PHOENIX SURVEYS, INC.

HIGH RESOLUTION INDUCTION

Company
Well
Field
County
State/Prv

Company	Noble Energy Inc.
Well	NEI PC C 18-20 D
Field	Wattenberg
County	Weld
State/Province	Colorado

Location
SHL: 2489' FSL & 2049' FWL NESW
BHL: 2525' FSL & 1331' FWL NESW
Sec. 18, Twp. 4N, Rge. 64W

Other Services
Density
Neutron
Microlog

Permanent Datum	GL	Elevation	4834
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4847
D.F. 4847
G.L. 4834

Date	November 10, 2011		
Run Number	1		
Depth Driller	7376		
Depth Logger	7365		
Bottom Logged Interval	7365		
Top Log Interval	Casing		
Casing Driller	683		
Casing Logger	683		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.6 / 40		
pH / Fluid Loss	8.0 / 16		
Source of Sample	Flowline		
Rm @ Meas. Temp	3.51 @ 60 F		
Rmf @ Meas. Temp	2.81 @ 60 F		
Rmc @ Meas. Temp	4.21 @ 60 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	1.03 @ 209 F		
Time Circulation Stopped	2130 11/09		
Time Logger on Bottom	0445		
Maximum Recorded Temperature	209 F		
Equipment Number	50		
Location	Brighton, CO		
Recorded By	Matt Gill		
Witnessed By	Katie Davis		

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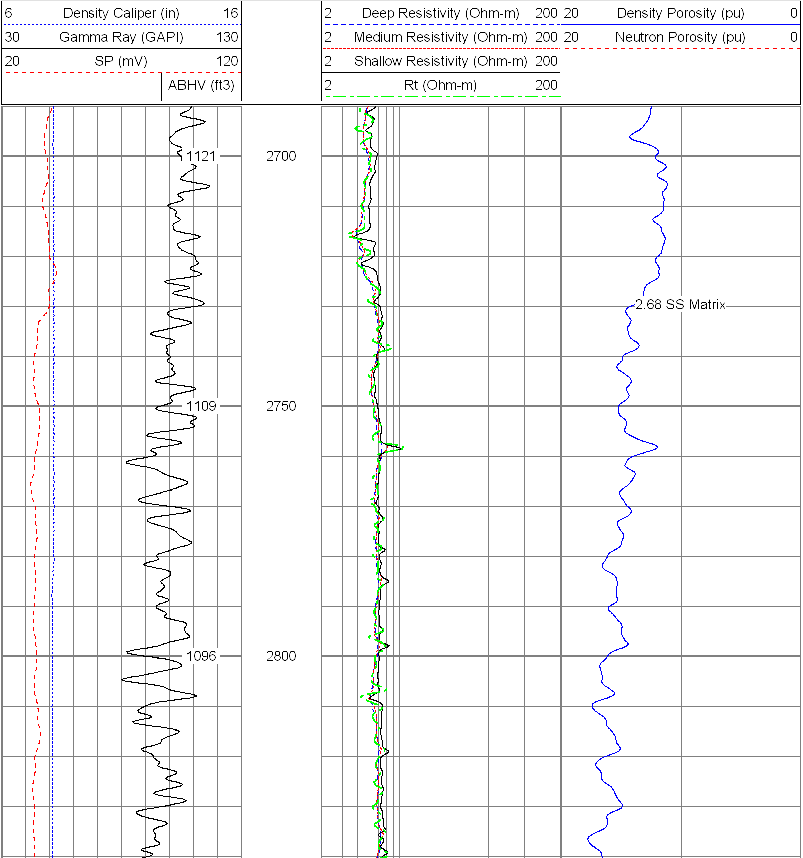
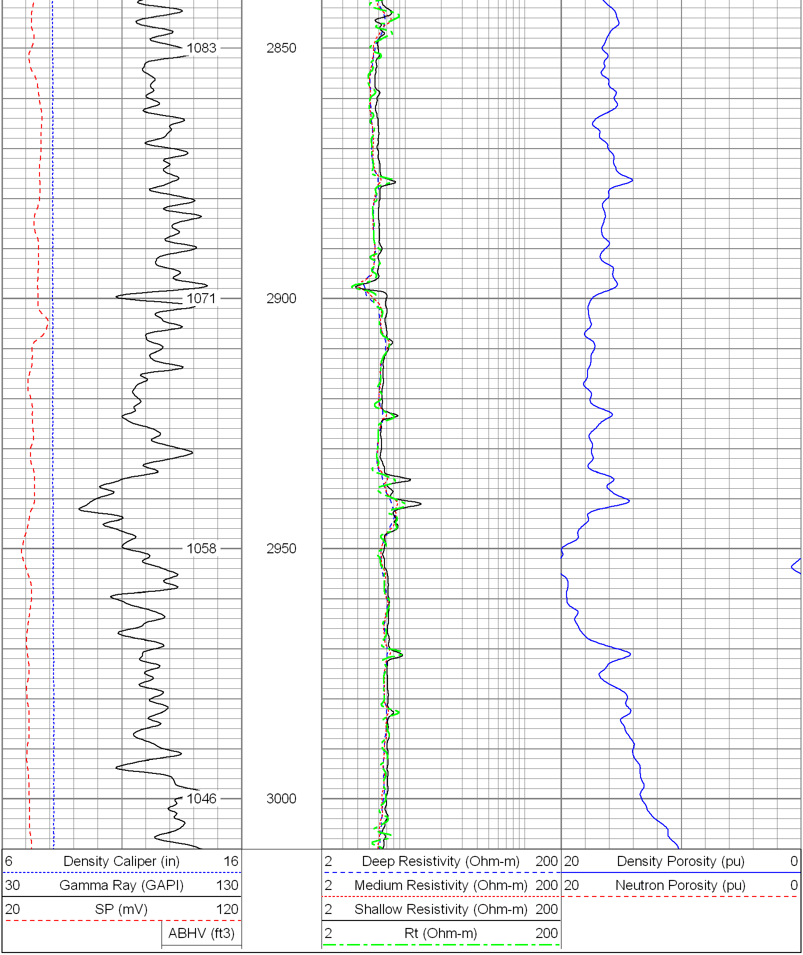
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 Rig 136
Thank you for using Phoenix Surveys!!
API #: 05-123-34398-00
No Repeat Due to Hole Conditions

Database File:	12040.db
Dataset Pathname:	final
Presentation Format:	pdc1
Dataset Creation:	Thu Nov 10 05:22:23 2011
Charted by:	Depth in Feet scaled 1:240





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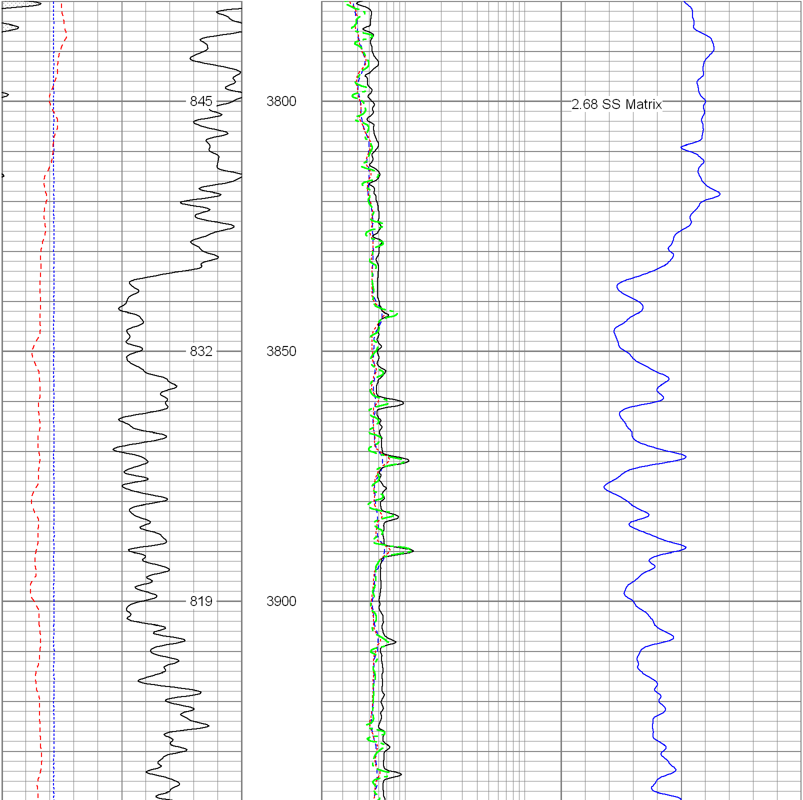
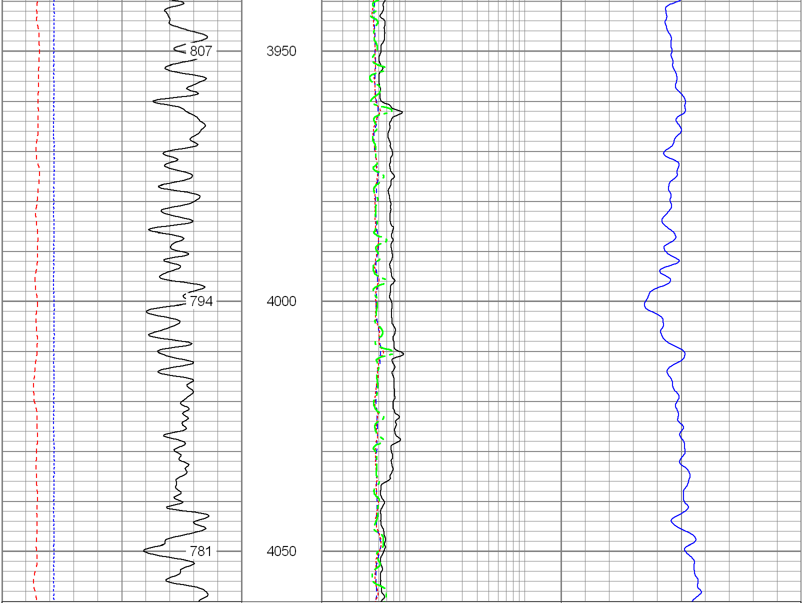
6 Density Caliper (in) 16
30 Gamma Ray (GAPI) 130
20 SP (mV) 120
ABHV (ft3)

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

20 Density Porosity (pu) 0
20 Neutron Porosity (pu) 0





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20 SP (mV) 120	2 Shallow Resistivity (Ohm-m) 200	
ABHV (ft3)	2 Rt (Ohm-m) 200	

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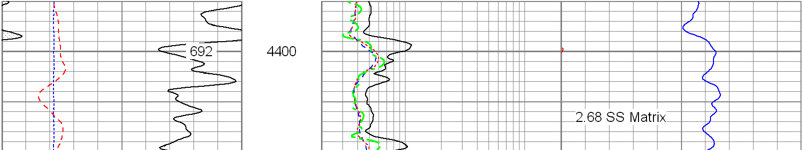

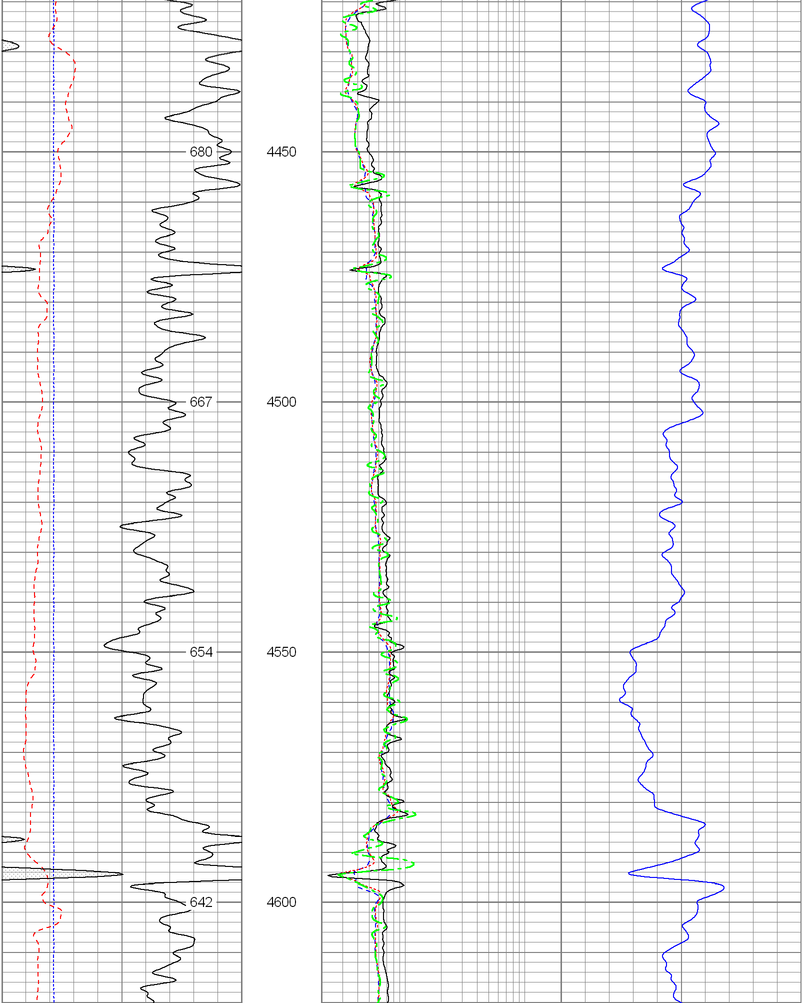

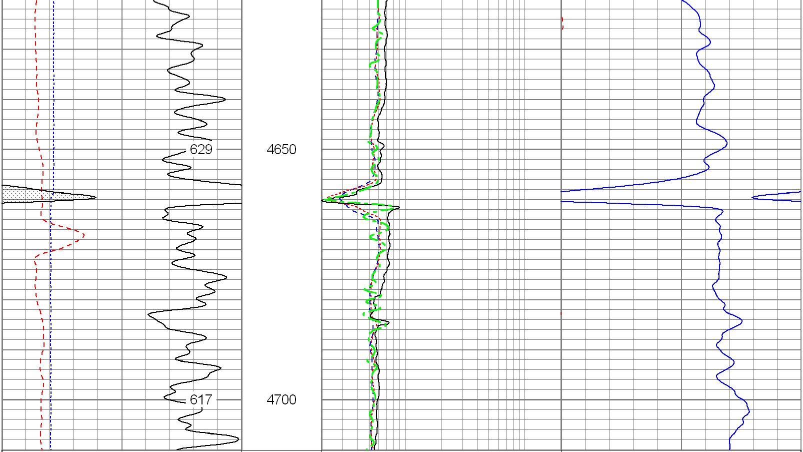

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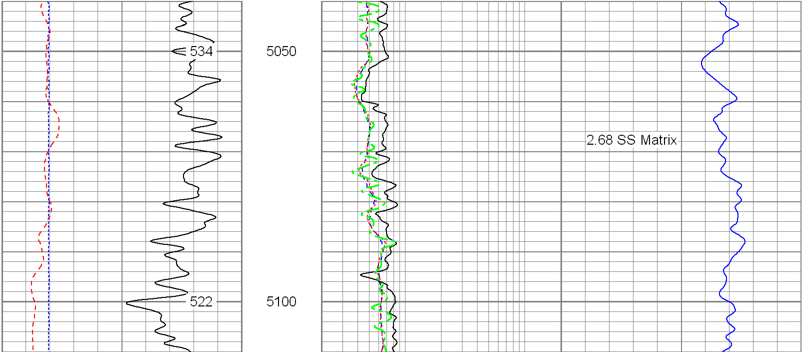

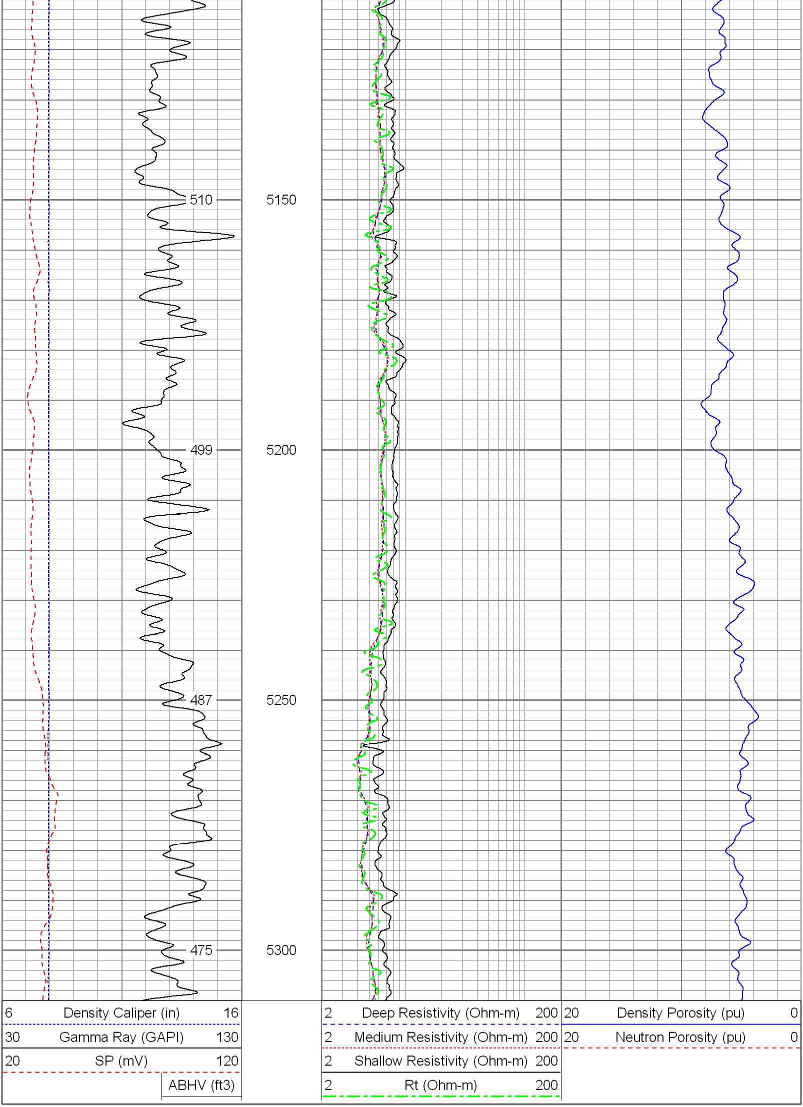

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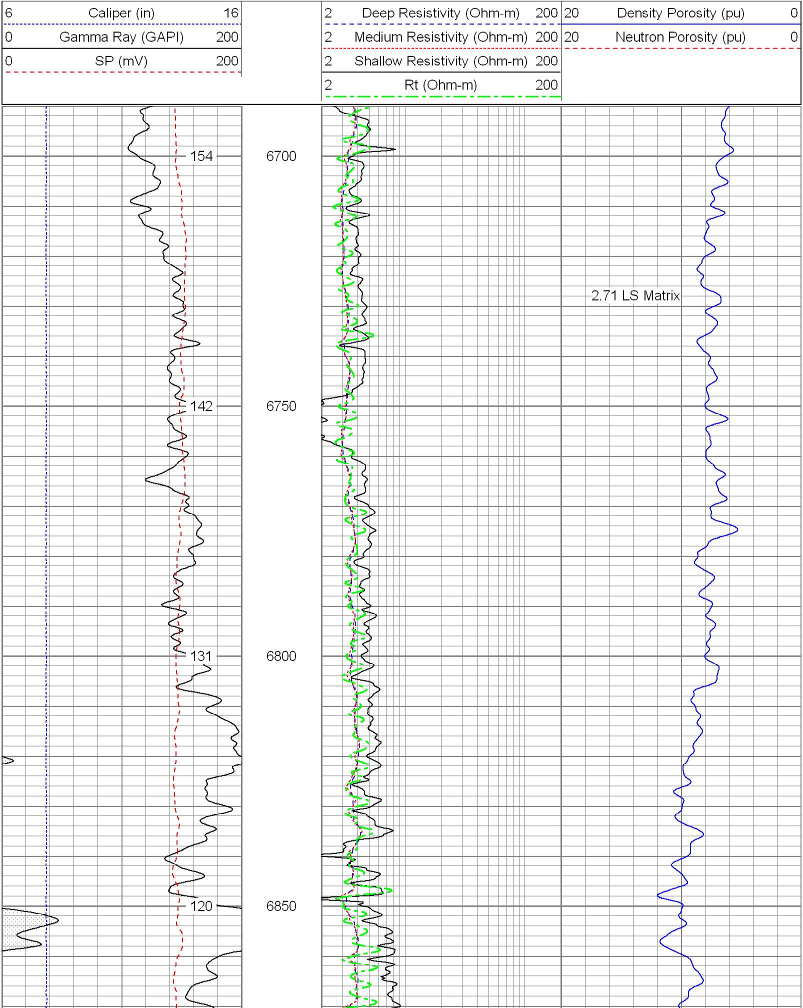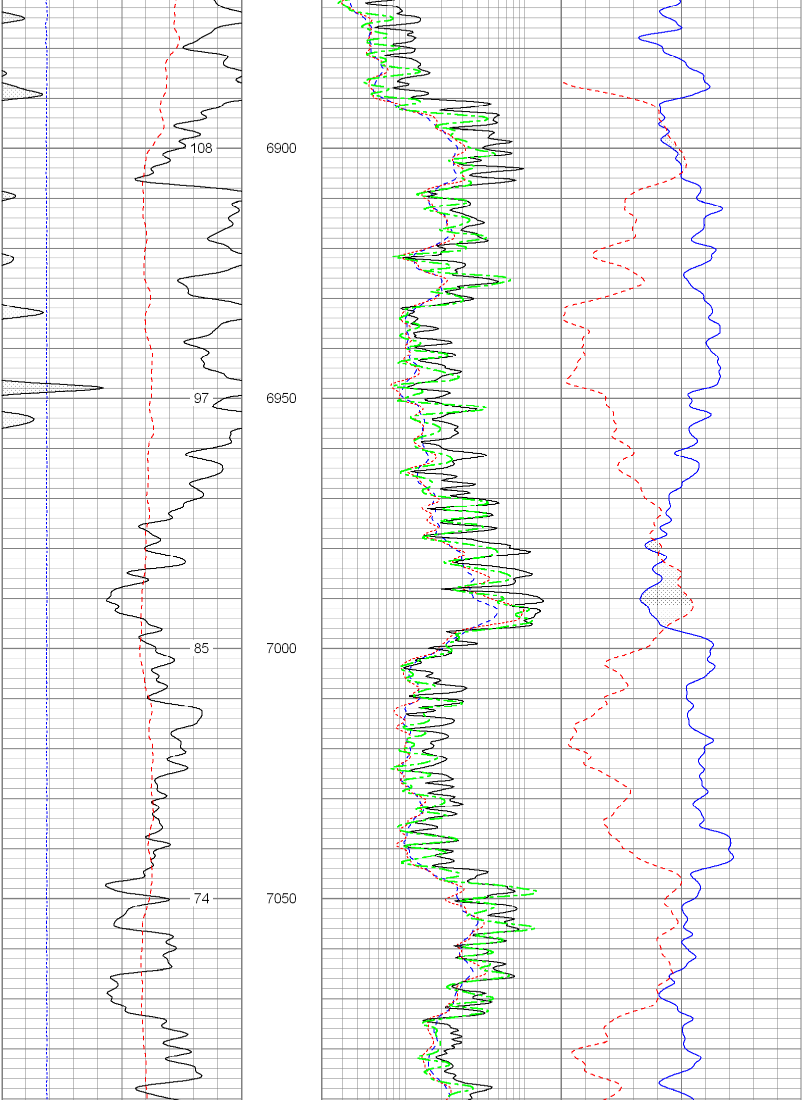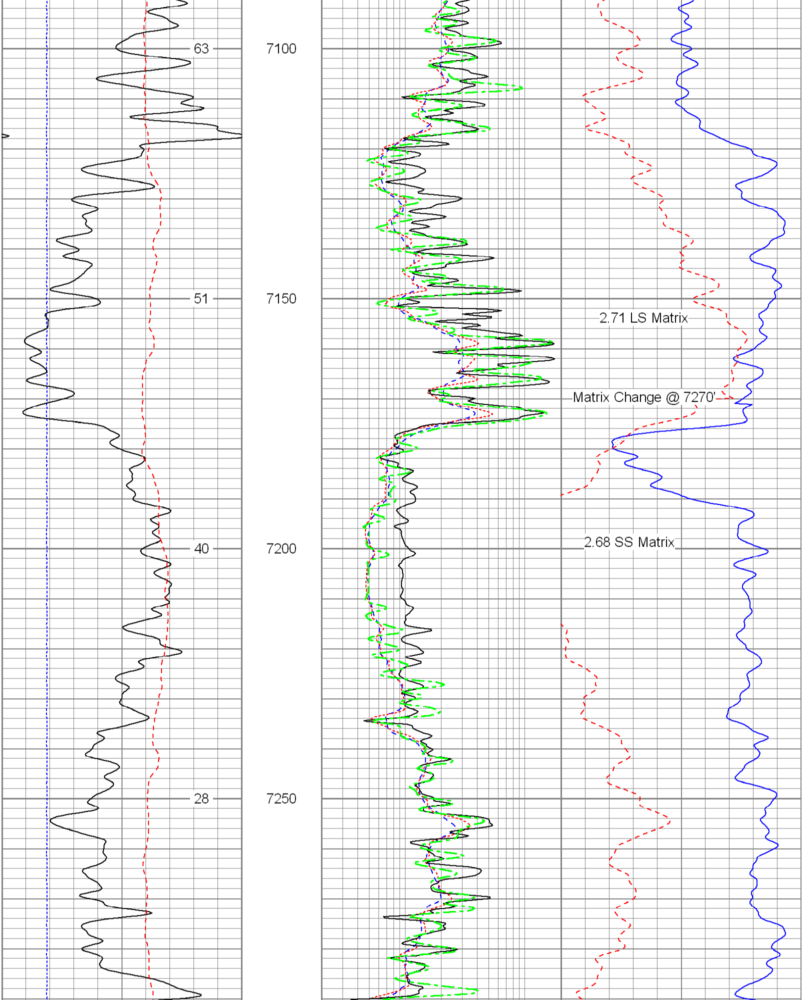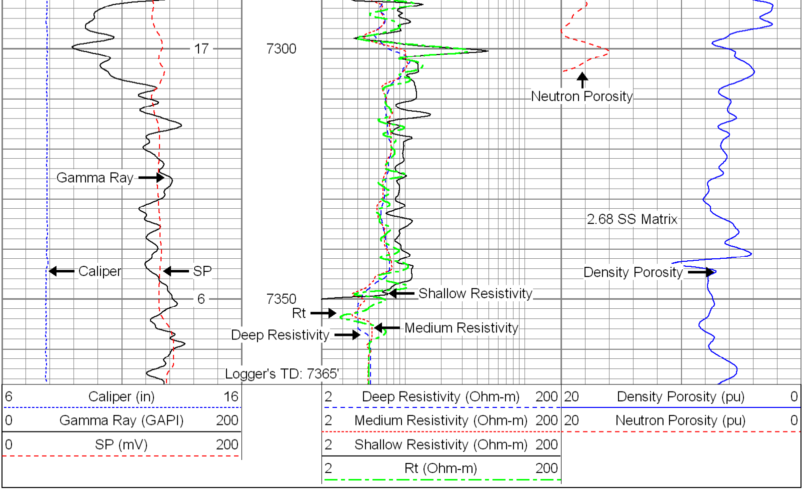
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2 Shallow Resistivity (Ohm-m) 200
2 Rt (Ohm-m) 200
20 Density Porosity (pu) 0
20 Neutron Porosity (pu) 0
154
6700
142
6750
131
6800
120
6850
2.71 LS Matrix