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Comments

Annular volume calculated for 4.5" casing
Flange Drilling Rig 55
Thank you for using Pioneer Energy Services.

Company: Nutech Energy Inc
Well: Mahihkan
Field: Unit
Province: Alberta

Engineer: Andrew Rowley
Witness: Brandon Hall
Date: 2016/Jul/27
Time: 17:00 MDT

Pioneer Wireline Services
HIGH RESOLUTION INDUCTION COMPENSATED NEUTRON
Density
Dual Induction
Gamma Ray
Caliper
Microlog
Cement Bond Log
Temperature
Pressure
Sonic
Dipmeter
Other

Run No: 1
Depth Driller: 3100.0 m
Depth Logger: 3100.0 m
Bottom Log Interval: 3100.0 m
Top Log Interval: 2000.0 m
Casing Driller: 177.8 mm @ 2000.0 m
Casing Logger: 177.8 mm @ 2000.0 m
Bit Size: 152.4 mm
Type Fluid in Hole: Water Based Mud
Density: 1.10 g/cm3
Viscosity: 50 s
PH: 9.0
Fluid Loss: 10 cm3
Source of Sample: Flowline
Rm @ Meas Temp: 0.2 @ 20 °C
Rmf @ Meas Temp: 0.2 @ 20 °C
Rmc @ Meas Temp: 0.2 @ 20 °C
Source of Rmf & Rmc: Measured
Rm @ BHT: 0.1 @ 90 °C
Time Circulation Stopped: 16:00 MDT
Time Logger on Bottom: 17:00 MDT
Maximum Recorded Temperature: 90 °C
Equipment Number: 1
Location: 10-15-49-10W5
Recorded By: Andrew Rowley
Witnessed By: Brandon Hall

Calibration Run
Calibration Date: 14:21:46
Pioneer Unit Number: 1
Calibrator Number: 1
Calibrator Cased Hole: Density: 2.5 Mr: 0.07 PE: 3.55
Calibrator Open Hole: Density: 2.65 Mr: 0.07 PE: 3.55

Density Caliper (in) 6 16
Gamma Ray (GAPI) 0 200
Density (g/cm3) 1.95 2.95
Neutron (v/v) 0.45 -0.15

Deep Resistivity (Ohmm) .2 2000
Medium Resistivity (Ohmm) .2 2000
Shallow Resistivity (Ohmm) .2 2000
Rt (Ohmm) .2 2000

Density Porosity (pu) 45 -15
Neutron Porosity (pu) 45 -15
Neutron Porosity (pu) 45 -15