Company: Superior Energy Resources, LLC
Well: Lee 13-1
Field: Tonkawa
County: Lincoln
State: Oklahoma
Other Services: Gamma Ray/Neutron

Elevation: K.B. 1,000 ft
D.F. 999 ft
G.L. 997 ft

Permanent Datum: Ground Level
Log Measured From: K.B. 3 ft above Perm. Datum
Drilling Measured From: K.B.

Date: 07-28-2014
Run Number: One
Depth-Driller: 5,200 ft
Depth-Logger: 5,200 ft
Bottom Logged Interval: 5,200 ft
Top Logged Interval: 200 ft
Type Fluid in Hole: Fresh Water Gel
Salinity: 1,000 ppm
Density: 8.4 lb/gal
Viscosity: 28 sec
Fluid Loss: 8.0 cc
Source of Sample: Flowline
Rm @ Meas. Temp: 0.25 @ 70 °F
Rmf @ Meas. Temp: 0.19 @ 70 °F
Rmc @ Meas. Temp: 0.34 @ 70 °F
Source of Rmf / Rmc: Measured / Calculated
Rm @ BHT: 0.14 @ 120 °F
Time Since Circulation: 4 hrs
Time on Bottom: 07-28-2014 @ 08:00
Max. Rec. Temp. Deg. F: 120 °F
Equipment / Location: 1 / Chandler
Recorded By: Jason Hall
Witnessed By: Mr. Jeff Hall

Comments:

All interpretations are opinions based on inferences from electrical or other measurements and Thomas Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretations and Thomas Wireline Services, LLC shall not be liable for any loss, cost, damage or expense incurred in connection therewith except for willful misconduct on the part of its officers, agents or employees.

Comments:

Annular volume calculated for 8.5" casing
Lee 13-1 Run 1 of 1
Thank you for using Pioneer Energy Services

Sensor Offset (ft) Schematic Description HR (ft) ER (in) BS (in)

Sensor	Offset (ft)	Description	HR (ft)	ER (in)	BS (in)
		CNC (-13)	0.00	5.50	8.50
GR	0.00	GR-PX (GR)	2.62	5.50	8.50
CALIC (CNSS)	0.67 (4.5")	CAT-PX (MSI)	5.08	5.50	15.00
		CDL-PX (MRI)	5.58	5.50	200.00
RXOz	11.58				
LLD	12.92				
LLS	14.67				
RLL3	17.92				
CILD	24.67	CDL-PX (1011)	14.25	5.75	175.00
CILS	26.67				
BF	33.42				

Caliper: CAT-PX: Refined/Fixed Caliper?
Logging Rig: Unit 1
Logging Engineer: Bill M. N.
Truck #: Unit 1

Calibration Report

Calibration File: 13E1.dlis
Calibration Performed: 2014
Pioneer Calibration: Yes
Engineer(s): Jason H. Fixed Caliper: 7.875

Gamma Ray (GAPI)	Deep Resistivity (Ohm-m)	Deep Resistivity (Ohm-m)
0	0.2	2000
Caliper (in)	Shallow Resistivity (Ohm-m)	Shallow Resistivity (Ohm-m)
16	0.2	2000
	Medium Resistivity (Ohm-m)	Medium Resistivity (Ohm-m)
	0.2	2000
	Rxo (Ohm-m)	Rxo (Ohm-m)
	0.2	2000

Gamma Ray (GAPI) 200 | Caliper (in) 16 | Bit Size (in) 6

Deep Resistivity (Ohm-m) 0.2 – 2000 | Shallow Resistivity (Ohm-m) 0.2 – 2000 | Medium Resistivity (Ohm-m) 0.2 – 2000 | Rxo (Ohm-m) 0.2 – 2000