

High resolution seismic refraction survey in urban area

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The seismic refraction survey is of the methods normally used to get the subsurface geology for a particular area. In this paper, the high resolution seismic refraction survey is conducted in urban area. The area chosen in this survey is a 100 m x 200 m square site at Damansara. The objective of the survey is to get the subsurface geology of this area using the refraction method and investigate the bedrock thickness of the area. The classic way of the seismic data collection using hammer and a striker plate is used throughout this survey. The layout spread is designed according to the objectives of this survey and based on the area's condition as well. A total of 98 lines (50 inline and 48 crossline) were collected during the acquisition phase. Some of the data collected is present and discuss in this paper. The challenges during the data collection are mostly noise from the nearby construction area and noise from the surrounding area mostly noise coming from the vehicle at the highway and roads around. One of the most challenging constraints is the coring activity at the same site. The unpredictable weather also plays a major role in this survey. In order to increase the data quality, each shot was stacked more than 30 stacks. The collected data then processed using the IXRefrax software. All lines show a two layer case where the first layer is around 7 m - 16 m in depth, with the average velocity of 523 m/s and the second layer of 1933 m/s. The seismic were then correlated with well data and it shows that the second layers is corresponds to completely weathered and highly weathered layer