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Pioneer Energy Services

# Radial Cement Bond Log With VDL / CCL / GR And Cement Map

Company Anadarko Petroleum Corporation
Well SEKICH STATE 18C-17HZ
Field Wattenberg
County Weld State Colorado

Location: API #: 05-123-39163
592' FSL & 535' FWL, SWSW
SEC 18 TWP 3N RGE 67W

Other Services
None

Permanent Datum Ground Level Elevation 4875'
Log Measured From Kelly Bushing
Drilling Measured From KB = 16'

Elevation
K.B. 4891'
D.F. 4890'
G.L. 4875'

| | | |
|---|---|---|
| Company | Anadarko Petroleum Corporation | |
| Well | SEKICH STATE 18C-17HZ | |
| Field | Wattenberg | |
| County | Weld | |
| State | Colorado | |
| Date | 15 June 2014 | |
| Run Number | One | |
| Depth Driller | 16807' | |
| Depth Logger | 6580' | |
| Bottom Logged Interval | 6580' | |
| Top Log Interval | Surface | |
| Open Hole Size | UNK | |
| Type Fluid | Water | |
| Density / Viscosity | ~8.34 #/Gal | |
| Max. Recorded Temp. | NA | |
| Estimated Cement Top | SEE LOG | |
| Time Well Ready | 14:30 | |
| Time Logger on Bottom | 15:00 | |
| Equipment Number | P-96 | |
| Location | Fort Morgan | |
| Recorded By | T. REESE | L. MAVROS |
| Witnessed By | K. Evers | |

Borehole Record

| Run Number | Bit | From | To |
|---|---|---|---|
| | | | |

Tubing Record

| Size | Weight | From | To |
|---|---|---|---|
| | | | |

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 9.625" | 36 | Surface | 1240' |
| Prot. String | | | | |
| Production String | 7" | 26 | Surface | 7590' |
| Liner | 4.5" | 11.6 | 6507' | 16783' |

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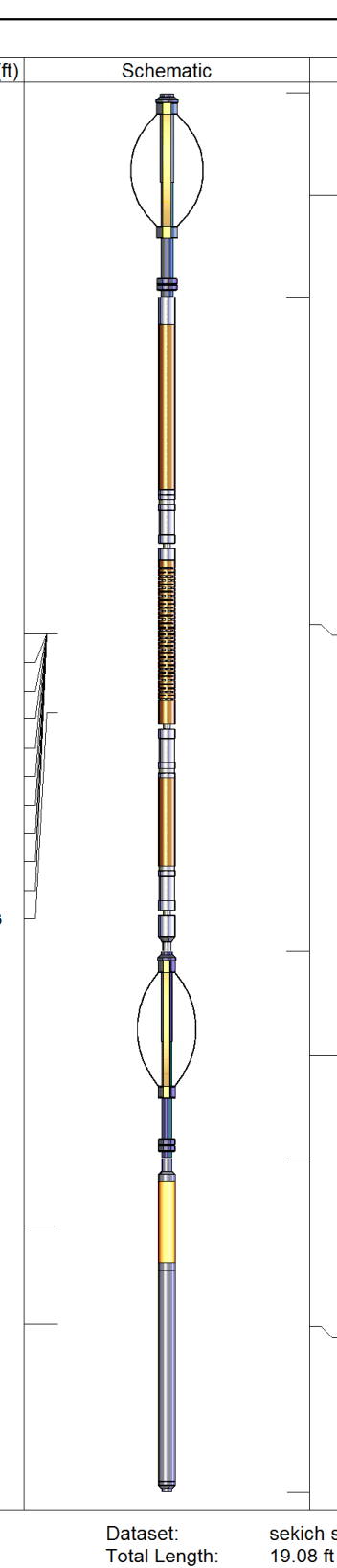
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

Comments

| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
| | | | CSS_MID | 2.79 | 3.00 | 36.00 |
| WVF3FT<br>WVFCAL<br>WVFS1<br>WVFS2<br>WVFS3<br>WVFS4<br>WVFS5<br>WVFS6<br>WVFS7<br>WVFS8<br>WVF5FT | 11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>11.71<br>10.63 | | RBT-Probe (130433)<br>Probe Radii Bond Tool with Digital Telemetry | 8.92 | 2.75 | 90.00 |
| | | | PTS275 | 2.83 | 2.75 | |
| CCL | 3.63 | | | | | |
| GR | 2.30 | | GR_CCL-Probe (111211)<br>Probe Gamma CCL | 4.54 | 2.75 | 100.00 |



Dataset: sekich state 38c-17hz.db: field/well/run1/pass8
Total Length: 19.08 ft
Total Weight: 226.00 lb
O.D. 3.00 in

## Calibration Report

Database File: sekich state 38c-17hz.db
Dataset Pathname: pass8
Dataset Creation: Sun Jun 15 14:54:22 2014 by Log SCH 120430

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 111211 | |
| Tool Model: | Probe | |
| Performed: | Mon May 19 14:35:03 2014 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 1.0000 | GAPI/cps |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | 130433 | |
| Tool Model: | Probe | |
| Calibration Casing Diameter: | 7.000 | in |
| Calibration Depth: | 1219.408 | ft |

Master Calibration, performed Sun Jun 15 14:27:42 2014:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.016 | 1.580 | 1.000 | 62.165 | 39.108 | 0.390 |
| CAL | 0.015 | 0.506 | | | | |
| 5' | 0.015 | 1.793 | 1.000 | 62.165 | 34.387 | 0.495 |
| SUM | | | | | | |
| S1 | 0.015 | 1.593 | 0.000 | 100.000 | 63.355 | -0.938 |
| S2 | 0.015 | 1.627 | 0.000 | 100.000 | 62.057 | -0.939 |
| S3 | 0.015 | 1.606 | 0.000 | 100.000 | 62.852 | -0.950 |
| S4 | 0.015 | 1.572 | 0.000 | 100.000 | 64.210 | -0.951 |
| S5 | 0.015 | 1.550 | 0.000 | 100.000 | 65.119 | -0.959 |
| S6 | 0.015 | 1.532 | 0.000 | 100.000 | 65.909 | -0.974 |
| S7 | 0.015 | 1.537 | 0.000 | 100.000 | 65.699 | -1.001 |
| S8 | 0.015 | 1.589 | 0.000 | 100.000 | 63.539 | -0.960 |

Internal Reference Calibration, performed Wed Dec 31 18:00:00 1969:

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.015 | 0.506 | 1.000 | 0.000 |

Air Zero Calibration, performed Sun Jun 15 12:23:02 2014:

| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | 0.000 | 0.000 | 0.000 |
| 5' | 0.000 | 0.000 | 0.000 |
| SUM | | | |
| S1 | 0.000 | 0.000 | 0.000 |
| S2 | 0.000 | 0.000 | 0.000 |
| S3 | 0.000 | 0.000 | 0.000 |
| S4 | 0.000 | 0.000 | 0.000 |
| S5 | 0.000 | 0.000 | 0.000 |
| S6 | 0.000 | 0.000 | 0.000 |
| S7 | 0.000 | 0.000 | 0.000 |
| S8 | 0.000 | 0.000 | 0.000 |

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## MAIN PASS

5" = 100'

Database File: sekich state 38c-17hz.db
Dataset Pathname: pass8
Presentation Format: scbl02
Dataset Creation: Sun Jun 15 14:54:22 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

| | | | | | |
|---|---|---|---|---|---|
| 9 CCL -1 | 0 GR (GAPI) 200<br>Travel Time<br>373 (usec) 273 | 0 AMP (mV) 100<br>0 AMPx5 (mV) 20 | 0 AMPAVG 150<br>0 AMPMAX 150<br>0 AMPMIN 150 | 200 VDL 1200 | 1 SECTOR MAP 8<br>10 60 |

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| Field | Wattenberg |
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