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Rock mass characterisation of the country rock on the eastern slope of Main Pit at Letšeng Diamond mine, Lesotho

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The paper describes rock mass characterisation of the country rock on the eastern slope of the Main Pit at Letšeng. This is followed by a description of the necessary field, laboratory work and visual inspection undertaken. In the following sections it describes methodologies and calculations used as well as the three main classification systems implemented. It ends by discussing the importance of rock mass characterisation as an integral part in the design and management of the pit. The lessons are the importance of the geotechnical data collection by core logging and face mapping and its reliability in terms of its quality as well as how the three classification systems compare. The rock mass characterisation has revealed the site specific geotechnical competency that can be expected in the basalt. The exercise is assisting in the improvement of understanding the slope stability of the pit as well as improving the processes necessary for monitoring thereby reducing the risks associated with slope failure.

