



BRITISH TUNNELLING SOCIETY



INFORMAL DISCUSSION

Thursday 16th November 2006 at 6.00pm

at

The Institution of Civil Engineers

One Great George Street, Westminster, London SW1P 3AA

Nicoll Highway Collapse, Singapore: Field Measurements, Observations and Factors involved in the collapse

Presented by: Richard Davies, Director, Benaim

At 3.30pm on 20th April 2004 a 30m deep excavation for a cut & cover tunnel adjacent to Nicoll Highway in Singapore dramatically collapsed with the loss of four lives. The excavation was being carried out within a diaphragm wall supported by steel struts and jet grout slabs.

Following the collapse investigations were carried out and a Committee of Inquiry was set up to ascertain the cause and circumstances of the incident. Hearings were held from August 2004 to March 2005 during which evidence was given by 173 witnesses of fact and 19 international experts appointed by five parties.

During the investigations and the Inquiry, a remarkable amount of information became available concerning the collapse. This included measurements taken in inclinometers in and behind the diaphragm wall prior to the collapse, the results of strut load monitoring, photographs and eyewitness accounts.

In this presentation Richard Davies, who lead the team of experts appointed by the Singapore Land Transport Authority, will describe the field measurements and observations and discuss the main factors involved in the collapse. The results of Finite Element modelling and full scale testing of key components of the excavation support system will also be described. Contributions to the discussion are also anticipated from other experts involved in the Inquiry.

Tea and biscuits will be available at 5:30pm

In case of any query please

contact The Secretary, BTS tel: 020 7665 2233 or e-mail: bts@ice.org.uk

or visit <http://www.britishtunnelling.org>