



Weatherford[®]

MICRORESISTIVITY LOG

COMPANY

O'BRIEN RESOURCES, LLC.

WELL

SWART 5 #1

FIELD

WILDCAT

PROVINCE/COUNTY GOVE

COUNTRY/STATE UNITED STATES / KANSAS

LOCATION 2292' FNL & 87' FEL

SEC

TWP

14S

3W

Other Services

MPD/MDN

MAI/MFE

API Number 15-063-22118

Permit Number

Permanent Datum G.L., Elevation 2704 feet

Log Measured From KB

Drilling Measured From K.B. @ 10 FEET

Date 21-AUG-2013

Run Number ONE

Service Order 3541071

Depth Driller 4550.00 feet

Depth Logger 4550.00 feet

First Reading 4516.00 feet

Last Reading 3550.00 feet

Casing Driller 260.00 feet

Casing Logger 260.00 feet

Bit Size 7.880 inches

Hole Fluid Type CHEMICAL

Density / Viscosity 9.15 lb/USg 45.00 CP

PH / Fluid Loss 10.50 8.00 ml/30Min

Sample Source MUDDPIT

Rm @ Measured Temp 1.84 @ 75.0 ohm-m

Rmf @ Measured Temp 1.47 @ 75.0 ohm-m

Rmc @ Measured Temp 2.21 @ 75.0 ohm-m

Source Rmf / Rmc CALC CALC

Rm @ BHT 1.08 @ 128.0 ohm-m

Time Since Circulation 5 HOURS

Max Recorded Temp 128.00 deg F

Equipment / Base 13096 LIB

Recorded By W. STAMBAUGH

Witnessed By SEAN DEENIHAN

JOB# LB13-229

Elevations:
KB 2714.00
DF 2712.00
GL 2704.00

BOREHOLE RECORD

Last Edited: 21-AUG-2013 06:25

Bit Size inches	Depth From feet	Depth To feet
7.880	260.00	4550.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	260.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.05.9583
- TOOLS: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE:
 - MDN: DUAL BOWSPRING ECCENTRALIZER
 - MFE: 1 x 0.5 INCH STANDOFF
 - MAI: 1 x 0.5 INCH STANDOFF
- 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: 2000 CU. FT
- ANNUAL HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 260 FT: 1290 CU. FT

- RIG: MAVERICK DRILLING #106

- CREW:

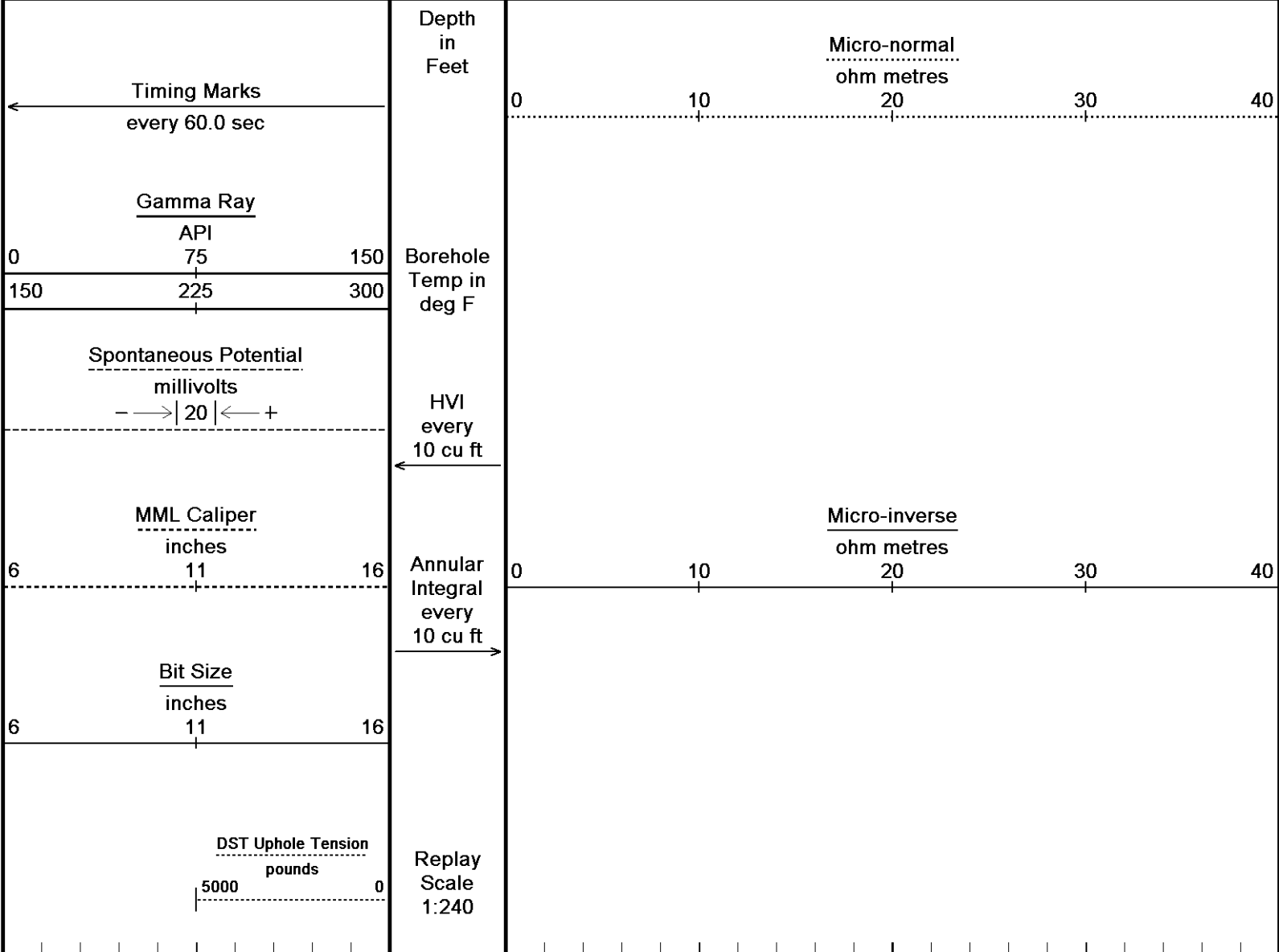
- ENGINEER: W. STAMBAUGH

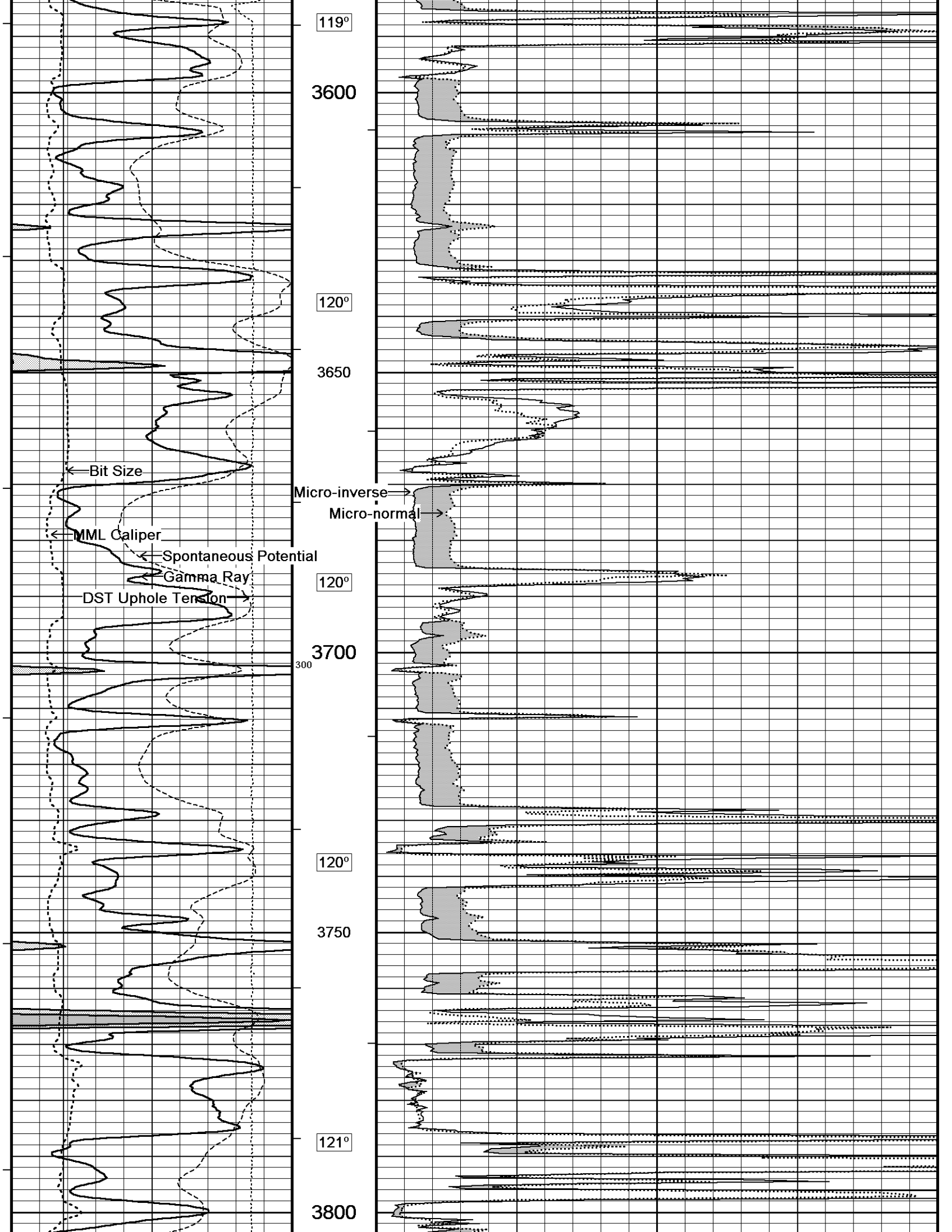
- OPERATOR(S): K. RINEHART

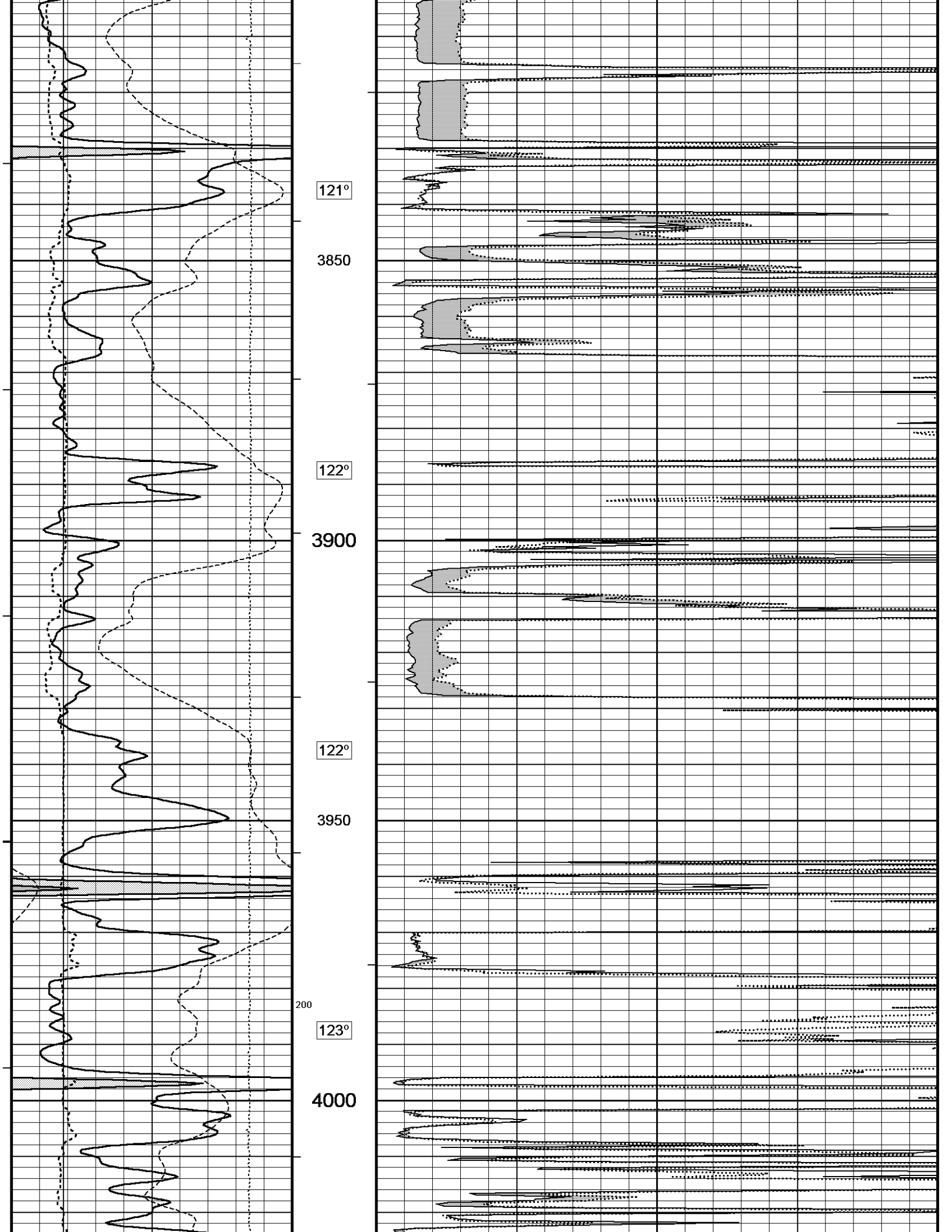
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

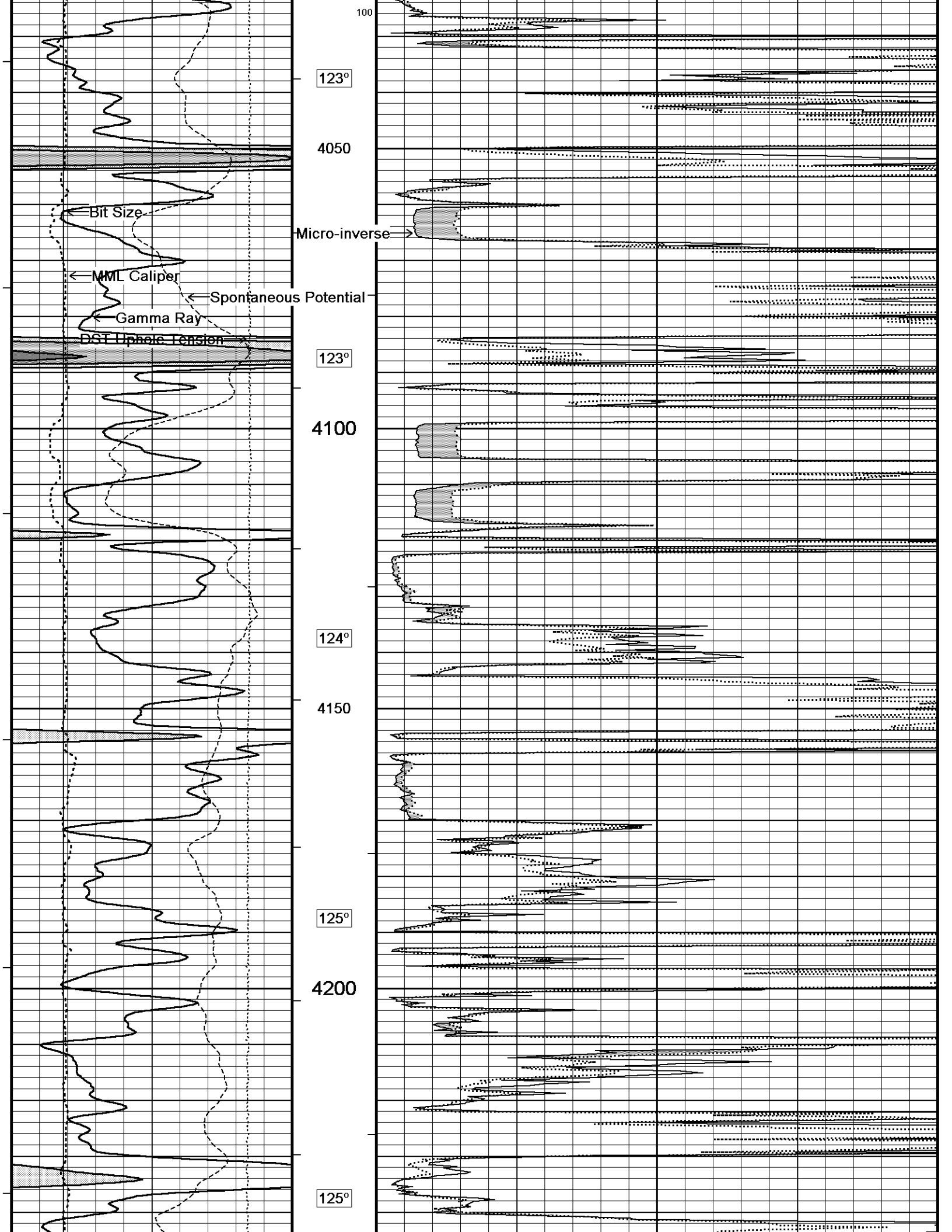
5 INCH MAIN

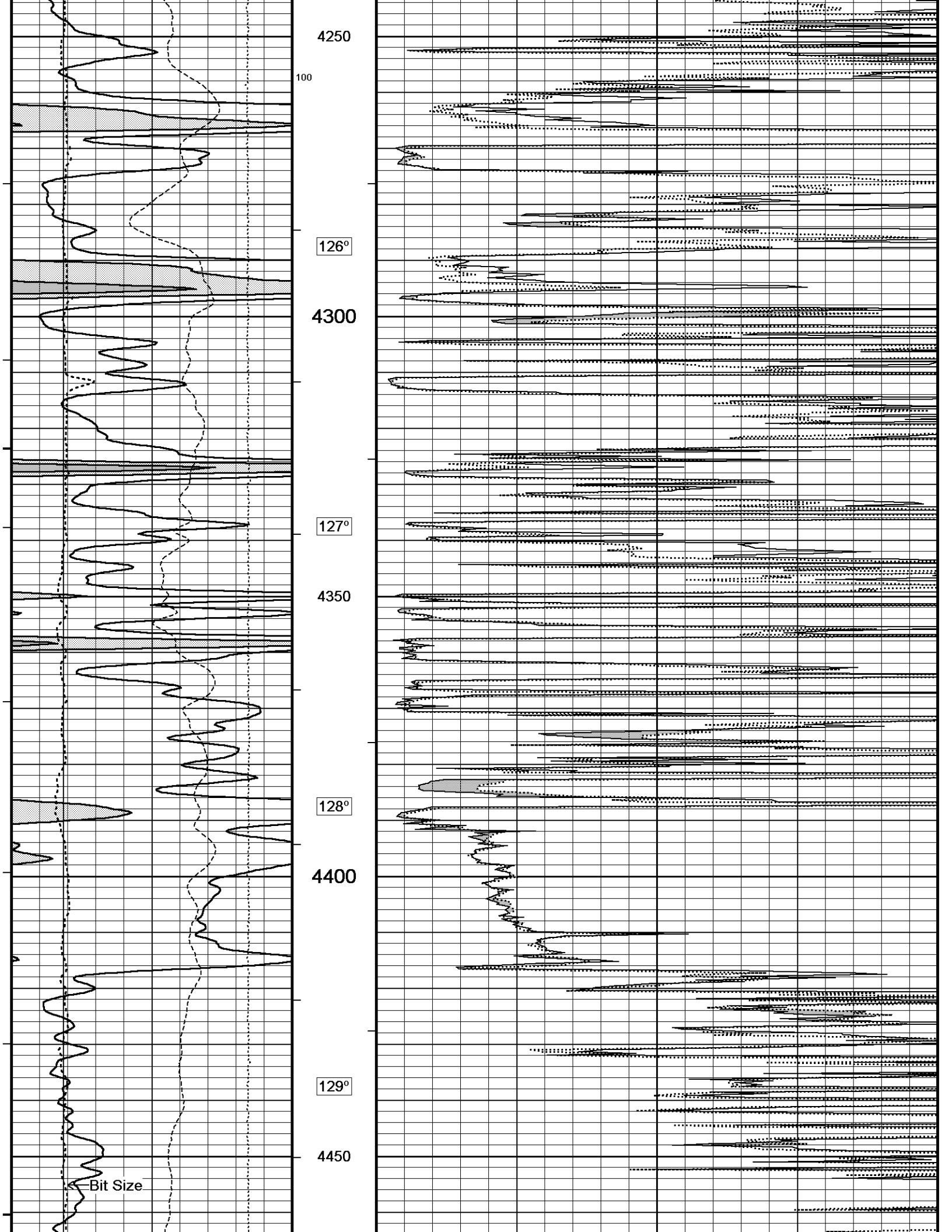
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 21-AUG-2013 11:35
 Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_002.dta Recorded on 21-AUG-2013 08:19
 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583











4250

100

126°

4300

127°

4350

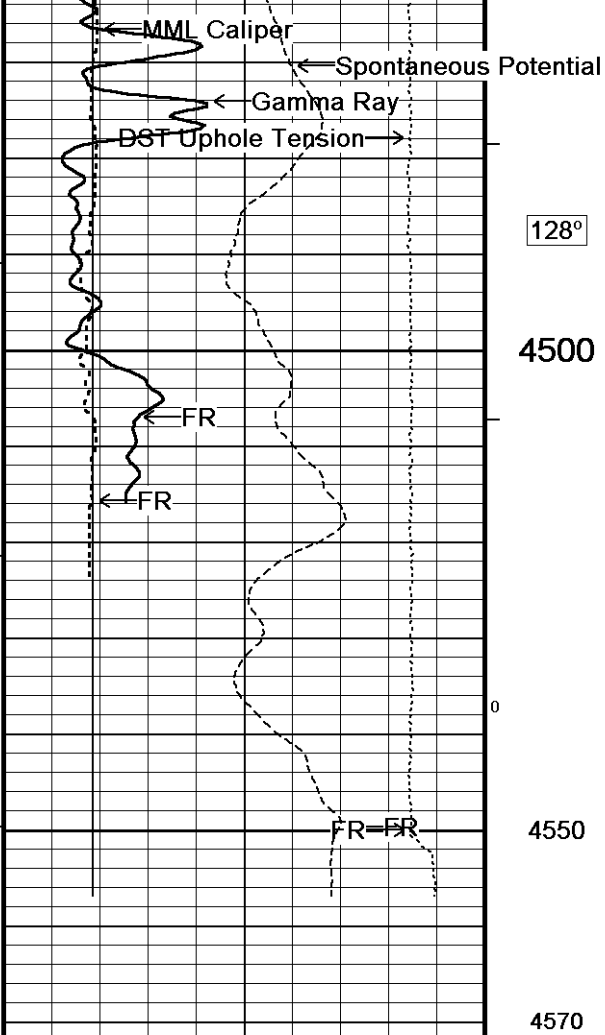
128°

4400

129°

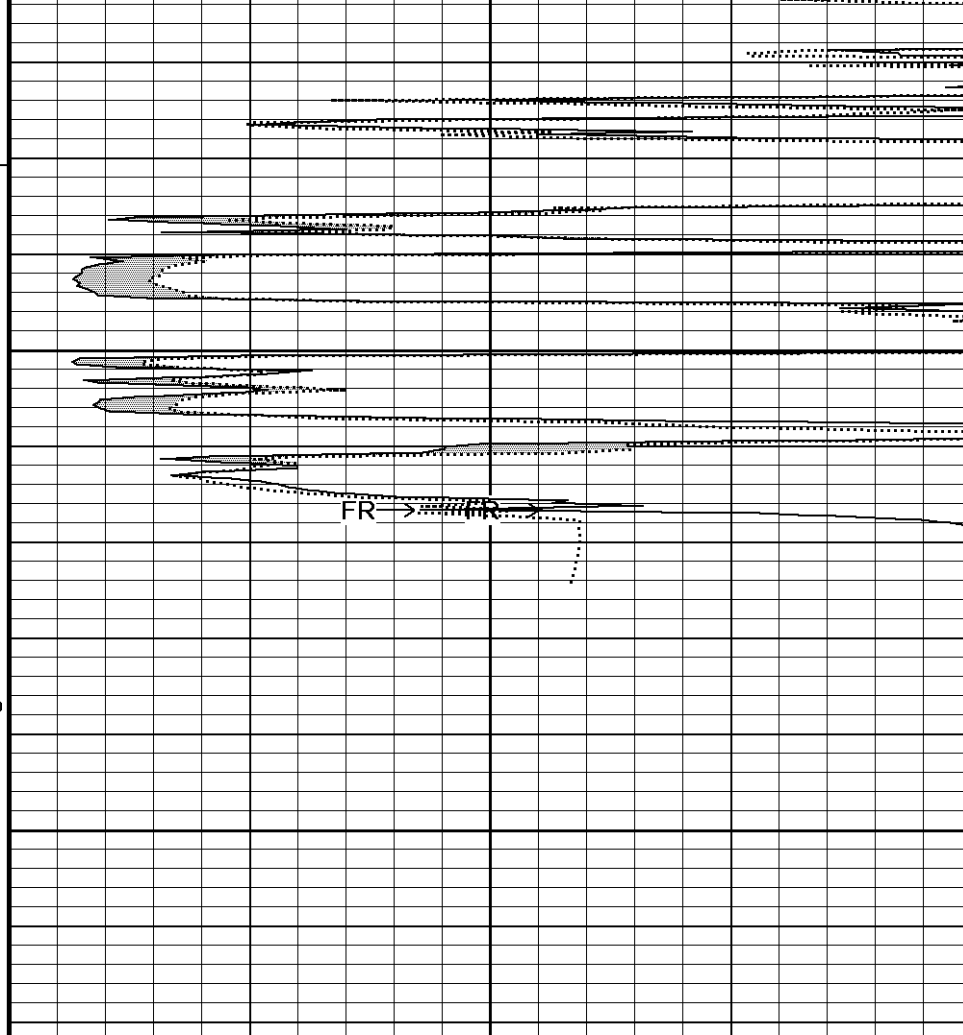
4450

Bit Size



128°
 4500
 0
 4550
 4570

Depth in Feet



0 10 20 30 40
 0 10 20 30 40

Timing Marks every 60.0 sec

Gamma Ray
 API
 0 75 150
 150 225 300

Borehole Temp in deg F

Spontaneous Potential
 millivolts
 - - - > | 20 | < - +

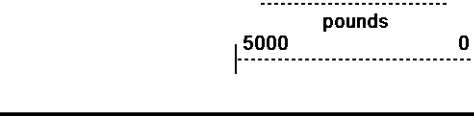
HVI every 10 cu ft

MML Caliper
 inches
 6 11 16

Annular Integral every 10 cu ft

Bit Size
 inches
 6 11 16

DST Uphole Tension



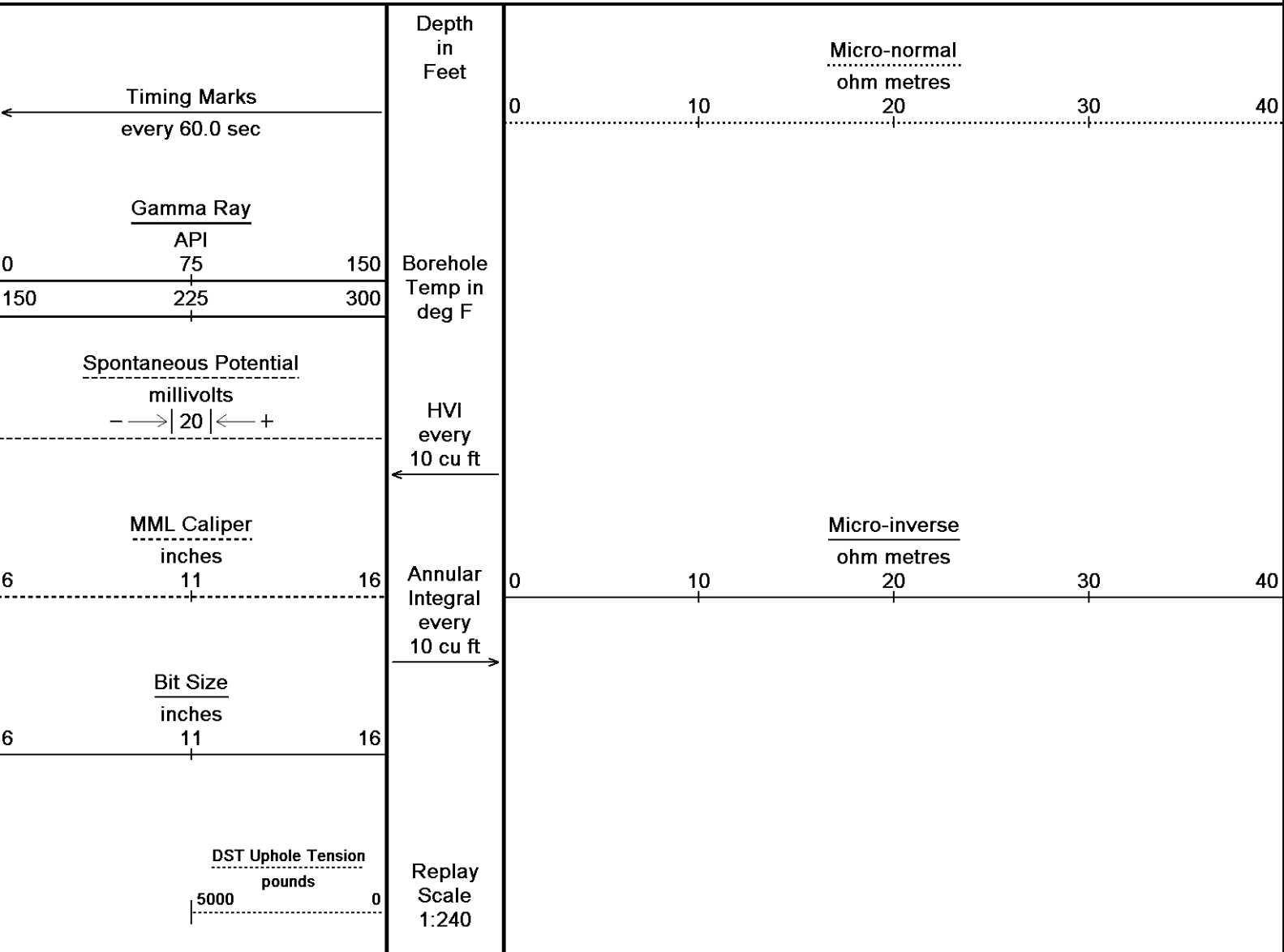
Replay
Scale
1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 21-AUG-2013 11:35
 Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_002.dta
 Recorded on 21-AUG-2013 08:19
 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 21-AUG-2013 11:35
 Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_001.dta
 Recorded on 21-AUG-2013 08:04
 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583



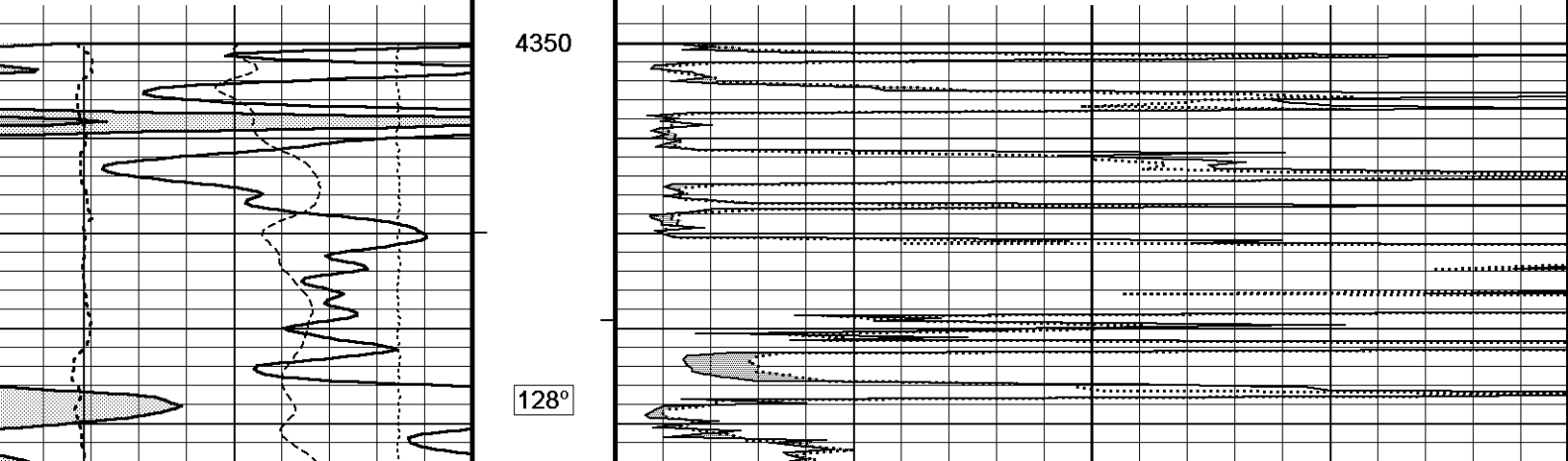
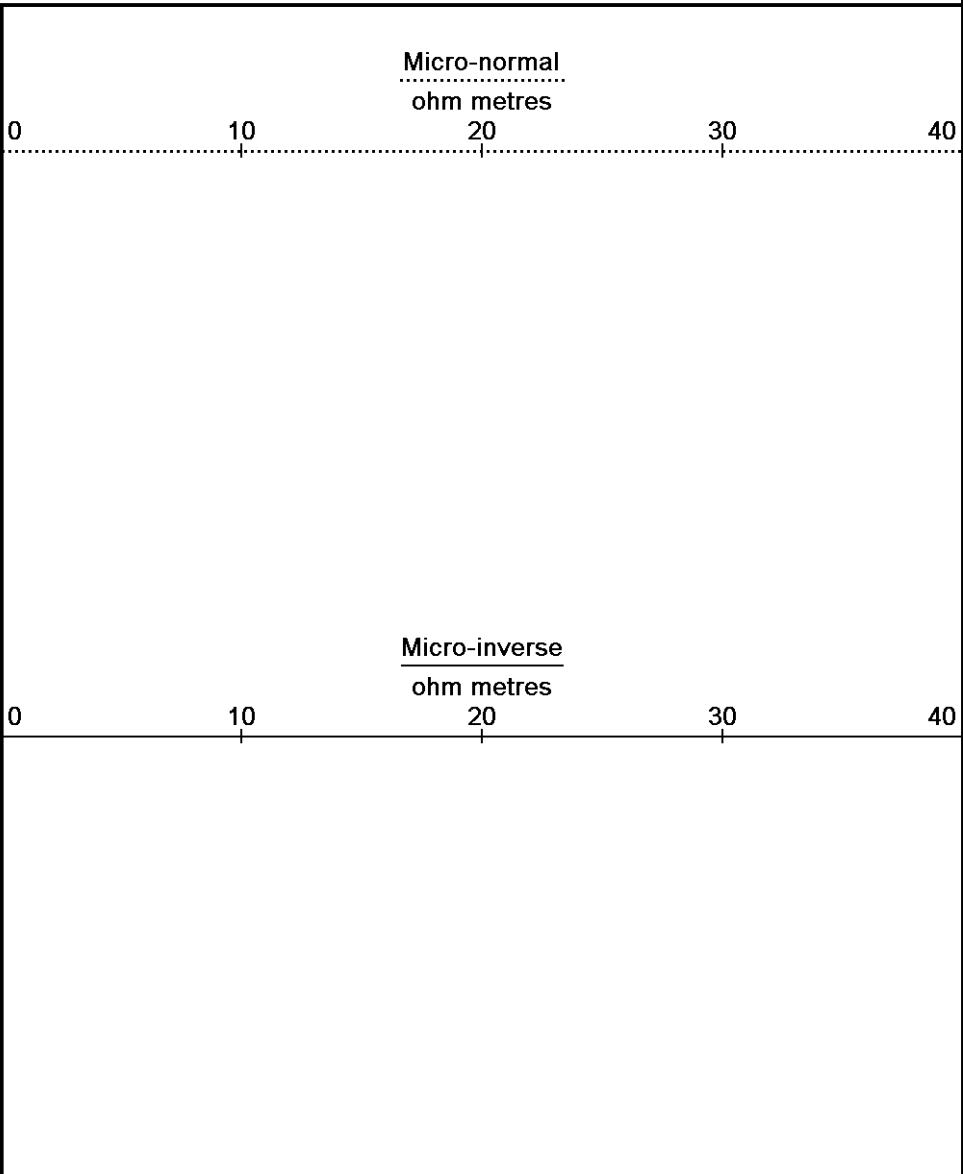
Depth
in
Feet

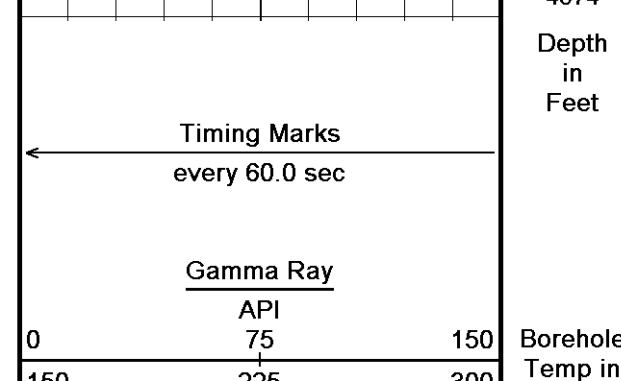
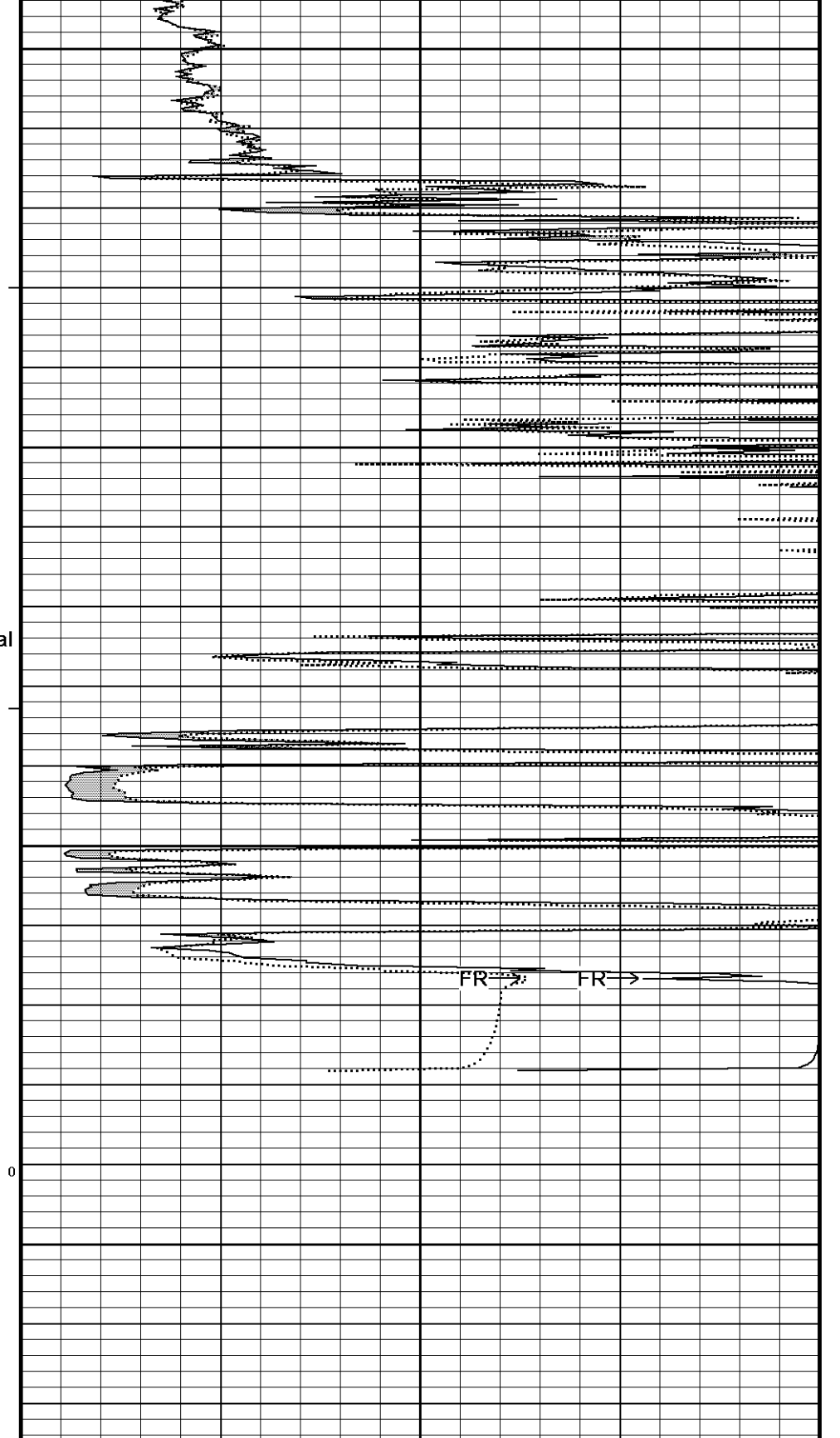
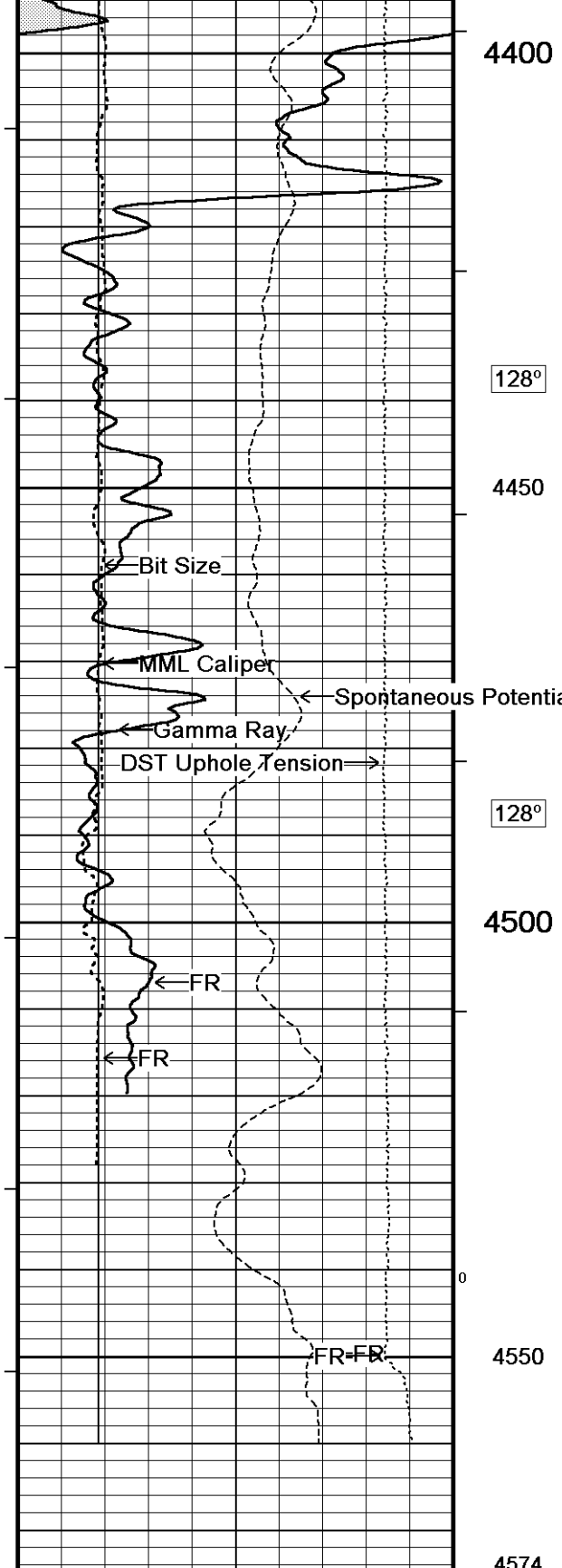
Borehole
Temp in
deg F

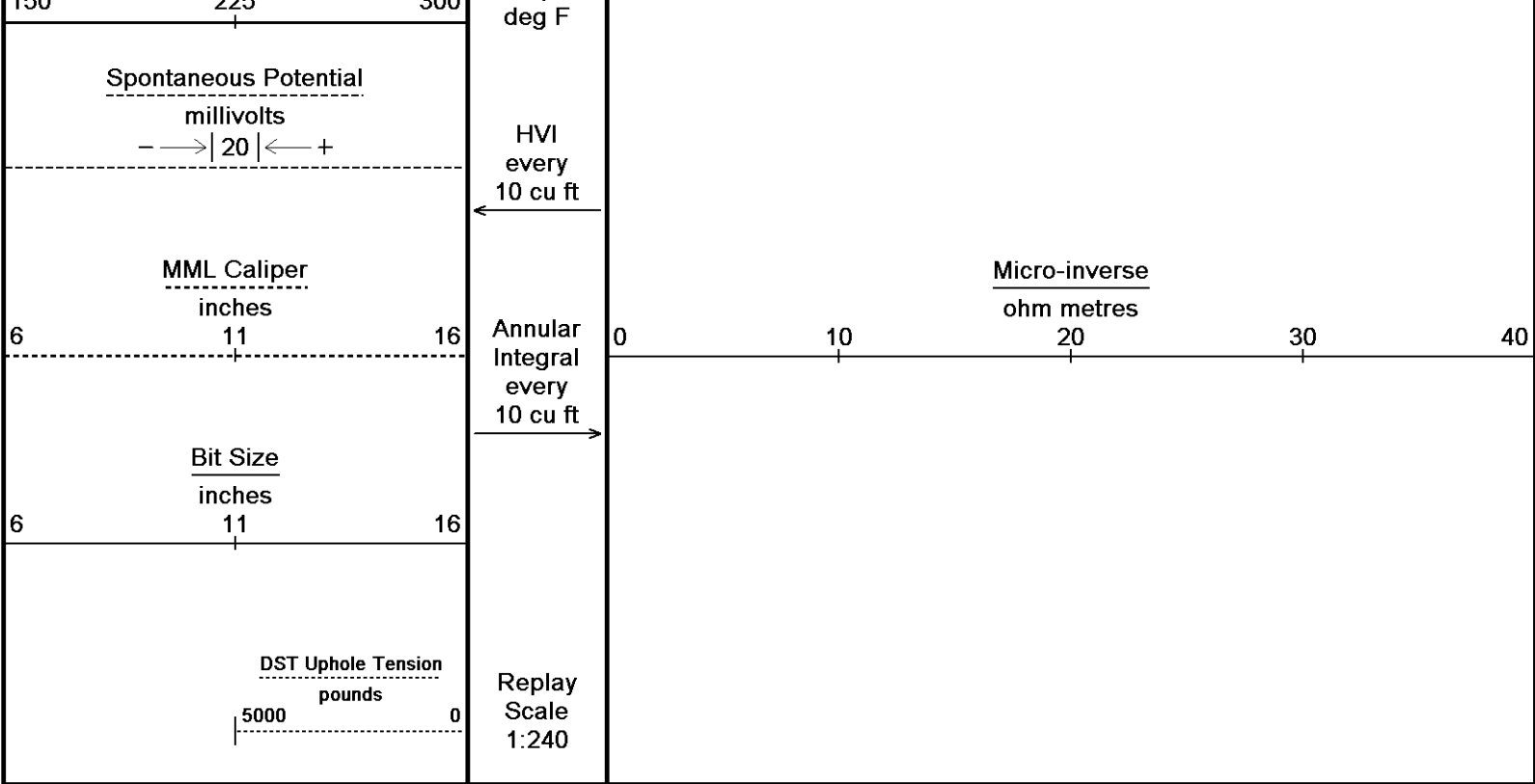
HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240







Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 21-AUG-2013 11:35
 Filename: C:\Minimus 13.05.9583\Log\OBrien Resources Ilc...\OBrien Resources Ilc Swarts 5-1_001.dta
 Recorded on 21-AUG-2013 08:04
 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus 13.05.9583\Log\OBrien Resources Ilc Swarts 5-1\OBrien Resources Ilc Swarts 5-1_002.dta

General Constants All 000 Last Edited on 21-AUG-2013,07:49

General Parameters		
Mud Resistivity	1.840	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	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Six Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.K 469 Field Calibration on 20-AUG-2013 09:30

	Measured	Calibrated (API)
Background	71	48
Calibrator (Gross)	1141	773
Calibrator (Net)	1070	725

Gamma Constants MCG-D.K 469 Last Edited on 21-AUG-2013,07:50

Gamma Calibrator Number	GRC38	
Mud Density	1.09	gm/cc
Caliper Source for Processing	Density Caliper	

Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-D.K 469

Field Calibration on 18-AUG-2013,02:35

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 18-AUG-2013,02:35

Pre-filter Length 11

Caliper Calibration MML-A 3

Base Calibration on 15-AUG-2013 08:50

Field Calibration on 20-AUG-2013 09:51

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14887	5.98
2	18120	7.97
3	21042	9.86
4	25322	11.92
5	0	0.00
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	5.97	5.98

Micro Normal and Micro Inverse Calibration MML-A 3

Base Calibration on 15-AUG-2013 09:16

Field Check on 20-AUG-2013 09:19

Base Calibration					
		Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2	
Micro Normal	12.3	60.3	5.0	25.0	
Micro Inverse	15.7	78.4	5.0	25.0	
Channel			Base Check (ohm-m)		Field Check (ohm-m)
Micro Normal			62.9		62.9
Micro Inverse			48.2		48.2

Micro Normal and Micro Inverse Constants MML-A 3

Last Edited on 20-AUG-2013,09:17

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	N/A	inches	

Caliper Calibration MPD-B 64

Base Calibration on 15-AUG-2013 14:54

Field Calibration on 20-AUG-2013 09:48

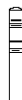
Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	16560	3.99
2	24992	5.98
3	32880	7.97
4	41184	9.86
5	50688	11.92
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	5.79	5.98

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Log\OBrien Resources llc Swarts 5-1\OBrien Resources llc Swarts 5-1_002.dta

3/8" Triple Cone Cable Head (MCB C A)
 MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in



Compact Comms Gamma
MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A.3 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

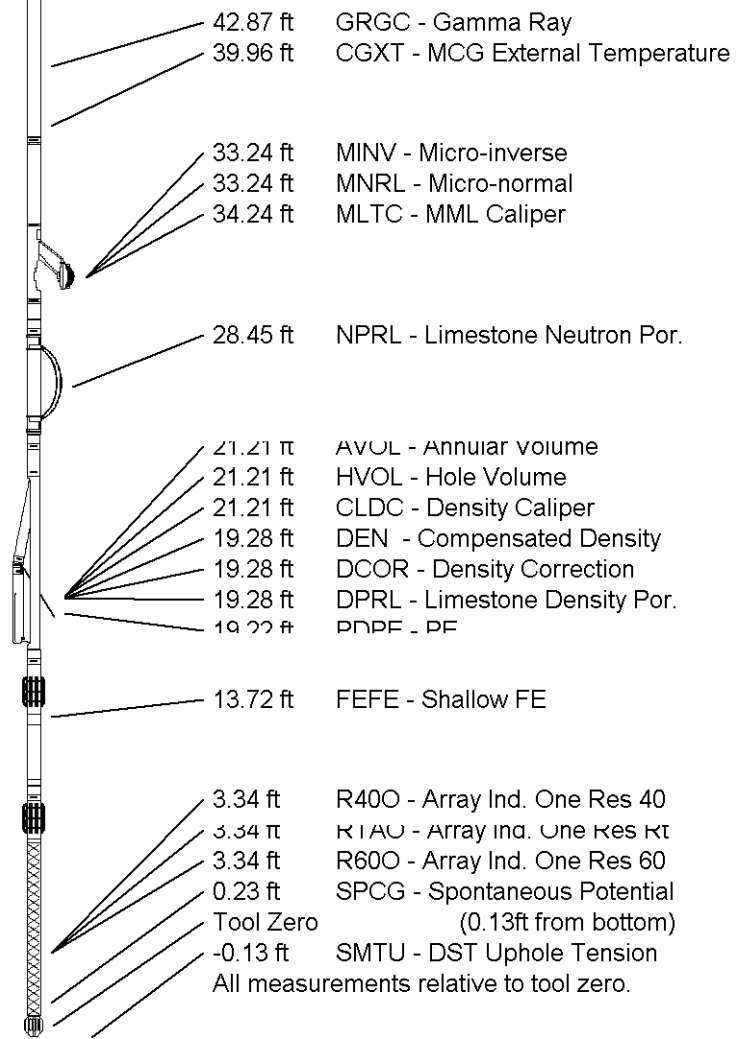
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 49.73 ft Weight: 399.0 lb



COMPANY O'BRIEN RESOURCES, LLC.
WELL SWART 5 #1
FIELD WILDCAT
PROVINCE/COUNTY GOVE
COUNTRY/STATE UNITED STATES / KANSAS

Elevation Kelly Bushing	2714.00	feet	First Reading	4516.00	feet
Elevation Drill Floor	2712.00	feet	Depth Driller	4550.00	feet
Elevation Ground Level	2704.00	feet	Depth Logger	4550.00	feet



Weatherford[®]

MICRORESISTIVITY LOG