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A REVIEW OF TUNNELLING ACTIVITIES IN MALAYSIA

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ABSTRACT

This paper provides a review of tunnelling activities in Malaysia in the last three decades or so. In the earlier years, most of the tunnels in Malaysia were excavated by the conventional drill-and-blast method, with tunnel supports installed in accordance with the procedure of the New Austrian Tunnelling Method (NATM). Since the introduction of the first Tunnel Boring Machine (TBM) in the diversion tunnel at the Kelinci Dam Water Transfer Tunnel project in Negeri Sembilan in circa 1995, tunnelling activities in Malaysia have witnessed a significant increase in the deployment of the TBM method. A significant advancement is in the use of TBM slurry shield tunnelling method in the treacherous karstic limestone formation as in the case of the SMART tunnel in Kuala Lumpur. Several case histories are discussed, addressing tunnelling problems related to various ground or geologic conditions, tunnel support systems, ground stresses, etc. It must be pointed out that the final selection of tunnelling method using drill-and-blast with NATM procedure vis-à-vis TBM is based on safety and economy.