**PIONEER WIRELINE SERVICES**

# HIGH RESOLUTION INDUCTION
# COMPENSATED DENSITY
# COMPENSATED NEUTRON

Company Well Field County State/Prv

**Company** Great Western Oil & Gas LLC

**Well** H-Y 29-31

**Field** Wattenberg

**County** Weld **State/Province** Colorado

**Location**
SHL: 799' FNL & 1942' FWL NENW
BHL: 620' FNL & 1929' FEL NWNE
Sec 29, Twp - 6N, Rge - 67W

**Other Services**
none

**Elevation**
K.B. 4797
D.F. 4796
G.L. 4783

Permanent Datum GL Elevation 4783
Log Measured From KB
Drilling Measured From KB

| | | | |
|---|---|---|---|
| Date | July 16, 2012 | | |
| Run Number | 1 | | |
| Depth Driller | 7501 | | |
| Depth Logger | 7493 | | |
| Bottom Logged Interval | 7493 | | |
| Top Log Interval | Casing | | |
| Casing Driller | 900 | | |
| Casing Logger | 900 | | |
| Bit Size | 7+7/8" | | |
| Type Fluid in Hole | Chem Gel | | |
| Density / Viscosity | 9.6 / 55 | | |
| pH / Fluid Loss | 8.0 / 10.4 | | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 3.12 @ 77 F | | |
| Rmf @ Meas. Temp | 2.50 @ 77 F | | |
| Rmc @ Meas. Temp | 3.74 @ 77 F | | |
| Source of Rmf / Rmc | Measure / Calc | | |
| Rm @ BHT | 1.13 @ 213 F | | |
| Time Circulation Stopped | 0800 | | |
| Time Logger on Bottom | 1400 | | |
| Maximum Recorded Temperature | 213 F | | |
| Equipment Number | 52 | | |
| Location | Brighton, CO | | |
| Recorded By | Matt Gill | | |
| Witnessed By | Shawn Armstrong | Mark Scaniello | |

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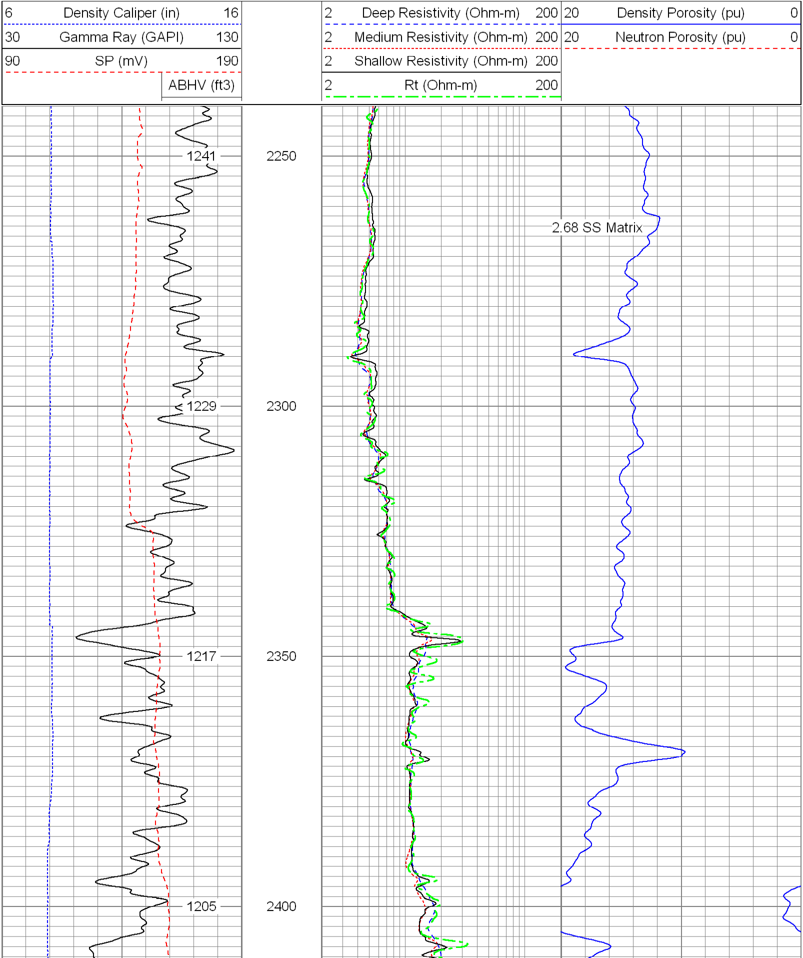
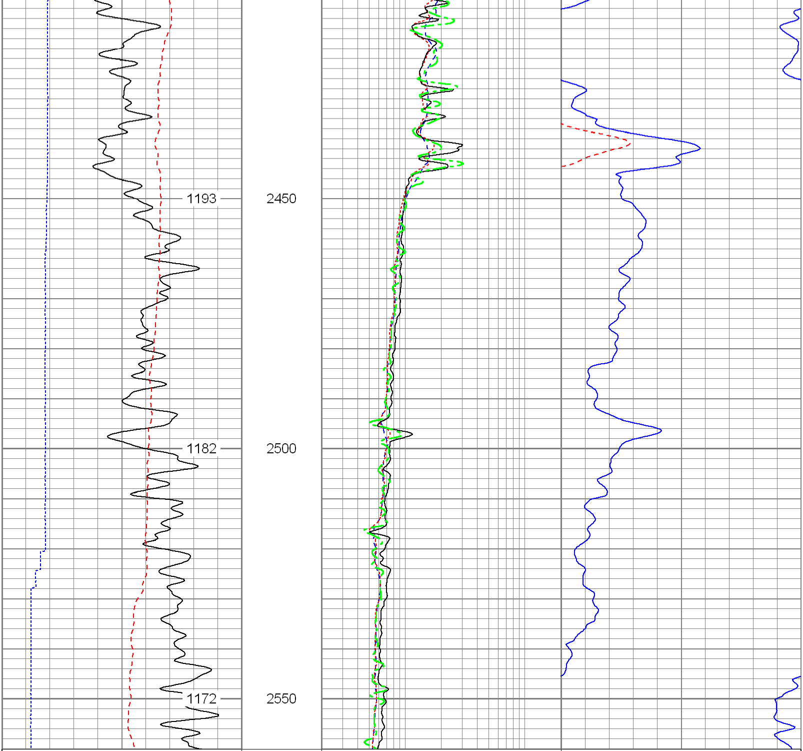
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

Annular volume calculated for 4.5" casing
Cade Drilling Rig 25
Thank you for using Phoenix Surveys.
API #: 05-123-35427-00

Database File: 13039.db
Dataset Pathname: final
Presentation Format: pdc1
Dataset Creation: Mon Jul 16 13:49:16 2012
Charted by: Depth in Feet scaled 1:240





| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | Density Caliper (in) | 16 | 2 | Deep Resistivity (Ohm-m) | 200 | 20 | Density Porosity (pu) | 0 |
| 30 | Gamma Ray (GAPI) | 130 | 2 | Medium Resistivity (Ohm-m) | 200 | 20 | Neutron Porosity (pu) | 0 |
| 90 | SP (mV) | 190 | 2 | Shallow Resistivity (Ohm-m) | 200 | | | |
| | ABHV (ft3) | | 2 | Rt (Ohm-m) | 200 | | | |

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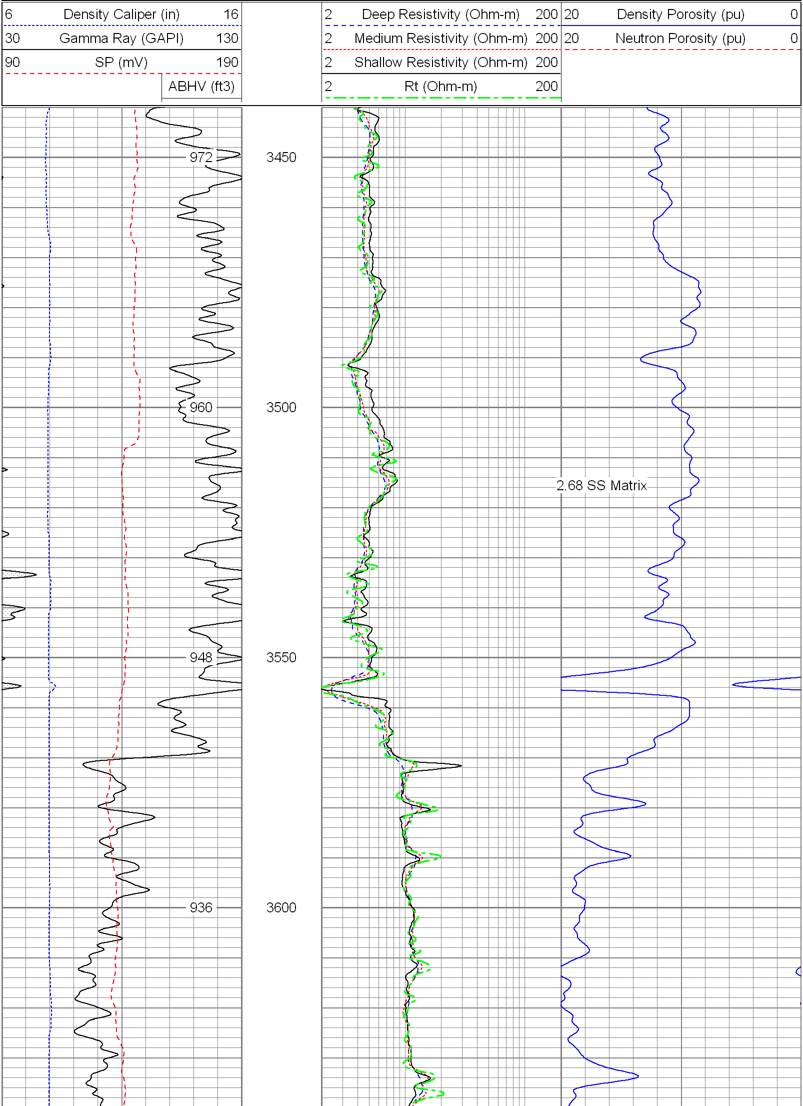

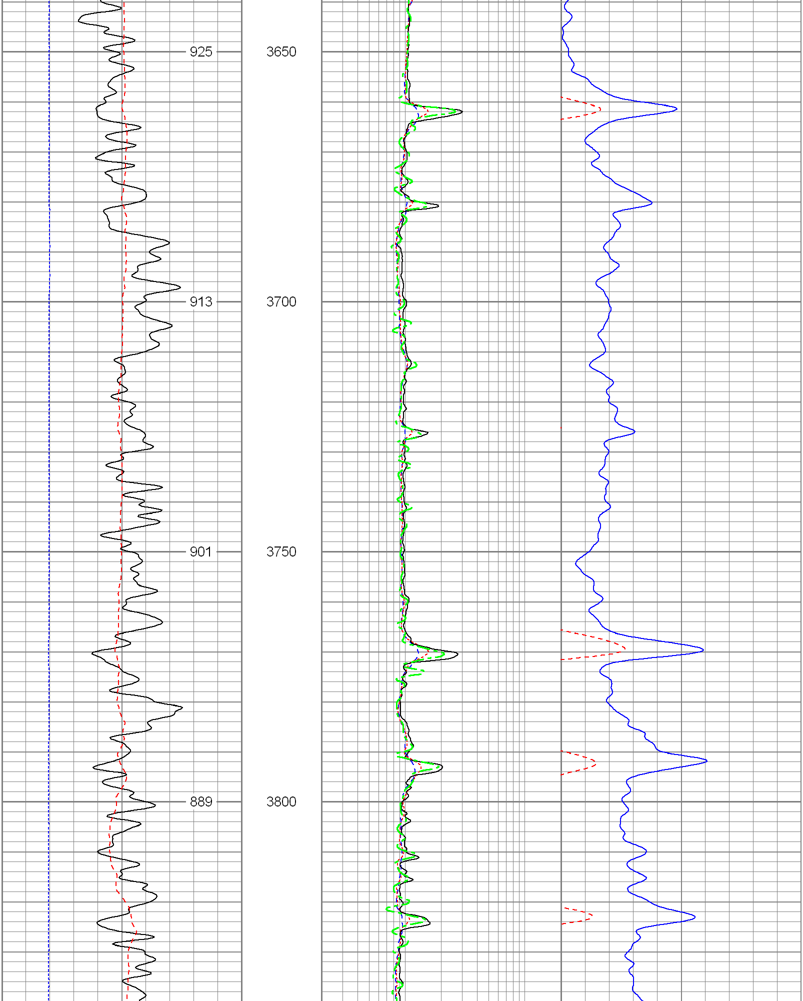

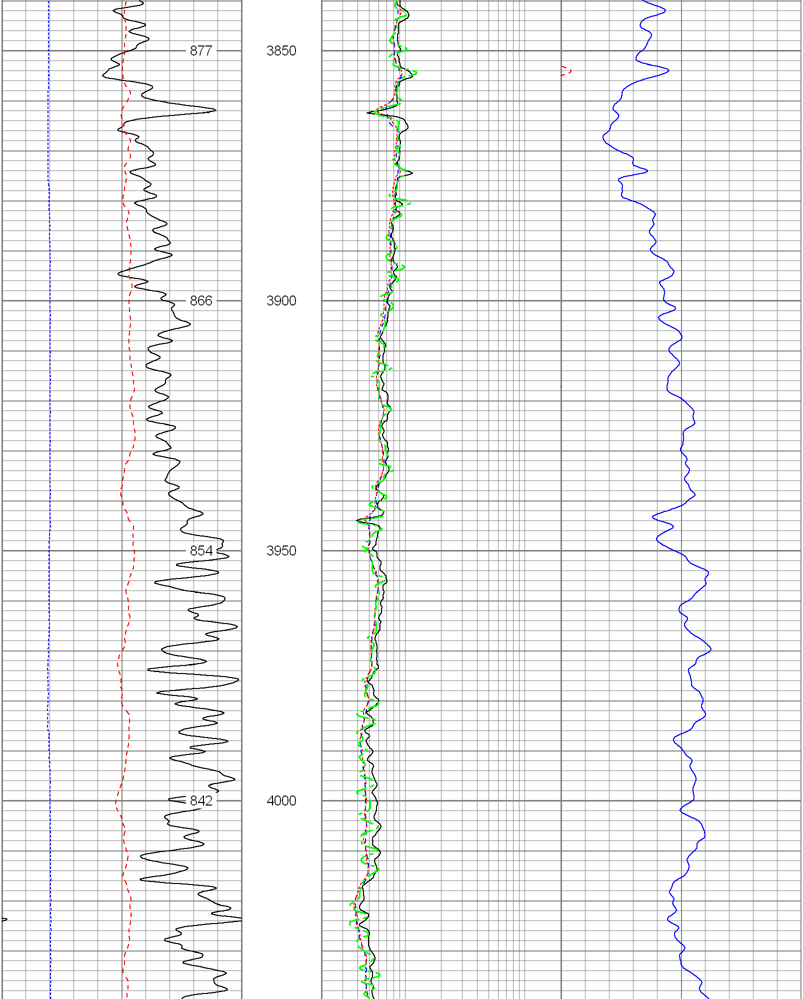

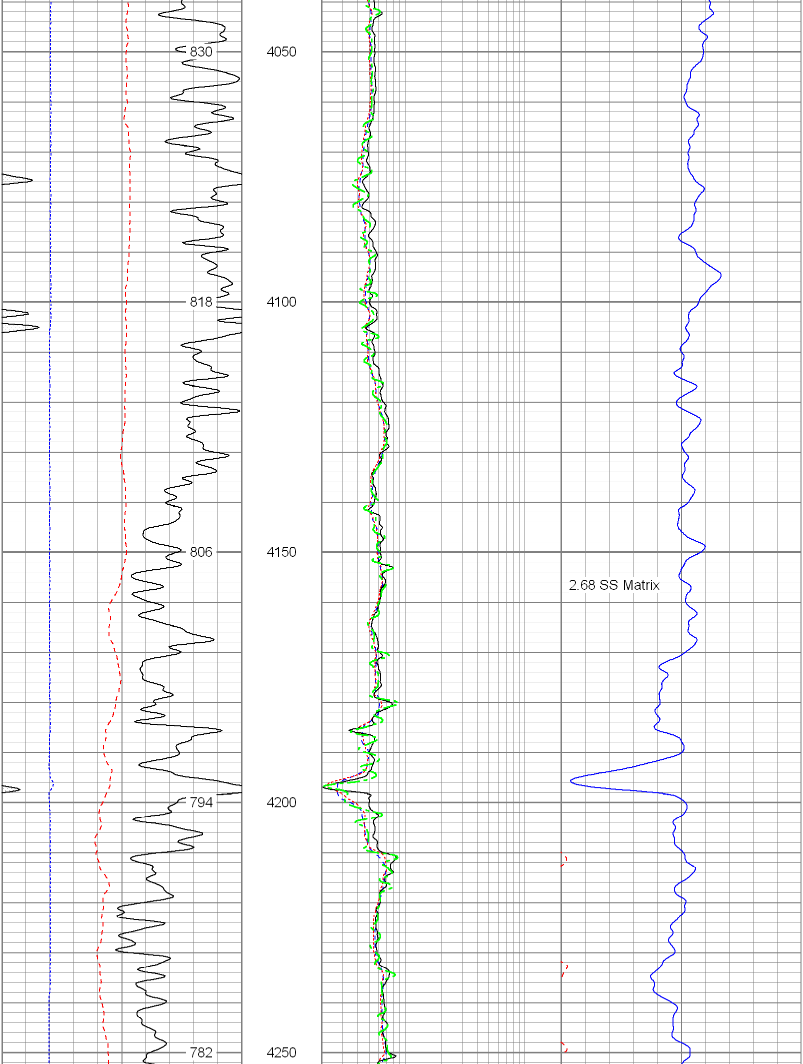

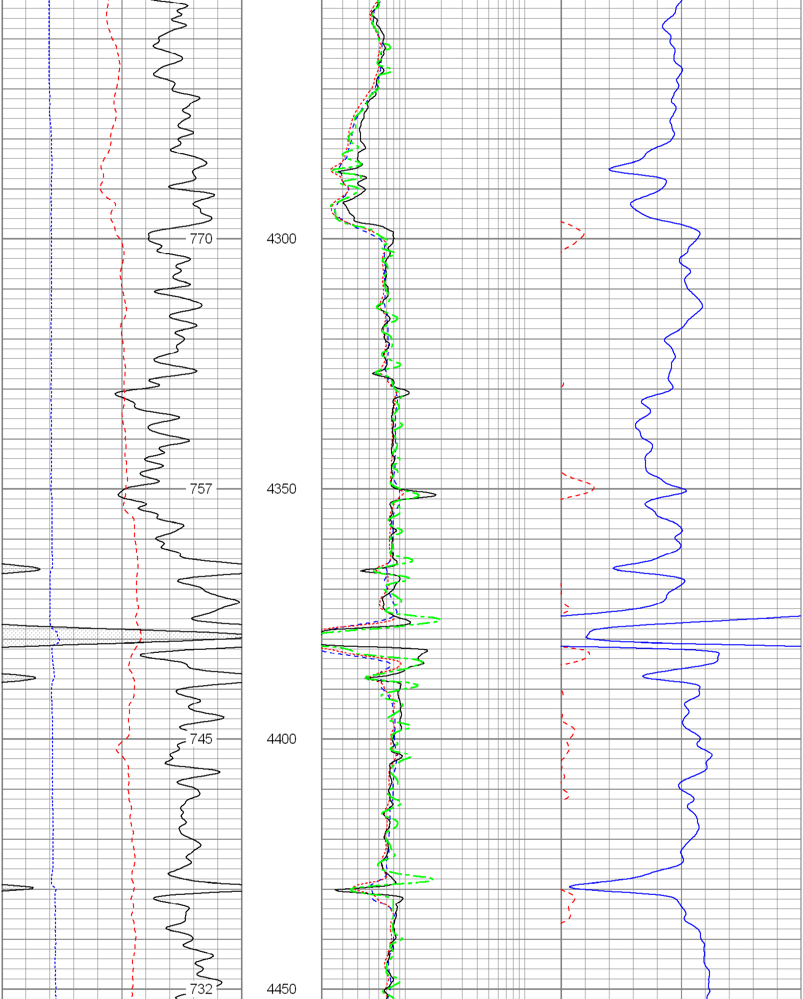

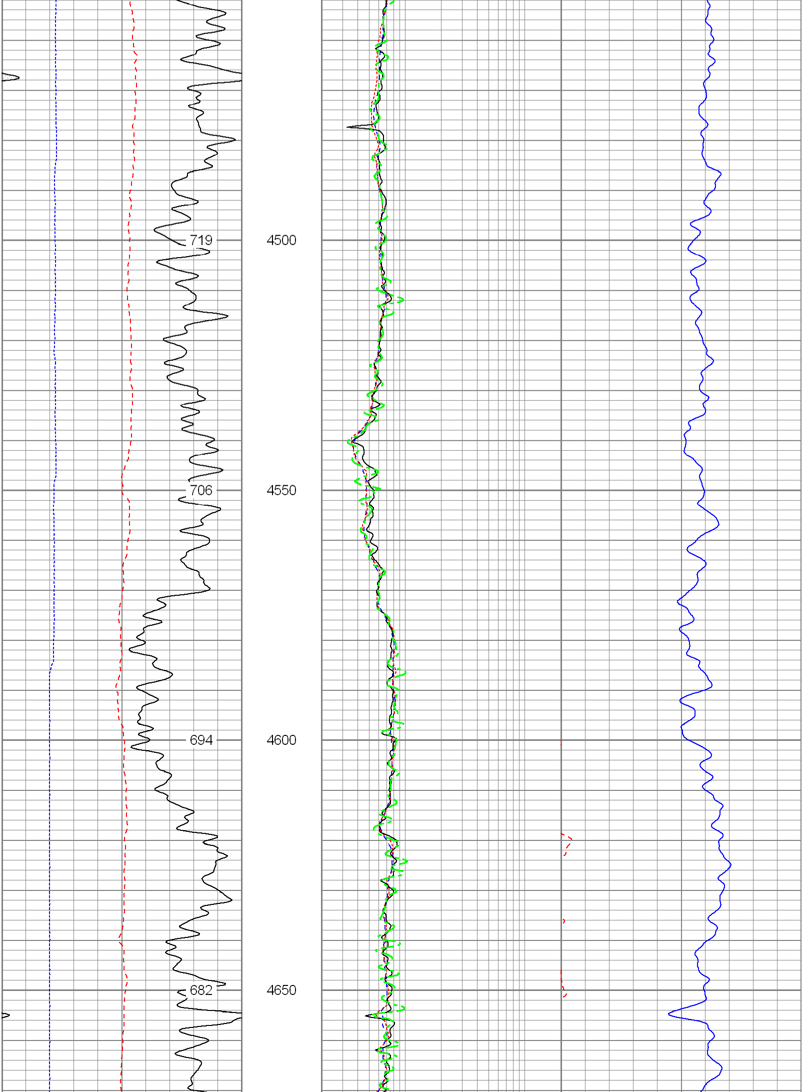

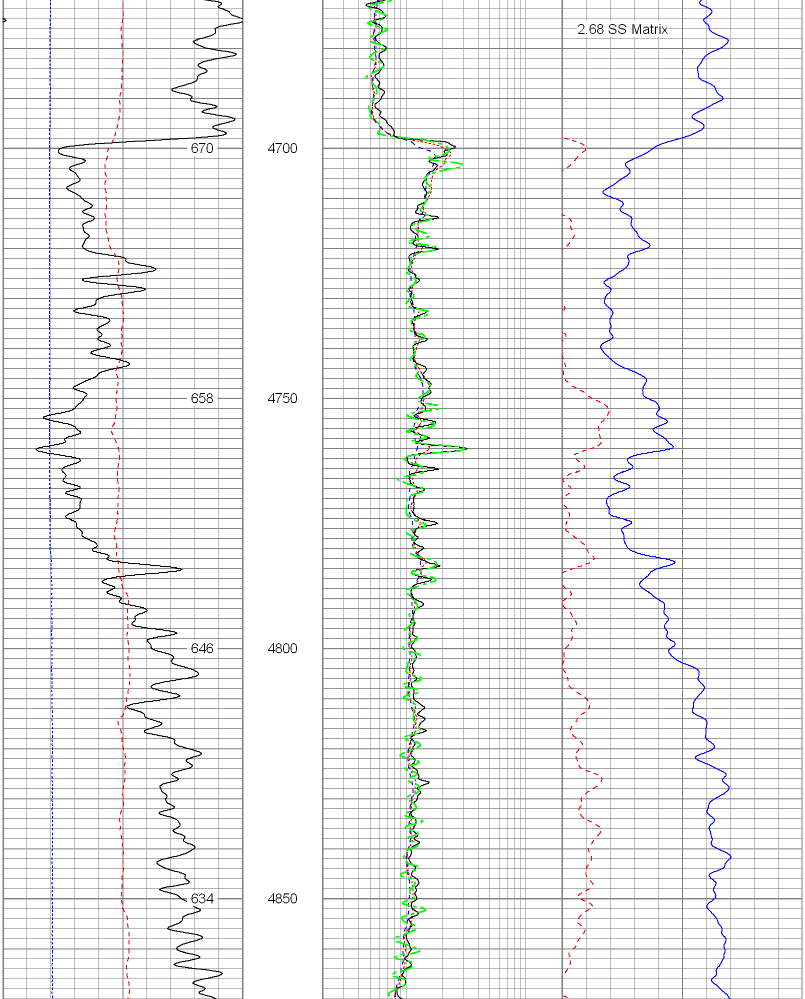

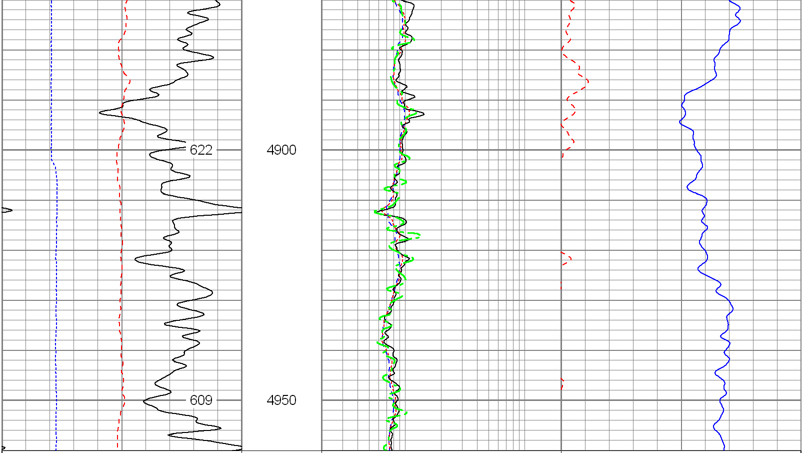

| | | | |
|---|---|---|---|
| 6 Density Caliper (in) 16 | | 2 Deep Resistivity (Ohm-m) 200 | 20 Density Porosity (pu) 0 |
| 30 Gamma Ray (GAPI) 130 | | 2 Medium Resistivity (Ohm-m) 200 | 20 Neutron Porosity (pu) 0 |
| 90 SP (mV) 190 | | 2 Shallow Resistivity (Ohm-m) 200 | |
| ABHV (ft3) | | 2 Rt (Ohm-m) 200 | |

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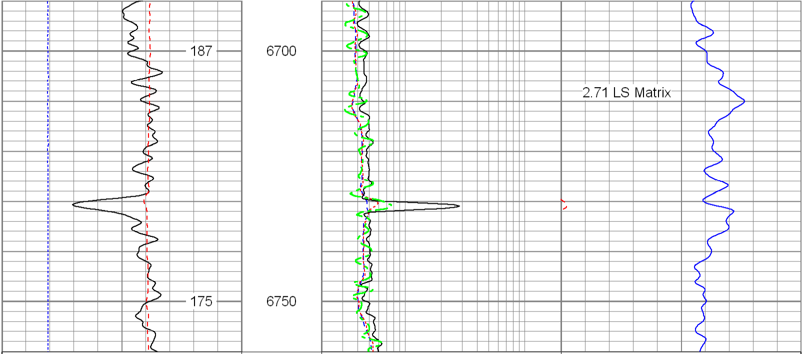
| 0 Gamma Ray (GAPI) 200 | | 2 Medium Resistivity (Ohm-m) 200 | 20 Neutron Porosity (pu) 0 |
| 0 SP (mV) 200 | | 2 Shallow Resistivity (Ohm-m) 200 | |
| | | 2 Rt (Ohm-m) 200 | |



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0 SP (mV) 200

2 Shallow Resistivity (Ohm-m) 200

2 Rt (Ohm-m) 200

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0 Gamma Ray (GAPI) 200

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2 Deep Resistivity (Ohm-m) 200

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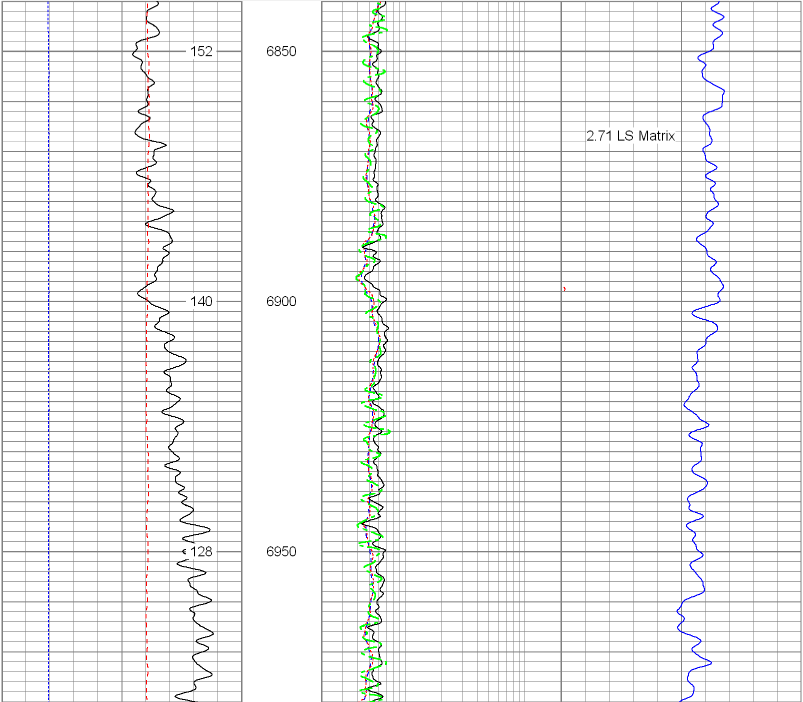
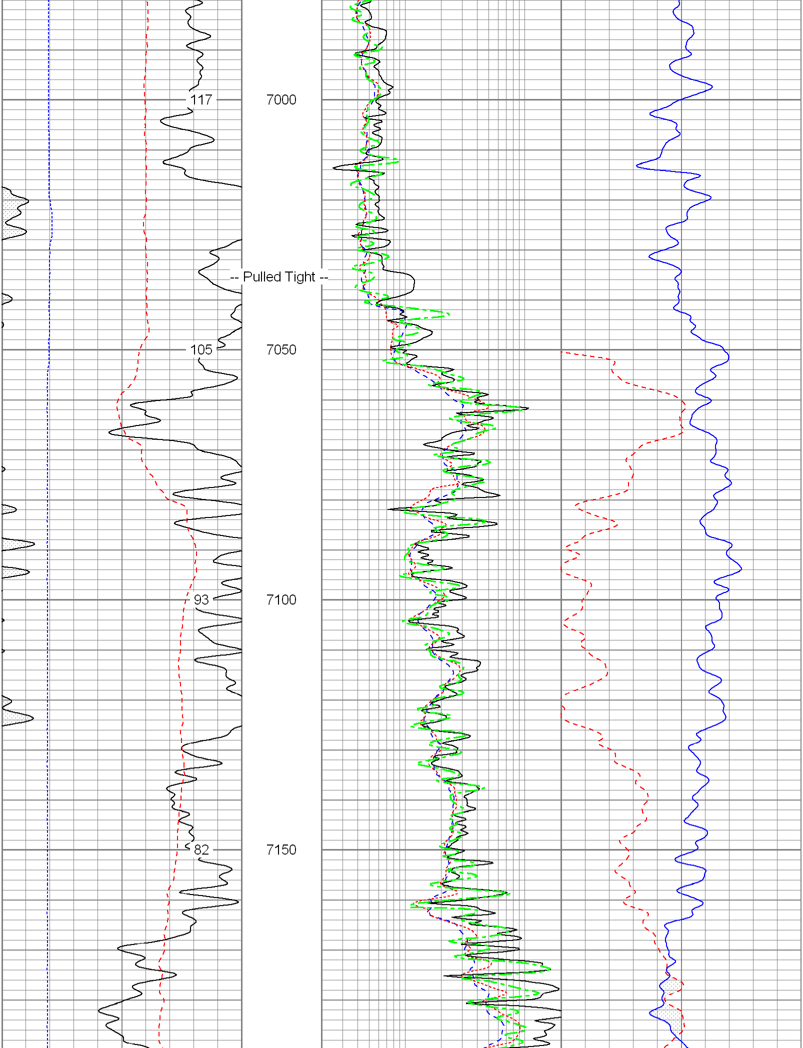
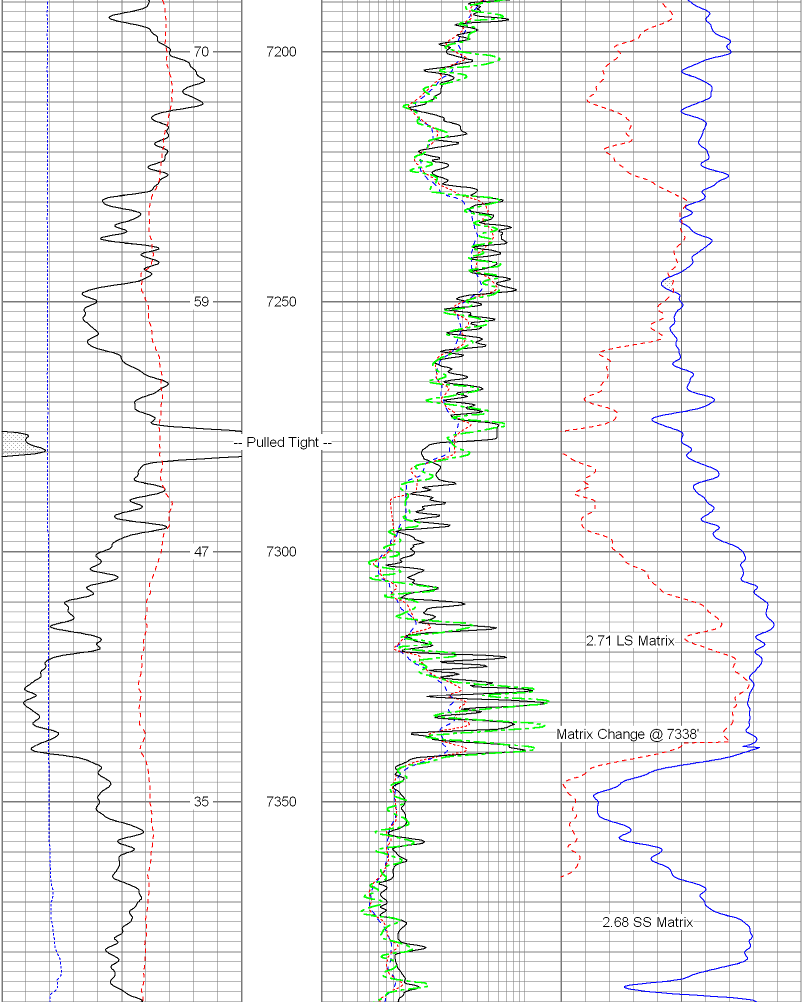
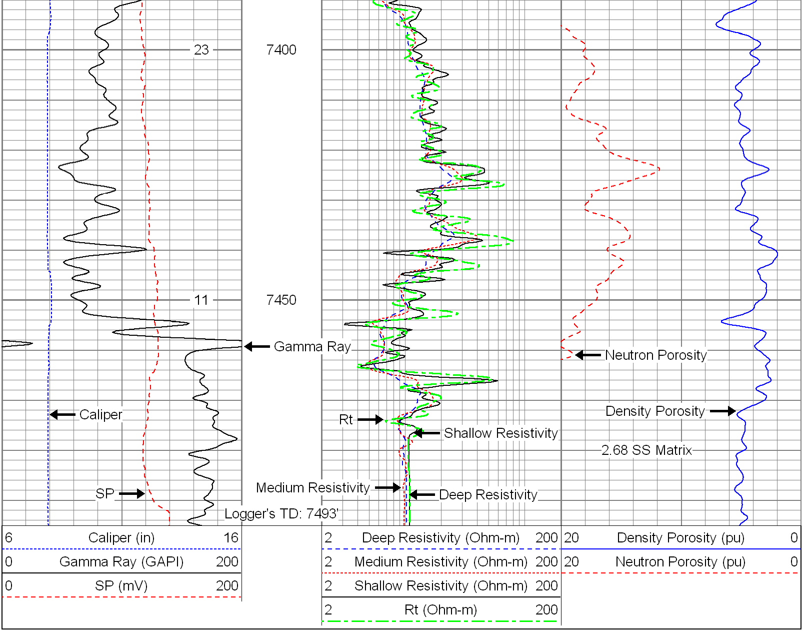
20 Density Porosity (pu) 0

20 Neutron Porosity (pu) 0