12.07: Intact vs. Resedimented Compression of Gulf of Guinea Mudrock

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ABSTRACT

Resedimentation is commonly used to systematically study soil because it allows for control over porosity and stress history. Understanding the relationship between the behavior of intact core and that of resedimented material is a main objective of the GeoFluids experimental program.

New CRS methods were developed for testing intact specimens. Compression and Mercury porosimetry results are compared between intact and resedimented GoG. Intact porosity is 0.05 porosity units less than resedimented porosity at 10 MPa, and resedimented and intact material have similar pore throat distributions. The compressibility of resedimented and intact material is the same at a given effective stress, but apparent preconsolidation stress is 2.5 times insitu effective stress.

CLICK ON IMAGE FOR LARGER VIEW

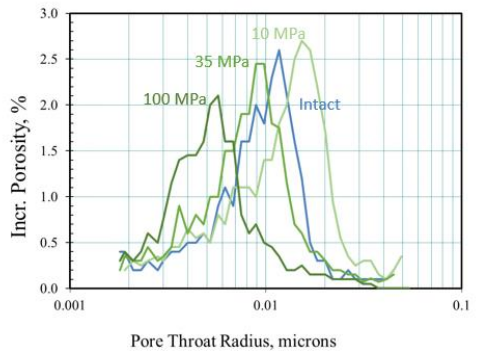


Fig 1: Mercury porosimetry results of intact and resedimented GoG

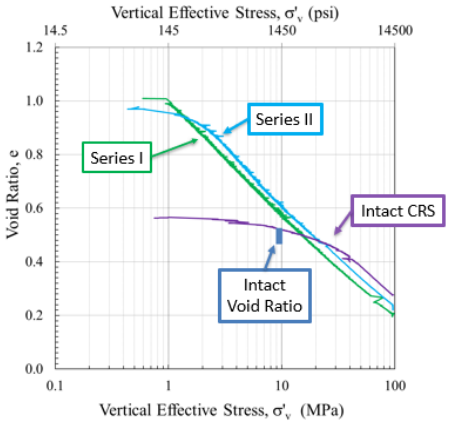
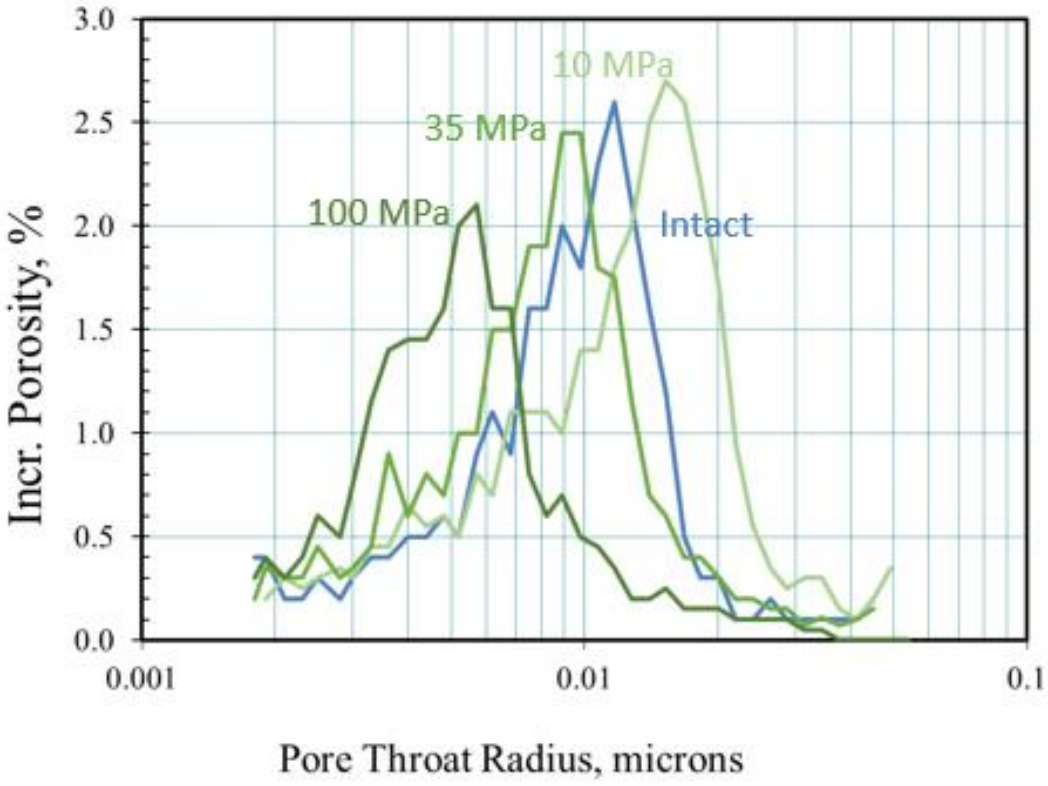


Fig 2: CRS results of intact and resedimented GoG as well as intact void ratio measurements



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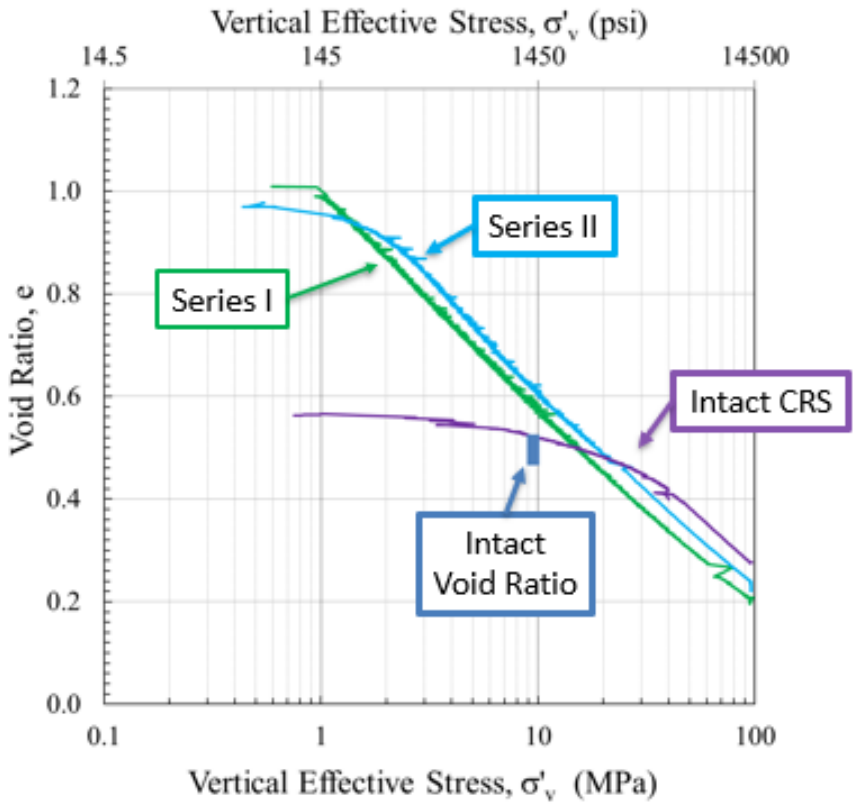

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