PSI
PHOENIX SURVEYS, INC.

# COMPENSATED DENSITY
# COMPENSATED NEUTRON
# MICROLOG

Company
Well
Field
County
State/Prv

| | |
|---|---|
| Company | Noble Energy Inc. |
| Well | Wells Ranch USX AE 19-09P |
| Field | Wattenberg |
| County | Weld |
| State/Province | Colorado |

Location
2044' FSL & 592' FEL
NE SE
Sec. 19, Twp. 6N, Rge. 62W

Other Services
Induction

Elevation
K.B. 4804
D.F. 4803
G.L. 4788

| | | | |
|---|---|---|---|
| Permanent Datum | GL | Elevation | 4788 |
| Log Measured From | KB | | |
| Drilling Measured From | KB | | |

| | | | |
|---|---|---|---|
| Date | April 27, 2010 | | |
| Run Number | 1 | | |
| Depth Driller | 6895 | | |
| Depth Logger | 6893 | | |
| Bottom Logged Interval | 6873 | | |
| Top Log Interval | 2800 | | |
| Casing Driller | 549 | | |
| Casing Logger | Not Logged | | |
| Bit Size | 7-7/8" | | |
| Type Fluid in Hole | Chem Gel | | |
| Density / Viscosity | 9.3 / 41 | | |
| pH / Fluid Loss | 6.0 / 20.8 | | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 3.40 @ 74° F | | |
| Rmf @ Meas. Temp | 2.61 @ 74° F | | |
| Rmc @ Meas. Temp | 4.32 @ 74° F | | |
| Source of Rmf / Rmc | Measure / Calc | | |
| Rm @ BHT | 1.18 @ 203° F | | |
| Time Circulation Stopped | 1400 | | |
| Time Logger on Bottom | 2130 | | |
| Maximum Recorded Temperature | 203° F | | |
| Equipment Number | 50 | | |
| Location | Brighton, CO | | |
| Recorded By | Ian Harris | | |
| Witnessed By | Mike Sitton | | |

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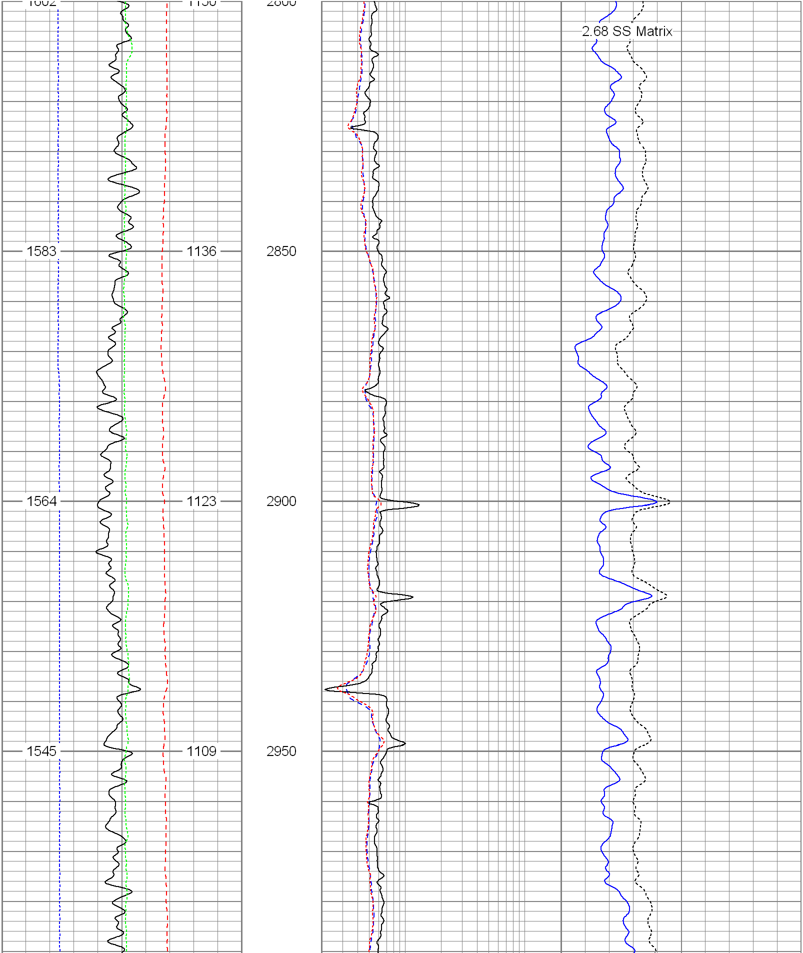
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

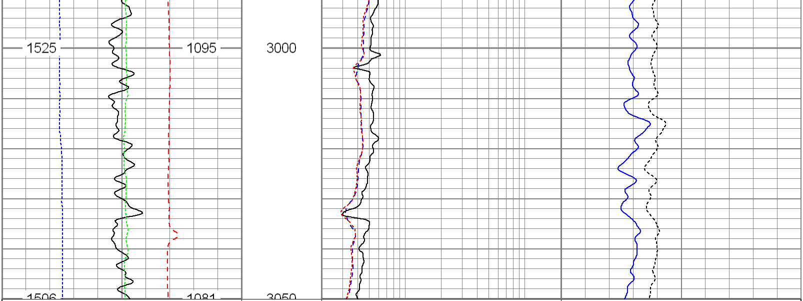
## Comments

Annular volume calculated for 4.5" casing
Ensign Drilling Rig 55
Thank you for using Phoenix Surveys!!
API #: 05-123-30486-00

| | |
|---|---|
| Database File: | 10628.db |
| Dataset Pathname: | final1 |
| Presentation Format: | split20 |
| Dataset Creation: | Tue Apr 27 22:55:13 2010 |
| Charted by: | Depth in Feet scaled 1:240 |

| | | |
|---|---|---|
| 0 Gamma Ray (GAPI) 200 | 2 Deep Resistivity (Ohm-m) 200 | 20 Density Porosity (pu) 0 |
| 0 SP (mV) 200 | 2 Shallow Resistivity (Ohm-m) 200 | 20 Neutron Porosity (pu) 0 |
| -0.5 Corr (g/cc) 0.5 | 2 Medium Resistivity (Ohm-m) 200 | 2.25 RHOB (g/cc) 2.75 |
| 6 Caliper (in) 16 | | |





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|---|---|---|---|---|---|---|---|---|
| 0 | Gamma Ray (GAPI) | 200 | 2 | Deep Resistivity (Ohm-m) | 200 | 20 | Density Porosity (pu) | 0 |
| 0 | SP (mV) | 200 | 2 | Shallow Resistivity (Ohm-m) | 200 | 20 | Neutron Porosity (pu) | 0 |
| -0.5 | Corr (g/cc) | 0.5 | 2 | Medium Resistivity (Ohm-m) | 200 | 2.25 | RHOB (g/cc) | 2.75 |
| 6 | Caliper (in) | 16 |  |  |  |  |  |  |

|  |  |
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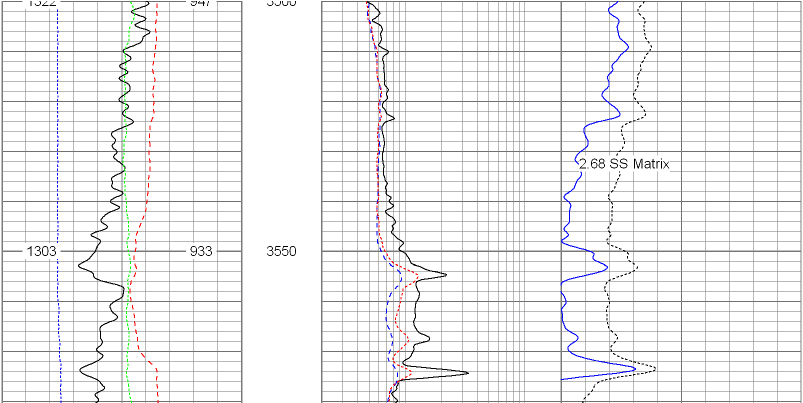
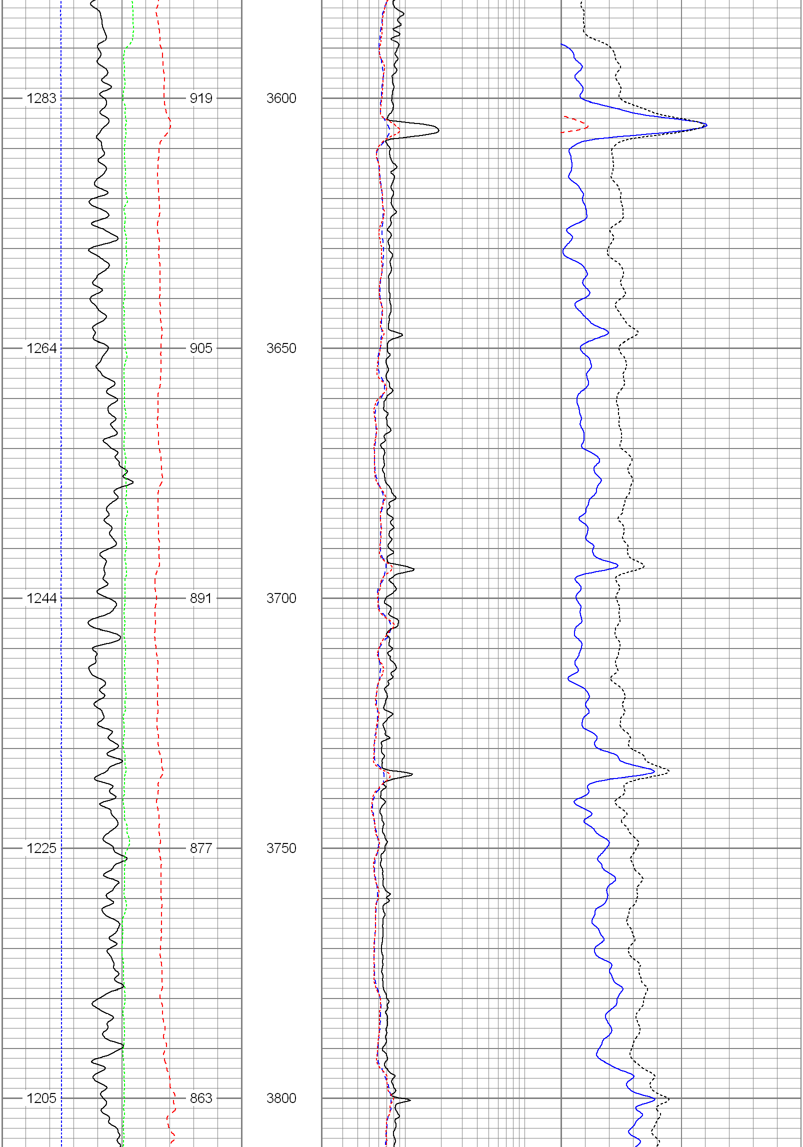
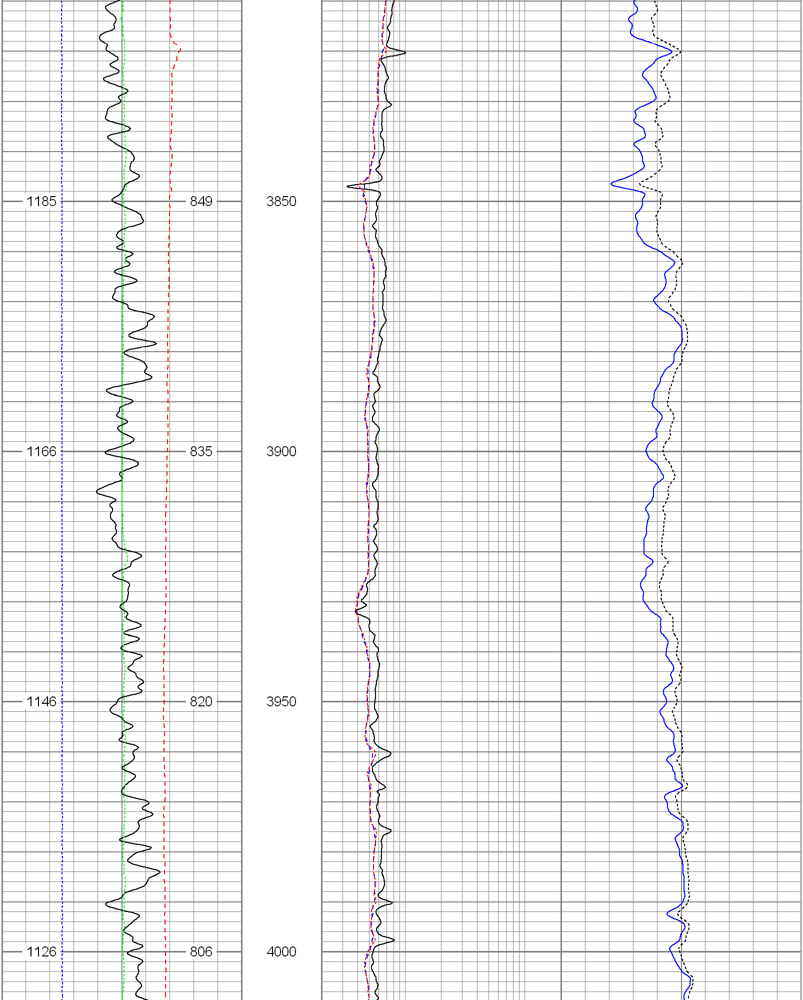
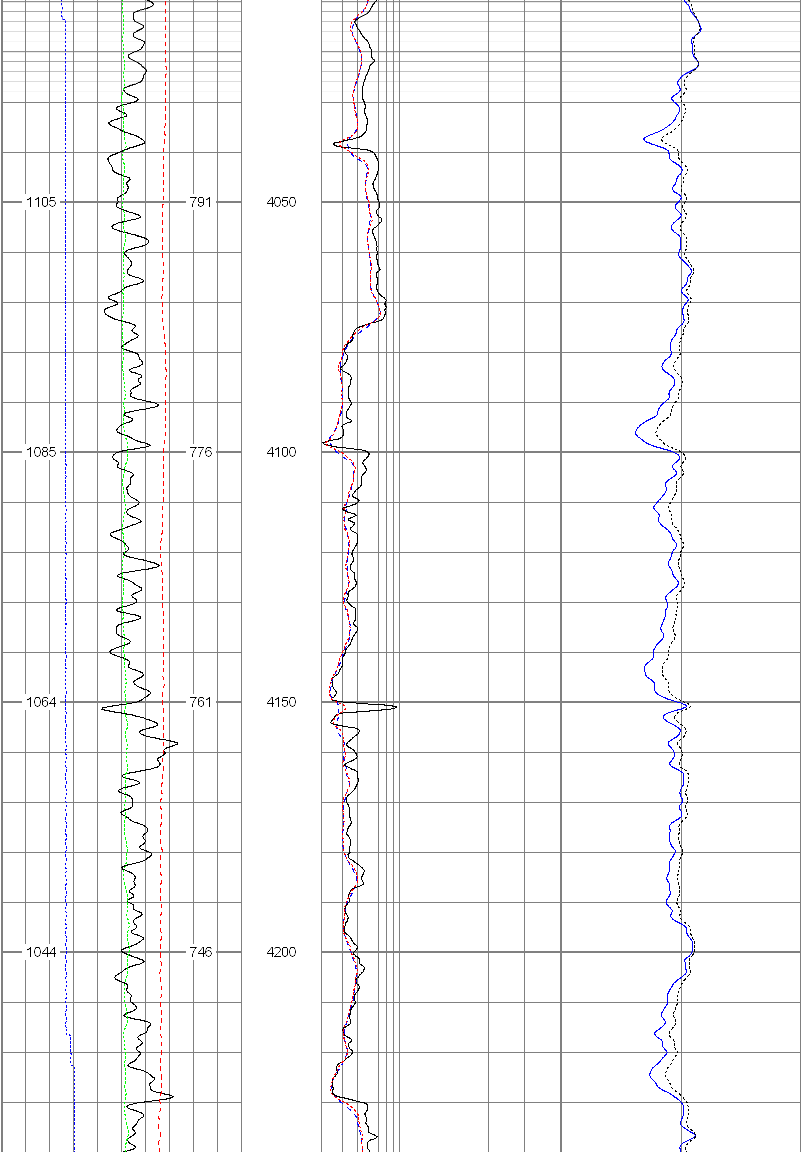
| Dataset Pathname: | final1 |
| Presentation Format: | split20 |
| Dataset Creation: | Tue Apr 27 22:55:13 2010 |
| Charted by: | Depth in Feet scaled 1:240 |

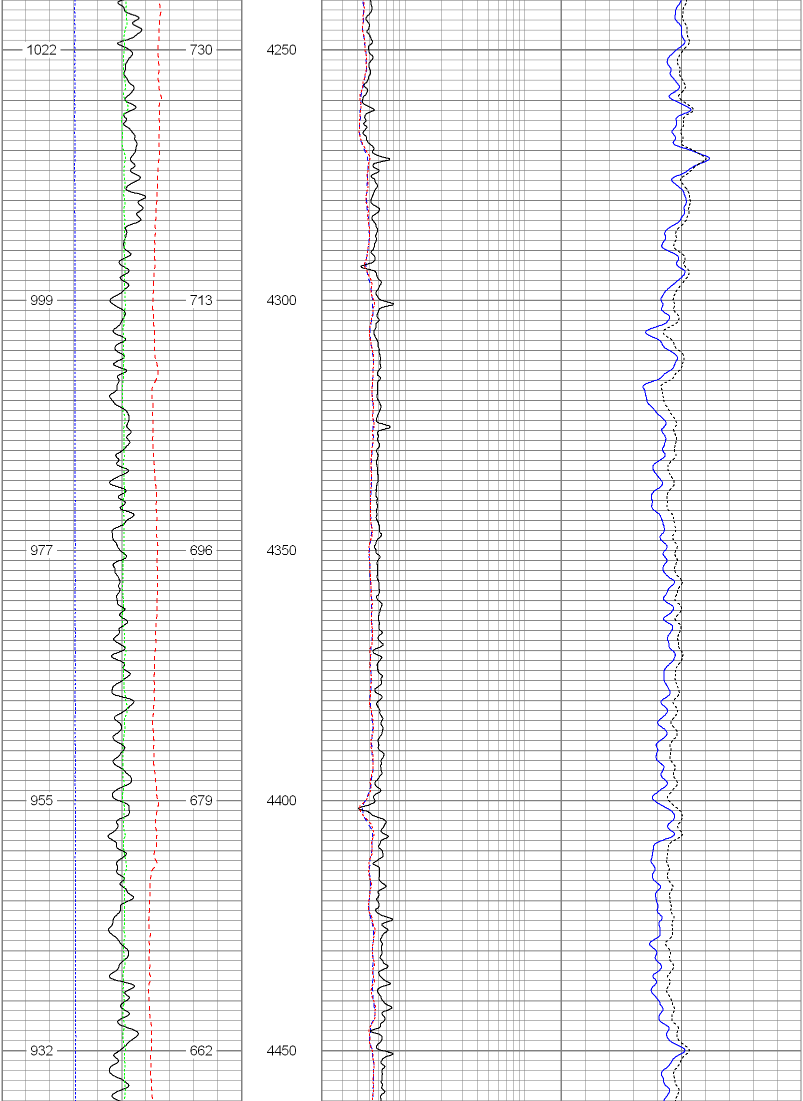
|  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|
| 0 | Gamma Ray (GAPI) | 200 | 2 | Deep Resistivity (Ohm-m) | 200 | 20 | Density Porosity (pu) | 0 |
| 0 | SP (mV) | 200 | 2 | Shallow Resistivity (Ohm-m) | 200 | 20 | Neutron Porosity (pu) | 0 |
| -0.5 | Corr (g/cc) | 0.5 | 2 | Medium Resistivity (Ohm-m) | 200 | 2.25 | RHOB (g/cc) | 2.75 |
| 6 | Caliper (in) | 16 |  |  |  |  |  |  |

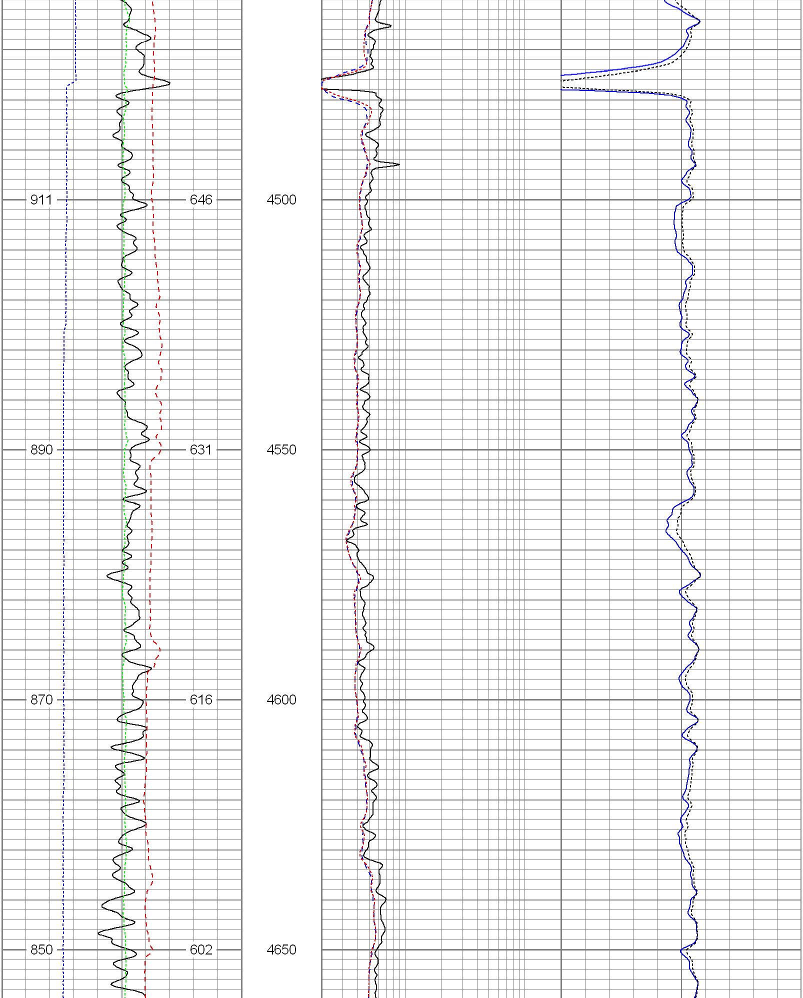


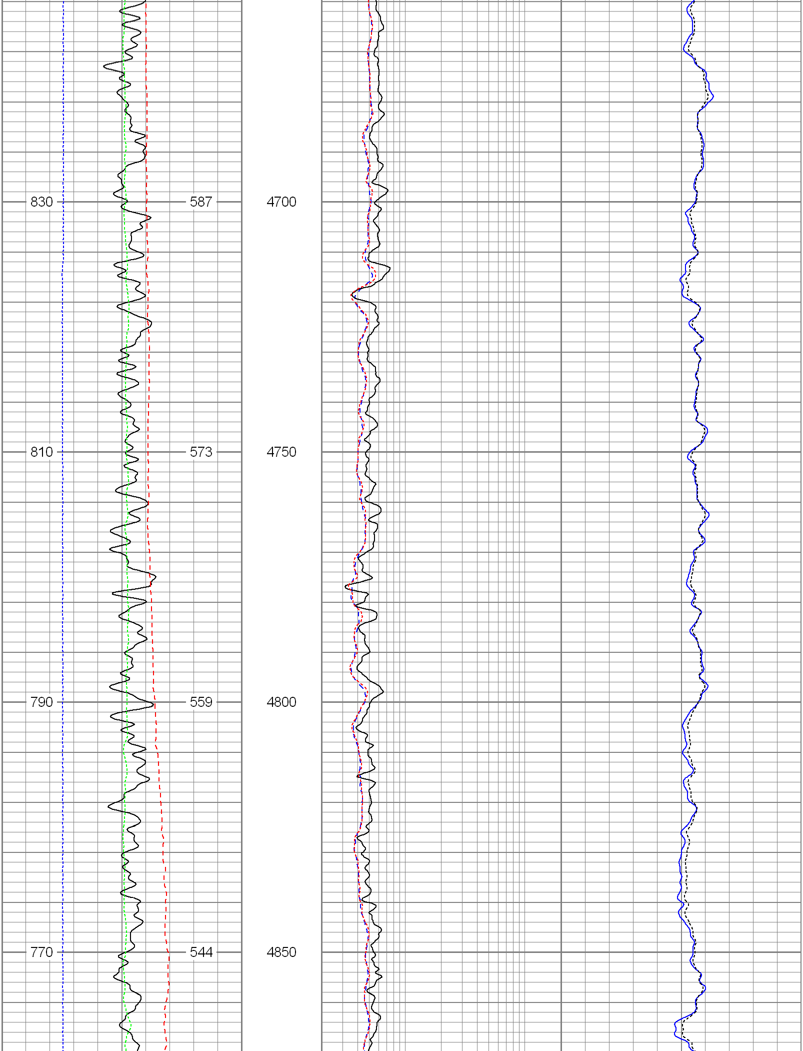


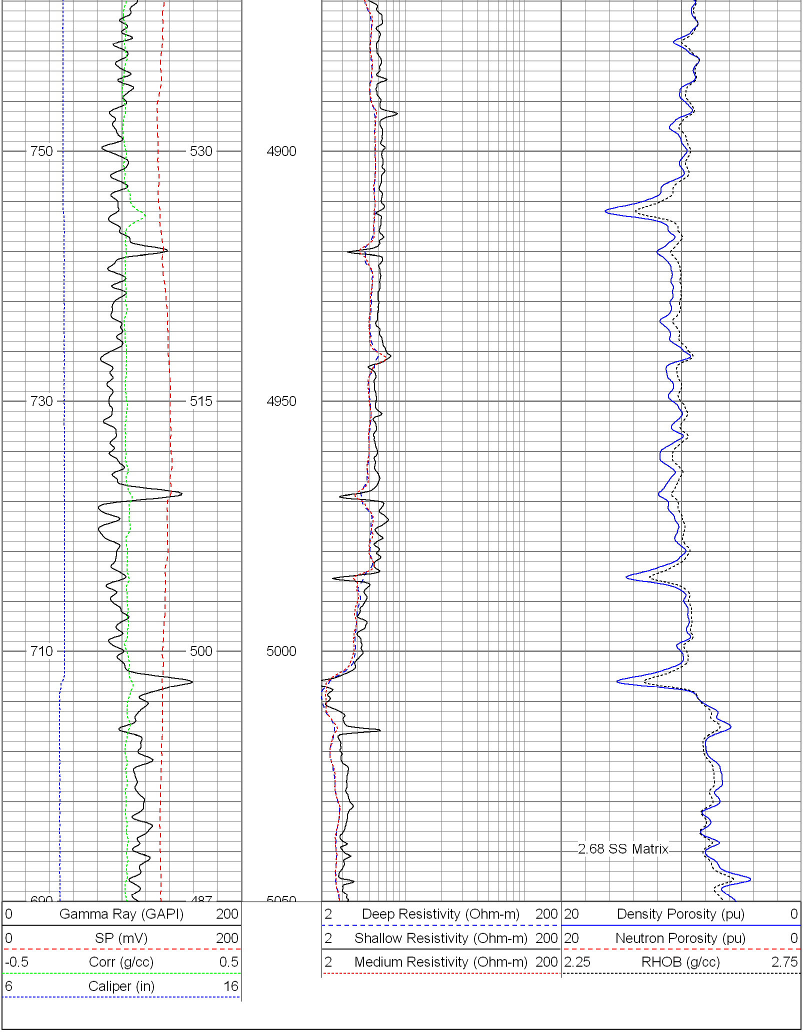












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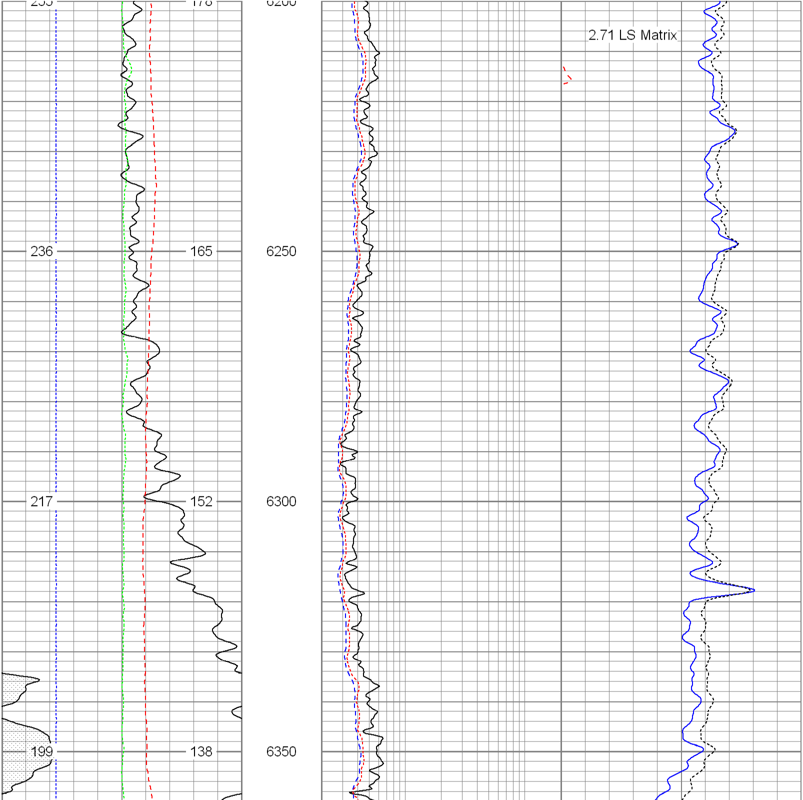
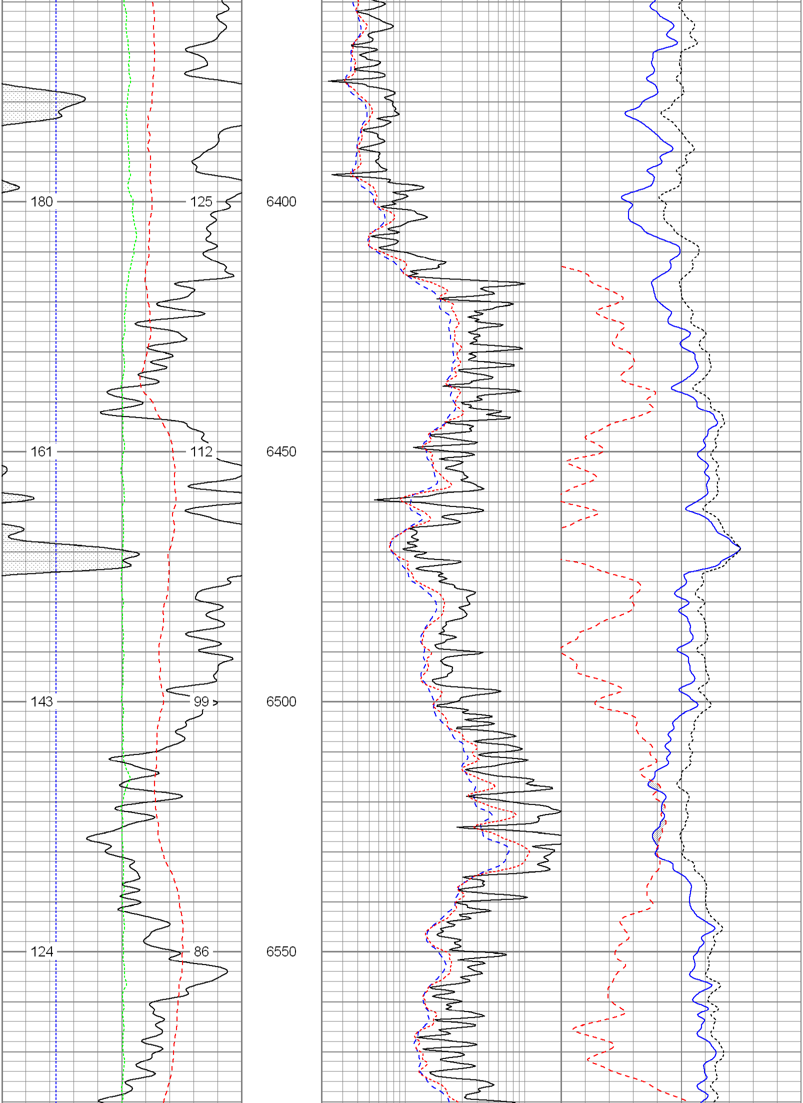
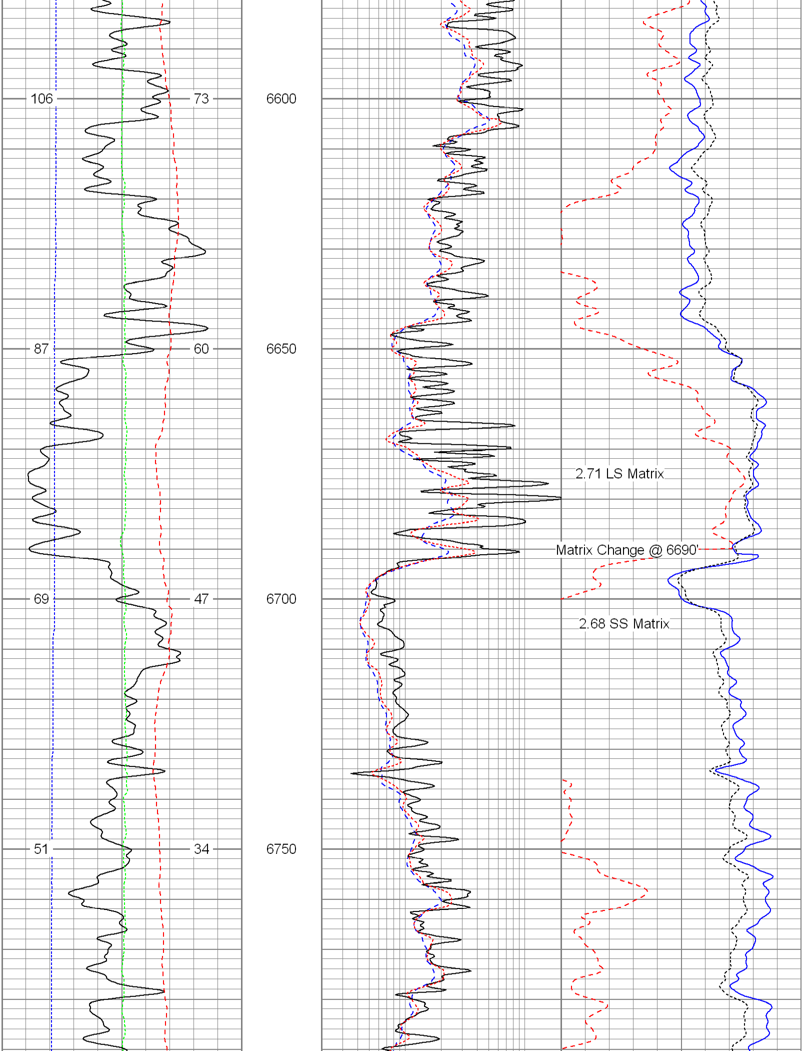
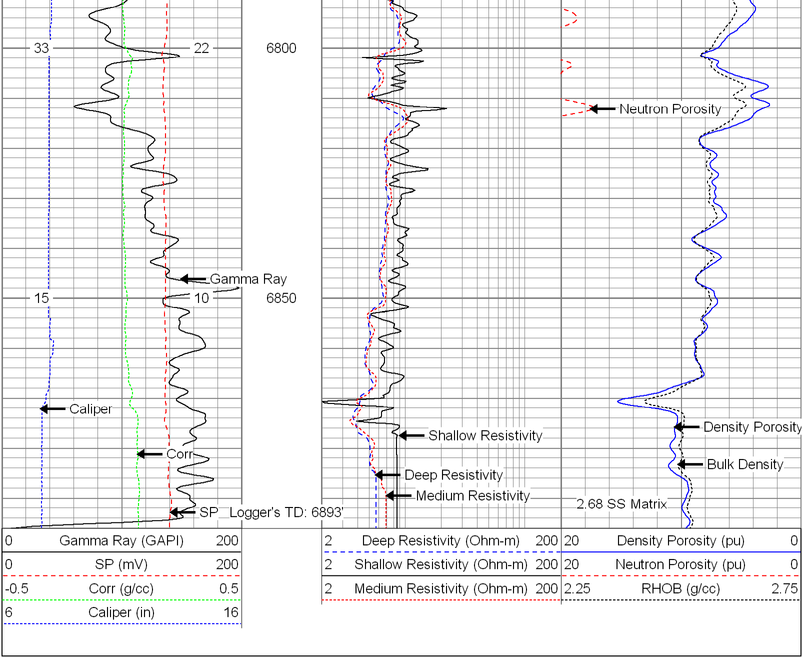
Presentation Format: split20
Dataset Creation: Tue Apr 27 22:02:52 2010 by Calc Open-Cased 081212
Charted by: Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 200
0 SP (mV) 200
-0.5 Corr (g/cc) 0.5
6 Caliper (in) 16

2 Deep Resistivity (Ohm-m) 200
2 Shallow Resistivity (Ohm-m) 200
2 Medium Resistivity (Ohm-m) 200

20 Density Porosity (pu) 0
20 Neutron Porosity (pu) 0
2.25 RHOB (g/cc) 2.75