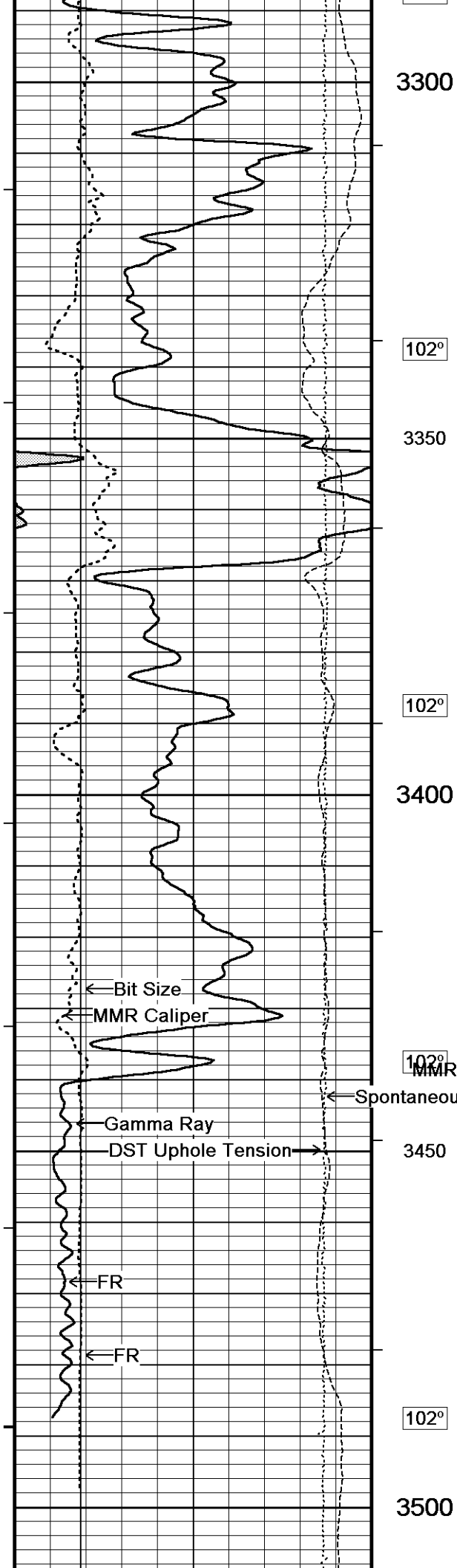
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

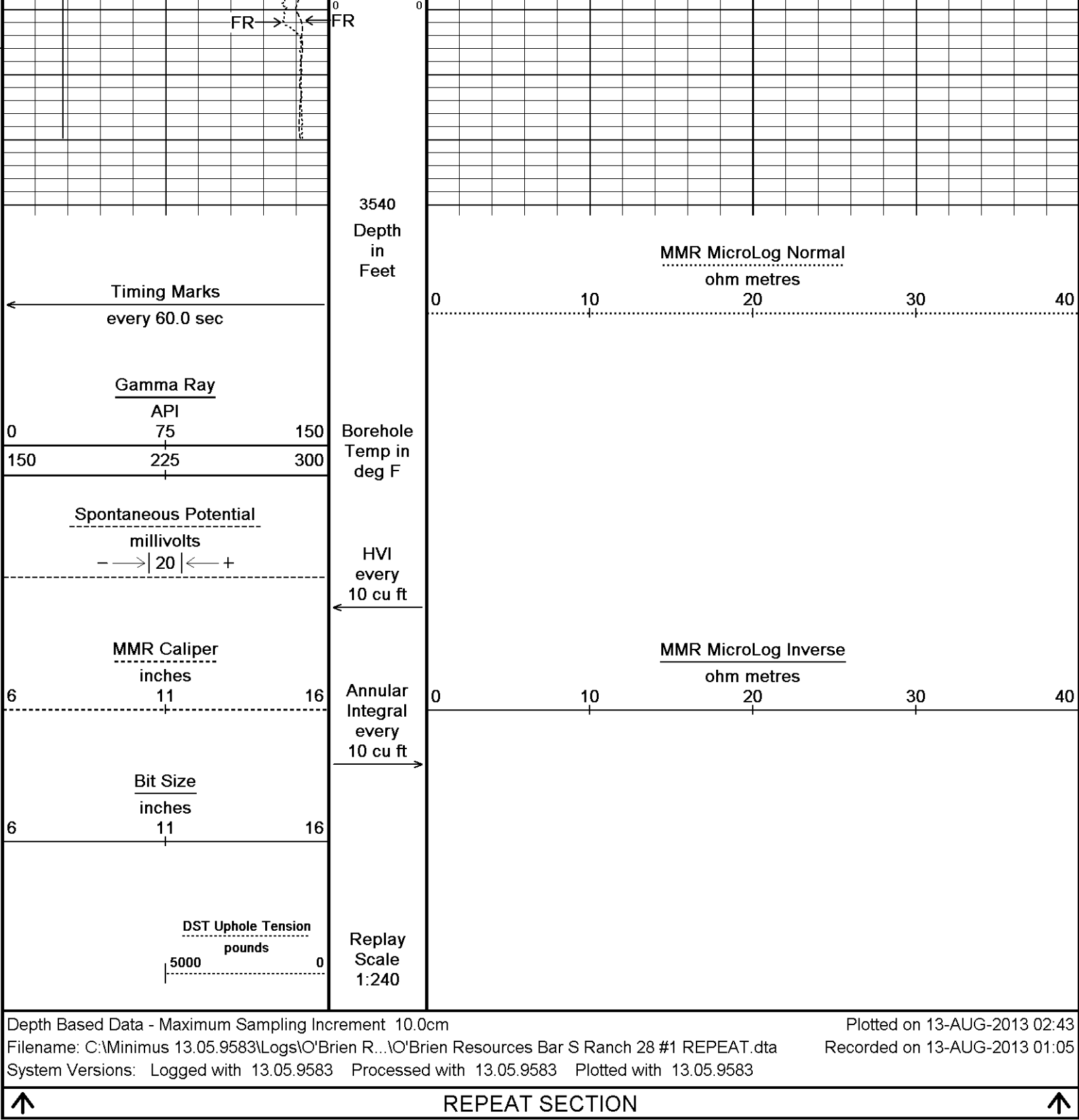
↑ 5 INCH MAIN ↑

↓ REPEAT SECTION ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-AUG-2013 02:43

Filename: C:\Minimus 13.05.9583\Logs\O'Brien R... \O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta Recorded on 13-AUG-2013 01:05





BEFORE SURVEY CALIBRATION		
C:\Minimus 13.05.9583\Log\O'Brien Resources Bar S Ranch 28 #1\O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta		
General Constants All 000		Last Edited on 13-AUG-2013,01:27
General Parameters		
Mud Resistivity	1.200	ohm-metres
Mud Resistivity Temperature	85.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
LVOL Method	Differential Caliper	

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	MMR Caliper	
Rwa Parameters		
Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. Six Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

High Resolution Temperature Calibration MCG-D.K 442			Field Calibration on 09-AUG-2013,09:35
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MCG-D.K 442			Last Edited on 09-AUG-2013,09:35
Pre-filter Length	11		

Gamma Calibration MCG-D.K 442			Field Calibration on 09-AUG-2013 09:43
	Measured	Calibrated (API)	
Background	68	45	
Calibrator (Gross)	1160	770	
Calibrator (Net)	1092	725	

Gamma Constants MCG-D.K 442			Last Edited on 12-AUG-2013,08:28
Gamma Calibrator Number	GRC38		
Mud Density	1.10	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl		kppm	
K Mud Type	Chloride		
K Mud Concentration	0.00	%	

Caliper Calibration MMR-A 11			Base Calibration on 27-JUL-2013 17:35 Field Calibration on 09-AUG-2013 09:34
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	14109	5.98	
2	17244	7.97	
3	20444	9.86	
4	24103	11.92	
5	0	0.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	6.03	5.98	

Micro Normal and Micro Inverse Calibration MMR-A 11					Base Calibration on 08-AUG-2013 11:21 Field Check on 09-AUG-2013 09:32	
Base Calibration						
		Measured		Calibrated (ohm-m)		
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2		
Micro Normal	12.0	57.5	5.0	25.0		
Micro Inverse	15.2	74.8	5.0	25.0		
Channel		Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal		79.7		79.7		
Micro Inverse		61.1		61.1		

Micro Normal and Micro Inverse Constants MMR-A 11			Last Edited on 18-APR-2013,13:52
Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159		
Micro Normal K Factor	1.0000		
Micro Inverse K Factor	1.0000		
Standoff Offset	0.0000	inches	

Caliper Calibration MPD-B 31			Base Calibration on 19-MAY-2013 17:48
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Base Calibration

Reading No

Measured

Calibrator Size (in)

1	17088	3.99
2	25888	5.98
3	34607	7.97
4	42944	9.86
5	52301	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)

Actual Caliper (in)

6.02 5.98

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\O'Brien Resources Bar S Ranch 28 #1\O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta

CBH-C, Cablehead, 11 pin

CBH-CA 233 LG: 2.40 ft WT: 24.3 lb OD: 2.24 in

Compact Comms Gamma

MCG-D.K 442 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-Resistivity

MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron

MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

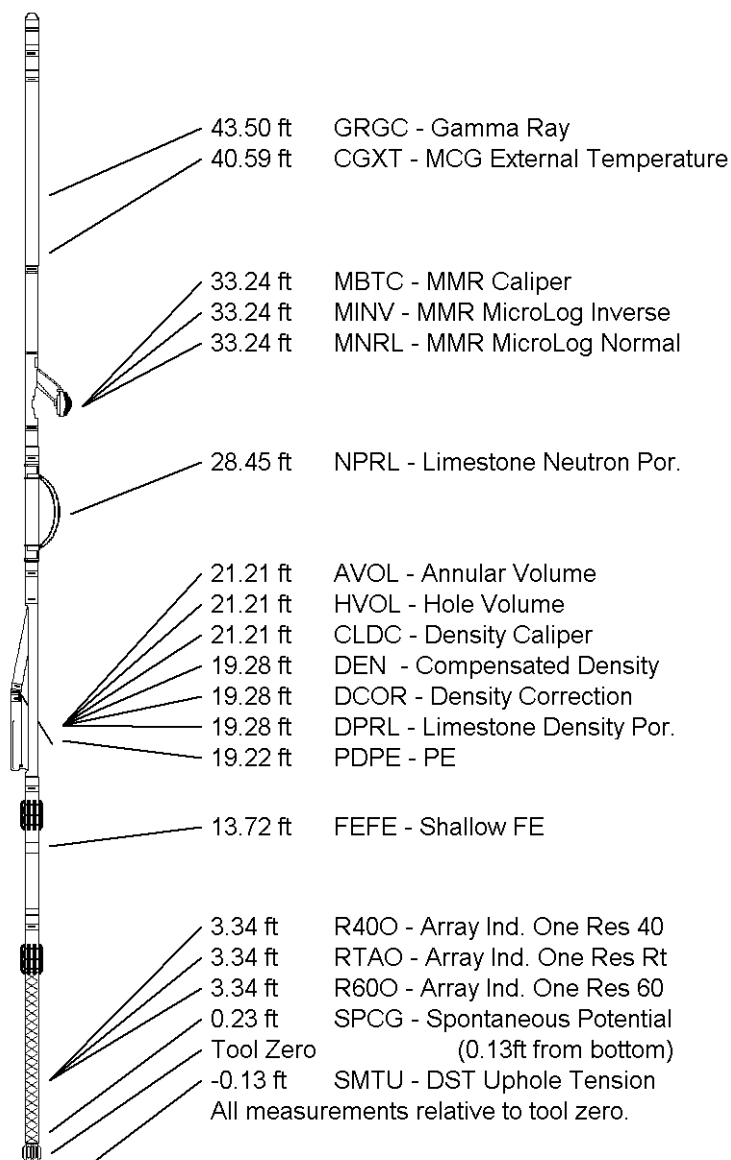
Compact Focussed Electric

MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction

MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 51.18 ft Weight: 407.9 lb



COMPANY

O'BRIAN RESOURCES, LLC

WELL

BAR S RANCH 28 #1

FIELD

WILDCAT

PROVINCE/COUNTY

RUSSELL

COUNTRY/STATE

U.S.A. / KANSAS

Elevation Kelly Bushing 1741.00 feet

First Reading 3479.00 feet

Elevation Rotary Drilling	1740.00	feet	Depth Reading	3512.00	feet
Elevation Drill Floor	1740.00	feet	Depth Driller	3518.00	feet
Elevation Ground Level	1730.00	feet	Depth Logger	3512.00	feet



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MICRORESISTIVITY LOG