


# SELECTION OF SURFACE GEOPHYSICAL METHODS FOR COMMON APPLICATIONS

Adapted with permission, from ASTM D 6429 Standard Guide for Selecting Surface Geophysical Methods, copyright ASTM International  
 ASTM International, 100 Bar Harbor Drive, Conshohocken, PA 19428\*

 <b>Application</b>	SEISMIC		ELECTRICAL			ELECTROMAGNETIC			OTHER TECHNIQUES					
	Refraction	Reflection	D.C.	I.P./Complex	S.P.	Frequency	Time	VLF	Pipe/Cable	Metal				
						Domain	Domain		Locator	Detector	Radar	Magnetics	Gravity	
<b>Natural Conditions</b>														
Soil/Unconsolidated Strata	A	B	A	-	-	B	A	B	-	-	A	-	-	
Rock Strata	B	A	-	-	-	-	-	-	-	-	B	-	-	
Depth to Bedrock	A	A	B	-	-	B	B	B	-	-	A	-	B	
Depth to Water Table	A	A	B	-	-	B	B	B	-	-	A	-	-	
Fractures and Fault Zones	B	B	B	-	-	A	B	A	-	-	A	-	B	
Voids/Sinkholes	B	-	B	-	-	A	-	-	-	-	A	-	A	
Soil and Rock Properties	A	-	A	-	-	A	-	-	-	-	-	-	-	
Dam/Lagoon Leakage	-	-	B	-	A	B	-	-	-	-	B	-	-	
<b>Inorganic Contaminants</b>														
Landfill	-	-	A	-	-	A	A	B	-	-	B	-	-	
Saltwater Intrusion	-	-	A	-	-	A	A	B	-	-	B	-	-	
Soil Salinity	-	-	A	-	-	A	-	-	-	-	-	-	-	
<b>Organic Contaminants</b>														
Light (Non-Aqueous) Phase Liquids	-	-	B	-	-	B	B	-	-	-	B	-	-	
Dissolved	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dense (Non-Aqueous) Phase Liquids	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Man Made Buried Objects</b>														
Utilities	-	-	-	-	-	B	-	-	A	B	A	-	-	
Drums/USTs	-	-	-	-	-	A	-	-	A	A	A	A	-	
UXO	-	-	-	-	-	-	-	-	A	B	A	A	-	
Abandoned Wells	-	-	-	-	-	B	-	-	B	B	-	A	-	
Landfill/Trench Boundaries	B	-	B	-	-	A	B	-	-	-	A	-	-	
Forensics	-	-	B	-	-	A	-	-	B	B	A	B	-	
Archaeological	B	B	B	-	-	A	-	-	-	-	A	A	B	

A - Implies a primary choice of method  
 B - Implies a secondary choice or alternative method

\* A copy of the complete ASTM Standard may be purchased from ASTM International, Phone: 610-832-9585, fax: 610-832-9555,  
 eMail: service@astm.org, website: www.astm.org