PIONEER

Pioneer Energy Services

HIGH RESOLUTION INDUCTION COMPENSATED DENSITY COMPENSATED NEUTRON

Company	Ranchers Exploration Partners LLC
Well	River West 2
Field	Wattenberg
County	Larimer
State	Colorado

Company Ranchers Exploration Partners LLC
Well River West 2
Field Wattenberg
County Larimer State Colorado

Location: API #: 05069064540000
SHL: 1264' FNL & 701' FWL NWNW
BHL: 665' FNL & 1927' FWL NENW
SEC 24 TWP 6N RGE 68W

Other Services
None

Permanent Datum GL Elevation 4880
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4893
D.F. 4893
G.L. 4880

Date	March 8, 2014		
Run Number	1		
Depth Driller	7099		
Depth Logger	7100		
Bottom Logged Interval	7100		
Top Log Interval	Casing		
Casing Driller	458		
Casing Logger	458		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.6 / 52		
pH / Fluid Loss	8.0 / 10.2		
Source of Sample	Flowline		
Rm @ Meas. Temp	2.98 @ 65 F		
Rmf @ Meas. Temp	2.38 @ 65 F		
Rmc @ Meas. Temp	3.58 @ 65 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	0.95 @ 203 F		
Time Circulation Stopped	1745 3/7		
Time Logger on Bottom	0030		
Maximum Recorded Temperature	141 F		
Equipment Number	49		
Location	Brighton, CO		
Recorded By	Matt Gill		
Witnessed By	Mike Ward		

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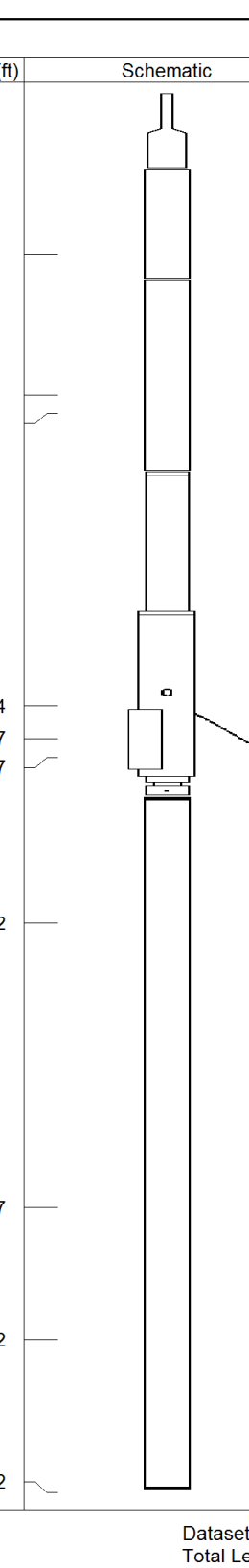
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, 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 4-1/2" casing
Ensign 122
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



Description	Len (ft)	OD (in)	Wt (lb)
CHD (~0)	2.00	3.50	30.00
GR-PSI (939)	2.92	3.50	40.00
CNT-PSI (826)	5.00	3.50	70.00
CDL-PSI (998)	8.50	5.00	285.00
DIL-PSI (1011)	18.25	3.75	175.00

Dataset: 13481.db: field/well/run1/final
Total Length: 36.67 ft
Total Weight: 600.00 lb
O.D. 5.00 in

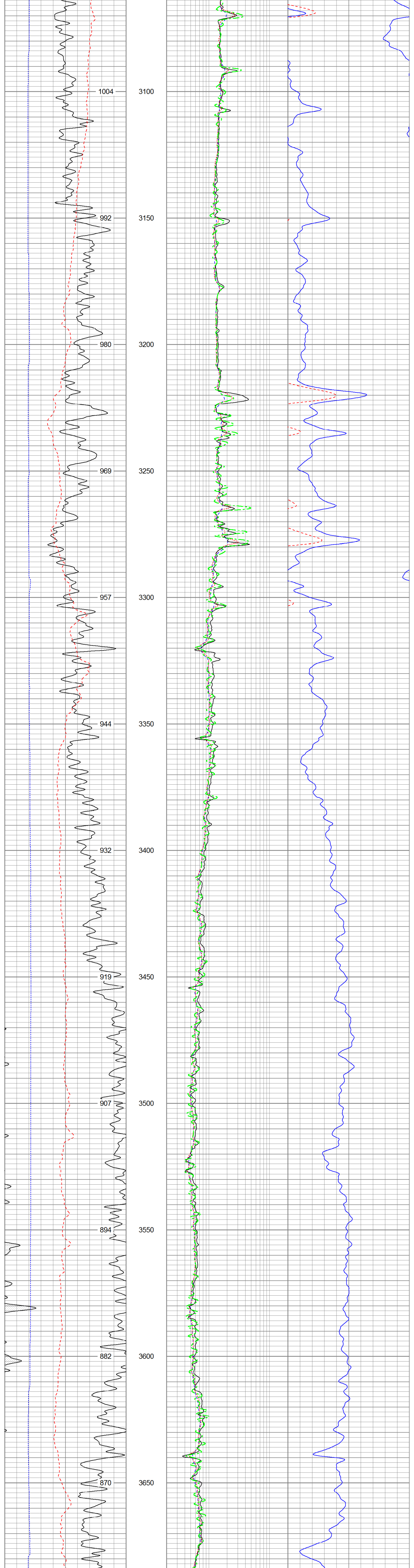
Database File: 13481.db
Dataset Pathname: final
Presentation Format: dilin5
Dataset Creation: Sat Mar 08 01:01:00 2014
Charted by: Depth in Feet scaled 1:600

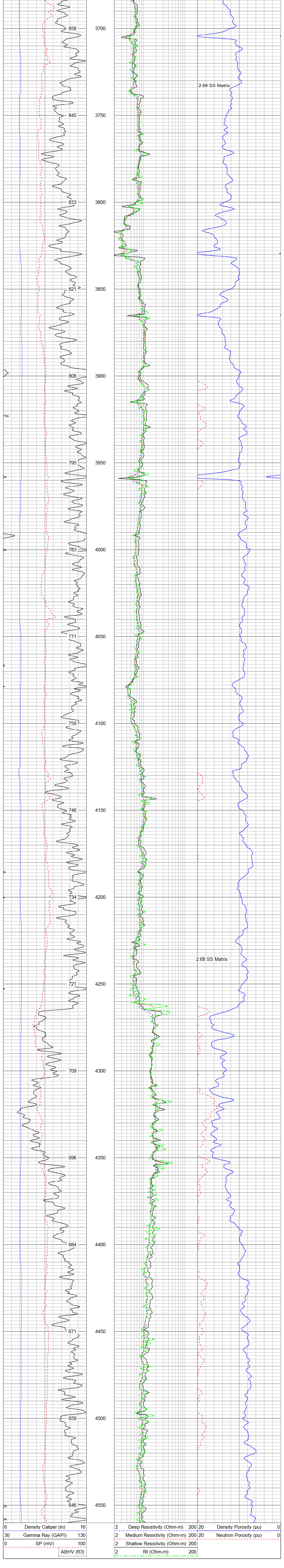
0 SP (mV) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0
6 Caliper (in) 16	0 Shallow Resistivity (Ohm-m) 50	
0 Gamma Ray (GAPI) 200	50 RILD (Ohm-m) 500	
TBHV (ft3) ABHV (ft3)	50 RLL3 (Ohm-m) 500	

0 SP (mV) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0
6 Caliper (in) 16	0 Shallow Resistivity (Ohm-m) 50	
0 Gamma Ray (GAPI) 200	50 RILD (Ohm-m) 500	
TBHV (ft3) ABHV (ft3)	50 RLL3 (Ohm-m) 500	

Database File: 13481.db
Dataset Pathname: final
Presentation Format: pdc1
Dataset Creation: Sat Mar 08 01:01:00 2014
Charted by: Depth in Feet scaled 1:240

6 Density Caliper (in) 16	2 Deep Resistivity (Ohm-m) 200	20 Density Porosity (pu) 0
30 Gamma Ray (GAPI) 130	2 Medium Resistivity (Ohm-m) 200	20 Neutron Porosity (pu) 0
0 SP (mV) 100	2 Shallow Resistivity (Ohm-m) 200	
ABHV (ft3)	2 Rt (Ohm-m) 200	



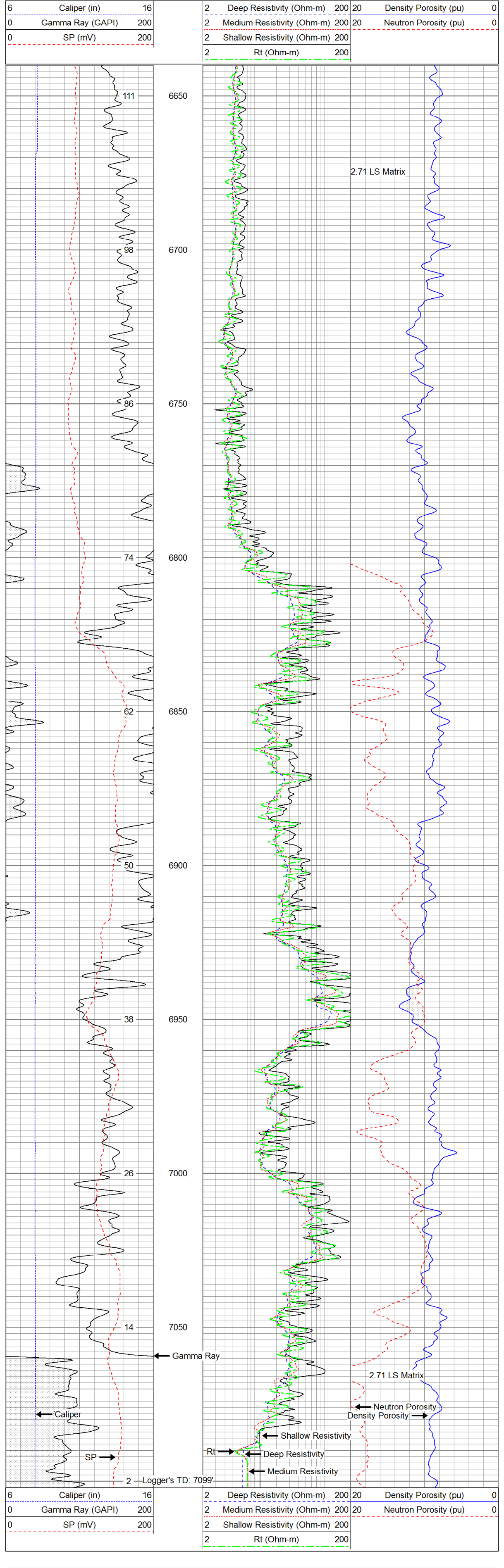


6	Density Caliper (in)	16
30	Gamma Ray (GAPI)	130
0	SP (mV)	100
	ABHV (ft3)	

2	Deep Resistivity (Ohm-m)	200	20	Density Porosity (pu)	0
2	Medium Resistivity (Ohm-m)	200	20	Neutron Porosity (pu)	0
2	Shallow Resistivity (Ohm-m)	200			
2	Rt (Ohm-m)	200			

Database File: 13481.db
Dataset Pathname: final
Presentation Format: pdc
Dataset Creation: Sat Mar 08 01:01:00 2014
Charted by: Depth in Feet scaled 1:240

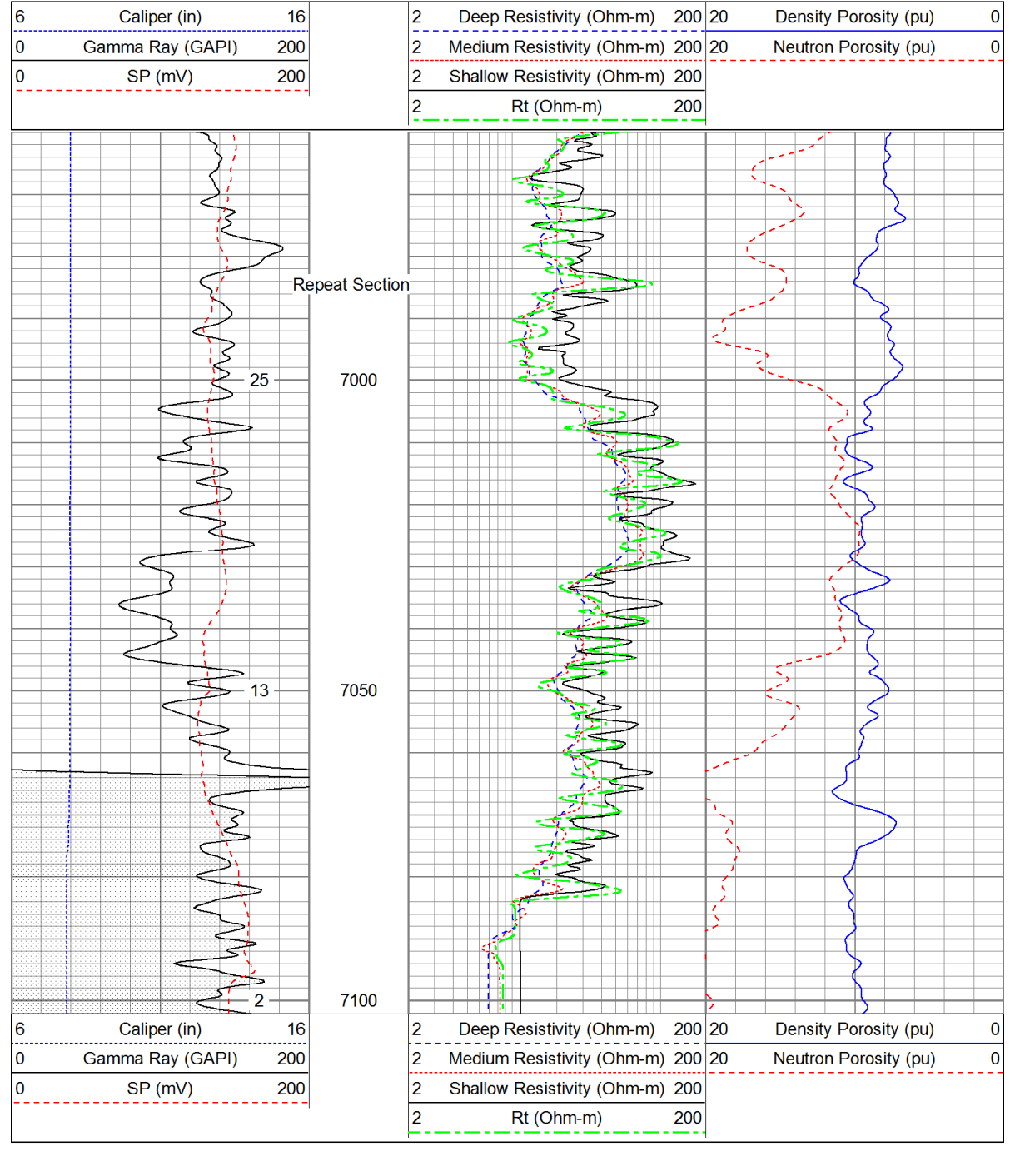
6	Caliper (in)	16	2	Deep Resistivity (Ohm-m)	200	20	Density Porosity (pu)	0
0	Gamma Ray (GAPI)	200	2	Medium Resistivity (Ohm-m)	200	20	Neutron Porosity (pu)	0
0	SP (mV)	200	2	Shallow Resistivity (Ohm-m)	200			
			2	Rt (Ohm-m)	200			



6	Caliper (in)	16	2	Deep Resistivity (Ohm-m)	200	20	Density Porosity (pu)	0
0	Gamma Ray (GAPI)	200	2	Medium Resistivity (Ohm-m)	200	20	Neutron Porosity (pu)	0
0	SP (mV)	200	2	Shallow Resistivity (Ohm-m)	200			
			2	Rt (Ohm-m)	200			

Database File: 13481.db
Dataset Pathname: pass2
Presentation Format: pdc
Dataset Creation: Sat Mar 08 00:31:08 2014 by Log 0
Charted by: Depth in Feet scaled 1:240

6	Caliper (in)	16	2	Deep Resistivity (Ohm-m)	200	20	Density Porosity (pu)	0
0	Gamma Ray (GAPI)	200	2	Medium Resistivity (Ohm-m)	200	20	Neutron Porosity (pu)	0
0	SP (mV)	200	2	Shallow Resistivity (Ohm-m)	200			
			2	Rt (Ohm-m)	200			



6	Caliper (in)	16	2	Deep Resistivity (Ohm-m)	200	20	Density Porosity (pu)	0
0	Gamma Ray (GAPI)	200	2	Medium Resistivity (Ohm-m)	200	20	Neutron Porosity (pu)	0
0	SP (mV)	200	2	Shallow Resistivity (Ohm-m)	200			
			2	Rt (Ohm-m)	200			

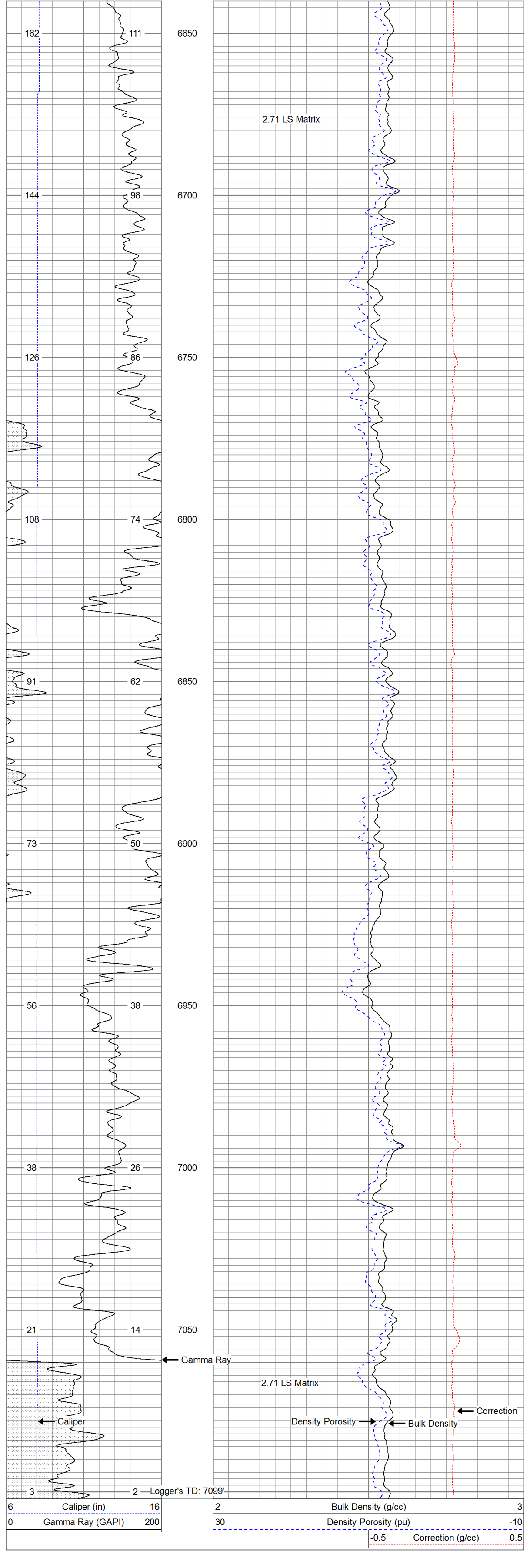
Database File: 13481.db
Dataset Pathname: final
Presentation Format: cdl1
Dataset Creation: Sat Mar 08 01:01:00 2014
Charted by: Depth in Feet scaled 1:240

6	Caliper (in)	16	2	Bulk Density (g/cc)	3
30	Gamma Ray (GAPI)	130	30	Density Porosity (pu)	-10
			-0.5	Correction (g/cc)	0.5

6	Caliper (in)	16	2	Bulk Density (g/cc)	3
30	Gamma Ray (GAPI)	130	30	Density Porosity (pu)	-10
			-0.5	Correction (g/cc)	0.5

Database File: 13481.db
Dataset Pathname: final
Presentation Format: cdl
Dataset Creation: Sat Mar 08 01:01:00 2014
Charted by: Depth in Feet scaled 1:240

6	Caliper (in)	16	2	Bulk Density (g/cc)	3
0	Gamma Ray (GAPI)	200	30	Density Porosity (pu)	-10
			-0.5	Correction (g/cc)	0.5



6	Caliper (in)	16	2	Bulk Density (g/cc)	3
0	Gamma Ray (GAPI)	200	30	Density Porosity (pu)	-10
			-0.5	Correction (g/cc)	0.5

Calibration Report

Database File: 13481.db
Dataset Pathname: pass3.1
Dataset Creation: Sat Mar 08 00:56:58 2014 by Calc 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	0.490	-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