

Geophysical Logging Techniques

Log Type	Formation Property Measured	Active /Passive	Description	Units
Gamma	Gamma ray emission	Passive	Gamma rays emitted from the formation in terms of Counts Per Second.	CPS
	Spectral Gamma	Passive	A quantification of the above gamma ray emission energy, allowing identification of the source as either Potassium (K), Uranium (ppm), or Thorium(ppm).	K = % U=ppm Th=ppm
Image Log /Acoustic Televiwer	Light or sound reflectance	Active	This type of log images the borehole by means of stitching together systematic 1.5 mm scans. Depending on water clarity either an image log or acoustic televiwer is used.	image/acoustic amplitude
Temperature	Borehole Temperature	Passive	Thermal measurement of borehole fluid	Deg. C
Fluid Conductivity	Borehole Fluid Conductivity	Active	Measures the conductivity of the borehole fluid. Used to correct electrical logs and detect fluid movement into the borehole.	uS/cm
Electrical	SP (Self Potential)	Passive	Electrical potential with respect to a remote electrode located at surface. Responses related to ion distribution and movement	mV
	Resistivity Lateral Log Shallow	Active	Shallow (<4") investigation of formation Resistivity	Ohm-m
	Resistivity Lateral Log Deep	Active	Medium (<10") investigation of formation Resistivity	Ohm-m
Gamma-Gamma	Density Log	Active	Measures the electron density of the formation by detecting the backscatter of gamma rays from a source located in the probe	g/cc
Magnetic Susceptibility	Magnetic Susceptibility	Active	Measures the degree to which the surrounding geology may be magnetized	%
Sonic	P-wave velocity	Active	Measures the speed of pressure waves within the formation	m/s