

10.17 Preliminary validation of resedimented specimen against intact core behavior

Jack Germaine and Russ Ewy

ABSTRACT

Understanding the similarities and differences between intact core and resedimented material properties is an important objective of the experimental program. This presentation will report on our first study using core recovered from about 3200 ft depth below mudline provided by Chevron. Non-preserved core is being processed and resedimented in the Tufts Laboratory. Thus far, intact core measurements have been obtained by Chevron.

Standard processing of the core for resedimentation has proved to be inadequate due to the persistence of clay flocs. A new processing technique has been developed using a shear pump. This new processing has a considerable impact on the Atterberg limits and particle size distribution. Results of compression behavior compare favorably with interpreted results from intact core. MICP measurements on compressed CRS specimens created from the resedimented material have a narrow pore size distribution with a reduction in the dominant pore throat size with compression.

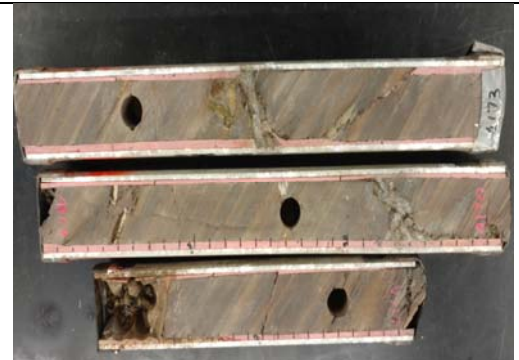


Fig 1 Core supplied to Tufts by Chevron for resedimentation testing

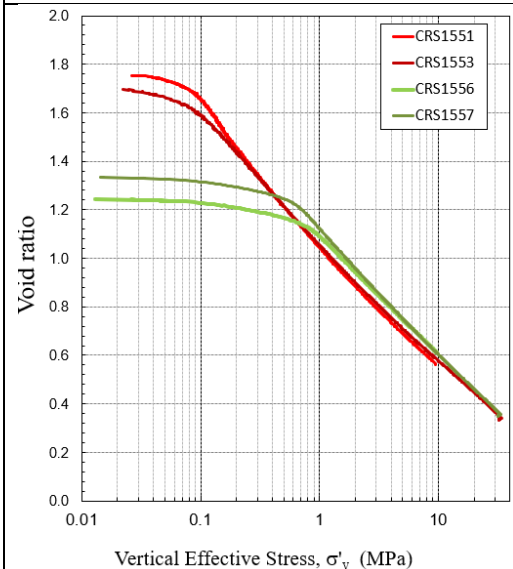


Fig 2: Compression behavior following conventional processing (red) and new shear pump method (green)