PHOENIX SURVEYS, INC.

HIGH RESOLUTION INDUCTION

Company	Noble Energy Inc.
Well	Oster C19-27D
Field	Wattenberg
County	Weld
State/Province	Colorado

Company
Well
Field
County
State/Prv

Location
SHL: 2491' FSL & 2117' FWL NE SW
BHL: 104' FSL & 1203' FEL SE SE
Sec. 18, Twp. 4N, Rge. 64W

Other Services
Density
Neutron
Micrologic

Elevation
K.B. 4847
D.F. 4846
G.L. 4834

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

Date	November 26, 2011		
Run Number	1		
Depth Driller	7912		
Depth Logger	7905		
Bottom Logged Interval	7905		
Top Log Interval	Casing		
Casing Driller	706		
Casing Logger	706		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.5 / 38		
pH / Fluid Loss	8.0 / 12.6		
Source of Sample	Flowline		
Rm @ Meas. Temp	1.61 @ 96 F		
Rmf @ Meas. Temp	1.29 @ 96 F		
Rmc @ Meas. Temp	1.93 @ 96 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	2.38 @ 211 F		
Time Circulation Stopped	0300		
Time Logger on Bottom	0730		
Maximum Recorded Temperature	211 F		
Equipment Number	50		
Location	Brighton, CO		
Recorded By	Randy Conley		
Witnessed By	John Taylor		

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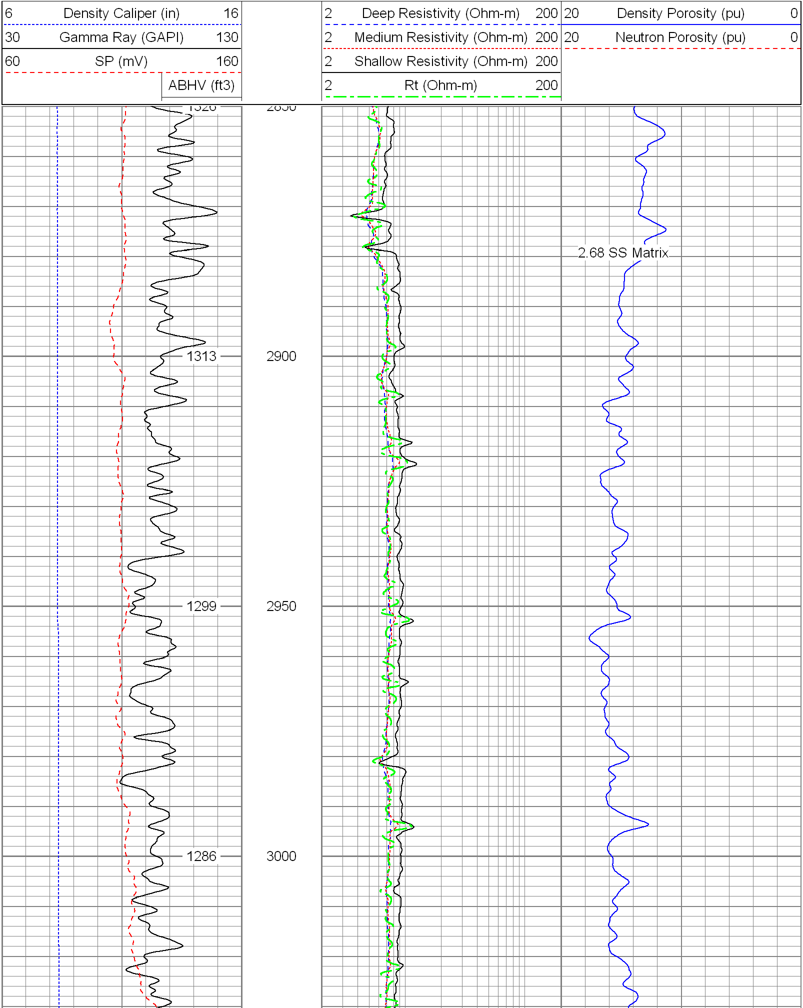
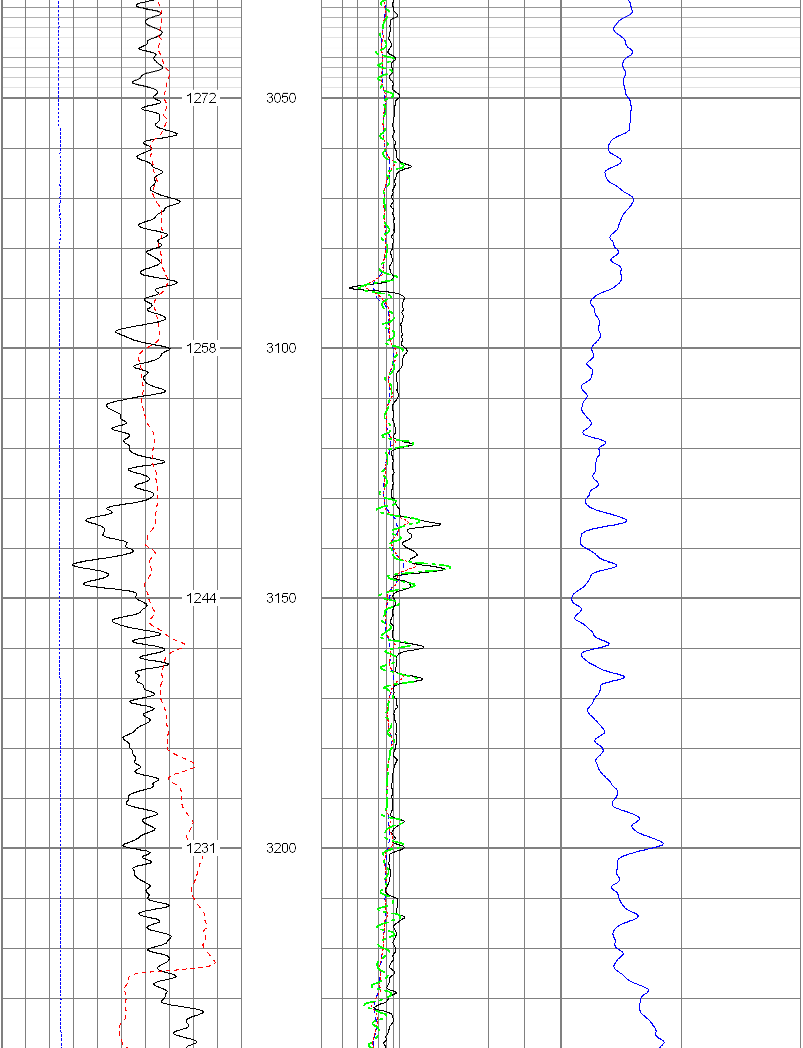
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

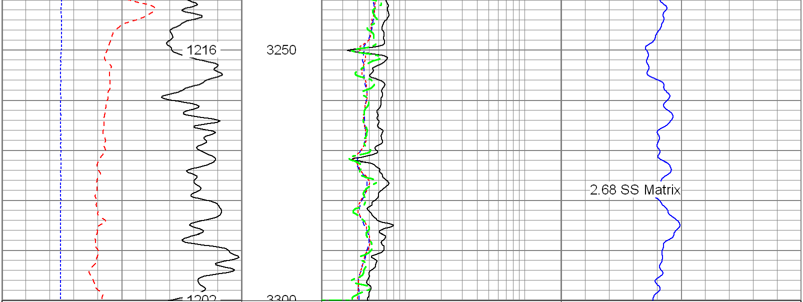
Comments

Annular volume calculated for 4.5" casing
Ensign Drilling Rig 136
Thank you for using Phoenix Surveys!!
API #: 05-123-34390-00

Database File: 12203.db
Dataset Pathname: final
Presentation Format: pdc1
Dataset Creation: Sat Nov 26 07:51:56 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
60 SP (mV) 160	2 Shallow Resistivity (Ohm-m) 200	
ABHV (ft3)	2 Rt (Ohm-m) 200	

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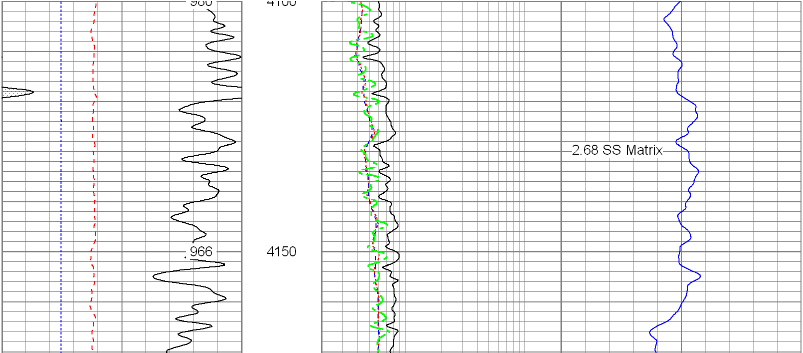

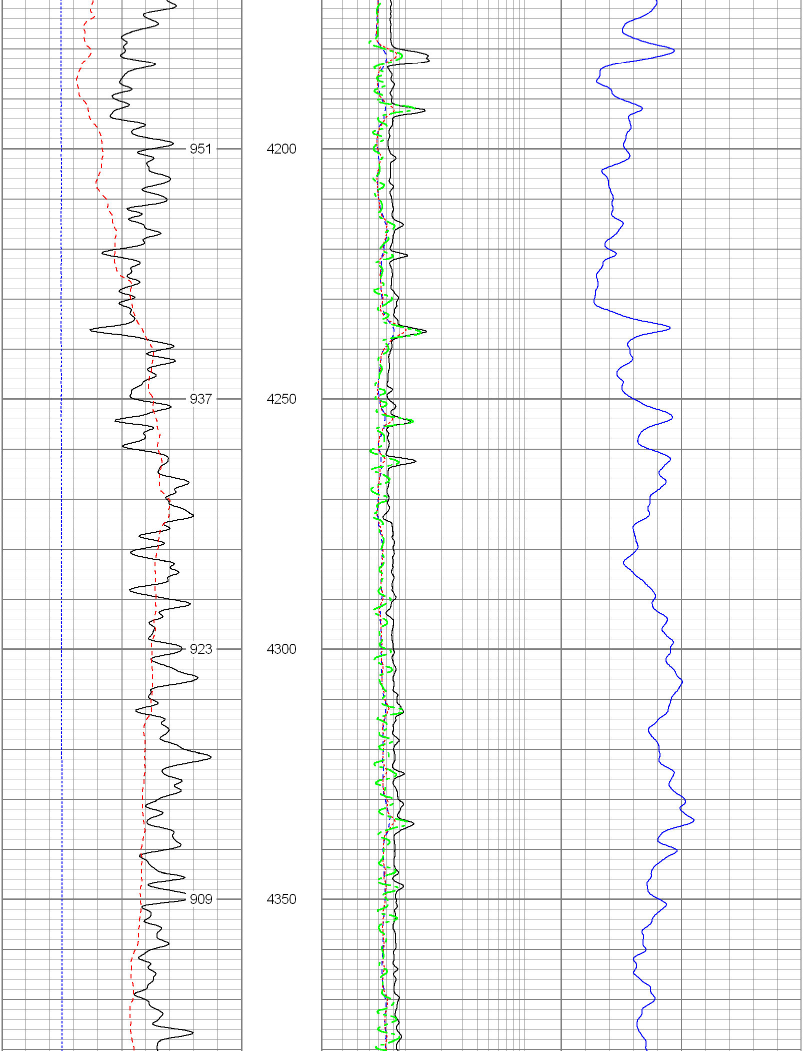

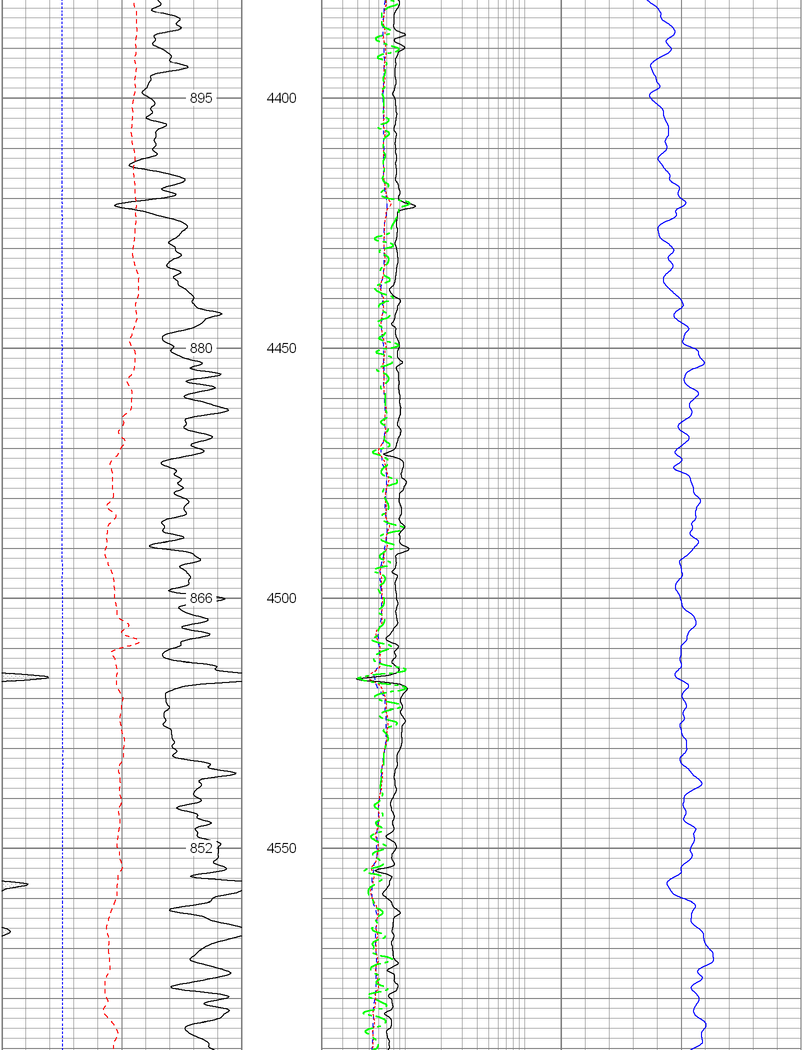

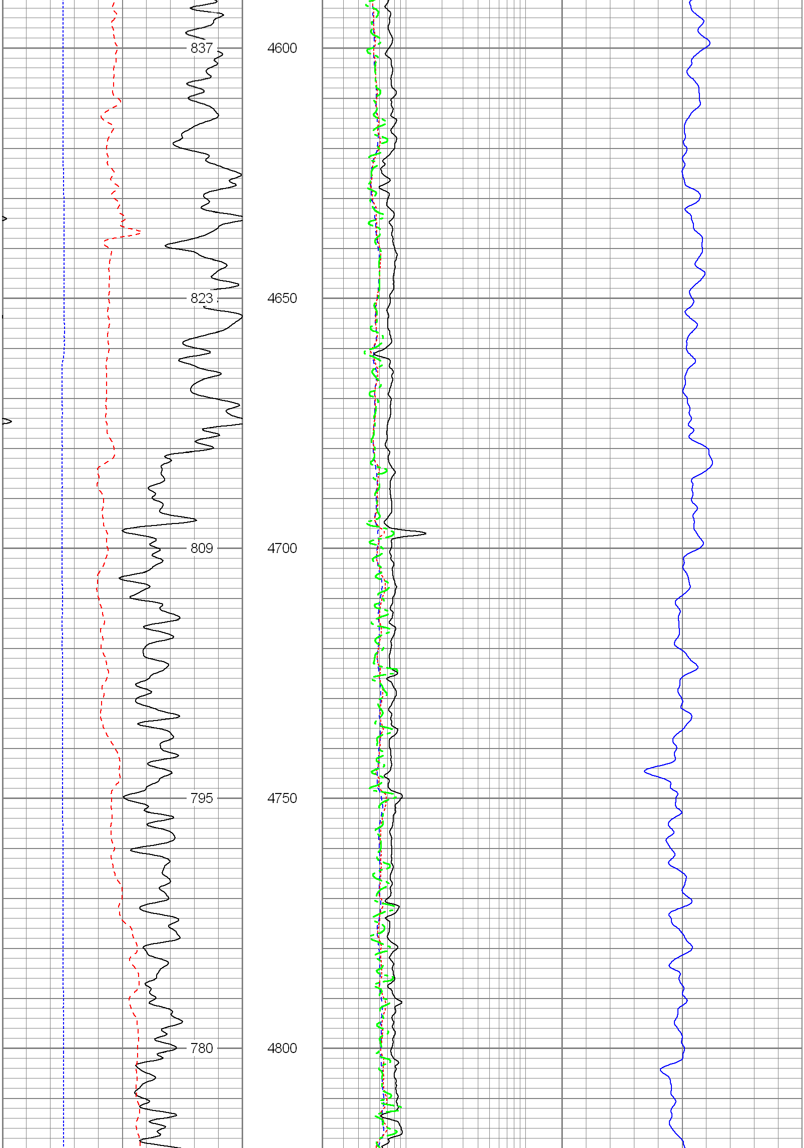

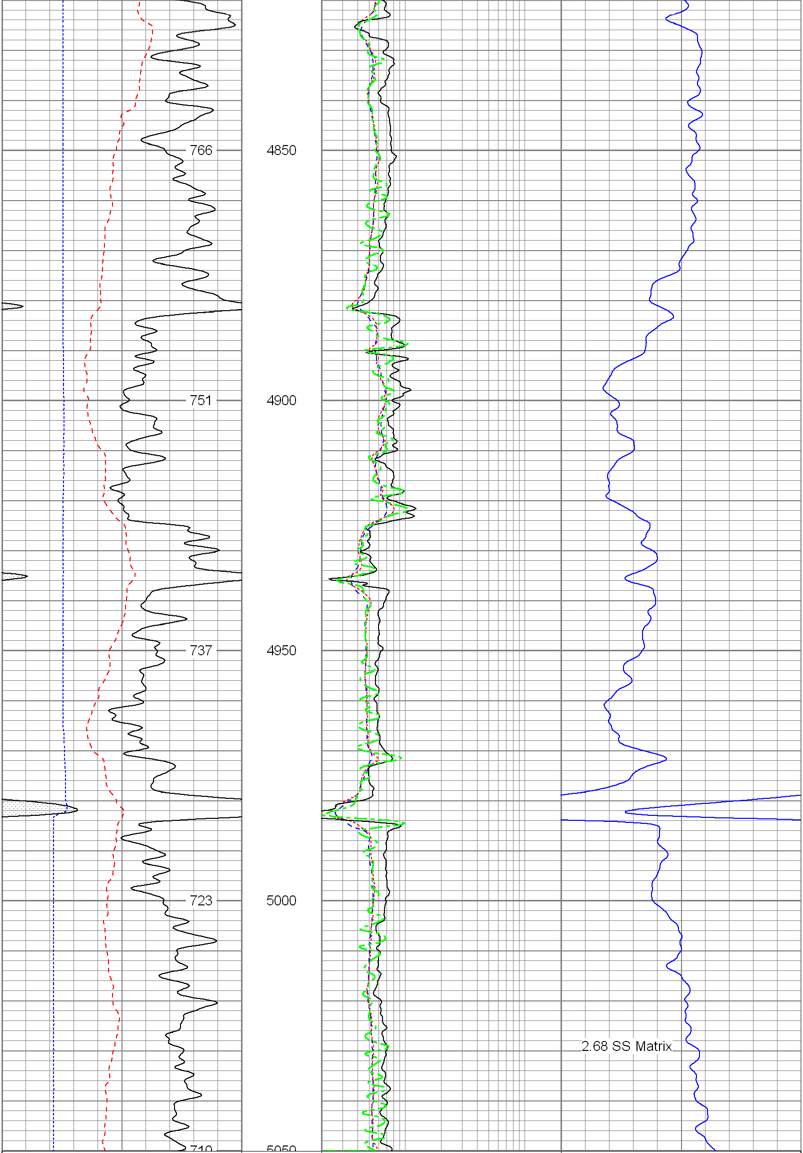

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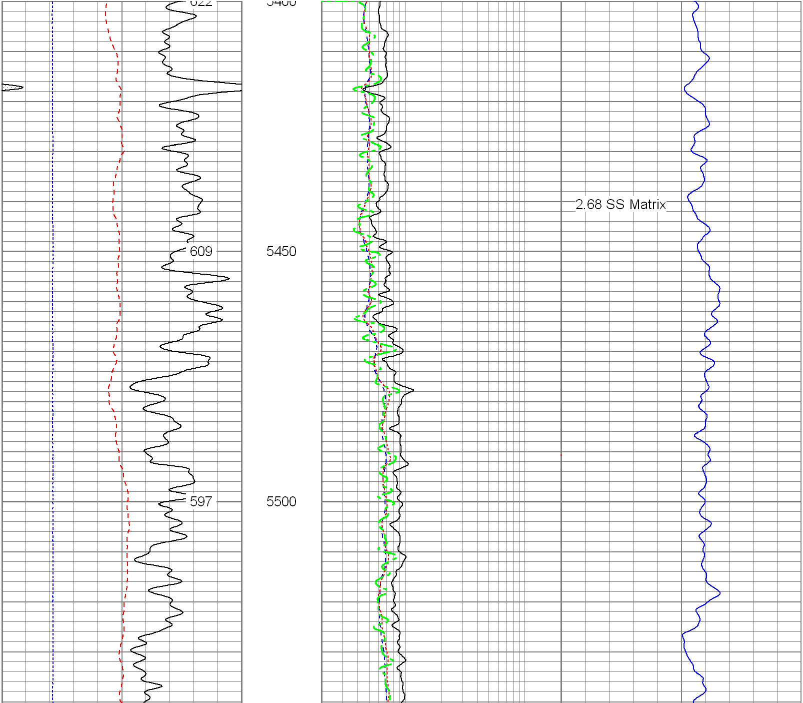

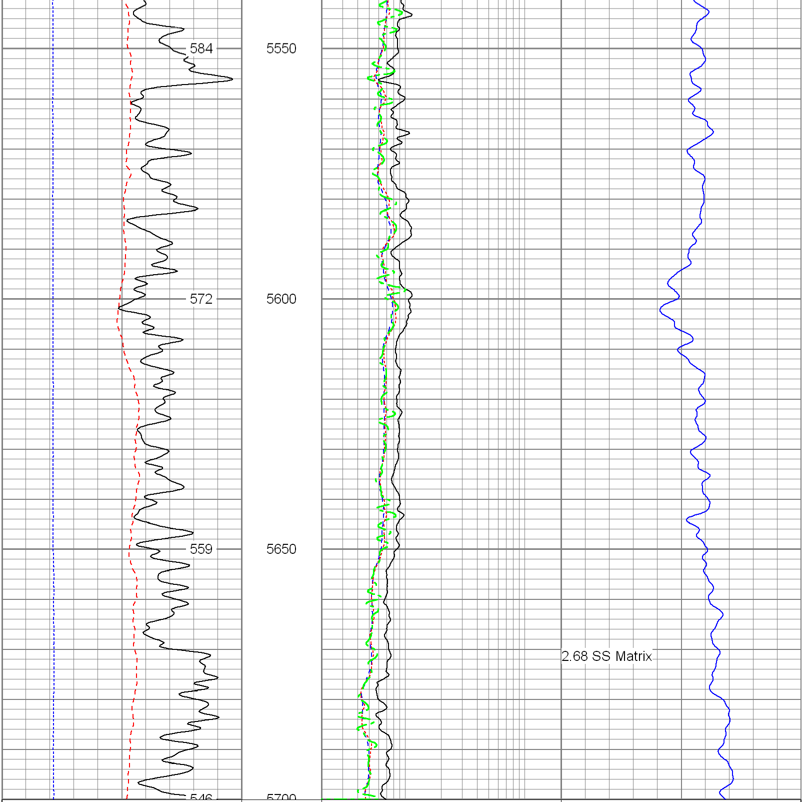

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30 Gamma Ray (GAPI) 130
60 SP (mV) 160
ABHV (ft3)

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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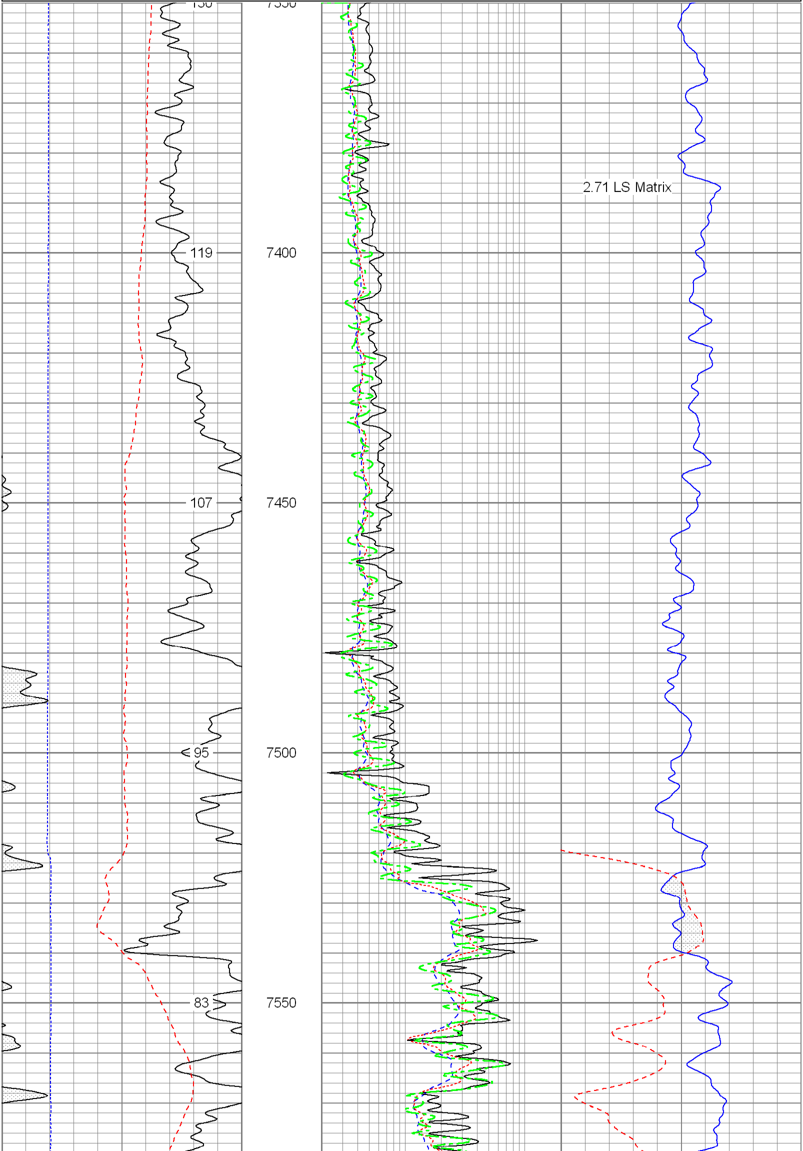
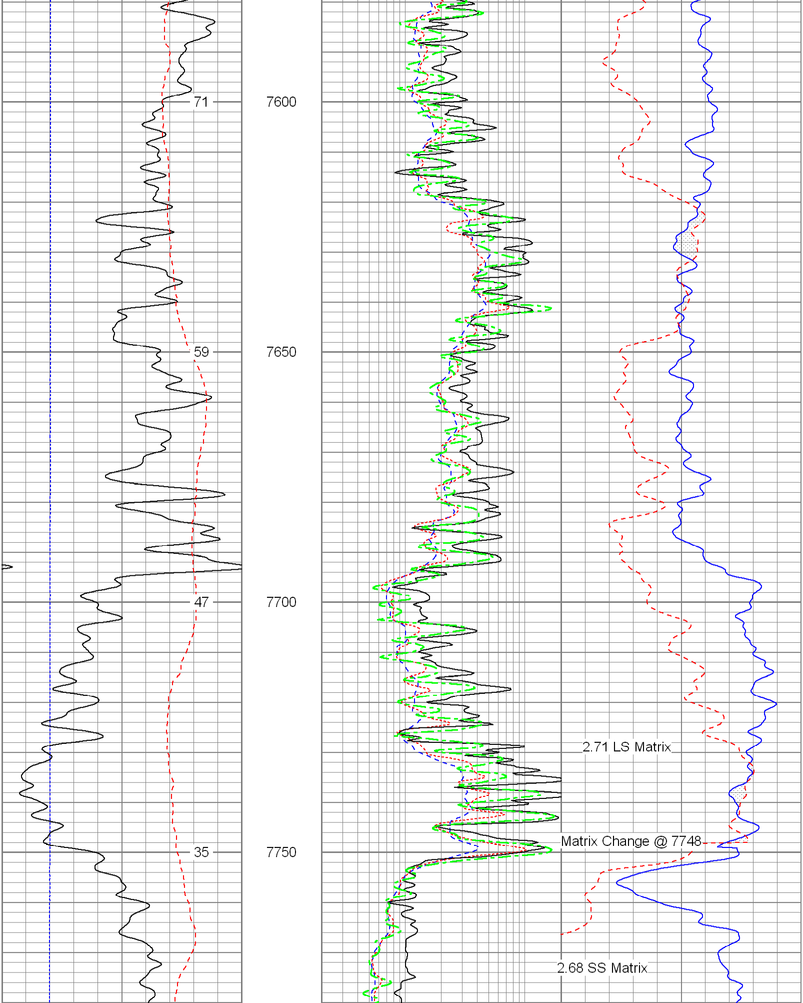
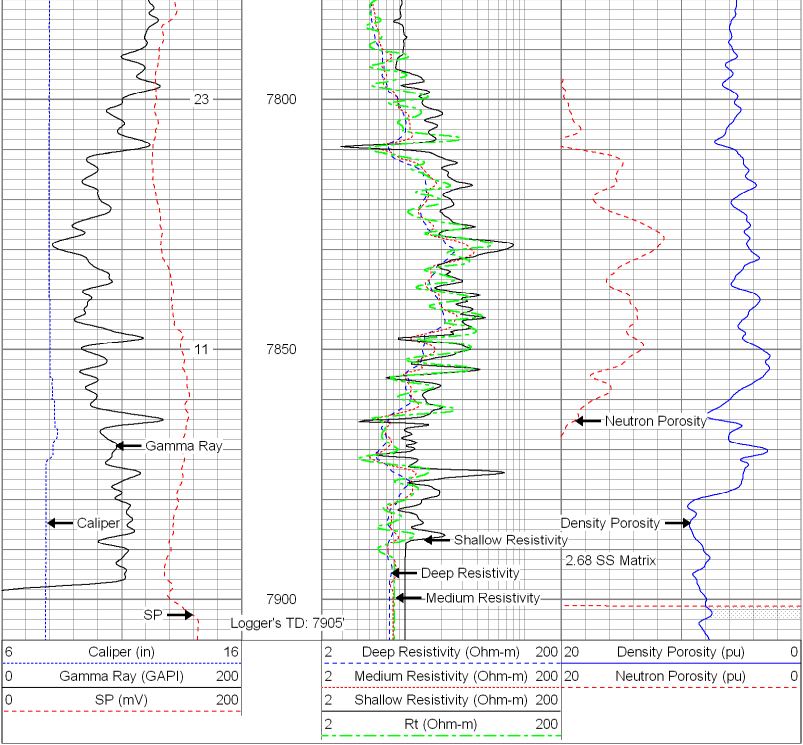
6 Caliper (in) 16
0 Gamma Ray (GAPI) 200
0 SP (mV) 200

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
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