MICRORESISTIVITY LOG

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	SCHOWALTER #1-7
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	480' FNL & 2220' FWL

SEC 7	TWP 16S	RGE 32W	Other Services
Latitude			MAI/MFE MPD/MDN
Longitude			MSS
API Number	15-171-21205		

Permanent Datum GL, Elevation 3009 feet
Log Measured From KB, 11.00 feet above Permanent Datum
Drilling Measured From KB

Elevations:	feet
KB	3020.00
DF	3018.00
GL	3009.00

Date	09-JUL-2017			
Run Number	ONE			
Service Order	4558-186803695			
Depth Driller	4750.00	feet		
Depth Logger	4757.00	feet		
First Reading	4711.00	feet		
Last Reading	3800.00	feet		
Casing Driller	265.00	feet		
Casing Logger	267.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg	54.00 CP		
PH / Fluid Loss	10.50	8.80 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.95 @ 75.0	ohm-m		
Rmf @ Measured Temp	0.76 @ 75.0	ohm-m		
Rmc @ Measured Temp	1.14 @ 75.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.59 @120.0	ohm-m		
Time Since Circulation	5 HOURS			
Max Recorded Temp	120.00	deg F		
Equipment / Base	14249	LIB		
Recorded By	ADAM SILL			
Witnessed By	TIM PRIEST			

Last Edited: 09-JUL-2017 16:19

BOREHOLE RECORD

Bit Size inches	Depth From feet	Depth To feet
7.875	253.00	4750.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	253.00	24.00

REMARKS

- SOFTWARE ISSUE: 17.01.7206.

- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
    0.5 INCH STANDOFF USED ON MFE.
    TWO 0.5 INCH STANDOFFS USED ON MSS.
    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: 1703 CU.FT.

- ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 3800 FEET: 219 CU.FT.

- RIG: DUKE #5.

- ENGINEER: A. SILL.

- OPERATOR: B. TOVAR.

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 09-JUL-2017 22:00

Filename: C:\Minimus 17.01.7206\Logs\Shakespeare Schowal...\Shakespeare Schowalter #1-7_002.dta — Recorded on 09-JUL-2017 18:52

System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Bit Size
inches
6 11 16

MML Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

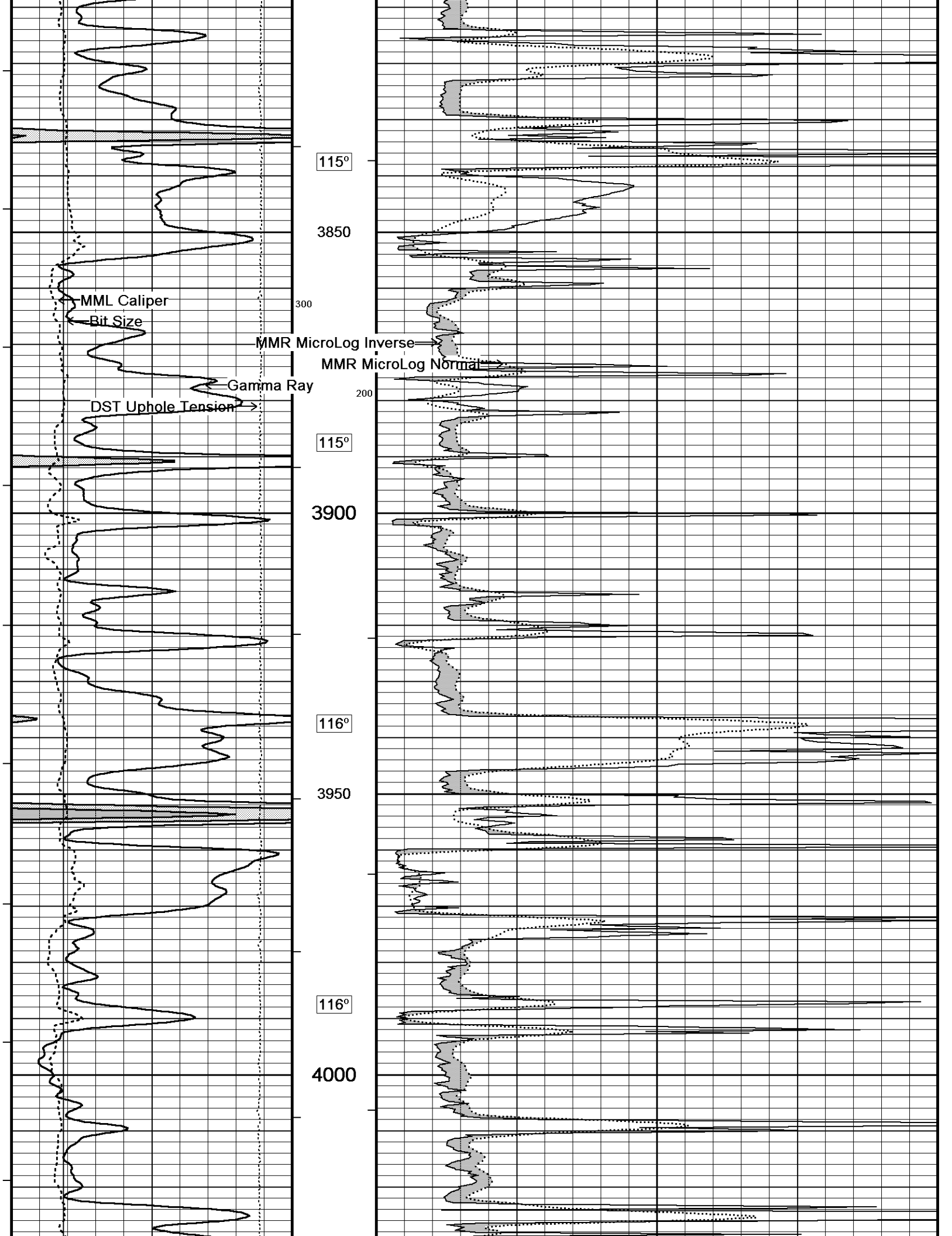
Annular Integral every 10 cu ft

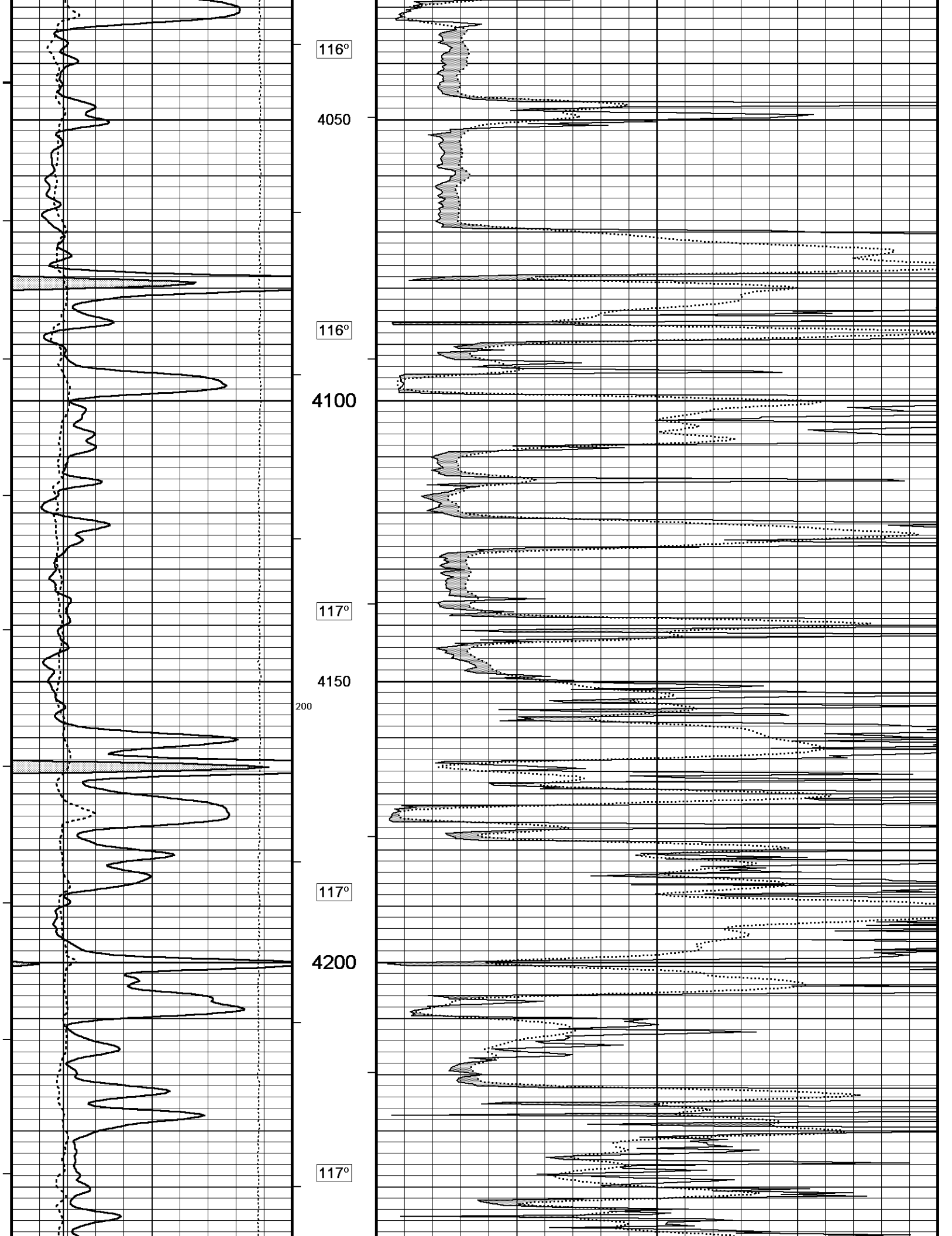
Replay Scale 1:240

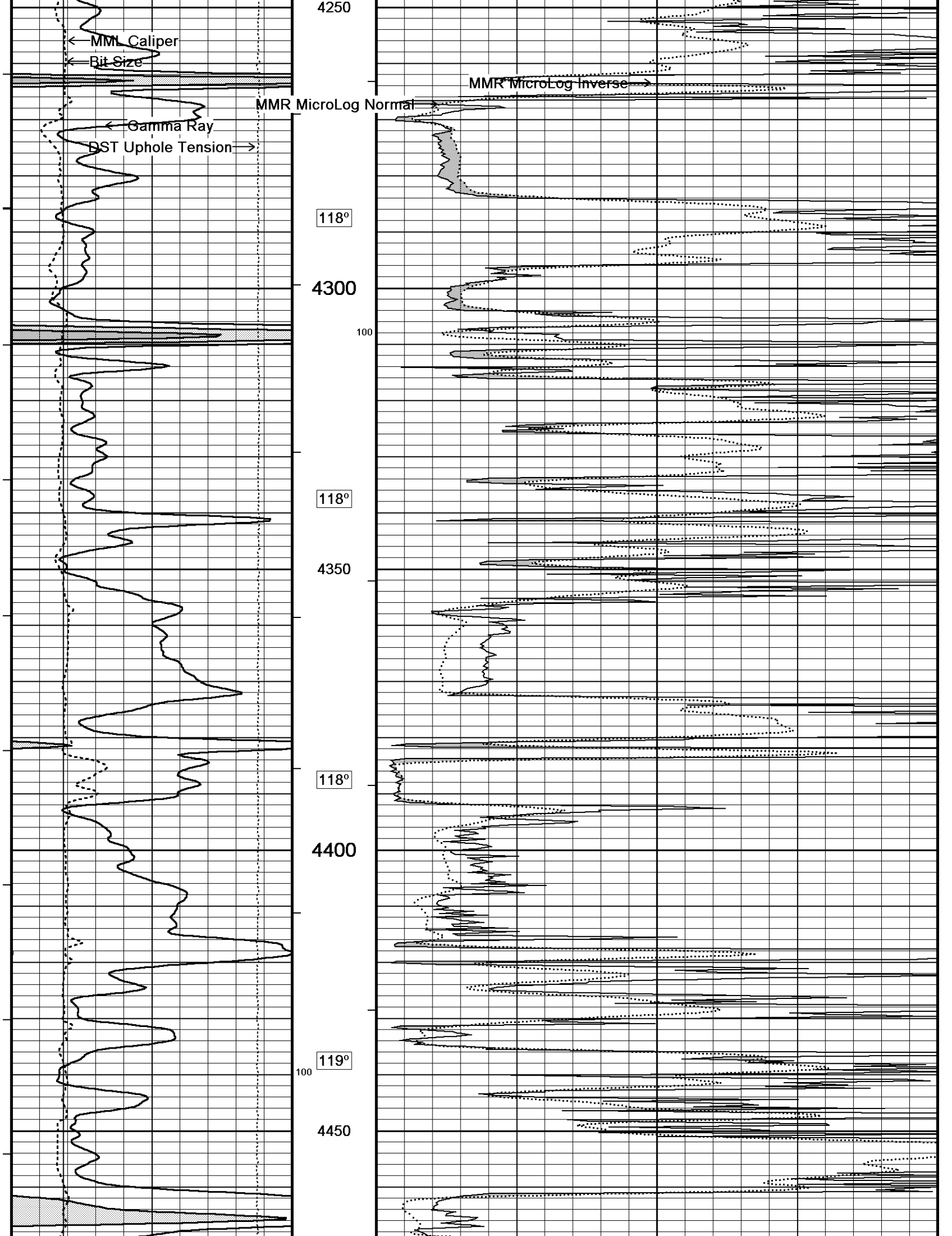
3800

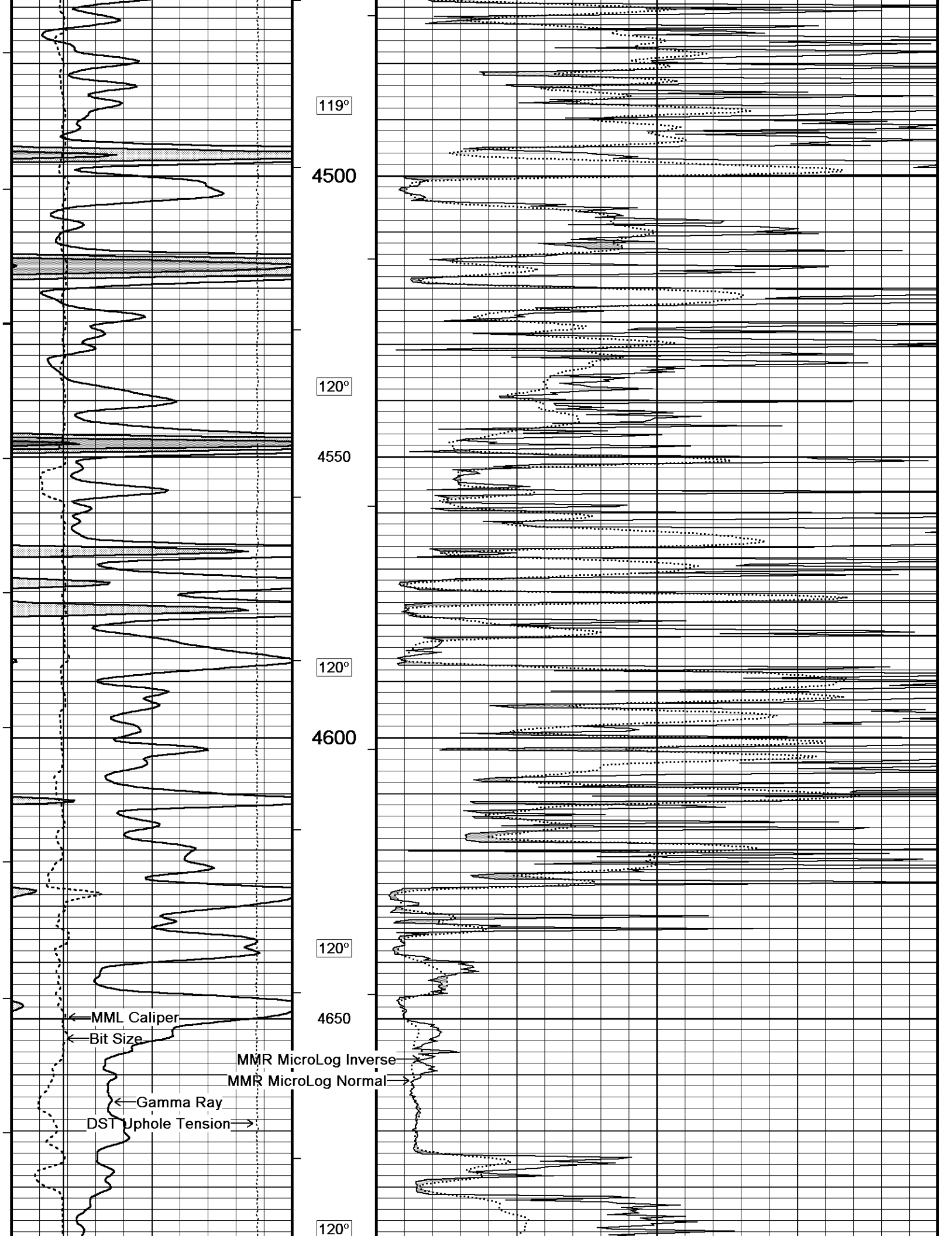
MMR MicroLog Normal
ohm metres
0 10 20 30 40

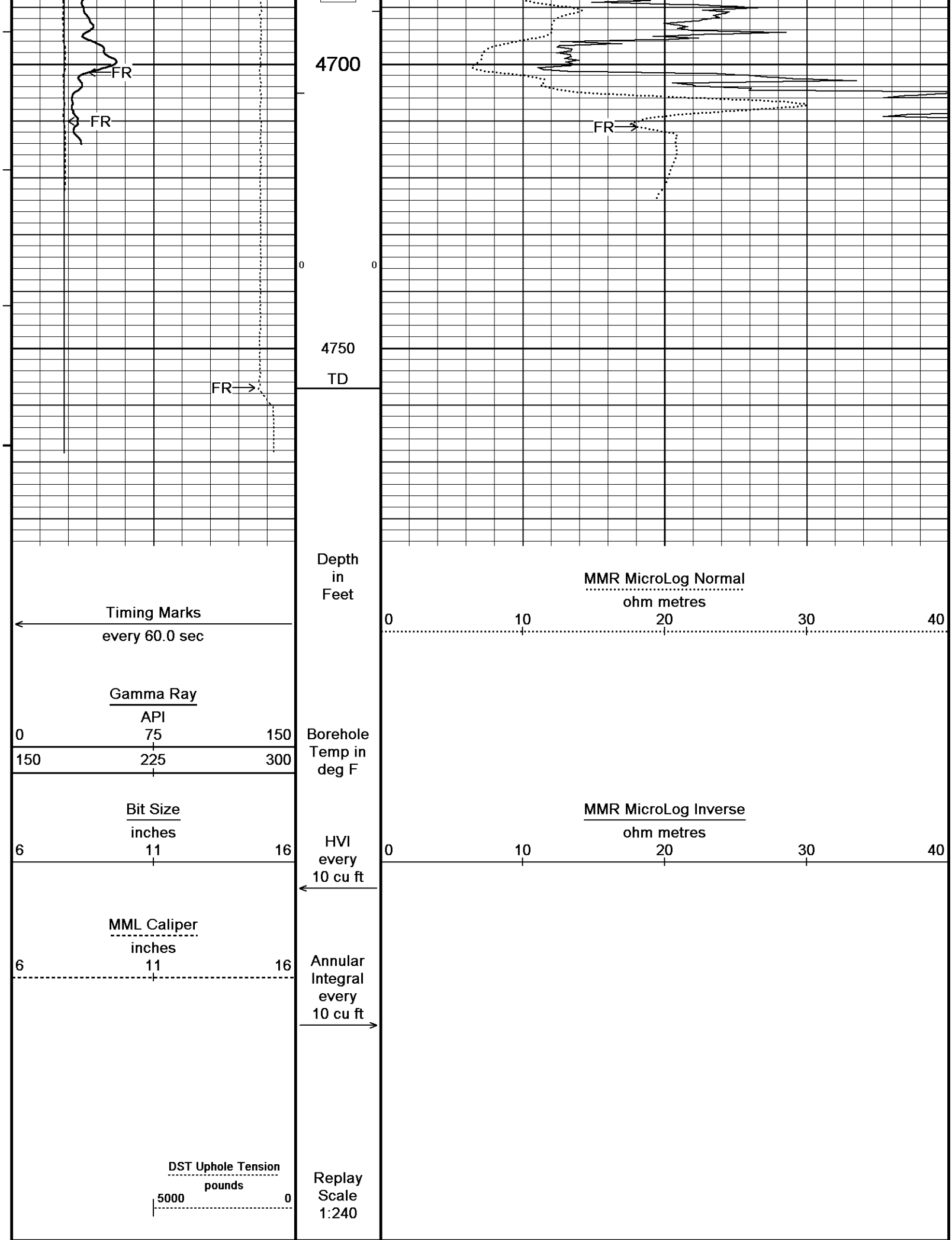
MMR MicroLog Inverse
ohm metres
0 10 20 30 40


115°
3850
MML Caliper
Bit Size
300
MMR MicroLog Inverse
MMR MicroLog Normal
Gamma Ray
DST Uphole Tension
200
115°
3900
116°
3950
116°
4000


116°
4050
116°
4100
117°
4150
200
117°
4200
117°


MML Caliper
Bit Size
Gamma Ray
DST Uphole Tension
MMR MicroLog Normal
MMR MicroLog Inverse
4250
118°
4300
100
118°
4350
118°
4400
119°
100
4450


119°
4500
120°
4550
120°
4600
120°
4650
120°
MML Caliper
Bit Size
MMR MicroLog Inverse
MMR MicroLog Normal
Gamma Ray
DST Uphole Tension



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 09 JUL 2017 22:00

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 09-JUL-2017 22:00
Filename: C:\Minimus 17.01.7206\Logs\Shakespeare Schowal...\Shakespeare Schowalter #1-7_002.dta — Recorded on 09-JUL-2017 18:52
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 09-JUL-2017 22:00
Filename: C:\Minimus 17.01.7206\Logs\Shakespeare Schowal...\Shakespeare Schowalter #1-7_001.dta — Recorded on 09-JUL-2017 18:18
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Bit Size
inches
6 11 16

MML Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

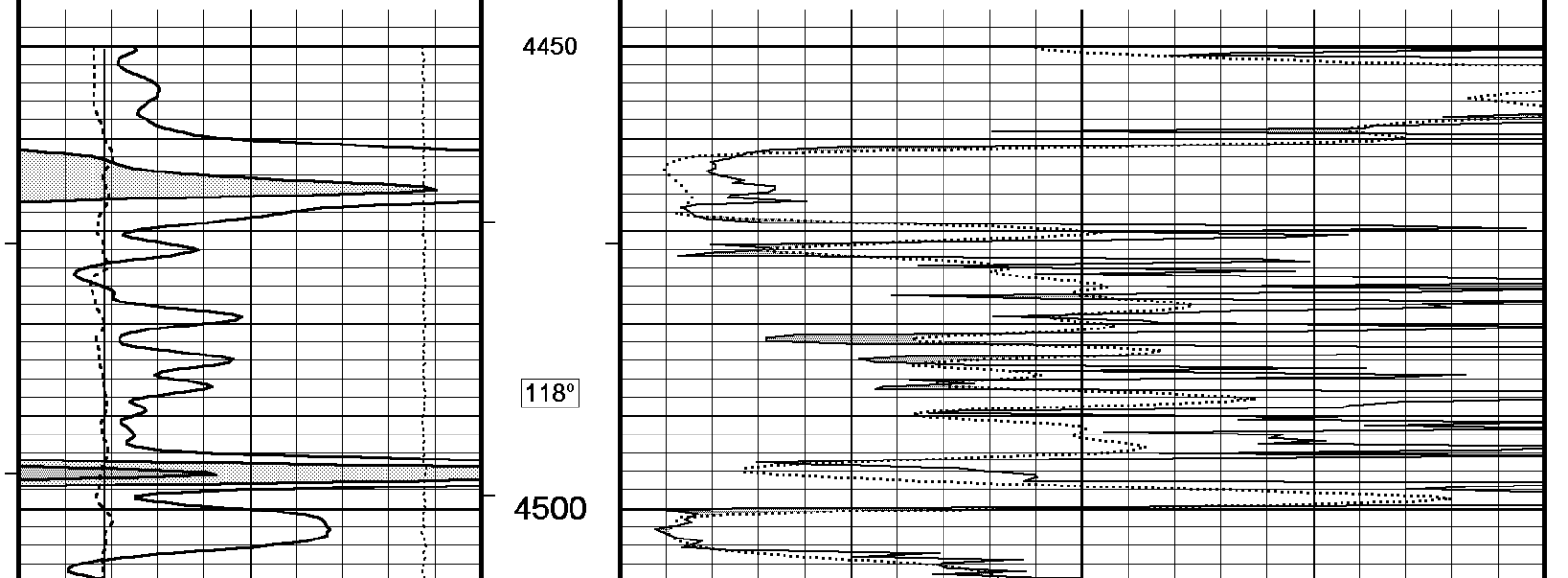
HVI every 10 cu ft

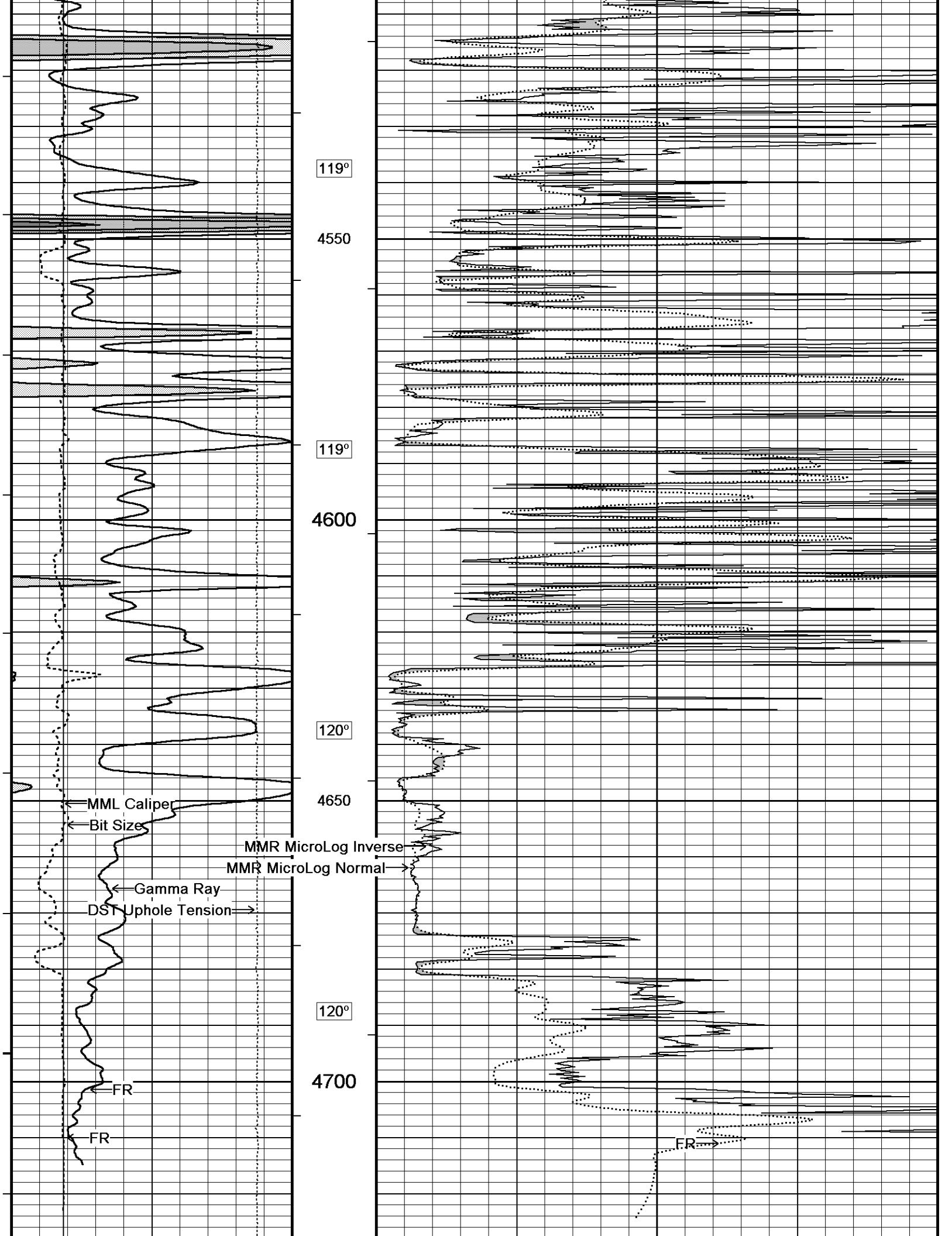
Annular Integral every 10 cu ft

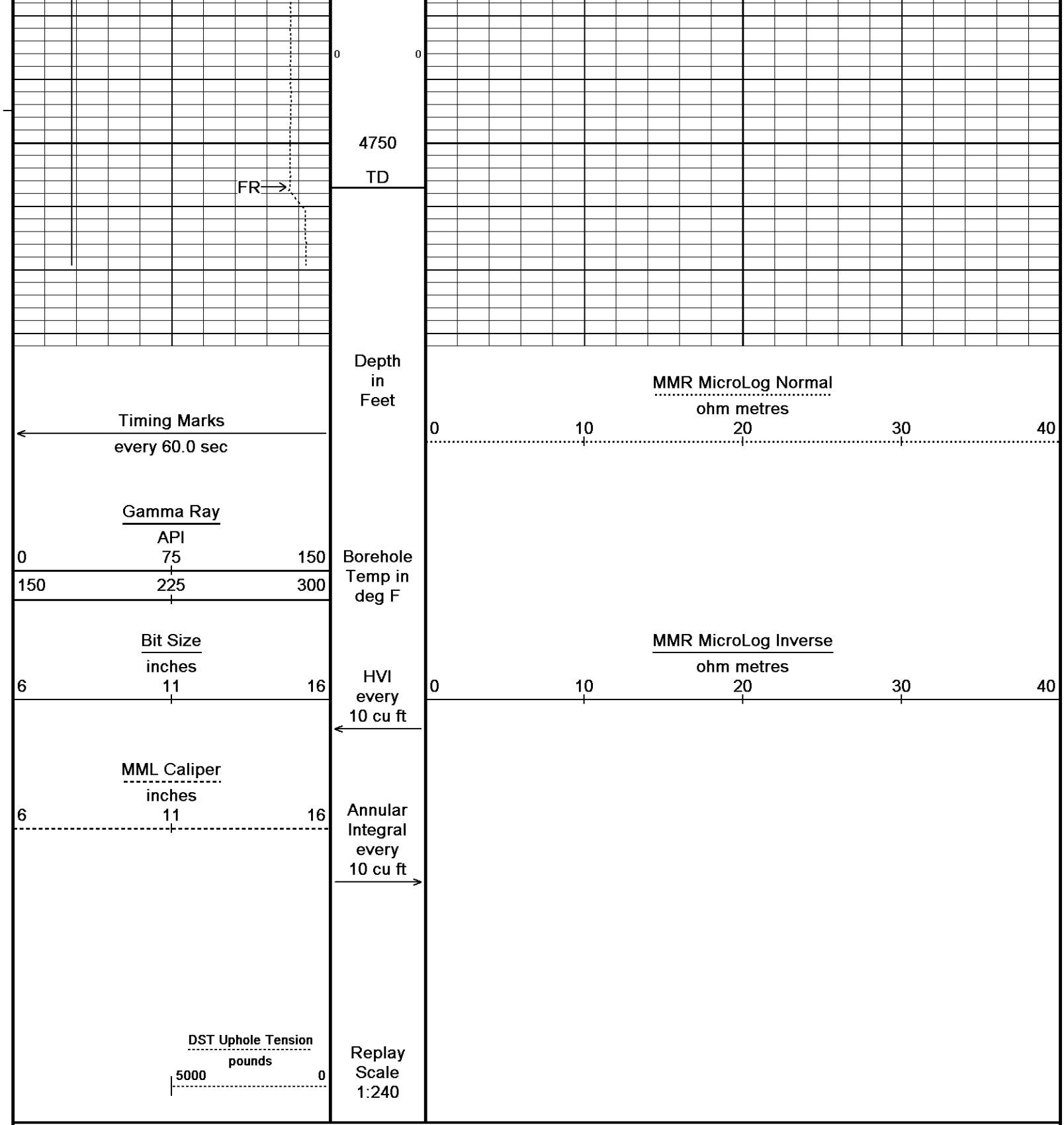
Replay Scale 1:240

MMR MicroLog Normal
ohm metres
0 10 20 30 40

MMR MicroLog Inverse
ohm metres
0 10 20 30 40




119°
4550
119°
4600
120°
4650
MML Caliper
Bit Size
MMR MicroLog Inverse
MMR MicroLog Normal
Gamma Ray
DST Uphole Tension
120°
4700
FR
FR
FR



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 09-JUL-2017 22:00

Filename: C:\Minimus 17.01.7206\Logs\Shakespeare Schowal...\Shakespeare Schowalter #1-7_001.dta — Recorded on 09-JUL-2017 18:18

System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 17.01.7206\Logs\Shakespeare Schowalter #1-7\Shakespeare Schowalter #1-7_001.dta

General Constants All 000 — Last Edited on 09-JUL-2017,17:48

General Parameters

Mud Resistivity	0.950	ohm metres

Mud Resistivity	0.950	ohm-metres
Mud Resistivity Temperature	75.000	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	Density Caliper	

Rwa Parameters

Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Four Res Rt	
RWA Constant A	0.620	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-C 84

Field Calibration on 09-JUL-2017 11:34

	Measured	Calibrated (API)
Background	82	57
Calibrator (Gross)	732	513
Calibrator (Net)	650	456

Gamma Calibration Tolerances MCG-C 84

Ratio 1.426 (1.40 | 1.475 | 1.55) Counts/API

Gamma Constants MCG-C 84

Last Edited on 09-JUL-2017,16:21

Gamma Calibrator Number	MCGGRCC141	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 84

Field Calibration on 07-JUL-2017,19:38

	Measured	Calibrated (mV)
Reference 1	104.4	100.1
Reference 2	-95.8	-100.1

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 24-JUN-2017,20:21

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

High Resolution Temperature Constants MCG-C 84

Last Edited on 09-SEP-2014,02:23

Pre-filter Length	11

Micro Normal and Micro Inverse Calibration MML-A 7

Base Calibration on 22-JUN-2017 09:29
Field Check on 09-JUL-2017 17:32

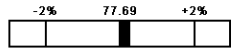
Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	10.0	49.7	5.1	25.6
Micro Inverse	10.0	50.1	3.4	16.9

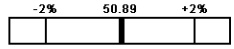
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	77.9	77.9
Micro Inverse	51.0	51.0

Micro Normal & Micro Inverse Calibration Tolerance MML-A 7

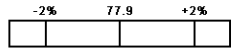
Micro Normal Res. 1 10.0 (-5% | 10.0 | +5%) ohm
Micro Normal Res. 2 49.7 (-5% | 50.0 | +5%) ohm
Micro Inverse Res. 1 10.0 (-5% | 10.0 | +5%) ohm
Micro Inverse Res. 2 50.1 (-5% | 50.0 | +5%) ohm



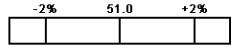
Micro Normal Base Check 77.9 ohm-m



Micro Inverse Base Check 51.0 ohm-m



Micro Normal Field Check 77.9 ohm-m



Micro Inverse Field Check 51.0 ohm-m

Micro Normal and Micro Inverse Constants MML-A 7

Last Edited on 09-JUL-2017,17:31

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	N/A	inches

Caliper Calibration MML-A 7

Base Calibration on 22-JUN-2017 09:39
Field Calibration on 09-JUL-2017 17:31

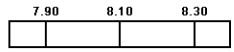
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13752	5.98
2	16863	7.97
3	19899	9.86
4	23808	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.10	8.10

Caliper Calibration Tolerances MML-A 7



Short Arm Field Cal. 8.10 in

Neutron Calibration MDN-A.B 114

Base Calibration on 22-JUN-2017 14:55
Field Check on 09-JUL-2017 11:38

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3156	98	3714	110
Ratio	32.298		33.764	

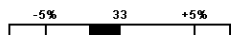
Field Calibrator at Base

	Calibrated (cps)	
	2073	3042
Ratio	0.682	

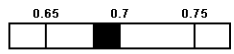
Field Check

	Calibrated (cps)	
	2053	3040
Ratio	0.675	

Neutron Calibration Tolerances MDN-A.B 114



Ratio 32.298



Base Check 0.682

Field Check 0.675

Neutron Constants MDN-A.B 114

Last Edited on 09-JUL-2017,16:21

Neutron Source Id	P0204NN	
Neutron Jig Number	NJ5736	
Air Hole Processing	Modified Ratio	
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 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 135

Base Calibration on 22-JUN-2017 11:49
Field Check on 09-JUL-2017 17:10

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.2	126.8
Base Check		281.3
Field Check		280.8

FE Calibration Tolerances MFE-A.A 135

Reference 2	963.2	-3% 980.0 +3%	ohm
Base Check	281.3	-2% 277.0 +2%	ohm-m
Field Check	280.8	-2% 281.3 +2%	ohm-m

FE Constants MFE-A.A 135

Last Edited on 09-JUL-2017,17:09

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Borehole Correction Constants		
Sonde Position	0.5	inches
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	

Sonic Constants MSS-A.A 55

Last Edited on 09-JUL-2017,16:20

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
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
Hunt-Raymer Constant	83.13	micro-sec/ft
Sonde Mode	Compensated	
Hole Type	Open Hole	

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A

Peak Amplitude Source N/A

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing N/A

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	N/A	N/A	

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
Waveform Discriminator Filter	N/A	
Semblance Window Width	N/A	micro-sec
Sonic Despiker	N/A	N/A

Induction Calibration MAI-A.A 111

Base Calibration on 22-JUN-2017 10:55
Field Check on 09-JUL-2017 17:29

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.6	473.6	9.3	966.2
2	6.4	385.9	7.6	821.4
3	3.2	264.0	5.2	566.0
4	2.1	135.5	2.6	279.2

Array Temperature 23.0 Deg F

Test Loop Calibration Verified

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1	13.7	3869.0	16.8	3871.0
2	30.1	3523.0	32.5	3524.3
3	29.2	3017.0	31.3	3017.8
4	19.2	2055.4	20.5	2056.0
Deep	17.8	1959.3	19.2	1959.9
Medium	43.1	3970.5	45.7	3971.4
Shallow	44.9	5225.2	48.4	5227.1
Array Temperature	95.2		104.7	Deg F

Induction Calibration Tolerances MAI-A.A 111

Low Conductivity 1	17.6	13.0 17.0 21.0	mmho/m	High Conductivity 1	473.6	430.0 475.0 520.0 mmho/m
Low Conductivity 2	6.4	4.5 6.0 7.5	mmho/m	High Conductivity 2	385.9	345.0 385.0 425.0 mmho/m
Low Conductivity 3	3.2	1.0 3.5 6.0	mmho/m	High Conductivity 3	264.0	240.0 260.0 280.0 mmho/m
Low Conductivity 4	2.1	0.0 2.0 4.0	mmho/m	High Conductivity 4	135.5	120.0 135.0 150.0 mmho/m
Background Vx 1	0.0	-110.0 -32.5 45.0	mmho/m	Phase Check Loop 1	0.0	-2.0 0.0 2.0 %
Background Vx 2	0.0	-35.0 20.0 75.0	mmho/m	Phase Check Loop 2	0.0	-2.0 0.0 2.0 %
Background Vx 3	0.0	-60.0 2.5 65.0	mmho/m	Phase Check Loop 3	0.0	-2.0 0.0 2.0 %
Background Vx 4	0.0	-50.0 -17.5 15.0	mmho/m	Phase Check Loop 4	0.0	-2.0 0.0 2.0 %

Induction Constants MAI-A.A 111

Last Edited on 09-JUL-2017,17:27

Induction Model RtAP-WBM

Borehole Correction Constants

Tool Centred	No
Hole Size Source	Density Caliper

Hole Size Constant Value	N/A	inches
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
Rm Source	Global Value: Temperature Corrected	
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

Symmetrised Receiver Gains

Receiver 1	1.00
Receiver 2	1.00
Receiver 3	1.00
Receiver 4	1.00

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 111

Field Calibration on 22-JUN-2017,10:28

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length	11

Photo Density Calibration MPD-C.A 216

Base Calibration on 22-JUN-2017 10:47
Field Check on 09-JUL-2017 17:14

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1034	1215		
Reference 1	51875	24845	59556	30836
Reference 2	20527	2316	24941	2541

Field Check at Base

1033.8	1215.4

Field Check

1030.0	1222.2

PE Calibration

Base Calibration

	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	189	925		

Reference 1	21486	51702	0.419	0.371
Reference 2	5928	20410	0.295	0.272

Field Check at Base

189.2	924.8

Field Check

186.2	922.6

Photo Density Calibration Tolerances MPD-C.A 216

Near Density Ratio	2.61	-5% 2.52 +5%	Far Density Ratio	21.48	-5% 21.00 +5%
PE Calibration	0.116	0.089 0.110 0.131			
Near Den. Field Check	1030.0	-3% 1033.8 +3%	Far Den. Field Check	1222.2	-3% 1215.4 +3%
PE WS Field Check	186.2	-6% 189.2 +6%	PE WH Field Check	922.6	-6% 924.8 +6%

Density Constants MPD-C.A 216

Last Edited on 09-JUL-2017,17:15

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	1.12	gm/cc
Mud Density Type		
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
Density Z/A Correction	Hybrid	
Precision Enhanced Density Processing	Not Applied	

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

Caliper Calibration MPD-C.A 216

Base Calibration on 22-JUN-2017 11:00
Field Calibration on 09-JUL-2017 17:26

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18416	3.99
2	28544	5.98
3	38624	7.97
4	48448	9.86
5	59555	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.06	8.10

Caliper Calibration Tolerances MPD-C.A 216

Short Arm Field Cal.	8.06	7.90 8.10 8.30	in

DOWNHOLE EQUIPMENT

C:\Minimus 17.01.7206\Logs\Shakespeare Schowalter #1-7\Shakespeare Schowalter #1-7_001.dta

Mono-Cablehead
MCH-AA 0 LG: 1.02 ft WT: 2.2 lb OD: 1.417 in

11C-SLB 10-way Compact Tool Adaptor
MTA-B 1 LG: 0.78 ft WT: 19.8 lb OD: 3.540 in

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.240 in

Compact Micro-log
MML-A 7 LG: 7.97 ft WT: 81.6 lb OD: 2.244 in

Compact Neutron
MDN-A.B 114 LG: 5.04 ft WT: 50.7 lb OD: 2.240 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-A.A 135 LG: 6.05 ft WT: 48.5 lb OD: 2.240 in

Compact Sonic
MSS-A.A 55 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 62.47 ft Weight: 478.4 lb

55.39 ft	GRGC - MCG Gamma Ray
52.48 ft	CGXT - MCG External Temperature
46.76 ft	MLTC - MML Caliper
45.76 ft	MINV - Micro-inverse
45.76 ft	MNRL - Micro-normal
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
33.73 ft	CLDC - Density Caliper
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.80 ft	DCOR - Density Correction
31.74 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
16.96 ft	TR11 - 4' Transit Time
16.46 ft	TR21 - 3' Transit Time
15.95 ft	TR12 - 6' Transit Time
15.46 ft	TR22 - 5' Transit Time
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
2.58 ft	R40O - Array Ind. One Res 40
2.58 ft	R60O - Array Ind. One Res 60
2.58 ft	CTAO - Array Ind. One Cond Ct
2.58 ft	RTAO - Array Ind. One Res Rt
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	SCHOWALTER #1-7
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3020	feet	First Reading	4711.00	feet
Elevation Drill Floor	3018	feet	Depth Driller	4750.00	feet
Elevation Ground Level	3009	feet	Depth Logger	4757.00	feet

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MICRORESISTIVITY LOG