PHOENIX SURVEYS, INC.

HIGH RESOLUTION INDUCTION

Company
Well
Field
County
State/Prv

Company	Noble Energy Inc.
Well	Mosier K23-20D
Field	Wattenberg
County	Weld
State/Province	Colorado

Location
SHL: 2409' FSL & 2479' FWL NESW
BHL: 2518' FSL & 1485' FWL NESW
Sec. 23, Twp. 4N, Rge. 66W

Other Services
Density
Neutron
Microlog

Permanent Datum GL Elevation 4726
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4739
D.F. 4739
G.L. 4726

Date	May 8, 2011		
Run Number	1		
Depth Driller	7520		
Depth Logger	7526		
Bottom Logged Interval	7526		
Top Log Interval	Casing		
Casing Driller	579		
Casing Logger	579		
Bit Size	7+7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.5 / 48		
pH / Fluid Loss	8.0 / 15.0		
Source of Sample	Flowline		
Rm @ Meas. Temp	2.00 @ 70 F		
Rmf @ Meas. Temp	1.50 @ 70 F		
Rmc @ Meas. Temp	2.70 @ 70 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	0.65 @ 216 F		
Time Circulation Stopped	2130		
Time Logger on Bottom	0315		
Maximum Recorded Temperature	216 F		
Equipment Number	50		
Location	Brighton, CO		
Recorded By	Shaun Schuman		
Witnessed By	Josh Kanwischer		

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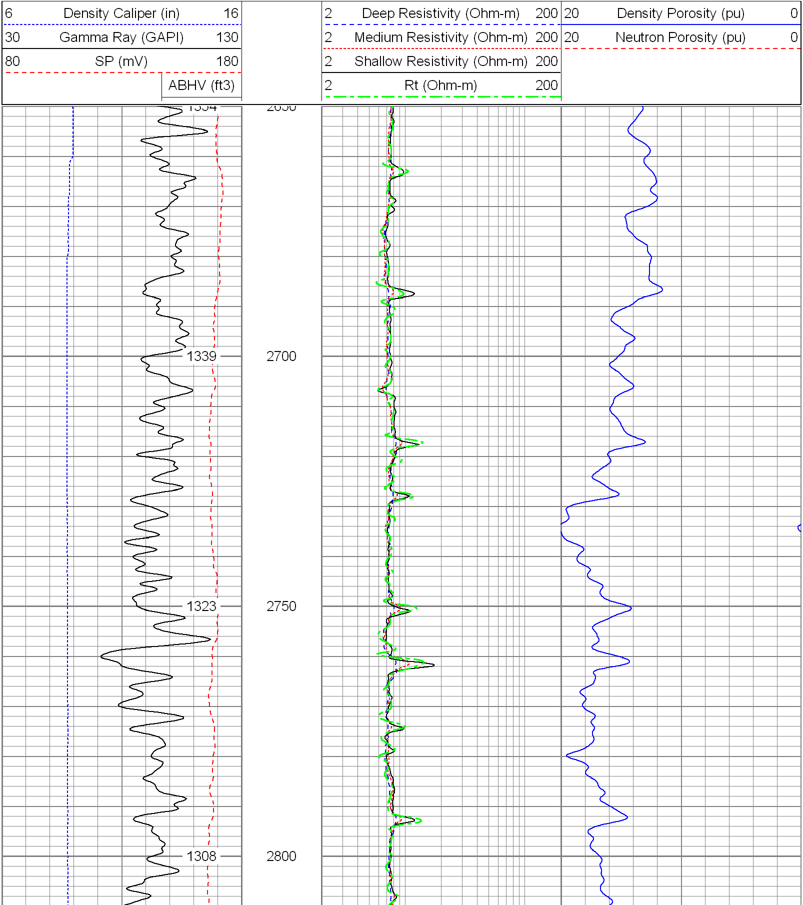
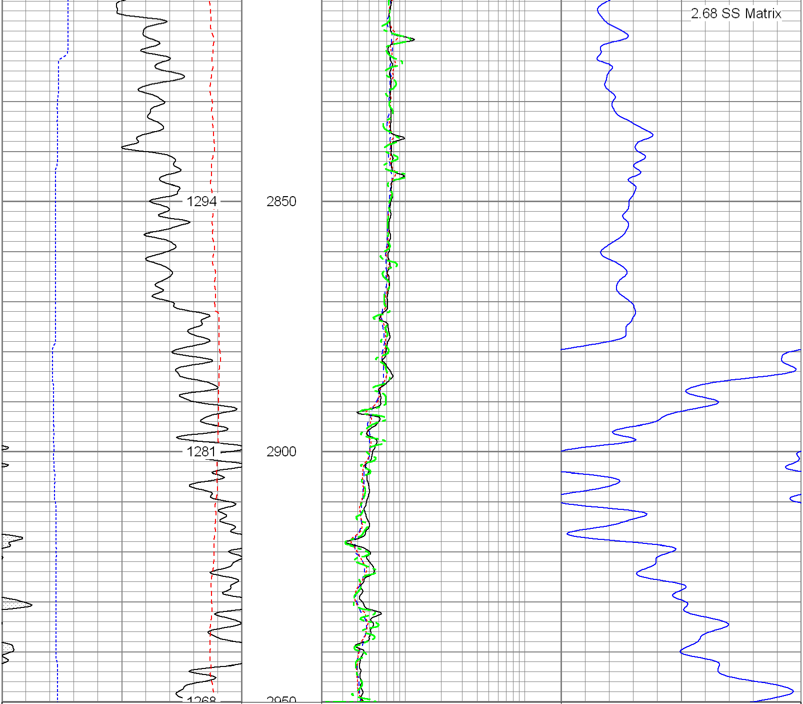
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 126
Thank you for using Phoenix Surveys!!
API #: 05-123-31663
No repeat due to hole conditions.

Database File:	11639.db
Dataset Pathname:	main
Presentation Format:	pdc1
Dataset Creation:	Sun May 08 05:39:06 2011
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
80 SP (mV) 180	2 Shallow Resistivity (Ohm-m) 200	
ABHV (ft3)	2 Rt (Ohm-m) 200	

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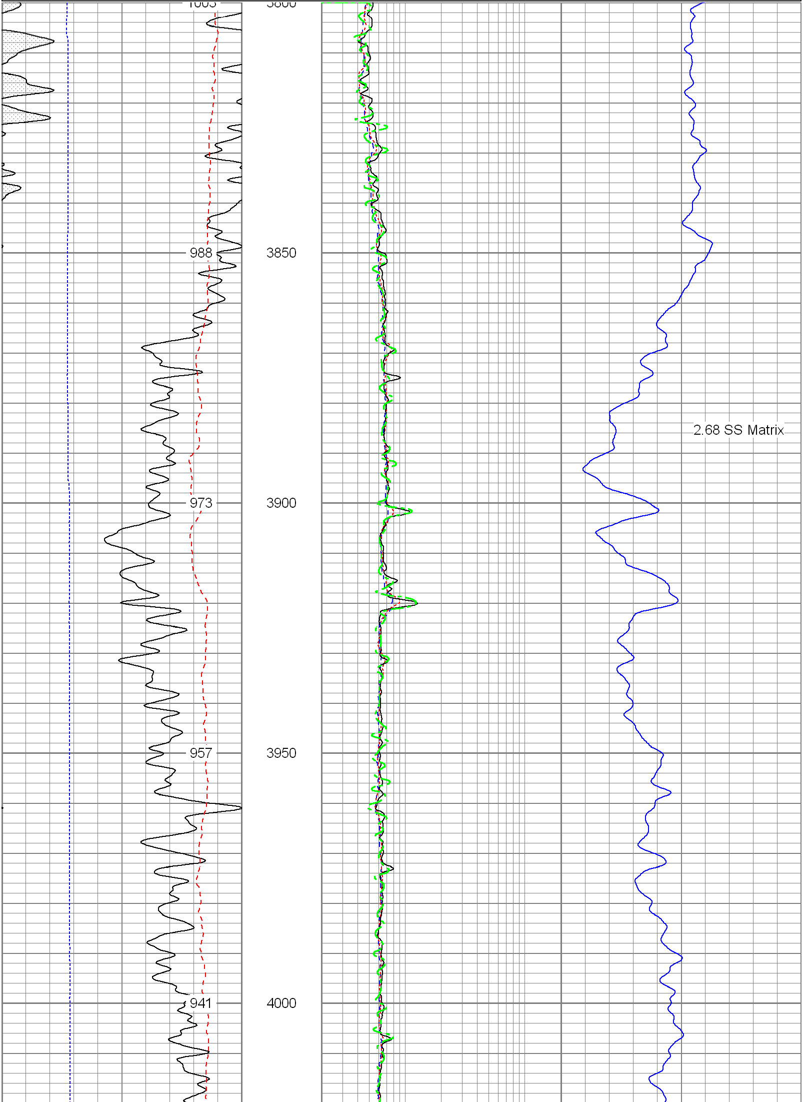

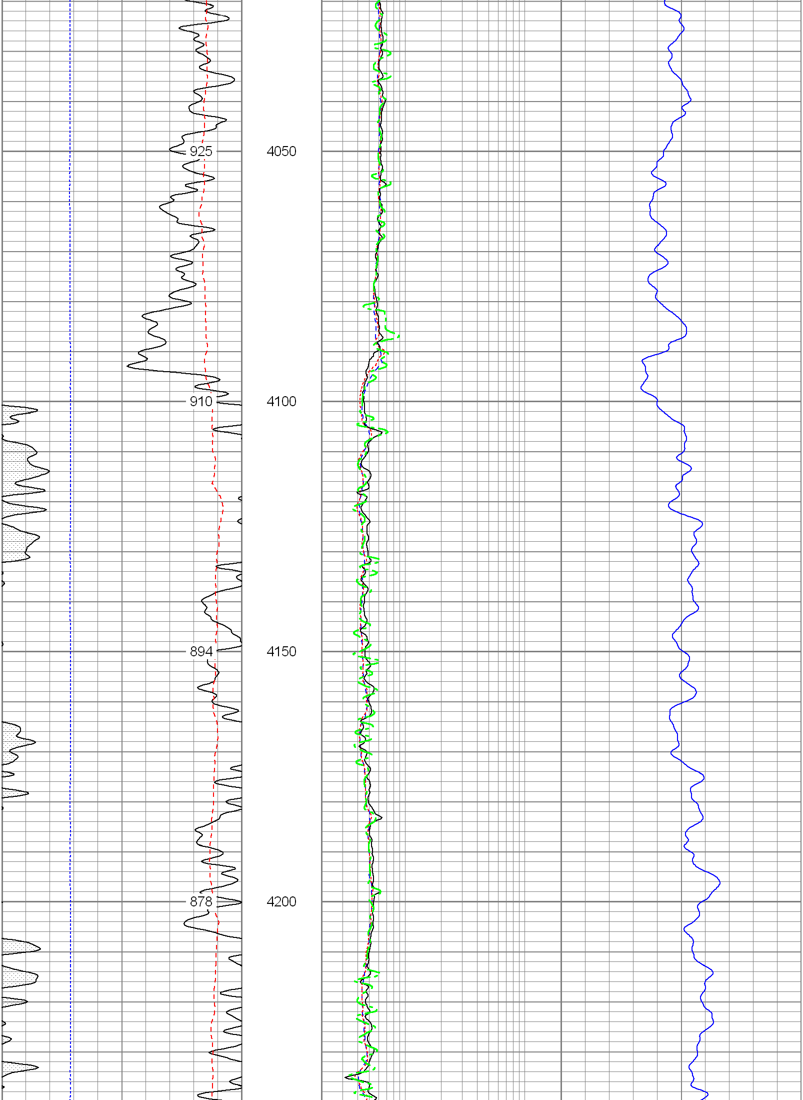

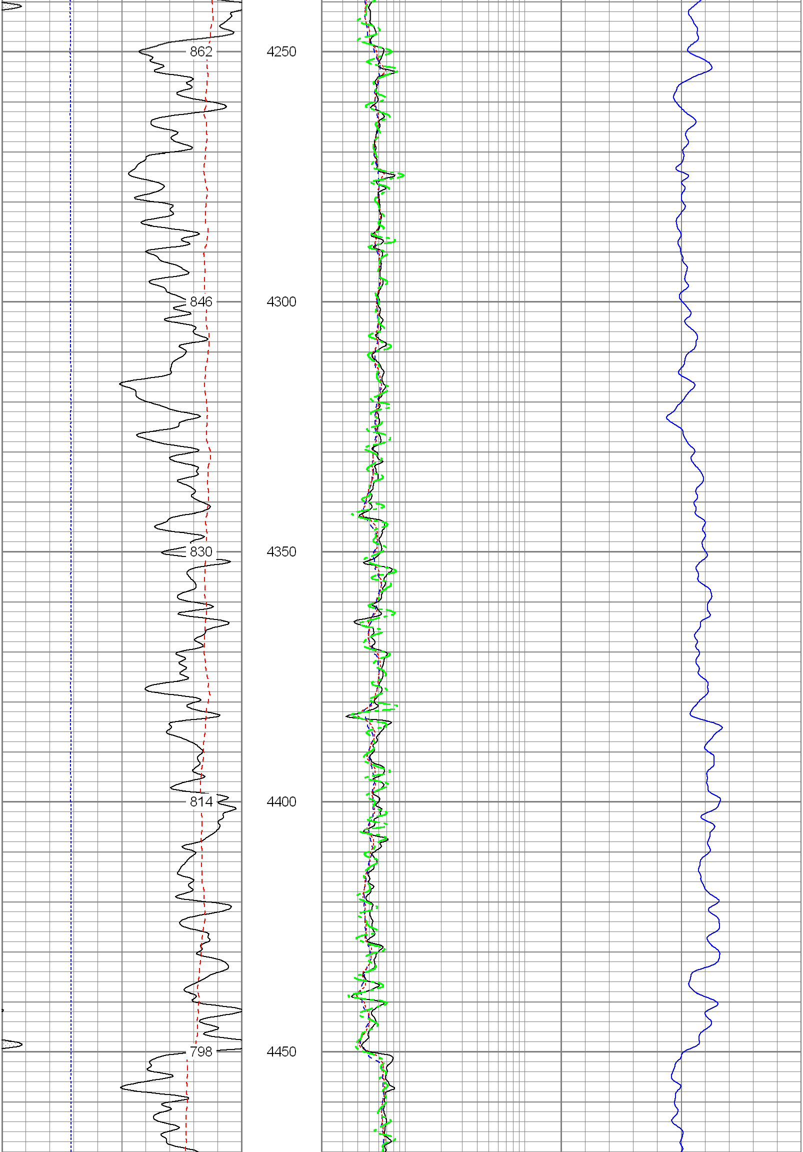

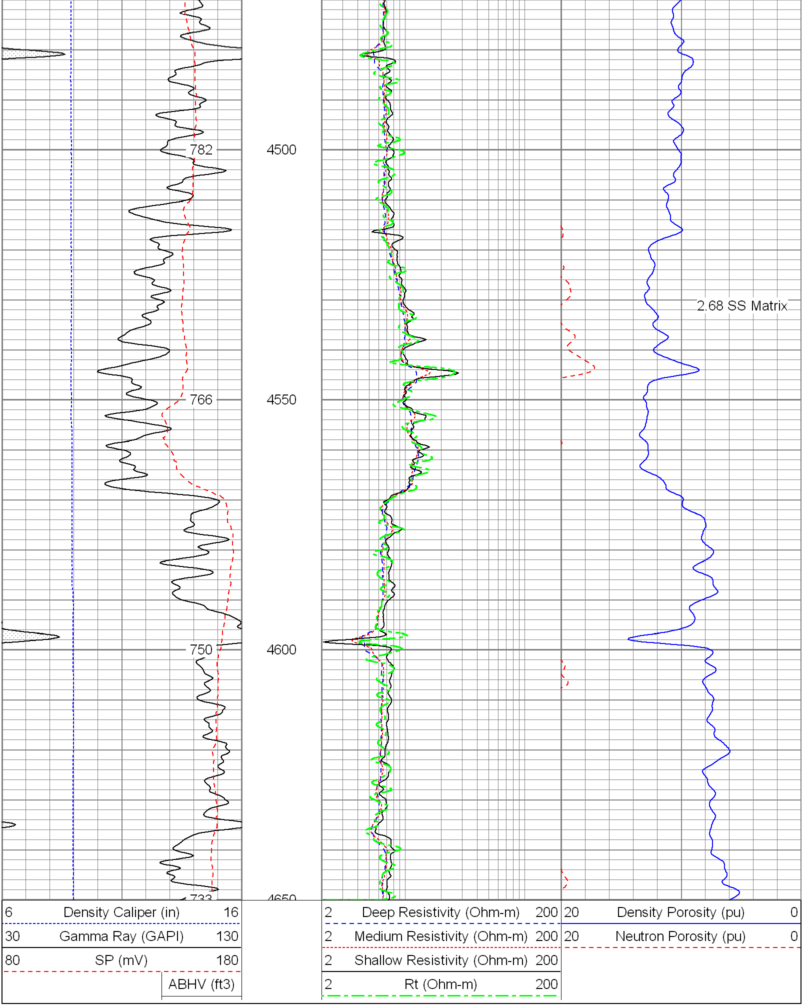

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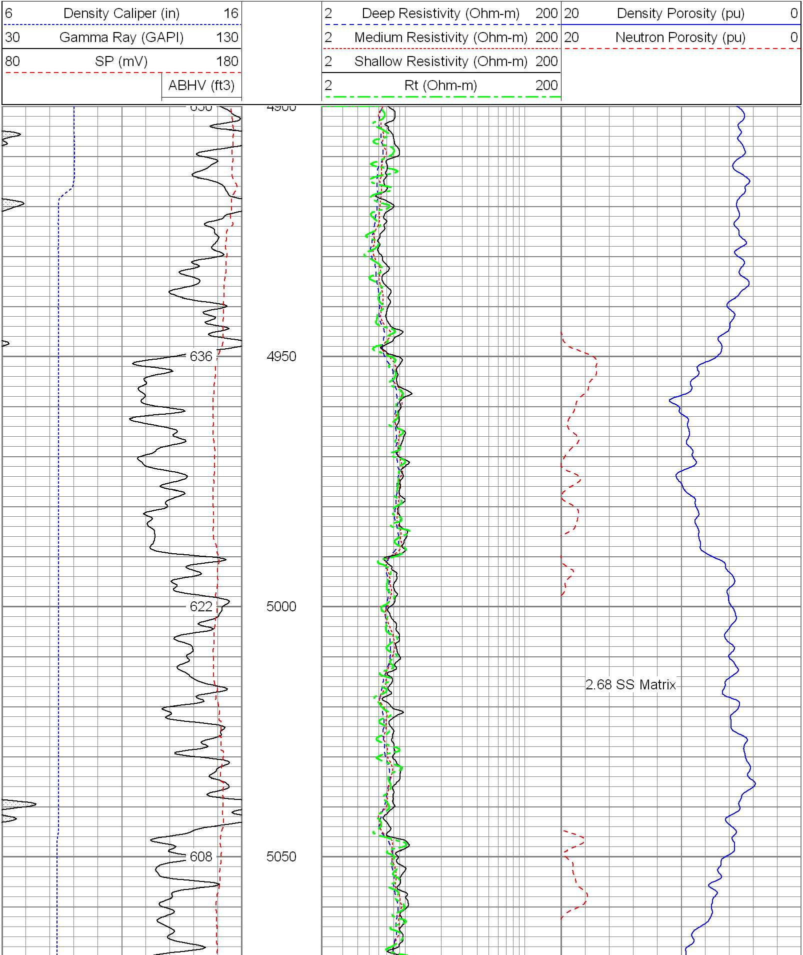

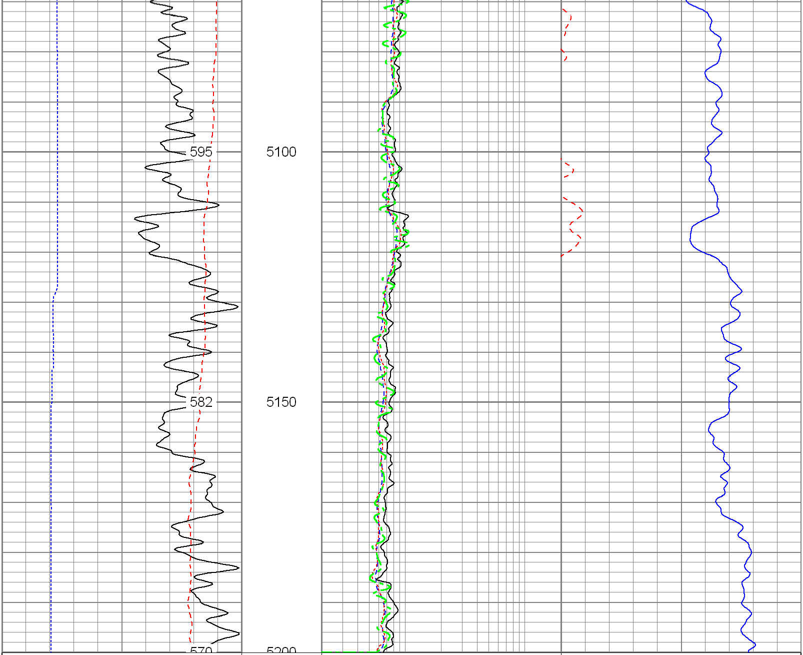

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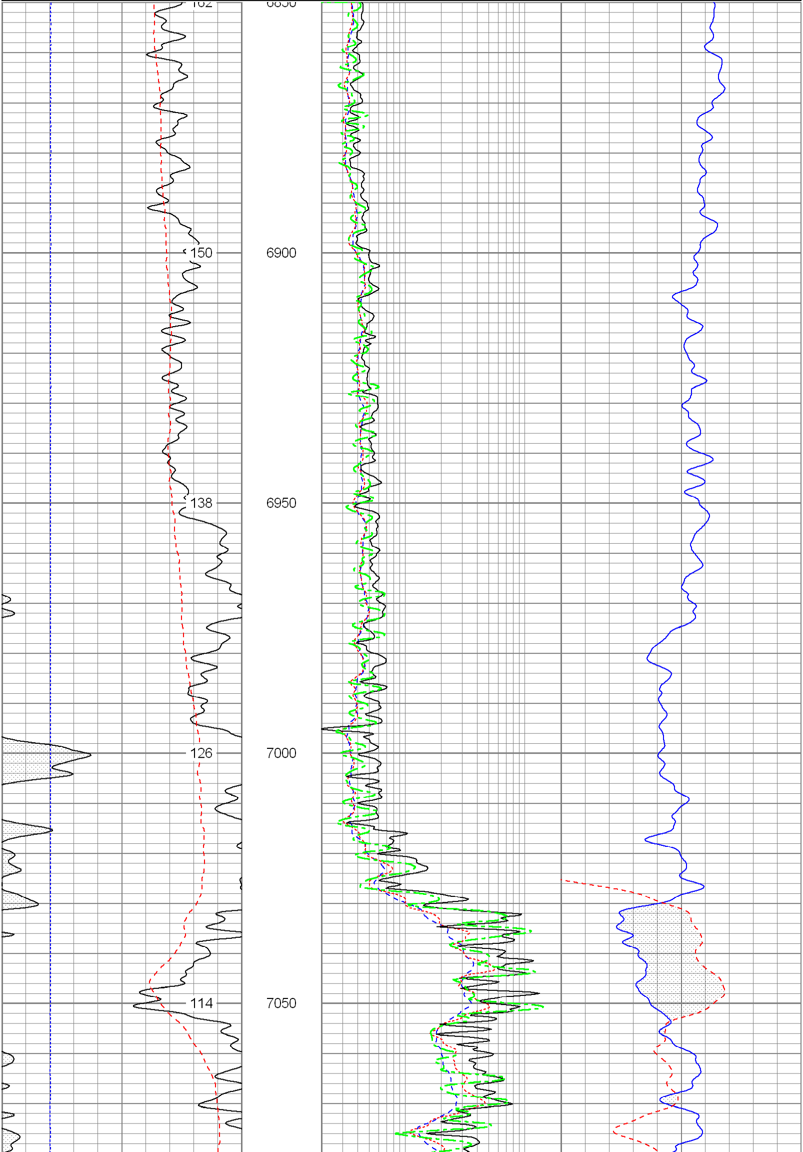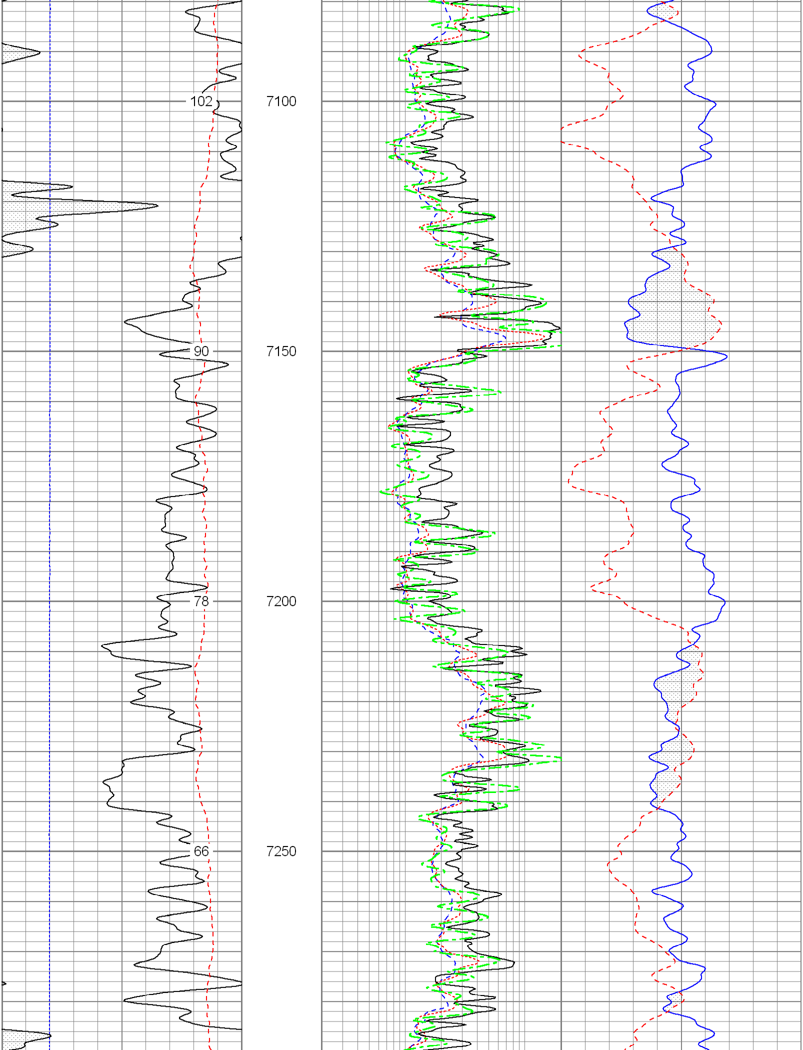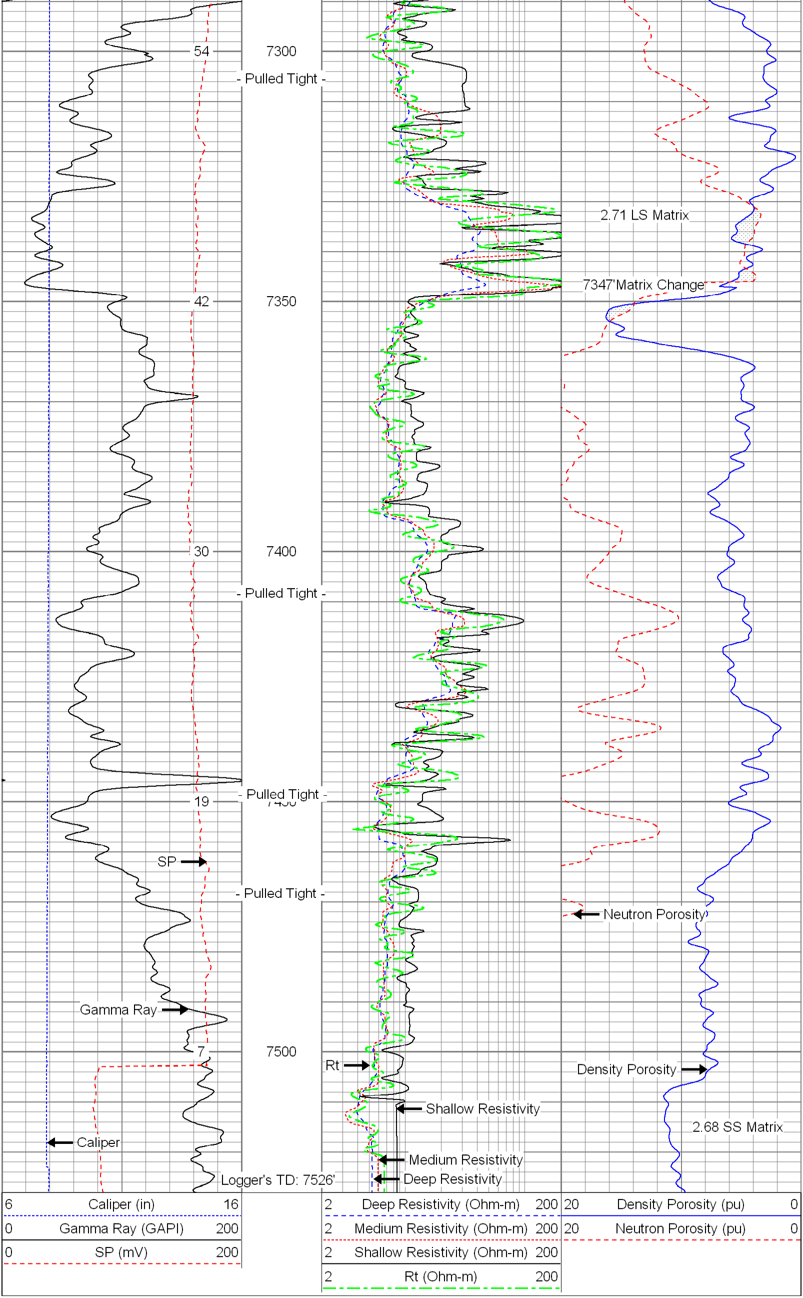6 Caliper (in) 16	2 Deep Resistivity (Ohm-m) 200	20 Density Porosity (pu) 0
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