A Protocol for Selecting Appropriate Geophysical Surveying Tools, based on Geotechnical Objective and Site Characteristics

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ABSTRACT

Engineering geophysical tools are generally non-invasive and can provide qualitative/quantitative information about the physical properties of an abandoned/active mine or other geotechnical site. The mining engineer responsible for site characterization should ensure that the geophysical technique(s) employed provide useful and cost-effective information about physical properties of interest at the required levels of spatial resolution and target definition.

As an aid to the mining engineer, we present tabularized information about ten commonly employed geophysical methods and a generalized approach for evaluating their utility as site characterization tools. Our discussions are intended to be informative - not exhaustive. The audience is referred to the selected bibliography for more rigorous treatments of the geophysical techniques. The mining engineer engaged in geophysical survey design is strongly encouraged to work with a knowledgeable geophysicist.