PHOENIX SURVEYS, INC.

# HIGH RESOLUTION INDUCTION
# COMPENSATED DENSITY
# COMPENSATED NEUTRON

Company
Well
Field
County
State/Prv

Company **EnCana Oil & Gas (USA) Inc.**
Well **Costigan 6-8-20**
Field **Wattenberg**
County **Weld** State/Province **Colorado**

Location SHL: 945' FSL & 1056' FEL SESE
BHL: 50' FSL & 1300' FEL SESE
Sec 20, Twp 1N, Rge 68W

Other Services
None

Permanent Datum GL Elevation 5213
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 5226
D.F. 5226
G.L. 5213

| | | | |
|---|---|---|---|
| Date | June 14, 2011 | | |
| Run Number | 1 | | |
| Depth Driller | 8674 | | |
| Depth Logger | 8673 | | |
| Bottom Logged Interval | 8673 | | |
| Top Log Interval | Casing | | |
| Casing Driller | 1211 | | |
| Casing Logger | 1211 | | |
| Bit Size | 7+7/8" | | |
| Type Fluid in Hole | Chem Gel | | |
| Density / Viscosity | 9.4 / 50 | | |
| pH / Fluid Loss | 7.5 / 10.8 | | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 3.45 @ 75 F | | |
| Rmf @ Meas. Temp | 2.76 @ 75 F | | |
| Rmc @ Meas. Temp | 4.14 @ 75 F | | |
| Source of Rmf / Rmc | Measure / Calc | | |
| Rm @ BHT | 1.04 @ 221 F | | |
| Time Circulation Stopped | 0030 | | |
| Time Logger on Bottom | 0810 | | |
| Maximum Recorded Temperature | 221 F | | |
| Equipment Number | 50 | | |
| Location | Brighton, CO | | |
| Recorded By | Matt Gill | | |
| Witnessed By | Terry Leighton | | |

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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

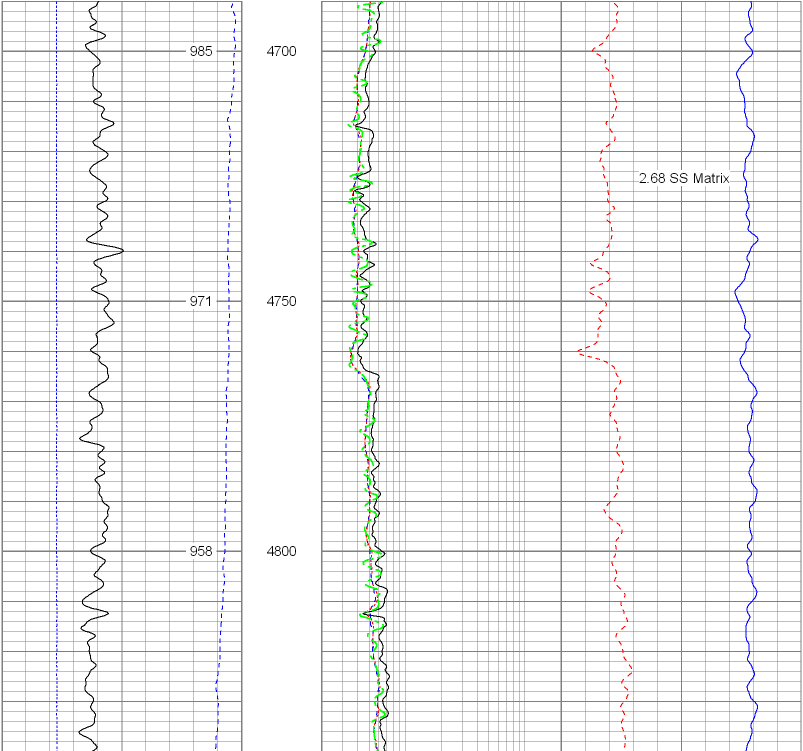
Annular volume calculated for 4.5" casing
Ensign Drilling Rig 122
Thank you for using Phoenix Surveys!!
API #: 05-123-30124-00

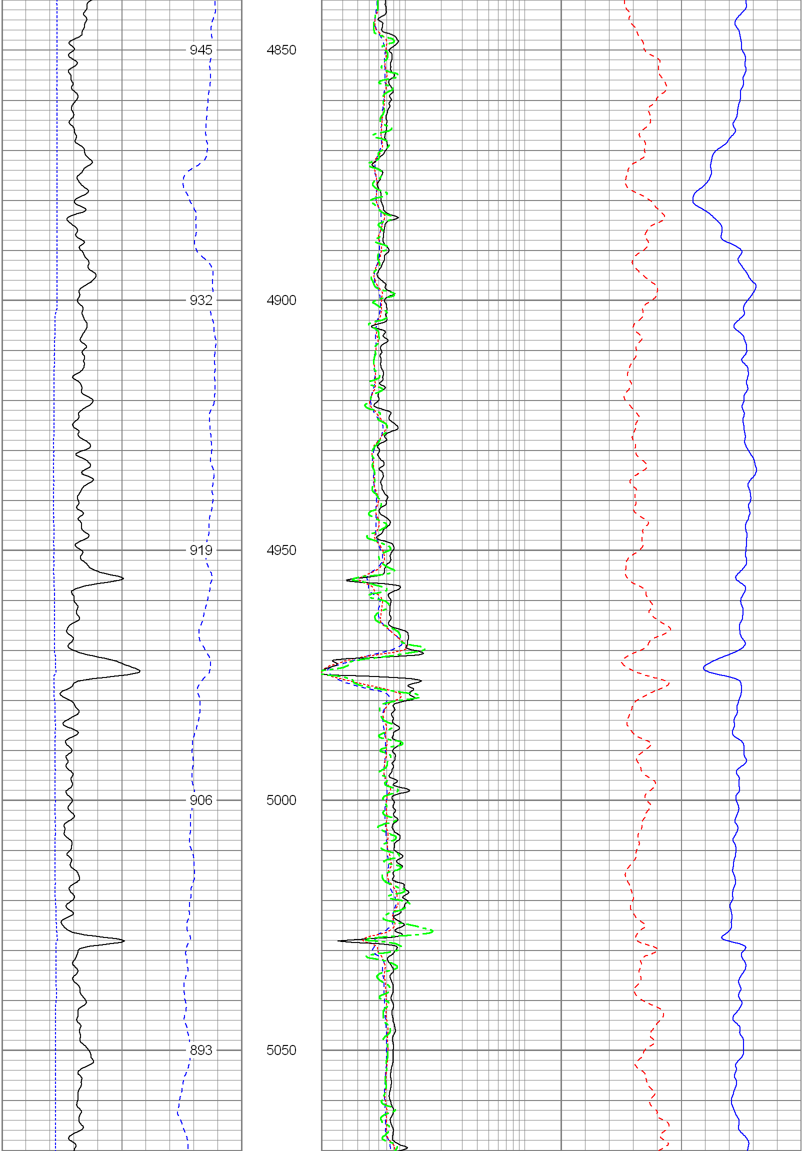
| | |
|---|---|
| Database File: | 11790.db |
| Dataset Pathname: | final |
| Presentation Format: | encana1 |
| Dataset Creation: | Tue Jun 14 09:25:17 2011 |
| Charted by: | Depth in Feet scaled 1:240 |

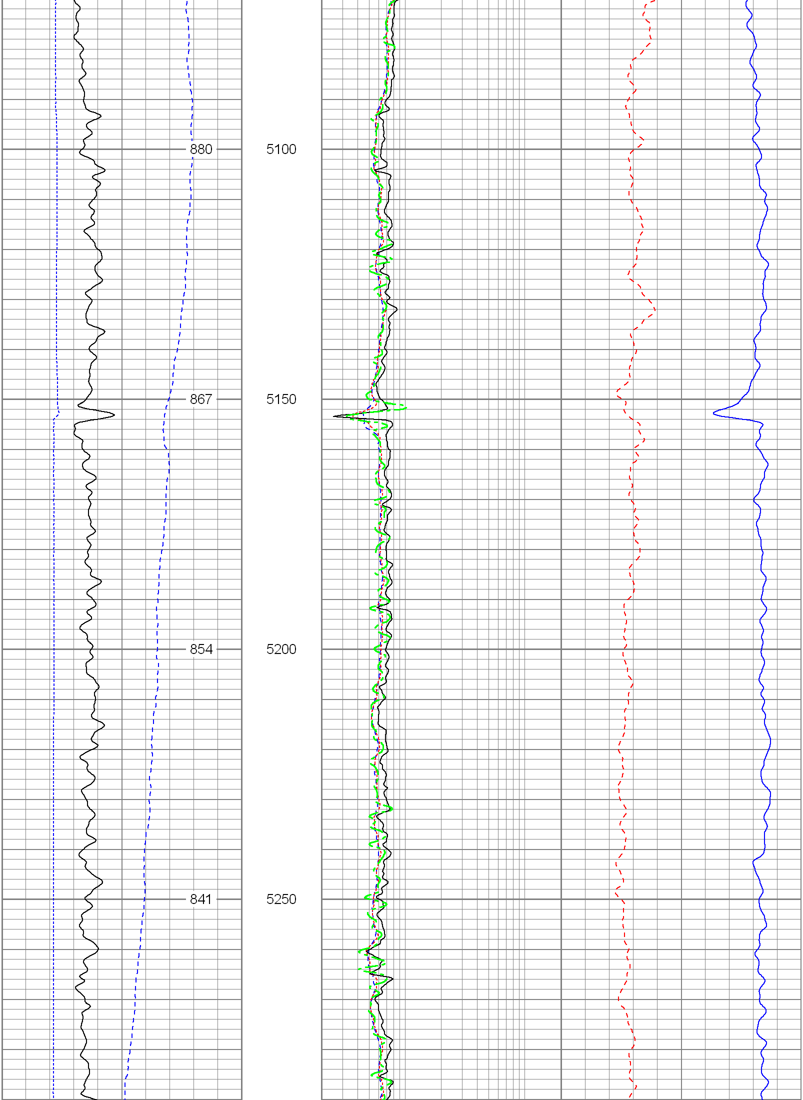
6 Density Caliper (in) 16
0 Gamma Ray (GAPI) 300
30 SP (mV) 130
ABHV (ft3)

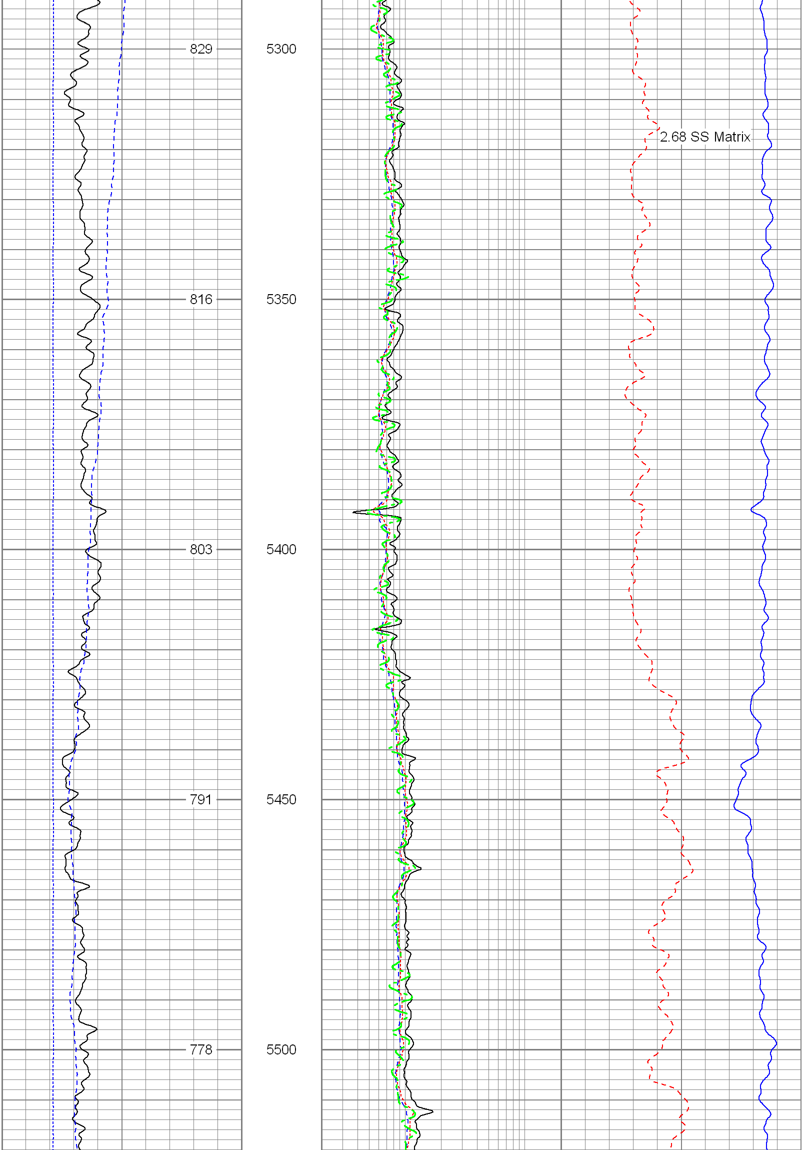
2 Deep Resistivity (Ohm-m) 200
2 Medium Resistivity (Ohm-m) 200
2 Shallow Resistivity (Ohm-m) 200
2 Rt (Ohm-m) 200

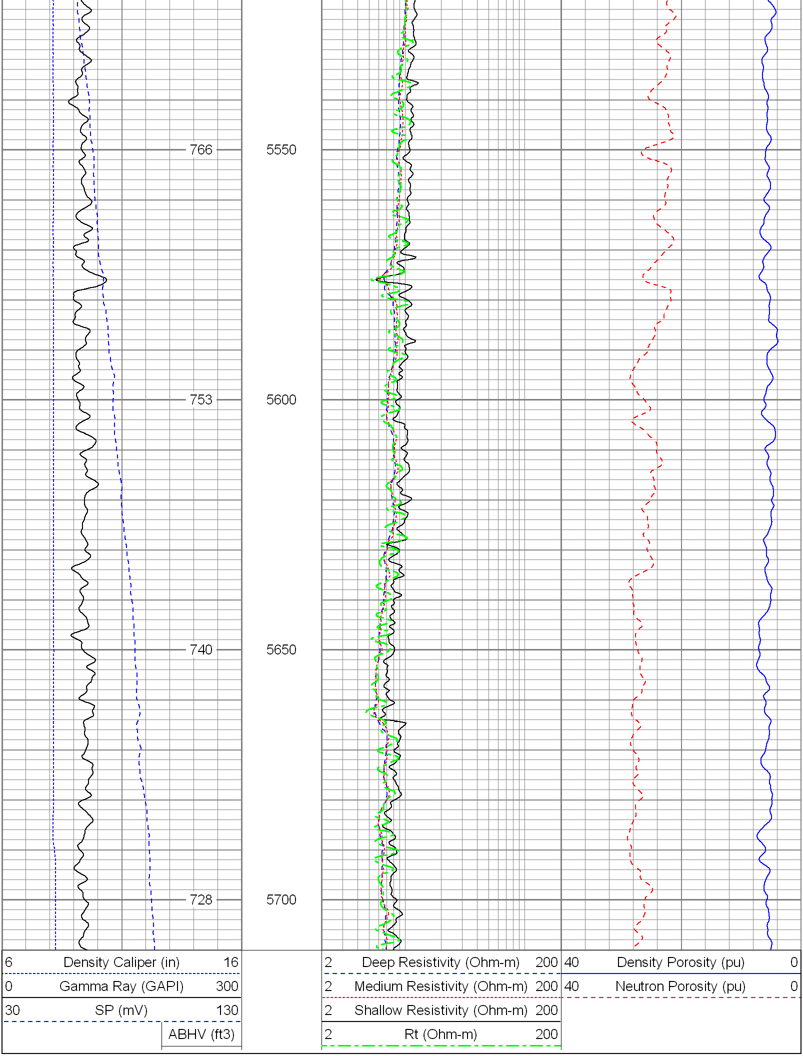
40 Density Porosity (pu) 0
40 Neutron Porosity (pu) 0











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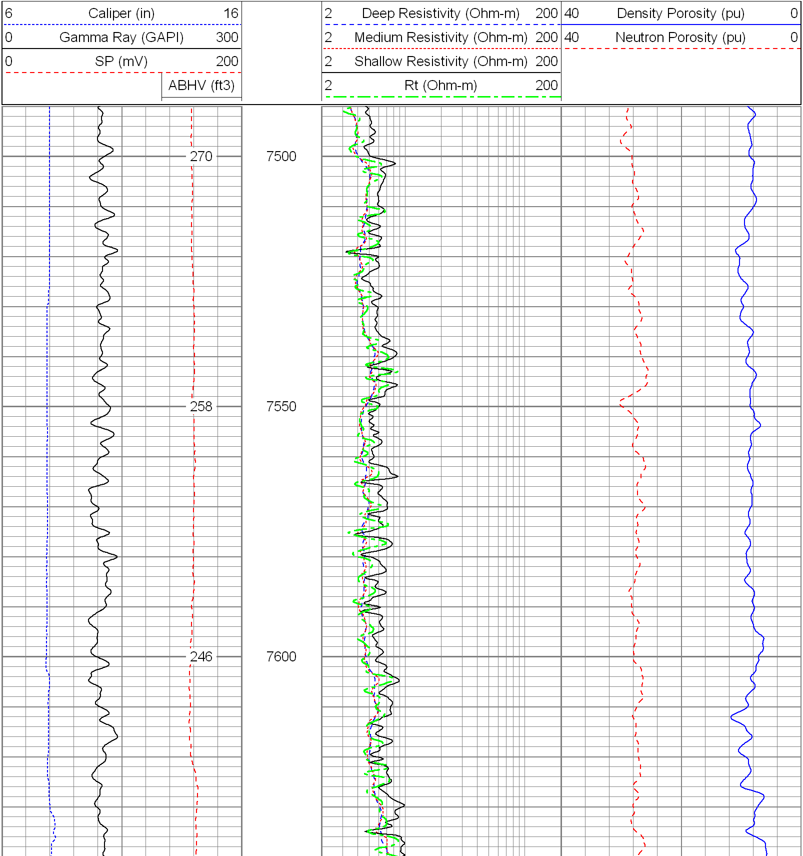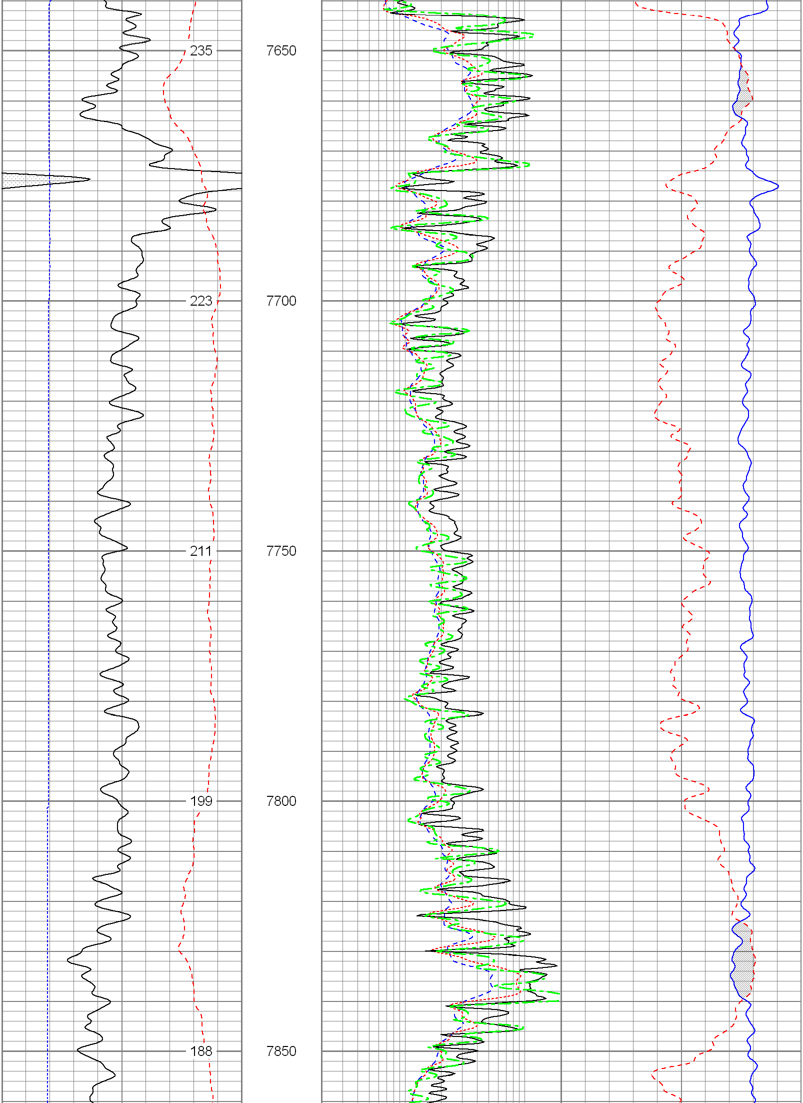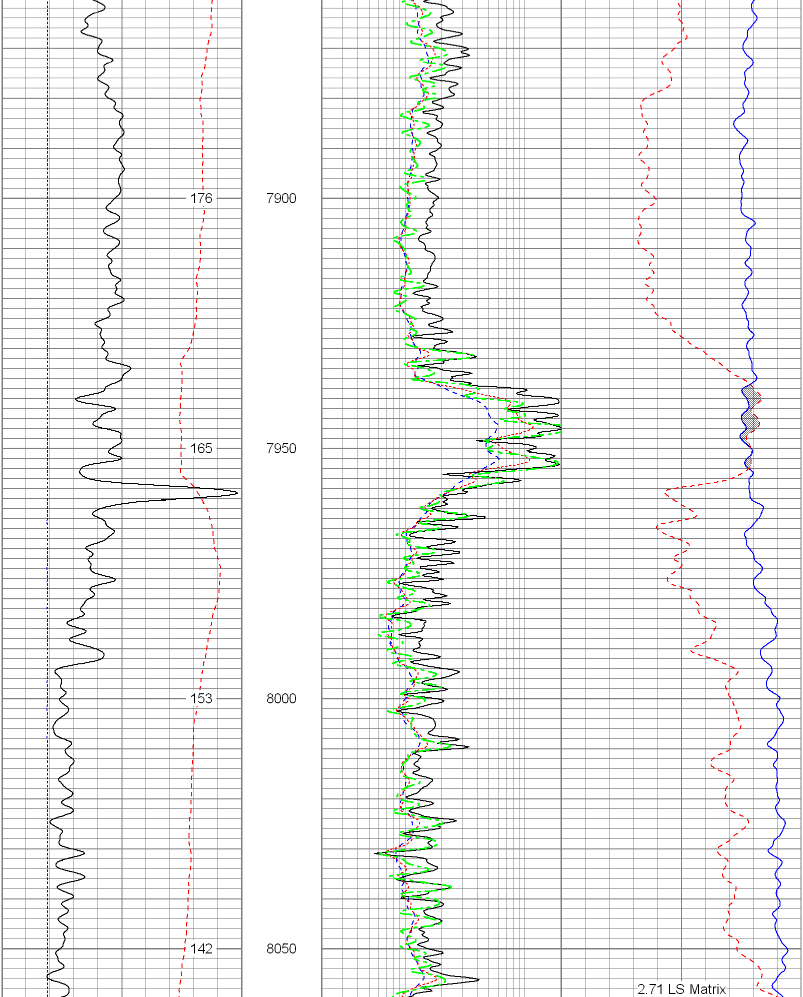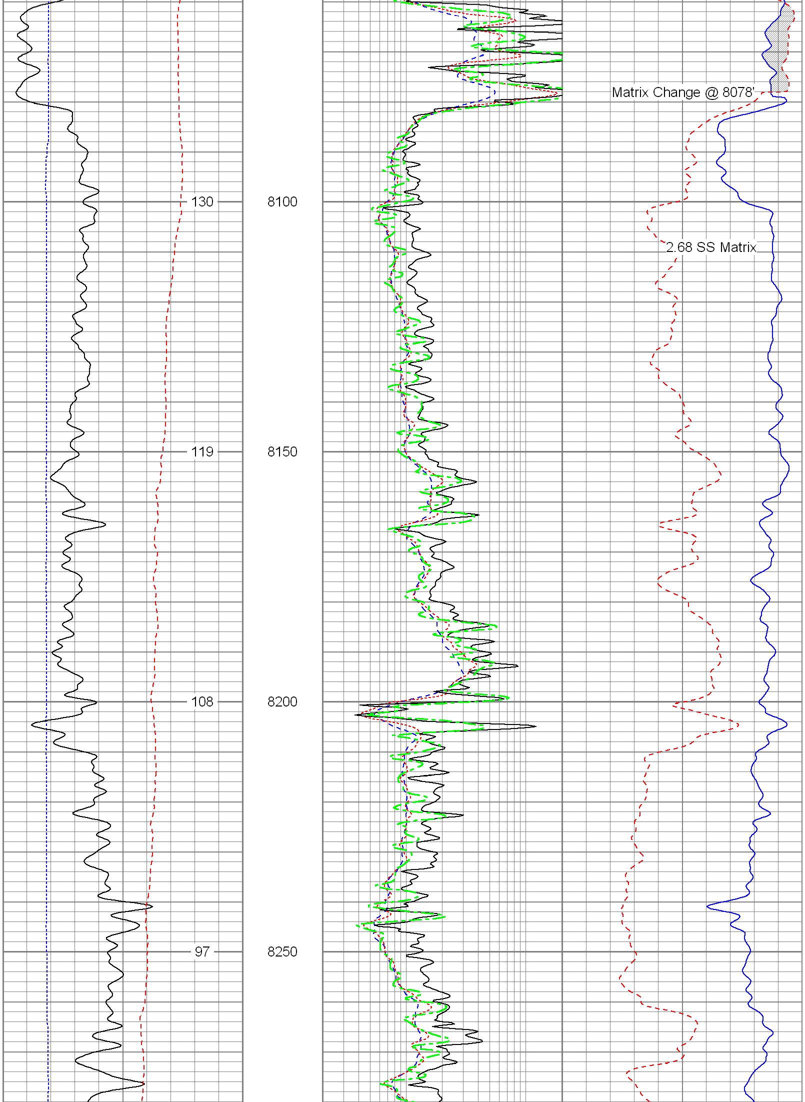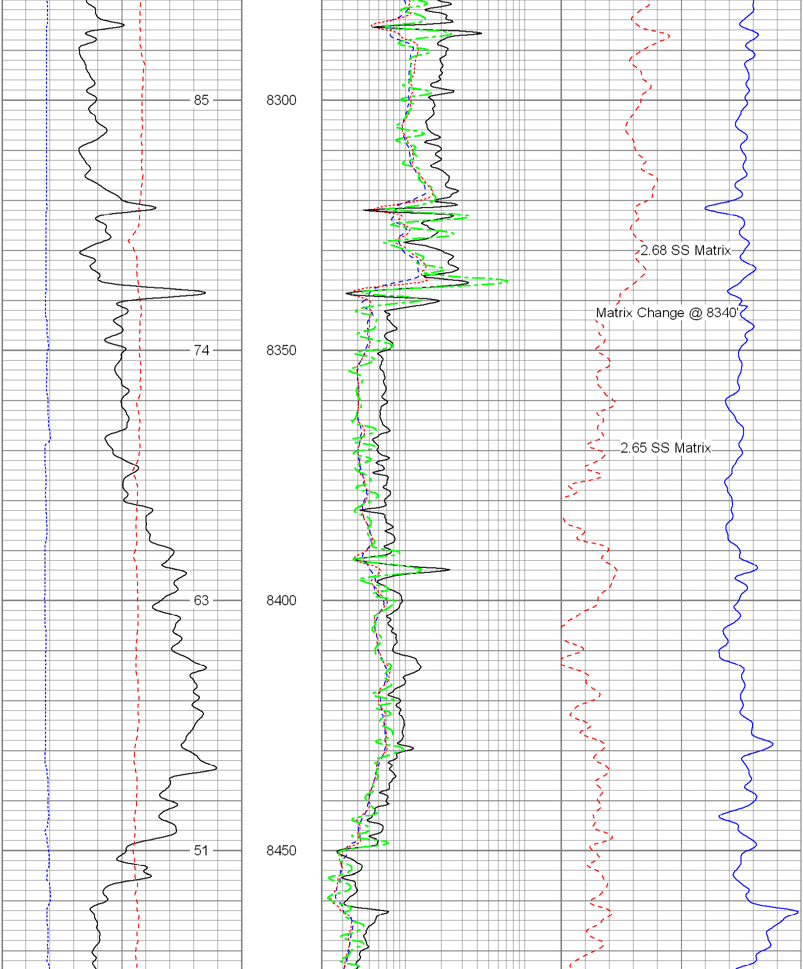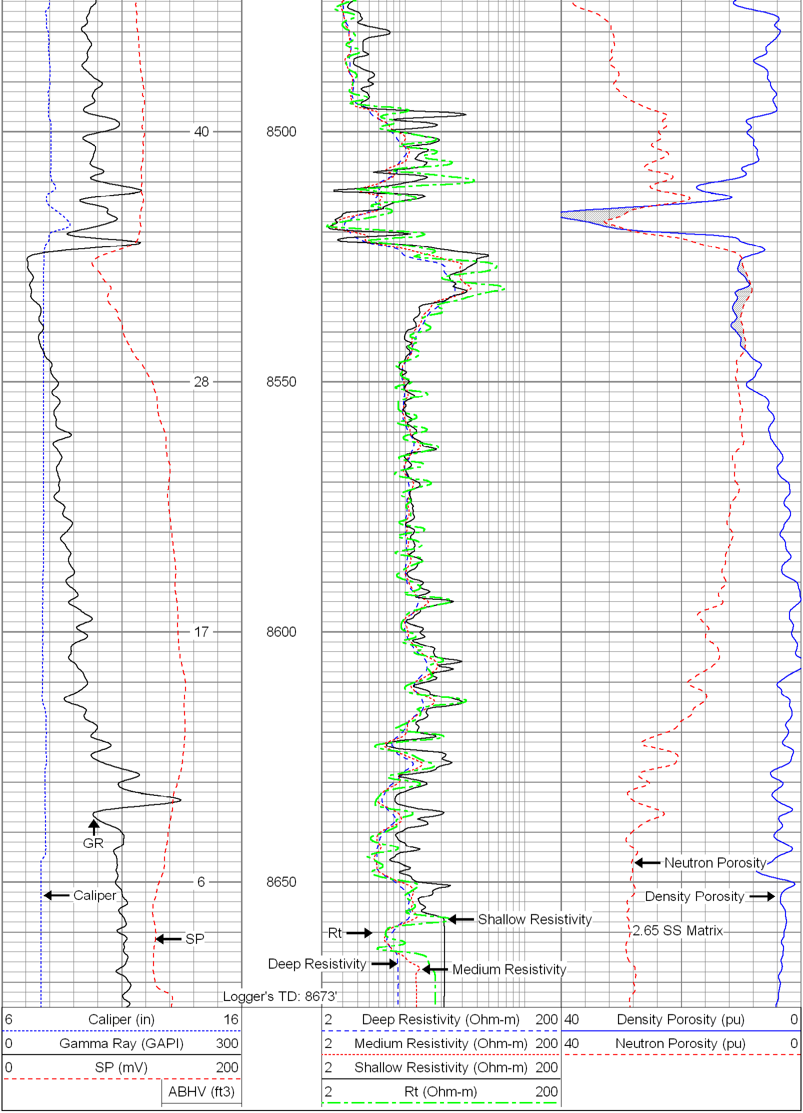
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0 Gamma Ray (GAPI) 300
0 SP (mV) 200
ABHV (ft3)
2 Deep Resistivity (Ohm-m) 200
2 Medium Resistivity (Ohm-m) 200
2 Shallow Resistivity (Ohm-m) 200
2 Rt (Ohm-m) 200
40 Density Porosity (pu) 0
40 Neutron Porosity (pu) 0
270
7500
258
7550
246
7600