

# Borehole Geophysical Log Selelection Chart

(modified from Keys, 1993)

Information Desired		Required Hole Conditions													
		Caliper	Natural Gamma	Spontaneous Potential	Normal Resistivity (8-16-32-64)	Single Point Resistance	Electromagnetic Induction	Fluid Resistivity	Fluid Temperature	Heat-Pulse Flowmeter	Fluid Sampler	Optical Televiwer	Acoustic Televiwer	Deviation	Borehole Video
Lithology & Correlation	Bed or aquifer thickness; correlation, structure	✓	✓	●	●	●	☆					◇	●		◇
	Lithology - depositional environment	✓	✓	●	●	●	☆					?			?
	Shale or clay content		✓	●	●		☆								
	Formation resistivity				●		☆								
	Injection / production profiles						?	□	□	□					
	Permeability estimates		✓					□	□	□					
Rock Structure	Strike & dip of bedding, "virtual core"											◇	●	✓	
	Fracture detection (number of fractures)	✓			●	●						◇	●		◇
	Fracture orientation & character, RQD											◇	●	✓	
	Thin bed resolution	✓			?	●						◇	●		◇
Fluid Parameters	Borehole fluid characteristics							□	□		□				
	Vertical fluid flow - ambient and pumping							□	□	□					◇
	Formation water quality			●	●		☆				□				
	Temperature								□						
	Water level			●	●	●	?	□	□			◇	●		◇
Borehole Parameters	Casing evaluation: integrity, leaks, damage, screen location	✓					?		■	■		◇	■		◇
	Borehole deviation from vertical													✓	
	Borehole diameter	✓											●		
	Examination behind casing						☆								
	Location of debris in wells	✓										◇	●		◇
	Well completion: bentonite seal location		✓				☆						?		
Contaminant Detection	Non-aqueous phase liquid				?		?				□	?			?
	High volume organic wastes / animal wastes			?	●		?	□			□				
	Electrically conductive wastes / salts				●		?	□			□				
	Metals / metal processing wastes				●		?	□			□				
	Landfills		?		●		☆	□			□				
	Nuclear wastes		✓		?		?				□				
	Natural radioactivity (e.g., radon)		✓								□				



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