PSI
PHOENIX SURVEYS, INC.

HIGH RESOLUTION INDUCTION GAMMA RAY

Company
Well
Field
County
State/Prv

Company	Great Western Oil & Gas LLC		
Well	Lind 20-24		
Field	Wattenberg		
County	Weld	State/Province	Colorado

Location
665' FSL & 2043' FWL
SE SW
Sec - 20, Twp - 7N, Rge - 66W

Other Services
Density
Neutron

Elevation
K.B. 4949
D.F. 4948
G.L. 4935

Permanent Datum	GL	Elevation	4935
Log Measured From	KB		
Drilling Measured From	KB		

Date	October 14, 2011		
Run Number	1		
Depth Driller	7596		
Depth Logger	7593		
Bottom Logged Interval	7593		
Top Log Interval	Casing		
Casing Driller	854		
Casing Logger	854		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.3 / 50		
pH / Fluid Loss	8.0 / 8.8		
Source of Sample	Flowline		
Rm @ Meas. Temp	3.23 @ 71 F		
Rmf @ Meas. Temp	2.43 @ 71 F		
Rmc @ Meas. Temp	3.88 @ 71 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	1.18 @ 214 F		
Time Circulation Stopped	0645		
Time Logger on Bottom	1635		
Maximum Recorded Temperature	214 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Randy Conley	Josh Gorney	
Witnessed By	Jay Pape		

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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

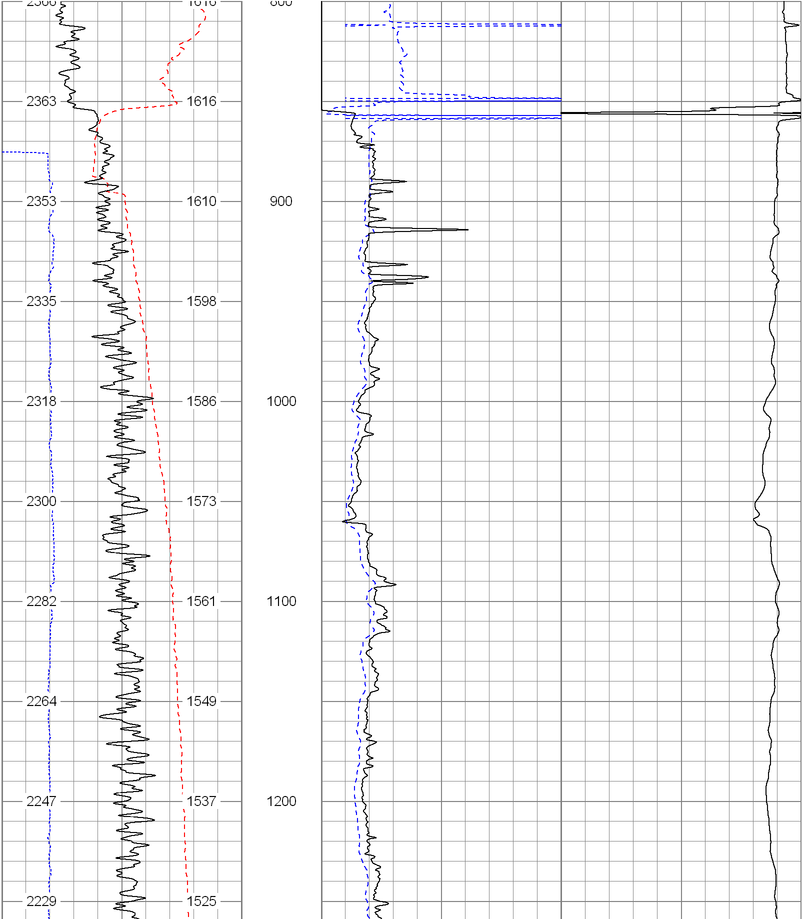
Annular volume calculated for 4.5" casing
Cade Drilling Rig 22
Thank you for using Phoenix Surveys!!
API #: 05-123-29032-00

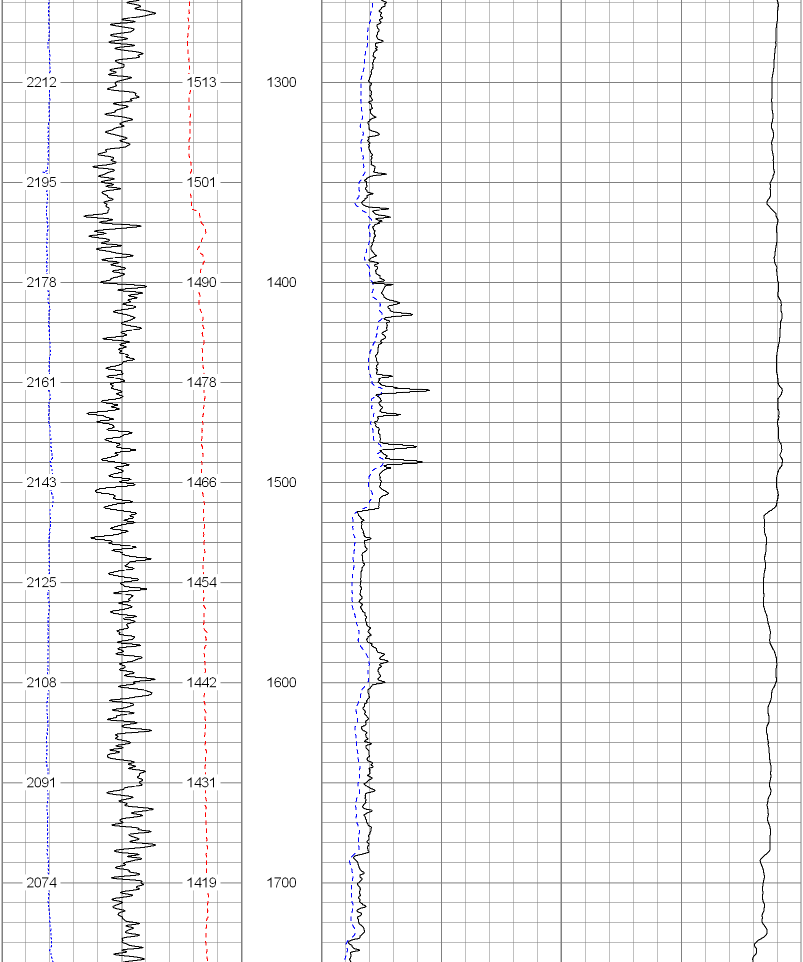
Database File: 12101.db
Dataset Pathname: main
Presentation Format: dilin5
Dataset Creation: Fri Oct 14 17:49:50 2011
Charted by: Depth in Feet scaled 1:600

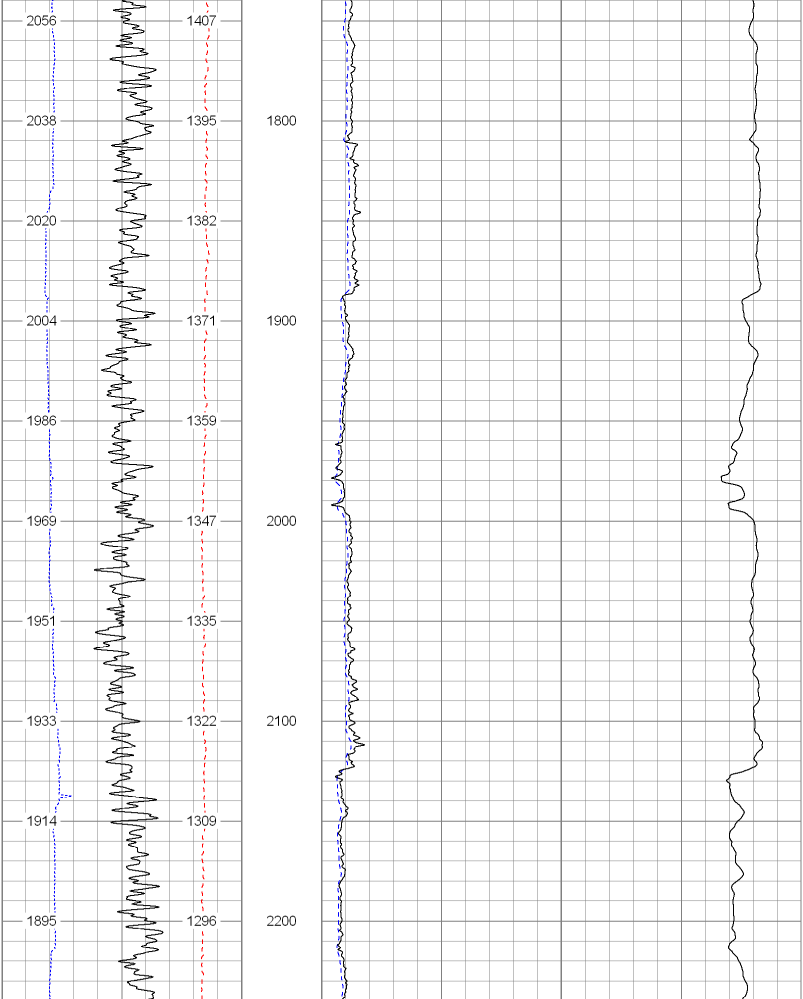
0 SP (mV) 200
6 Caliper (in) 16
0 Gamma Ray (GAPI) 200
TBHV (ft3) ABHV (ft3)

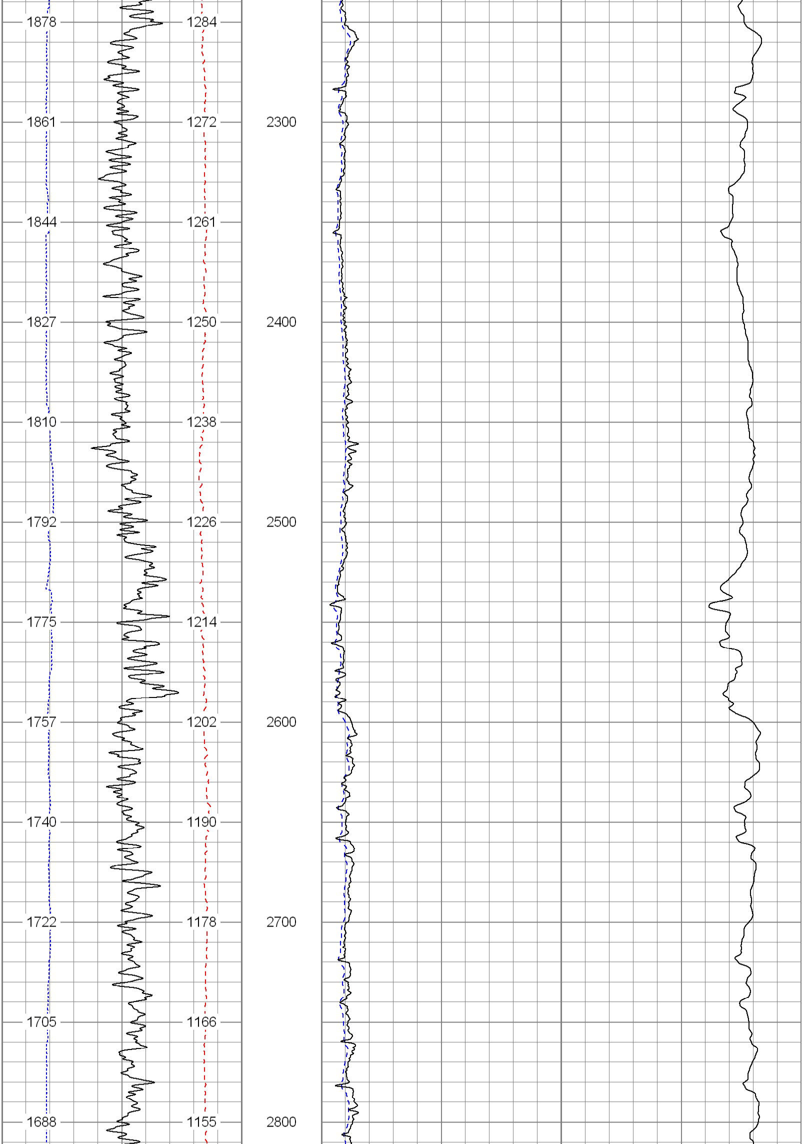
0 Deep Resistivity (Ohm-m) 50
0 Shallow Resistivity (Ohm-m) 50
50 RILD (Ohm-m) 500
50 RLL3 (Ohm-m) 500

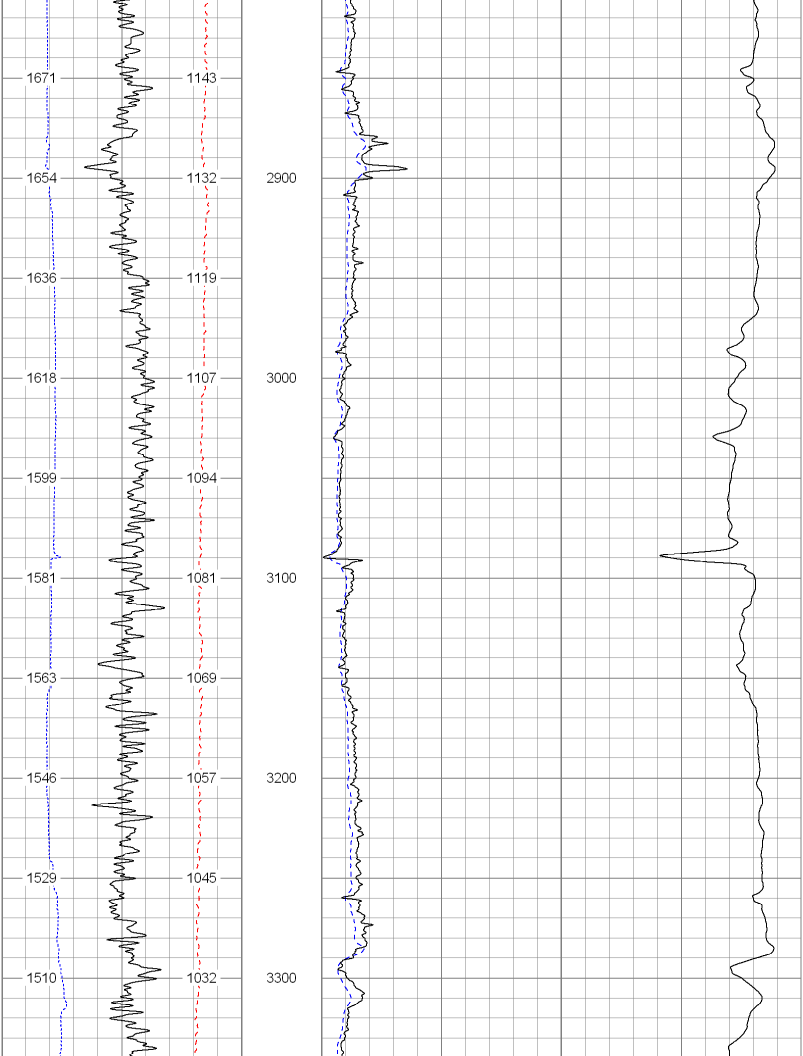
1000 CILD (mmho/m) 0

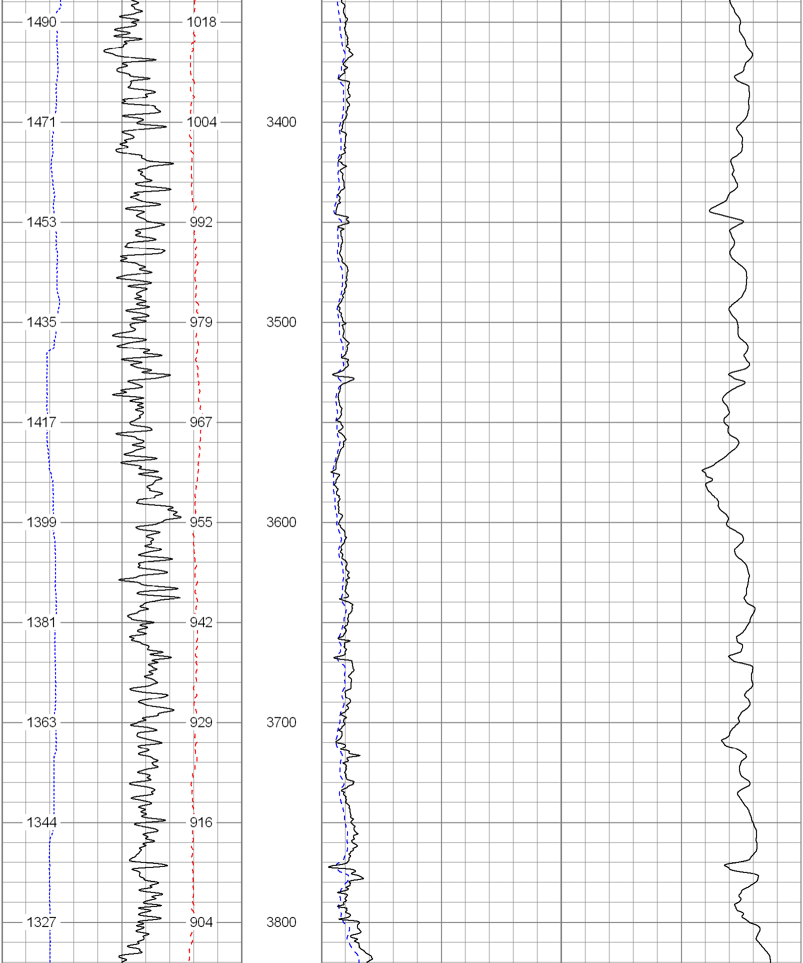


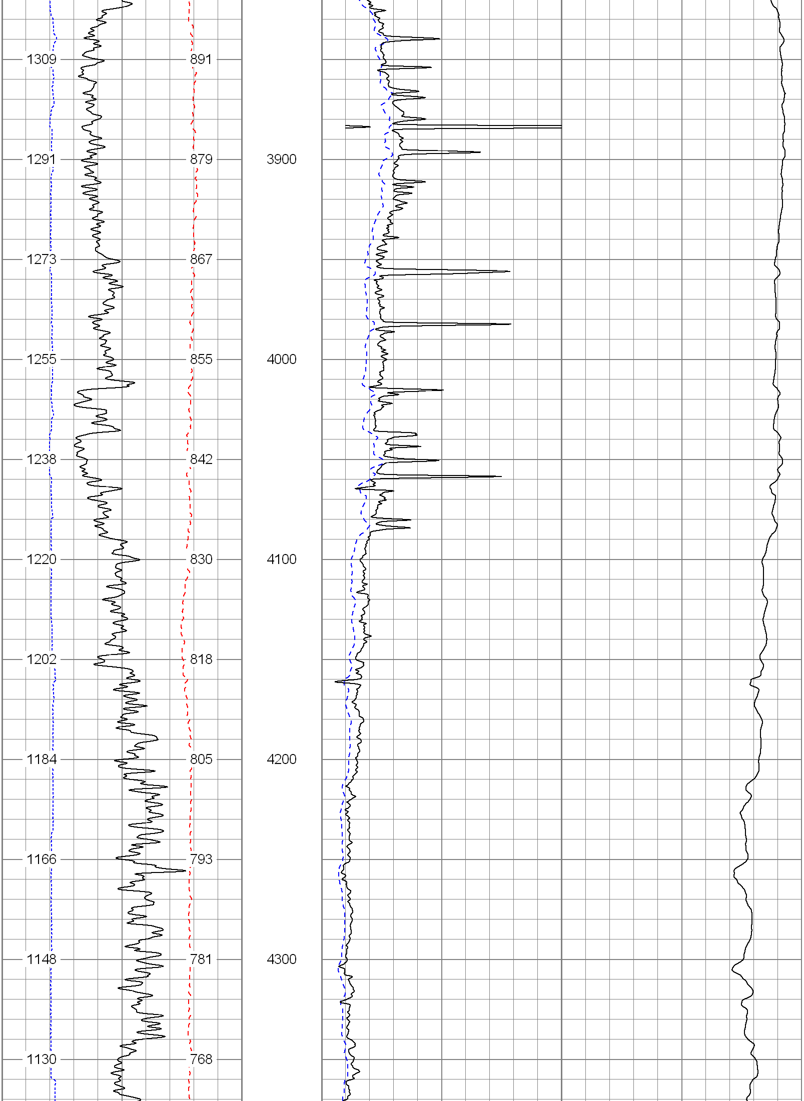


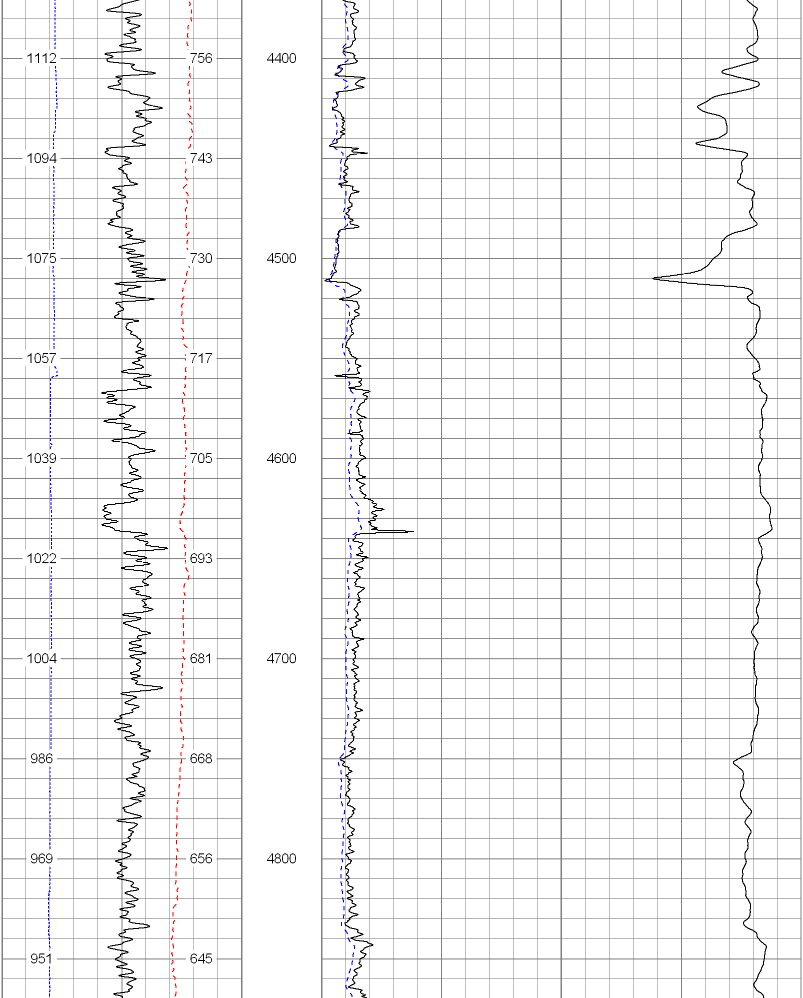


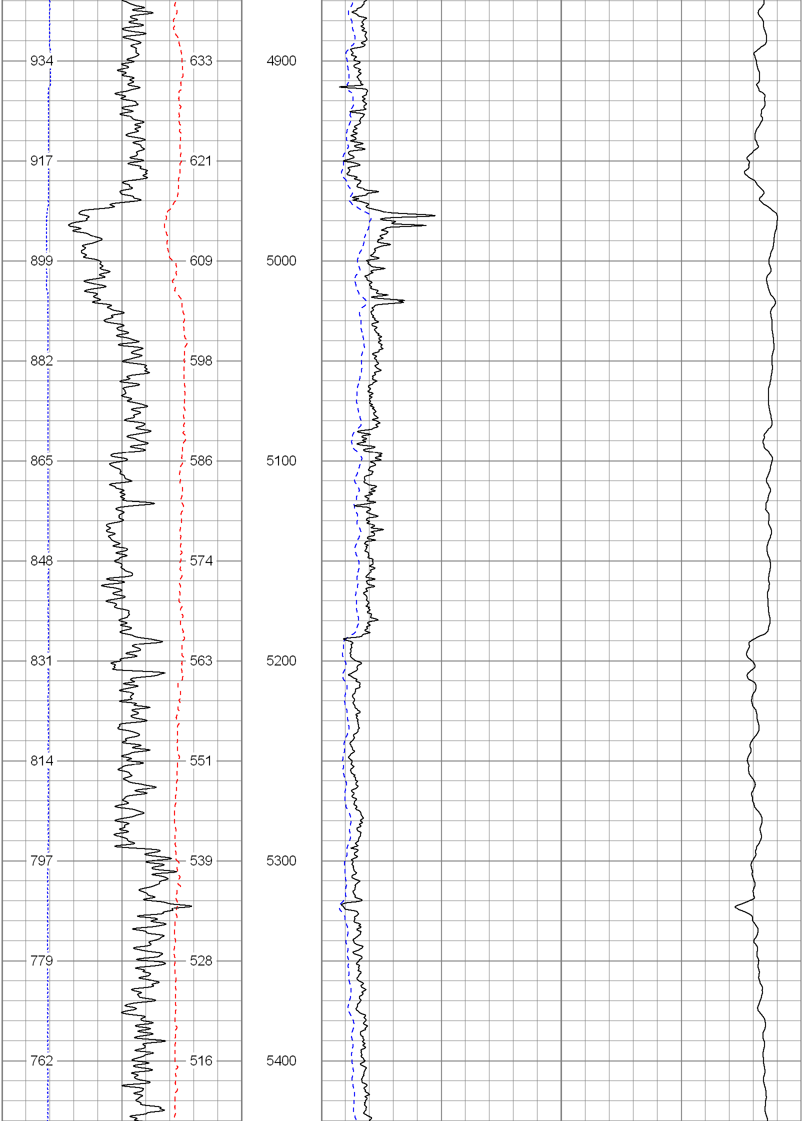


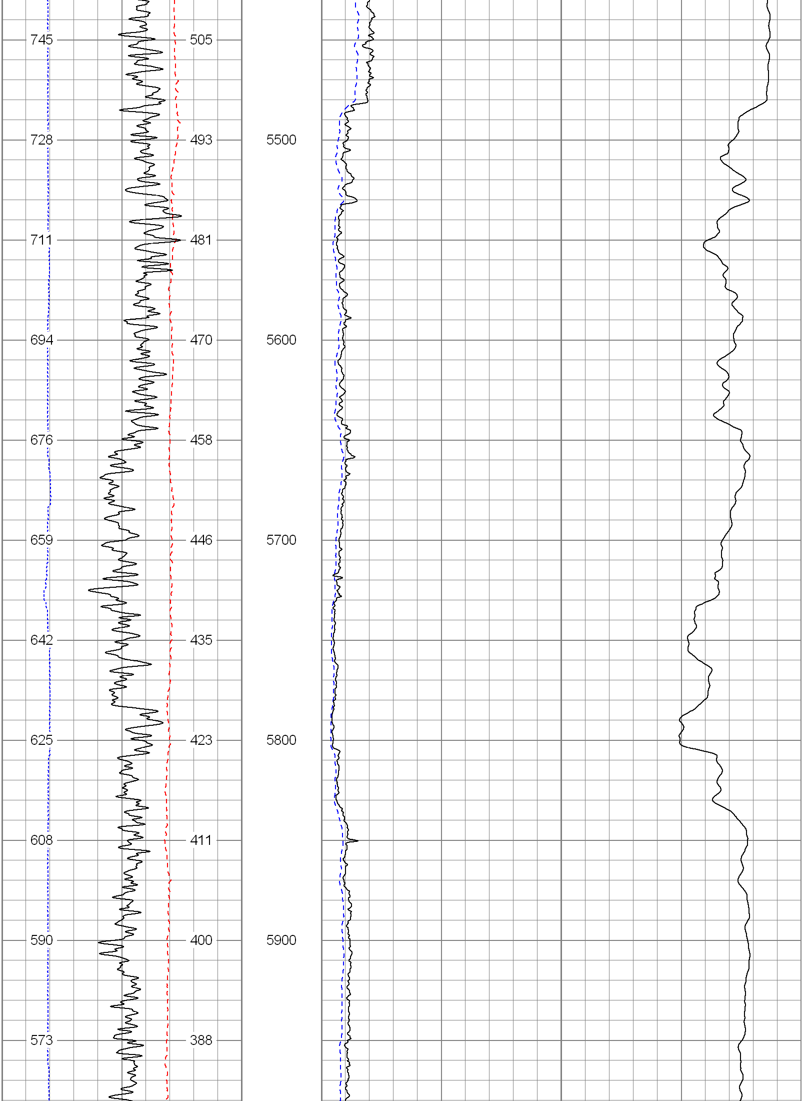


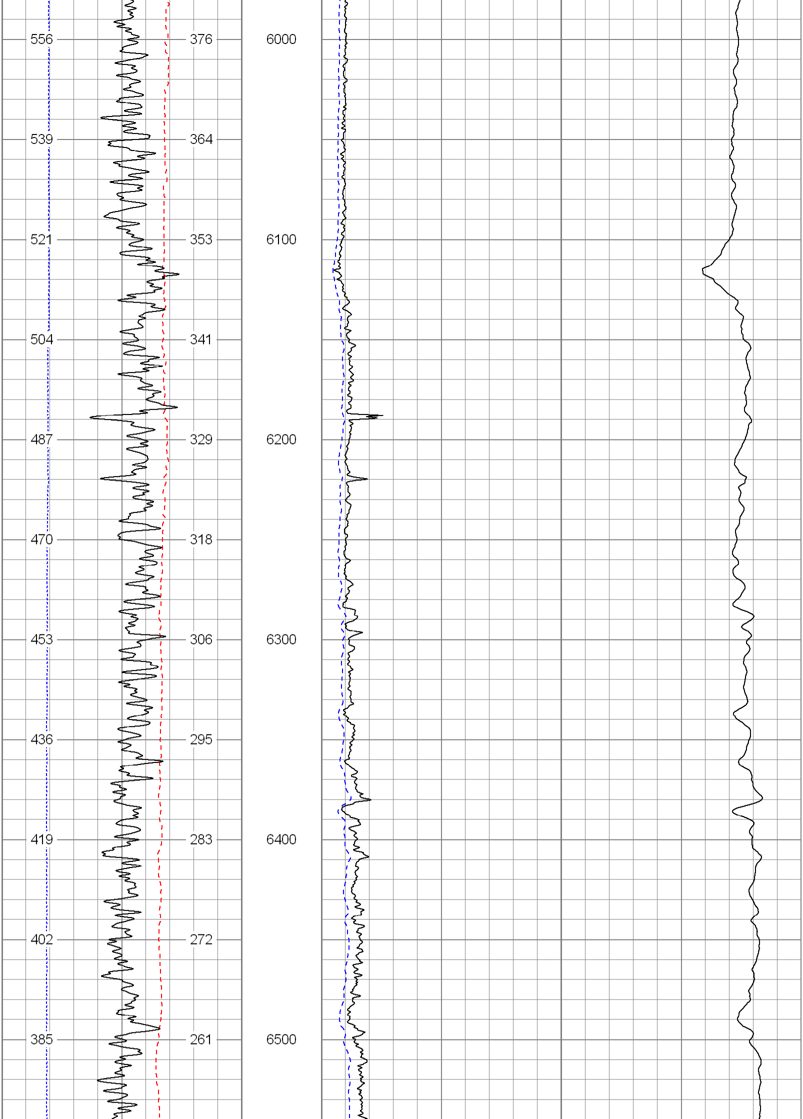


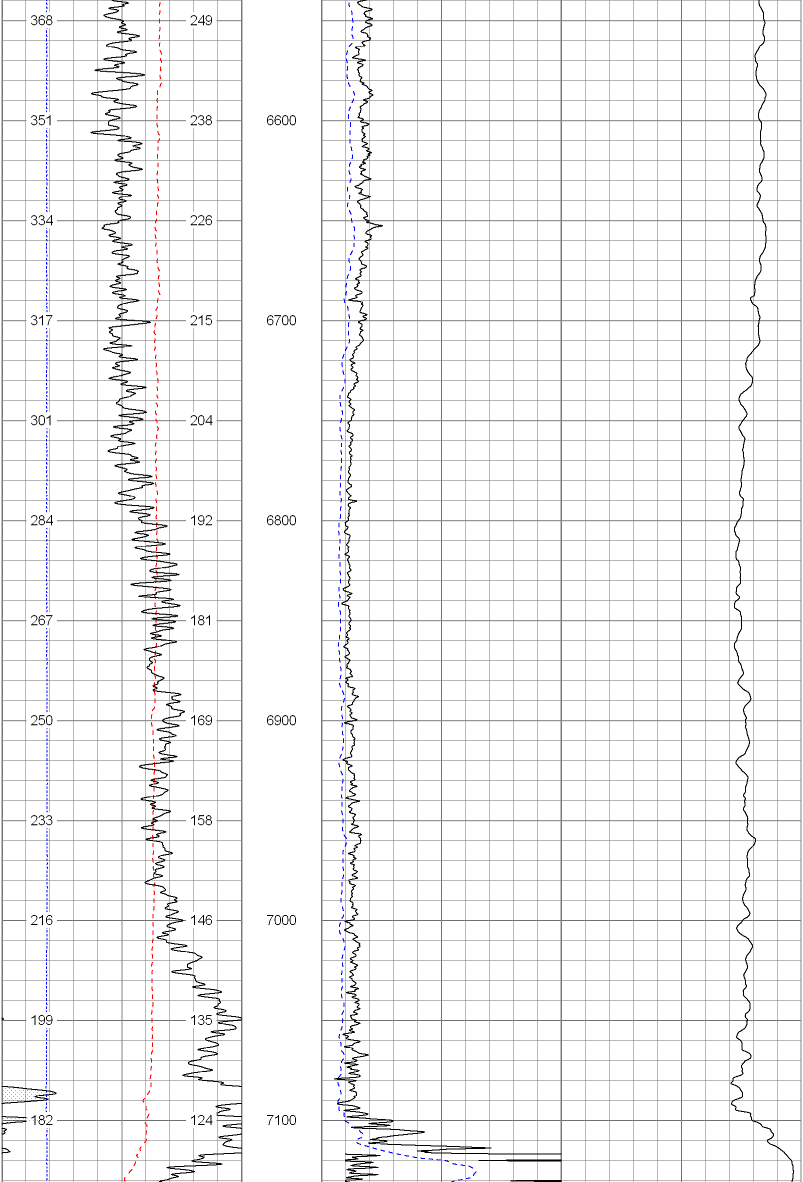


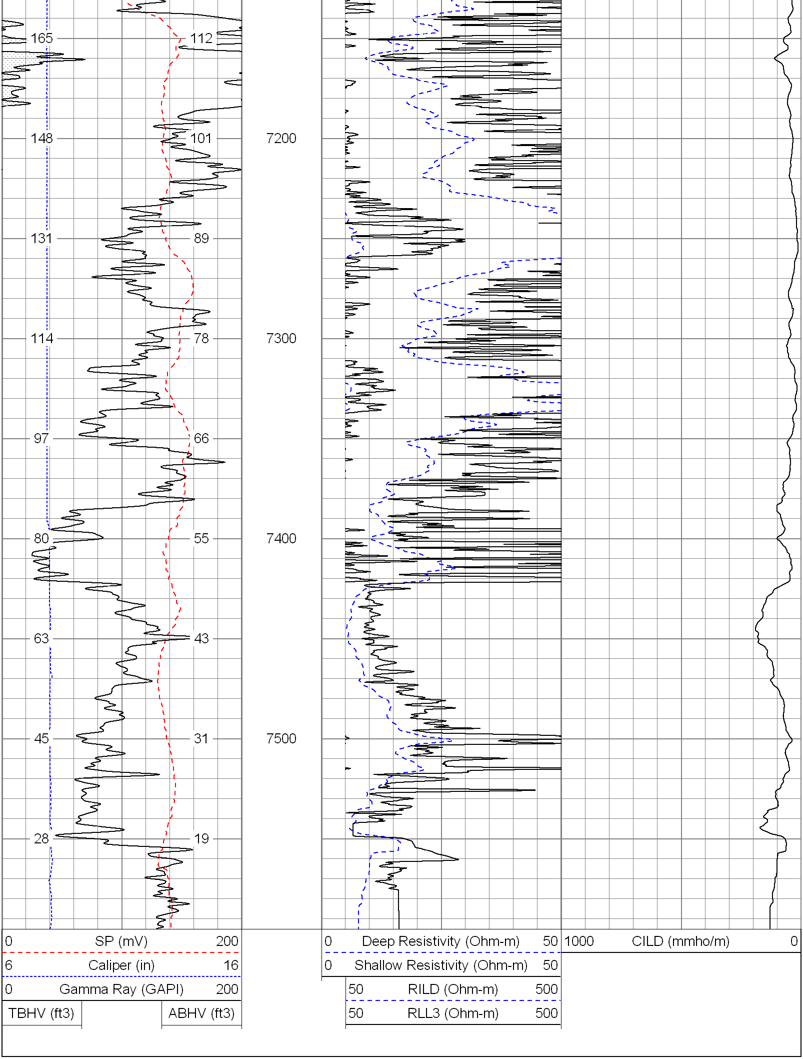




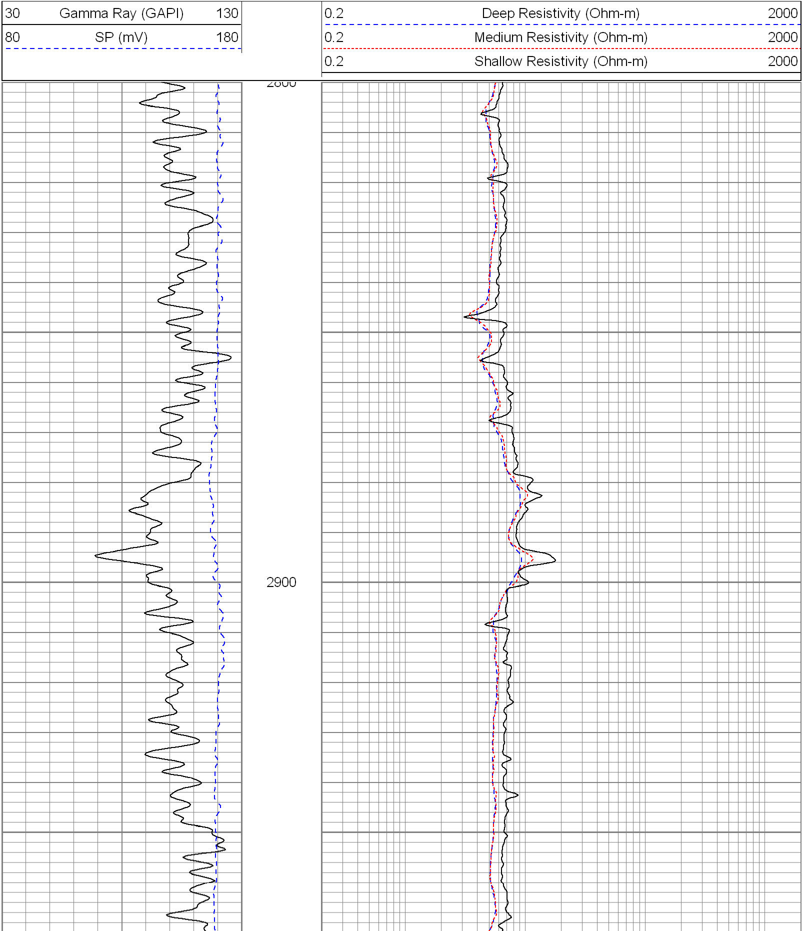


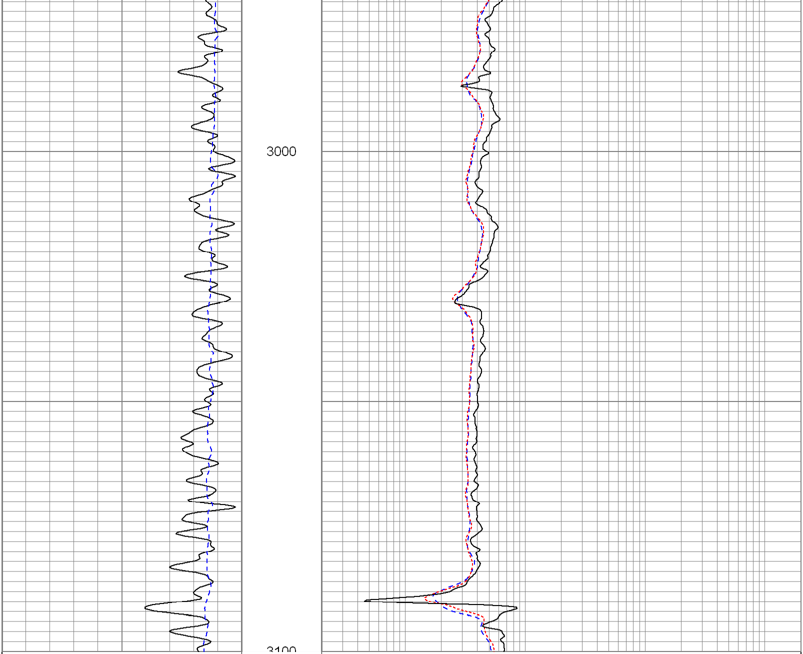






Database File: 12101.db
Dataset Pathname: main
Presentation Format: dil1
Dataset Creation: Fri Oct 14 17:49:50 2011
Charted by: Depth in Feet scaled 1:240





30	Gamma Ray (GAPI)	130
80	SP (mV)	180

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000

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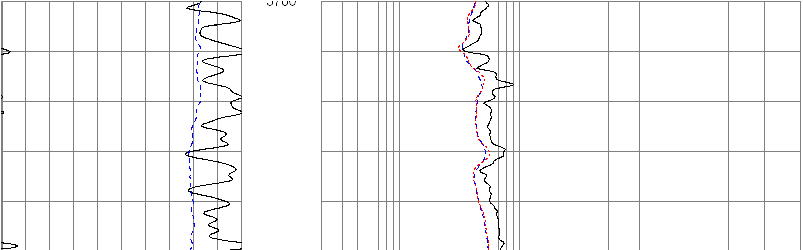

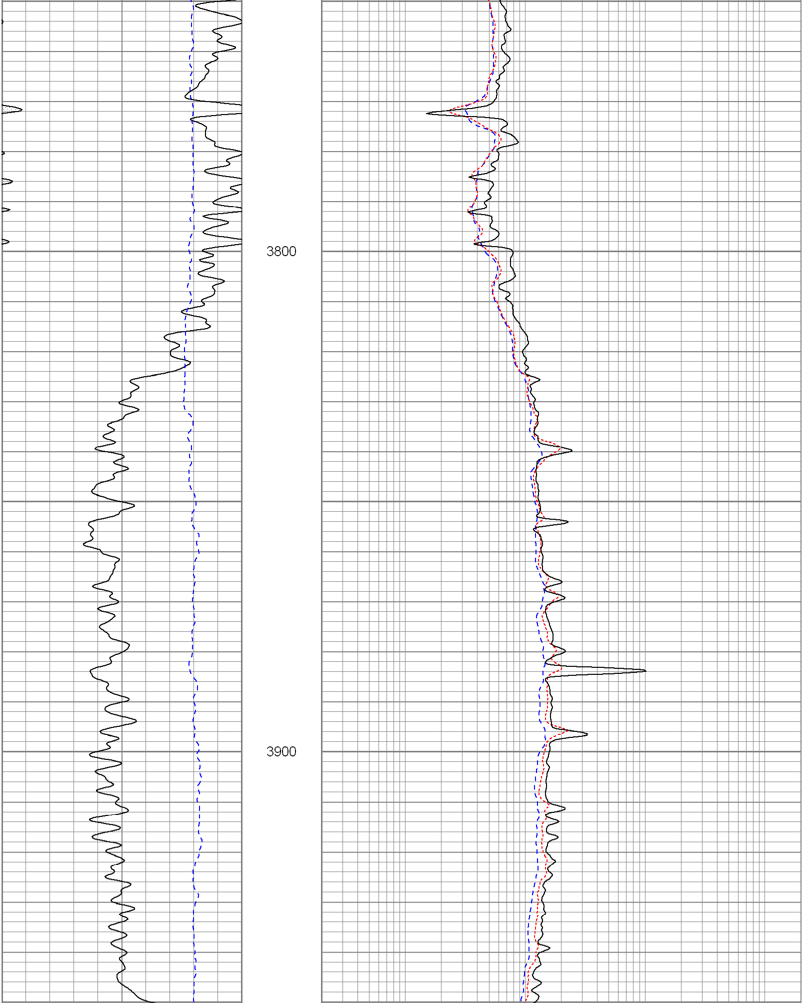

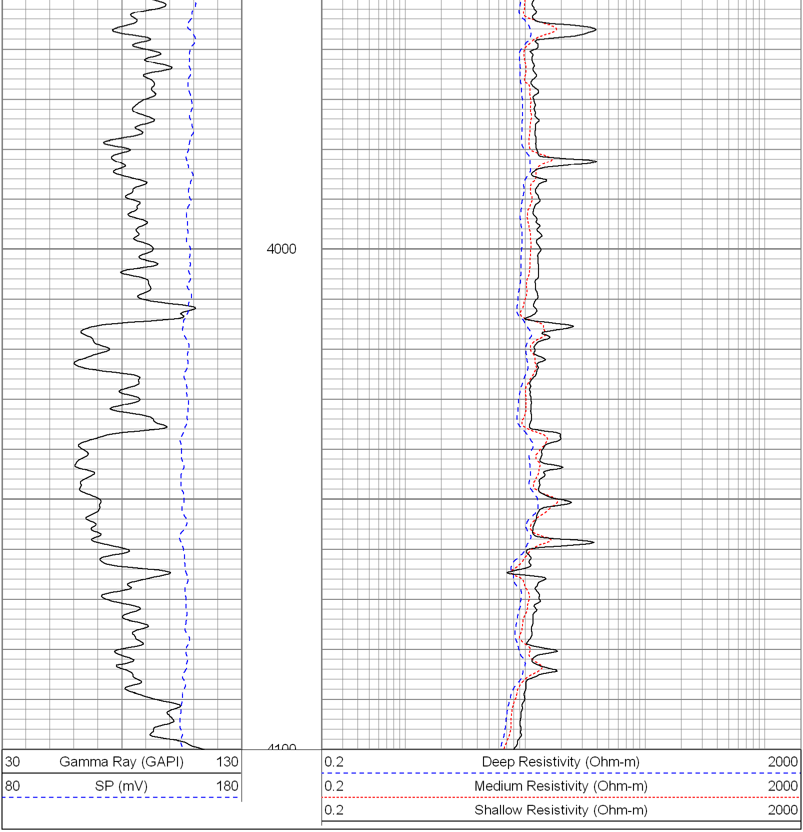

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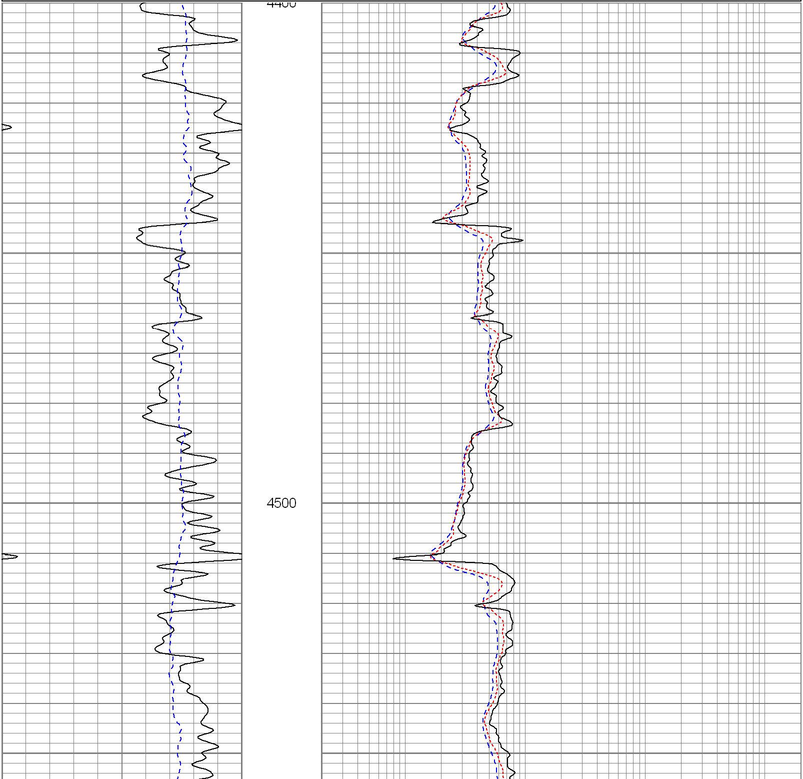
0.2 Shallow Resistivity (Ohm-m) 2000



4600
4700
4800
4900
5000
5100
5200
30 Gamma Ray (GAPI) 130
80 SP (mV) 180
0.2 Deep Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000
0.2 Shallow Resistivity (Ohm-m) 2000

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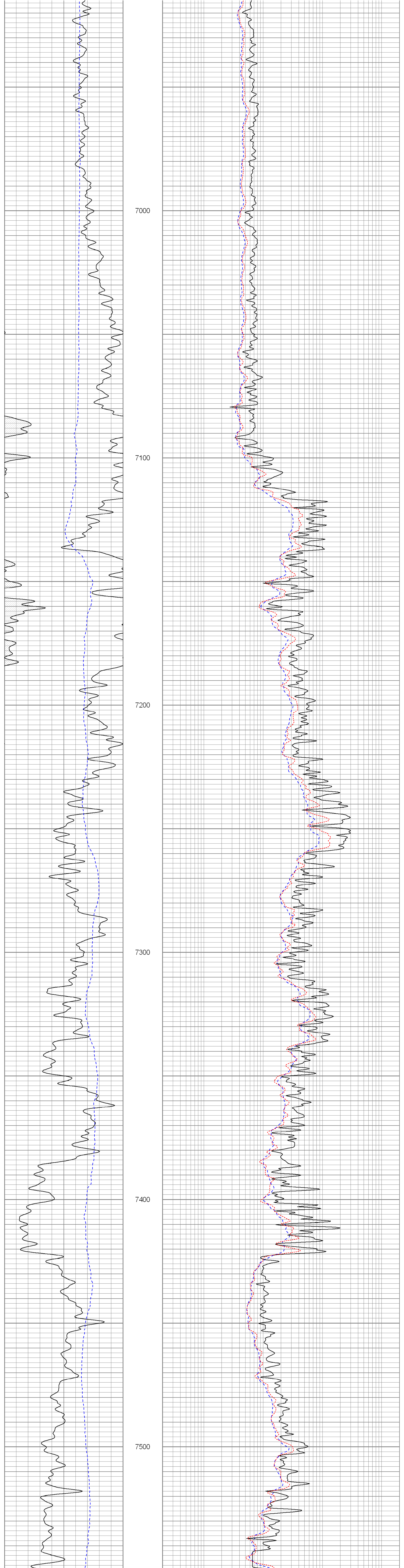
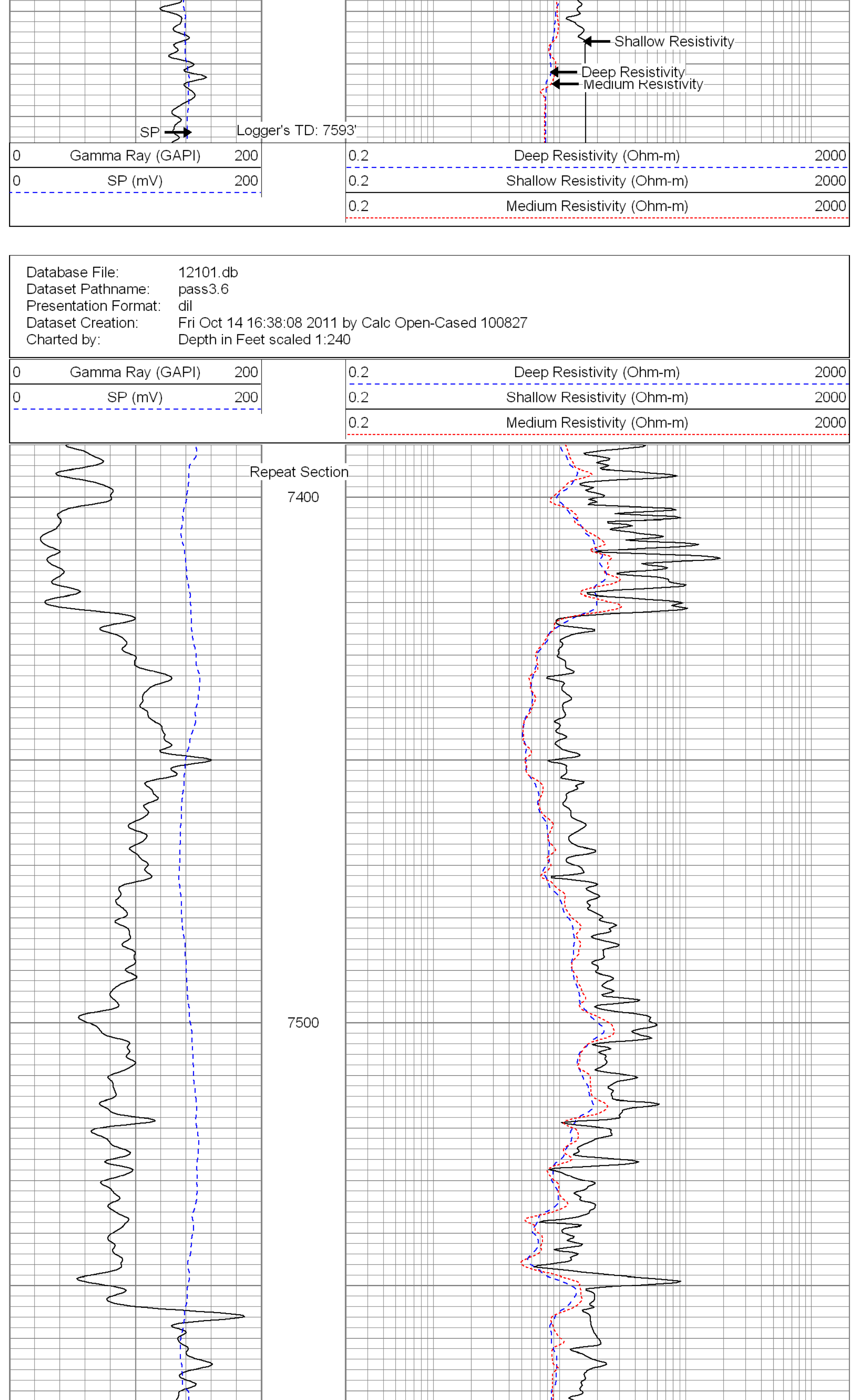
Charted by: Depth in Feet scaled 1:240



Database File: 12101.db
Dataset Pathname: pass3.6
Presentation Format: dil
Dataset Creation: Fri Oct 14 16:38:08 2011 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:240



Calibration Report

Database File: 12101.db
Dataset Pathname: pass2
Dataset Creation: Fri Oct 14 15:43:52 2011 by Log Open-Cased 100827

Dual Induction Calibration Report

Serial-Model: 936-PSI
Surface Cal Performed: Thu Oct 13 09:33:02 2011

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	0.000	1.000	0.000	1.000	mmho/m	0.580	-26.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.540	-53.000

Compensated Density Calibration Report

Serial-Model: 817-PSI
Source / Verifier: /
Master Calibration Performed: Fri Oct 14 15:56:42 2011

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	6774.00	9421.00	cps
Aluminum	2.690	g/cc	1236.00	5838.00	cps

Spine Angle = 74.29
Density/Spine Ratio = 0.532

	Size		Reading
Small Ring	0.00	in	0.00
Large Ring	1.00	in	1.00

Compensated Neutron Calibration Report

Serial Number: 856
Tool Model: PSI

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.9000
Long Space	1.00	cps	1.00	cps	2.2000

Gamma Ray Calibration Report

Serial Number:	911	
Tool Model:	PSI	
Performed:	Thu Sep 29 00:18:05 2011	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps