PIONEER
Pioneer Energy Services

HIGH RESOLUTION INDUCTION
COMPENSATED DENSITY
COMPENSATED NEUTRON

Company	Augustus Energy Resources, LLC
Well	Cooper 24-34 54N47W
Field	Buffallo Grass
County	Yuma
State	Colorado

Company Augustus Energy Resources, LLC
Well Cooper 24-34 54N47W
Field Buffallo Grass
County Yuma **State** Colorado

Location: API # : 05 125 12119
310' FSL & 1997' FWL SESW
SEC 34 TWP 4N RGE 47W

Other Services
None

Permanent Datum	GL	Elevation	3986
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 3992
D.F. 3991
G.L. 3986

Date	October 19, 2014			
Run Number	1			
Depth Driller	2980			
Depth Logger	2972			
Bottom Logged Interval	2972			
Top Log Interval	Casing			
Casing Driller	389			
Casing Logger	389			
Bit Size	6.25"			
Type Fluid in Hole	WBM			
Density / Viscosity	8.8 / 28			
pH / Fluid Loss	7.5 / 8.0			
Source of Sample	Flowline			
Rm @ Meas. Temp	0.3 @ 60 F			
Rmf @ Meas. Temp	0.25 @ 60 F			
Rmc @ Meas. Temp	0.38 @ 60 F			
Source of Rmf / Rmc	Calc / Calc			
Rm @ BHT	0.17 @ 105 F			
Time Circulation Stopped	0600			
Time Logger on Bottom	1000			
Maximum Recorded Temperature	105 F			
Equipment Number	48			
Location	Ft. Morgan, CO			
Recorded By	Shaun Stump			
Witnessed By	Justin Stone			

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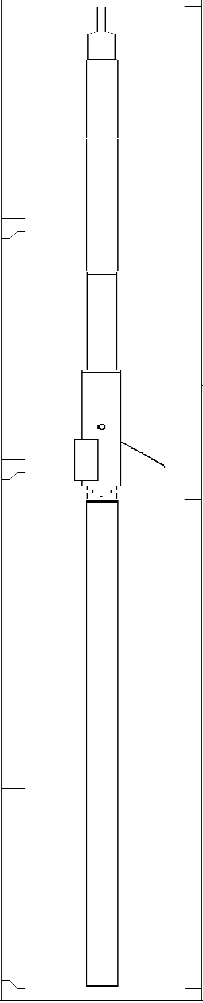
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

NO REPEAT PREFORMED DUE TO HOLE CONDITIONS

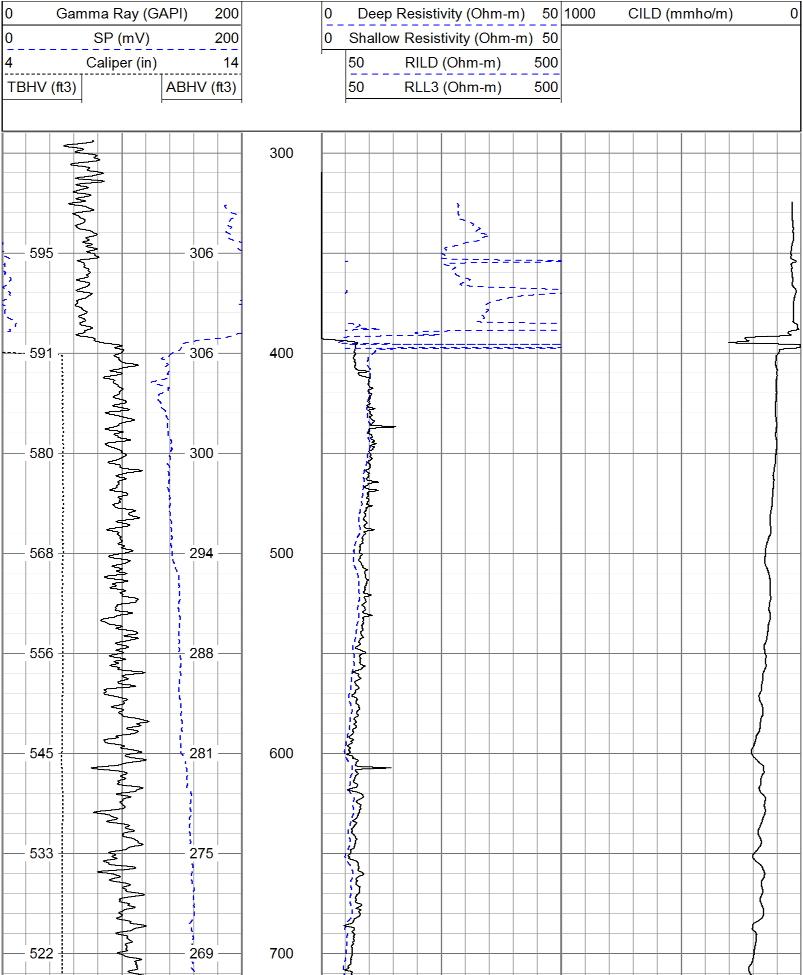
Annular volume calculated for 4.5" casing
Excell Drilling Rig 2
Thank you for using Pioneer Energy Services.

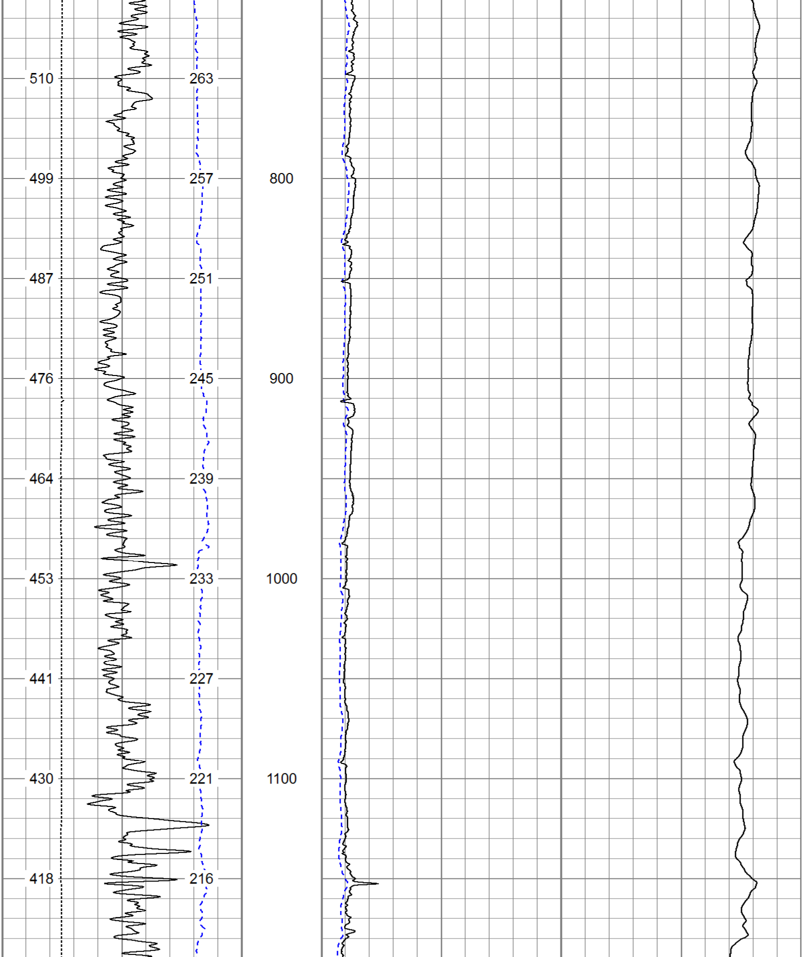
SO# 2-013763

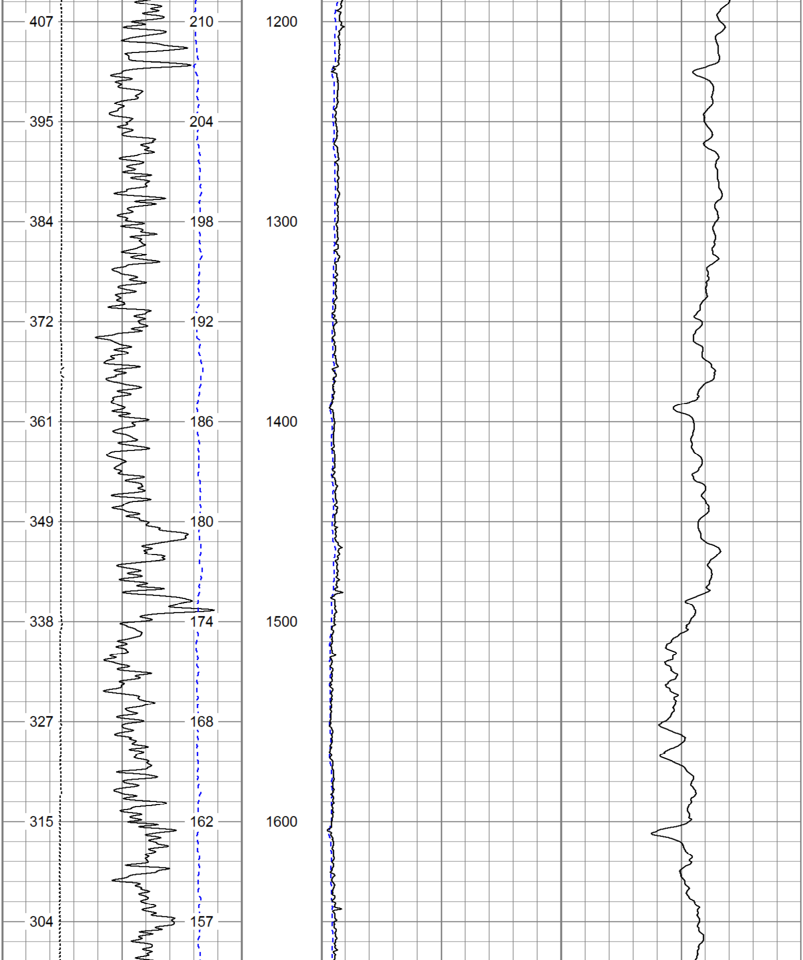
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD (~0)	2.00	3.50	30.00
			GR-PSI (939)	2.92	3.50	40.00
GR	0.00					
			CNT-PSI (826)	5.00	3.50	70.00
CNLSC	-3.67					
CNSSC	-4.17					
			CDL-PSI (934)	8.50	5.00	285.00
DCAL	-11.84					
LSD	-12.67					
SSD	-13.17					
RLL3	-17.52					
			DIL-PSI (1011)	18.25	3.75	175.00
CILD	-24.97					
CILM	-28.42					
SP	-32.42					

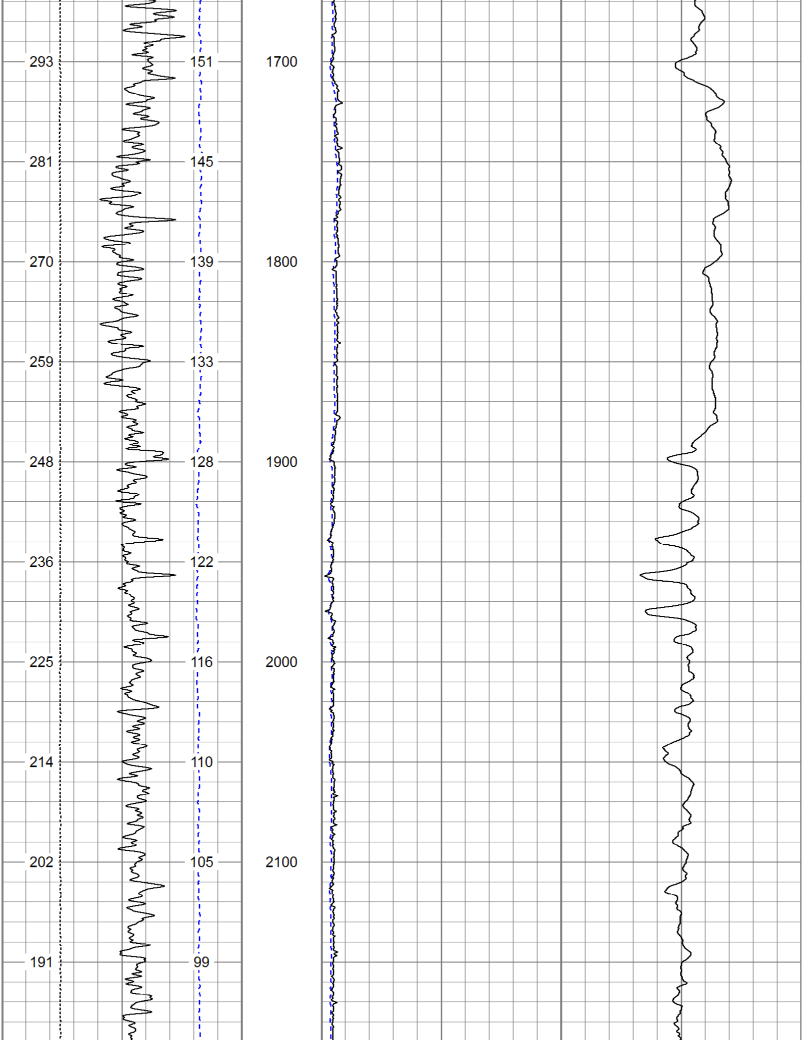
Dataset:	13763.db: field/well/run1/pass2
Total Length:	36.67 ft
Total Weight:	600.00 lb
O.D.	5.00 in

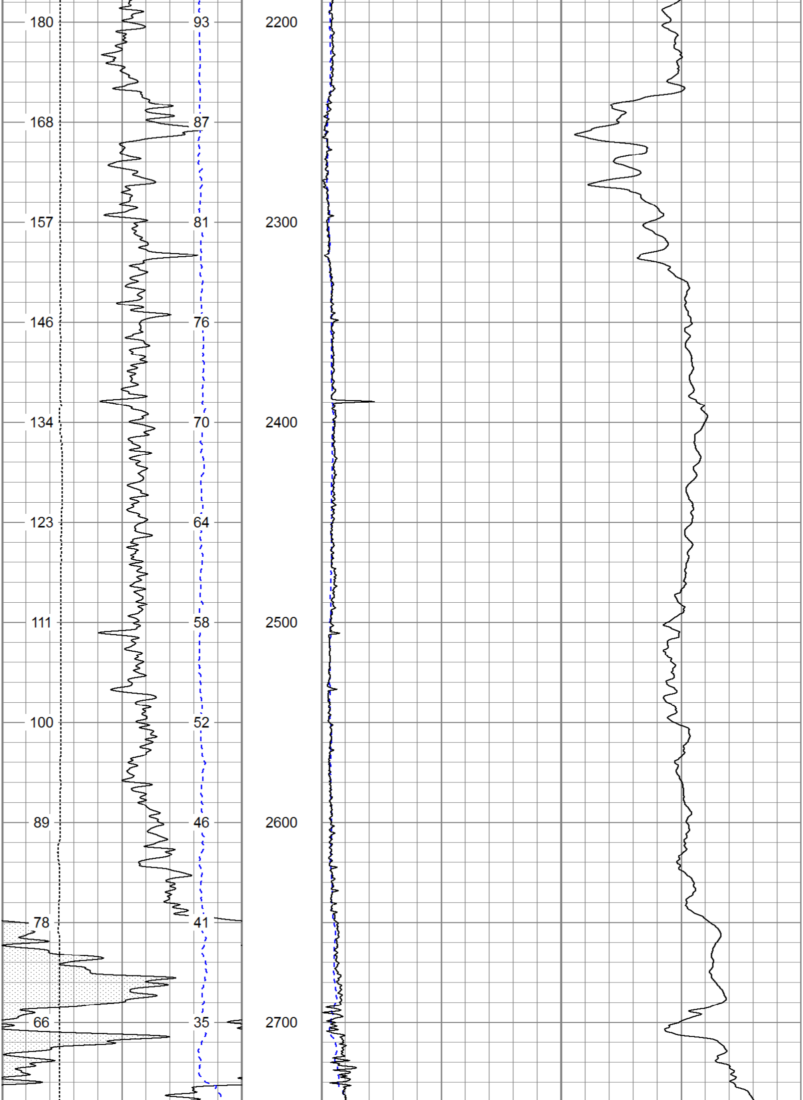
Database File:	c:\warrior\data\agustus energy resources, llc_ cooper 24-34 54n47w_0512512119_20141019_gr-
Dataset Pathname:	pass2
Presentation Format:	dilin60
Dataset Creation:	Sun Oct 19 09:55:38 2014 by Log 0
Charted by:	Depth in Feet scaled 1:600

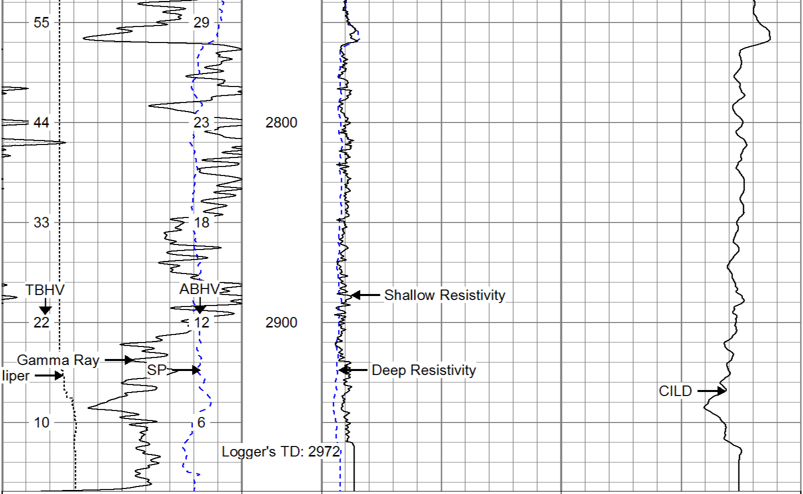












0 Gamma Ray (GAPI) 200
0 SP (mV) 200
4 Caliper (in) 14
TBHV (ft3)
ABHV (ft3)

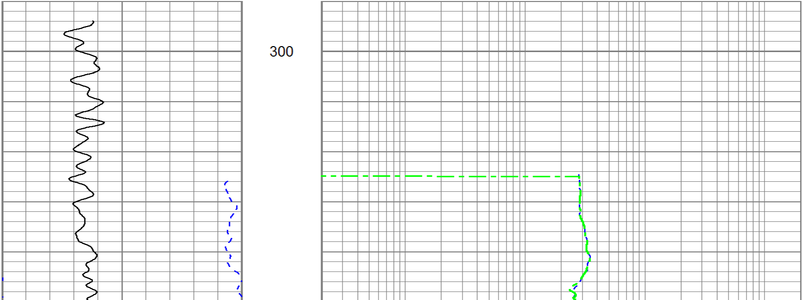
0 Deep Resistivity (Ohm-m) 50
0 Shallow Resistivity (Ohm-m) 50
50 RILD (Ohm-m) 500
50 RLL3 (Ohm-m) 500

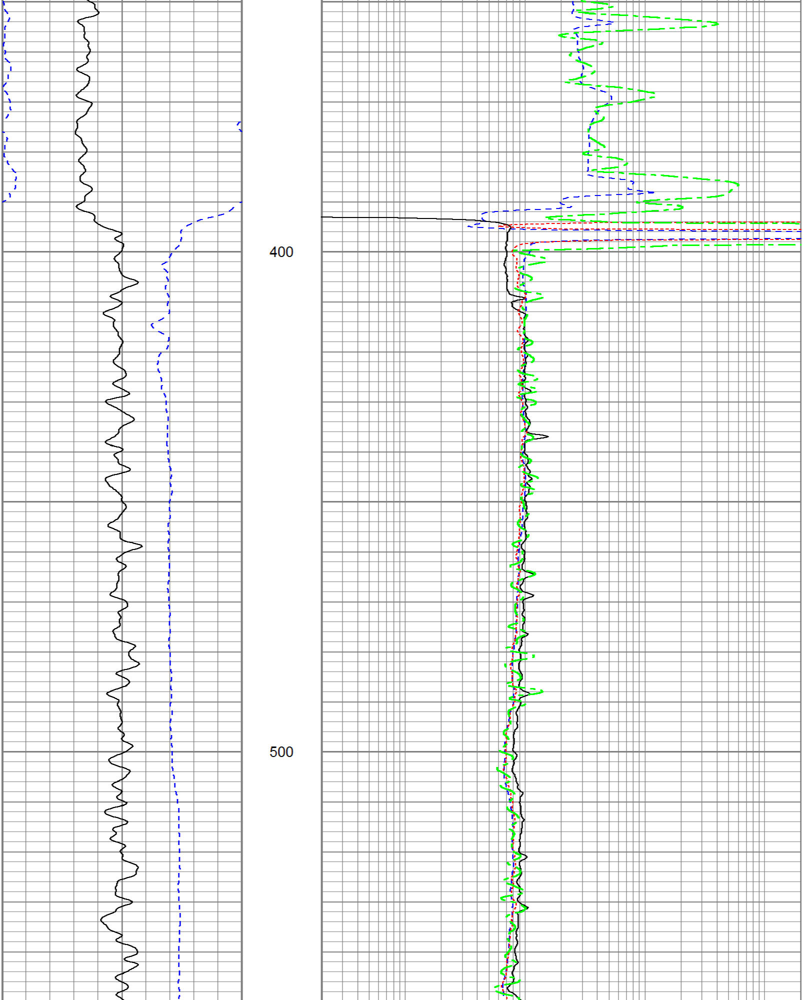
1000 CILD (mmho/m) 0

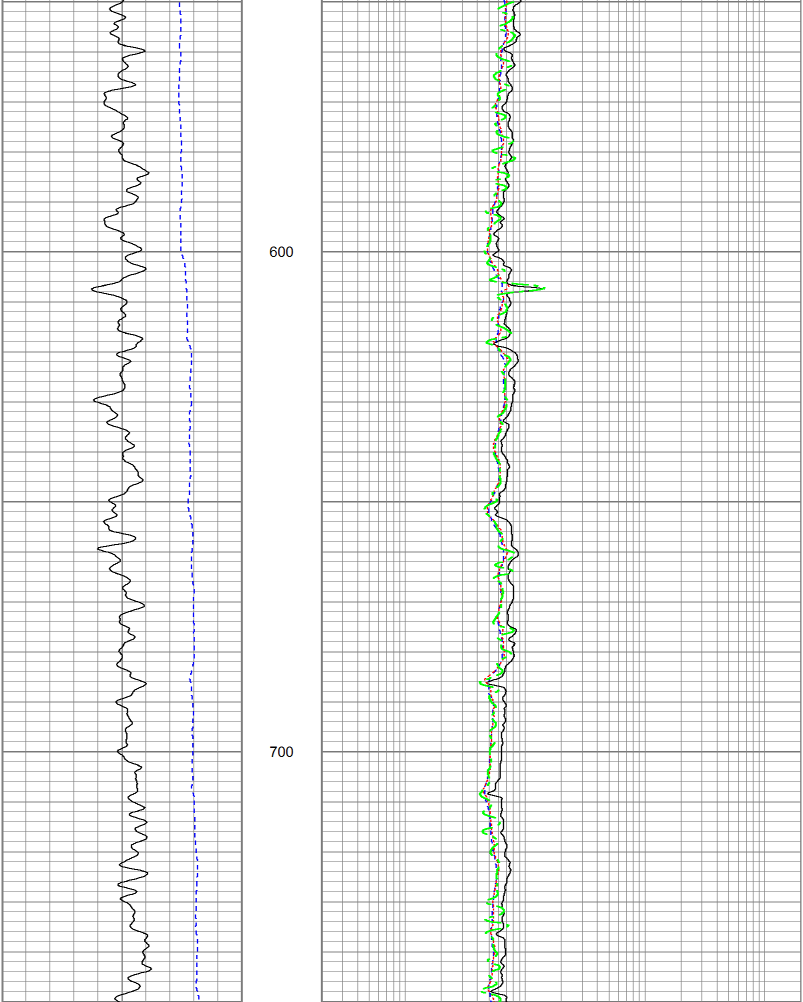
Database File:	c:\warrior\data\agustus energy resources, llc_ cooper 24-34 54n47w_0512512119_20141019_gr-
Dataset Pathname:	pass2
Presentation Format:	dil
Dataset Creation:	Sun Oct 19 09:55:38 2014 by Log 0
Charted by:	Depth in Feet scaled 1:240

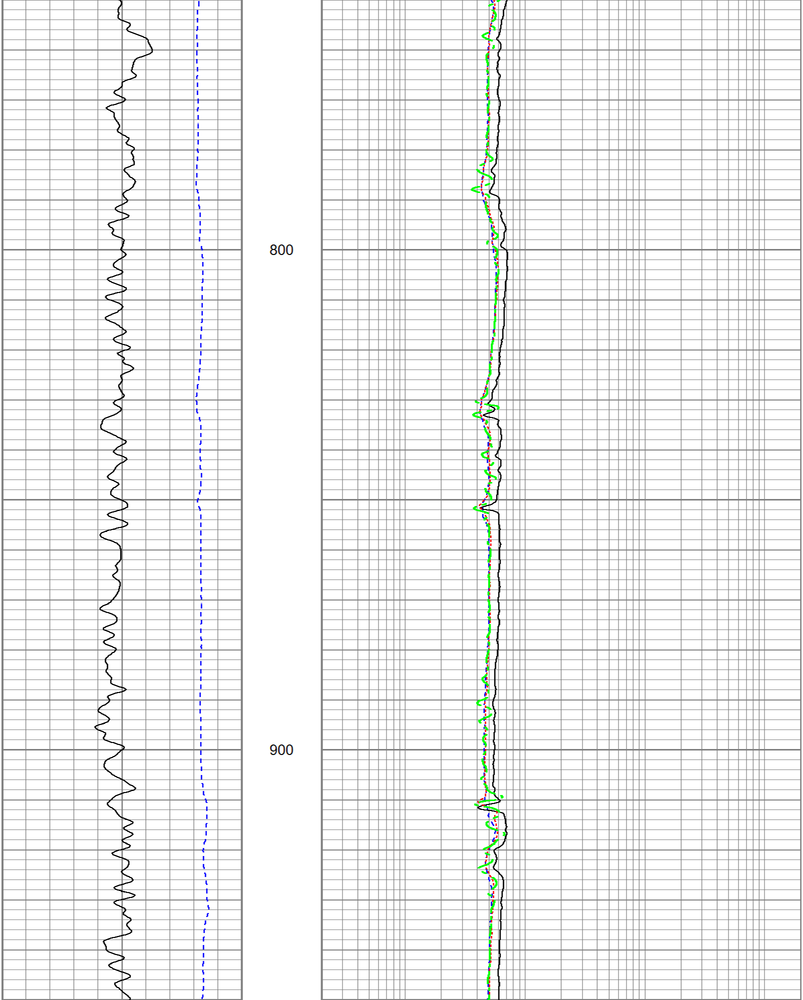
0 Gamma Ray (GAPI) 200
0 SP (mV) 200

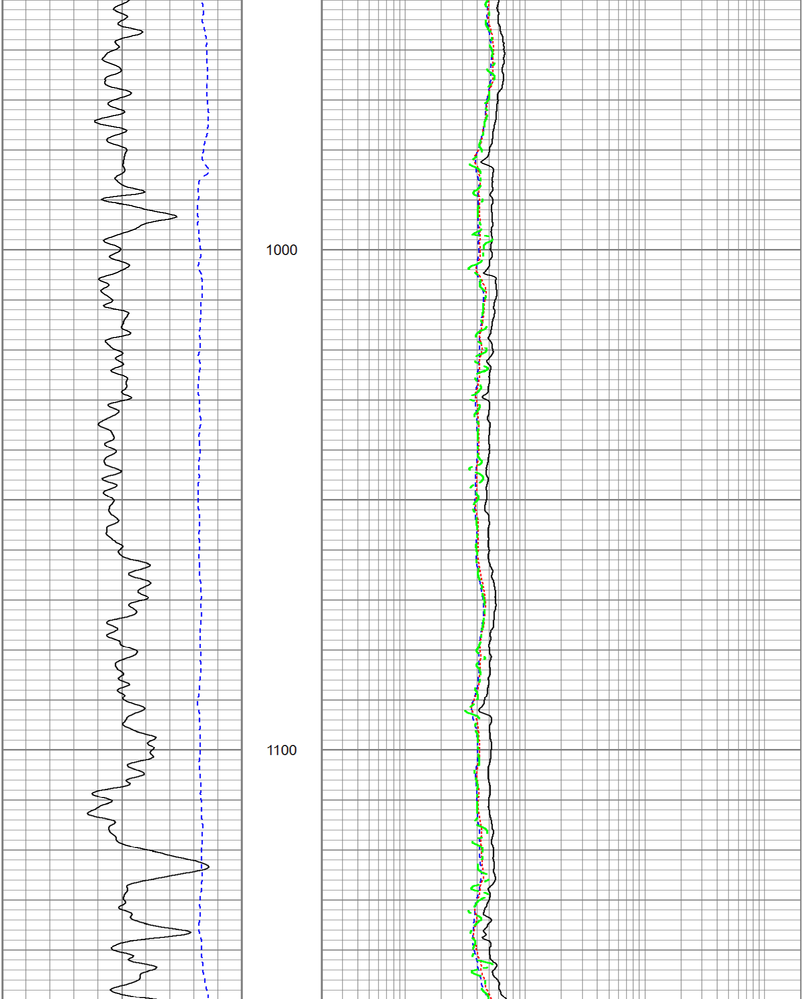
0.2 Deep Resistivity (Ohm-m) 2000
0.2 Shallow Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000
0.2 RT (Ohm-m) 2000

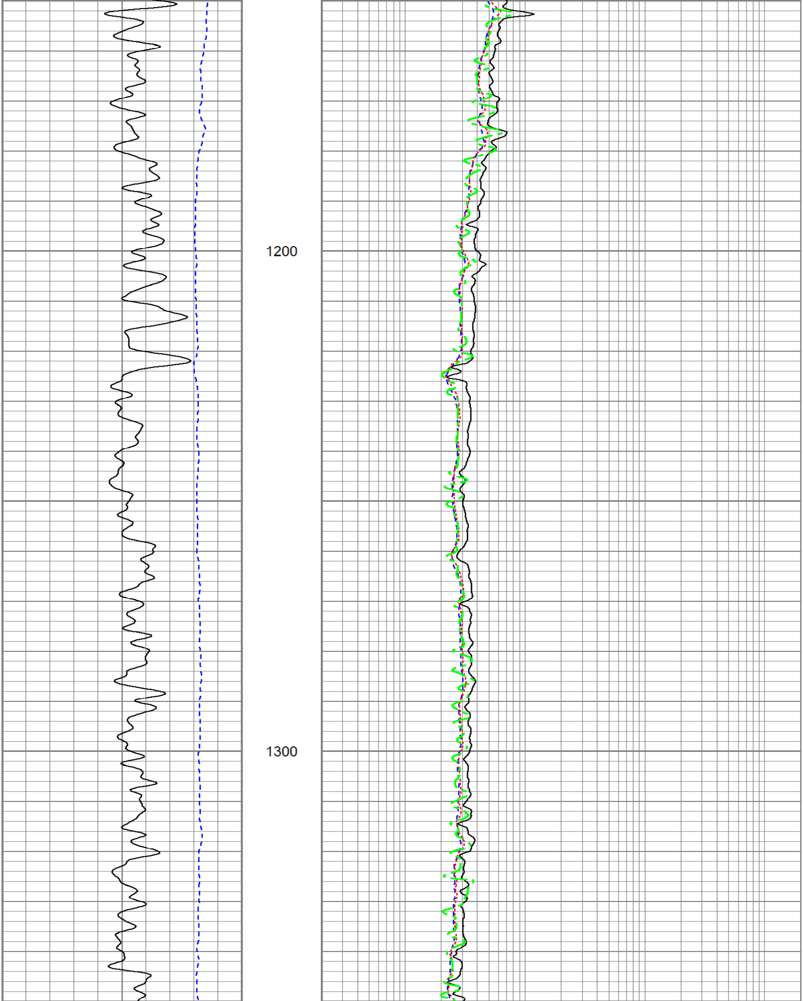


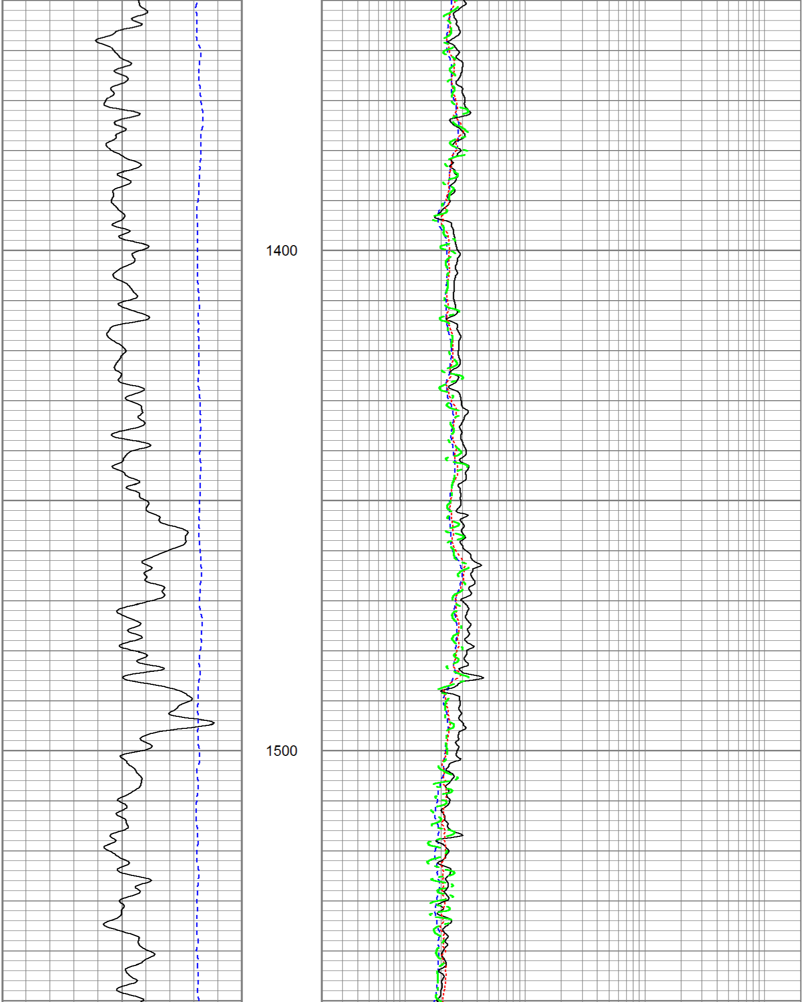


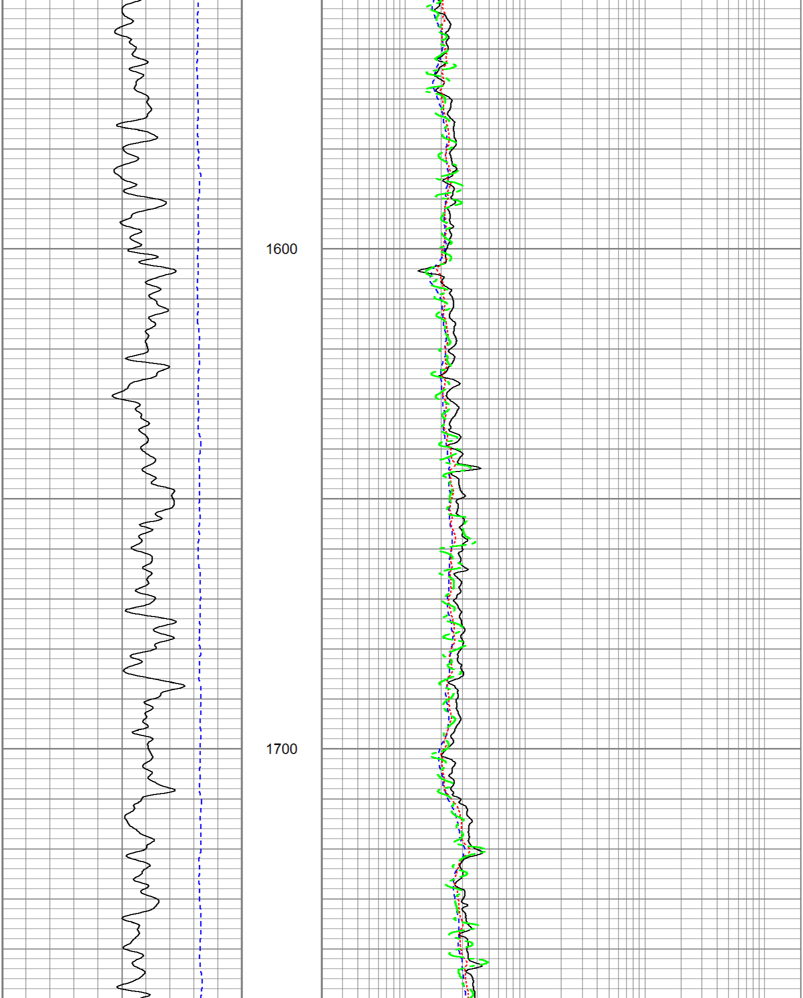


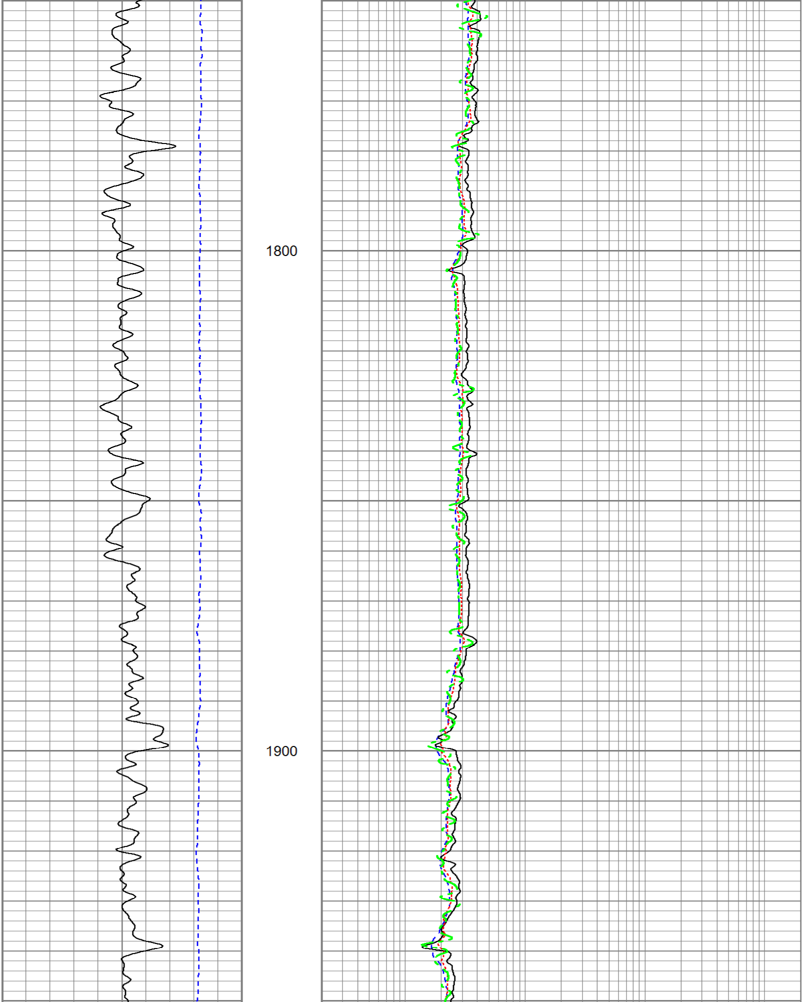


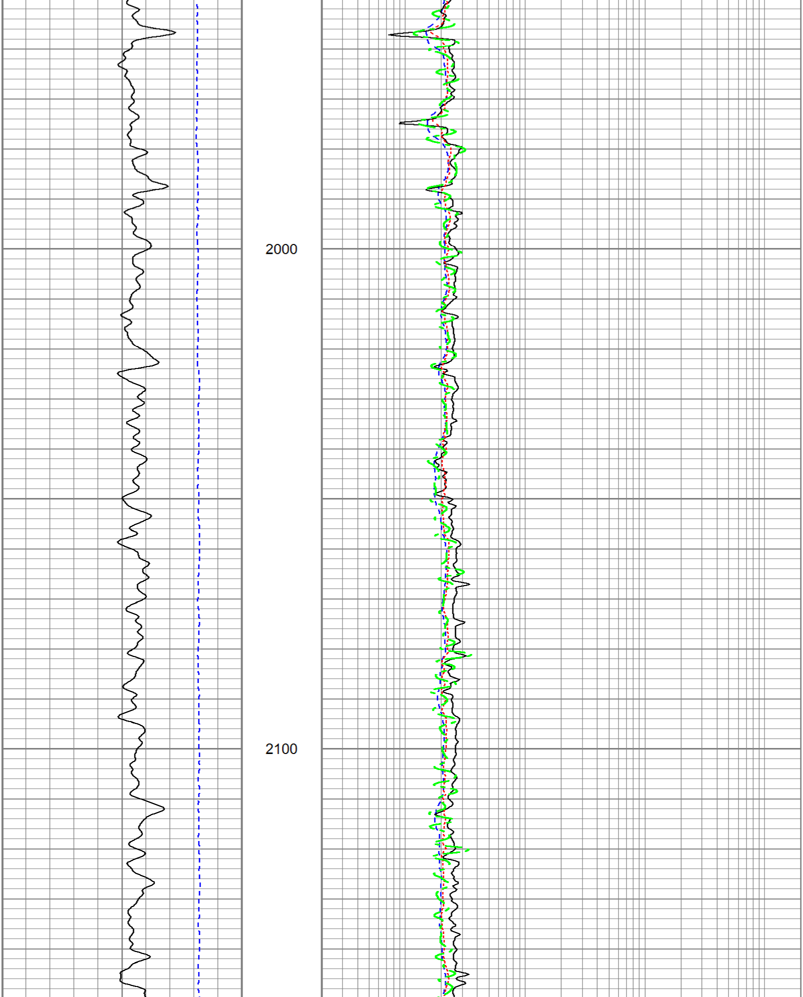


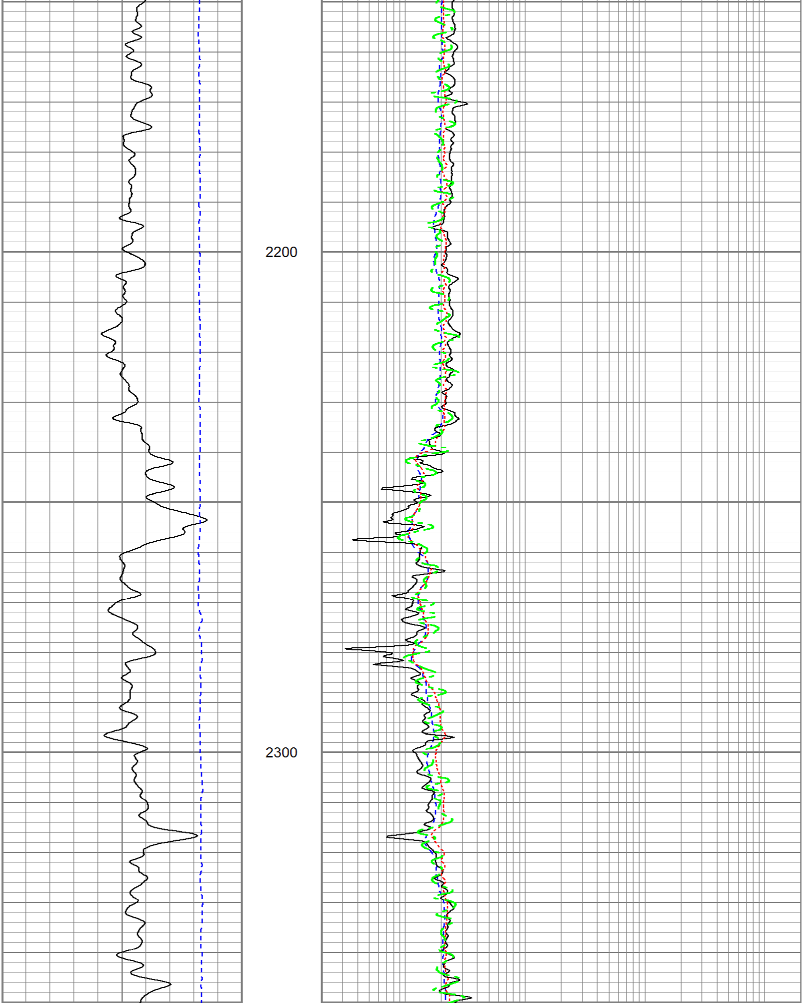


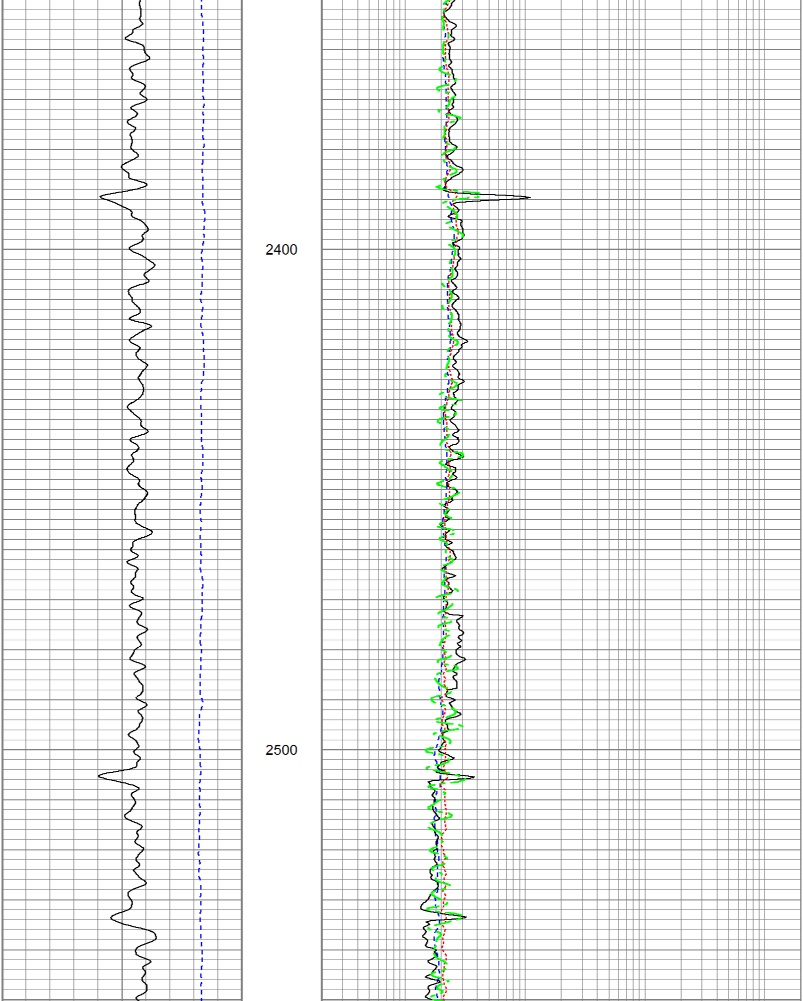


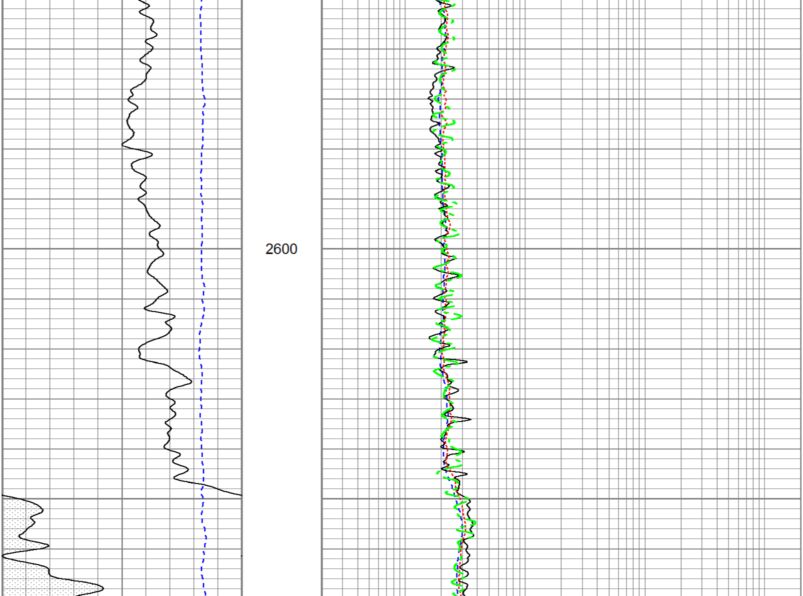


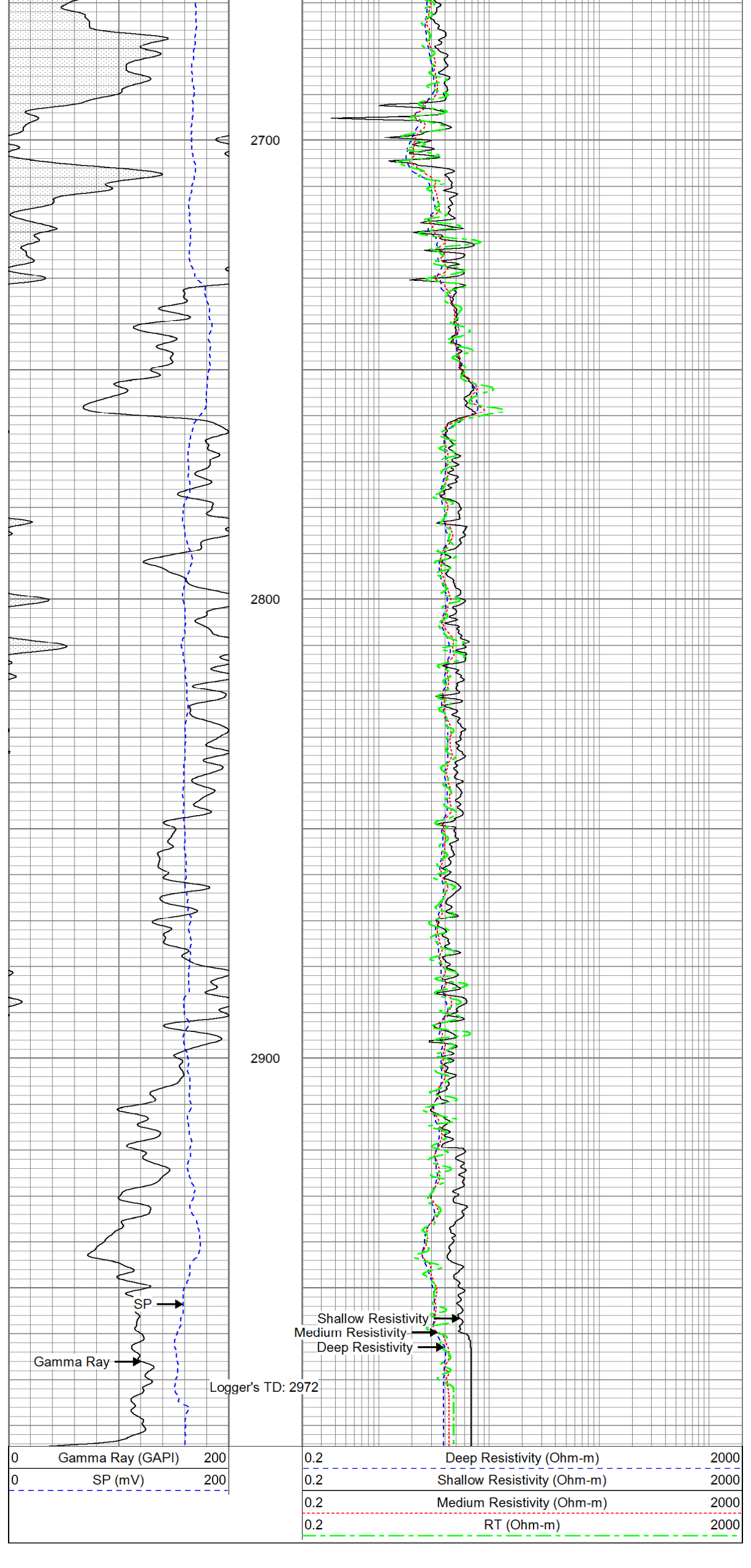












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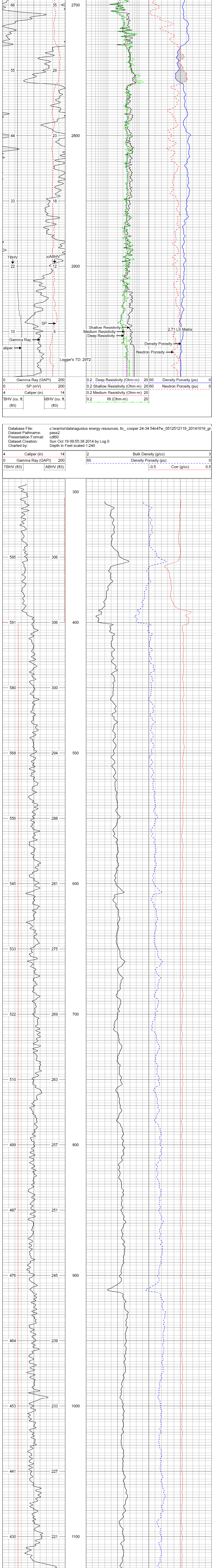
Dataset Pathname: pass2
Presentation Format: pdce
Dataset Creation: Sun Oct 19 09:55:38 2014 by Log 0
Charted by: Depth in Feet scaled 1:240

Database File: c:\warrior\data\agustus energy resources, llc_ cooper 24-34 54n47w_0512512119_20141019_gr-
Dataset Pathname: pass2
Presentation Format: cdl60
Dataset Creation: Sun Oct 19 09:55:38 2014 by Log 0
Charted by: Depth in Feet scaled 1:240



Calibration Report

Database File: C:\Warrior\Data\Agustus Energy Resources, LLC_ Cooper 24-34 54N47W_0512512119_2014101
Dataset Pathname: pass1
Dataset Creation: Sun Oct 19 09:32:11 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	0.520	-28.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.450	-29.000

Compensated Density Calibration Report

Serial-Model: 934-PSI
Master Calibration Performed: Wed Jun 04 12:14:34 2014

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	4883.27	3645.80	cps
Aluminum	2.690	g/cc	915.83	2377.06	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

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: 939
Tool Model: PSI
Performed: Mon Oct 13 20:59:05 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6300 GAPI/cps

Log Variables

Database:C:\Warrior\Data\Agustus Energy Resources, LLC_ Cooper 24-34 54N47W_
Dataset: field/well/run1/pass2

Top - Bottom

SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m
Off	Limestone	1	2.71	0	0	0
SRFTEMP degF	**CASEOD in**	**PERFS**	**TDEPTH ft**	**BOTTEMP degF**	**BOREID in**	
0	4.5	0	0	105	6.25	