PIONEER
Pioneer Energy Services

HIGH RESOLUTION INDUCTION
GUARD LOG - SP
GAMMA RAY

Company	High Plains Energy LLC		
Well	Dune Ridge State 32-2		
Field	Dune Ridge		
County	Washington	State	Colorado

Location: API # : 05075094150000

665' FNL & 605' FEL
NENE

SEC 32 TWP 7N RGE 52W

Other Services
DENSITY
NEUTRON

Permanent Datum	GL	Elevation	4125
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4135
D.F. 4134
G.L. 4125

Company	High Plains Energy LLC
Well	Dune Ridge State 32-2
Field	Dune Ridge
County	Washington
State	Colorado

Date	March 10, 2014		
Run Number	1		
Depth Driller	4778		
Depth Logger	4776		
Bottom Logged Interval	4776		
Top Log Interval	Casing		
Casing Driller	682		
Casing Logger	682		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.6 / 76		
pH / Fluid Loss	9.0 / 11.0		
Source of Sample	Flowline		
Rm @ Meas. Temp	3.15 @ 60 F		
Rmf @ Meas. Temp	2.52 @ 60 F		
Rmc @ Meas. Temp	3.78 @ 60 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	1.37 @ 138 F		
Time Circulation Stopped	0130		
Time Logger on Bottom	0630		
Maximum Recorded Temperature	138 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Clint Christensen		
Witnessed By	Randy Wheat	Pete Vollmer	

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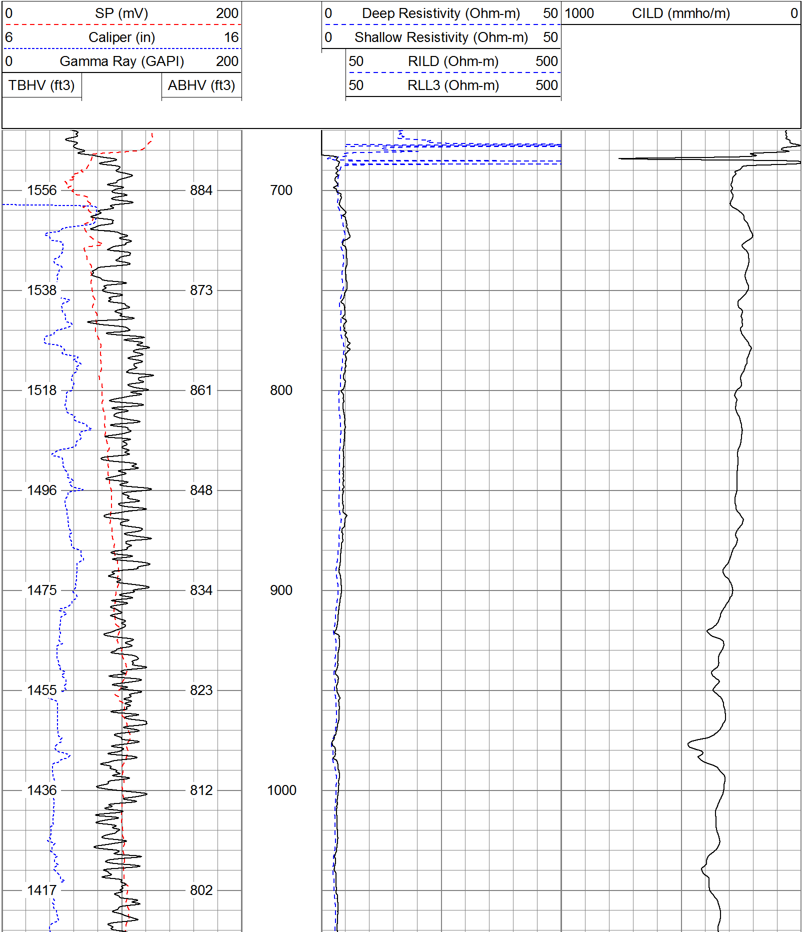
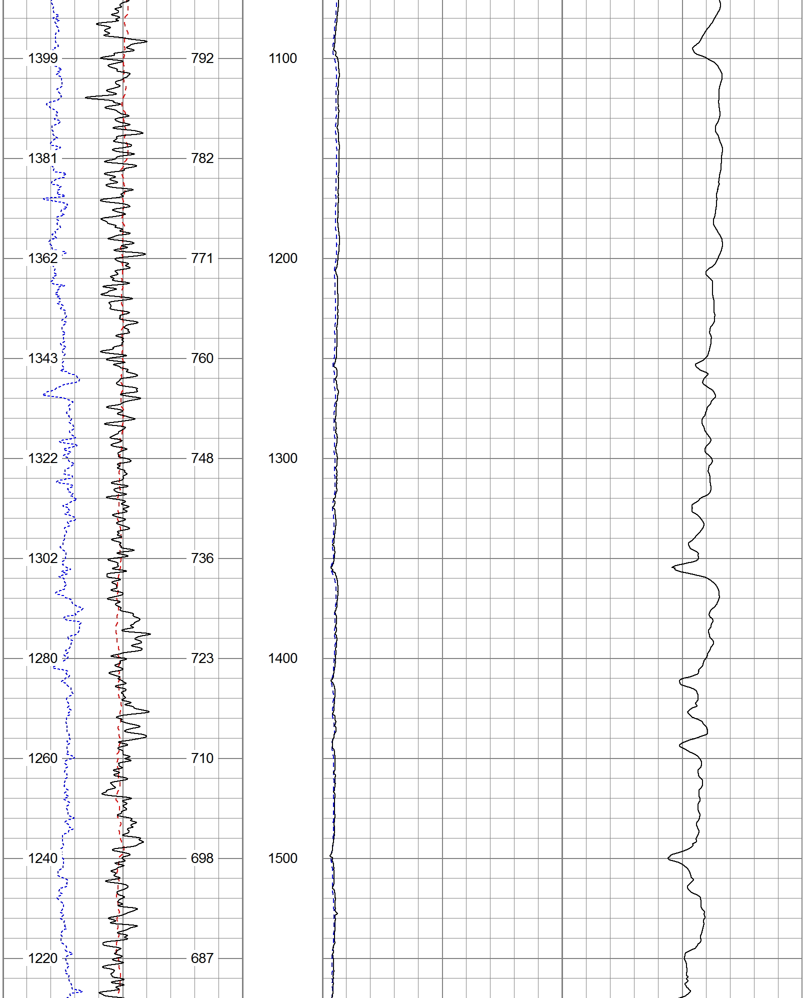
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

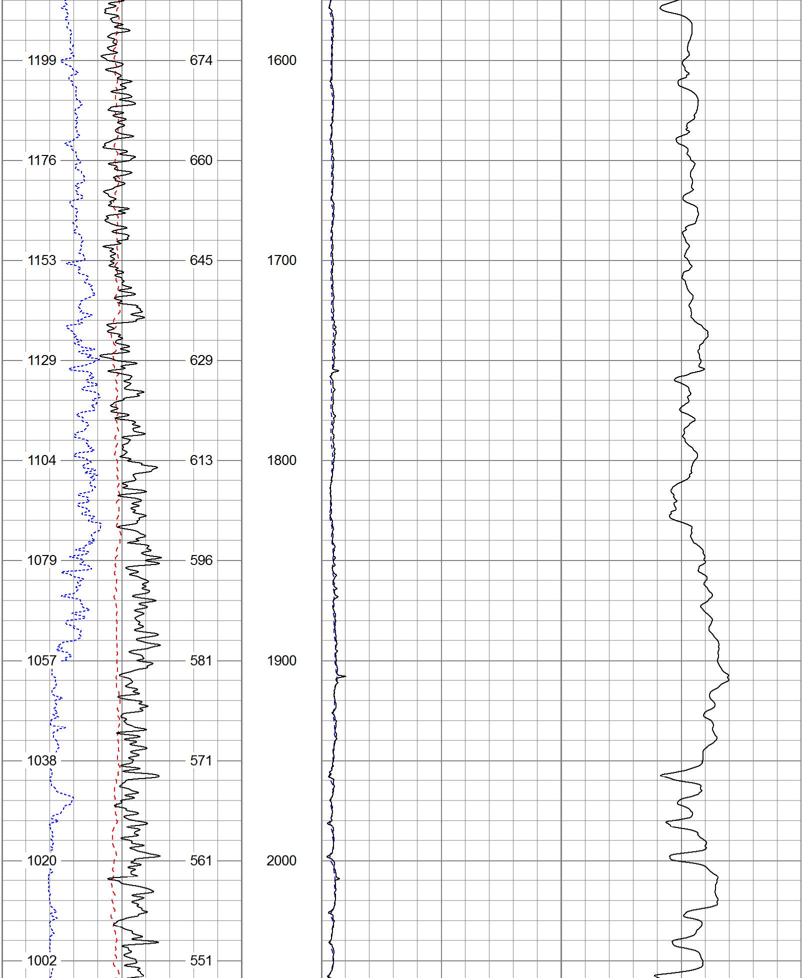
Comments

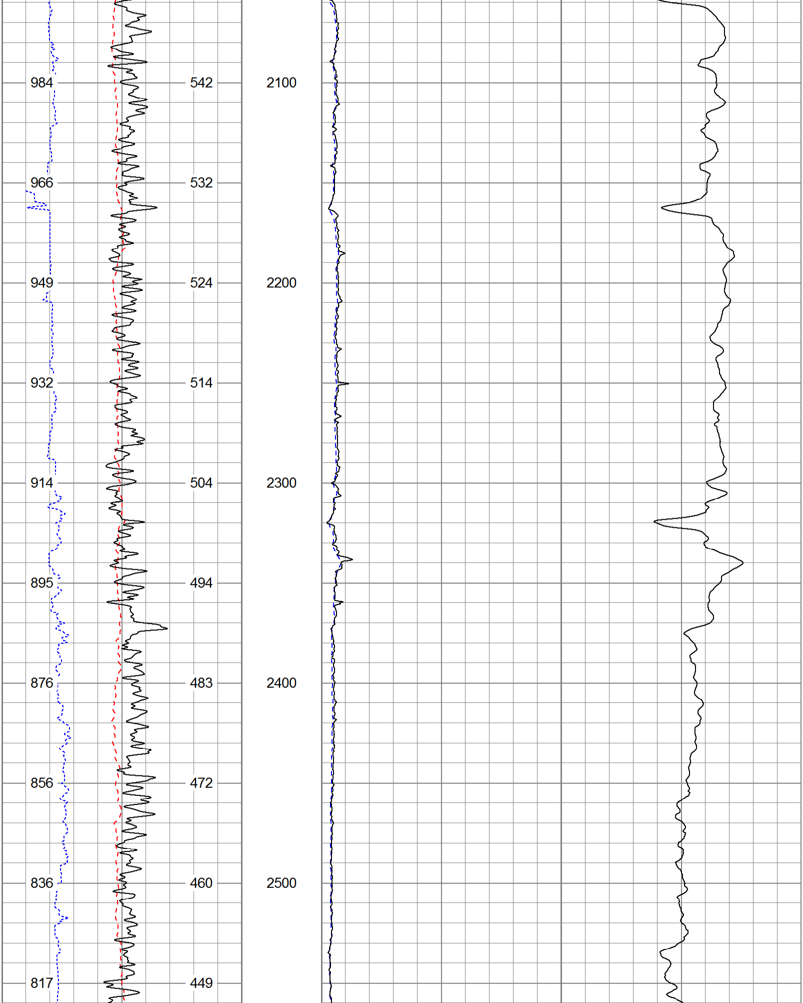
Annular volume calculated for 5-1/2" casing
Mid Continent Rig 1
Thank you for using Pioneer Energy Services

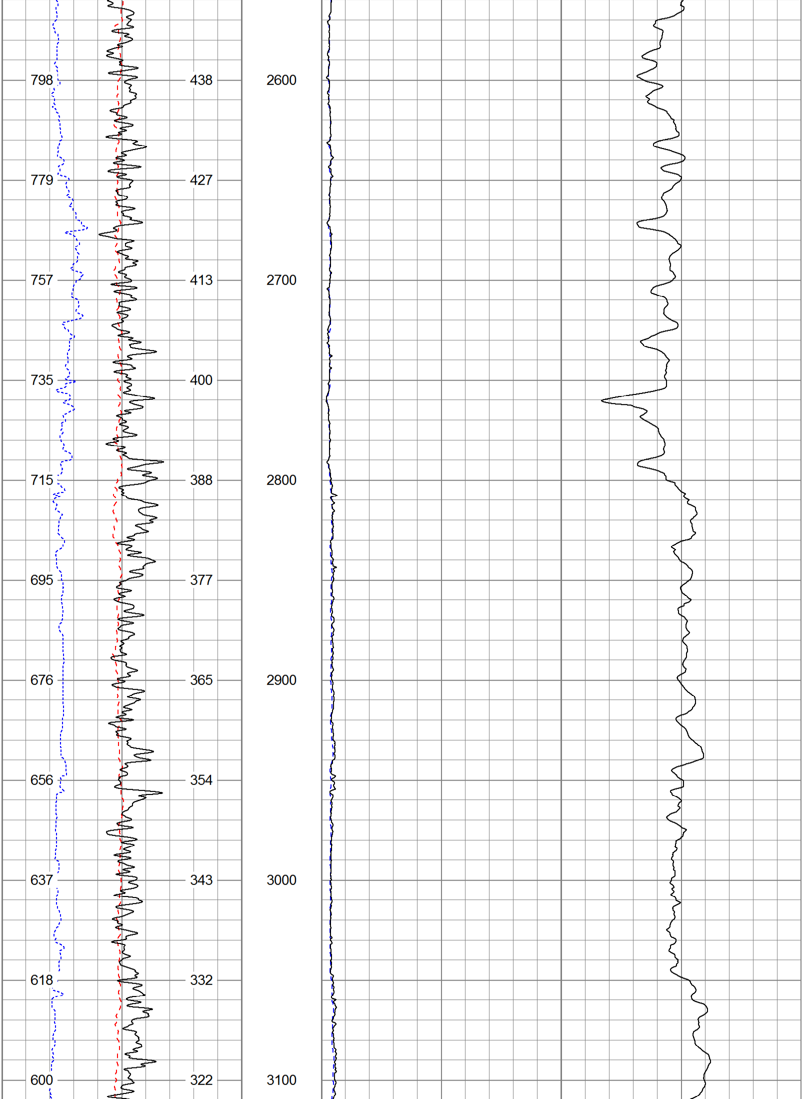
Database File:	13483.db
Dataset Pathname:	Final
Presentation Format:	dilin5
Dataset Creation:	Mon Mar 10 08:06:30 2014
Charted by:	Depth in Feet scaled 1:600

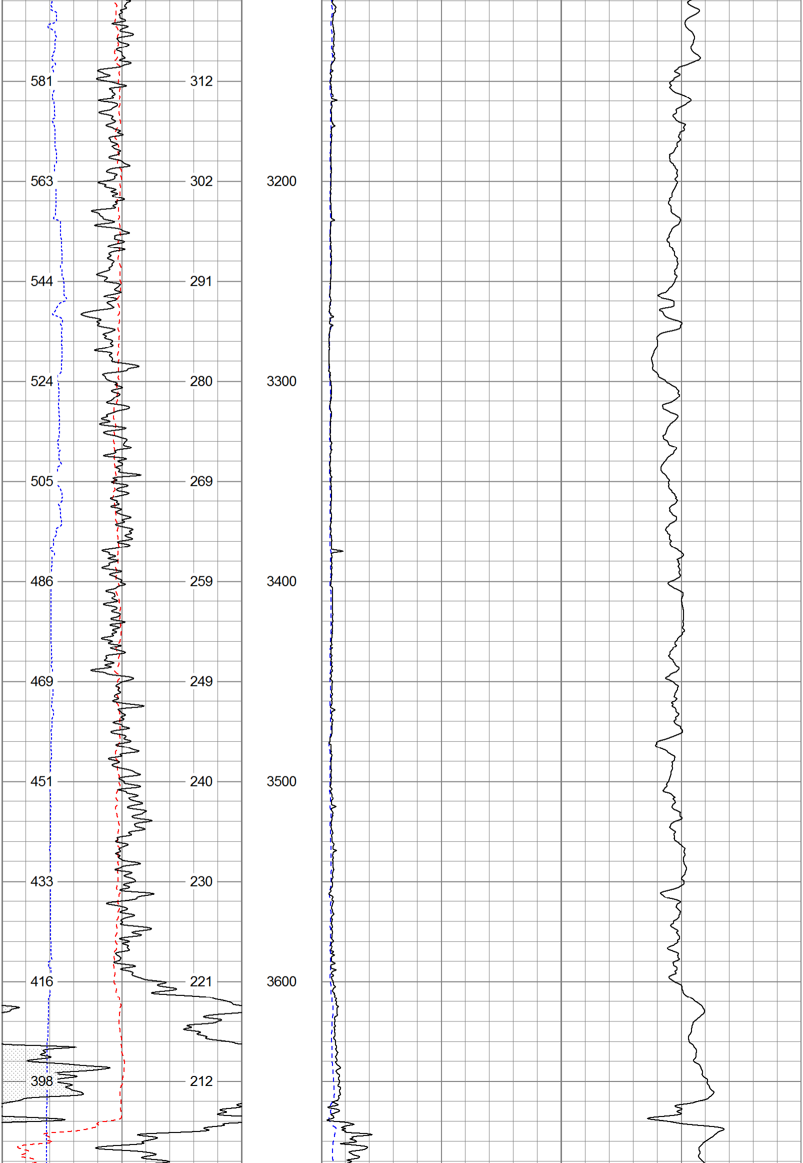


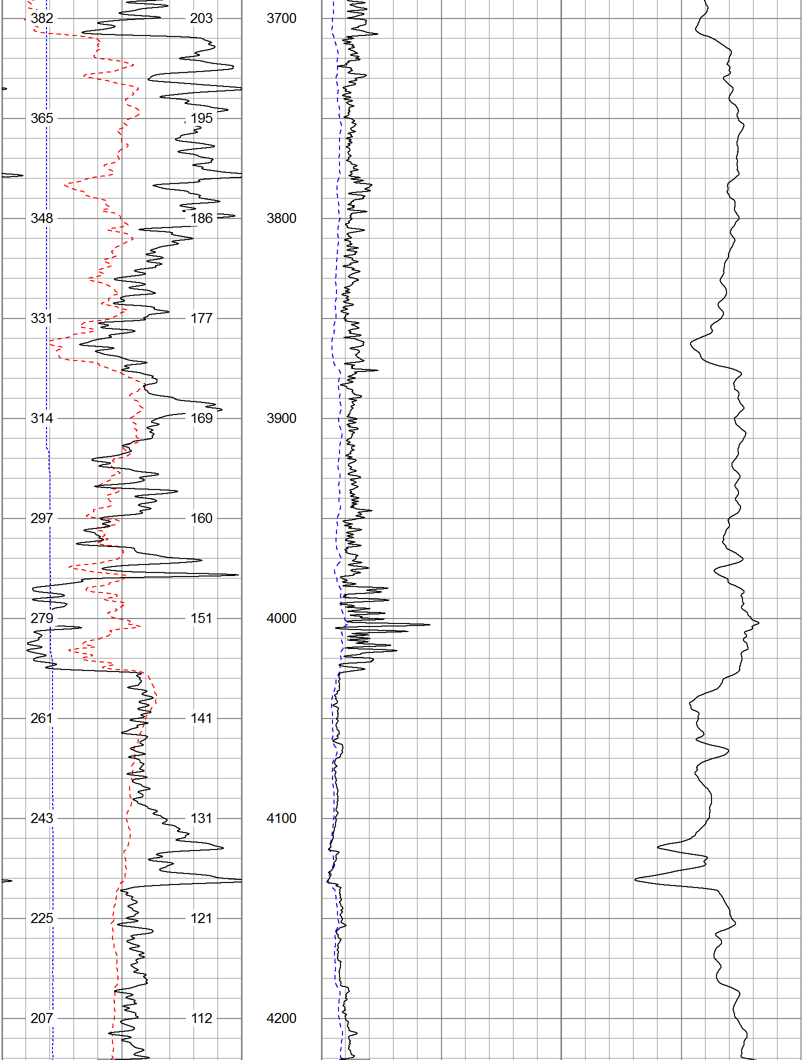


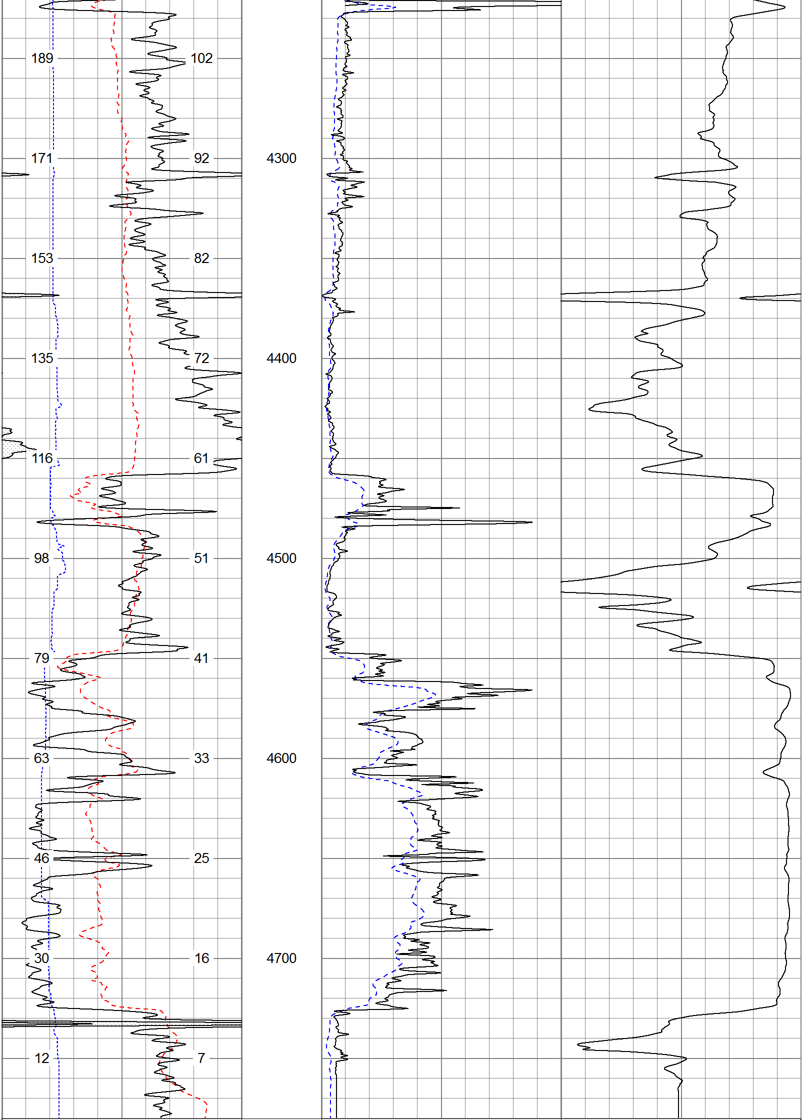












0 SP (mV) 200
6 Caliper (in) 16
0 Gamma Ray (GAPI) 200
TBHV (ft3) ABHV (ft3)

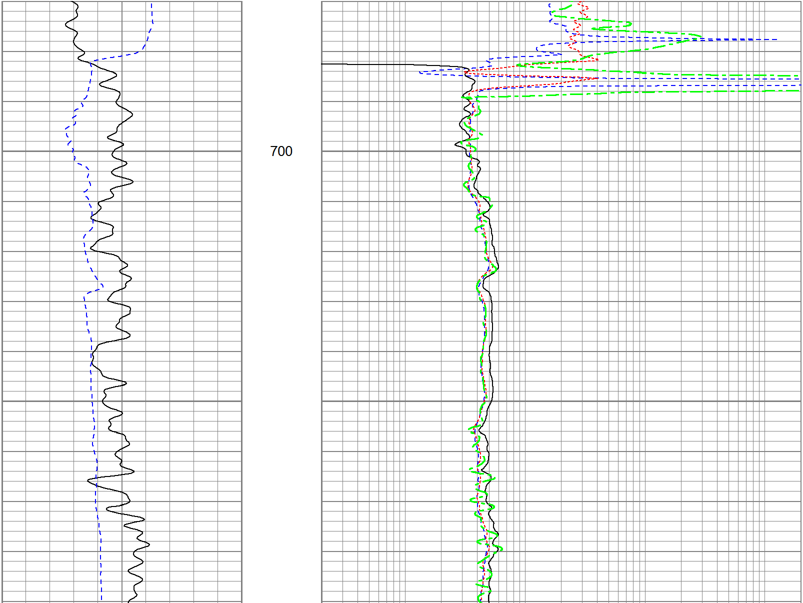
0 Deep Resistivity (Ohm-m) 50
0 Shallow Resistivity (Ohm-m) 50
50 RILD (Ohm-m) 500
50 RLL3 (Ohm-m) 500

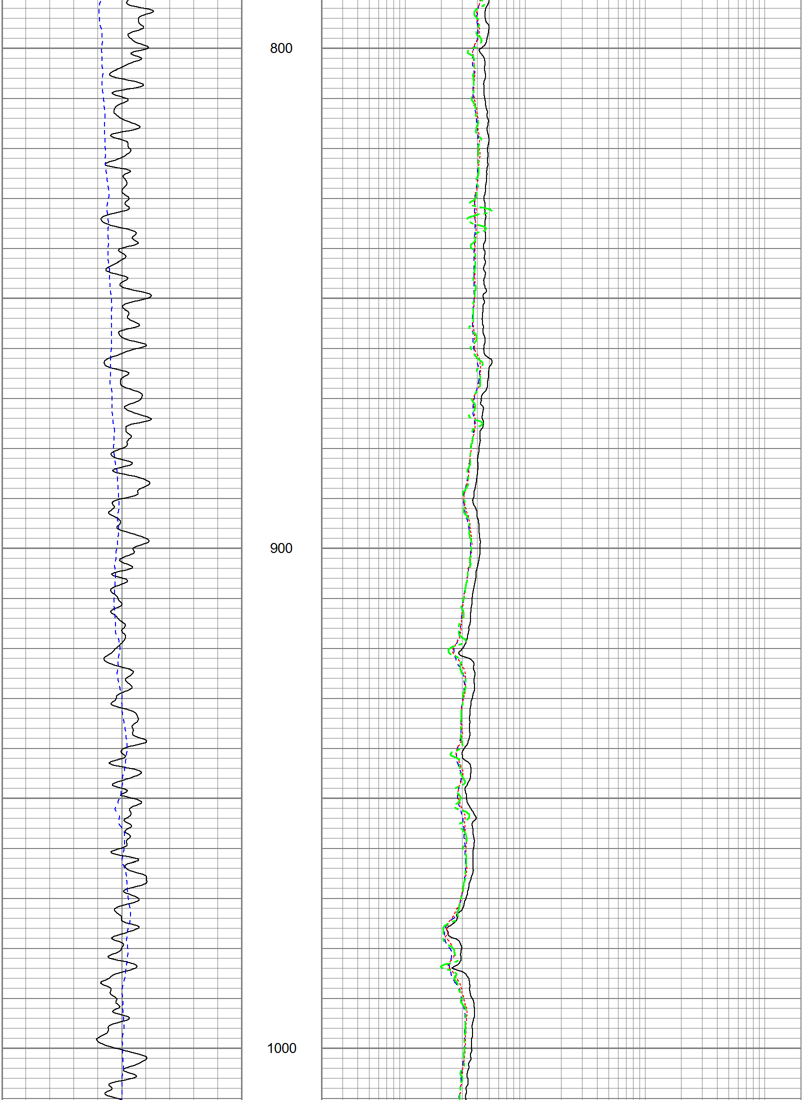
1000 CILD (mmho/m) 0

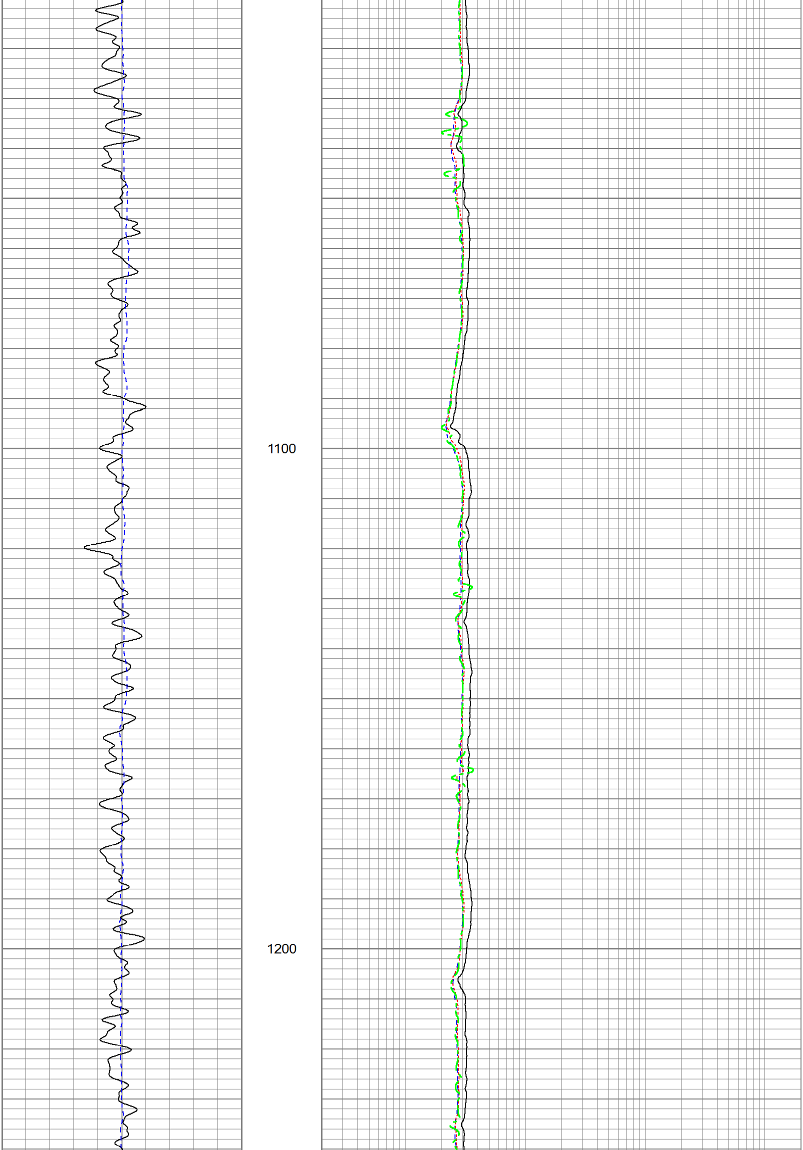
Database File:	13483.db
Dataset Pathname:	Final
Presentation Format:	dil
Dataset Creation:	Mon Mar 10 08:06:30 2014
Charted by:	Depth in Feet scaled 1:240

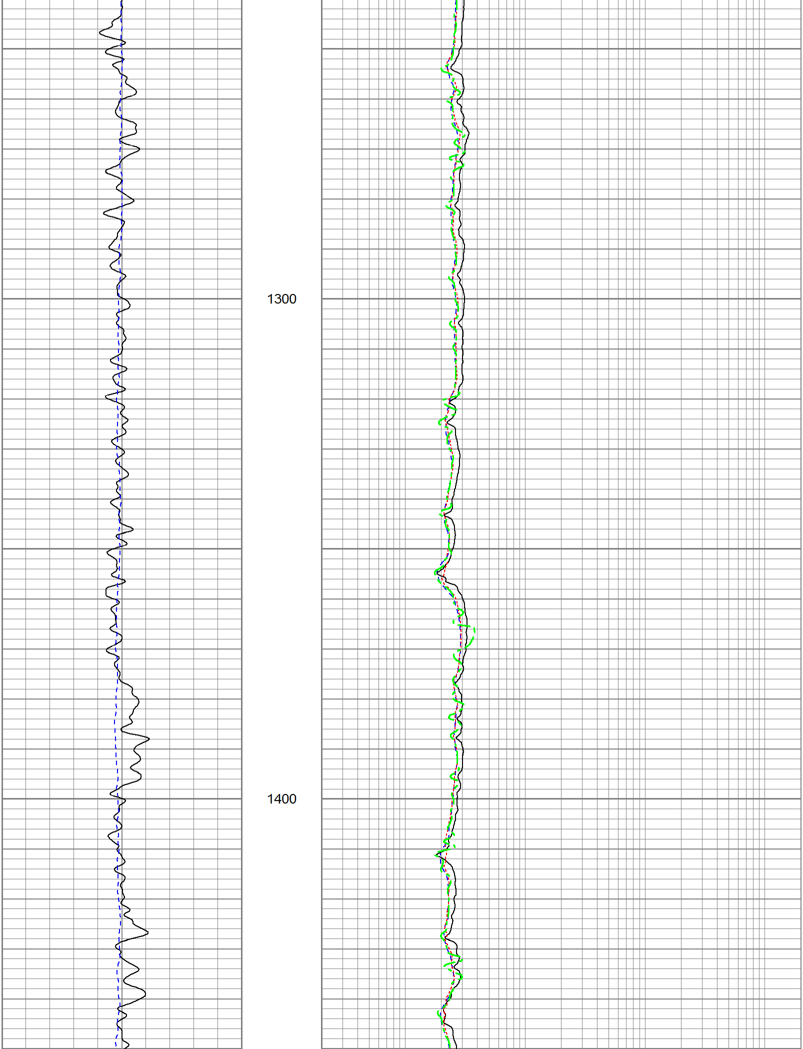
0 Gamma Ray (GAPI) 200
0 SP (mV) 200

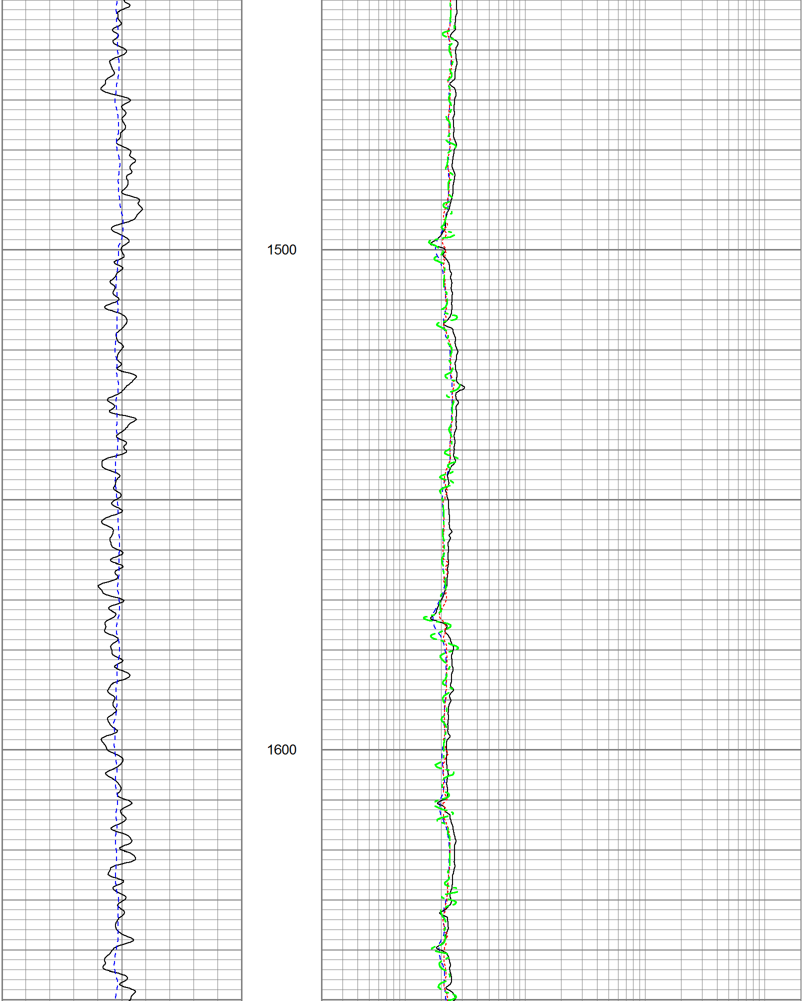
0.2 Deep Resistivity (Ohm-m) 2000
0.2 Shallow Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000
0.2 Rt (Ohm-m) 2000

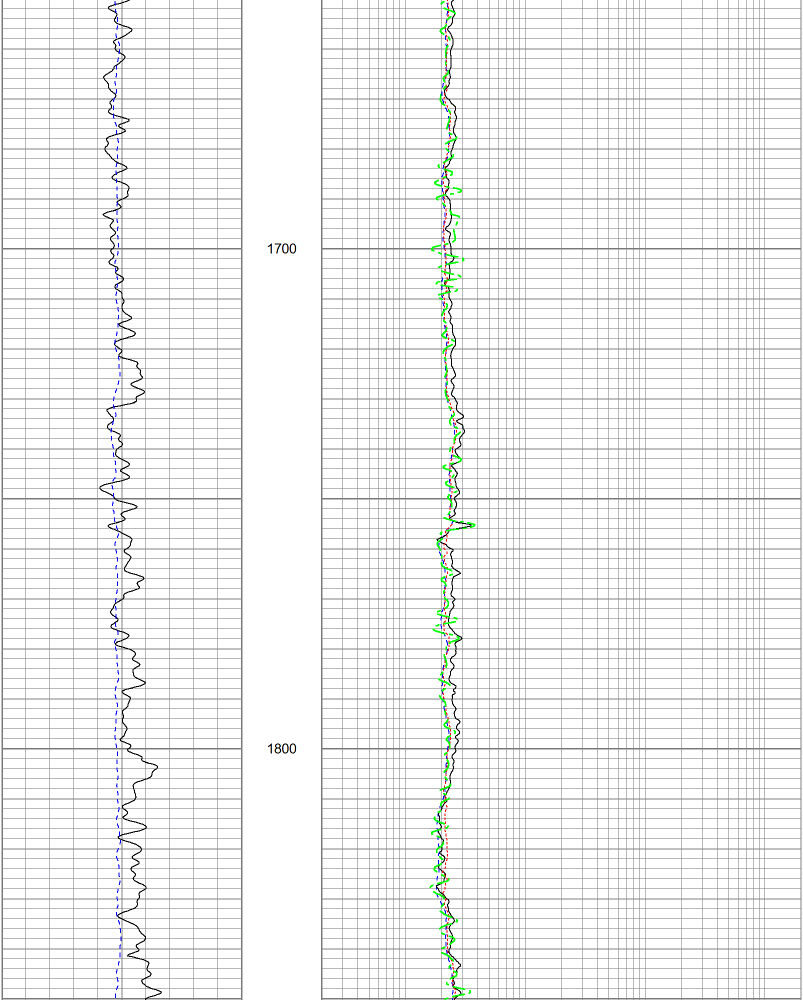


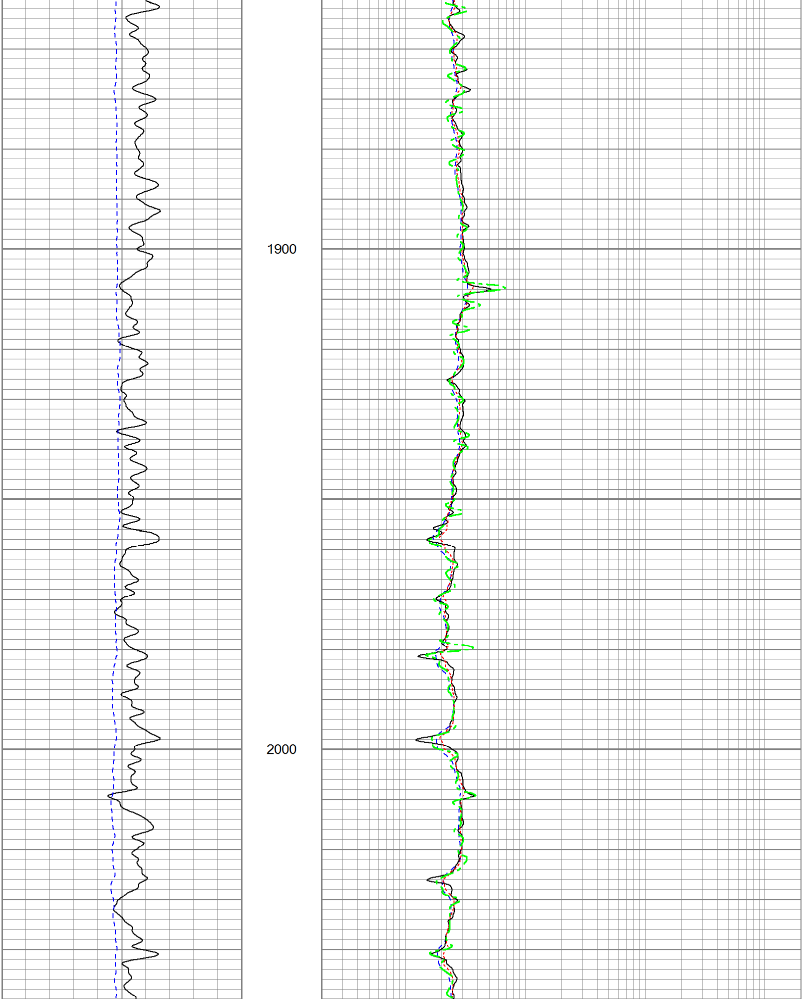


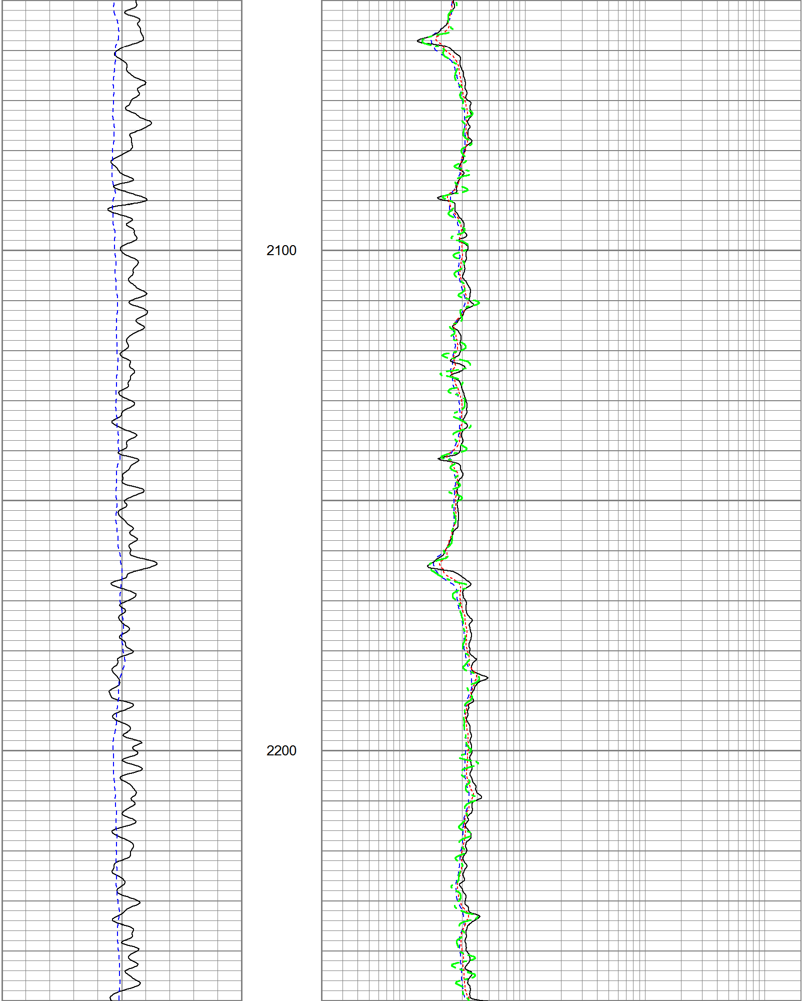


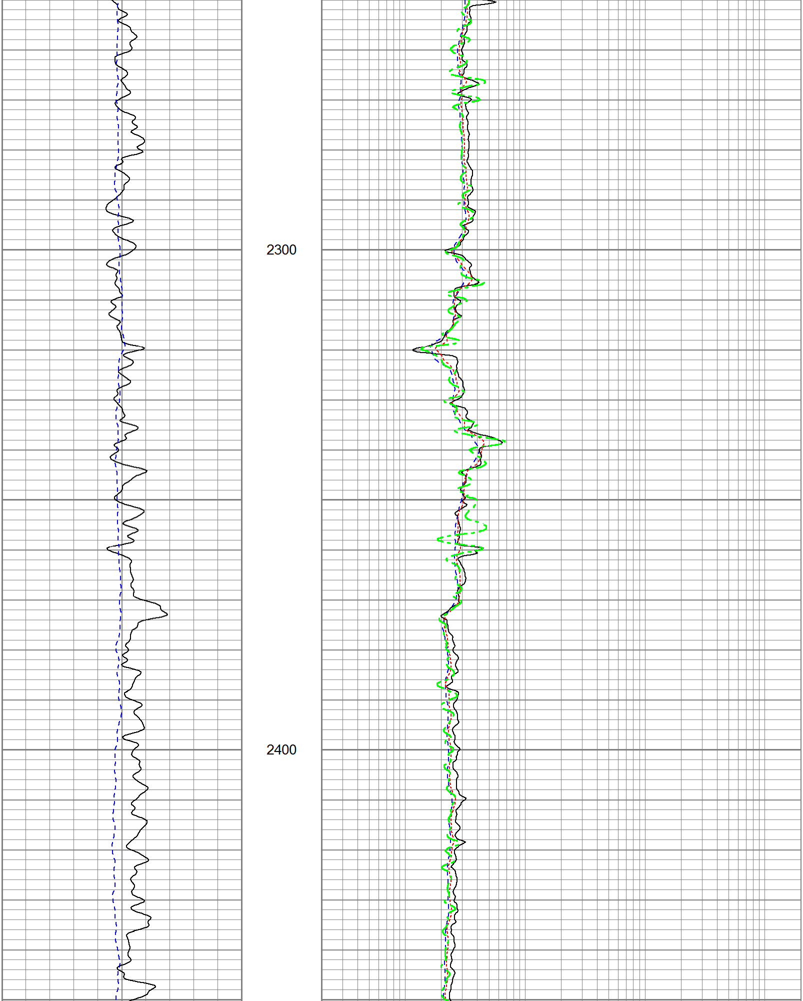


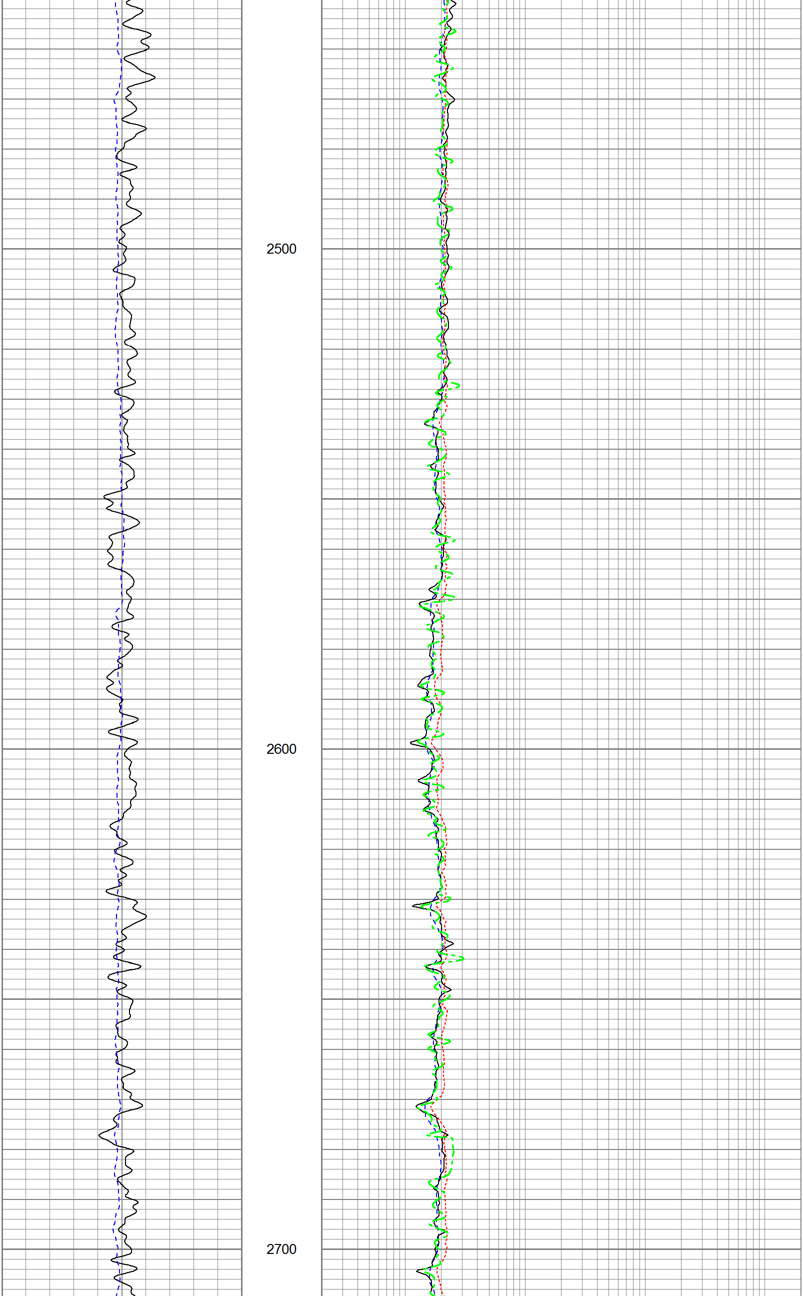












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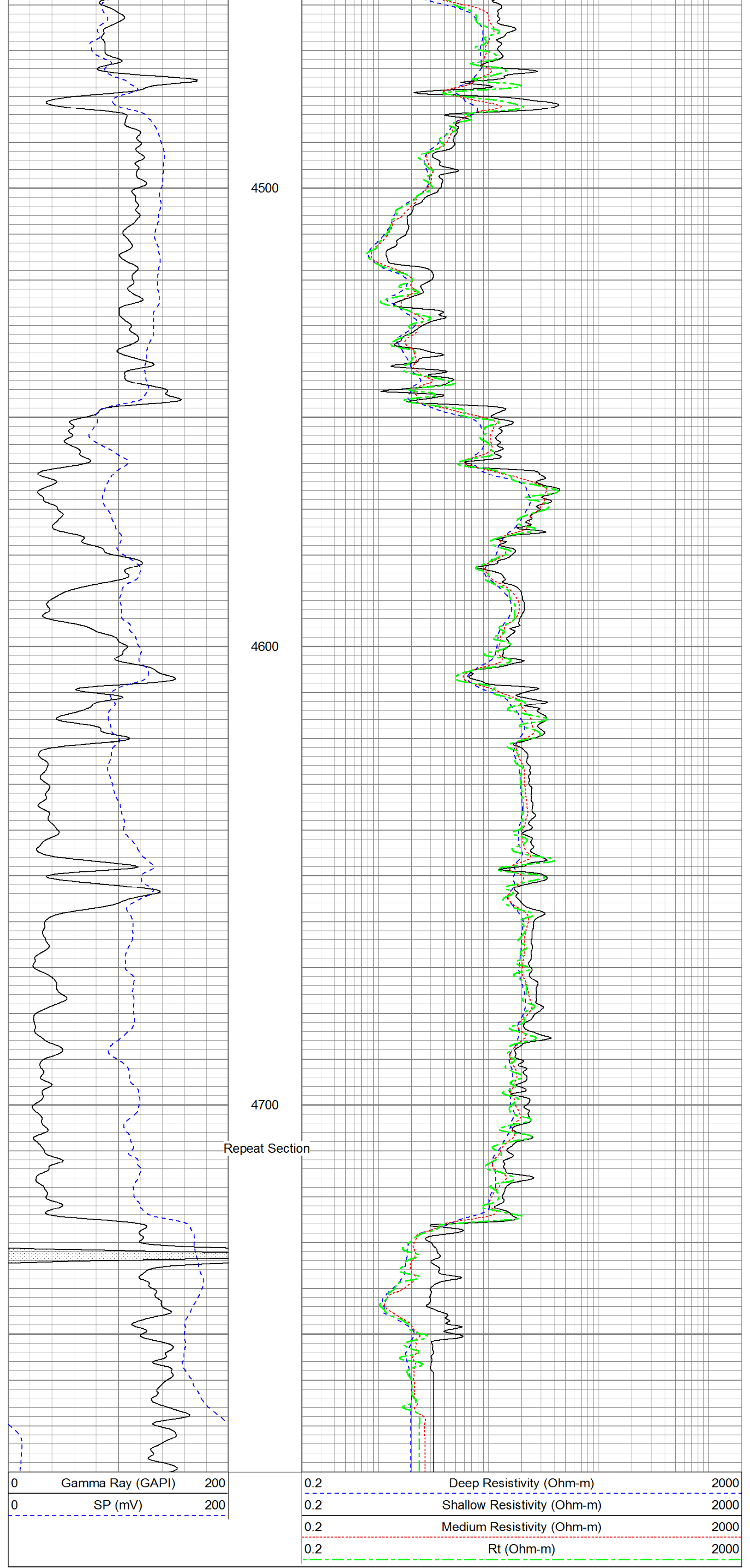
REPEAT PASS

Database File: 13483.db
Dataset Pathname: pass2
Presentation Format: dil
Dataset Creation: Mon Mar 10 06:31:31 2014 by Log 0
Charted by: Depth in Feet scaled 1:240



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REPEAT PASS

Calibration Report

Database File: 13483.db
Dataset Pathname: pass1
Dataset Creation: Mon Mar 10 06:07:08 2014 by Log 0

Dual Induction Calibration Report

Serial-Model: 1011-PSI
Surface Cal Performed:

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	0.000	1.000	0.000	1.000	mmho/m	0.510	-28.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.440	-28.000

Compensated Density Calibration Report

Serial-Model: 998-PSI
Master Calibration Performed: Sat Feb 22 21:47:06 2014

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	7210.00	9816.00	cps
Aluminum	2.690	g/cc	1326.00	6231.00	cps

	Size		Reading
Small Ring		in	
Medium Ring		in	
Large Ring		in	

Compensated Neutron Calibration Report

Serial Number: 826
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	2.0900

Gamma Ray Calibration Report

Serial Number: 939
Tool Model: PSI
Performed: Sat Feb 22 21:47:24 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6200 GAPI/cps