PIONEER
Pioneer Energy Services

HIGH RESOLUTION INDUCTION
COMPENSATED DENSITY
COMPENSATED NEUTRON

Company	Augustus Energy Resources, LLC
Well	Franson 23-33 4N47W
Field	Buffalo Grass
County	Yuma
State	Colorado

Company Augustus Energy Resources, LLC
Well Franson 23-33 4N47W
Field Buffalo Grass
County Yuma State Colorado

Location: API # : 05 125 12122
SHL: 2230' FSL & 1985' FWL NESW
SEC 33 TWP 4N RGE 47W

Other Services
None

Permanent Datum	GL	Elevation 4010	Elevation K.B. 4016 D.F. 4015 G.L. 4010
Log Measured From	KB		
Drilling Measured From	KB		

Date	October 16, 2014		
Run Number	1		
Depth Driller	3006		
Depth Logger	2991		
Bottom Logged Interval	2991		
Top Log Interval	Casing		
Casing Driller	406		
Casing Logger	406		
Bit Size	6.25		
Type Fluid in Hole	WBM		
Density / Viscosity	8.8 / 30		
pH / Fluid Loss	NA		
Source of Sample	Mudpit		
Rm @ Meas. Temp	0.3 @ 68 F		
Rmf @ Meas. Temp	0.28 @ 68 F		
Rmc @ Meas. Temp	0.38 @ 68 F		
Source of Rmf / Rmc	Calc / Calc		
Rm @ BHT	0.18 @ 113 F		
Time Circulation Stopped	1415		
Time Logger on Bottom	1730		
Maximum Recorded Temperature	113 F		
Equipment Number	36		
Location	Ft. Morgan, CO		
Recorded By	Shaun Stump		
Witnessed By	Justin Stone		

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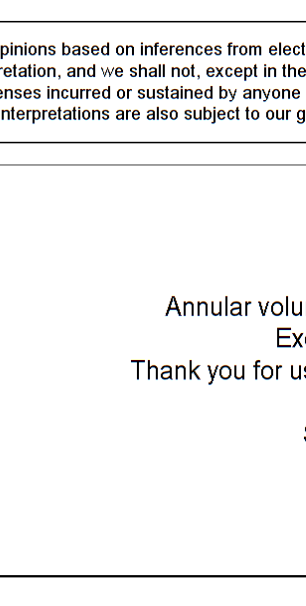
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Annular volume calculated for 7" casing
Excell Drilling Rig 2
Thank you for using Pioneer Energy Services.

SO# 2-013718

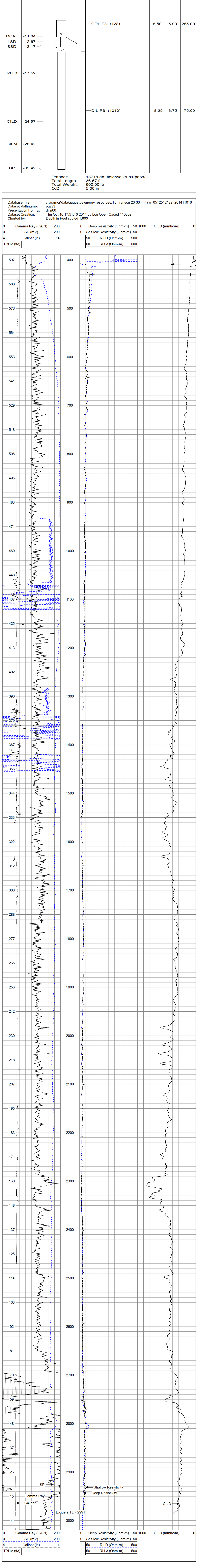


Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		CHD (~0)	2.00	3.50	30.00
		GR-PSI (197)	2.92	3.50	40.00
GR	0.00				
CNLSC	-3.67	CNT-PSI (853)	5.00	3.50	70.00
CNSSC	-4.17				
		CDL-PSI (128)	8.50	5.00	285.00
DCAL	-11.84				
LSD	-12.67				
SSD	-13.17				
RLL3	-17.52				
		DIL-PSI (1010)	18.25	3.75	175.00
CILD	-24.97				
CILM	-28.42				
SP	-32.42				

Dataset: 13718.db: field/well/run1/pass2
Total Length: 36.67 ft
Total Weight: 600.00 lb
O.D. 5.00 in

Database File: c:\warrior\data\augustus energy resources, llc_franson 23-33 4n47w_0512512122_201411016_h
Dataset Pathname: pass3
Presentation Format: dilin60
Dataset Creation: Thu Oct 16 17:51:10 2014 by Log Open-Cased 110302
Charted by: Depth in Feet scaled 1:600

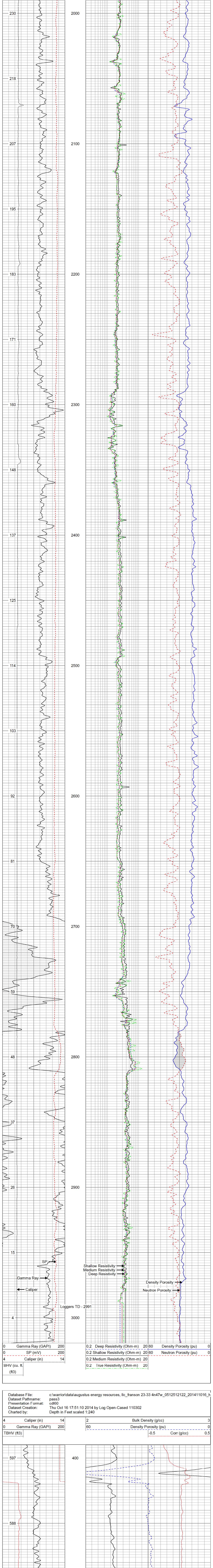
0 Gamma Ray (GAPI) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0	
0 SP (mV) 200	0 Shallow Resistivity (Ohm-m) 50		
4 Caliper (in) 14	50 RILD (Ohm-m) 500		
TBHV (ft3)	50 RLL3 (Ohm-m) 500		



0 Gamma Ray (GAPI) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0	
0 SP (mV) 200	0 Shallow Resistivity (Ohm-m) 50		
4 Caliper (in) 14	50 RILD (Ohm-m) 500		
TBHV (ft3)	50 RLL3 (Ohm-m) 500		

Database File: c:\warrior\data\augustus energy resources, llc_franson 23-33 4n47w_0512512122_201411016_h
Dataset Pathname: pass3
Presentation Format: pdce
Dataset Creation: Thu Oct 16 17:51:10 2014 by Log Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

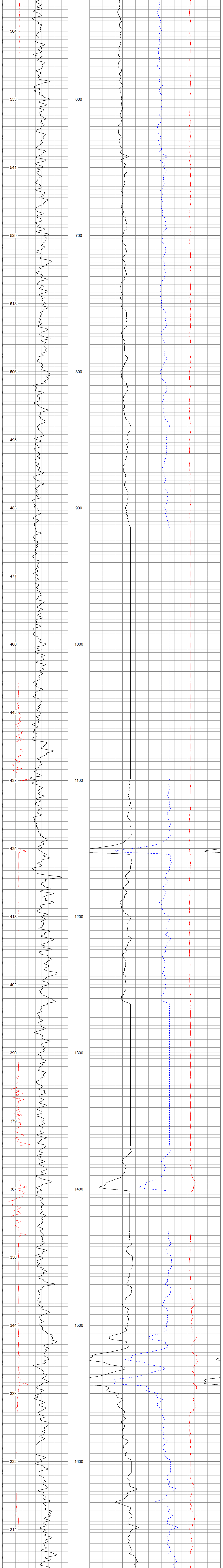
0 Gamma Ray (GAPI) 200	0.2 Deep Resistivity (Ohm-m) 20	60 Density Porosity (pu) 0
0 SP (mV) 200	0.2 Shallow Resistivity (Ohm-m) 20	60 Neutron Porosity (pu) 0
4 Caliper (in) 14	0.2 Medium Resistivity (Ohm-m) 20	
BHV (cu. ft. (ft3)	0.2 True Resistivity (Ohm-m) 20	



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	
BHV (cu. ft. (ft3)	0.2 True Resistivity (Ohm-m) 20	

Database File: c:\warrior\data\augustus energy resources, llc_franson 23-33 4n47w_0512512122_201411016_h
Dataset Pathname: pass3
Presentation Format: cdl60
Dataset Creation: Thu Oct 16 17:51:10 2014 by Log Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

4 Caliper (in) 14	2 Bulk Density (g/cc) 3
0 Gamma Ray (GAPI) 200	60 Density Porosity (pu) 0
TBHV (ft3)	-0.5 Corr (g/cc) 0.5



Calibration Report

Database File: C:\Warrior\Data\Augustus Energy Resources, LLC_Franson 23-33 4N47W_0512512122_2014110
Dataset Pathname: pass2
Dataset Creation: Thu Oct 16 17:39:09 2014 by Log Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: 1010-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	0.550	-33.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.480	-27.000

Compensated Density Calibration Report

Serial-Model: 128-PSI
Master Calibration Performed: Sat May 24 17:51:40 2014

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	5900.80	3069.93	cps
Aluminum	2.690	g/cc	1074.43	1919.88	cps
	Size		Reading		
Small Ring		in			
Medium Ring		in			
Large Ring		in			

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	1.9200

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	197	
Tool Model:	PSI	
Performed:	Tue Oct 18 17:42:20 2011	
Calibrator Value:	275.0	GAPI
Background Reading:	32.0	cps
Calibrator Reading:	340.0	cps
Sensitivity:	0.6000	GAPI/cps

Log Variables

Database:C:\Warrior\Data\Augustus Energy Resources, LLC_Franson 23-33 4N47W_
Dataset: field/well/run1/pass2

Top - Bottom

SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m
On	Limestone	1	2.71	0	0	0

CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
7	0	0	113	6.25