ROCKY MOUNTAIN WIRELINE SERVICE

# CEMENT BOND LOG
# GAMMA RAY / CCL

|  |  |
|---|---|
| Company | WPX ENERGY |
| Well | FEDERAL GM 702-4-HN1 |
| Field | GRAND VALLEY |
| County | GARFIELD |
| State | COLORADO |
| API #: | 05-045-22051000 |
| Location: | SHL: 1401' FNL & 2354' FEL (SECTION 4)<br>BHL: 1974' FNL & 1702' FEL (SECTION 9) |
| Other Services |  |

SEC 9 TWP 7S RGE 96W

|  |  |  |  | Elevation |
|---|---|---|---|---|
| Permanent Datum | G.L. | Elevation | 5532' | K.B. 5557' |
| Log Measured From | K.B. | Ft Above PD | 25' | D.F. |
| Drilling Measured From | K.B. |  |  | G.L. 5532' |

|  |  |  |
|---|---|---|
| Date | 06 - 25 - 2014 |  |
| Run Number | ONE |  |
| Depth Driller | 10682' |  |
| Present Depth Driller | N/A |  |
| Depth Logger | 2320' |  |
| Bottom Logged Interval | 2319' |  |
| Top Log Interval | 166' |  |
| Fluid Level | 188' |  |
| Type Fluid | WATER |  |
| Max. Recorded Temp. | N/A |  |
| Estimated Cement Top | SEE LOG |  |
| Equipment Number | 219 |  |
| Location | GRAND JCT. |  |
| Recorded By | FERNANDEZ | INGRAM |
| Witnessed By | MR. KOHL |  |

| Borehole Record |  |  |  | Casing Record |  |  |  |
|---|---|---|---|---|---|---|---|
| Run Number | Bit | From | To | Size | Weight | From | To |
| ONE | 24.000" | SURFACE | 120' | 7.625" | 29.7# | SURFACE | 10682' |
| TWO | 17.500" | SURFACE | 2436' | 5.500" | 23.0# | SURFACE | 7618' |
| THREE | 9.875" | SURFACE | 10358' | 4.500" | 15.1# | 7618' | T.D. |
| FOUR |  |  |  |  |  |  |  |

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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 RMWS CEMENT BOND LOG**
**DATED: 11-18-2013**

**MAIN PASS: 5" = 100'**

**CSG PSI: STATIC**

## Calibration Report

Database File: 06252014_wpx_gm_702-4-hm1.db
Dataset Pathname: main/pass1
Dataset Creation: Wed Jun 25 08:32:19 2014 by Log SCH 120430

### Gamma Ray Calibration Report

|  |  |  |
|---|---|---|
| Serial Number: | TEKCO234_352 |  |
| Tool Model: | TEKCO234 |  |
| Performed: | Tue Jul 29 08:24:09 2008 |  |
| Calibrator Value: | 1.0 |  |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 1.3000 | /cps |

### CBL Calibration Report

|  |  |  |  |
|---|---|---|---|
| Serial Number: | TEKCO_8009 |  |  |
| Tool Model: | TEKCO |  |  |
| Performed: | Wed Jun 25 08:09:32 2014 |  |  |
| Depth: | 335.988 | ft |  |
| Casing Diameter: | 5.500 | in |  |

|  | 3' Spacing | 5' Spacing |  |
|---|---|---|---|
| Signal Zero: | 1.000 | 1.000 | mV |
| Calibrated Amplitude: | 71.921 | 71.921 | mV |
| Reading at Signal Zero: | -0.000 | -0.010 | V |
| Reading in Free Pipe: | 0.539 | 0.803 | V |
| Gain: | 131.453 | 87.293 |  |
| Offset: | 1.013 | 1.840 |  |

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# MAIN PASS

Database File: 06252014_wpx_gm_702-4-hm1.db
Dataset Pathname: main/pass1
Presentation Format: rmws_dsc
Dataset Creation: Wed Jun 25 08:32:19 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

| -27 CCL 3 | LTEN | 0 AMPx5 (mV) 20 | 200 VDL 1200 |
|---|---|---|---|
| 0 GR 150 | 0 (lb) 1000 | 0 AMP (mV) 100 |  |
|  |  | 380 TT (usec) 180 |  |

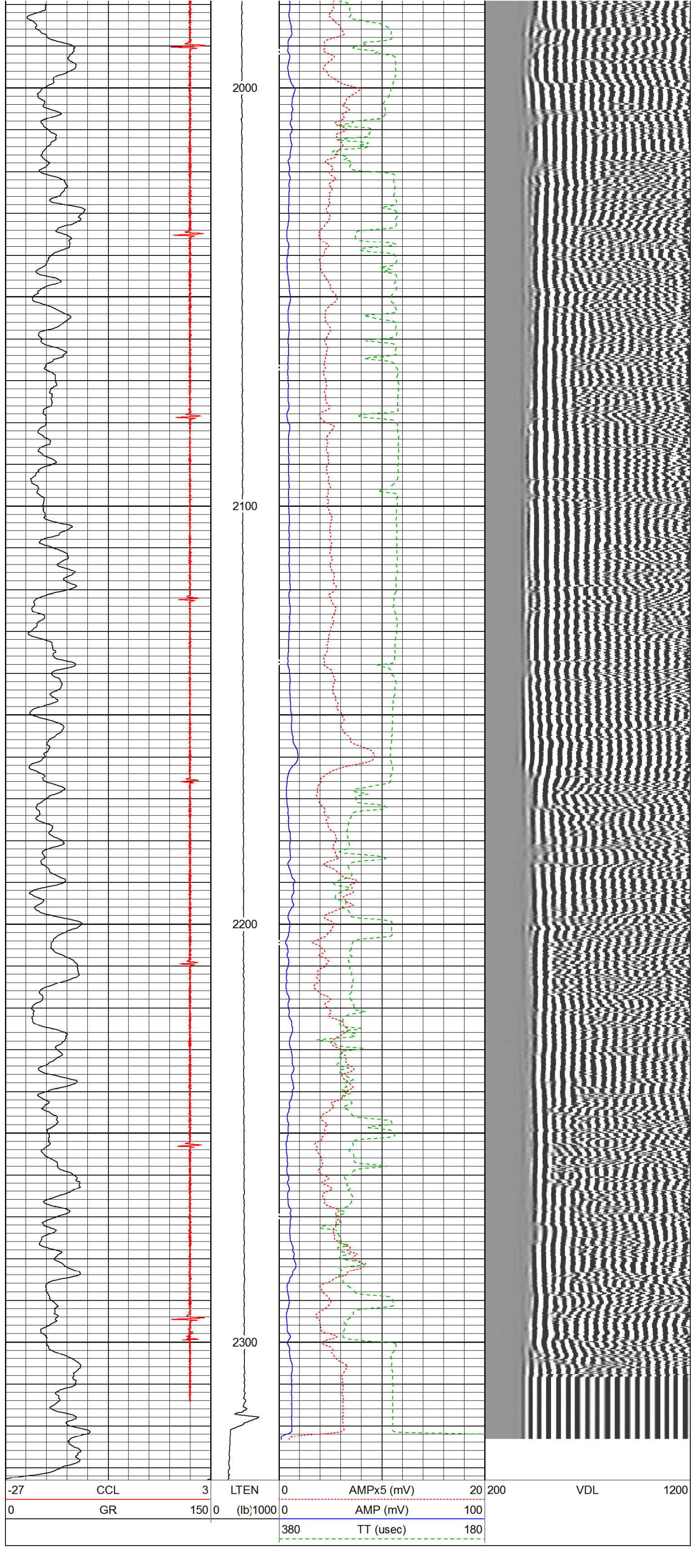
| -27 CCL 3 | LTEN | 0 AMPx5 (mV) 20 | 200 VDL 1200 |
|---|---|---|---|
| 0 GR 150 | 0 (lb) 1000 | 0 AMP (mV) 100 |  |
|  |  | 380 TT (usec) 180 |  |

ROCKY MOUNTAIN WIRELINE SERVICE

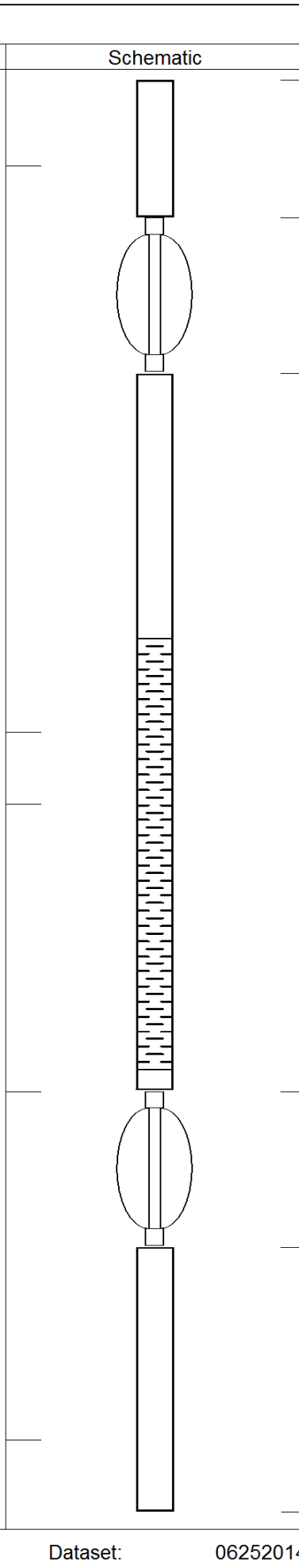
# REPEAT PASS

Database File: 06252014_wpx_gm_702-4-hm1.db
Dataset Pathname: repeat/pass1
Presentation Format: rmws_dsc
Dataset Creation: Wed Jun 25 08:21:29 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

| -27 CCL 3 | LTEN | 0 AMPx5 (mV) 20 | 200 VDL 1200 |
|---|---|---|---|
| 0 GR 150 | 0 (lb) 1000 | 0 AMP (mV) 100 |  |
|  |  | 380 TT (usec) 180 |  |



| -27 CCL 3 | LTEN | 0 AMPx5 (mV) 20 | 200 VDL 1200 |
|---|---|---|---|
| 0 GR 150 | 0 (lb) 1000 | 0 AMP (mV) 100 |  |
|  |  | 380 TT (usec) 180 |  |

| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
| CCL | 18.75 |  | CCL-TITAN275 (TITAN275_01)<br>Titan 2 3/4" CCL | 1.92 | 2.75 | 10.00 |
|  |  |  | TITAN169<br>Titan 1 11/16" Centralizer | 2.17 | 1.69 | 5.00 |
| WVF3FT | 10.85 |  | CBLTEKCO-TEKCO (TEKCO_8009)<br>DEMO TOOL - DEMINSIONS INVALID | 10.00 | 3.25 | 50.00 |
| WVF5FT | 9.85 |  |  |  |  |  |
| WVFSYNC | 5.85 |  |  |  |  |  |
|  |  |  | TITAN169<br>Titan 1 11/16" Centralizer | 2.17 | 1.69 | 5.00 |
|  |  |  | GR-TEKCO234 (TEKCO234_352)<br>Tekco 2 3/4" Gamma Ray | 3.69 | 2.75 | 20.00 |
| GR | 1.00 |  |  |  |  |  |

Dataset: 06252014_wpx_gm_702-4-hm1.db: field/well/main/pass1
Total Length: 19.94 ft
Total Weight: 90.00 lb
O.D. 3.25 in

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|  |  |
|---|---|
| Company | WPX ENERGY |
| Well | FEDERAL GM 702-4-HN1 |
| Field | GRAND VALLEY |
| County | GARFIELD |
| State | COLORADO |