

Deep Sea Exploration for Valuable Marine Resources Using Portable Remotely Operated Drill

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Benthic Geotech Pty Ltd, an Australian marine geotechnical services company, has successfully developed and is now operating the world's most advanced undersea robotic drilling rig. The rig has been proven in a range of seabed sampling and testing activities from methane hydrate exploration to sediment studies and geotechnical engineering site investigations. PROD, Portable Remotely Operated Drill, is capable of performing rotary diamond drilling, piston and push coring and a range of in situ tests to sub sea bed depths of greater than 100m in water depths of up to 2,000m. PROD and its associated equipment is transported in 20' shipping containers and can be deployed from a variety of vessels. Benthic Geotech's specialist range of boring and sampling tools combined with a very stable sea bed platform have provided excellent sample quality and recovery in a range of difficult to sample seabed lithologies. Benthic Geotech has also developed and successfully deployed a Hydrocarbon Analysis System that enables real time methane sensing while drilling. In recent campaigns, the Hydrocarbon Analysis System enabled production of a composite trace of hydrocarbon presence and relative abundance or absence concurrently with normal sampling and boring activities. This has been used to determine the potential for a bottom simulating reflector to represent methane hydrate deposits and may have significant potential for seabed geochemical studies in the near future.