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

PIONEER
Pioneer Energy Services

COMPENSATED DENSITY
COMPENSATED NEUTRON
GAMMA RAY

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
Hi. Res.
Induction

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	4675		
Top Log Interval	3490		
Casing Driller	678		
Casing Logger	Not Logged		
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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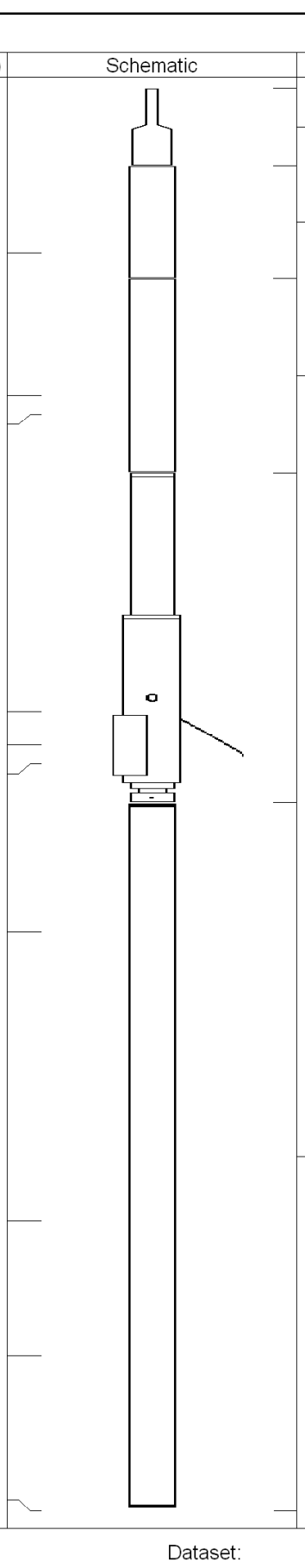
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, 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)	Description	Len (ft)	OD (in)	Wt (lb)
		CHD (~0)	2.00	3.50	30.00
GR	0.00	GR-PSI (923)	2.92	3.50	40.00
CNLSC CNSSC	-3.67 -4.17	CNT-PSI (853)	5.00	3.50	70.00
DCAL LSD SSD	-11.84 -12.67 -13.17	CDL-PSI (934)	8.50	5.00	285.00
RLL3 CILD CILM SP	-17.52 -24.97 -28.42 -32.42	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

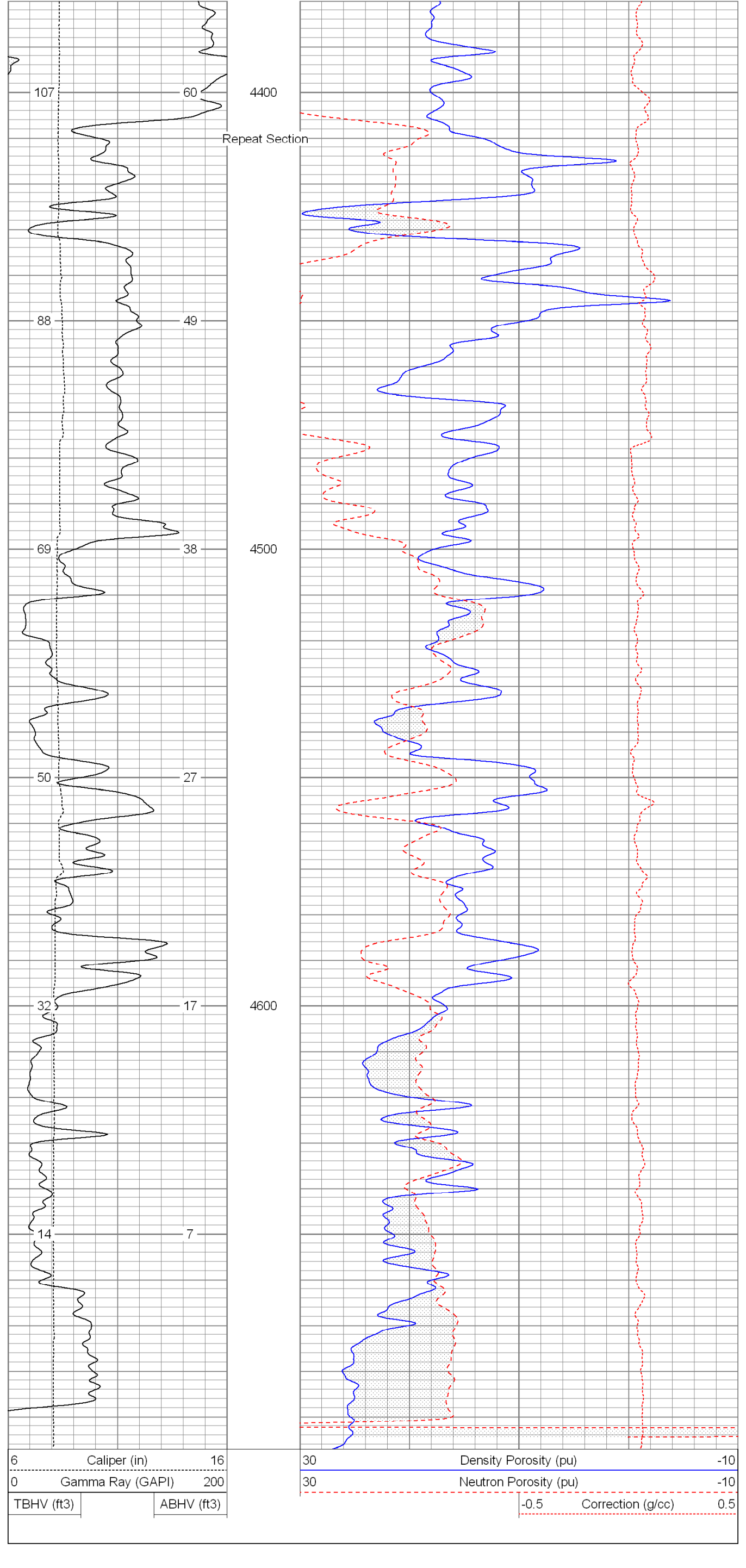
Database File: 13445.db
Dataset Pathname: final
Presentation Format: poro
Dataset Creation: Sat Mar 29 04:40:57 2014
Charted by: Depth in Feet scaled 1:240

6 Caliper (in) 16	30 Density Porosity (pu) -10	
0 Gamma Ray (GAPI) 200	30 Neutron Porosity (pu) -10	
TBHV (ft3) ABHV (ft3)		-0.5 Correction (g/cc) 0.5

6 Caliper (in) 16	30 Density Porosity (pu) -10	
0 Gamma Ray (GAPI) 200	30 Neutron Porosity (pu) -10	
TBHV (ft3) ABHV (ft3)		-0.5 Correction (g/cc) 0.5

Database File: 13445.db
Dataset Pathname: pass2.1
Presentation Format: poro
Dataset Creation: Sat Mar 29 03:41:25 2014 by Calc Open-Cased 100827
Charted by: Depth in Feet scaled 1:240

6 Caliper (in) 16	30 Density Porosity (pu) -10	
0 Gamma Ray (GAPI) 200	30 Neutron Porosity (pu) -10	
TBHV (ft3) ABHV (ft3)		-0.5 Correction (g/cc) 0.5



6 Caliper (in) 16	30 Density Porosity (pu) -10	
0 Gamma Ray (GAPI) 200	30 Neutron Porosity (pu) -10	
TBHV (ft3) ABHV (ft3)		-0.5 Correction (g/cc) 0.5

Database File: 13445.db
Dataset Pathname: final
Presentation Format: cdl
Dataset Creation: Sat Mar 29 04:40:57 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: 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