



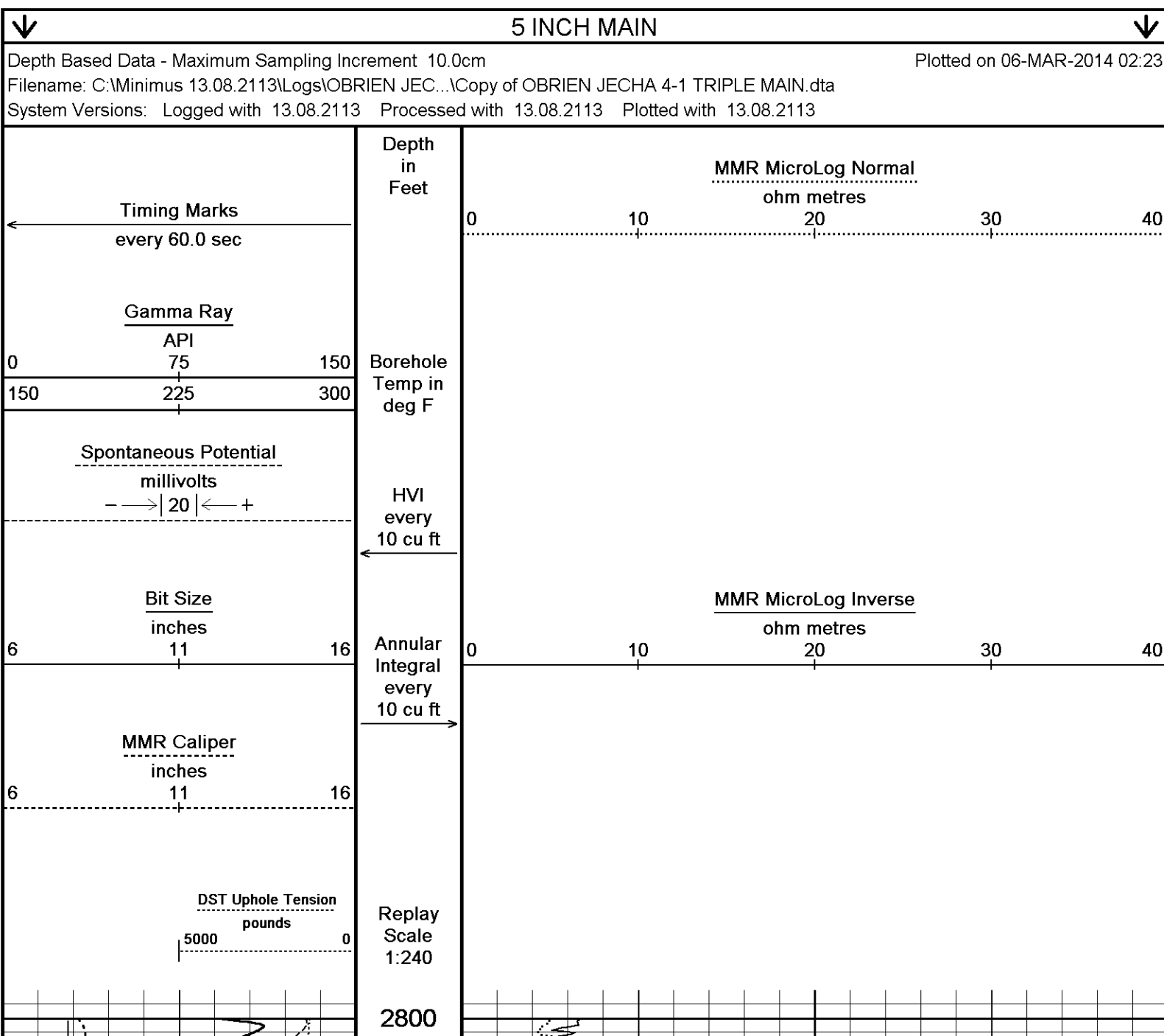
Weatherford

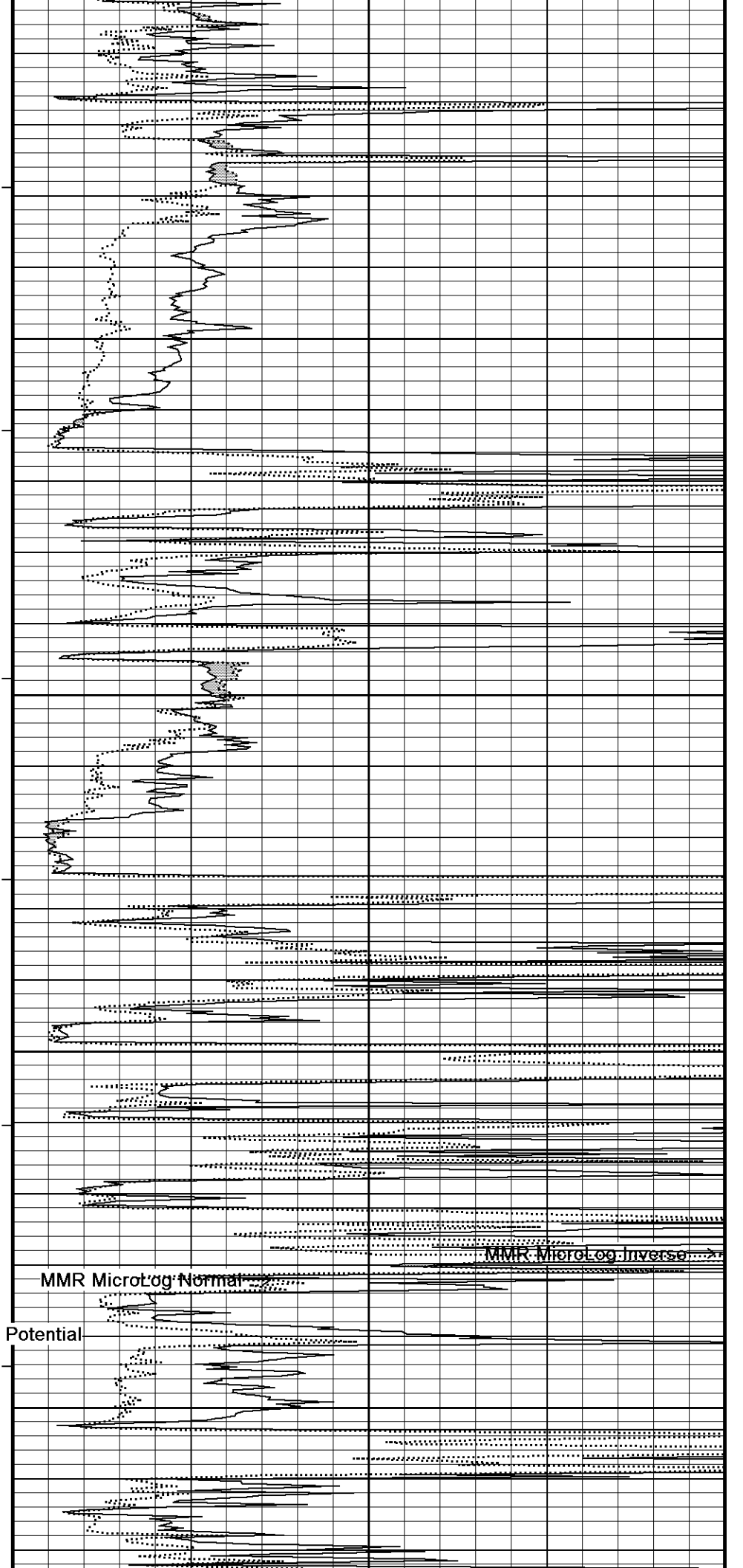
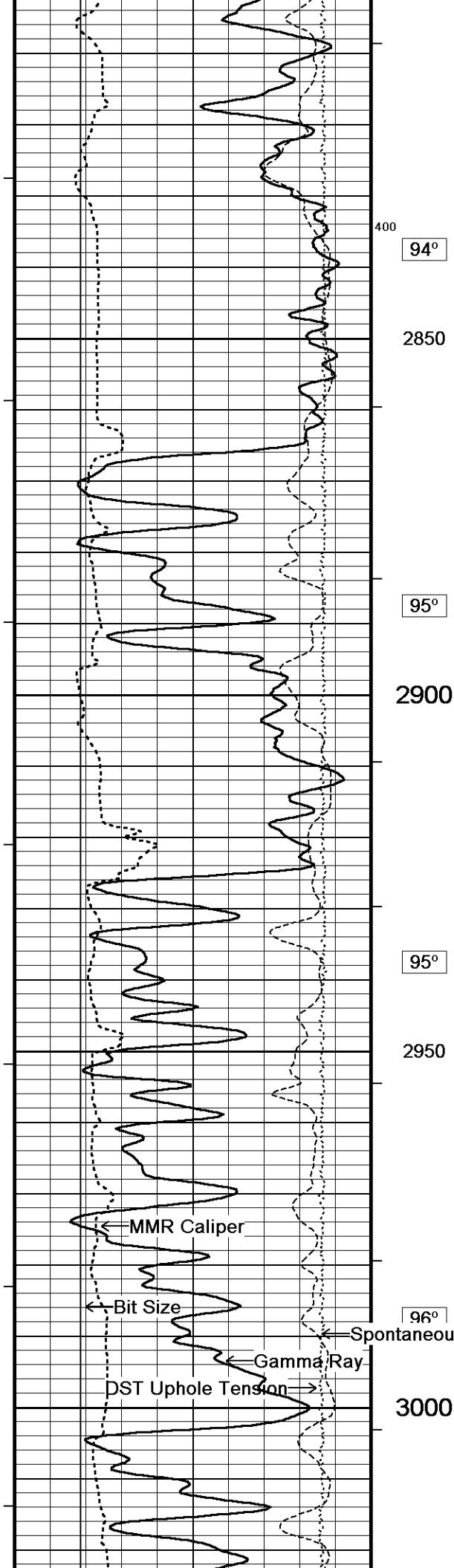
MICRORESISTIVITY LOG

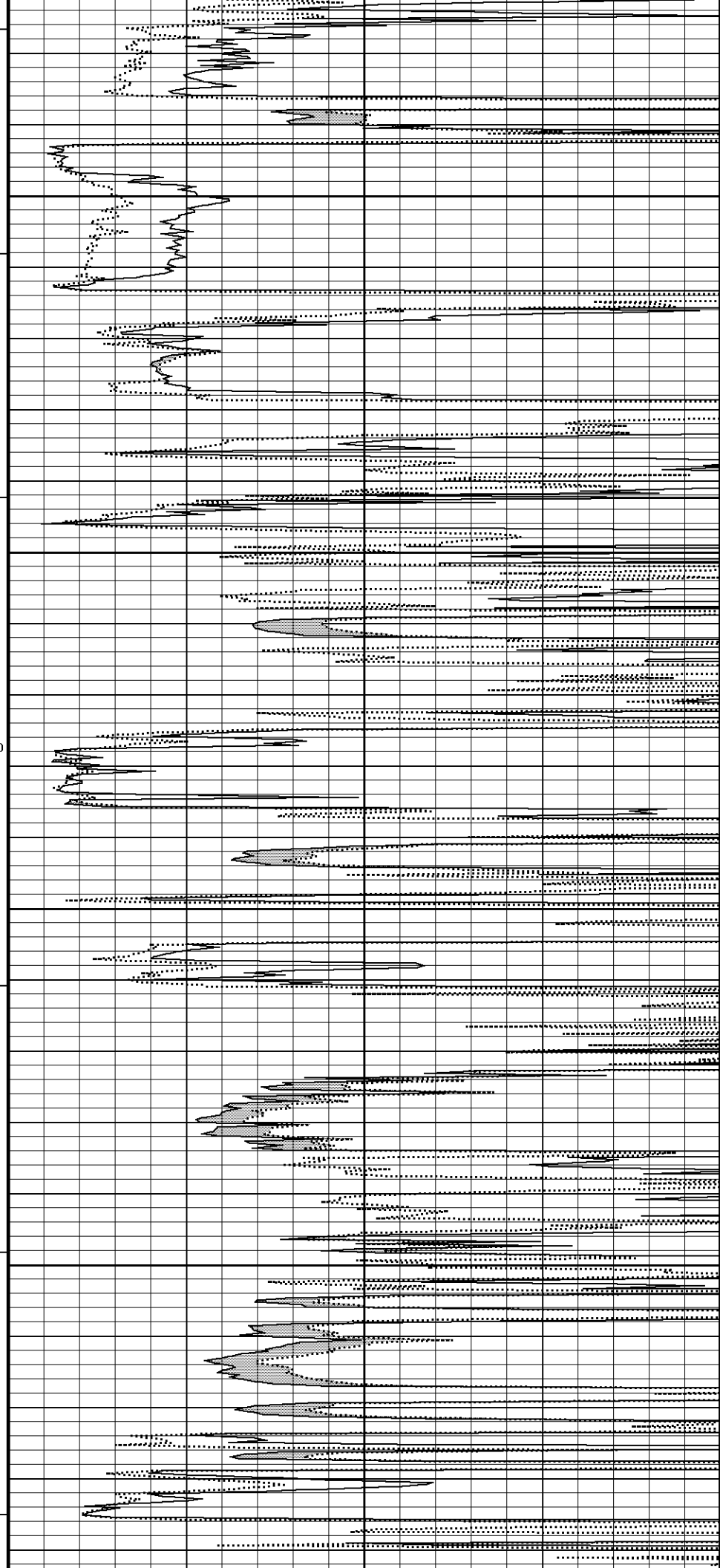
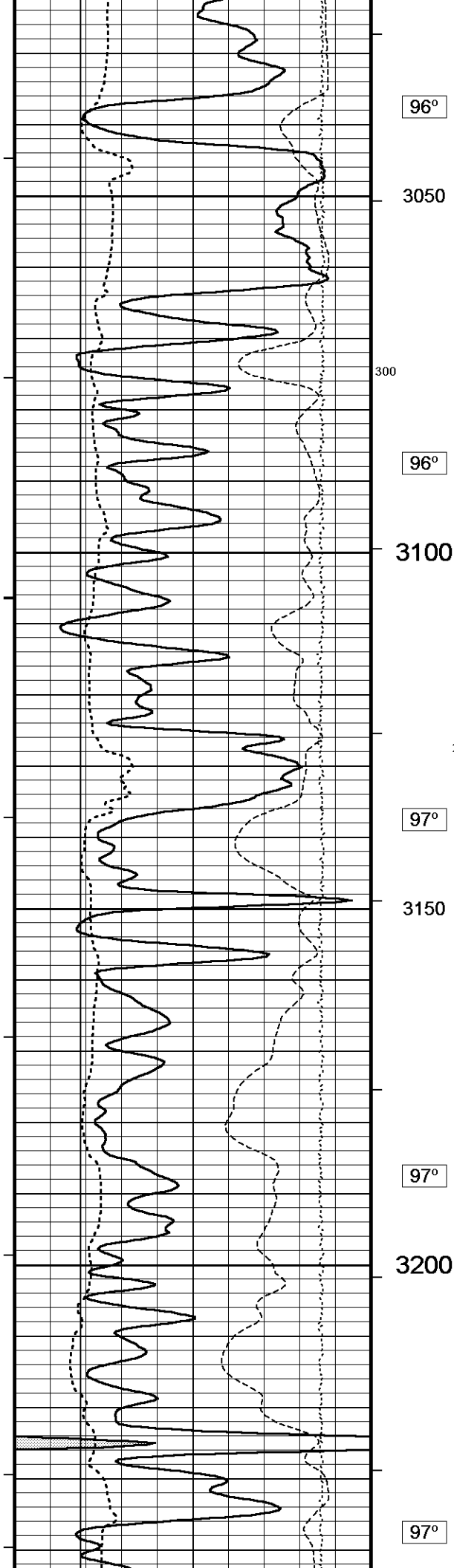
COMPANY			O'BRIEN RESOURCES, LLC		
WELL			JECHA 4-1		
FIELD			WILDCAT		
PROVINCE/COUNTY			RUSH		
COUNTRY/STATE			U.S.A. / KANSAS		
LOCATION			2400' FNL & 1850' FWL OF THE SE SW SE NW		
SEC 4	TWP 19S	RGE 17W	Other Services		
Latitude			MPD/MDN	MML	
Longitude			MAI/MFE		
API Number	15-165-22058		MSS		
Permanent Datum GL, Elevation 2053 feet					
Log Measured From KB					
Drilling Measured From KB @ 5 FEET					
Date	05-MAR-2014				
Run Number	ONE				
Service Order	5872-81241285				
Depth Driller	3851.00		feet		
Depth Logger	3851.00		feet		
First Reading	3818.00		feet		
Last Reading	2800.00		feet		
Casing Driller	259.00		feet		
Casing Logger	259.00		feet		
Bit Size	7.875		inches		
Hole Fluid Type	CHEM				
Density / Viscosity	9.40 lb/USg		50.00 CP		
PH / Fluid Loss	9.50		6.80 ml/30Min		
Sample Source	PIT				
Rm @ Measured Temp	1.0 @ 48.0		ohm-m		
Rmf @ Measured Temp	0.80 @ 48.0		ohm-m		
Rmc @ Measured Temp	1.20 @ 48.0		ohm-m		
Source Rmf / Rmc	CALC		CALC		
Rm @ BHT	0.48 @ 99.0		ohm-m		
Time Since Circulation	4 HRS				
Max Recorded Temp	99.00		deg F		
Equipment / Base	13057		LIB		
Recorded By	D. COLE				
Witnessed By	K. TALBOTT		A. BRITTAN		
JOB #	LB 14-064				

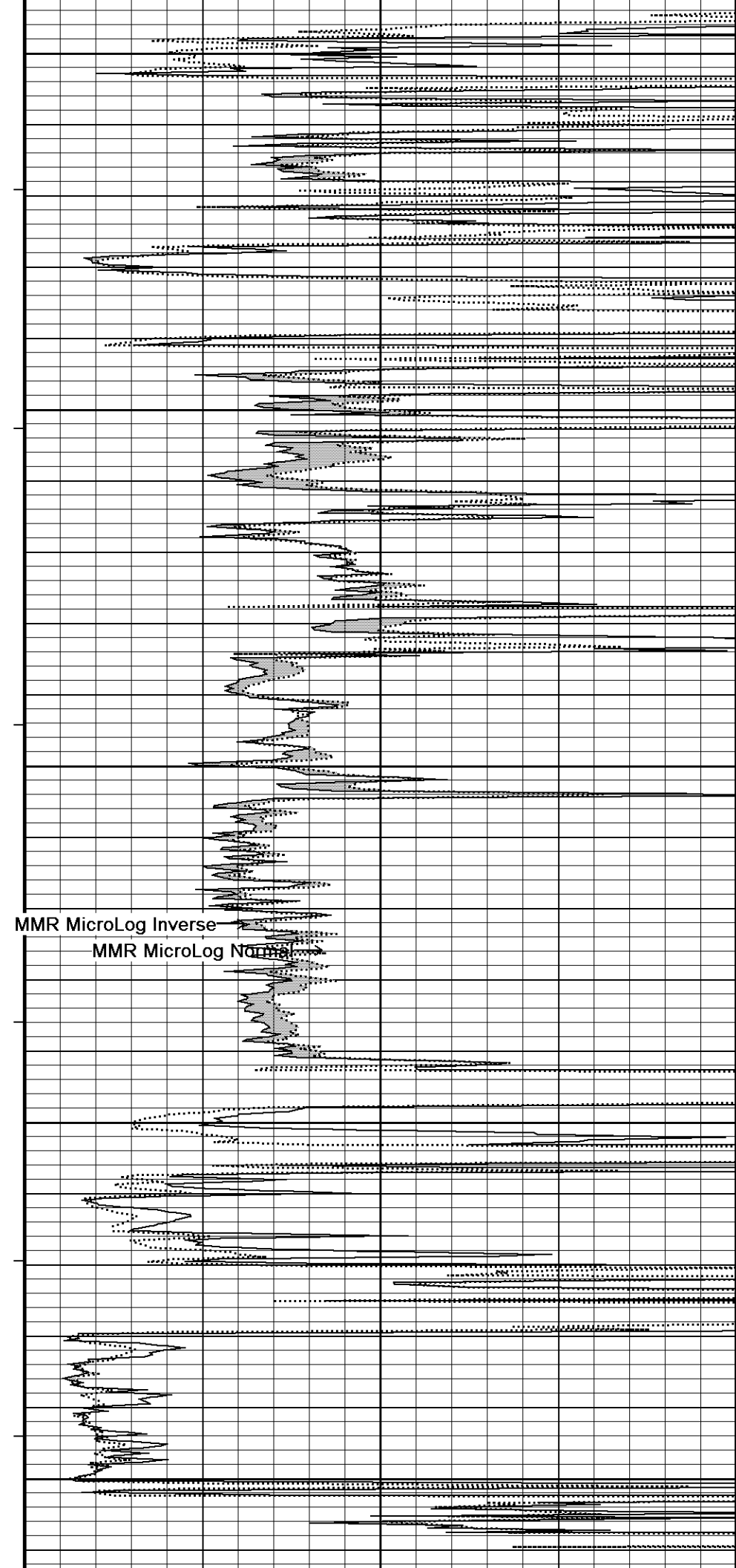
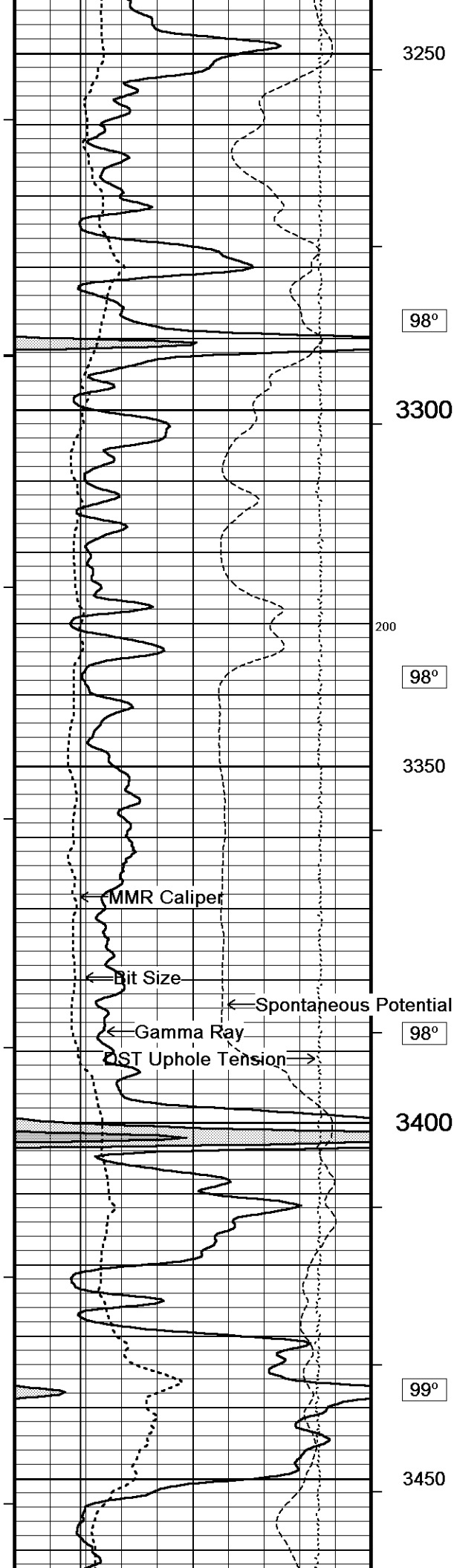
BOREHOLE RECORD					Last Edited: 05-MAR-2014 20:13
Bit Size inches		Depth From feet		Depth To feet	
7.875		259.00		3851.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
CASING	8.625	0.00	259.00	24.00	

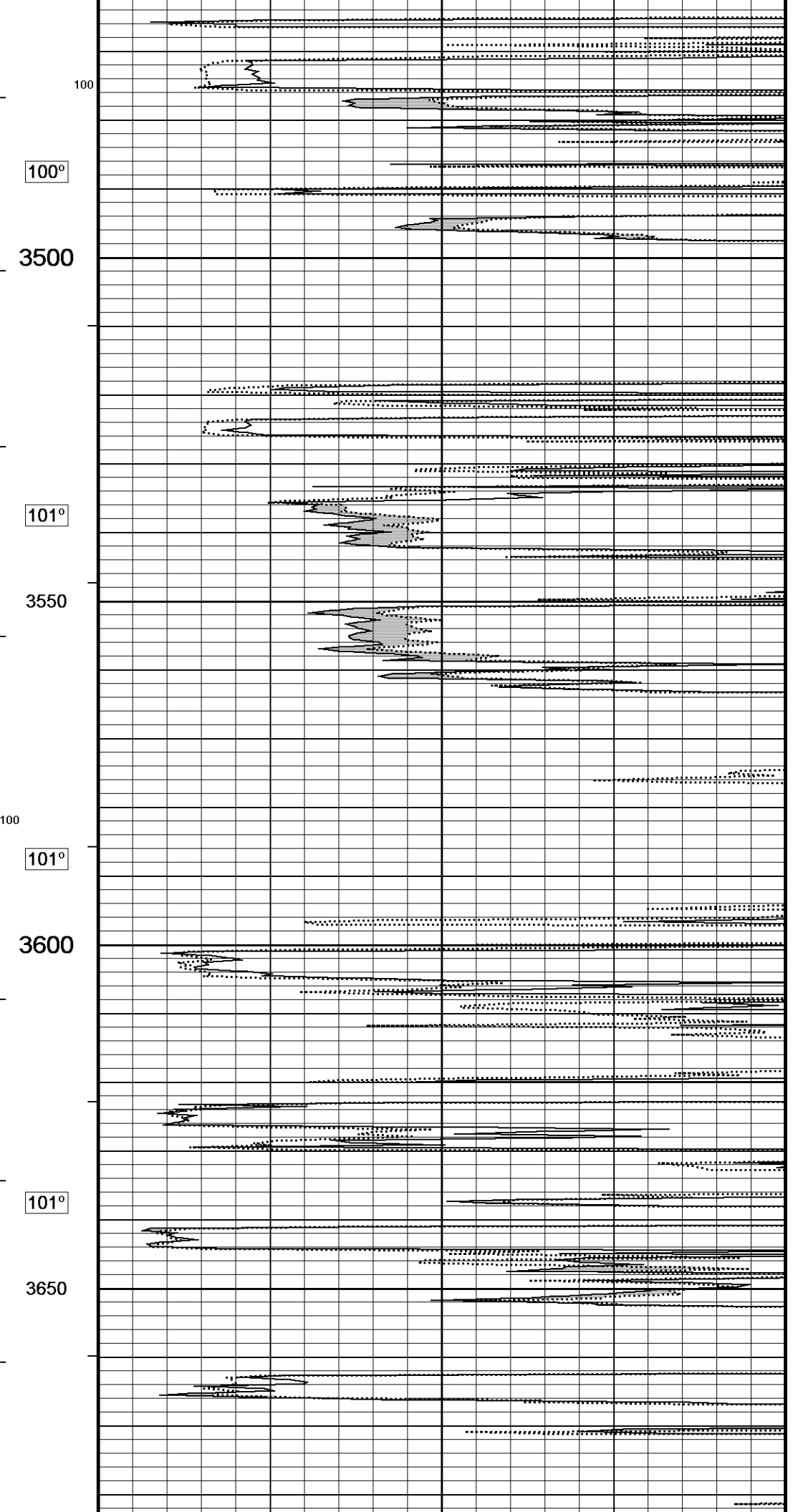
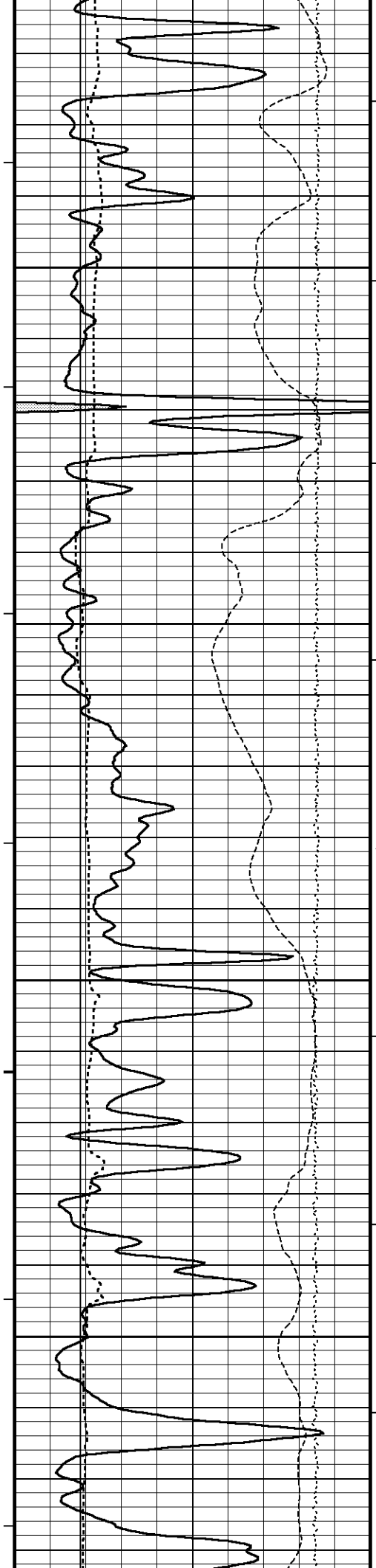
REMARKS
- SOFTWARE ISSUE: WLS 13.08.211.
- RUN ONE: MCG ANS MSS RAN IN COMBINATION. - HARDWARE: TWO 0.5 INCH STANDOFFS USED ON MSS.
- RUN TWO: MCG, MML, MDN, MPD, MFE AND MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO 2800: 415 CU.FT.

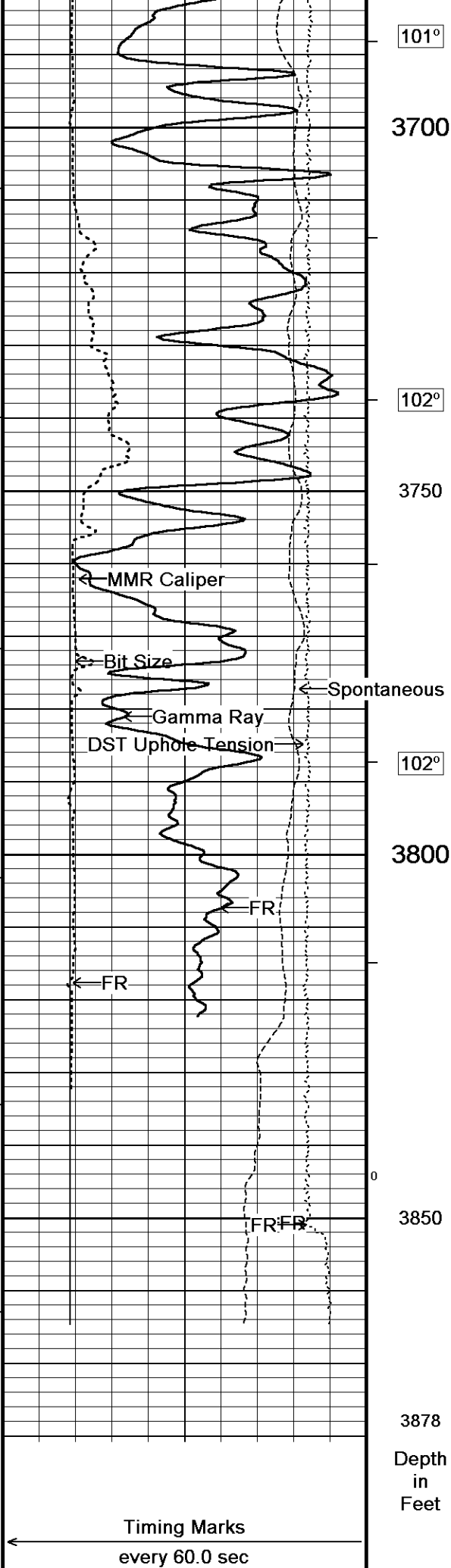












101°

3700

102°

3750

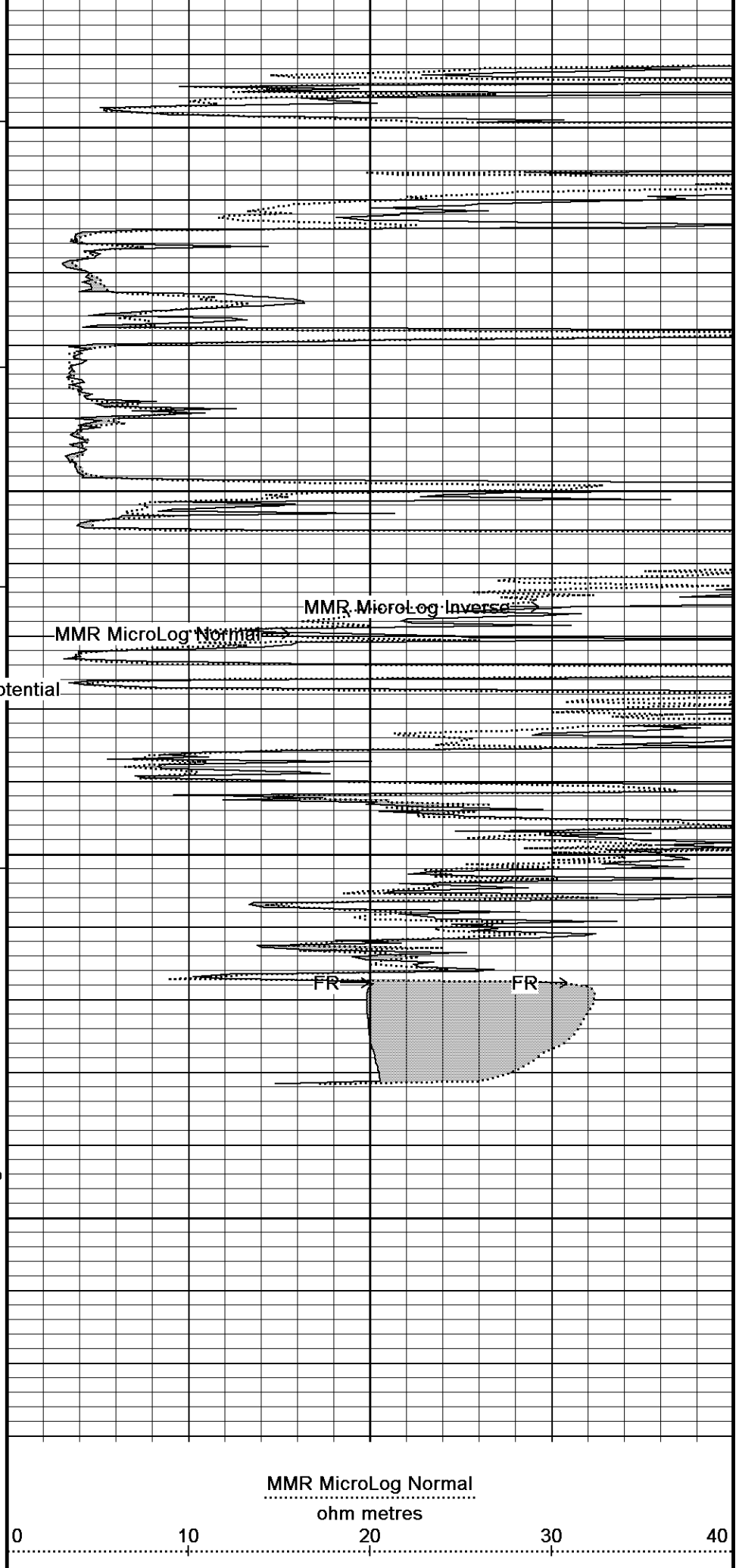
102°

3800

3850

3878

Depth
in
Feet



MMR MicroLog Normal

MMR MicroLog Inverse

FR

FR

MMR MicroLog Normal
ohm metres

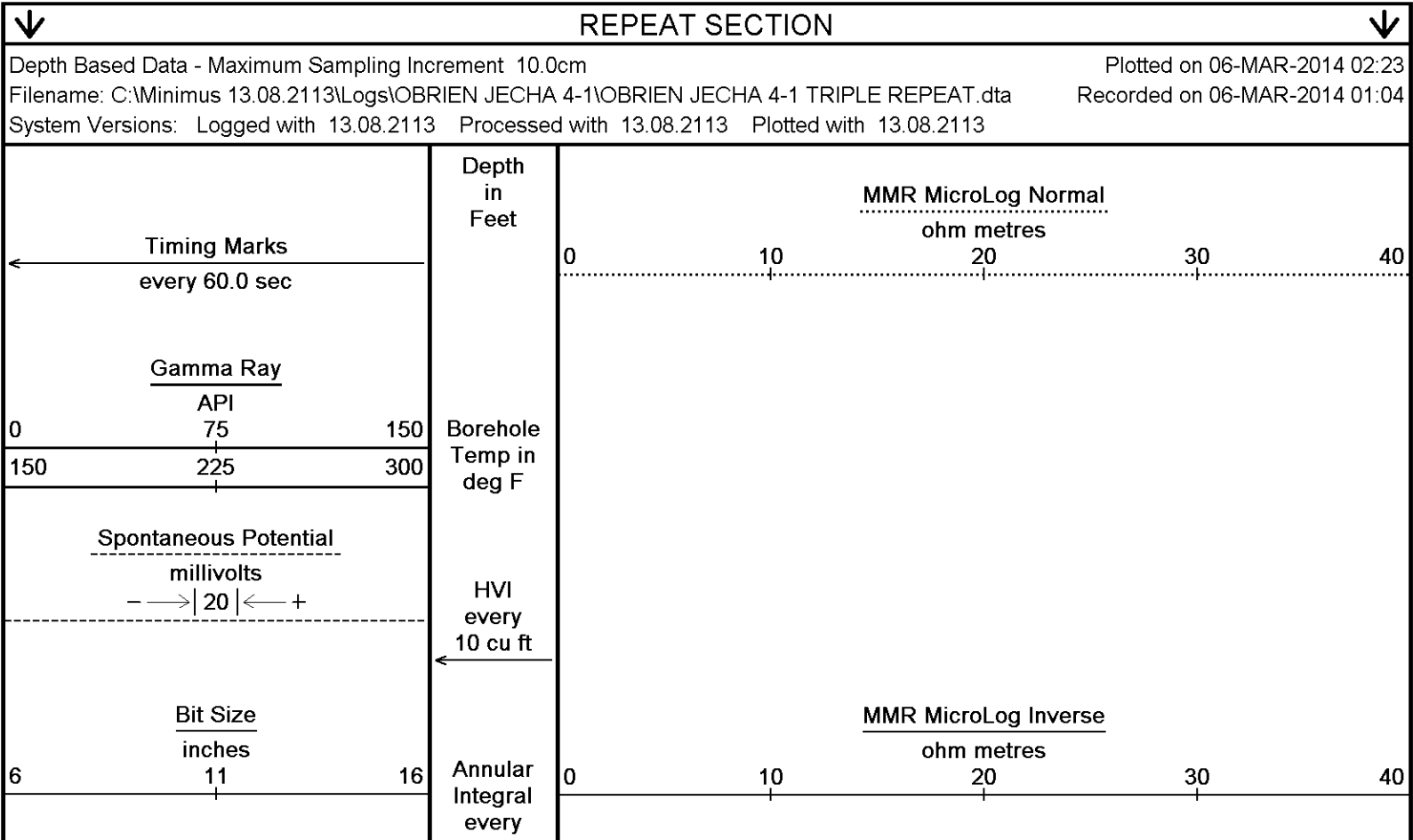
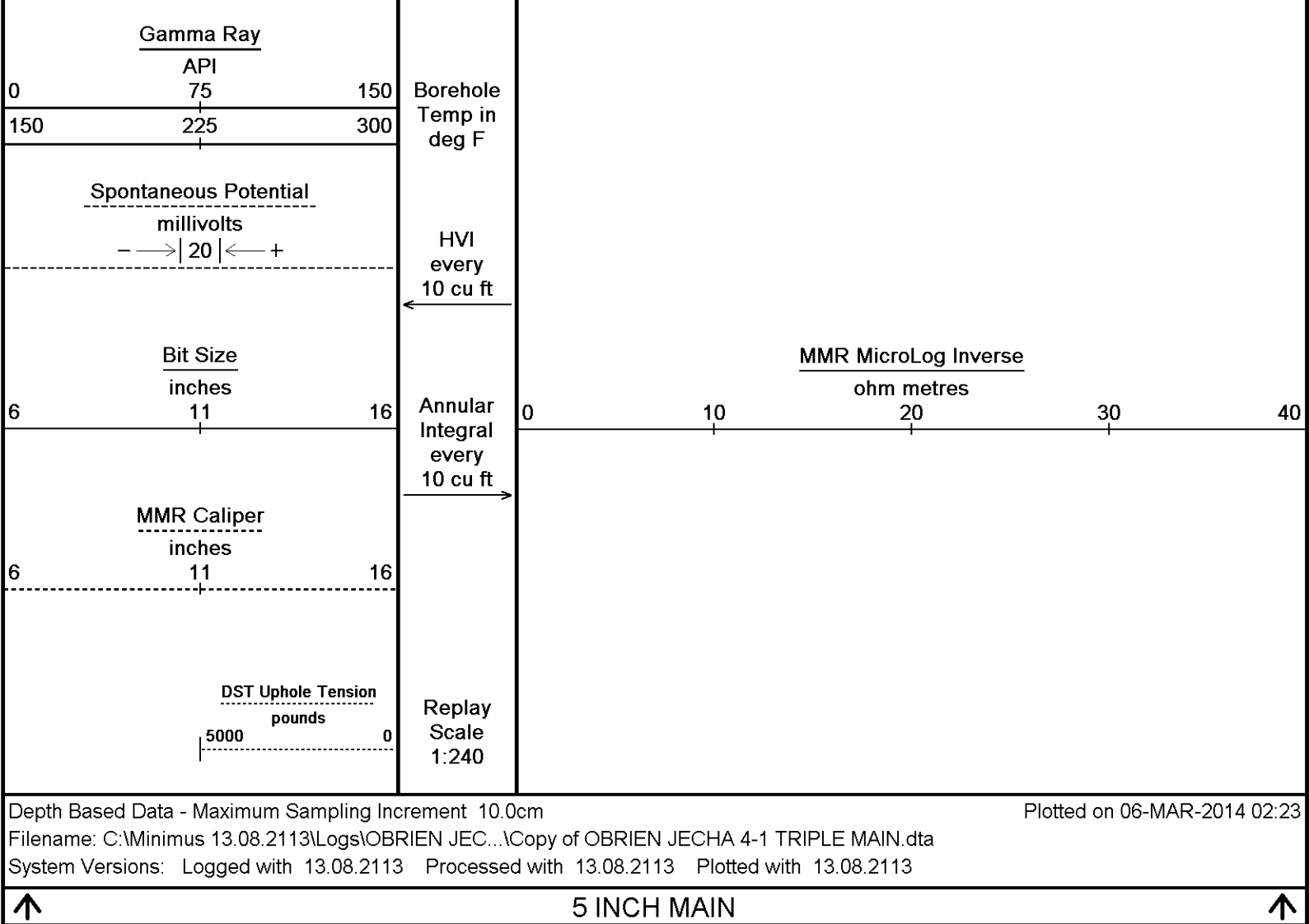
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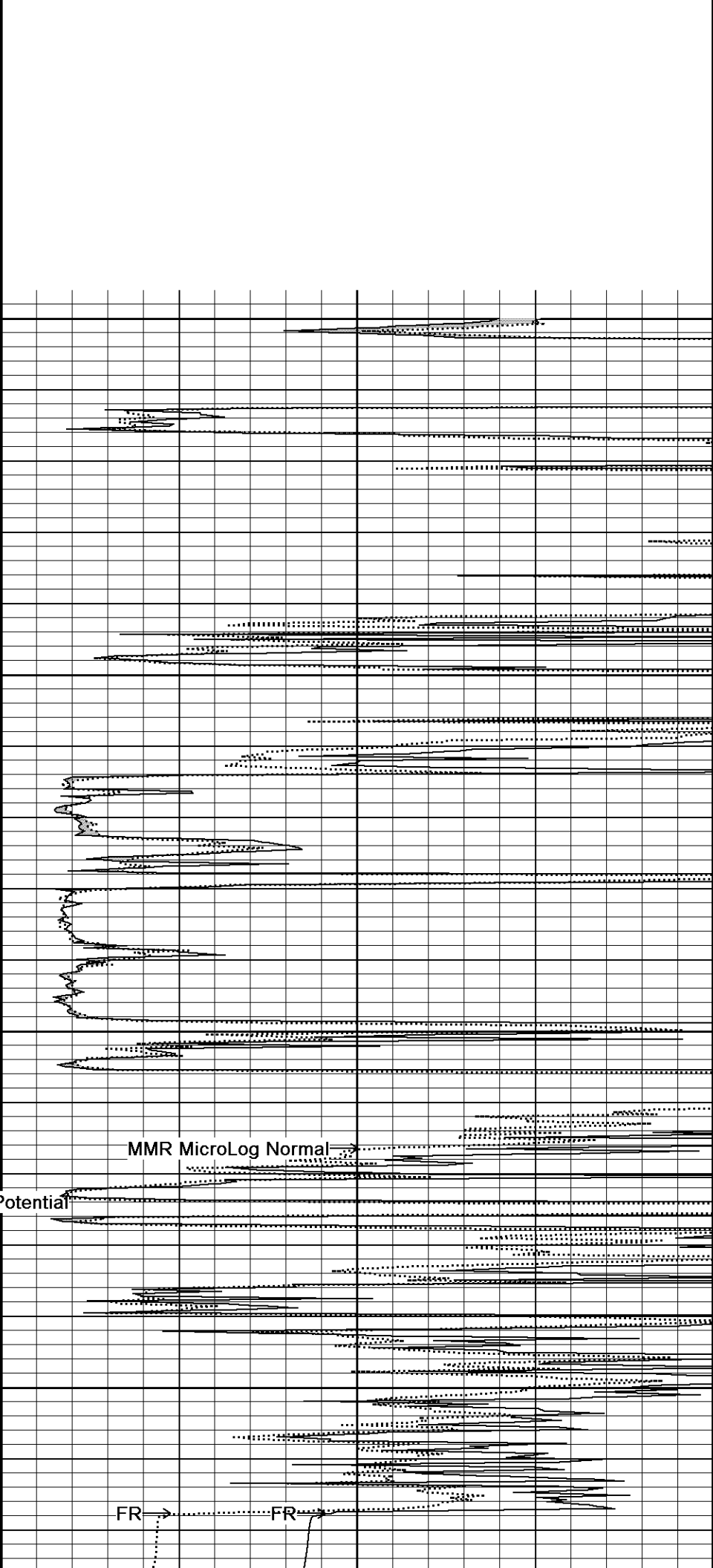
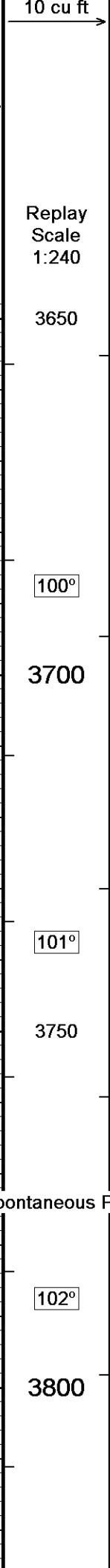
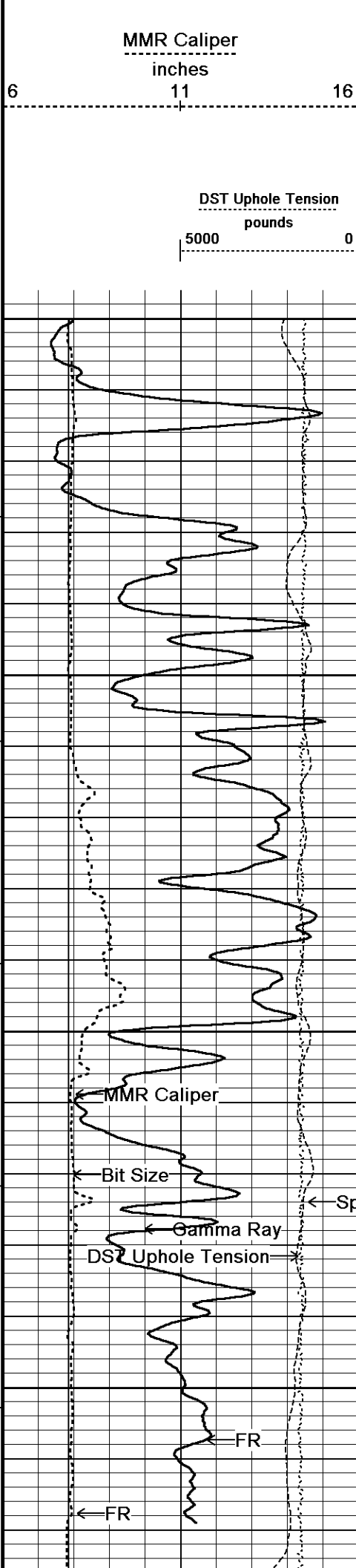
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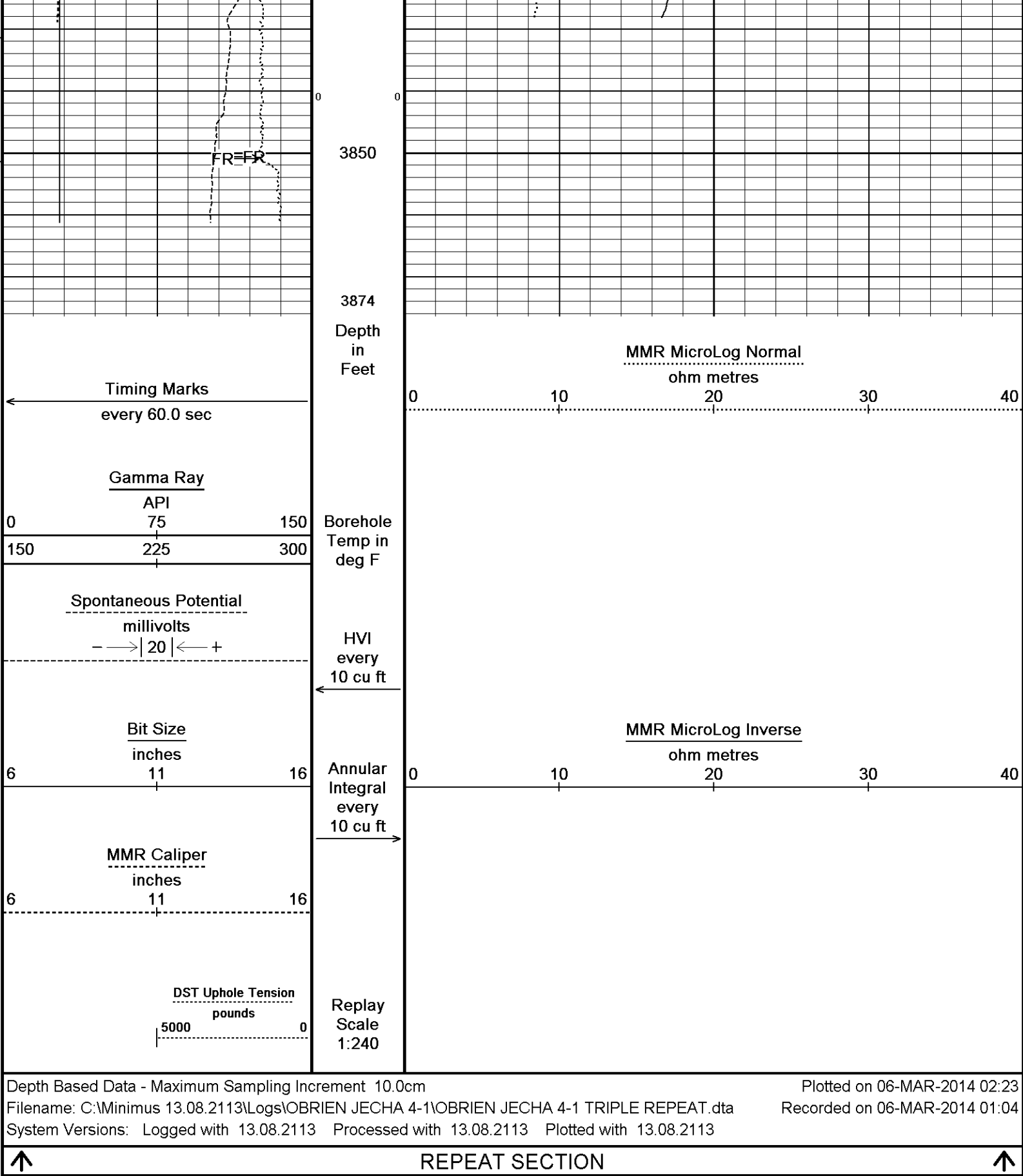
20

30

40







BEFORE SURVEY CALIBRATION		
C:\Minimus 13.08.2113\Logs\OBRIEN JECHA 4-1\OBRIEN JECHA 4-1 TRIPLE REPEAT.dta		
General Constants All 000		Last Edited on 06-MAR-2014,00:28
General Parameters		
Mud Resistivity	1.000	ohm-metres
Mud Resistivity Temperature	48.000	degrees F

Mud Resistivity Temperature	40.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	4.500	inches
Caliper for Differential Caliper	MMR Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Four Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.K 443			Field Calibration on 05-MAR-2014,20:49
	Measured	Calibrated (API)	
Background	75	48	
Calibrator (Gross)	1215	773	
Calibrator (Net)	1140	725	

Gamma Constants MCG-D.K 443			Last Edited on 06-MAR-2014,00:28
Gamma Calibrator Number	GRC38		
Mud Density	1.12	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl		kppm	
K Mud Type	Chloride		
K Mud Concentration	0.00	%	

High Resolution Temperature Calibration MCG-D.K 443			Field Calibration on 05-MAR-2014,20:50
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MCG-D.K 443			Last Edited on 05-MAR-2014,20:50
Pre-filter Length	11		

Micro Normal and Micro Inverse Calibration MMR-A 11					Base Calibration on 05-MAR-2014 09:06
					Field Check on 05-MAR-2014 09:09
Base Calibration					
Channel	Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Resistor 2	
Micro Normal	10.3	49.8	10.0	50.0	
Micro Inverse	10.0	49.5	10.0	50.0	
Channel	Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal	183.7		183.7		
Micro Inverse	184.2		184.2		

Micro Normal and Micro Inverse Constants MMR-A 11				Last Edited on 05-MAR-2014,08:50
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 MMR-A 11			Base Calibration on 05-MAR-2014 09:15
			Field Calibration on 05-MAR-2014 09:16
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	14159	5.98	
2	17268	7.97	
3	20572	9.86	
4	24442	11.92	
5	0	0.00	
6	N/A	N/A	

Field Calibration

Measured Caliper (in)
8.01

Actual Caliper (in)
7.97

Caliper Calibration MPD-B 31

Base Calibration on 05-MAR-2014 10:47
Field Calibration on 05-MAR-2014 10:48

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18528	3.99
2	26688	5.98
3	34842	7.97
4	43098	9.86
5	52480	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)
7.94

Actual Caliper (in)
7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Logs\OBRIEN JECHA 4-1\OBRIEN JECHA 4-1 TRIPLE REPEAT.dta

MCB-A 11B Tension Cablehead

MCB-A 170 LG: 2.18 ft WT: 19.8 lb OD: 2.240 in

Compact Comms Gamma

MCG-D.K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity

MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron

MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

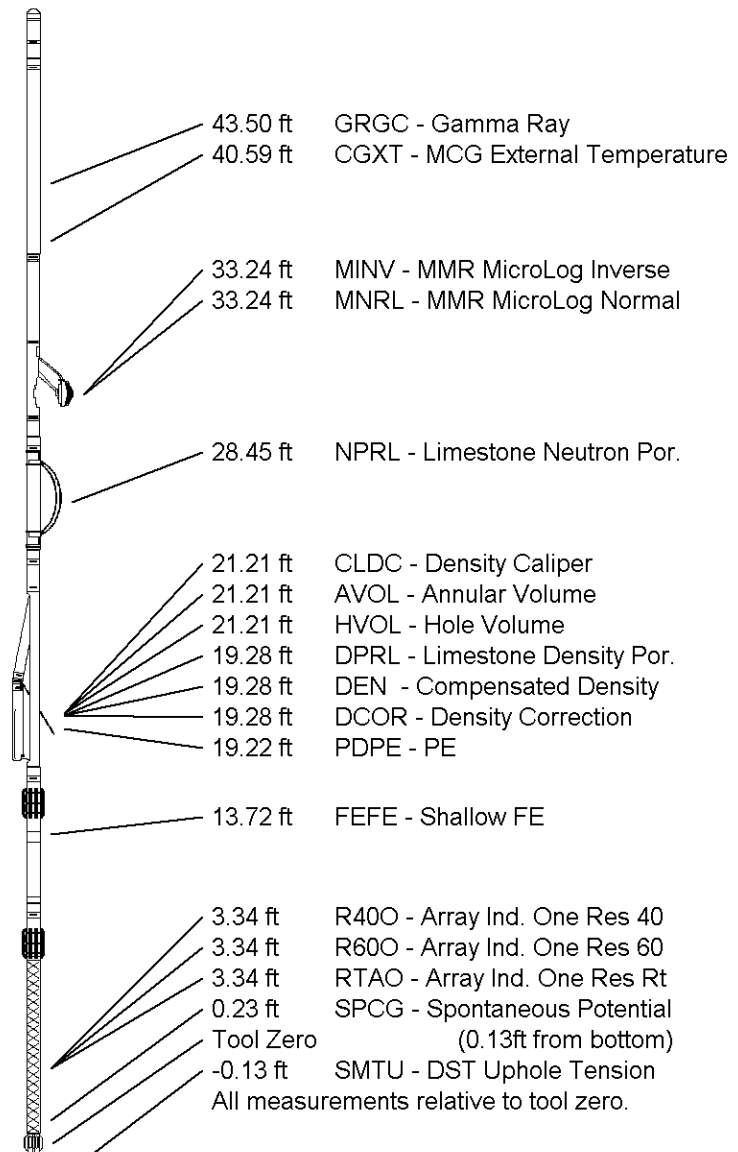
Compact Focussed Electric

MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction

MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 50.96 ft Weight: 403.4 lb



COMPANY

WELL

FIELD

O'BRIEN RESOURCES, LLC

JECHA 4-1

WELLBORE

FIELD	WILDCAT
PROVINCE/COUNTY	RUSH
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2058.00	feet	First Reading	3818.00	feet
Elevation Drill Floor	2056.00	feet	Depth Driller	3851.00	feet
Elevation Ground Level	2053.00	feet	Depth Logger	3851.00	feet



Weatherford®

MICRORESISTIVITY LOG