PHOENIX SURVEYS, INC.

HIGH RESOLUTION INDUCTION

Company
Well
Field
County
State/Prv

Company	Noble Energy Inc.		
Well	Sater C23-28D		
Field	Wattenberg		
County	Weld	State/Province	Colorado

Location
SHL: 762' FNL & 1740' FEL NWNE
BHL: 71' FNL & 2600' FEL NWNE
Sec. 23, Twp. 4N, Rge. 64W

Other Services
Density
Neutron
Micro Log

Permanent Datum	GL	Elevation	4650
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4664
D.F. 4664
G.L. 4650

Date	November 14, 2011		
Run Number	1		
Depth Driller	7070		
Depth Logger	5422		
Bottom Logged Interval	5422		
Top Log Interval	Casing		
Casing Driller	599		
Casing Logger	599		
Bit Size	7+7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.4 / 50		
pH / Fluid Loss	8.5 / 9.5		
Source of Sample	Flowline		
Rm @ Meas. Temp	2.70 @ 60 F		
Rmf @ Meas. Temp	1.80 @ 60 F		
Rmc @ Meas. Temp	3.50 @ 60 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	NA		
Time Circulation Stopped	11:30		
Time Logger on Bottom	19:30 @ 5422'		
Maximum Recorded Temperature	150 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Schuman		
Witnessed By	Heard		

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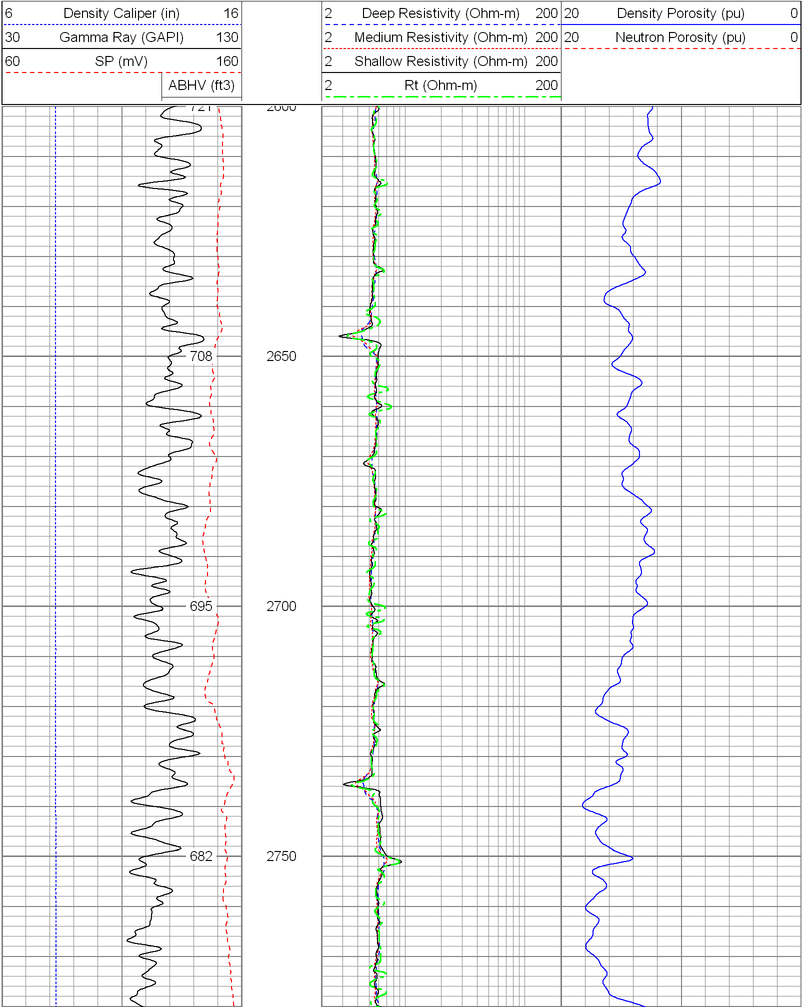
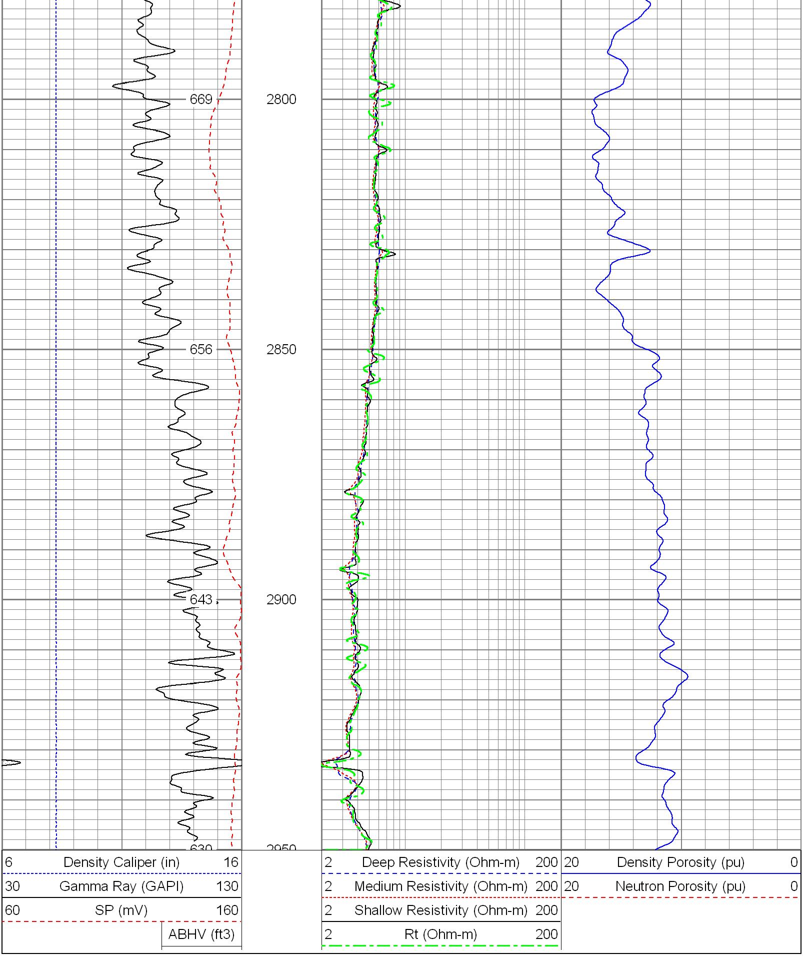
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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
Saxon Drilling Rig 144
Thank you for using Phoenix Surveys!!
API #: 05-123-30804
Logs did not reach bottom due to bridge.
No repeat pass due to hole conditions.

Database File:	12178.db
Dataset Pathname:	main
Presentation Format:	pdc1
Dataset Creation:	Mon Nov 14 21:57:25 2011
Charted by:	Depth in Feet scaled 1:240





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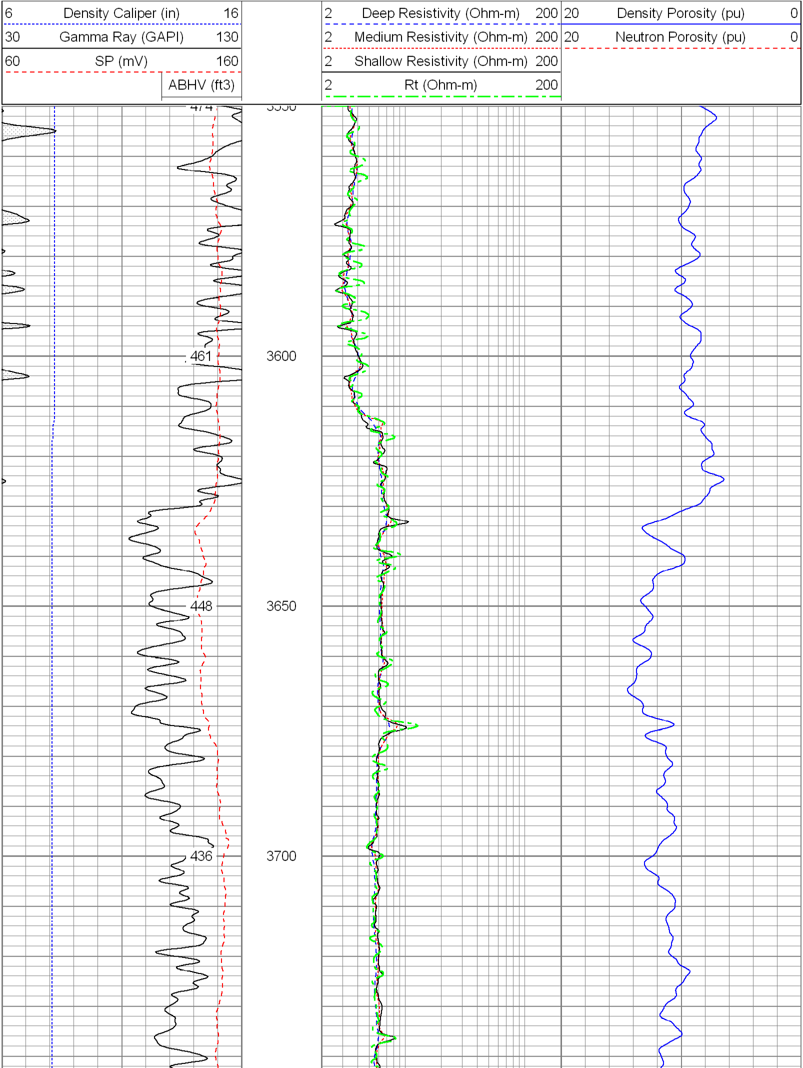

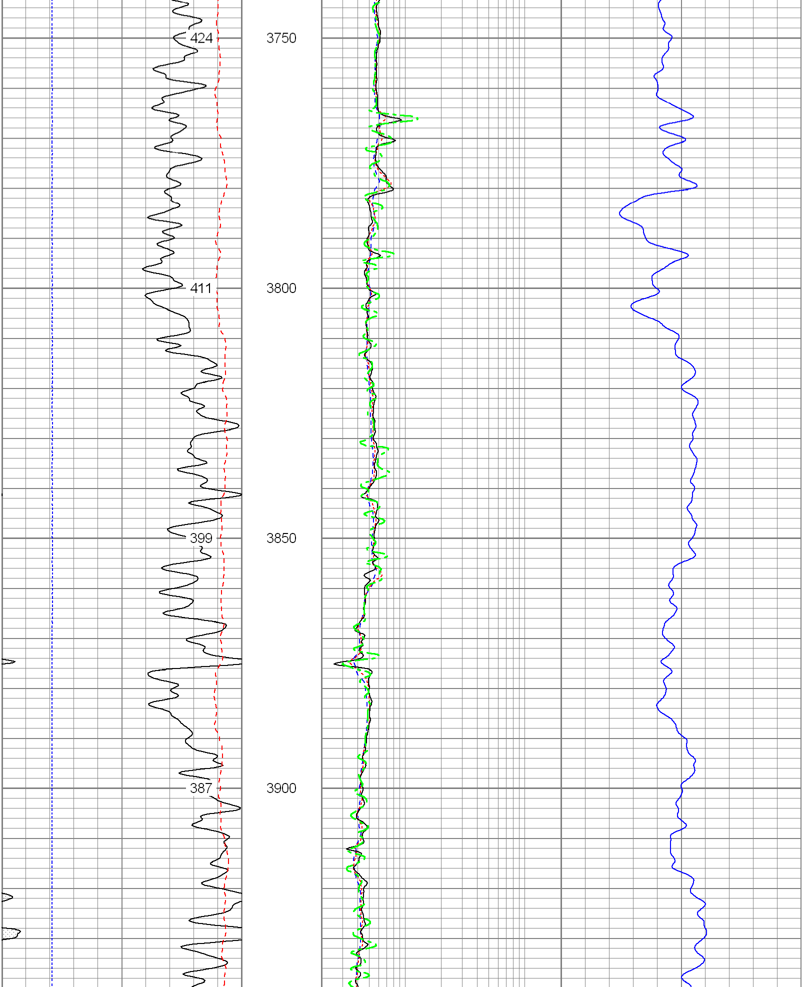

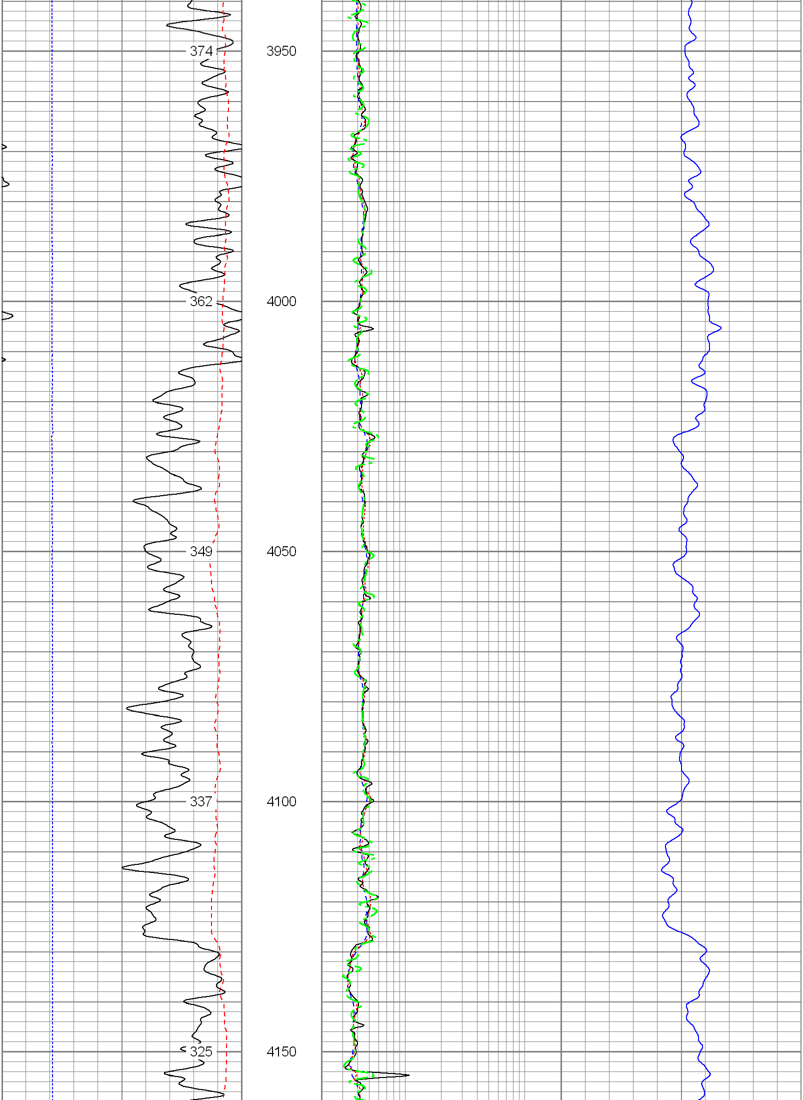

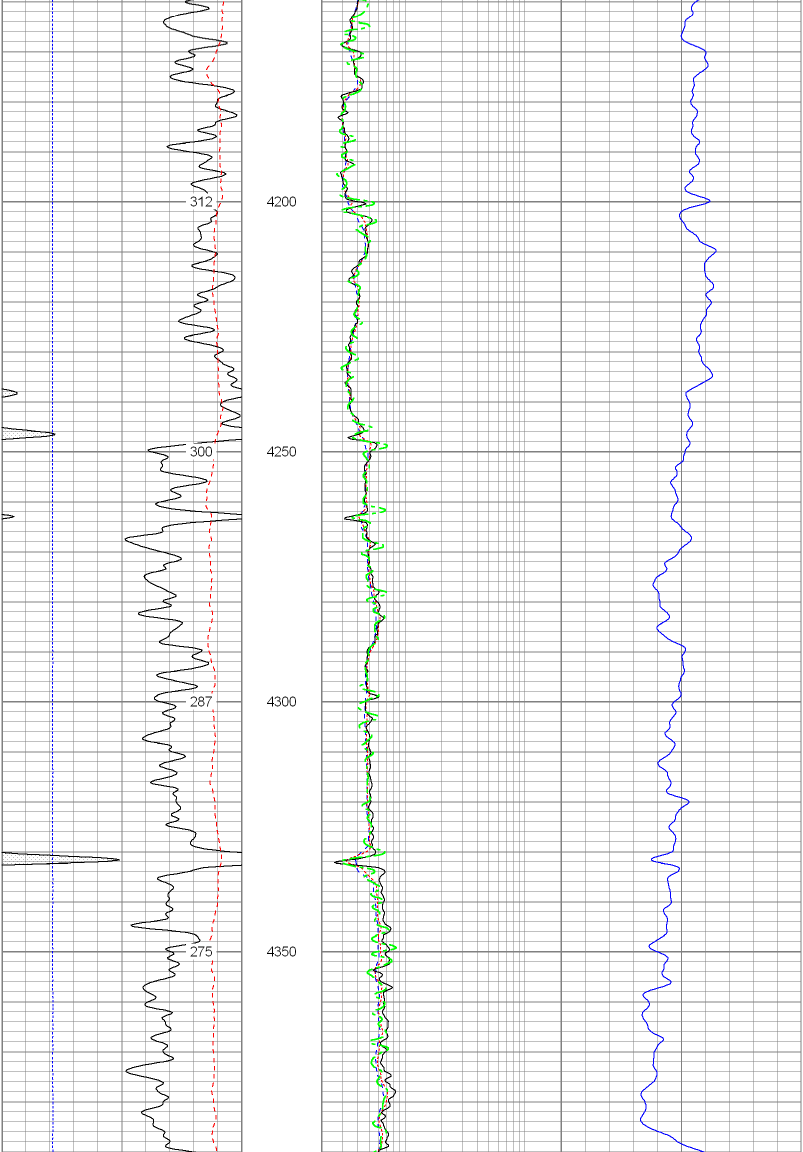

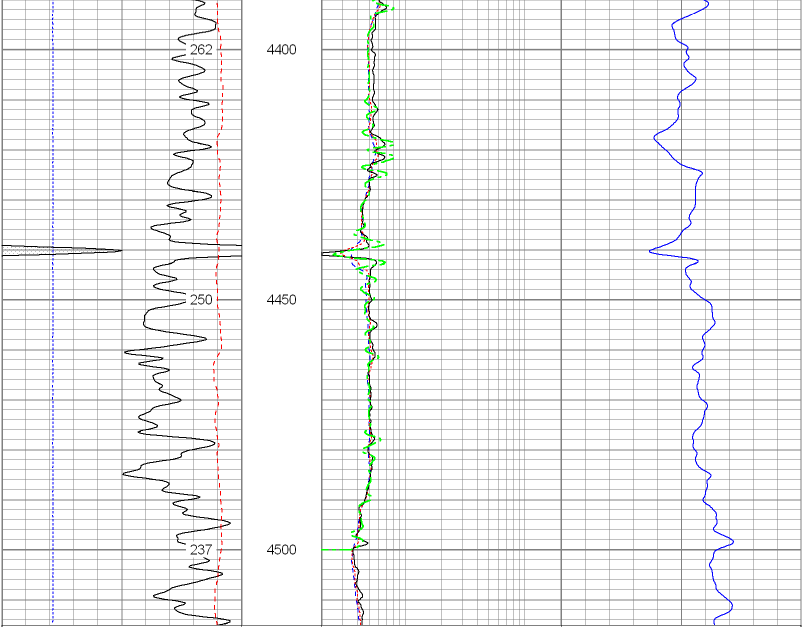

6 Density Caliper (in) 16		2 Deep Resistivity (Ohm-m) 200	20 Density Porosity (pu) 0
30 Gamma Ray (GAPI) 130		2 Medium Resistivity (Ohm-m) 200	20 Neutron Porosity (pu) 0
60 SP (mV) 160		2 Shallow Resistivity (Ohm-m) 200	
ABHV (ft3)		2 Rt (Ohm-m) 200	

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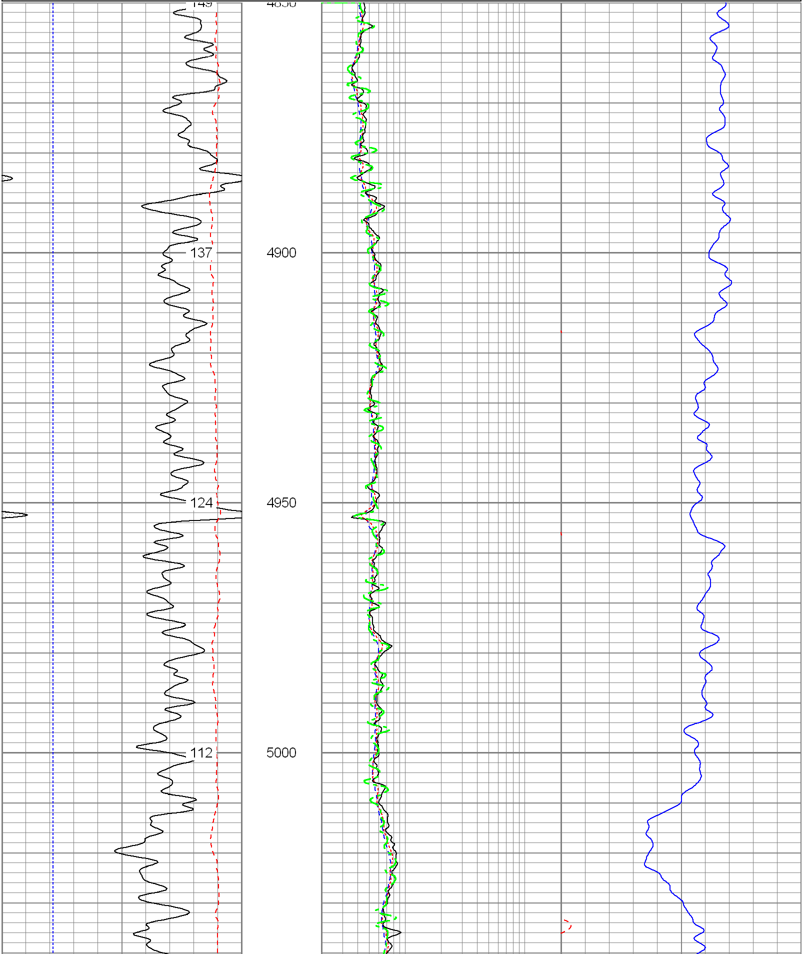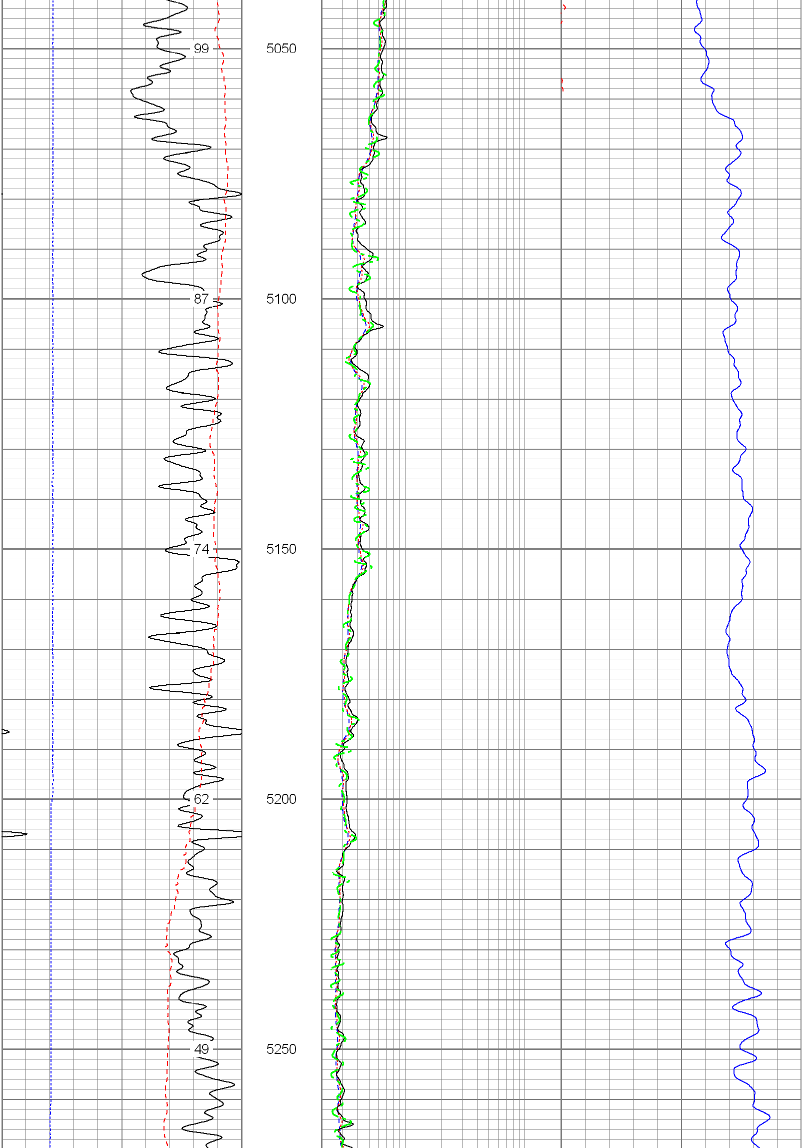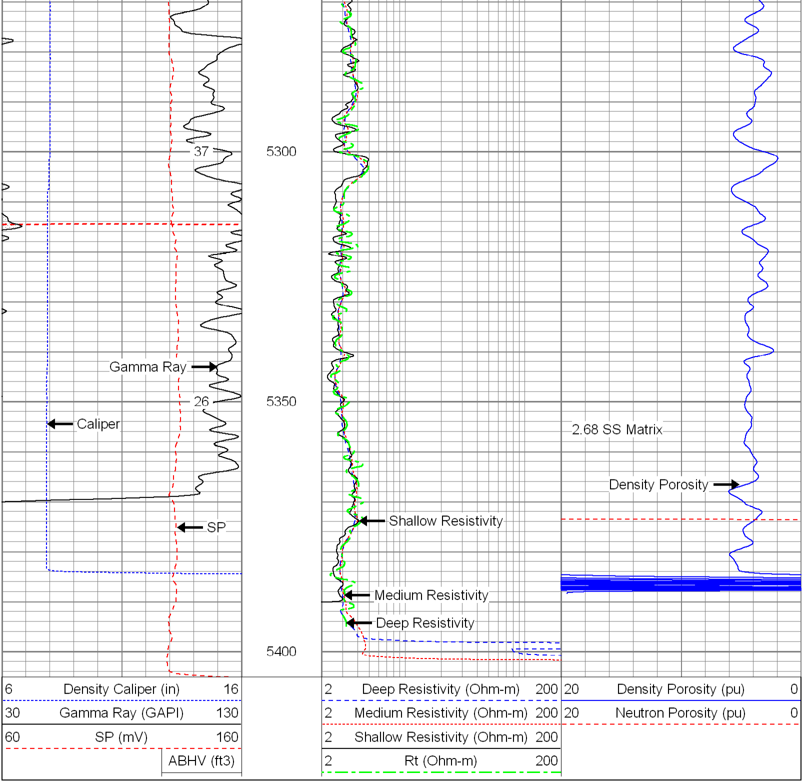6 Density Caliper (in) 16		2 Deep Resistivity (Ohm-m) 200	20 Density Porosity (pu) 0
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