

## **FLOW LIQUEFACTION FAILURE OF SUBMARINE SLOPES DUE TO MONOTONIC LOADINGS - AN EFFECTIVE STRESS APPROACH**

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### **Abstract**

Current liquefaction analyses of slopes are generally based on undrained soil response. Recent experimental studies have shown that small net flow of water into an element will result in additional pore pressure generation and further reduce its strength. Many flow slides have occurred in submarine slopes, most of which were induced by monotonic loadings. Tidal variations can cause unequal pore pressure generation with depth in unsaturated seabed soils. An effective stress approach is presented to model flow liquefaction of sand under a range of drainage conditions to evaluate the triggering of liquefaction during low tides for an unsaturated underwater slope.

J. Locat, J. Mienert (eds), 2003, *Submarine Mass Movements and their Consequences 1<sup>st</sup> International Symposium*, Kluwer Academic Publishers, 3-10.