# RADIAL SECTOR BOND LOG WITH GAMMA RAY

Pioneer Energy Services

Company KERR-MCGEE OIL & GAS ONSHORE
Well PSC 12-10A
Field WATTENBERG
County WELD
State CO

**Company KERR-MCGEE OIL & GAS ONSHORE**
**Well PSC 12-10A**
**Field WATTENBERG**
**County WELD State CO**

Location: API # : 05123179250000
2044' FNL & 723' FWL SWNW
LAT 40.24176
LONG -104.88362
SEC 10 TWP 3N RGE 67W

Other Services
None

| | | | |
|---|---|---|---|
| Permanent Datum | GL | Elevation 4780 | Elevation<br>K.B. 4789<br>D.F. 4788<br>G.L. 4780 |
| Log Measured From | KB | | |
| Drilling Measured From | KB...9' ABOVE GL | | |

| | |
|---|---|
| Date of Service | JANUARY 30, 2015 |
| Run Number | 1 |
| Depth Driller or PBTD | 7220 |
| Depth Logger | 6500 |
| Bottom Log Interval | 6499 |
| Top Log Interval | SURFACE |
| Open Hole Size | 7+7/8" |
| Type Fluid | WATER |
| Fluid Level | 60 |
| Fluid Density | 8.33 PPG |
| Max. Recorded Temperature | 203 F |
| Max. Wellhead Pressure | 0 |
| Wellhead Connection | PACKOFF |
| Estimated Cement Top | 260 |
| Unit Number | P75 |
| Wireline Size | 9/32" |
| Location | FT. MORGAN, CO |
| Recorded By | SCHUMAN |
| Witnessed By | MR NICK LANG |

| | Size | Wt/Ft | Top | Bottom |
|---|---|---|---|---|
| Tubing Record | | | | |
| Surface Casing | 8+5/8" | 24# | SURFACE | 320 |
| Production Casing | 3+1-2" | 7.7# | SURFACE | 7232 |
| Liner Record | | | | |

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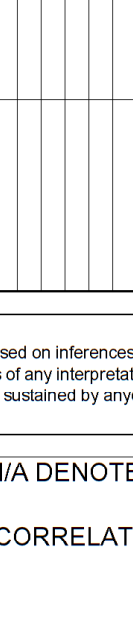
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
S.O. # 2-280120
CORRELATED TO OPENHOLE LOG DATED 4-22-1994

THANK YOU FOR USING PIONEER ENERGY SERVICES

| Your Pioneer ENERGY Services Crew | Tool Data - Services | Serial Number |
|---|---|---|
| Engineer: SHAUN | SECTOR CBL | IUED8-02 |
| Operator: GENO | GR | IXMM7-01 |
| Operator: ANGELO | | |
| Operator: MATT | | |



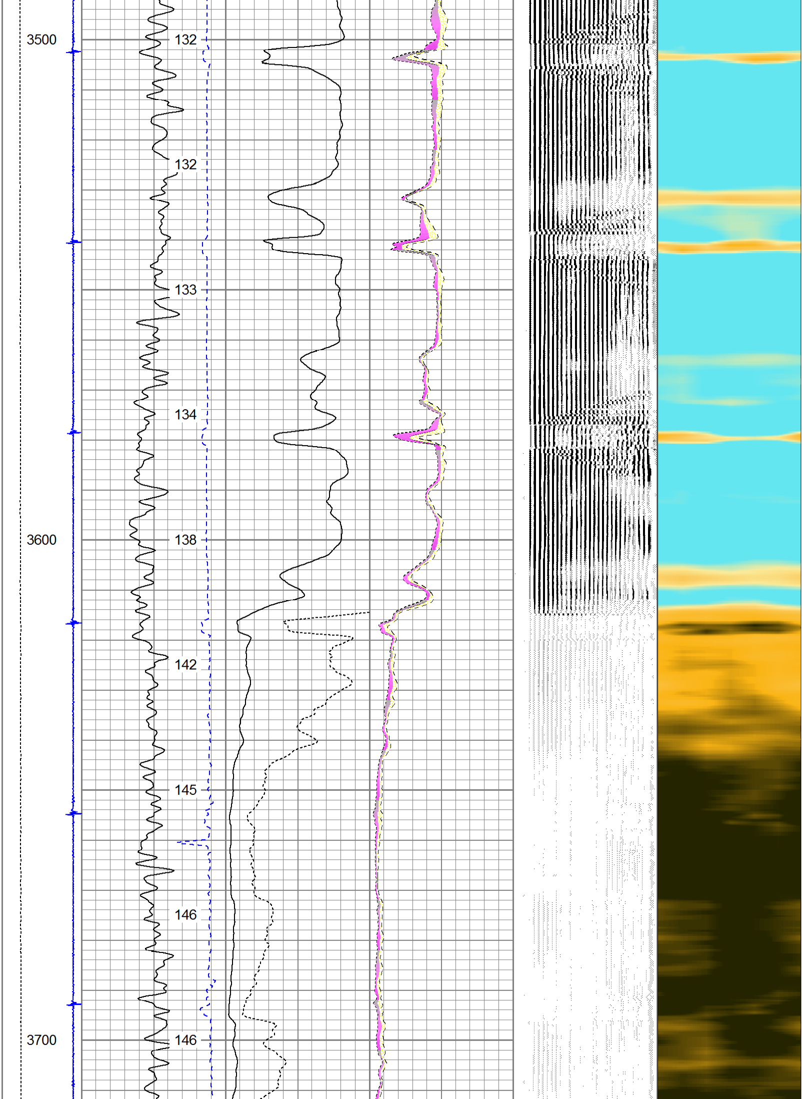
| Sensor | Offset (ft) | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|
| | | STNDRD<br>Standard Cable Head | 1.00 | 1.69 | 10.00 |
| CCL | 19.32 | CCL-168tekco (ID9V0-06)<br>TEKCO 1 11/16" 450 Deg. F CCL | 1.67 | 1.69 | 9.00 |
| | | 1.69<br>1 11/16" Tekco Adjustable Centralizer | 2.21 | 1.69 | 10.00 |
| TEMP | 12.53 | | | | |
| WVFCAL | 11.87 | | | | |
| WVFS1 | 11.12 | SCBLTEKSLIM-T169Temp (IUED8-02_2.ε<br>Tekco 1 11/16" 400 Deg F Sector with Temp | 10.48 | 1.69 | 53.00 |
| WVFS2 | 11.12 | | | | |
| WVFS3 | 11.12 | | | | |
| WVFS4 | 11.12 | | | | |
| WVFS5 | 11.12 | | | | |
| WVFS6 | 11.12 | | | | |
| WVF3FT | 10.37 | | | | |
| WVF5FT | 9.37 | | | | |
| WVFTEMP | 6.03 | | | | |
| | | 1.69<br>1 11/16" Tekco Adjustable Centralizer | 2.21 | 1.69 | 10.00 |
| GR | 1.00 | GR-Tek-Co (IXMM7-01)<br>TEKCO 1 11/16" 400 Deg. F Scintillation Logging Gamma Ray | 3.82 | 1.68 | 18.00 |

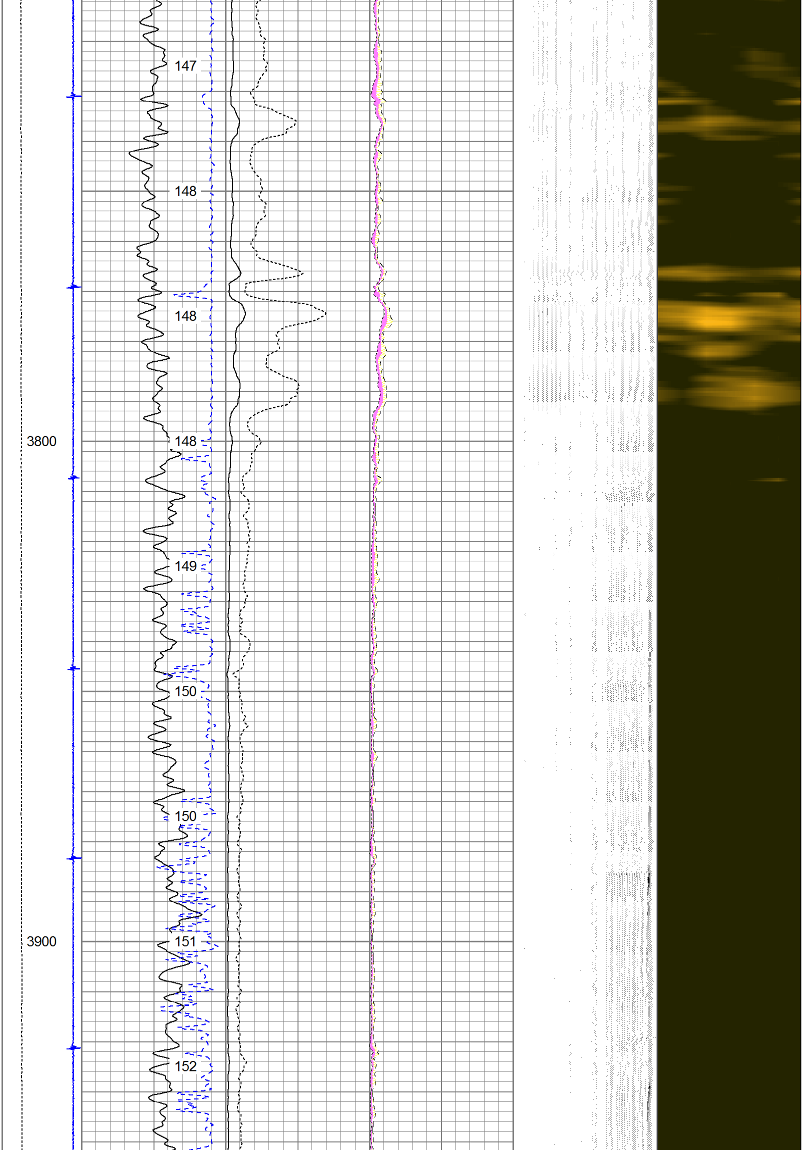
Dataset: psc12-10a .db: field/well/run1/pass2
Total Length: 21.39 ft
Total Weight: 110.00 lb
O.D. 1.69 in

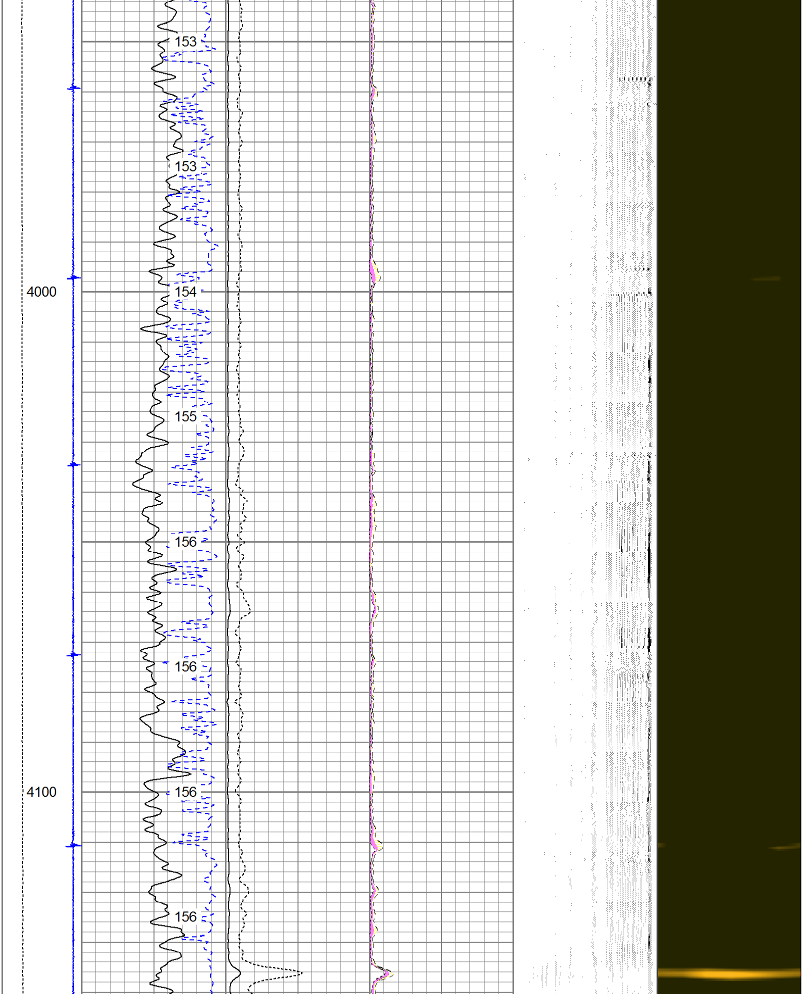
## MAIN LOG

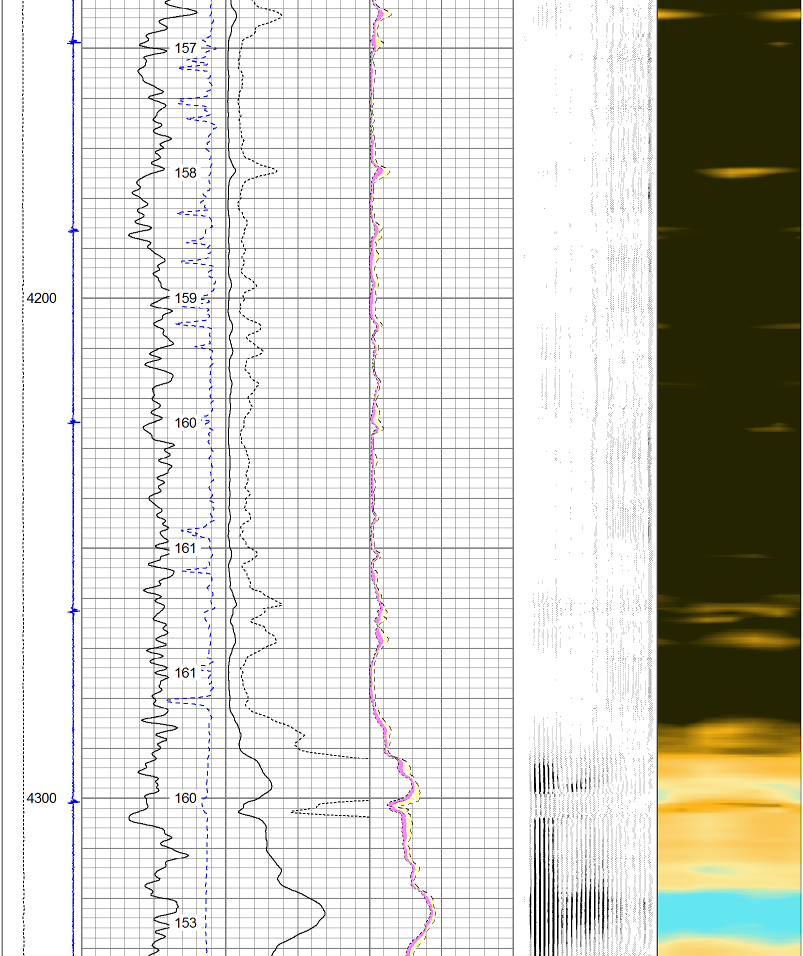
LOGGED WITH 0 PSI APPLIED AT SURFACE

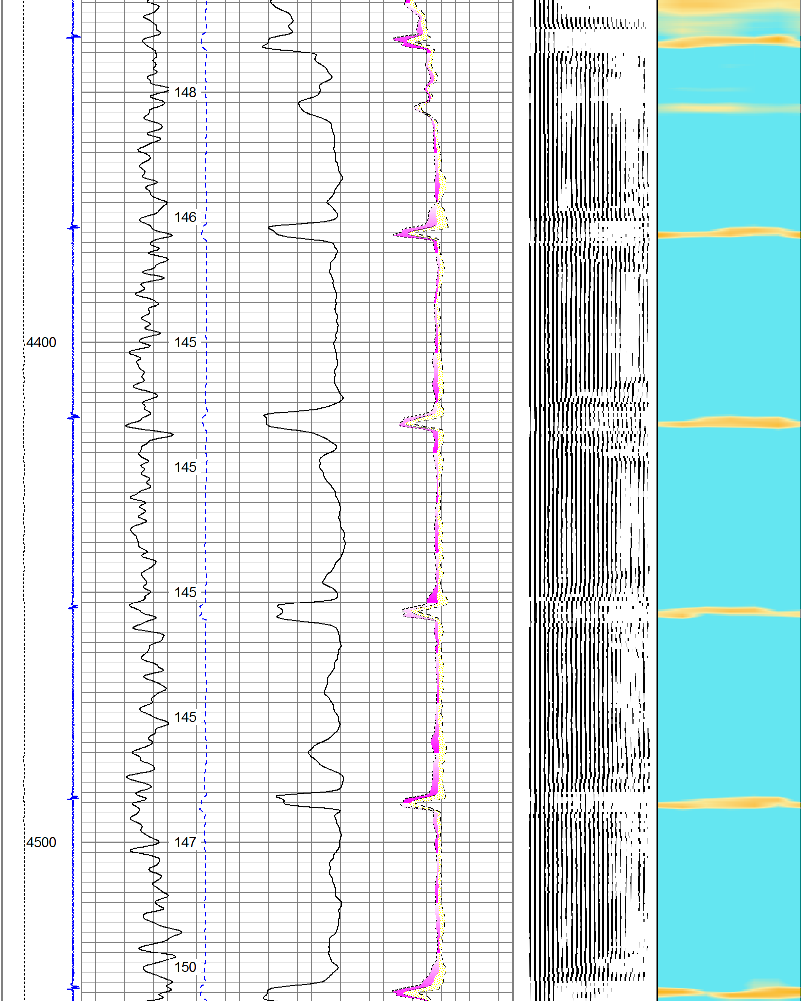
| | |
|---|---|
| Database File: | psc12-10a .db |
| Dataset Pathname: | pass7.1 |
| Presentation Format: | scbl02 |
| Dataset Creation: | Fri Jan 30 09:54:56 2015 by Calc 7.0 B1 |
| Charted by: | Depth in Feet scaled 1:240 |

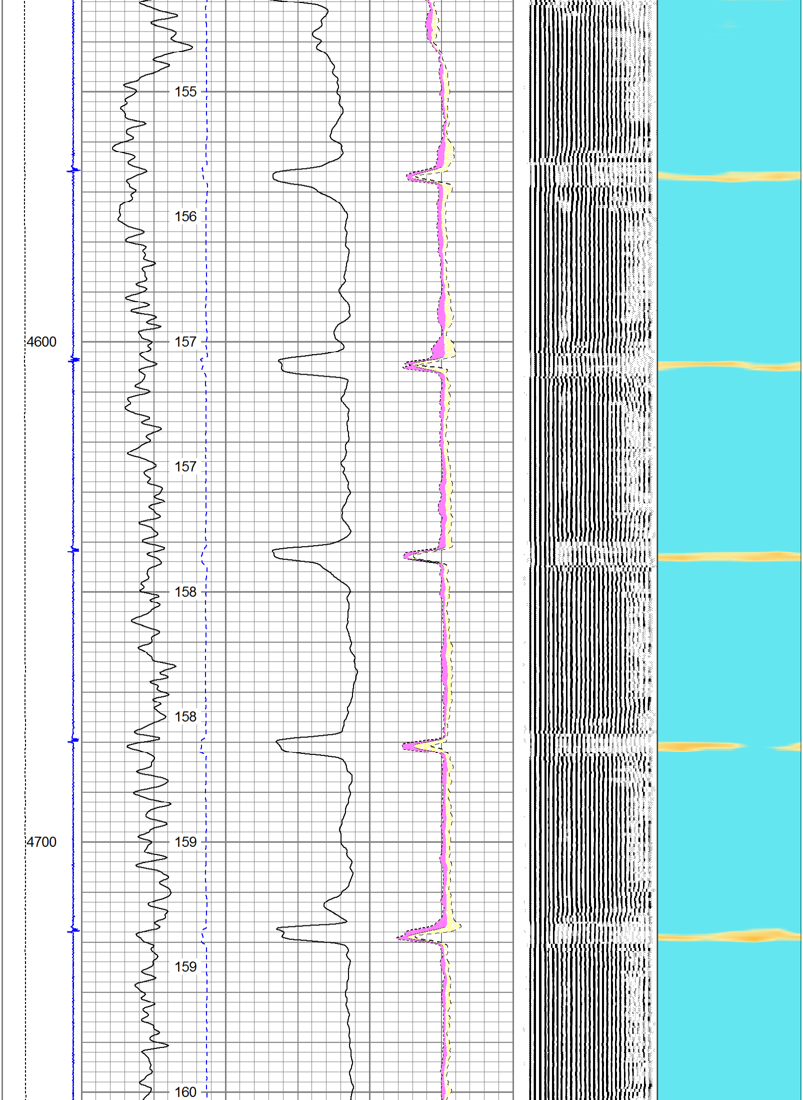


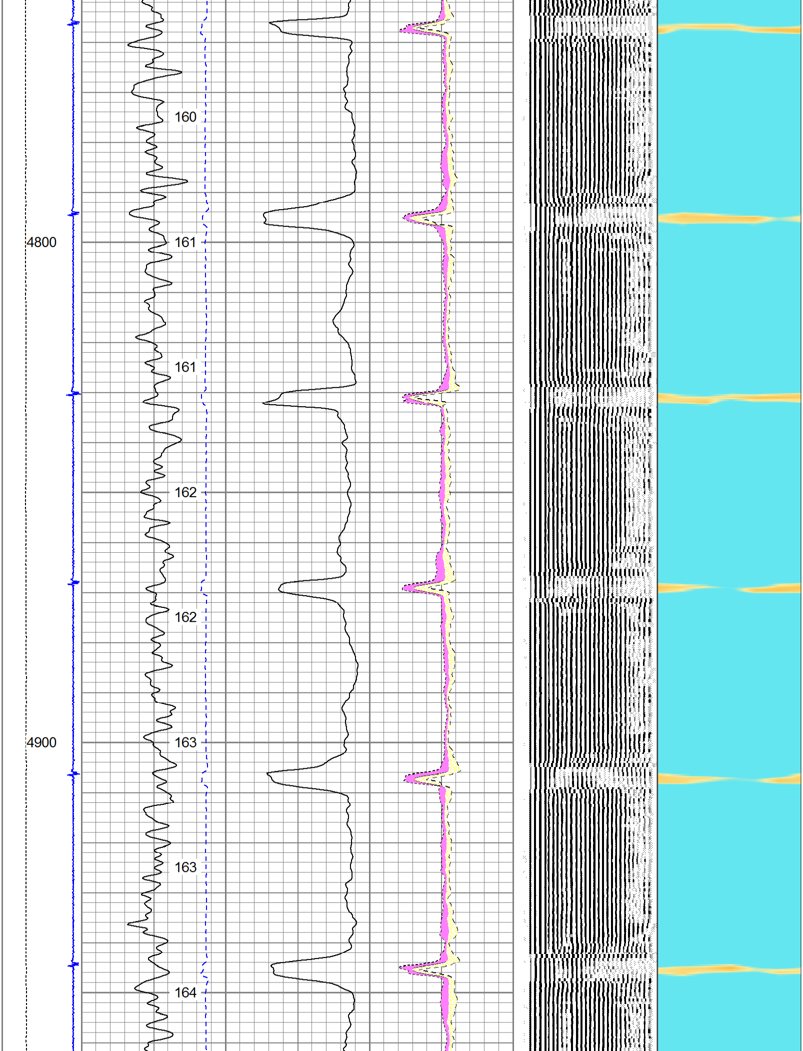


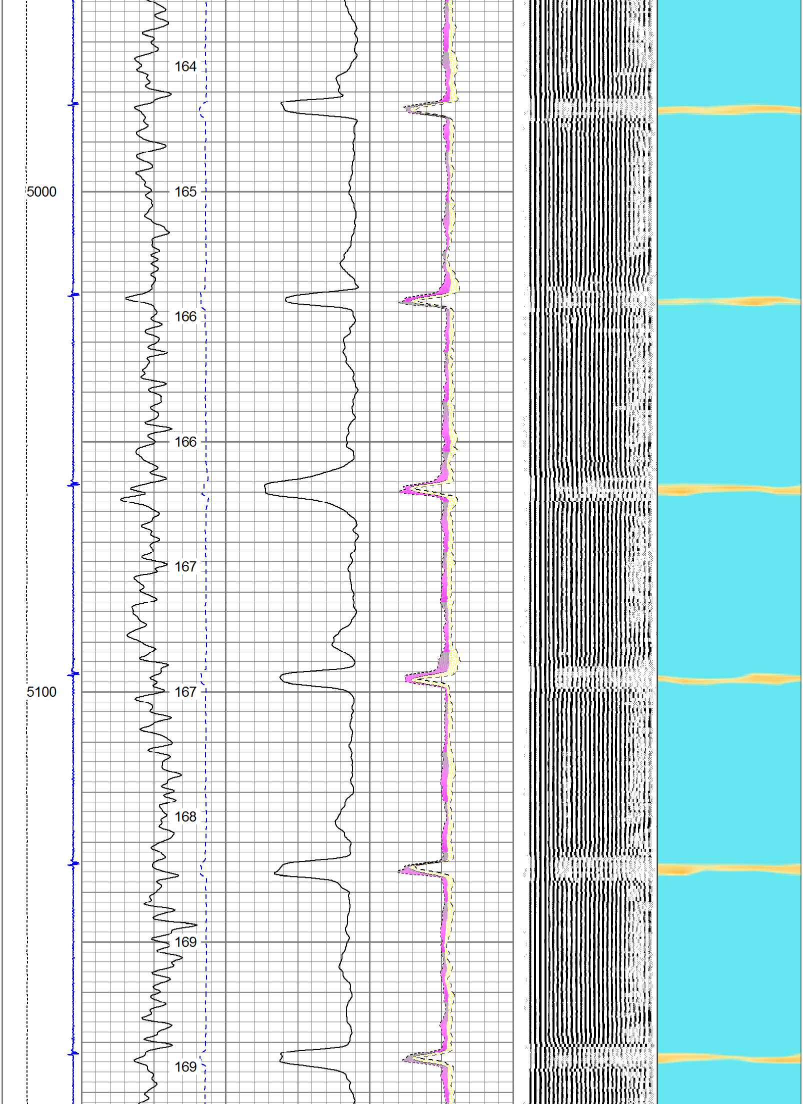


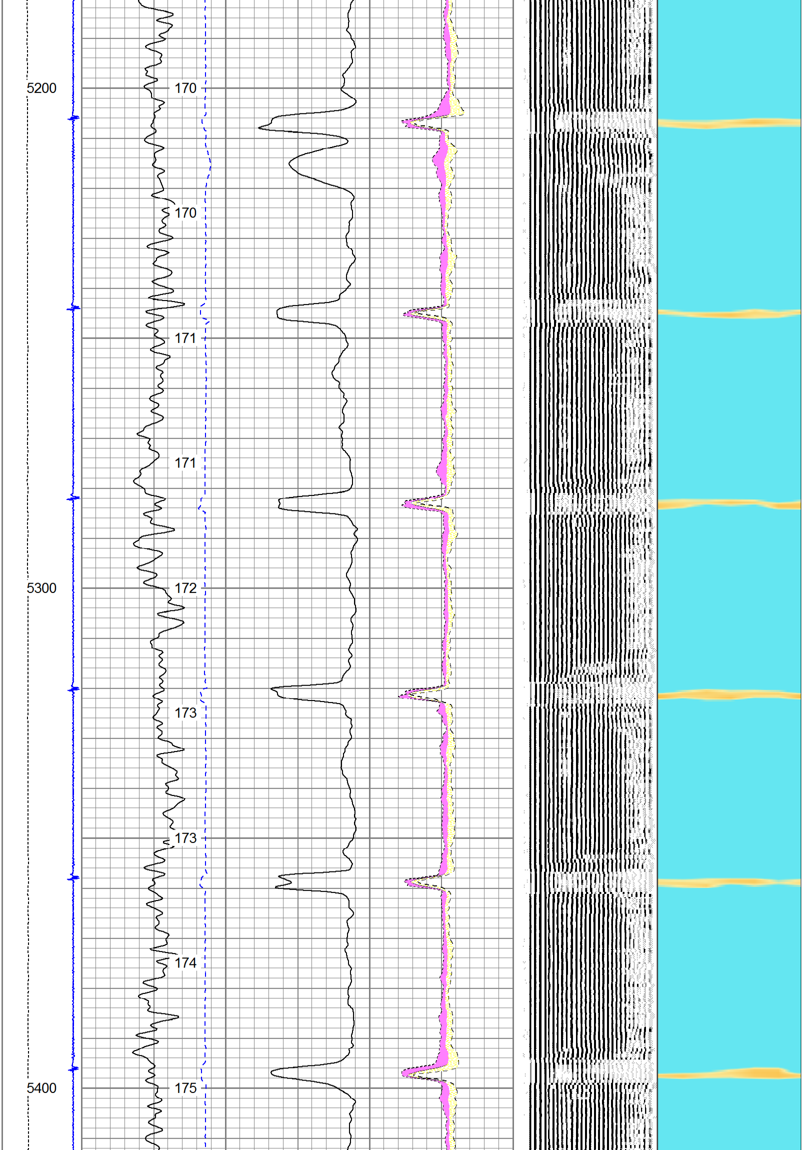


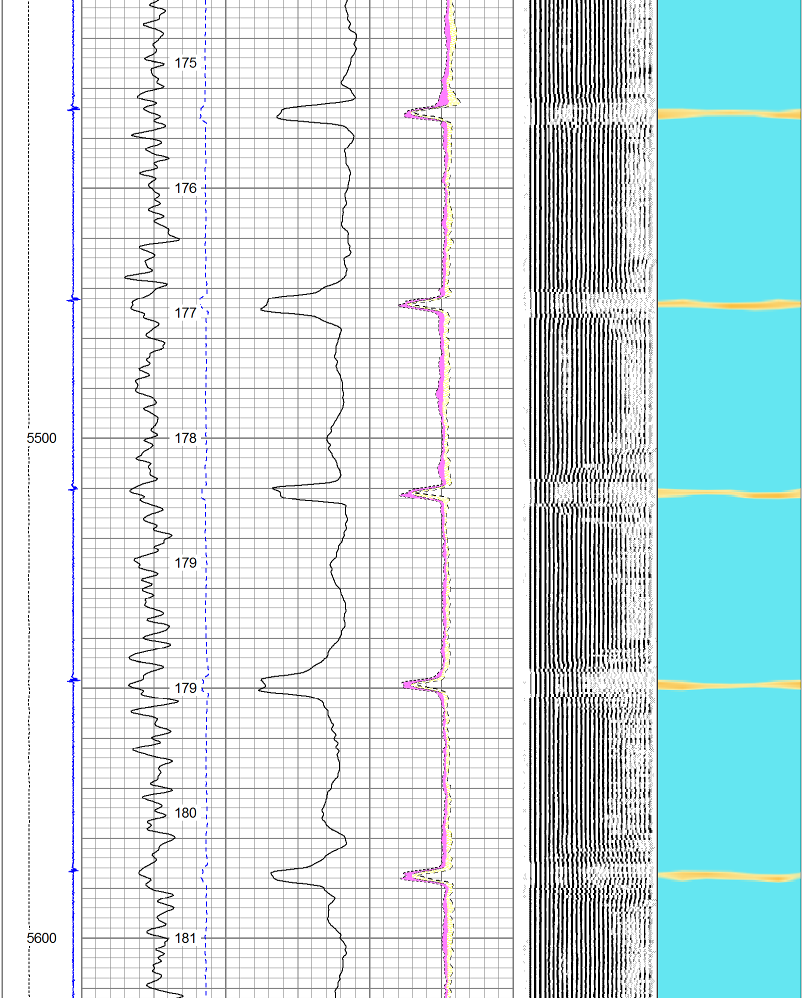


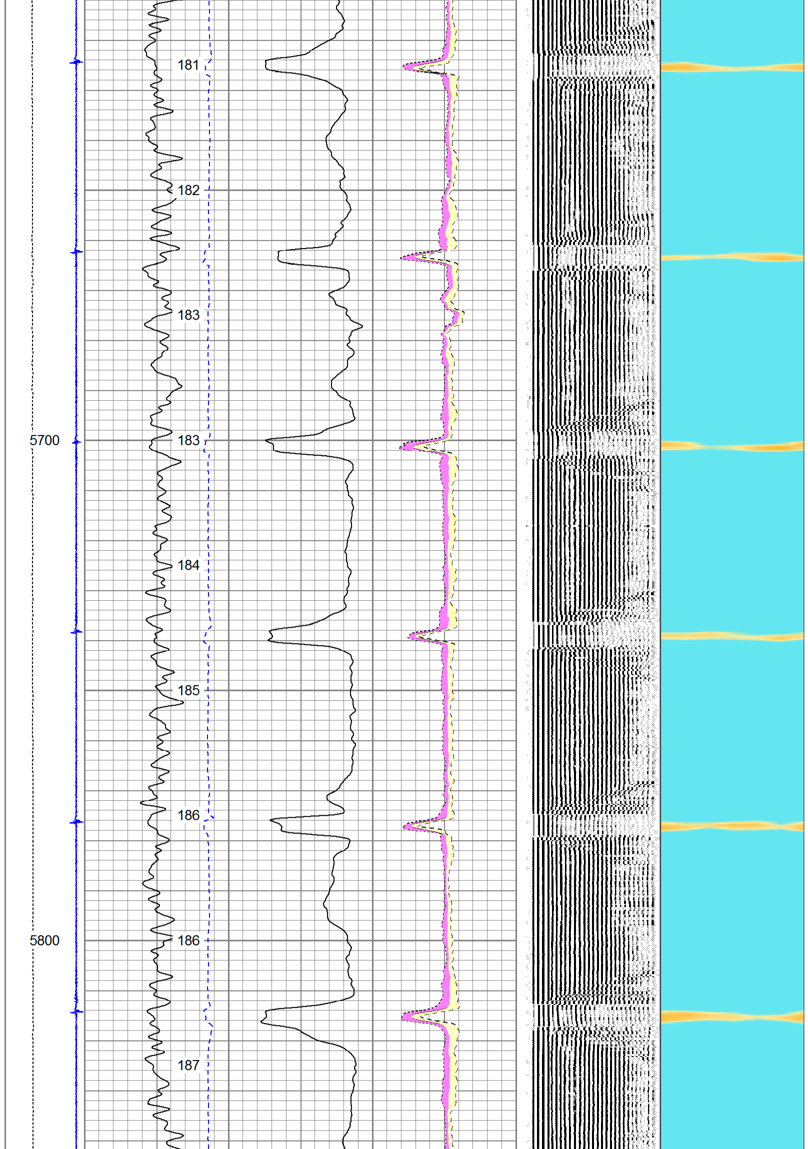


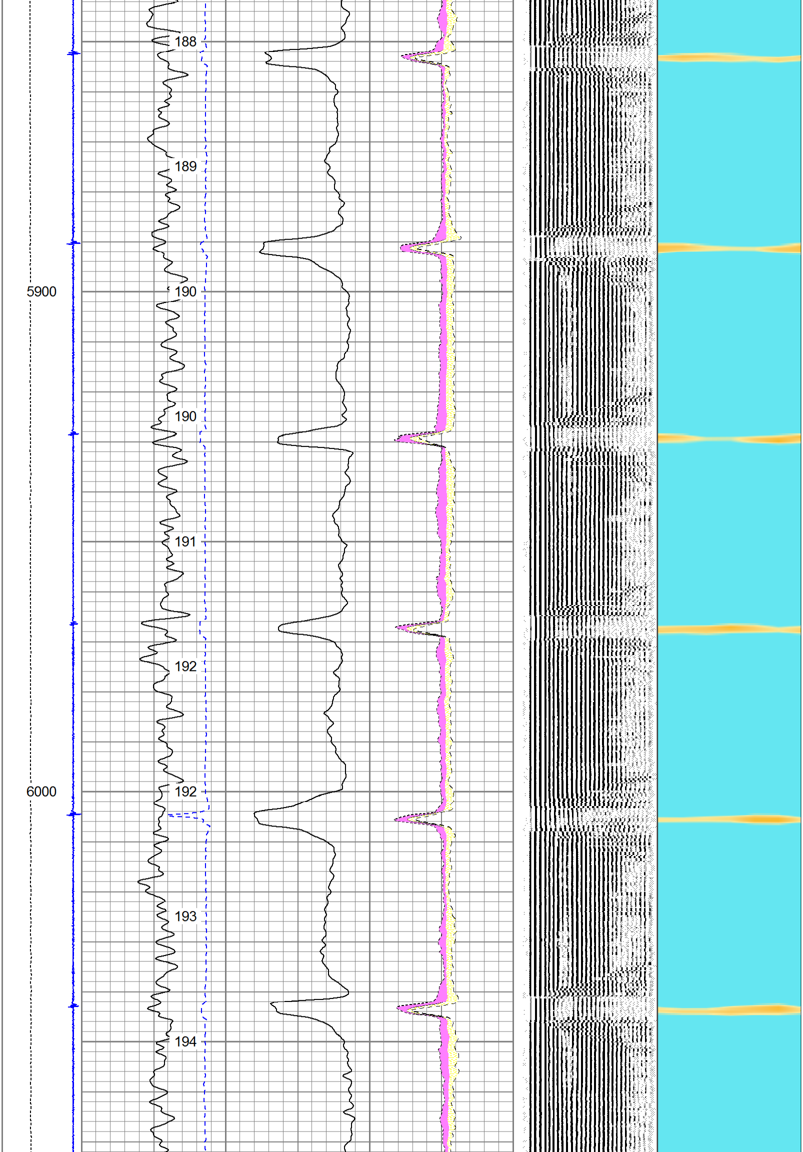


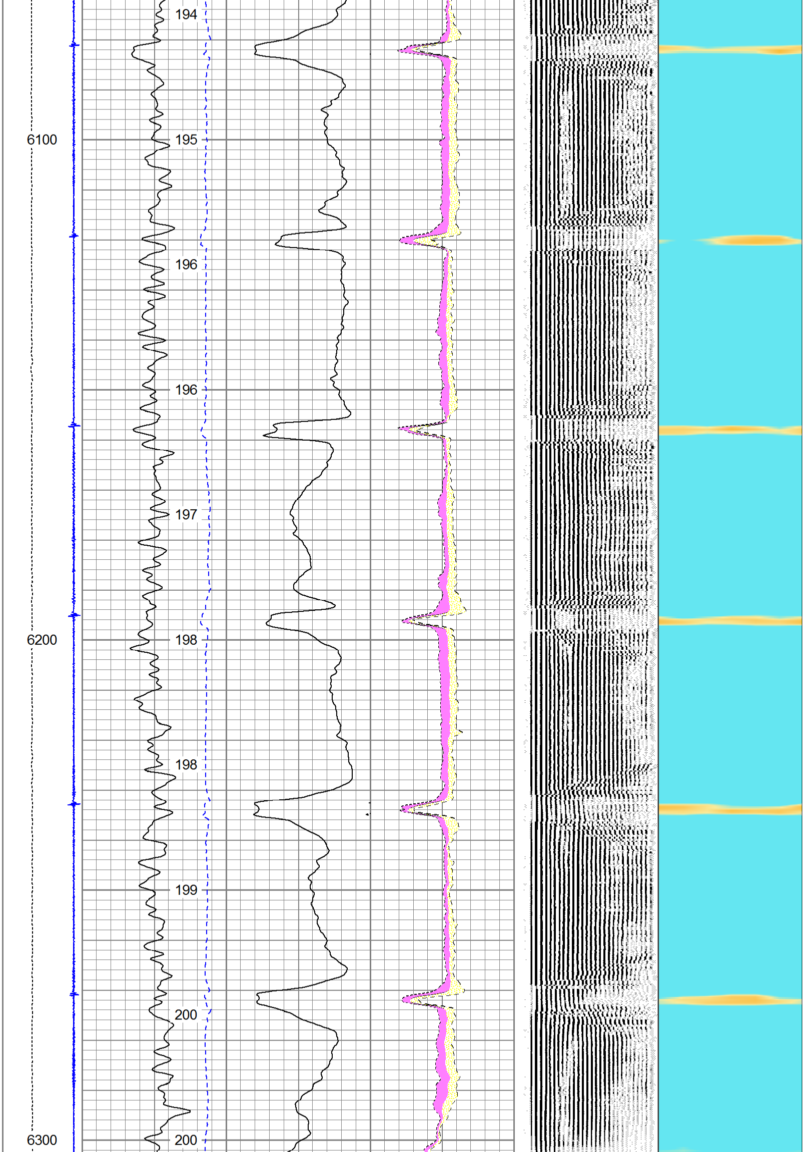


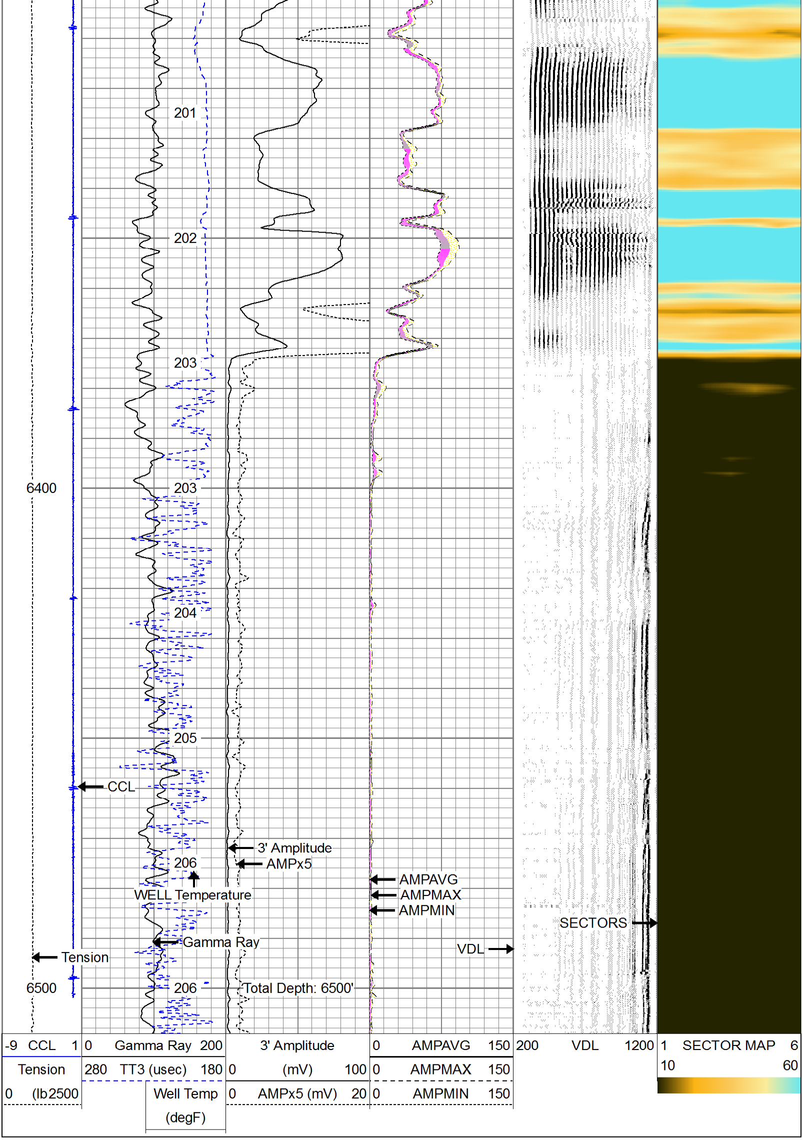












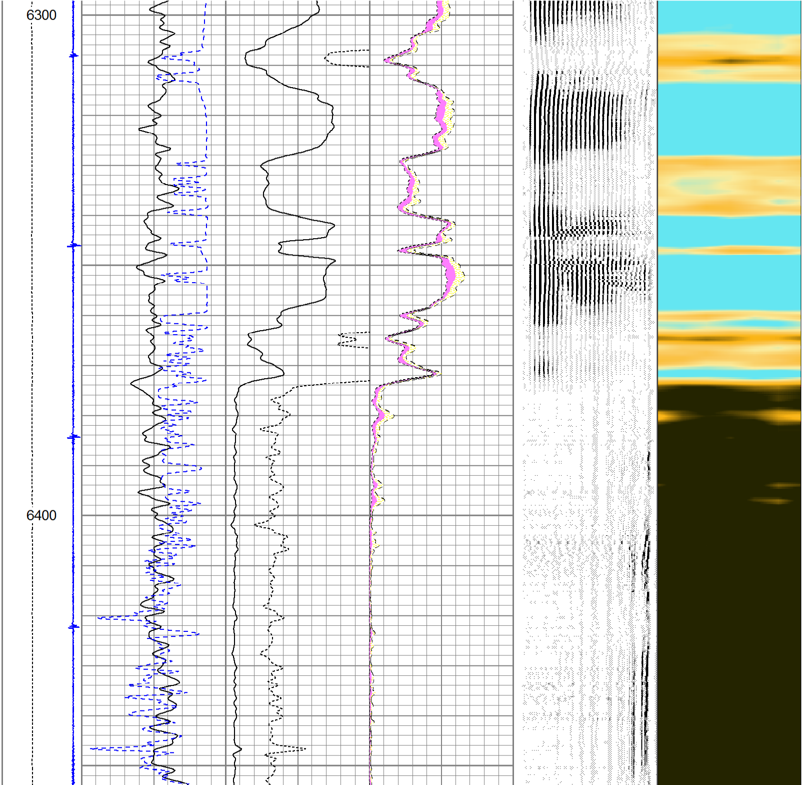
Pioneer Energy Services

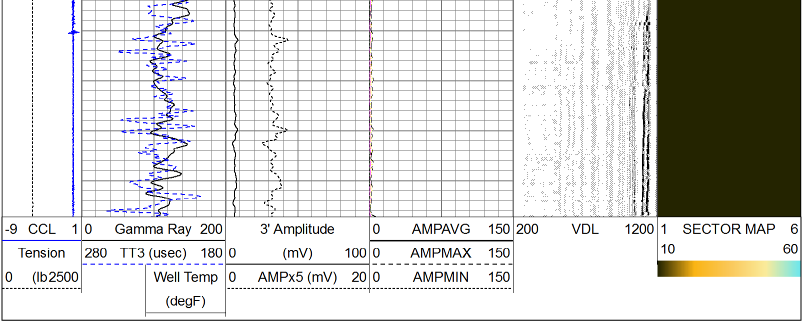
# REPEAT SECTION

LOGGED WITH 0 PSI APPLIED AT SURFACE

| | |
|---|---|
| Database File: | psc12-10a .db |
| Dataset Pathname: | pass5.3 |
| Presentation Format: | scbl02 |
| Dataset Creation: | Fri Jan 30 08:43:24 2015 by Calc 7.0 B1 |
| Charted by: | Depth in Feet scaled 1:240 |

| | | | | | |
|---|---|---|---|---|---|
| -9 CCL 1 | 0 Gamma Ray 200 | 3' Amplitude | 0 AMPAVG 150 | 200 VDL 1200 | 1 SECTOR MAP 6 |
| Tension | 280 TT3 (usec) 180 | 0 (mV) 100 | 0 AMPMAX 150 | | 10 60 |
| 0 (lb 2500 | Well Temp (degF) | 0 AMPx5 (mV) 20 | 0 AMPMIN 150 | | |





## Calibration Report

Database File: psc12-10a .db
Dataset Pathname: pass5
Dataset Creation: Fri Jan 30 08:33:12 2015 by Log 7.0 B1

## Gamma Ray Calibration Report

Serial Number: IXMM7-01
Tool Model: Tek-Co
Performed: Fri Jan 30 06:52:30 2015

Calibrator Value: 1.0

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 /cps

## Segmented Cement Bond Log Calibration Report

Serial Number: IUED8-02_3.5
Tool Model: T169Temp

Calibration Casing Diameter: 3.500 in
Calibration Depth: 3383.233 ft

Master Calibration, performed Fri Jan 30 08:25:13 2015:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.051 | 1.561 | 1.000 | 94.517 | 63.000 | 0.770 |
| CAL | 0.023 | 0.510 | | | | |
| 5' | 0.013 | 1.840 | 1.000 | 94.517 | 51.207 | 0.321 |
| SUM | | | | | | |
| S1 | 0.336 | 0.941 | 0.000 | 100.000 | 165.255 | -55.465 |
| S2 | 0.105 | 0.751 | 0.000 | 100.000 | 154.890 | -16.338 |
| S3 | -0.027 | 0.726 | 0.000 | 100.000 | 132.881 | 3.556 |
| S4 | 0.029 | 0.828 | 0.000 | 100.000 | 125.195 | -3.654 |
| S5 | 0.028 | 1.053 | 0.000 | 100.000 | 97.573 | -2.778 |
| S6 | -0.084 | 1.202 | 0.000 | 100.000 | 77.758 | 6.566 |
| S7 | | | | | | |
| S8 | | | | | | |

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.023 | 0.510 | 1.000 | 0.000 |

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

| | 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 | | | |
| S8 | | | |

## Temperature Calibration Report

Serial Number: IUED8-02_3.5
Tool Model: T169Temp
Performed: Fri Jan 30 08:08:56 2015

| | Reference | | Reading | |
|---|---|---|---|---|
| Low Reference: | 0.00 | degF | 0.00 | usec |
| High Reference: | 1.00 | degF | 1.00 | usec |

Gain: 0.33
Offset: -30.00
Delta Spacing 2

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| | | | |
|---|---|---|---|
| Company | KERR-MCGEE OIL & GAS ONSHORE | | |
| Well | PSC 12-10A | | |
| Field | WATTENBERG | | |
| County | WELD | | |
| State | CO | Country | USA |