



Weatherford

MICRORESISTIVITY LOG

COMPANY				McCOY PETROLEUM CORPORATION			
WELL				MTPRC 'A' #3-27			
FIELD				ALFORD			
PROVINCE/COUNTY				KIOWA			
COUNTRY/STATE				U.S.A. / KANSAS			
LOCATION				710' FNL & 1320' FEL			
SEC 27	TWP 30S	RGE 19W	Other Services	MAI/MFE			
Latitude			MPD/MDN				
Longitude							
API Number			15-097-21803				
Permanent Datum GL, Elevation 2238 feet							
Log Measured From KB						Elevations:	feet
Drilling Measured From KB @ 13 FEET						KB	2251.00
						DF	2249.00
						GL	2238.00
Date	21-AUG-2014						
Run Number	ONE						
Service Order	4558-95825207						
Depth Driller	5225.00					feet	
Depth Logger	5224.00					feet	
First Reading	5191.00					feet	
Last Reading	3900.00					feet	
Casing Driller	652.00					feet	
Casing Logger	650.00					feet	
Bit Size	7.875					inches	
Hole Fluid Type	CHEMICAL						
Density / Viscosity	9.50 lb/USg					66.00 CP	
PH / Fluid Loss	9.50					9.60 ml/30Min	
Sample Source	FLOWLINE						
Rm @ Measured Temp	0.56 @ 93.0					ohm-m	
Rmf @ Measured Temp	0.45 @ 93.0					ohm-m	
Rmc @ Measured Temp	0.67 @ 93.0					ohm-m	
Source Rmf / Rmc	CALC					CALC	
Rm @ BHT	0.47 @ 112.0					ohm-m	
Time Since Circulation	4 HOURS						
Max Recorded Temp	112.00					deg F	
Equipment / Base	13244					LIB	
Recorded By	ADAM SILL						
Witnessed By	ZACH WIELE						
JOB #	LB14-244						

BOREHOLE RECORD					Last Edited: 21-AUG-2014 16:34
Bit Size inches		Depth From feet		Depth To feet	
7.875		652.00		5225.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	652.00	24.00	

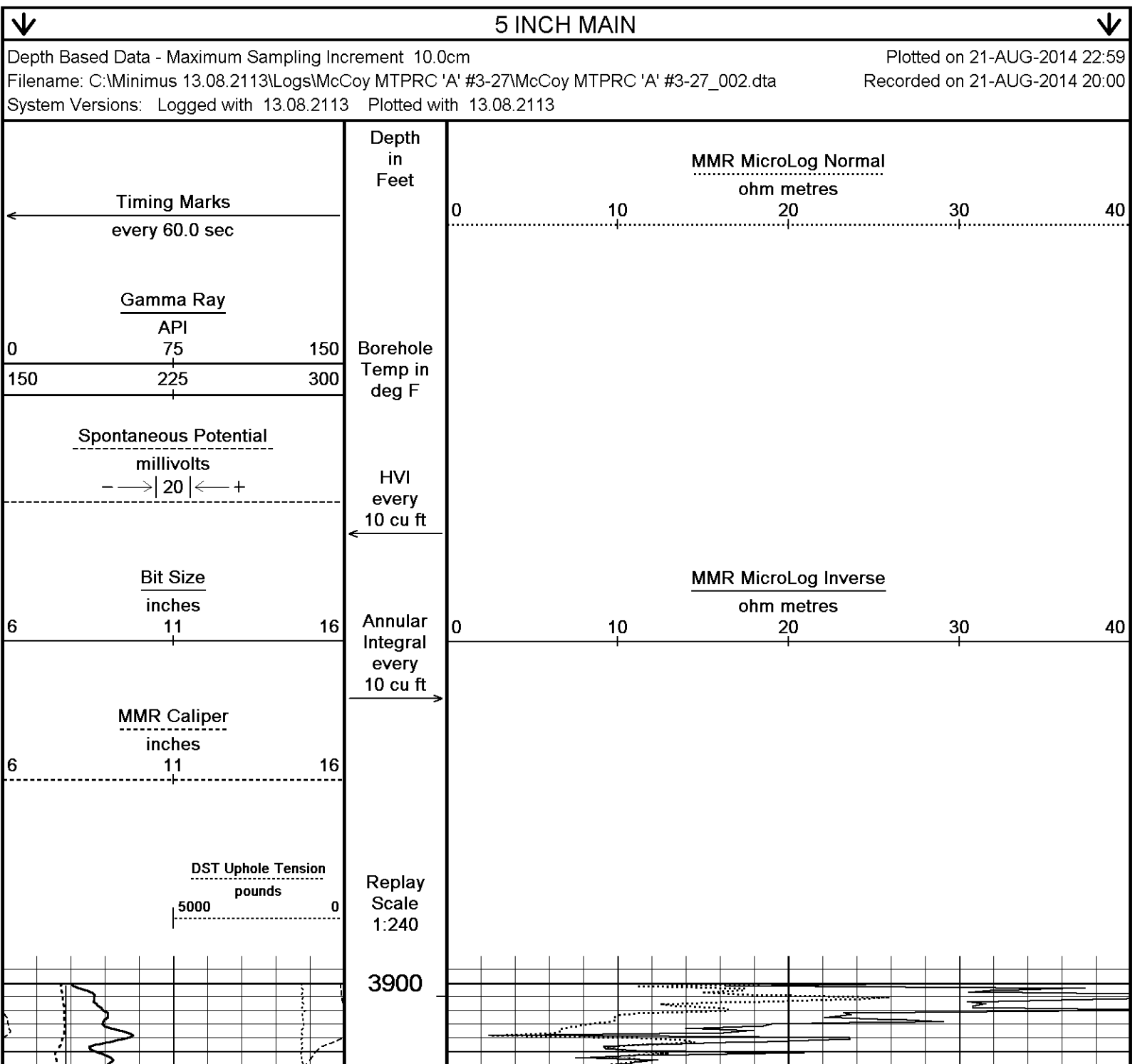
REMARKS
- SOFTWARE ISSUE: WLS 13.08.2113.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1854 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3900 FEET: 211 CU.FT.
- RIG: STERLING #5

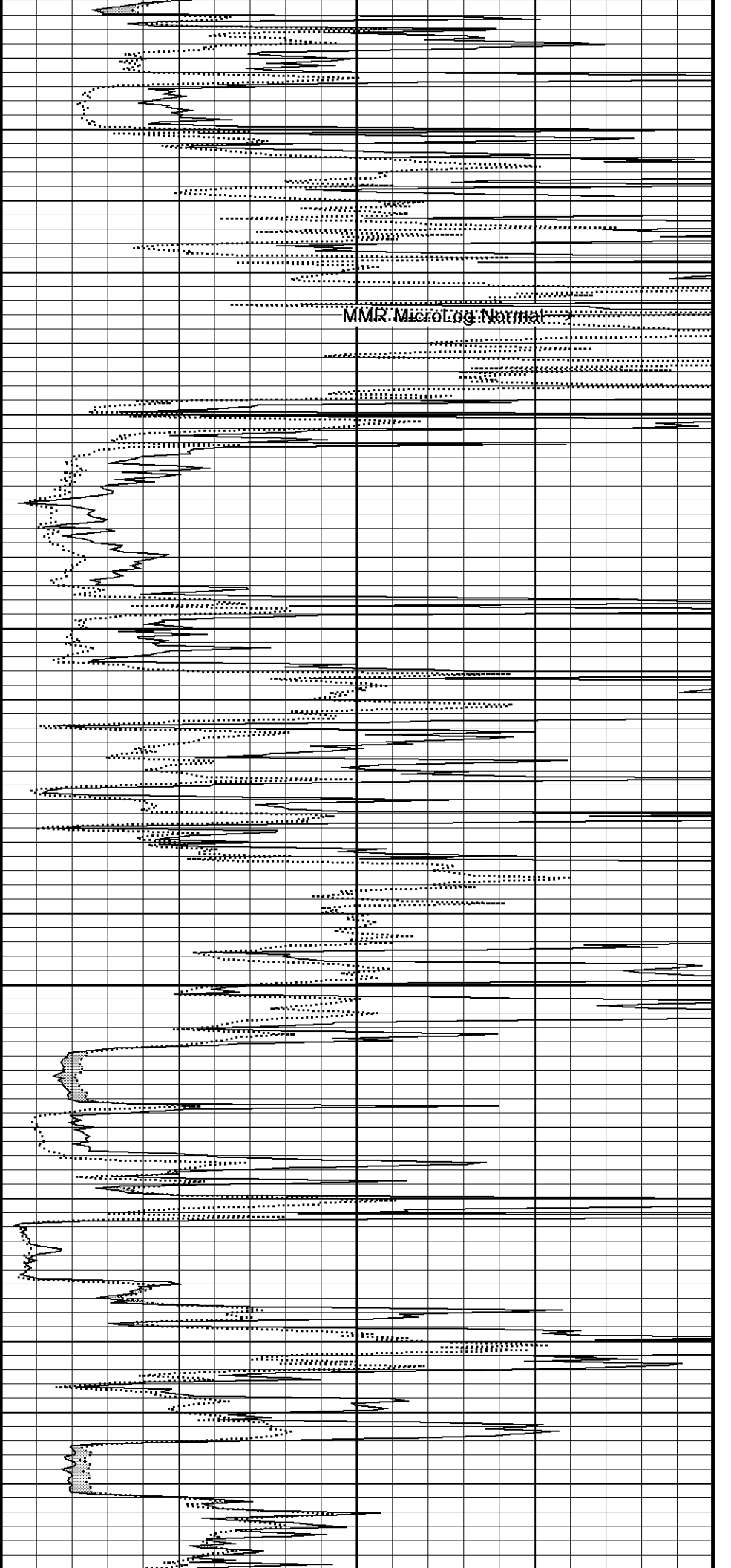
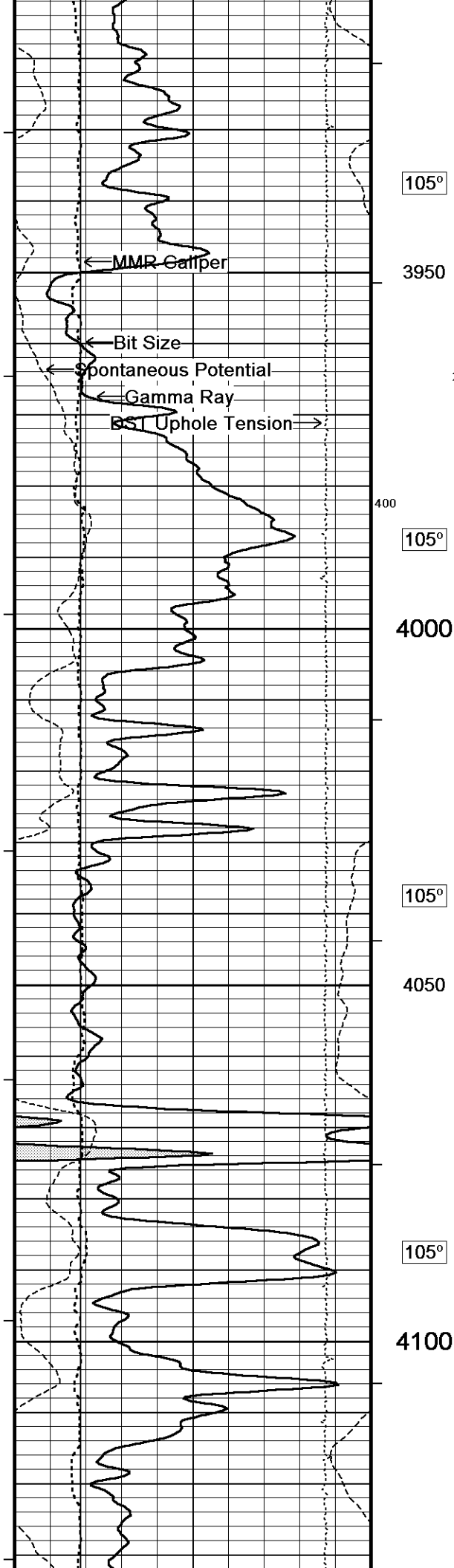
CRIS: OPERATING #3:

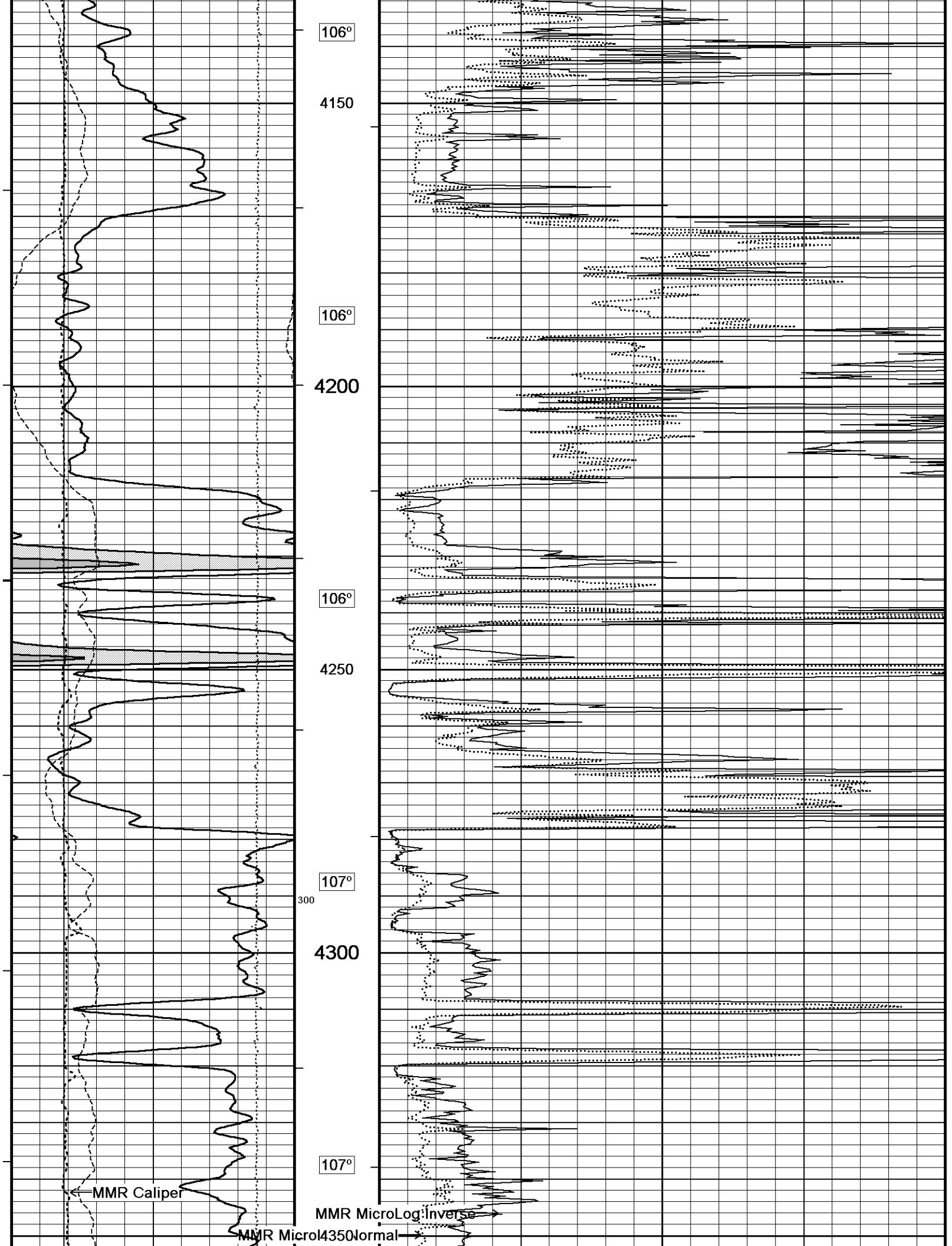
- ENGINEER: A. SILL.

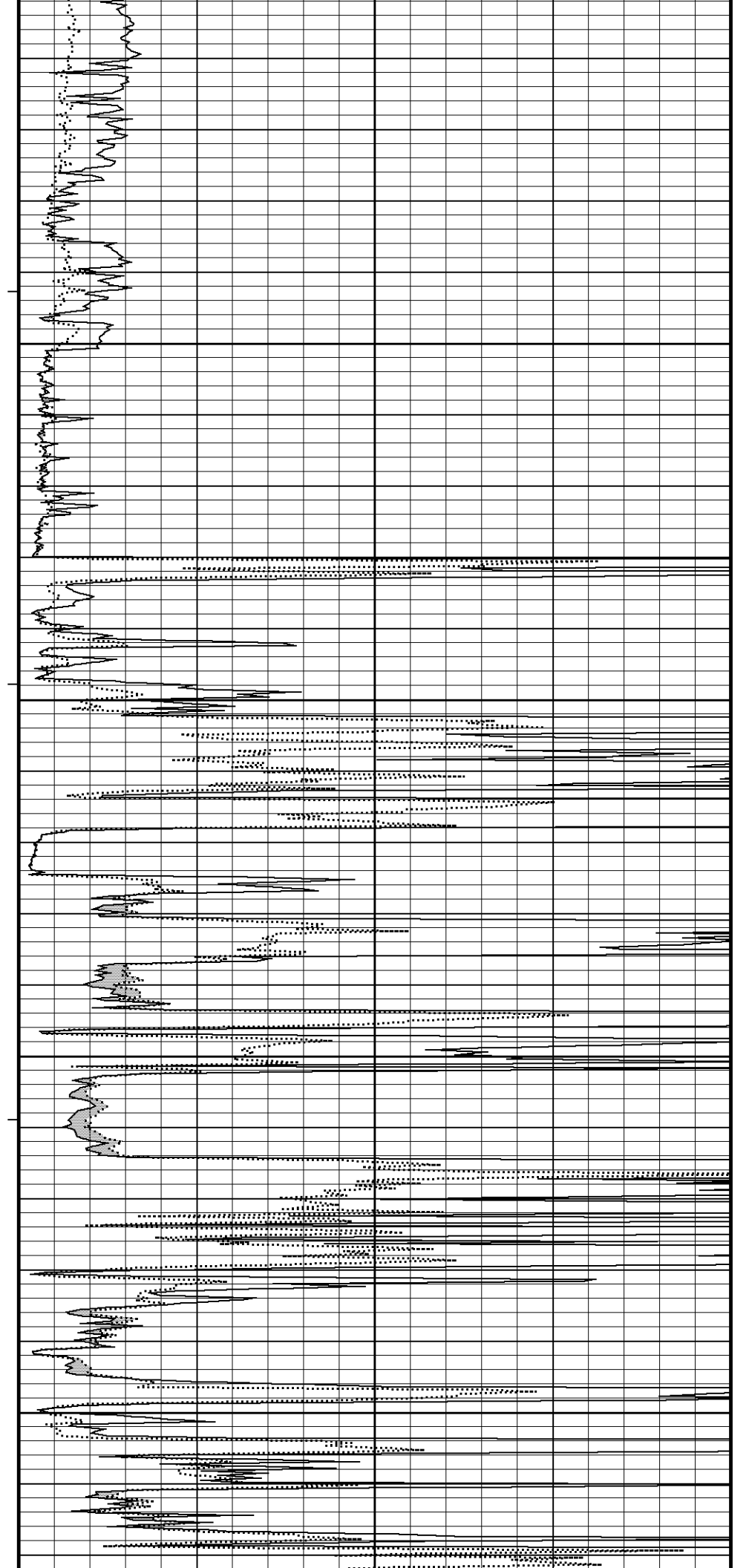
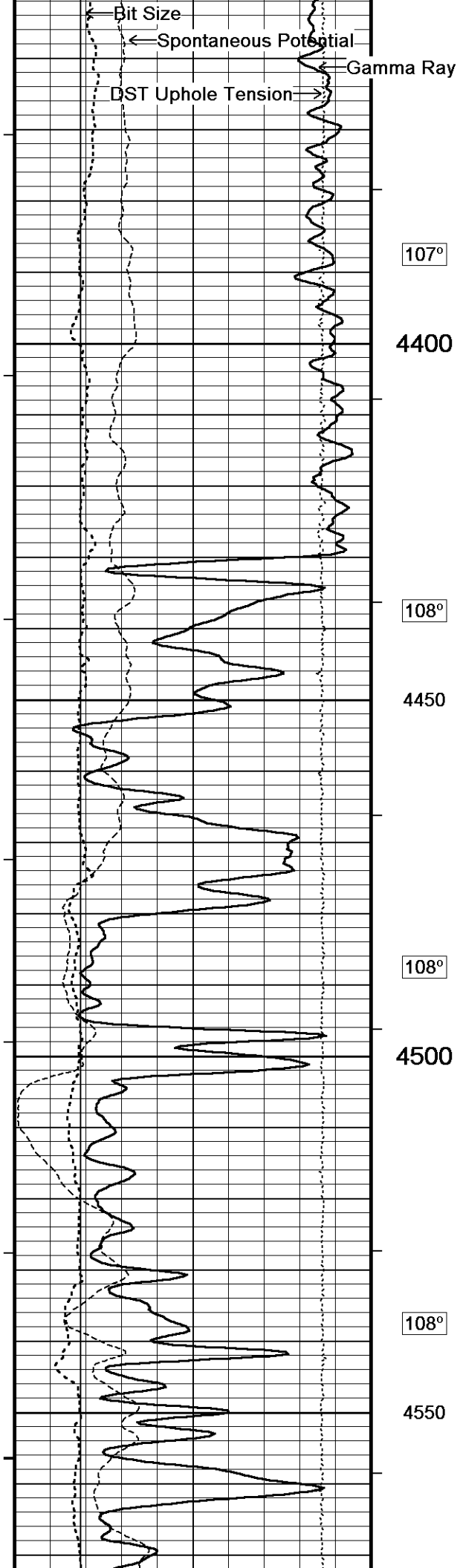
- OPERATOR: N. ADAME, J. DUNLAP.

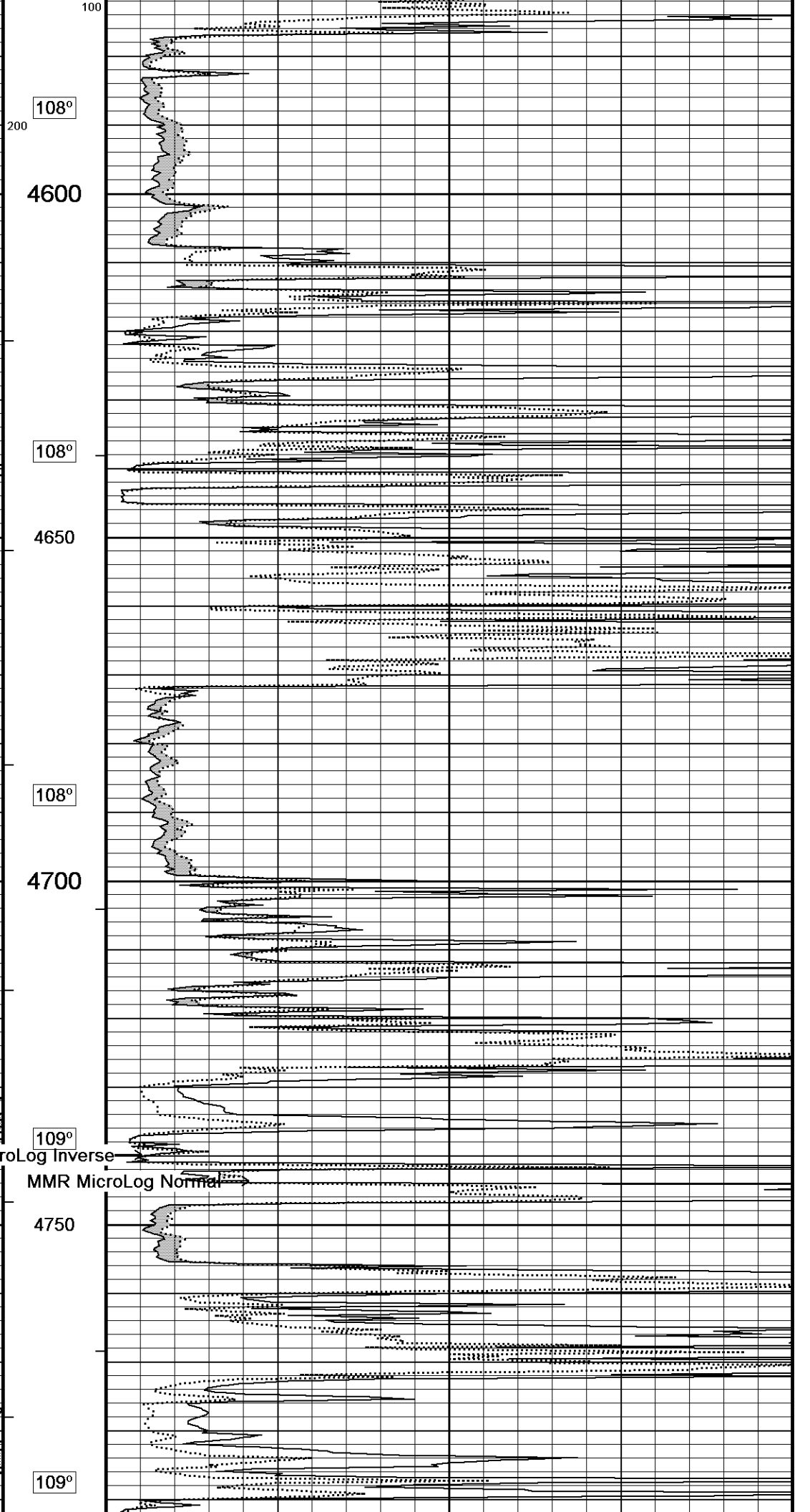
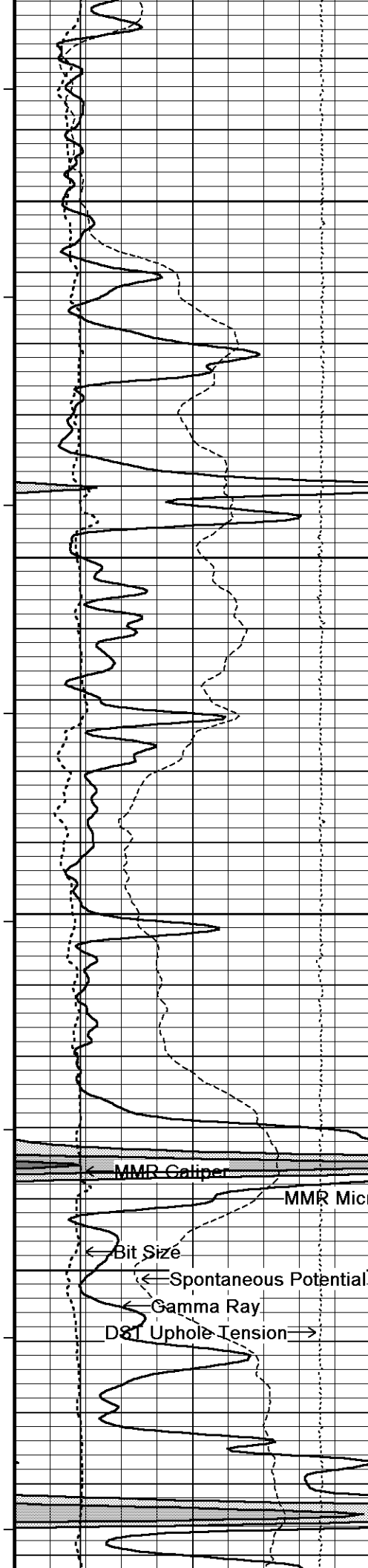
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

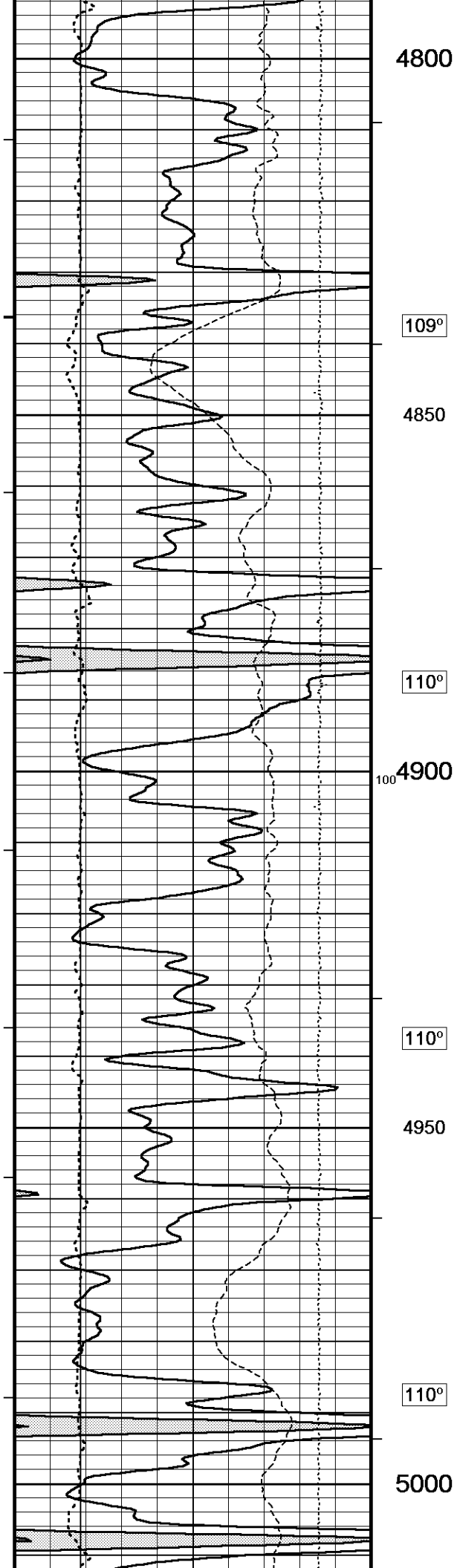












4800

109°

4850

110°

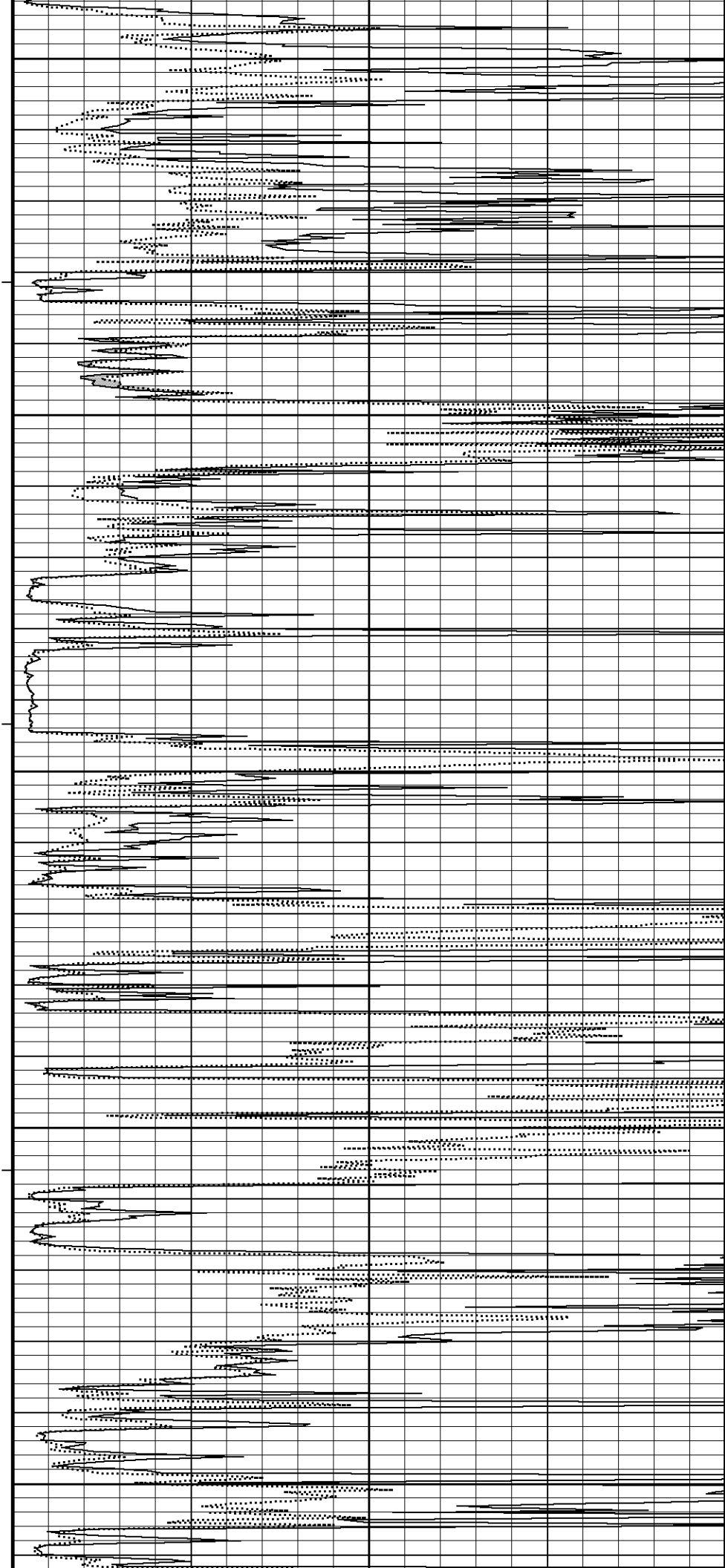
100 4900

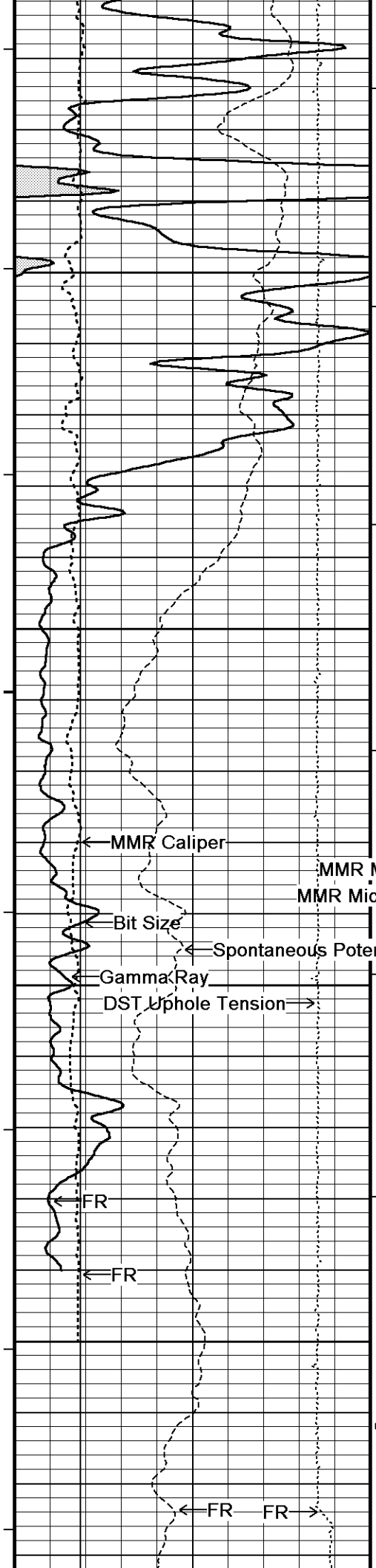
110°

4950

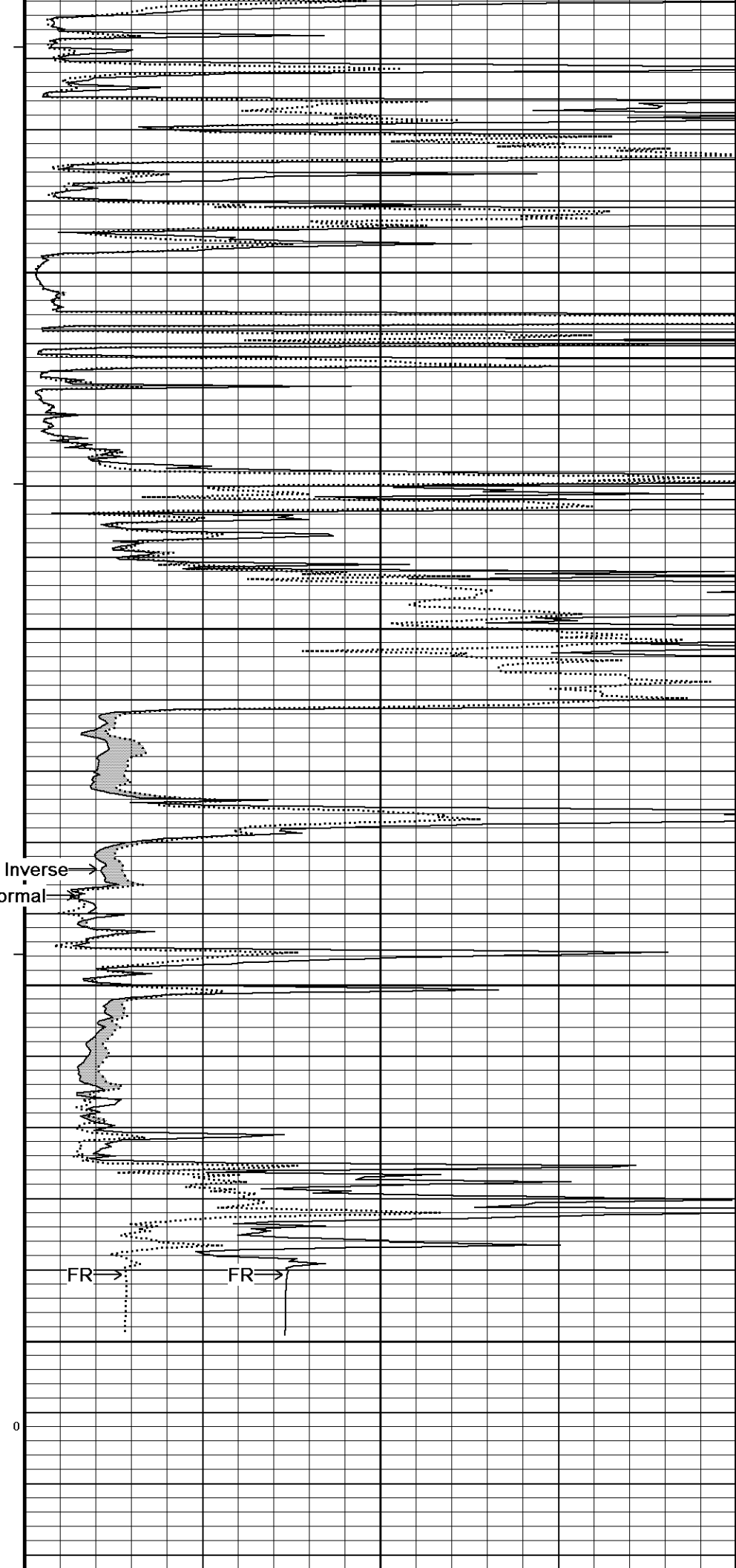
110°

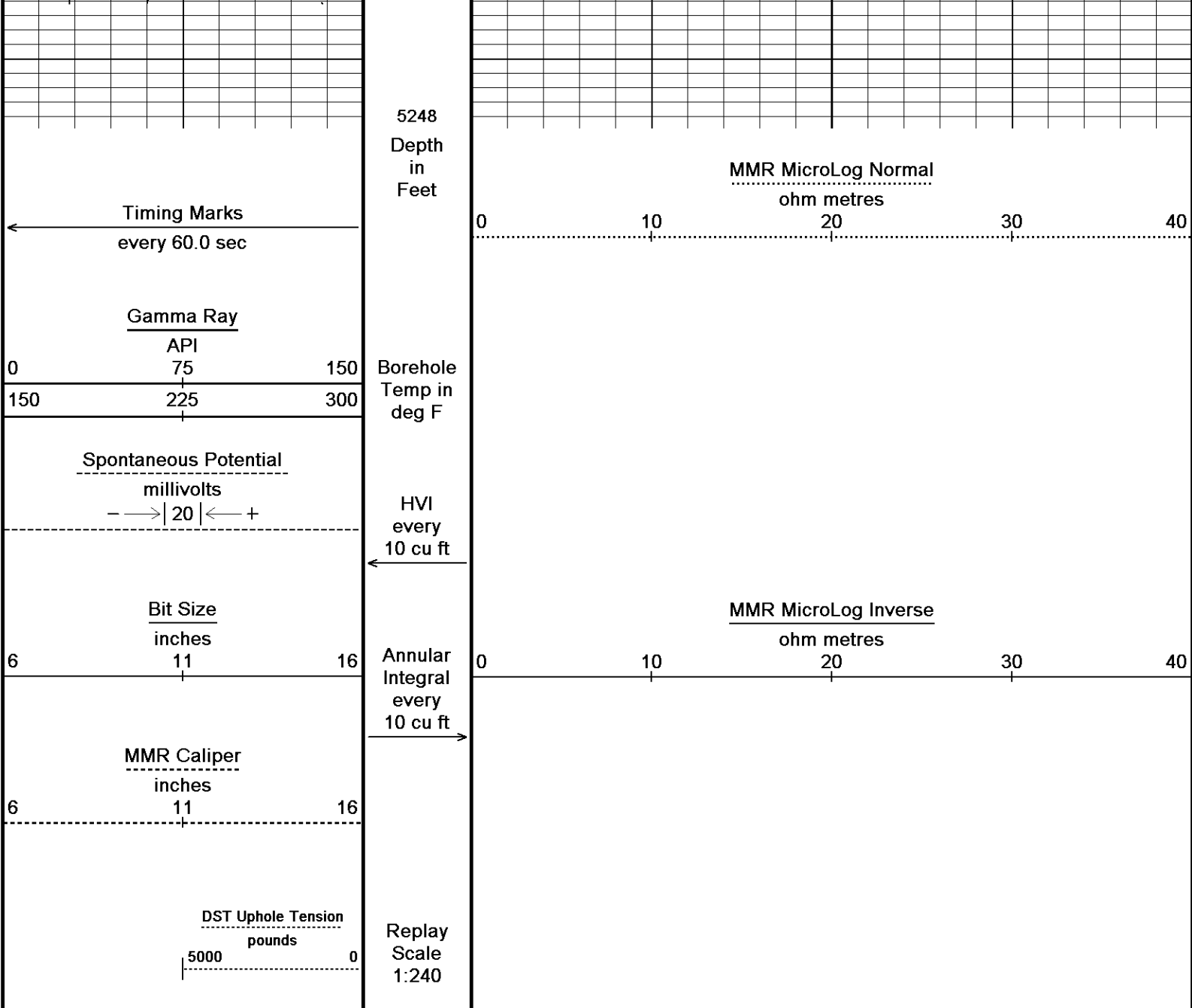
5000





110°
5050
111°
5100
112°
5200
0





Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 21-AUG-2014 22:59
Filename: C:\Minimus 13.08.2113\Logs\McCoy MTPRC 'A' #3-27\McCoy MTPRC 'A' #3-27_002.dta	Recorded on 21-AUG-2014 20:00
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113	

↑

5 INCH MAIN

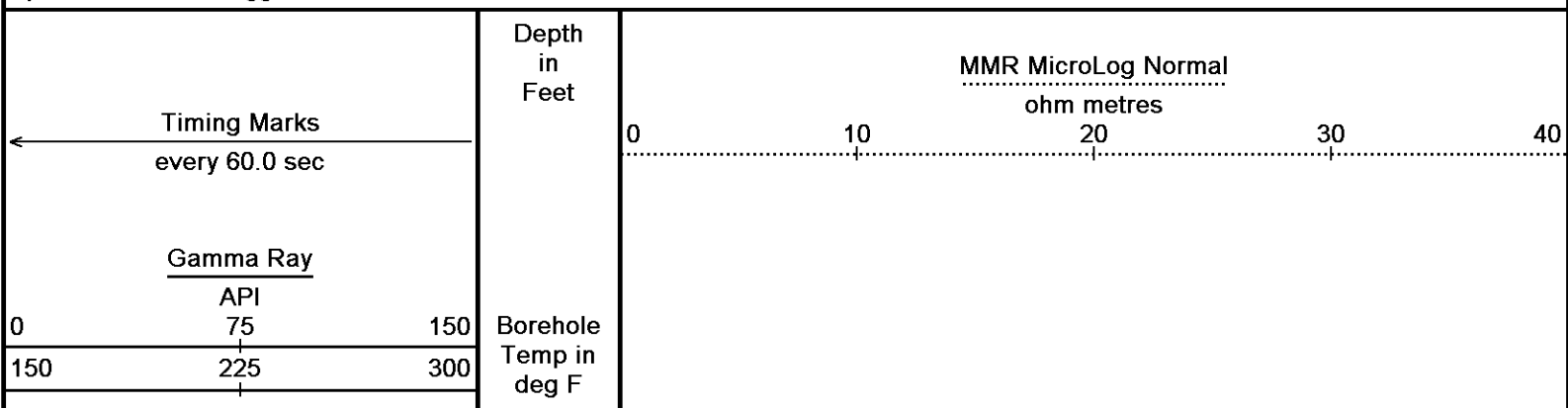
↑

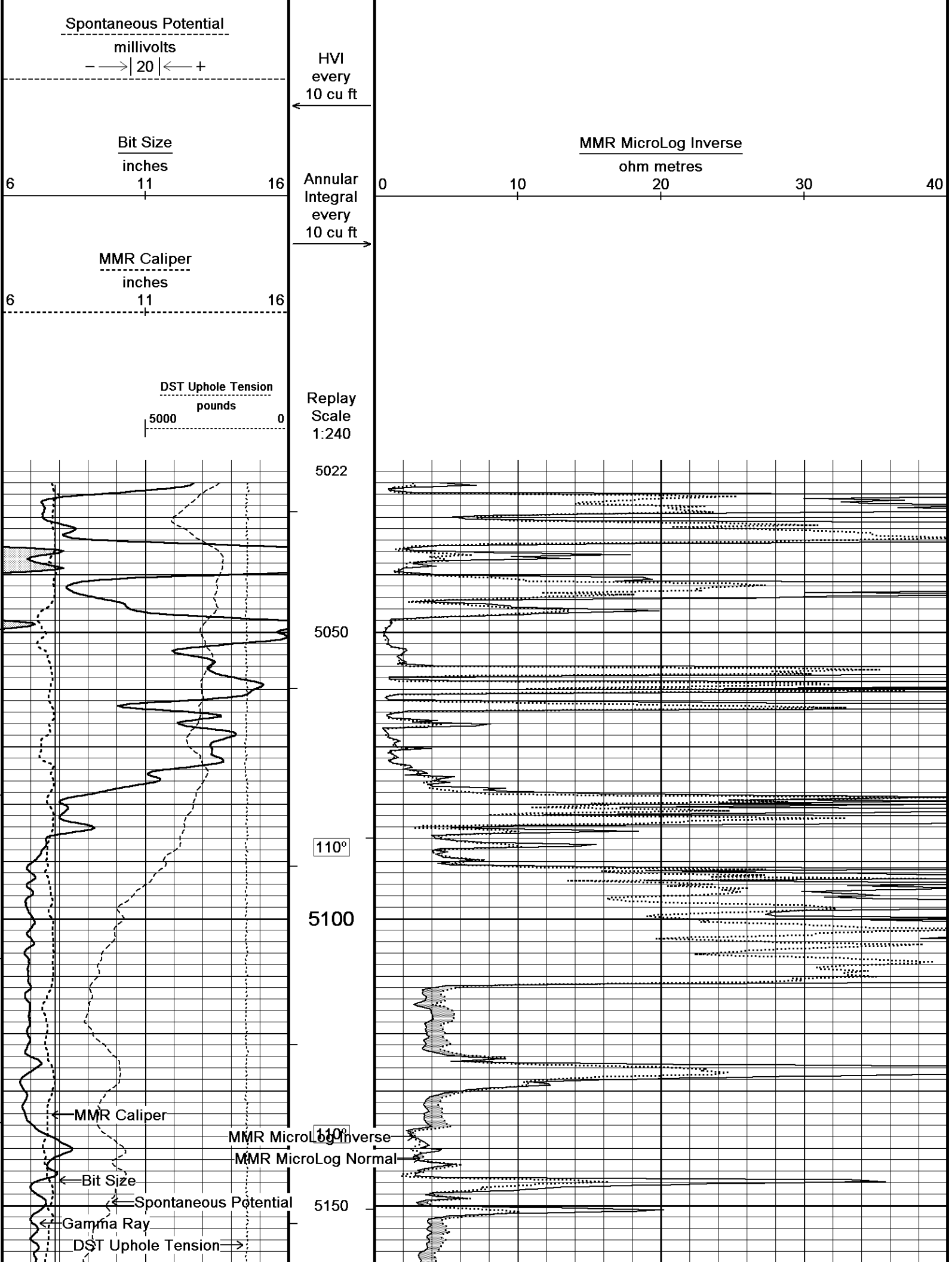
↓

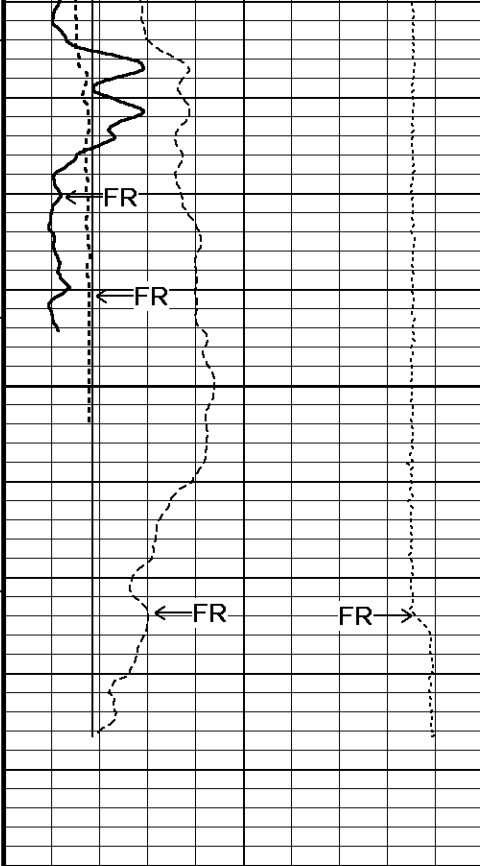
REPEAT SECTION

↓

Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 21-AUG-2014 22:59
Filename: C:\Minimus 13.08.2113\Logs\McCoy MTPRC 'A' #3-27\McCoy MTPRC 'A' #3-27_001.dta	Recorded on 21-AUG-2014 19:37
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113	



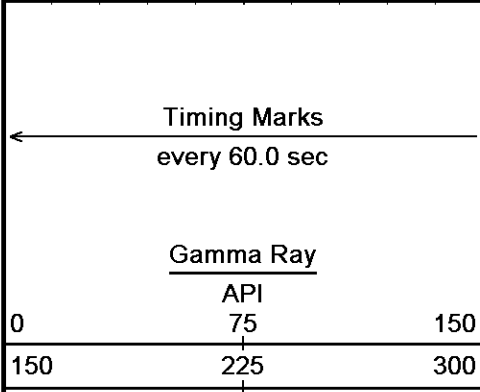




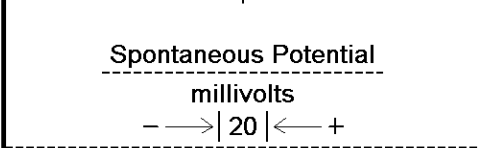
111°

5200

5250
Depth
in
Feet



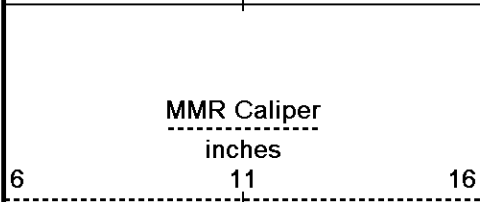
Borehole
Temp in
deg F



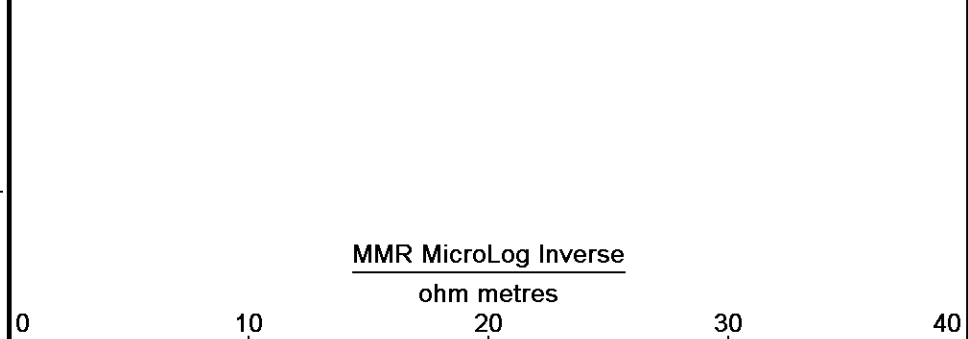
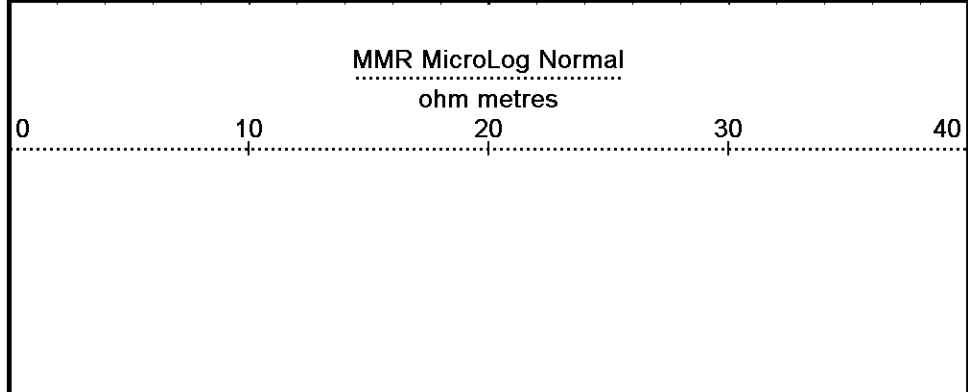
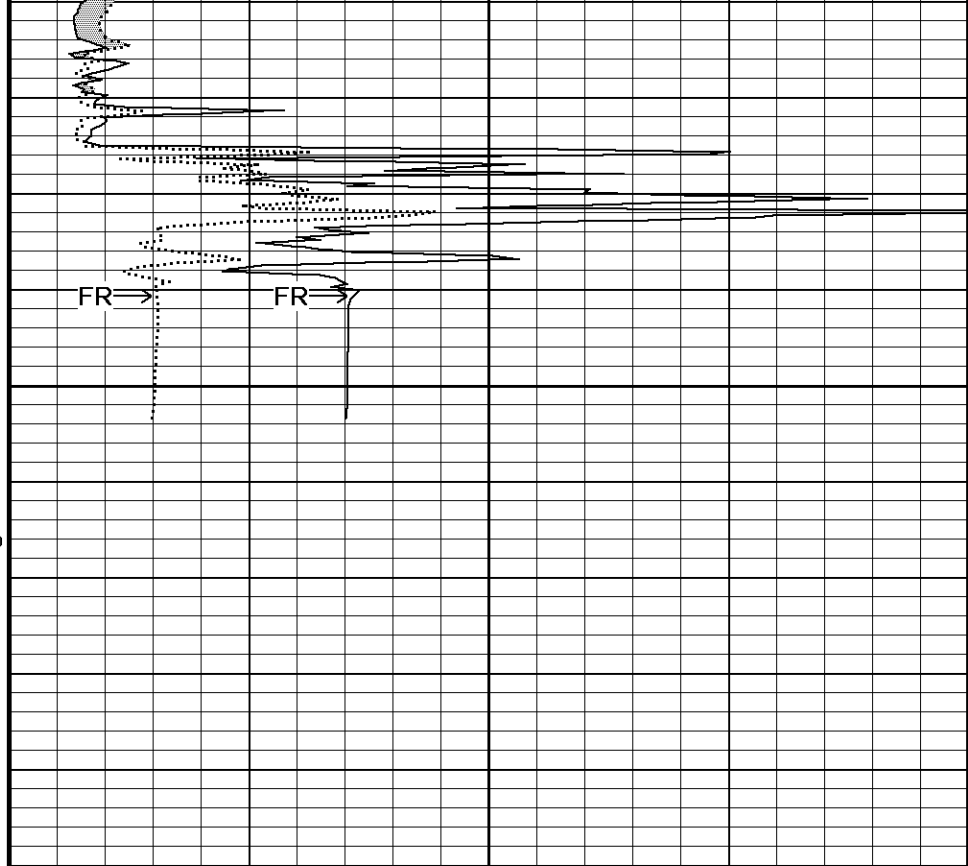
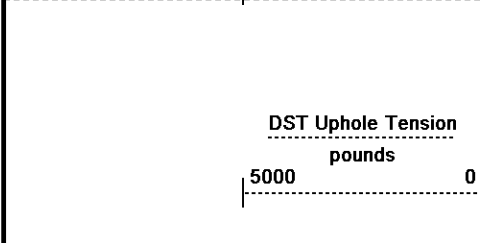
HVI
every
10 cu ft



Annular
Integral
every
10 cu ft



Replay
Scale
1:240





REPEAT SECTION



BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Logs\McCoy MTPRC 'A' #3-27\McCoy MTPRC 'A' #3-27_001.dta

General Constants All 000

Last Edited on 21-AUG-2014,18:40

General Parameters

Mud Resistivity	0.560	ohm-metres
Mud Resistivity Temperature	93.000	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	5.500	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Crossplot Porosity
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 15-AUG-2014 17:39

Reading No	Measured	Calibrated (lbs)
1	15259.48	0.00
2	15798.58	244.70

Gamma Calibration MCG-C 123

Field Calibration on 21-AUG-2014 10:21

	Measured	Calibrated (API)
Background	69	47
Calibrator (Gross)	1132	772
Calibrator (Net)	1063	725

Gamma Constants MCG-C 123

Last Edited on 21-AUG-2014,16:37

Gamma Calibrator Number	GRC038	
Mud Density	1.14	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 123

Field Calibration on 21-AUG-2014 10:29

	Measured	Calibrated (mV)
Reference 1	99.2	98.8
Reference 2	-98.3	-98.9

High Resolution Temperature Calibration MCG-C 123

Field Calibration on 21-AUG-2014,10:26

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

High Resolution Temperature Constants MCG-C 123

Last Edited on 21-AUG-2014,10:26

Pre-filter Length	11
-------------------	----

Micro Normal and Micro Inverse Calibration MMR-A 29

Base Calibration on 13-AUG-2014 16:50

Field Check on 21-AUG-2014 13:12

Base Calibration

	Measured	Calibrated (ohm-m)
--	----------	--------------------

Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	10.2	49.8	5.1	25.6
Micro Inverse	10.0	49.5	3.4	16.9
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Micro Normal	93.7		93.7	
Micro Inverse	62.3		62.3	

Micro Normal and Micro Inverse Constants MMR-A 29			Last Edited on 13-AUG-2014,16:47	
Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159			
Micro Normal K Factor	0.5110			
Micro Inverse K Factor	0.3380			
Standoff Offset	0.0000		inches	

Caliper Calibration MMR-A 29			Base Calibration on 13-AUG-2014 17:05	
			Field Calibration on 21-AUG-2014 13:11	
Base Calibration				
Reading No	Measured		Calibrator Size (in)	
1	13833		5.96	
2	17084		7.98	
3	20261		9.85	
4	24276		11.92	
5	0		0.00	
6	N/A		N/A	
Field Calibration				
	Measured Caliper (in)		Actual Caliper (in)	
	7.98		7.97	

Neutron Calibration MDN-B.J 387					Base Calibration on 31-JUL-2014 11:36	
					Field Check on 21-AUG-2014 10:26	
Base Calibration						
		Measured		Calibrated (cps)		
		Near	Far	Near	Far	
		2985	92	3714	110	
Ratio		32.470		33.764		
Field Calibrator at Base						
				Calibrated (cps)		
				1675	2460	
Ratio				0.681		
Field Check						
				Calibrated (cps)		
				1690	2481	
Ratio				0.681		

Neutron Constants MDN-B.J 387			Last Edited on 21-AUG-2014,16:37		
Neutron Source Id	P58125B				
Neutron Jig Number	5824NE				
Epithermal Neutron					
Caliper Source for Processing	Density Caliper				
Stand-off	0.00	inches			
Mud Density	1.00	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	Constant Value				
Temperature	68.00	degrees F			
Mud Salinity	0.00	kppm			
Salinity Correction	Not Applied				
Formation Fluid Salinity Source	None				
Formation Fluid Salinity	N/A	kppm			
Barite Mud Correction	Not Applied				

FE Calibration MFE-A.A 55			Base Calibration on 30-JUL-2014 09:41 Field Check on 21-AUG-2014 09:52	
Base Calibration				
	Measured	Calibrated (ohm-m)		
Reference 1	0.0	0.0		
Reference 2	951.6	126.8		

Reference 2	931.0	120.8
Base Check		281.4
Field Check		281.4

FE Constants MFE-A.A 55		Last Edited on 21-AUG-2014,16:36	
Running Mode	No Sleeve		
MFE K Factor	0.1268		
Caliper Source for FE correction	Density Caliper		
Caliper Value for FE correction	N/A	inches	
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	0.5	inches	

Induction Calibration MAI-A.A 5				Base Calibration on 21-JAN-2014,09:50	
				Field Check on 21-AUG-2014 09:51	
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High		Low	High
1	16.3	470.8		9.3	966.2
2	5.6	376.1		7.6	821.4
3	2.6	266.1		5.2	566.0
4	1.6	130.0		2.6	279.2
Array Temperature		71.1	Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High		Low	High
1				15.8	3862.3
2				31.9	3590.2
3				29.8	2970.8
4				20.8	2125.7
Deep				18.5	1911.7
Medium				43.0	3860.4
Shallow				47.5	5372.0
Array Temperature				85.0	Deg F

Induction Constants MAI-A.A 5		Last Edited on 21-AUG-2014,16:36	
Induction Model		RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper		
Hole Size for Borehole Correction	N/A	inches	
Tool Centred	No		
Stand-off Type	Fins		
Stand-off	0.50	inches	
Number of Fins on Stand-off	8.0000		
Stand-off Fin Angle	45.00	degrees	
Stand-off Fin Width	0.5000	inches	
Borehole Corr. Rm Source	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start	0.0020	mhos/metre	
Squasher Offset	N/A	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
Source for Rt	0.00	
Source for Rxo	0.00	
High Resolution Temperature Calibration MAI-A.A 5		
	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00
High Resolution Temperature Constants MAI-A.A 5		
Pre-filter Length	11	
Caliper Calibration MPD-D.A 481		
Base Calibration		Base Calibration on 15-JUL-2014 21:58
Field Calibration		Field Calibration on 21-AUG-2014 09:54
Reading No	Measured	Calibrator Size (in)
1	17157	3.99
2	27203	5.98
3	37251	7.97
4	47048	9.86
5	58065	11.92
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.98	7.97
Photo Density Calibration MPD-D.A 481		
Base Calibration		Base Calibration on 15-JUL-2014 22:16
Field Check		Field Check on 21-AUG-2014 09:59
Density Calibration		
Base Calibration	Measured	Calibrated (sdu)
	Near	Far
Background	1220	1433
Reference 1	55282	26261
Reference 2	22309	2604
Field Check at Base		
	1220.2	1433.1
Field Check		
	1217.1	1436.1
PE Calibration		
Base Calibration	Measured	Calibrated
	WS	WH
Background	231	1089
Reference 1	24198	55085
Reference 2	6814	22169
Field Check at Base		
	231.4	1089.2
Field Check		
	232.7	1088.4
Density Constants MPD-D.A 481		
Density Source Id		P50557B
Nylon Calibrator Number		DNCE695
Aluminium Calibrator Number		DACD698
Density Shoe Profile		8 inch
Caliper Source for Processing		Density Caliper
PE Correction to Density		Not Applied
Mud Density		1.14
Mud Density Z/A Multiplier		1.11
Mud Filtrate Density		1.00
Dry Hole Mud Filtrate Density		1.00

Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	
Matrix Density (gm/cc)	Depth (ft)	
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	

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Logs\McCoy MTPRC 'A' #3-27\McCoy MTPRC 'A' #3-27_001.dta

CBH-C, Cablehead, 11 pin

CBH-C 265 LG: 2.40 ft WT: 24.3 lb OD: 2.240 in

Compact Comms Gamma

MCG-C 123 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity

MMR-A 29 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron

MDN-B.J 387 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-D.A 481 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

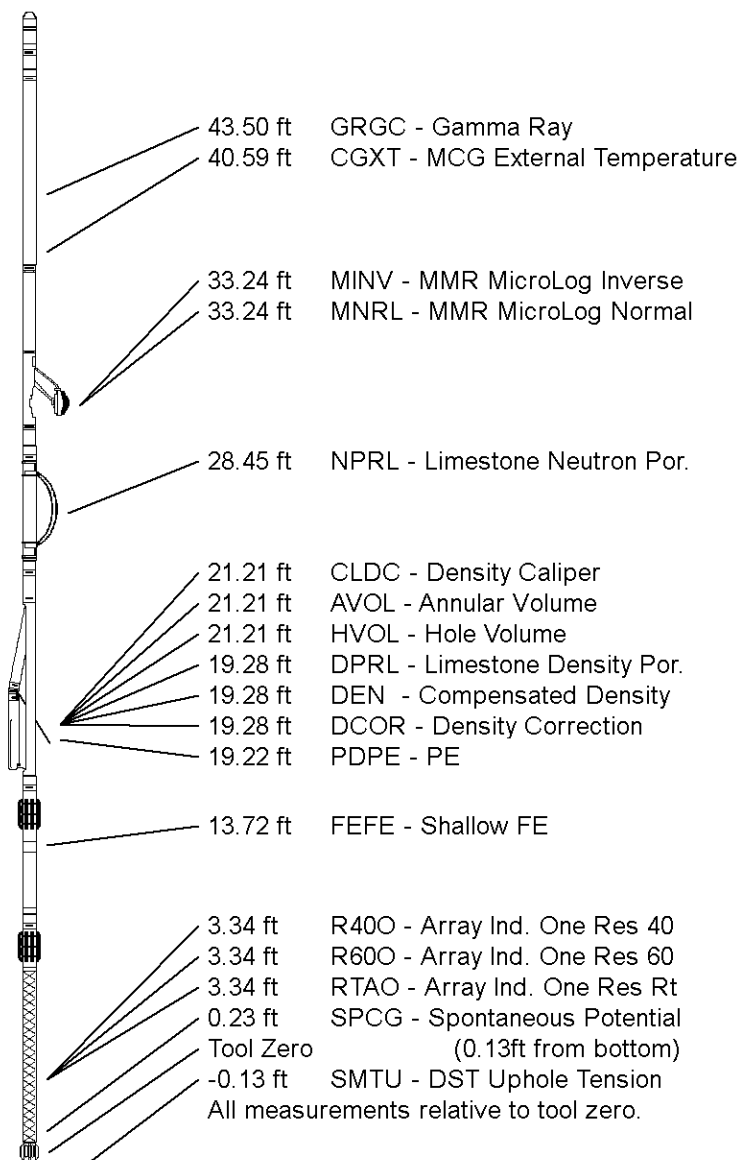
Compact Focussed Electric

MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction

MAI-A.A 5 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 51.18 ft Weight: 407.9 lb



COMPANY	McCOY PETROLEUM CORPORATION
WELL	MTPRC 'A' #3-27
FIELD	ALFORD
PROVINCE/COUNTY	KIOWA
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing 2251.00 feet

First Reading 5191.00 feet

Elevation Drill Floor			2249.00	feet	Depth Driller			5225.00	feet
Elevation Ground Level			2238.00	feet	Depth Logger			5224.00	feet



Weatherford®

MICRORESISTIVITY LOG