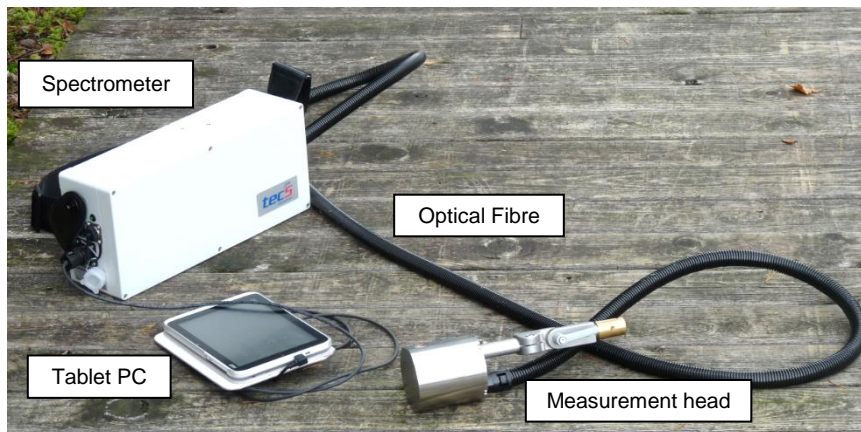


# REO-EXPLORER

a device for exploration and detection of Rare Earth Oxides (REO) in the field

Data Sheet	
Parameters	Features of Performance
Minerals and Compounds to be detected	Bastnaesite, Monazite, Xenotim and others
Detection Level	0.05 % - 0.2 % for Neodymium-, Samarium-, Ytterbium-, Holmium- and Dysprosium oxides
Spectral Range used	VIS and NIR
Spectral Resolution	3.3 nm
Radiometric Resolution	16 bit
Light source	Halogen
Wattage	10 W
Lifetime $L_t$	$L_t > 10\ 000$ h
Effect to humans	Harmless Radiation
Repeatability of measurement	~ 3 s
Overall Weight of Prototype (without holding rod)	around 5 kg
Battery Capacity	72 Wh
Maximal Time of Usage	At least 8 hours
Length of optical fibres (equals maximal borehole depth)	260 cm
Possible Measurement Distance	0 to 10 mm
Connection	USB to Tablet/Computer
Compatible Software	MS Excel



**Fig. 1:** REO-Explorer, composed of spectrometer unit, measurement head, optical fibres and tablet PC



**Fig. 2:** Field measurements with prototype of REO-Explorer



**Fig. 3:** Measurement details at bedrocks: Measurement head and tablet computer

The REO-Explorer was developed by a syndicate of SME in Germany  
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