PIONEER

Pioneer Energy Services

HIGH RESOLUTION INDUCTION GUARD LOG - SP GAMMA RAY

Company High Plains Energy LLC
Well Dune Ridge State 32-3
Field Dune Ridge
County Logan
State Colorado

Company	High Plains Energy LLC		
Well	Dune Ridge State 32-3		
Field	Dune Ridge		
County	Logan	State	Colorado

Location: API # : 05075094240000

2310' FSL & 990' FEL
NE SE

SEC 32 TWP 7N RGE 52W

Other Services
DENSITY
NEUTRON

Permanent Datum	GL	Elevation	4121
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4129
D.F. 4128
G.L. 4121

Date	March 29, 2014		
Run Number	1		
Depth Driller	4750		
Depth Logger	4695		
Bottom Logged Interval	4695		
Top Log Interval	Casing		
Casing Driller	678		
Casing Logger	678		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.4 / 70		
pH / Fluid Loss	9.0 / 10.0		
Source of Sample	Flowline		
Rm @ Meas. Temp	3.29 @ 55 F		
Rmf @ Meas. Temp	2.63 @ 55 F		
Rmc @ Meas. Temp	3.95 @ 55 F		
Source of Rmf / Rmc	Calc / Calc		
Rm @ BHT	1.30 @ 139 F		
Time Circulation Stopped	2200 3/28		
Time Logger on Bottom	0330		
Maximum Recorded Temperature	139 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Matt Gill		
Witnessed By	Randy Wheat	Roger Charbonneau	

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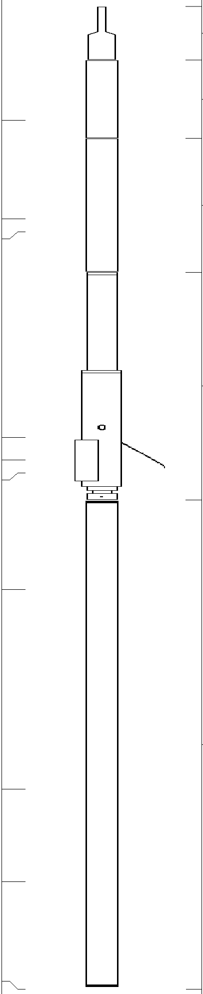
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, 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

Sensor	Offset (ft)
GR	0.00
CNLSC	-3.67
CNSSC	-4.17
DCAL	-11.84
LSD	-12.67
SSD	-13.17
RLL3	-17.52
CILD	-24.97
CILM	-28.42
SP	-32.42

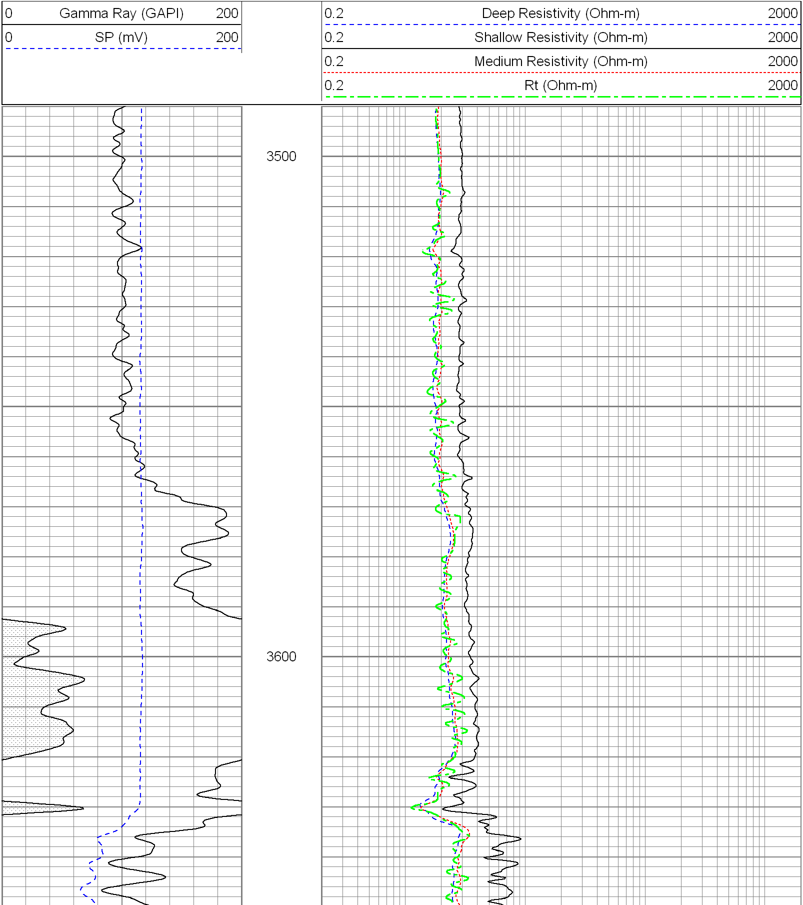
Schematic

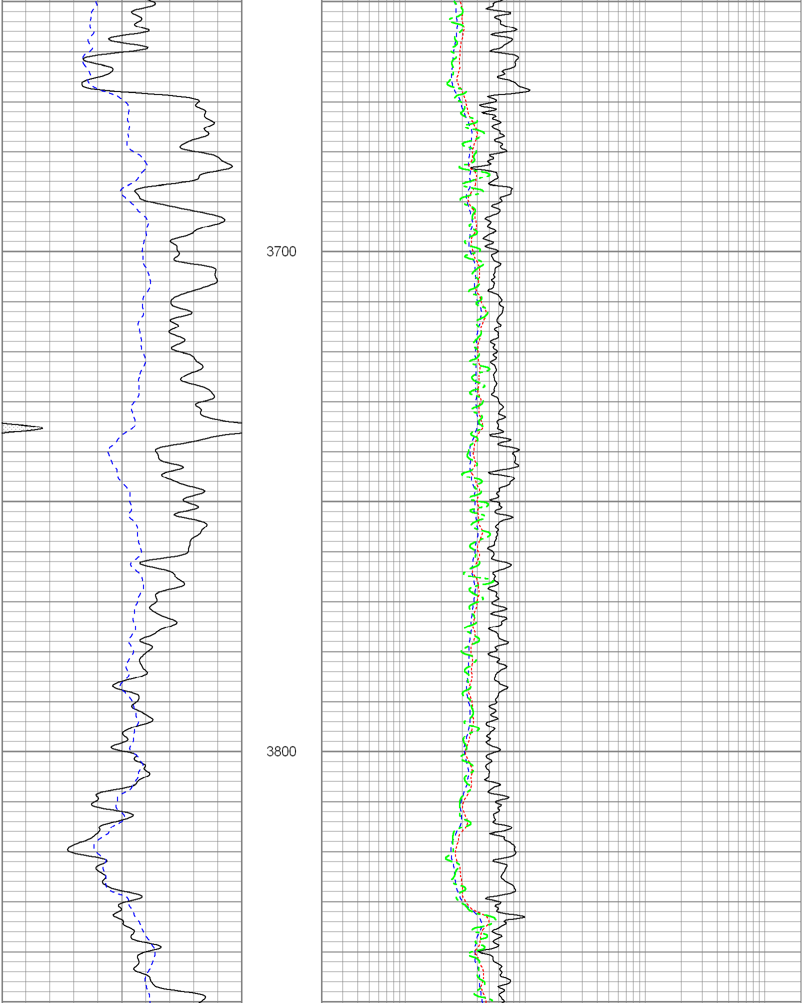


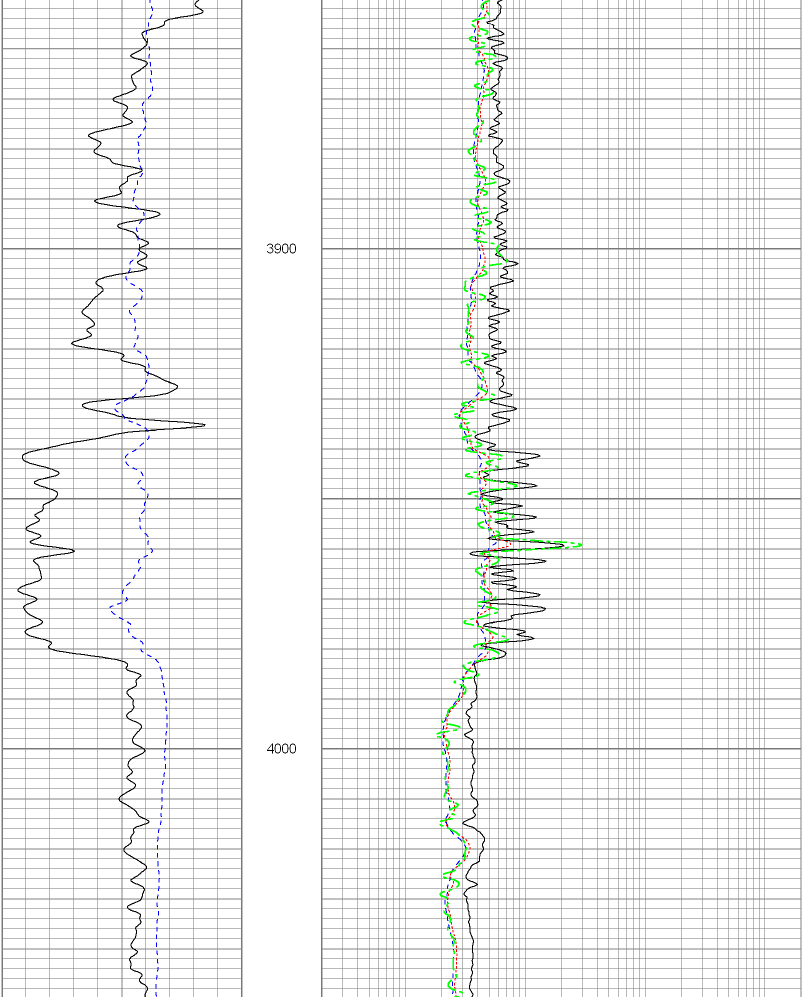
Description	Len (ft)	OD (in)	Wt (lb)
CHD (~0)	2.00	3.50	30.00
GR-PSI (923)	2.92	3.50	40.00
CNT-PSI (853)	5.00	3.50	70.00
CDL-PSI (934)	8.50	5.00	285.00
DIL-PSI (1024)	18.25	3.75	175.00

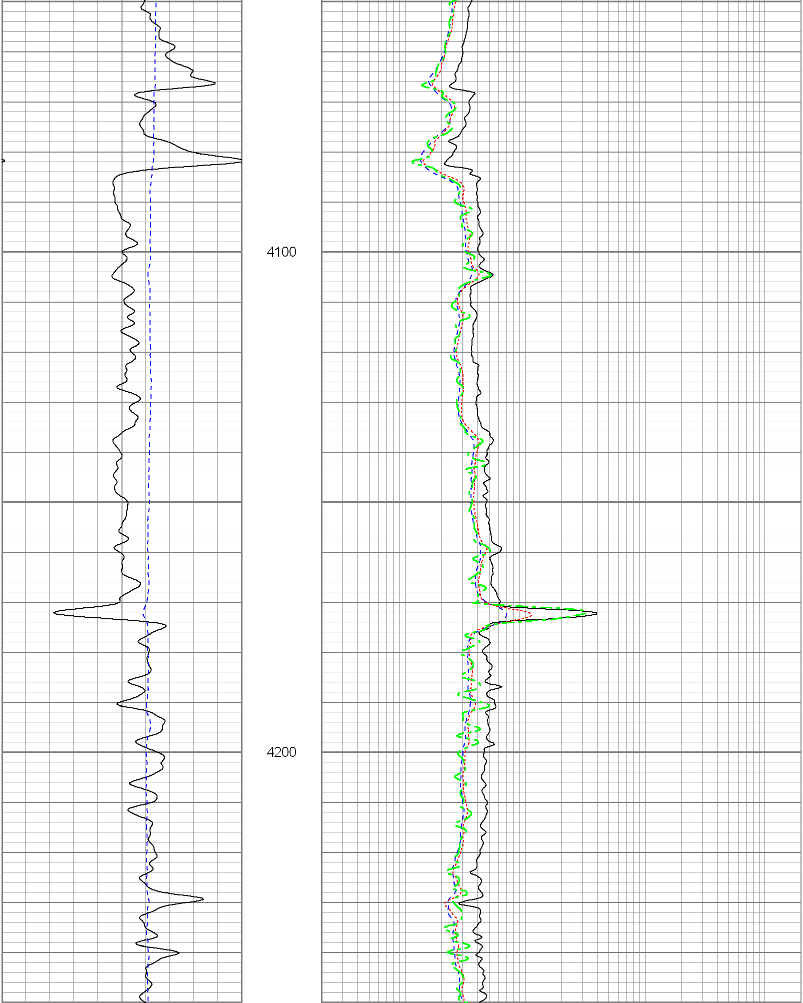
Dataset:	13445.db: field/well/run1/final
Total Length:	36.67 ft
Total Weight:	600.00 lb
O.D.	5.00 in

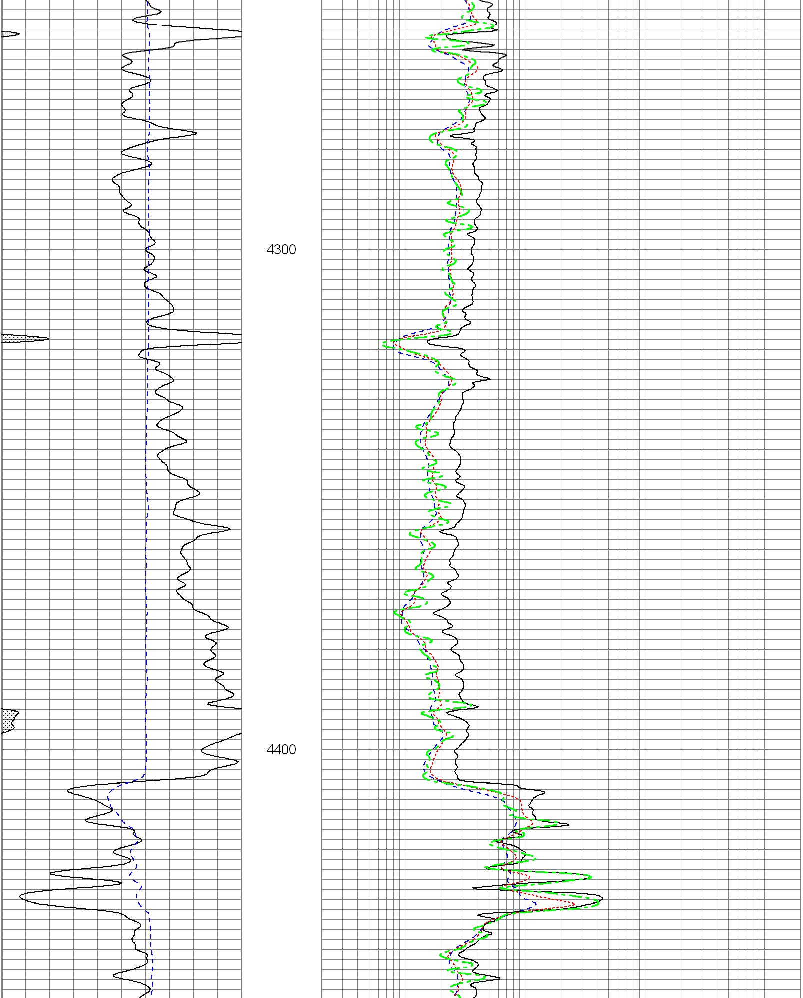
Database File:	13445.db
Dataset Pathname:	final
Presentation Format:	dil
Dataset Creation:	Sat Mar 29 04:40:57 2014
Charted by:	Depth in Feet scaled 1:240

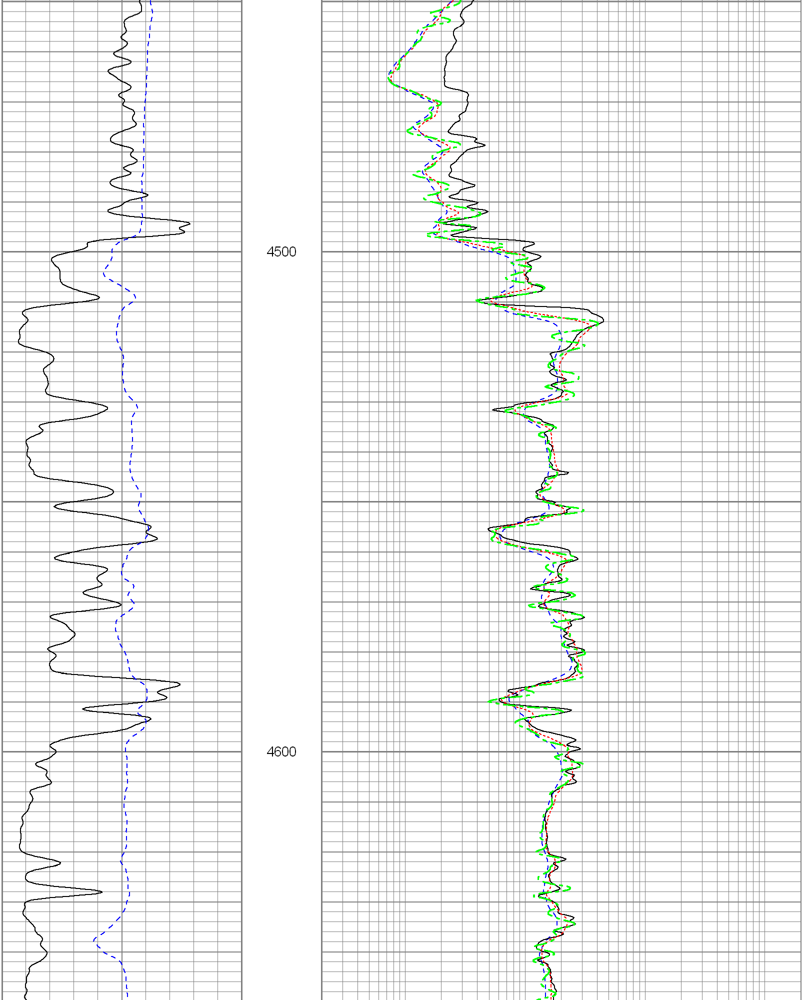


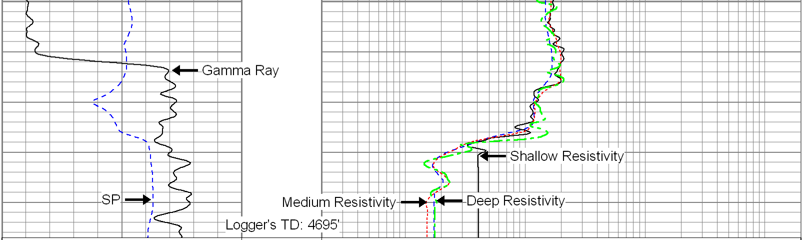












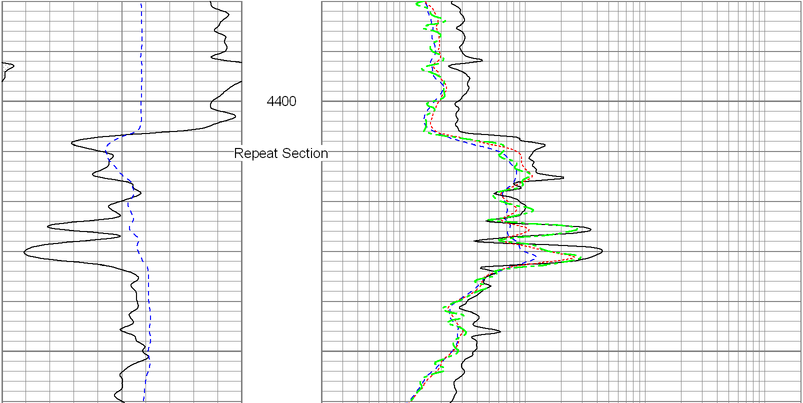
0	Gamma Ray (GAPI)	200
0	SP (mV)	200

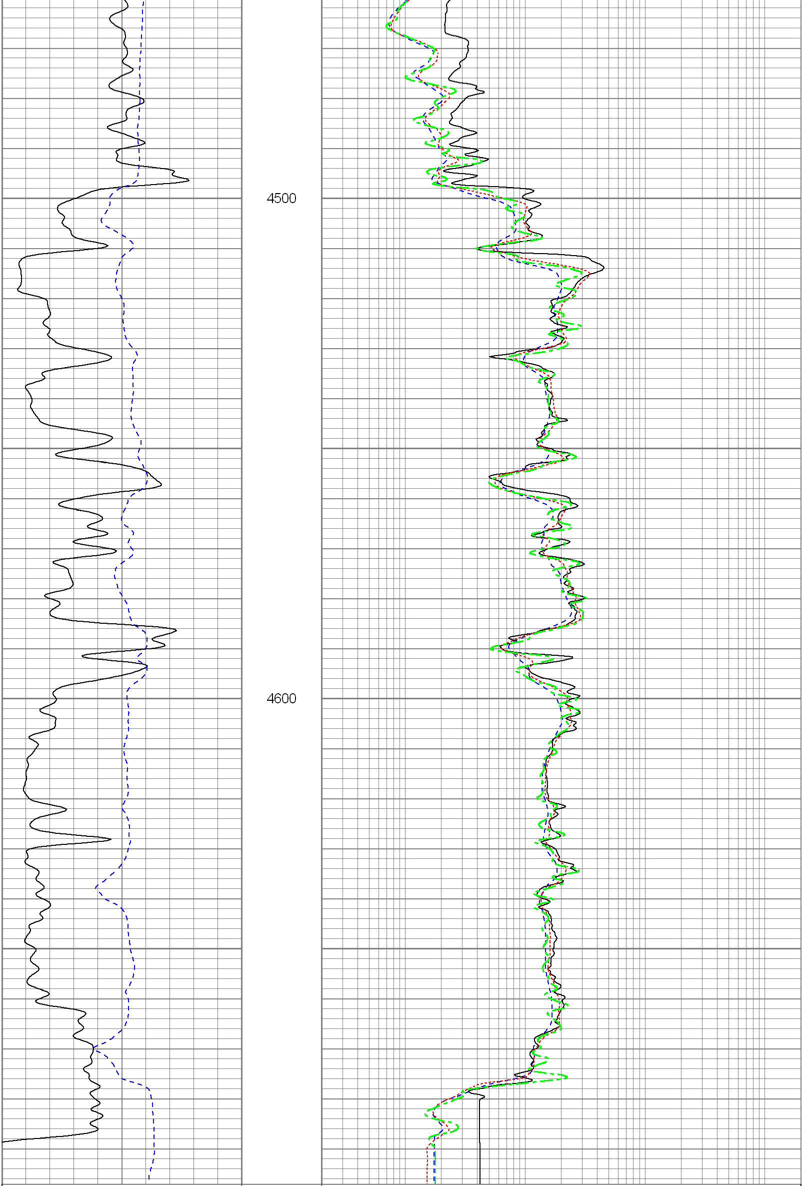
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Rt (Ohm-m)	2000

Database File:	13445.db
Dataset Pathname:	pass2.1
Presentation Format:	dil
Dataset Creation:	Sat Mar 29 03:41:25 2014 by Calc Open-Cased 100827
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





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

Calibration Report

Database File: 13445.db
Dataset Pathname: pass3.3
Dataset Creation: Sat Mar 29 04:32:57 2014 by Calc Open-Cased 100827

Dual Induction Calibration Report

Serial-Model: 1024-PSI
Surface Cal Performed: Wed Mar 05 17:46:16 2014

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	0.000	1.000	0.000	1.000	mmho/m	0.570	-45.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.490	-37.000

Compensated Density Calibration Report

Serial-Model: 934-PSI
Source / Verifier: 4400 / PSI
Master Calibration Performed: Wed Mar 05 17:46:21 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

Spine Angle = 75.67

Density/Spine Ratio = 0.544

	Size		Reading
Small Ring	4.50	in	1.80
Large Ring	13.00	in	1.46

Compensated Neutron Calibration Report

Serial Number: 853
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	1.9500

Gamma Ray Calibration Report

Serial Number: 923
Tool Model: PSI
Performed: Wed Mar 05 17:46:19 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps