

On field investigations

The [Rock Engineering book](#) shows in the table below possible features that reduce the collected information from investigations.

Observations or measurements	Features that may reduce measurement or interpretation quality	Consequences for the measurements
Rock outcrops	Loose material, vegetation, water, snow, or ice, which cover ("hide") the rock surface	No or limited area of exposed rocks for observations
	Weathered rocks occur in and near the surface (but not in the underground excavation).	The rock conditions observed are different from the conditions in deeper inside the rockmasses
Excavated cuttings, trenches, adits, etc.	More is described in the Rock Engineering book	
Boreholes (core holes, hammer holes)		
Underground rock excavations		

The Rock Engineering book also describes the usefulness of various geophysical methods in its Chapter 8 as shown in the table below.

GEOPHYSICAL METHOD	MAIN INFORMATION ON:	SOME LIMITATIONS	APPLICATION
Seismic refraction	Thickness of soil layers Location of ground water table Location of rock surface Approx. quality of rockmass	"Blind zones" (if velocity does not increase with depth) Side reflection	Extensively used on land and sea
Seismic reflection	More is described in the Rock Engineering book		
Crosshole tomography			
Electric resistivity			
Electromagnetic (radar)			
Magnetic			
Gravitational			