# DUAL INDUCTION LOG

| | |
|---|---|
| Company | Palomino Petroleum |
| Well | Staudinger #3 |
| Field | Beaver Southwest |
| County | Barton |
| State | Kansas |

Company Palomino Petroleum
Well Staudinger #3
Field Beaver Southwest
County Barton State Kansas

Location: API # : 15 009 25812
362' FNL & 977' FWL
SEC 20 TWP 16S RGE 12W

Other Services
CDNL

Permanent Datum Ground Level Elevation 1883'
Log Measured From KB 5' AGL
Drilling Measured From KB

Elevation
K.B. 1888'
D.F. 1887'
G.L. 1883'

| | |
|---|---|
| Date | 2-19-13 |
| Run Number | One |
| Depth Driller | 3534' |
| Depth Logger | 3534' |
| Bottom Logged Interval | 3532' |
| Top Log Interval | 350' |
| Casing Driller | 8 5/8" @ 385' |
| Casing Logger | 385' |
| Bit Size | 7 7/8" |
| Type Fluid in Hole | Chemical |
| Density / Viscosity | 9.4/49 |
| pH / Fluid Loss | 10.0/8.8 |
| Source of Sample | Pit |
| Rm @ Meas. Temp | 1.1@65degf |
| Rmf @ Meas. Temp | .83@65degf |
| Rmc @ Meas. Temp | 1.33@65degf |
| Source of Rmf / Rmc | Calculated |
| Rm @ BHT | .63@112degf |
| Time Circulation Stopped | 8:30 p.m. |
| Time Logger on Bottom | 10:00 p.m. |
| Maximum Recorded Temperature | 112degf |
| Equipment Number | T045 |
| Location | Hays, KS |
| Recorded By | L. Smith |
| Witnessed By | Mr. Nick Gerstner |

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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

## Main Pass

Database File: ppstaudinger#3oh.db
Dataset Pathname: pass3.1
Presentation Format: kdillin2
Dataset Creation: Tue Feb 19 23:13:02 2013 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:600

0 GR (GAPI) 150
-200 SP (mV) 0
0 RILD (Ohm-m) 50
0 RLL3 (Ohm-m) 50
1000 CILD (mmho/m) 0
10000 LTEN (lb) 0
50 RILD x 10 (Ohm-m) 500
50 RLL3 x 10 (Ohm-m) 500

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-200 SP (mV) 0
0 RILD (Ohm-m) 50
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1000 CILD (mmho/m) 0
10000 LTEN (lb) 0
50 RILD x 10 (Ohm-m) 500
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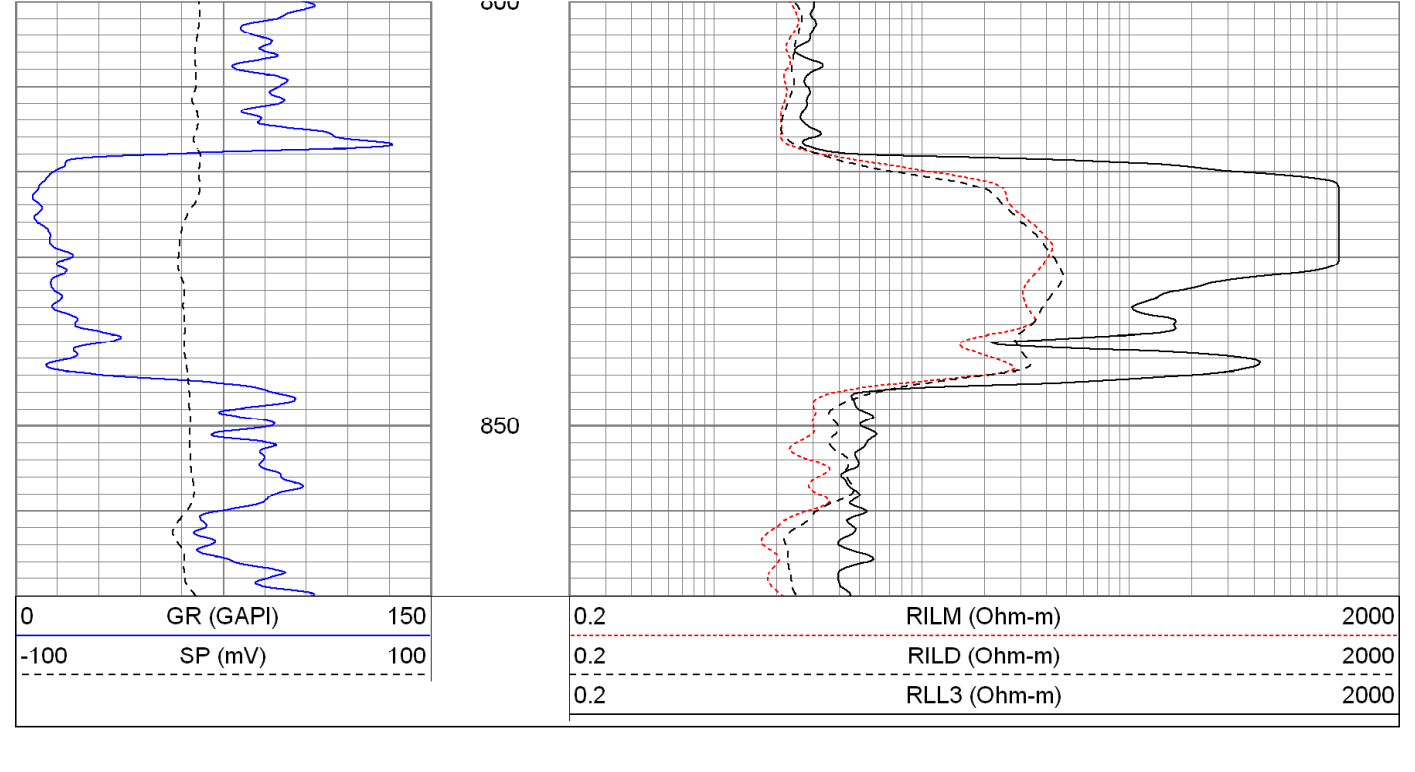
## Main Pass

Database File: ppstaudinger#3oh.db
Dataset Pathname: pass3.1
Presentation Format: kdil
Dataset Creation: Tue Feb 19 23:13:02 2013 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:240

0 GR (GAPI) 150
-100 SP (mV) 100
0.2 RILM (Ohm-m) 2000
0.2 RILD (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000



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-100 SP (mV) 100
0.2 RILM (Ohm-m) 2000
0.2 RILD (Ohm-m) 2000
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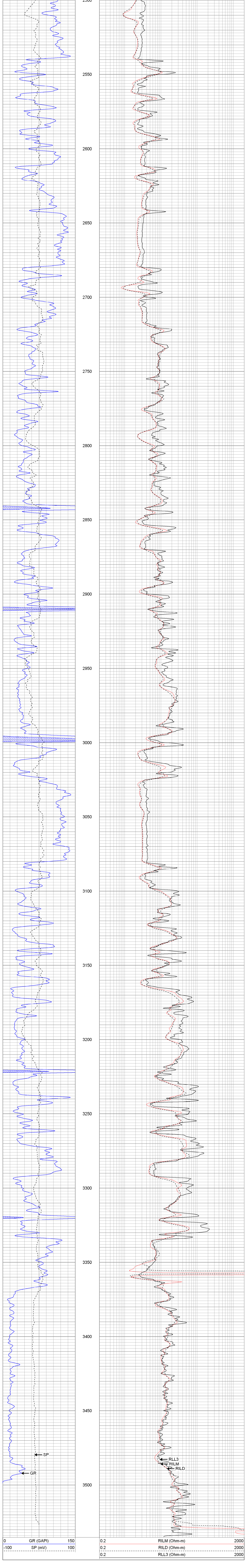

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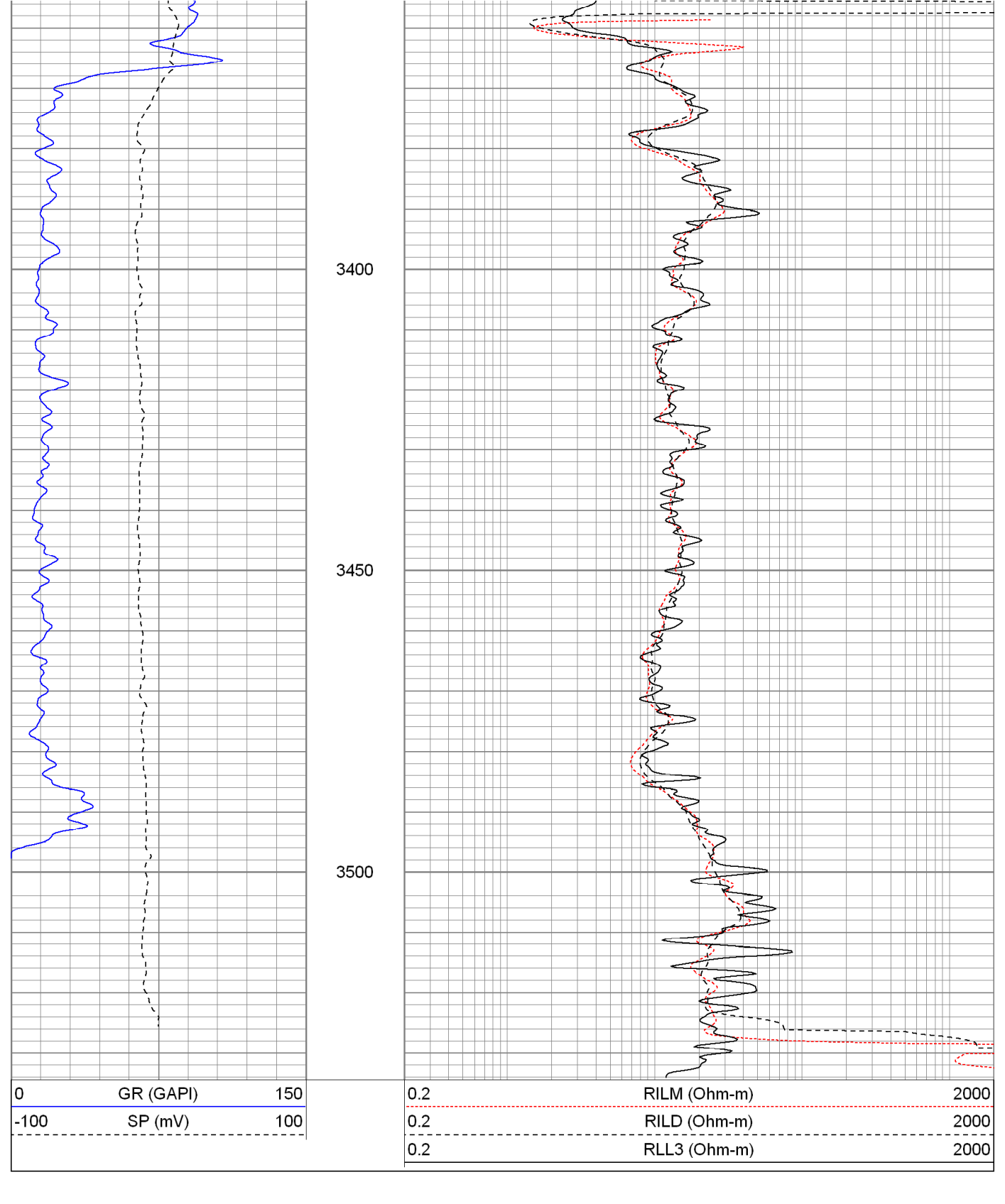
-100 SP (mV) 100
0.2 RILM (Ohm-m) 2000
0.2 RILD (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000

## Repeat Pass

Database File: ppstaudinger#3oh.db
Dataset Pathname: pass2.1
Presentation Format: kdil
Dataset Creation: Tue Feb 19 22:24:20 2013 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:240

0 GR (GAPI) 150
-100 SP (mV) 100
0.2 RILM (Ohm-m) 2000
0.2 RILD (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000



0 GR (GAPI) 150
-100 SP (mV) 100
0.2 RILM (Ohm-m) 2000
0.2 RILD (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000

### Calibration Report

Database File: ppstaudinger#3oh.db
Dataset Pathname: pass1
Dataset Creation: Tue Feb 19 21:47:10 2013 by Log Open-Cased 100827

### Dual Induction Calibration Report

Serial-Model: 080522-Probe
Surface Cal Performed: Tue Feb 19 15:32:25 2013
Downhole Cal Performed: Tue Feb 19 15:32:29 2013
After Survey Verification Performed: Tue Feb 19 15:32:30 2013

Surface Calibration

| | Readings | | | References | | | Results | |
|---|---|---|---|---|---|---|---|---|
| Loop: | Air | Loop | | Air | Loop | | m | b |
| Deep | 0.001 | 0.638 | V | 0.000 | 400.000 | mmho/m | 628.149 | -0.909 |
| Medium | 0.003 | 0.735 | V | 0.000 | 464.000 | mmho/m | 634.133 | -1.885 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.001 | 0.639 | V | 0.000 | 400.000 | mmho/m | 627.770 | -0.927 |
| Medium | 0.003 | 0.735 | V | 0.000 | 464.000 | mmho/m | 634.038 | -1.896 |

Downhole Calibration

| | Readings | | | References | | | Results | |
|---|---|---|---|---|---|---|---|---|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | -0.587 | 400.153 | mmho/m | 0.019 | 400.261 | mmho/m | 0.999 | 0.605 |
| Medium | -0.685 | 463.926 | mmho/m | 0.012 | 464.081 | mmho/m | 0.999 | 0.696 |
| LL3 | | 7.259 | V | | 750.000 | Ohm-m | | |
| | | -0.000 | V | | 12.000 | Ohm-m | | |
| | | -7.420 | V | | 3745.000 | mmho-m | | |

### Compensated Density Calibration Report

Serial-Model: 901-2.75POH
Source / Verifier: /
Master Calibration Performed: Tue Feb 19 15:33:34 2013

Master Calibration

| | Density | | Far Detector | Near Detector | |
|---|---|---|---|---|---|
| Magnesium | 1.810 | g/cc | 969.87 | 587.14 | cps |
| Aluminum | 2.720 | g/cc | 144.01 | 266.32 | cps |

Spine Angle = 67.49
Density/Spine Ratio = 0.441

| | Size | | Reading | |
|---|---|---|---|---|
| Small Ring | 8.10 | in | 2.50 | V |
| Large Ring | 17.00 | in | 4.51 | V |

### Neutron Calibration Report

Serial Number: 803
Tool Model: 2.75POH
Performed: Tue Feb 19 15:32:16 2013

Calibrator Value: 1 NAPI

Calibrator Reading: 1 cps

Sensitivity: 1 NAPI/cps

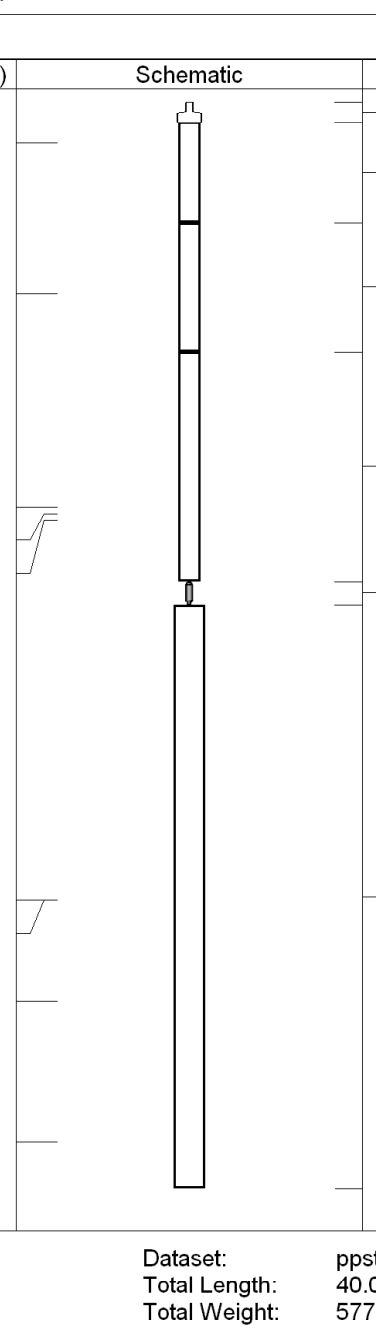
### Gamma Ray Calibration Report

Serial Number: 801
Tool Model: 2.75POH
Performed: Tue Feb 19 15:34:33 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6500 GAPI/cps



| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
| | | | None | 0.75 | 1.50 | 5.00 |
| GR | 38.48 | | GR-2.75POH (801)<br>Probe | 3.73 | 2.75 | 43.00 |
| NEU | 32.94 | | NEU-2.75POH (803)<br>Probe Epithermal | 4.75 | 2.75 | 58.00 |
| LSD<br>DCAL<br>SSD | 25.11<br>24.83<br>24.59 | | CDL-2.75POH (901)<br>Probe | 8.43 | 2.75 | 106.00 |
| | | | Probe | 0.89 | 3.50 | 20.00 |
| CILD<br>SP<br>CILM<br>RLL3 | 10.60<br>10.60<br>6.89<br>1.70 | | DIL-Probe (080522)<br>Probe Dual Induction | 21.47 | 4.00 | 345.00 |

Dataset: ppstaudinger#3oh.db: field/well/run1/pass1
Total Length: 40.01 ft
Total Weight: 577.00 lb
O.D. 4.00 in