



Weatherford[®]

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY REDLAND RESOURCES, INC.
WELL HUMPHREYS #6-2
FIELD WILDCAT
PROVINCE/COUNTY HODGEMAN
COUNTRY/STATE U.S.A. / KANSAS
LOCATION 1252' FNL & 2336' FEL

SEC TWP RGE Other Services
6 24S 24W MAI/MFE MSS
API Number 15-083-21797
Permit Number

Permanent Datum GL, Elevation 2498 feet
Log Measured From KB Elevations: KB 2506.00
Drilling Measured From KB DF 2504.00
GL 2498.00

| | |
|------------------------|----------------------|
| Date | 03-AUG-2012 |
| Run Number | ONE |
| Depth Driller | 4950.00 feet |
| Depth Logger | 4941.00 feet |
| First Reading | 4909.00 feet |
| Last Reading | 4600.00 feet |
| Casing Driller | 222.00 feet |
| Casing Logger | 221.00 feet |
| Bit Size | 7.875 inches |
| Hole Fluid Type | CHEMICAL |
| Density / Viscosity | 9.55 lb/USg 50.00 CP |
| PH / Fluid Loss | 9.50 15.20 ml/30Min |
| Sample Source | MUDPIT |
| Rm @ Measured Temp | 0.67 @ 91.0 ohm-m |
| Rmf @ Measured Temp | 0.54 @ 91.0 ohm-m |
| Rmc @ Measured Temp | 0.80 @ 91.0 ohm-m |
| Source Rmf / Rmc | CALC CALC |
| Rm @ BHT | 0.56 @ 111.0 ohm-m |
| Time Since Circulation | 4 HOURS |
| Max Recorded Temp | 111.00 deg F |
| Equipment Name | COMPACT |
| Equipment / Base | 13096 LIB |
| Recorded By | ADAM SILL |
| Witnessed By | MIKE POLLOK |
| S.O. # / JOB # | 3534510 |

| BOREHOLE RECORD | | | Last Edited: 03-AUG-2012 15:27 | |
|--------------------|--------------------|--------------------|--------------------------------|---------------------|
| Bit Size inches | Depth From feet | Depth To feet | | |
| 7.875 | 222.00 | 4950.00 | | |
| CASING RECORD | | | | |
| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
| SURFACE | 8.625 | 0.00 | 222.00 | 24.00 |

REMARKS

- SOFTWARE ISSUE: WLS 13.02.6600.
- MCG, MML, MDN, MPD, MFE, MSS, MAI RAN 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.
- ANNULAR HOLE VOLUME WITH 4.5 INCH CASING: 83 CU. FT.
- SERVICE ORDER # 3534510.

- RIG: DUKE #2.

- ENGINEER: A. SILL.

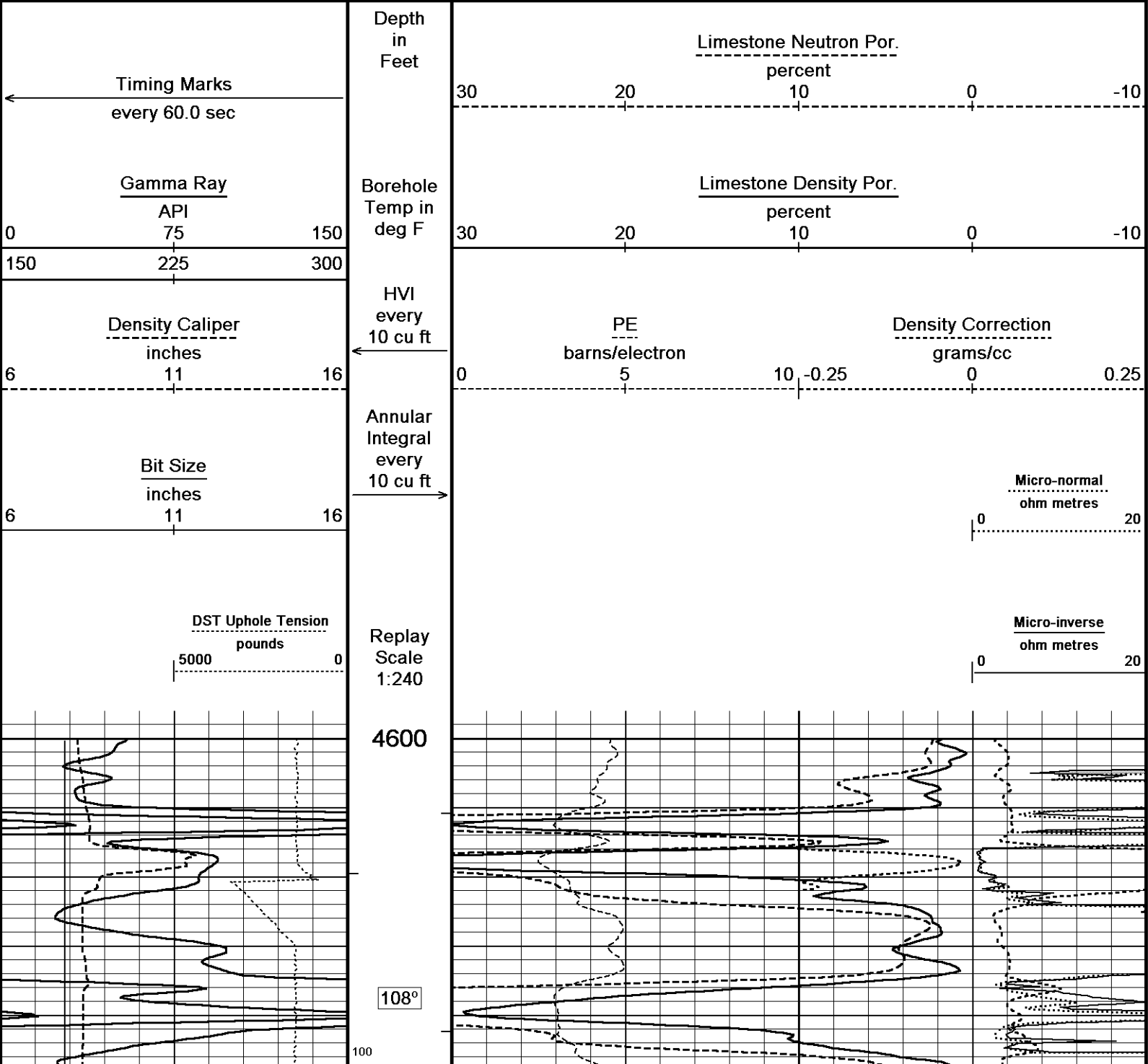
- OPERATOR(S): R. VENEGAS.

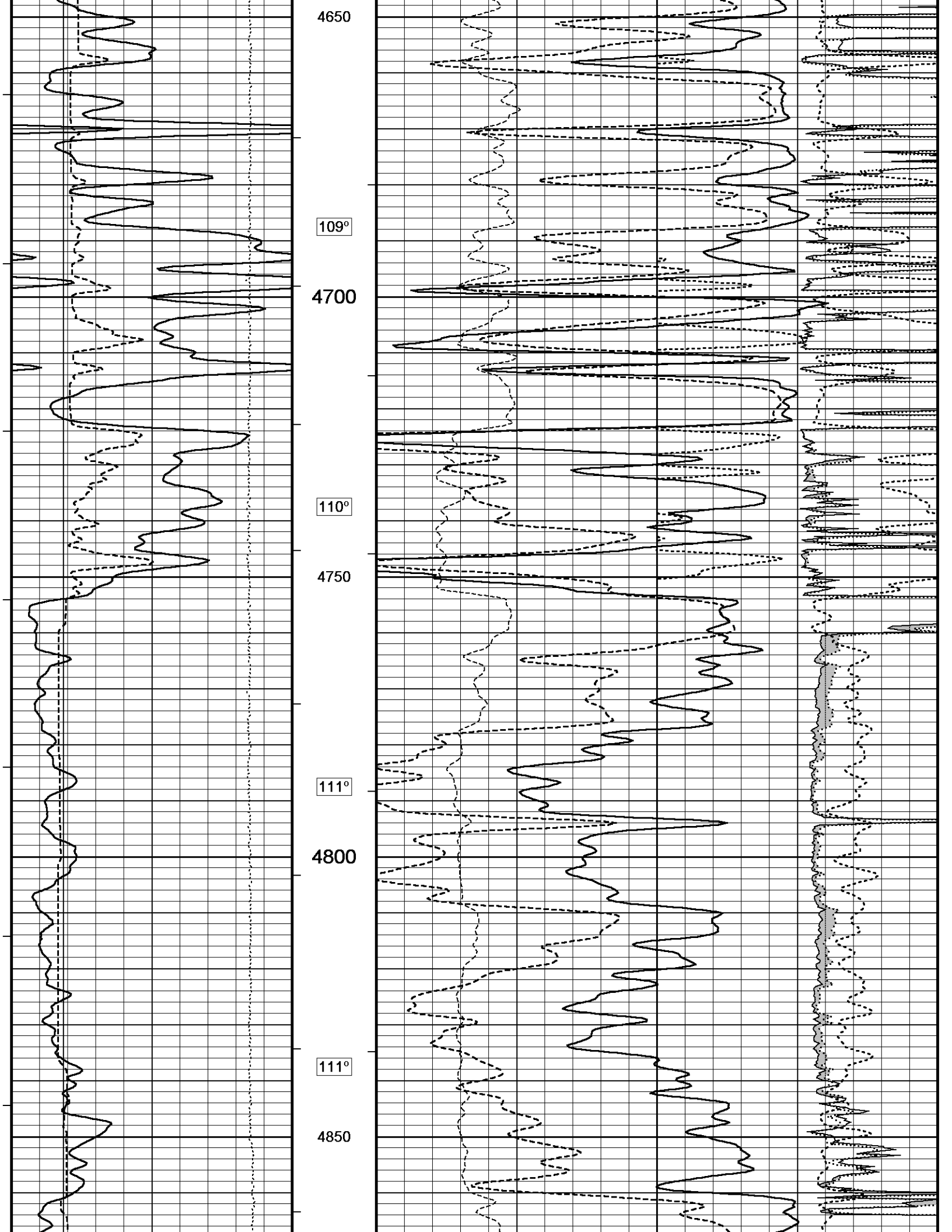
**** PULLED TIGHT AT 4600 FT. ON REPEAT PASS CAUSING CALIPER ARM TO BEND AND WAS INSTRUCTED TO DISCONTINUE LOGGING. ****

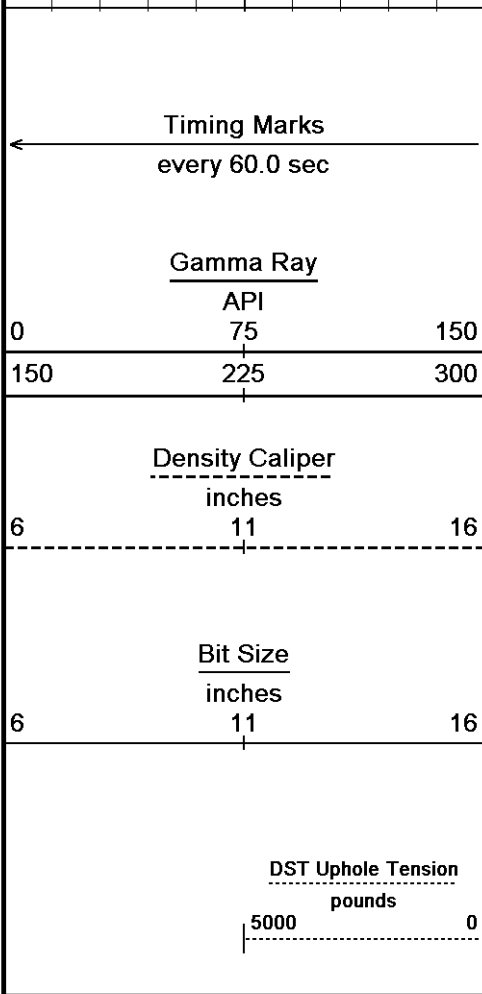
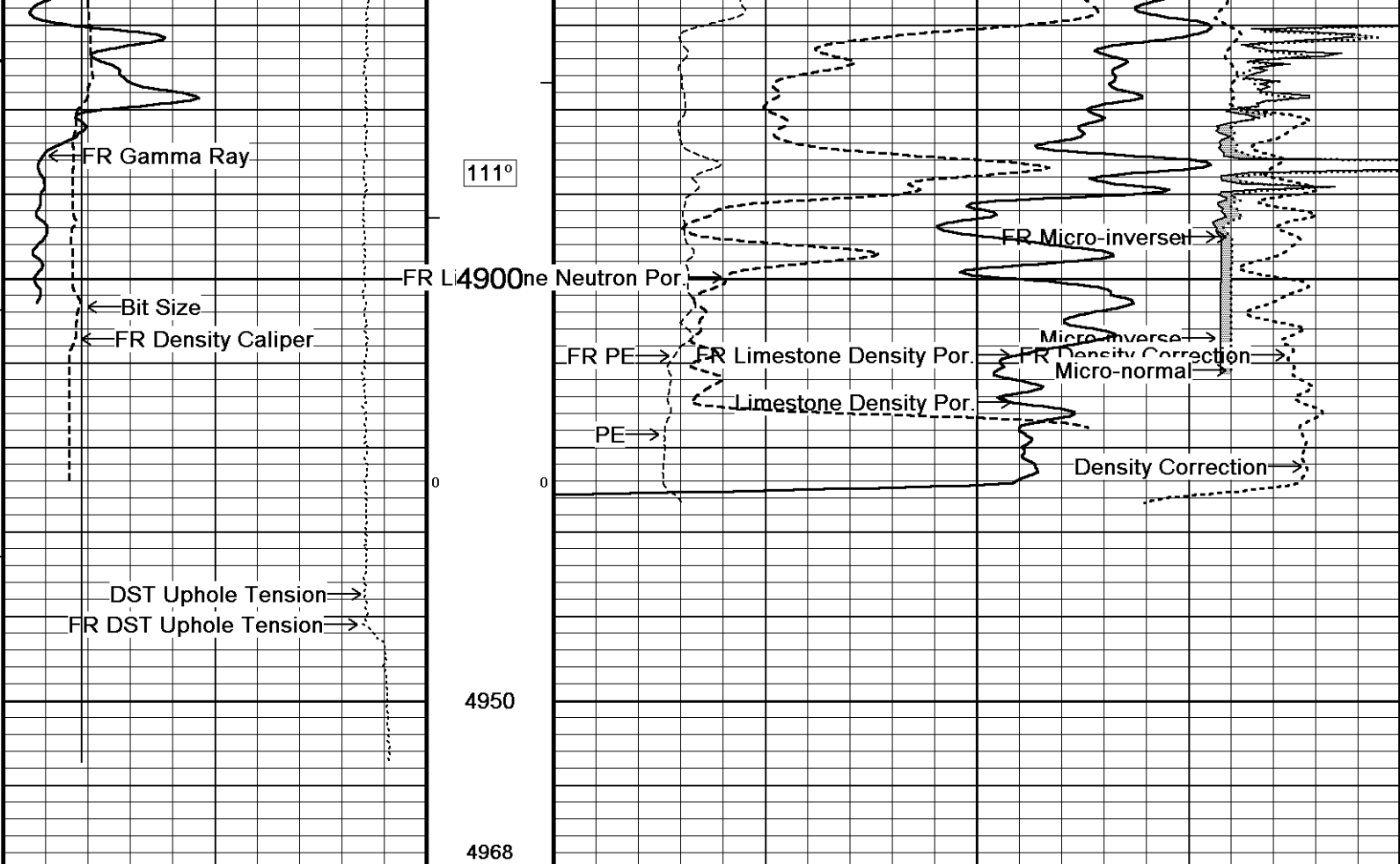
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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 03-AUG-2012 19:57
Filename: C:\Minimus 13.02.6600\Data\Redland Humphreys #6-2\Redland Humphreys #6-2_001.dta
Recorded on 03-AUG-2012 17:34
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600







111°

FR L4900ne Neutron Por.

FR PE

FR Limestone Density Por.

Limestone Density Por.

FR Micro-inverset

Micro-inverse

FR Density Correction

Micro-normal

Density Correction

0

4950

4968

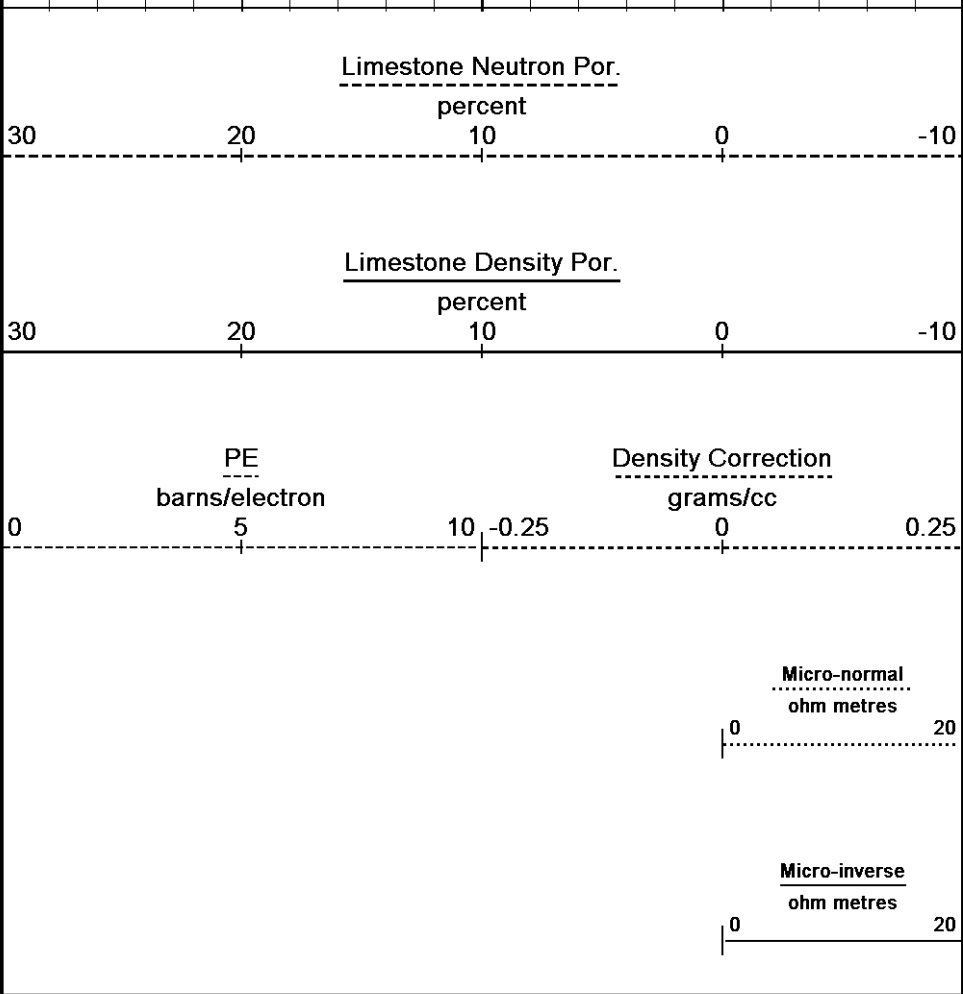
Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240



5 INCH MAIN

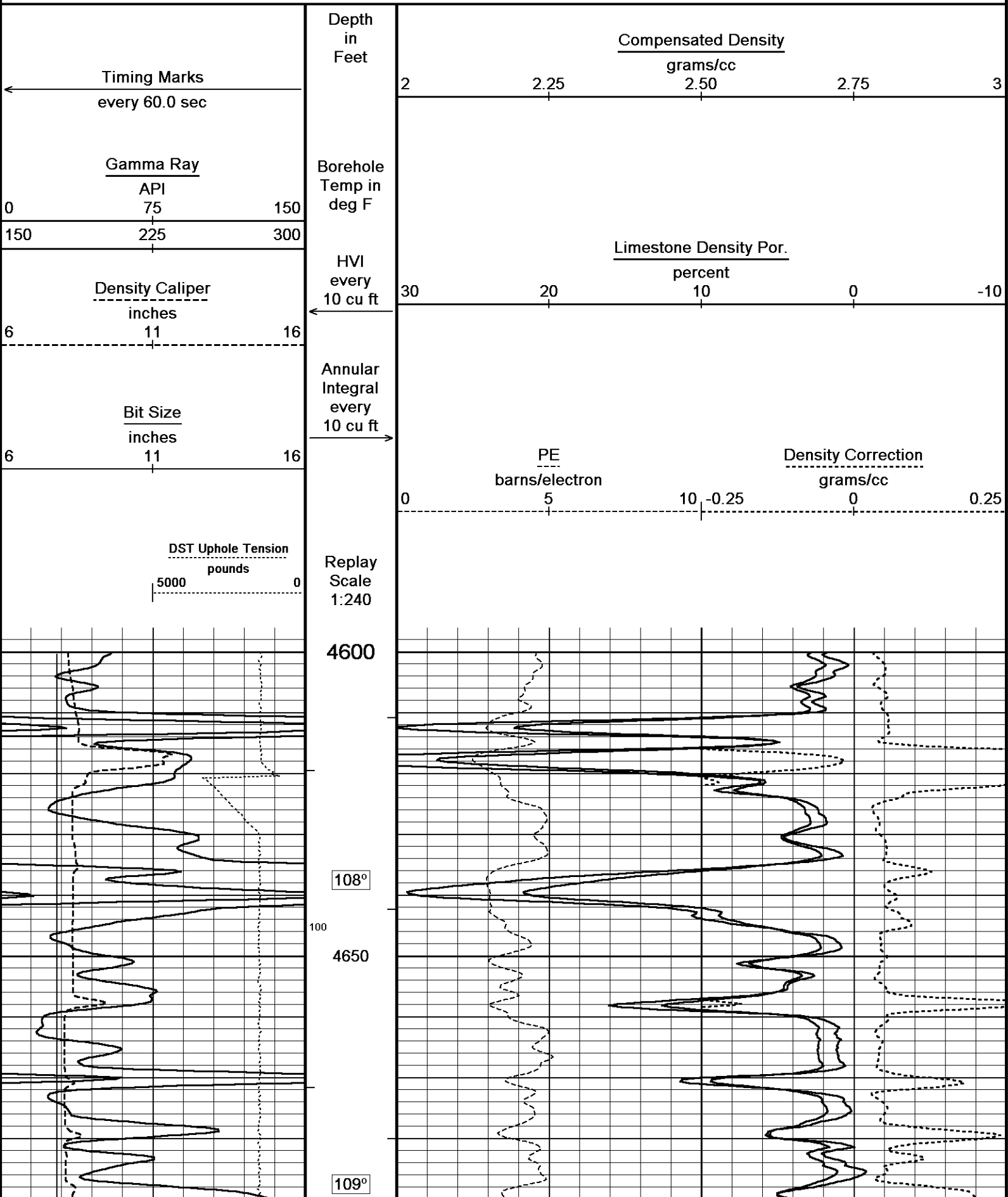
Depth Based Data - Maximum Sampling Increment 10.0cm

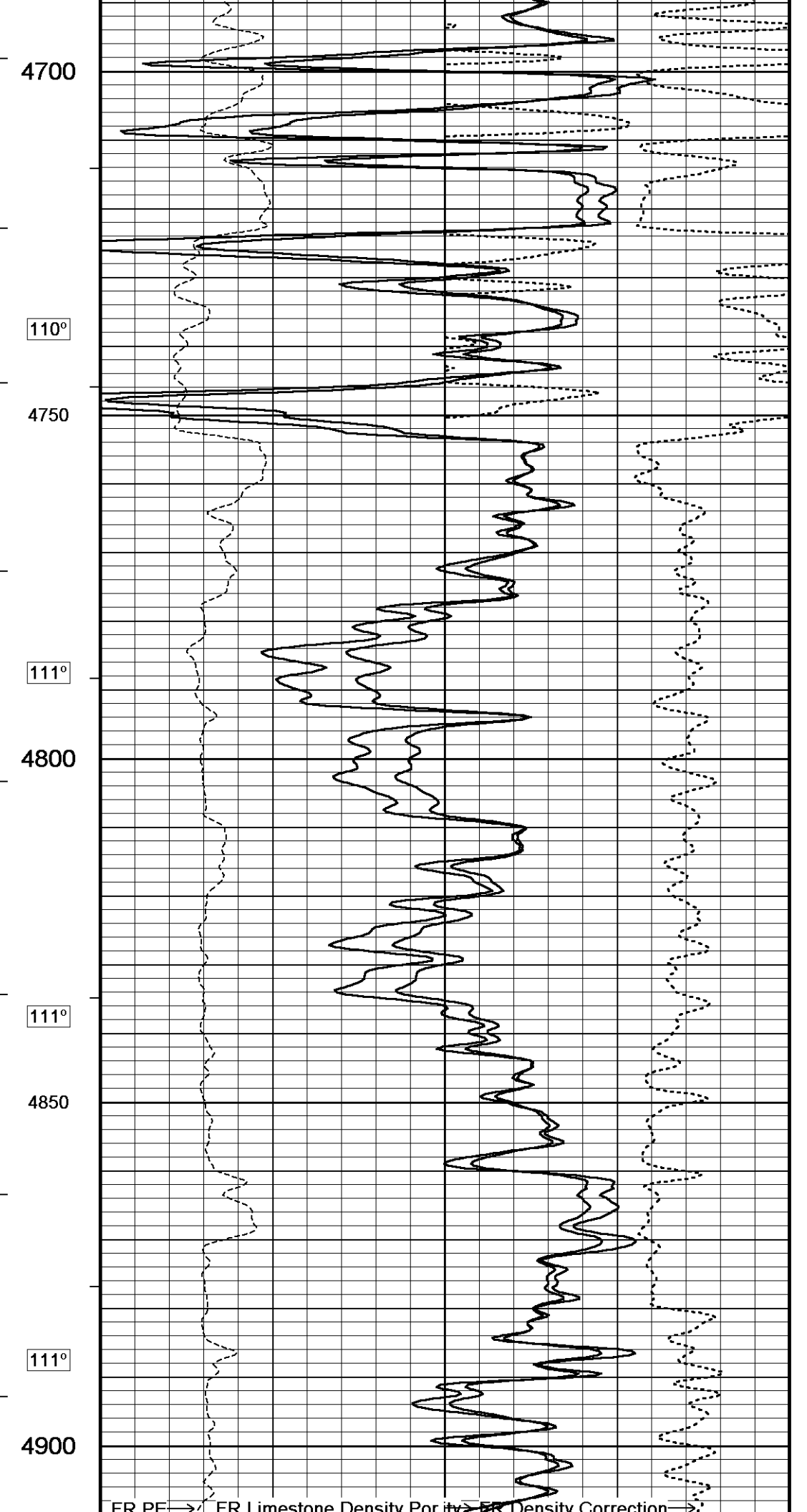
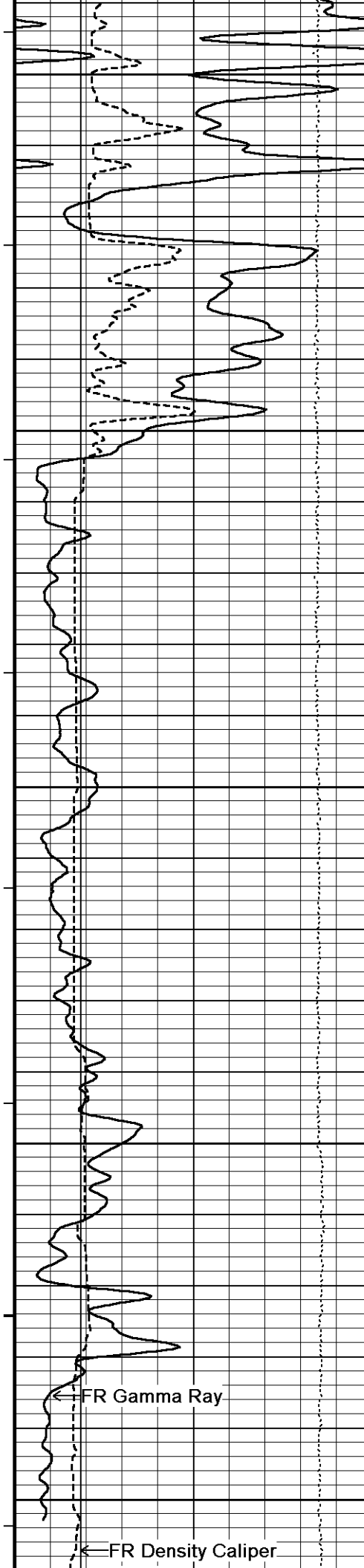
Plotted on 03-AUG-2012 19:57

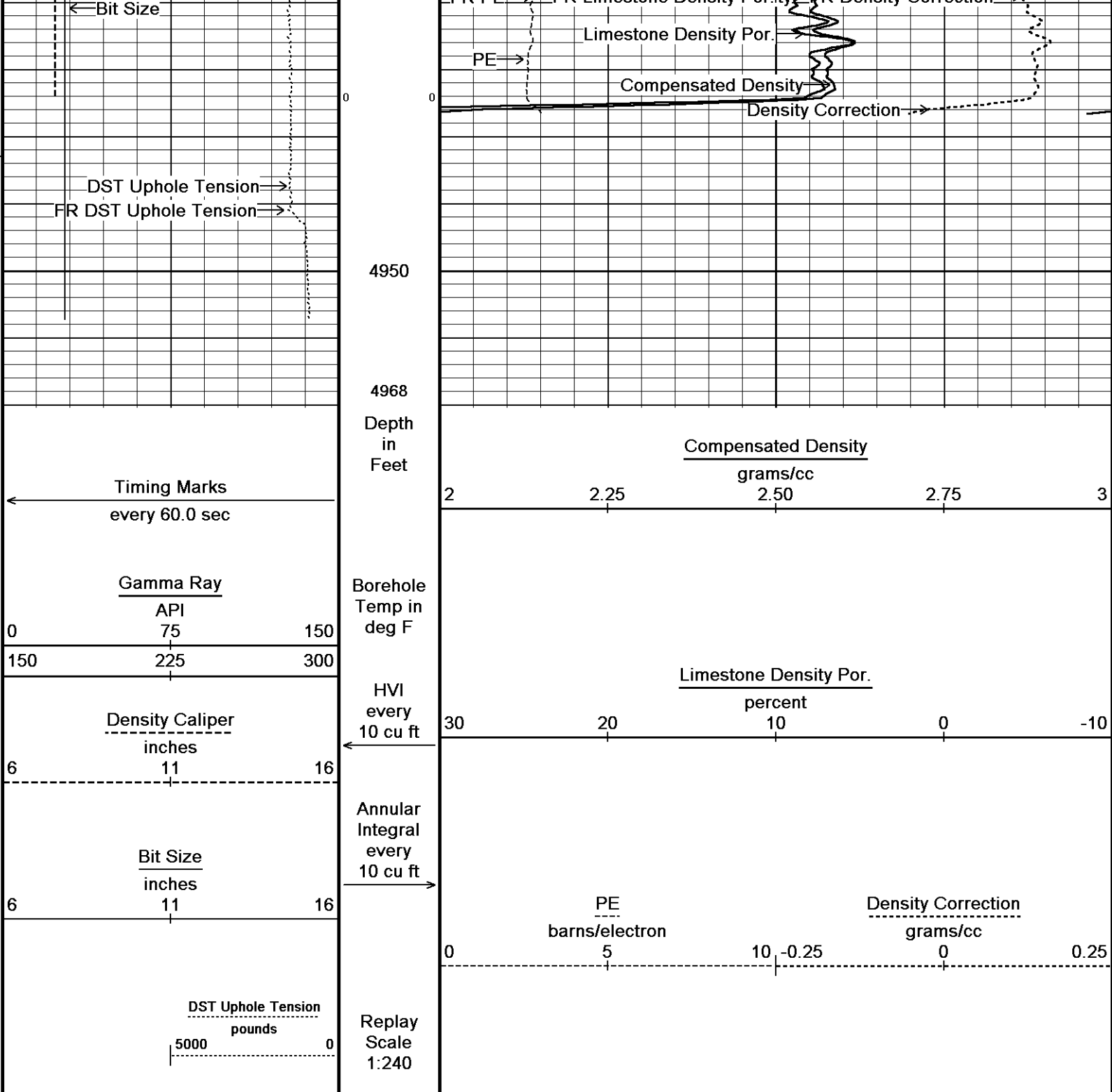
Filename: C:\Minimus 13.02.6600\Data\Redland Humphreys #6-2\Redland Humphreys #6-2_001.dta

Recorded on 03-AUG-2012 17:34

System Versions: Logged with 13.02.6600 Plotted with 13.02.6600







↑ 5 INCH MAIN ↑

| BEFORE SURVEY CALIBRATION | | |
|--|----------|----------------------------------|
| C:\Minimus 13.02.6600\Data\Redland Humphreys #6-2\Redland Humphreys #6-2_001.dta | | |
| General Constants | All 000 | Last Edited on 03-AUG-2012,15:34 |
| General Parameters | | |
| Mud Resistivity | 0.670 | ohm-metres |
| Mud Resistivity Temperature | 91.000 | degrees F |
| Water Level | 0.000 | feet |
| Density/Neutron 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 | None | | |

| | |
|------------------|------------------------|
| Rwa Parameters | |
| Porosity used | Base Density Porosity |
| Resistivity used | Array Ind. Four Res Rt |
| RWA Constant A | 0.610 |
| RWA Constant M | 2.150 |

Down-hole Tension Calibration SMS 0

Field Calibration on 25-JUL-2012 21:44

| | | |
|------------|----------|------------------|
| Reading No | Measured | Calibrated (lbs) |
| 1 | 15962.51 | 0.00 |
| 2 | 17047.62 | 562.20 |

Gamma Calibration MCG-D.K 442

Field Calibration on 03-AUG-2012 11:08

| | | |
|--------------------|----------|------------------|
| | Measured | Calibrated (API) |
| Background | 71 | 48 |
| Calibrator (Gross) | 1154 | 773 |
| Calibrator (Net) | 1083 | 725 |

Gamma Constants MCG-D.K 442

Last Edited on 03-AUG-2012,15:34

| | | |
|-------------------------------|-----------------|-------|
| Gamma Calibrator Number | GRC38 | |
| Mud Density | 1.15 | gm/cc |
| Caliper Source for Processing | Density Caliper | |
| Tool Position | Eccentred | |
| Concentration of KCl | 0.00 | kppm |

SP Calibration MCG-D.K 442

Field Calibration on 17-JUL-2012 16:34

| | | |
|-------------|----------|-----------------|
| | Measured | Calibrated (mV) |
| Reference 1 | 100.2 | 100.0 |
| Reference 2 | -99.9 | -100.0 |

High Resolution Temperature Calibration MCG-D.K 442

Field Calibration on 17-JUL-2012,16:35

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

High Resolution Temperature Constants MCG-D.K 442

Last Edited on

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

Caliper Calibration MML-A 16

Base Calibration on 17-JUL-2012 16:12

Field Calibration on 03-AUG-2012 10:57

| | | | |
|------------------|----------|----------------------|--|
| Base Calibration | | | |
| Reading No | Measured | Calibrator Size (in) | |
| 1 | 14596 | 5.98 | |
| 2 | 17798 | 7.97 | |
| 3 | 21110 | 9.86 | |
| 4 | 25111 | 11.92 | |
| 5 | 0 | 0.00 | |
| 6 | N/A | N/A | |

| | | | |
|-------------------|-----------------------|---------------------|--|
| Field Calibration | | | |
| | Measured Caliper (in) | Actual Caliper (in) | |
| | 5.96 | 5.98 | |

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 17-JUL-2012 16:16

Field Check on 03-AUG-2012 10:51

| | | | | | |
|------------------|------------|------------|------------|--------------------|--|
| Base Calibration | | | | | |
| | | Measured | | Calibrated (ohm-m) | |
| Channel | Resistor 1 | Resistor 2 | Resistor 1 | Resistor 2 | |
| Micro Normal | 12.2 | 60.2 | 5.0 | 25.0 | |
| Micro Inverse | 15.6 | 78.3 | 5.0 | 25.0 | |

| | | |
|---------|--------------------|---------------------|
| Channel | Base Check (ohm-m) | Field Check (ohm-m) |
|---------|--------------------|---------------------|

| | | |
|---------------|--------------------|---------------------|
| Chamber | 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 16 Last Edited on 03-AUG-2012,15:34

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

Neutron Calibration MDN-A.B 66 Base Calibration on 17-JUL-2012 10:54
Field Check on 03-AUG-2012 11:12

Base Calibration

| | Measured | | Calibrated (cps) | |
|-------|----------|-----|------------------|-----|
| | Near | Far | Near | Far |
| Ratio | 3220 | 101 | 3714 | 110 |
| | 31.859 | | 33.764 | |

Field Calibrator at Base

| | Calibrated (cps) |
|-------|---------------------|
| Ratio | 1595 / 2289 = 0.696 |

Field Check

| | Calibrated (cps) |
|-------|---------------------|
| Ratio | 1600 / 2270 = 0.705 |

Neutron Constants MDN-A.B 66 Last Edited on 03-AUG-2012,15:34

Neutron Source Id P0204NN

Neutron Jig Number 5824NE

Epithermal Neutron No

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 Constant Value

Formation Pressure 0.00 kpsi

Temperature Source Constant Value

Temperature 68.00 degrees F

Mud Salinity 0.00 kppm

Salinity Correction Not Applied

Formation Fluid Salinity Source Constant Value

Formation Fluid Salinity 0.00 kppm

Barite Mud Correction Not Applied

FE Calibration MFE-B.J 353 Base Calibration on 17-JUL-2012 15:58
Field Check on 03-AUG-2012 10:50

Base Calibration

| | Measured | Calibrated (ohm-m) |
|-------------|----------|--------------------|
| Reference 1 | 0.0 | 0.0 |
| Reference 2 | 964.8 | 126.8 |
| Base Check | | 280.6 |
| Field Check | | 280.8 |

FE Constants MFE-B.J 353 Last Edited on 03-AUG-2012,15:33

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

Sonic Constants MSS-C.K 330 Last Edited on 03-AUG-2012,15:33

Maximum Boundary Contrast 100.00 micro-sec/ft

Fluid Transit Time 189.00 micro-sec/ft

| | | | | |
|---|-----|-------|-----|-------|
| 3 | 3.3 | 259.4 | 5.2 | 566.0 |
| 4 | 1.9 | 133.0 | 2.6 | 279.2 |

Array Temperature 76.8 Deg F

| Channel | Base Check (mmho/m) | | Field Check (mmho/m) | |
|-------------------|---------------------|------|----------------------|--------|
| | Low | High | Low | High |
| 1 | 0.0 | 0.0 | 13.8 | 3838.5 |
| 2 | 0.0 | 0.0 | 29.8 | 3475.8 |
| 3 | 0.0 | 0.0 | 29.2 | 3051.8 |
| 4 | 0.0 | 0.0 | 19.8 | 2081.0 |
| Deep | 0.0 | 0.0 | 18.7 | 2048.2 |
| Medium | 0.0 | 0.0 | 42.3 | 3989.3 |
| Shallow | 0.0 | 0.0 | 43.2 | 5052.4 |
| Array Temperature | 0.0 | | 85.6 | Deg F |

Induction Constants MAI-A.A 167

Last Edited on 03-AUG-2012,15:33

| | | | |
|-----------------------------------|--------------------------|------------|--------|
| 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 | | |

Caliper Calibration MPD-B 64

Base Calibration on 17-JUL-2012 14:43
Field Calibration on 03-AUG-2012 11:00

| | | | |
|------------------|----------|----------------------|--|
| Base Calibration | | | |
| Reading No | Measured | Calibrator Size (in) | |
| 1 | 13949 | 3.99 | |
| 2 | 22435 | 5.98 | |
| 3 | 31057 | 7.97 | |
| 4 | 39360 | 9.86 | |
| 5 | 48766 | 11.92 | |
| 6 | N/A | N/A | |

| | | | |
|-------------------|-----------------------|---------------------|--|
| Field Calibration | | | |
| | Measured Caliper (in) | Actual Caliper (in) | |
| | 6.04 | 5.98 | |

| Density Calibration | Measured | | Calibrated (sdu) | |
|---------------------|----------|-------|------------------|-------|
| | Near | Far | Near | Far |
| Base Calibration | | | | |
| Reference 1 | 59921 | 33969 | 59556 | 30836 |
| Reference 2 | 25388 | 2962 | 24941 | 2541 |

Field Check at Base
1193.4 1388.8

Field Check
1186.0 1379.5

| PE Calibration | Base Calibration | Measured | | Calibrated |
|----------------|------------------|----------|-------|------------|
| | | WS | WH | Ratio |
| | | | | Ratio |
| | Background | 214 | 1064 | |
| | Reference 1 | 22602 | 59722 | 0.382 |
| | Reference 2 | 6872 | 25249 | 0.275 |

Field Check at Base
214.1 1063.8

Field Check
216.2 1057.4

Density Constants MPD-B 64

Last Edited on 03-AUG-2012,15:33

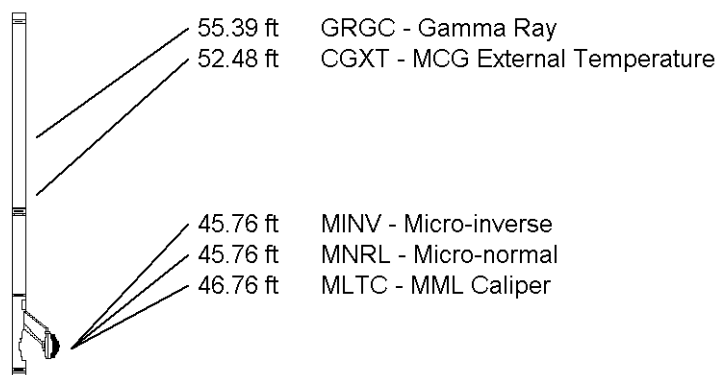
| | | |
|-------------------------------|-----------------|-------|
| Density Source Id | 18235B | |
| Nylon Calibrator Number | DNCE695 | |
| Aluminium Calibrator Number | DACD698 | |
| Density Shoe Profile | 8 inch | |
| Caliper Source for Processing | Density Caliper | |
| PE Correction to Density | Not Applied | |
| Mud Density | 1.15 | gm/cc |
| Mud Density Z/A Multiplier | 1.11 | |
| 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 | |
| Matrix Density (gm/cc) | Depth (ft) | |
| 2.87 | | |
| 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 | 0.00 | |

DOWNHOLE EQUIPMENT

C:\Minimus 13.02.6600\Data\Redland Humphreys #6-2\Redland Humphreys #6-2_001.dta

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

Compact Micro-log
MML-A 16 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

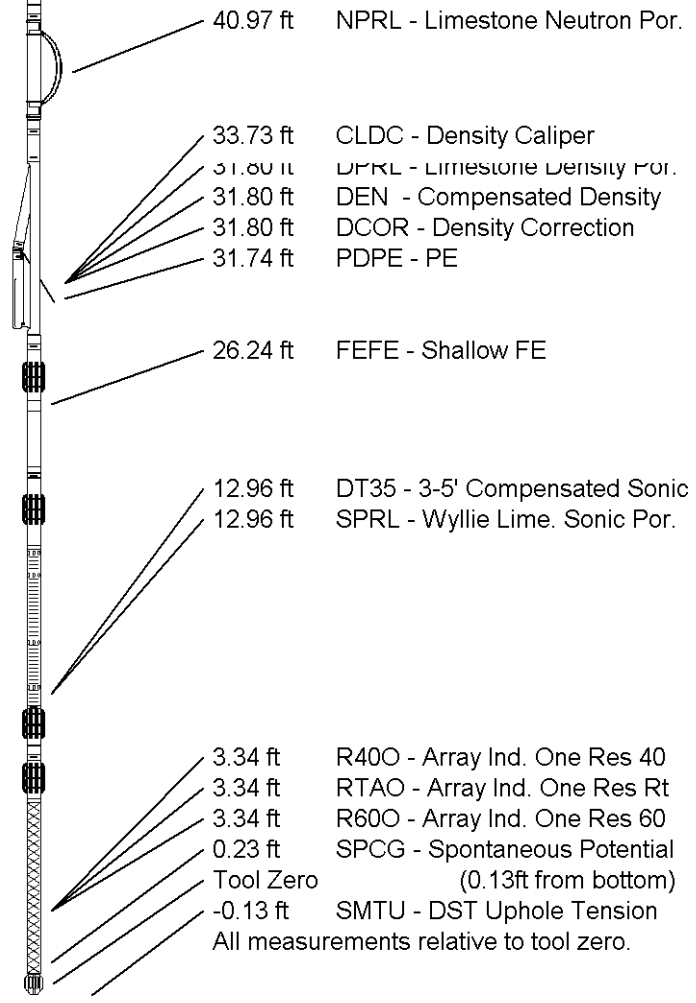
Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

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

Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 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: 60.68 ft Weight: 456.4 lb



COMPANY REDLAND RESOURCES, INC.
 WELL HUMPHREYS #6-2
 FIELD WILDCAT
 PROVINCE/COUNTY HODGEMAN
 COUNTRY/STATE U.S.A. / KANSAS

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 2506.00 | feet | First Reading | 4909.00 | feet |
| Elevation Drill Floor | 2504.00 | feet | Depth Driller | 4950.00 | feet |
| Elevation Ground Level | 2498.00 | feet | Depth Logger | 4941.00 | feet |



Weatherford[®]

COMPACT PHOTO DENSITY
 COMPENSATED NEUTRON
 MICRORESISTIVITY LOG