RMWS
ROCKY MOUNTAIN WIRELINE SERVICE

# CEMENT BOND LOG
# GAMMA RAY / CCL
# TEMPERATURE

| | | | |
|---|---|---|---|
| Company | BILL BARRETT CORPORATION | | |
| Well | MILLER 13D-36-692 | | |
| Field | MAMM CREEK | | |
| County | GARFIELD | State | COLORADO |

Location: API #: 05-045-18683
SHL: 2025' FNL & 0430' FWL
BHL: 2525' FSL & 0659' FWL
SEC 36 TWP 6S RGE 92W

Other Services
GAUGE RING
3.75"

| | | | | |
|---|---|---|---|---|
| Permanent Datum | G.L. | Elevation | 5897' | Elevation |
| Log Measured From | K.B | Ft Above PD | 23' | K.B. 5920' |
| Drilling Measured From | K.B. | | | D.F. 5919' |
| | | | | G.L. 5897' |

| | | |
|---|---|---|
| Date | 01-19-10 | |
| Run Number | ONE | |
| Depth Driller | 7087' | |
| Present Depth Driller | 6972' | |
| Depth Logger | 6972' | |
| Bottom Logged Interval | 6971' | |
| Top Log Interval | 2000' | |
| Fluid Level | FULL | |
| Type Fluid | WATER | |
| Max. Recorded Temp. | 200.9 DEG. F | |
| Estimated Cement Top | 2900' | |
| Equipment Number | 216 | |
| Location | GRAND JCT. | |
| Recorded By | HARRIS | ESCANERO |
| Witnessed By | MR.BEAUXIS | |

| | Borehole Record | | | Casing Record | | | |
|---|---|---|---|---|---|---|---|
| Run Number | Bit | From | To | Size | Weight | From | To |
| ONE | 8.75" | 734' | 3492' | 9.625" | 32# | SURFACE | 734' |
| TWO | 7.875" | 3492' | 7087' | 4.5" | 11.6# | SURFACE | 7087' |

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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 interpretation, and we shall not, except in the case of gross or willful 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 set out in our current Price Schedule.

WARRIOR 7.0 SOFTWARE - Comments

**NOTE: THIS LOG WAS DEPTH CORRELATED TO WEATHERFORD OPEN HOLE LOG DATED. 12-28-09**
**SHORT JOINT 6654' TO 6673' AND 4880' TO 4901'**
**MAIN PASS SCALE 5" = 100' TEMP PASS SCALE 2" = 100'**
**CSG PSI = STATIC**

Calibration Report

Database File: C:\Warrior\Data\MILLER_13D\011910_bill_barret_miller_13d.db
Dataset Pathname: DCBL/pass3
Dataset Creation: Tue Jan 19 16:15:16 2010 by Calc Std Casedhole 07122

Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | TEKO234_359 | |
| Tool Model: | TEKCO234 | |
| Performed: | Thu Dec 17 10:09:12 2009 | |
| Calibrator Value: | 1.0 | |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 1.1000 | /cps |

CBL Calibration Report

| | | | |
|---|---|---|---|
| Serial Number: | TEKCO_8044 | | |
| Tool Model: | TEKCO | | |
| Performed: | Tue Jan 19 16:15:01 2010 | | |
| Depth: | 1224.054 | ft | |
| Casing Diameter: | 4.500 | in | |
| | 3' Spacing | 5' Spacing | |
| Signal Zero: | 1.000 | 1.000 | mV |
| Calibrated Amplitude: | 81.196 | 81.196 | mV |
| Reading at Signal Zero: | -0.003 | -0.012 | V |
| Reading in Free Pipe: | 1.076 | 1.550 | V |
| Gain: | 74.310 | 51.338 | |
| Offset: | 1.222 | 1.601 | |

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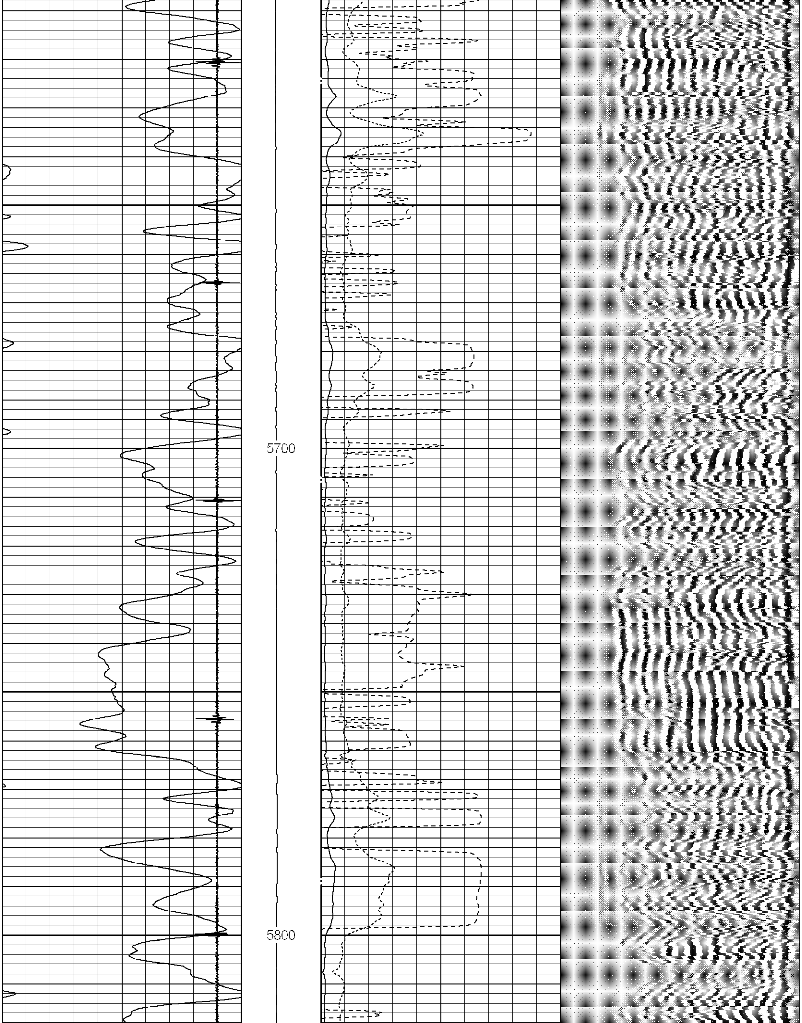
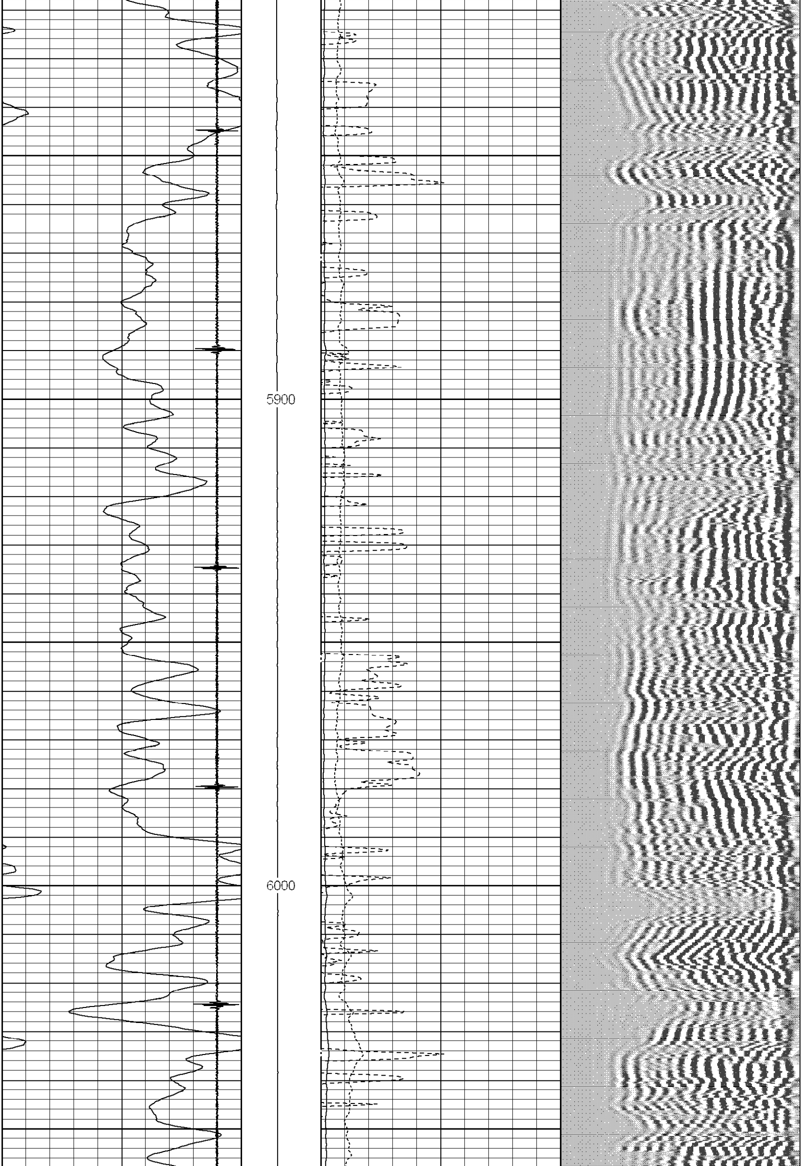
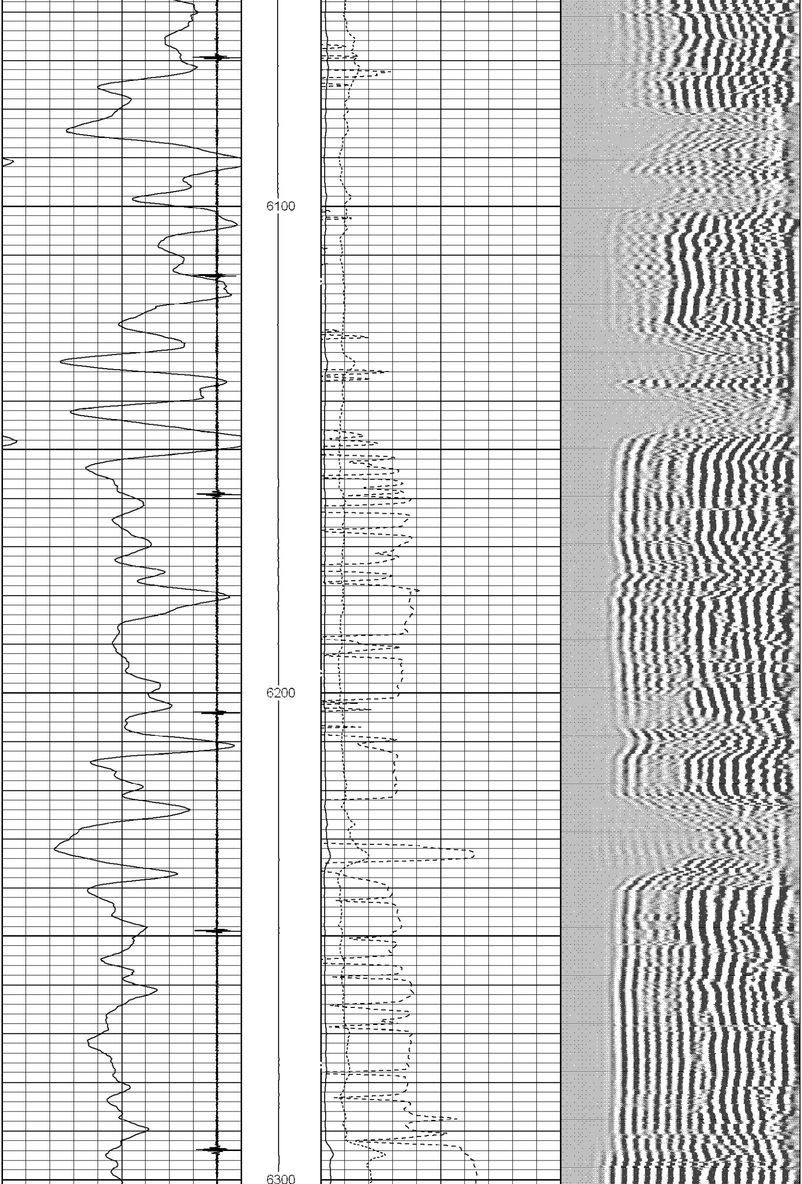
## MAIN PASS

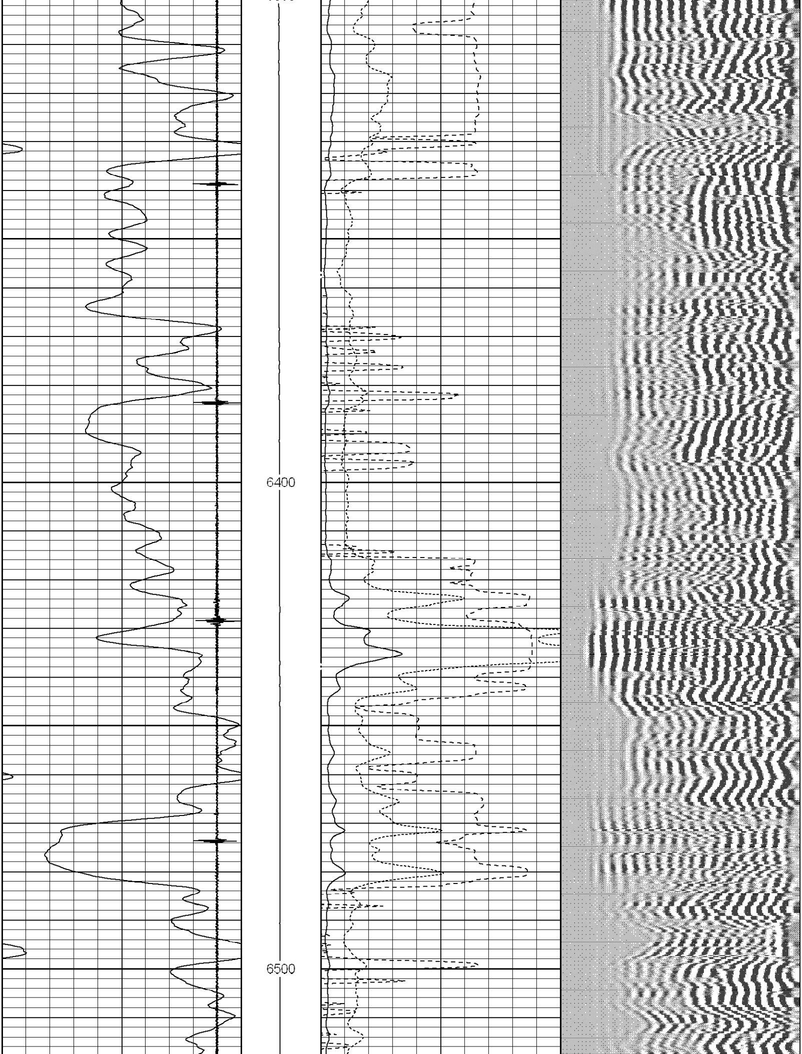
Database File: c:\warrior\data\miller_13d\011910_bill_barret_miller_13d.db
Dataset Pathname: DCBL/pass3
Presentation Format: rmws_dsc
Dataset Creation: Tue Jan 19 16:15:16 2010 by Calc Std Casedhole 07122
Charted by: Depth in Feet scaled 1:240

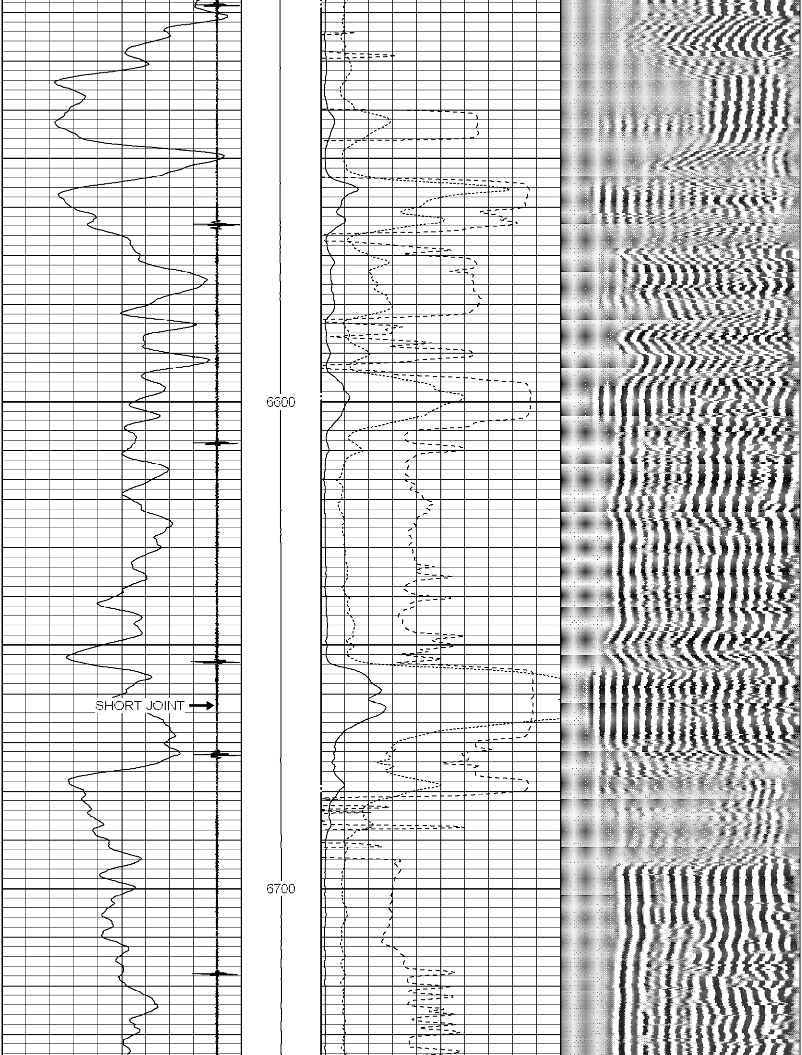
| | | | |
|---|---|---|---|
| -27 Collar Locator 3 | LTEN | 0 AMP AMPLITUDE (mV) 20 | 200 VDL 1200 |
| 0 Gamma Ray 150 | 0 (lb)2000 | 0 AMPLITUDE (mV) 100 | |
| | | 380 TRAVEL TIME (usec) 180 | |

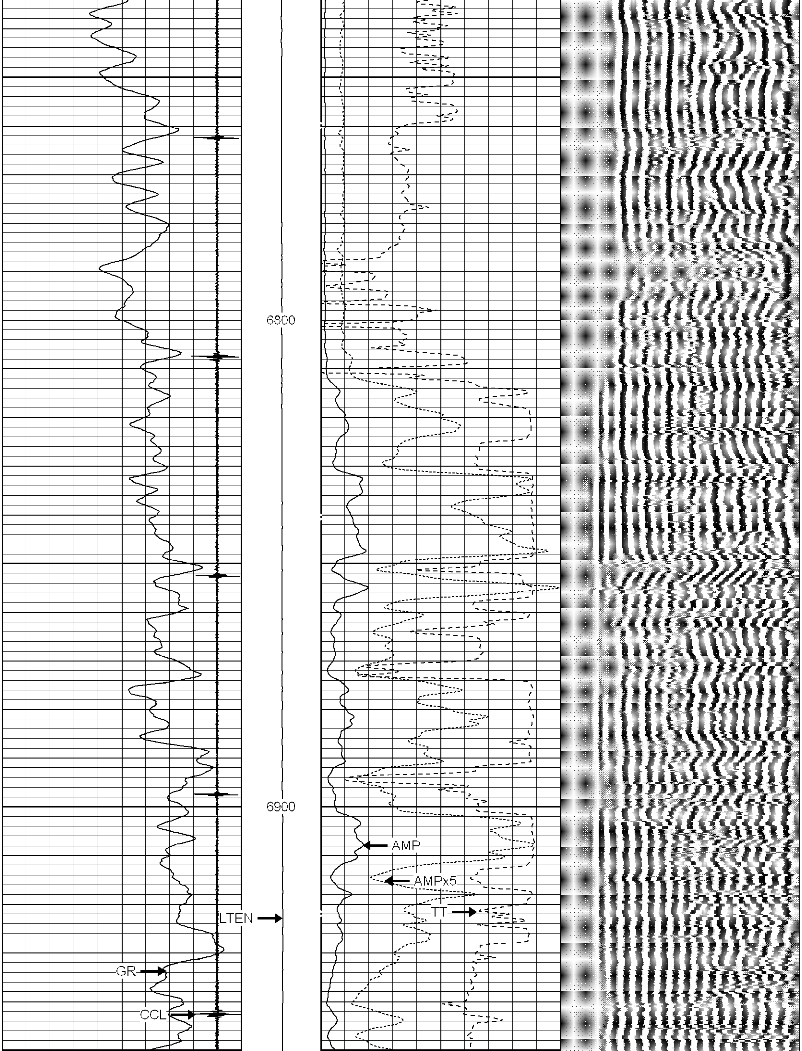


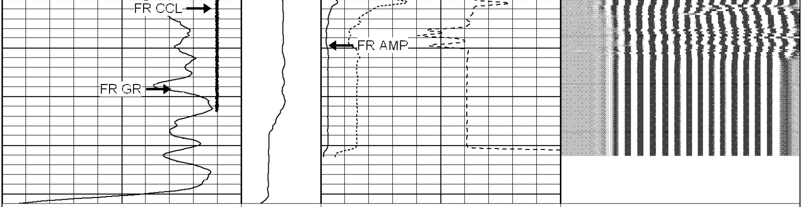












| | | | |
|---|---|---|---|
| -27 Collar Locator 3 | LTEN | 0 AMP AMPLITUDE (mV) 20 | 200 VDL 1200 |
| 0 Gamma Ray 150 | 0 (lb)2000 | 0 AMPLITUDE (mV) 100 | |
| | | 380 TRAVEL TIME (usec) 180 | |

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# MAIN PASS

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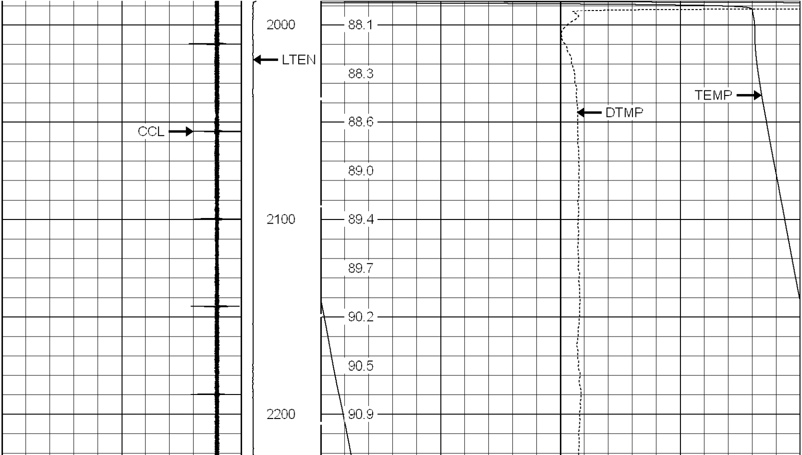
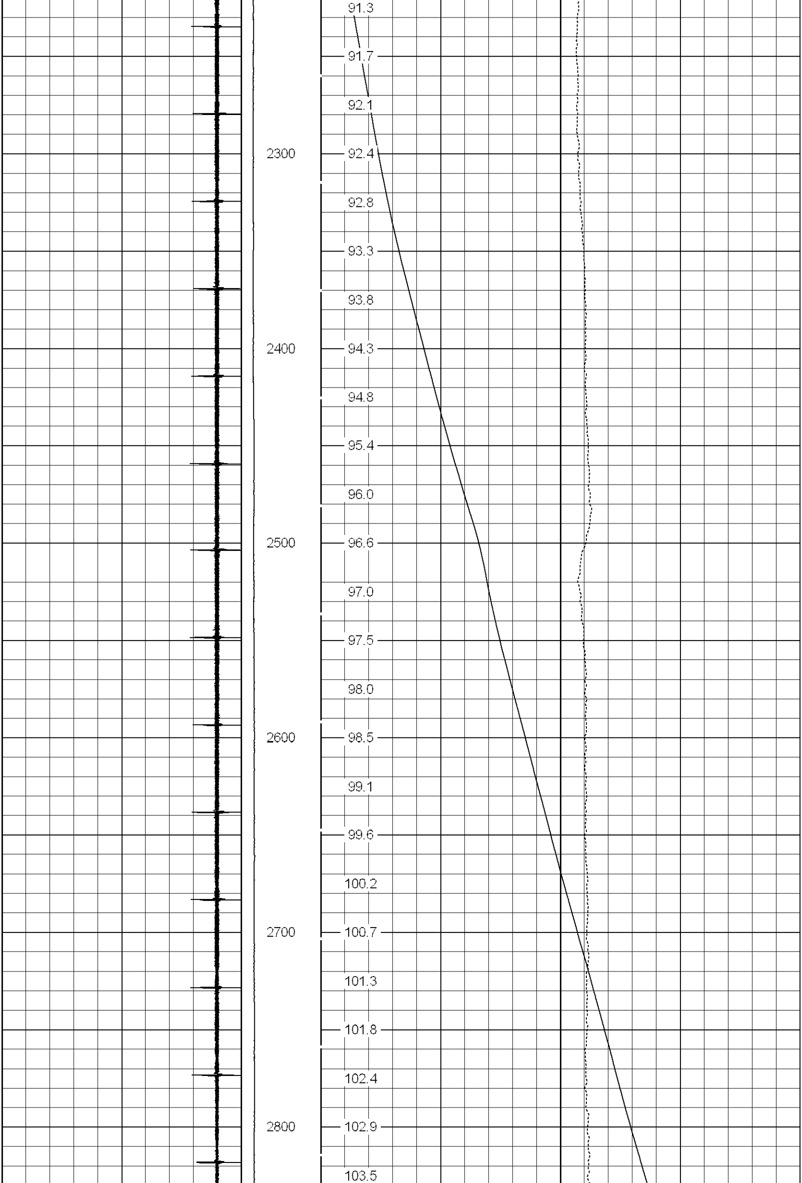
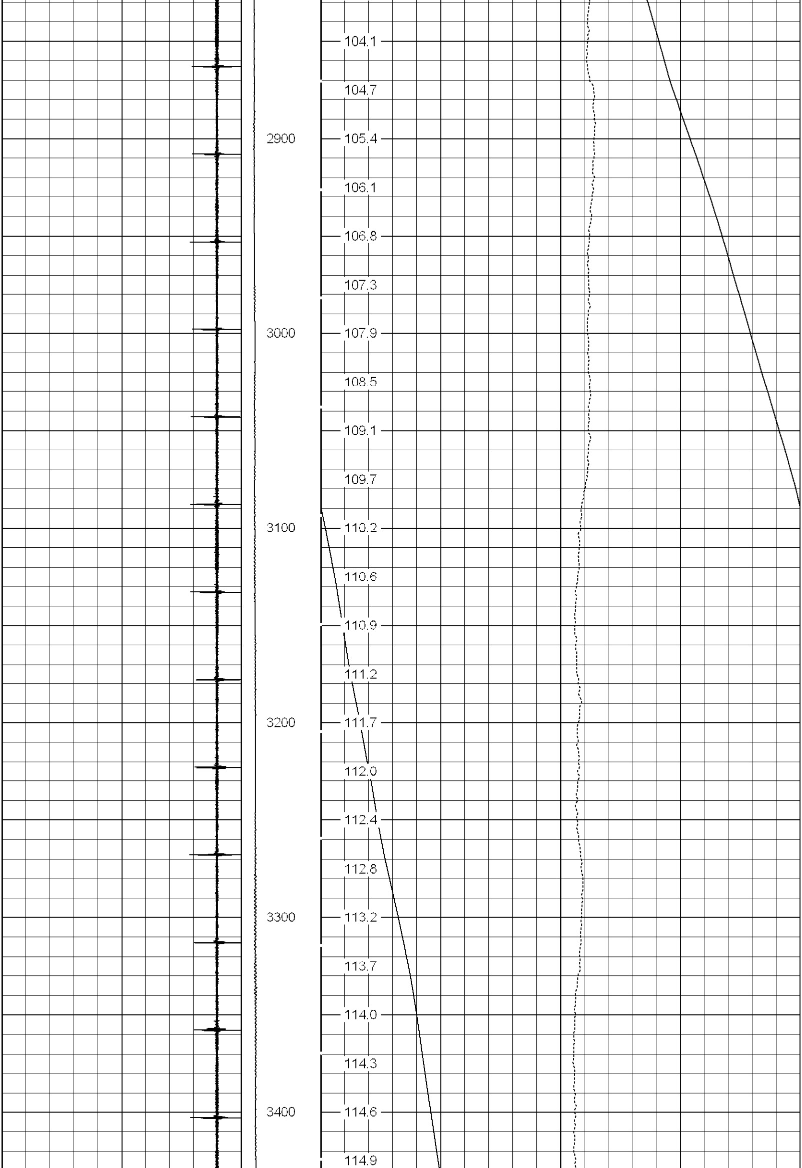
# TEMP PASS

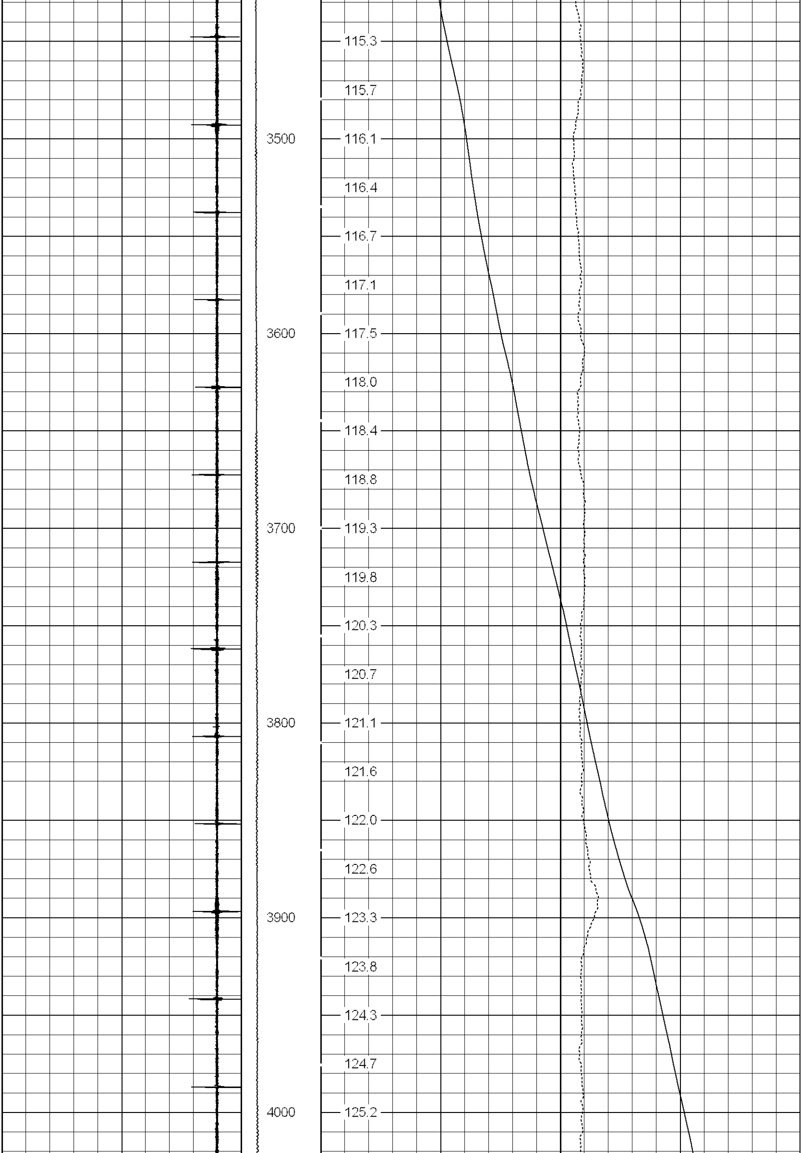
Database File: c:\warrior\data\miller_13d\011910_bill_barret_miller_13d.db
Dataset Pathname: temp/pass1
Presentation Format: rmws_tem
Dataset Creation: Tue Jan 19 12:50:27 2010 by Log Std Casedhole 07122
Charted by: Depth in Feet scaled 1:600

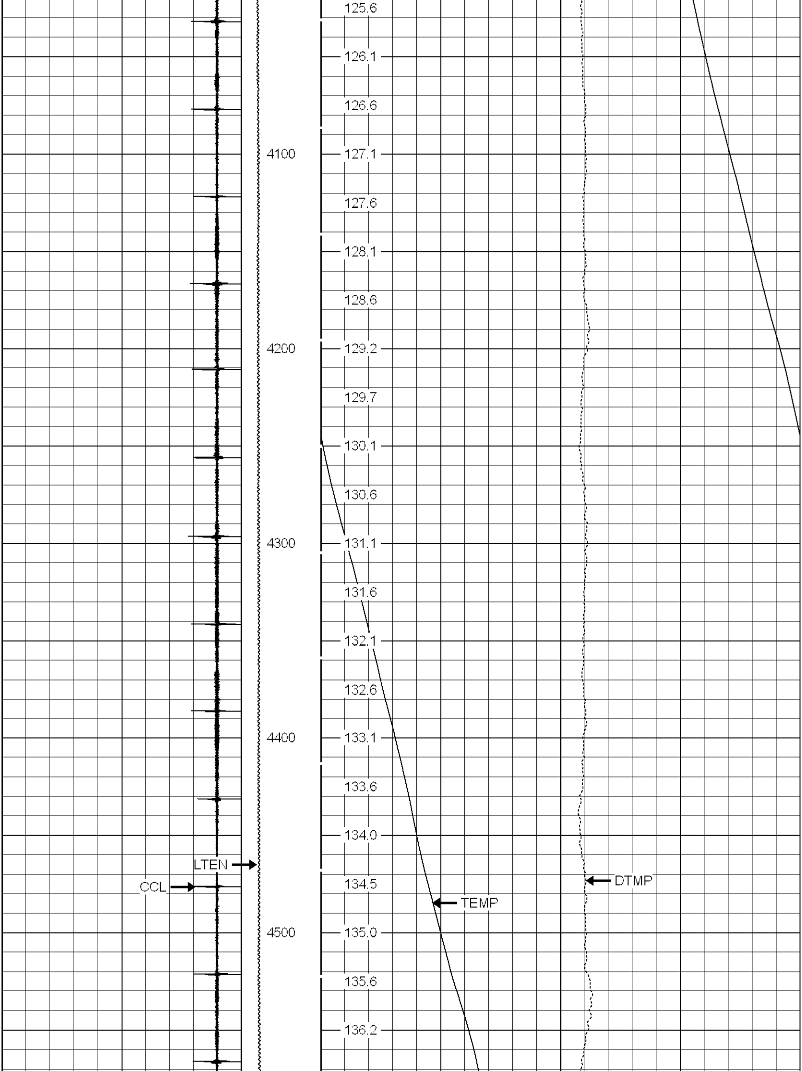
| | | |
|---|---|---|
| -27 CCL 3 | LTEN | 70 TEMP (degF) 90 |
| | 0 (lb)2000 | -0.2 DTMP (degF) 0.2 |
| | | TEMP (degF) |

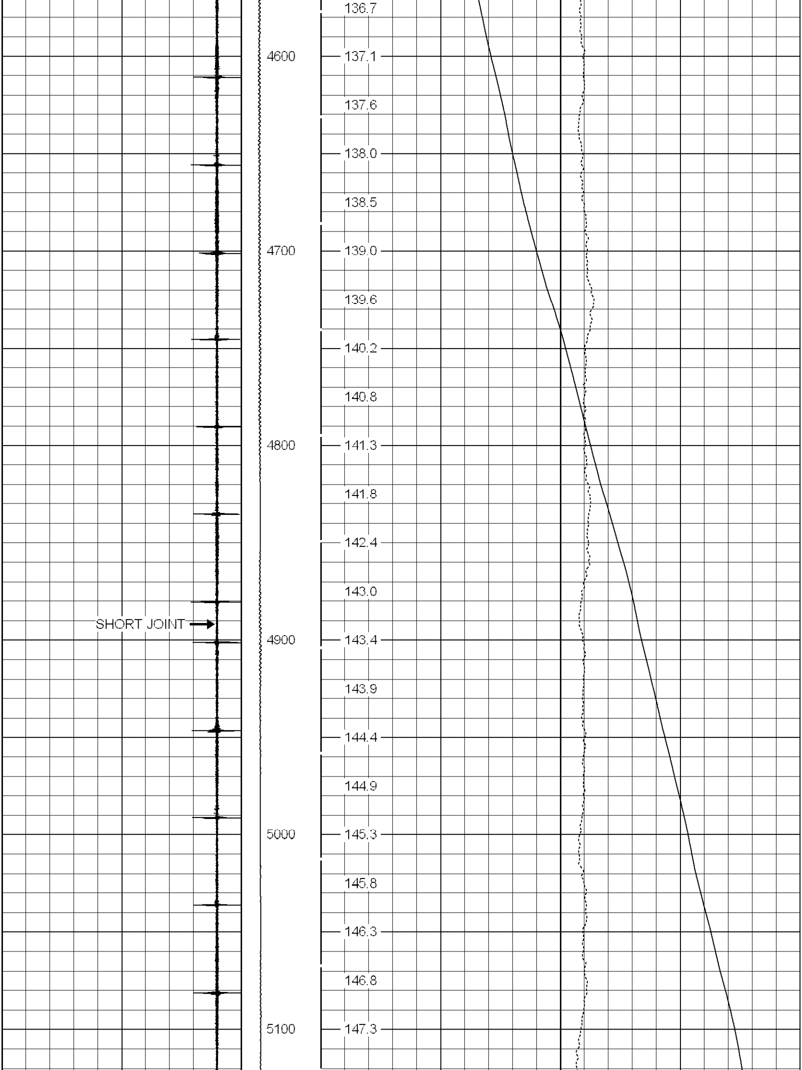


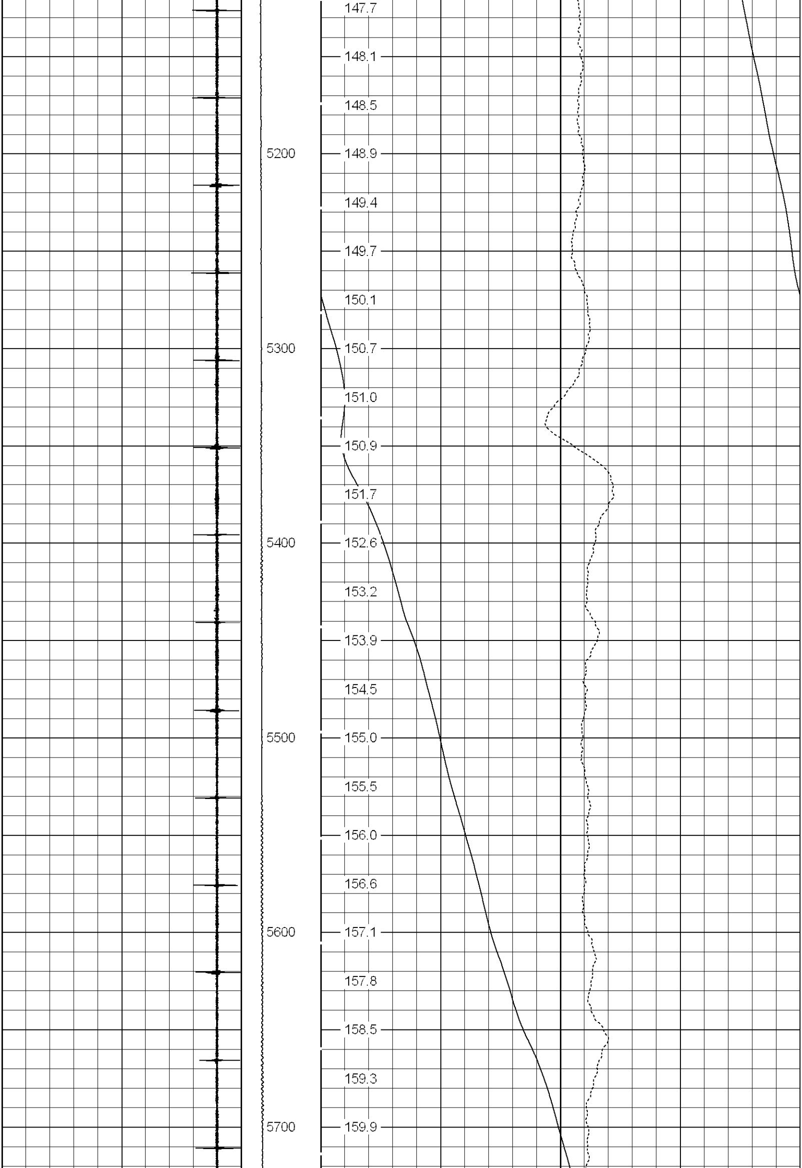


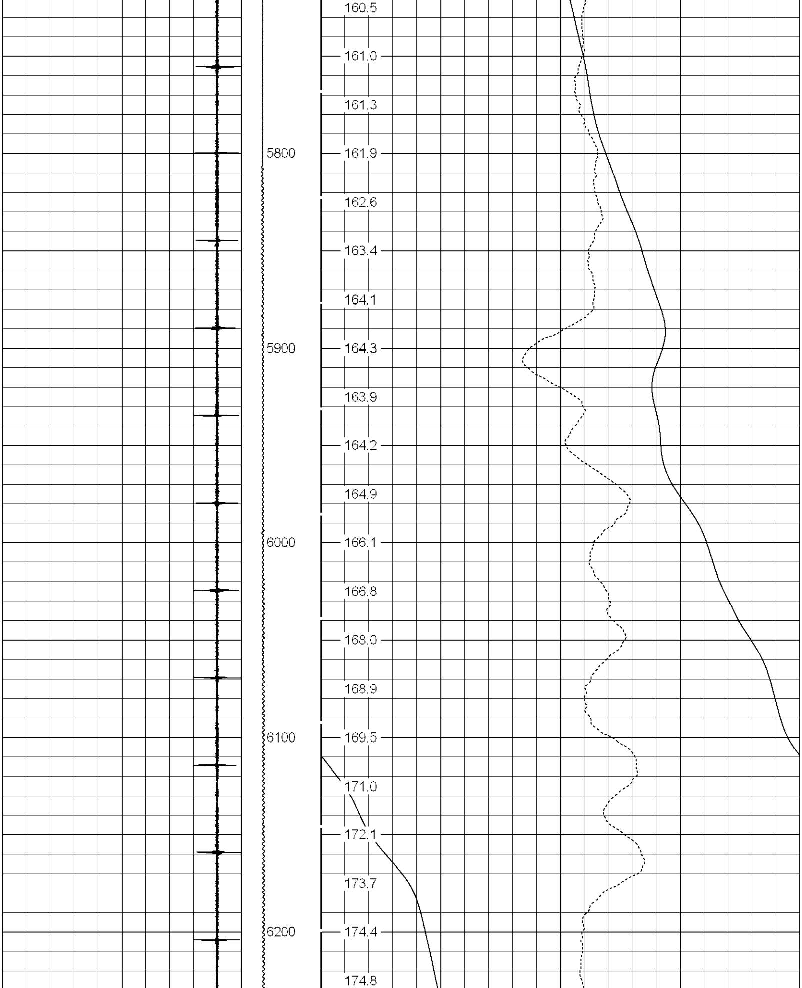


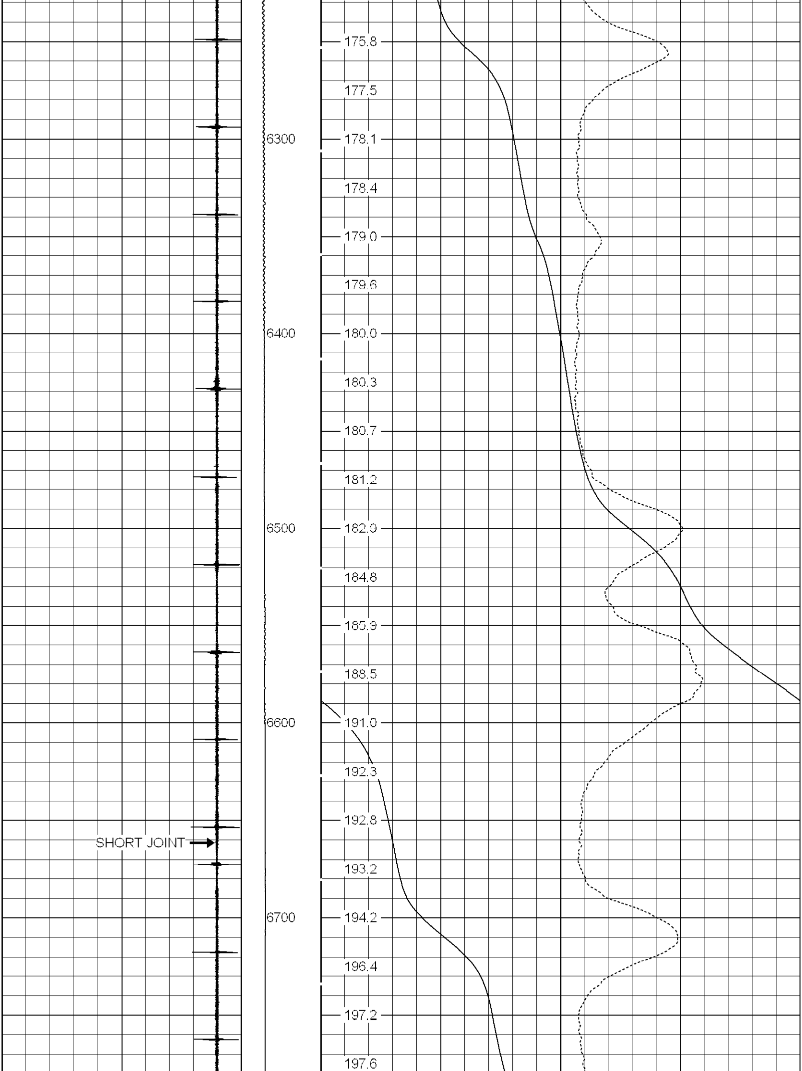


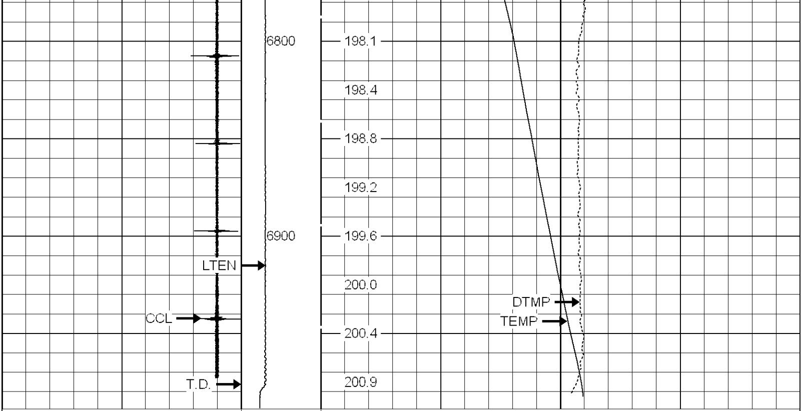












| CCL | LTEN | TEMP (degF) |
|---|---|---|
| -27 CCL 3 | LTEN | 70 TEMP (degF) 90 |
| | 0 (lb)2000 | -0.2 DTMP (degF) 0.2 |
| | | TEMP (degF) |

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# TEMP PASS

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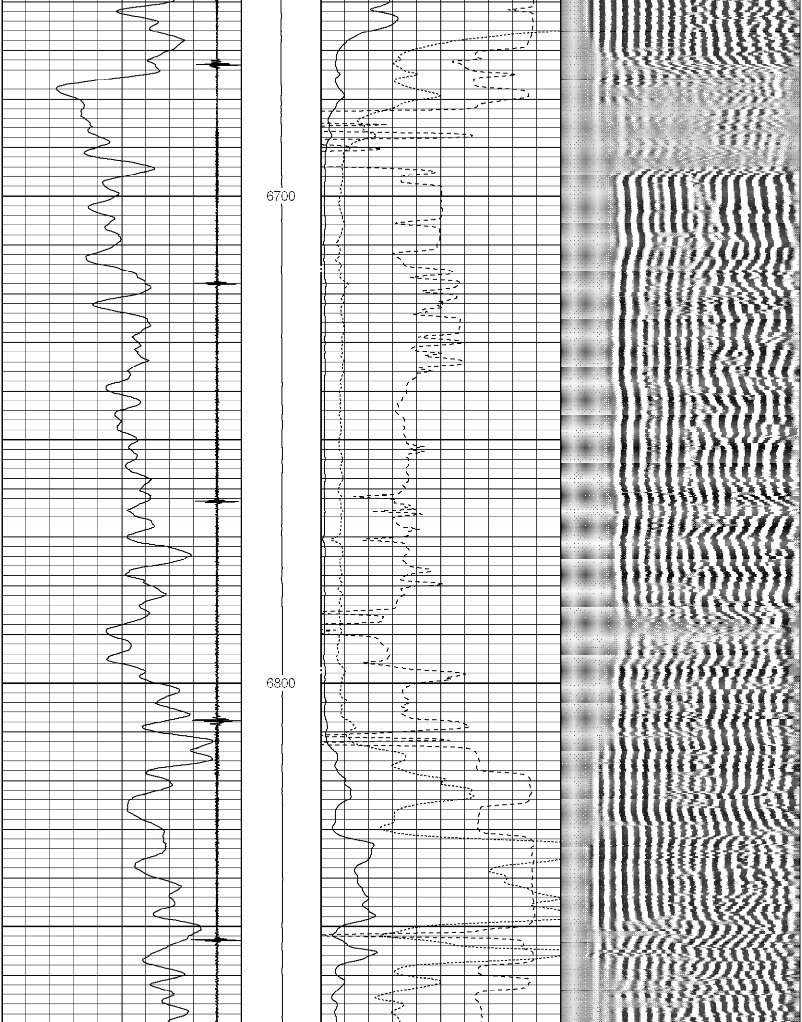
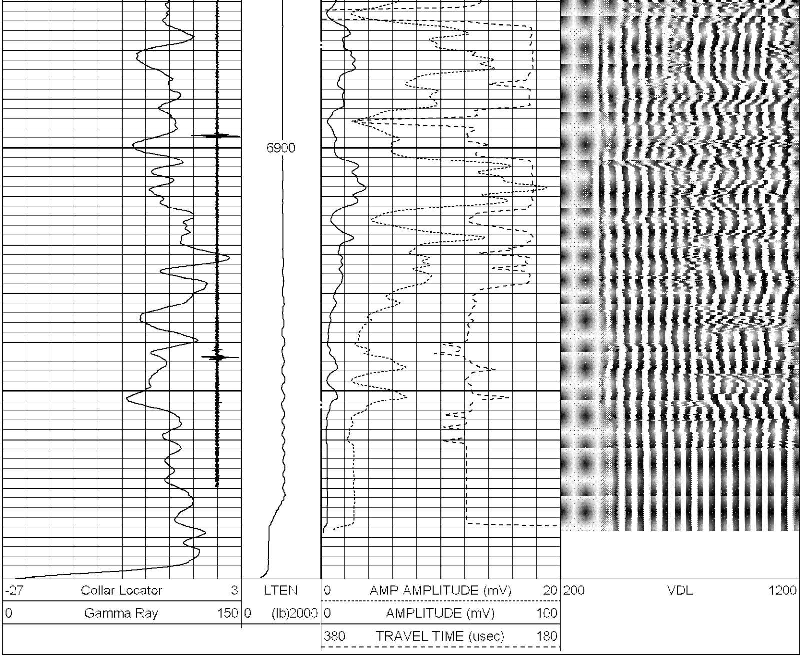
# REPEAT PASS

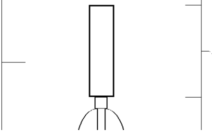
Database File: c:\warrior\data\miller_13d\011910_bill_barret_miller_13d.db
Dataset Pathname: DCBL/pass1
Presentation Format: rmws_dsc
Dataset Creation: Tue Jan 19 14:24:34 2010 by Log Std Casedhole 07122
Charted by: Depth in Feet scaled 1:240

| | | | |
|---|---|---|---|
| -27 Collar Locator 3 | LTEN | 0 AMP AMPLITUDE (mV) 20 | 200 VDL 1200 |
| 0 Gamma Ray 150 | 0 (lb)2000 | 0 AMPLITUDE (mV) 100 | |
| | | 380 TRAVEL TIME (usec) 180 | |

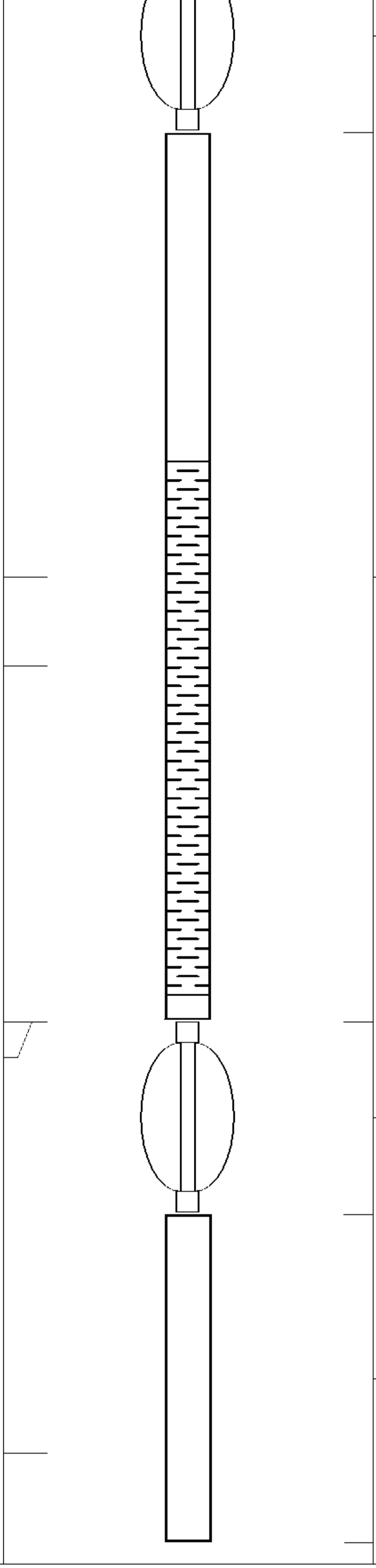




# REPEAT PASS

| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
| CCL | 18.75 |  | CCL-TITAN275 (TITAN275_102)<br>Titan 2 3/4" CCL | 1.92 | 2.75 | 10.00 |

|  |  |
|---|---|
| WVF3FT | 10.85 |
| WVF5FT | 9.85 |
| WVFCAL | 5.85 |
| WVFSYNC | 5.85 |
| GR | 1.00 |



|  |  |  |  |
|---|---|---|---|
| TITAN169<br>Titan 1 11/16" Centralizer | 2.17 | 1.69 | 5.00 |
| CBLTEKCO-TEKCO (TEKCO_8044)<br>DEMO TOOL - DEMINSIONS INVALID | 10.00 | 3.25 | 50.00 |
| TITAN169<br>Titan 1 11/16" Centralizer | 2.17 | 1.69 | 5.00 |
| GR-TEKCO234 (TEKO234_359)<br>Tekco 2 3/4" Gamma Ray | 3.69 | 2.75 | 20.00 |

|  |  |
|---|---|
| Dataset: | 011910_bill_barret_miller_13d.db: field/well/DCBL/pass3 |
| Total Length: | 19.94 ft |
| Total Weight: | 90.00 lb |
| O.D. | 3.25 in |