Pioneer Energy Services

# HIGH RESOLUTION INDUCTION
# COMPENSATED DENSITY
# COMPENSATED NEUTRON

| | |
|---|---|
| Company | Augustus Energy Resources, LLC |
| Well | McCall 33-09 1N46W |
| Field | Schramm |
| County | Yuma |
| State | Colorado |

**Company** Augustus Energy Resources, LLC

**Well** McCall 33-09 1N46W

**Field** Schramm

**County** Yuma **State** Colorado

**Location:** API # : 05 125 12104

2343' FSL & 2444' FEL NW SE SE

SEC 9 TWP 1N RGE 46W

Other Services

None

| | | | |
|---|---|---|---|
| Permanent Datum | GL | Elevation | 3952 |
| Log Measured From | KB | | |
| Drilling Measured From | KB | | |

Elevation

K.B. 3958
D.F. 3957
G.L. 3952

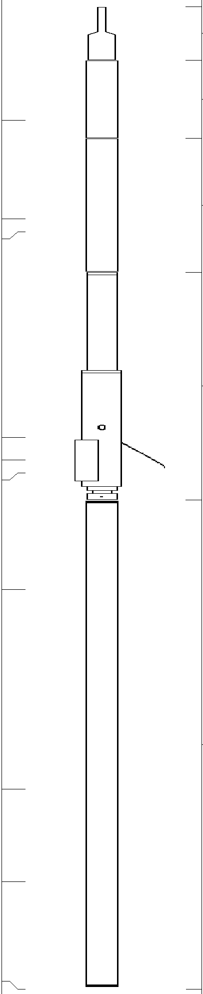
| | | | |
|---|---|---|---|
| Date | Aug 17, 2014 | | |
| Run Number | 1 | | |
| Depth Driller | 2697 | | |
| Depth Logger | 2685 | | |
| Bottom Logged Interval | 2685 | | |
| Top Log Interval | Casing | | |
| Casing Driller | 416 | | |
| Casing Logger | 416 | | |
| Bit Size | 6.25" | | |
| Type Fluid in Hole | WBM | | |
| Density / Viscosity | 8.6 / 27 | | |
| pH / Fluid Loss | 7.5 / 12.0 | | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 0.30 @ 63 F | | |
| Rmf @ Meas. Temp | 0.23 @ 63 F | | |
| Rmc @ Meas. Temp | 0.38 @ 63 F | | |
| Source of Rmf / Rmc | Calc / Calc | | |
| Rm @ BHT | 0.18 @ 104 F | | |
| Time Circulation Stopped | 0000 | | |
| Time Logger on Bottom | 03:30 | | |
| Maximum Recorded Temperature | 104 F | | |
| Equipment Number | 48 | | |
| Location | Ft. Morgan, CO | | |
| Recorded By | Tracy Crane | | |
| Witnessed By | Justin Stone | | |

<<< Fold Here >>>

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

Annular volume calculated for 4.5" casing
Excell Drilling Rig 2
Thank you for using Pioneer Energy Services.

| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
|  |  |  | CHD (~0) | 2.00 | 3.50 | 30.00 |
|  |  |  | GR-PSI (223) | 2.92 | 3.50 | 40.00 |
| GR | 0.00 |  |  |  |  |  |
|  |  |  | CNT-PSI (826) | 5.00 | 3.50 | 70.00 |
| CNLSC | -3.67 |  |  |  |  |  |
| CNSSC | -4.17 |  |  |  |  |  |
|  |  |  | CDL-PSI (770) | 8.50 | 5.00 | 285.00 |
| DCAL | -11.84 |  |  |  |  |  |
| LSD | -12.67 |  |  |  |  |  |
| SSD | -13.17 |  |  |  |  |  |
| RLL3 | -17.52 |  |  |  |  |  |
|  |  |  | DIL-PSI (1011) | 18.25 | 3.75 | 175.00 |
| CILD | -24.97 |  |  |  |  |  |
| CILM | -28.42 |  |  |  |  |  |
| SP | -32.42 |  |  |  |  |  |

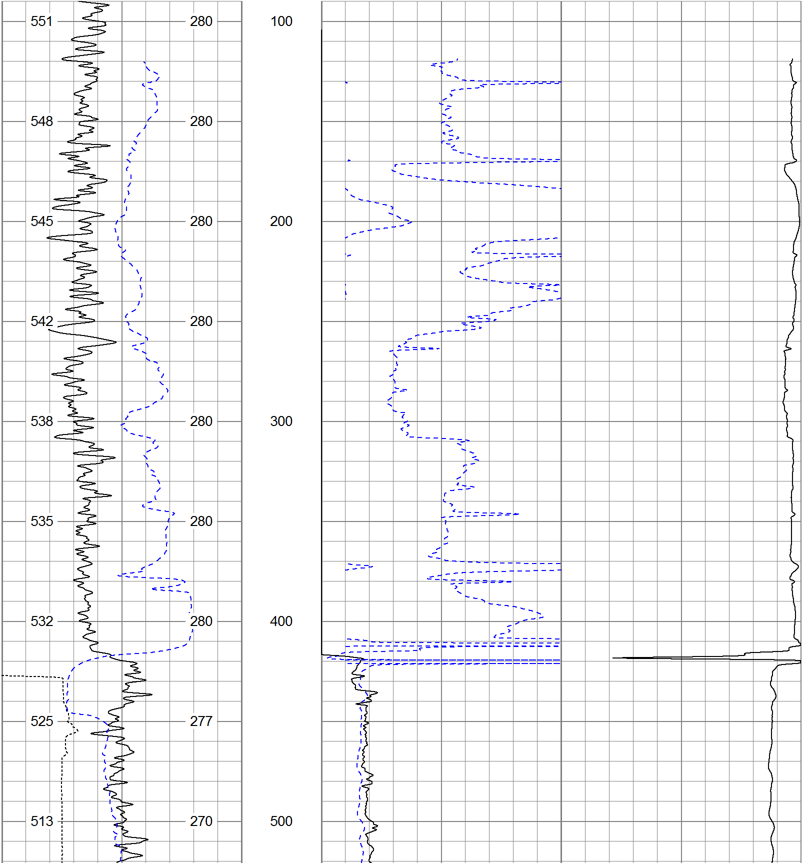
| | |
|---|---|
| Dataset: | 13657.db: field/well/run1/pass2.1 |
| Total Length: | 36.67 ft |
| Total Weight: | 600.00 lb |
| O.D. | 5.00 in |

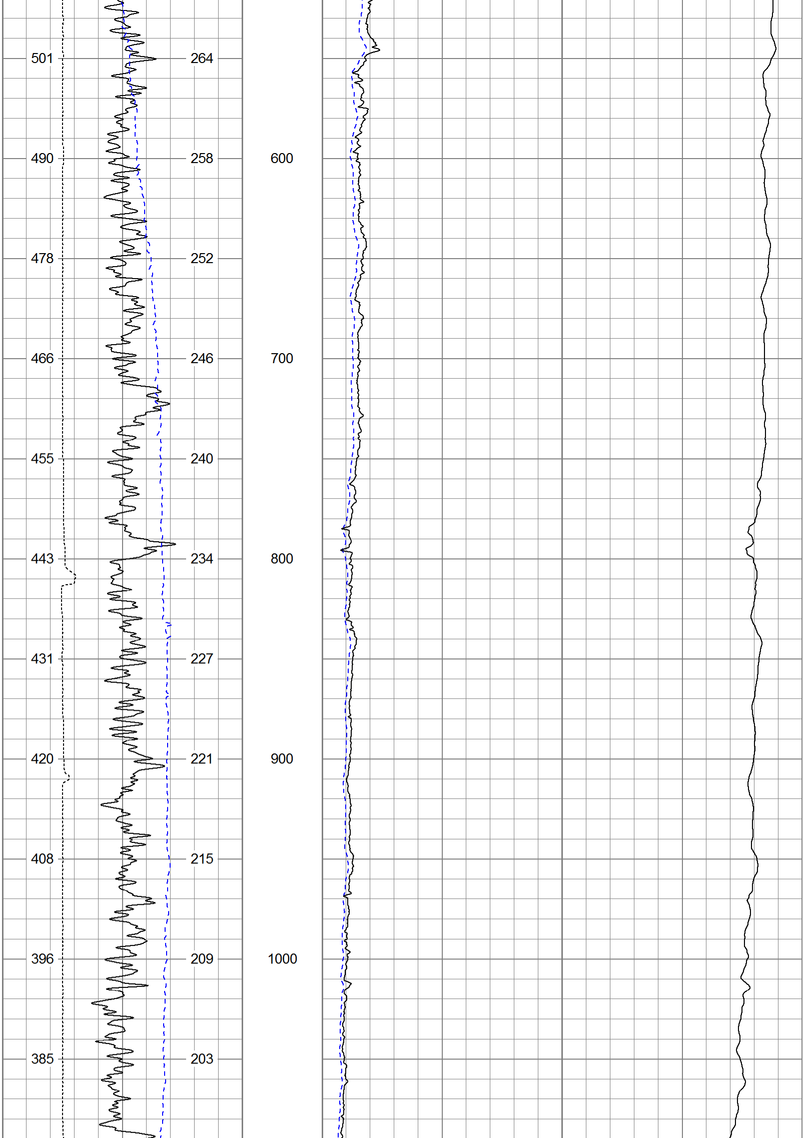
| | |
|---|---|
| Database File: | 13657.db |
| Dataset Pathname: | pass3 |
| Presentation Format: | dilin60 |
| Dataset Creation: | Sun Aug 17 03:57:33 2014 by Log 0 |
| Charted by: | Depth in Feet scaled 1:600 |

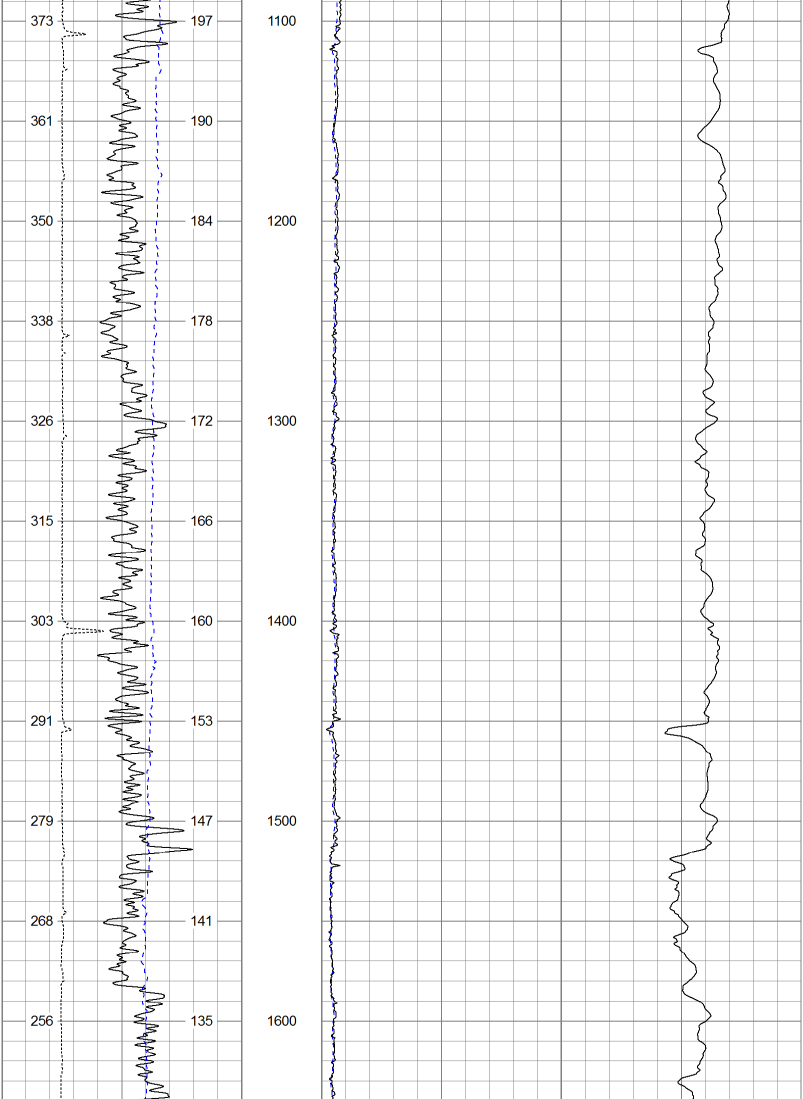
0 Gamma Ray (GAPI) 200
0 SP (mV) 200
4 Caliper (in) 14
TBHV (ft3) ABHV (ft3)

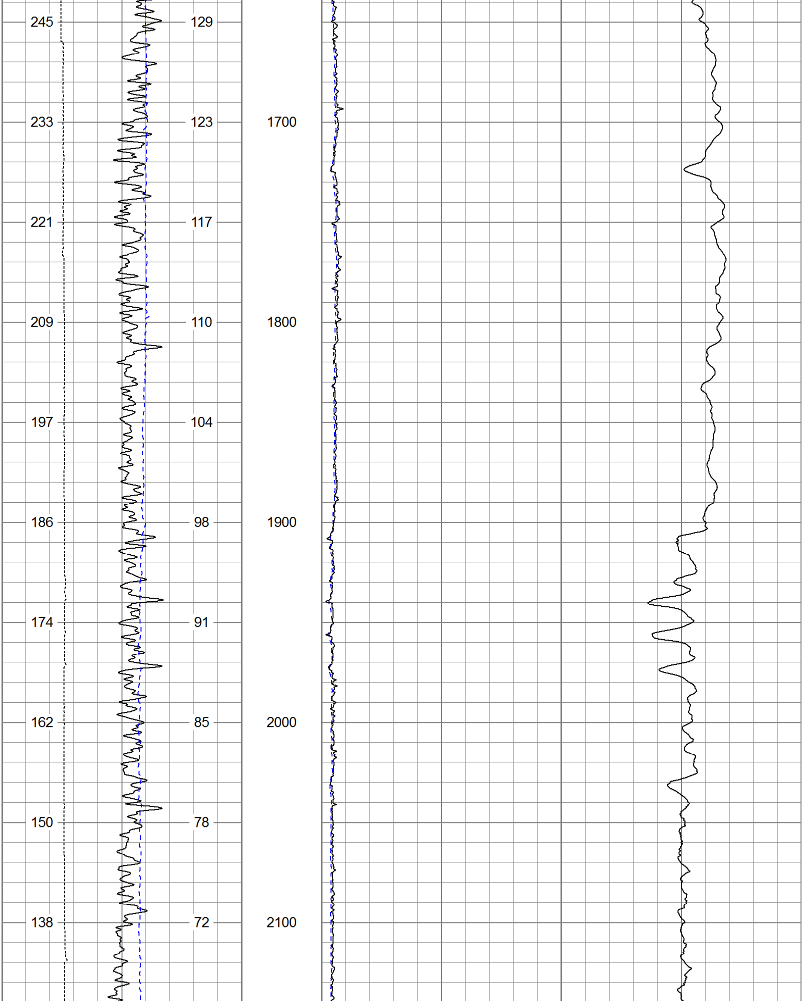
0 Deep Resistivity (Ohm-m) 50
0 Shallow Resistivity (Ohm-m) 50
50 RILD (Ohm-m) 500
50 RLL3 (Ohm-m) 500

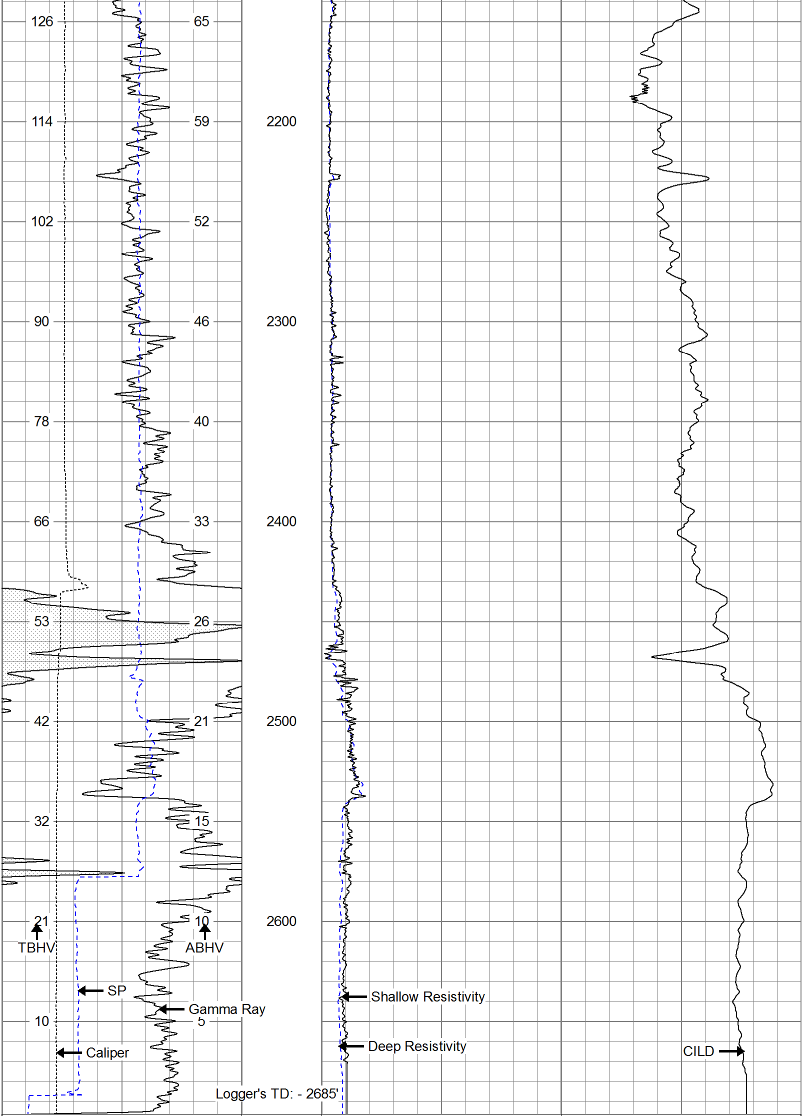
1000 CILD (mmho/m) 0







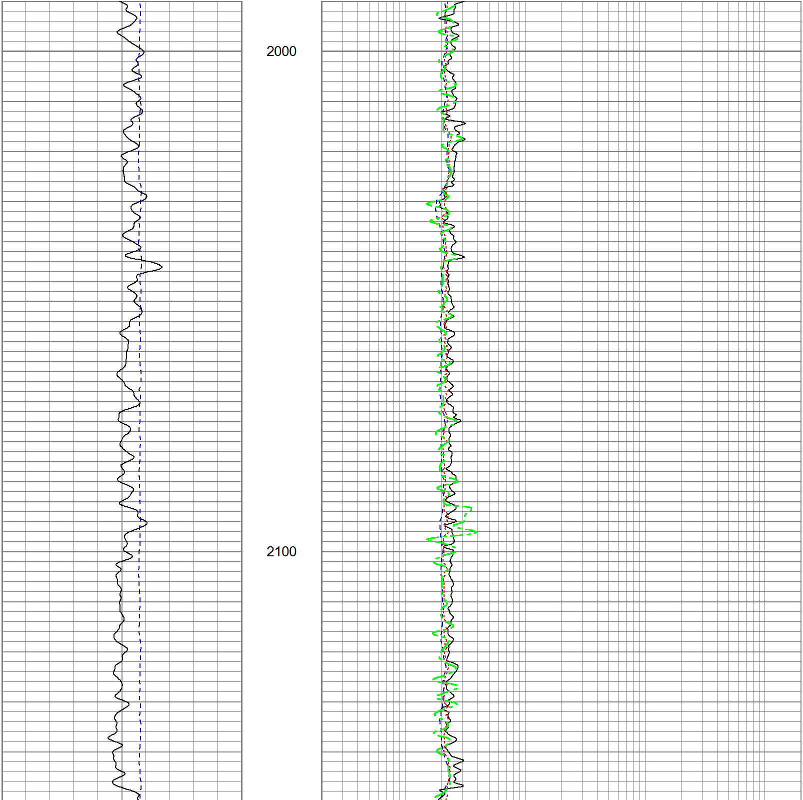


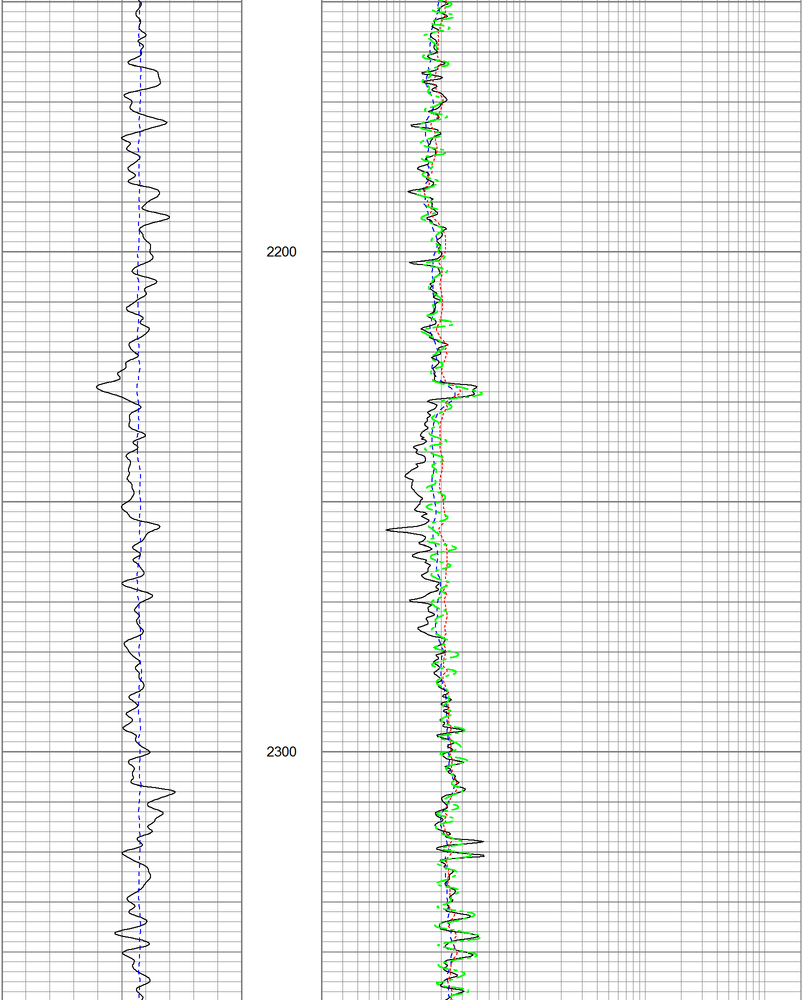


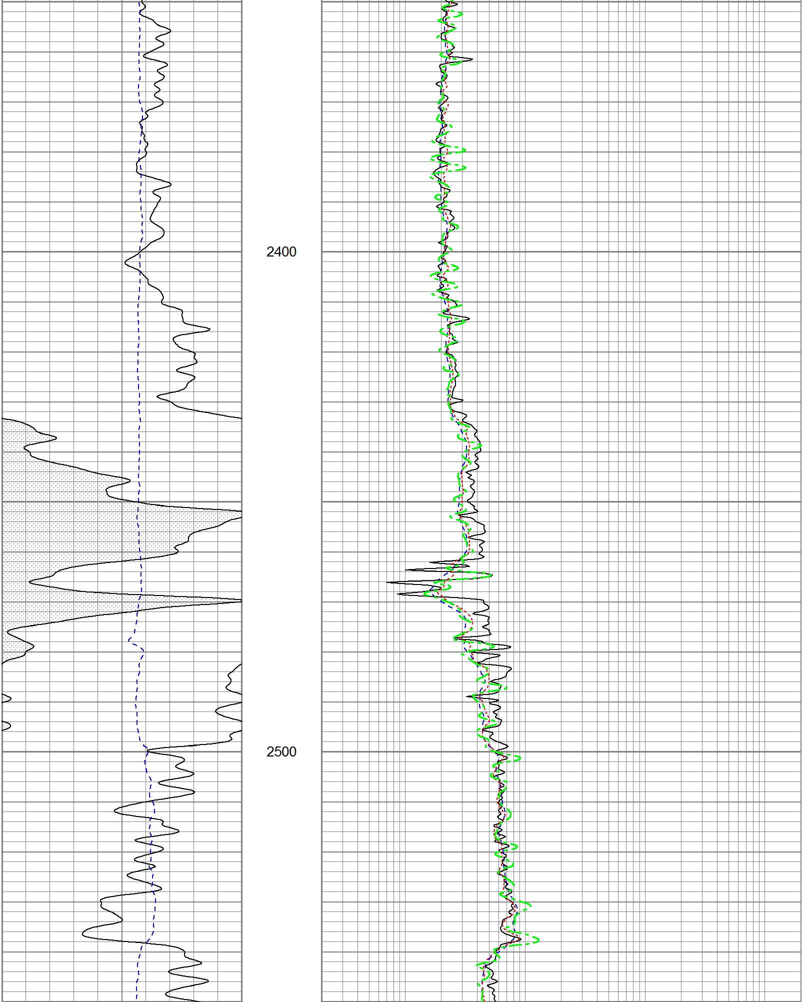
| | | |
|---|---|---|
| 0 Gamma Ray (GAPI) 200 | 0 Deep Resistivity (Ohm-m) 50 | 1000 CILD (mmho/m) 0 |
| 0 SP (mV) 200 | 0 Shallow Resistivity (Ohm-m) 50 | |
| 4 Caliper (in) 14 | 50 RILD (Ohm-m) 500 | |
| TBHV (ft3) ABHV (ft3) | 50 RLL3 (Ohm-m) 500 | |

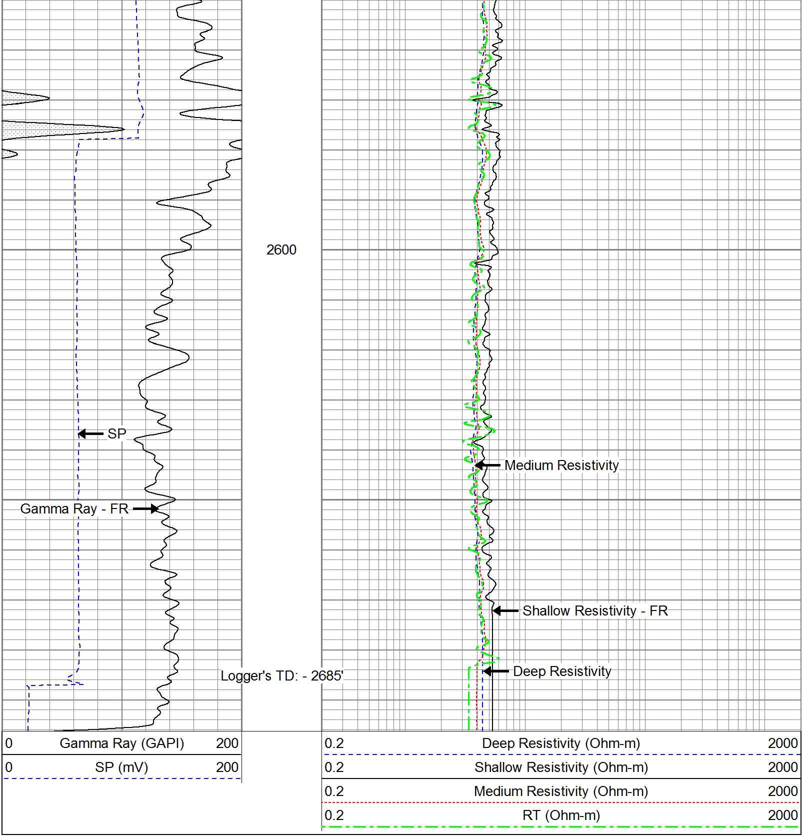
Database File: 13657.db
Dataset Pathname: pass3
Presentation Format: dil
Dataset Creation: Sun Aug 17 03:57:33 2014 by Log 0
Charted by: Depth in Feet scaled 1:240

| | |
|---|---|
| 0 Gamma Ray (GAPI) 200 | 0.2 Deep Resistivity (Ohm-m) 2000 |
| 0 SP (mV) 200 | 0.2 Shallow Resistivity (Ohm-m) 2000 |
| | 0.2 Medium Resistivity (Ohm-m) 2000 |
| | 0.2 RT (Ohm-m) 2000 |

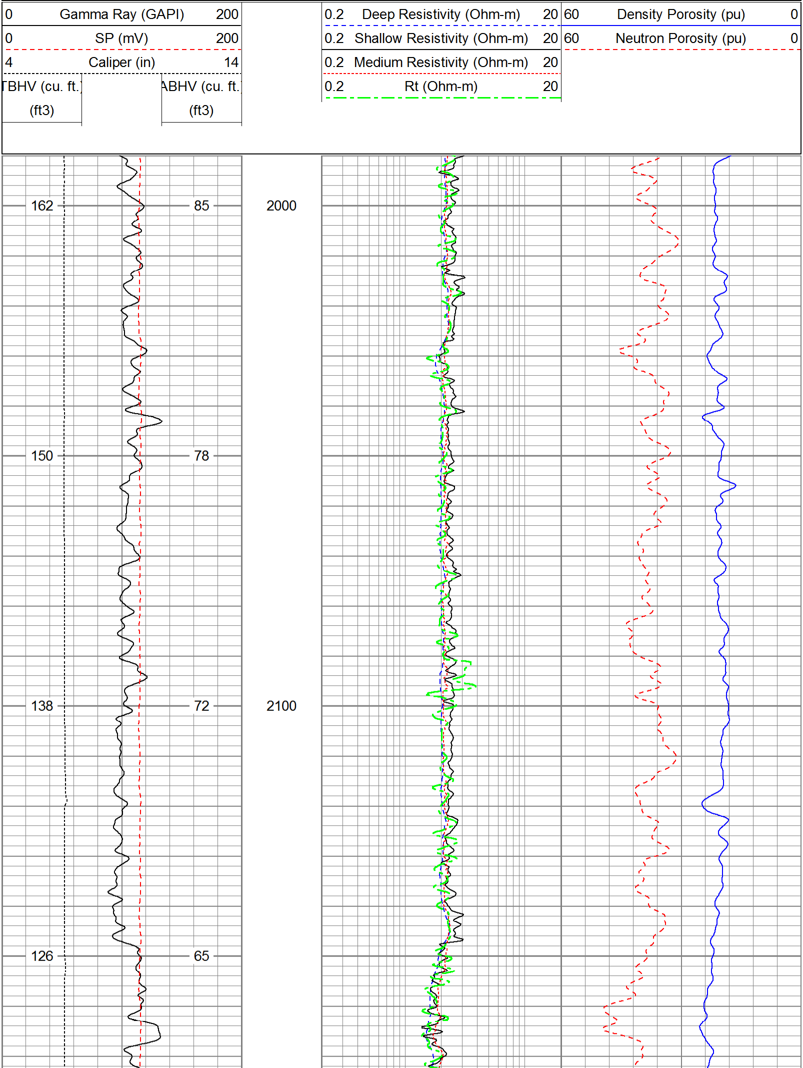


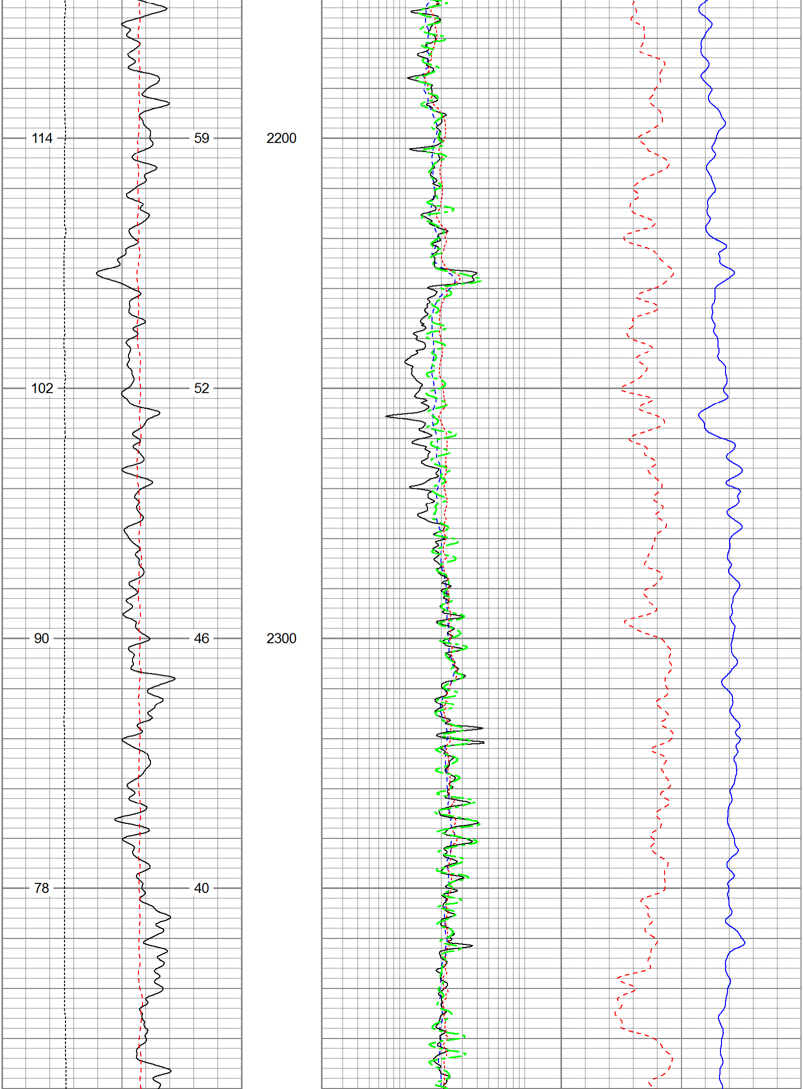


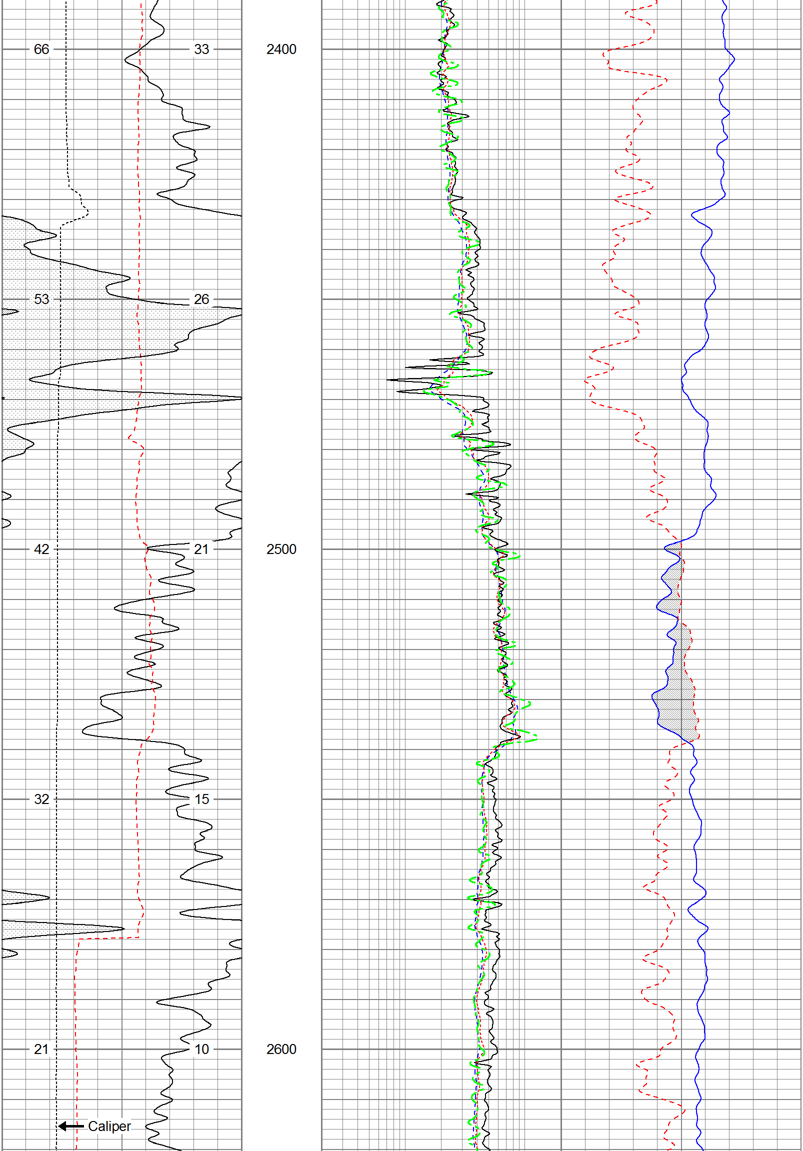


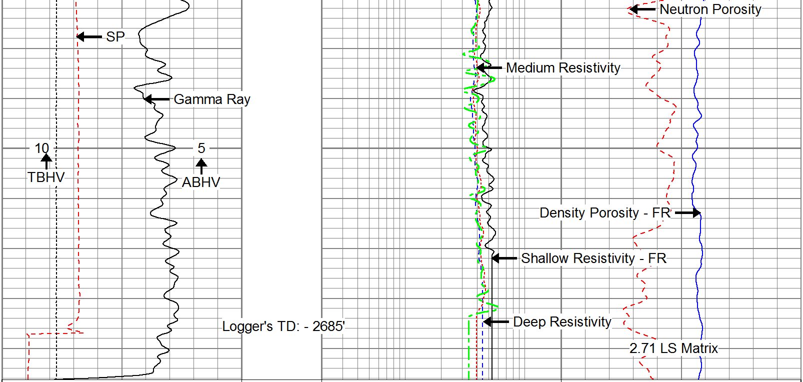


| | |
|---|---|
| Database File: | 13657.db |
| Dataset Pathname: | pass3 |
| Presentation Format: | pdce |
| Dataset Creation: | Sun Aug 17 03:57:33 2014 by Log 0 |
| Charted by: | Depth in Feet scaled 1:240 |





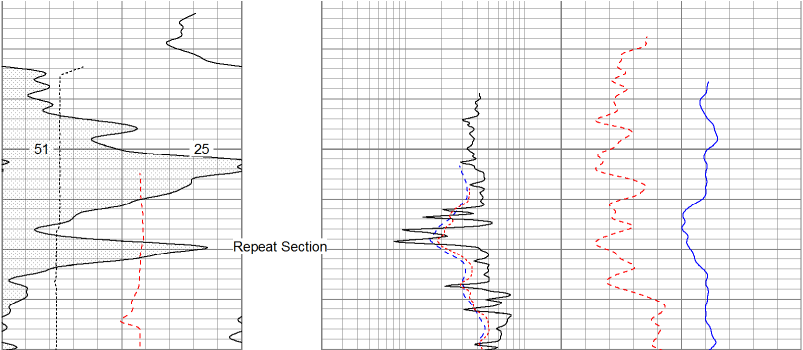


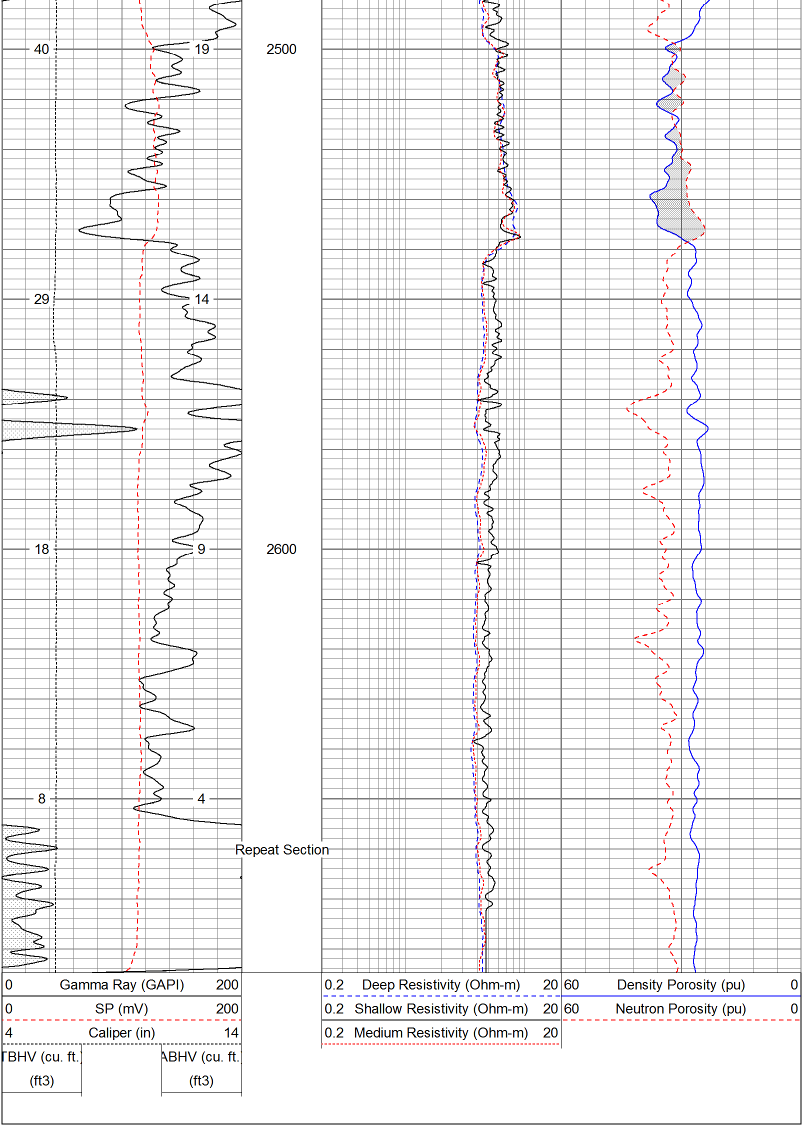


| | | |
|---|---|---|
| 0 Gamma Ray (GAPI) 200 | 0.2 Deep Resistivity (Ohm-m) 20 | 60 Density Porosity (pu) 0 |
| 0 SP (mV) 200 | 0.2 Shallow Resistivity (Ohm-m) 20 | 60 Neutron Porosity (pu) 0 |
| 4 Caliper (in) 14 | 0.2 Medium Resistivity (Ohm-m) 20 | |
| TBHV (cu. ft.) (ft3)<br>ABHV (cu. ft. (ft3) | 0.2 Rt (Ohm-m) 20 | |

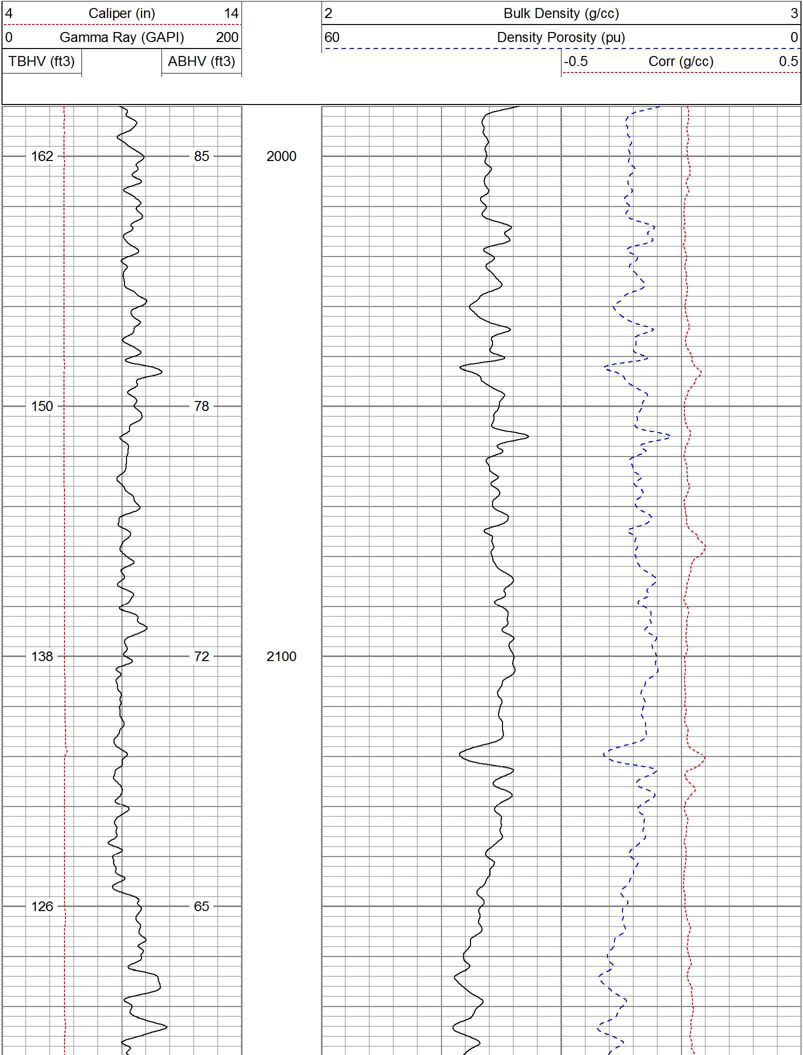
Database File: 13657.db
Dataset Pathname: pass2.1
Presentation Format: pdce
Dataset Creation: Sun Aug 17 03:53:12 2014 by Calc 0
Charted by: Depth in Feet scaled 1:240

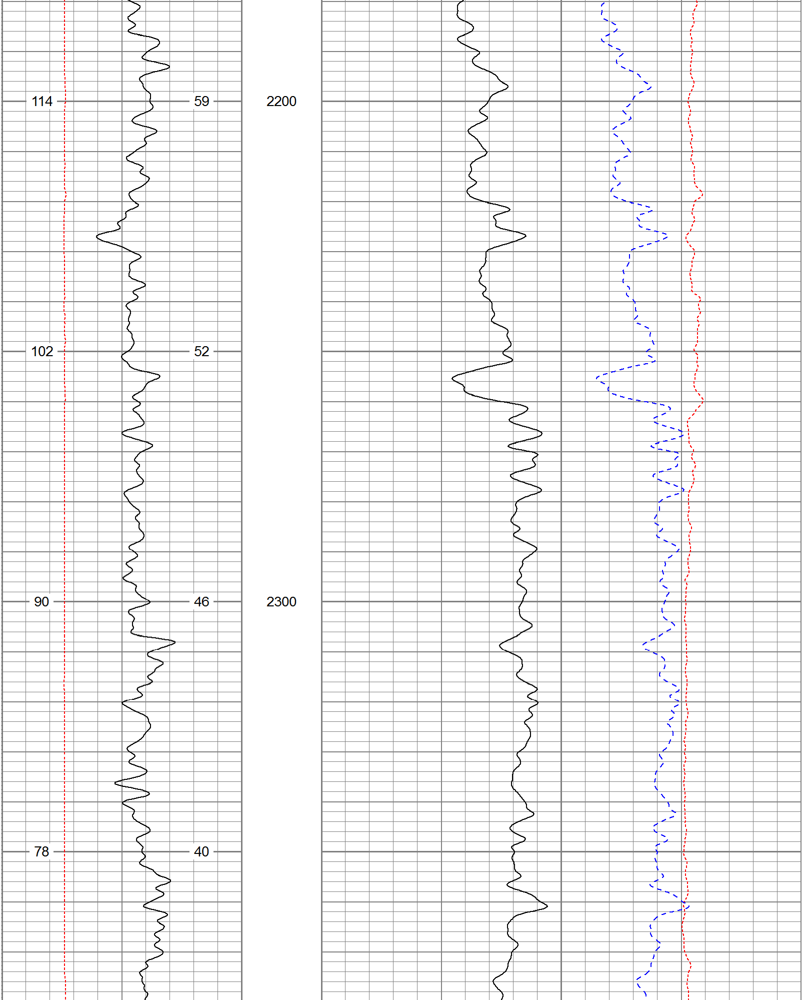
| | | |
|---|---|---|
| 0 Gamma Ray (GAPI) 200 | 0.2 Deep Resistivity (Ohm-m) 20 | 60 Density Porosity (pu) 0 |
| 0 SP (mV) 200 | 0.2 Shallow Resistivity (Ohm-m) 20 | 60 Neutron Porosity (pu) 0 |
| 4 Caliper (in) 14 | 0.2 Medium Resistivity (Ohm-m) 20 | |
| TBHV (cu. ft.) (ft3)<br>ABHV (cu. ft. (ft3) | | |

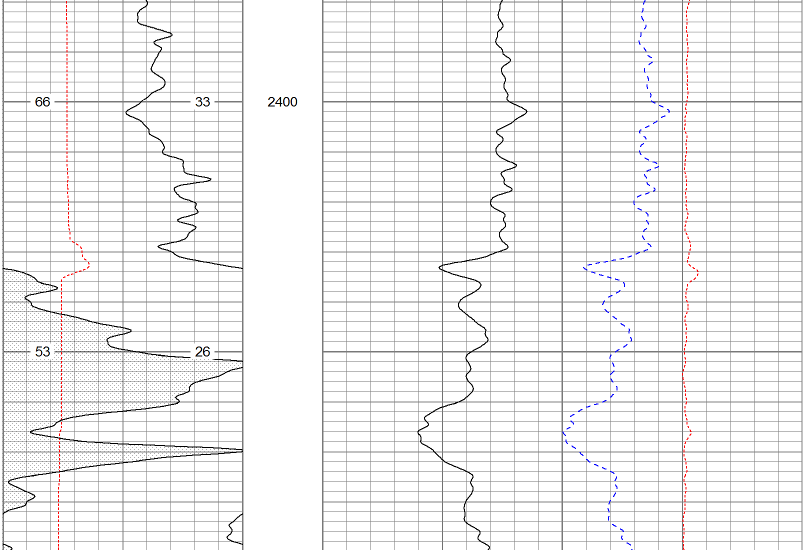


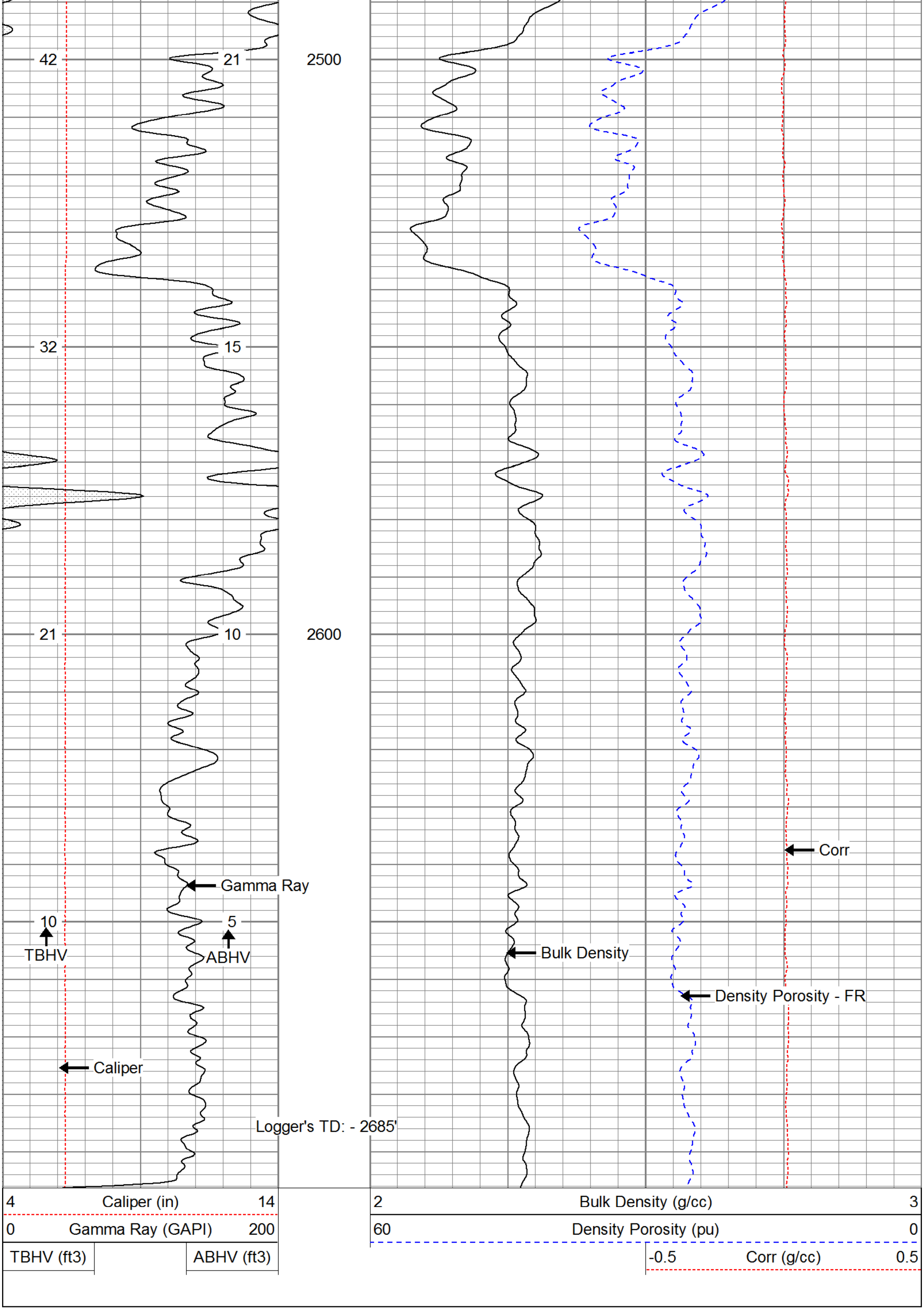


| | |
|---|---|
| Database File: | 13657.db |
| Dataset Pathname: | pass3 |
| Presentation Format: | cdl60 |
| Dataset Creation: | Sun Aug 17 03:57:33 2014 by Log 0 |
| Charted by: | Depth in Feet scaled 1:240 |









## Calibration Report

| | |
|---|---|
| Database File: | 13657.db |
| Dataset Pathname: | pass2 |
| Dataset Creation: | Sun Aug 17 03:45:41 2014 by Log 0 |

### Dual Induction Calibration Report

| | |
|---|---|
| Serial-Model: | 1011-PSI |
| Surface Cal Performed: | |

| Loop: | Readings | | References | | | Results | |
|---|---|---|---|---|---|---|---|
| | Air | Loop | Air | Loop | | m | b |
| Deep | 0.000 | 1.000 | 0.000 | 1.000 | mmho/m | 0.510 | -28.000 |
| Medium | 0.000 | 1.000 | 0.000 | 1.000 | mmho/m | 0.440 | -28.000 |

### Compensated Density Calibration Report

| | |
|---|---|
| Serial-Model: | 770-PSI |
| Source / Verifier: | 4400 / PSI |
| Master Calibration Performed: | Mon Jul 21 02:13:30 2014 |
| Before Survey Verification Performed: | |
| After Survey Verification Performed: | |

Master Calibration

| | Density | | Far Detector | Near Detector | |
|---|---|---|---|---|---|
| Magnesium | 1.750 | g/cc | 6052.27 | 9575.17 | cps |
| Aluminum | 2.690 | g/cc | 1090.90 | 5872.16 | cps |

Spine Angle = 74.07

Density/Spine Ratio = 0.528

| | Size | | Reading |
|---|---|---|---|
| Small Ring | 4.50 | in | 1.80 |
| Large Ring | 13.00 | in | 1.46 |

### Compensated Neutron Calibration Report

| | |
|---|---|
| Serial Number: | 826 |
| Tool Model: | PSI |

CALIBRATION

| Detector | Readings | | Target | | Normalization |
|---|---|---|---|---|---|
| Short Space | 1.00 | cps | 1.00 | cps | 1.9000 |
| Long Space | 1.00 | cps | 1.00 | cps | 2.0900 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 223 | |
| Tool Model: | PSI | |
| Performed: | Tue Jul 29 05:11:24 2014 | |
| Calibrator Value: | 253.0 | GAPI |
| Background Reading: | 30.0 | cps |
| Calibrator Reading: | 380.0 | cps |
| Sensitivity: | 0.6300 | GAPI/cps |

# Log Variables

Database:C:\Warrior\Data\13657.db
Dataset: field/well/run1/pass2

**Top - Bottom**

| SZCOR | NPORSEL | FLUIDDEN g/cc | MATRXDEN g/cc | SPSHIFT mV | SNDERRM mmho/m | SNDERR mmho/m | SRFTEMP degF |
|---|---|---|---|---|---|---|---|
| Off | Limestone | 1 | 2.71 | 0 | 0 | 0 | 0 |

| CASEOD in | PERFS | TDEPTH ft | BOTTEMP degF | BOREID in |
|---|---|---|---|---|
| 4.5 | 0 | 0 | 100 | 6.25 |