PIONEER

Pioneer Energy Services

COMPENSATED DENSITY
COMPENSATED NEUTRON
DUAL INDUCTION

Company	Duke Gas Company LLC
Well	Cantrall 35-1
Field	Duke
County	Yuma
State	Colorado

Company Duke Gas Company LLC

Well Cantrall 35-1

Field Duke

County Yuma **State** Colorado

Location: API # : 05125120780000

230' FNL & 310' FEL
NE NE

SEC 35 TWP 1S RGE 45W

Other Services
None

Permanent Datum	GL	Elevation	3909
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 3915
D.F. 3914
G.L. 3909

Date	October 1, 2013		
Run Number	1		
Depth Driller	2421		
Depth Logger	2416		
Bottom Logged Interval	2416		
Top Log Interval	Casing		
Casing Driller	362		
Casing Logger	362		
Bit Size	6.25"		
Type Fluid in Hole	Polymer Kcl		
Density / Viscosity	8.8 / 28		
pH / Fluid Loss	NA		
Source of Sample	Mudpit		
Rm @ Meas. Temp	.36 @ 71 F		
Rmf @ Meas. Temp	.29 @ 71 F		
Rmc @ Meas. Temp	.45 @ 71 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	.26 @ 100 F		
Time Circulation Stopped	1430		
Time Logger on Bottom	1830		
Maximum Recorded Temperature	100 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Clint Christensen		
Witnessed By	Ben Cantrall	Tim Probasco	

<<< Fold Here >>>

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 4-1/2" casing
EXCELL RIG 10
Thank you for using Pioneer Energy Services.

Database File:	13323.db
Dataset Pathname:	final
Presentation Format:	pdce
Dataset Creation:	Wed Oct 02 00:18:45 2013
Charted by:	Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 200

0 SP (mV) 200

4 Caliper (in) 14

TBHV (cu. ft.) (ft3)

ABHV (cu. ft.) (ft3)

0.2 Deep Resistivity (Ohm-m) 20

0.2 Shallow Resistivity (Ohm-m) 20

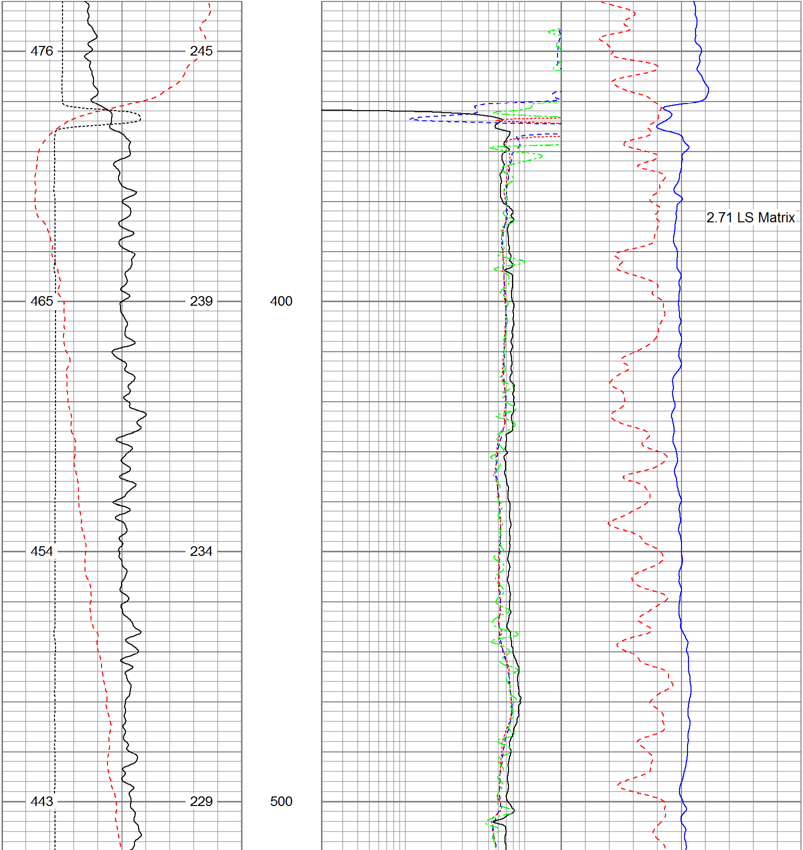
0.2 Medium Resistivity (Ohm-m) 20

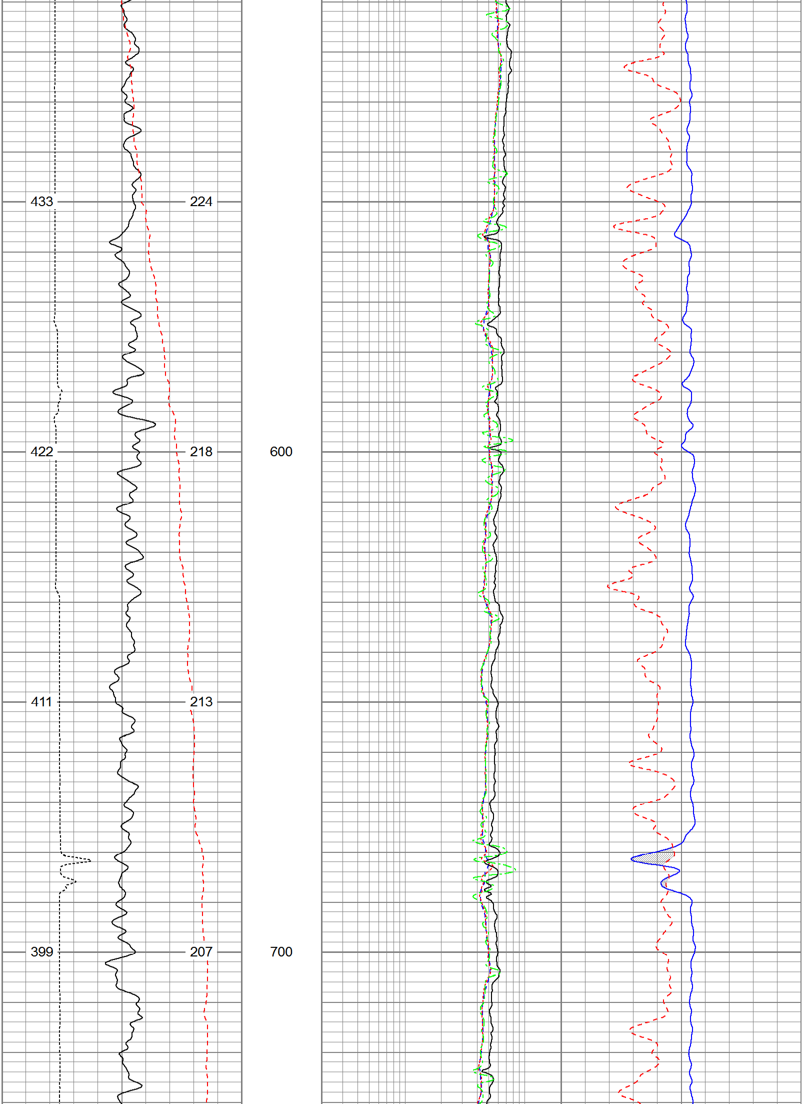
True Resistivity (Ohm-m)

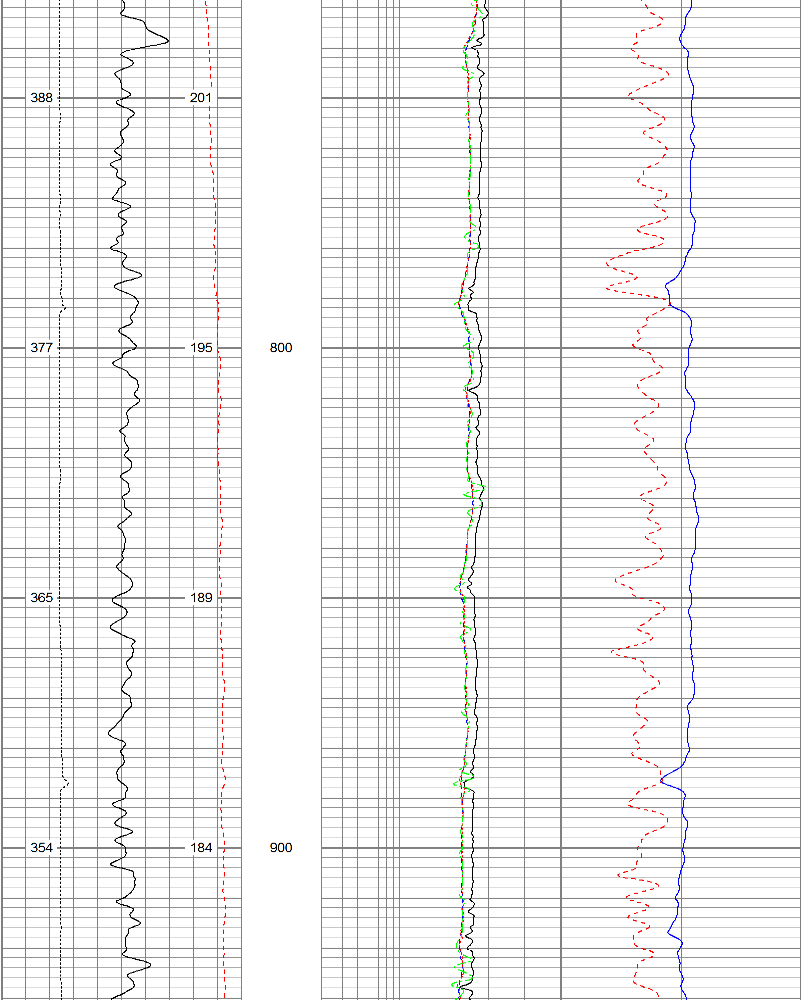
0.2 (Ohm-m) 20

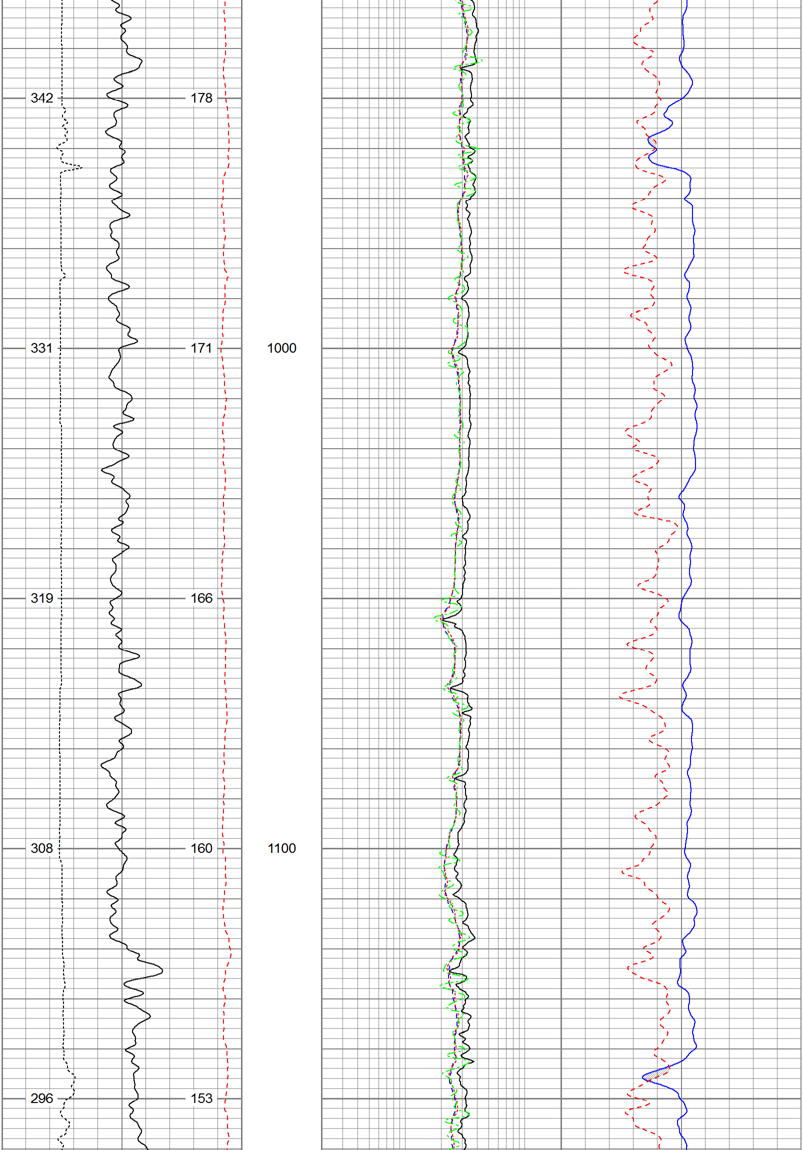
60 Density Porosity (pu) 0

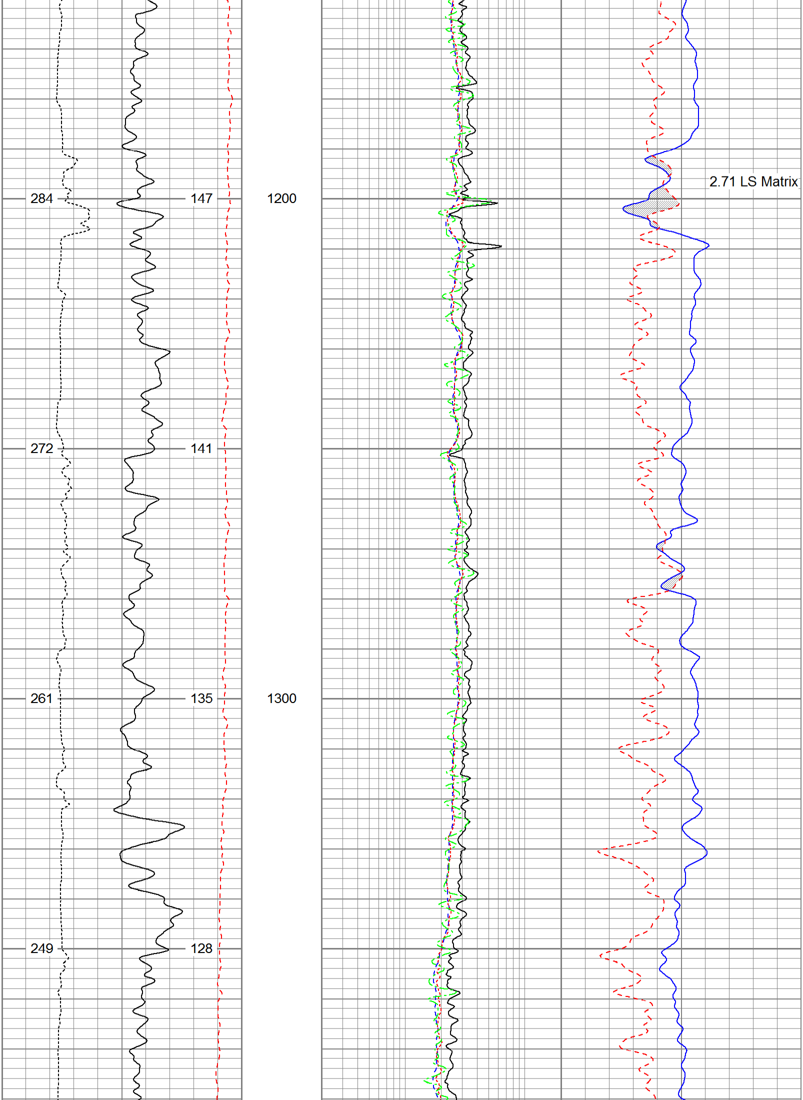
60 Neutron Porosity (pu) 0

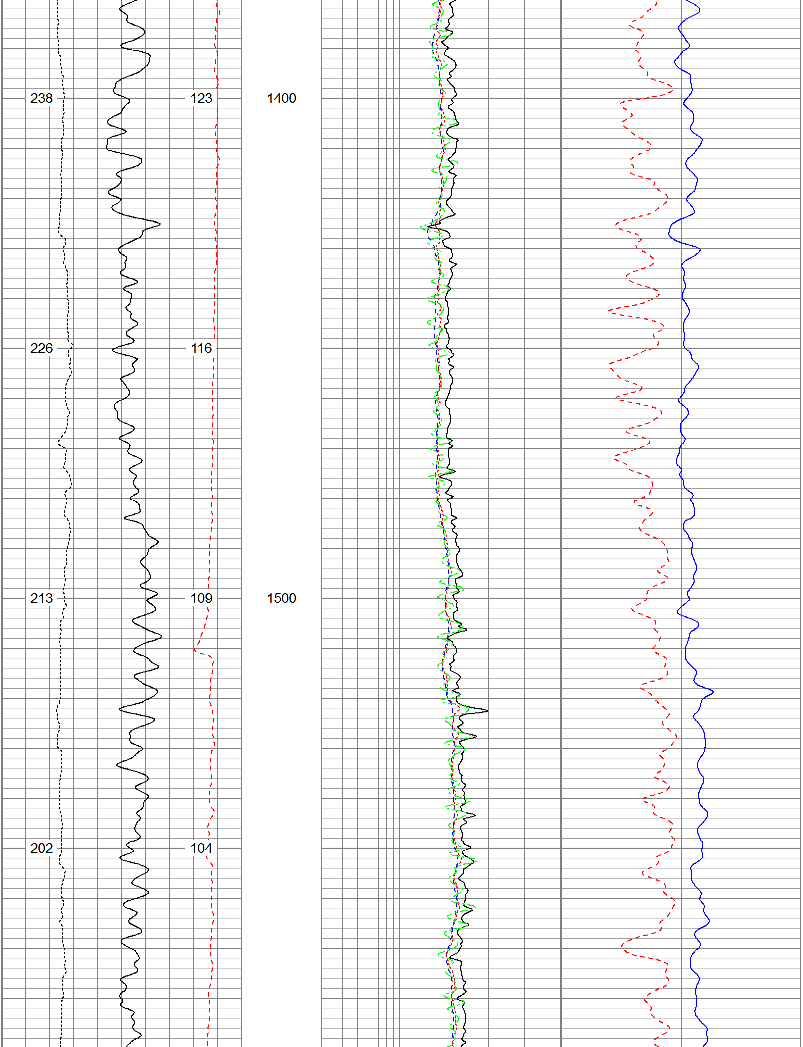


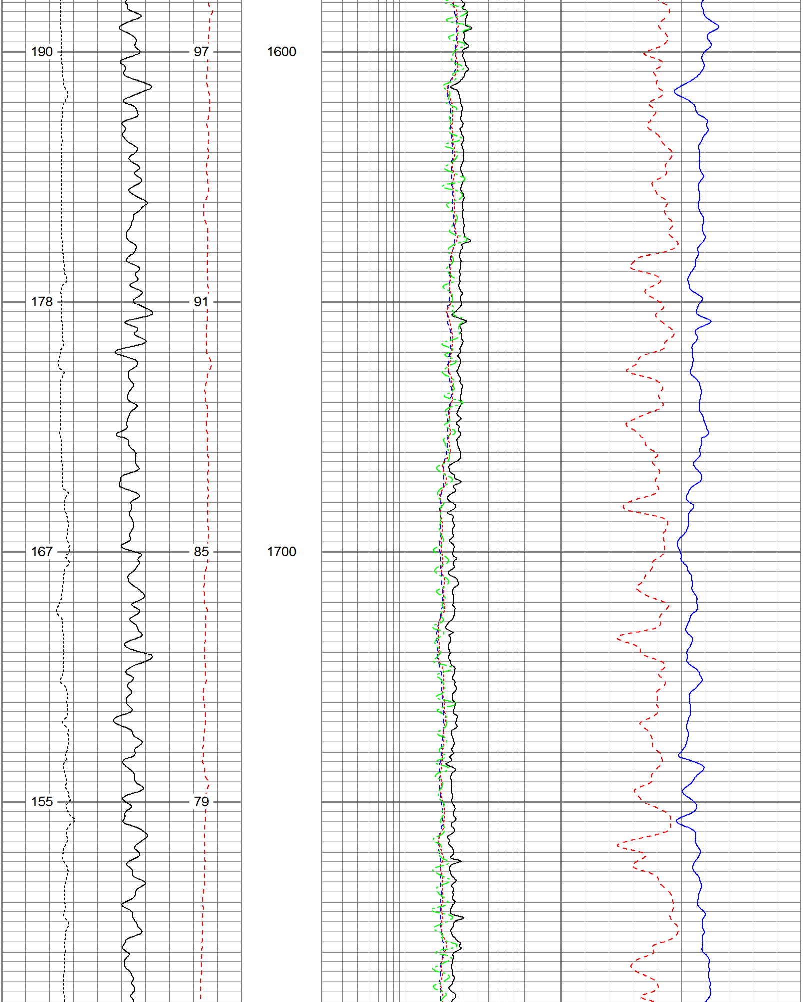


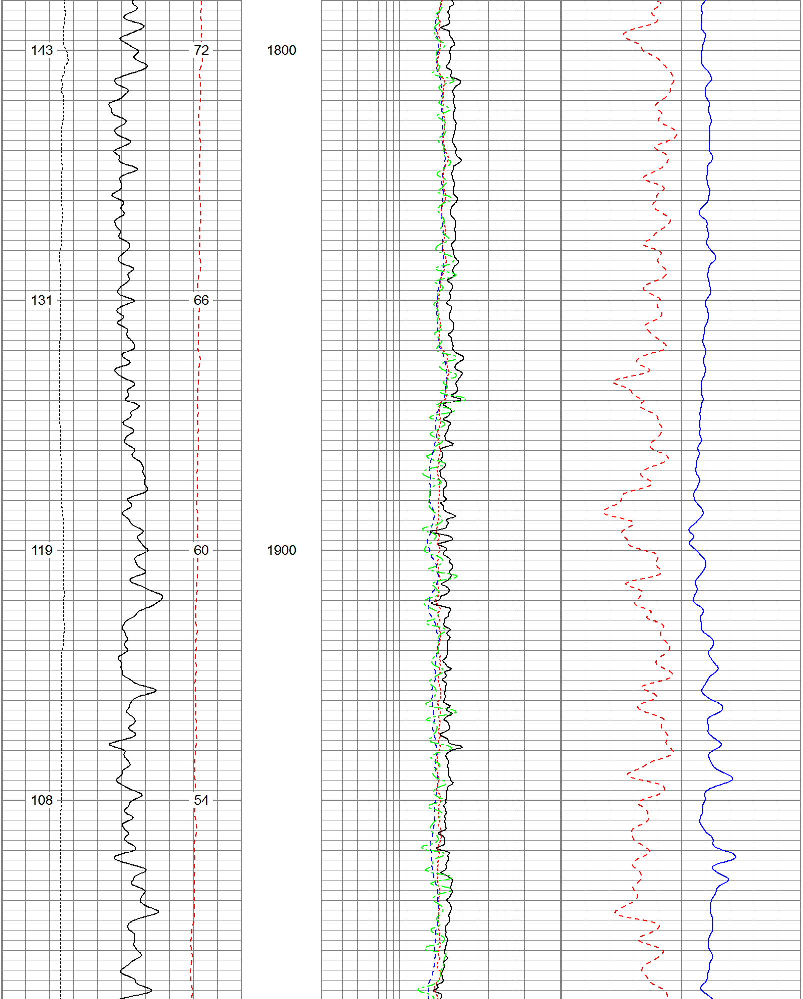


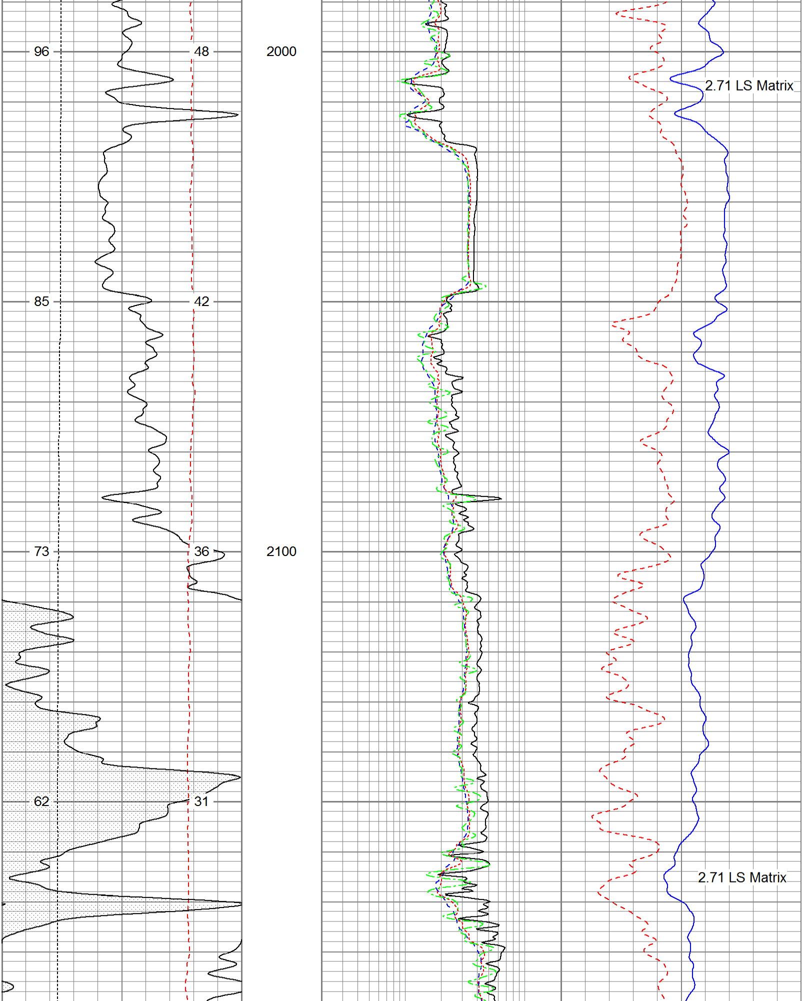


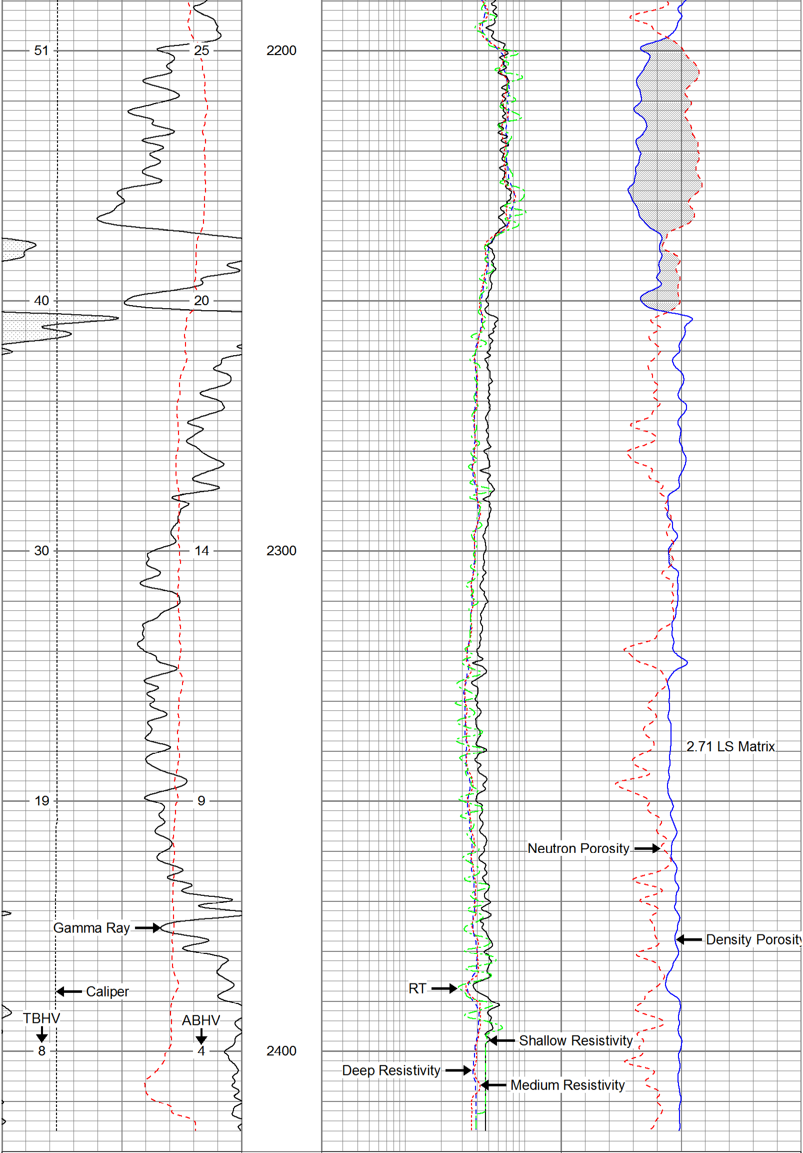












0	Gamma Ray (GAPI)	200	0.2	Deep Resistivity (Ohm-m)	20	60	Density Porosity (pu)	0
0	SP (mV)	200	0.2	Shallow Resistivity (Ohm-m)	20	60	Neutron Porosity (pu)	0
4	Caliper (in)	14	0.2	Medium Resistivity (Ohm-m)	20			
TBHV (cu. ft.) (ft3)		ABHV (cu. ft.) (ft3)	0.2	True Resistivity (Ohm-m) (Ohm-m)	20			

Calibration Report

Database File: 13323.db
Dataset Pathname: final
Dataset Creation: Wed Oct 02 00:18:45 2013

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	0.573	-29.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.490	-29.000

Compensated Density Calibration Report

Serial-Model: 998-PSI
Source / Verifier: /
Master Calibration Performed: Fri May 24 12:52:39 2013

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: 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	2.0900

Gamma Ray Calibration Report

Serial Number: 939
Tool Model: PSI
Performed: Fri May 24 12:52:52 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6200 GAPI/cps