Shallow seismic refraction data and wash boring data, a comparison, its usefulness and the importance

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The geophysical techniques have been used in many site investigations. In small scale site investigations the technique has often been neglected due to a number of reasons. Among the main reason cited are: cost constrain, lack of knowledge on geophysics by the personals involved in planning of the site survey and lack of confidence in the technique. The later is partly related to the to the difficulty at times to correlate the results to the borehole data in as much as the lack of understanding of the limitation of each of the geophysical techniques either in its field procedure or the interpretations.

In a proposal by the Institute of Engineers, Malaysia for the planning of hill-site development, the subsurface investigation is included as a major part of the planning exercise prior to the platform layout and analysis and design of slope. In the subsurface investigation boring is the main procedure for investigation and geophysics is stated as only sometimes included or used. In slope studies a non destructive and mobile technique such as geophysical method could be more efficient in obtaining the needed information. Therefore, it is imperative that the geophysical data be comparable to the borehole data so that the geophysical techniques are easily acceptable. One of the geophysical techniques often used in the shallow and small-scale site investigation is the seismic refraction technique. This paper describes some comparison between the seismic refraction interpretations to the information obtained with the wash boring procedure.

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