PIONEER

Pioneer Energy Services

HIGH RESOLUTION INDUCTION

Company Wiepking-Fullerton Energy LLC
Well Raptor #4
Field Great Plains
County Lincoln
State Colorado

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Well Raptor #4
Field Great Plains
County Lincoln State Colorado

Location: API # : 05-073-06513

660' FNL & 660' FEL NENE

SEC 18 TWP 10S RGE 55W

Other Services
Density
Neutron

Permanent Datum GL Elevation 5195
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 5208
D.F. 5207
G.L. 5195

Date	November 7, 2014
Run Number	1
Depth Driller	8025
Depth Logger	8025
Bottom Logged Interval	8025
Top Log Interval	Casing
Casing Driller	315
Casing Logger	315
Bit Size	7-7/8"
Type Fluid in Hole	Chem Gel
Density / Viscosity	9.4 / 81
pH / Fluid Loss	9.5 / 7.2
Source of Sample	Flowline
Rm @ Meas. Temp	2.18 @ 55 F
Rmf @ Meas. Temp	1.74 @ 55 F
Rmc @ Meas. Temp	2.72 @ 55 F
Source of Rmf / Rmc	Measure / Calc
Rm @ BHT	0.60 @ 201 F
Time Circulation Stopped	2130 11/6/2014
Time Logger on Bottom	0300
Maximum Recorded Temperature	201 F
Equipment Number	48
Location	Ft. Morgan, CO
Recorded By	Clint Christensen
Witnessed By	Gregg Smith

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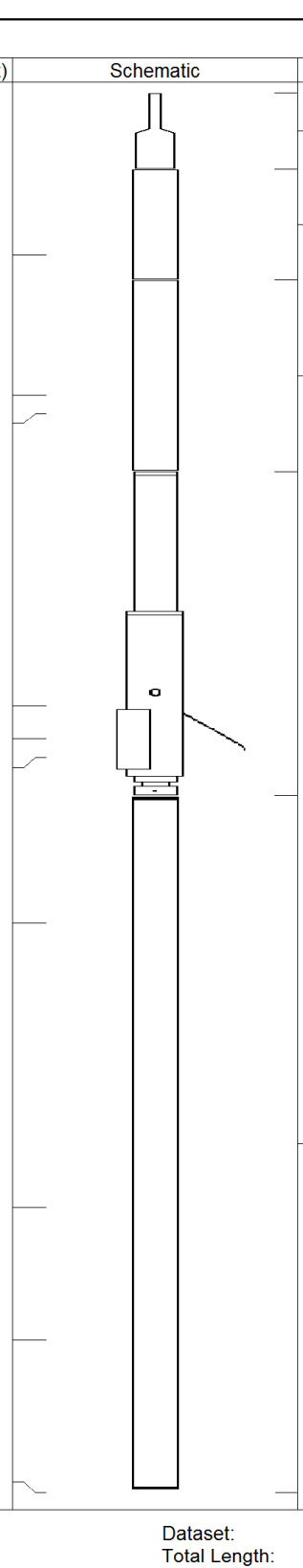
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages,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

Comments

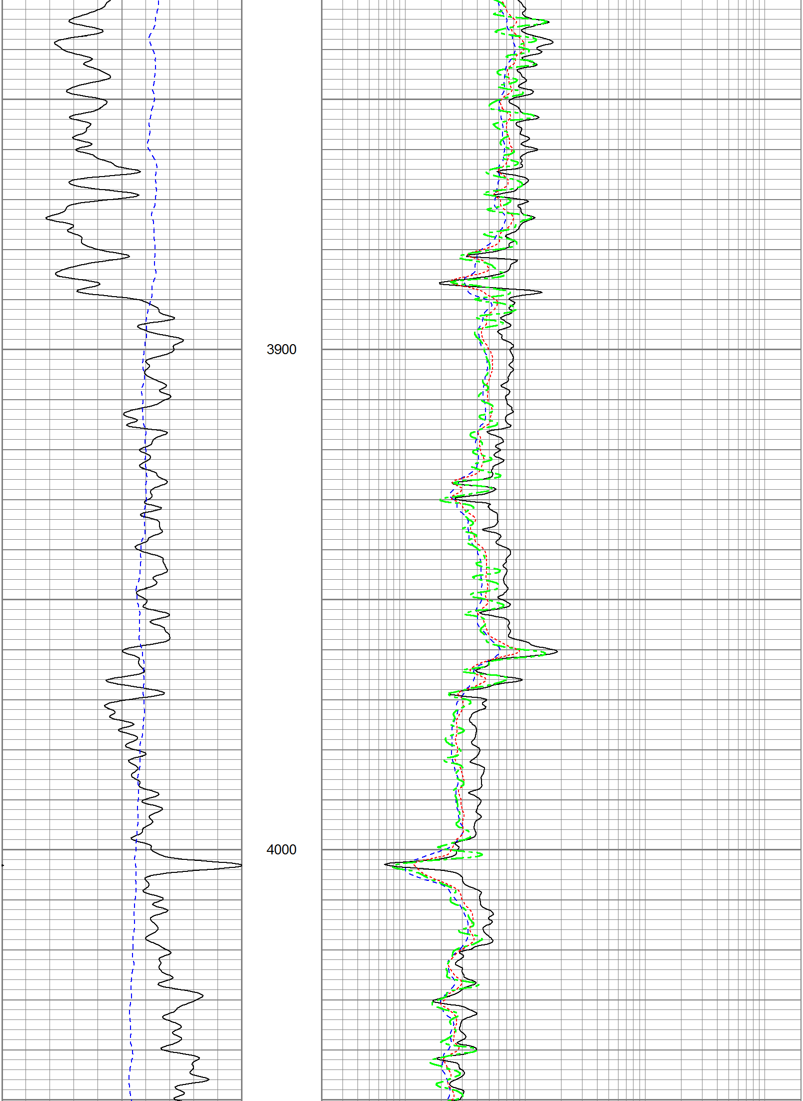
Annular volume calculated for 5.5" casing
Murfin Drilling Rig 25
Thank you for using Pioneer Energy Services

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD (~0)	2.00	3.50	30.00
GR	0.00		GR-PSI (939)	2.92	3.50	40.00
CNLSC CNSSC	-3.67 -4.17		CNT-PSI (826)	5.00	3.50	70.00
DCAL LSD SSD	-11.84 -12.67 -13.17		CDL-PSI (998)	8.50	5.00	285.00
RLL3	-17.52					
CILD	-24.97		DIL-PSI (1011)	18.25	3.75	175.00
CILM	-28.42					
SP	-32.42					

Dataset: 13768.db: field/well/run1/pass1
Total Length: 36.67 ft
Total Weight: 600.00 lb
O.D. 5.00 in

Database File: 13768.db
Dataset Pathname: Final
Presentation Format: dil
Dataset Creation: Fri Nov 07 05:22:31 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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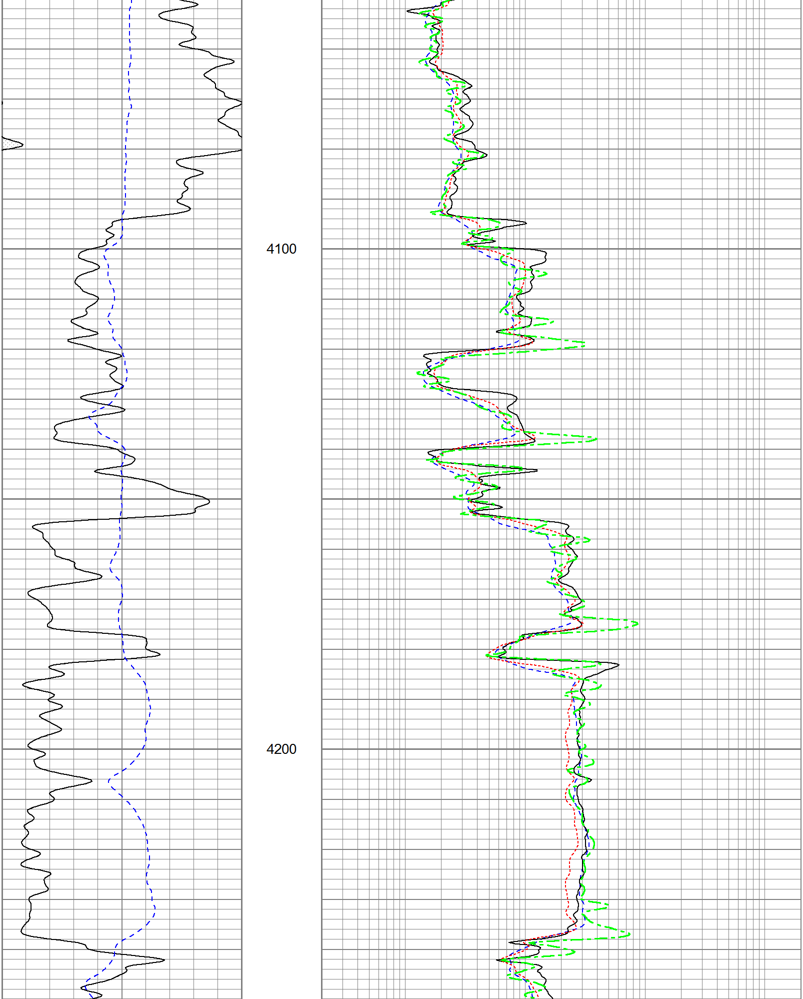
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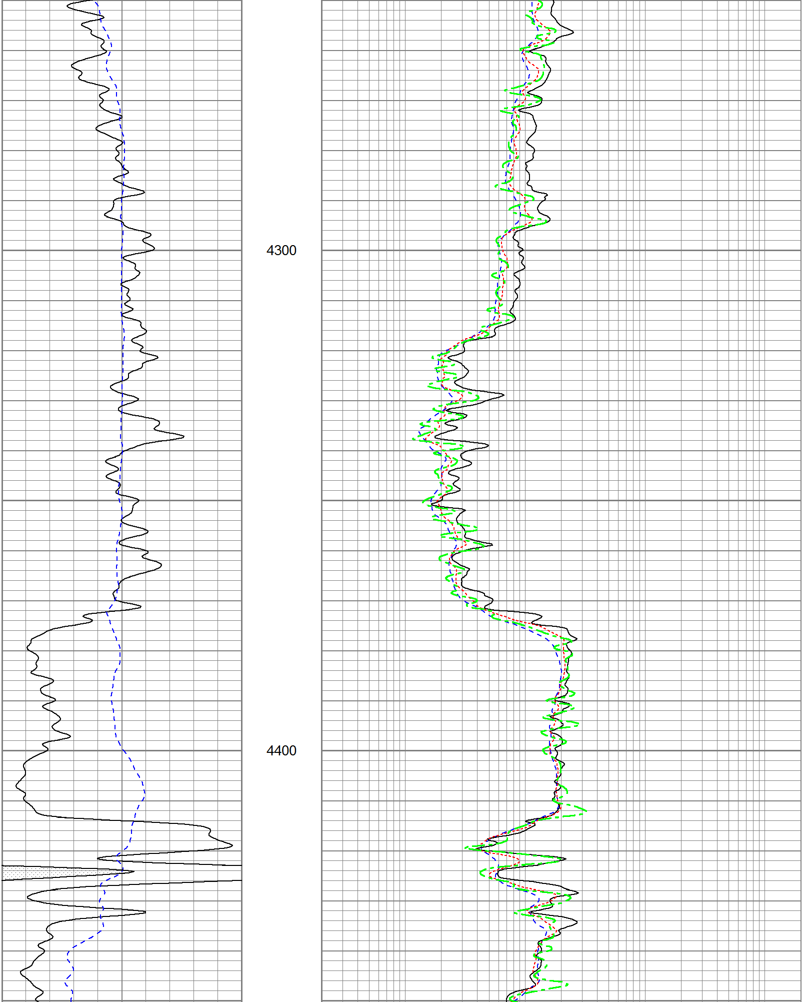
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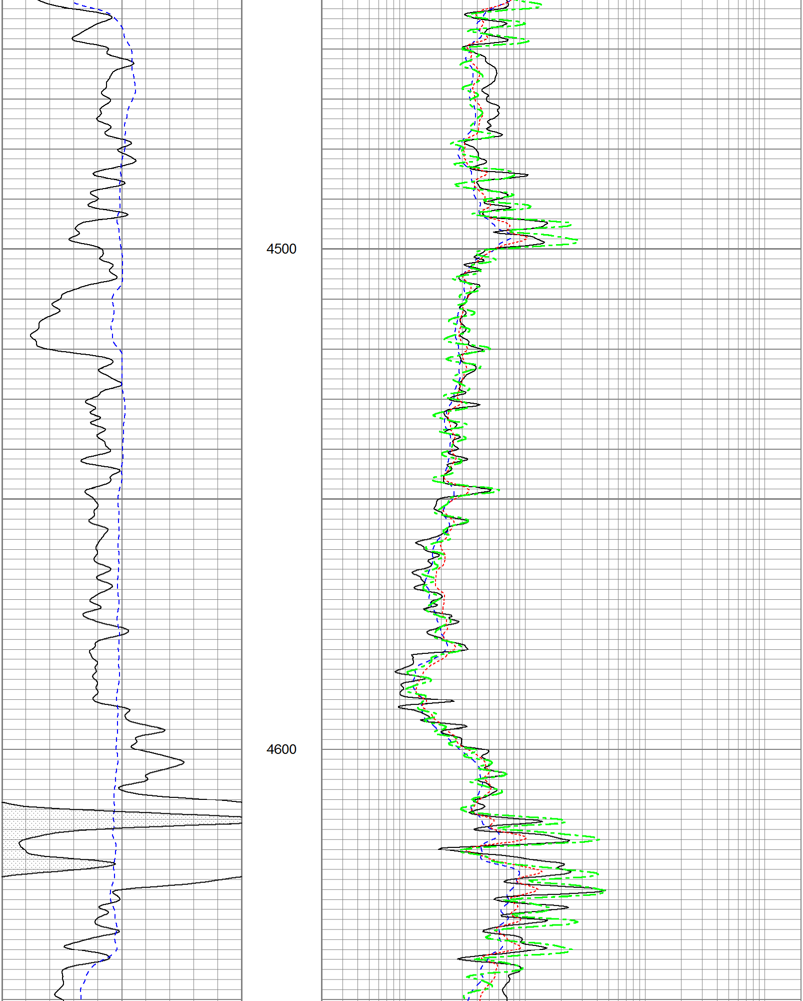
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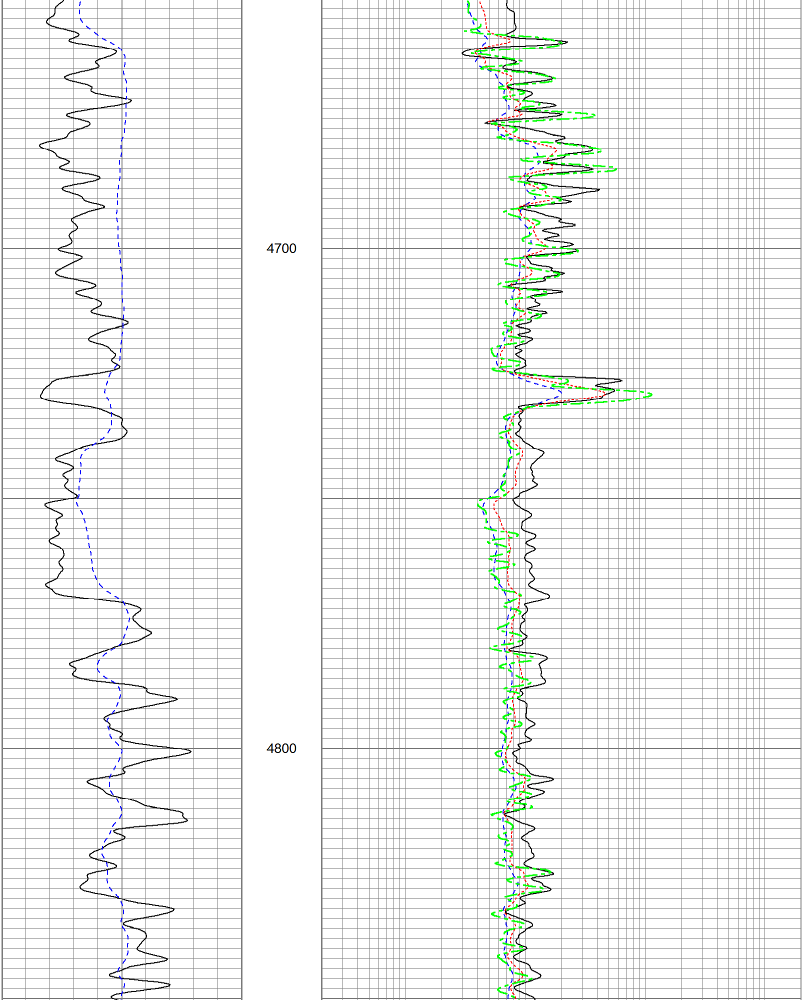
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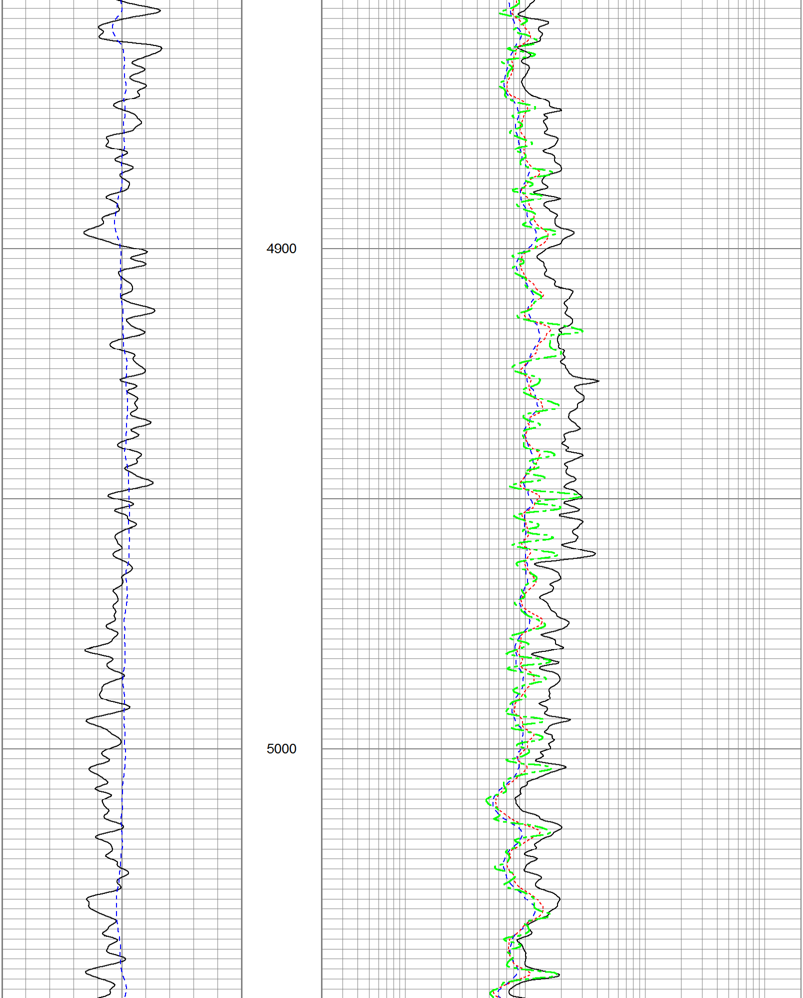
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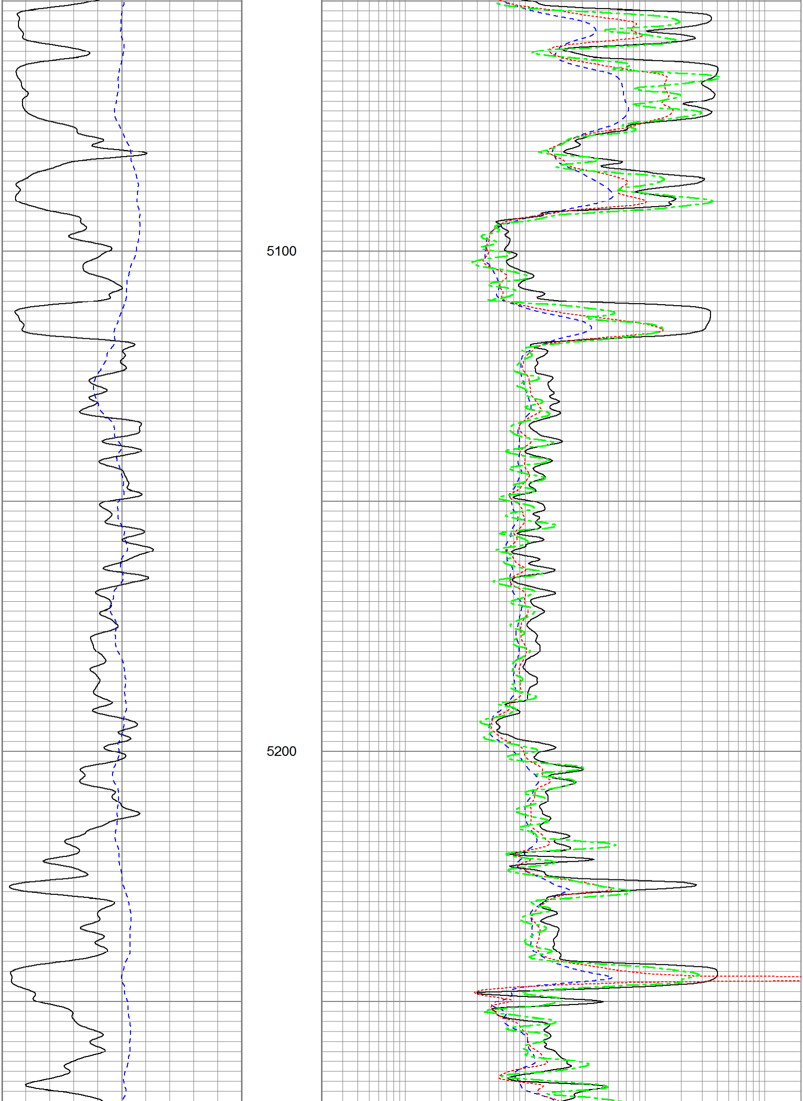
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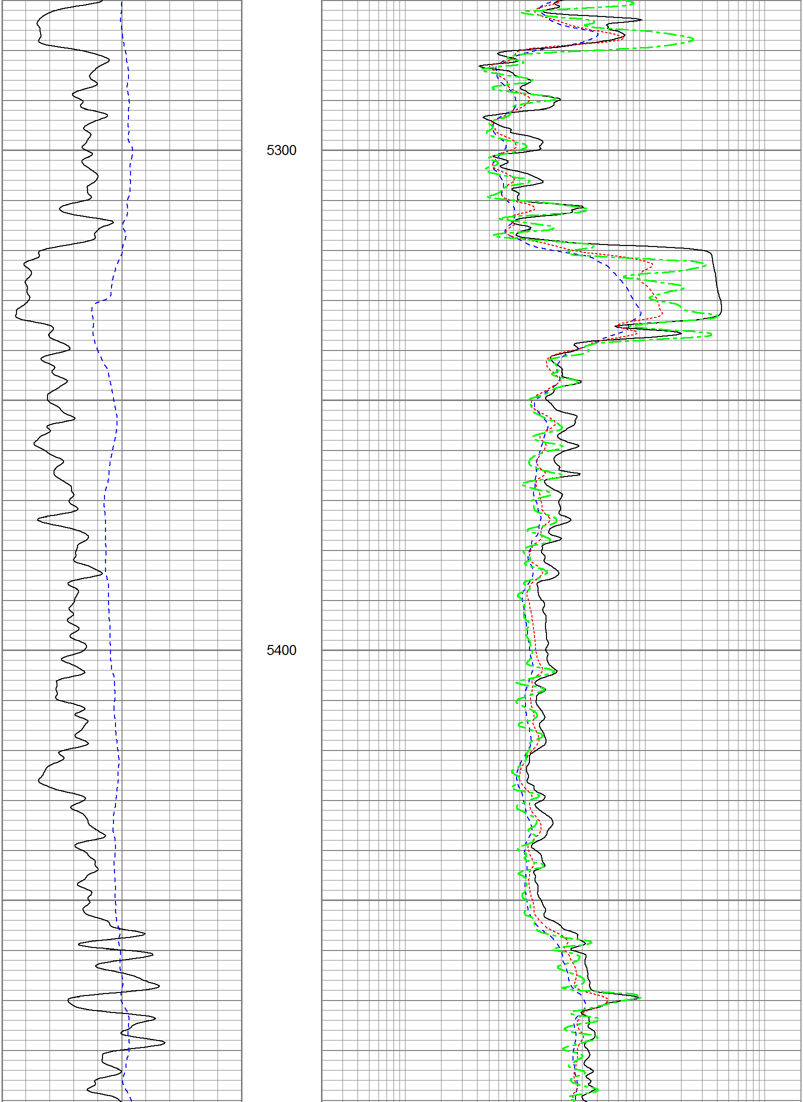
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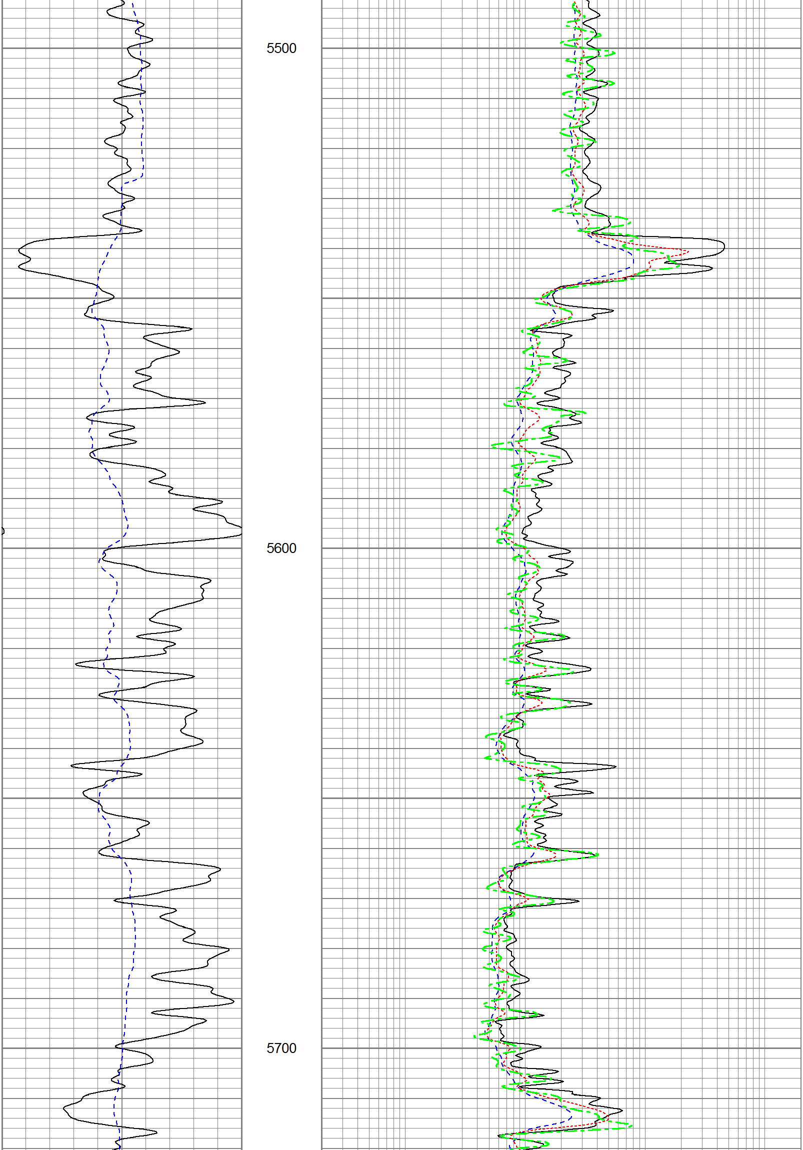
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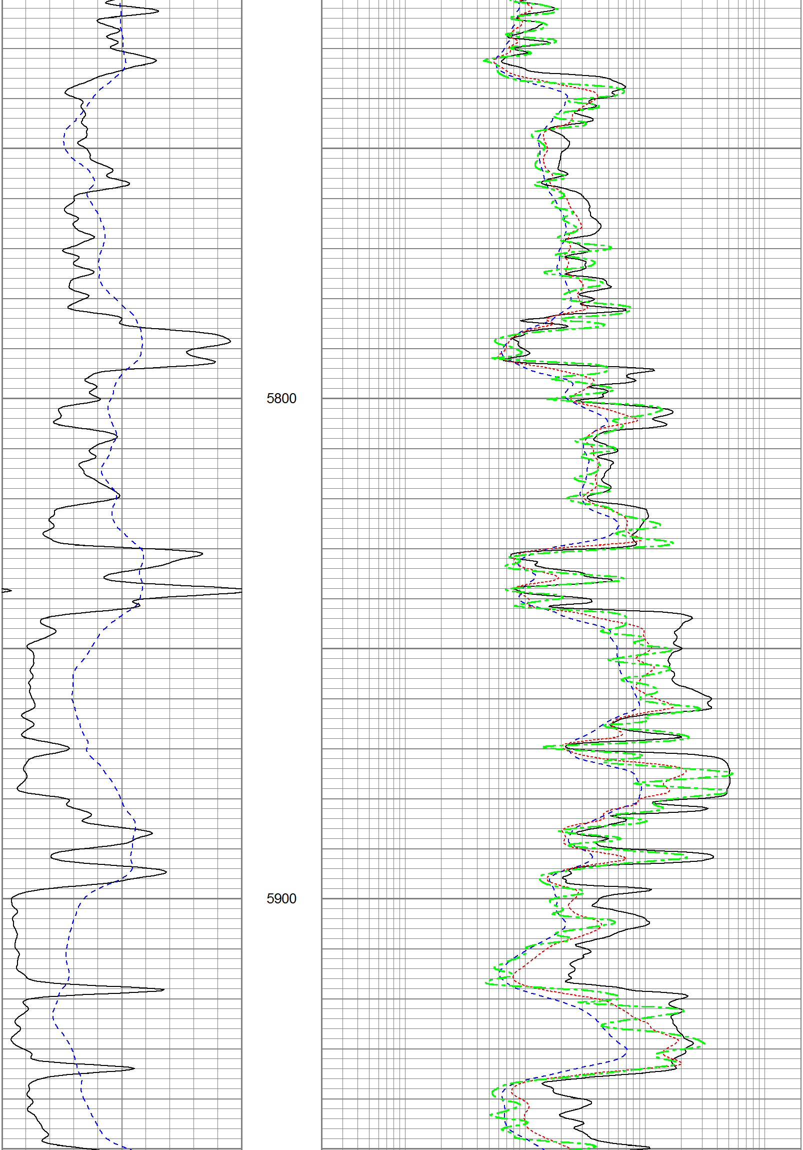
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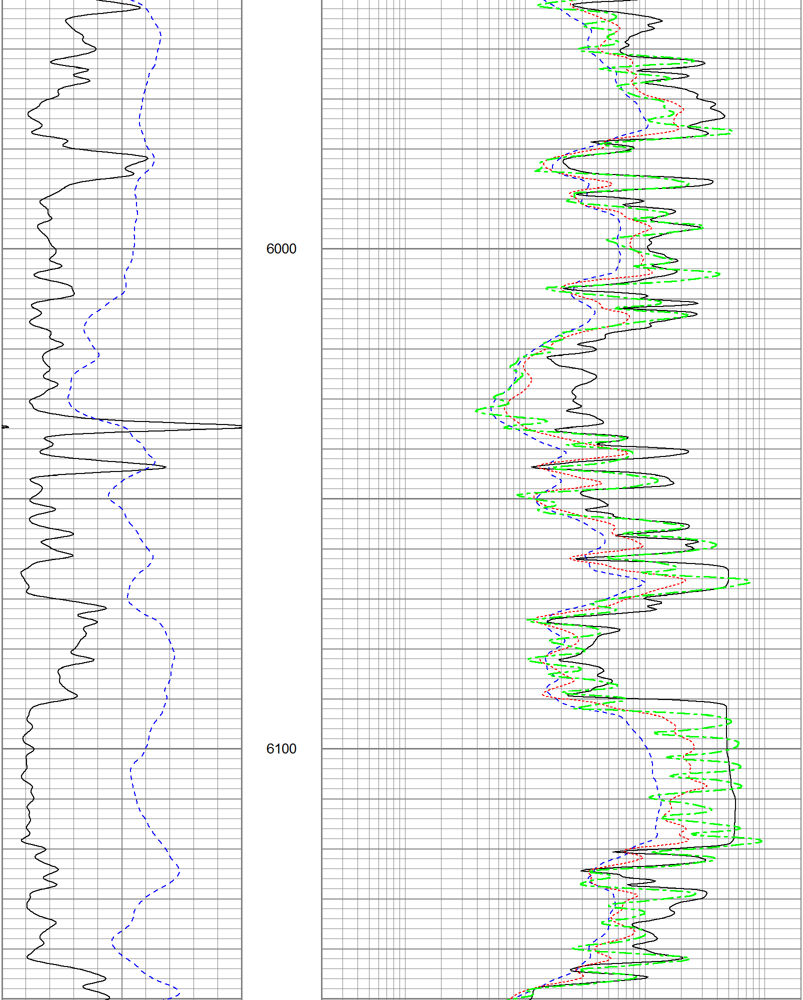
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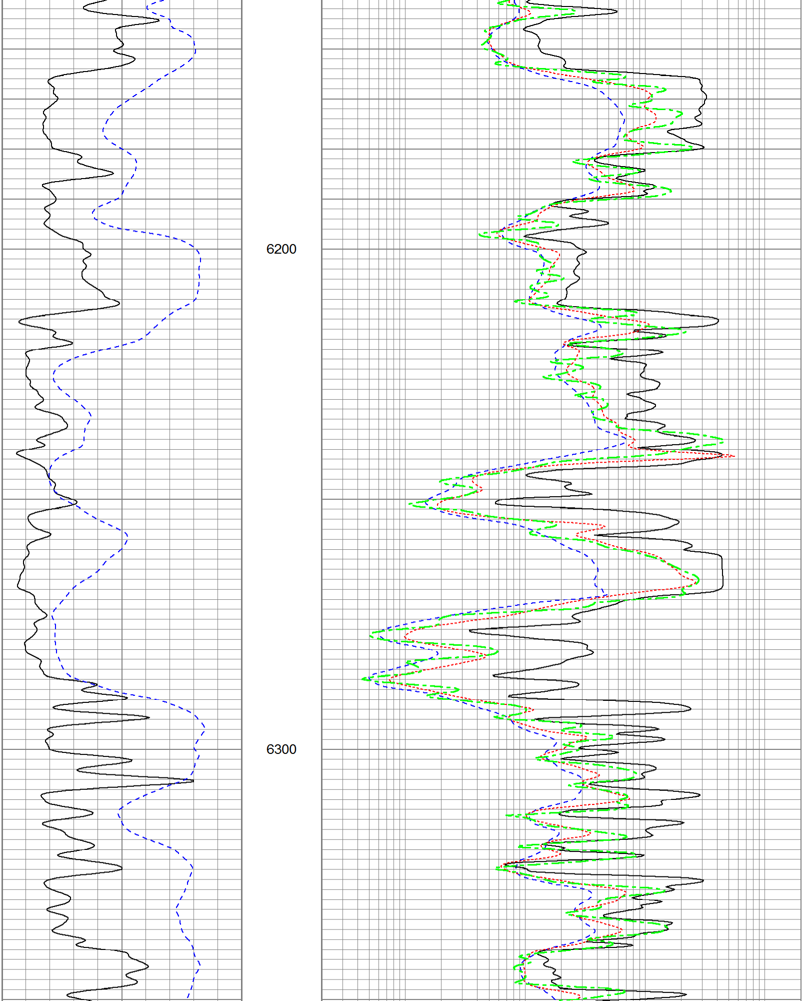
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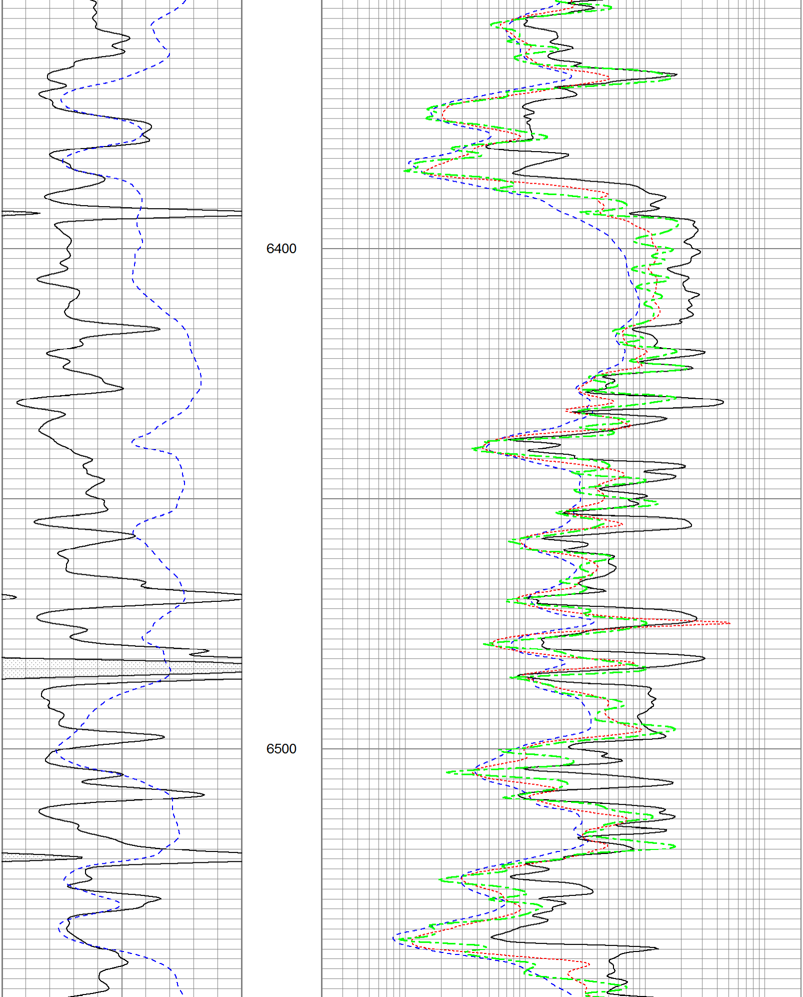
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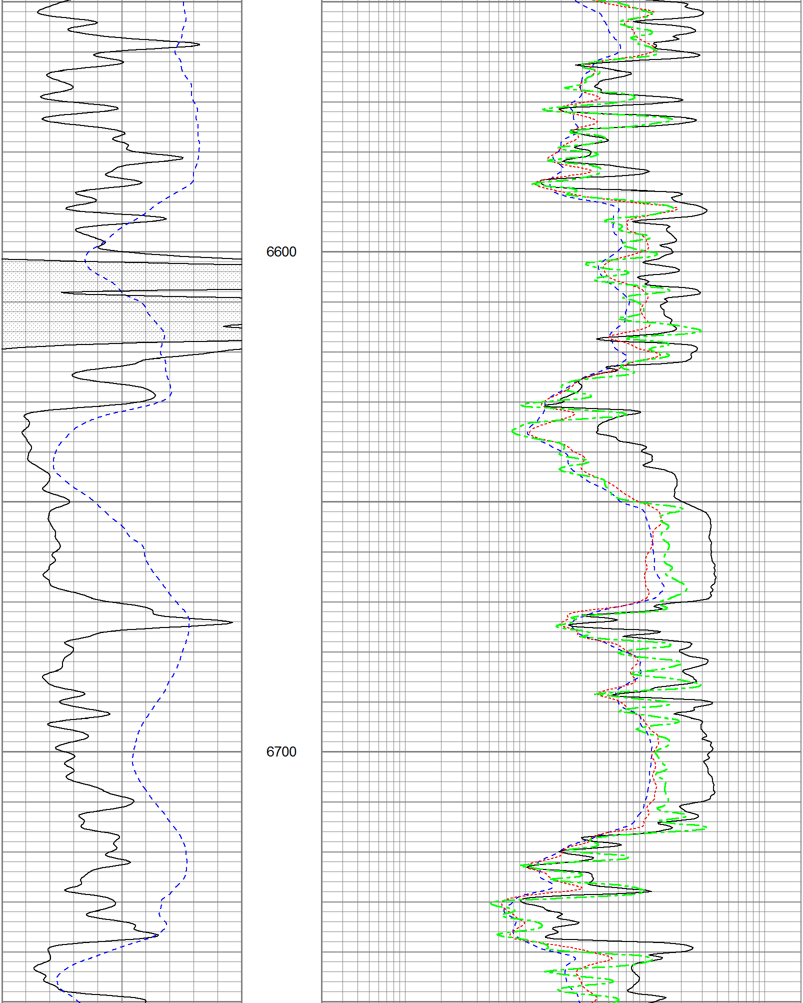
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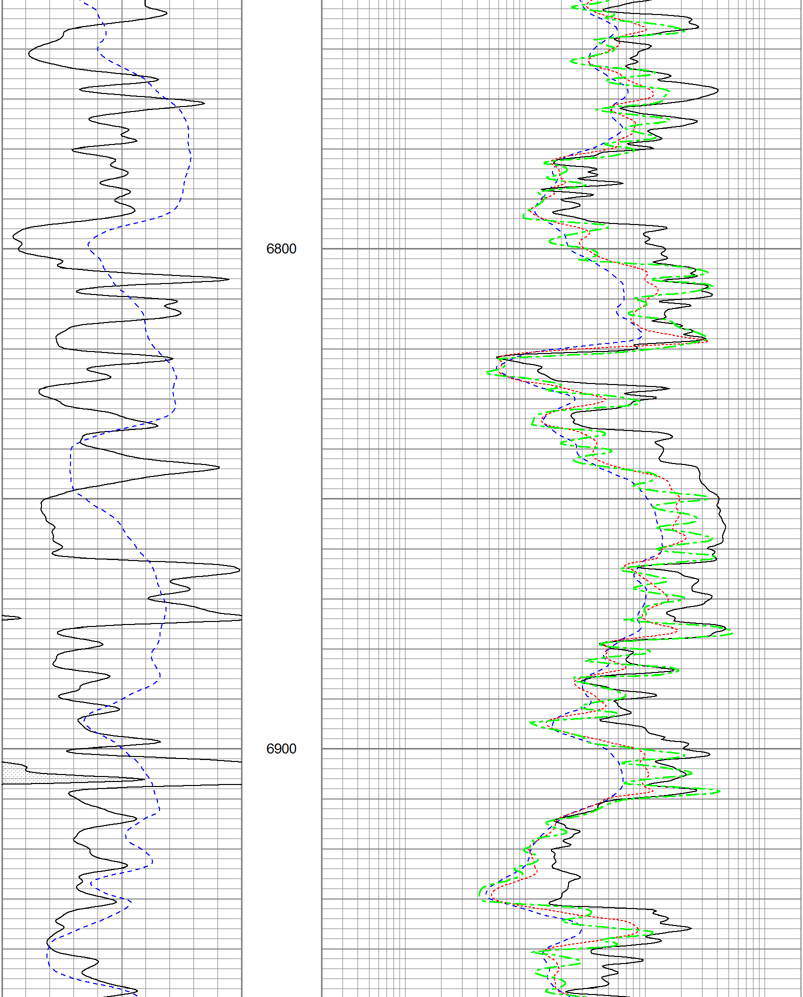
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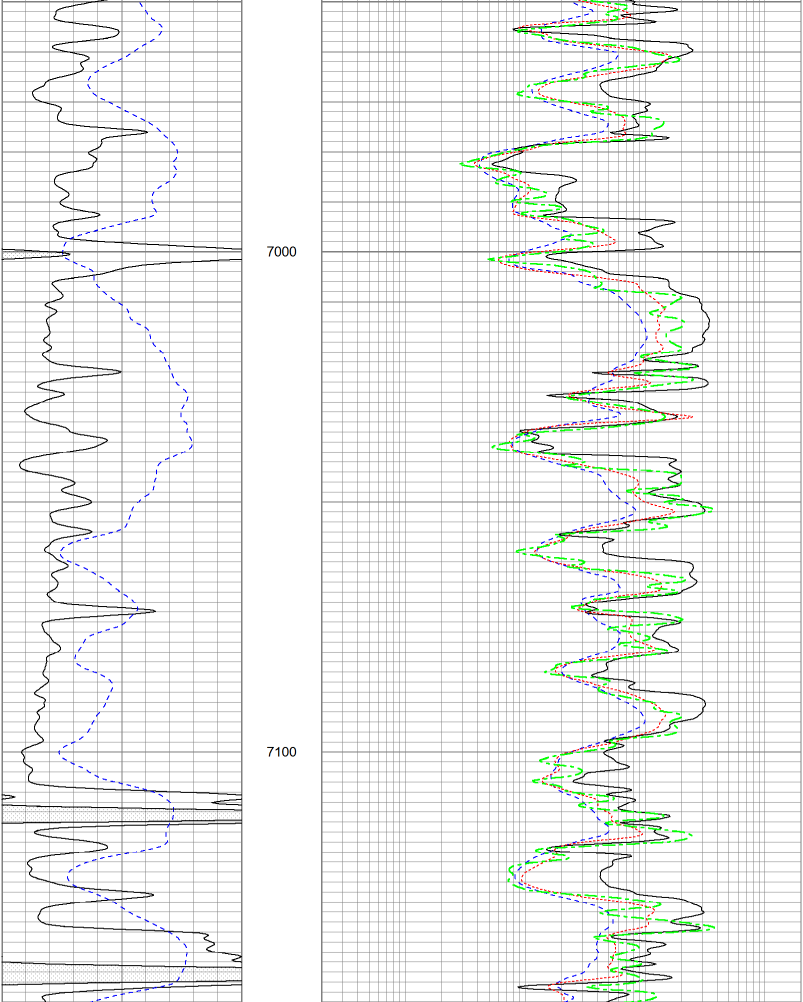
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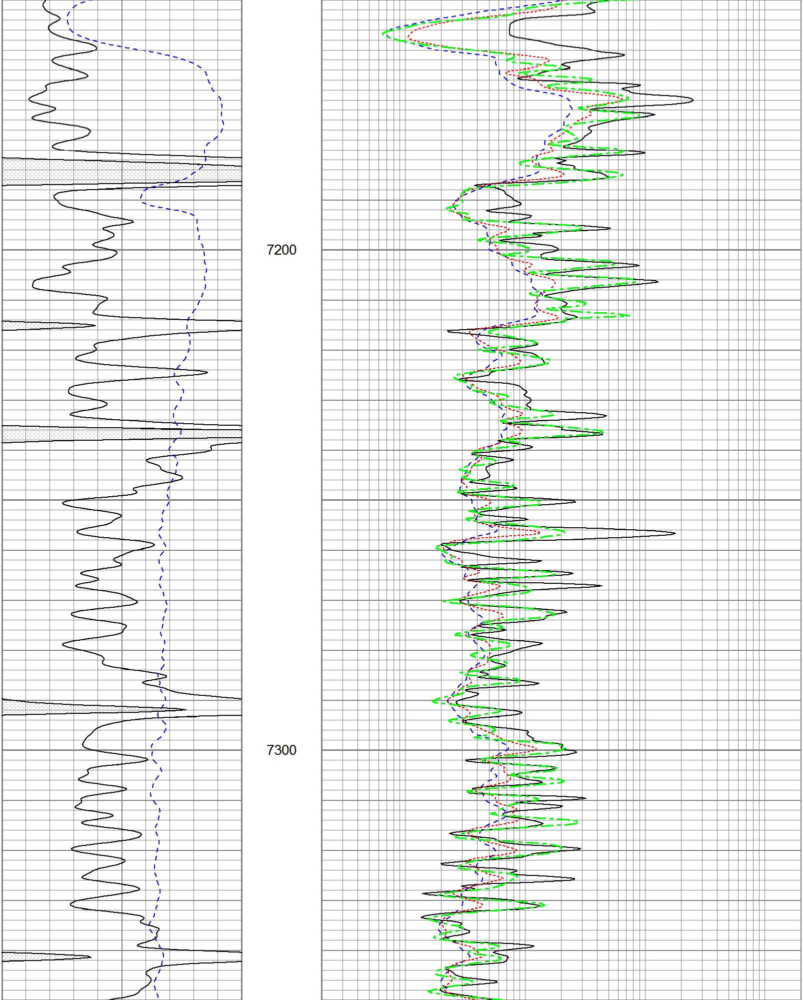
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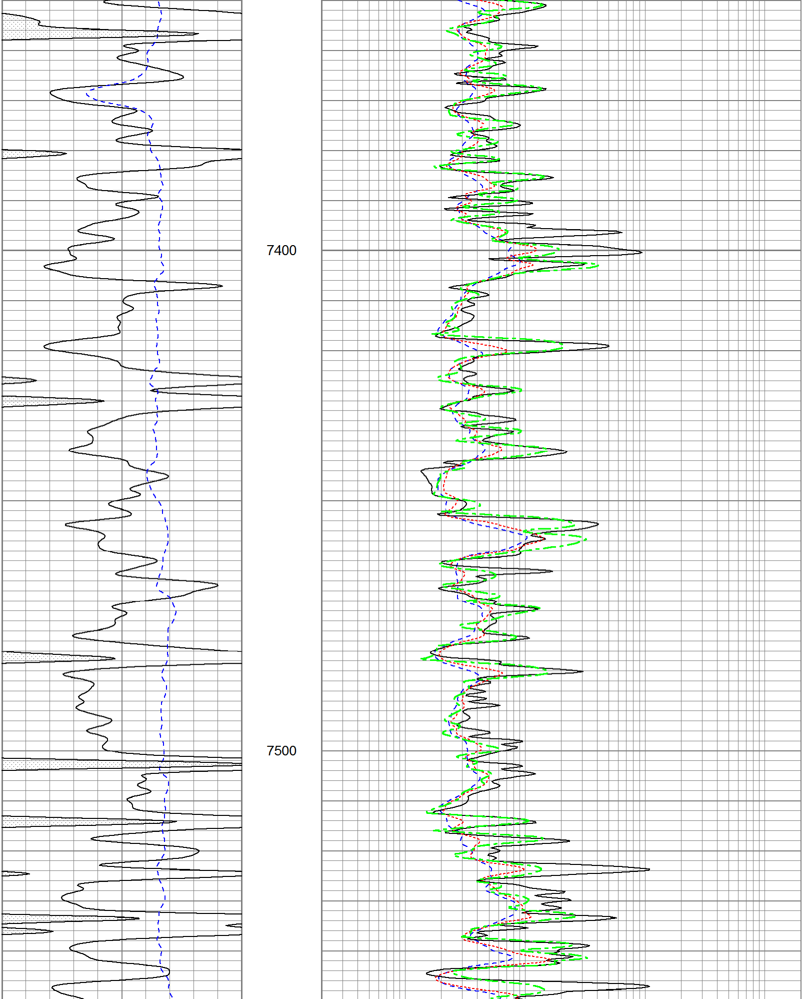
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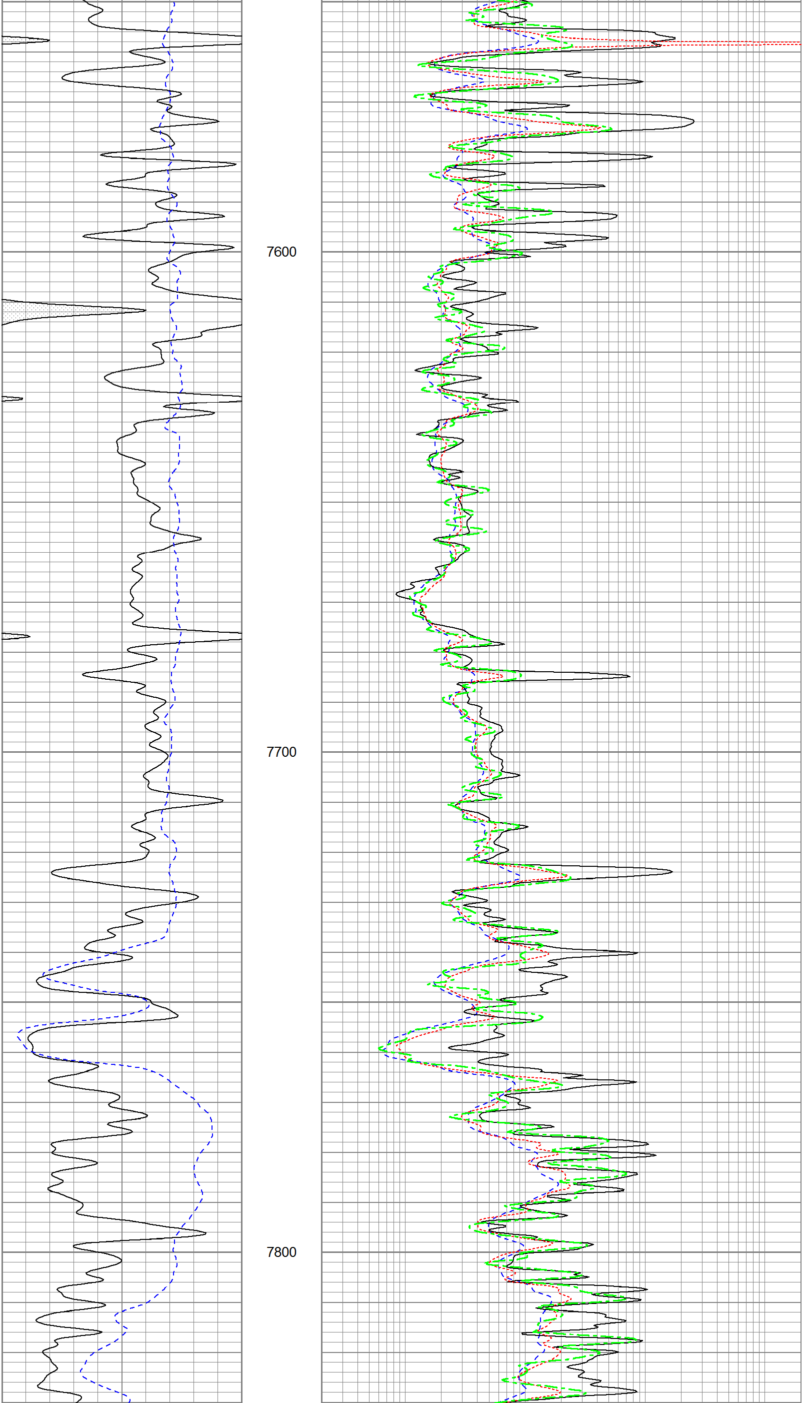
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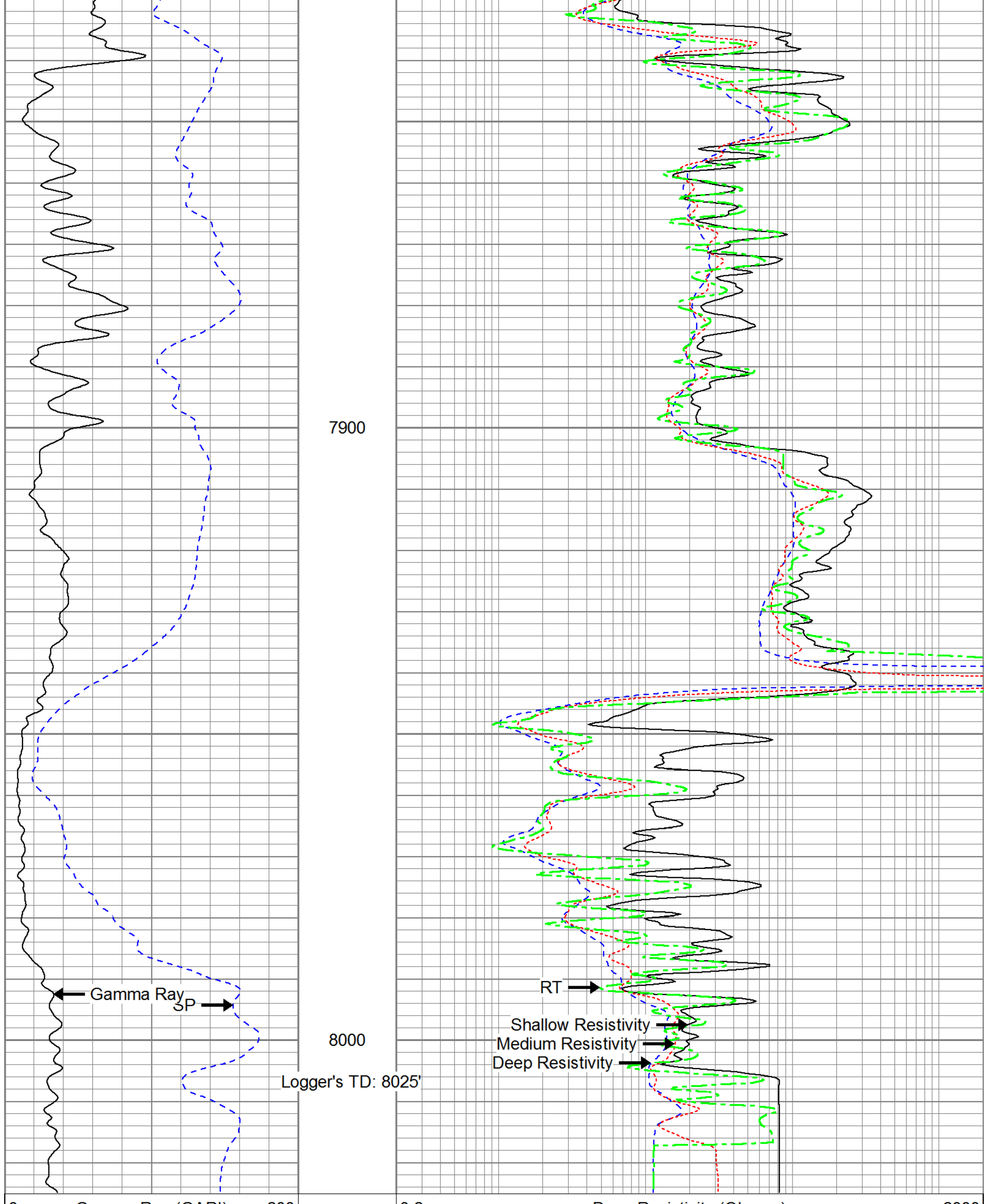
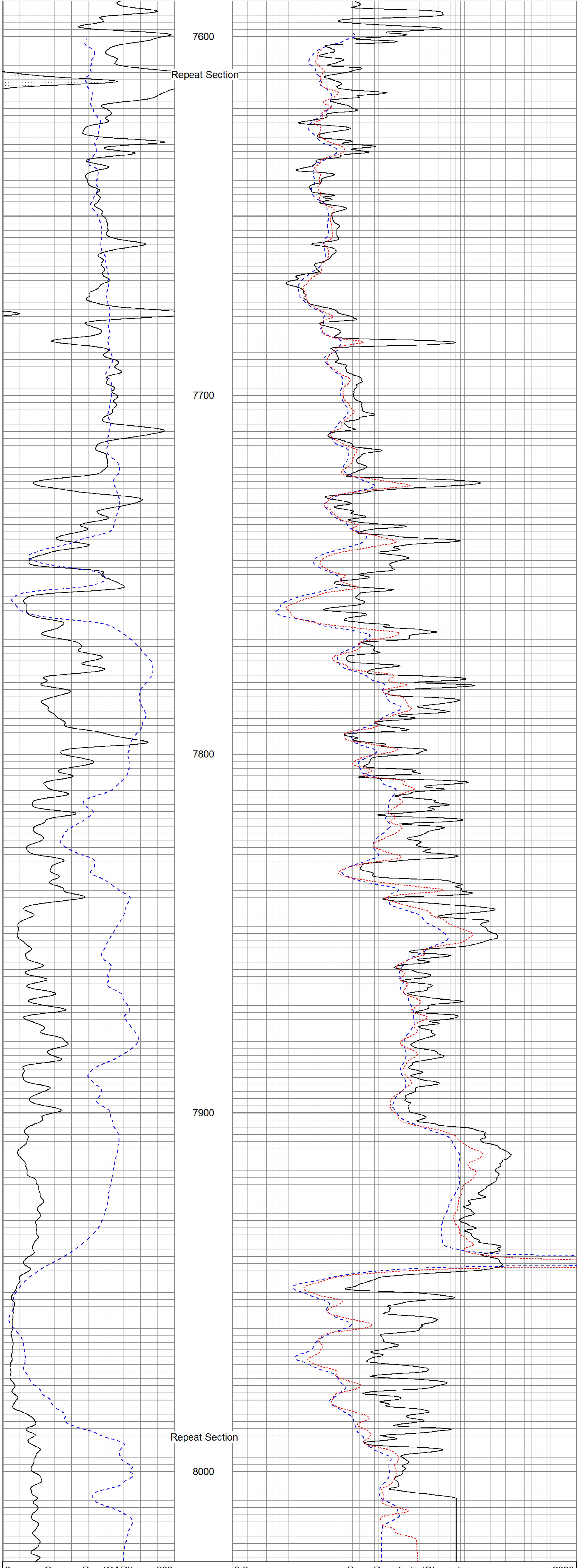


0 Gamma Ray (GAPI) 200	0.2 Deep Resistivity (Ohm-m) 2000
0 SP (mV) 200	0.2 Shallow Resistivity (Ohm-m) 2000
	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 RT (Ohm-m) 2000

Database File:	13768.db
Dataset Pathname:	pass2.1
Presentation Format:	dil
Dataset Creation:	Fri Nov 07 03:19:19 2014 by Calc 0
Charted by:	Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 200	0.2 Deep Resistivity (Ohm-m) 2000
0 SP (mV) 200	0.2 Shallow Resistivity (Ohm-m) 2000
	0.2 Medium Resistivity (Ohm-m) 2000



0 Gamma Ray (GAPI) 200	0.2 Deep Resistivity (Ohm-m) 2000
0 SP (mV) 200	0.2 Shallow Resistivity (Ohm-m) 2000
	0.2 Medium Resistivity (Ohm-m) 2000

Calibration Report

Database File:	13768.db
Dataset Pathname:	pass1
Dataset Creation:	Fri Nov 07 02:35:27 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	0.525	-27.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.450	-27.000

Compensated Density Calibration Report

Serial-Model:	998-PSI
Source / Verifier:	/
Master Calibration Performed:	Fri Nov 07 01:41:14 2014
Before Survey Verification Performed:	
After Survey Verification Performed:	

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

Spine Angle = 74.98 Density/Spine Ratio = 0.536

	Size		Reading
Small Ring	6.20	in	1.67
Large Ring	19.85	in	1.38

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:	Fri Nov 07 01:41:26 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6100	GAPI/cps