

Title: Laboratory Investigation of Marine Sediment from a Submarine Landslide in the Rockall Bank

Expected Difficulty: Medium

Project Description: The Rockall Bank Slide is a large submarine landslide located approx. 400km West of Ireland. The landslide is located on the Eastern side of the Rockall Bank and is almost 200km² in size moving from a depth of 750m to 3500m. Initially the landslide was believed to have been the result of one large failure, however recent findings suggest it may be the result of several retrogressive slides occurring over millennia. A recent research survey carried out at the site has extensively sampled both sediment and rock from select escarpments within the slide complex. Furthermore, LiDAR images were taken at these site enabling the generation of 3D digital elevation models of the site as it currently stands. The purpose of this project is to extensively test the retrieved materials in a laboratory environment to determine the strength, stiffness, and full geotechnical classification of the material. The results of these tests will be used in combination with the digital elevation model to back calculate the slide and determine the extent of the failed volume. The sampled material consists of both marine clays and sands as well as some recently formed igneous rocks. Prospective students should have a strong interest in laboratory testing and finite element modelling.

To apply please contact Dr. Cormac Reale at c.reale@tudelft.nl and Prof. Kenneth Gavin at k.g.gavin@tudelft.nl, for informal enquires drop into Room 00.040 or call +31 15 278 8753

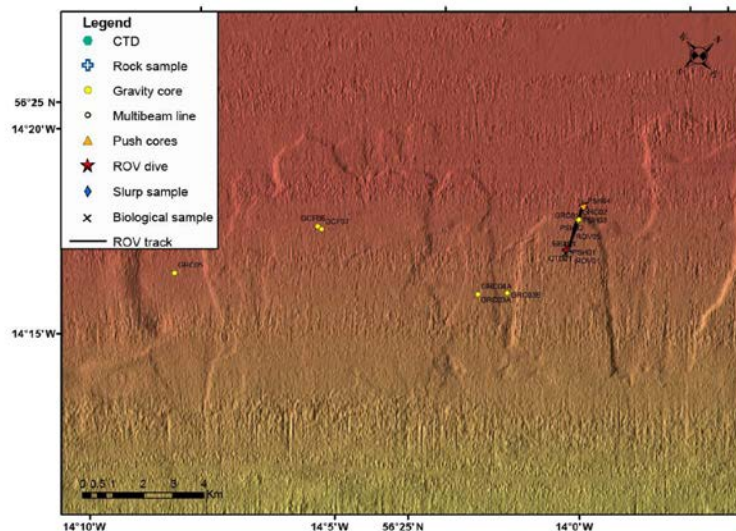


Figure 1 Select escarpments within the slide complex showing the location of some of the retrieved cores